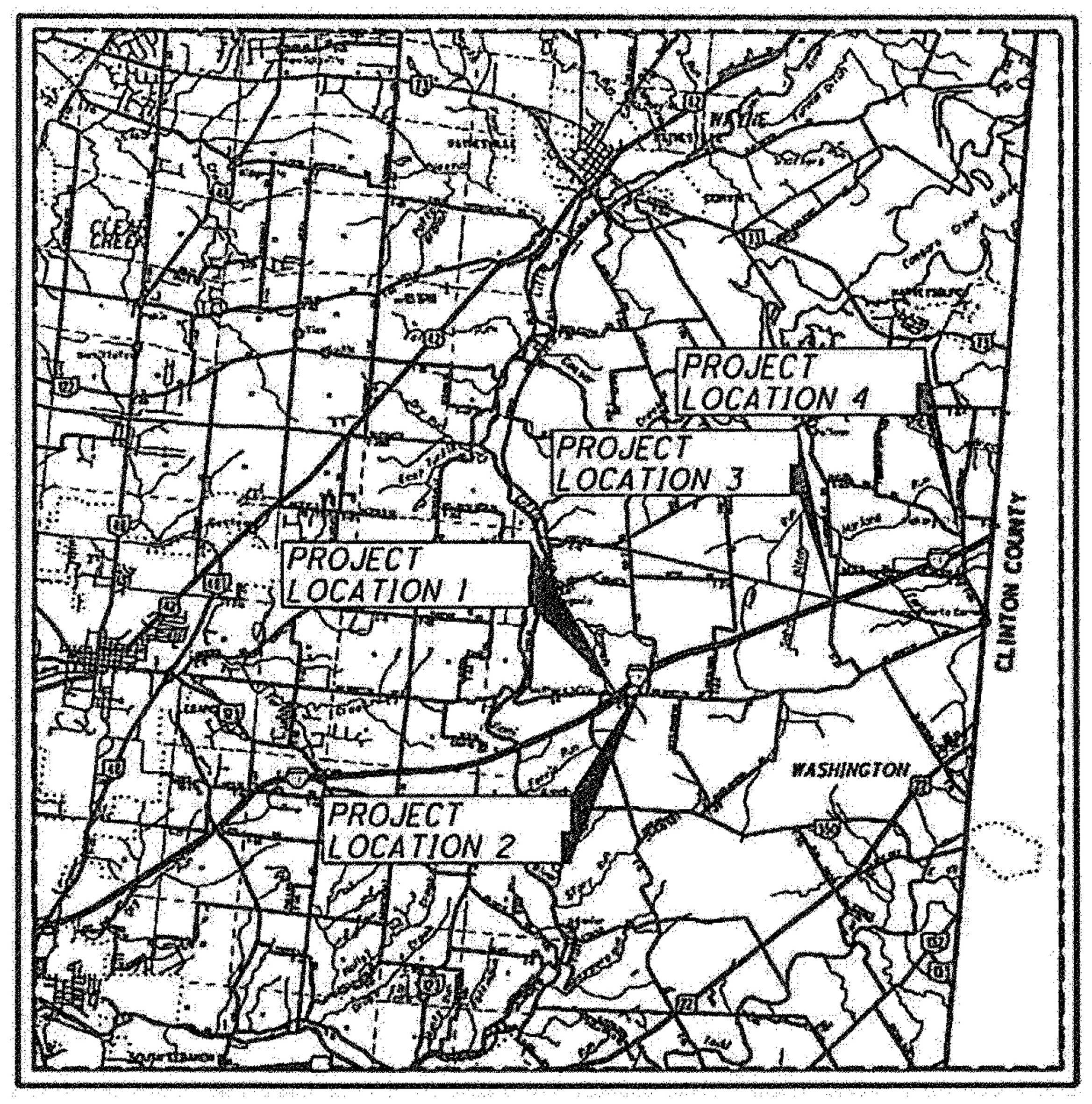


LOCATION MAP

LATITUDE: 39°26'40" LONGITUDE: -84°02'16"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

SEE SHEET 2 FOR DESIGN DESIGNATION DATA

DESIGN EXCEPTIONS

SEE SHEET 2

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:

E.L. ROBINSON ENGINEERING
1801 Watermark Drive, Suite 310 · Columbus, Ohio 43215
www.elrobinsonengineering.com
T: 614.586.0642
F: 614.586.0648

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

WAR-71-16.81 AND VARIOUS

WASHINGTON & MASSIE TOWNSHIPS

WARREN COUNTY

INDEX OF SHEETS:

ENGINEERS SEAL:

FOR ENTIRE PLAN SET EXCEPT STRUCTURES 20' AND OVER

STATE OF OHIO
JASON THOMAS WISE
E-72224
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Jason Wise
DATE: 9/6/16

ENGINEERS SEAL:

FOR STRUCTURES 20' AND OVER

STATE OF OHIO
MICHAEL R. VOGT
E-75275
REGISTERED PROFESSIONAL ENGINEER

SIGNED: M R Vogt
DATE: 9/6/16

STANDARD CONSTRUCTION DRAWINGS									SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	7/18/14	MGS-4.3	1/18/13	MT-95.30	7/15/16	TC-41.20	10/18/13		800	10/21/16	
BP-4.1	7/19/13	MGS-5.2	7/15/16	MT-95.31	7/18/14	TC-42.20	10/18/13		832	1/17/14	
BP-5.1	7/19/13	MGS-5.3	7/15/16	MT-95.50	10/16/15	TC-52.10	10/18/13		847	7/15/16	
DM-1.1	1/15/16			MT-96.11	7/15/16	TC-52.20	7/15/16				
DM-1.2	1/18/13	RM-4.2	4/18/14	MT-96.20	7/15/16	TC-61.30	7/18/14				
DM-4.1	1/15/16			MT-96.26	7/19/13	TC-65.10	1/17/14				
DM-4.4	1/15/16	AS-1-15	7/17/15	MT-97.10	7/18/14	TC-65.11	7/15/16				
		AS-2-15	7/17/15	MT-97.12	7/18/14						
F-2.1	7/19/13	EXJ-4-87	7/19/02	MT-101.60	7/19/13						
F-3.1	7/19/13	GSD-1-96	7/19/02	MT-101.70	1/17/14						
F-3.3	7/19/13	PCB-91	1/18/13	MT-101.75	7/15/16						
		SBR-1-13	1/17/14	MT-101.90	7/17/15						
MGS-1.1	7/19/13	SICD-1-96	7/18/14	MT-105.10	7/19/13						
MGS-2.1	7/19/13	SICD-2-14	7/18/14								
MGS-3.1	7/18/14	VPF-1-90	7/17/15								
MGS-4.2	7/19/13										

PROJECT DESCRIPTION

REHABILITATION OF THE EXISTING STRUCTURES: WILMINGTON RD. OVER I-71, HARVEYSBURG RD. OVER I-71, OLIVE BRANCH RD. OVER I-71 AND N. CLARKSVILLE RD. OVER I-71

PROJECT EARTH DISTURBED AREA:	N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (MAINTENANCE PROJECT)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEETS 13-17 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED Tammy K Campbell
DATE 11/10/16 DISTRICT DEPUTY DIRECTOR

APPROVED ________
DATE ________ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E130(955)

PID NO. 91727

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

WAR-71-16.81

DESIGN DESIGNATION

	I.R. 71 SOUTHBOUND RAMPS SOUTH LEG	WILMINGTON RD WEST LEG	WILMINGTON RD EAST LEG
CURRENT ADT (2018)	2,660	620	3,040
DESIGN YEAR ADT (2038)	5,520	980	6,200
DESIGN HOURLY VOLUME (2038)	800	80	820
DIRECTIONAL DISTRIBUTION	0.98	0.63	0.98
TRUCKS (24 HOUR B&C)	0.07	0.04	0.03
DESIGN SPEED	VARIES	55 MPH	55 MPH
LEGAL SPEED	VARIES	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:		MINOR COLLECTOR	MAJOR COLLECTOR
NHS PROJECT	YES		

DESIGN EXCEPTIONS

SHOULDER WIDTH, SUPERELEVATION RATE, (WILMINGTON RD) 04/04/2016

	I.R. 71 NORTHBOUND RAMPS NORTH LEG	I.R. 71 NORTHBOUND RAMPS SOUTH LEG	WILMINGTON RD WEST LEG	WILMINGTON RD EAST LEG
CURRENT ADT (2018)	180	1,430	3,040	4,230
DESIGN YEAR ADT (2038)	380	2,900	6,200	8,860
DESIGN HOURLY VOLUME (2038)	50	140	820	850
DIRECTIONAL DISTRIBUTION	1.00	1.00	0.98	0.85
TRUCKS (24 HOUR B&C)	0.20	0.09	0.03	0.04
DESIGN SPEED	VARIES	VARIES	55 MPH	55 MPH
LEGAL SPEED	VARIES	VARIES	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:			MAJOR COLLECTOR	MAJOR COLLECTOR
NHS PROJECT	YES			

DESIGN EXCEPTIONS

NONE

	MIDDLEBORO RD SOUTH LEG	WILMINGTON RD WEST LEG	WILMINGTON RD EAST LEG
CURRENT ADT (2018)	1,120	4,230	4,170
DESIGN YEAR ADT (2038)	4,530	8,860	8,870
DESIGN HOURLY VOLUME (2038)	270	850	700
DIRECTIONAL DISTRIBUTION	0.81	0.85	0.80
TRUCKS (24 HOUR B&C)	0.13	0.04	0.08
DESIGN SPEED	55 MPH	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	LOCAL ROAD	MAJOR COLLECTOR	MAJOR COLLECTOR
NHS PROJECT	YES		

DESIGN EXCEPTIONS

NONE

	OLIVE BRANCH RD OVER I.R. 71	CLARKSVILLE RD OVER I.R. 71	HARVEYSBURG RD OVER I.R. 71
CURRENT ADT (2018)	1,550	670	1,250
DESIGN YEAR ADT (2038)	4,690	3,390	4,250
DESIGN HOURLY VOLUME (2038)	470	270	550
DIRECTIONAL DISTRIBUTION	0.60	0.70	0.65
TRUCKS (24 HOUR B&C)	0.03	0.02	0.48
DESIGN SPEED	55 MPH	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	MAJOR COLLECTOR	LOCAL ROAD	LOCAL ROAD
NHS PROJECT	YES	YES	YES

DESIGN EXCEPTIONS

LANE WIDTH, SHOULDER WIDTH, BRIDGE WIDTH, VERTICAL ALIGNMENT (HARVEYSBURG) 03/11/2016

	I.R. 71 SOUTH OF WILMINGTON RD	I.R. 71 NORTH OF WILMINGTON RD
CURRENT ADT (2018)	43,360	40,850
DESIGN YEAR ADT (2038)	53,740	48,690
DESIGN HOURLY VOLUME (2038)	6,680	5,840
DIRECTIONAL DISTRIBUTION	0.60	0.55
TRUCKS (24 HOUR B&C)	0.30	0.30
DESIGN SPEED	70 MPH	70 MPH
LEGAL SPEED	70 MPH	70 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	INTERSTATE ROUTE	INTERSTATE ROUTE
NHS PROJECT	YES	YES

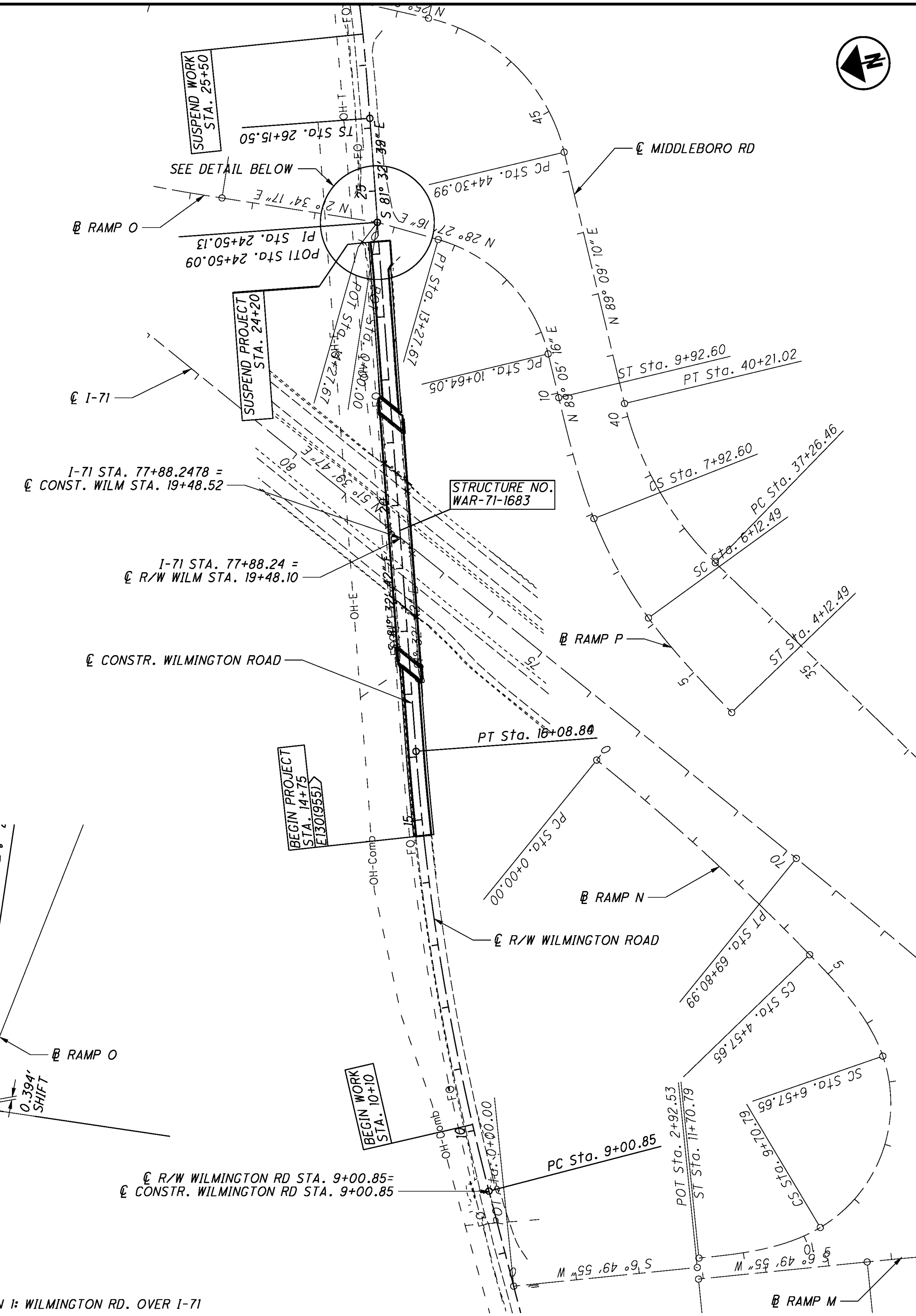
DESIGN EXCEPTIONS

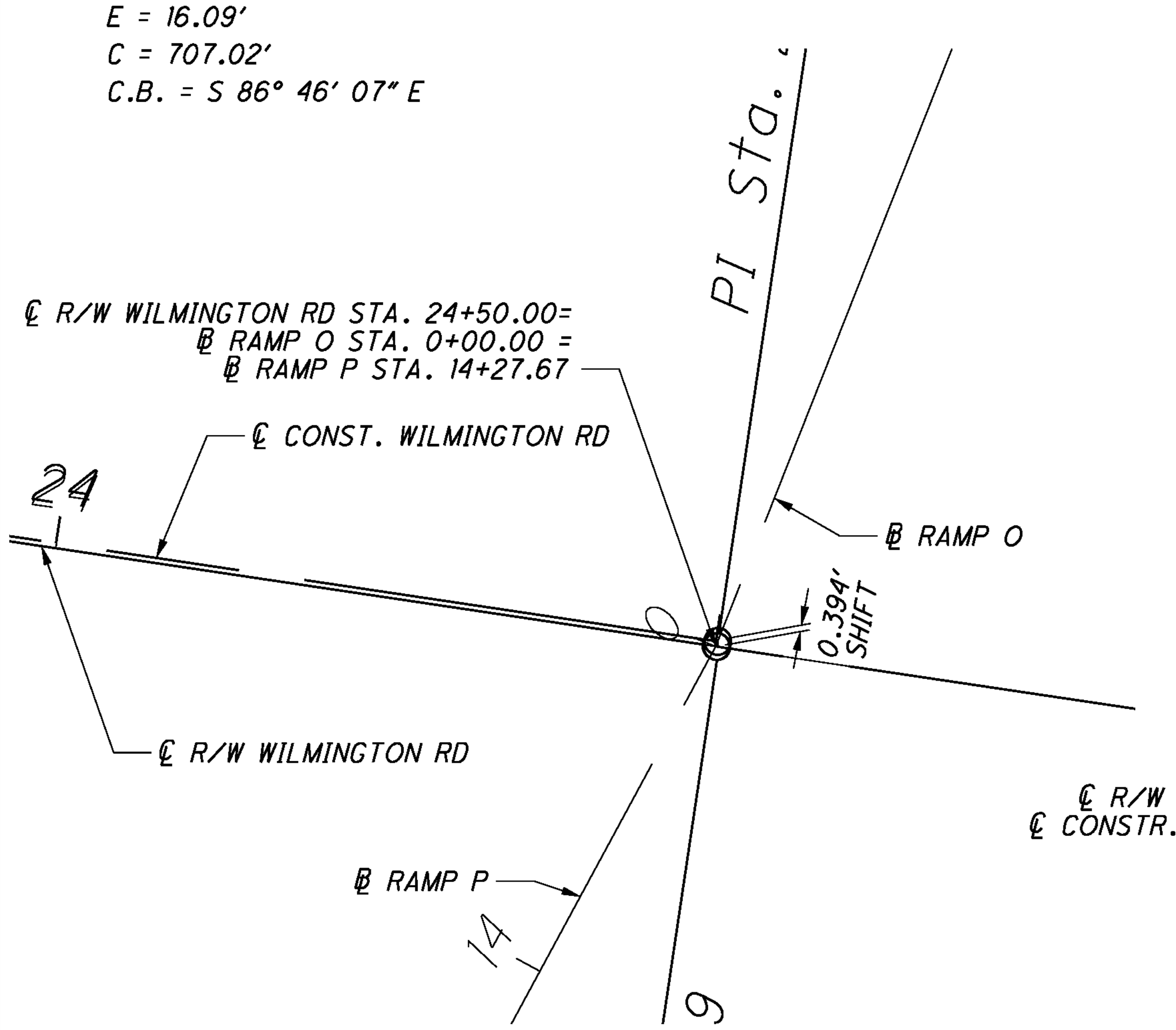
NONE

WILMINGTON RD BENCHMARKS
SOUTH BOLT OF GR TERM. STA. 10+58.53, 18.64' LT EL. 944.97 N 524767.65 E 1521512.26
MNS - SOUTH SIDE OF POLE STA. 17+39.40, 18.68' LT EL. 971.73 N 524706.22 E 1522192.28
MNS - SOUTH SIDE OF POLE STA. 22+14.54, 37.23' LT EL. 978.26 N 524654.71 E 1523025.44
MNS - SOUTH SIDE OF POLE STA. 25+78.70, 39.13' LT EL. 974.31 N 524602.65 E 1523025.44

℄ R/W WILM. CURVE DATA
P.I.Sta. 12+55.80
Δ = 10° 23' 00" (RT)
Dc = 1° 28' 00"
R = 3,906.53'
T = 354.95'
L = 707.95'
E = 16.09'
C = 706.99'
C.B. = S 86° 44' 13" E

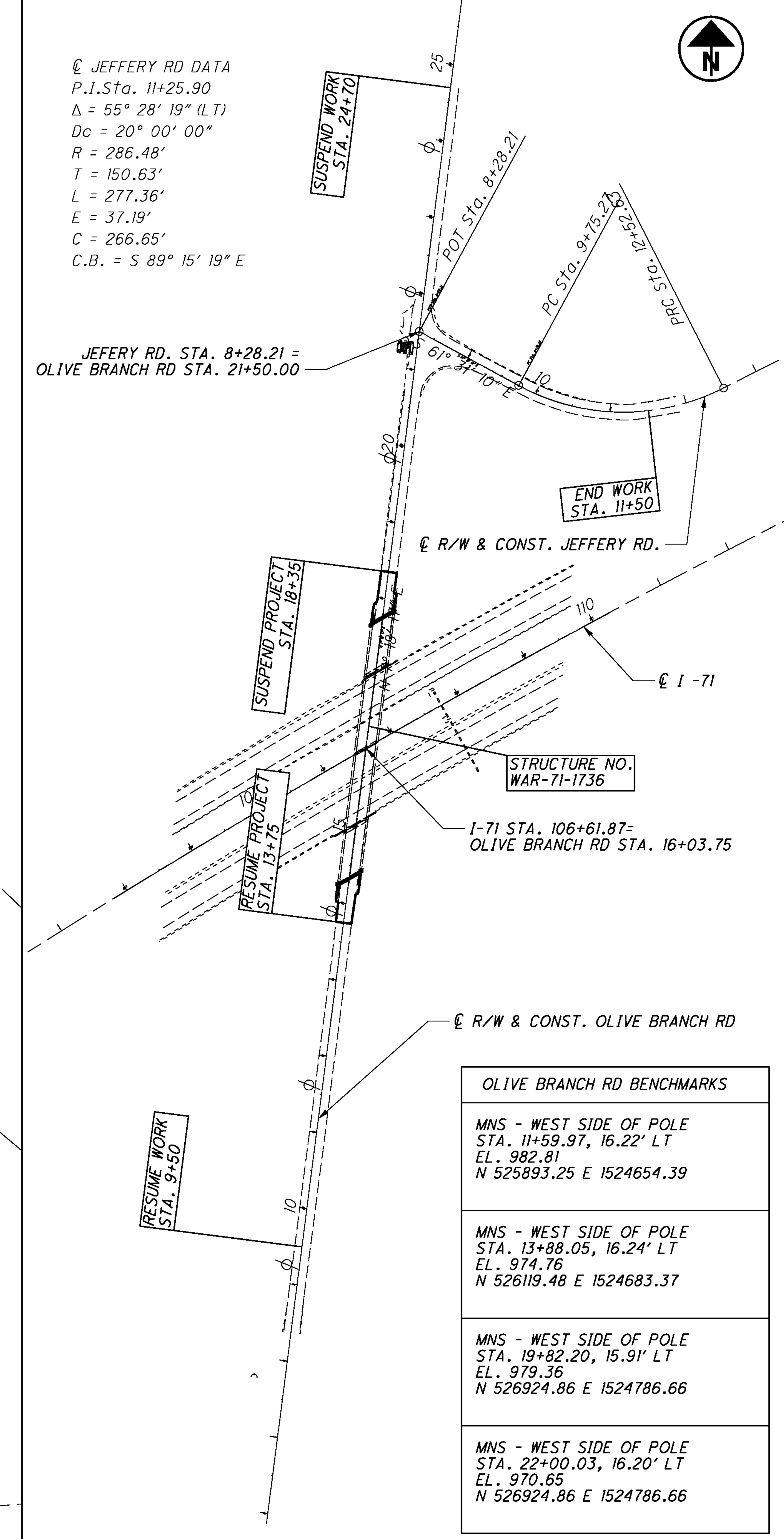
℄ CONSTR. WILM. CURVE DATA
P.I.Sta. 12+55.82
Δ = 10° 23' 02" (RT)
Dc = 1° 28' 00"
R = 3,906.53'
T = 354.97'
L = 707.99'
E = 16.09'
C = 707.02'
C.B. = S 86° 46' 07" E





LOCATION 1: WILMINGTON RD. OVER I-71

℄ JEFFERY RD DATA
P.I.Sta. 11+25.90
Δ = 55° 28' 19" (LT)
Dc = 20° 00' 00"
R = 286.48'
T = 150.63'
L = 277.36'
E = 37.19'
C = 266.65'
C.B. = S 89° 15' 19" E



OLIVE BRANCH RD BENCHMARKS
MNS - WEST SIDE OF POLE STA. 11+59.97, 16.22' LT EL. 982.81 N 525893.25 E 1524654.39
MNS - WEST SIDE OF POLE STA. 13+88.05, 16.24' LT EL. 974.76 N 526119.48 E 1524683.37
MNS - WEST SIDE OF POLE STA. 19+82.20, 15.91' LT EL. 979.36 N 526924.86 E 1524786.66
MNS - WEST SIDE OF POLE STA. 22+00.03, 16.20' LT EL. 970.65 N 526924.86 E 1524786.66

LOCATION 2: OLIVE BRANCH RD. OVER I-71

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

SCHEMATIC PLAN

WAR-71-16.81

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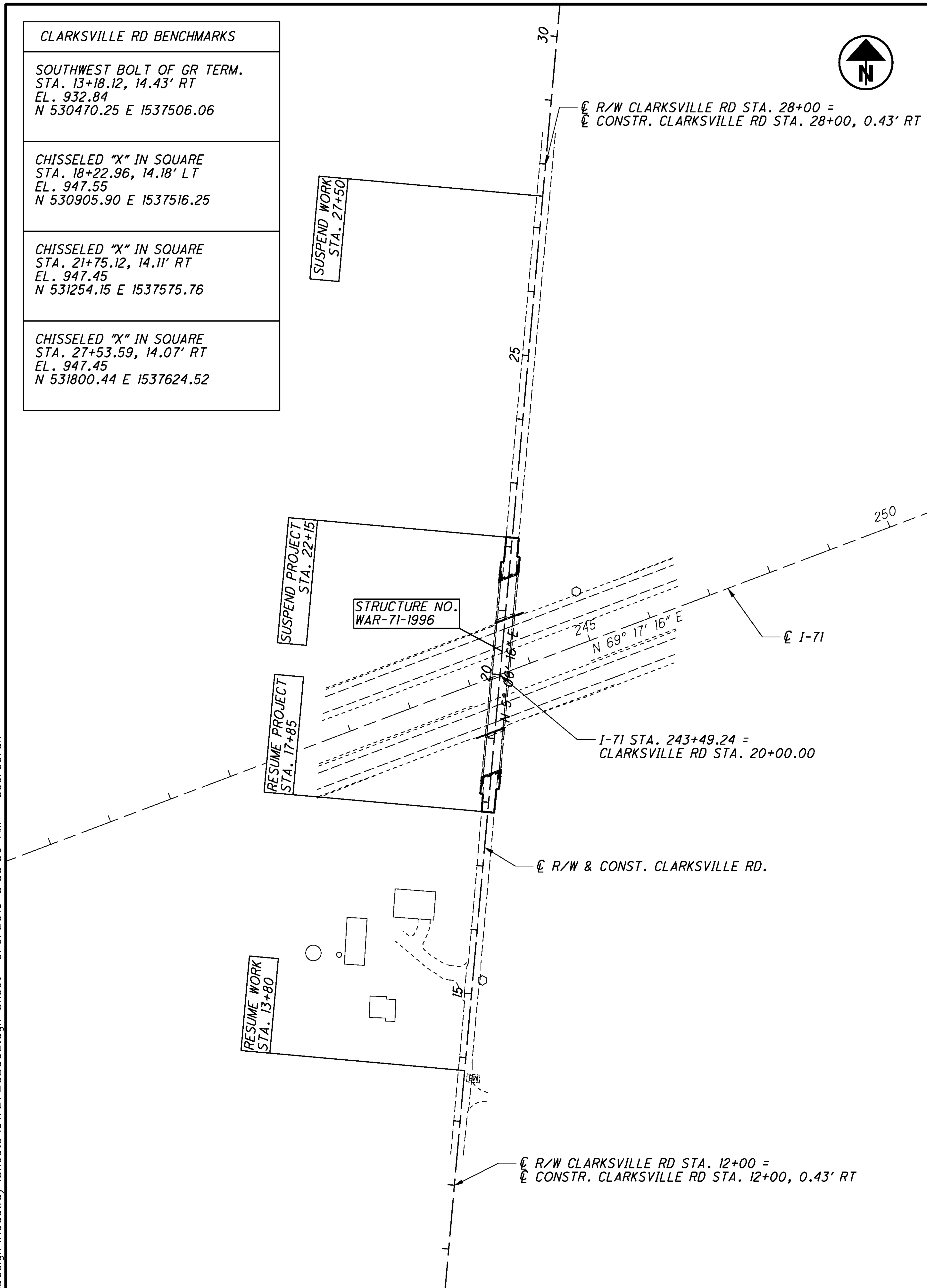
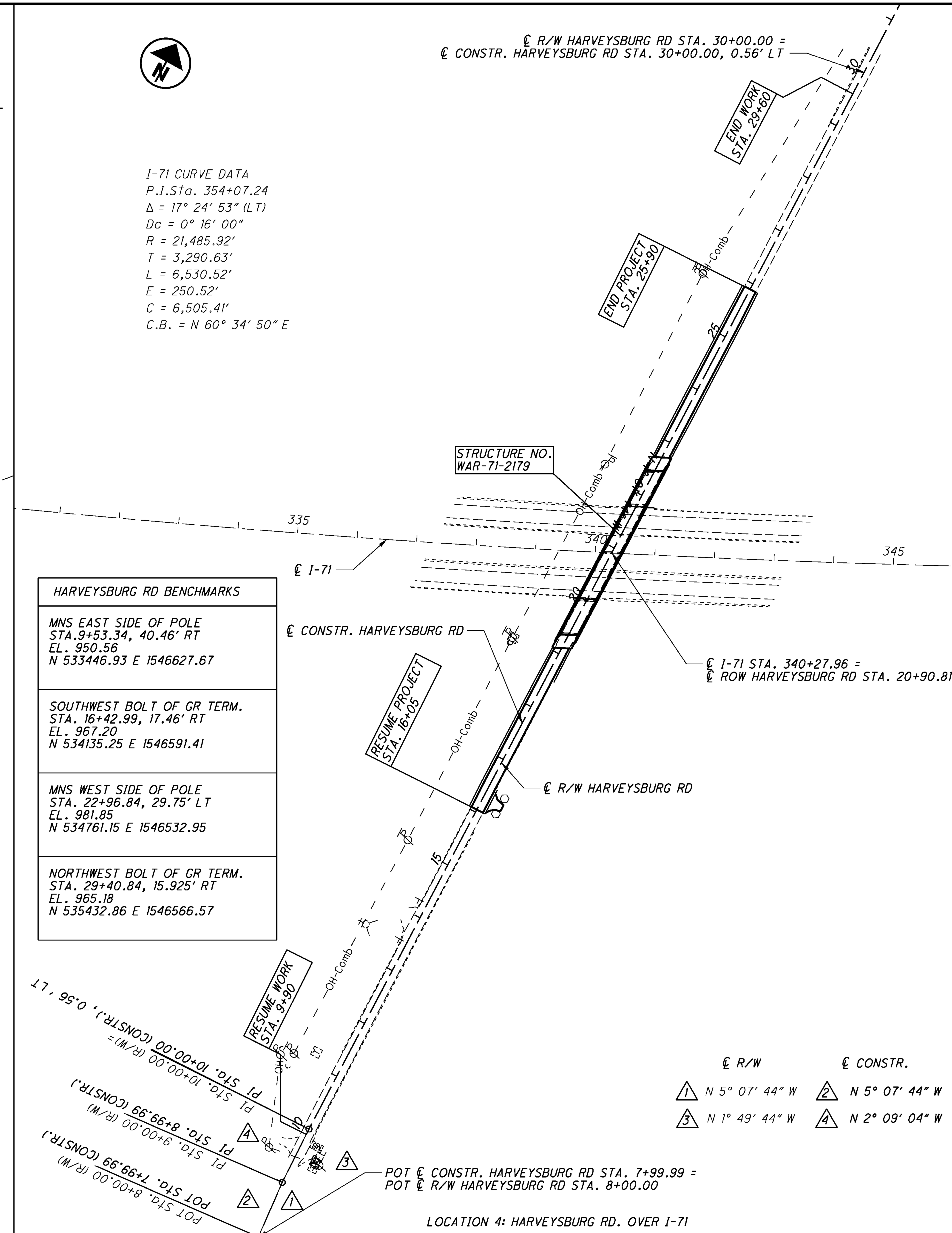
CLARKSVILLE RD BENCHMARKS
SOUTHWEST BOLT OF GR TERM. STA. 13+18.12, 14.43' RT EL. 932.84 N 530470.25 E 1537506.06
CHISSELED "X" IN SQUARE STA. 18+22.96, 14.18' LT EL. 947.55 N 530905.90 E 1537516.25
CHISSELED "X" IN SQUARE STA. 21+75.12, 14.11' RT EL. 947.45 N 531254.15 E 1537575.76
CHISSELED "X" IN SQUARE STA. 27+53.59, 14.07' RT EL. 947.45 N 531800.44 E 1537624.52



LOCATION 3: CLARKSVILLE RD. OVER I-71

I-71 CURVE DATA
P.I.Sta. 354+07.24
Δ = 17° 24' 53" (LT)
Dc = 0° 16' 00"
R = 21,485.92'
T = 3,290.63'
L = 6,530.52'
E = 250.52'
C = 6,505.41'
C.B. = N 60° 34' 50" E

HARVEYSBURG RD BENCHMARKS
MNS EAST SIDE OF POLE STA.9+53.34, 40.46' RT EL. 950.56 N 533446.93 E 1546627.67
SOUTHWEST BOLT OF GR TERM. STA. 16+42.99, 17.46' RT EL. 967.20 N 534135.25 E 1546591.41
MNS WEST SIDE OF POLE STA. 22+96.84, 29.75' LT EL. 981.85 N 534761.15 E 1546532.95
NORTHWEST BOLT OF GR TERM. STA. 29+40.84, 15.925' RT EL. 965.18 N 535432.86 E 1546566.57



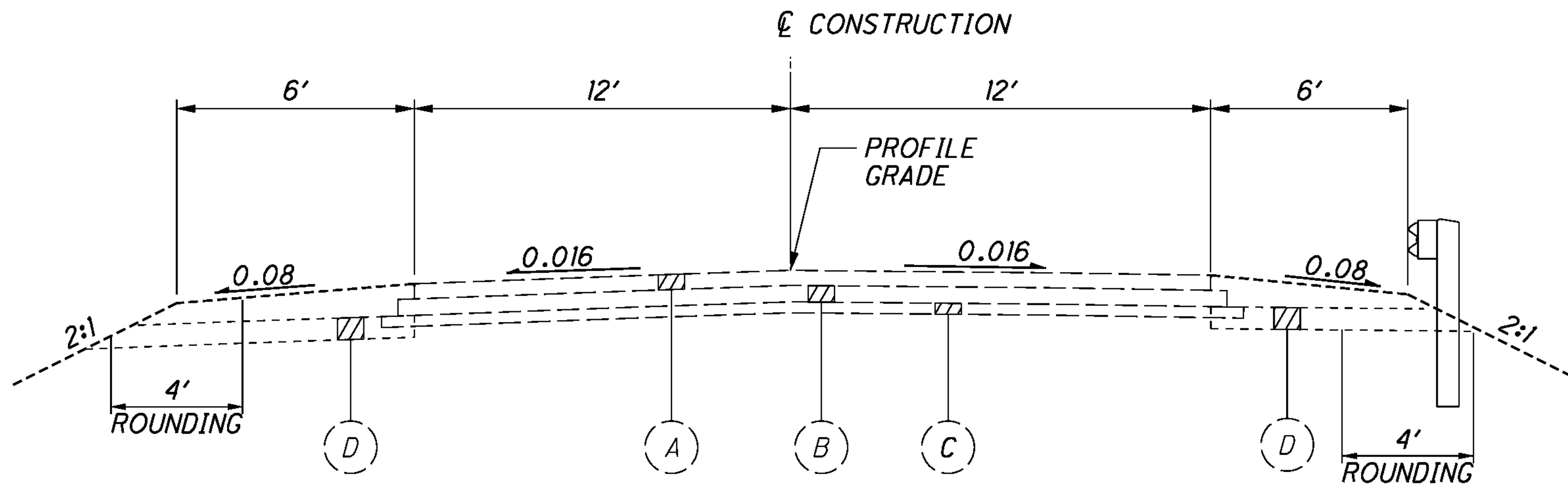
LOCATION 4: HARVEYSBURG RD. OVER I-71

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

SCHEMATIC PLAN

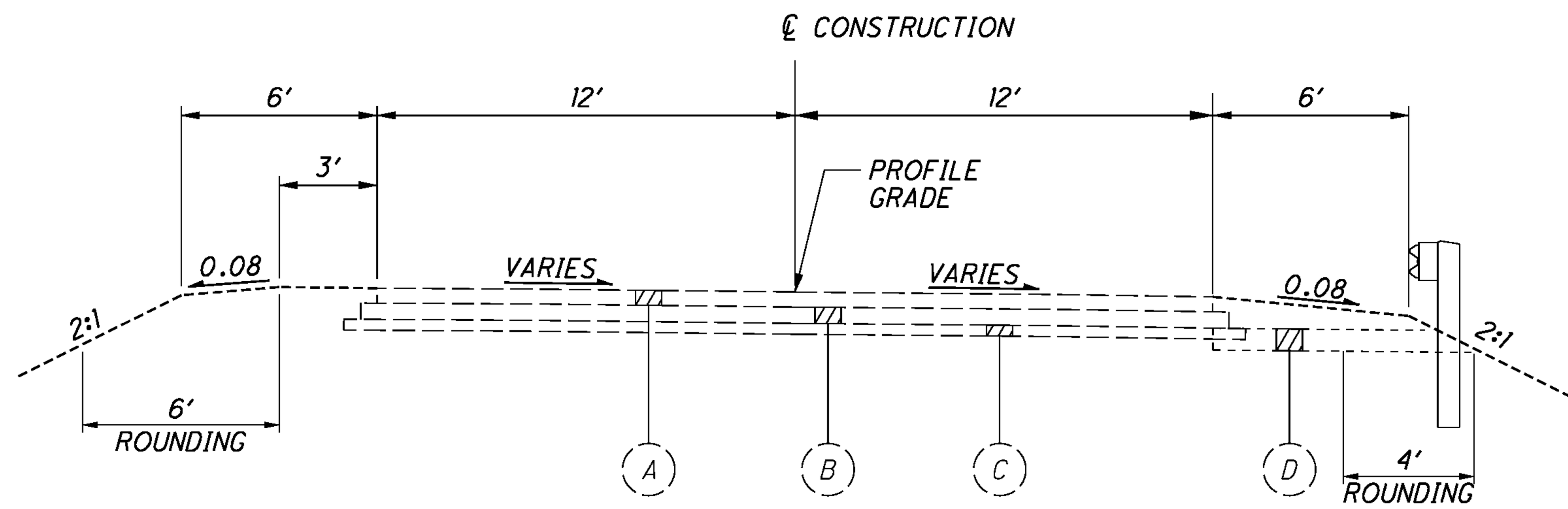
WAR-71-16.81



EXISTING NORMAL SECTION

WILMINGTON ROAD

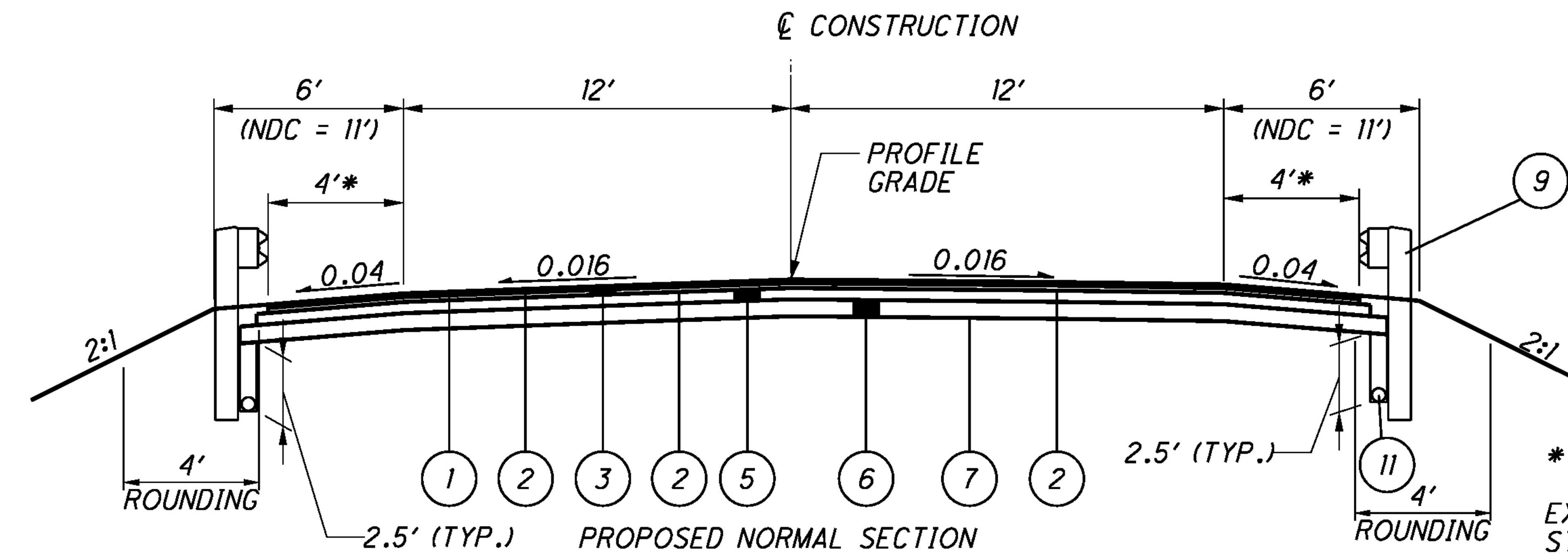
STA. 4+50.00 TO STA. 8+75.00
STA. 16+35.00 TO STA. 17+35.01
STA. 21+61.19 TO STA. 26+15.00



EXISTING SUPERELEVATED SECTION

WILMINGTON ROAD

STA. 8+75.00 TO STA. 16+35.00
STA. 26+15.00 TO STA. 32+00.00



PROPOSED NORMAL SECTION

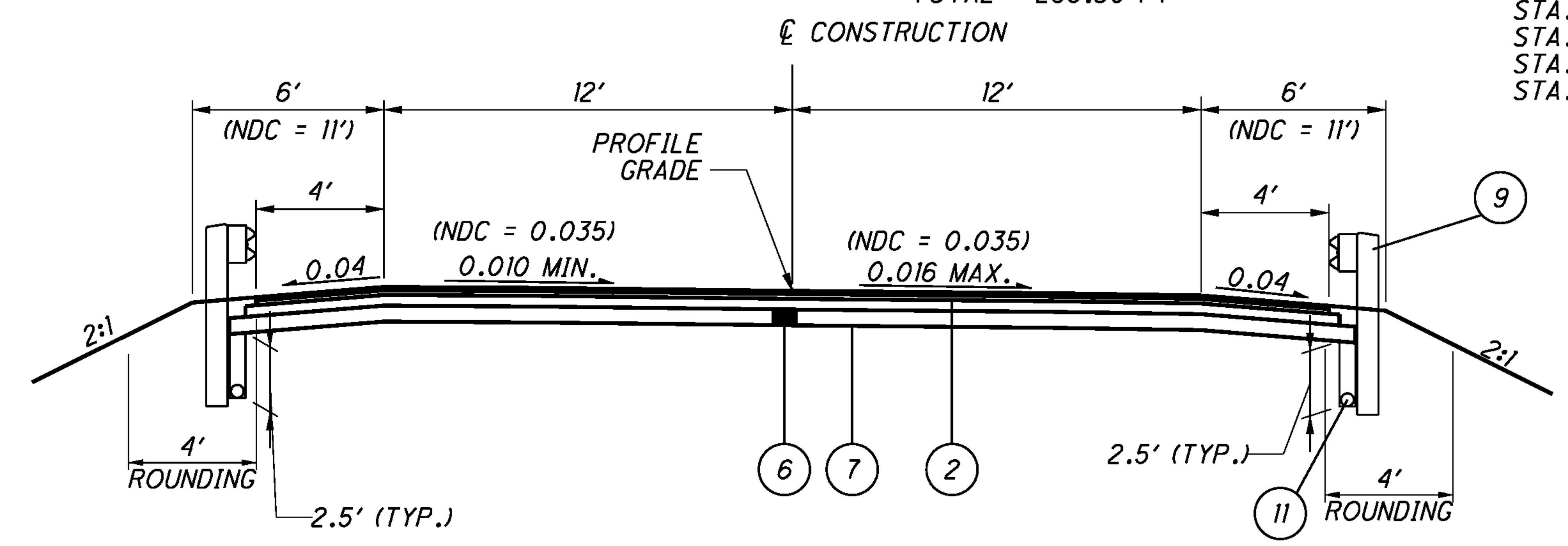
WILMINGTON ROAD

STA. 17+07.84 TO STA. 17+35.51 = 27.61 FT
STA. 21+61.31 TO STA. 24+20.00 = 258.69 FT
TOTAL = 286.30 FT

* SHOULDER SLOPE TRANSITION

EX. GRADED SHOULDER
STA. 14+54.55 TO STA. 14+75.00 EB
STA. 14+54.55 TO STA. 14+75.00 WB
STA. 24+20.00 TO STA. 24+40.45 WB

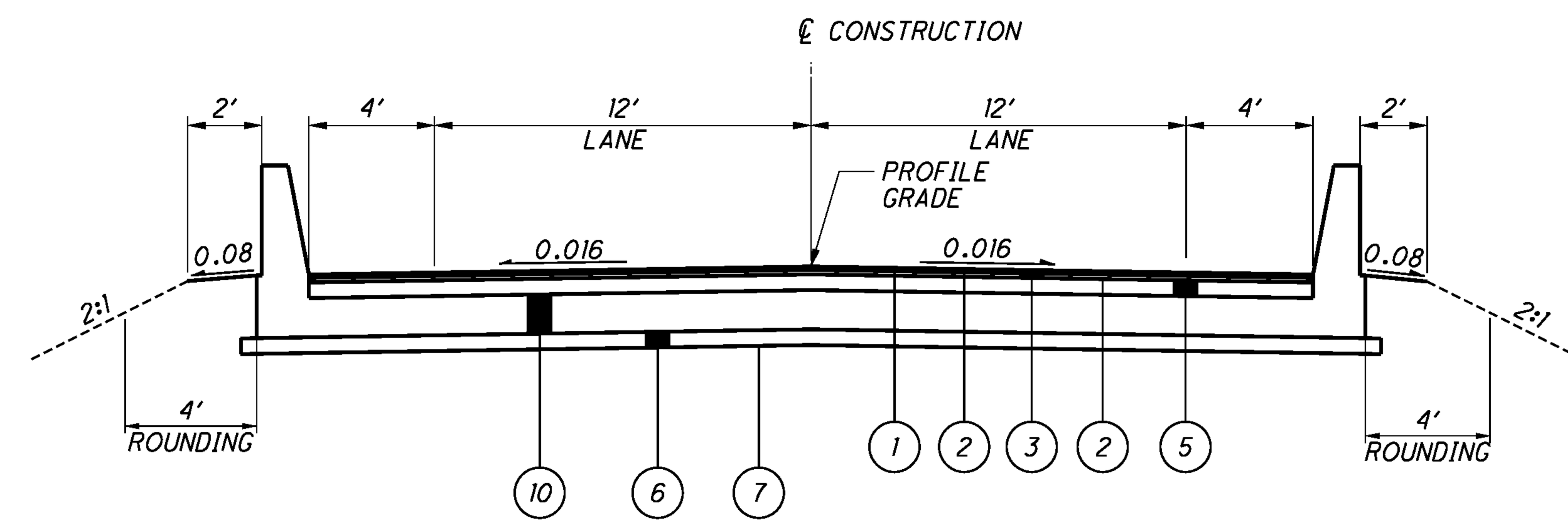
APPROACH SLAB
STA. 16+97.29 TO STA. 17+17.74 EB
STA. 21+52.79 TO STA. 21+73.24 EB
STA. 17+23.59 TO STA. 17+44.04 WB
STA. 21+79.09 TO STA. 21+99.54 WB



PROPOSED SUPERELEVATED SECTION

WILMINGTON ROAD

STA. 14+75.00 TO STA. 17+07.84 = 232.84 FT



PROPOSED APPROACH SLAB SECTION

WILMINGTON ROAD

STA. 17+35.51 TO STA. 17+60.51 = 25.00 FT
STA. 21+36.31 TO STA. 21+61.31 = 25.00 FT
TOTAL = 50.00 FT

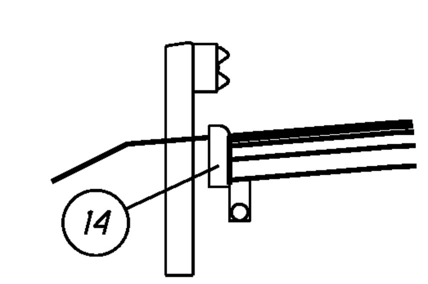
FOR ADDITIONAL DETAILS, SEE STANDARD DRAWING AS-2-15

LEGEND: EXISTING

- (A) EX. 5.5" ASPHALT CONCRETE
- (B) EX. 6" AGGREGATE BASE
- (C) EX. 4" SUBBASE
- (D) EX. 8" STONE UNDERDRAIN
- (E) EX. 1-1/2" ASPHALT CONCRETE
- (E) EX. APPROACH SLAB

LEGEND: PROPOSED

- (1) ITEM 441 - 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- (2) ITEM 407 - NON-TRACKING TACK COAT
- (3) ITEM 441 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- (4) NOT USED
- (5) ITEM 301 -ASPHALT CONCRETE BASE (t=6")
- (6) ITEM 304 - 6" AGGREGATE BASE
- (7) ITEM 204 - SUBGRADE COMPACTION, PROOF ROLLING
- (8) ITEM 441 - 1-3/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- (9) ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS
- (10) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (t = 13"), AS PER PLAN
- (11) ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP
- (12) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE - 1-3/4"
- (13) ITEM 301 -ASPHALT CONCRETE BASE (t=7")
- (14) ITEM 609 - CURB, TYPE 4-C
- (15) ITEM 617 - COMPACTED AGGREGATE



CURB DETAILS

WILMINGTON ROAD:
STA. 16+94.48 TO STA. 17+20.48, RT
STA. 17+24.54 TO STA. 17+50.54, LT
STA. 21+46.28 TO STA. 21+72.28, RT
STA. 21+76.34 TO STA. 22+02.34, LT

HARVEYSBURG ROAD:
STA. 17+00.00 TO STA. 18+82.00, LT
STA. 18+89.17 TO STA. 19+02.05, LT
STA. 19+02.40 TO STA. 19+15.28, RT
STA. 22+67.41 TO STA. 22+80.29, LT
STA. 22+80.65 TO STA. 22+93.53, RT
STA. 22+87.00 TO STA. 25+90.00, LT
STA. 23+00.00 TO STA. 25+90.00, RT

CALCULATED JTW
CHECKED MJC

TYPICAL SECTIONS

WAR-71-16.81

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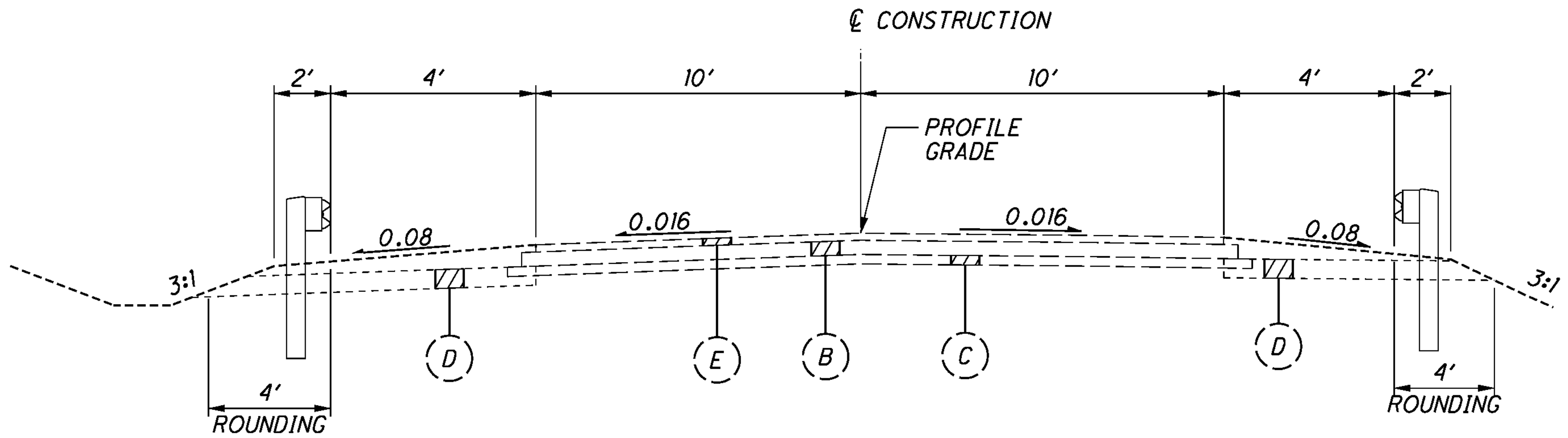
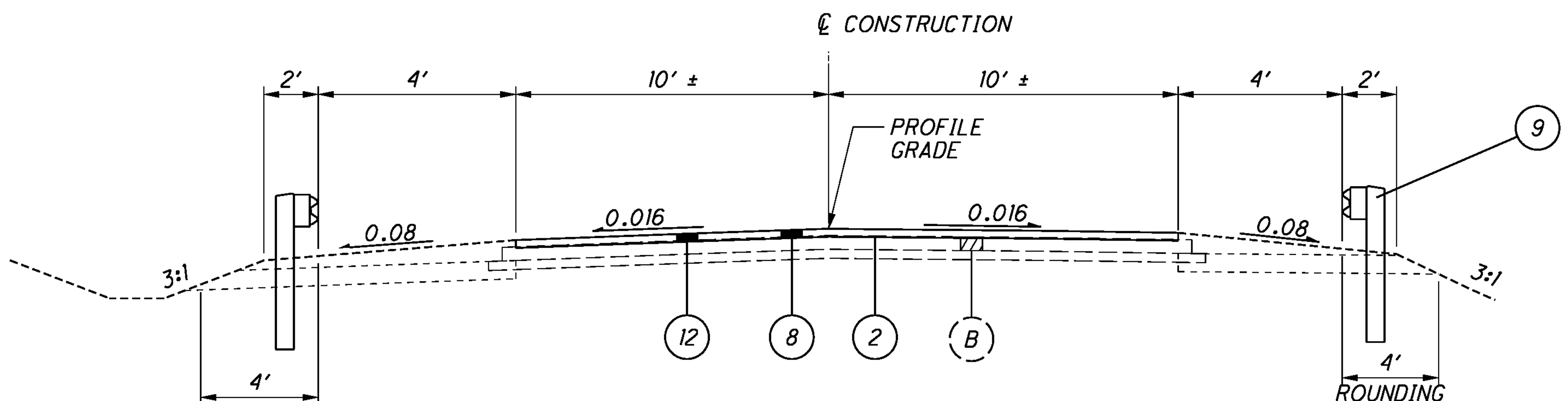


EXISTING NORMAL SECTION

OLIVE BRANCH, CLARKSVILLE AND HARVEYSBURG ROADS

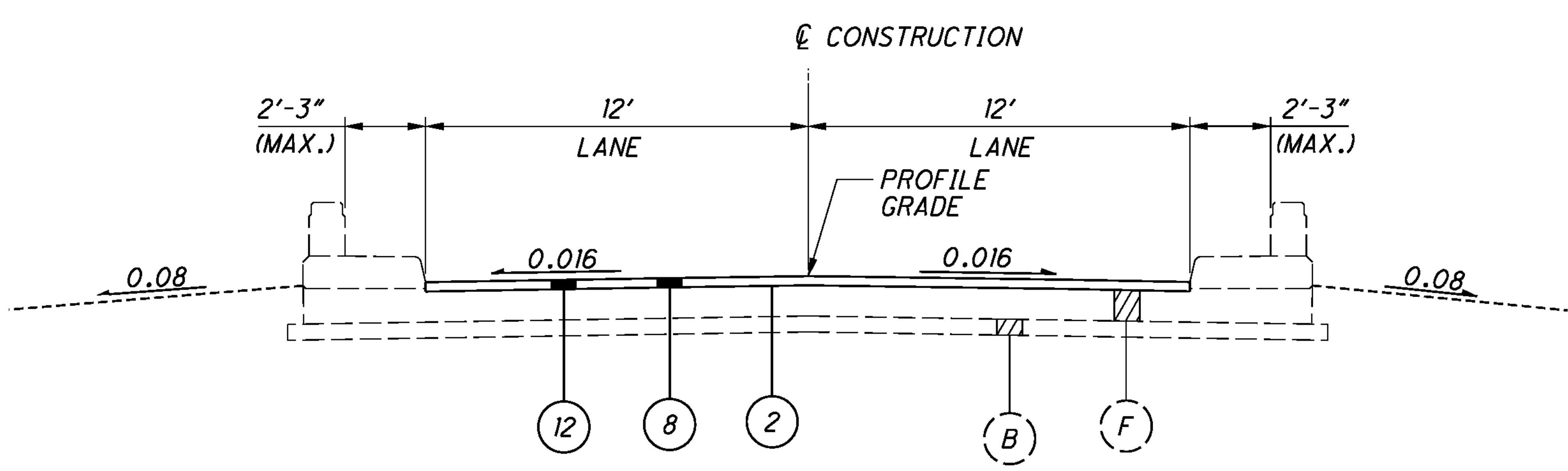
OLIVE BRANCH RD.........STA. 7+25.00 TO STA. 14+06.42
STA. 18+01.08 TO STA. 27+00.00
CLARKSVILLE RD..........STA. 12+25.00 TO STA. 18+17.54
STA. 21+80.54 TO STA. 30+00.00
HARVEYSBURG RD..........STA. 10+00.00 TO STA. 19+10.87
STA. 22+71.83 TO STA. 31+00.00



PROPOSED NORMAL SECTION

OLIVE BRANCH AND CLARKSVILLE ROADS

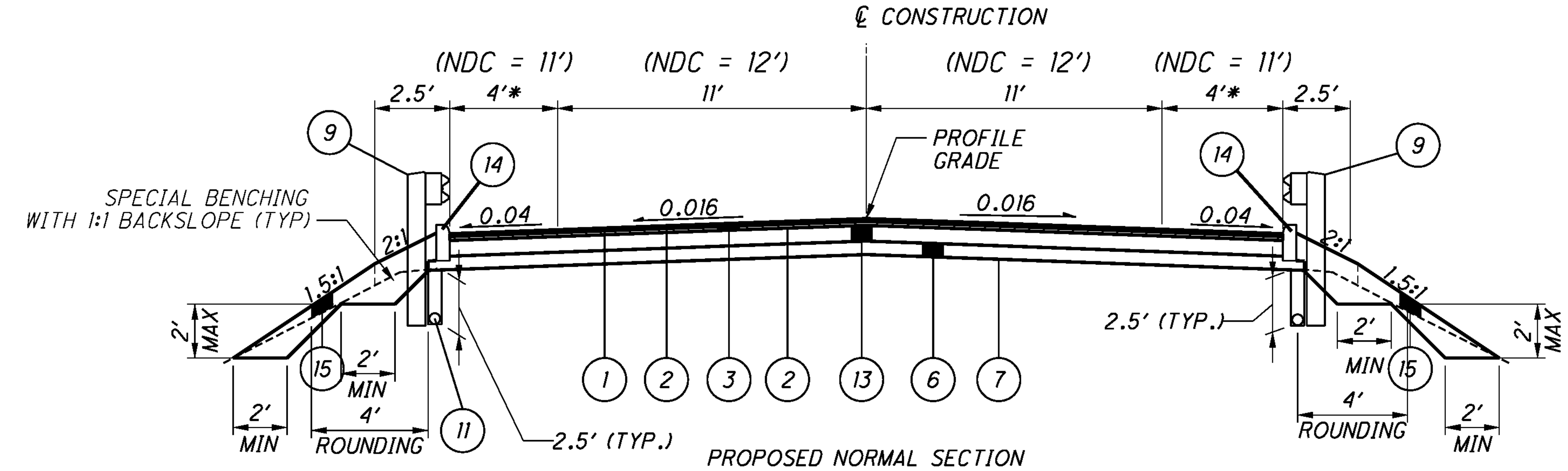
OLIVE BRANCH RD.........STA. 13+75.00 TO STA. 14+06.93 = 31.93′
STA. 18+01.58 TO STA. 18+35.00 = 33.42′
CLARKSVILLE RD.........STA. 17+85.00 TO STA. 18+17.54 = 32.54′
STA. 21+80.54 TO STA. 22+15.00 = 34.46′
TOTAL = 132.35′



PROPOSED APPROACH SLAB SECTION

OLIVE BRANCH AND CLARKSVILLE ROADS

OLIVE BRANCH RD.........STA. 14+06.93 TO STA. 14+31.93 = 25.00′
STA. 17+76.58 TO STA. 18+01.58 = 25.00′
CLARKSVILLE RD.........STA. 18+17.54 TO STA. 18+42.54 = 25.00′
STA. 21+55.54 TO STA. 21+80.54 = 25.00′
TOTAL = 100.00′



PROPOSED NORMAL SECTION

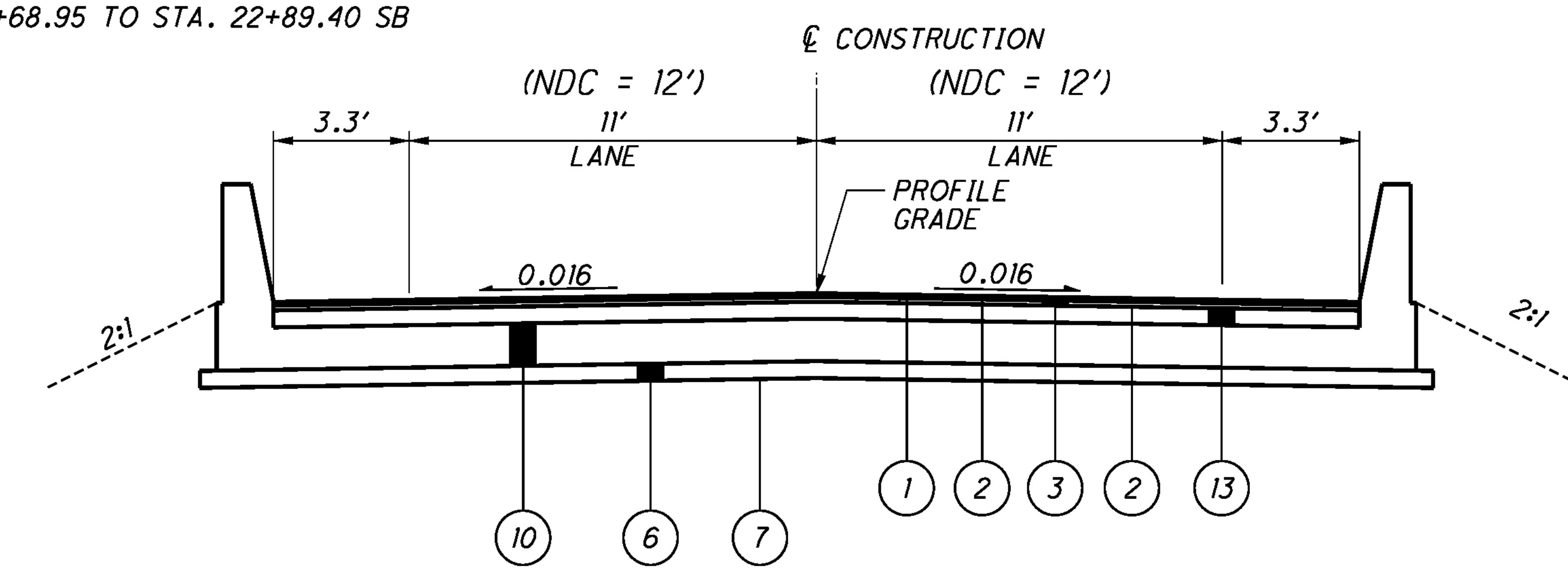
HARVEYSBURG ROAD

HARVEYSBURG RD..........STA. 16+05.00 TO STA. 19+10.87 = 305.87′
STA. 22+71.83 TO STA. 25+90.00 = 318.17′
TOTAL = 624.04′

* SHOULDER SLOPE TRANSITION

EX. GRADED SHOULDER
STA. 16+29.55 TO STA. 16+50.00 NB
STA. 25+35.00 TO STA. 25+55.45 NB
STA. 16+29.55 TO STA. 16+50.00 SB
STA. 25+35.00 TO STA. 25+55.45 SB

APPROACH SLAB
STA. 18+93.30 TO STA. 19+13.75 NB
STA. 22+80.65 TO STA. 23+01.10 NB
STA. 18+81.60 TO STA. 19+02.05 SB
STA. 22+68.95 TO STA. 22+89.40 SB



PROPOSED APPROACH SLAB SECTION

HARVEYSBURG ROAD

STA. 19+10.87 TO STA. 19+35.87 = 25.00 FT
STA. 22+46.83 TO STA. 22+71.83 = 25.00 FT
TOTAL = 50.00 FT

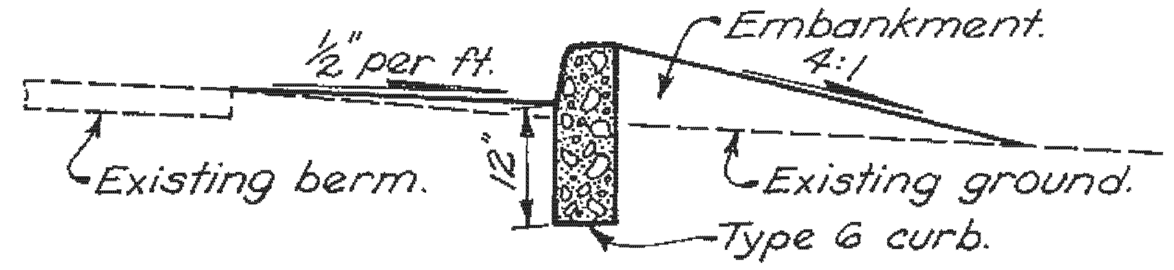
FOR ADDITIONAL DETAILS, SEE STANDARD DRAWING AS-2-15

SEE SHEET 5 FOR LEGEND

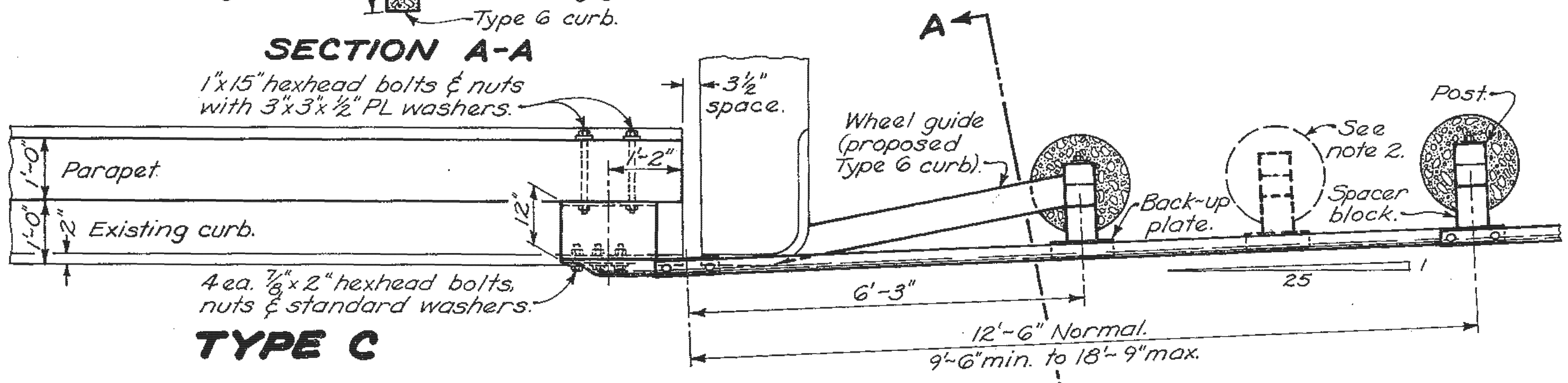
CALCULATED JTW
CHECKED MJC

TYPICAL SECTIONS

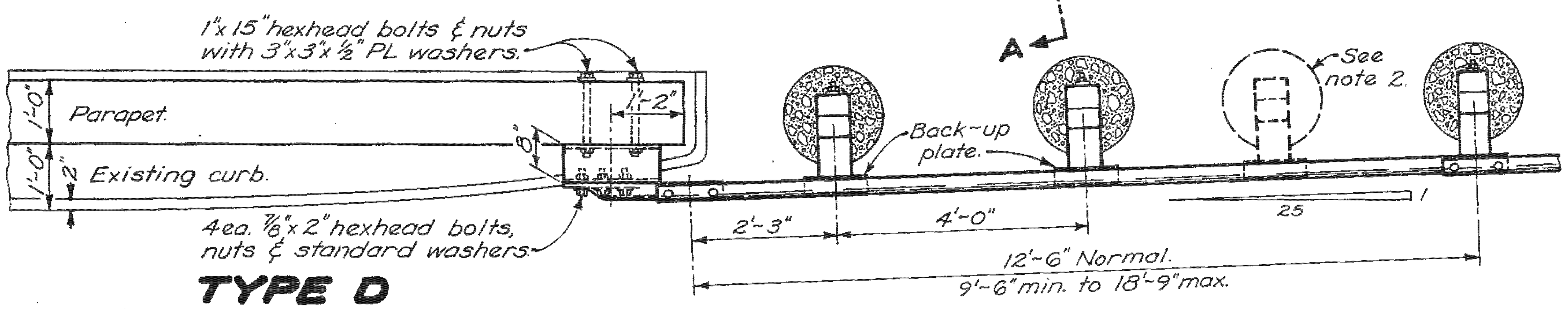
WAR-71-16.81



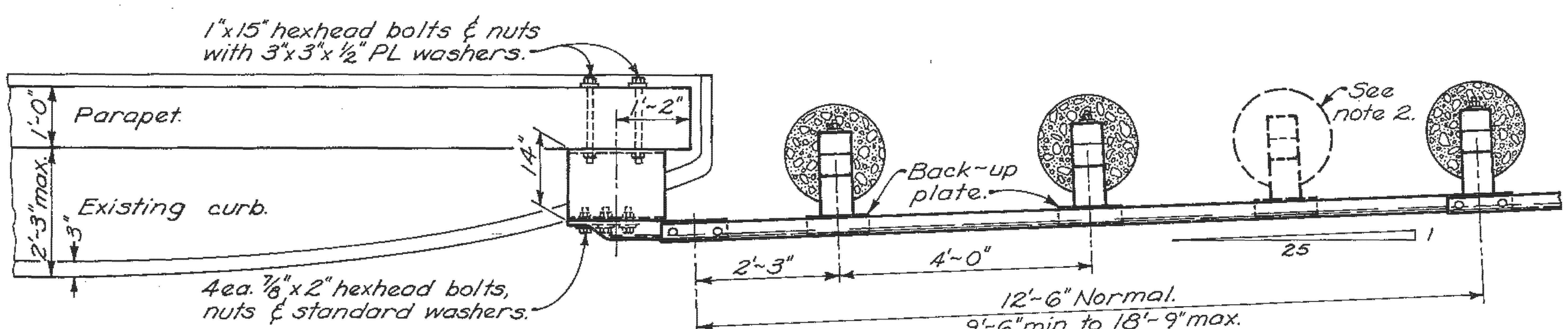
SECTION A-A



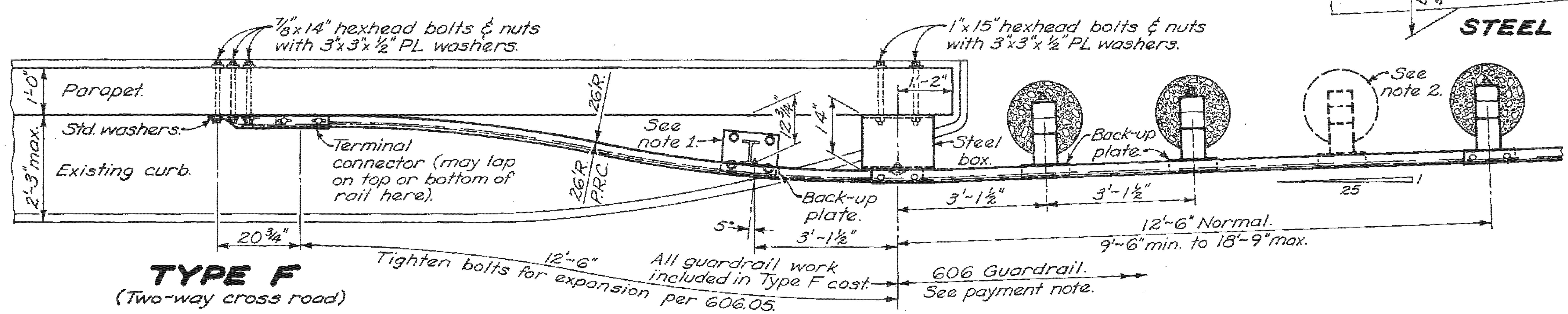
TYPE C



TYPE D



TYPE E



TYPE F
(Two-way cross road)

NOTES

PAYMENT for item 606, each, Bridge terminal assembly, Type __, shall include the additional cost in excess of normal guardrail cost, such as: additional or heavier posts, concrete encasement, extra rail, steel box, curb, embankment, terminal connector, anchors and other hardware, etc.

FOR DETAILS not shown, see GR-1 and other Standard Construction Drawings pertaining to design of specific guardrail Type.

GUARDRAIL TERMINATION as directed by the Engineer. The 12'-6" normal rail section may vary as shown to facilitate connection of or reconstruction of existing approach guardrail. The 1'-2" terminal connector location dimension may be increased to avoid existing parapet steel.

STEEL BOX of the appropriate size, galvanized after welding any two opposite corners, shall be mounted on the parapet so the rail top is 27" above the bridge deck.

SPACER BLOCK size may be increased if necessary to locate post beyond wide approach slab.

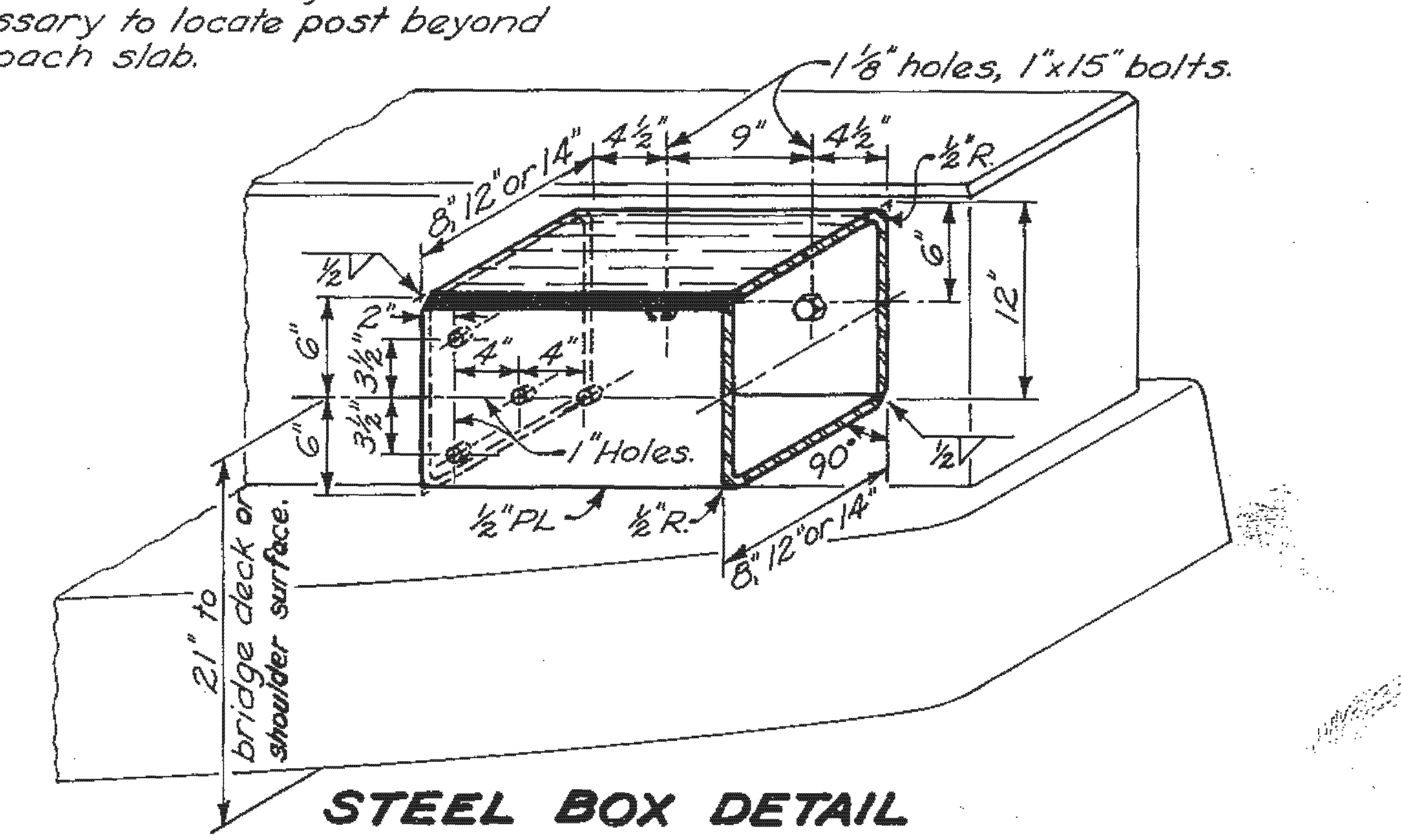
POSTS shall be 6"x8" wood or W6x15 steel (except note 1 post) of the same material type as used on approach guardrail, with 4" minimum concrete encasement.

NOTE 1: Use W6x9 inlet mounted post as detailed on GR-1 with length to mount rail top 27" above bridge deck.

NOTE 2: Place one additional encased post halfway between adjacent posts when the 12'-6" normal rail section is increased.

SELF-DRILLING ANCHORS meeting requirements of 712.01, or Group VIII Type 1 anchors per FF-S-325, with ⅞"x1½" bolts with washers may be substituted for the ⅞"x14" bolts shown in the Parapet for Type F.

Anchor installations not satisfactory to the Engineer shall be replaced with bolts as shown extending through the parapet or as directed by the Engineer.



STEEL BOX DETAIL

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

BRIDGE TERMINAL ASSEMBLIES

DATE 12-6-76 2-5-82

STANDARD CONSTRUCTION DRAWING

GR-3A

APPROVED [signature] ENGR., L. & D.

BRIDGE TERMINAL DETAILS

WAR-71-16.81

UTILITIES

LISTED BELOW ARE UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

DUKE ENERGY (ELECTRIC)
139 E. 4TH ST, RM 467A
CINCINNATI, OH 45202
513-287-1748 (GINNY MEYER)
VIRGINIA.MEYER@DUKE-ENERGY.COM

DAYTON POWER AND LIGHT
1900 DRYDEN RD
DAYTON, OH 45439
937-554-9063 (WILLIAM WARD)
WILLIAM.WARD@DPLINC.COM

CENTURYLINK
20 NORTH MECHANIC ST
LEBANON, OH 45036
513-933-3502 (MARK BENNETT)
MARK.A.BENNETT@CENTURYLINK.COM

INDEPENDENTS FIBER NETWORK
13888 COUNTY ROAD 25A
WAPAKONETA, OH 45895
800-634-4032 (RANDALL PLAISIER)
OSP@CNITEAM.COM

FRONTIER COMMUNICATIONS
241 SOUTH NELSON AVE.
WILMINGTON, OH 45177
937-283-5735 (DAVID LONGWORTH)
DAVID.M.LONGWORTH@FTR.COM

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF:

- TWENTY ONE (21) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND/OR ROAD CLOSURES
- FOURTEEN (14) DAYS PRIOR TO LANE CLOSURES AND/OR SHIFTS IN TRAFFIC PATTERNS

THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO)
FAX: (513) 933-9472
EMAIL: D08.PIO@DOT.OHIO.GOV

DISTRICT PERMIT SECTION
FAX: (513) 933-9472
EMAIL: TOM.MAKRIS@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION
FAX: (614) 728-4099
EMAIL: HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

EXISTING PLANS

EXISTING PLANS ENTITLED WAR-71-16.81 WILL BE AVAILABLE ON ODOTS FTP SITE:
FTP://FTP.DOT.STATE.OH.US/PUB/DISTRICTS/D08/

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, SOUTH OHIO
COMBINED SCALE FACTOR: 1.00010386 (WILMINGTON RD.)
COMBINED SCALE FACTOR: 1.00010458 (OLIVE BRANCH RD.)
COMBINED SCALE FACTOR: 1.00010257 (CLARKSVILLE RD.)
COMBINED SCALE FACTOR: 1.00010414 (HARVEYSBURG RD.)

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 3 HOURS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST 2 EACH

659, TOPSOIL 90 CU. YD.

659, SEEDING AND MULCHING 813 SQ. YD.

659, REPAIR SEEDING AND MULCHING 41 SQ. YD

659, INTER-SEEDING 41 SQ. YD.

659, COMMERCIAL FERTILIZER 0.12 TON

659, LIME 0.17 ACRES

659, WATER 5 M. GAL.

659, MOWING 2 M. SQ. FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE

IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

CALCULATED JTW
CHECKED MJC

GENERAL NOTES

WAR-71-16.81

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND RE-ATTACHING EXISTING MAILBOXS AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES I.D., AND CONFORM TO AASHTO M 181.

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEERS FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ITEM 614, MAINTAINING TRAFFIC

ALL LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT IN ACCORDANCE WITH THE LANE VALUE CONTRACT TABLE AND THE WINDOW CONTRACT TABLE, BY USE OF THE EXISTING PAVEMENT AND COMPLETED PAVEMENT.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPT. OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THESE PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES TO MAINTAIN THE TRAVELED PAVEMENT SAFELY.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	MEMORIAL DAY
FOURTH OF JULY	THANKSGIVING
NEW YEAR'S	EASTER
LABOR DAY	

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $125 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOUSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED. PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE LANE VALUE CONTRACT TABLE INCLUDED IN THESE PLANS. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

THE "NOTICE OF CLOSURE" SIGNS SHALL BE W20-H13 WITH THE FOLLOWING FOUR LINES:
LINE 1: ____ WILL BE
LINE 2: CLOSED ____
LINE 3: FOR __ DAYS
LINE 4: INFO: 513-933-6689
THE ABOVE BLANKS SHALL BE FILLED IN BY THE CONTRACTOR.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614, DETOUR SIGNING

ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOURS SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNITS	DISINCENTIVE $ PER TIME UNIT PER LANE
ALL IR-71 LANES/RAMPS OPEN TO TRAFFIC	9AM TO 7PM; WEEKDAYS 10AM TO 4PM; WEEKEND	15 MINUTE PERIOD	$750

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS WEB PAGE FOR ROADWAY STANDARDS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 2 M. GAL

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC

ITEM 614, SPECIAL - WORK ZONE TRAFFIC SIGNAL

THE CONTRACTOR SHALL SUPPLY AND INSTALL A WORK ZONE TRAFFIC SIGNAL, AS SHOWN IN THE PLAN, AND IN CONFORMANCE WITH TRAFFIC SCDS MT-96.11, 96.20 AND 96.26.

THE INITIAL CONTROLLER TIMING SHALL BE AS SHOWN IN THE PLAN SHEETS. THE CONTRACTOR SHALL MONITOR TRAFFIC QUEUES AND OPERATION, PARTICULARLY WITH REGARD TO OPERATIONS OF THE NORTHBOUND OFF-RAMP, TO ENSURE THAT TRAFFIC IS NOT BACKING UP NEAR THE MAINLINE. IF NECESSARY, THE CONTRACTOR SHALL ADJUST SIGNAL TIMINGS, AS DIRECTED BY THE ENGINEER, IN CONFORMANCE WITH NOTE 7 OF SCD MT-96.26.

DETECTION FOR TRAFFIC SIGNAL ACTUATION SHALL BE EITHER RADAR-BASED TECHNOLOGY OR TRADITIONAL LOOP DETECTORS. OTHER TYPES OF DETECTOR TECHNOLOGY (E.G., MAGNETOMETERS, VIDEO, INFRA-RED) WILL NOT BE PERMITTED.

POWER SERVICE SHALL BE ARRANGED WITH DAYTON POWER AND LIGHT. IT IS ASSUMED THAT A TEMPORARY TRANSFORMER WILL BE REQUIRED TO PROVIDE 120V SINGLE PHASE SERVICE TO THE PROPOSED WORK ZONE TRAFFIC SIGNAL. THE CONTRACTOR SHALL BE RESPONSIBLE TO ARRANGE THE POWER SERVICE, AND PAY FOR ALL RELATED COSTS AS BILLED BY DP&L, INCLUDING ENERGY COSTS, POWER SERVICE FEES, AND POWER SERVICE REMOVAL COSTS. REIMBURSEMENT FOR THE ASSOCIATED POWER SERVICE COSTS WILL BE PAID PER CMS 109.05.C.9 - PROFESSIONAL AND SPECIAL WORK.

PAYMENT FOR COST OTHER THAN ASSOCIATED POWER SERVICE FEES FOR THIS ITEM WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH TEMPORARY TRAFFIC SIGNAL INSTALLED, MAINTAINED, AND REMOVED, AND SHALL INCLUDE ALL LABOR, AND MATERIALS.

THE FOLLOWING ESTIMATED QUANTITES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE COMPLETION OF THE ABOVE DESCRIBED WORK:

ITEM 614, SPECIAL - WORK ZONE TRAFFIC SIGNAL - 2 EA.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE (OFFICE OF MATERIALS MANAGEMENT WEB PAGE). THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL

ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) 13 & 14 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 32 SIGN DAYS

ASSUMING 2 PCMS SIGNS FOR 18 DAYS

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL AND ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

THE FOLLOWING ITEMS HAVE BEEN ITEMIZED IN THE MOT SUBSUMMARY FOR PAYMENT AND CARRIED TO THE GENERAL SUMMARY FOR PAYMENT:

ITEM 614, BARRIER REFLECTOR, TYPE B
ITEM 614, OBJECT MARKER, TWO-WAY

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 800 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM SPECIAL - WORK ZONE GUARDRAIL

THIS WORK SHALL CONSIST OF REMOVING AND RE-ERECTING THE EXISTNING TYPE 5 GUARDRAIL IN THE LOCATIONS SPECIFIED IN THE PLANS. ANY DAMANGED RAIL, POSTS AND ASSOCATED HARDWARE SHALL BE REPLACED WITH TYPE 5 GUARDRAIL, POSTS AND ASSOCAITED HARDWARE PER THE STANDARD DRAWINGS.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL AND ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - BARRIER REFLECTOR, TYPE A2	14 EACH
ITEM 614 - OBJECT MARKER, TWO WAY	21 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEMS.

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SEQUENCE OF CONSTRUCTION

THE WAR-71-1683 STRUCTURE (WILMINGTON ROAD) SHALL NOT BE REDUCED TO ONE LANE UNTIL BOTH JEREMIAH MORROW STRUCTURES ARE COMPLETE AND OPEN TO TRAFFIC, WHICH IS EXPECTED TO OCCUR IN 2018.

NO TWO CONSECUTIVE STRUCTURES SHALL BE CLOSED AT THE SAME TIME.

WAR-71-2179 (HARVEYSBURG ROAD) SHALL BE CLOSED WHEN CLINTON-MASSIE HIGH SCHOOL HAS BEGUN SUMMER. IMPACT SHALL BE LIMITED TO ONE SCHOOL YEAR. CONTACT CLINTON-MASSIE SCHOOL DISTRICT FOR SCHOOL SCHEDULE:

CLINTON-MASSIE LOCAL SCHOOL DISTRICT
2556 LEBANON ROAD
CLARKSVILLE, OH 45113
PH: 937-289-2471

WILMINGTON ROAD SEQUENCE OF CONSTRUCTION

PRE-PHASE

THE CONTRACTOR SHALL CLOSE WILMINGTON ROAD FOR NO MORE THAN 36 HOURS CONSECUTIVE HOURS, FROM 6 PM ON A SATURDAY UNTIL 6 AM MONDAY, IN ORDER TO RAISE THE ENTIRE STUCTURE AS DETAILED IN THE PLANS AND TO FULLY IMPLEMENT MAINTENANCE OF TRAFFIC PHASE I AS DESCRIBED HEREIN. TRAFFIC SHALL BE DETOURED PER SHEETS 13 AND 14. AN ASPHALT WEDGE SHALL BE PLACED IN THE WESTBOUND LANE AT A SLOPE OF 35' PER INCH TO TRANSITION FROM THE EXISTING PAVEMENT TO THE RAISED STRUCTURE ELEVATION AT THE REAR AND FORWARD ABUTMENTS.

REMOVE EXISTING PAVEMENT MARKINGS MARKED FOR REMOVAL IN THE PLANS. INSTALL MOT SIGNING AS PER STANDARD CONSTRUCTION DRAWINGS LISTED AND AS SHOWN IN THE PLANS.

PRIOR TO THE START OF PROPOSED PHASE I CONSTRUCTION, PLACE ALL TEMPORARY TRAFFIC CONTROL DEVICES, TEMPORARY PAVEMENT, AND TEMPORARY PAVEMENT MARKINGS REQUIRED FOR PHASE I OPERATIONS. INSTALL TEMPORARY SIGNALS AS DETAILED ON SHEETS 25 & 26.

PHASE I

CLOSE THE WESTBOUND LANE OF WILMINGTON ROAD AND MAINTAIN ONE LANE, TWO-WAY TRAFFIC THROUGHOUT PHASE I. CONSTRUCT THE WESTBOUND PORTION OF THE STRUCTURE, ROADWAY AND ASSOCIATED ROADWAY ITEMS, EXCEPT THE PORTIONS CONSTRUCTED IN PHASE II.

PHASE II

THE CONTRACTOR SHALL CLOSE WILMINGTON ROAD FOR NO MORE THAN 36 CONSECUTIVE HOURS, FROM 6 PM ON A SATURDAY UNTIL 6 AM MONDAY, IN ORDER TO COMPLETE THE EASTBOUND AND WESTBOUND WILMINGTON ROAD ROADWAY IMPROVEMENTS AS SHOWN IN THE PLANS. UTILIZE THE TEMPORARY SIGNALS, TEMPORARY PAVEMENT, AND MAINTENANCE OF TRAFFIC (MOT) ELEMENTS INTALLED IN PHASE I AND DETOUR TRAFFIC PER SHEETS 13 & 14.

PHASE III

PRIOR TO THE START OF PROPOSED PHASE III CONSTRUCTION, PLACE ALL TEMPORARY TRAFFIC CONTROL DEVICES, TEMPORARY PAVEMENT, AND TEMPORARY PAVEMENT MARKINGS REQUIRED FOR PHASE III OPERATIONS.

REVISE TEMPORARY SIGNALS AS DETAILED ON SHEET 25 & 26. COMPLETE REMAINING EASTBOUND WILMINGTON ROAD ROADWAY AND STRUCTURE IMPROVEMENTS AS DETAILED IN THE PLANS.

THE CONTRACTOR SHALL UTILIZE SCD MT-97.10 FOR SHORT TERM LANE CLOSURES TO COMPLETE REMAINING GUARDRAIL WORK.

CLARKSVILLE ROAD, HARVEYSBURG ROAD & OLIVE BRANCH ROAD SEQUENCE OF CONSTRUCTION

CLARKSVILLE ROAD, HARVEYSBURG ROAD, & OLIVE BRANCH ROAD SHALL BE CLOSED FOR 120 DAYS EACH TO COMPLETE ALL REQUIRED WORK. CLOSURES SHALL COMPLY WITH ALL NOTES LISTED HEREIN. DURING CLOSURES, TRAFFIC FOR EACH ROAD SHALL BE DETOURED AS SHOWN IN THE PLANS. NO TWO BRIDGES ARE ALLOWED TO BE CLOSED AT THE SAME TIME.

I.R. 71

THE CONTRACTOR SHALL UTILIZE STANDARD CONSTRUCTION DRAWING MT-95.31 TO CLOSE LANES ON I.R. 71 DURING PERMITTED TIMES AS NEEDED TO FACILITATE CONSTRUCTION UNDER THE STRUCTURES.

WINDOW CONTRACT

THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS BELOW TO COMPLETE THE CRITICAL WORK. EXTENSIONS OF TIME WILL BE FOR CALENDAR DAYS AND BE CALCULATED IN ACCORDANCE WITH C&MS 108.06. EXCEPT FOR SECTION C, TIME EXTENSIONS DUE TO WEATHER OR SEASONAL CONDITIONS WILL NOT BE ALLOWED.

IF THE CRITICAL WORK IS NOT COMPLETED WITHIN THE CALENDAR DAYS DESIGNATED THE CONTRACTOR WILL BE SUBJECT TO A DISINCENTIVE OF $500.00 PER DAY. ALL OTHER WORK IS TO BE COMPLETED BY THE PROPOSAL COMPLETION DATE.

CRITICAL WORK IS SHOWN IN THE WINDOW CONTRACT TABLE.

CRITICAL WORK IS DEFINED AS HAVING THE DESIGNATED SECTION OF WORK OPEN TO UNRESTRICTED TRAFFIC AS SHOWN IN THE TABLE, OR THE ENTIRE PROJECT IF NOT OTHERWISE LISTED.

UNRESTRICTED TRAFFIC IS DEFINED AS ALL TRAFFIC LANES BEING AVAILABLE FOR USE AT THEIR FINAL DESIGN WIDTH WITH ALL MARKINGS, RPM'S, AND SAFETY FEATURES INSTALLED, ALONG WITH NO RESTRICTIONS WITHIN 2 FEET OF THE EDGE LINE ON THE SHOULDERS.

WINDOW CONTRACT TABLE: WILMINGTON ROAD

DESCRIPTION OF CRITICAL WORK	150 CALENDAR DAYS TO COMPLETE
COMPLETION OF WILMINGTON ROAD EARTHWORK, DRAINAGE, EROSION CONTROL, AND BRIDGE CONSTRUCTION ITEMS AND OPENING THE ROADWAY TO NORMAL TRAFFIC (TEMPORARY SIGNAL REMOVED)	9AM TO 7PM; WEEKDAYS 10AM TO 4PM; WEEKEND

WINDOW CONTRACT TABLE: OLIVE BRANCH ROAD

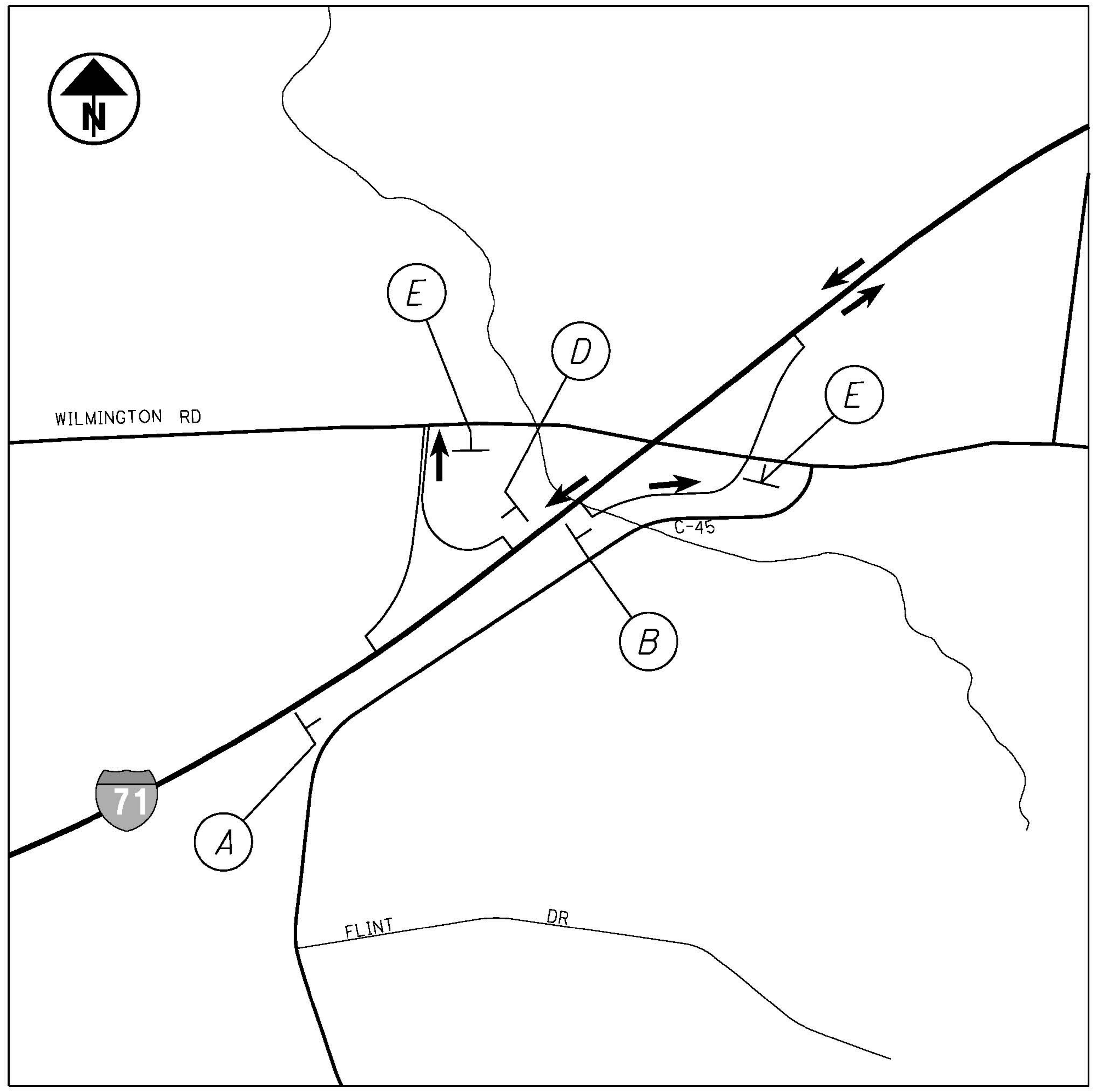
DESCRIPTION OF CRITICAL WORK	120 CALENDER DAYS TO COMPLETE
COMPLETION OF WILMINGTON ROAD EARTHWORK, DRAINAGE, EROSION CONTROL, AND BRIDGE CONSTRUCTION ITEMS AND OPENING THE ROADWAY TO NORMAL TRAFFIC	9AM TO 7PM; WEEKDAYS 10AM TO 4PM; WEEKEND

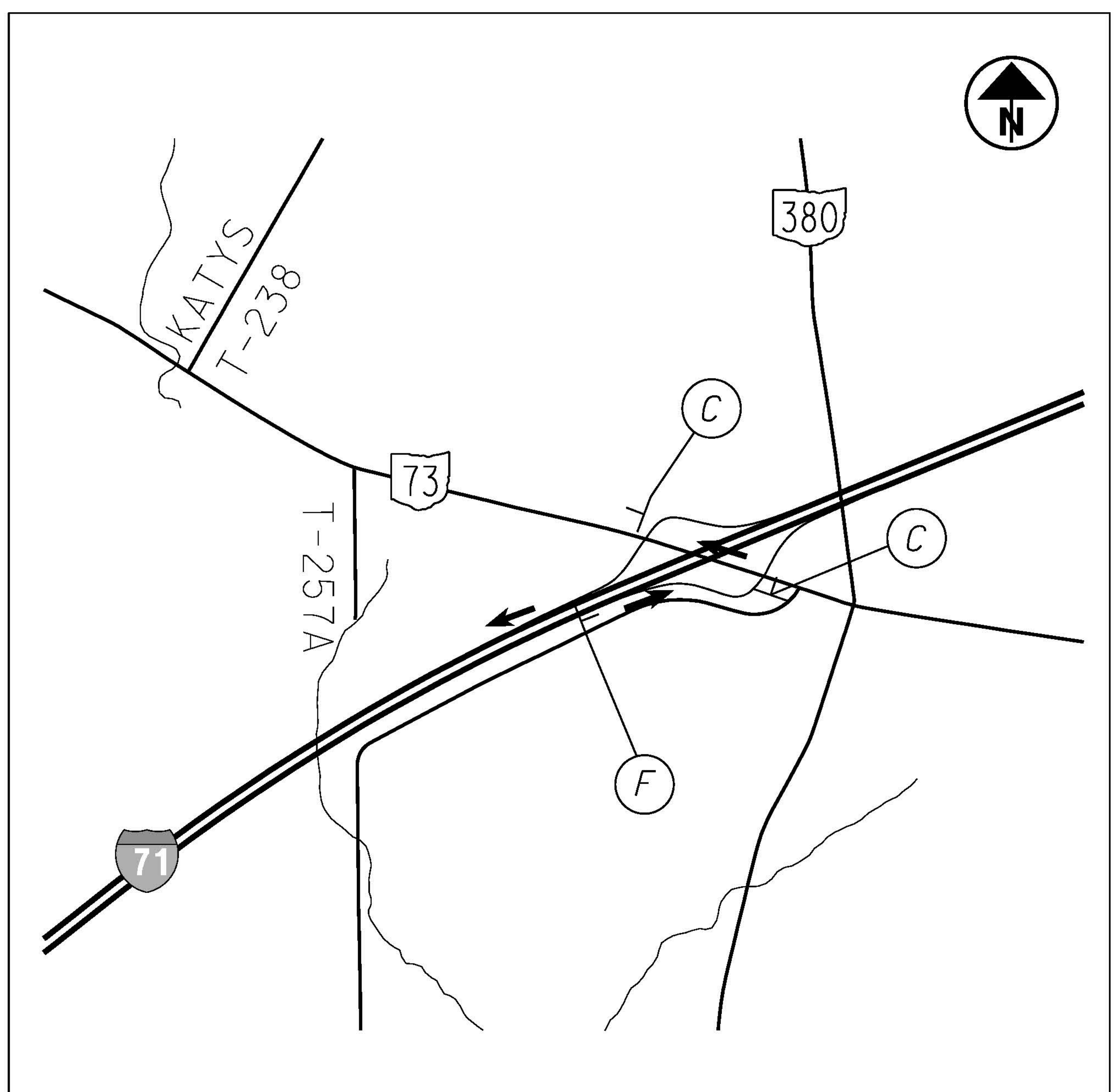
WINDOW CONTRACT TABLE: CLARKSVILLE ROAD

DESCRIPTION OF CRITICAL WORK	120 CALENDER DAYS TO COMPLETE
COMPLETION OF WILMINGTON ROAD EARTHWORK, DRAINAGE, EROSION CONTROL, AND BRIDGE CONSTRUCTION ITEMS AND OPENING THE ROADWAY TO NORMAL TRAFFIC	9AM TO 7PM; WEEKDAYS 10AM TO 4PM; WEEKEND

WINDOW CONTRACT TABLE: HARVEYSBURG ROAD

DESCRIPTION OF CRITICAL WORK	120 CALENDER DAYS TO COMPLETE
COMPLETION OF WILMINGTON ROAD EARTHWORK, DRAINAGE, EROSION CONTROL, AND BRIDGE CONSTRUCTION ITEMS AND OPENING THE ROADWAY TO NORMAL TRAFFIC	9AM TO 7PM; WEEKDAYS 10AM TO 4PM; WEEKEND





A
WILMINGTON RD
D3-1-VAR
DETOUR AHEAD
W20-2-36

B
DETOUR
M4-8-24
WILMINGTON RD
D3-1-VAR
M6-3-21

C
DETOUR
M4-8-24
WILMINGTON RD
D3-1-VAR
M6-1L-21

D
WILMINGTON RD
D3-1-VAR
END DETOUR
M4-8A-24

E
R3-1-24

F
DETOUR
M4-8-24
M6-2-24

SINGLE POST SIGN

PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS

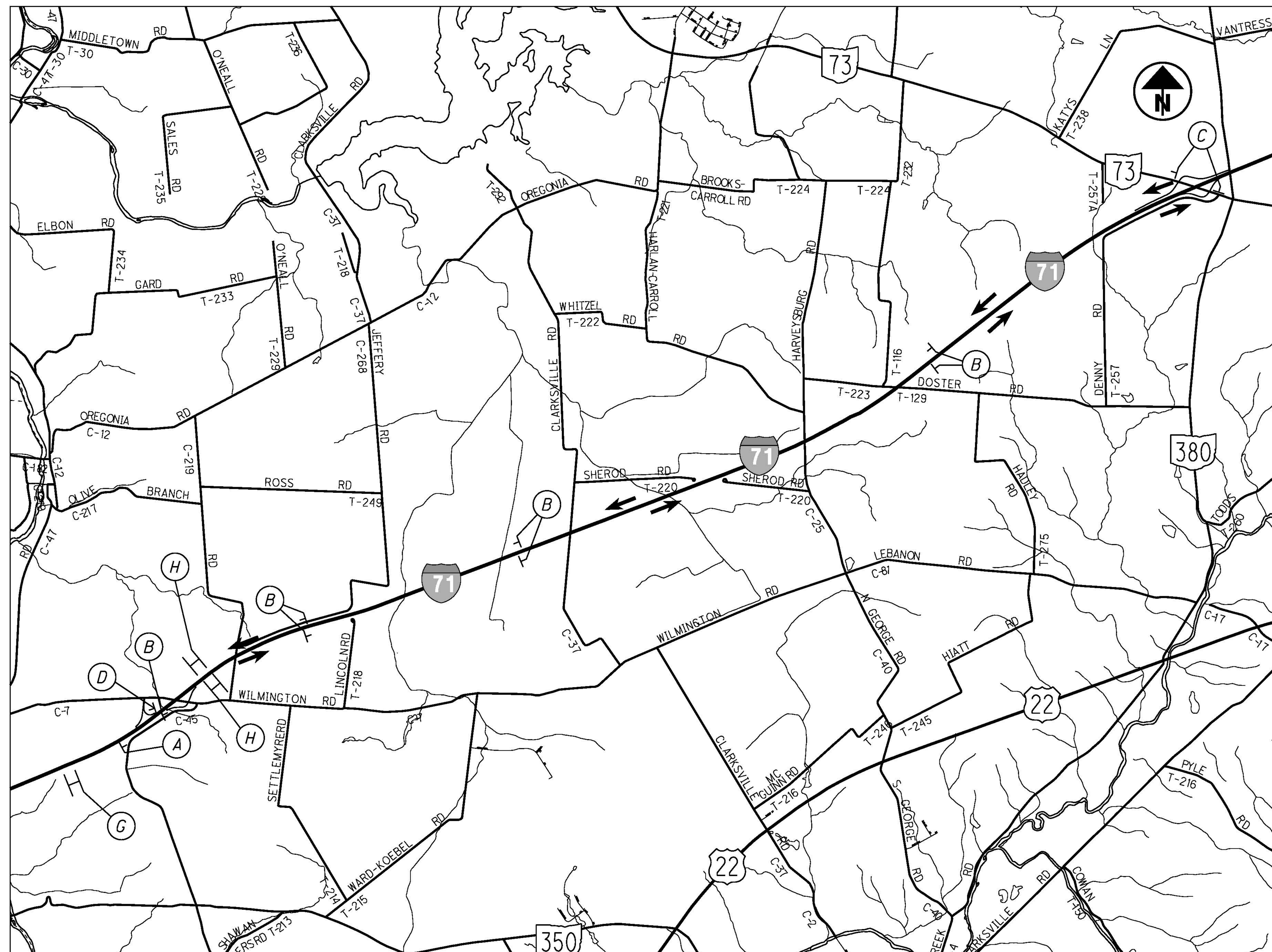
H
PRE-CONSTRUCTION*

BRIDGE OVER 71	CLOSES -- TO --

G
DURING CONSTRUCTION

NO LEFT TURN AT WLMINGTN	USE OH 73 TO 71S

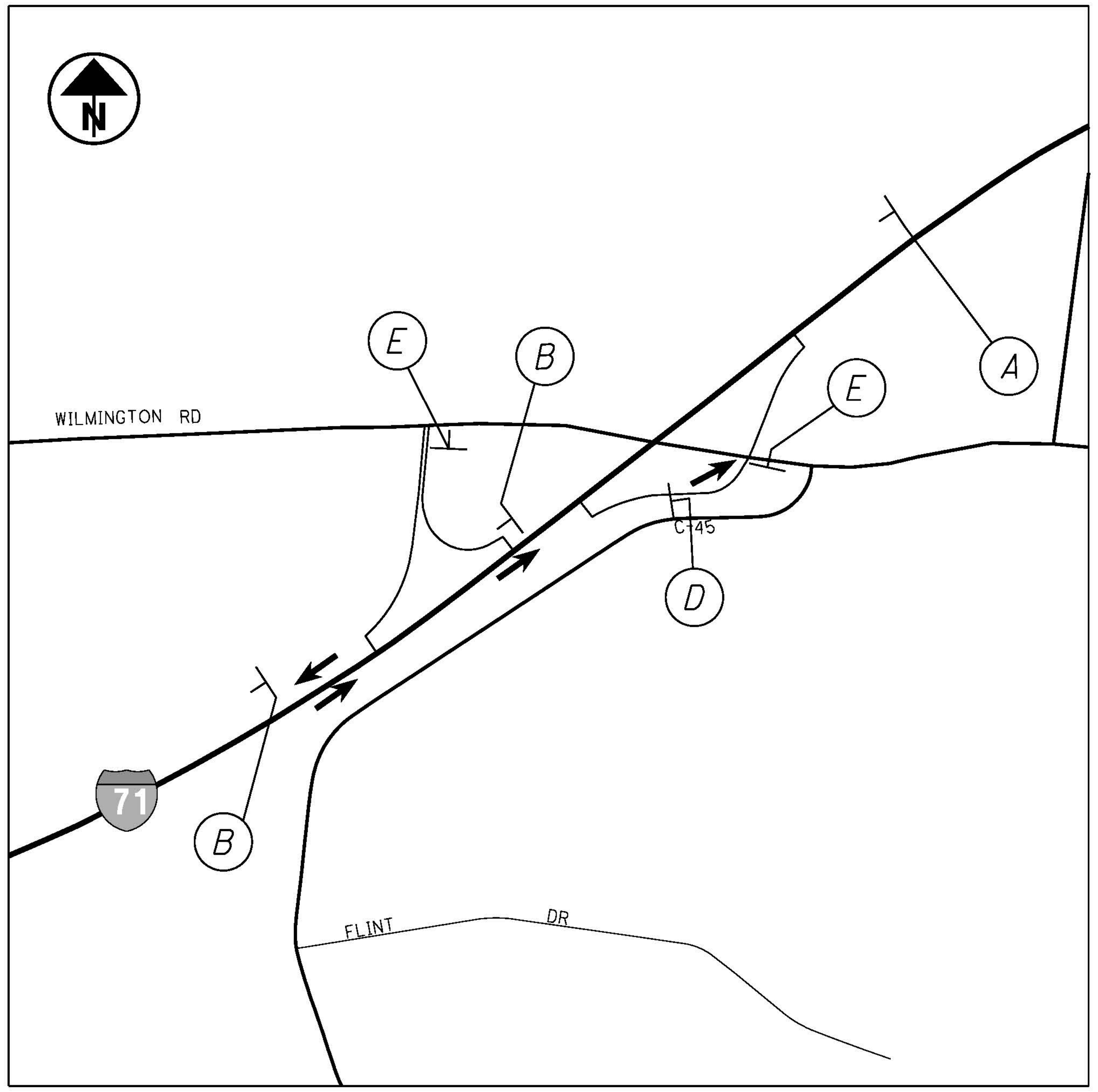
*NOTE: SIGN TO BE DISPLAYED SEVEN (7) DAYS PRIOR TO CLOSURE.

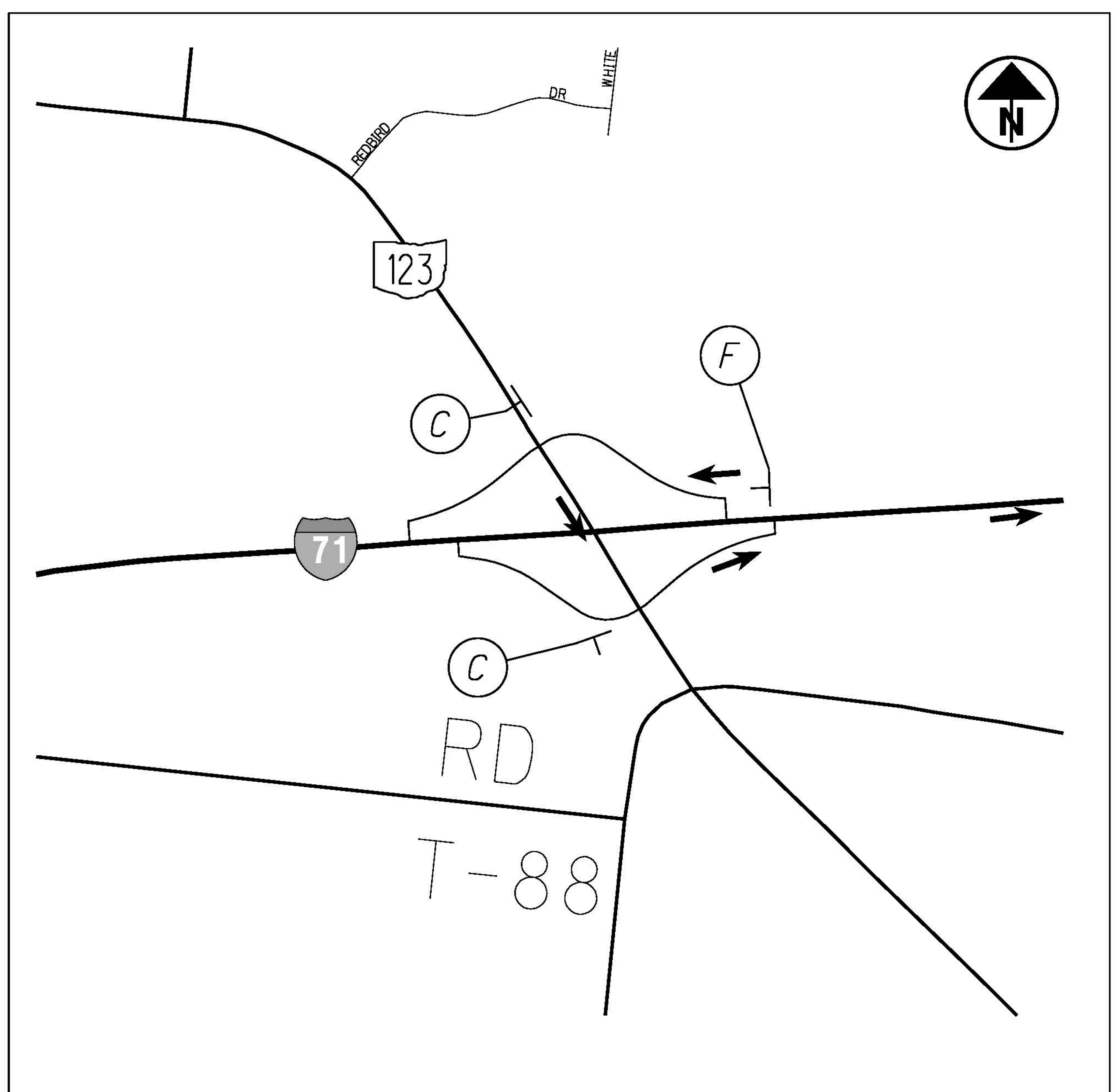


WESTBOUND WILMINGTON ROAD DETOUR PLAN

WAR-71-16.81

CALCULATED SMB
CHECKED MJC





A
WILMINGTON RD
D3-1-VAR
DETOUR AHEAD
W20-2-36

B
DETOUR
M4-8-24
WILMINGTON RD
D3-1-VAR
M6-3-21

C
DETOUR
M4-8-24
WILMINGTON RD
D3-1-VAR
M6-1L-21

D
WILMINGTON RD
D3-1-VAR
END DETOUR
M4-8A-24

E
R3-2-24

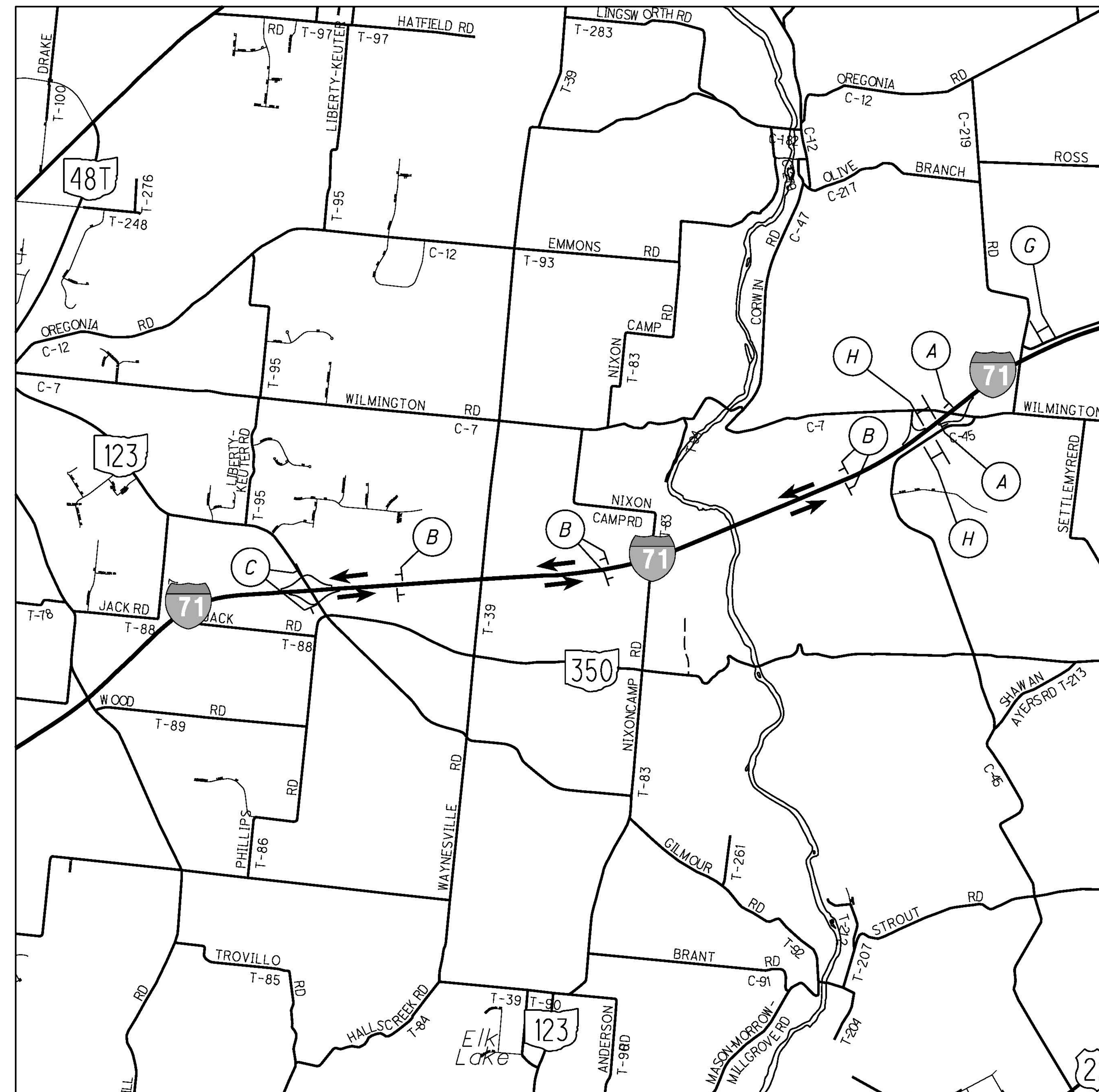
F
DETOUR
M4-8-24
M6-2-24

SINGLE POST SIGN
PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS

H PRE-CONSTRUCTION*		G DURING CONSTRUCTION	
BRIDGE OVER 71	CLOSES -- TO --	NO LEFT TURN AT WLMINGTN	USE OH 73 TO 71S

*NOTE: SIGN TO BE DISPLAYED SEVEN (7) DAYS PRIOR TO CLOSURE.



EASTBOUND WILMINGTON ROAD DETOUR PLAN

WAR-71-16.81

CALCULATED JTW
CHECKED MJC

SIGN LEGEND

(A) ROAD CLOSED AHEAD — W20-3-36

(B) DETOUR AHEAD — W20-2-36

(C) DETOUR — M4-8-24; OLIVE BRANCH RD — D3-1-VAR; M6-1R-21

(D) DETOUR — M4-8-24; OLIVE BRANCH RD — D3-1-VAR; M6-3-21

(E) DETOUR — M4-8-24; OLIVE BRANCH RD — D3-1-VAR; M6-1L-21

(F) OLIVE BRANCH RD — D3-1-VAR; END DETOUR — M4-8A-24

(G) NOTICE OF CLOSURE SERIES SIGNS PER SHEET 10.

(H) OLIVE BRANCH RD — D3-1-VAR; ROAD CLOSED AHEAD — W20-3-36

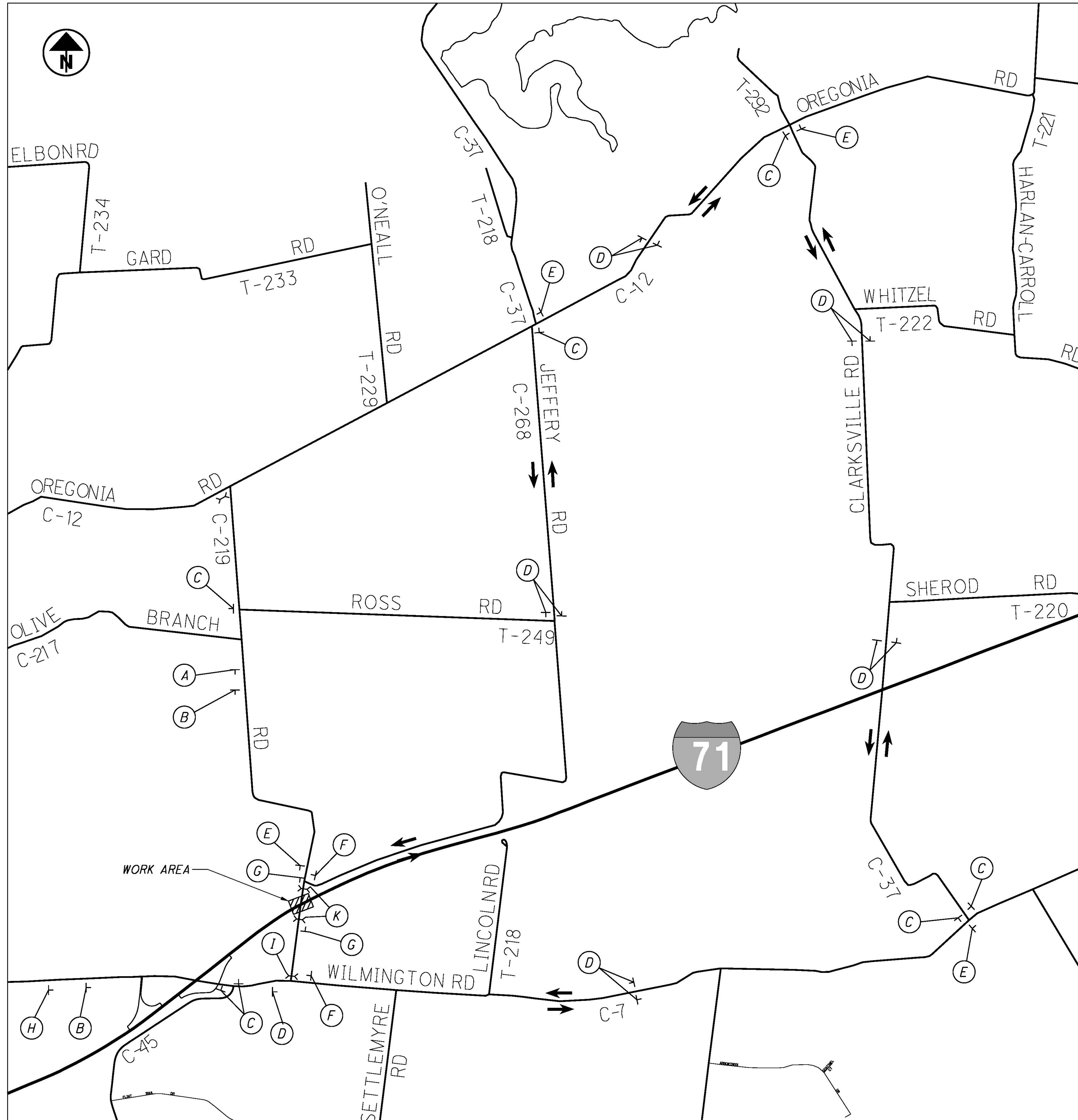
(I) R11-3A-60: ROAD CLOSED 0.3 MILES AHEAD LOCAL TRAFFIC ONLY; DETOUR — M4-10L-48 MOUNTED ON TYPE III BARRICADE

(J) R11-3A-60: ROAD CLOSED 2 MILES AHEAD LOCAL TRAFFIC ONLY; DETOUR — M4-10R-48 MOUNTED ON TYPE III BARRICADE

(K) ROAD CLOSED / ROAD CLOSED — R11-2-48 MOUNTED ON TYPE III BARRICADE

SINGLE POST SIGN

TYPE III BARRICADE (PORTABLE)



OLIVE BRANCH ROAD DETOUR PLAN

WAR-71-16.81

CALCULATED MLL
CHECKED MJC

CLARKSVILLE ROAD DETOUR PLAN

WAR-71-16.81

CALCULATED MLL
CHECKED MJC

SIGN LEGEND

(A) ROAD CLOSED AHEAD — W20-3-36

(B) DETOUR AHEAD — W20-2-36

(C) R11-3A-60 — ROAD CLOSED 2.5 MILES AHEAD LOCAL TRAFFIC ONLY — DETOUR — M4-10L-48 MOUNTED ON TYPE III BARRICADE

(D) DETOUR — M4-8-24; CLARKSVILLE RD — D3-1-VAR; M6-3-21

(E) DETOUR — M4-8-24; CLARKSVILLE RD — D3-1-VAR; M6-1L-21

(F) DETOUR — M4-8-24; CLARKSVILLE RD — D3-1-VAR; M6-1R-21

(G) CLARKSVILLE RD — D3-1-VAR; END DETOUR — M4-8A-24

(H) ROAD CLOSED / ROAD CLOSED — R11-2-48 MOUNTED ON TYPE III BARRICADE

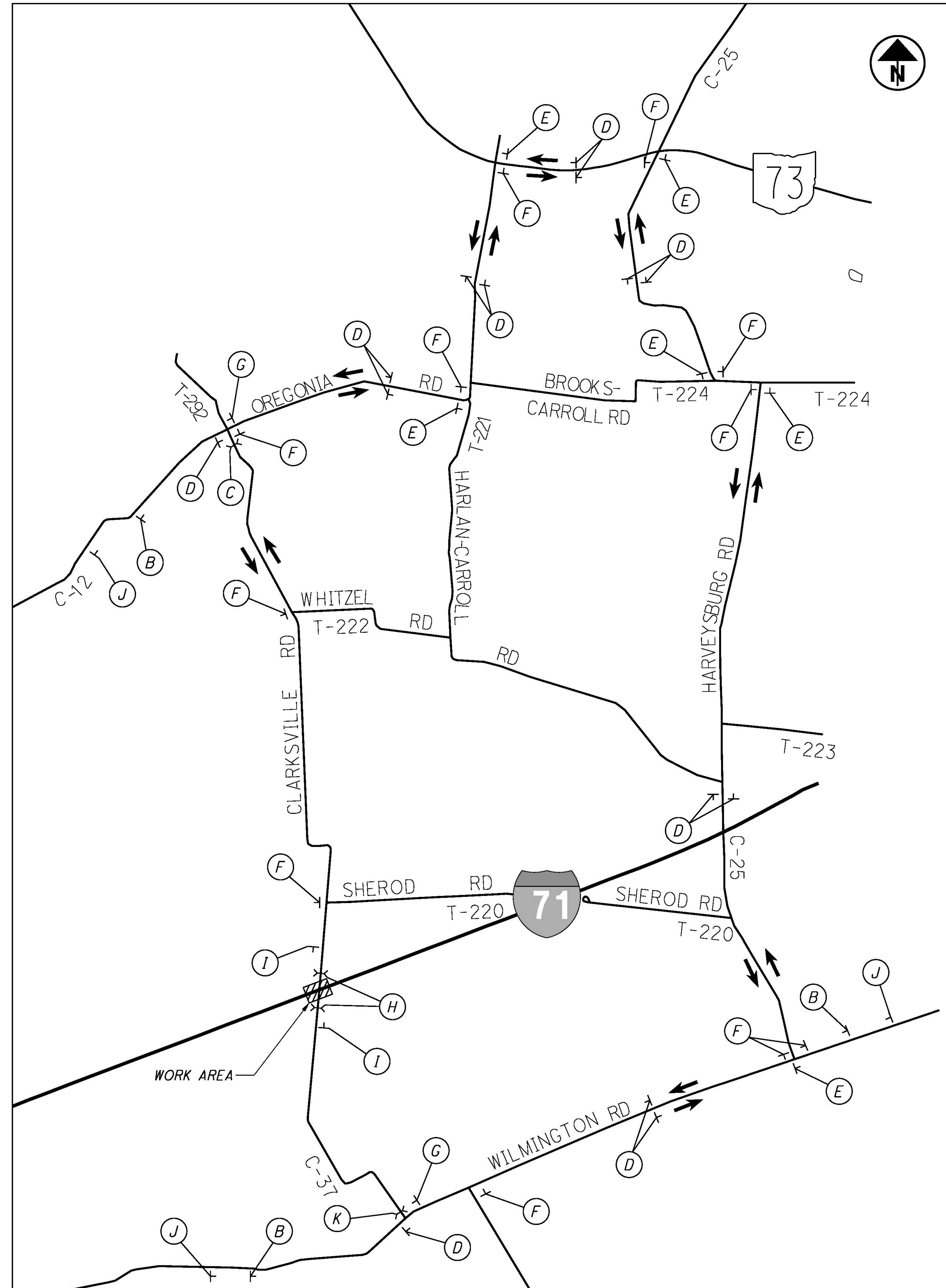
(I) NOTICE OF CLOSURE SERIES SIGNS PER SHEET 10.

(J) CLARKSVILLE RD — D3-1-VAR; ROAD CLOSED AHEAD — W20-3-36

(K) R11-3A-60 — ROAD CLOSED 1.2 MILES AHEAD LOCAL TRAFFIC ONLY — DETOUR — M4-10R-48 MOUNTED ON TYPE III BARRICADE

⊥ SINGLE POST SIGN

TYPE III BARRICADE (PORTABLE)



SIGN LEGEND

A
ROAD CLOSED AHEAD
W20-3-36

B
DETOUR AHEAD
W20-2-36

C
R11-3A-60
ROAD CLOSED
1.0 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
M4-10L-48
MOUNTED ON
TYPE III BARRICADE

D
DETOUR
M4-8-24
HARVEYSBURG RD
D3-1-VAR
M6-3-21

E
DETOUR
M4-8-24
HARVEYSBURG RD
D3-1-VAR
M6-1L-21

F
DETOUR
M4-8-24
HARVEYSBURG RD
D3-1-VAR
M6-1R-21

G
HARVEYSBURG RD
D3-1-VAR
END DETOUR
M4-8A-24

H
ROAD CLOSED
ROAD CLOSED
R11-2-48
MOUNTED ON
TYPE III BARRICADE

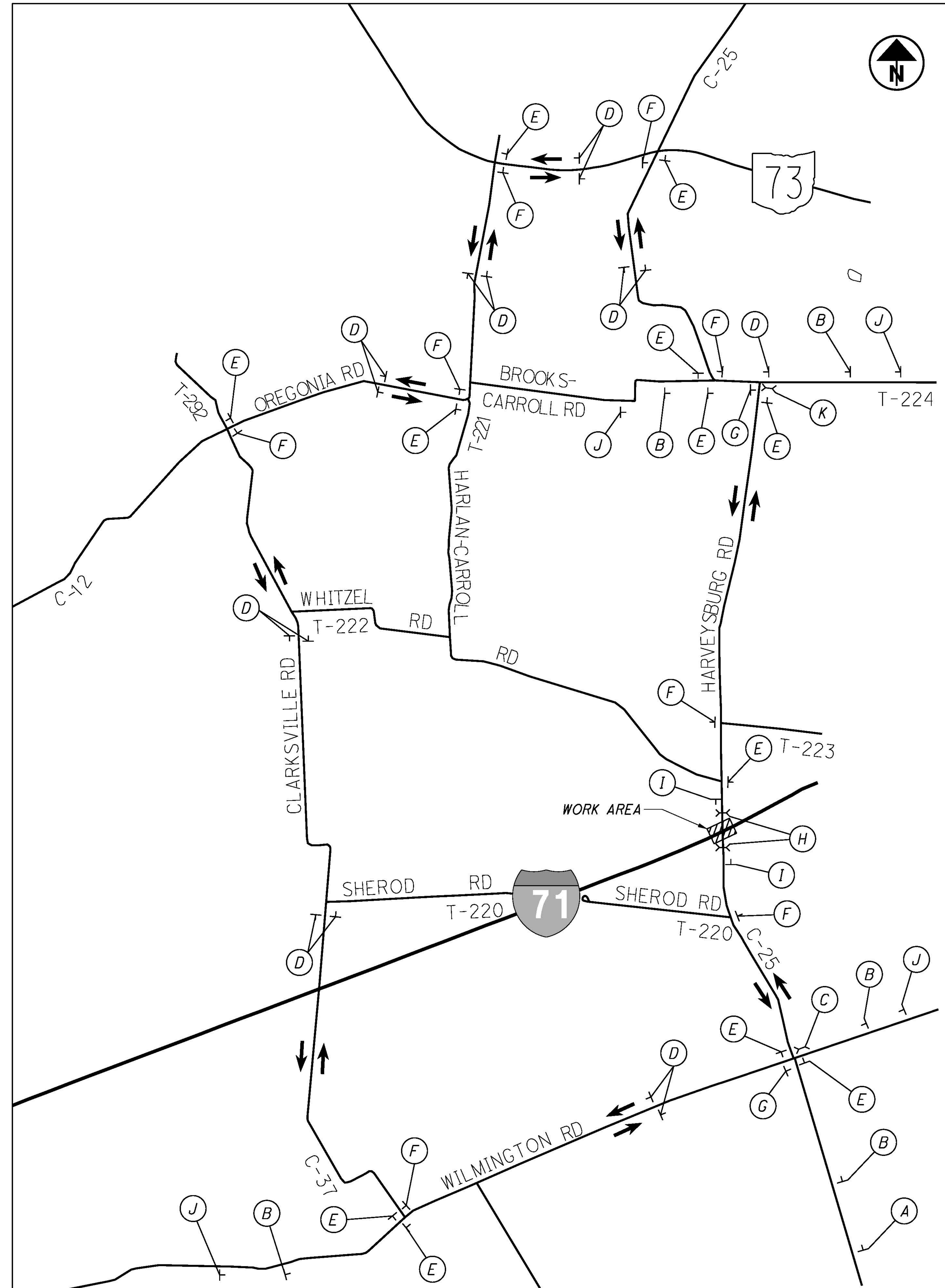
I
NOTICE OF CLOSURE
SERIES SIGNS PER
SHEET 10.

J
HARVEYSBURG RD
D3-1-VAR
ROAD CLOSED AHEAD
W20-3-36

K
R11-3A-60
ROAD CLOSED
1.9 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
M4-10R-48
MOUNTED ON
TYPE III BARRICADE

⊥ SINGLE POST SIGN

TYPE III BARRICADE (PORTABLE)



CALCULATED MLL
CHECKED MJC

HARVEYSBURG ROAD DETOUR PLAN

WAR-71-16.81

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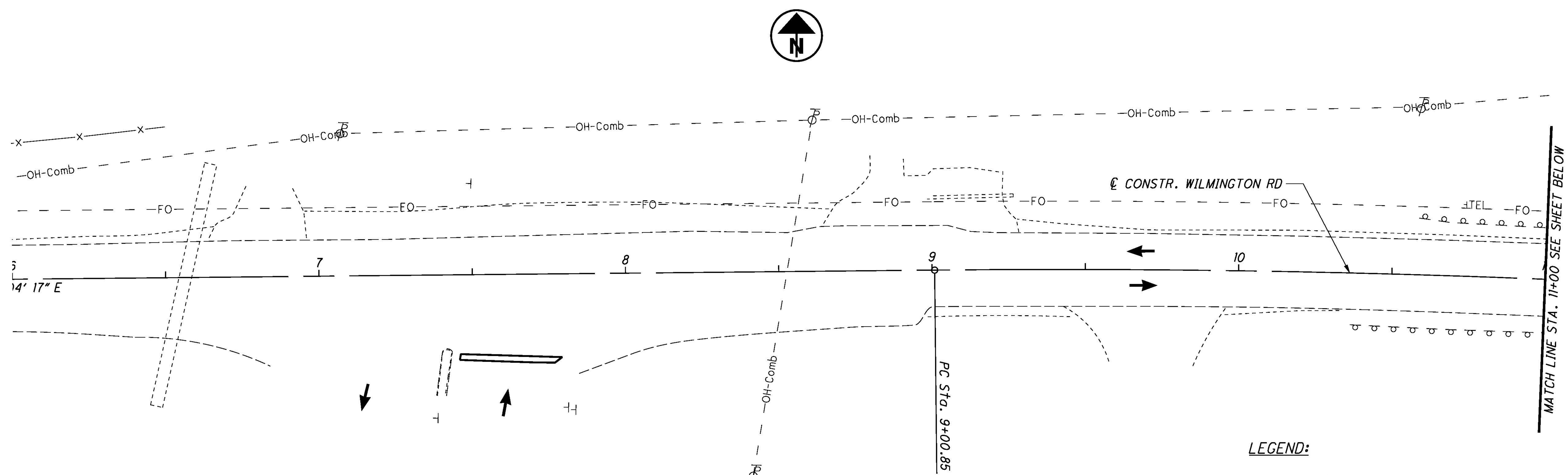
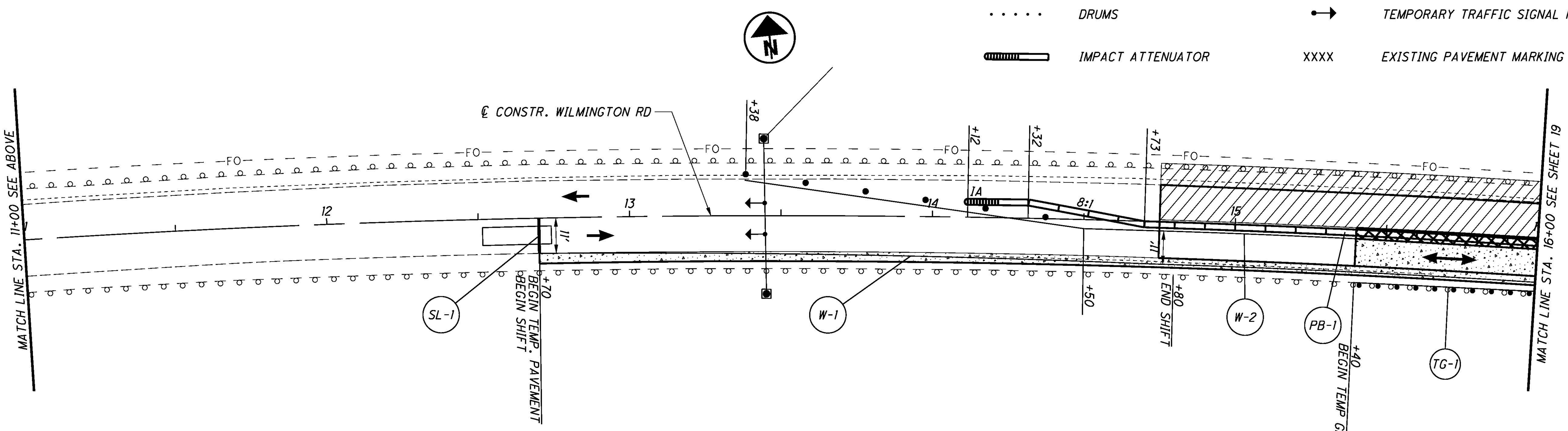


NOTES:

1. SEE STANDARD CONSTRUCTION DRAWING MT-96.11 FOR ADDITIONAL DETAILS INCLUDING ADVANCE AND WORKZONE SIGNAGE.
2. SEE SHEET 25 FOR TEMPORARY SIGNAL DETAILS.
3. PRIOR TO START OF PHASE I THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY PAVEMENT ADJACENT TO THE SHOULDERS.

LEGEND:

- TRAFFIC FLOW DIRECTION
- WORK ZONE
- PAVEMENT FOR MAINTAINING TRAFFIC
- PROPOSED PAVEMENT COMPLETED IN PRIOR PHASE
- DRUMS
- IMPACT ATTENUATOR
- CL — WORK ZONE CENTERLINE
- W — WORK ZONE EDGE LINE, WHITE
- SL — WORK ZONE STOP LINE
- TG — TEMPORARY GUARDRAIL
- TEMPORARY TRAFFIC SIGNAL HEAD
- XXXX — EXISTING PAVEMENT MARKING REMOVED



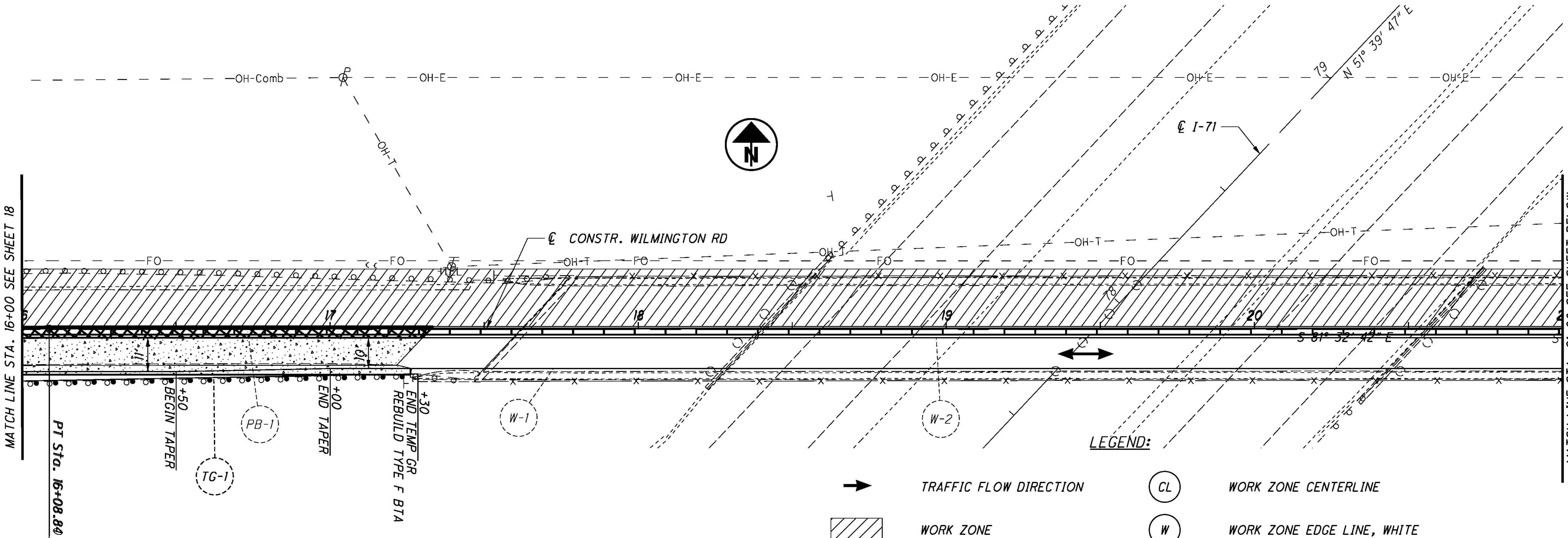
SEE SHEET 20 FOR TYPICAL SECTIONS

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

MAINTENANCE OF TRAFFIC PLAN - PHASE I
STA. 6+00.00 TO STA. 16+00.00

WAR-71-16.81

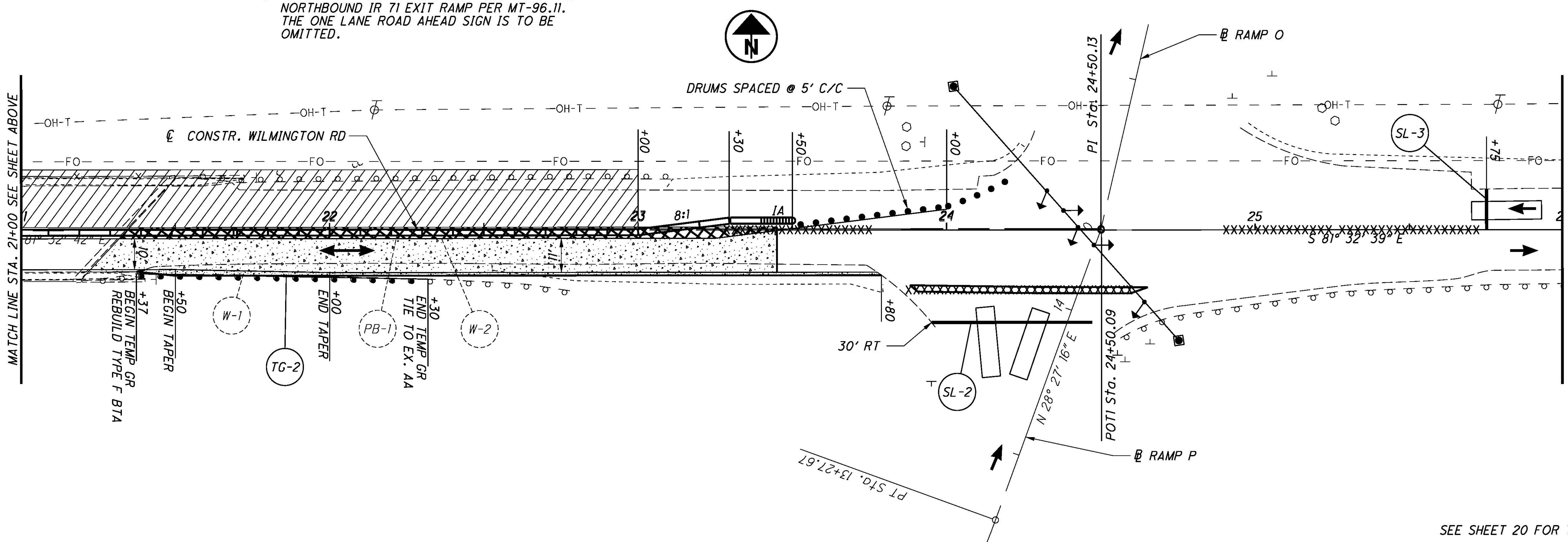


LEGEND:

→	TRAFFIC FLOW DIRECTION	CL	WORK ZONE CENTERLINE
	WORK ZONE	W	WORK ZONE EDGE LINE, WHITE
	PAVEMENT FOR MAINTAINING TRAFFIC	SL	WORK ZONE STOP LINE
	PROPOSED PAVEMENT COMPLETED IN PRIOR PHASE	TG	TEMPORARY GUARDRAIL
· · · · ·	DRUMS		TEMPORARY TRAFFIC SIGNAL HEAD
	IMPACT ATTENUATOR	XXXX	EXISTING PAVEMENT MARKING REMOVED

NOTES:

1. SEE STANDARD CONSTRUCTION DRAWING MT-96.11 FOR ADDITIONAL DETAILS INCLUDING ADVANCE AND WORKZONE SIGNAGE.
2. SEE SHEET 25 FOR TEMPORARY SIGNAL DETAILS.
3. PRIOR TO START OF PHASE I THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY PAVEMENT ADJACENT TO THE SHOULDERS.
4. PLACE ADVANCE WARNING SIGNAGE ALONG THE NORTHBOUND IR 71 EXIT RAMP PER MT-96.11. THE ONE LANE ROAD AHEAD SIGN IS TO BE OMITTED.



SEE SHEET 20 FOR TYPICAL SECTIONS

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW CHECKED MJC

MAINTENANCE OF TRAFFIC PLAN - PHASE I
STA. 16+00.00 TO STA. 26+00.00

WAR-71-16.81

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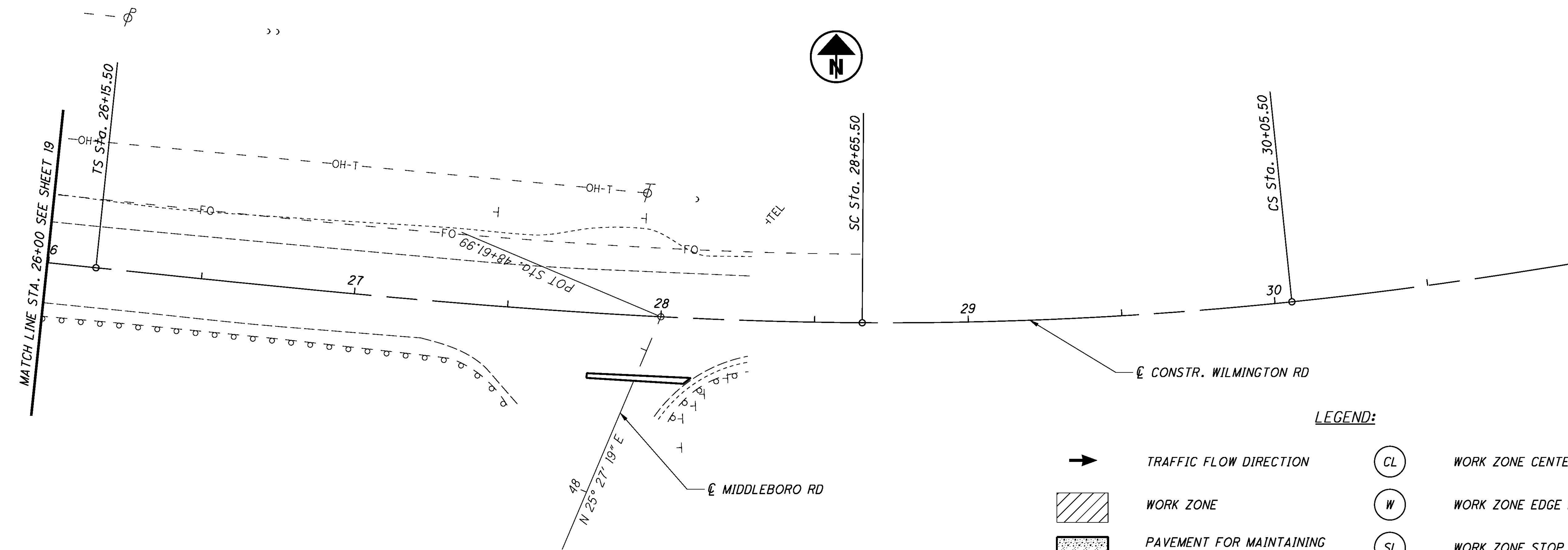
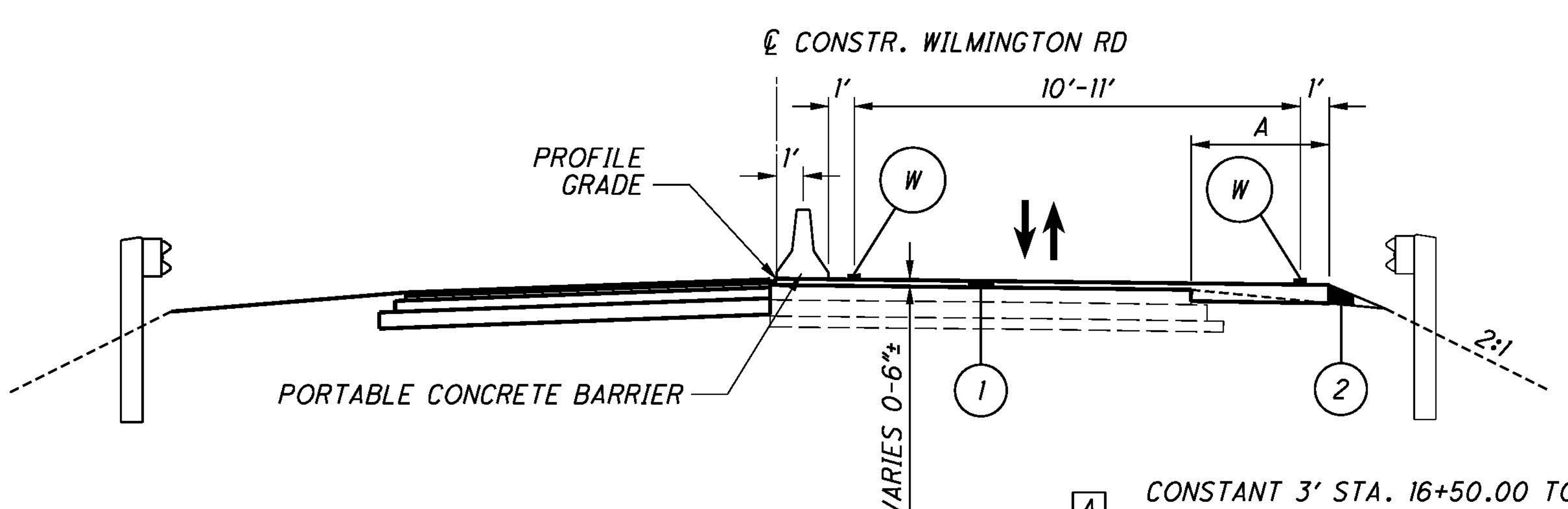


LEGEND:

(arrow)	TRAFFIC FLOW DIRECTION	(CL)	WORK ZONE CENTERLINE
(hatch)	WORK ZONE	(W)	WORK ZONE EDGE LINE, WHITE
(stipple)	PAVEMENT FOR MAINTAINING TRAFFIC	(SL)	WORK ZONE STOP LINE
(shaded)	PROPOSED PAVEMENT COMPLETED IN PRIOR PHASE	(TG)	TEMPORARY GUARDRAIL
. . . . .	DRUMS	(signal)	TEMPORARY TRAFFIC SIGNAL HEAD
(attenuator)	IMPACT ATTENUATOR	XXXX	EXISTING PAVEMENT MARKING REMOVED

NOTES:

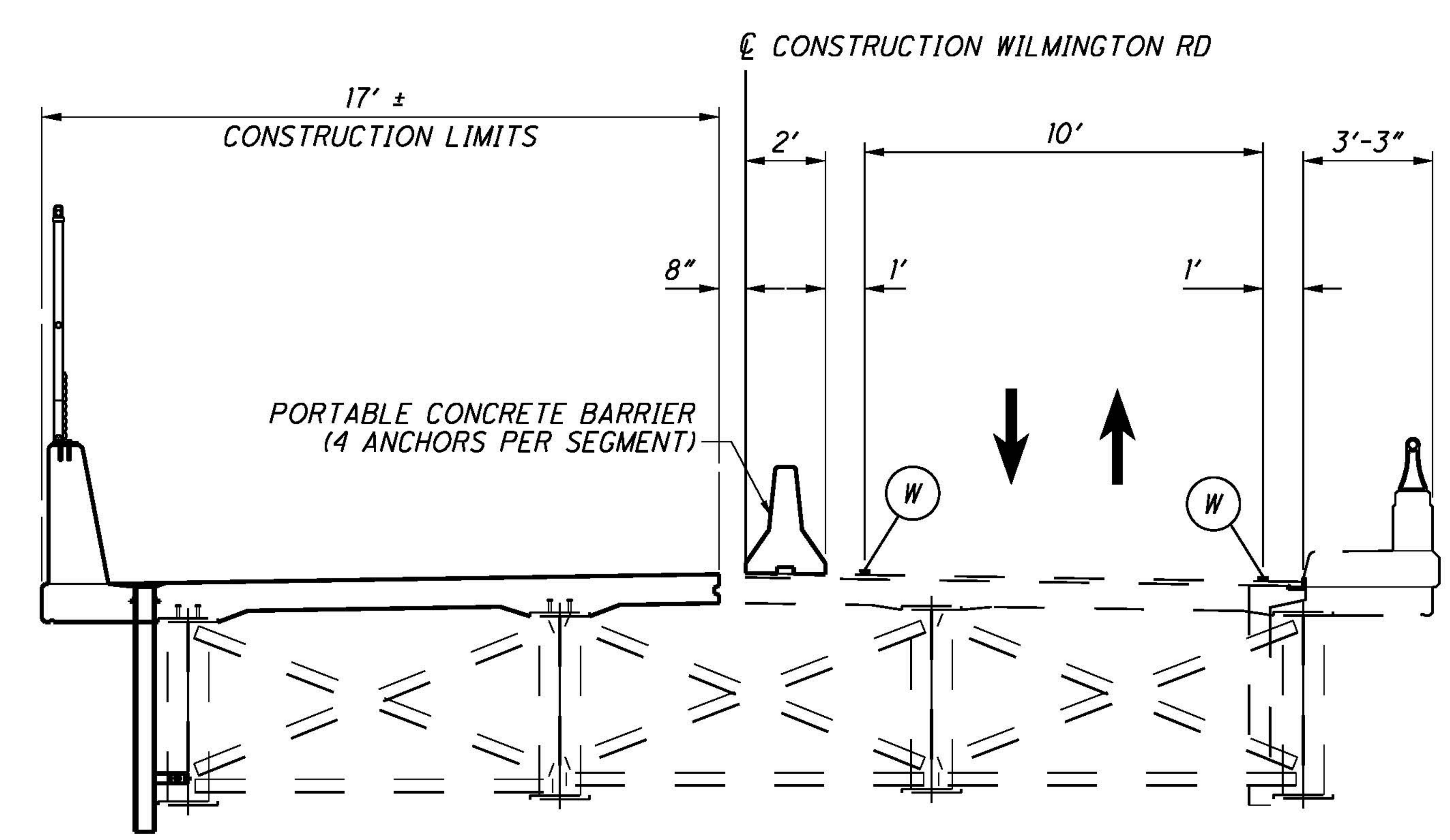
1. SEE STANDARD CONSTRUCTION DRAWING MT-96.11 FOR ADDITIONAL DETAILS INCLUDING ADVANCE AND WORKZONE SIGNAGE.
2. SEE SHEET 25 FOR TEMPORARY SIGNAL DETAILS.
3. PRIOR TO START OF PHASE I THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY PAVEMENT ADJACENT TO THE SHOULDERS.



A CONSTANT 3' STA. 16+50.00 TO STA. 17+26.11
CONSTANT 2' STA. 21+37.00 TO STA. 22+00.00

(1) ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B

(2) ITEM 617 - COMPACTED AGGREGATE



TYPICAL SECTION PHASES 1 & 2

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

MAINTENANCE OF TRAFFIC PLAN - PHASE I
STA. 26+00.00 TO STA. 31+00.00

WAR-71-16.81

NOTES:

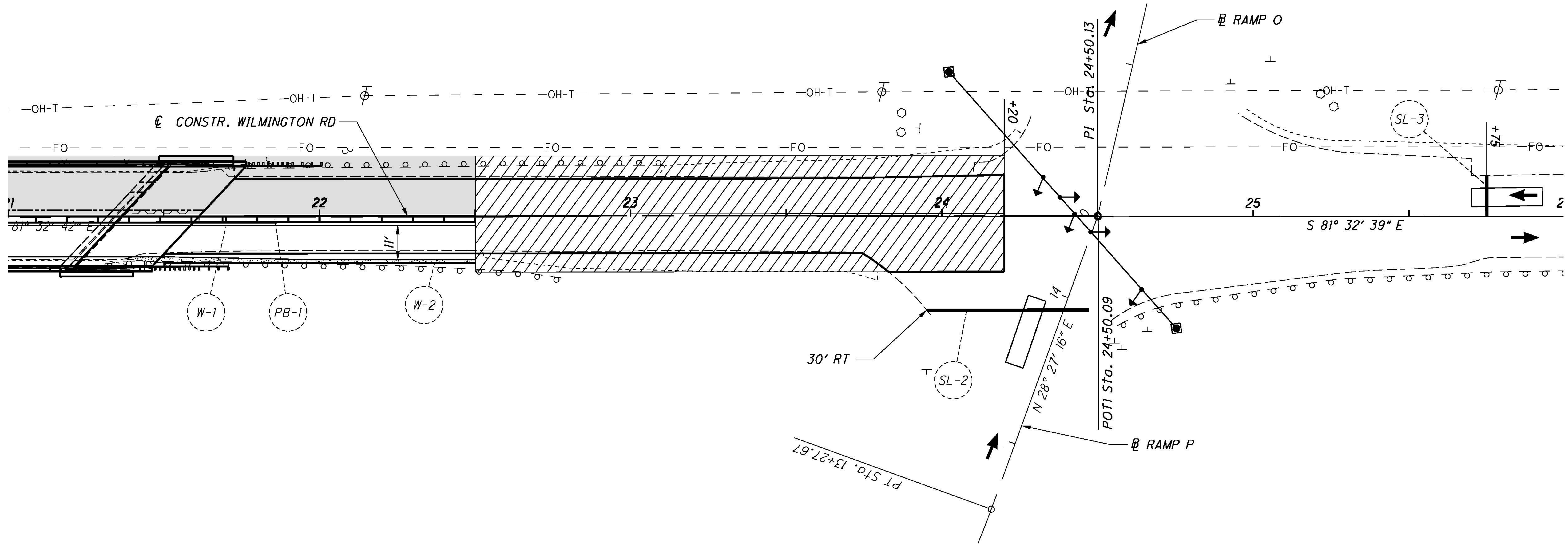
1. SEE STANDARD CONSTRUCTION DRAWING MT-101.60 FOR ADDITIONAL DETAILS INCLUDING ADVANCE AND WORKZONE SIGNAGE.

2. SEE SHEET 25 FOR TEMPORARY SIGNAL DETAILS.

3. SEE SHEET 13 & 14 FOR DETOUR TO BE IMPLEMENTED FOR THIS PHASE OF MOT.

LEGEND:

- TRAFFIC FLOW DIRECTION
- WORK ZONE
- PAVEMENT FOR MAINTAINING TRAFFIC
- PROPOSED PAVEMENT COMPLETED IN PRIOR PHASE
- DRUMS
- IMPACT ATTENUATOR
- (PB) PORTABLE BARRIER
- (CL) WORK ZONE CENTERLINE
- (W) WORK ZONE EDGE LINE, WHITE
- (SL) WORK ZONE STOP LINE
- TEMPORARY TRAFFIC SIGNAL HEAD
- XXXX EXISTING PAVEMENT MARKING REMOVED

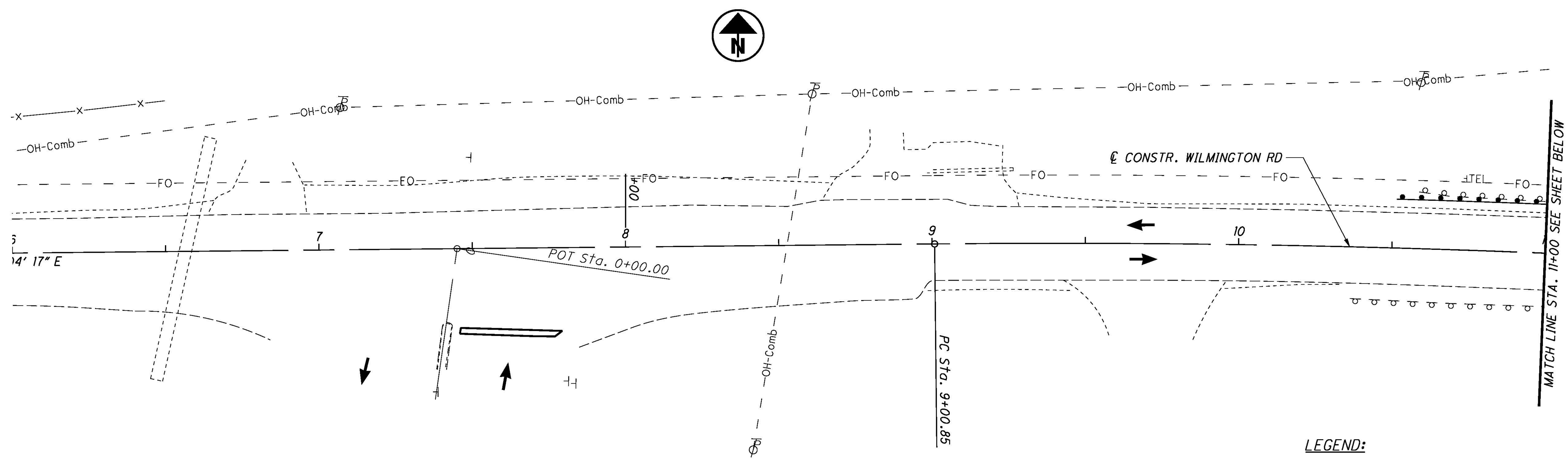


0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

MAINTENANCE OF TRAFFIC PLAN - PHASE II
STA. 21+00.00 TO STA. 26+00.00

WAR-71-16.81

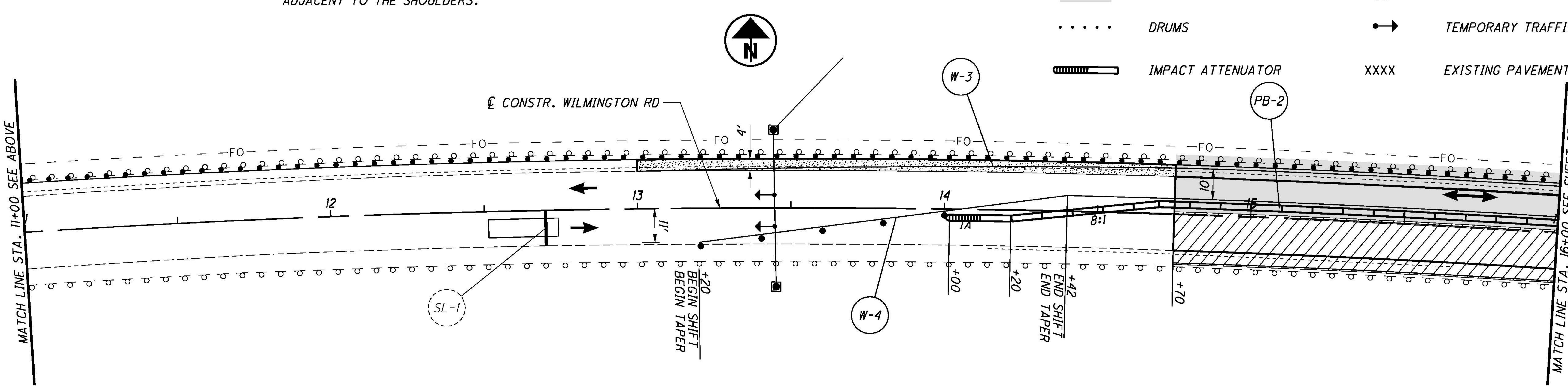


LEGEND:

(arrow)	TRAFFIC FLOW DIRECTION	PB	PORTABLE BARRIER
(hatched)	WORK ZONE	CL	WORK ZONE CENTERLINE
(stippled)	PAVEMENT FOR MAINTAINING TRAFFIC	W	WORK ZONE EDGE LINE, WHITE
(shaded)	PROPOSED PAVEMENT COMPLETED IN PRIOR PHASE	SL	WORK ZONE STOP LINE
· · · · ·	DRUMS	(signal)	TEMPORARY TRAFFIC SIGNAL HEAD
(attenuator)	IMPACT ATTENUATOR	XXXX	EXISTING PAVEMENT MARKING REMOVED

NOTES:

1. SEE STANDARD CONSTRUCTION DRAWING MT-96.11 FOR ADDITIONAL DETAILS INCLUDING ADVANCE AND WORKZONE SIGNAGE.
2. SEE SHEET 26 FOR TEMPORARY SIGNAL DETAILS.
3. PRIOR TO START OF PHASE III THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY PAVEMENT ADJACENT TO THE SHOULDERS.



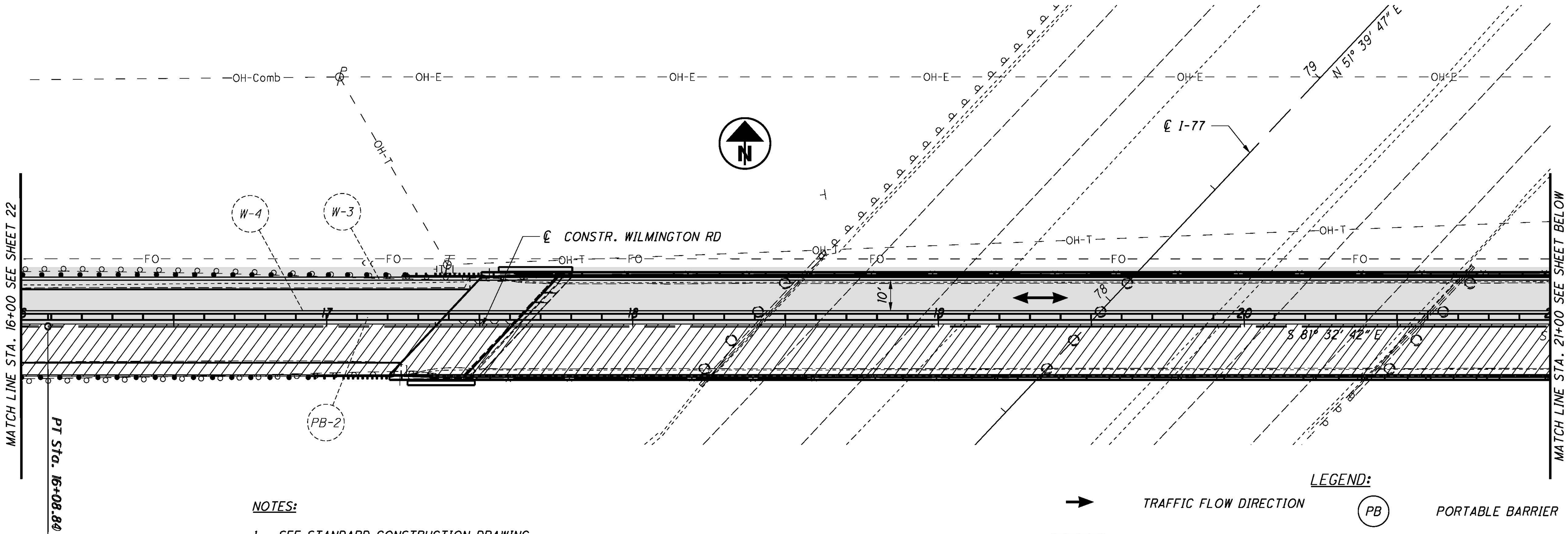
SEE SHEET 24 FOR TYPICAL SECTIONS

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW
CHECKED MJC

MAINTENANCE OF TRAFFIC PLAN - PHASE III
STA. 6+00.00 TO STA. 16+00.00

WAR-71-16.81

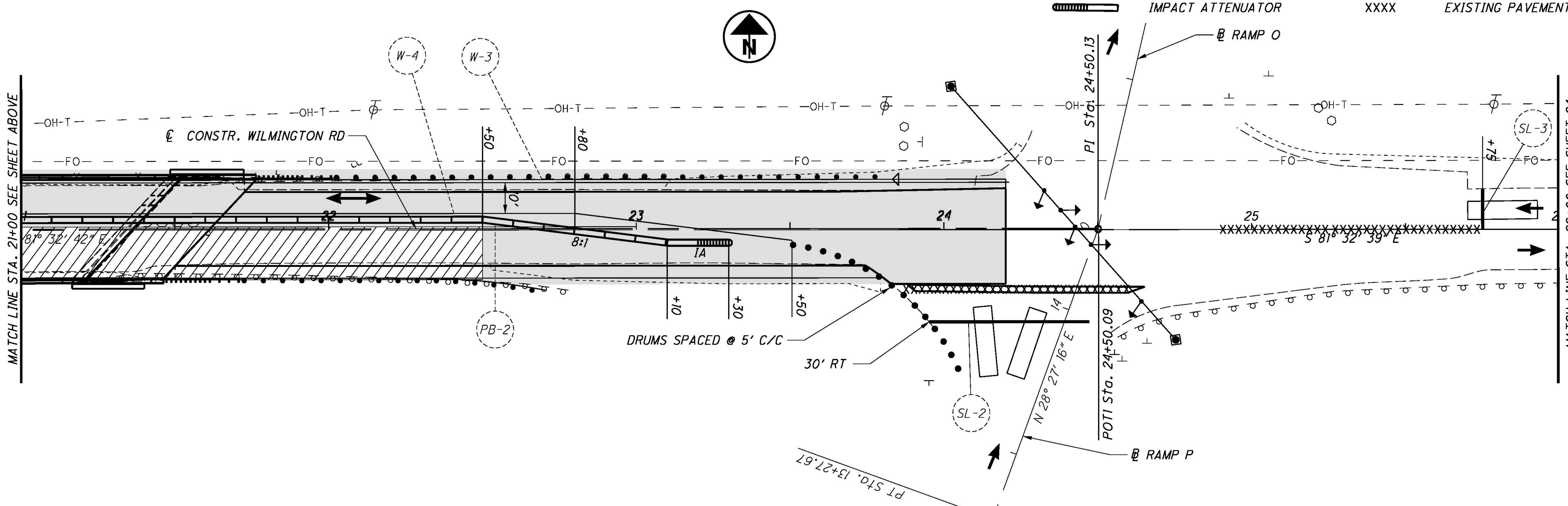


NOTES:

1. SEE STANDARD CONSTRUCTION DRAWING MT-96.11 FOR ADDITIONAL DETAILS INCLUDING ADVANCE AND WORKZONE SIGNAGE.
2. SEE SHEET 26 FOR TEMPORARY SIGNAL DETAILS.
3. PRIOR TO START OF PHASE III THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY PAVEMENT ADJACENT TO THE SHOULDERS.
4. PLACE ADVANCE WARNING SIGNAGE ALONG THE NORTHBOUND IR 71 EXIT RAMP PER MT-96.11. THE ONE LANE ROAD AHEAD SIGN IS TO BE OMITTED.

LEGEND:

→	TRAFFIC FLOW DIRECTION	PB	PORTABLE BARRIER
	WORK ZONE	CL	WORK ZONE CENTERLINE
	PAVEMENT FOR MAINTAINING TRAFFIC	W	WORK ZONE EDGE LINE, WHITE
	PROPOSED PAVEMENT COMPLETED IN PRIOR PHASE	SL	WORK ZONE STOP LINE
. . . . .	DRUMS	•→	TEMPORARY TRAFFIC SIGNAL HEAD
	IMPACT ATTENUATOR	XXXX	EXISTING PAVEMENT MARKING REMOVED



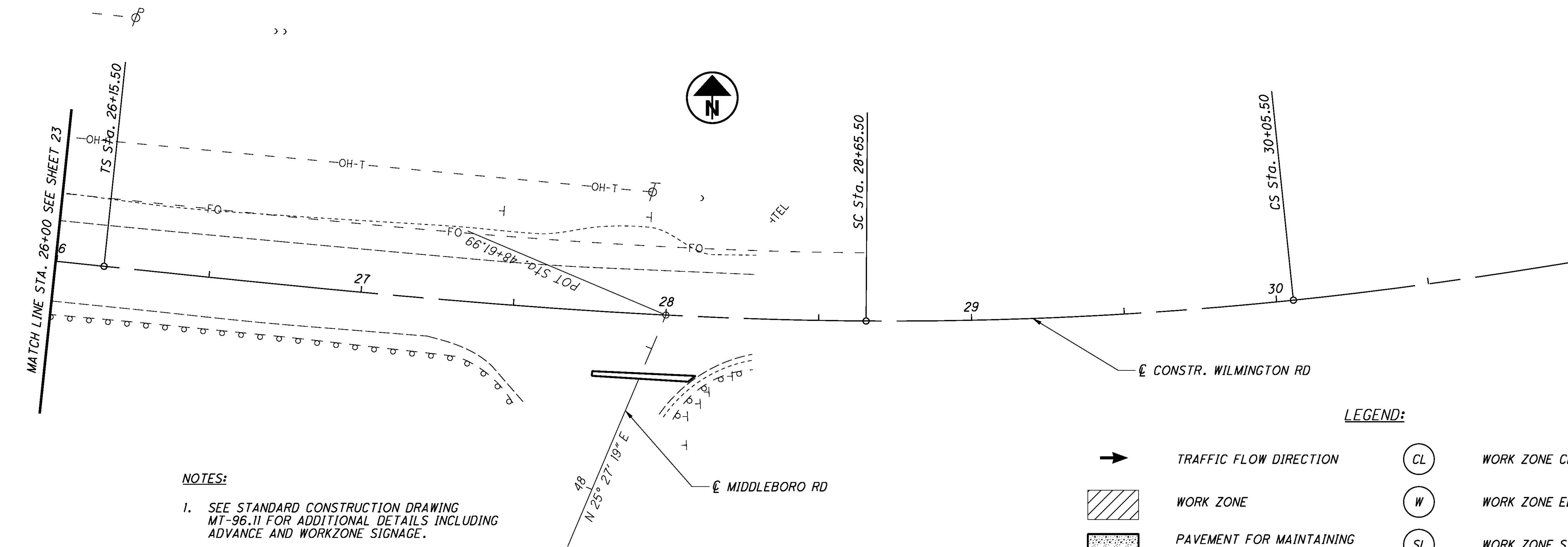
SEE SHEET 24 FOR TYPICAL SECTIONS

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW CHECKED MJC

MAINTENANCE OF TRAFFIC PLAN - PHASE III
STA. 16+00.00 TO STA. 26+00.00

WAR-71-16.81

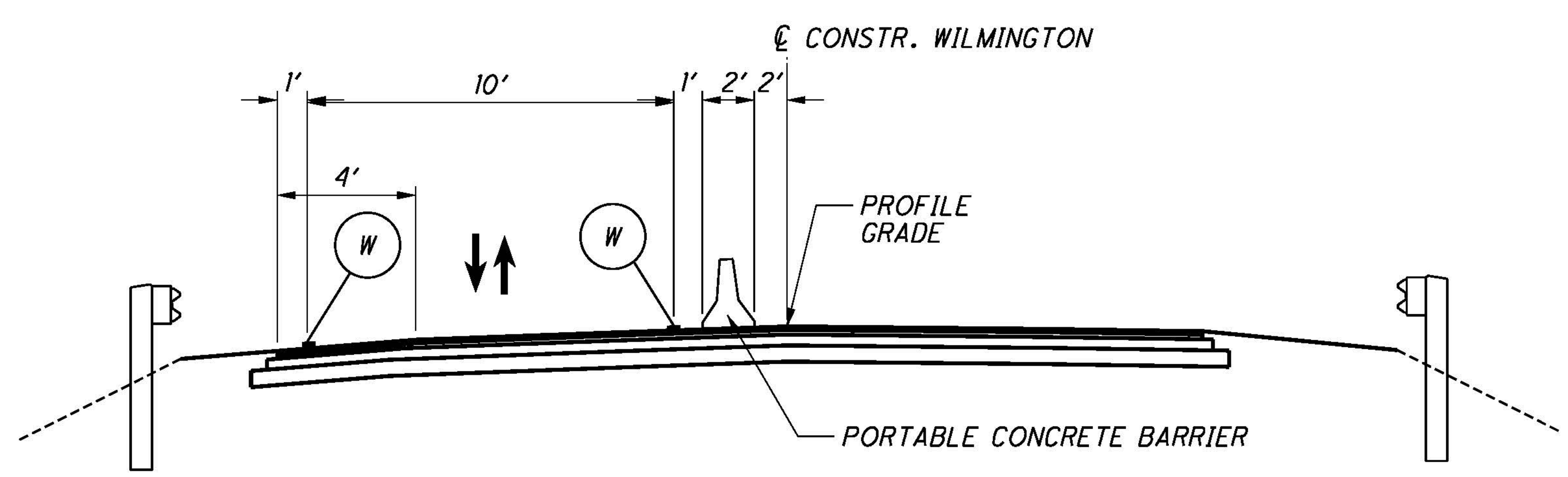


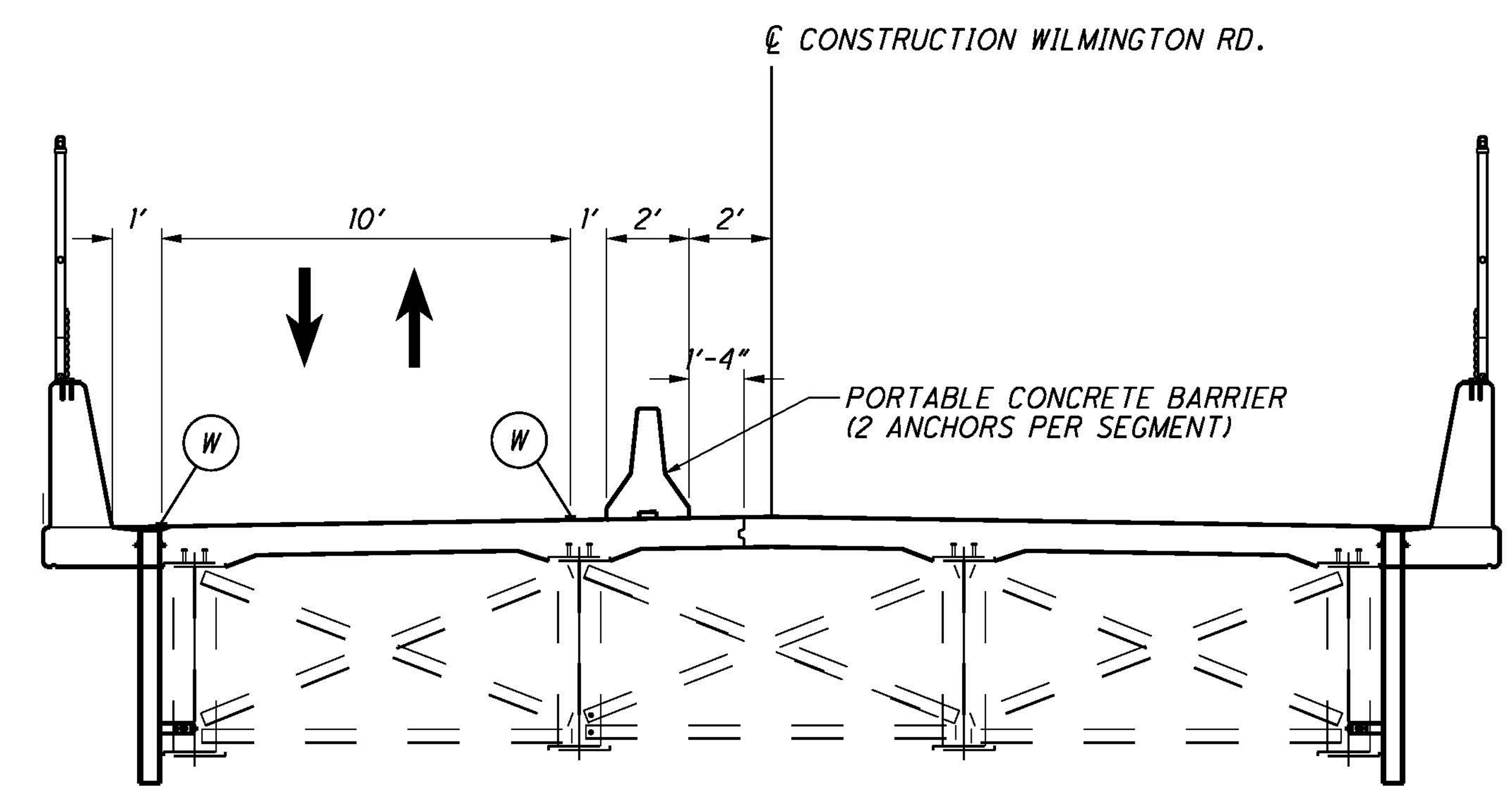
NOTES:

1. SEE STANDARD CONSTRUCTION DRAWING MT-96.11 FOR ADDITIONAL DETAILS INCLUDING ADVANCE AND WORKZONE SIGNAGE.
2. SEE SHEET 26 FOR TEMPORARY SIGNAL DETAILS.
3. PRIOR TO START OF PHASE III THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY PAVEMENT ADJACENT TO THE SHOULDERS.

LEGEND:

→	TRAFFIC FLOW DIRECTION	CL	WORK ZONE CENTERLINE
	WORK ZONE	W	WORK ZONE EDGE LINE, WHITE
	PAVEMENT FOR MAINTAINING TRAFFIC	SL	WORK ZONE STOP LINE
	PROPOSED PAVEMENT COMPLETED IN PRIOR PHASE		TEMPORARY TRAFFIC SIGNAL HEAD
· · · · ·	DRUMS	XXXX	EXISTING PAVEMENT MARKING REMOVED
	IMPACT ATTENUATOR		





TYPICAL SECTION PHASE 3

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JTW
CHECKED MJC

MAINTENANCE OF TRAFFIC PLAN - PHASE III
STA. 26+00.00 TO STA. 31+00.00

WAR-71-16.81

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MAINTENANCE OF TRAFFIC PLAN - PHASE I
TEMPORARY TRAFFIC SIGNAL PLAN

SIGNAL INDICATIONS

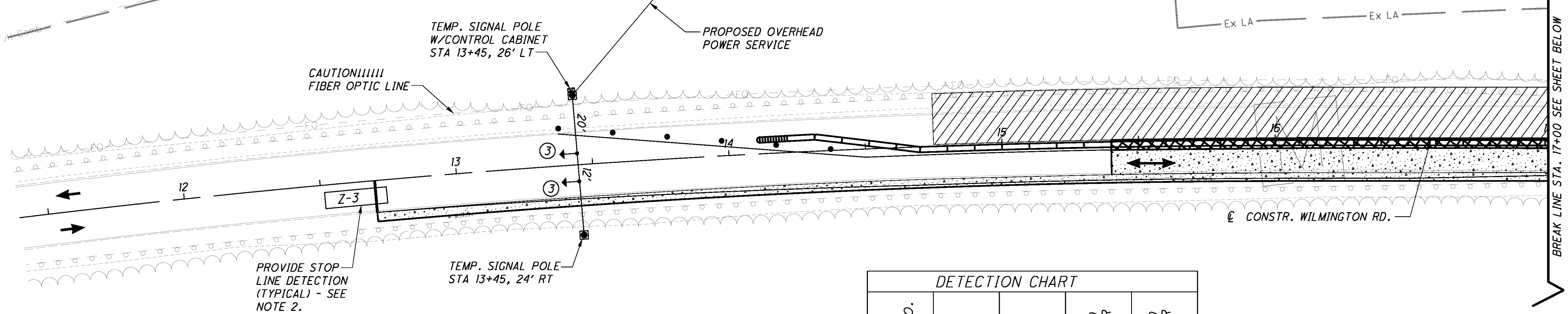
R
Y
G

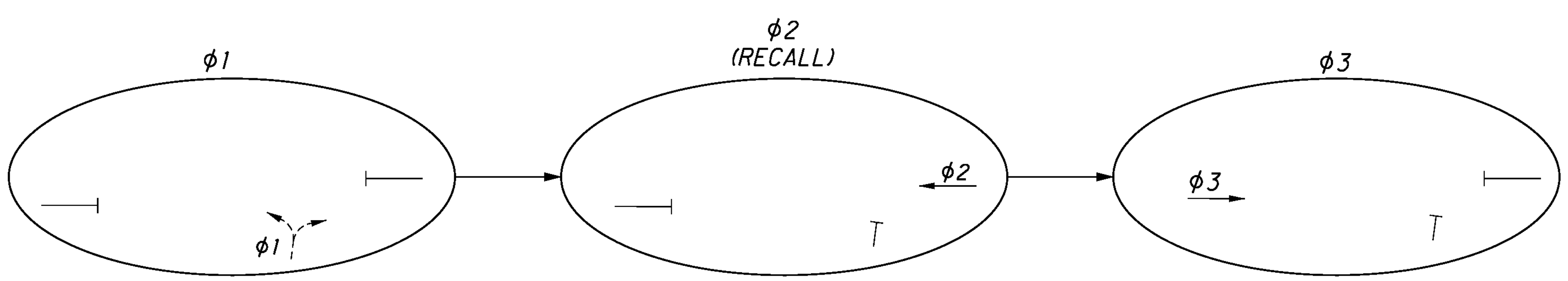
ALL SIGNAL LENSES SHALL BE 12" (SIGNAL HEAD NUMBER CORRESPONDS TO RESPECTIVE SIGNAL PHASE)

NOTES:
1) SEE MT-96.11, MT-96.20 AND MT-96.26 FOR ADDITIONAL INFORMATION.

2) THE CONTRACTOR SHALL PROVIDE A FULLY ACTUATED TRAFFIC SIGNAL, WITH DETECTION AT EACH STOP LINE.

3) POWER FOR TEMPORARY SIGNAL WILL BE PROVIDED BY DAYTON POWER AND LIGHT. THE CONTRACTOR SHALL CONTACT DP&L AND REQUEST A NON-RESIDENTIAL PACKET TO APPLY FOR A TEMPORARY CONNECTION.



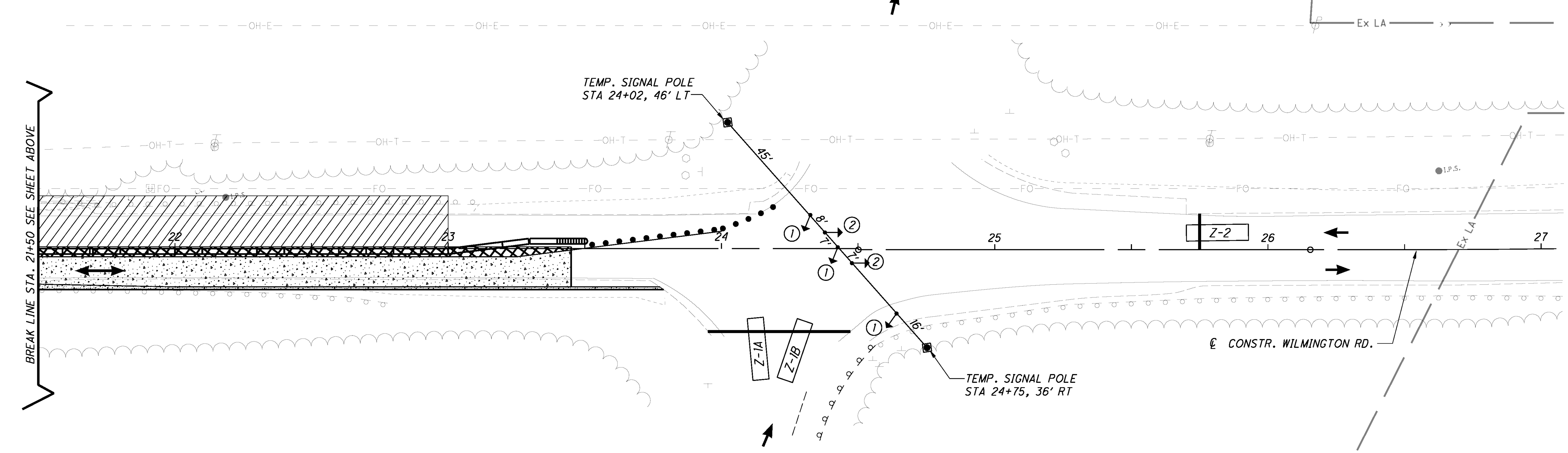


DETECTION CHART

RADAR DETECTION NO.	MOVEMENT	PULSE OR PRESENCE	DELAY (SEC) CONTROLLER	ASSOCIATED CONTROLLER PHASE
Z-1A	NB LT	PRESENCE	-	ϕ1
Z-1B	NB RT	PRESENCE	10	ϕ1
Z-2	WB	PRESENCE	-	ϕ2
Z-3	EB	PRESENCE	-	ϕ3

SIGNAL TIMING

FUNCTION	PHASE ϕ1	PHASE ϕ2	PHASE ϕ3
MINIMUM	7	7	7
MAXIMUM	20	20	20
EXTENSION	2.0	2.0	2.0
YELLOW CHANGE	4.0	5.0	5.0
ALL RED	2.0	34.0	34.0
RECALL	-	VEH	-



CALCULATED MJH
CHECKED KAE

HORIZONTAL SCALE IN FEET 0 10 20 40

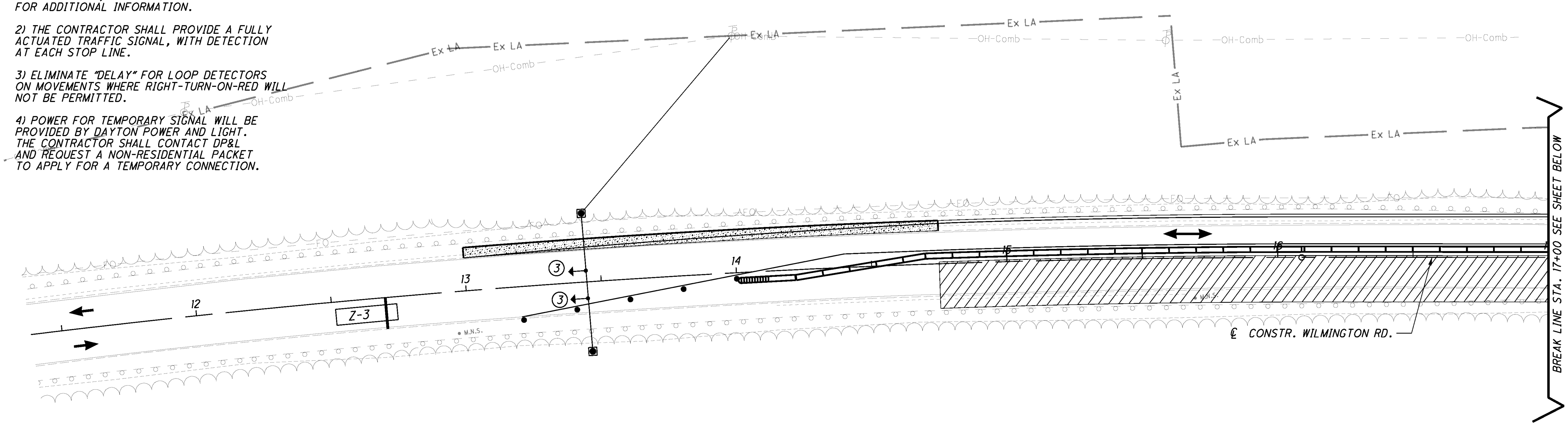
WAR-71-16.81

NOTES:
1) SEE MT-96.11, MT-96.20 AND MT-96.26 FOR ADDITIONAL INFORMATION.

2) THE CONTRACTOR SHALL PROVIDE A FULLY ACTUATED TRAFFIC SIGNAL, WITH DETECTION AT EACH STOP LINE.

3) ELIMINATE "DELAY" FOR LOOP DETECTORS ON MOVEMENTS WHERE RIGHT-TURN-ON-RED WILL NOT BE PERMITTED.

4) POWER FOR TEMPORARY SIGNAL WILL BE PROVIDED BY DAYTON POWER AND LIGHT. THE CONTRACTOR SHALL CONTACT DP&L AND REQUEST A NON-RESIDENTIAL PACKET TO APPLY FOR A TEMPORARY CONNECTION.



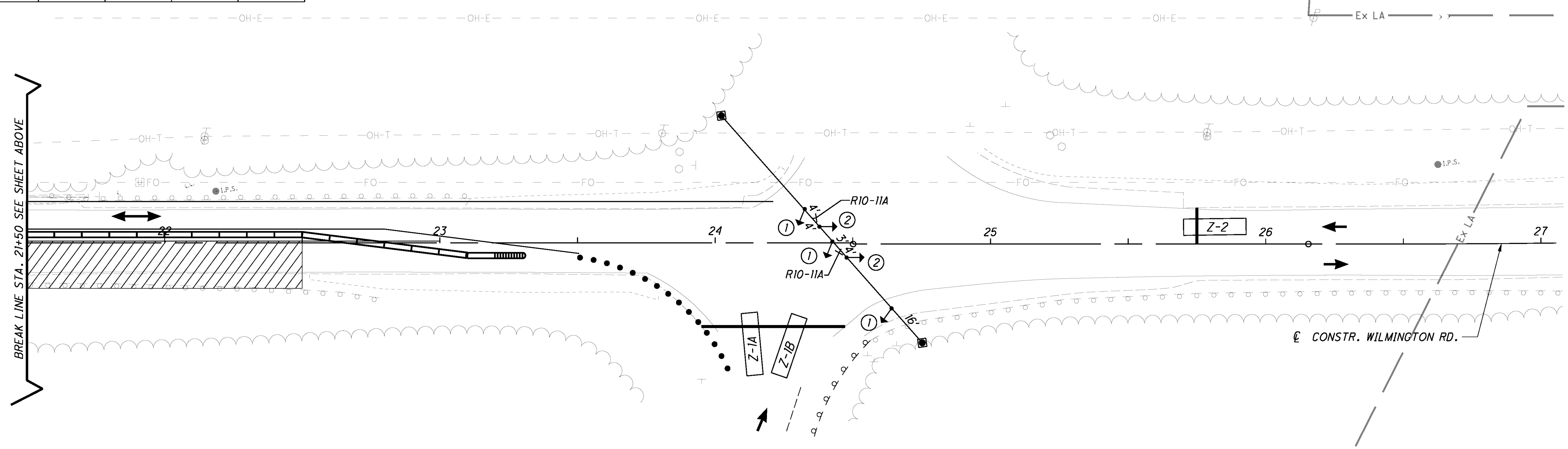
DETECTION CHART

RADAR DETECTION NO.	MOVEMENT	PULSE OR PRESENCE	DELAY (SEC) CONTROLLER	ASSOCIATED CONTROLLER PHASE
Z-1A	NB LT	PRESENCE	-	ϕ1
Z-1B	NB RT	PRESENCE	-	ϕ1
Z-2	WB	PRESENCE	-	ϕ2
Z-3	EB	PRESENCE	-	ϕ3

SIGN LEGEND

NO TURN ON RED

R10-11A (30"X36")



CALCULATED MJH
CHECKED KAE

HORIZONTAL SCALE IN FEET 0 10 20 40

MAINTENANCE OF TRAFFIC PLAN - PHASE III
TEMPORARY TRAFFIC SIGNAL PLAN

WAR-71-16.81

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MAINTENANCE OF TRAFFIC SUBSUMMARY

REF. NO.	SHEET NO.	STATION TO STATION		606 BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE F		614 WORK ZONE IMPACT ATTENUATOR, (BIDIRECTIONAL)	614 WORK ZONE EDGE LINE, WHITE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	614 BARRIER REFLECTORS, TYPE B	614 OBJECT MARKERS, TWO WAY	614 SPECIAL - WORK ZONE GUARDRAIL		615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B		617 COMPACTED AGGREGATE		622 PORTABLE BARRIER, 32"	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED		
				EA		EA	FT	FT	EA	EA	FT		SQ YD		CU YD		FT	FT		
		WILMINGTON RD.																		
		PHASE 1																		
SL-1	18	12+70.00						11												
SL-2	19	23+95.09	24+47.21					52												
SL-3	19	25+75.00						13												
	19	16+50.00	17+26.11												2.11					
	19	21+37.00	22+00.00												1.17					
	19	21+61.31	23+80.00										375							
	18-19	12+70.00	17+35.51										414							
W-1	18-19	12+70.00	23+80.00				1110													
W-2	18-19	13+38.00	24+00.00				1062													
PB-1	18-19	14+23.00	17+35.51			1			7	7							300			
TG-1	18-19	15+40.00	17+30.00	1							200									
TG-2	19	21+32.00	22+30.00	1							100									
PB-1	19	17+35.51	21+61.31						10	10								425		
PB-1	19	21+61.31	23+50.00			1			5	5							170			
		PHASE 3																		
	22	13+00.00	14+70.00										76							
W-3	22-23	13+00.00	24+20.00				1120													
W-4	22-23	13+20.00	23+50.00				1030													
PB-2	22-23	14+00.00	17+35.51			1			8	8							315			
PB-2	23	17+35.51	21+61.31						10	10								425		
PB-2	23	21+61.31	23+30.00			1			4	4							150			
		SUBTOTAL					4322													
TOTALS CARRIED TO GENERAL SUMMARY				2		4	0.82 MI	76	44	44	300		865		3		935	850		

CALCULATED MLL
CHECKED SMB

WAR-71-16.81

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SHEET NUM.								PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET
OFFICE	8	27	32	33	34	35	66	01/IMS/BR		EXT	TOTAL			NO.
													ROADWAY	
	LS							LS	201	11000	LS		CLEARING AND GRUBBING	
2,926								2,926	202	23000	2,926	SY	PAVEMENT REMOVED	
				9,537				9,537	202	38000	9,537	FT	GUARDRAIL REMOVED	
				24				24	202	42206	24	EACH	ANCHOR ASSEMBLY REMOVED	
				16				16	202	47000	16	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
					399			399	203	10000	399	CY	EXCAVATION	
					274			274	203	20001	274	CY	EMBANKMENT, AS PER PLAN	75
4,448								4,448	204	10000	4,448	SY	SUBGRADE COMPACTION	
	3							3	204	45000	3	HOUR	PROOF ROLLING	
			8,425					8,425	606	15100	8,425	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
			1					1	606	26050	1	EACH	ANCHOR ASSEMBLY, MGS TYPE B	
			17					17	606	26150	17	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
			6					6	606	26550	6	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			8					8	606	32500	8	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE F	
		2						2	606	32600	2	EACH	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE F	
			8					8	606	35002	8	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			40					40	607	15000	40	FT	FENCE, TYPE 47	
			40					40	607	70000	40	FT	FENCELINE SEEDING AND MULCHING	
				4				4	SPECIAL	69050350	4	EACH	MAILBOX REMOVED AND RESET	9
													EROSION CONTROL	
						14		14	601	21050	14	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
			330					330	601	21060	330	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
	2							2	659	00100	2	EACH	SOIL ANALYSIS TEST	
	90							90	659	00300	90	CY	TOPSOIL	
					813			813	659	10000	813	SY	SEEDING AND MULCHING	
	41							41	659	14000	41	SY	REPAIR SEEDING AND MULCHING	
	41							41	659	15000	41	SY	INTER-SEEDING	
	0.12							0.12	659	20000	0.12	TON	COMMERCIAL FERTILIZER	
	0.17							0.17	659	31000	0.17	ACRE	LIME	
	5							5	659	35000	5	MGAL	WATER	
	2							2	659	40000	2	MSF	MOWING	
55,000								55,000	832	30000	55,000	EACH	EROSION CONTROL	
													DRAINAGE	
						2,182		2,182	605	11110	2,182	FT	6" SHALLOW PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC	
						104		104	611	00510	104	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
						8		8	611	99710	8	EACH	PRECAST REINFORCED CONCRETE OUTLET	
													PAVEMENT	
532								532	254	01000	532	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=1 3/4")	
785								785	301	46000	785	CY	ASPHALT CONCRETE BASE, PG64-22	
749								749	304	20000	749	CY	AGGREGATE BASE	
1,002								1,002	407	20000	1,002	GAL	NON-TRACKING TACK COAT	
410								410	441	50000	410	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
208								208	441	50300	208	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
			939					939	609	24510	939	FT	CURB, TYPE 4-C	
		3			240			243	617	10100	243	CY	COMPACTED AGGREGATE	
													TRAFFIC CONTROL	
			116					116	626	00100	116	EACH	BARRIER REFLECTOR	
							216	216	630	02100	216	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
							48	48	630	80100	48	SF	SIGN, FLAT SHEET	
							4	4	630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
							4	4	630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
							1.06	1.06	646	10000	1.06	MILE	EDGE LINE, 4"	
							0.53	0.53	646	10200	0.53	MILE	CENTER LINE	
							80	80	646	10400	80	FT	STOP LINE	

CALCULATED MLL
CHECKED JTW

GENERAL SUMMARY

WAR-71-16.81

SHEET NUM. 77	SHEET NUM. 109	PART. 01/IMS/PV	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
							STRUCTURE OVER 20 FOOT SPAN (WAR-071-1683C)	
LS		LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	75
180		180	202	22900	180	SY	APPROACH SLAB REMOVED	
1,155		1,155	202	23500	1,155	SY	WEARING COURSE REMOVED	
LS		LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
LS		LS	503	21300	LS		UNCLASSIFIED EXCAVATION	
136,105		136,105	509	10001	136,105	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	75, 95
100		100	509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	76
312		312	510	10001	312	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	83-90
2		2	511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	83, 86
498		498	511	34447	498	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	76
129		129	511	34451	129	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	76
2		2	511	41010	2	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS	
54		54	511	44110	54	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
1,400		1,400	512	10100	1,400	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
95		95	512	10300	95	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
5		5	512	33000	5	SY	TYPE 2 WATERPROOFING	
8,000		8,000	513	10201	8,000	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	76
3,096		3,096	513	20000	3,096	EACH	WELDED STUD SHEAR CONNECTORS	
2,079		2,079	514	00050	2,079	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
1,080		1,080	514	00056	1,080	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
1,080		1,080	514	00060	1,080	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
2,079		2,079	514	00066	2,079	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
3		3	514	00504	3	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
3		3	514	10000	3	EACH	FINAL INSPECTION REPAIR	
LS		LS	514	21001	LS		FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN	76
17		17	516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER	
313		313	516	13900	313	SF	2" PREFORMED EXPANSION JOINT FILLER	
118		118	516	14020	118	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
8		8	516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	76
							(BEARING: 13 1/2" x 18" X 4.335" W/LOAD PLATE: 14 1/2" x 19" x 2")	
12		12	516	46701	12	EACH	RESET BEARING, AS PER PLAN	88-90
LS		LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	76
104		104	518	21201	104	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	81, 84, 86
135		135	518	40000	135	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
60		60	518	40011	60	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	83, 86
35		35	519	11101	35	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	76
198		198	526	25010	198	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")	
752		752	607	39900	752	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC	
							STRUCTURE OVER 20 FOOT SPAN (WAR-071-1736C)	
	LS	LS	202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	108
	200	200	509	20001	200	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	108
	7	7	511	34444	7	CY	CLASS QC2 CONCRETE, BRIDGE DECK	
	5	5	511	34448	5	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)	
	6	6	511	44110	6	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
	1,323	1,323	512	10100	1,323	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	907	907	512	10300	907	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
	1,253	1,253	512	74000	1,253	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
	1,900	1,900	513	10201	1,900	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	108
	19,800	19,800	514	00050	19,800	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
	19,800	19,800	514	00056	19,800	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
	19,800	19,800	514	00060	19,800	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
	19,800	19,800	514	00066	19,800	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
	23	23	514	00504	23	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
	13	13	514	10000	13	EACH	FINAL INSPECTION REPAIR	
	76	76	516	11210	76	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	

CALCULATED MLL
CHECKED JTW

GENERAL SUMMARY

WAR-71-16.81

SHEET NUM. 109	122	136	PART. 01/IMS/PV	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								STRUCTURE OVER 20 FOOT SPAN (WAR-071-1736C)	
8			8	516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	114
								(BEARING: 13" x 18" X 4.335" W/LOAD PLATE: 14" x 19" x 2")	
LS			LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	109
48			48	517	75501	48	FT	BRIDGE RAILING REBUILT, AS PER PLAN	118
201			201	519	11101	201	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	109
25			25	613	41201	25	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	119
								STRUCTURE OVER 20 FOOT SPAN (WAR-071-1996C)	
	LS		LS	202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	121
	200		200	509	20001	200	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	121
	7		7	511	34444	7	CY	CLASS QC2 CONCRETE, BRIDGE DECK	
	5		5	511	34448	5	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)	
	5		5	511	44110	5	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
	1,188		1,188	512	10100	1,188	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	825		825	512	10300	825	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
	1,122		1,122	512	74000	1,122	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
	1,700		1,700	513	10201	1,700	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	121
	1		1	513	21001	1	EACH	TRIMMING OF BEAM END, AS PER PLAN	123
	14,000		14,000	514	00050	14,000	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
	14,000		14,000	514	00056	14,000	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
	14,000		14,000	514	00060	14,000	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
	14,000		14,000	514	00066	14,000	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
	21		21	514	00504	21	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
	12		12	514	10000	12	EACH	FINAL INSPECTION REPAIR	
	68		68	516	11210	68	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
	8		8	516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	127
								(BEARING: 13" x 18" X 4.335" W/LOAD PLATE: 14" x 19" x 2")	
	LS		LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	122
	46		46	517	75501	46	FT	BRIDGE RAILING REBUILT, AS PER PLAN	131
	232		232	519	11101	232	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	122
	12		12	601	20000	12	SY	CRUSHED AGGREGATE SLOPE PROTECTION	
	53		53	613	41201	53	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	132
	7		7	847	10000	7	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY 1 1/4" THICK	
	7		7	847	50000	7	SY	HAND CHIPPING	
								STRUCTURE OVER 20 FOOT SPAN (WAR-071-2179C)	
		LS	LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	134
		156	156	202	22900	156	SY	APPROACH SLAB REMOVED	
		978	978	202	23500	978	SY	WEARING COURSE REMOVED	
		LS	LS	503	21300	LS		UNCLASSIFIED EXCAVATION	
		101,673	101,673	509	10001	101,673	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	134, 151
		100	100	509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	135
		270	270	510	10001	270	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	140-145
		2	2	511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	140, 144
		353	353	511	34447	353	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	135
		103	103	511	34451	103	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	135
		13	13	511	43260	13	CY	CLASS QC2 CONCRETE, PIER CAP	
		32	32	511	44110	32	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
		1,219	1,219	512	10100	1,219	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
		295	295	512	74000	295	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
		3,348	3,348	513	20000	3,348	EACH	WELDED STUD SHEAR CONNECTORS	
		13,700	13,700	514	00050	13,700	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
		13,700	13,700	514	00056	13,700	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
		13,700	13,700	514	00060	13,700	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
		13,700	13,700	514	00066	13,700	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
		21	21	514	00504	21	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
		13	13	514	10000	13	EACH	FINAL INSPECTION REPAIR	
		17	17	516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER	
		273	273	516	13900	273	SF	2" PREFORMED EXPANSION JOINT FILLER	
		95	95	516	14020	95	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	

CALCULATED MLL CHECKED JTW

GENERAL SUMMARY

WAR-71-16.81

SHEET NUM. 10	11	27	136	PART. 01/IMS/PV	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									STRUCTURE OVER 20 FOOT SPAN (WAR-071-2179C)	
			8	8	516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	146
									(BEARING: 13" x 18" X 4.335" W/LOAD PLATE: 14" x 19" x 2")	
			12	12	516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	147
									(BEARING: 16 1/2" x 23 1/2" X 4.335" W/LOAD PLATE: 17 1/2" x 24 1/2" x 2")	
			LS	LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	135
			49	49	518	21201	49	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	139-144
			74	74	518	40000	74	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
			84	84	518	40011	84	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	140, 144
			95	95	519	11101	95	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	135
			174	174	526	25010	174	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")	
			622	622	607	39900	622	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC	
									MAINTENANCE OF TRAFFIC	
	800			800	614	11110	800	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		4		4	614	12338	4	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
LS				LS	614	12420	LS		DETOUR SIGNING	
	15			15	614	13202	15	EACH	BARRIER REFLECTOR, TYPE A2	
		44		44	614	13300	44	EACH	BARRIER REFLECTOR, TYPE B	
	21	44		65	614	13360	65	EACH	OBJECT MARKER, TWO WAY	
		0.82		0.82	614	22100	0.82	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
		76		76	614	26200	76	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
		300		300	SPECIAL	61412200	300	FT	WORK ZONE GUARDRAIL	11
2				2	SPECIAL	61411300	2	EACH	WORK ZONE TRAFFIC SIGNAL	10
	32			32	614	18400	32	DAY	PORTABLE CHANGEABLE MESSAGE SIGN	
		865		865	615	25000	865	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
2				2	616	10000	2	MGAL	WATER	
		935		935	622	41000	935	FT	PORTABLE BARRIER, 32"	
		850		850	622	41020	850	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
									INCIDENTALS	
				LS	614	11000	LS		MAINTAINING TRAFFIC	
				LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
				LS	624	10000	LS		MOBILIZATION	

CALCULATED MLL CHECKED JTW

GENERAL SUMMARY

WAR-71-16.81

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	601 TIED CONCRETE BLOCK MAT, TYPE 2		606 GUARDRAIL, TYPE MGS WITH LONG POSTS	606 ANCHOR ASSEMBLY, MGS TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE B	606 ANCHOR ASSEMBLY, MGS TYPE T	606 BRIDGE TERMINAL ASSEMBLY, MGS TYPE F	606 BRIDGE TERMINAL ASSEMBLY, MGS TYPE 1		609 CURB, TYPE 4-C		607 FENCE, TYPE 47	607 FENCELINE SEEDING AND MULCHING		626 BARRIER REFLECTORS, TYPE A	626 BARRIER REFLECTORS, TYPE B
					SY		FT	FT	EA	EA	EA	EA		FT		FT	FT		EA	EA
		WILMINGTON RD.																		
GR-1	36-37	10+21.06	17+22.94	R			625	1				1							7	
GR-2	36-37	10+51.13	17+53.00	L			625	1				1							7	
EC-1	37	16+86.48	16+95.48	R	30															
C-1	37	16+94.48	17+20.48	R										26						
F-1	37	17+03.36	17+17.06	R												20	20			
EC-2	37	17+16.54	17+25.54	L	30															
C-2	37	17+24.54	17+50.54	L										26						
BRIDGE	37-38	17+35.51	21+61.31	R/L																4
F-2	37	17+53.96	17+67.66	L												20	20			
GR-3	38	21+43.75	22+70.64	R			50		1			1							2	
C-3	38	21+46.28	21+72.28	R										26						
EC-3	38	21+71.28	21+80.28	R	30															
GR-4	38	21+73.81	23+83.21	L			137.5	1				1							3	
C-4	38	21+76.34	22+02.34	L										26						
EC-4	38	22+01.34	22+10.34	L	30															
		OLIVE BRANCH RD.																		
GR-5	48	9+58.00	14+41.25	R			425	1			1								5	
GR-6	48	9+61.85	14+19.73	L			400	1			1								5	
GR-8	48-49	17+67.19	21+46.88	L			375			1	1								5	
GR-7	48-49	17+89.18	11+50.00 (JEFFERY)	R			525	1			1								6	
GR-9	49	11+50.00 (JEFFERY)	24+52.03	R			500	2											6	
GR-10	49	21+76.63	24+58.15	L			225	1		1									4	
		CLARKSVILLE RD.																		
GR-11	50	13+94.25	18+52.14	R			400	1			1								5	
GR-12	50	15+55.44	18+38.33	L			225	1			1								3	
GR-13	50-51	21+59.95	27+42.31	R			525	1			1								6	
GR-14	50-51	21+47.00	27+47.64	L			550	1			1								7	
		HARVEYSBURG RD.																		
GR-15	52-53	10+00.00	16+18.75	R			550	1		1									7	
GR-16	52	10+00.00	13+79.54	L			325	1		1									4	
GR-18	53-54	14+10.29	19+15.17	L			475			1		1							6	
GR-17	53-54	16+35.26	19+28.40	R			262.5			1		1							4	
EC-5	53	16+92.00	17+01.00	L	30															
C-5	53	17+00.00	18+82.00	L										182						
EC-6	53	18+81.17	18+90.17	L	30															
C-6	53-54	18+89.17	19+10.87	L										22						
EC-7	53-54	18+94.40	19+03.40	R	30															
C-7	54	19+02.40	19+10.87	R										8						
BRIDGE	54	19+10.87	22+71.83	R/L																4
C-8	54	22+71.83	22+80.29	L										8						
GR-20	54-55	22+54.29	29+54.29	L			625.00	1				1							8	
GR-19	54-55	22+67.53	29+42.53	R			600.00	1				1							8	
C-9	54	22+71.83	22+93.53	R										22						
EC-8	54	22+79.29	22+88.29	L	30															
C-10	54-55	22+87.00	25+90.00	L										303						
EC-9	54	22+92.53	23+01.53	R	30															
C-11	54-55	23+00.00	25+90.00	R										290						
EC-10	55	25+89.00	25+98.00	R	30															
EC-11	55	25+89.00	25+98.00	L	30															
		SUBTOTALS																	108	8
TOTALS CARRIED TO GENERAL SUMMARY					330		8425.0	17	1	6	8	8		939		40	40		116	

CALCULATED MLL
CHECKED JTW

ROADWAY SUBSUMMARY

WAR-71-16.81

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED	202 ANCHOR ASSEMBLY REMOVED	202 BRIDGE TERMINAL ASSEMBLY REMOVED		690 SPECIAL - MAILBOX REMOVED AND RESET
					FT	FT	EA		EA
		WILMINGTON RD.							
R-1	36-37	10+36.64	17+41.92	R	705	1	1		
R-2	36-37	10+58.39	17+71.90	L	714	1	1		
R-3	38	21+21.33	22+77.80	R	156	1	1		
R-4	38	21+56.87	23+10.65	L	154	1	1		
		OLIVE BRANCH RD.							
R-5	48	9+62.91	14+41.53	R	479	1	1		
R-6	48	9+66.40	14+19.92	L	454	1	1		
R-7	48-49	17+89.11	11+35.33 (JEFFERY)	R	591	1	1		
R-8	48-49	17+67.03	21+46.88	L	380	1	1		
R-9	49	11+39.00 (JEFFERY)	24+28.30	R	554	2			
MB-1	49	21+28.00		L					4
R-10	49	21+76.63	24+43.29	L	267	2			
		CLARKSVILLE RD.							
R-11	50	13+88.12	18+51.44	R	463	1	1		
R-12	50	15+49.08	18+37.89	L	289	1	1		
R-13	50-51	21+60.42	27+23.59	R	563	1	1		
R-14	50-51	21+47.00	27+47.64	L	601	1	1		
		HARVEYSBURG RD.							
R-15	52-53	9+95.68	15+98.19	R	603	2			
R-16	52	9+98.20	13+50.62	L	352	2			
R-17	53-54	16+43.00	19+46.36	R	303	1	1		
R-18	53-54	14+17.14	19+31.99	L	515	1	1		
R-19	54-55	22+49.62	29+40.84	R	691	1	1		
R-20	54-55	22+36.72	29+40.42	L	704	1	1		
TOTALS CARRIED TO GENERAL SUMMARY					9537	24	16		4

CALCULATED MLL
CHECKED JTW

REMOVAL SUBSUMMARY

WAR-71-16.81

SHEET NO.	STATION FROM	STATION TO	203 EXCAVATION CU. YD.	203 EMBANKMENT, AS PER PLAN CU. YD.	617 COMPACTED AGGREGATE CU. YD.	659 SEEDING AND MULCHING SQ. YD.
	WILMINGTON RD.					
40	14+50.00	14+75.00	0	0		0
41	15+00.00	15+50.00	18	17		88
42	16+00.00	16+50.00	9	70		163
43	17+00.00	17+35.51	1	73		114
44	21+61.31	22+00.00	2	19		28
45	22+50.00	23+00.00	16	61		151
46	23+50.00	24+00.00	29	34		257
47	24+20.00		9	0		12
	HARVEYSBURG RD.					
56	16+00.00	16+05.00	0		0	
57	16+50.00	17+00.00	50		17	
58	17+50.00	18+00.00	30		32	
59	18+50.00	19+00.00	39		30	
60	19+10.87	22+71.83	2		1	
61	23+00.00	23+50.00	31		37	
62	24+00.00	24+50.00	60		69	
63	25+00.00	25+50.00	70		44	
64	25+90.00	26+00.00	33		10	
TOTALS CARRIED TO GENERAL SUMMARY			399	274	240	813

CALCULATED MLL CHECKED JTW

EARTHWORK SUBSUMMARY

WAR-71-16.81

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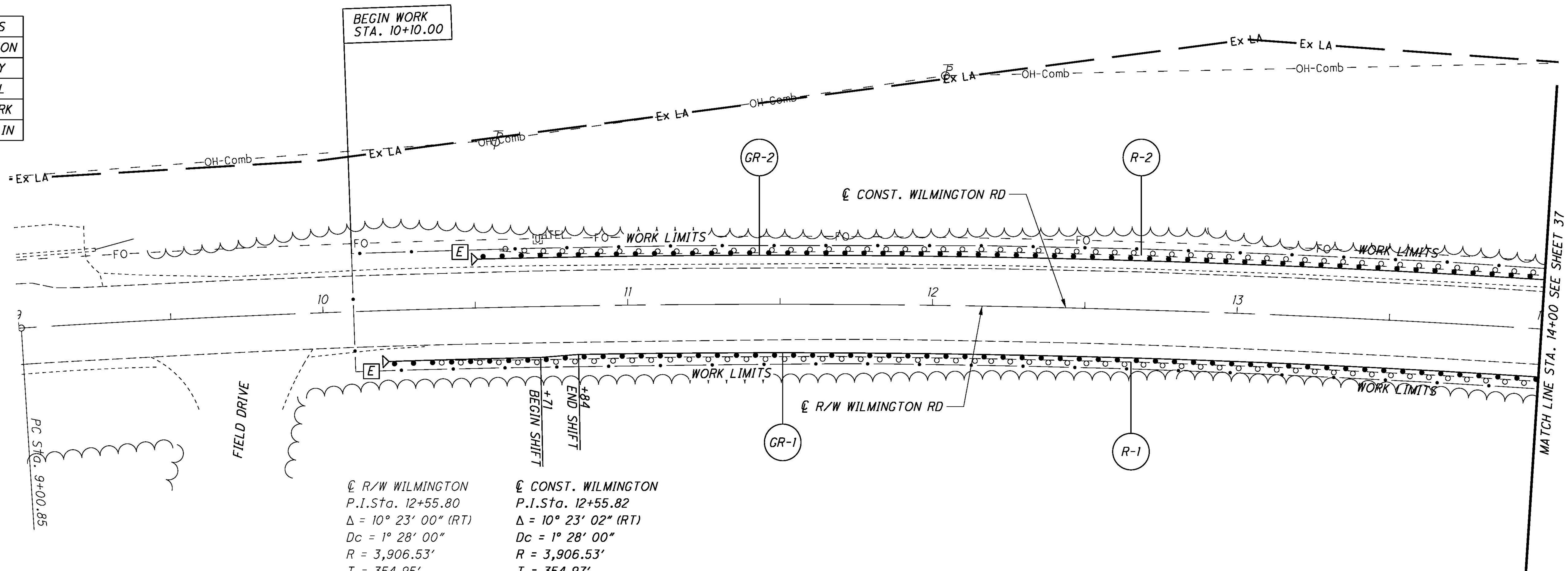
UNDERDRAIN SUBSUMMARY

WAR-71-16.81

CALCULATED MLL | CHECKED JTW

SHEET NO.	REFERENCE NO.	ROADWAY	STATION (FROM)	SIDE (FROM)	OFFSET (FROM)	INVERT (FROM)	STATION (TO)	SIDE (TO)	OFFSET (TO)	INVERT (TO)	OUTLET TYPE	601 TIED CONCRETE BLOCK MAT, TYPE 1	605 6" SHALLOW PIPE UNDERDRAINS, WITH FABRIC WRAP	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	611 PRECAST REINFORCED CONCRETE OUTLET	BENDS AND BRANCHES (FOR INFORMATION ONLY) PLUG	TEE		CROSS	90° BEND	45° BEND	
			FROM	LT/RT	FT	FT	TO	LT/RT	FT	FT		SY	FT	FT	EACH	EACH	EACH		EACH	EACH	EACH	
37	UD-1	WILMINGTON RD	17+17.74	RT	16	967.15	14+75.00	RT	16	957.49	OUTLET	1.8	243	10	1	1				1		
37	UD-2	WILMINGTON RD	17+47.79	LT	16	967.96	14+75.00	LT	16	957.49	OUTLET	1.8	273	10	1	1				1		
38	UD-3	WILMINGTON RD	21+49.00	RT	16	974.74	23+80.23	RT	16	973.22	OUTLET	1.8	231	21	1	1				1		
38-39	UD-4	WILMINGTON RD	21+79.09	LT	16	974.63	24+20.00	LT	16	972.90	OUTLET	1.8	241	19	1	1				1		
53-54	UD-5	HARVEYSBURG RD	19+15.59	RT	15	982.55	16+50.00	RT	15	973.14	OUTLET	1.8	266	14	1	1				1		
53-54	UD-6	HARVEYSBURG RD	19+02.05	LT	15	982.29	16+05.00	LT	15	971.16	OUTLET	1.8	297	10	1	1				1		
54-55	UD-7	HARVEYSBURG RD	22+80.65	RT	15	982.67	25+90.00	RT	15	971.46	OUTLET	1.8	309	10	1	1				1		
54-55	UD-8	HARVEYSBURG RD	22+67.41	LT	15	982.89	25+90.00	LT	15	971.46	OUTLET	1.8	323	10	1	1				1		
TOTALS CARRIED TO GENERAL SUMMARY												14	2,182	104	8	8	0		0	8	0	

CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN

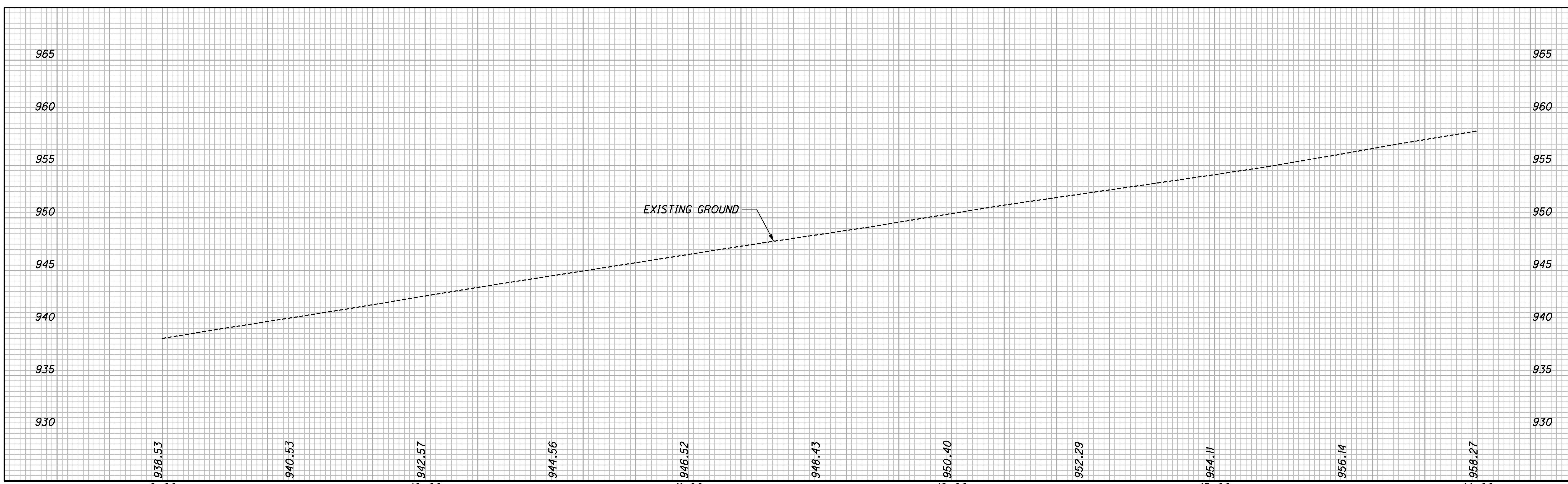


℄ R/W WILMINGTON
P.I.Sta. 12+55.80
Δ = 10° 23′ 00″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 354.95′
L = 707.95′
E = 16.09′
C = 706.99′
C.B. = S 86° 44′ 13″ E

℄ CONST. WILMINGTON
P.I.Sta. 12+55.82
Δ = 10° 23′ 02″ (RT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 354.97′
L = 707.99′
E = 16.09′
C = 707.02′
C.B. = S 86° 46′ 07″ E

LEGEND

- E ANCHOR ASSEMBLY, MGS TYPE E
- B ANCHOR ASSEMBLY, MGS TYPE B
- I MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1



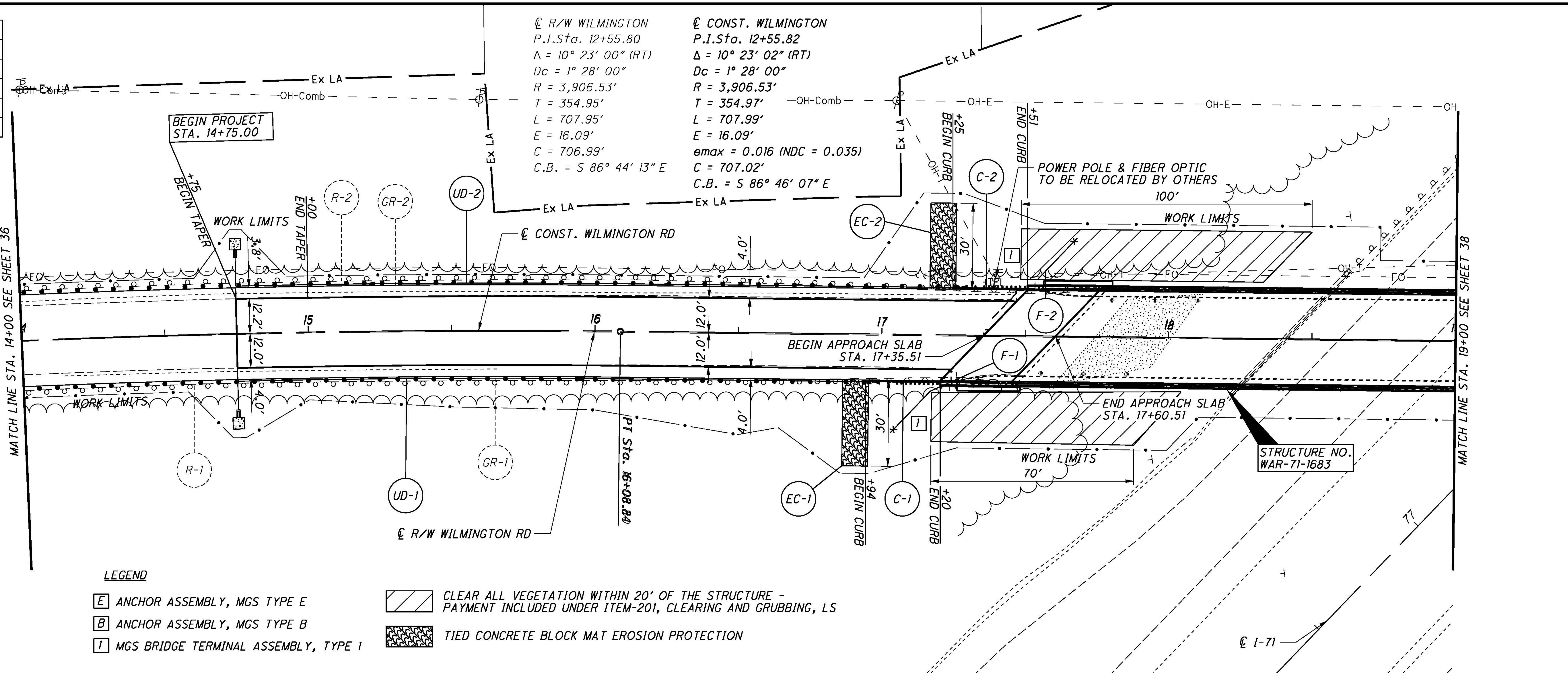
0 10 20 40
HORIZONTAL SCALE IN FEET

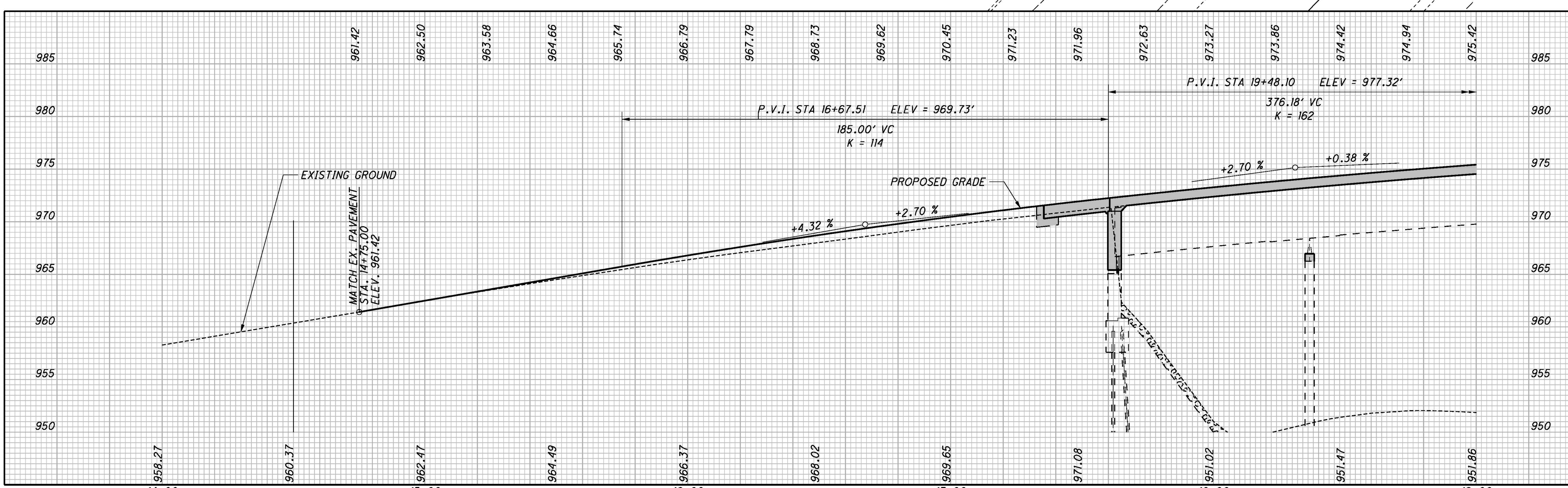
CALCULATED JTW
CHECKED MJC

PLAN AND PROFILE - WILMINGTON ROAD
STA. 9+00 TO STA. 14+00

WAR-71-16.81

CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN





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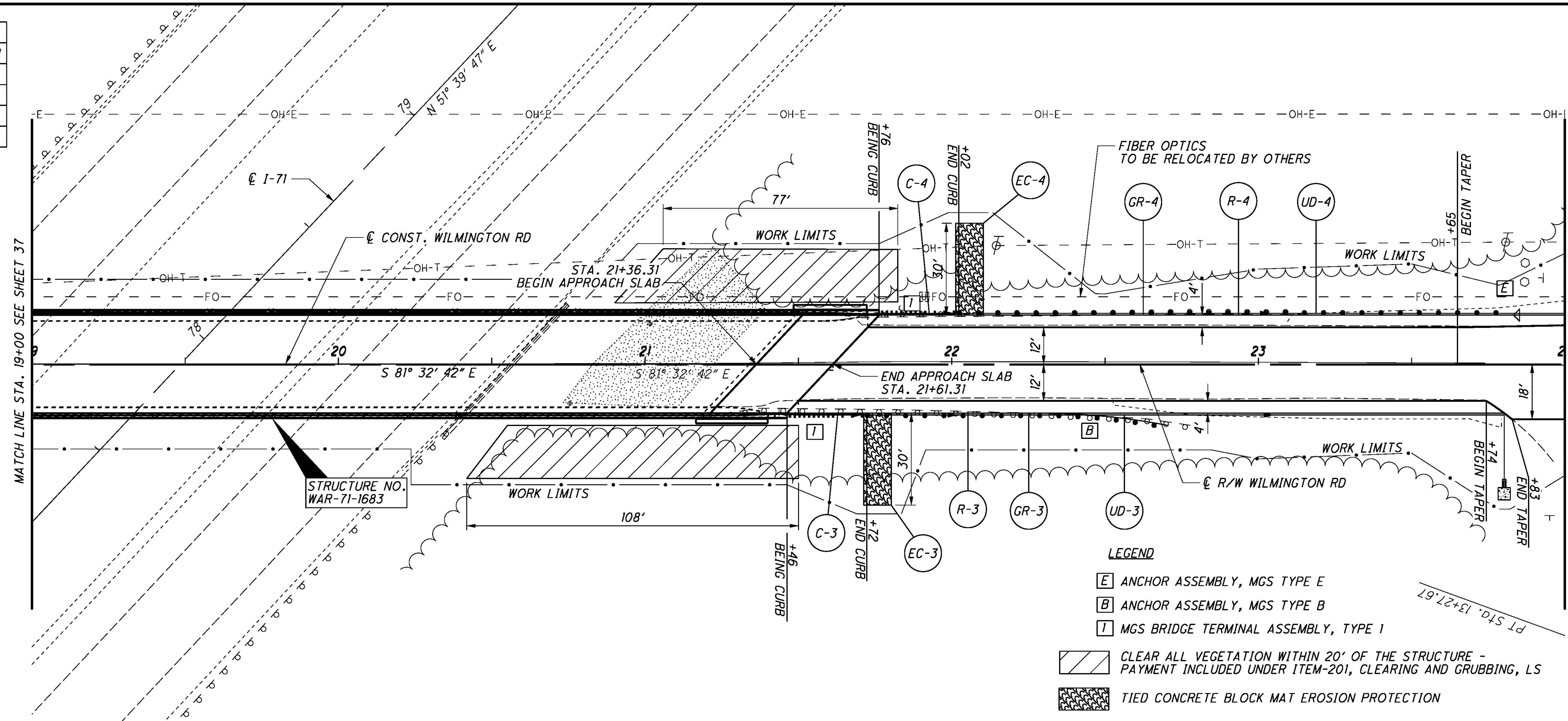
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW CHECKED MJC

PLAN AND PROFILE - WILMINGTON ROAD STA. 14+00 TO STA. 19+00

WAR-71-16.81

CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



LEGEND

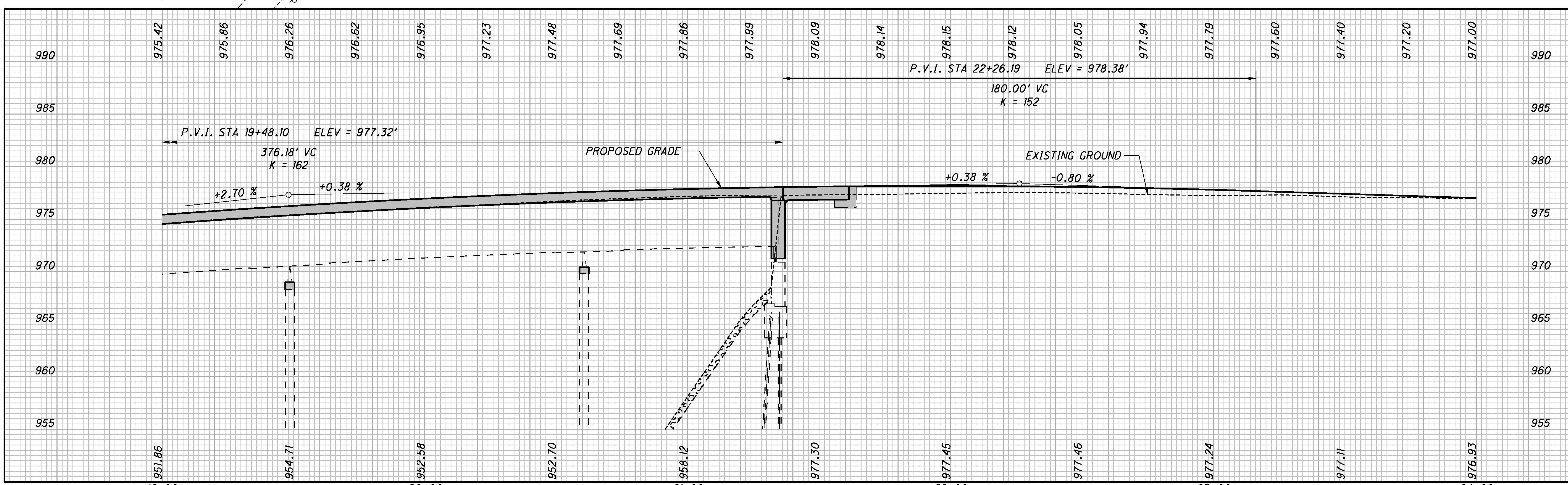
E ANCHOR ASSEMBLY, MGS TYPE E

B ANCHOR ASSEMBLY, MGS TYPE B

1 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1

CLEAR ALL VEGETATION WITHIN 20' OF THE STRUCTURE - PAYMENT INCLUDED UNDER ITEM-201, CLEARING AND GRUBBING, LS

TIED CONCRETE BLOCK MAT EROSION PROTECTION



0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

PLAN AND PROFILE - WILMINGTON ROAD
STA. 19+00 TO STA. 24+00

WAR-71-16.81

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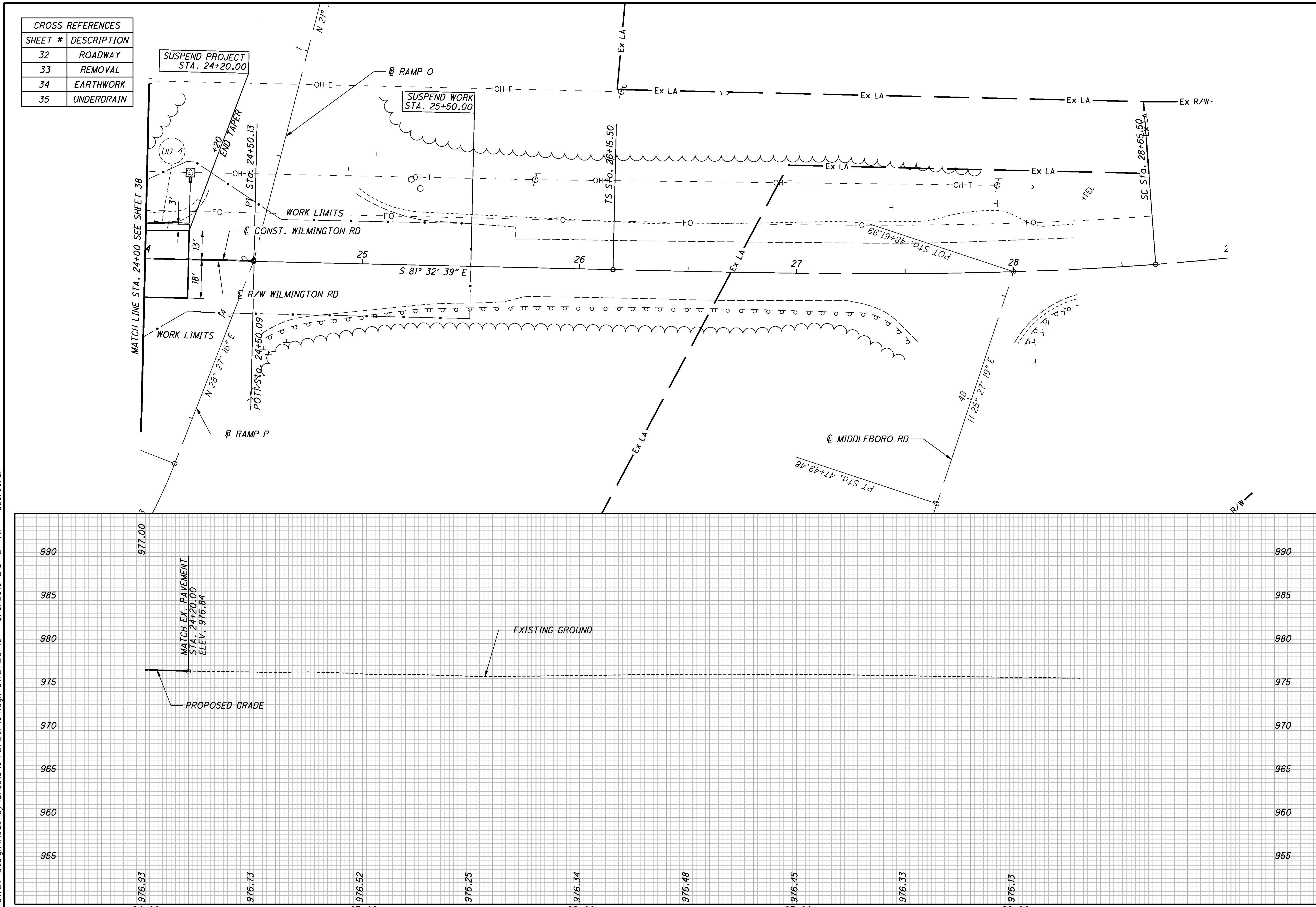
CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



HORIZONTAL SCALE IN FEET
0 10 20 40

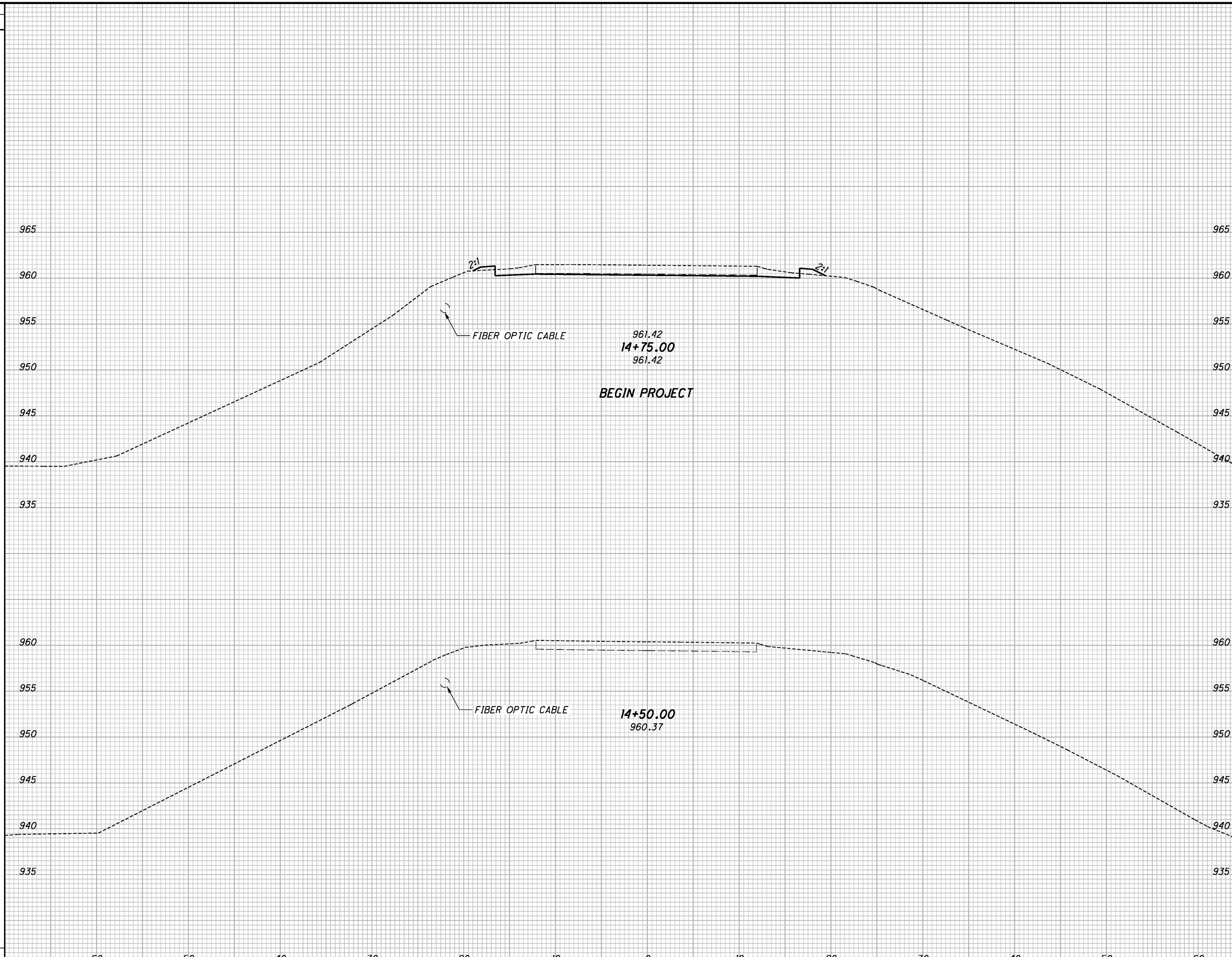
CALCULATED JTW
CHECKED MJC

PLAN AND PROFILE - WILMINGTON ROAD
STA. 24+00 TO STA. 29+00

WAR-71-16.81

CROSS SECTIONS - WILMINGTON RD
STA. 14+50.00 TO STA. 14+75.00

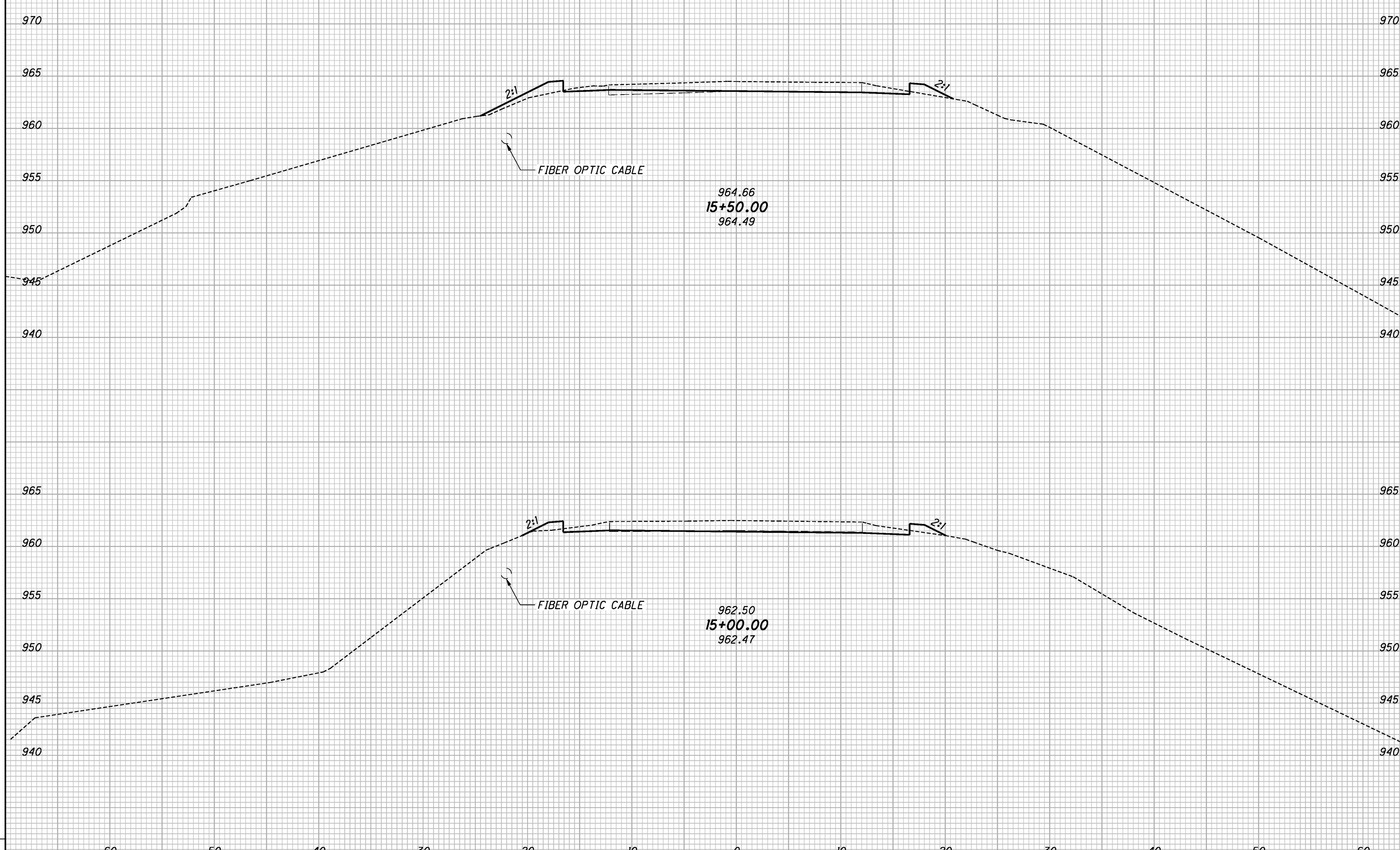
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6.66		9	2		
	0			0	0
	0			0	0



CALCULATED JTW
CHECKED MJC

WAR-71-16.81

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
14.40		4	11		
	66			10	14
9.19		7	4		
	22			8	3
	88			18	17



CALCULATED JTW

CHECKED MJC

CROSS SECTIONS - WILMINGTON RD

STA. 15+00.00 TO STA. 15+50.00

WAR-71-16.81

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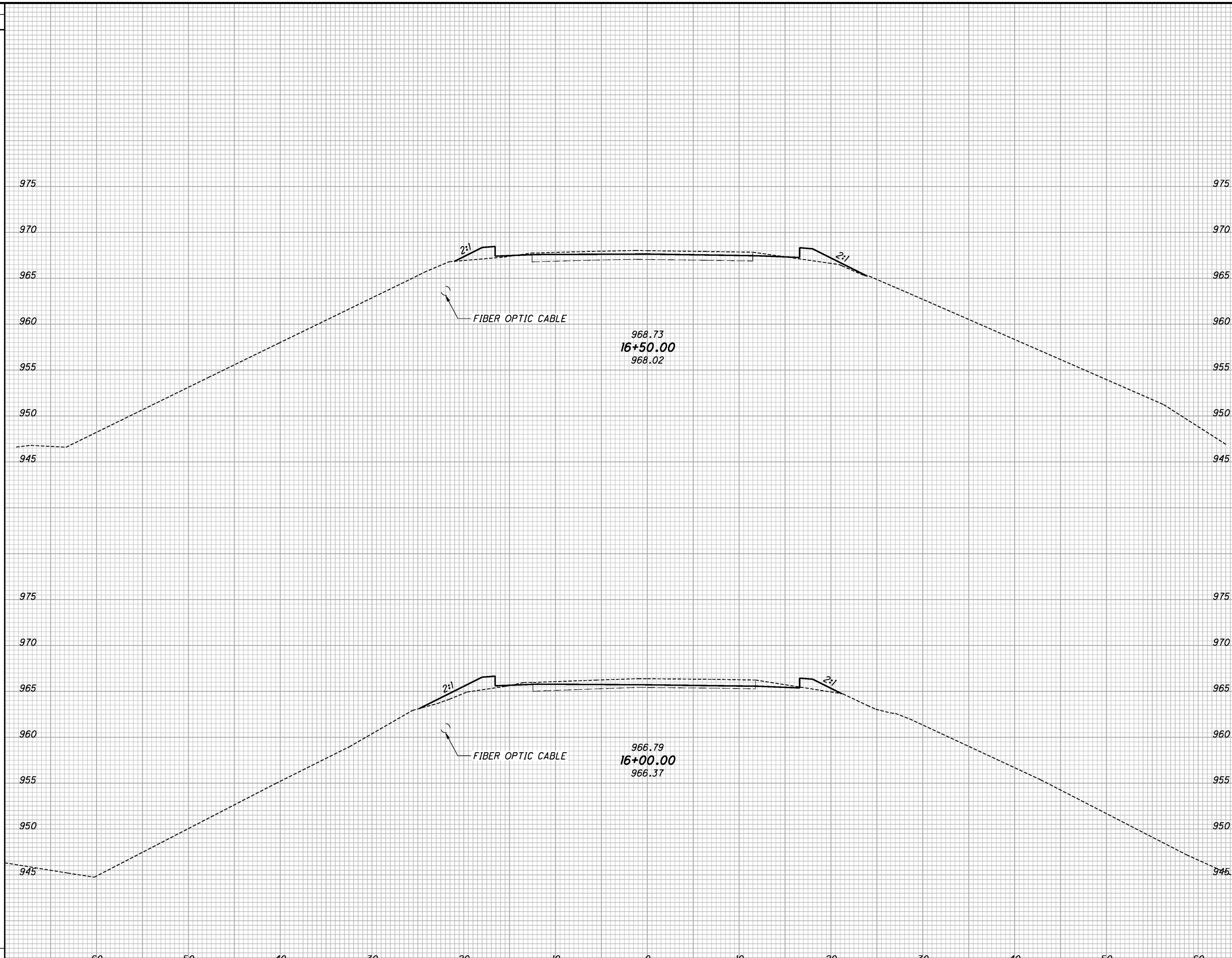
SEEDING	
END WIDTH	SQ. YDS.
13.98	
	81
15.15	
	82
	163



END AREA		VOLUME	
CUT	FILL	CUT	FILL
1	24		
		3	41
2	20		
		6	29
		9	70

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - WILMINGTON RD
STA. 16+00.00 TO STA. 16+50.00

WAR-71-16.81

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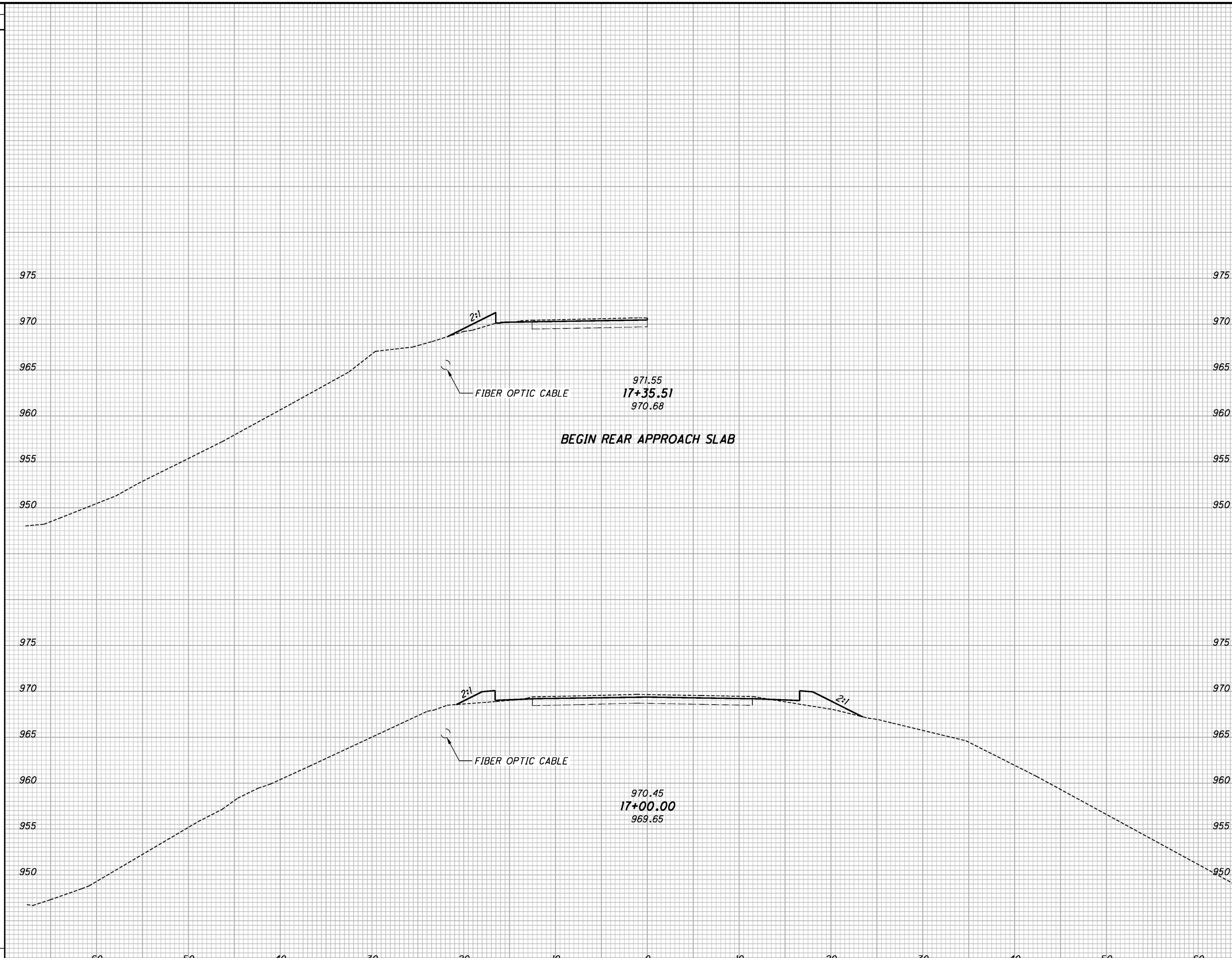
CROSS SECTIONS - WILMINGTON RD
STA. 17+00.00 TO STA. 17+35.51

SEEDING END WIDTH	SEEDING SQ. YDS.
5.86	
	38
13.22	
	76
	114



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	13		
		0	26
0	27		
		1	47
		1	73

CALCULATED JTW
CHECKED MJC

WAR-71-16.81

43
160

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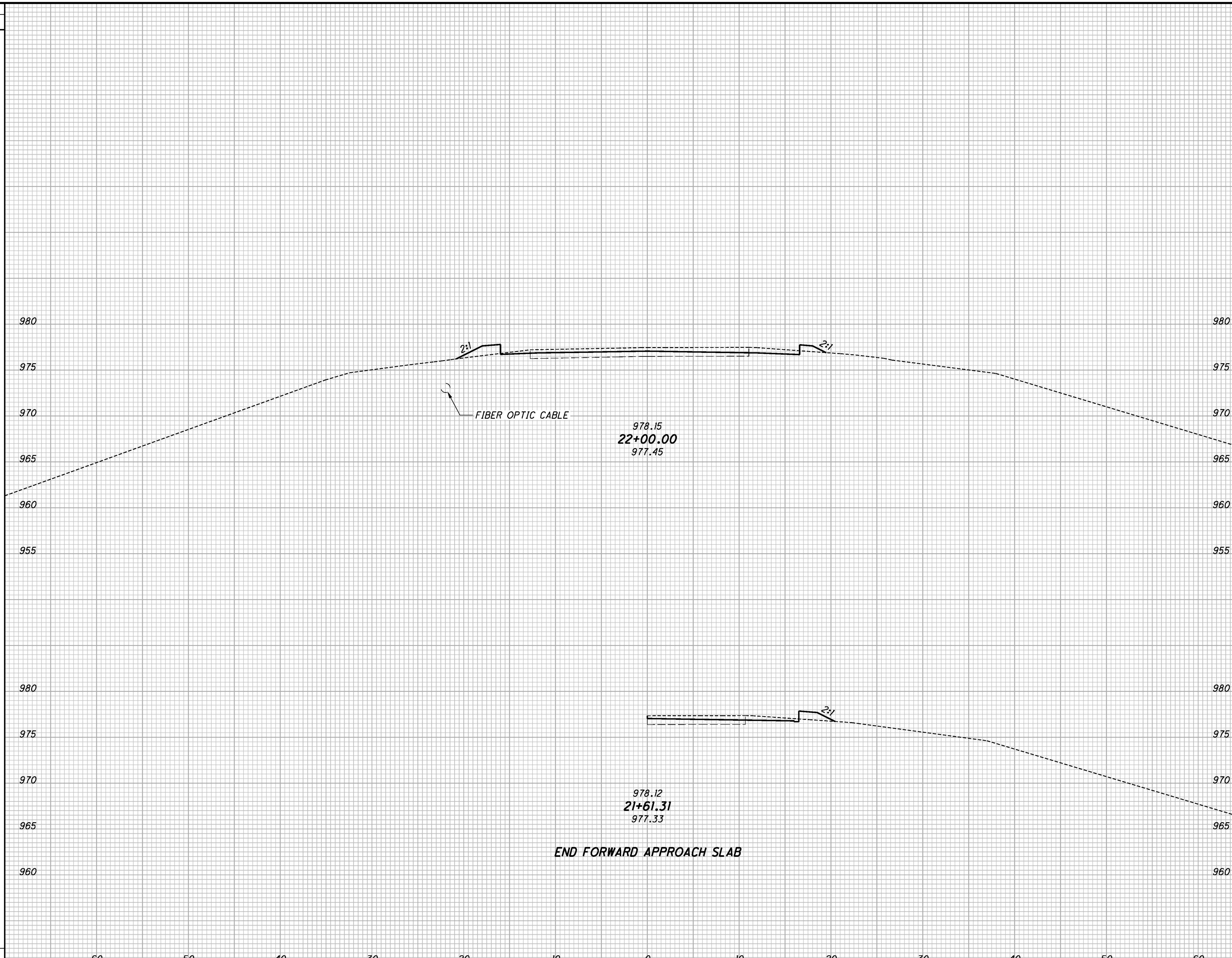
CROSS SECTIONS - WILMINGTON RD
STA. 21+61.31 TO STA. 22+00.00

SEEDING	
END WIDTH	SQ. YDS.
8.83	
	28
4.18	
	0
	28



END AREA		VOLUME	
CUT	FILL	CUT	FILL
3	18		
		2	19
0	9		
		0	0
		2	19

CALCULATED JTW
CHECKED MJC

WAR-71-16.81

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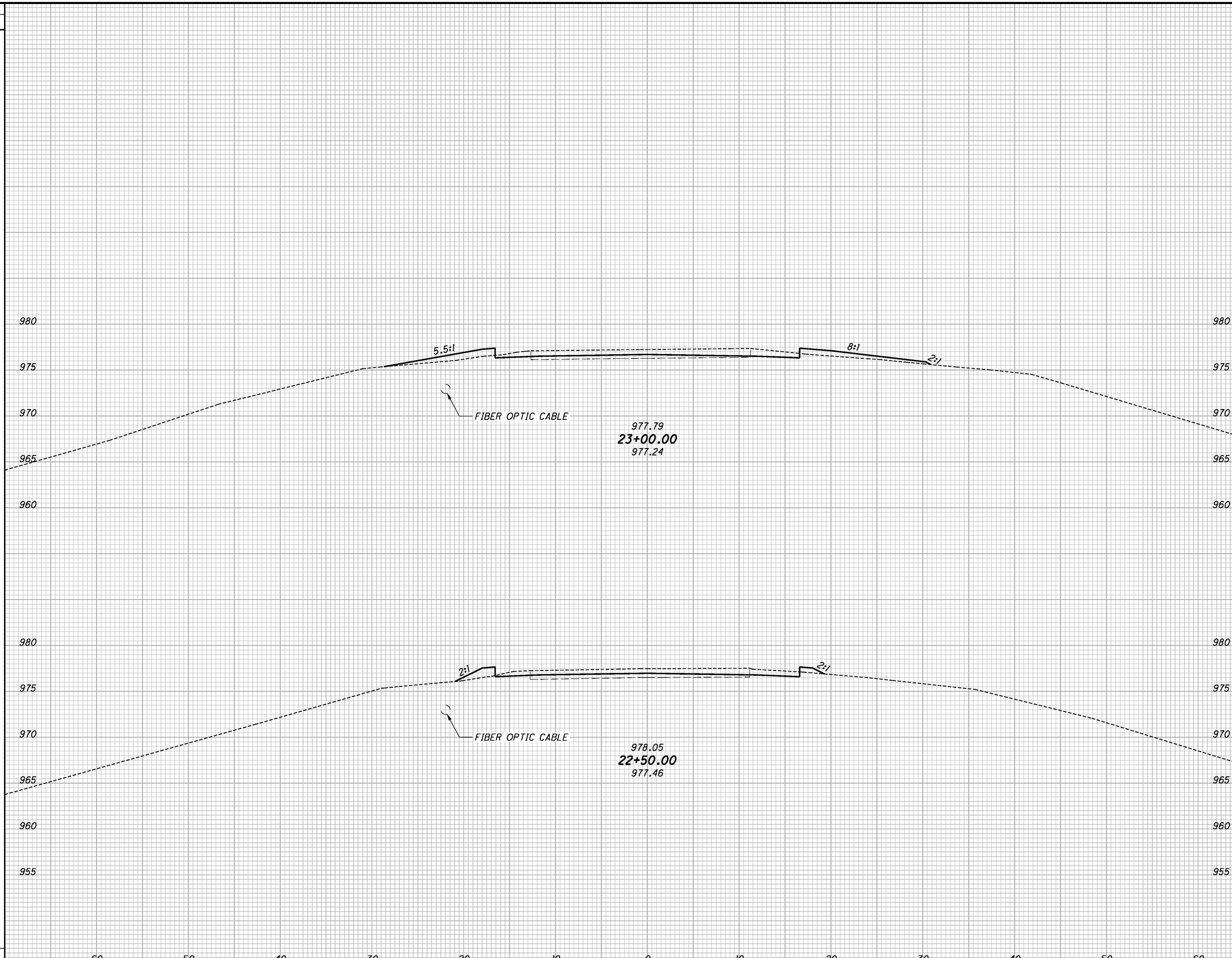
SEEDING	
END WIDTH	SQ. YDS.
27.93	
	102
8.71	
	49
	151



END AREA		VOLUME	
CUT	FILL	CUT	FILL
5	20		
		9	31
5	14		
		7	30
		16	61

CALCULATED JTW

CHECKED MJC

CROSS SECTIONS - WILMINGTON RD
STA. 22+50.00 TO STA. 23+00.00

WAR-71-16.81

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SEEDING	
END WIDTH	SQ. YDS.
4.61	
	96
29.92	
	161
	257

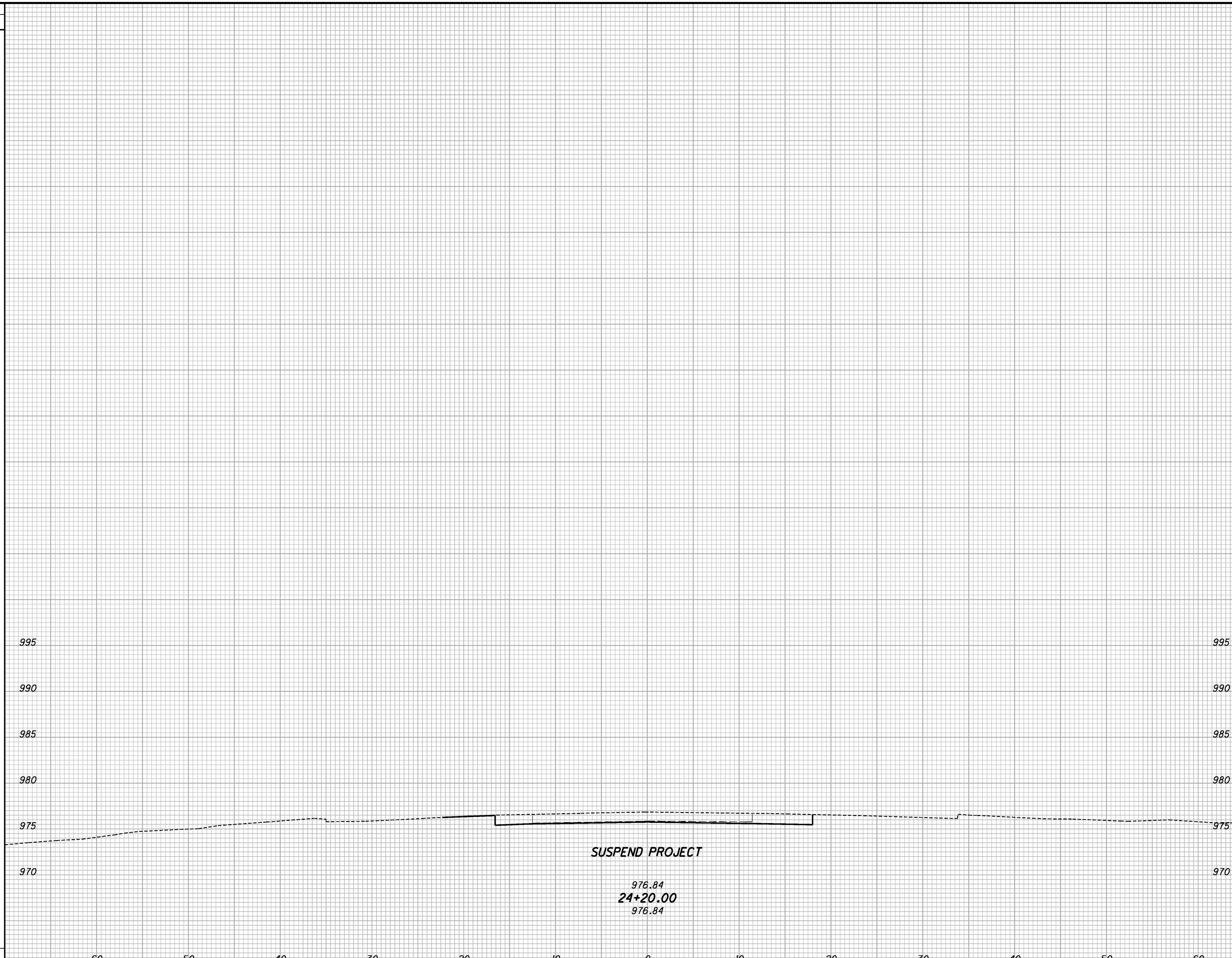
END AREA		VOLUME	
CUT	FILL	CUT	FILL
11	0		
		17	8
8	8		
		12	26
		29	34

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - WILMINGTON RD
STA. 23+50.00 TO STA. 24+00.00

WAR-71-16.81

SEEDING	
END WIDTH	SQ. YDS.
6.33	
	12
	12



END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	0		
		9	0
		9	0

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - WILMINGTON RD
STA. 24+20.00

WAR-71-16.81

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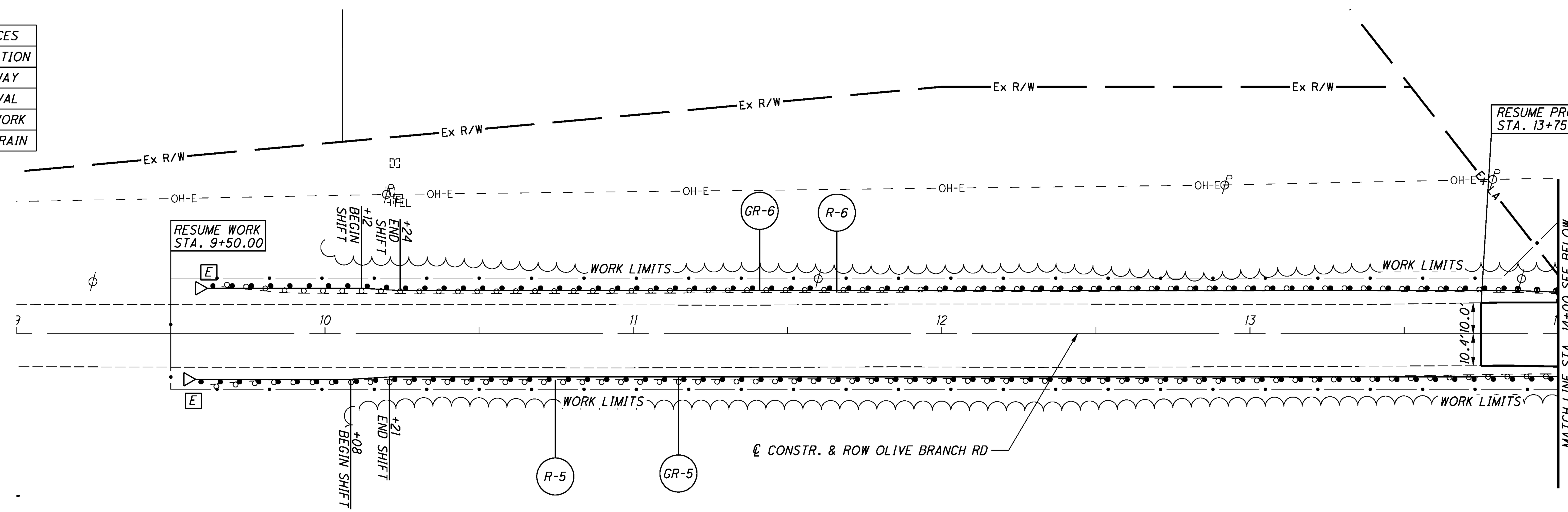
CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



NOTES:

1. TRANSITION GUARDRAIL HEIGHT FROM BRIDGE TERMINAL ASSEMBLY TO STANDARD MGS HEIGHT OVER 25' PER SCD MGS-4.3

LEGEND

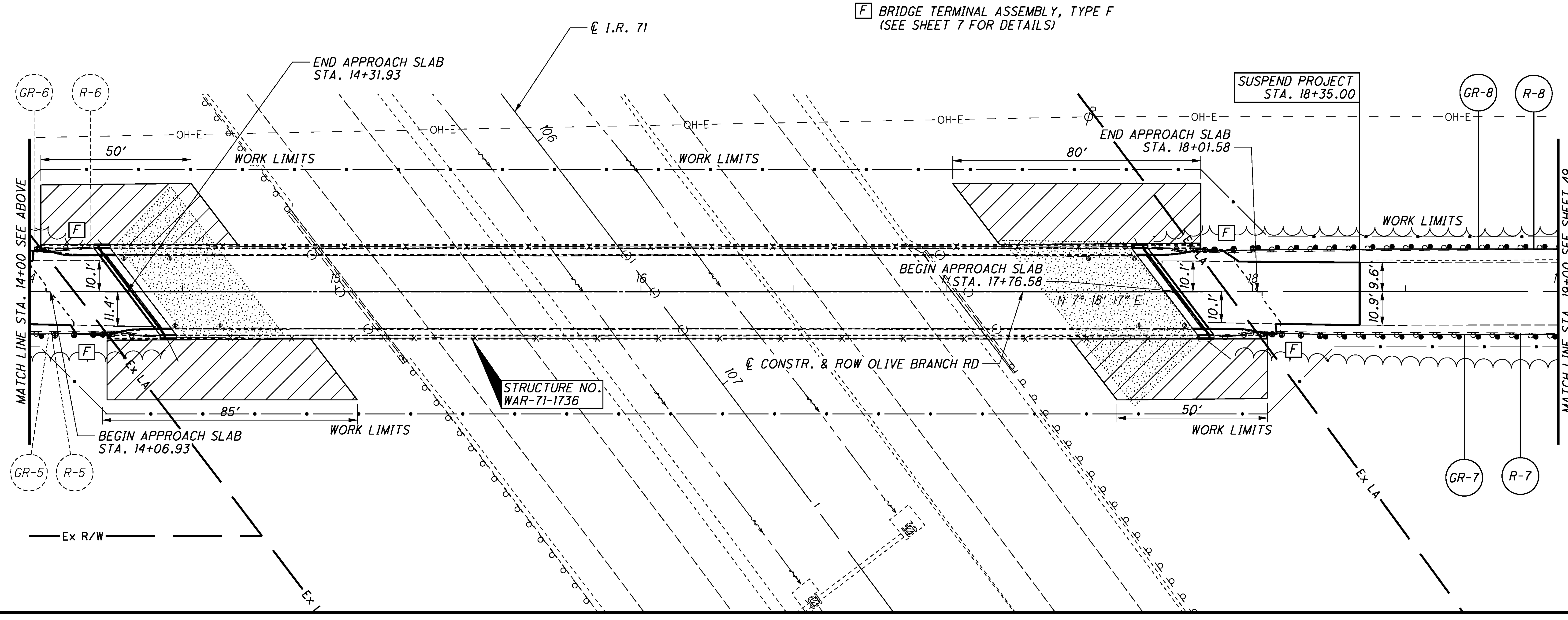
E ANCHOR ASSEMBLY, MGS TYPE E

B ANCHOR ASSEMBLY, MGS TYPE B

I MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1

F BRIDGE TERMINAL ASSEMBLY, TYPE F (SEE SHEET 7 FOR DETAILS)

CLEAR ALL VEGETATION WITHIN 20' OF THE STRUCTURE - PAYMENT INCLUDED UNDER ITEM-201, CLEARING AND GRUBBING, LS

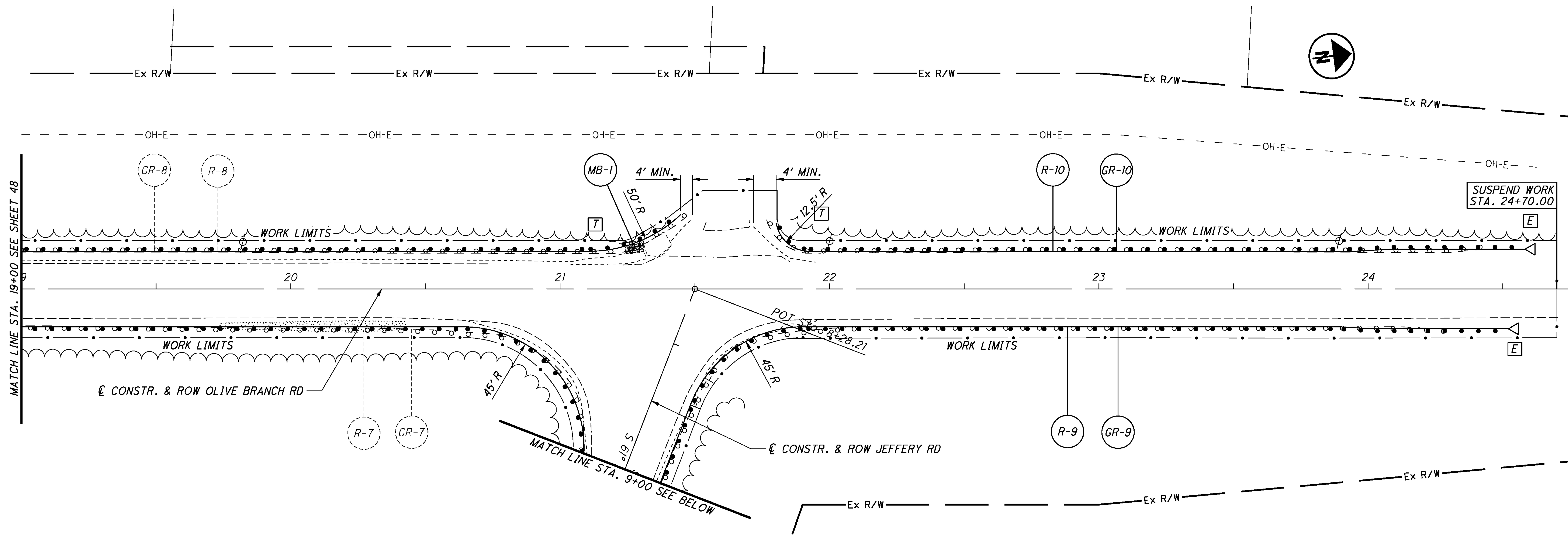


HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JTW
CHECKED MJC

PLAN - OLIVE BRANCH ROAD
STA. 9+00 TO STA. 19+00

WAR-71-16.81



LEGEND

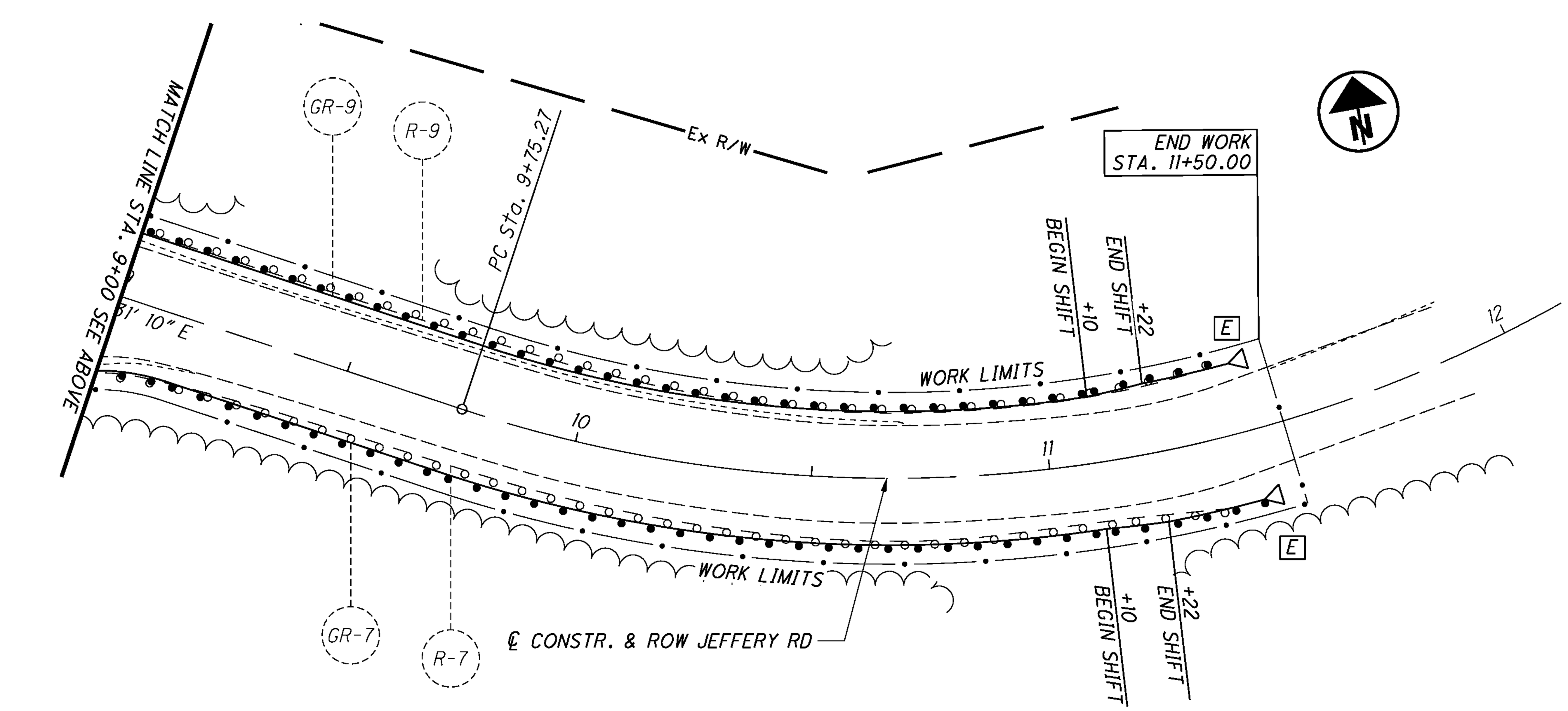
E ANCHOR ASSEMBLY, MGS TYPE E

T ANCHOR ASSEMBLY, MGS TYPE T

1 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1

CLEAR ALL VEGETATION WITHIN 20' OF THE STRUCTURE - PAYMENT INCLUDED UNDER ITEM-201, CLEARING AND GRUBBING, LS

CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



P.I. Sta. 11+25.90
Δ = 55° 28' 19" (LT)
Dc = 20° 00' 00"
R = 286.48'
T = 150.63'
L = 277.36'
E = 37.19'
C = 266.65'
C.B. = S 89° 15' 19" E

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW
CHECKED MJC

PLAN - OLIVE BRANCH ROAD
STA. 19+00 TO 24+70

WAR-71-16.81

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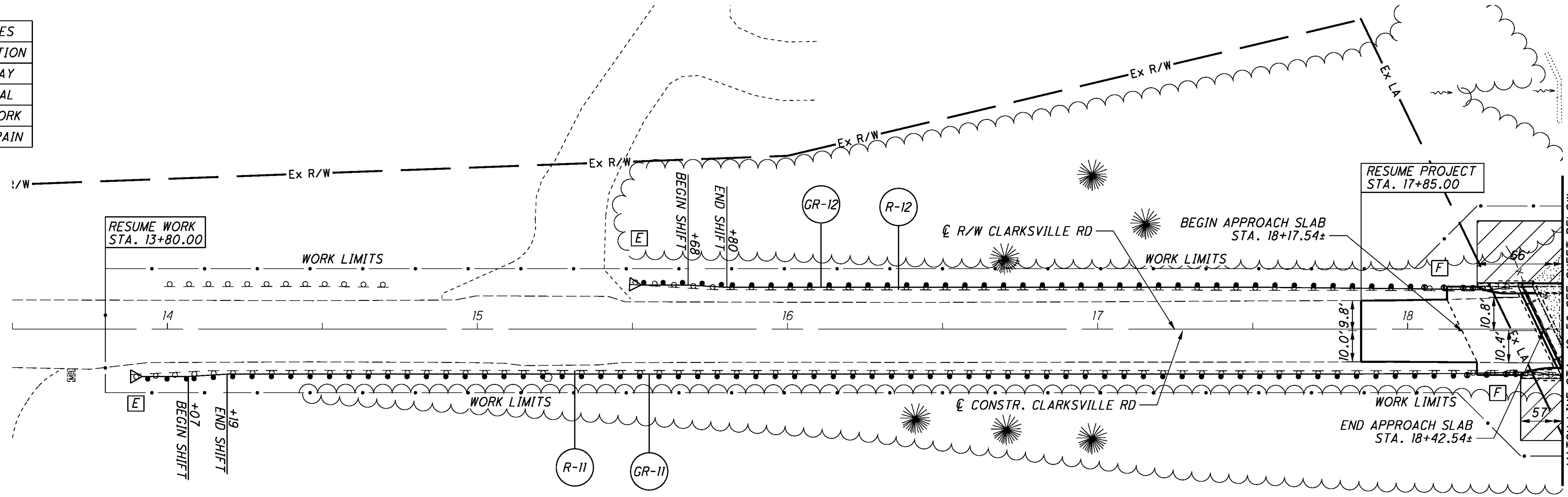
CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



NOTES:

1. TRANSITION GUARDRAIL HEIGHT FROM BRIDGE TERMINAL ASSEMBLY TO STANDARD MGS HEIGHT OVER 25' PER SCD MGS-4.3

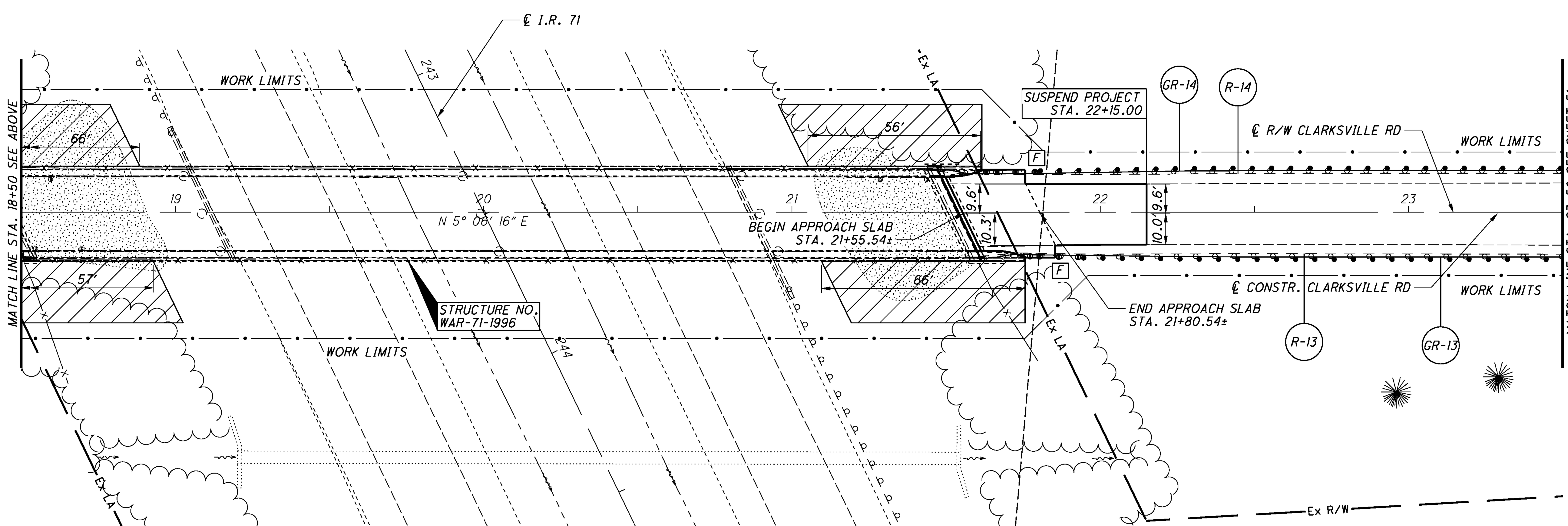
LEGEND

E ANCHOR ASSEMBLY, MGS TYPE E

1 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1

F BRIDGE TERMINAL ASSEMBLY, TYPE F (SEE SHEET 7 FOR DETAILS)

CLEAR ALL VEGETATION WITHIN 20' OF THE STRUCTURE - PAYMENT INCLUDED UNDER ITEM-201, CLEARING AND GRUBBING, LS



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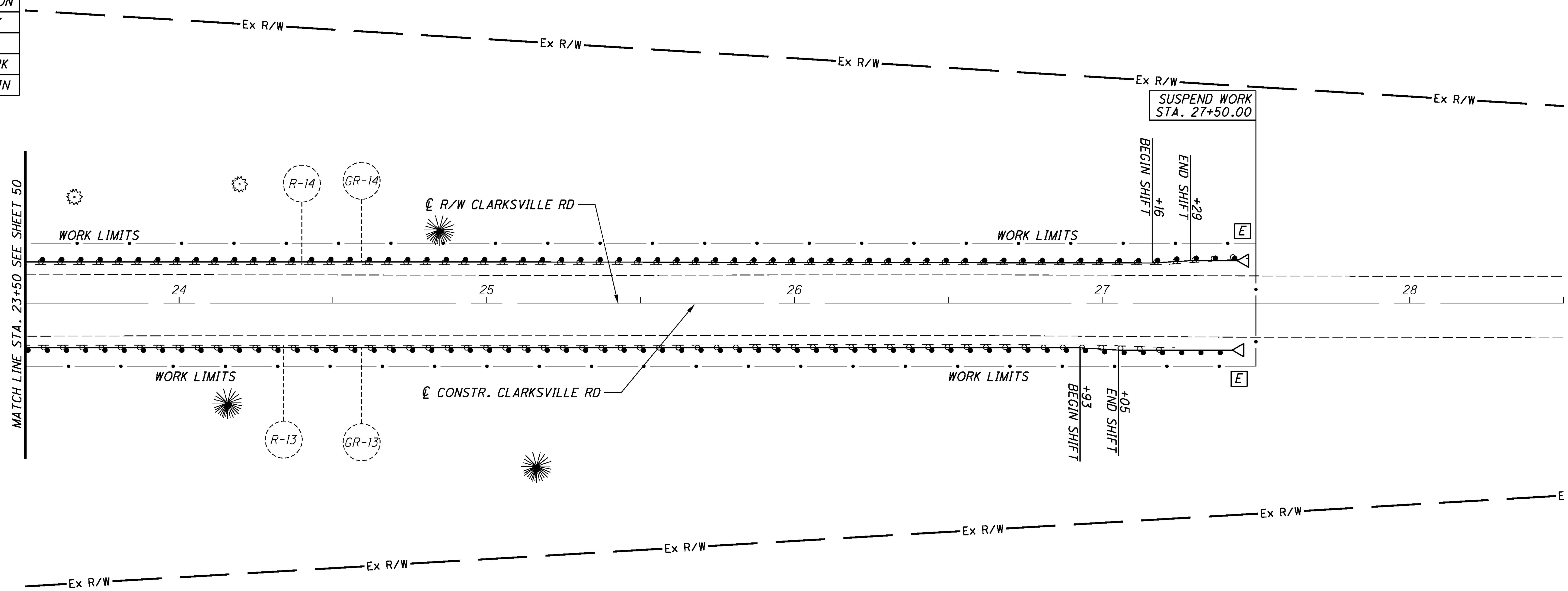
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW CHECKED MJC

PLAN - CLARKSVILLE ROAD
STA. 13+80 TO STA. 23+50

WAR-71-16.81

CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



LEGEND

E ANCHOR ASSEMBLY, MGS TYPE E

I MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1

F BRIDGE TERMINAL ASSEMBLY, TYPE F (SEE SHEET 7 FOR DETAILS)

CLEAR ALL VEGETATION WITHIN 20' OF THE STRUCTURE - PAYMENT INCLUDED UNDER ITEM-201, CLEARING AND GRUBBING, LS

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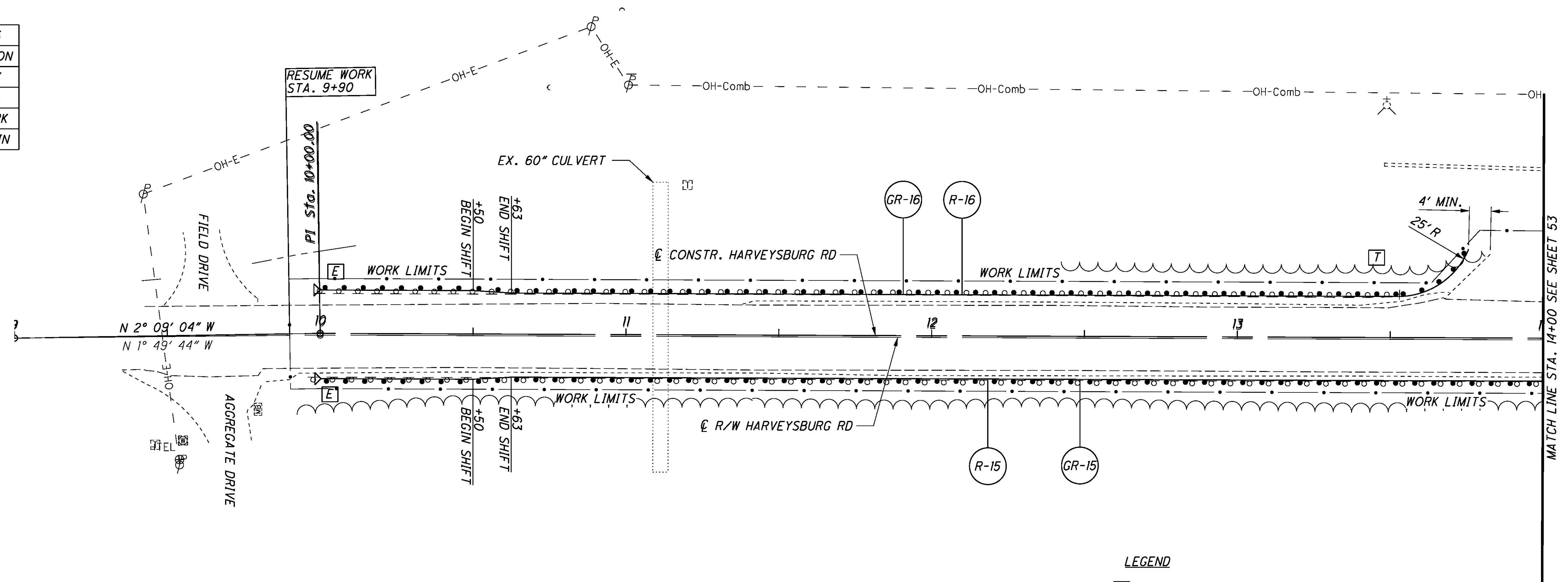
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

PLAN - CLARKSVILLE ROAD
STA. 23+50 TO STA. 28+50

WAR-71-16.81

CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN

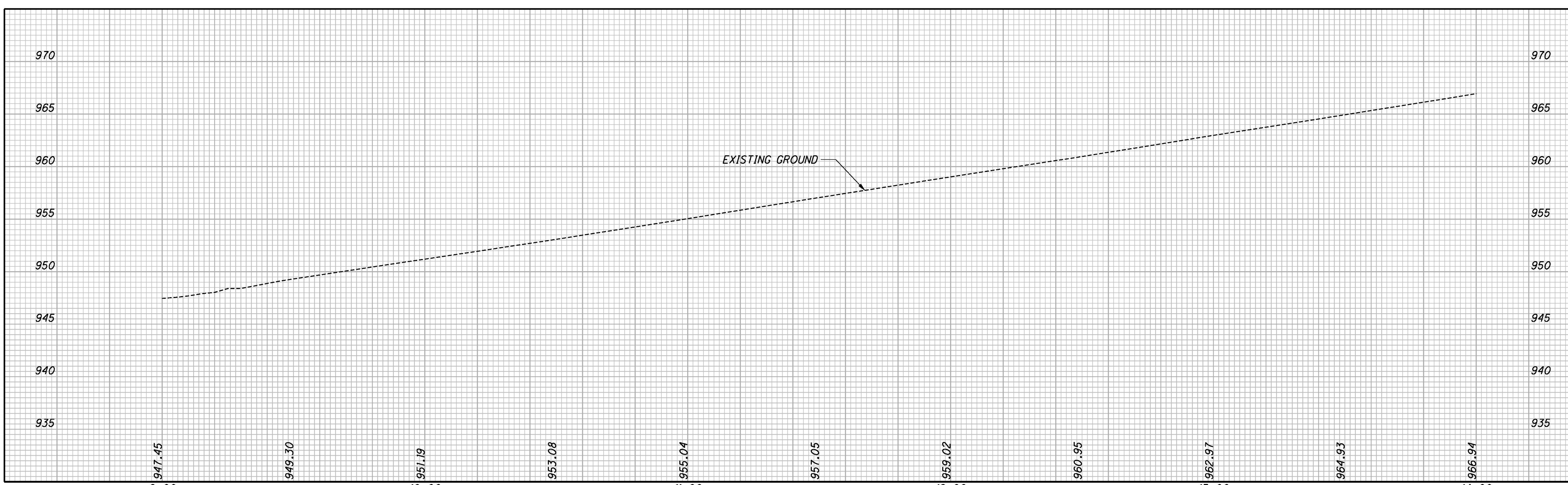


LEGEND

E ANCHOR ASSEMBLY, MGS TYPE E

T ANCHOR ASSEMBLY, MGS TYPE T

I MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1



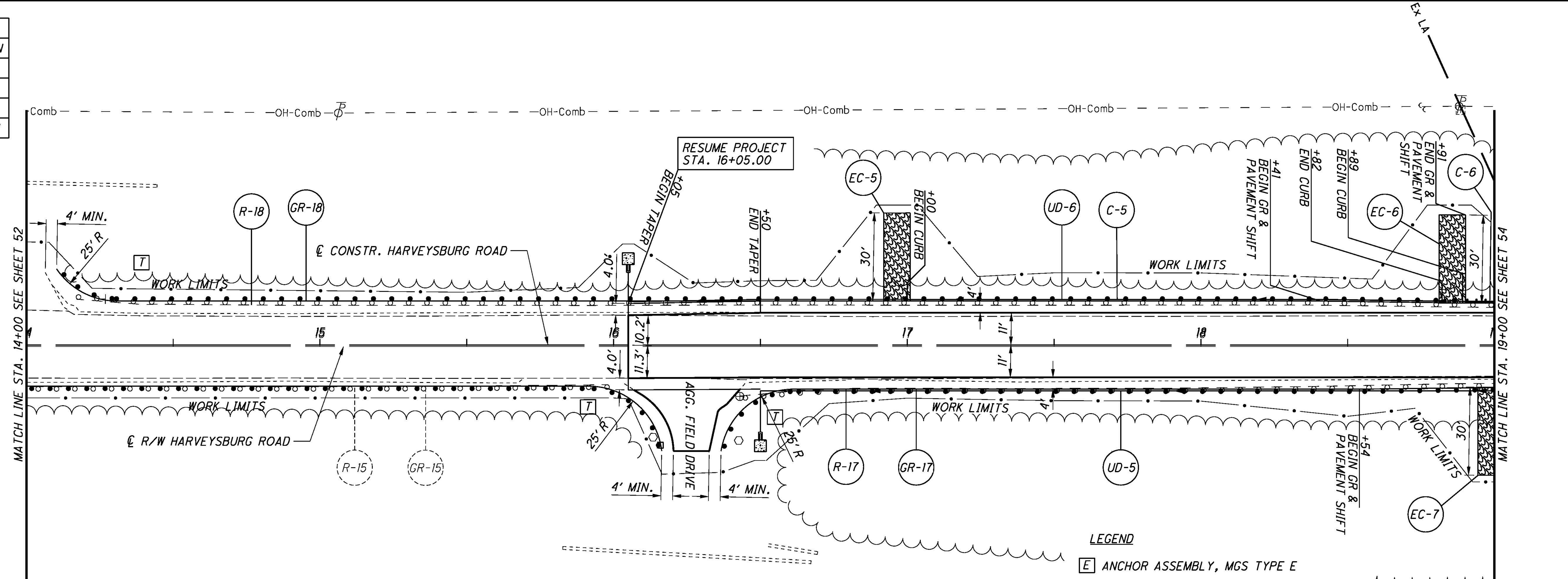
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

PLAN AND PROFILE - HARVEYSBURG ROAD
STA. 9+00 TO STA. 14+00

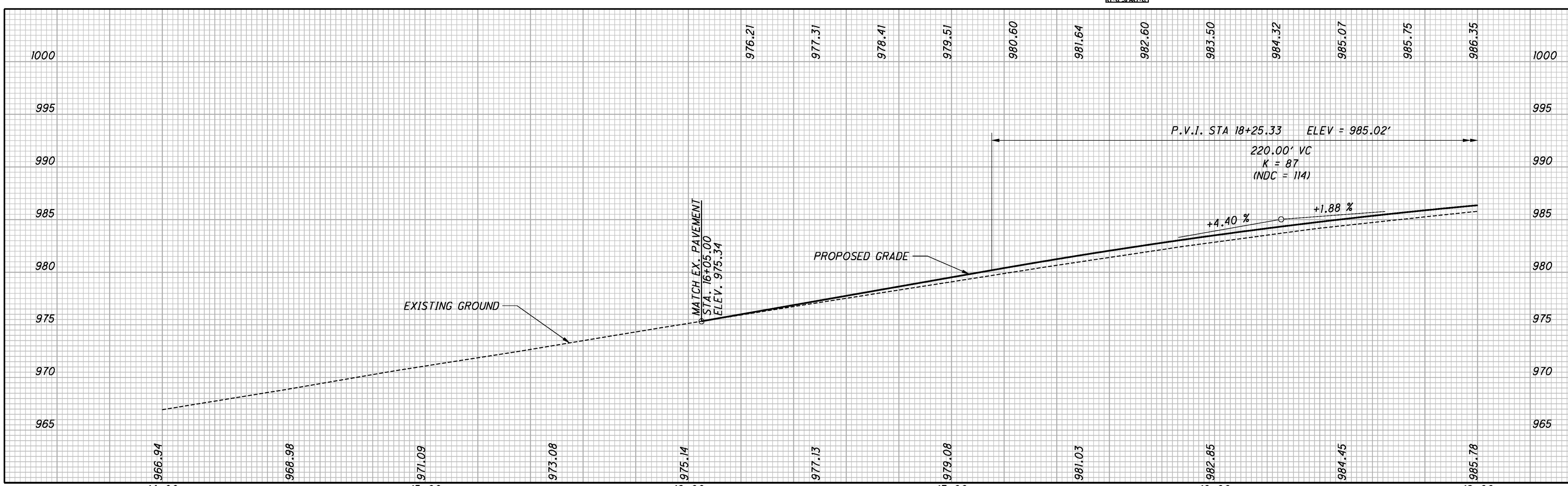
WAR-71-16.81

CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



LEGEND

- E ANCHOR ASSEMBLY, MGS TYPE E
- T ANCHOR ASSEMBLY, MGS TYPE T
- I MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1
- CLEAR ALL VEGETATION WITHIN 20' OF THE STRUCTURE - PAYMENT INCLUDED UNDER ITEM-201, CLEARING AND GRUBBING, LS
- TIED CONCRETE BLOCK MAT EROSION PROTECTION



HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

PLAN AND PROFILE - HARVEYSBURG ROAD
STA. 14+00 TO STA. 19+00

WAR-71-16.81

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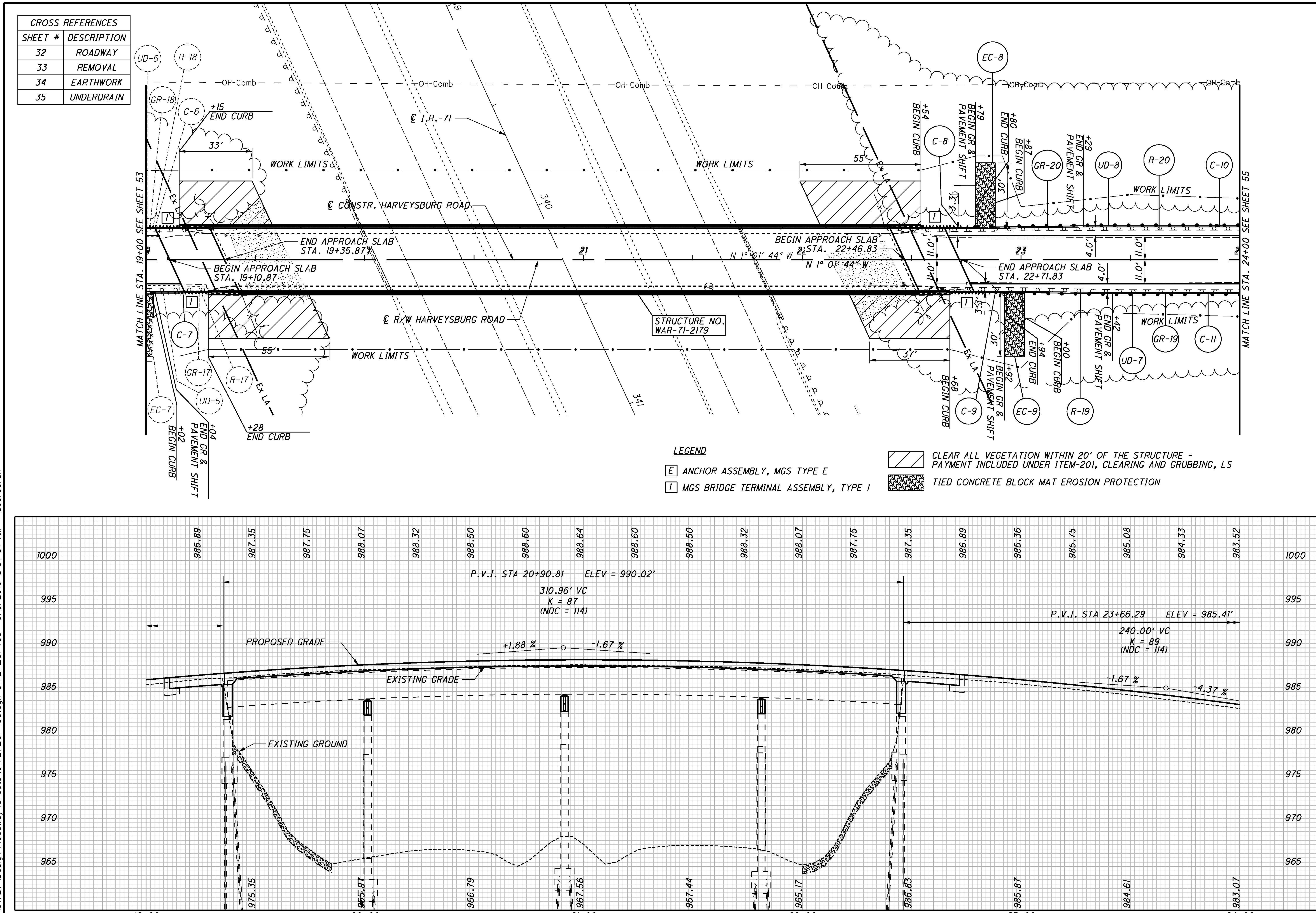
CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN



HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

PLAN AND PROFILE - HARVEYSBURG ROAD
STA. 19+00 TO STA. 24+00

WAR-71-16.81

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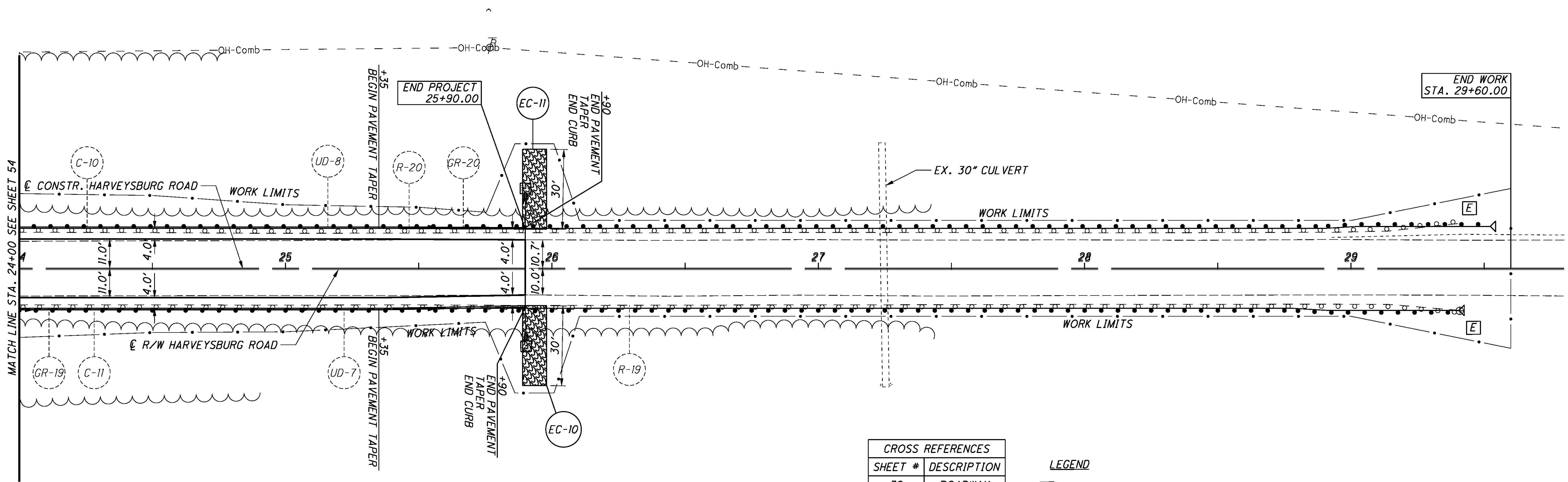
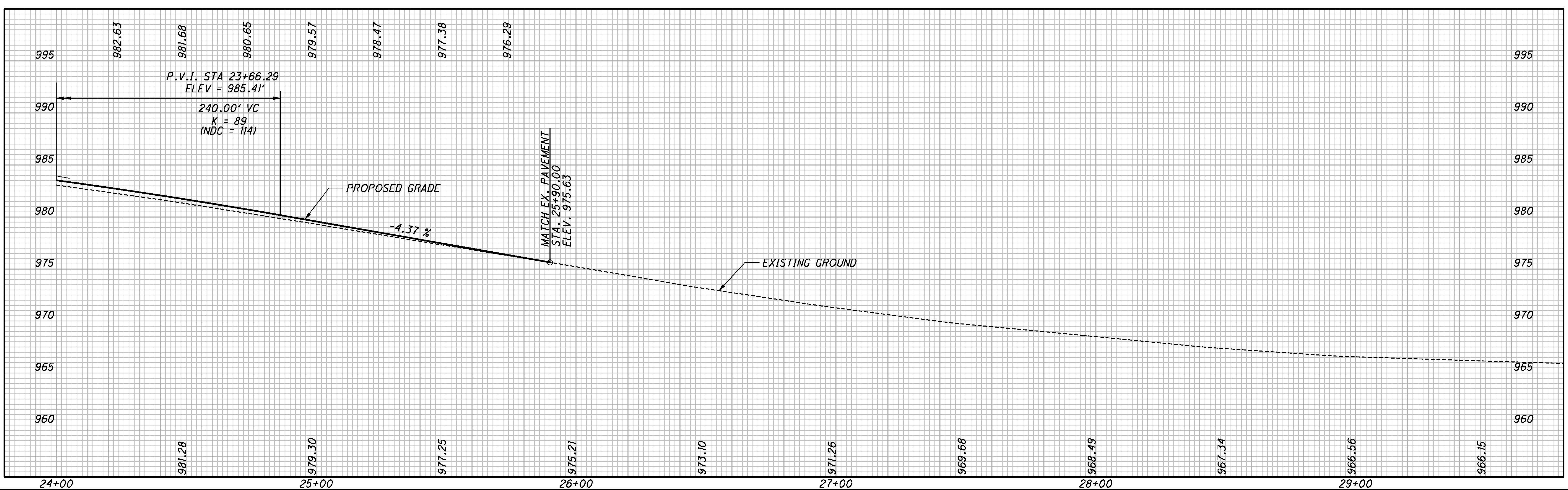


CROSS REFERENCES	
SHEET #	DESCRIPTION
32	ROADWAY
33	REMOVAL
34	EARTHWORK
35	UNDERDRAIN

LEGEND

E ANCHOR ASSEMBLY, MGS TYPE E

I MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1



HORIZONTAL SCALE IN FEET 0 10 20 40

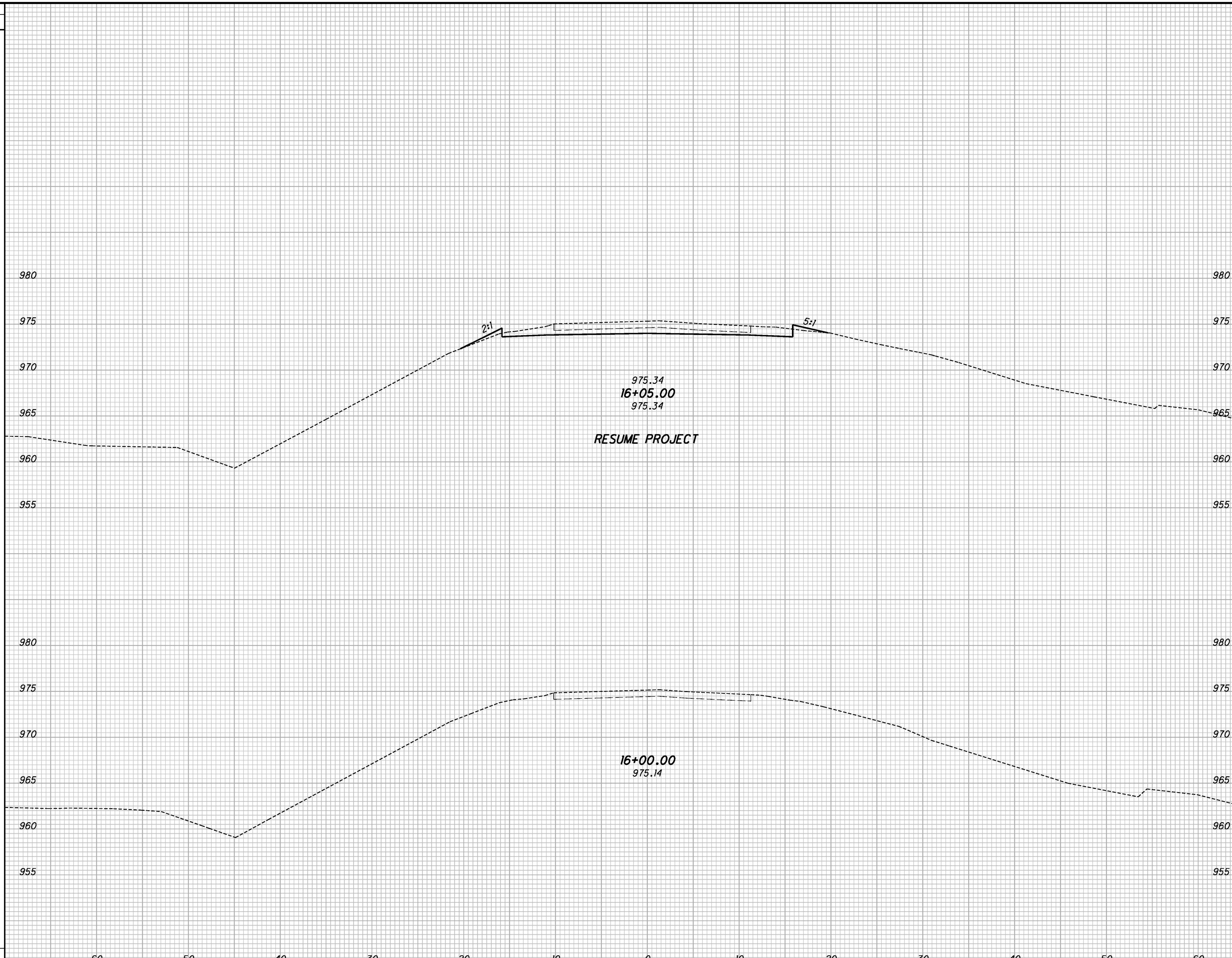
CALCULATED JTW

CHECKED MJC

PLAN AND PROFILE - HARVEYSBURG ROAD STA. 24+00 TO STA. 29+60

WAR-71-16.81

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		19	2		
				0	0
				0	0

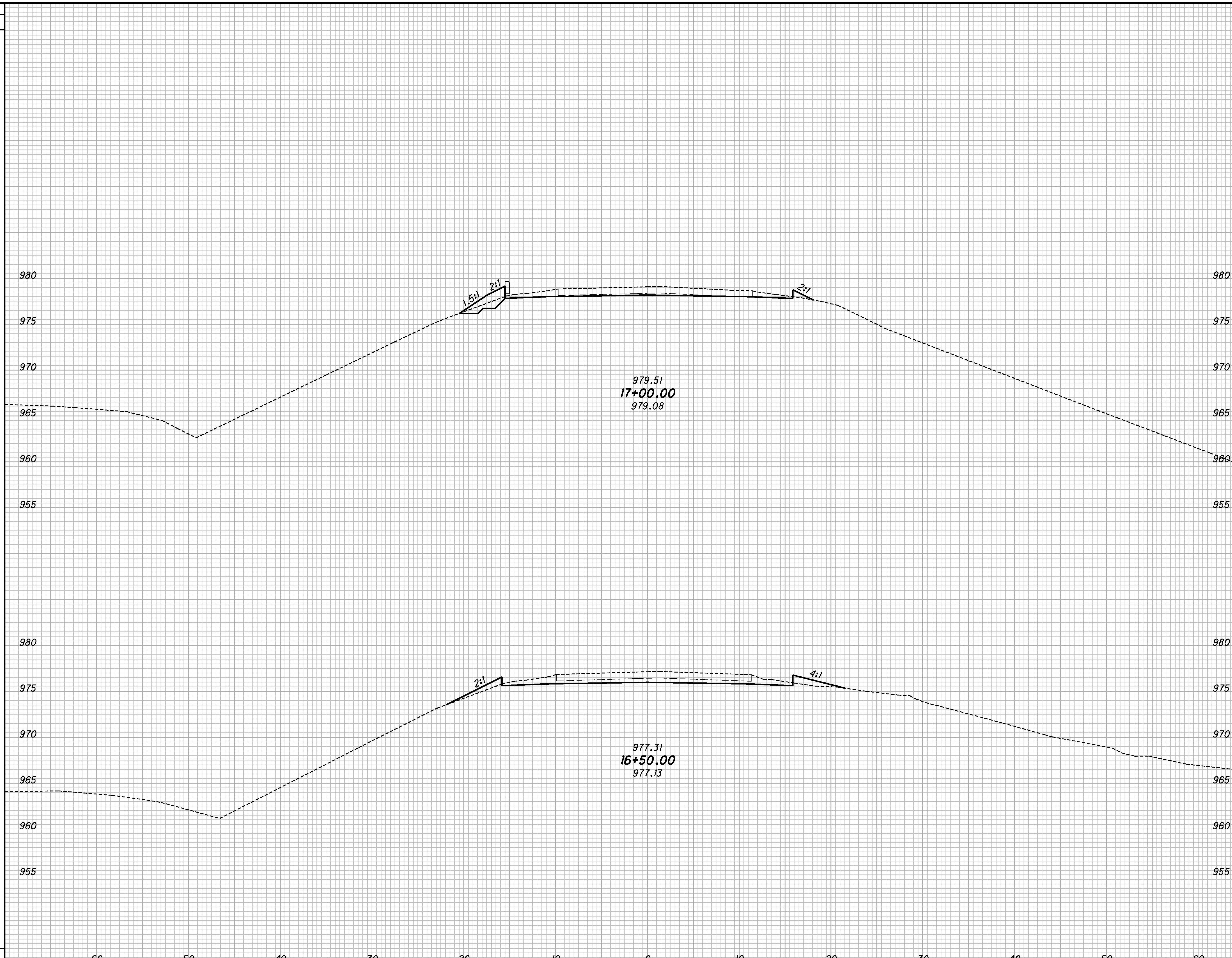


CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 16+00.00 TO STA. 16+05.00

WAR-71-16.81

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		10	7		
				22	11
		14	5		
				28	6
				50	17



CALCULATED JTW

CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD

STA. 16+50.00 TO STA. 17+00.00

WAR-71-16.81

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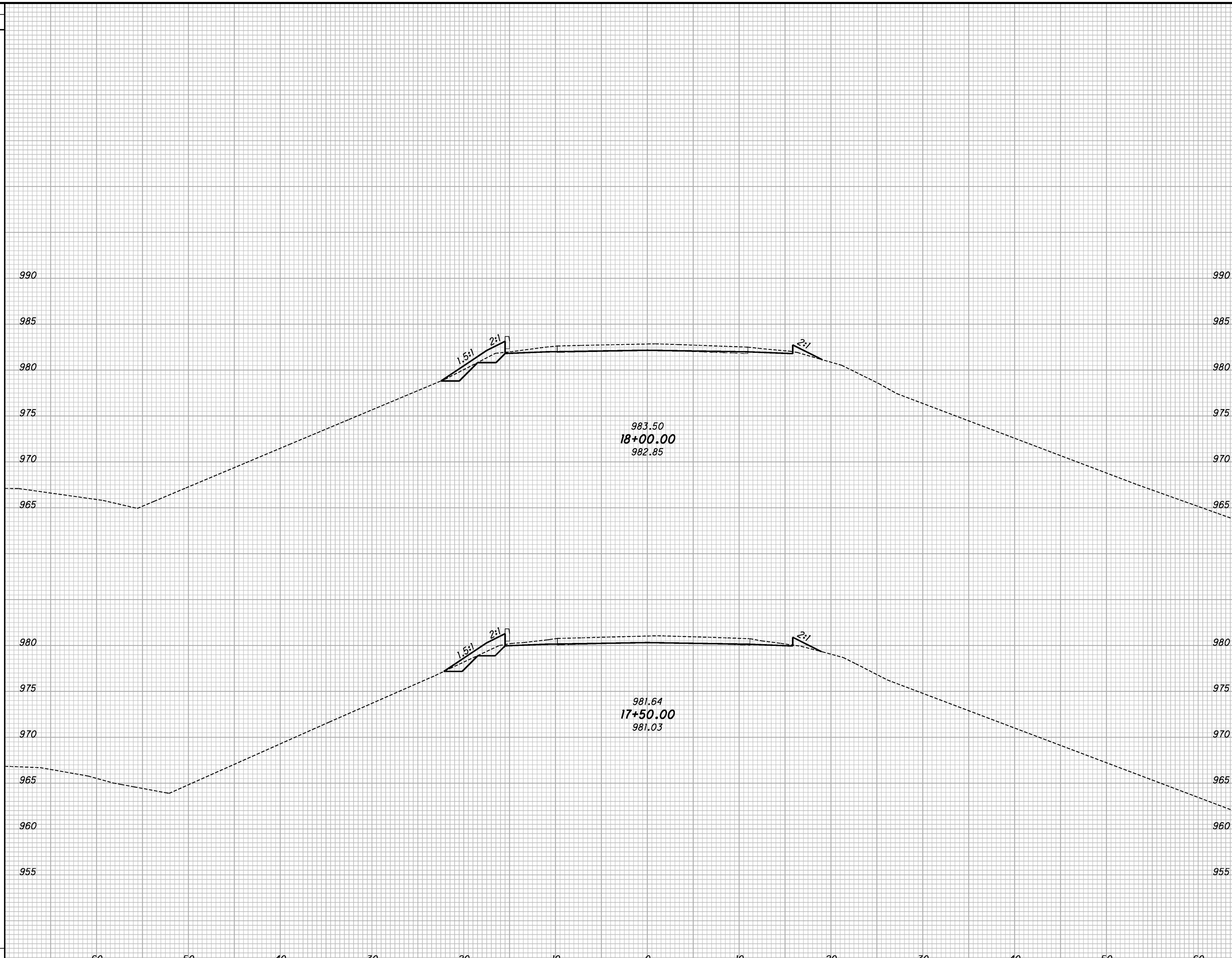
SEEDING	
END WIDTH	SQ. YDS.

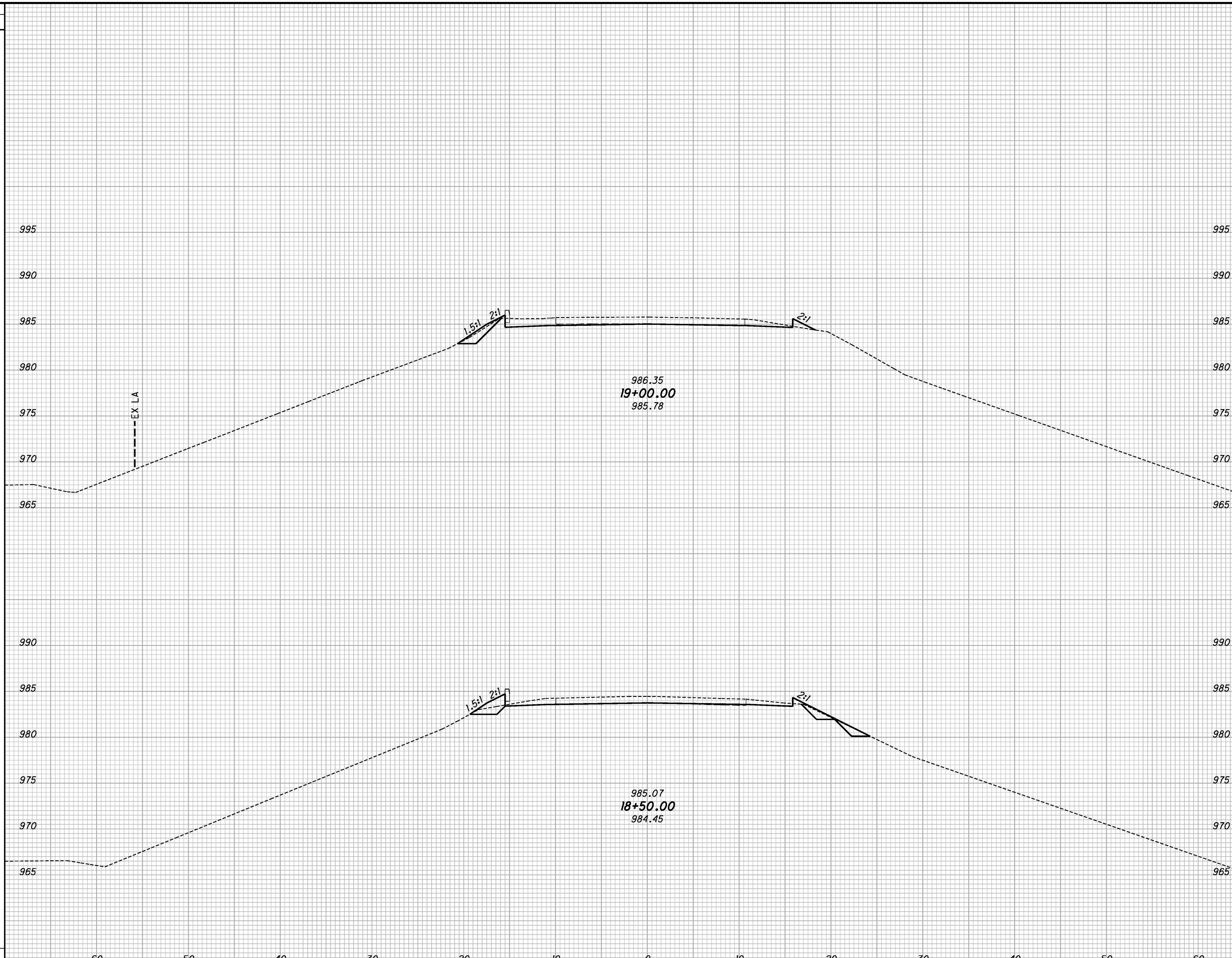


END AREA		VOLUME	
CUT	FILL	CUT	FILL
8	9		
		14	17
7	9		
		16	15
		30	32

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 17+50.00 TO STA. 18+00.00

WAR-71-16.81



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		12	5		
				21	13
		11	9		
				18	17
				39	30

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 18+50.00 TO STA. 19+00.00

WAR-71-16.81

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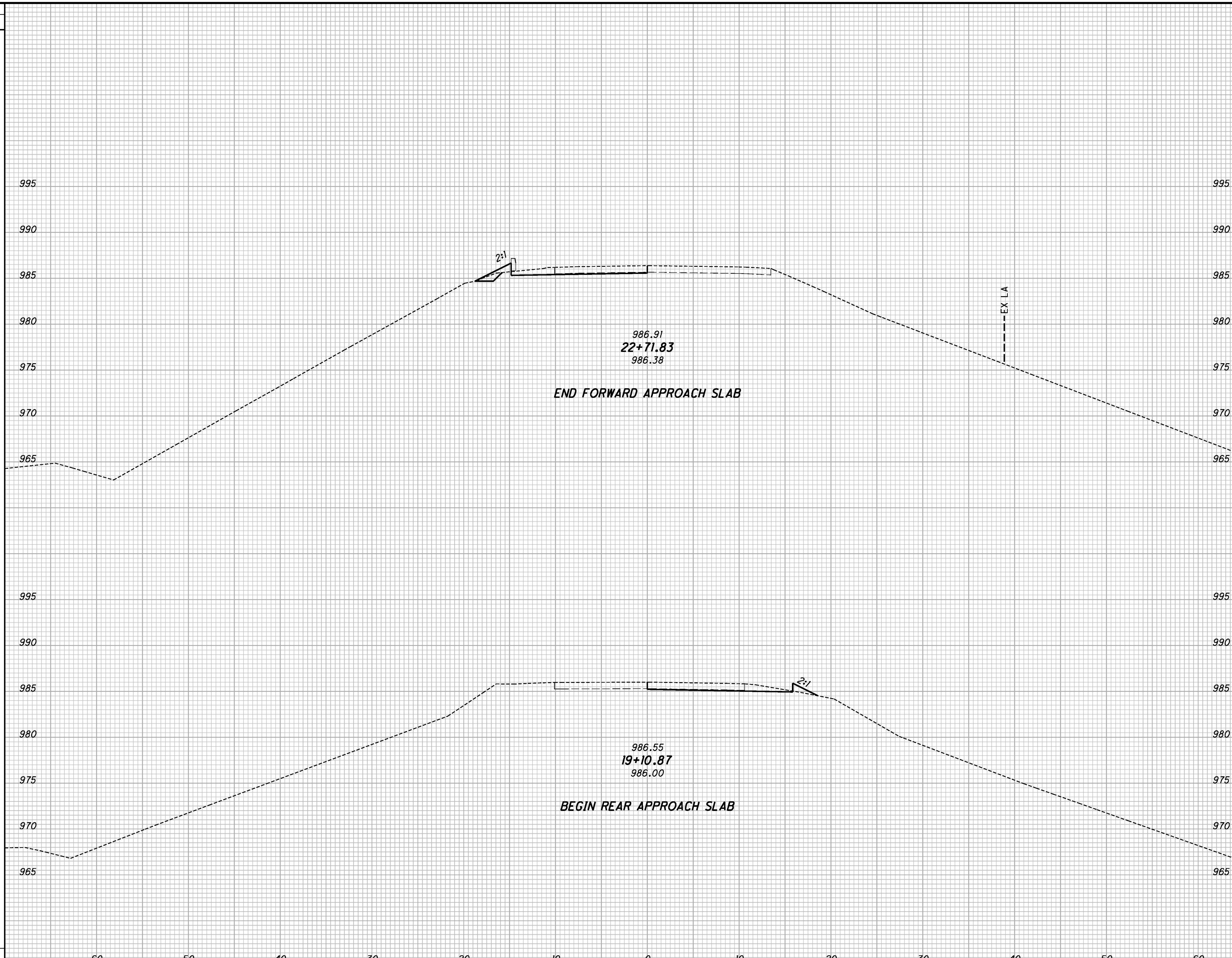
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		5	3		
				0	0
		3	1		
				2	1
				2	1



CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 19+10.87 TO STA. 22+71.83

WAR-71-16.81

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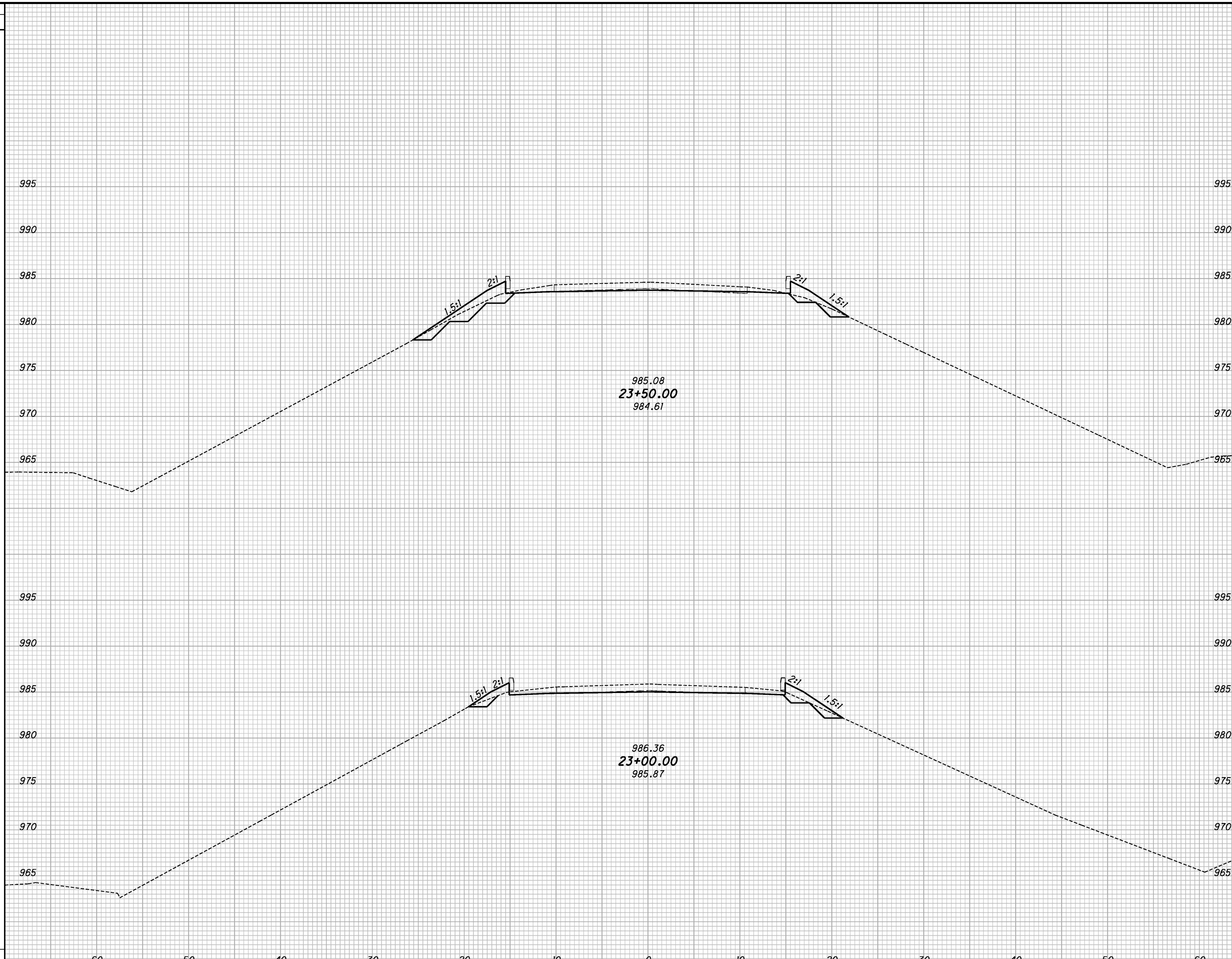
SEEDING	
END WIDTH	SQ. YDS.



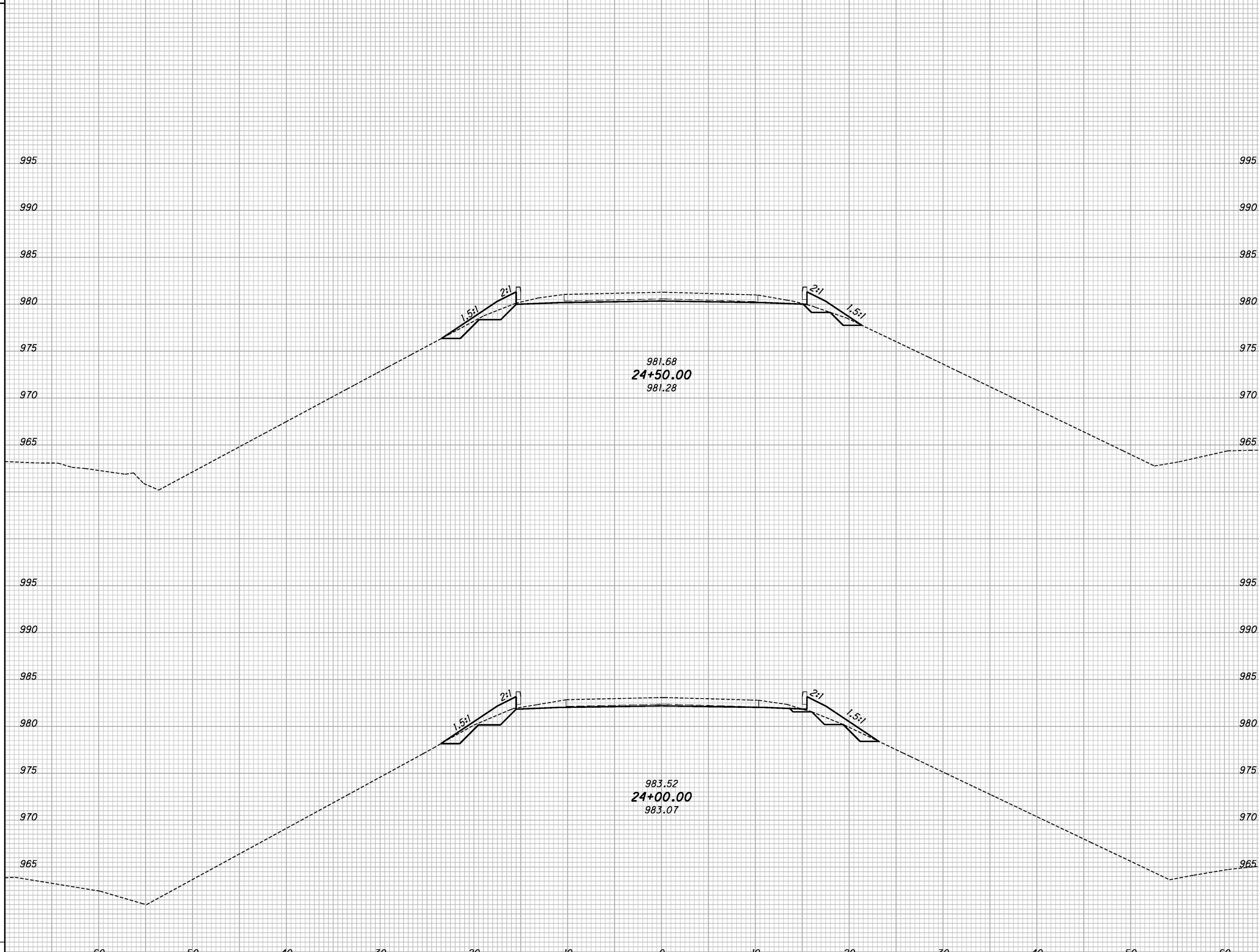
END AREA		VOLUME	
CUT	FILL	CUT	FILL
16	21		
		24	30
10	11		
		7	7
		31	37

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 23+00.00 TO STA. 23+50.00

WAR-71-16.81

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
16	16		
		30	32
16	19		
		30	37
		60	69

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 24+00.00 TO STA. 24+50.00

WAR-71-16.81

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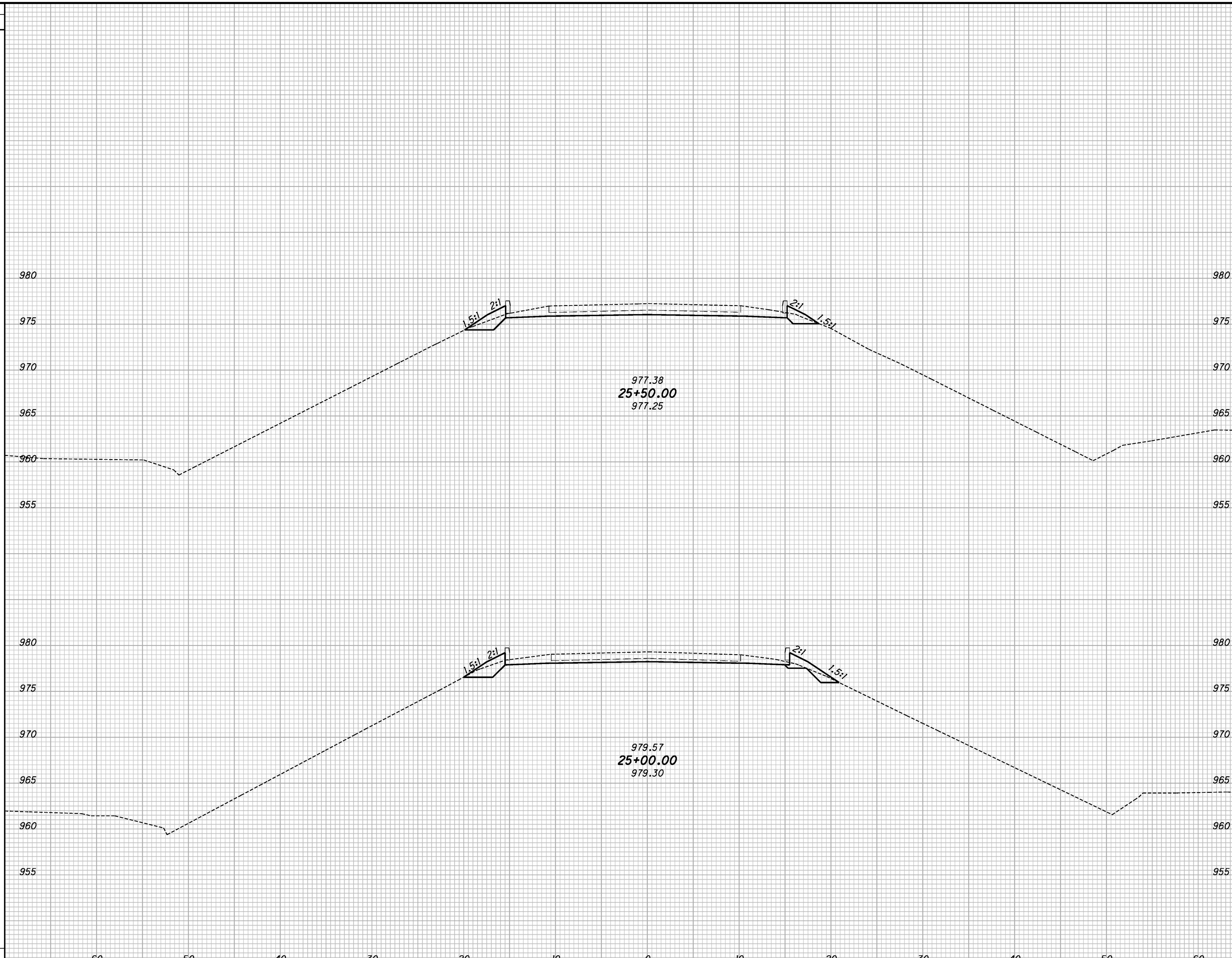
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		22	9		
				38	19
		19	11		
				32	25
				70	44



CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 25+00.00 TO STA. 25+50.00

WAR-71-16.81

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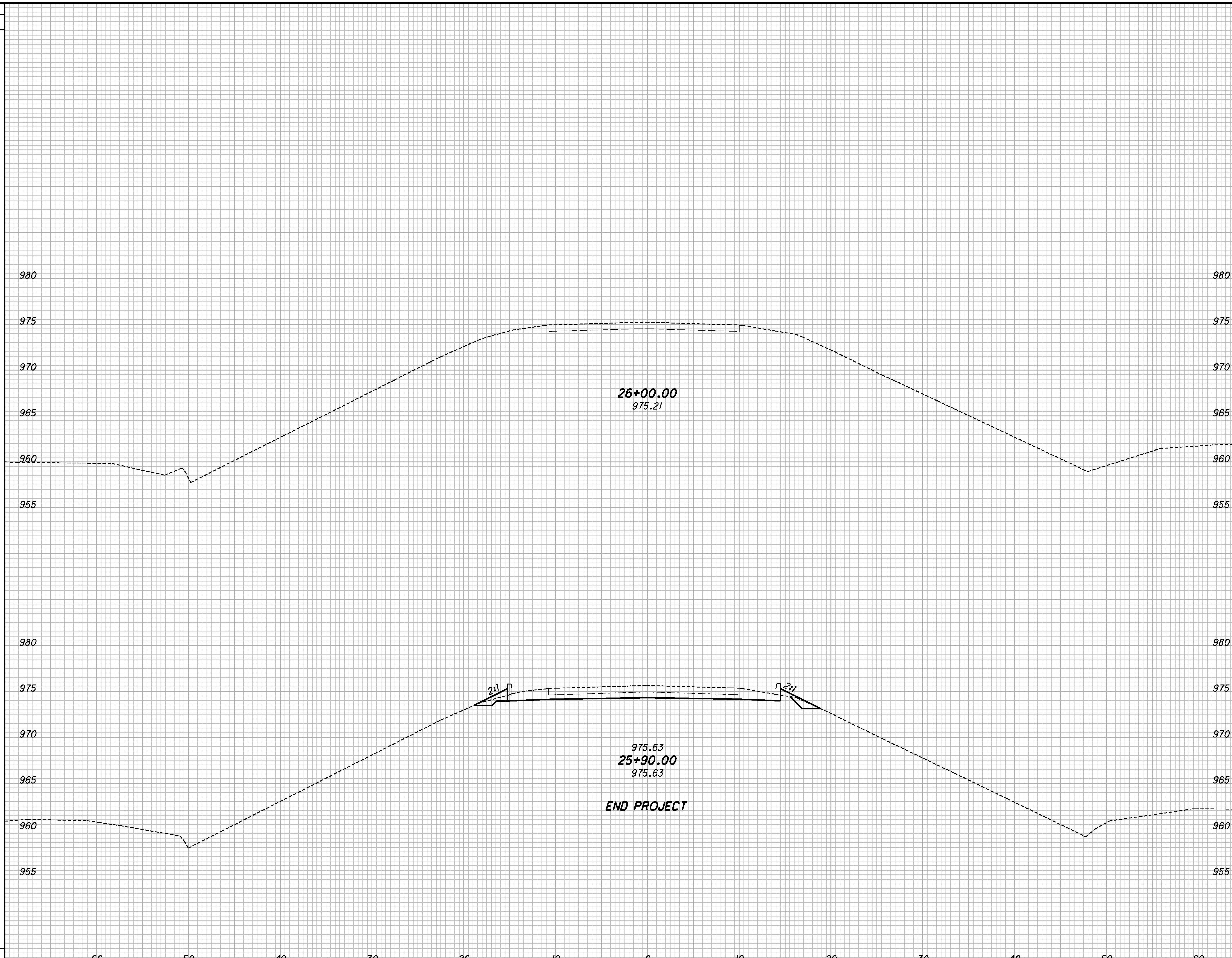
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
23	5		
		33	10
		33	10

CALCULATED JTW
CHECKED MJC

CROSS SECTIONS - HARVEYSBURG ROAD
STA. 25+90.00 TO STA. 26+00.00

WAR-71-16.81

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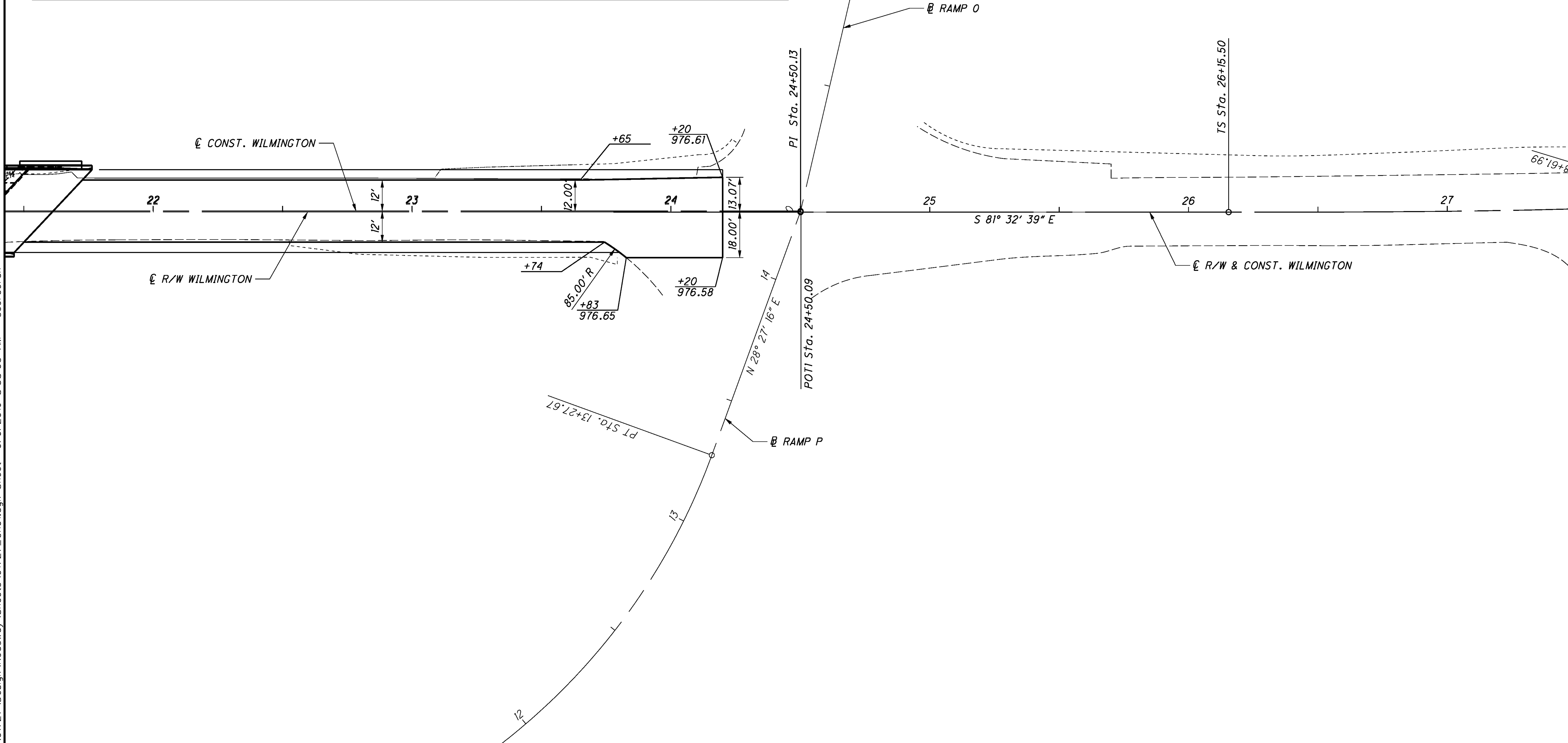
SUPERELEVATION TABLE

P.I. STA. 12+55.82 | Dc = 1°28'00"

OUTSIDE EDGE REMARKS	OUTSIDE EDGE ELEVATION	OUTSIDE EDGE ELEVATION CORRECTION	OUTSIDE EDGE CROSS SLOPE	OUTSIDE EDGE TRANSITION RATE	OUTSIDE EDGE WIDTH	STATION	PROFILE GRADE ELEVATION	STATION	OUTSIDE EDGE WIDTH	OUTSIDE EDGE TRANSITION RATE	OUTSIDE EDGE CROSS SLOPE	OUTSIDE EDGE ELEVATION CORRECTION	OUTSIDE EDGE ELEVATION	REMARKS
MATCH EX.	961.54	0.12	0.010		12	14+75.00	961.42	14+75.00	12		-0.010	-0.12	961.30	MATCH EX.
	962.61	0.12	0.010		12	15+00.00	962.49	15+00.00	12		-0.010	-0.12	962.37	
	963.69	0.12	0.010		12	15+25.00	963.57	15+25.00	12		-0.010	-0.12	963.45	
	964.77	0.12	0.010		12	15+50.00	964.65	15+50.00	12		-0.010	-0.12	964.53	
	965.85	0.12	0.010		12	15+75.00	965.73	15+75.00	12		-0.010	-0.12	965.61	
END F.S.	966.07	0.12	0.010	410	12	15+80.00	965.95	15+80.00	12	638	-0.010	-0.12	965.83	END F.S.
	966.88	0.0712	0.006		12	16+00.00	966.81	16+00.00	12		-0.013	-0.15	966.66	
P.T.	967.24	0.0497	0.004		12	16+08.80	967.19	16+08.80	12		-0.014	-0.17	967.02	P.T.
	967.90	0.0102	0.001		12	16+25.00	967.89	16+25.00	12		-0.016	-0.19	967.70	
	967.94	0.0079	0.001		12	16+25.92	967.93	16+25.92	12		-0.016	-0.19	967.74	N.C.
	968.92	-0.0508	-0.004		12	16+50.00	968.97	16+50.00	12		-0.016	-0.19	968.78	
	972.52	-0.1118	-0.009		12	16+75.00	972.63	16+75.00	12		-0.016	-0.19	972.44	
	970.44	-0.1729	-0.014		12	17+00.00	970.61	17+00.00	12		-0.016	-0.19	970.42	
N.C.	970.63	-0.192	-0.016		12	17+07.84	970.82	17+07.84	12		-0.016	-0.19	970.63	



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW
CHECKED MJC

INTERSECTION DETAILS WILMINGTON ROAD

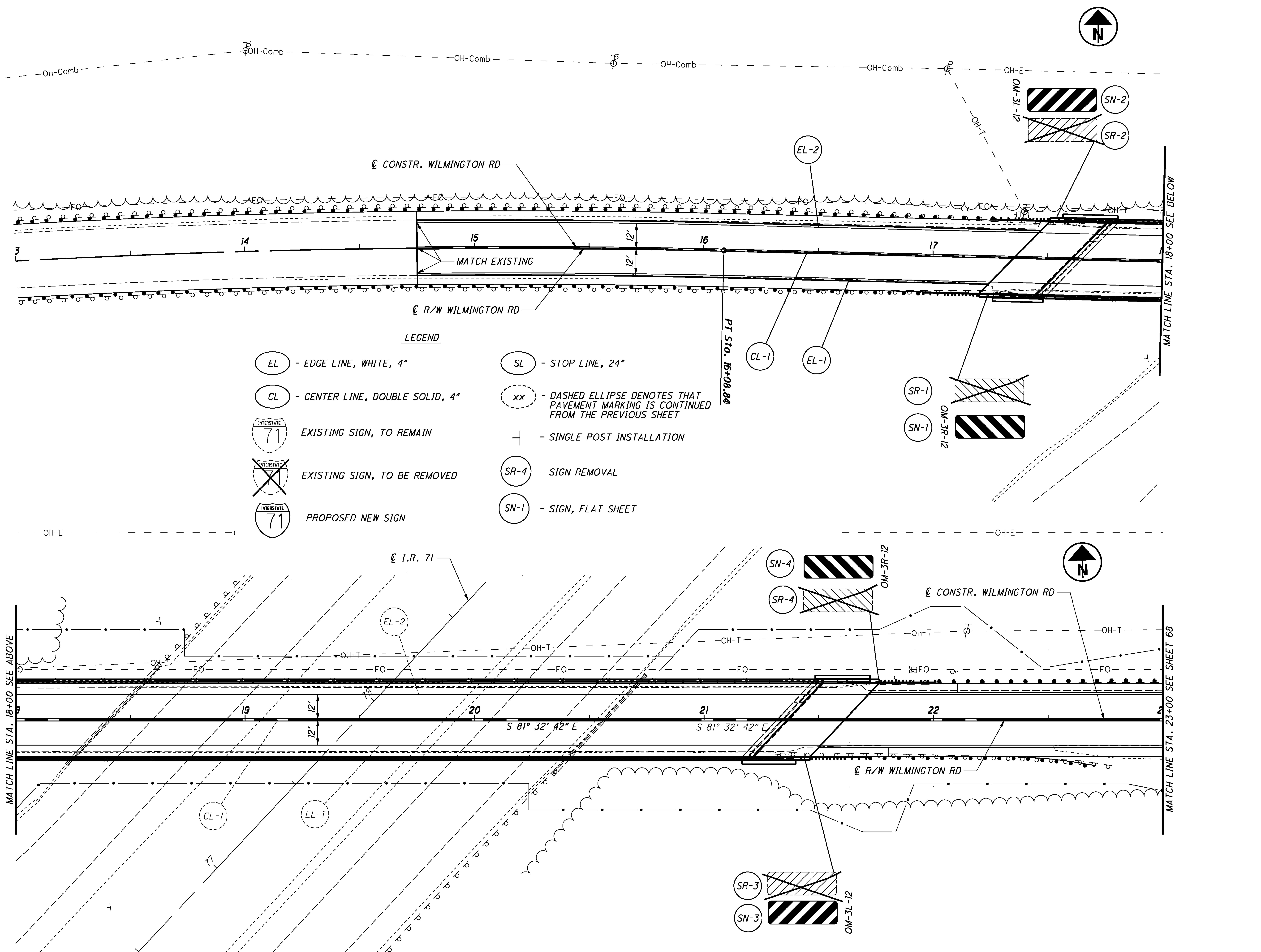
WAR-71-16.81

SHEET NO.	REF. NO.	LOCATION		SIDE	CODE	SIZE (INCHES)	630 SIGN, FLAT SHEET	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED SIGN SUPPORT AND DISPOSAL	646 EDGE LINE, WHITE, 4"	646 CENTERLINE	646 STOP LINE
							SQ FT	FT	EA	EA	MILE	MILE	FT
		WILMINGTON RD.											
67	SR-1 & SN-1	17+23.86		RT	OM-3R-12	36x12	3	13.5	1	1			
67	SR-2 & SN-2	17+53.15		LT	OM-3L-12	36x12	3	13.5	1	1			
67	SR-3 SN-3	21+49.27		RT	OM-3L-12	36x12	3	13.5	1	1			
67	SR-4 & SN-4	21+80.98		LT	OM-3R-12	36x12	3	13.5	1	1			
67-68	EL-1	14+75.00	23+86.00	RT							0.17		
67-68	EL-2	14+75.00	24+20.00	LT							0.18		
67-68	CL-1	14+75.00	23+74.00	CL								0.17	
68	SL-1	23+85.82	24+65.94	SL									80
		OLIVE BRANCH RD.											
69	SN-5	14+01.33		LT	OM-3L-12	36x12	3	13.5					
69	SN-6	14+22.73		RT	OM-3R-12	36x12	3	13.5					
69	SN-7	17+85.90		LT	OM-3R-12	36x12	3	13.5					
69	SN-8	18+07.22		RT	OM-3L-12	36x12	3	13.5					
69	EL-3	13+75.00	18+35.00	RT							0.09		
69	EL-4	13+75.00	18+35.00	LT							0.09		
69	CL-2	13+75.00	18+35.00	CL								0.09	
		CLARKSVILLE RD.											
70	SN-9	18+20.00		LT	OM-3L-12	36x12	3	13.5					
70	SN-10	18+34.59		RT	OM-3R-12	36x12	3	13.5					
70	SN-11	21+63.25		LT	OM-3R-12	36x12	3	13.5					
70	SN-12	21+78.22		RT	OM-3L-12	36x12	3	13.5					
70	EL-5	17+85.00	22+15.00	RT							0.08		
70	EL-6	17+85.00	22+15.00	LT							0.08		
70	CL-3	17+85.00	22+15.00	CL								0.08	
		HARVEYSBURG RD.											
71	SN-13	19+13.10		LT	OM-3L-12	36x12	3	13.5					
71	SN-14	19+25.33		RT	OM-3R-12	36x12	3	13.5					
71	SN-15	22+57.39		LT	OM-3R-12	36x12	3	13.5					
71	SN-16	22+71.10		RT	OM-3L-12	36x12	3	13.5					
71-72	EL-7	16+05.00	25+90.00	RT							0.19		
71-72	EL-8	16+05.00	25+90.00	LT							0.19		
71-72	CL-4	16+05.00	25+90.00	CL								0.19	
TOTALS CARRIED TO GENERAL SUMMARY							48	216	4	4	1.06	0.53	80

TRAFFIC CONTROL SUBSUMMARY

WAR-71-16.81

CALCULATED MLL
CHECKED JTW



HORIZONTAL SCALE IN FEET (0 10 20 40)

CALCULATED JTW
CHECKED MJC

TRAFFIC CONTROL - WILMINGTON RD STA. 13+00 TO STA. 23+00

WAR-71-16.81

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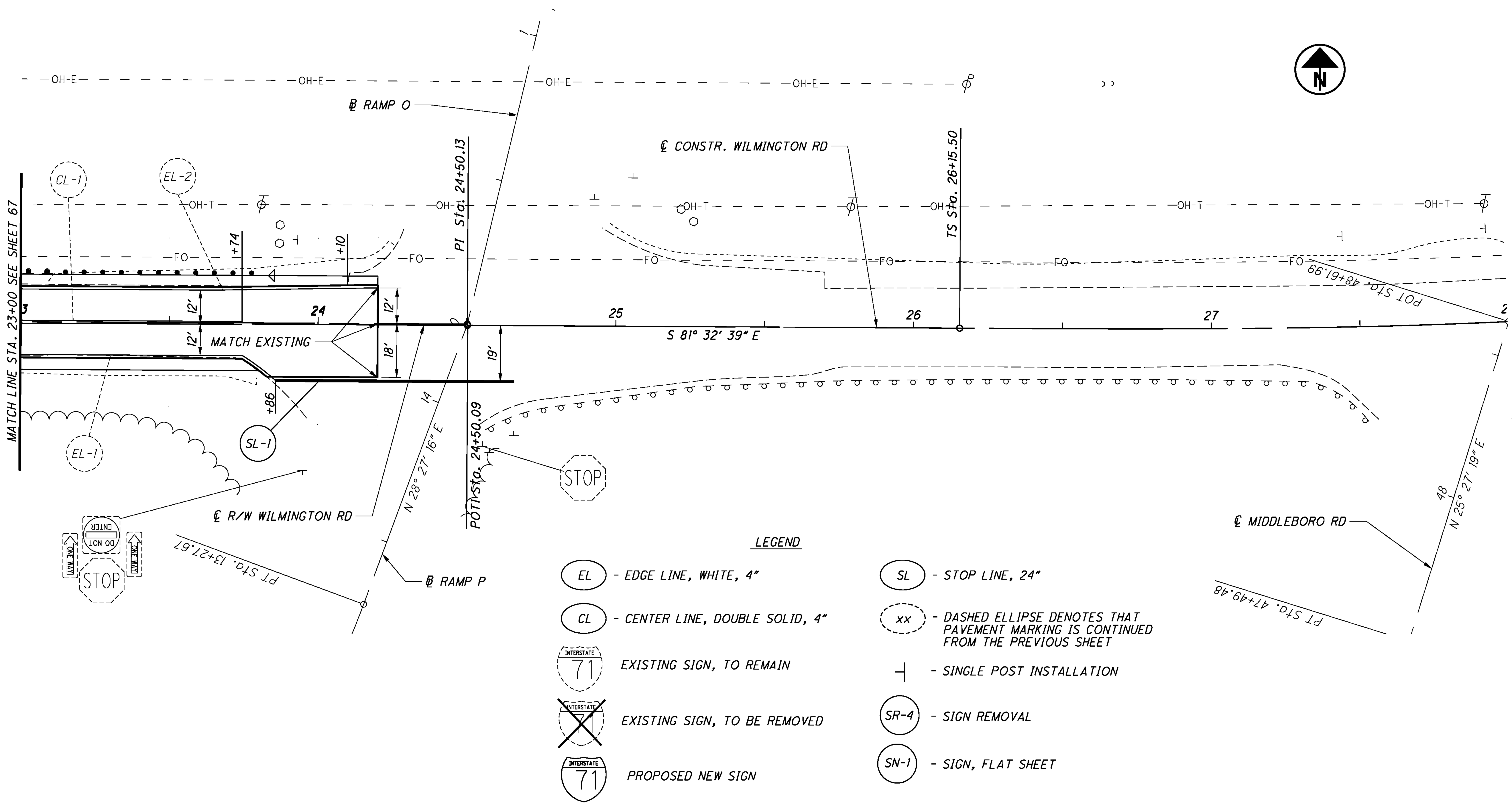

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

TRAFFIC CONTROL - WILMINGTON RD
STA. 23+00 TO STA. 28+00

WAR-71-16.81

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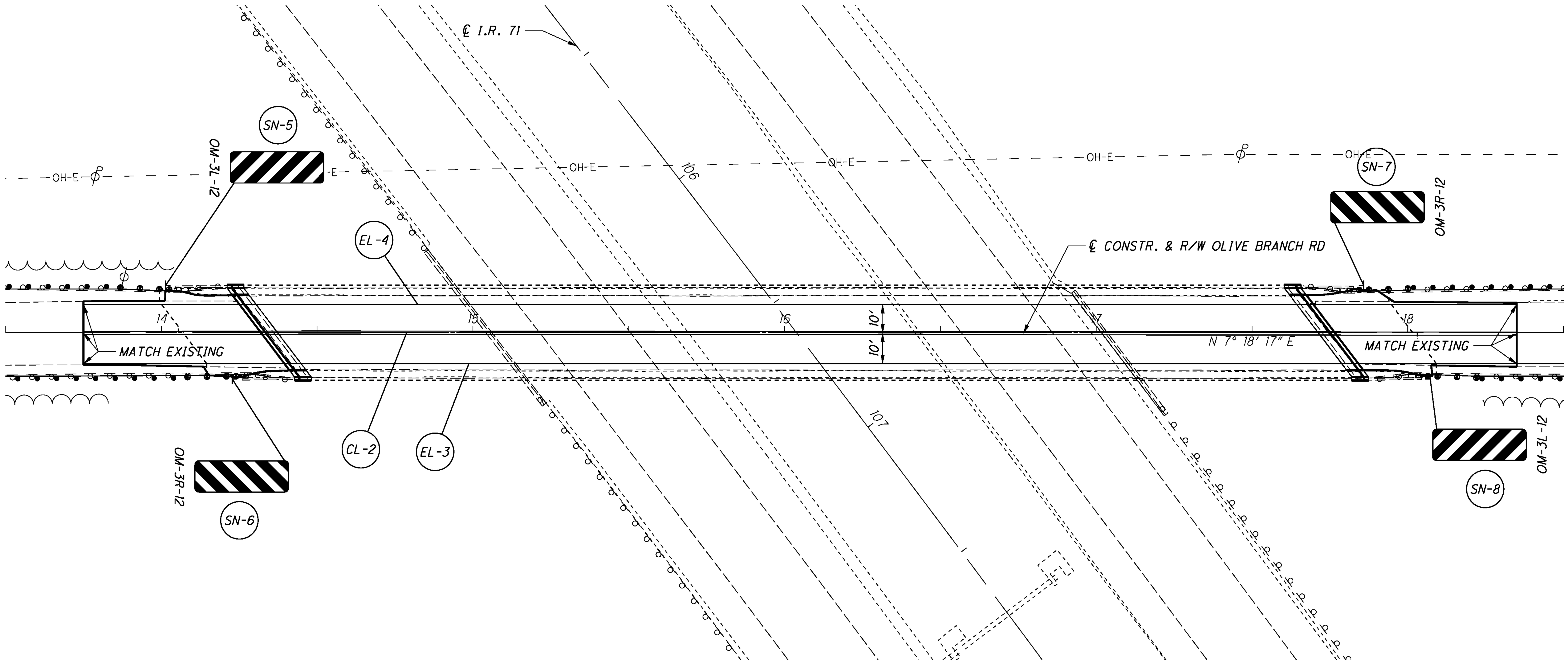


LEGEND

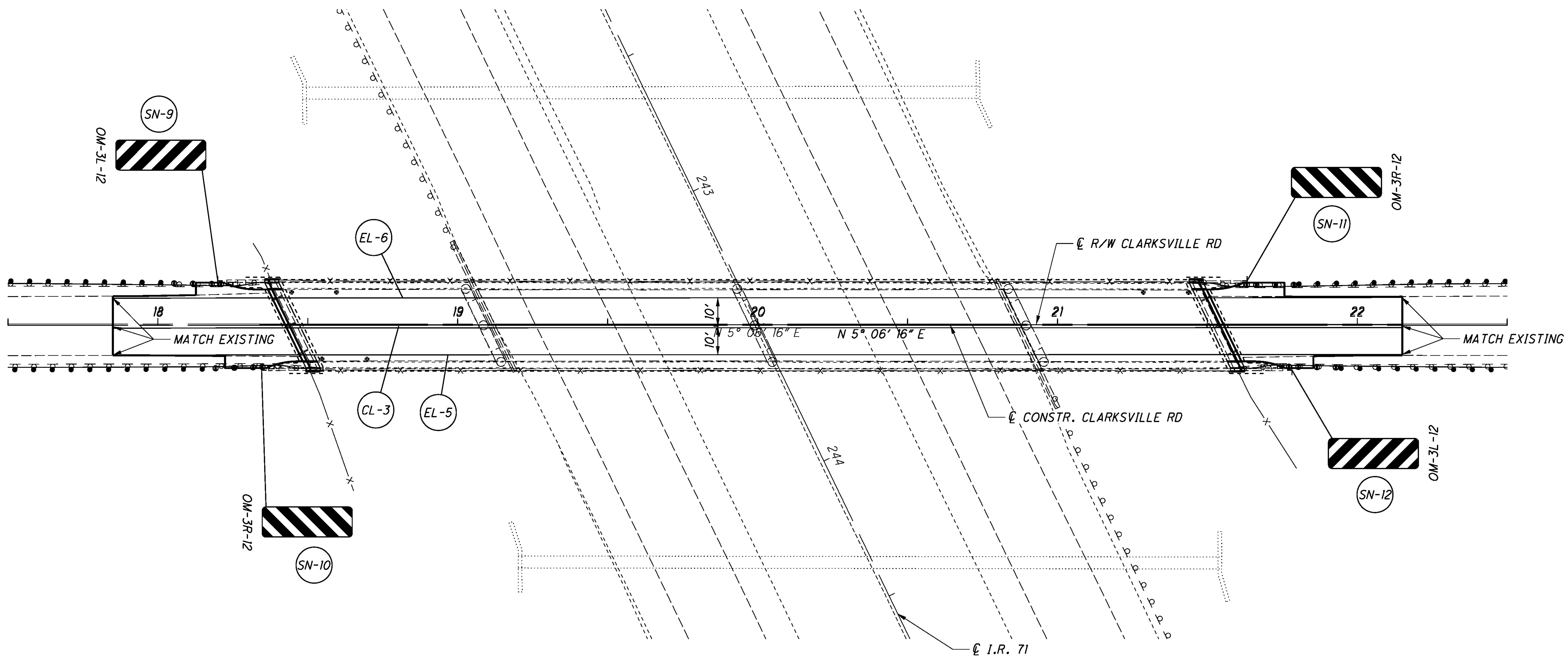
EL	- EDGE LINE, WHITE, 4"
CL	- CENTER LINE, DOUBLE SOLID, 4"
INTERSTATE 71	EXISTING SIGN, TO REMAIN
INTERSTATE	EXISTING SIGN, TO BE REMOVED
INTERSTATE 71	PROPOSED NEW SIGN
SL	- STOP LINE, 24"
xx	- DASHED ELLIPSE DENOTES THAT PAVEMENT MARKING IS CONTINUED FROM THE PREVIOUS SHEET
	- SINGLE POST INSTALLATION
SR-4	- SIGN REMOVAL
SN-1	- SIGN, FLAT SHEET

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW CHECKED MJC

TRAFFIC CONTROL - OLIVE BRANCH RD
STA. 13+50 TO STA. 18+50

WAR-71-16.81



LEGEND

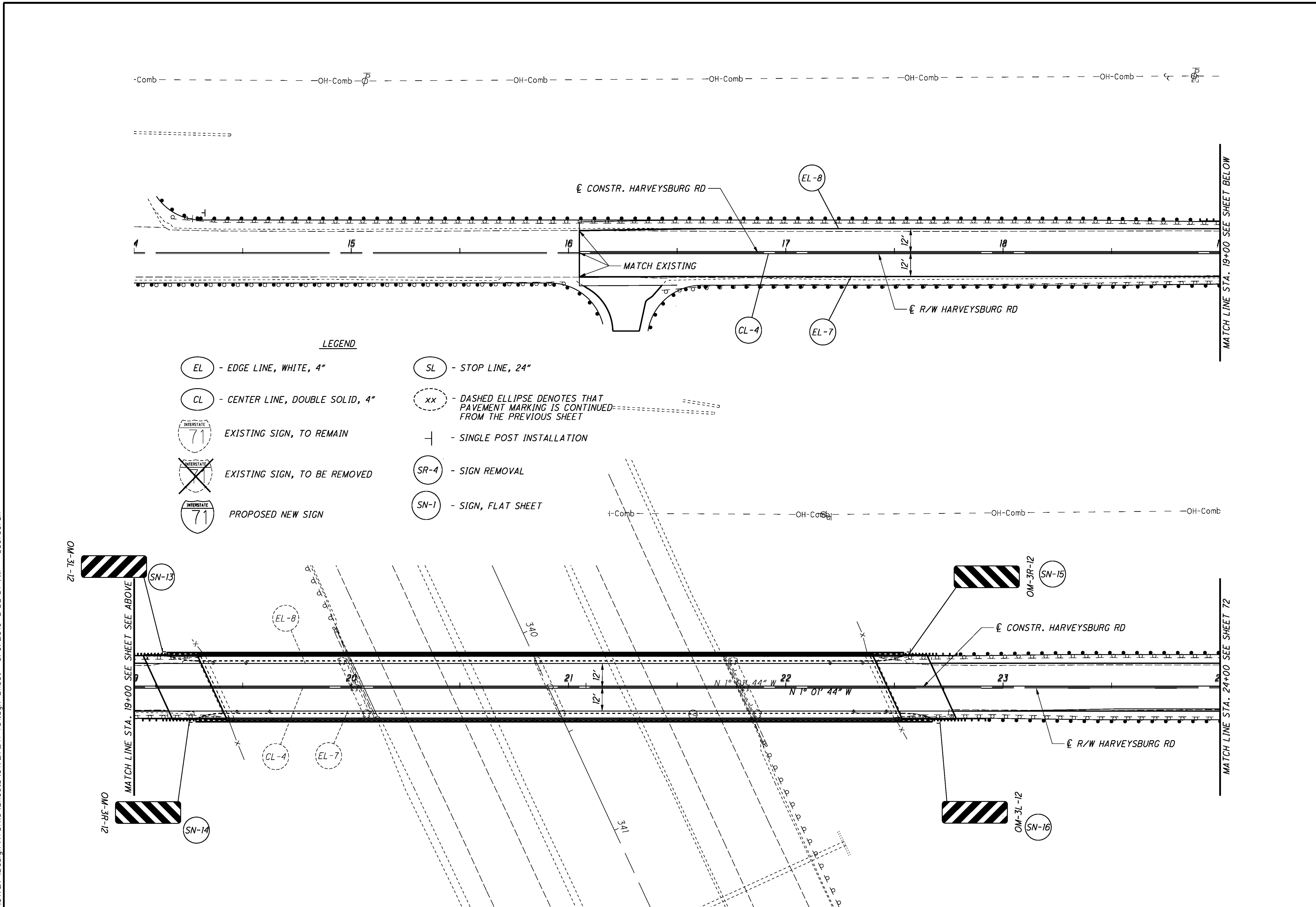
- EL - EDGE LINE, WHITE, 4"
- CL - CENTER LINE, DOUBLE SOLID, 4"
- INTERSTATE 71 — EXISTING SIGN, TO REMAIN
- INTERSTATE — EXISTING SIGN, TO BE REMOVED
- INTERSTATE 71 — PROPOSED NEW SIGN
- SL - STOP LINE, 24"
- xx - DASHED ELLIPSE DENOTES THAT PAVEMENT MARKING IS CONTINUED FROM THE PREVIOUS SHEET
- ┤ - SINGLE POST INSTALLATION
- SR-4 - SIGN REMOVAL
- SN-1 - SIGN, FLAT SHEET

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED JTW
CHECKED MJC

TRAFFIC CONTROL - CLARKSVILLE RD
STA. 17+50 TO STA. 22+50

WAR-71-16.81



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW
CHECKED MJC

TRAFFIC CONTROL - HARVEYSBURG RD
STA. 14+00 TO STA. 24+00

WAR-71-16.81

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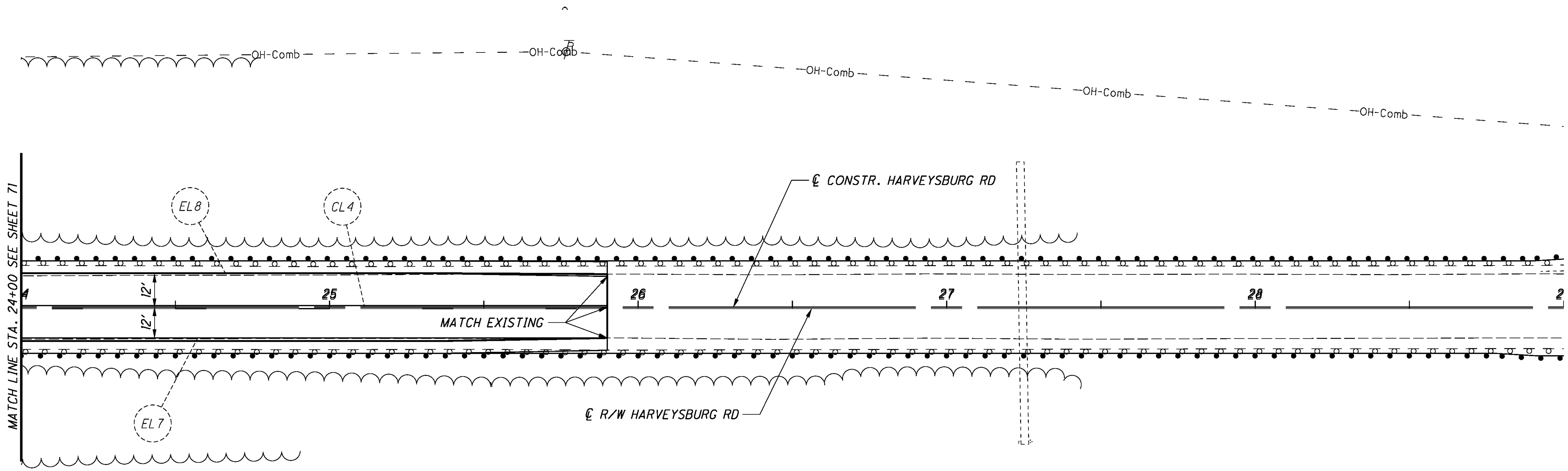

LEGEND

- EL - EDGE LINE, WHITE, 4"
- CL - CENTER LINE, DOUBLE SOLID, 4"
- INTERSTATE 71 — EXISTING SIGN, TO REMAIN
- INTERSTATE 71 — EXISTING SIGN, TO BE REMOVED
- INTERSTATE 71 — PROPOSED NEW SIGN
- SL - STOP LINE, 24"
- xx - DASHED ELLIPSE DENOTES THAT PAVEMENT MARKING IS CONTINUED FROM THE PREVIOUS SHEET
- SINGLE POST INSTALLATION
- SR-4 - SIGN REMOVAL
- SN-1 - SIGN, FLAT SHEET

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JTW CHECKED MJC

TRAFFIC CONTROL - HARVEYSBURG RD
STA. 14+00 TO STA. 24+00

WAR-71-16.81

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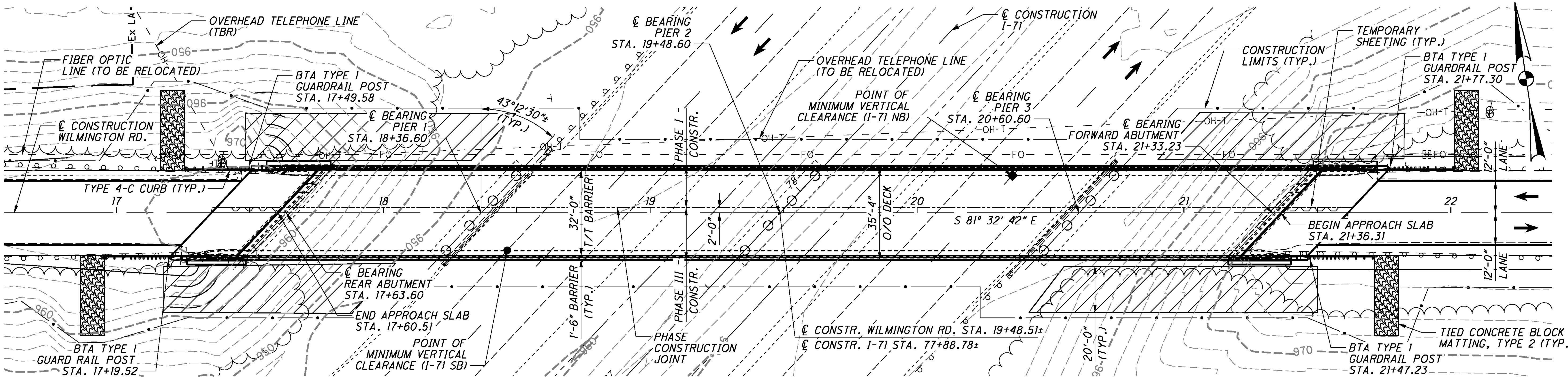


PLAN

BENCHMARK DATA

BM #1 STA. 10+58.53,	ELEV. 944.97,	OFFSET 18.64' RT.	
BM #2 STA. 17+39.40,	ELEV. 971.73,	OFFSET 18.68' LT.	
BM #3 STA. 22+14.54,	ELEV. 978.26,	OFFSET 37.23' LT.	
BM #4 STA. 25+78.70,	ELEV. 974.31,	OFFSET 39.13' LT.	

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

DESIGN TRAFFIC:
2018 ADT = 3040 2018 ADTT = 90
2038 ADT = 6200 2038 ADTT = 183
DIRECTIONAL DISTRIBUTION = 0.98

LEGEND

TBR - TO BE REMOVED
16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
● 16'-8" ACTUAL MINIMUM VERTICAL CLEARANCE (I-71 SB)
◆ 18'-2" ACTUAL MINIMUM VERTICAL CLEARANCE (I-71 NB)
⊕ - BENCHMARK
▨ - VEGETATION TO BE REMOVED

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. A DATUM CORRECTION OF -0.73' WAS USED TO ESTABLISH THE BOTTOM OF FOOTING ELEVATIONS FROM THE EXISTING PLANS.

PROPOSED WORK:

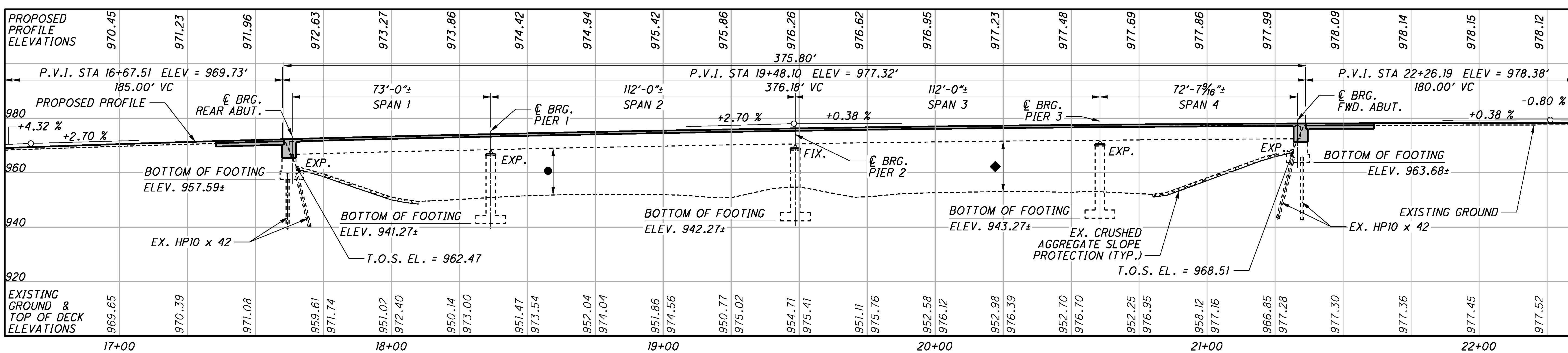
1. REMOVE DECK, ABUTMENT BACKWALLS, EXPANSION JOINTS, APPROACH SLABS, ABUTMENT BEARINGS, AND INDICATED CROSSFRAMES.
2. RAISE BRIDGE TO CONSTRUCT PORTIONS OF NEW PIER COLUMNS, INSTALL NEW BEARINGS AT THE ABUTMENTS, AND RESET THE BEARINGS AT THE PIERS.
3. CONSTRUCT NEW PORTIONS OF THE ABUTMENTS INCLUDING WINGWALLS AND SEMI-INTEGRAL DIAPHRAGM GUIDES
4. CONSTRUCT NEW PORTIONS OF THE SUPERSTRUCTURE INCLUDING CROSSFRAMES, SEMI-INTEGRAL DIAPHRAGMS, DECK, BARRIERS, AND APPROACH SLABS.
5. INSTALL VANDAL PROTECTION FENCING, SEAL ALL NEW CONCRETE SURFACES, AND REPAIR PAINT DAMAGED DURING CONSTRUCTION.
6. REMOVE VEGETATION WITHIN 20' OF THE BRIDGE.

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK ON STUB ABUTMENTS AND COLUMN PIERS
SPANS: 73'-0"±, 112'-0"±, 112'-0"±, 72'-7 9/16"± C/C BEARINGS MEASURED ALONG ℄ WILMINGTON RD.
ROADWAY: 28'-0" F/F SAFETY CURB
LOADING: CF-130 (57)
SKEW: 43°-12'-30"± L.F.
APPROACH SLABS: 25'-0± LONG
ALIGNMENT: TANGENT
CROWN: 3/16"/FT
STRUCTURAL FILE NUMBER: 8302316
DATE BUILT: 1964
DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: 4-SPAN STEEL GIRDER WITH NEW COMPOSITE REINFORCED CONCRETE DECK ON CONVERTED SEMI-INTEGRAL ABUTMENTS AND MODIFIED COLUMN PIERS
SPANS: 73'-0"±, 112'-0"±, 112'-0"±, 72'-7 9/16"± C/C BEARINGS MEASURED ALONG ℄ CONSTRUCTION WILMINGTON RD.
ROADWAY: 32'-0" T/T BARRIER
LOADING: HS20 AND ALT. MILITARY, SUPER. FWS: 60 PSF
SKEW: 43°-12'-30"± L.F.
APPROACH SLABS: 25'-0± LONG (AS-1-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
WEARING SURFACE: 1" MONOLITHIC CONCRETE
COORDINATES: LATITUDE: N 39°25'47" LONGITUDE: W 84°04'46"



PROFILE ALONG ℄ CONSTRUCTION WILMINGTON RD

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DESIGNED TAS/MRV	DRAWN MRV	REVIEWED RER
CHECKED DFT	REVISED	DATE 07/2016
STRUCTURE FILE NUMBER 8302316		

WARREN COUNTY
STA. 17+60.51
STA. 21+36.31

SITE PLAN
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

1/34

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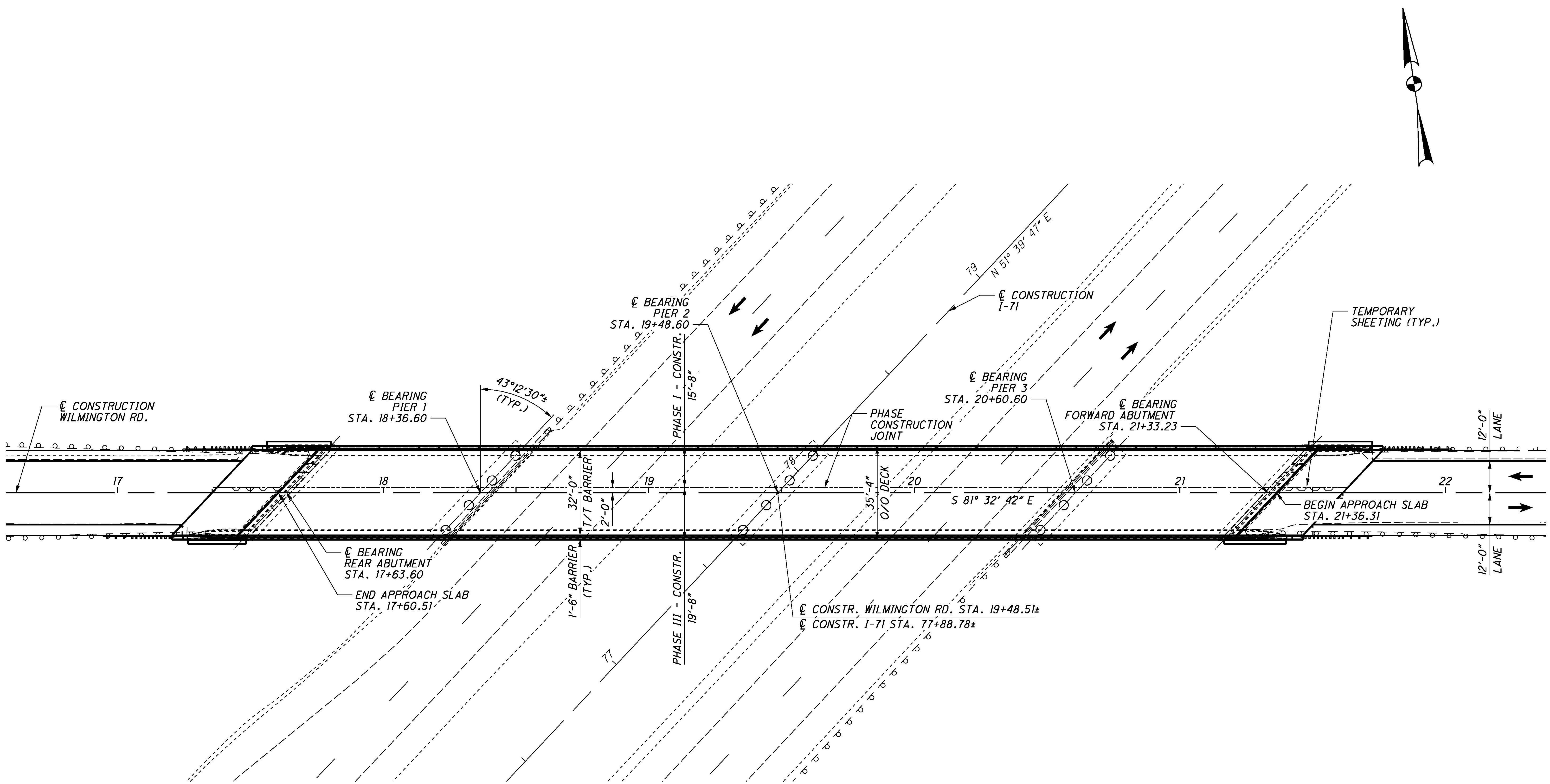

GENERAL PLAN

E.L. ROBINSON ENGINEERING
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www.elrobinsonengineering.com

DESIGNED	DRAWN	REVIEWED	DATE
MRV	MRV	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302316	

GENERAL PLAN

BRIDGE NO. WAR-71-1683

I-71 UNDER WILMINGTON RD.

WAR-71-16.81

PID No. 91727

2 / 34

74 / 160

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07/17/2015
AS-2-15	REVISED	07/17/2015
GSD-1-96	REVISED	07/19/2002
PCB-91	REVISED	01/18/2013
SBR-1-13	REVISED	01/17/2014
SICD-1-96	REVISED	07/18/2014
SICD-2-14	DATED	07/18/2014
VPF-1-90	REVISED	07/17/2015

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	07/15/2016

DESIGN SPECIFICATIONS:

ALL NEW COMPONENTS OF THIS STRUCTURE CONFORM TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

SPECIAL DESIGN SPECIFICATIONS:

THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAMS USED FOR STRUCTURAL ANALYSIS WERE MDX AND TAEG.

DESIGN LOADING:

DESIGN LOADING: HS20-44 CASE II AND ALTERNATE MILITARY LOAD
FUTURE WEARING SURFACE (FWS) OF 60 LBS/SF.

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL WITH 2 1/2" CONCRETE COVER.

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

IF ANY ADDITIONAL INFORMATION IS REQUIRED, THE ORIGINAL CONSTRUCTION AND SUBSEQUENT REHABILITATION PLANS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT EIGHT OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO 45036.

MAINTENANCE OF TRAFFIC:

FOR MAINTENANCE OF TRAFFIC DETAILS, SEE ROADWAY PLANS.

UTILITY LINES:

THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.23 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511, SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS, PARAPETS, RAILINGS, DECK JOINTS, END CROSSFRAMES, PORTIONS OF EXISTING BACKWALL AND WINGWALLS, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). ALSO INCLUDED ARE ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED TO FURNISH THE PHASE CONSTRUCTION TEMPORARY OVERHANG SUPPORT AND TO FACILITATE THE FIELD DRILLING OF THE HOLES IN THE GIRDER ENDS TO ACCOMMODATE THE TRANSVERSE SEMI-INTEGRAL DIAPHRAGM REBAR. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING THEIR BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN-UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN-UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 203 EMBANKMENT, AS PER PLAN:

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT. TO BE INCLUDED WITH ROADWAY FOR PAYMENT.

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www.elrobinsonengineering.com

DESIGNED MRV/TAS | CHECKED DFT | DRAWN TAS | REVISED | REVIEWED RER | DATE 07/2016 | STRUCTURE FILE NUMBER 8302316

GENERAL NOTES (1 OF 2)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED TO FIELD DRILL THE 3 INCH DIAMETER GIRDER END HOLES TO FACILITATE THE SEMI-INTEGRAL DIAPHRAGM REBAR SHALL BE INCLUDED IN THIS ITEM.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN:
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN:

THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

THE CLASS QC2 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA: WATER/CEMENT RATIO = 0.40 MAXIMUM; MICRO-SILICA ADMIXTURE (7% BY WEIGHT OF CEMENT ADDED TO THE TOTAL CEMENTITIOUS CONTENT); 2 LBS./CY. POLYPROPYLENE FIBERS (1.25" MIN.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE CORROSION INHIBITOR DOSAGE RATE SHALL BE WITHIN THE MANUFACTURES RECOMMENDED LIMITS. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST NEED NOT APPLY.

THE FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, FIBERS AND MICRO-SILICA PRIOR TO THE ADDITION OF WATER AND ADMIXTURES.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY UNLESS A LARGER SIZE IS APPROVED BY THE ENGINEER. IF PROBLEMS WITH BALLING OF THE FIBERS OCCUR, THE ENGINEER OR READY MIX SUPPLIER CAN REDUCE THE MAXIMUM SIZE OF THE LOAD AS A MEANS TO RESOLVE THE BALLING PROBLEM. CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AND EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIERS CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

APPROACH SLABS, DIAPHRAGMS, AND BRIDGE RAILING CONCRETE (WHEN APPLICABLE) ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508. PERMANENT STAY-IN-PLACE (SIP) FORMS ARE NOT ALLOWED. THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

ALL EXPOSED SURFACES OF PIERS, ABUTMENTS, AND PARAPETS SHALL BE SEALED AS SHOWN IN THE PLANS. THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR 17778 (LIGHT NEUTRAL). THE SURFACE TO BE SEALED SHALL HAVE SURFACE PREPARATION PER CMS 512.03 (F). ONLY NEW CONCRETE SURFACES ARE TO BE SEALED.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN:

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE IN ACCORDANCE WITH 501.06, TO THE ENGINEER. PROVIDE THE ENGINEER "AS-BUILT" DRAWINGS ACCORDING TO 513.06, EXCEPT 501.04 DOES NOT APPLY. UPON RECEIPT OF THE ENGINEER'S ACCEPTANCE, SUPPLY A COPY OF THE DRAWINGS, ACCORDING TO SUPPLEMENT 1002, TO THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

ALL MEMBERS FOR THE PROPOSED TYPE 3 OR 4 CROSSFRAMES ARE INCLUDED IN THIS ITEM.

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN:

THIS ITEM CONSISTS OF FIELD PAINTING REPAIR OF THE EXISTING STRUCTURAL STEEL PAINT THAT IS DAMAGED BY THE CONTRACTORS OPERATIONS. THE FOLLOWING OPERATIONS COULD POTENTIALLY DAMAGE THE EXISTING PAINT AND WOULD NEED TO BE CLEANED AND REPAIRED ARE DECK REMOVALS, BEARING REPLACEMENTS, DECK OVERHANG SUPPORTS, CONCRETE SLOBBERS FROM NEW CONCRETE PLACEMENT, AND ANY OTHER OPERATIONS THAT WILL DAMAGE THE EXISTING PAINT. THIS IS NOT AN ALL INCLUSIVE LIST. THE CONTRACTOR WILL NEED TO ESTIMATE AT THE TIME OF BID THE AMOUNT OF DAMAGE THAT HIS ACTIVITIES WILL CAUSE TO THE EXISTING PAINT SYSTEM. THE DAMAGED AREAS SHALL BE CLEANED AND PAINTED WITH A PRIME, INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM OZEU. MATCH THE EXISTING PAINT COLOR AS CLOSE AS POSSIBLE TO THE EXISTING PAINT SYSTEM.

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN SHALL INCLUDE ALL LABOR, MATERIAL, AND INCIDENTALS REQUIRED TO REPAIR THE PAINT SYSTEM. ALL FIELD PREPARATION OF THE EXISTING GIRDER SURFACE TO REPAIR THE PAINT SYSTEM SHALL BE INCLUDED IN THIS ITEM. THE PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT USING AN OZEU SYSTEM SHALL BE INCLUDED THIS ITEM. AND THE FINAL INSPECTION AND REPAIR SHALL BE INCLUDED THIS ITEM.

ITEM 514 - FIELD PAINTING OF STRUCTURAL STEEL:

EXISTING STEEL AREAS INDICATED IN THE PLANS SHALL BE CLEANED AND PAINTED WITH A PRIME, INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM OZEU. MATCH THE EXISTING PAINT COLOR AS CLOSE AS POSSIBLE TO THE EXISTING PAINT SYSTEM.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PATCHING HAS BEEN ESTIMATED FOR THE PIERS AND ABUTMENTS. EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED AND MARKED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ABBREVIATIONS:

ABUT. - ABUTMENT
APPR. - APPROACH
B - BOTTOM
B̸ - BASELINE
B.F. - BACK FACE
BTM. - BOTTOM
BRG. - BEARING
℄ - CENTERLINE
C/C - CENTER TO CENTER
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONSTR. - CONSTRUCTION
CVN - CHARPY V-NOTCH
DIA. - DIAMETER
DIM. - DIMENSION
DWG. - DRAWING
EB - EASTBOUND
E.F. - EACH FACE
EL. - ELEVATION
EOP - EDGE OF PAVEMENT
EQ. - EQUAL
EST. - ESTIMATED
EX. - EXISTING
EXP. - EXPANSION
F.F. - FRONT FACE
FT. - FOOT OR FEET
FWD. - FORWARD
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
JT. - JOINT
LT. - LEFT
MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MSE - MECHANICALLY STABILIZED EARTH
NB - NORTHBOUND
NO. - NUMBER
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
O/O - OUT TO OUT
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
R - RADIUS
REQD. - REQUIRED
R.R. - RAILROAD
R/W - RIGHT OF WAY
SB - SOUTHBOUND
SER. - SERIES
SHLDR - SHOULDER
SPA. - SPACE OR SPACES
STA. - STATION
STD. - STANDARD
STR - STRAIGHT
T - TOP
T&B - TOP & BOTTOM
TEMP. - TEMPORARY
T/S - TOP OF SLOPE
T/T - TOE TO TOE
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VAR. - VARIES
WB - WESTBOUND

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302316	

GENERAL NOTES (2 OF 2)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

MADE BY: MRV DATE: 7/15/2016
CHECKED BY: TAS DATE: 7/16/2016

ESTIMATED QUANTITIES

STRUCTURE FILE NUMBER: 8302316

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENT	PIER	SUPER	GENERAL	AS PER PLAN SHEET NO.
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3/34
202	22900	180	SY	APPROACH SLAB REMOVED				180	
202	23500	1155	SY	WEARING COURSE REMOVED			1155		
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING				LS	
503	21300	LS		UNCLASSIFIED EXCAVATION				LS	
509	10001	136105	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	6751	291	129063		4/34, 23/34
509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	100				4/34
510	10001	312	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	264	48			11-12/34, 14-18/34
511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN			2		11/34, 14/34
511	34447	498	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			498		4/34
511	34451	129	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			129		4/34
511	41010	2	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS		2			
511	44110	54	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	54				
512	10100	1400	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	90	22	1288		
512	10300	95	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			84	11	
512	33000	5	SY	TYPE 2 WATERPROOFING	5				
513	10201	8000	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN			8000		4/34
513	20000	3096	EACH	WELDED STUD SHEAR CONNECTORS			3096		
514	00050	1080	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			1080		
514	00056	1080	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			1080		
514	00060	2079	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			2079		
514	00066	2079	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			2079		
514	00504	3	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			3		
514	10000	3	EACH	FINAL INSPECTION REPAIR			3		
514	21001	LS		FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN			LS		3/34, 4/34
516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER			17		
516	13900	313	SF	2" PREFORMED EXPANSION JOINT FILLER	208		105		
516	14020	118	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	118				
516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN			8		19/34
				(BEARING: 13.5" x 18" x 4.335" W/ LOAD PLATE: 14 1/2" x 19" x 2")					
516	46701	12	EACH	RESET BEARING, AS PER PLAN		12			16-18/34
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	4/34
518	21201	104	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	104				9/34, 12/34, 14/34
518	40000	135	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	135				
518	40011	60	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	60				11/34, 14/34
519	11101	35	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	6	29			4/34
526	25010	198	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				198	
607	39900	752	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			752		

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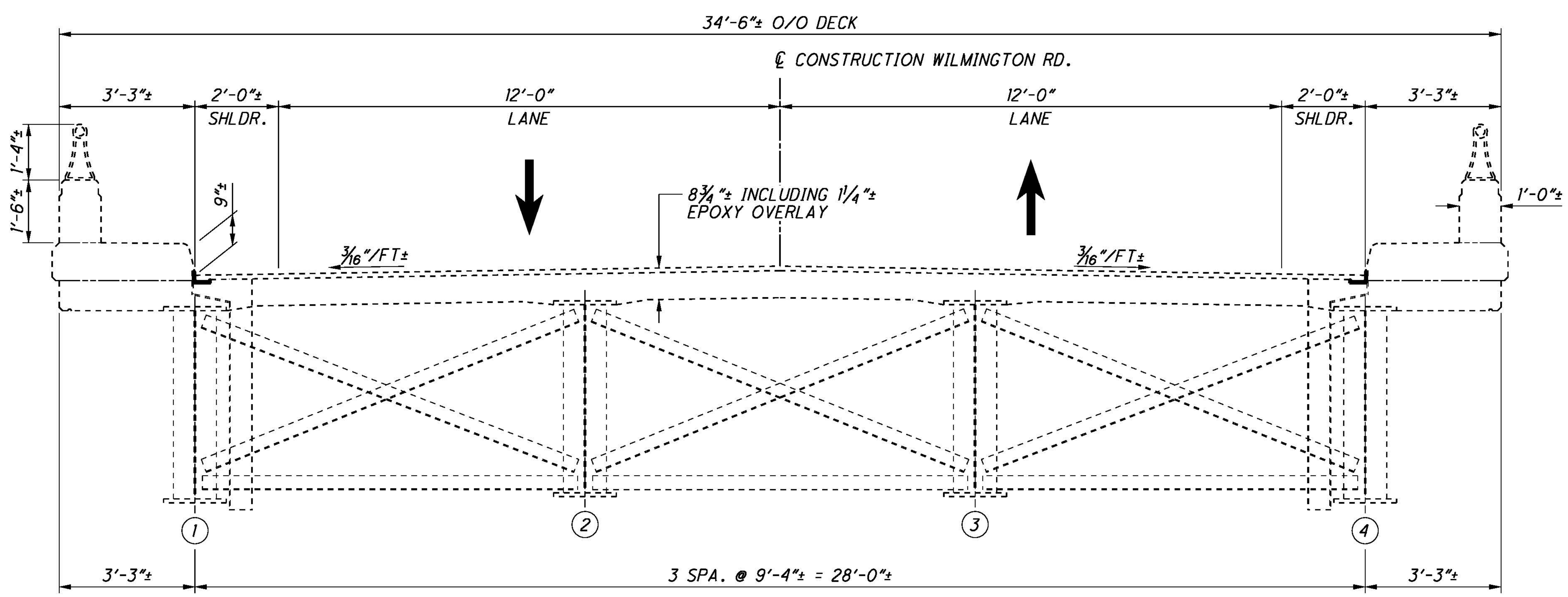
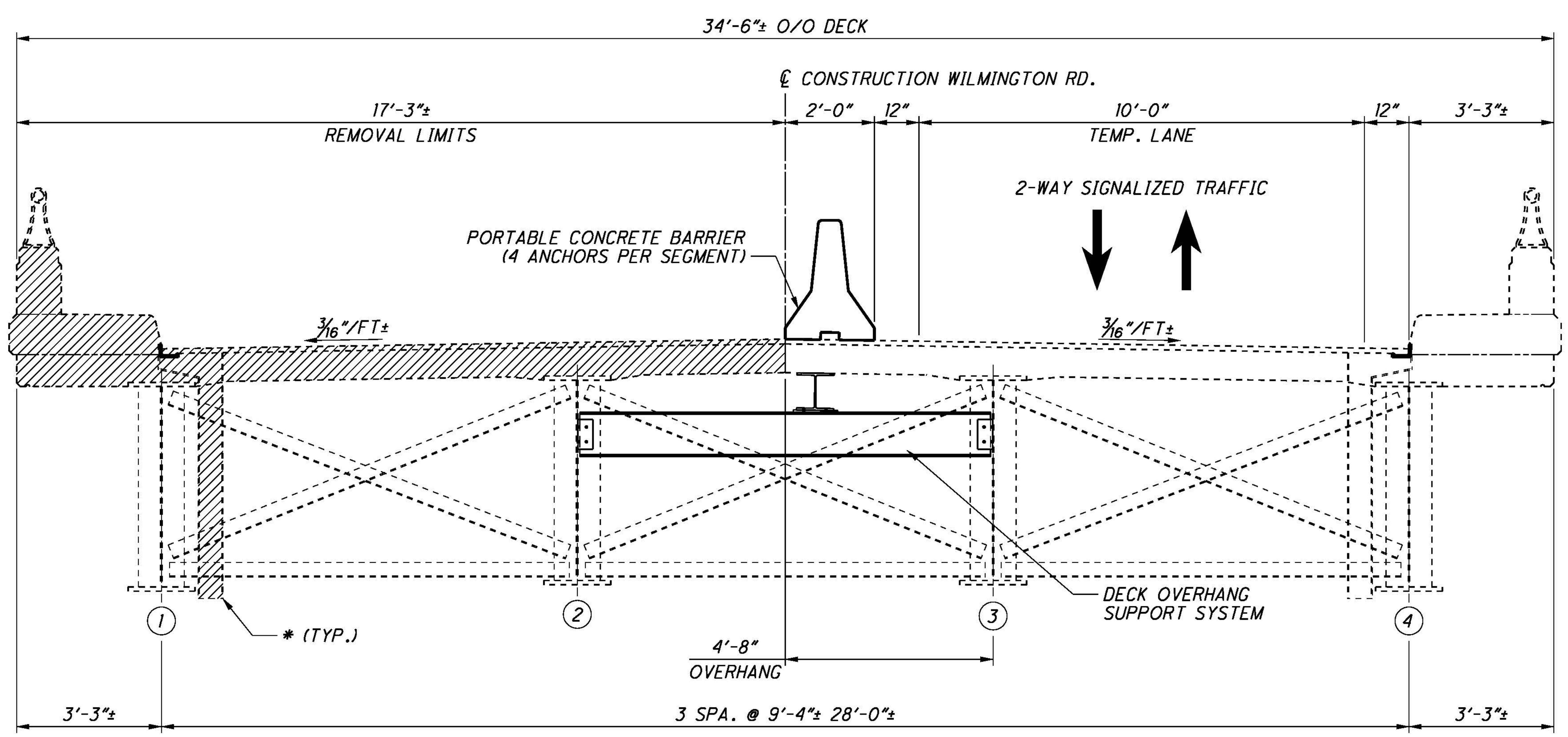
ESTIMATED QUATITIES
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



PRESENT DAY CONFIGURATION

(LOOKING UPSTATION)
(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)



PHASE I - REMOVAL

(LOOKING UPSTATION)
(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

PHASE I - REMOVAL

1. CONSTRUCT THE TEMPORARY SHORING USED TO SUPPORT JACKS AND ALSO CONSTRUCT THE TEMPORARY SHORING USED TO SUPPORT THE DECK OVERHANG.
2. RAISE AND SUPPORT SUPERSTRUCTURE FOR FUTURE TRAFFIC. INSTALL TEMPORARY ROADWAY APPROACH PAVEMENT BUILD-UP, MAINTENANCE OF TRAFFIC (INCLUDING PORTABLE CONCRETE BARRIER), AND TRAFFIC PROTECTION. SEE ROADWAY PLANS FOR MORE DETAILS.
3. REMOVE A PORTION OF THE EXISTING APPROACH SLABS TO THE LIMITS SHOWN.
4. INSTALL TEMPORARY SHEETING AS SHOWN. REMOVE DECK, PARAPETS, VANDAL PROTECTION FENCE, END CROSSFRAMES, SCUPPERS, AND ABUTMENT BEARINGS.
5. REMOVE PORTIONS OF THE EXISTING SUBSTRUCTURE TO THE LIMITS SHOWN.

PHASE I - CONSTRUCTION

1. CONSTRUCT PROPOSED PORTIONS OF PIER COLUMNS AS SHOWN IN PLANS. PATCH PORTIONS OF EXISTING SUBSTRUCTURE UNITS AS DETAILED. INSTALL NEW ABUTMENT BEARINGS.
2. REFURBISH AND RE-INSTALL EXISTING PIER BEARINGS.
3. REMOVE TEMPORARY SUPPORTS AND LOWER BRIDGE.
4. CONSTRUCT THE NEW PORTIONS OF ABUTMENTS AND WINGWALLS AS DETAILED. INSTALL SHEAR CONNECTORS TO EXISTING GIRDERS 1 AND 2 AS DETAILED.
5. CONSTRUCT PORTIONS OF DECK, BARRIER, AND SEMI-INTEGRAL DIAPHRAGM TO THE LIMITS SHOWN IN THE PLANS.
6. INSTALL NEW VANDAL PROTECTION FENCE TO THE LIMITS SHOWN IN THE PLANS.

PHASE III - REMOVAL

1. RELOCATE AND INSTALL PORTABLE CONCRETE BARRIERS TO SHIFT TRAFFIC AS SHOWN.
2. REMOVE REMAINING PORTIONS OF THE EXISTING SUPERSTRUCTURE AND APPROACH SLABS TO THE LIMITS SHOWN.
3. REMOVE THE REMAINING PORTION OF THE EXISTING SUBSTRUCTURE LIMITS SHOWN.

PHASE III - CONSTRUCTION

1. CONSTRUCT REMAINING PORTIONS OF ABUTMENTS AND WINGWALLS AS DETAILED. INSTALL REMAINING SHEAR STUDS TO EXISTING GIRDERS 3 AND 4 AS DETAILED.
3. CONSTRUCT REMAINING PORTIONS OF DECK, BARRIER, AND SEMI-INTEGRAL DIAPHRAGM TO THE LIMITS SHOWN IN THE PLANS.
4. INSTALL NEW VANDAL PROTECTION FENCE TO THE LIMITS SHOWN IN THE PLANS.
5. REPAIR PAINT ON EXISTING GIRDERS DAMAGED DURING CONSTRUCTION.
6. SEAL ALL NEW CONCRETE SURFACES TO THE LIMITS SHOWN.

NOTES:

1. FOR TEMPORARY OVERHANG SUPPORT DETAILS, SEE SHEETS 31/34 THRU 32/34 .

LEGEND:

(hatched area) - INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

(#) - GIRDER DESIGNATION

* - SCUPPER ANCHORING BARS WELDED TO BEAM SHALL BE REMOVED AND GROUND FLUSH AT WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTIONL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

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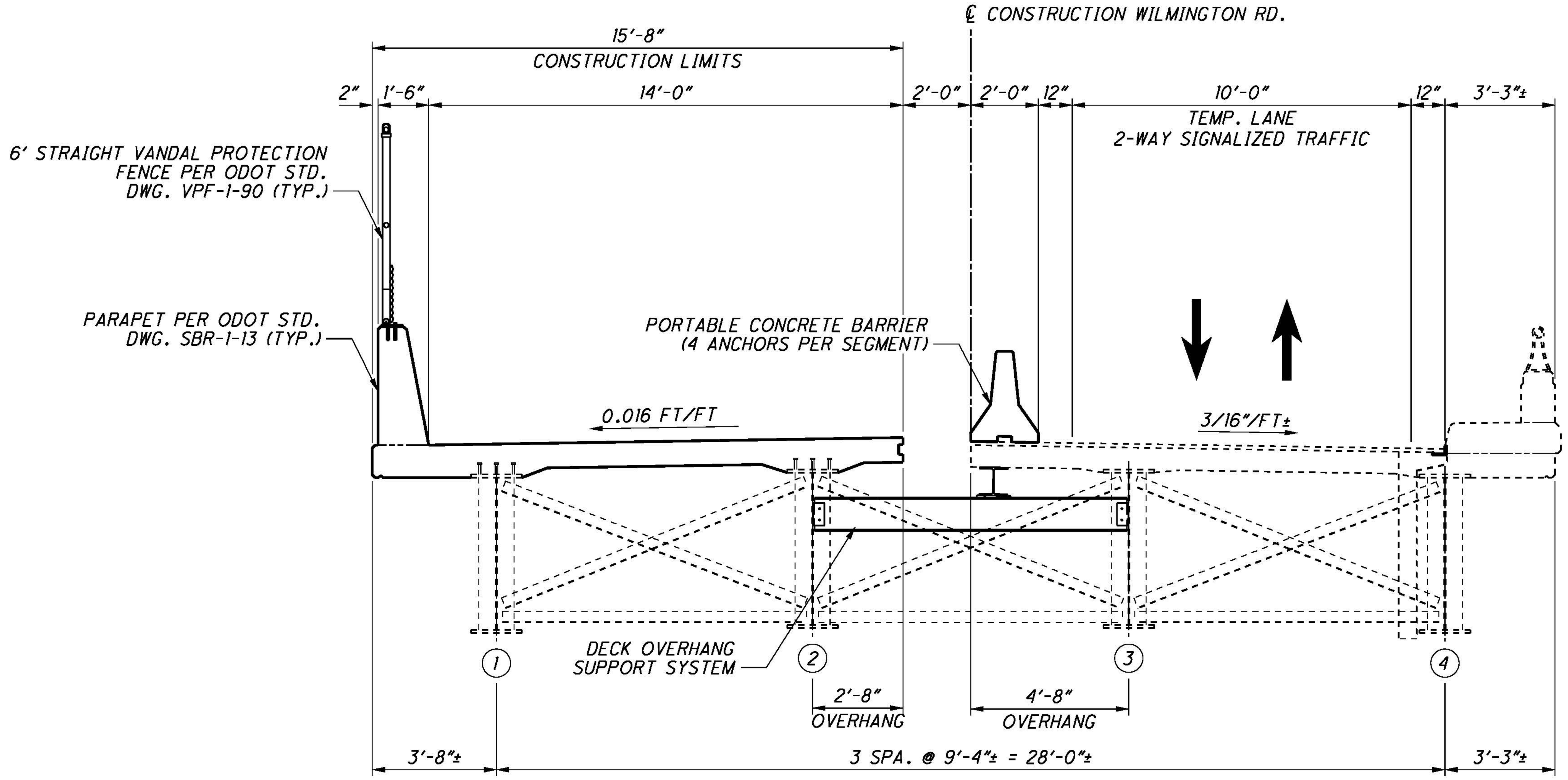
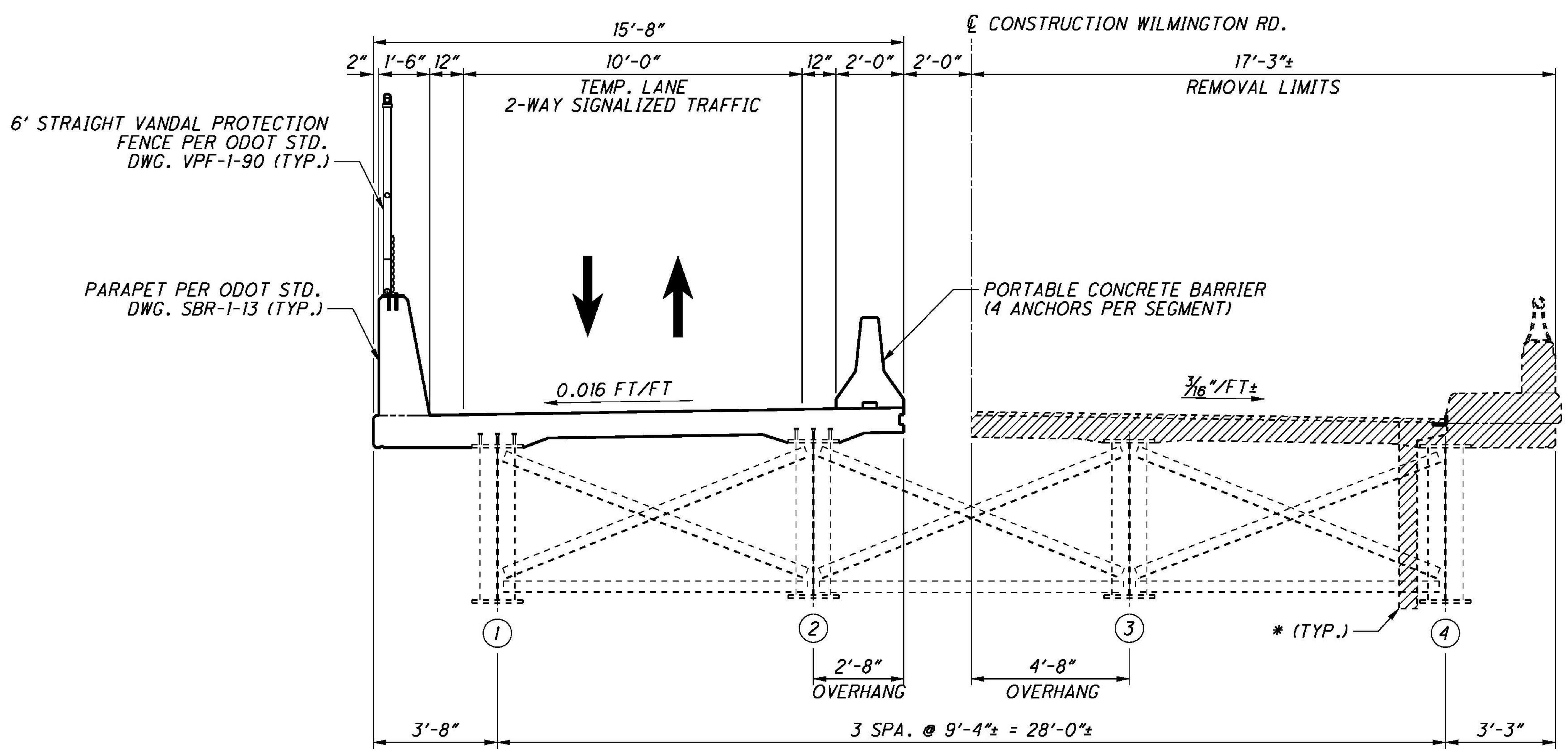
PHASE CONSTRUCTION DETAILS (1 OF 3)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



PHASE I - CONSTRUCTION

(LOOKING UPSTATION)
(VANDAL PROTECTION FENCE NOT SHOWN ON THE EXISTING PARAPET FOR CLARITY)



PHASE III - REMOVAL

(LOOKING UPSTATION)
(VANDAL PROTECTION FENCE NOT SHOWN ON THE EXISTING PARAPET FOR CLARITY)

NOTES

1. FOR PHASE CONSTRUCTION SEQUENCING NOTES, SEE SHEET 6/34.
2. FOR TEMPORARY OVERHANG SUPPORT DETAILS, SEE SHEETS 31/34 THRU 32/34 .

LEGEND

(hatched area) - INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

(#) - GIRDER DESIGNATION

* - SCUPPER ANCHORING BARS WELDED TO BEAM SHALL BE REMOVED AND GROUND FLUSH AT WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

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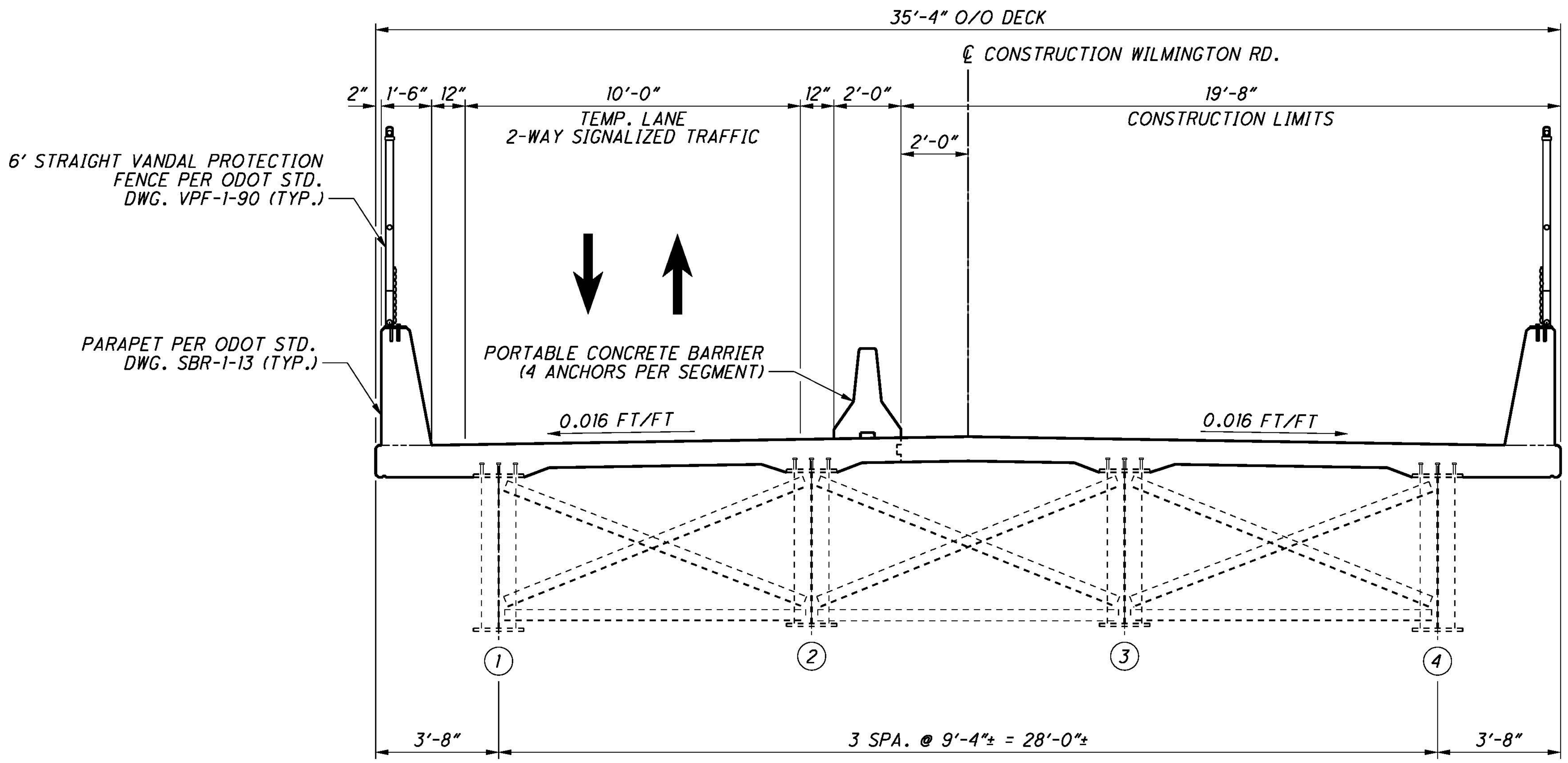
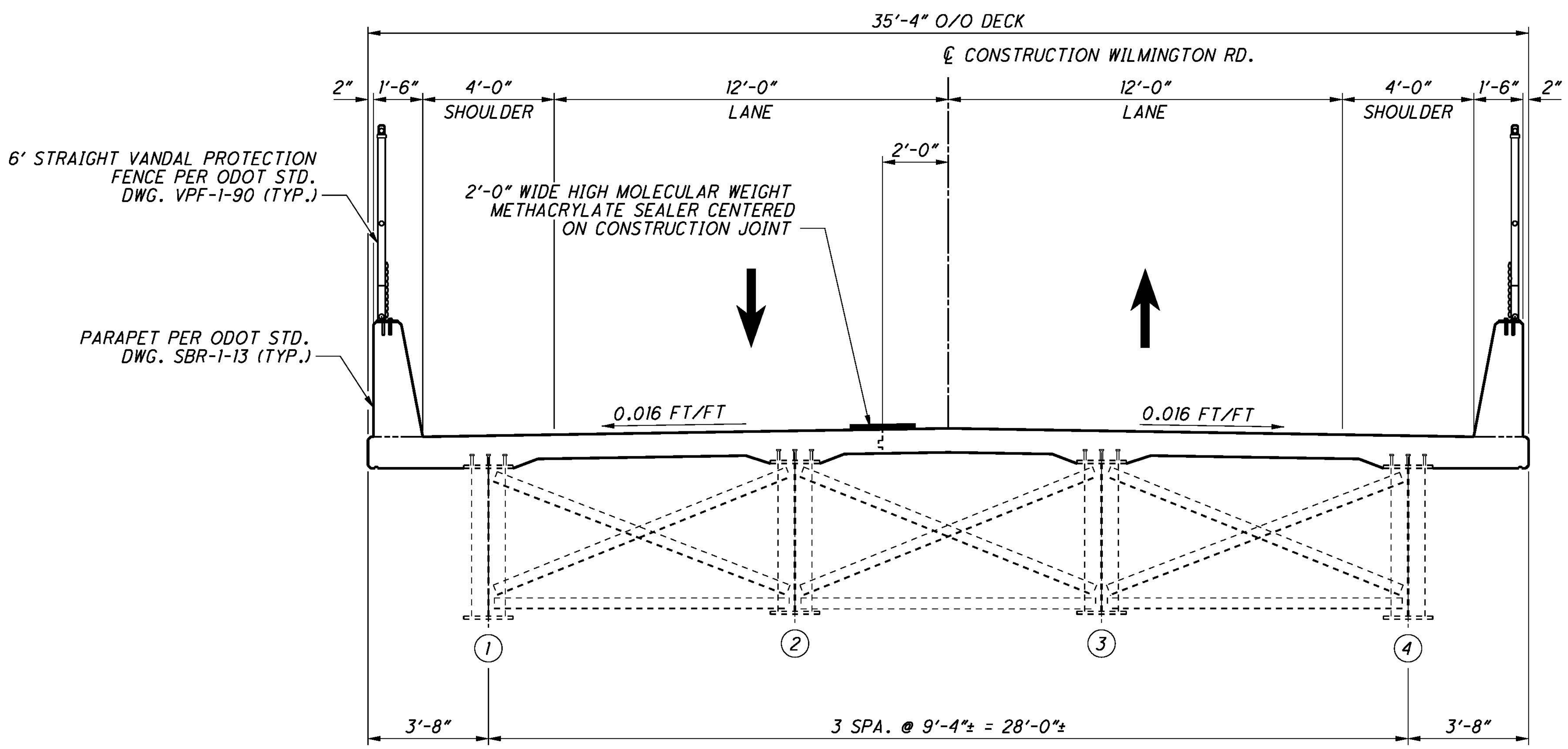
PHASE CONSTRUCTION DETAILS (2 OF 3)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



PHASE III - CONSTRUCTION
(LOOKING UPSTATION)



OPENING DAY CONFIGURATION
(LOOKING UPSTATION)

NOTES

1. FOR PHASE CONSTRUCTION SEQUENCING NOTES, SEE SHEET 6/34.

LEGEND

(#) - GIRDER DESIGNATION

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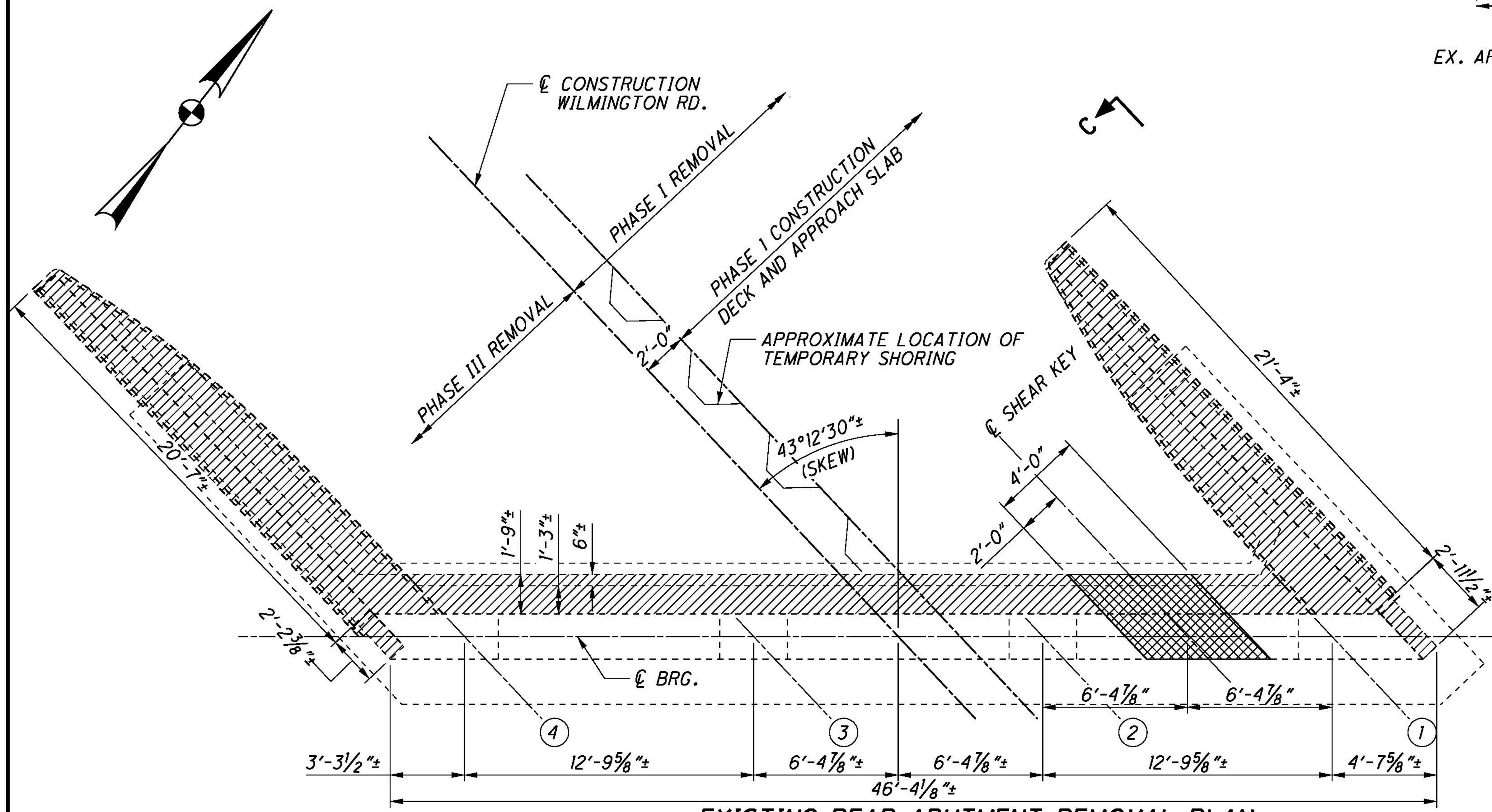
PHASE CONSTRUCTION DETAILS (3 OF 3)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

8/34



EXISTING REAR ABUTMENT REMOVAL PLAN

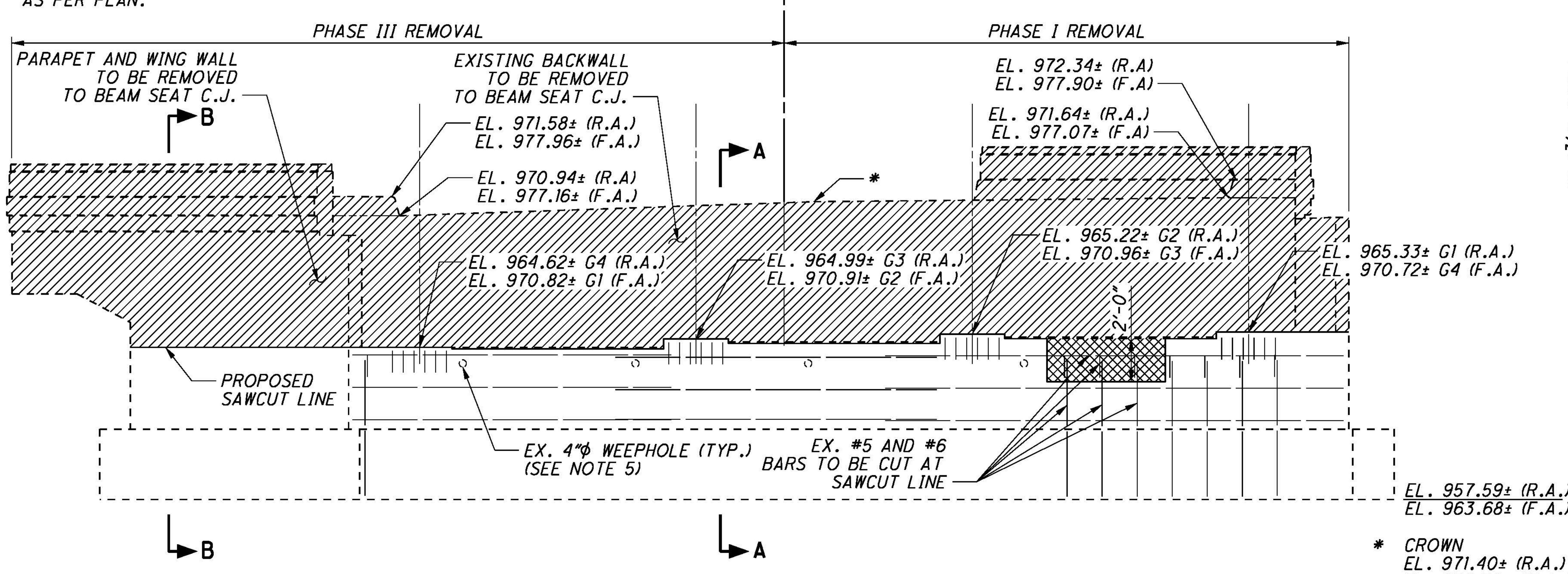
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND) (SEE NOTE 2)

NOTES:

1. THE REMOVAL LIMITS SHOWN ARE THE MINIMUM AMOUNT NECESSARY TO PERFORM THE PROPOSED WORK. ANY ADDITIONAL REMOVAL PERFORMED BY THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEER PRIOR TO STARTING REMOVAL. ALL ADDITIONAL REMOVAL SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE DEPARTMENT.
2. PILES NOT SHOWN FOR CLARITY.
3. APPROACH SLAB NOT SHOWN FOR CLARITY.
4. CUT ALL EXISTING REINFORCING AT REMOVAL LINES AS DIRECTED BY PLANS.
5. CLEAR EXISTING WEEPHOLES AND FILL WITH NON-SHRINK, NON-METALLIC GROUT PER CMS 705.20. ALL MATERIALS, LABOR, AND INCIDENTALS FOR PAYMENT SHALL BE INCLUDED IN ITEM 518 POROUS BACKFILL, WITH GEOTEXTILE FABRIC, AS PER PLAN.

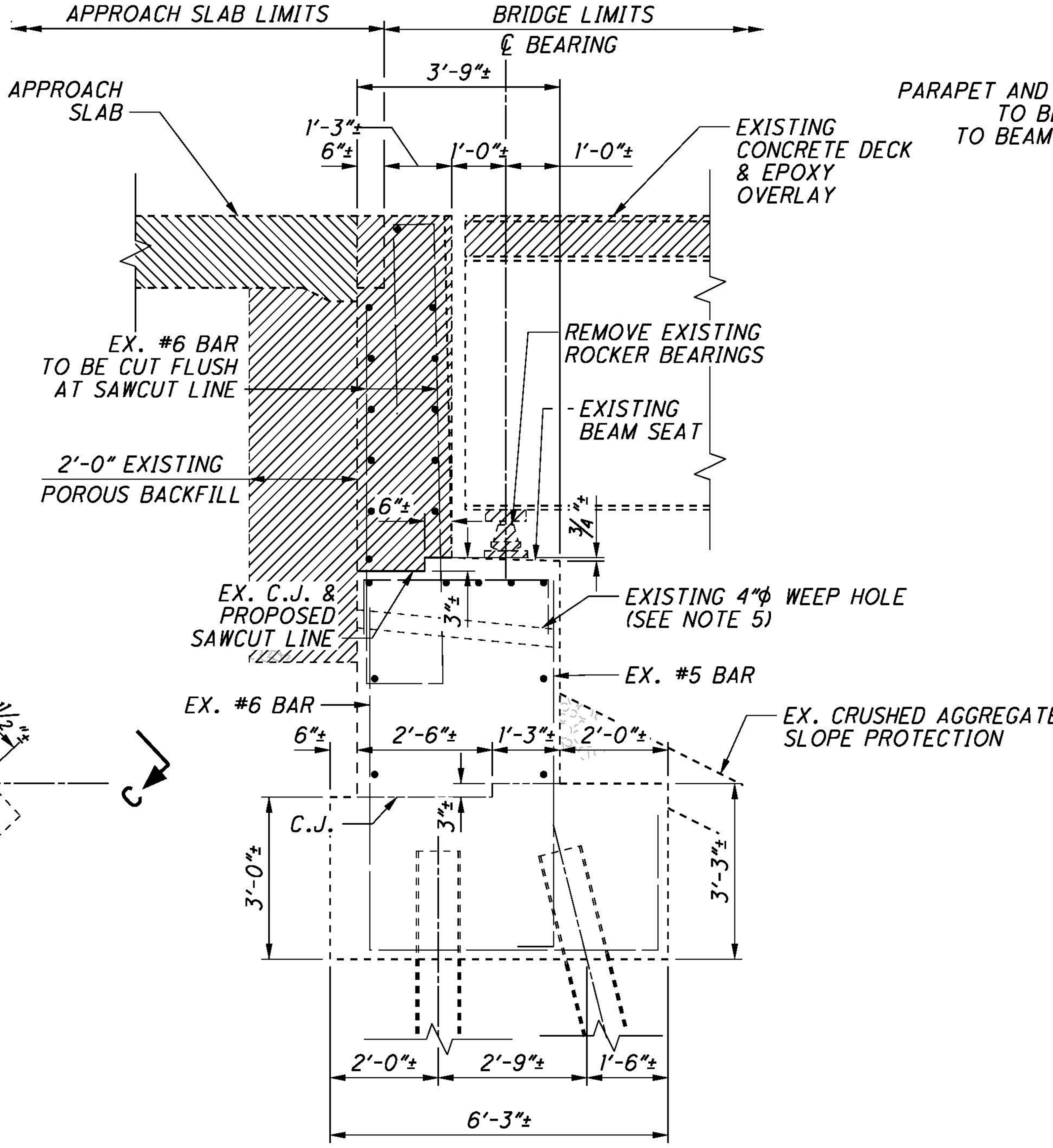
LEGEND:

- (diagonal hatch) - INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED AND ITEM 202 WEARING COURSE REMOVED
- (reverse hatch) - INDICATES APPROACH SLAB TO BE REMOVED AS PER ITEM 202 - APPROACH SLAB REMOVED.
- (crosshatch) - INDICATES SEMI-INTERGRAL DIAPHRAGM GUIDE REMOVAL LIMITS CENTERED BETWEEN GIRDER 1 AND 2 (R.A. & F.A) REMOVAL TO BE PERFORMED DURING PHASE 1.
- (#) - GIRDER DESIGNATION

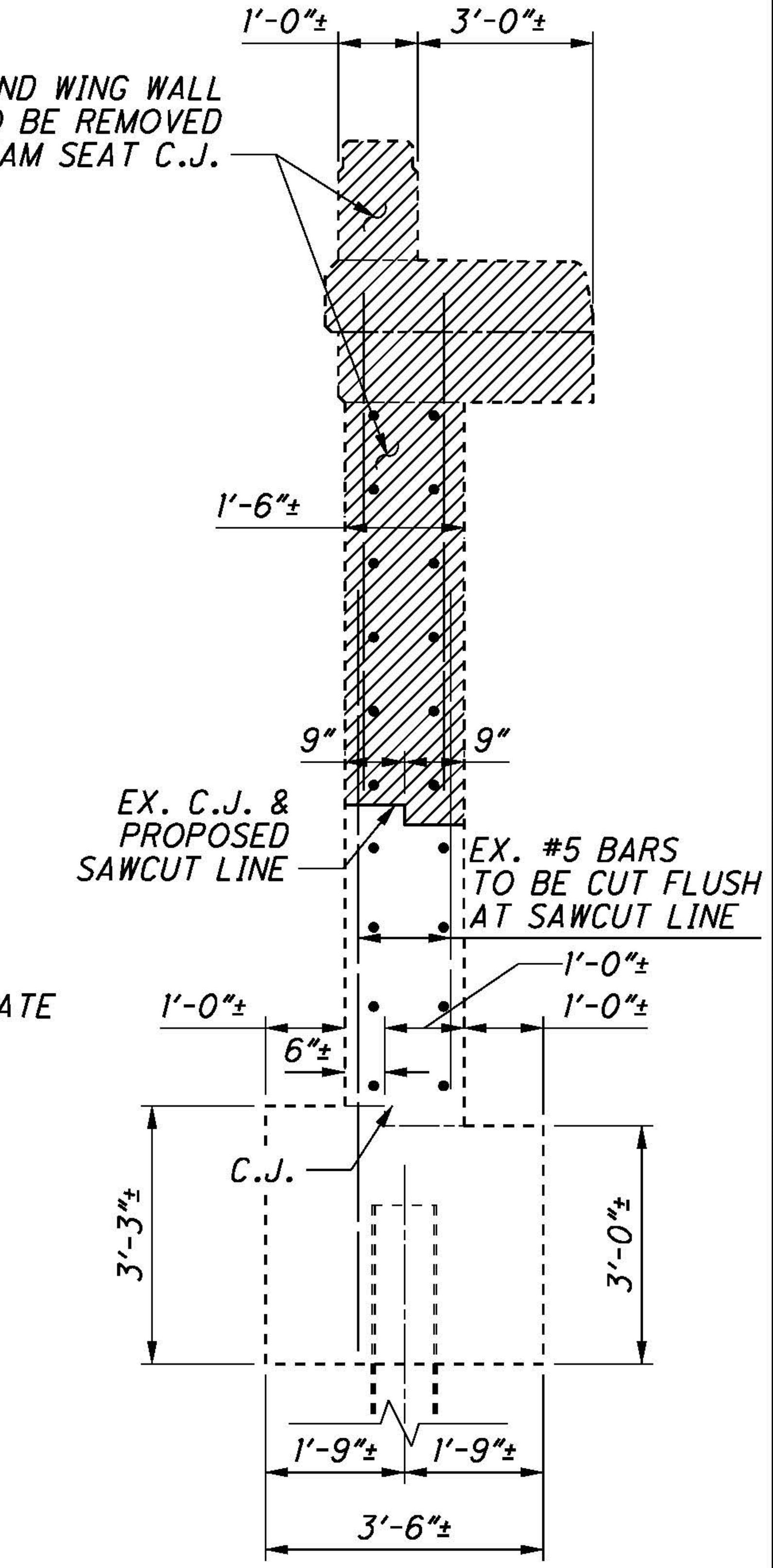


EXISTING REAR ABUTMENT REMOVAL ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND) (SEE NOTE 2)

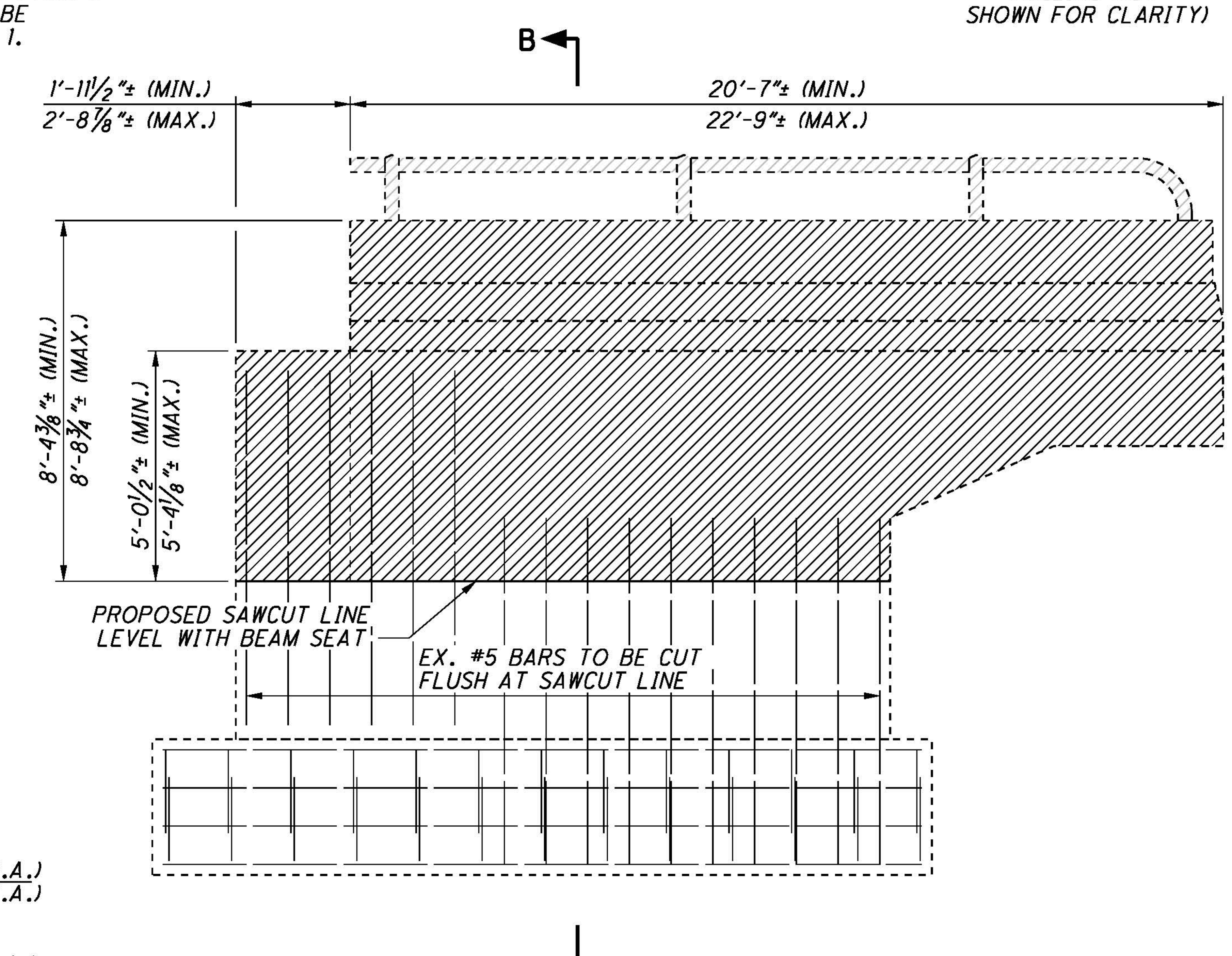


SECTION A-A



SECTION B-B

(RAILING NOT SHOWN FOR CLARITY)



VIEW C-C

(TYPICAL WINGWALL REMOVAL DETAIL, ALL OTHER WINGWALLS SIMILAR)

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ABUTMENT REMOVAL DETAILS

BRIDGE NO. WAR-71-1683
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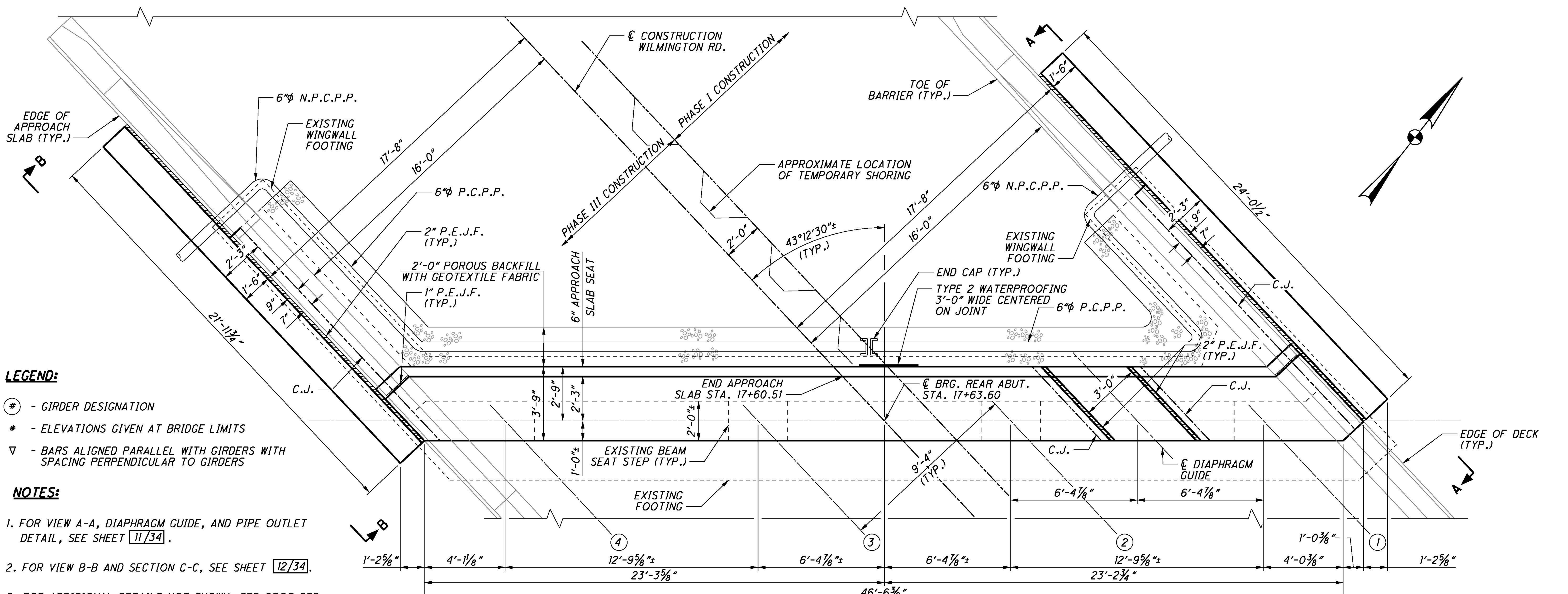
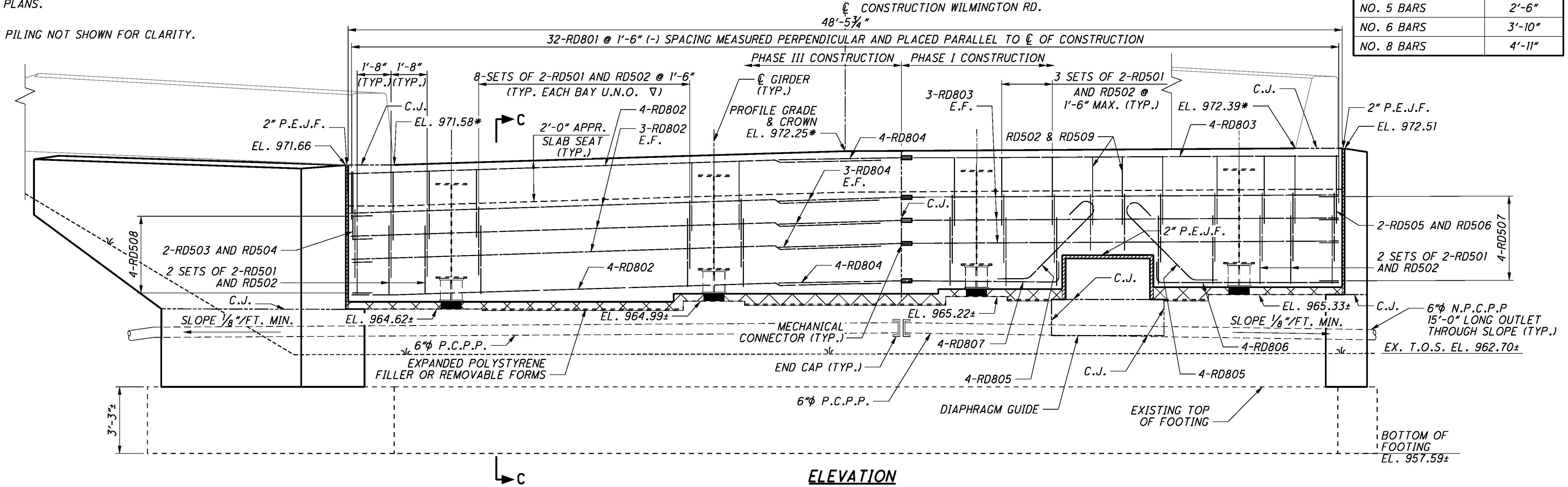


PLAN



ELEVATION

LEGEND:

(#) - GIRDER DESIGNATION

* - ELEVATIONS GIVEN AT BRIDGE LIMITS

∇ - BARS ALIGNED PARALLEL WITH GIRDERS WITH SPACING PERPENDICULAR TO GIRDERS

NOTES:

1. FOR VIEW A-A, DIAPHRAGM GUIDE, AND PIPE OUTLET DETAIL, SEE SHEET 11/34.
2. FOR VIEW B-B AND SECTION C-C, SEE SHEET 12/34.
3. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
4. EXISTING PILING NOT SHOWN FOR CLARITY.

MIN. LAP LENGTHS	
NO. 5 BARS	2'-6"
NO. 6 BARS	3'-10"
NO. 8 BARS	4'-11"

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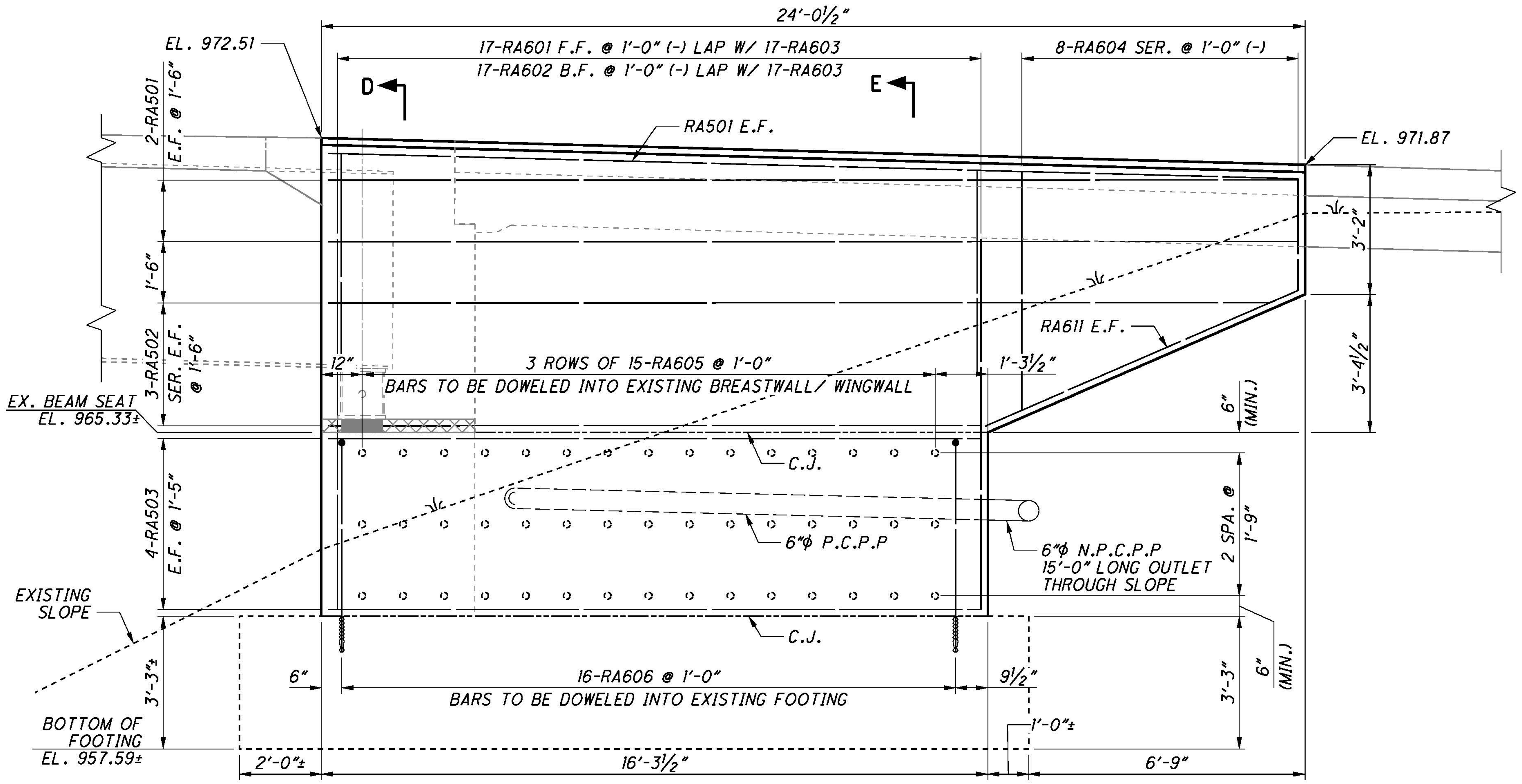
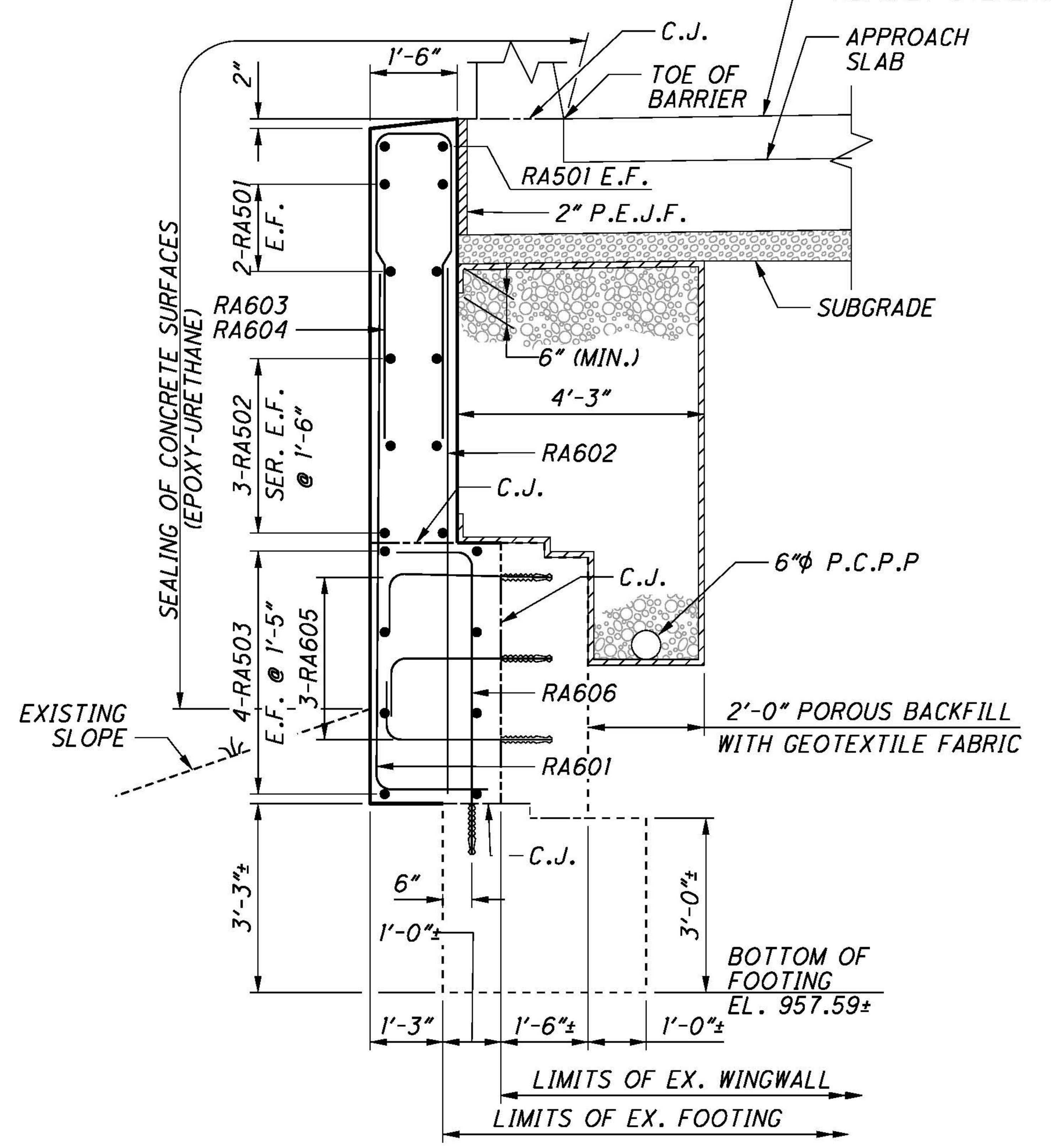
REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

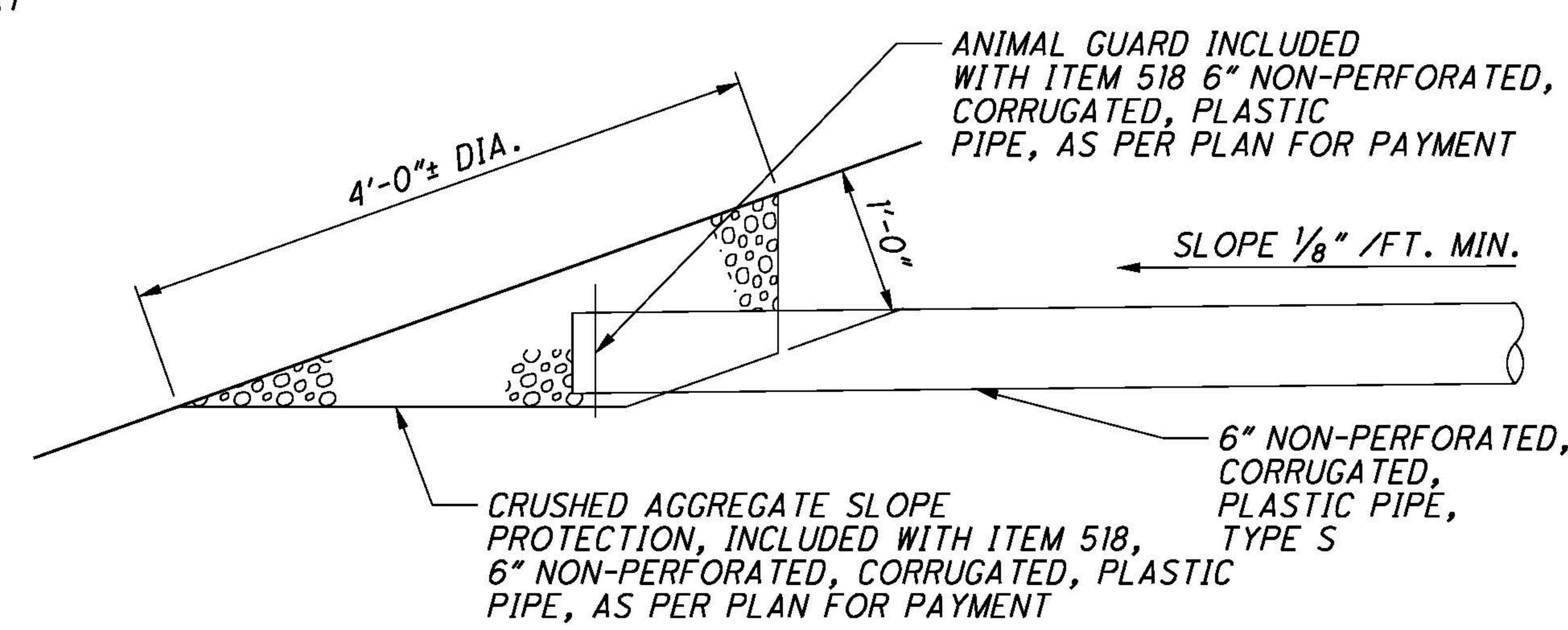
WAR-71-16.81
PID No. 91727



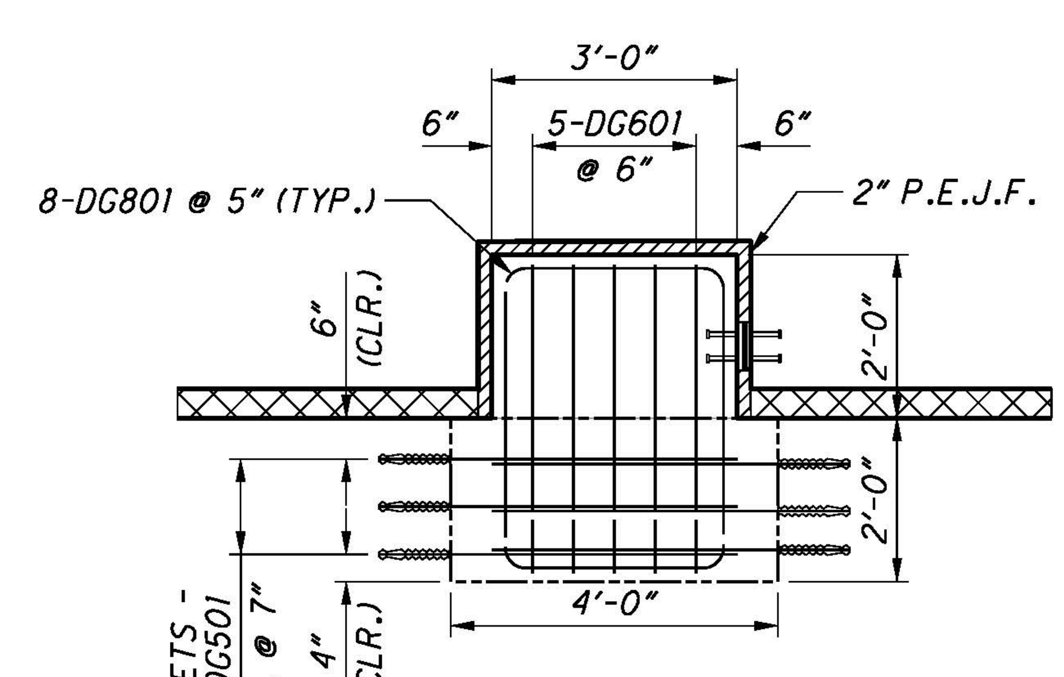
VIEW A-A



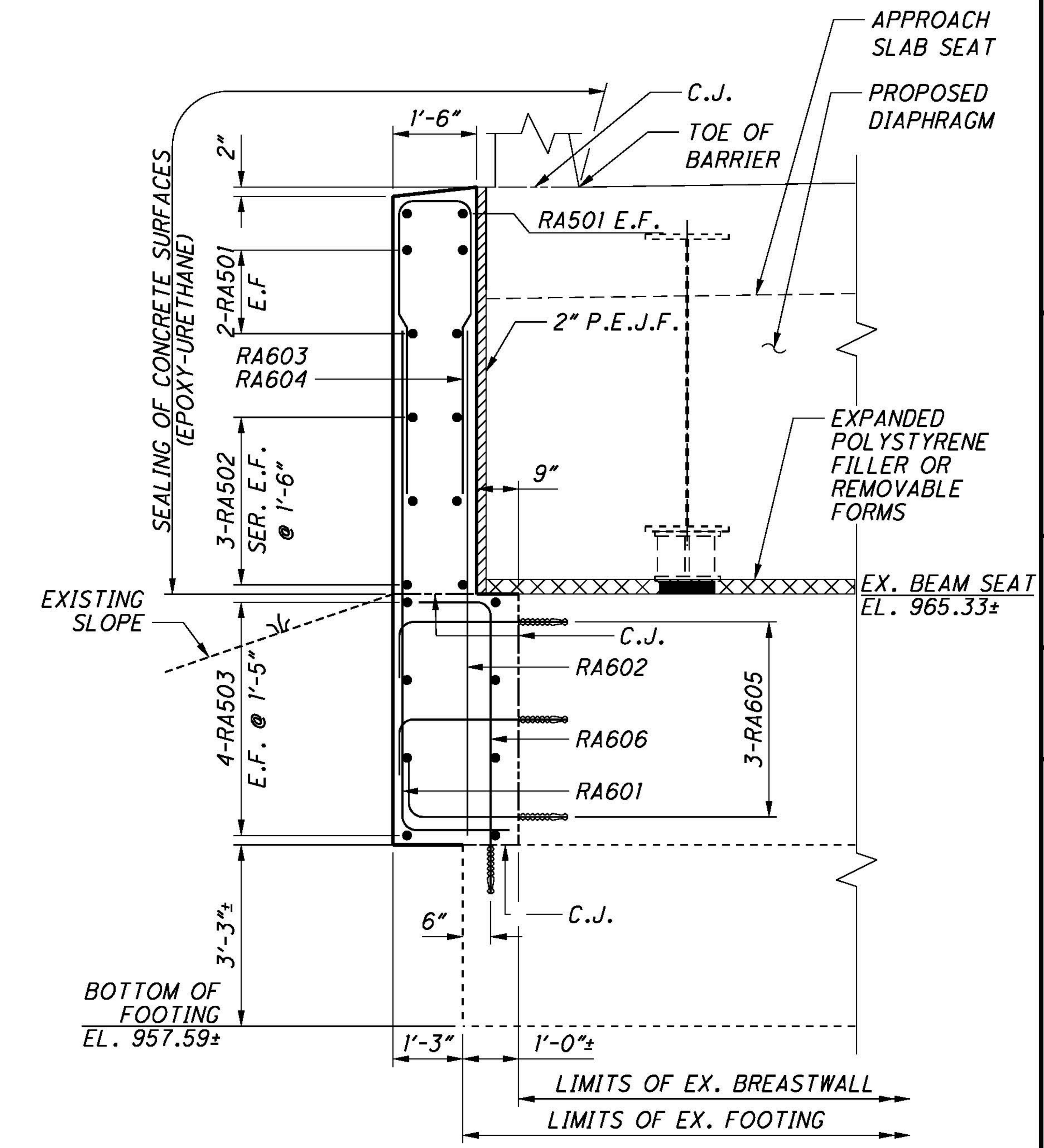
SECTION E-E



TERMINATION OF 6" N.P.C.P.P. DETAIL



DIAPHRAGM GUIDE



SECTION D-D

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10½ INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEET 10/34.
3. FOR BEARING DETAILS, SEE SHEET 19/34.
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. EXISTING PILING NOT SHOWN FOR CLARITY.
6. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
7. FOR REAR ABUTMENT RIGHT WINGWALL AND SEMI-INTEGRAL DIAPHRAGM DETAILS, SEE SHEET 12/34.
8. ADDITIONAL REINFORCEMENT, CONCRETE, LABOR AND INCIDENTALS REQUIRED TO FACILITATE THE CONSTRUCTION OF THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE PAID FOR UNDER ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.

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REAR ABUTMENT LEFT WINGWALL AND MISCELLANEOUS DETAILS

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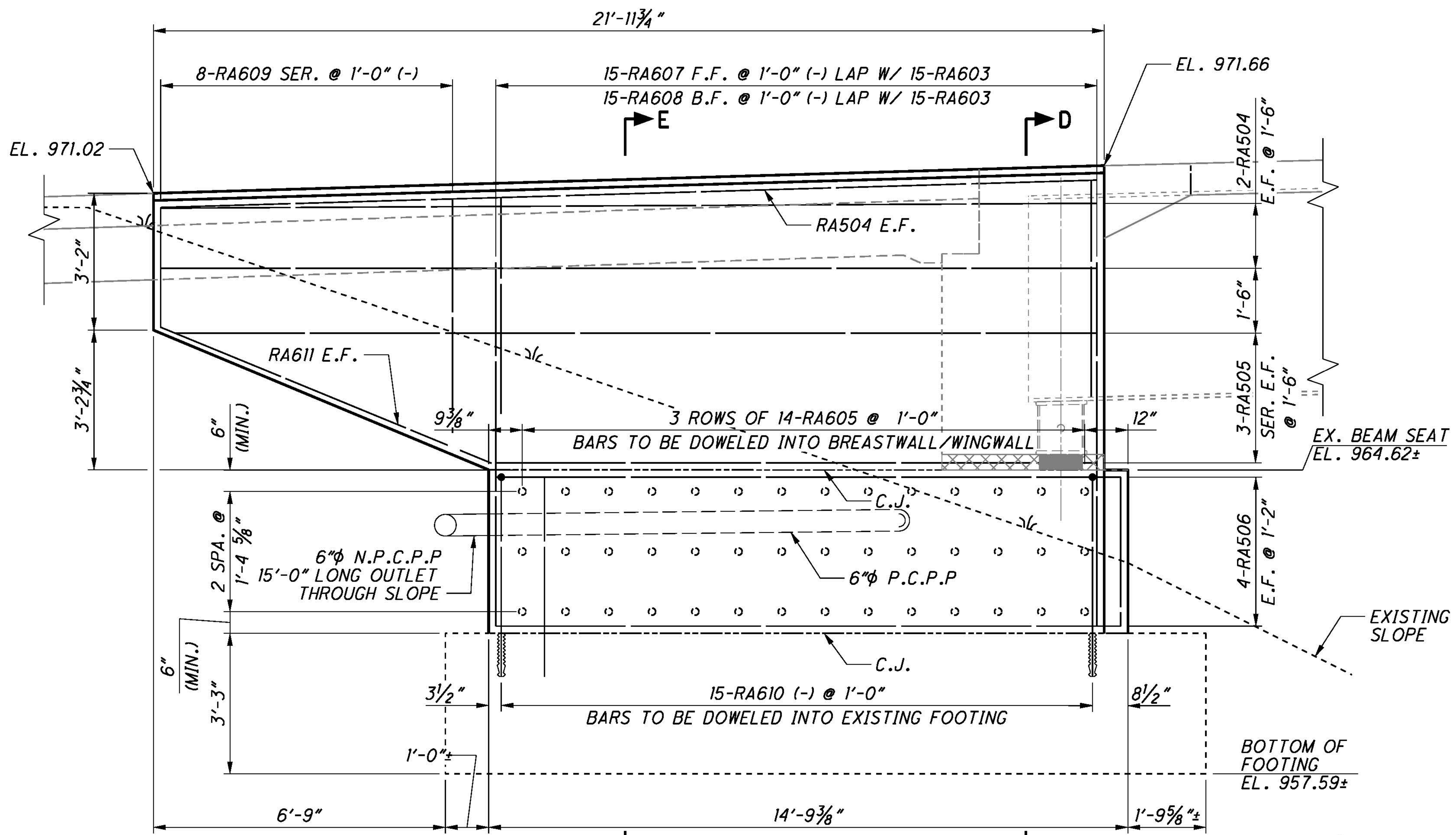
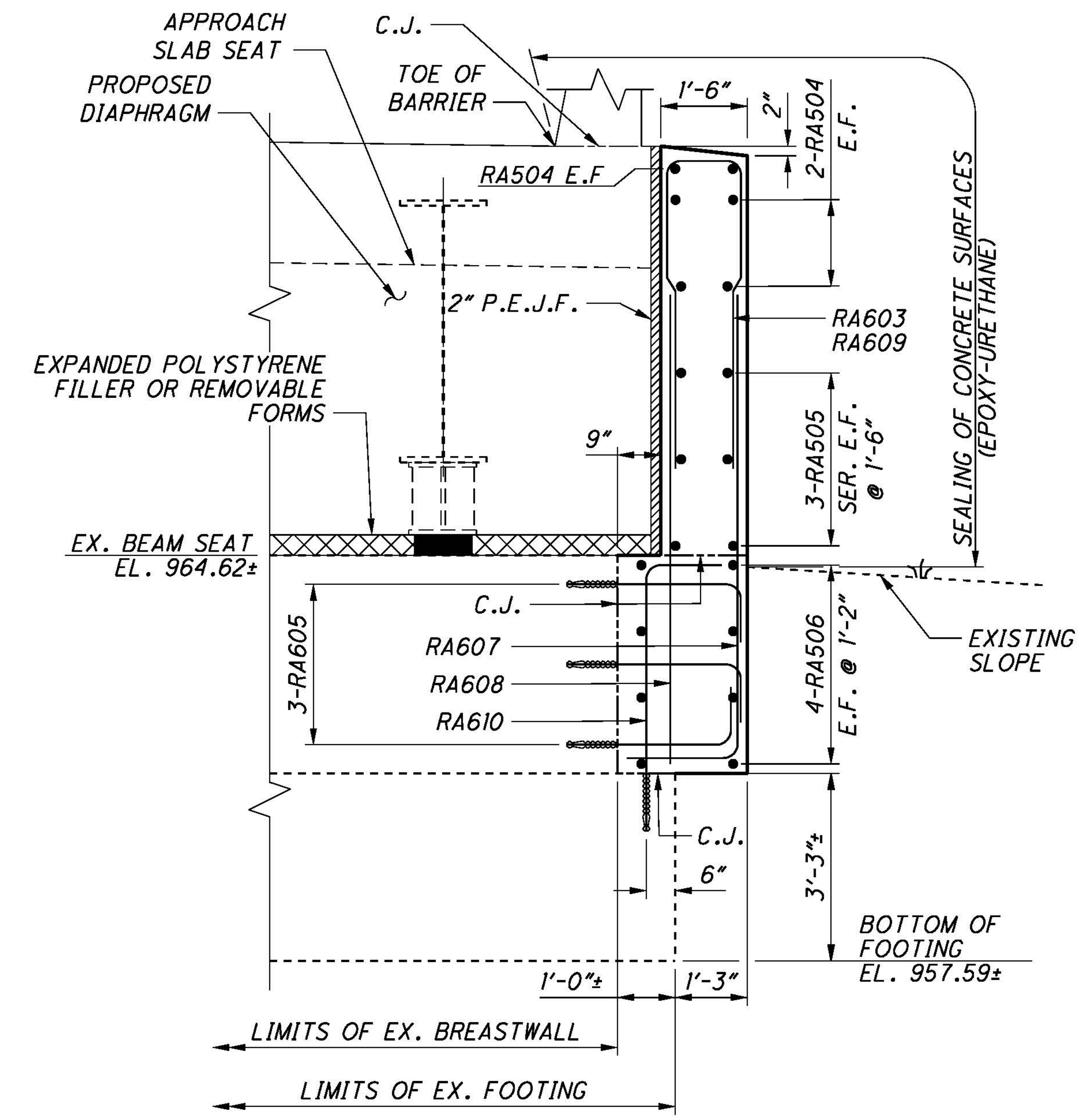
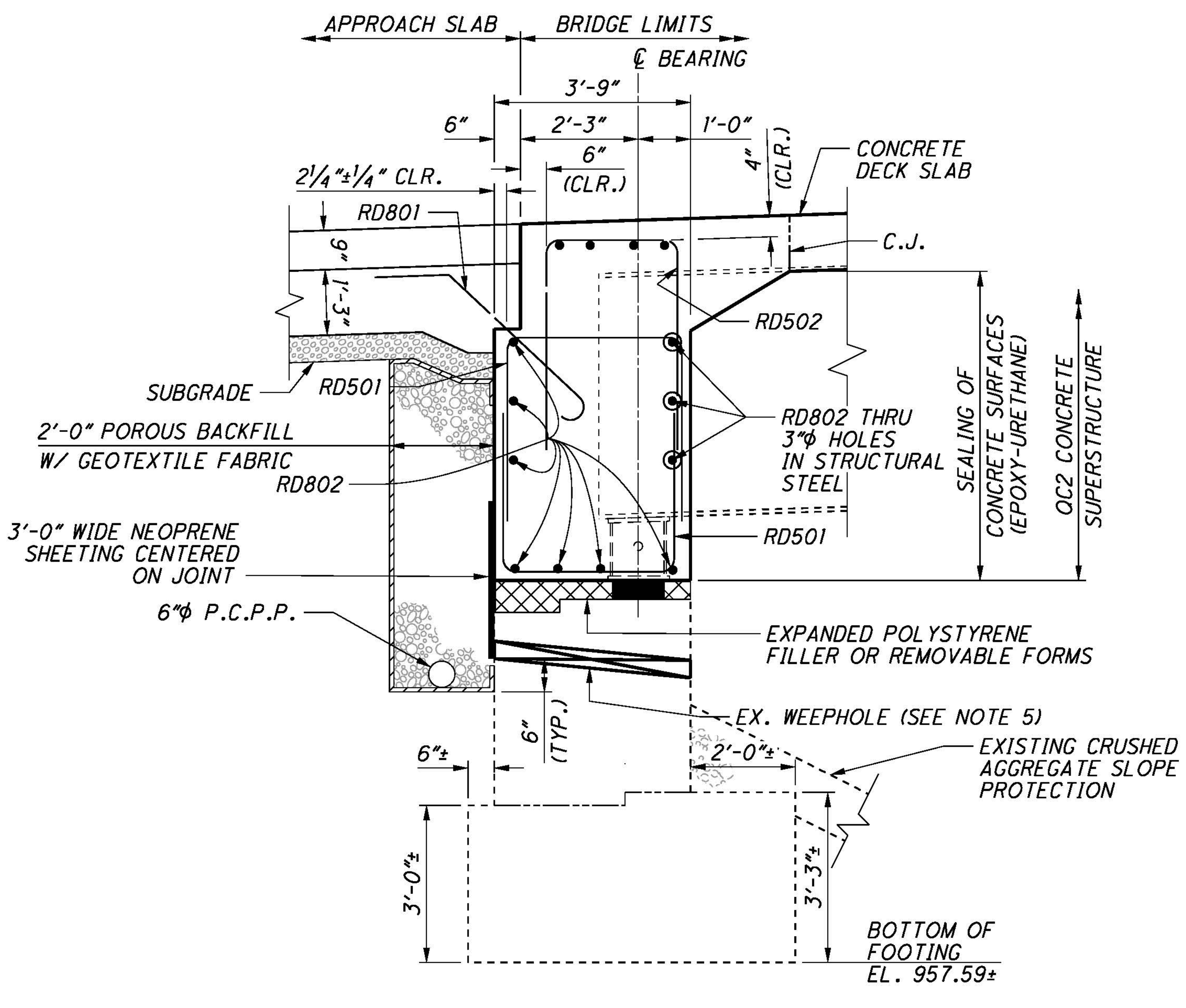


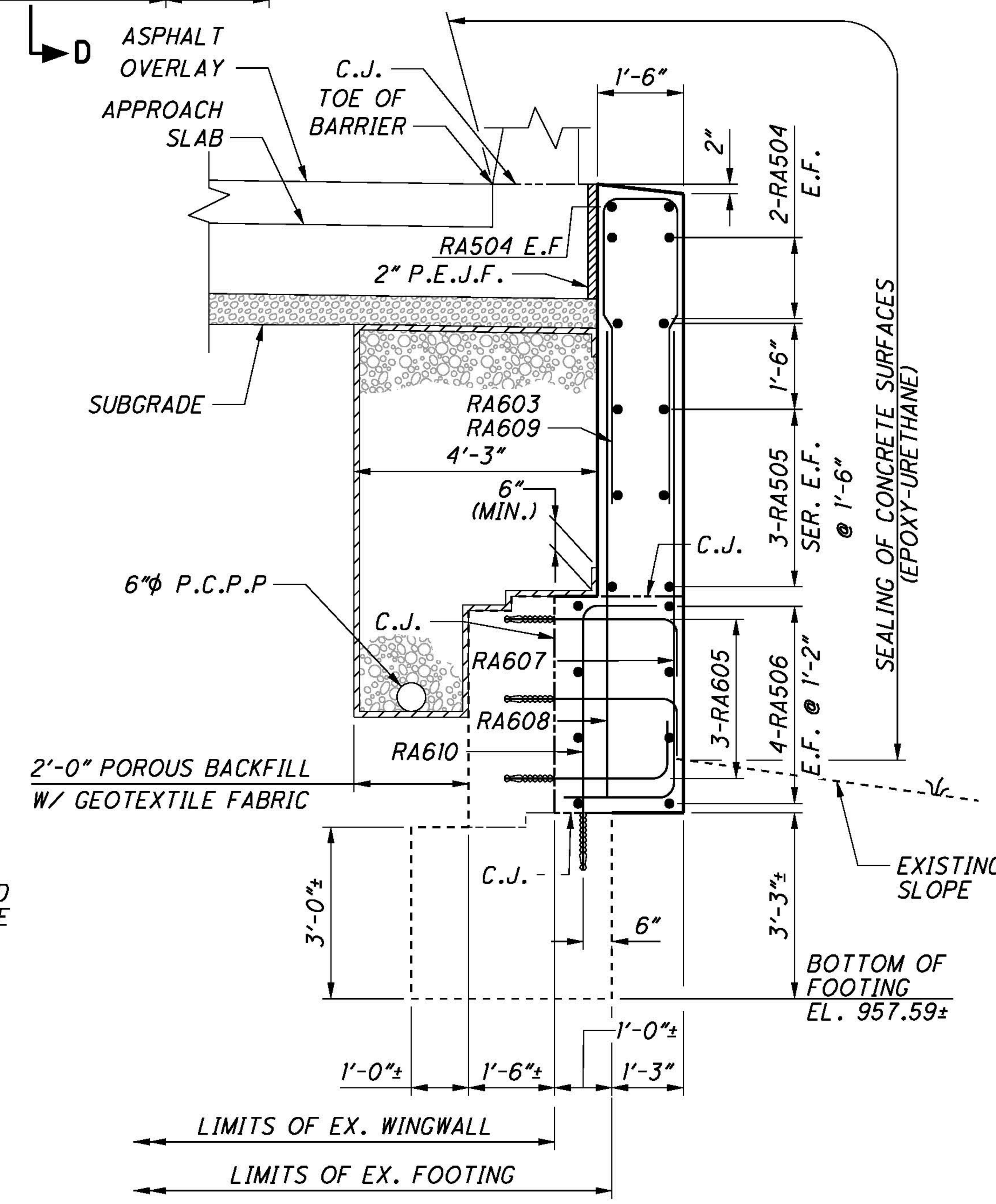
VIEW B-B



SECTION D-D



SECTION C-C



SECTION E-E

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10 1/2 INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEET 10/34 .
3. FOR BEARING DETAILS, SEE SHEET 19/34 .
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. CLEAR EXISTING WEEPHOLES AND FILL WITH NON-SHRINK, NON-METALLIC GROUT PER CMS 705.20. ALL MATERIALS, LABOR, AND INCIDENTALS FOR PAYMENT SHALL BE INCLUDED IN ITEM 518 POROUS BACKFILL, WITH GEOTEXTILE FABRIC, AS PER PLAN.
6. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.
7. EXISTING PILING NOT SHOWN FOR CLARITY.
8. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
9. FOR REAR ABUTMENT LEFT WINGWALL, DIAPHRAGM GUIDE, AND THE TERMINATION OF THE 6" NON-PERFORATED CORRUGATED PLASTIC PIPE DETAILS, SEE SHEET 11/34 .

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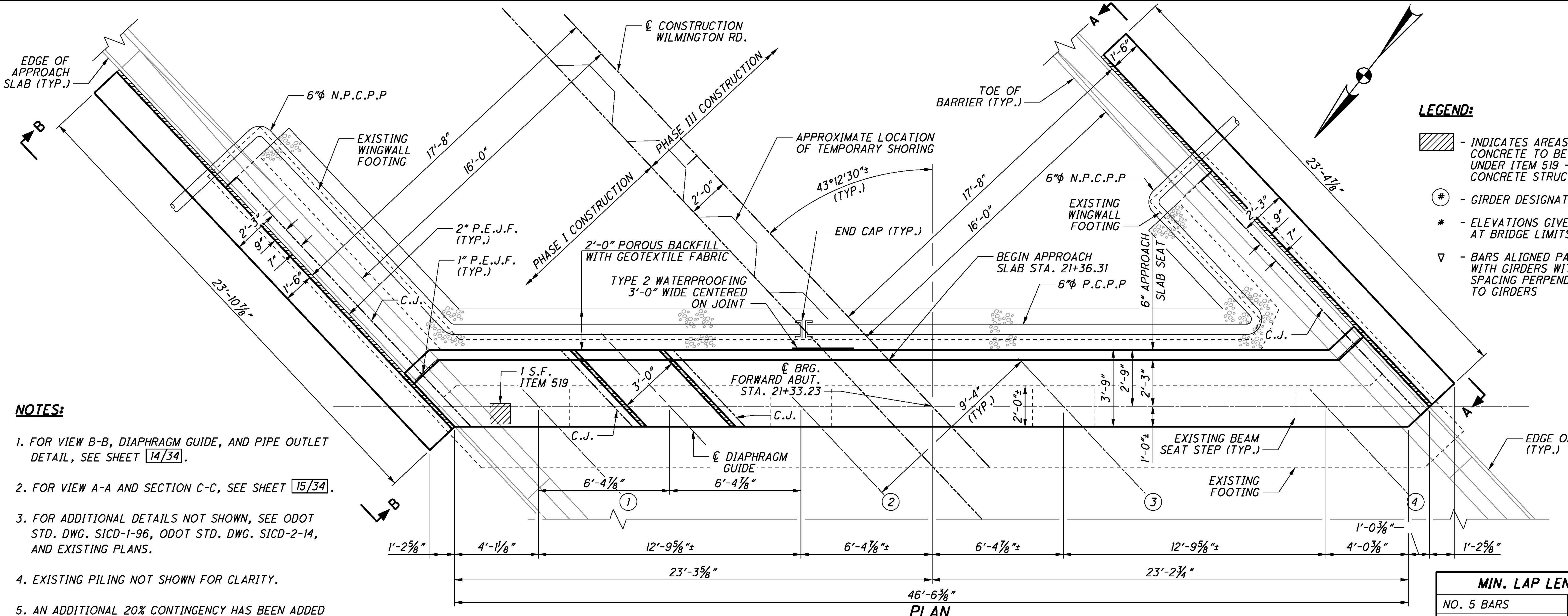
DESIGNED	DRAWN	REVIEWED	DATE
TAS/PAN	JAA	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRV		8302316	

REAR ABUTMENT RIGHT WINGWALL AND DIAPHRAGM DETAILS

BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



PLAN

NOTES:

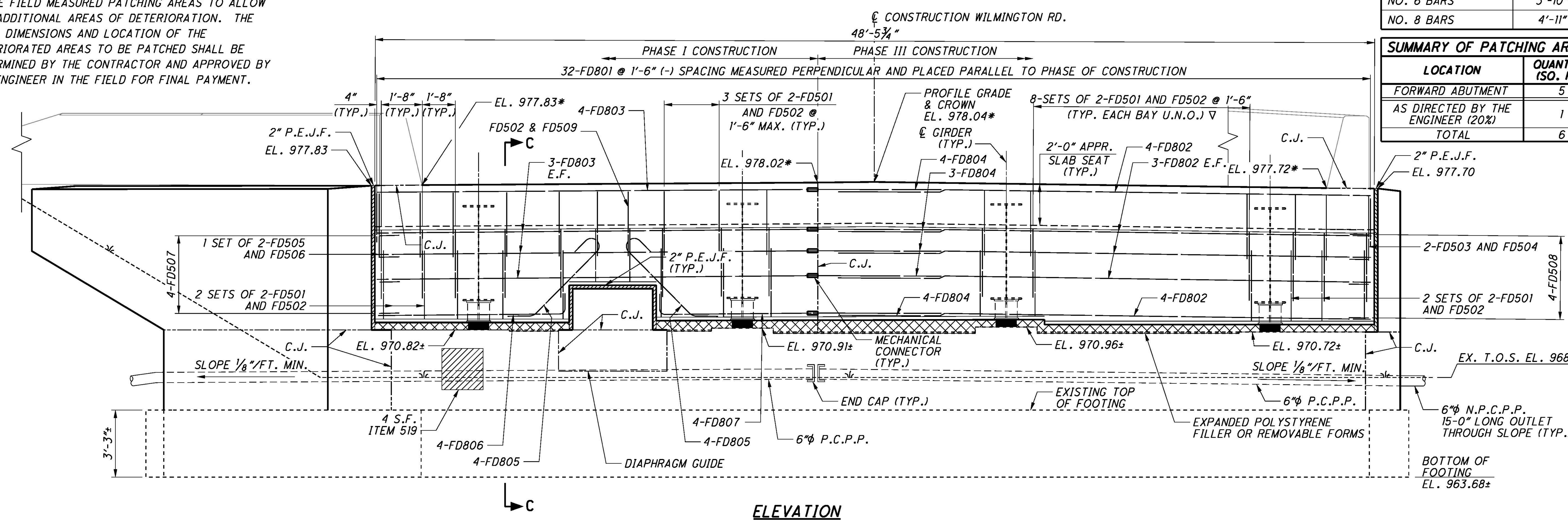
1. FOR VIEW B-B, DIAPHRAGM GUIDE, AND PIPE OUTLET DETAIL, SEE SHEET 14/34.
2. FOR VIEW A-A AND SECTION C-C, SEE SHEET 15/34.
3. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
4. EXISTING PILING NOT SHOWN FOR CLARITY.
5. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TOTHE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.

LEGEND:

- (hatched) - INDICATES AREAS OF ABUTMENT CONCRETE TO BE PATCHED UNDER ITEM 519 - PATCHING CONCRETE STRUCTURE
- (#) - GIRDER DESIGNATION
- * - ELEVATIONS GIVEN AT BRIDGE LIMITS
- ∇ - BARS ALIGNED PARALLEL WITH GIRDERS WITH SPACING PERPENDICULAR TO GIRDERS

MIN. LAP LENGTHS	
NO. 5 BARS	2'-6"
NO. 6 BARS	3'-10"
NO. 8 BARS	4'-11"

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
FORWARD ABUTMENT	5
AS DIRECTED BY THE ENGINEER (20%)	1
TOTAL	6



ELEVATION

P:\91727\Design\Structures\WAR-071-1683C\Sheets\071_1683C_SF001.dgn 9/6/2016 8:44:56 AM scorcoran

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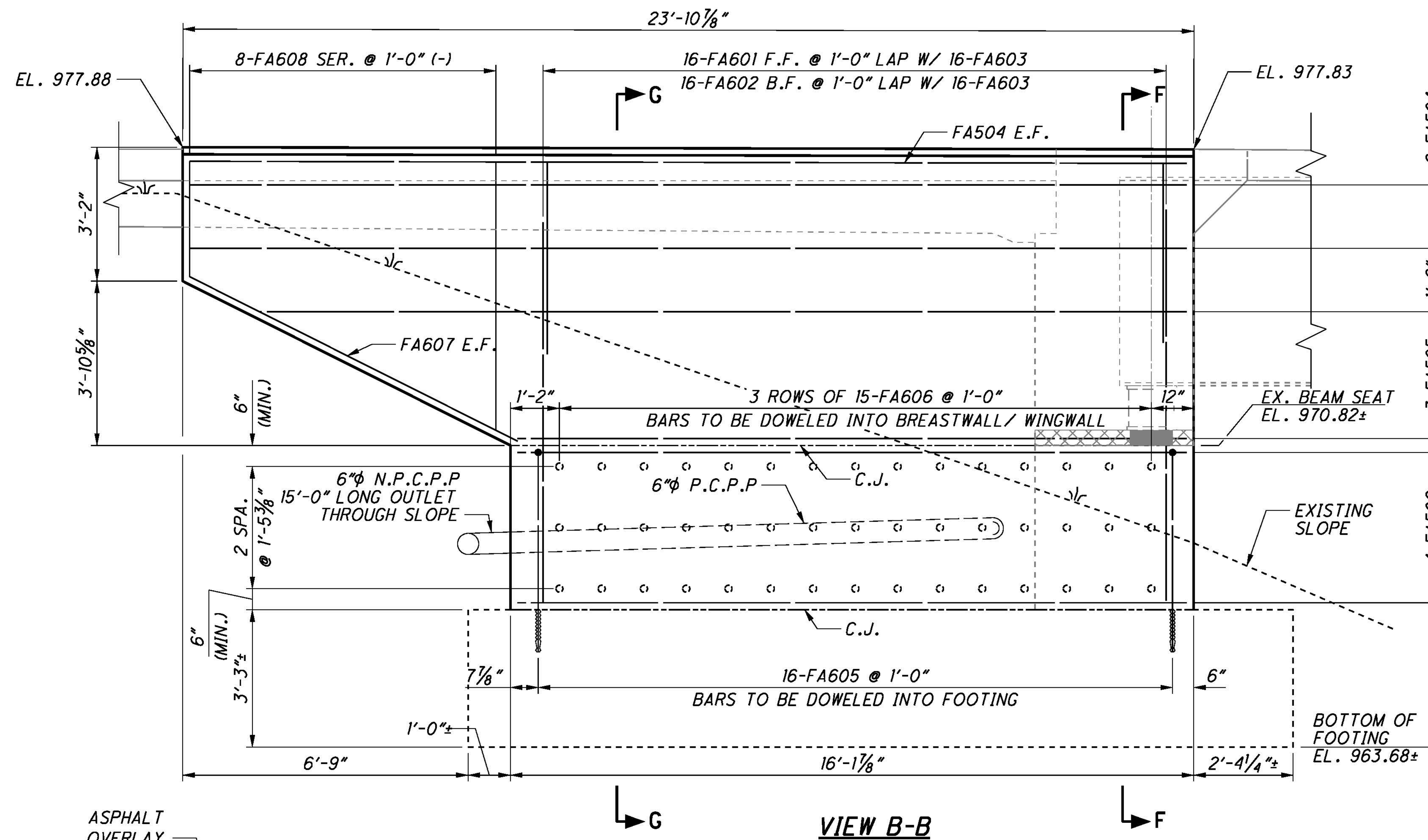
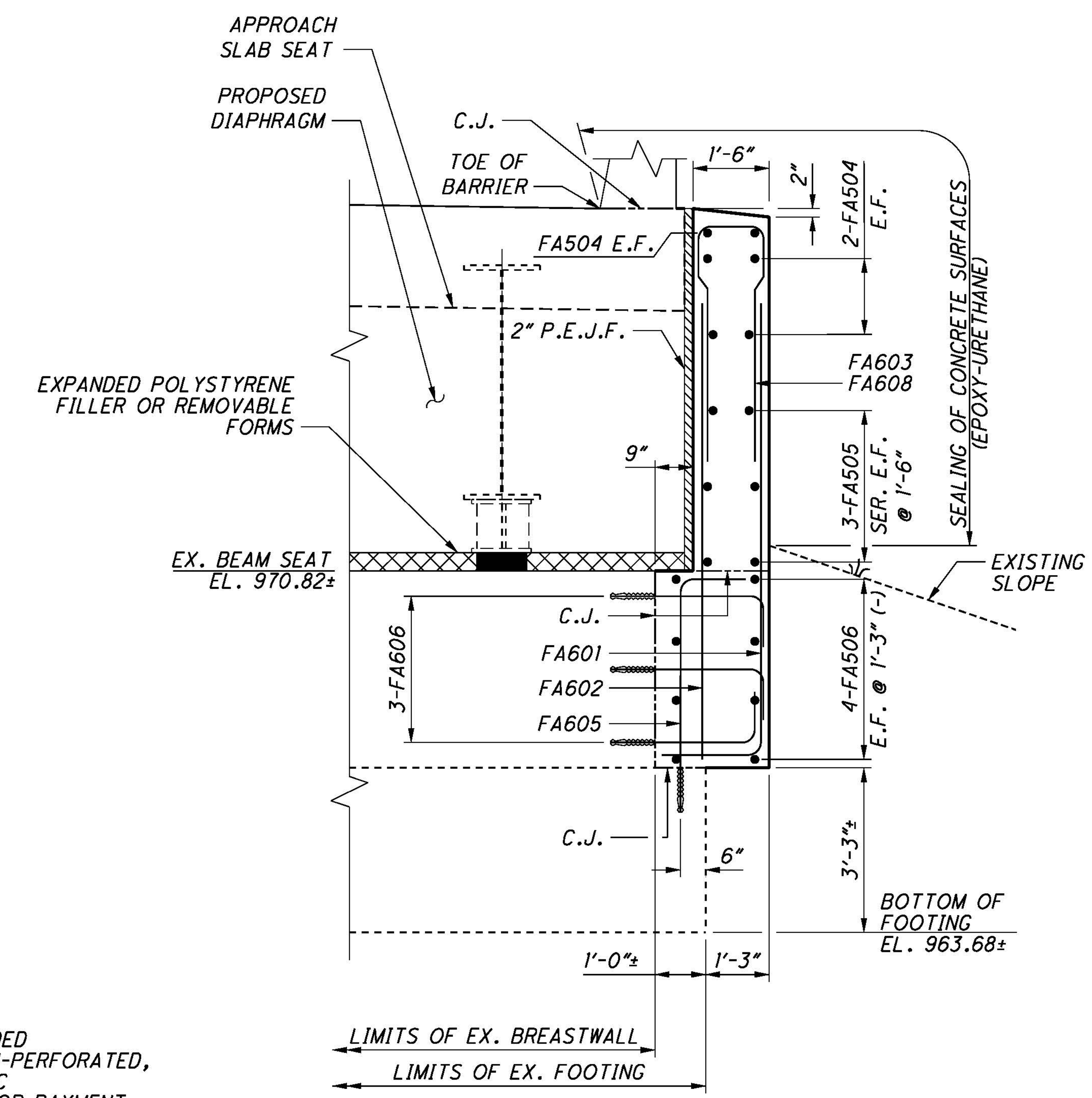
TAS/PAN	JAA	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRV		8302316	

FORWARD ABUTMENT PLAN AND ELEVATION
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

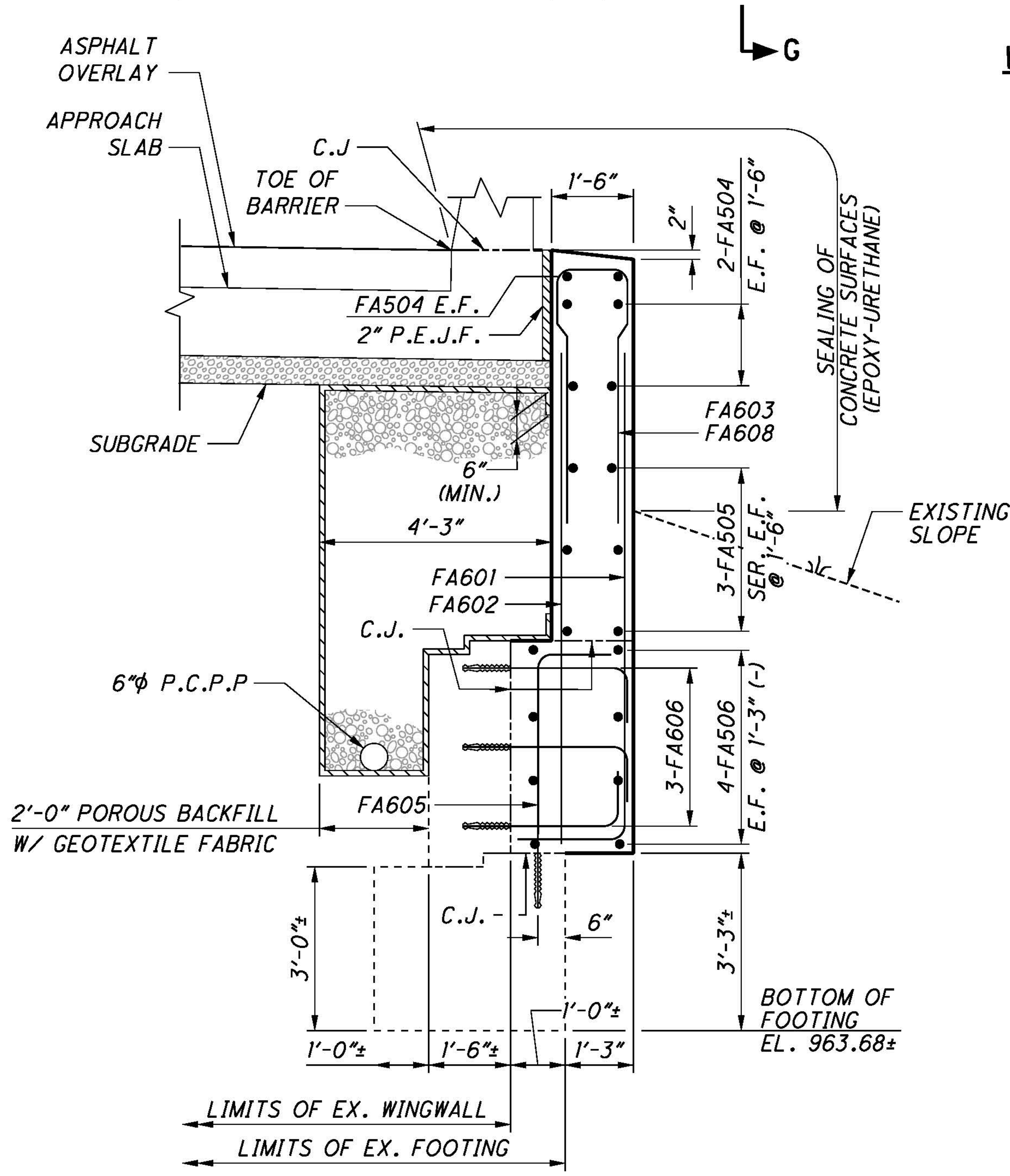
WAR-71-16.81
PID No. 91727



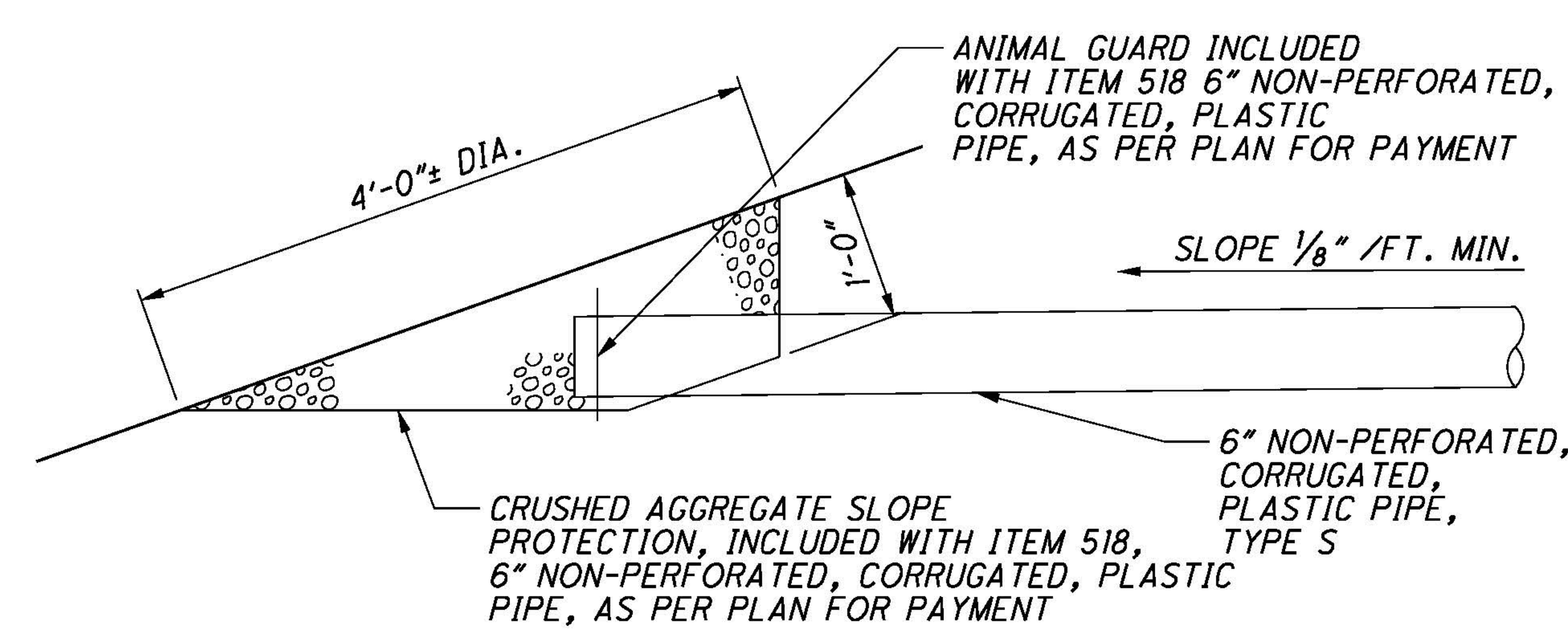
VIEW B-B



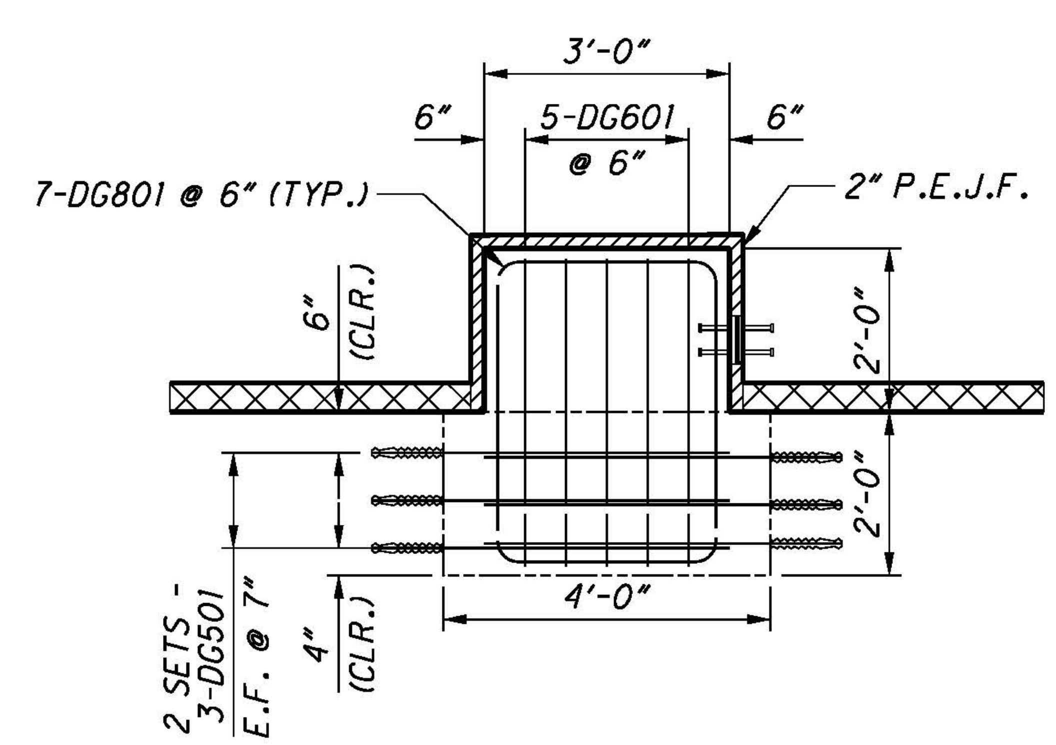
SECTION F-F



SECTION G-G



TERMINATION OF 6" N.P.C.P.P. DETAIL



DIAPHRAGM GUIDE

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10½ INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEET 13/34 .
3. FOR BEARING DETAILS, SEE SHEET 19/34 .
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. EXISTING PILING NOT SHOWN FOR CLARITY.
6. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
7. FOR FORWARD ABUTMENT RIGHT WINGWALL AND SEMI-INTEGRAL DIAPHRAGM DETAILS, SEE SHEET 15/34 .
8. ADDITIONAL REINFORCEMENT, CONCRETE, LABOR AND INCIDENTALS REQUIRED TO FACILITATE THE CONSTRUCTION OF THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE PAID FOR UNDER ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.

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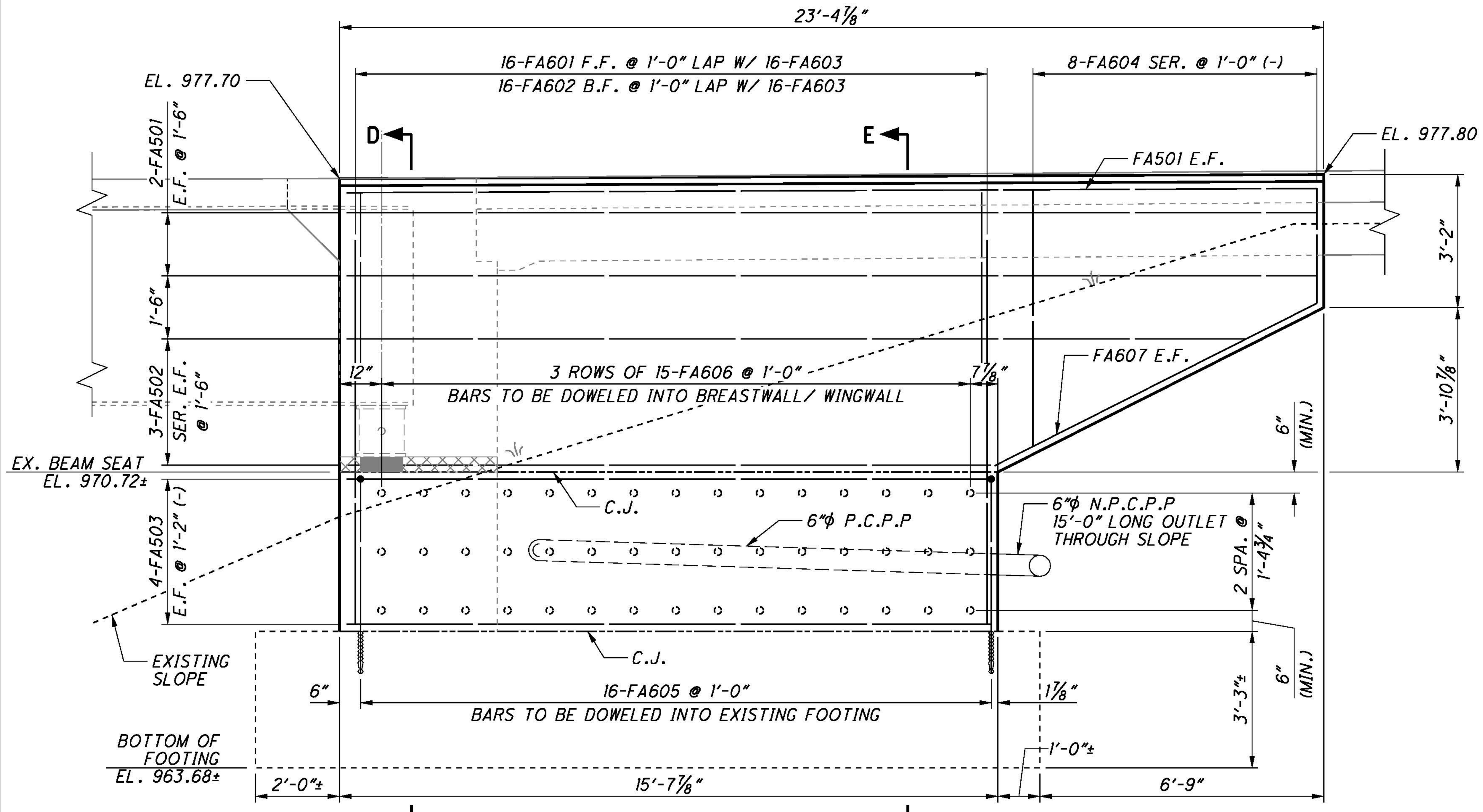
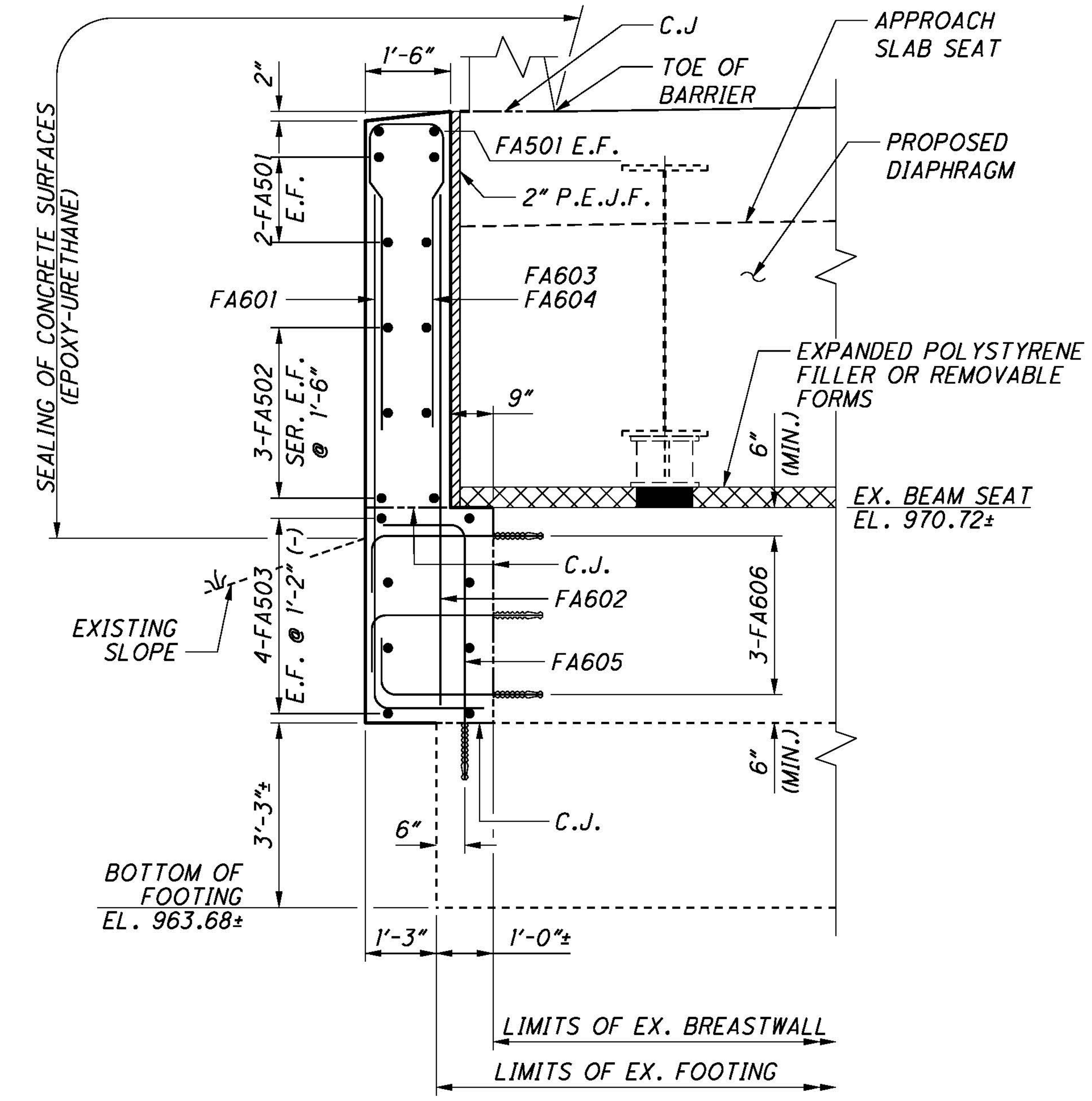
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRV		8302316	

FORWARD ABUTMENT LEFT WINGWALL AND MISCELLANEOUS DETAILS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

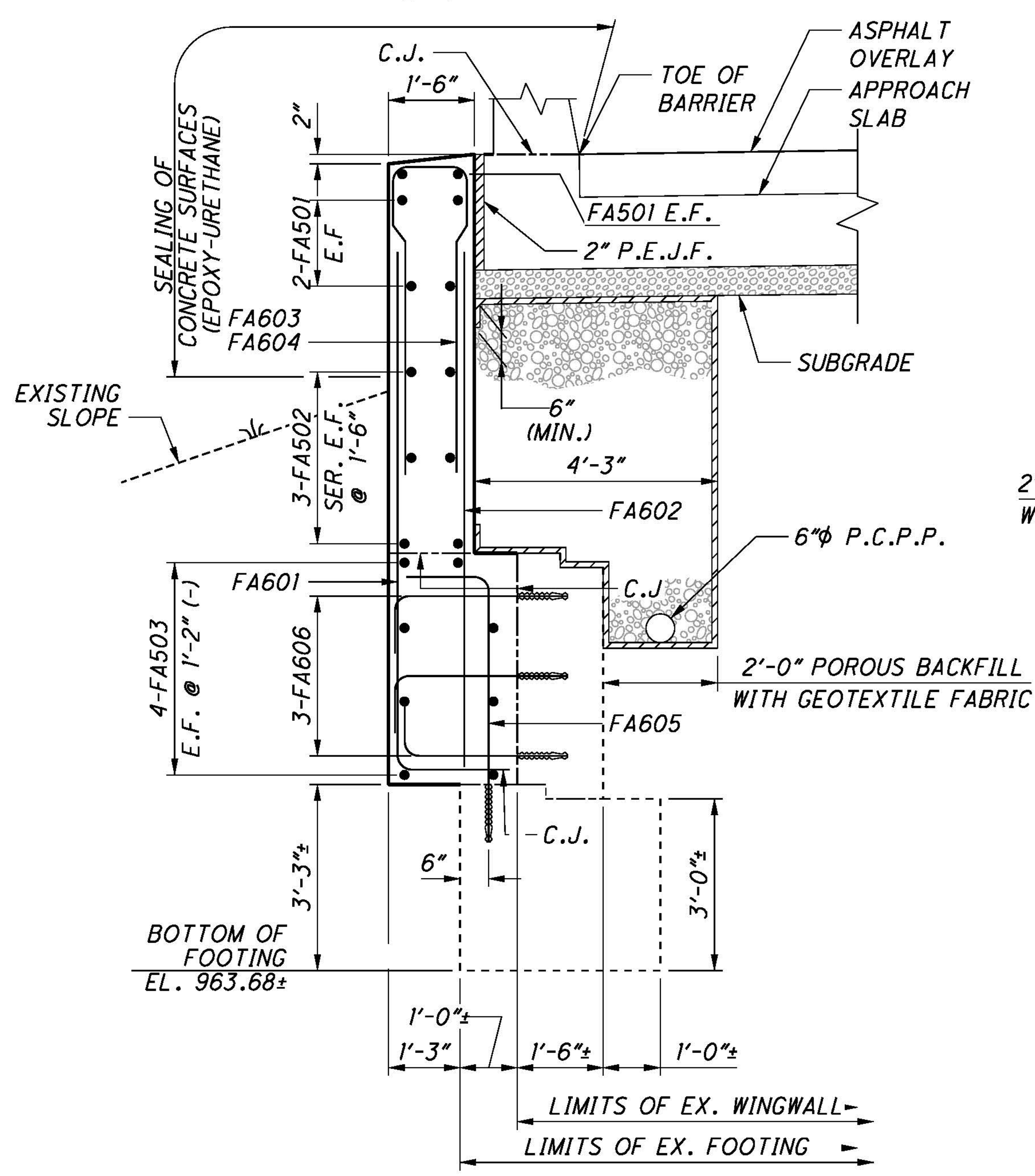
WAR-71-16.81
PID No. 91727



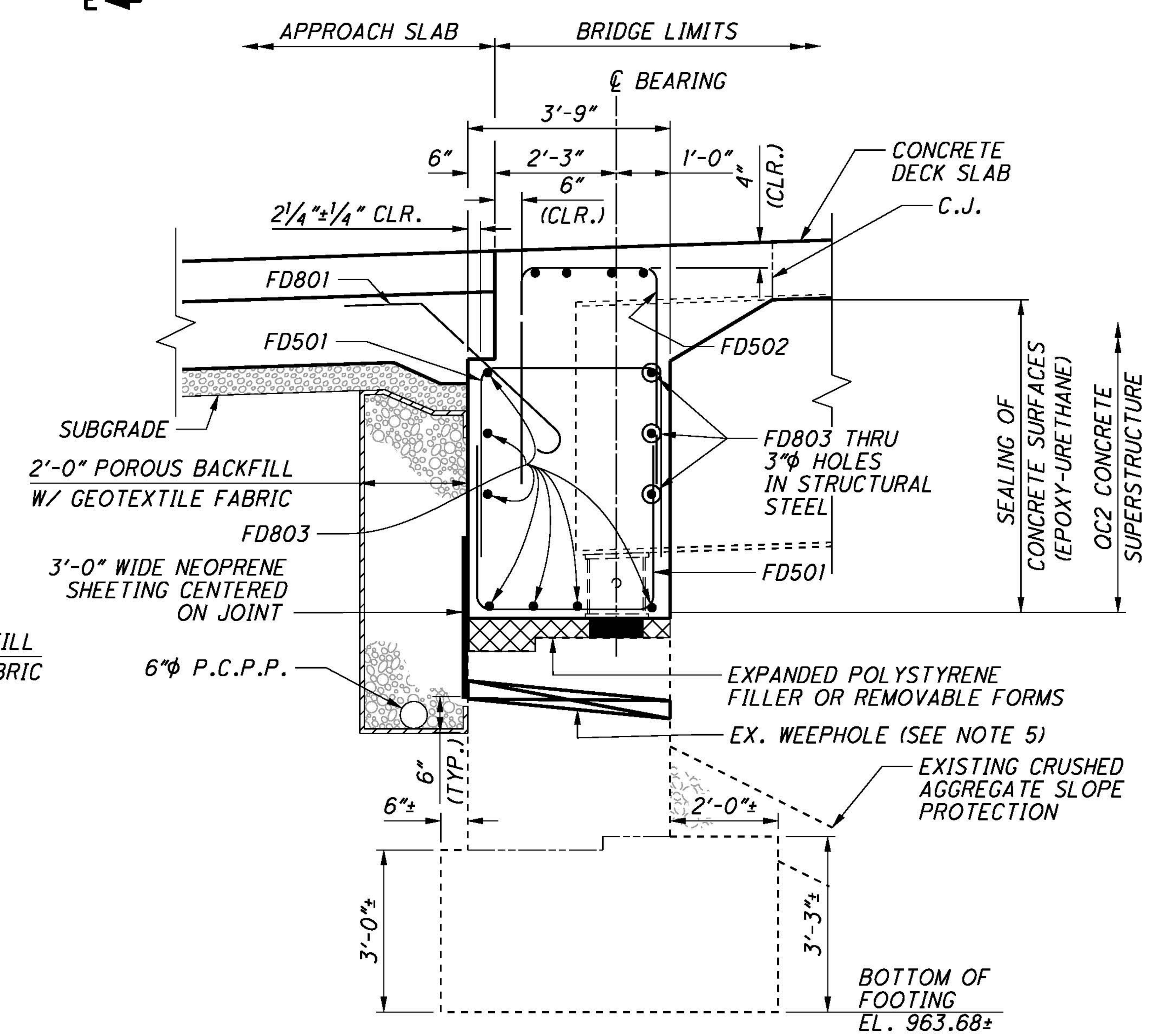
VIEW A-A



SECTION D-D



SECTION E-E



SECTION C-C

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10½ INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEET 13/34.
3. FOR BEARING DETAILS, SEE SHEET 19/34.
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. CLEAR EXISTING WEEPHOLES AND FILL WITH NON-SHIRNK, NON-METALLIC GROUT PER CMS 705.20. ALL MATERIALS, LABOR, AND INCIDENTALS FOR PAYMENT SHALL BE INCLUDED IN ITEM 518 POROUS BACKFILL, WITH GEOTEXTILE FABRIC, AS PER PLAN.
6. ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.
7. EXISTING PILING NOT SHOWN FOR CLARITY.
8. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
9. FOR FORWARD ABUTMENT LEFT WINGWALL, DIAPHRAGM GUIDE, AND THE TERMINATION OF THE 6" NON-PERFORATED CORRUGATED PLASTIC PIPE DETAILS, SEE SHEET 14/34 .

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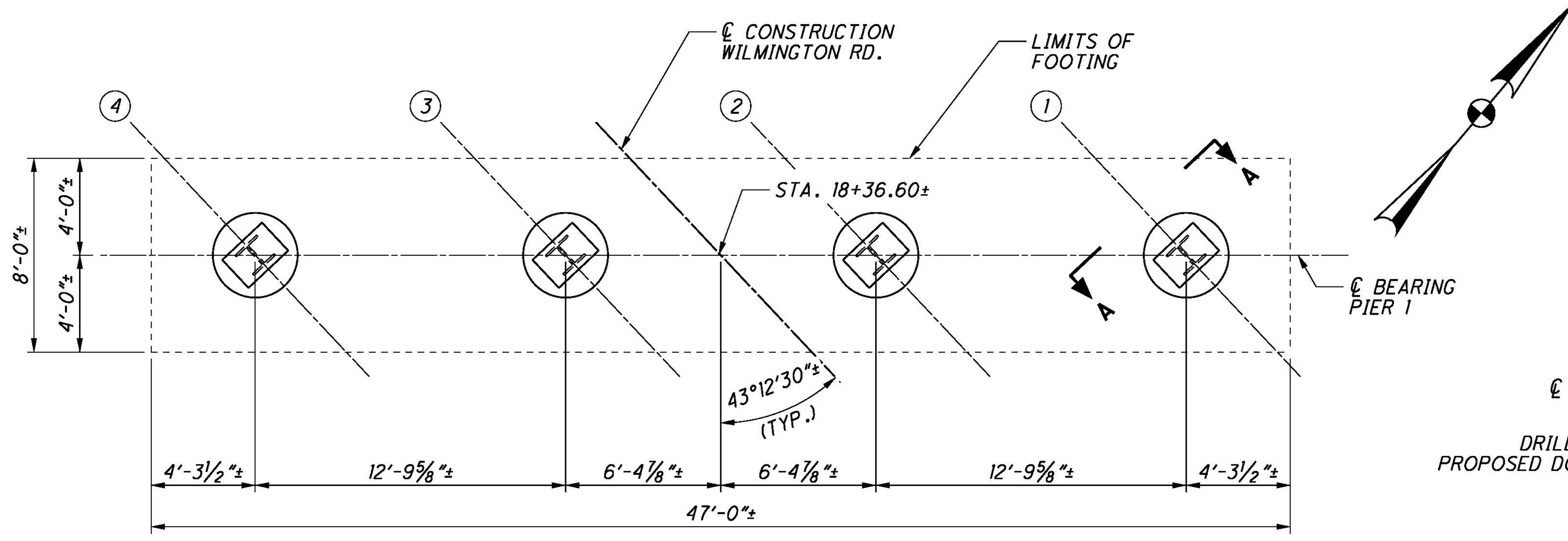
TAS/PAN	MRV	JAA		RER	07/2016	8302316

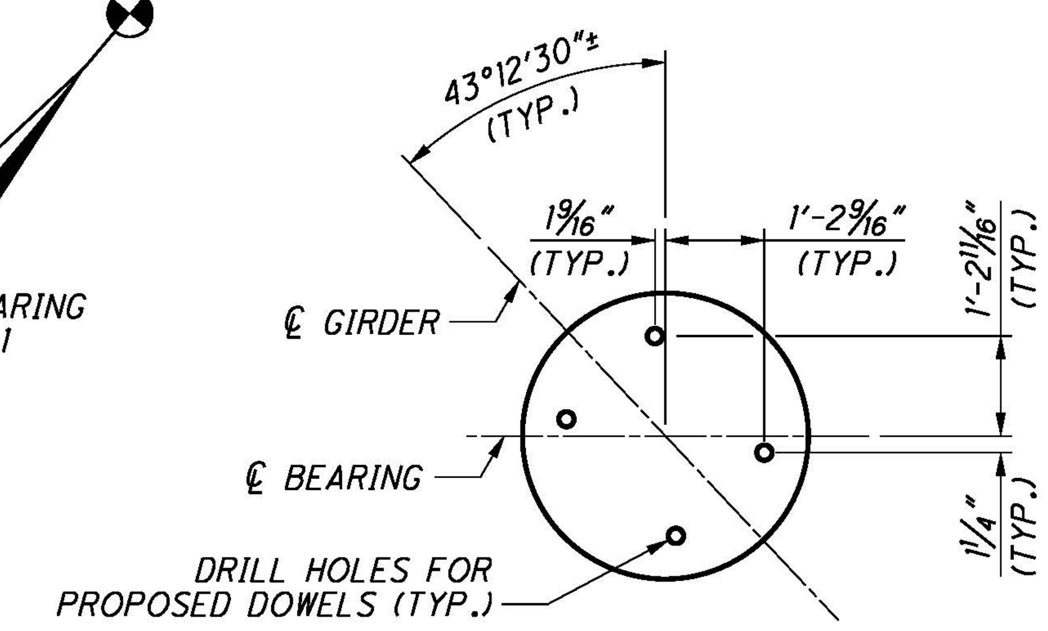
FORWARD ABUTMENT RIGHT WINGWALL AND DIAPHRAGM DETAILS

BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

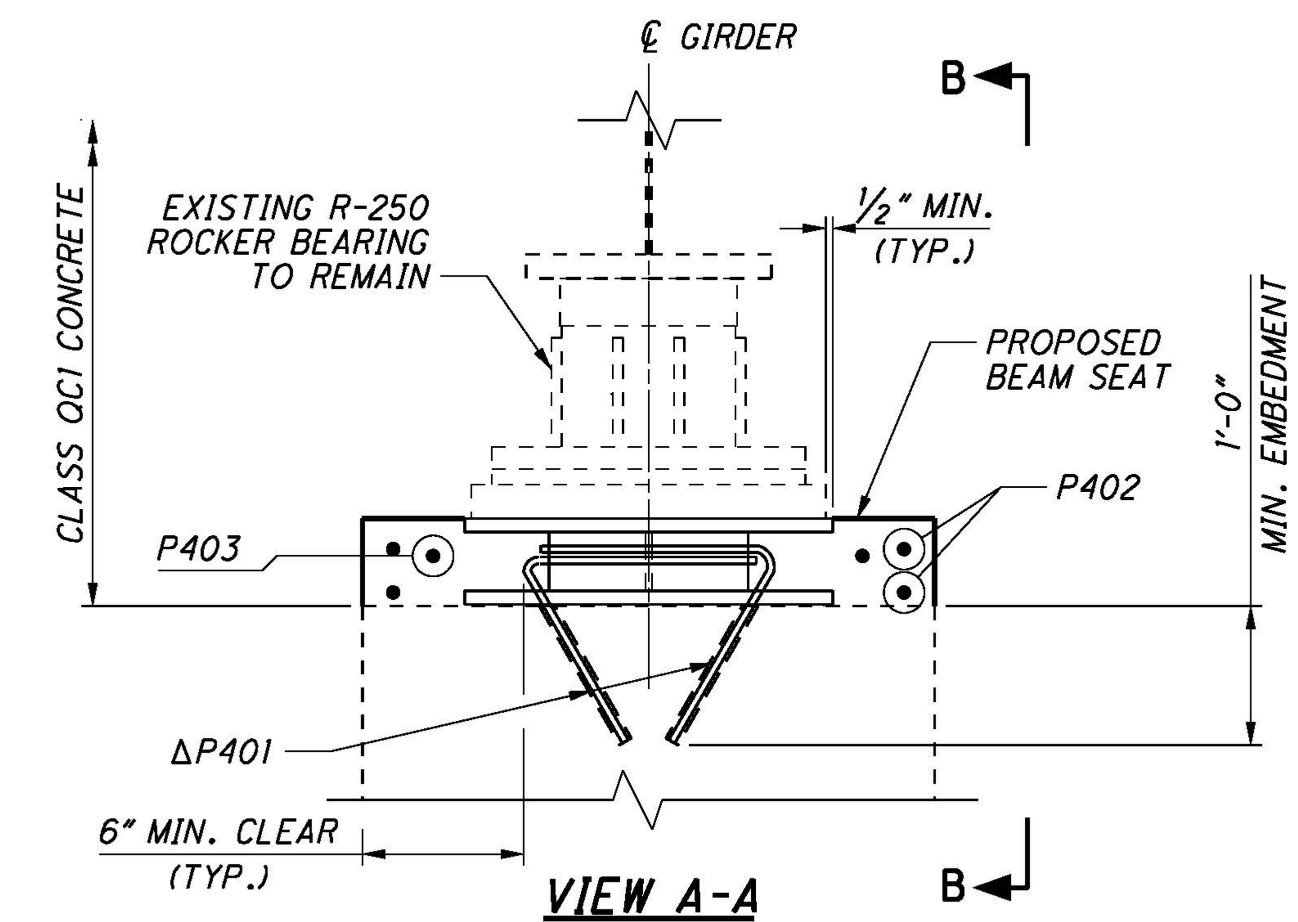


PLAN



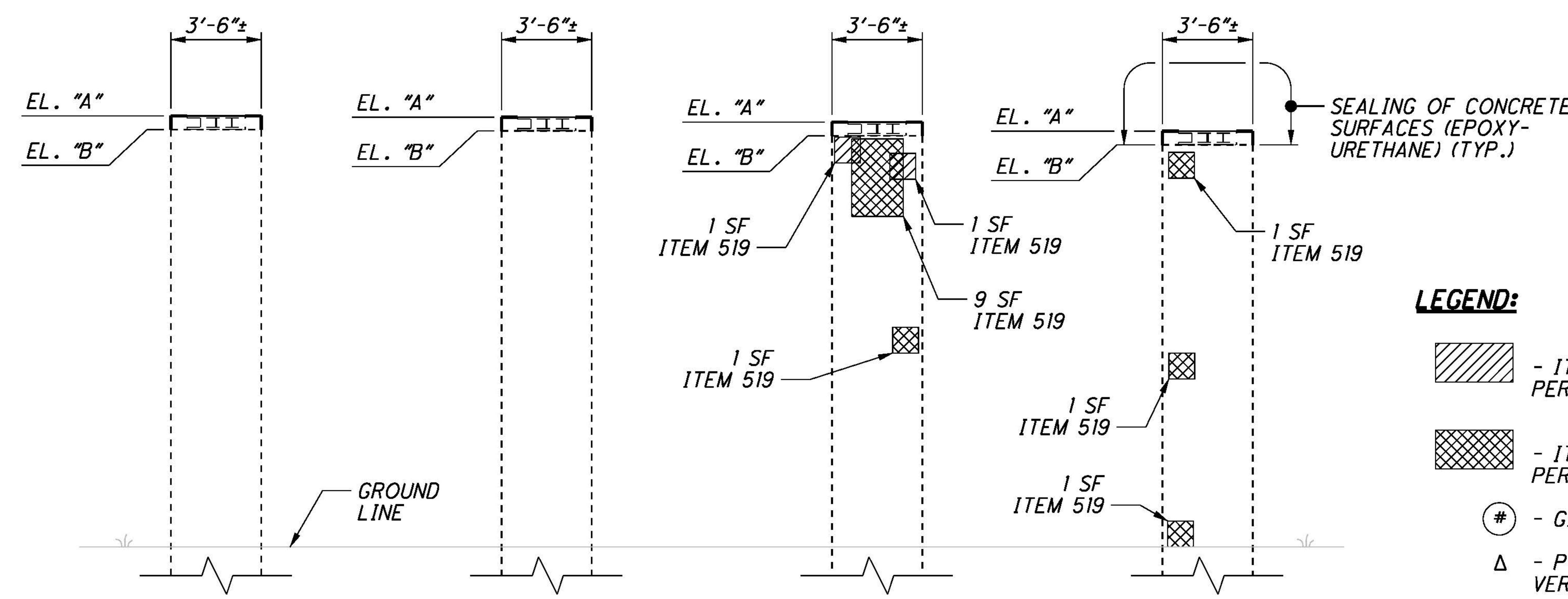
DOWEL HOLE DETAILS

(TO BE VERIFIED BY CONTRACTOR)



VIEW A-A

(TYPICAL PIER COLUMN MODIFICATION DETAIL)
(EXISTING REINFORCING NOT SHOWN FOR CLARITY)



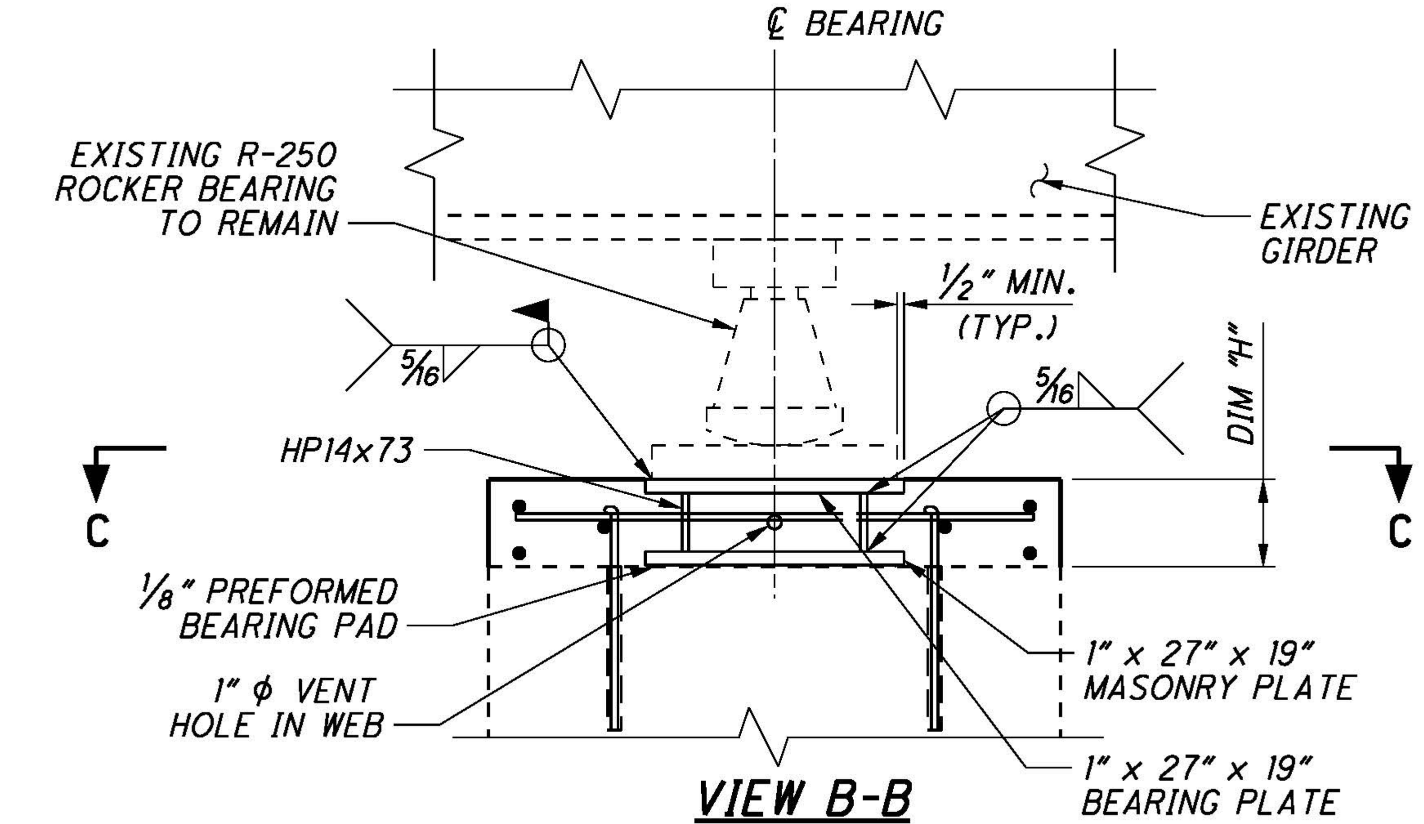
ELEVATION

LOOKING UPSTATION
(PIER FOOTING NOT SHOWN FOR CLARITY)

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
PIER 1 (SOUTHEAST)	2
PIER 1 (NORTHWEST)	13
AS DIRECTED BY THE ENGINEER (20%)	3
TOTAL	18

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - SOUTHEAST FACE
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - NORTHWEST FACE
- (#) - GIRDER NUMBER
- Δ - P401 SHALL BE PLACED 30° OUT OF PLUMB FROM VERTICAL FOR EASE OF PLACEMENT.



VIEW B-B

(TYPICAL PIER COLUMN MODIFICATION DETAIL)
(EXISTING REINFORCING NOT SHOWN FOR CLARITY)

ESTIMATED PEDESTAL HEIGHT AND ELEVATIONS*				
GIRDER	ESTIMATED PROP. EL. "A"	EX. EL. "B"	ESTIMATED PROP. BOTTOM OF BEAM EL. **	EST. PEDESTAL HEIGHT, DIM. "H"
G1	967.00±	966.44±	968.48±	6.73"±
G2	966.96±	966.37±	968.44±	7.09"±
G3	966.76±	966.22±	968.24±	6.49"±
G4	966.41±	965.80±	967.89±	7.33"±

* - SEE NOTE 4
** - ELEVATIONS ARE GIVEN AT PIER ℄ OF BEARING

NOTES:

1. THE CONTRACTOR IS REQUIRED TO VERIFY THE SIZE AND LOCATION WITH APPROVAL OF PROJECT ENGINEER OF ITEM 519 PATCHING DETAILS.

2. NEW CONCRETE SURFACES SHALL BE SEALED WITH EPOXY-URETHANE SEALER.

3. HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

4. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL HP SECTION HEIGHT BY SUBTRACTING THE EXISTING BOTTOM OF BEAM ELEVATION FROM THE EXISTING BEAM SEAT ELEVATION AND PROPOSED BEARING HEIGHT INCLUDING 1/8" SHEET LEAD AT EACH BEARING LOCATIONS. THIS HP SECTION HEIGHT IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 6.56 INCHES. THIS HP SECTION HEIGHT IS A CONTRACTOR CALCULATED DIMENSION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

   FINAL HP SECTION LENGTH = (CONTRACTOR'S BOTTOM OF STEEL ELEVATION) - (EXISTING BEAM SEAT ELEVATION) - (BEARING HEIGHT INCLUDING 1/8" SHEET LEAD) + (AMOUNT THE BRIDGE IS TO BE RAISED)

5. ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

6. ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, RESET BEARING, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

7. THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

8. FIELD TRIM REBAR AS NECESSARY.

9. FOR REINFORCING LIST, SEE SHEET 33/34

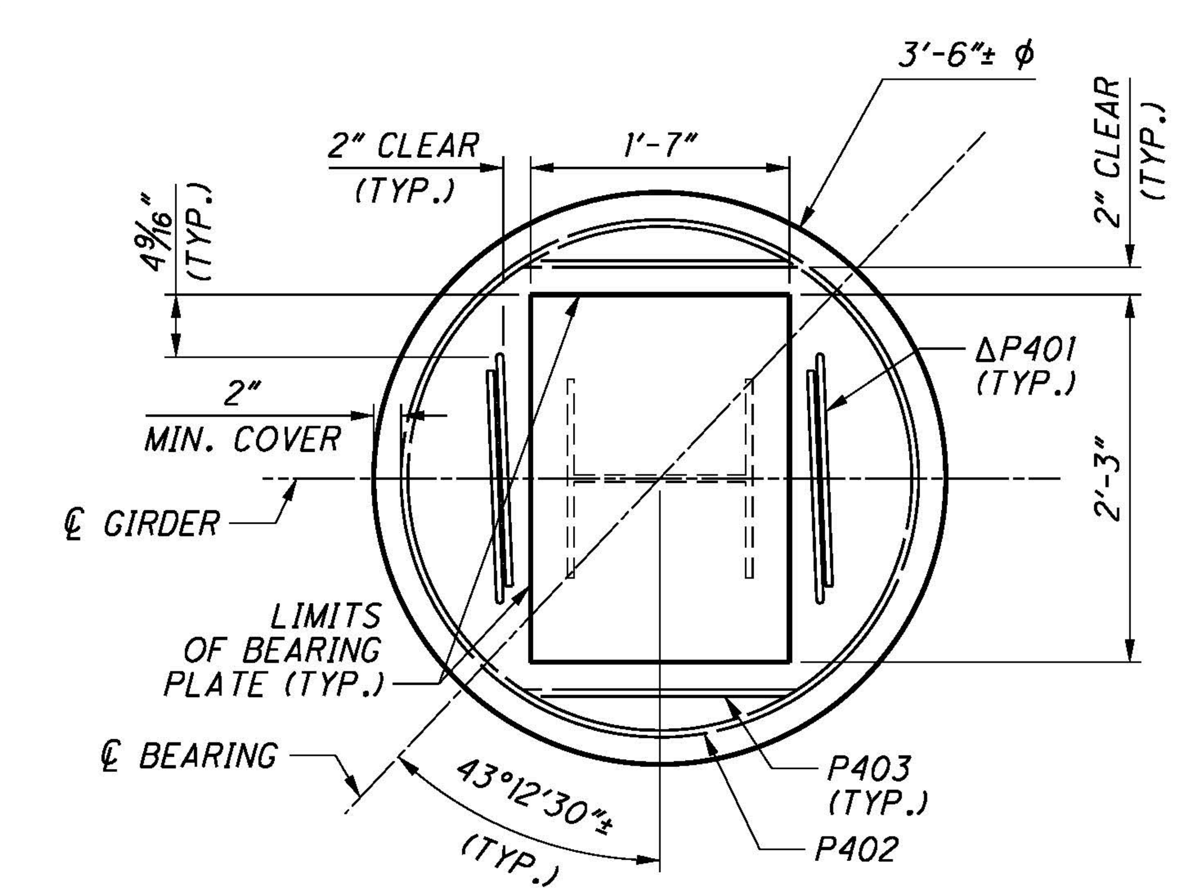
10. PROPOSED BOTTOM OF BEAM ELEVATIONS SHALL BE THE ELEVATIONS THAT ARE LISTED IN THE TABLE ON THIS SHEET.

11. PROPOSED DIMENSION "H" = (PROPOSED TOP OF PIER ELEVATION "A") - (CONTRACTOR'S EXISTING TOP OF PIER ELEVATION "B")

12. REMOVE TOP OF PIER CONCRETE BEFORE DOWELING TO LOCATE EXISTING REBAR.

13. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.

14. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWELS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.



SECTION C-C

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DESIGNED TAS/MRV | DRAWN TAS | REVIEWED RER | DATE 07/2016
CHECKED DFT | REVISED | STRUCTURE FILE NUMBER 8302316

PIER 1 DETAILS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

16/34

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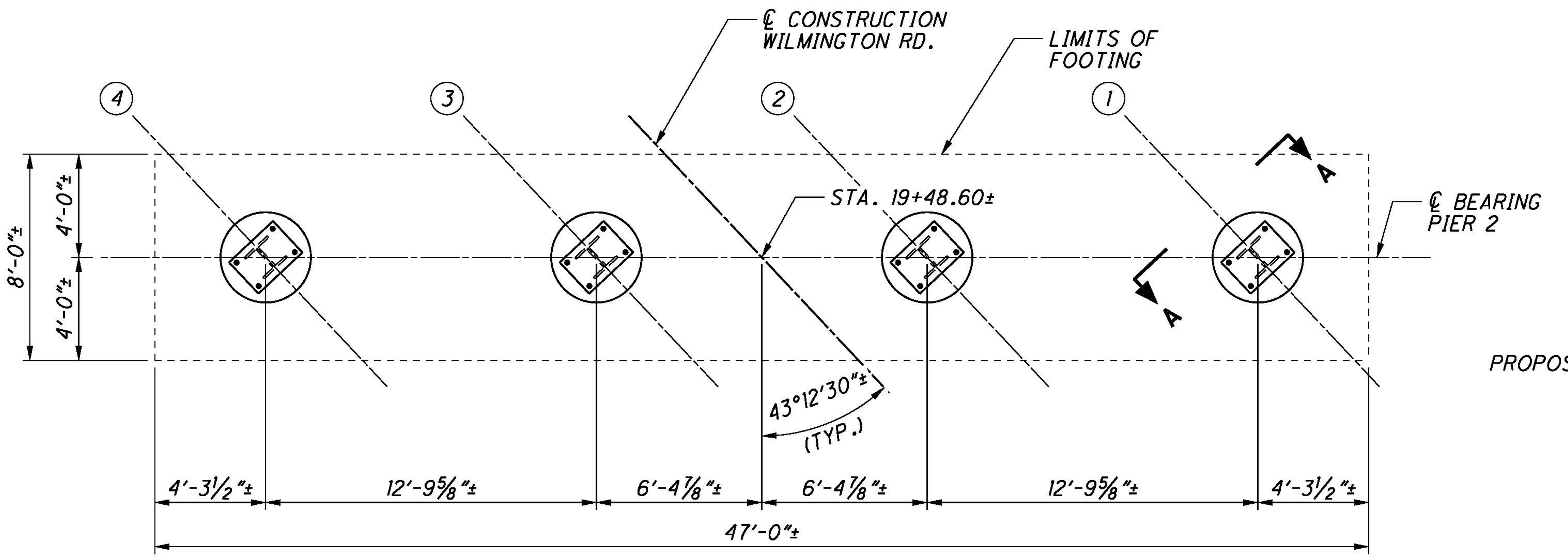
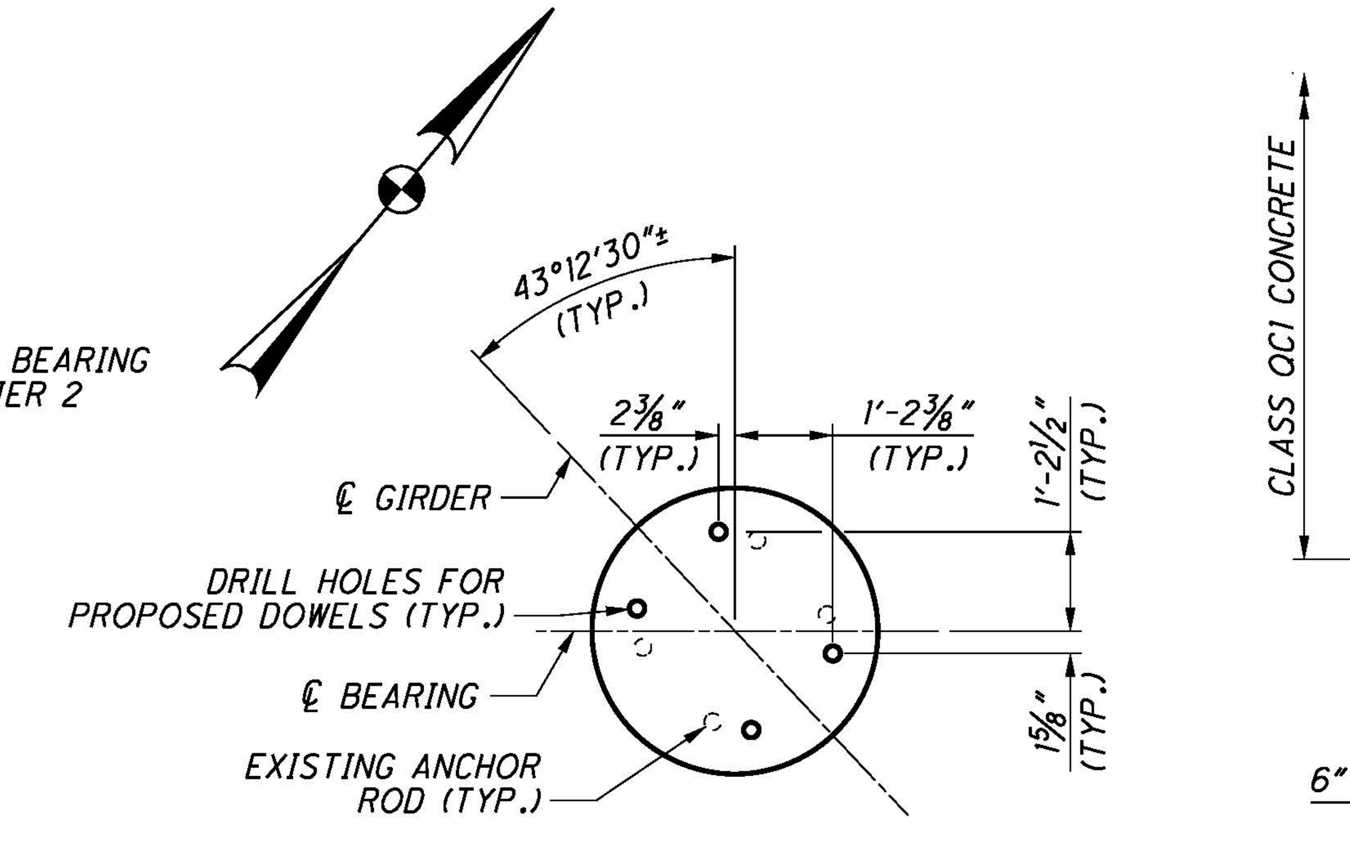
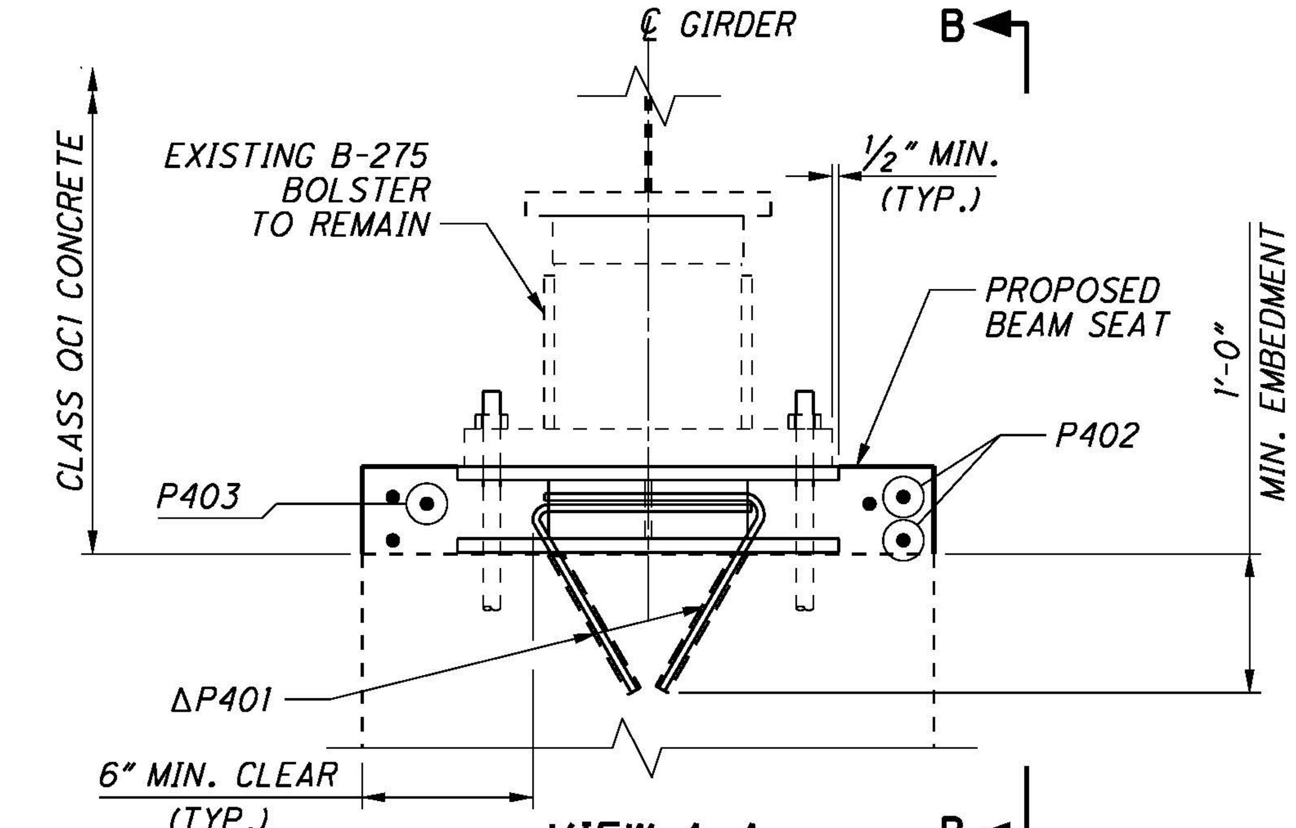


PLAN



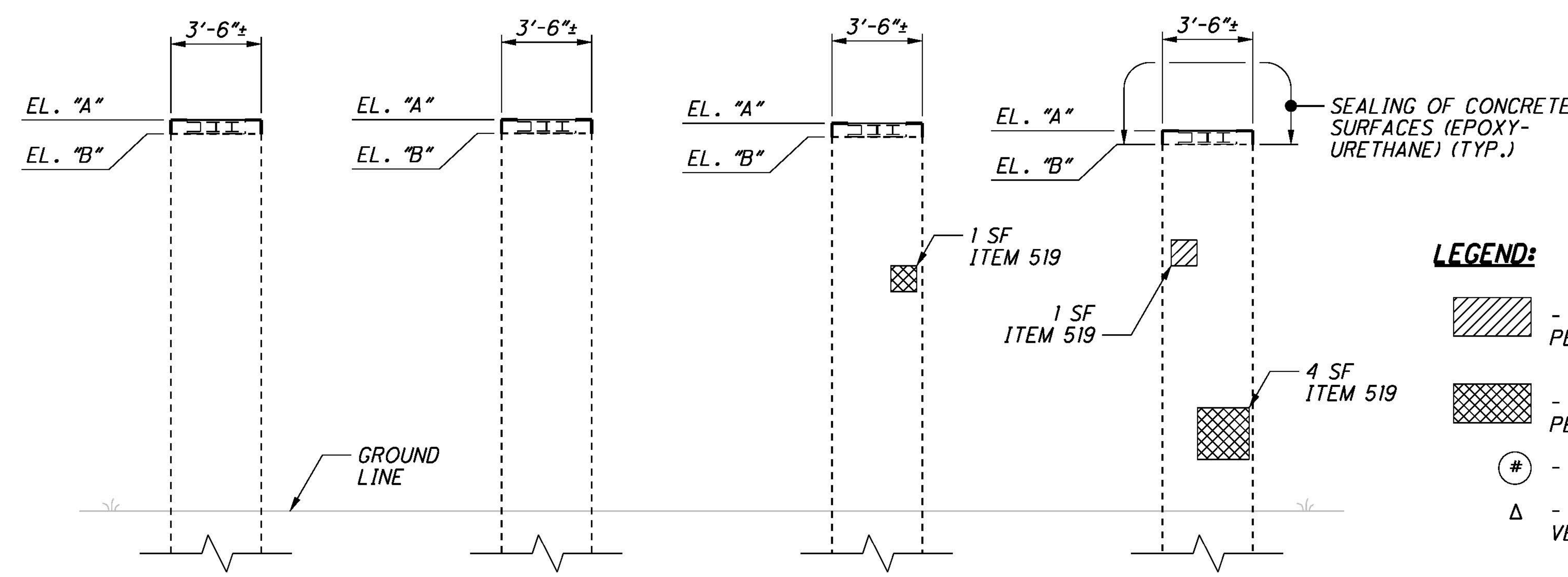
DOWEL HOLE DETAILS

(TO BE VERIFIED BY CONTRACTOR)



VIEW A-A

(TYPICAL PIER COLUMN MODIFICATION DETAIL)
(EXISTING REINFORCING NOT SHOWN FOR CLARITY)



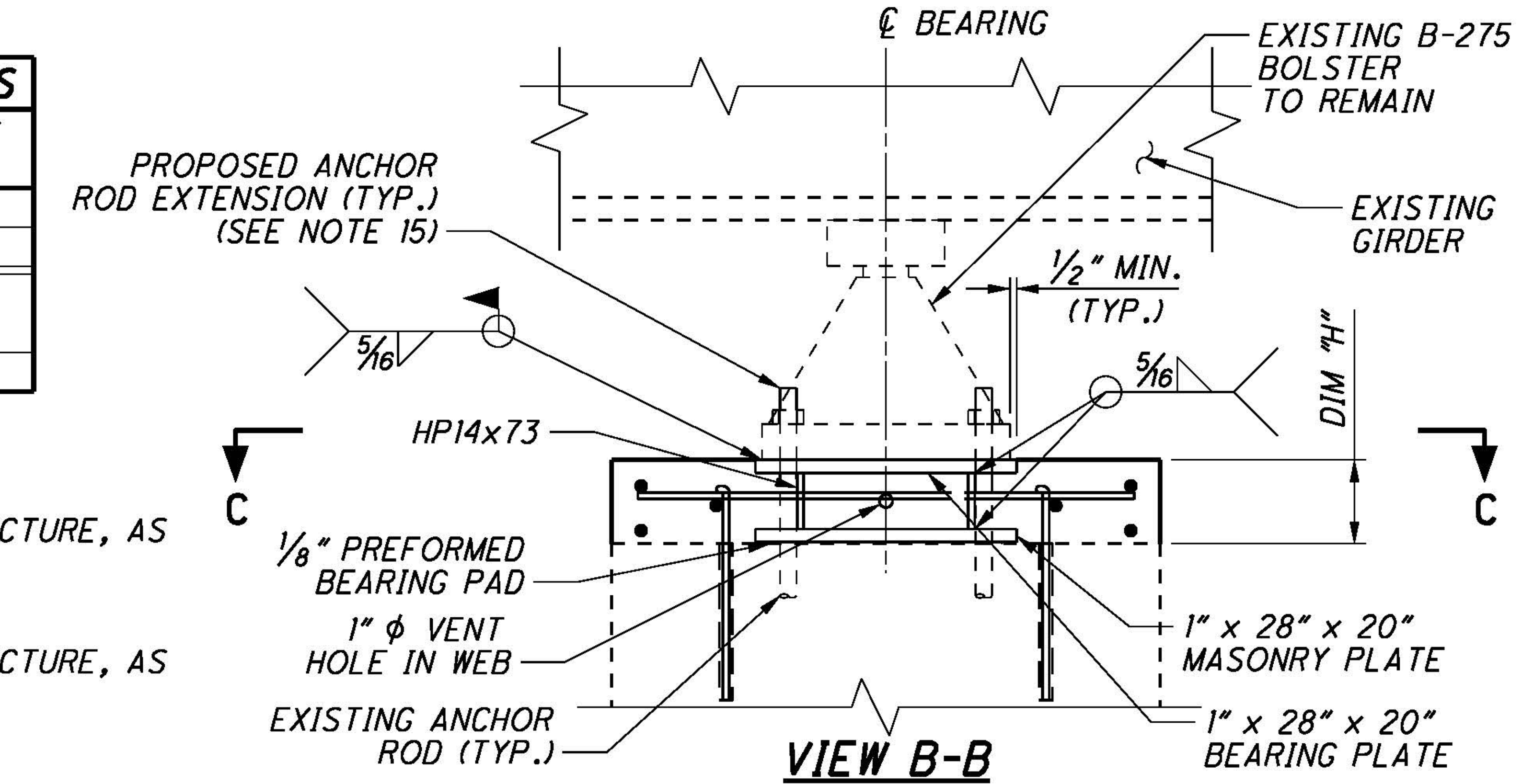
ELEVATION

LOOKING UPSTATION
(PIER FOOTING NOT SHOWN FOR CLARITY)

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
PIER 2 (SOUTHEAST)	1
PIER 2 (NORTHWEST)	5
AS DIRECTED BY THE ENGINEER (20%)	2
TOTAL	8

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - SOUTHEAST FACE
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - NORTHWEST FACE
- (#) - GIRDER DESIGNATION
- Δ - P401 SHALL BE PLACED 30° OUT OF PLUMB FROM VERTICAL FOR EASE OF PLACEMENT



VIEW B-B

(TYPICAL PIER COLUMN MODIFICATION DETAIL)
(EXISTING REINFORCING NOT SHOWN FOR CLARITY)

ESTIMATED PEDESTAL HEIGHT AND ELEVATIONS*				
GIRDER	ESTIMATED PROP. ELEV. "A"	EX. ELEV. "B"	ESTIMATED PROP. BOTTOM OF BEAM ELEV. **	EST. PEDESTAL HEIGHT, DIM. "H"
G1	968.94±	968.40±	970.48±	6.46"±
G2	968.96±	968.45±	970.50±	6.10"±
G3	968.82±	968.29±	970.36±	6.34"±
G4	968.54±	968.08±	970.08±	5.50"±

* - SEE NOTE 4
** - ELEVATIONS ARE GIVEN AT PIER ℄ OF BEARING

NOTES:

1. THE CONTRACTOR IS REQUIRED TO VERIFY THE SIZE AND LOCATION WITH APPROVAL OF PROJECT ENGINEER OF ITEM 519 PATCHING DETAILS.

2. NEW CONCRETE SURFACES SHALL BE SEALED WITH EPOXY-URETHANE SEALER.

3. HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

4. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL HP SECTION HEIGHT BY SUBTRACTING THE EXISTING BOTTOM OF BEAM ELEVATION FROM THE EXISTING BEAM SEAT ELEVATION AND PROPOSED BEARING HEIGHT INCLUDING 1/8" SHEET LEAD AT EACH BEARING LOCATIONS. THIS HP SECTION HEIGHT IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 6.56 INCHES. THIS HP SECTION HEIGHT IS A CONTRACTOR CALCULATED DIMENSION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

   FINAL HP SECTION LENGTH = (CONTRACTOR'S BOTTOM OF STEEL ELEVATION) - (EXISTING BEAM SEAT ELEVATION) - (BEARING HEIGHT INCLUDING 1/8" SHEET LEAD) + (AMOUNT THE BRIDGE IS TO BE RAISED)

5. ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

6. ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, RESET BEARING, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

7. THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

8. FIELD TRIM REBAR AS NECESSARY.

9. FOR REINFORCING LIST, SEE SHEET 33/34

10. PROPOSED BOTTOM OF BEAM ELEVATIONS SHALL BE THE ELEVATIONS THAT ARE LISTED IN THE TABLE ON THIS SHEET.

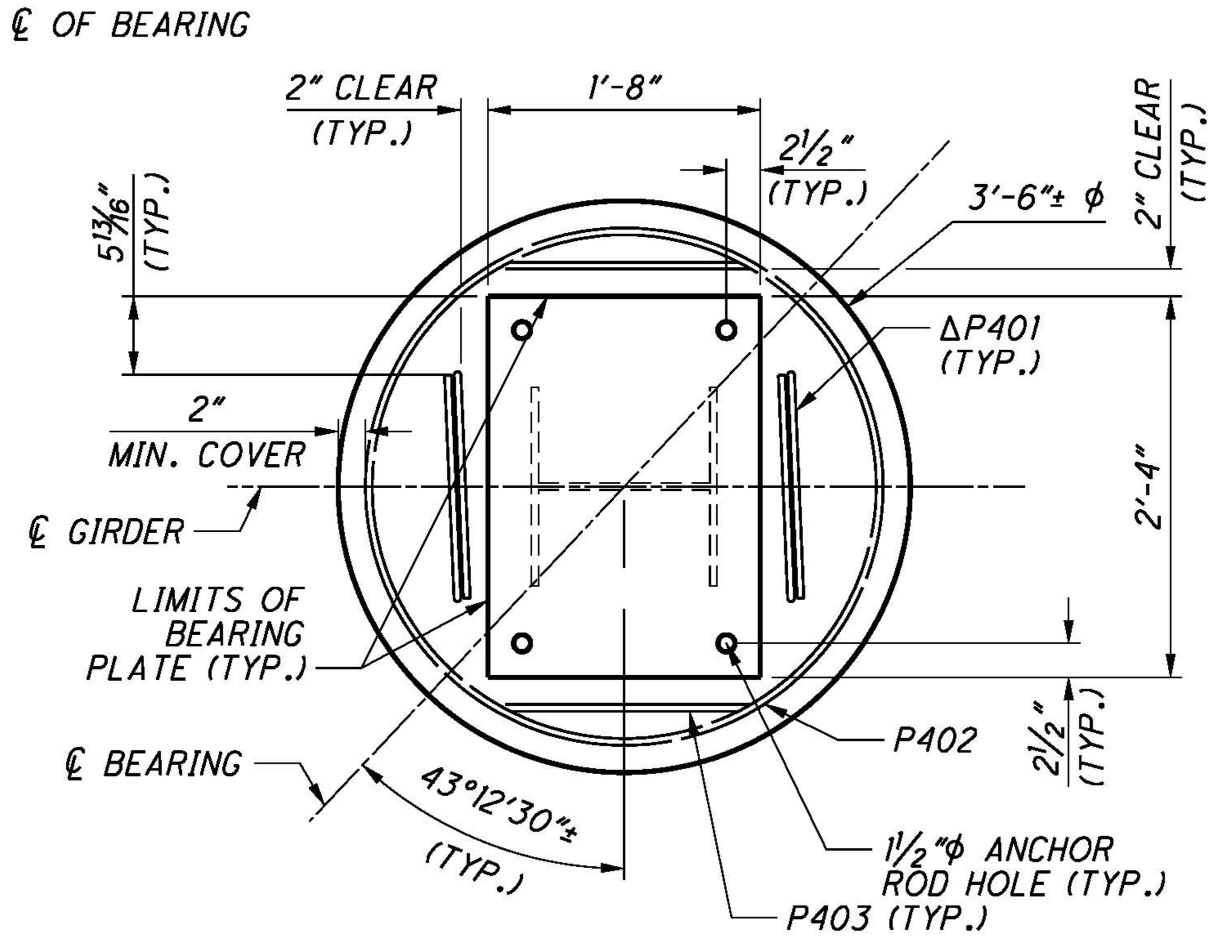
11. PROPOSED DIMENSION "H" = (PROPOSED TOP OF PIER ELEVATION "A") - (CONTRACTOR'S EXISTING TOP OF PIER ELEVATION "B")

12. REMOVE TOP OF PIER CONCRETE BEFORE DOWELING TO LOCATE EXISTING REBAR.

13. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.

14. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWELS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.

15. EXISTING ANCHOR RODS ARE TO REMAIN AND BE USED TO ANCHOR NEW BEARING AND PEDESTAL ASSEMBLY. IF NECESSARY, THE CONTRACTOR MAY CUT THE EXISTING ANCHOR RODS TO FACILITATE CONSTRUCTION. NEW ANCHOR RODS CAN THEN BE WELDED OR ATTACHED WITH A COUPLER TO THE EXISTING ANCHOR RODS TO COMPLETE THE ASSEMBLY.



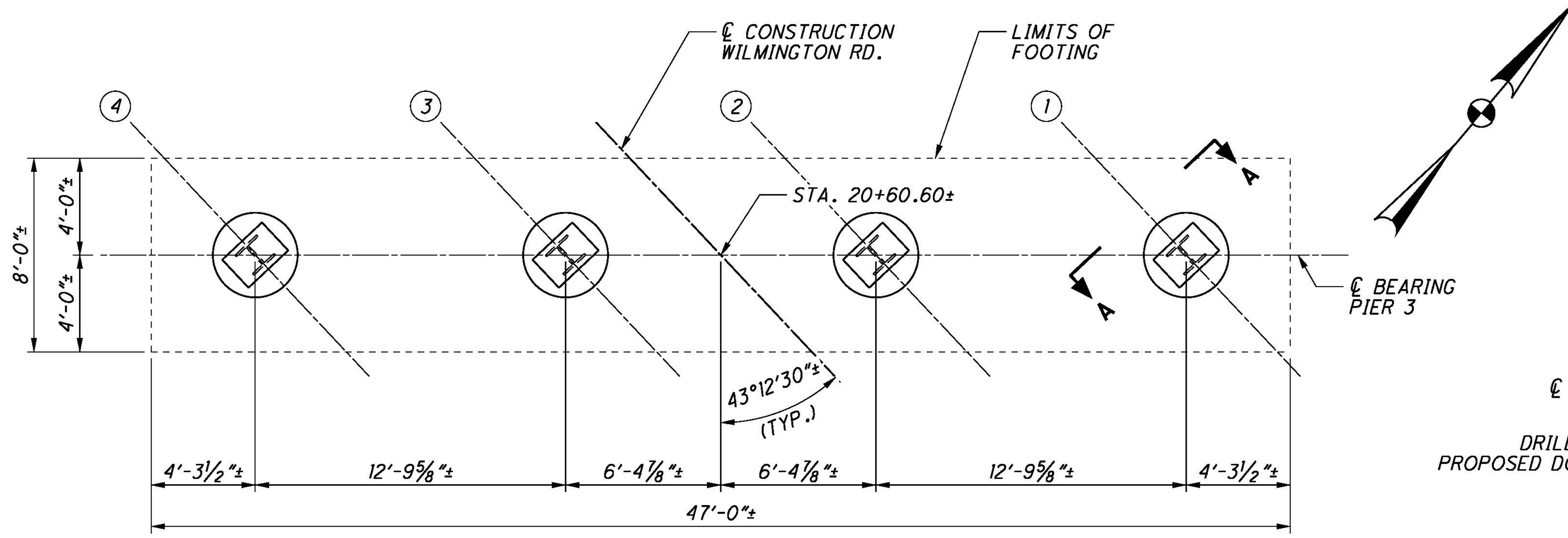
SECTION C-C

E.L. ROBINSON ENGINEERING
1801 Watermark Drive, Suite 310 Columbus, Ohio 43215
www.elrobinsonengineering.com

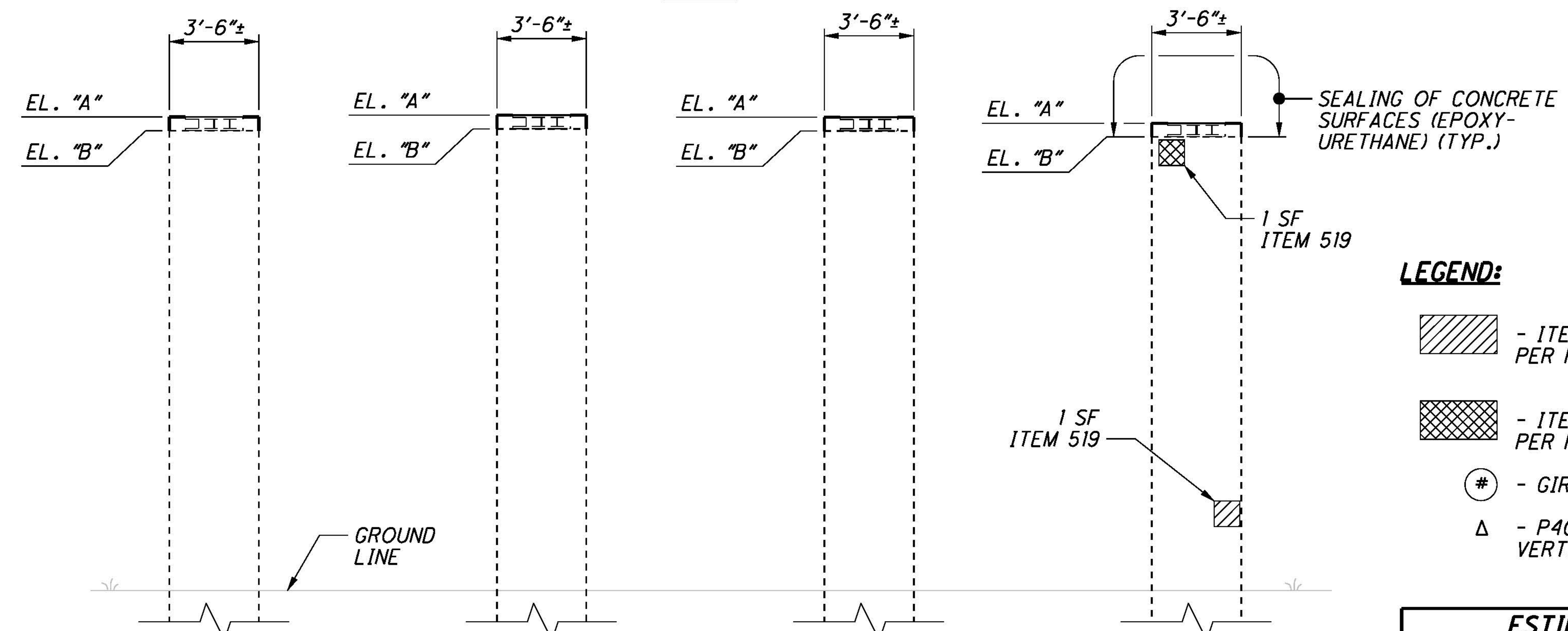
DESIGNED	DRAWN	REVIEWED	DATE
TAS/MRV	TAS	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302316	

PIER 2 DETAILS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

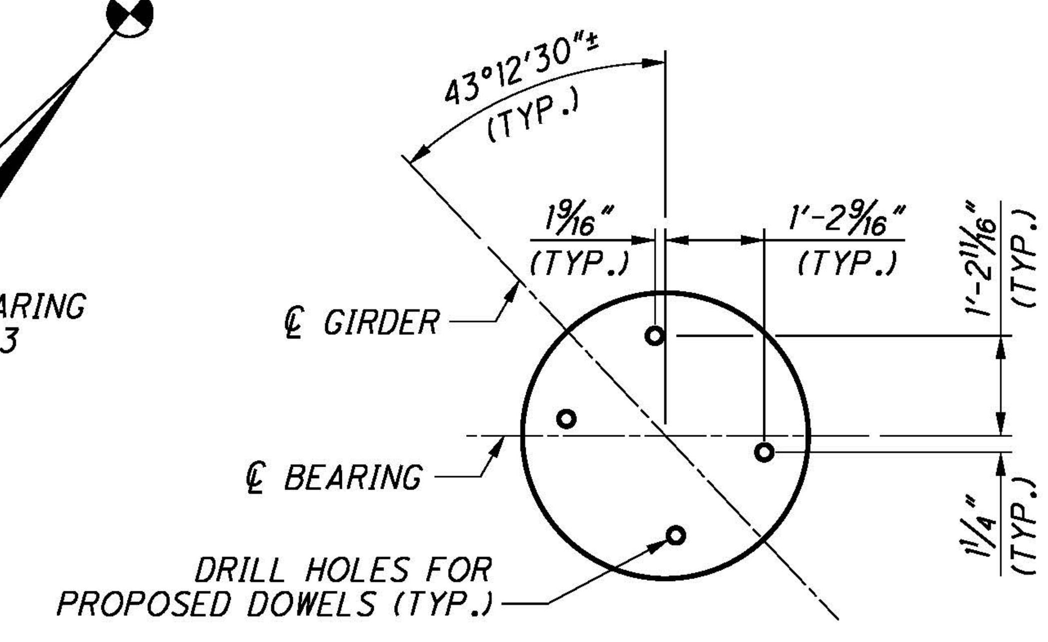


PLAN



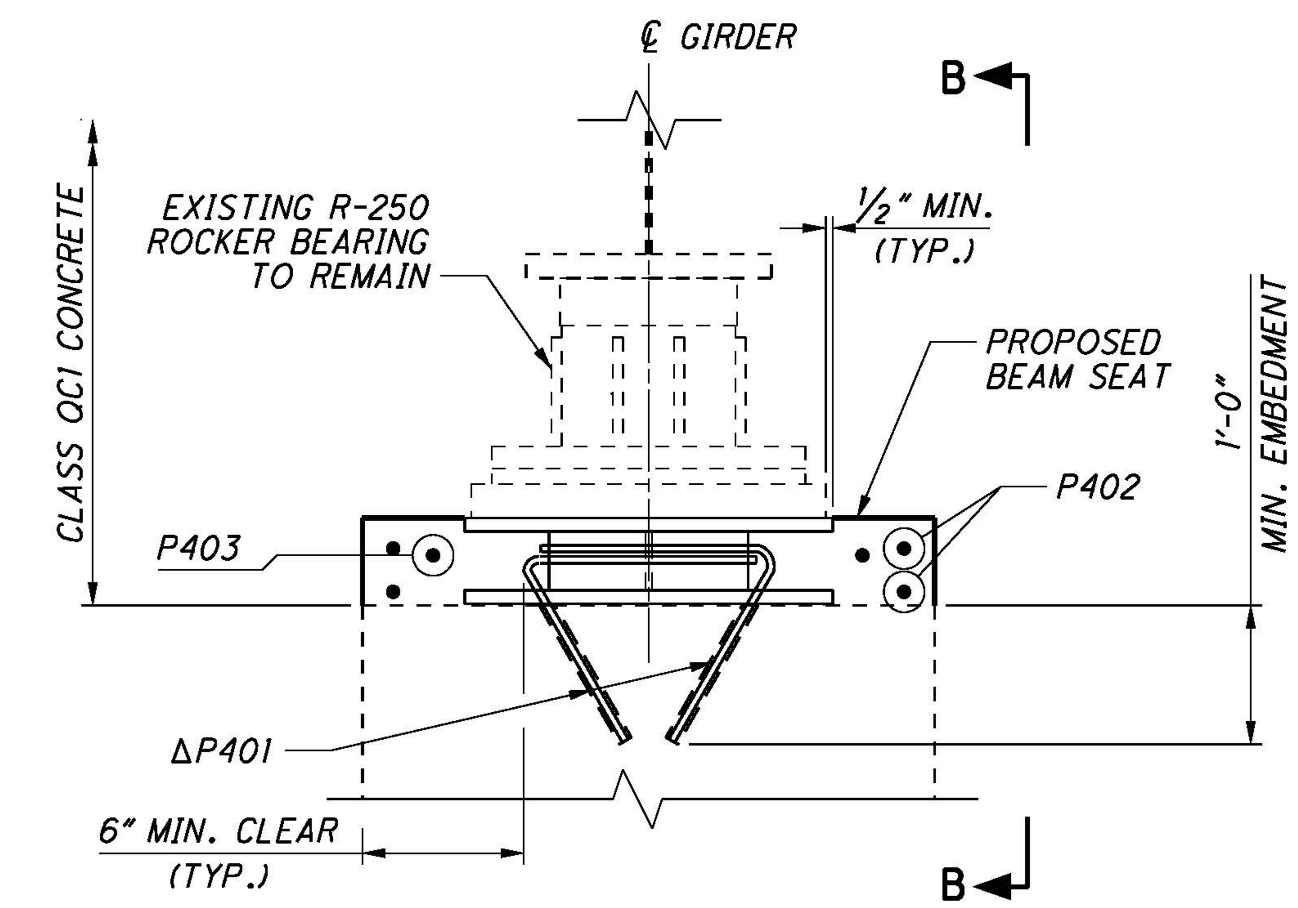
ELEVATION

LOOKING UPSTATION
(PIER FOOTING NOT SHOWN FOR CLARITY)



DOWEL HOLE DETAILS

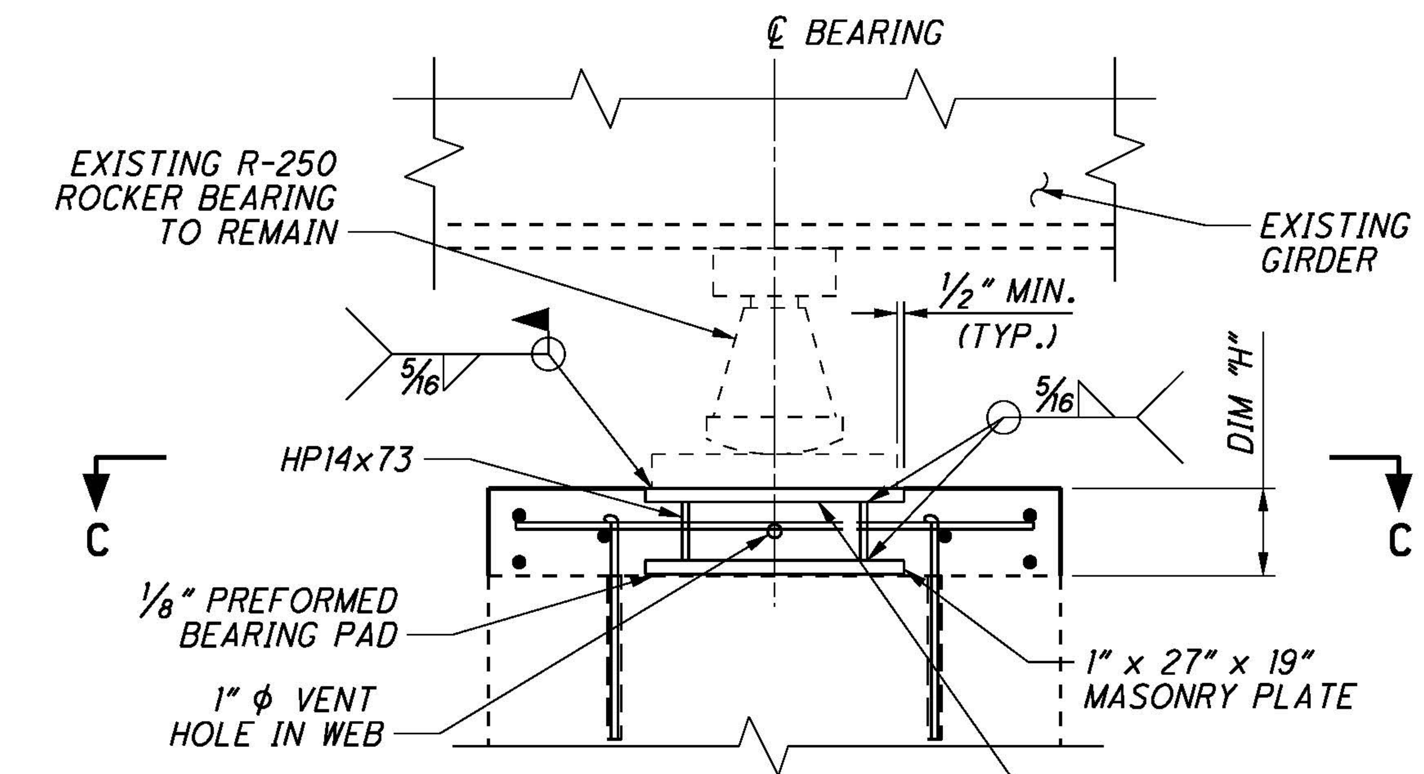
(TO BE VERIFIED BY CONTRACTOR)



VIEW A-A

(TYPICAL PIER COLUMN MODIFICATION DETAIL)
(EXISTING REINFORCING NOT SHOWN FOR CLARITY)

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
PIER 3 (SOUTHEAST)	1
PIER 3 (NORTHWEST)	1
AS DIRECTED BY THE ENGINEER (20%)	1
TOTAL	3



VIEW B-B

(TYPICAL PIER COLUMN MODIFICATION DETAIL)
(EXISTING REINFORCING NOT SHOWN FOR CLARITY)

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - SOUTHEAST FACE
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - NORTHWEST FACE
- (#) - GIRDER NUMBER
- Δ - P401 SHALL BE PLACED 30°OUT OF PLUMB FROM VERTICAL FOR EASE OF PLACEMENT.

ESTIMATED PEDESTAL HEIGHT AND ELEVATIONS*				
GIRDER	ESTIMATED PROP. ELEV. "A"	EX. ELEV. "B"	ESTIMATED PROP. BOTTOM OF BEAM ELEV. **	EST. PEDESTAL HEIGHT, DIM. "H"
G1	970.27±	969.72±	971.75±	6.61"±
G2	970.34±	969.82±	971.82±	6.25"±
G3	970.27±	969.71±	971.75±	6.73"±
G4	970.04±	969.51±	971.52±	6.37"±

* - SEE NOTE 4
** - ELEVATIONS ARE GIVEN AT PIER ℄ OF BEARING

NOTES:

1. THE CONTRACTOR IS REQUIRED TO VERIFY THE SIZE AND LOCATION WITH APPROVAL OF PROJECT ENGINEER OF ITEM 519 PATCHING DETAILS.

2. NEW CONCRETE SURFACES SHALL BE SEALED WITH EPOXY-URETHANE SEALER.

3. HP LOAD PLATE AND HP SECTION SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.

4. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL HP SECTION HEIGHT BY SUBTRACTING THE EXISTING BOTTOM OF BEAM ELEVATION FROM THE EXISTING BEAM SEAT ELEVATION AND PROPOSED BEARING HEIGHT INCLUDING 1/8" SHEET LEAD AT EACH BEARING LOCATIONS. THIS HP SECTION HEIGHT IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 6.56 INCHES. THIS HP SECTION HEIGHT IS A CONTRACTOR CALCULATED DIMENSION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

   FINAL HP SECTION LENGTH = (CONTRACTOR'S BOTTOM OF STEEL ELEVATION) - (EXISTING BEAM SEAT ELEVATION) - (BEARING HEIGHT INCLUDING 1/8" SHEET LEAD) + (AMOUNT THE BRIDGE IS TO BE RAISED)

5. ALL LOAD PLATES, MASONRY PLATES AND HP SECTIONS FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.

6. ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL THE MASONRY PLATES, HP SECTIONS, BEARING PADS AND LOAD PLATES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 516, RESET BEARING, AS PER PLAN. CONCRETE AND REINFORCING STEEL ARE PAID UNDER SEPARATE ITEMS.

7. THE EXISTING WELDS BETWEEN THE BOTTOM BEAM FLANGE AND THE BEARING MAY BE REMOVED TO FACILITATE PEDESTAL PLACEMENT.

8. FIELD TRIM REBAR AS NECESSARY.

9. FOR REINFORCING LIST, SEE SHEET 33/34

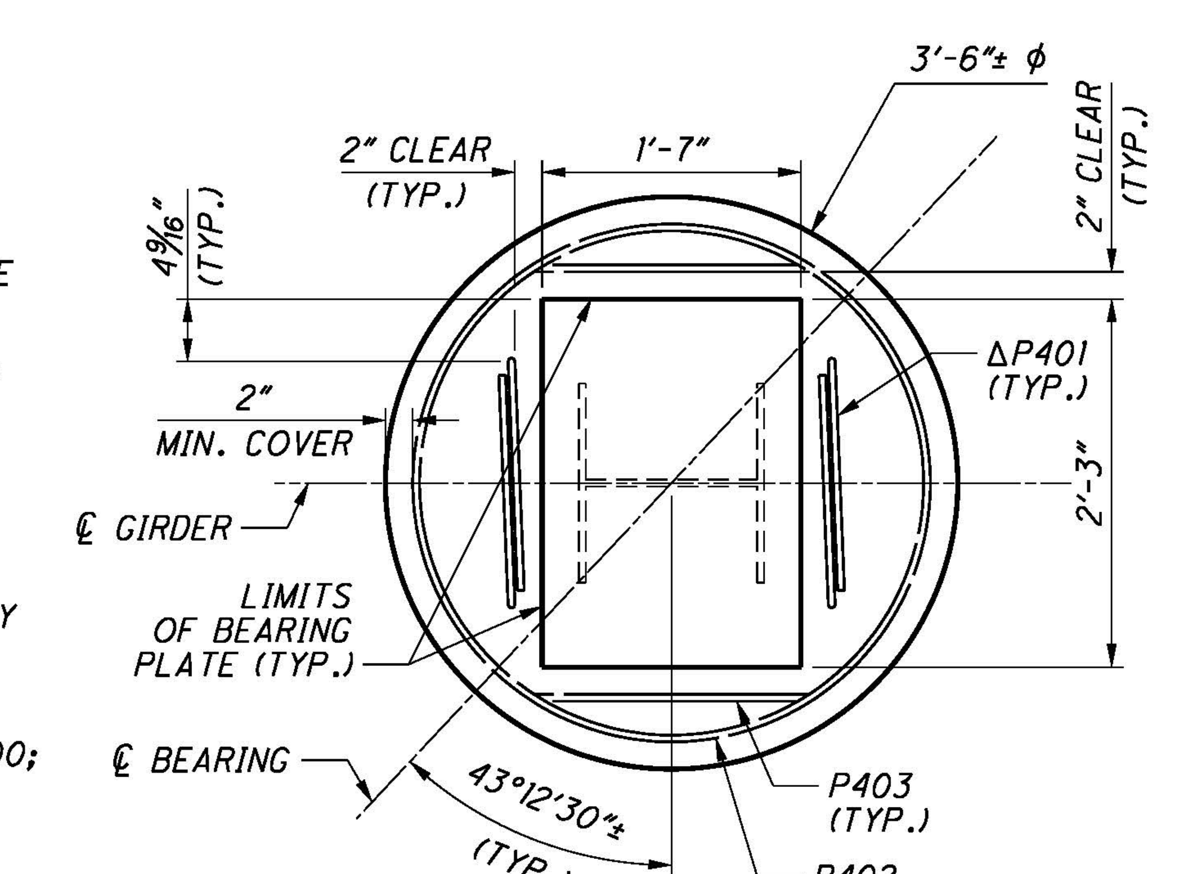
10. PROPOSED BOTTOM OF BEAM ELEVATIONS SHALL BE THE ELEVATIONS THAT ARE LISTED IN THE TABLE ON THIS SHEET.

11. PROPOSED DIMENSION "H" = (PROPOSED TOP OF PIER ELEVATION "A") - (CONTRACTOR'S EXISTING TOP OF PIER ELEVATION "B")

12. REMOVE TOP OF PIER CONCRETE BEFORE DOWELING TO LOCATE EXISTING REBAR.

13. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.

14. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWELS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.



SECTION C-C

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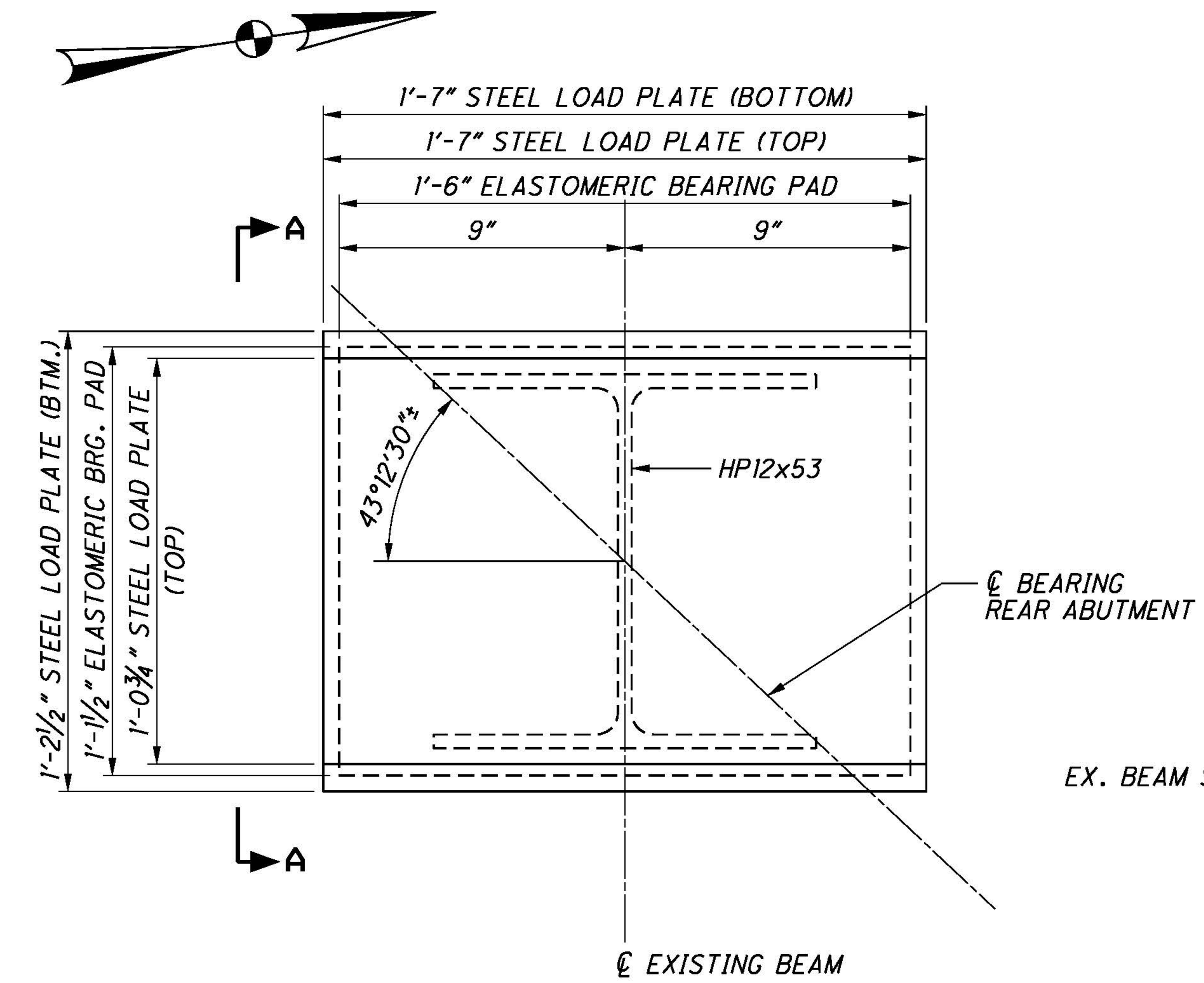
DESIGNED	DRAWN	REVIEWED	DATE
TAS/MRV	TAS	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302316	

PIER 3 DETAILS

BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

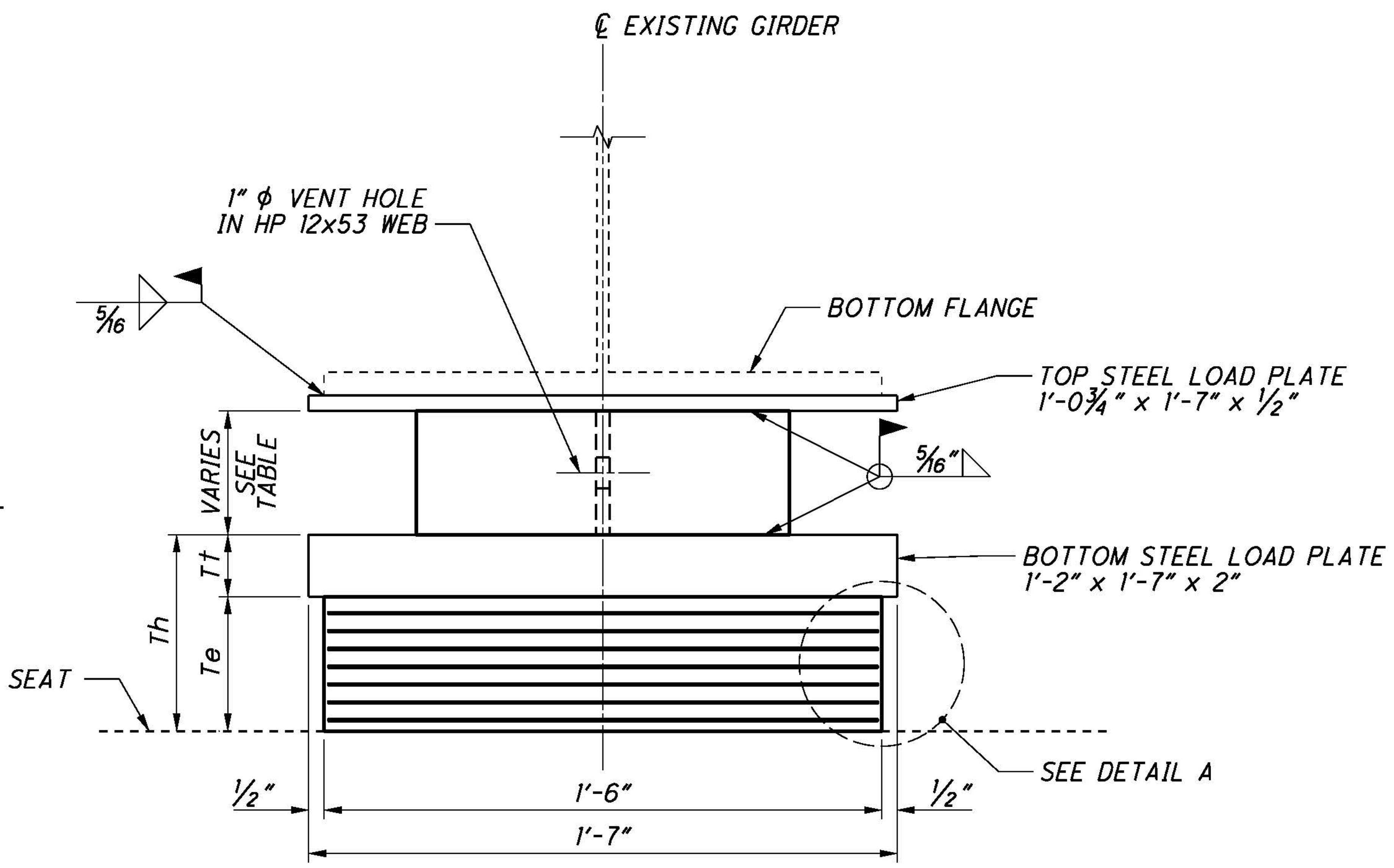
WAR-71-16.81
PID No. 91727

18/34

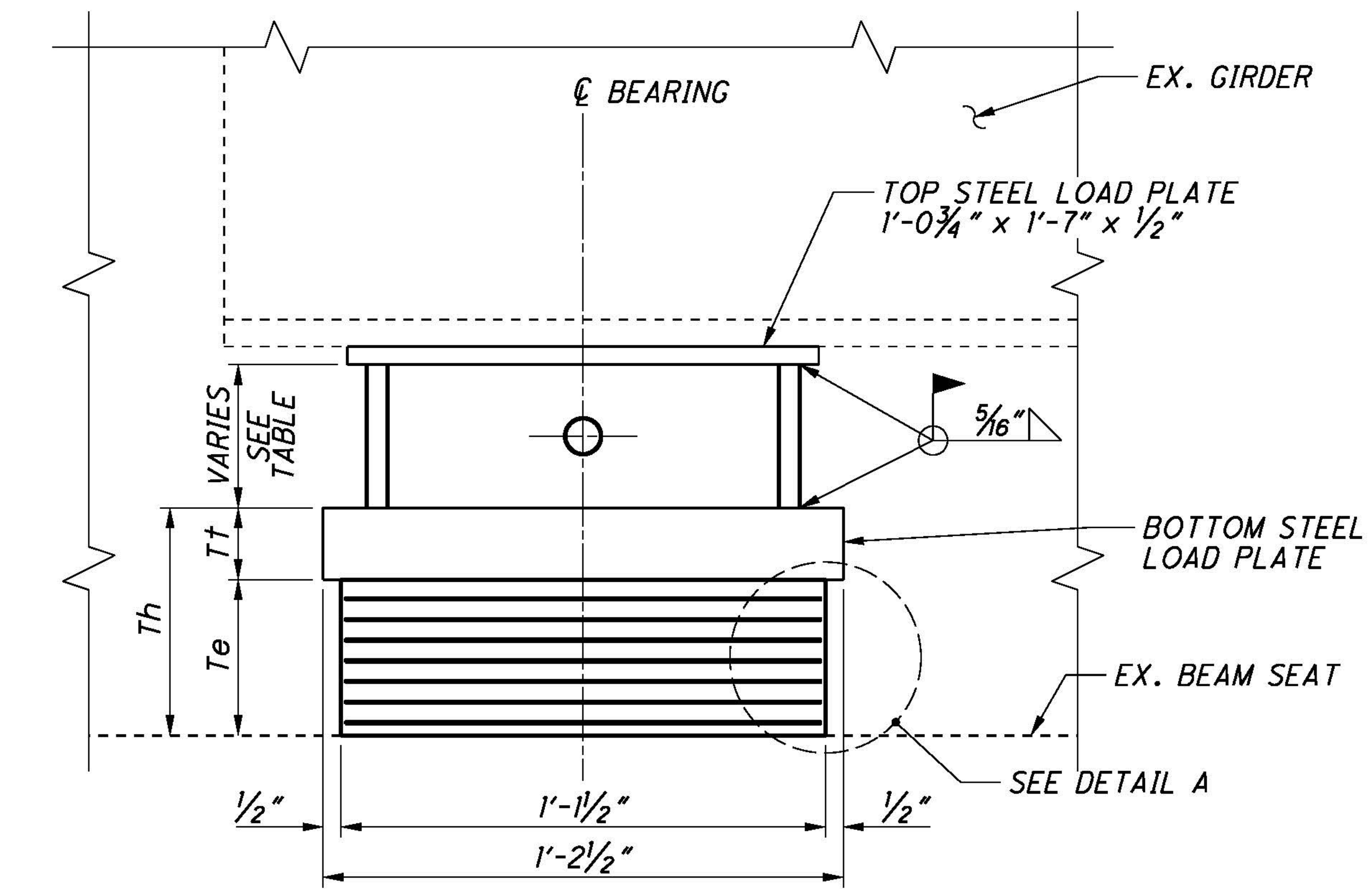


ABUTMENT BEARING PLAN

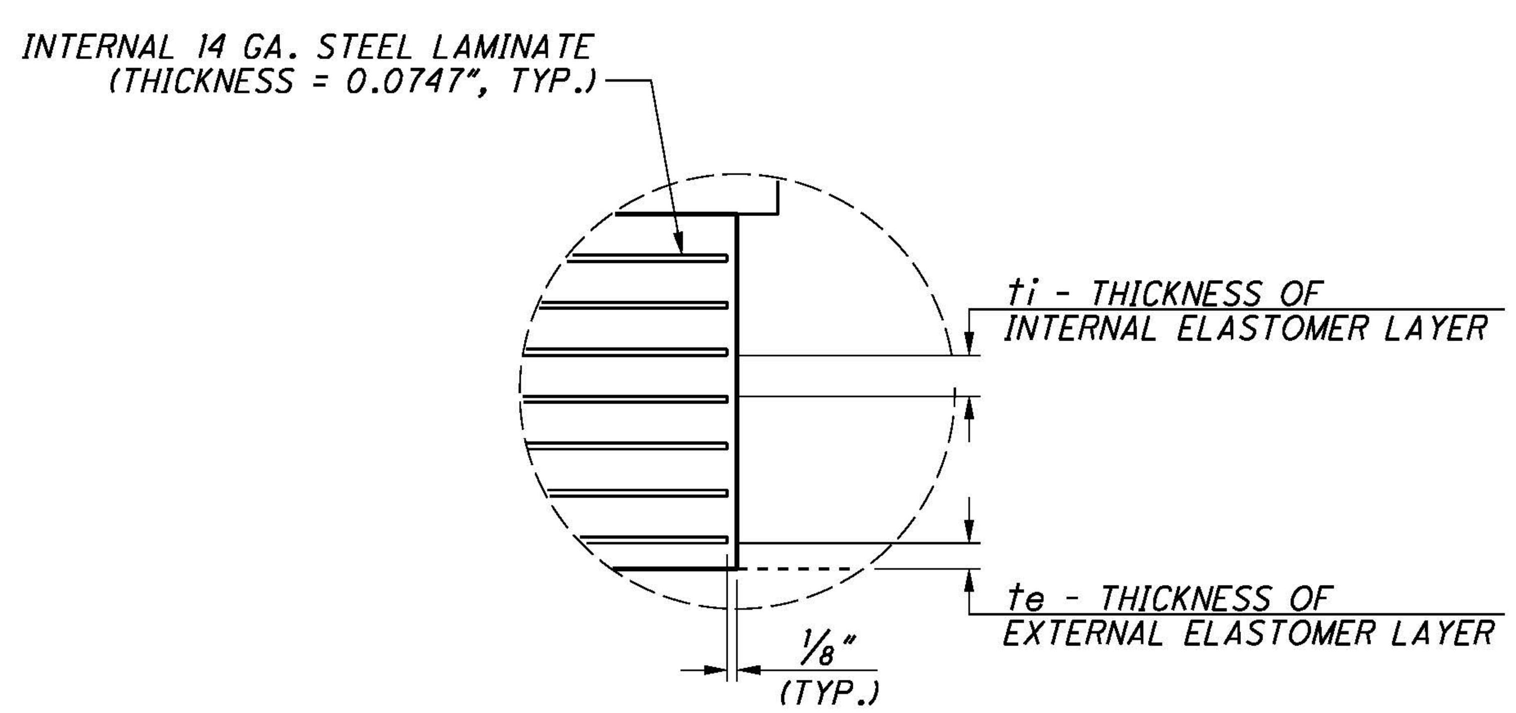
(REAR ABUTMENT BEARING SHOWN FORWARD ABUTMENT BEARING SIMILAR BUT OPPOSITE HAND)



ABUTMENT BEARING ELEVATION

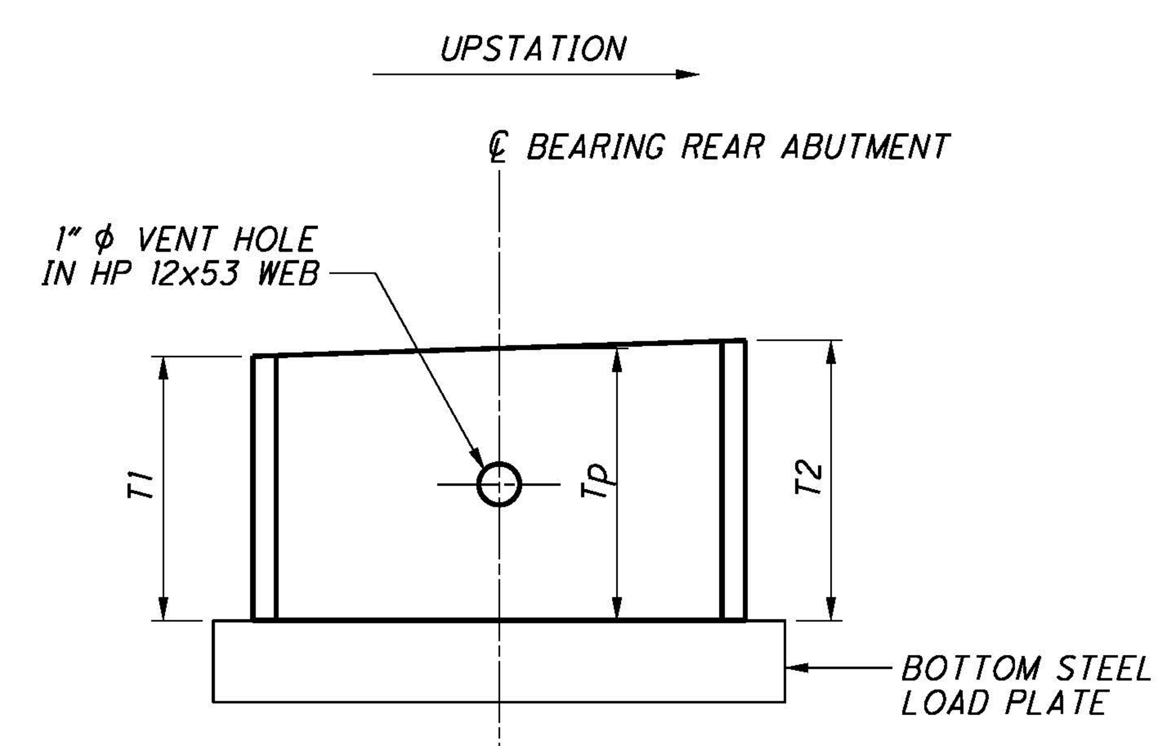


VIEW A-A



DETAIL A

(TYPICAL AT ALL BEAMS)



DETAIL B

(REAR H-PILE SHOWN, FORWARD OPPOSITE)

NOTES:

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

2. THE STEEL LOAD PLATES AND HP SHAPES SHALL BE ASTM A709 GRADE 50 STEEL AND PRIME PAINTED IN ACCORDANCE WITH ITEM 513.

3. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCEESS. CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

4. BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ⅛ OF THE BEARING HEIGHT AT 60°F ± 10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

5. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE. IMPACT IS NOT INCLUDED.

6. BASIS OF PAYMENT: THE UNIT BID PRICE FOR ALL ABUTMENT BEARINGS SHALL INCLUDE THE LOAD PLATE, HP SHAPE, AND ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

7. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

8. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL HP SECTION HEIGHT BY SUBTRACTING THE EXISTING BOTTOM OF BEAM ELEVATION FROM THE EXISTING BEAM SEAT ELEVATION AND PROPOSED BEARING HEIGHT INCLUDING 1/2" THICK TOP PLATE AND A 2" THICK LOAD PLATE. THIS HP SECTION HEIGHT IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 6.56 INCHES±. THIS HP SECTION HEIGHT IS A CONTRACTOR CALCULATED DIMENSION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. THE CONTRACTOR IS TO ORDER THE H-PILE SECTIONS LONGER THAN NEEDED AND TRIM IN THE FIELD TO FIT FIELD CONDTIONS.

   FINAL HP SECTION LENGTH = (CONTRACTOR'S BOTTOM OF BEAM ELEVATION) - (EXISTING BEAM SEAT ELEVATION) - (BEARING HEIGHT INCLUDING 1/2" THICK TOP PLATE AND 2" THICK LOAD PLATE) + (AMOUNT THE BRIDGE IS TO BE RAISED)

APPROXIMATE H-PILE DIMENSIONS (IN.)

GIRDER	REAR ABUTMENT			FORWARD ABUTMENT		
	T1	Tp	T2	T1	Tp	T2
1	11 1/16"±	11 3/16"±	11 3/8"±	10 1/8"±	10 1/8"±	10 1/8"±
2	11 5/16"±	11 7/16"±	11 5/8"±	10 3/8"±	10 3/8"±	10 3/8"±
3	11 1/4"±	11 7/16"±	11 5/8"±	9 3/8"±	9 3/8"±	9 3/18"±
4	11 1/16"±	11 3/16"±	11 3/8"±	10"±	10"±	10"±

ELASTOMERIC BEARING DATA

LOCATION	TYPE	NO. REQ'D.	DL (KIP)	LL W/O IMPACT (KIP)	MAX DESIGN LOAD (DL+LL)	L (IN.)	W (IN.)	ti (IN.)	te (IN.)	NO. OF ti's	NO. OF INTERNAL LAMINATES	Te (IN.)	STEEL LOAD PLATE			Th (in.)
													X (IN.)	Y (IN.)	Tt (IN.)	
ABUTMENT	EXP.	8	121	45	166	13.5	18.0	0.500	0.313	7	7	4.335	14.5	19	2	6.335

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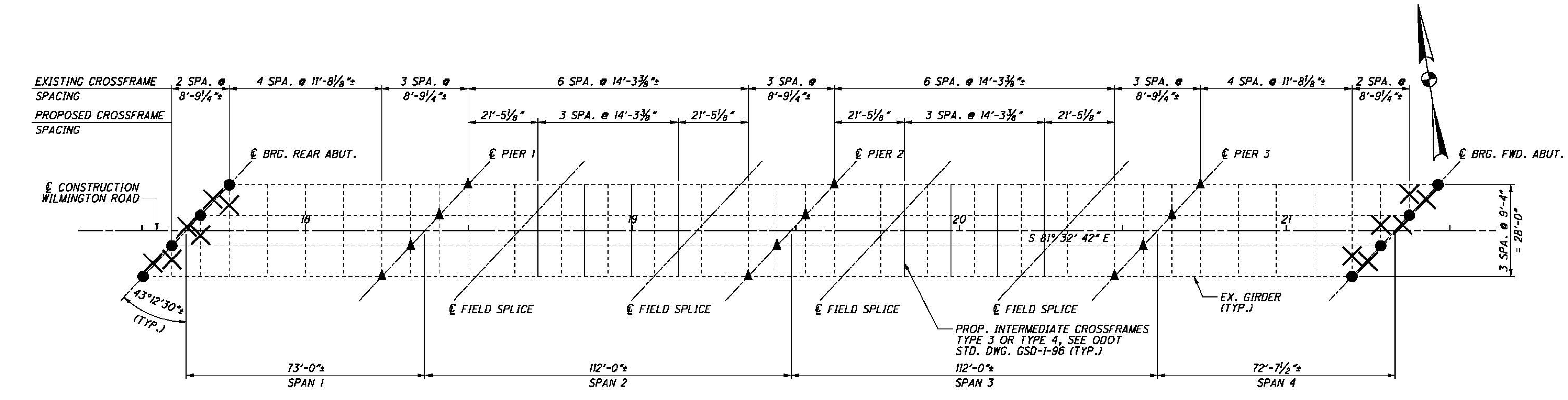
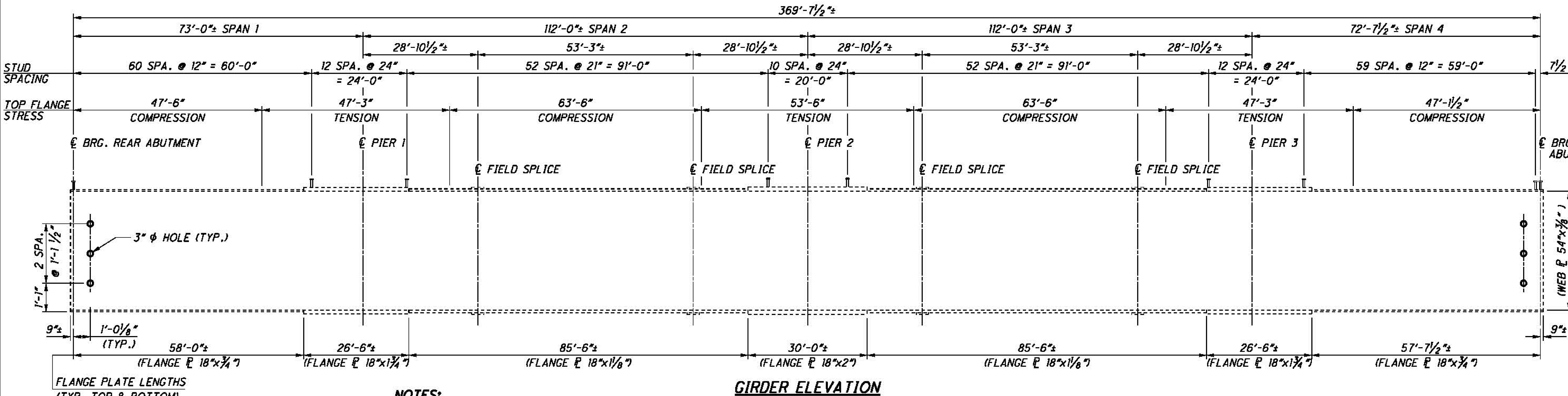
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302316	

BEARING DETAILS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



FRAMING PLAN



GIRDER ELEVATION

LEGEND:

- ╳ - CROSSFRAME TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN. CROSSFRAME SHALL BE LEFT IN PLACE DURING CONSTRUCTION WHERE FEASIBLE AND SHALL BE REMOVED IMMEDIATELY PRIOR TO PLACEMENT OF THE SEMI-INTEGRAL DIAPHRAGM CONCRETE.
- ● - BEARINGS TO BE REPLACED.
- ▲ - BEARINGS TO BE REMOVED AND RESET.

NOTES:

1. THE PROPOSED INTERMEDIATE CROSSFRAMES SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514 FIELD PAINTING OF STRUCTURAL STEEL.

   ITEM 514 SURFACE PREPARATION EXISTING STRUCTURAL STEEL INCLUDES AREAS OF PAINT DAMAGED TO BE REPAIRED ON THE EXISTING BEAMS DUE TO THE INSTALLATION OF THE PROPOSED CROSSFRAMES. THIS ITEM HAS A QUANTITY OF 1080 SF.

   ITEM 514 FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT INCLUDES AREAS OF PAINT DAMAGED TO BE REPAIRED ON THE EXISTING BEAMS DUE TO THE INSTALLATION OF THE PROPOSED CROSSFRAMES. THIS ITEM HAS A QUANTITY OF 1080 SF.

   ITEM 514 FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT INCLUDES PAINTING OF THE DAMAGED AREAS TO BE REPAIRED ON THE EXISTING BEAMS DUE TO THE INSTALLATION OF THE PROPOSED CROSSFRAMES, THE PROPOSED CROSSFRAME WEB STIFFENERS, THE CROSSFRAME ANGLES, AND ANY MISCELLANEOUS ITEMS TO BE PAINTED. THIS ITEM HAS A QUANITITY OF 2079 SF.

   ITEM 514 FIELD PAINTING STRUCTURAL STEEL, FINISH COAT INCLUDES PAINTING OF THE DAMAGED AREAS TO BE REPAIRED ON THE EXISTING BEAMS DUE TO THE INSTALLATION OF THE PROPOSED CROSSFRAMES, THE PROPOSED CROSSFRAME WEB STIFFENERS, THE CROSSFRAME ANGLES, AND ANY MISCELLANEOUS ITEMS TO BE PAINTED. THIS ITEM HAS A QUANITITY OF 2079 SF.

2. FOR CROSSFRAME DETAILS, SEE ODOT STANDARD DRAWING GSD-1-96, TYPE 3 OR TYPE 4 INTERMEDIATE CROSSFRAME DETAILS, SHEET 1 OF 3.

3. REPAIR ALL PAINT DAMAGED DURING CONSTRUCTION USING OZEU SPECIFICATIONS. FIELD REPAIR OF DAMAGED PAINT SHALL BE PAID FOR AS A LUMP SUM PER ITEM 514, FIELD PAINTING OF DAMAGED STRUCTURAL STEEL.

4. SHEAR CONNECTOR PLACEMENT ON FLANGE SPLICE PLATES IS NOT PERMITTED. ADJUST SPACINGS IF NECESSARY TO AVOID INTERFERENCE WITH SPLICE PLATES AND CONNECTION BOLTS.

5. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.

6. ALL PROPOSED INTERMEDIATE CROSSFRAMES AND TEMPORARY OVERHANG SUPPORT BEAMS SHALL BE ASTM A709 GRADE 50.

7. FOR THE TEMPORARY OVERHANG SUPPORT BEAM DETAILS, SEE SHEETS 31/34 AND 32/34 .

E.L. ROBINSON ENGINEERING
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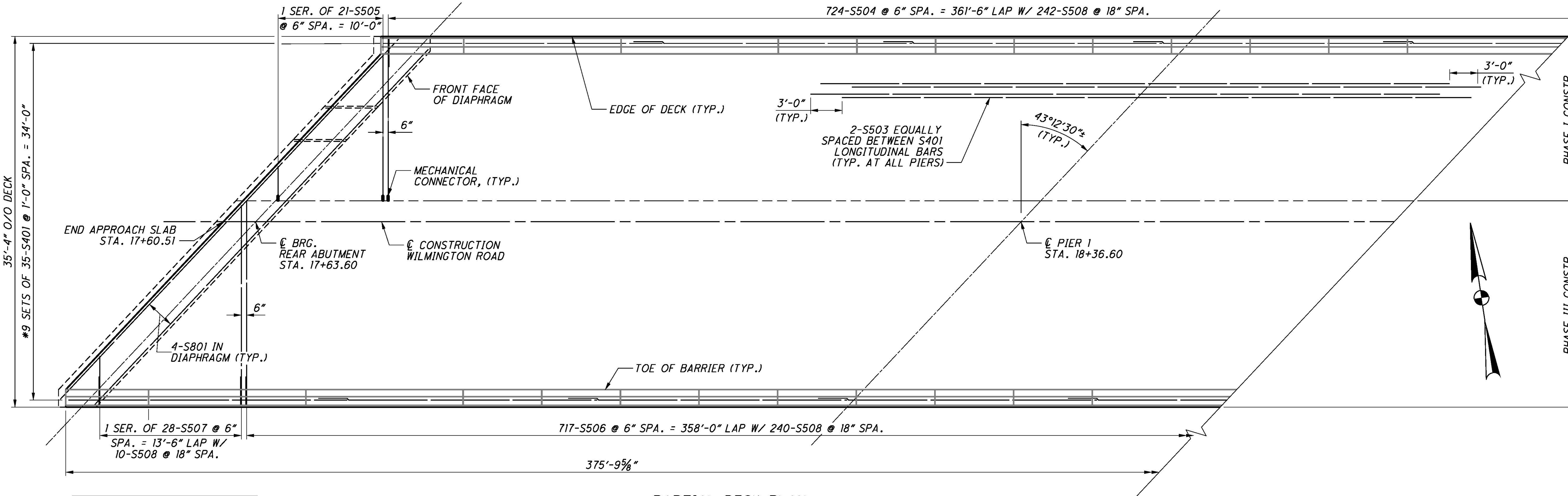
DESIGNED TAS	DRAWN DTA	REVIEWED RER	DATE 07/2016
CHECKED DFT	REVISED	STRUCTURE FILE NUMBER 8302316	

FRAMING PLAN & GIRDER ELEVATION
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

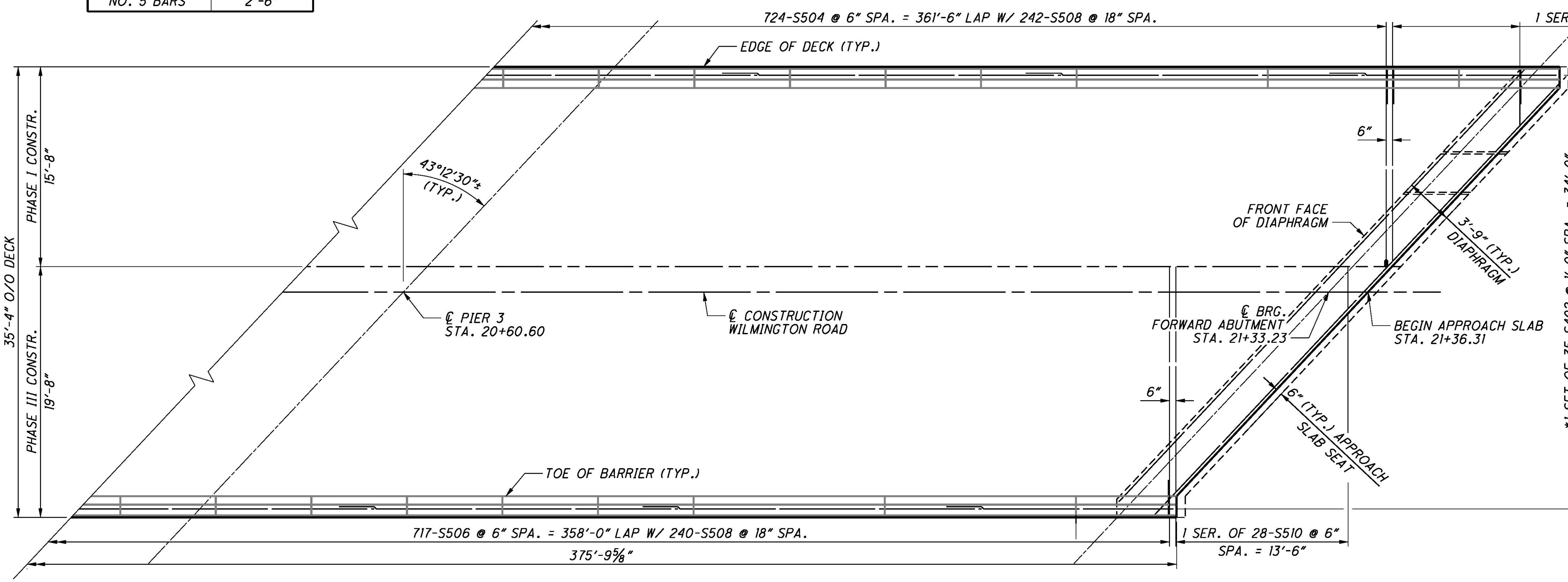
20/34



PARTIAL DECK PLAN

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

MIN. LAP LENGTHS	
NO. 4 BARS	2'-0"
NO. 5 BARS	2'-6"



PARTIAL DECK PLAN

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

LEGEND:

* - ADJUST REINFORCING AS NECESSARY TO AVOID CONSTRUCTION JOINT

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 23/34 .
2. FOR BOTTOM OF DECK REINFORCING PLAN, SEE SHEET 22/34 .
3. SPANS 2 & 3 NOT SHOWN FOR CLARITY.
4. FOR SEMI-INTEGRAL ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 10/34 AND 13/34 .
5. FOR ADDITIONAL BARRIER DETAILS, SEE SHEET 28/34 THRU 29/34 .
6. FOR FINAL DECK SURFACE, SCREED, AND TOP OF HAUNCH ELEVATIONS, SEE SHEETS 25/34 THRU 27/34 .

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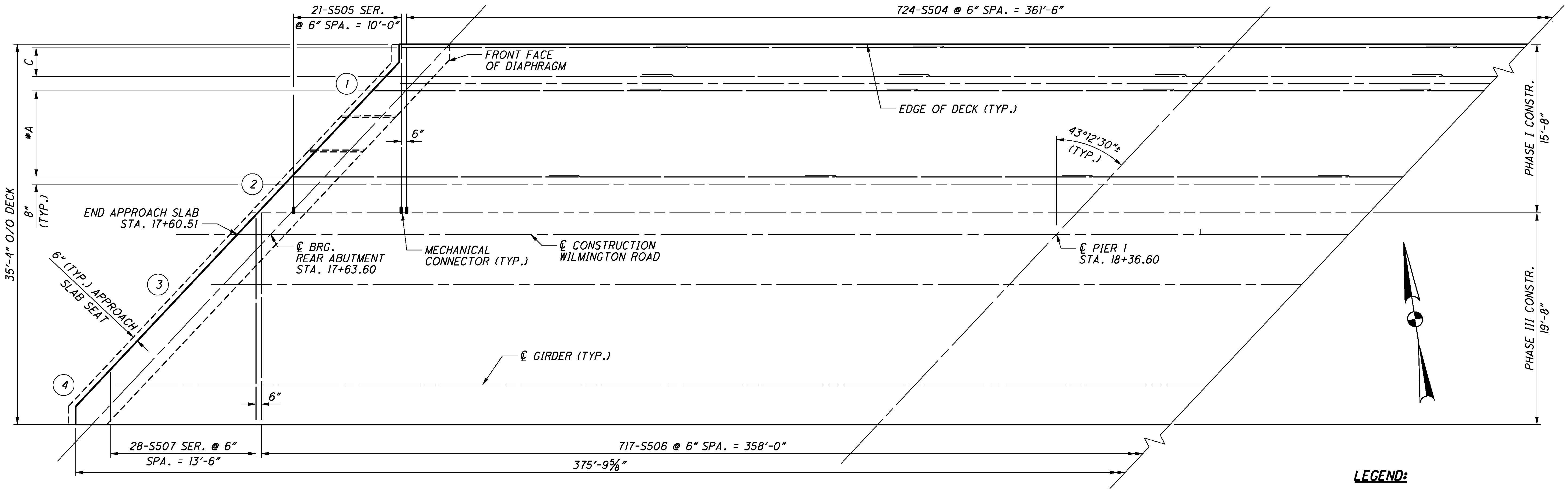
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
MRV	DFT	FTB		RER	07/2016	8302316

DECK PLAN - TOP REINFORCING

BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



PARTIAL DECK PLAN

REINFORCING:

A - 9 SETS OF 13-S501 @ 8" SPA. = 8'-0" (TYP. EACH BAY)

B - 1 SET OF 13-S502 @ 8" SPA. = 8'-0" (TYP. EACH BAY)

C - 9 SETS OF 5-S501 @ 8" SPA. = 2'-8" (TYP.)

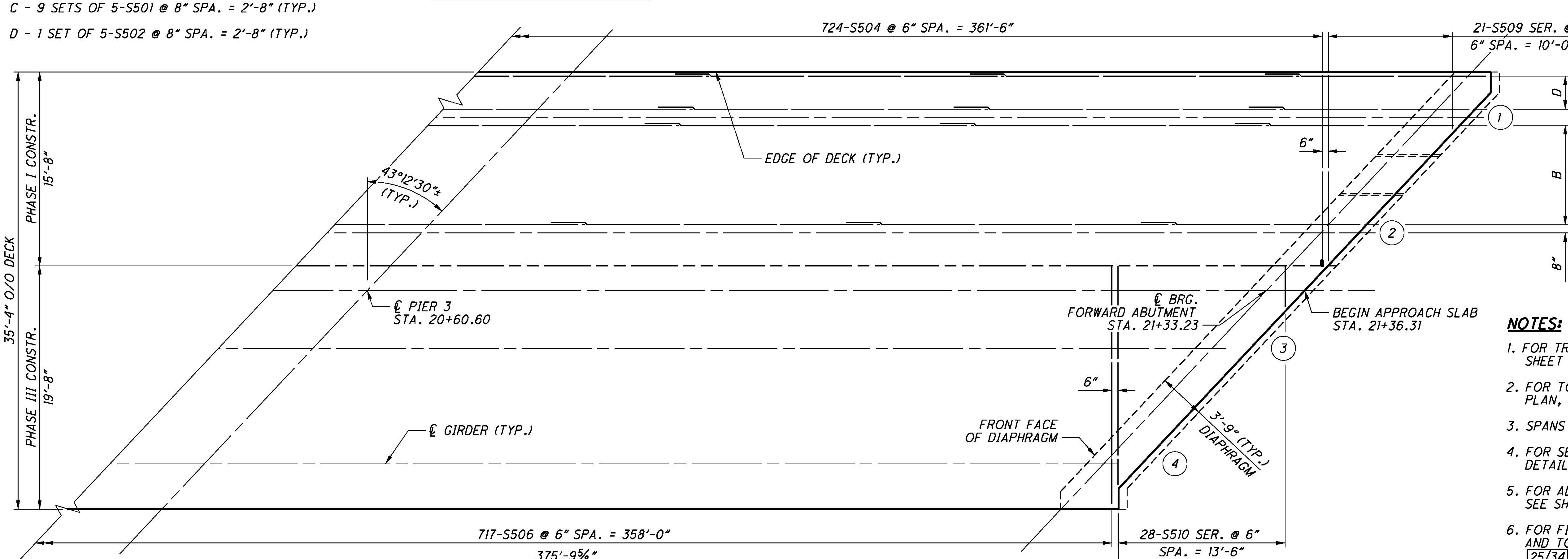
D - 1 SET OF 5-S502 @ 8" SPA. = 2'-8" (TYP.)

MIN. LAP LENGTHS	
NO. 4 BARS	2'-0"
NO. 5 BARS	2'-6"

LEGEND:

(#) - GIRDER DESIGNATION

* - ADJUST REINFORCING AS NECESSARY TO AVOID CONSTRUCTION JOINT



PARTIAL DECK PLAN

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 23/34.
2. FOR TOP OF DECK REINFORCING PLAN, SEE SHEET 21/34.
3. SPANS 2 & 3 NOT SHOWN FOR CLARITY.
4. FOR SEMI-INTEGRAL ABUTMENT DIAPHRAGM DETAILS, SEE SHEET 10/34 AND 13/34.
5. FOR ADDITIONAL BARRIER DETAILS, SEE SHEET 28/34 THRU 29/34.
6. FOR FINAL DECK SURFACE, SCREED, AND TOP OF HAUNCH ELEVATIONS, SEE SHEETS 25/34 THRU 27/34.

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DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
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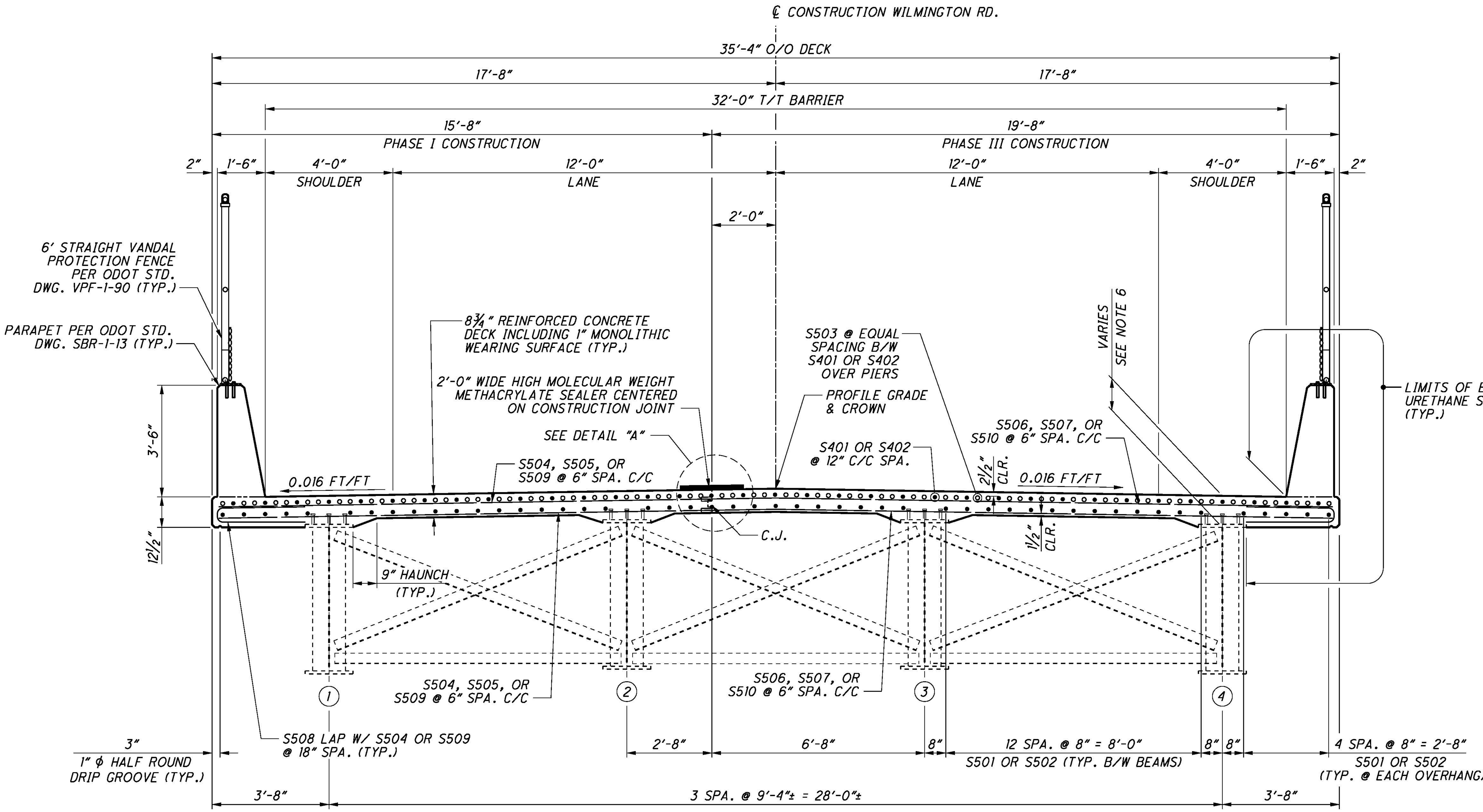
DECK PLAN - BOTTOM REINFORCING

BRIDGE NO. WAR-71-1683

I-71 UNDER WILMINGTON RD.

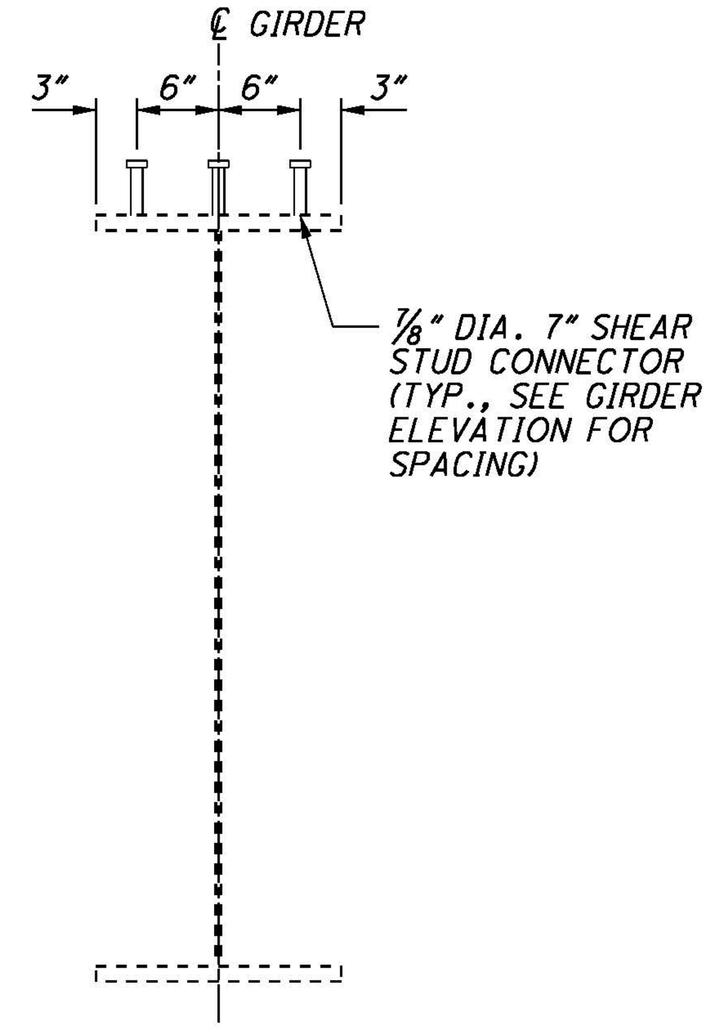
WAR-71-16.81

PID No. 91727

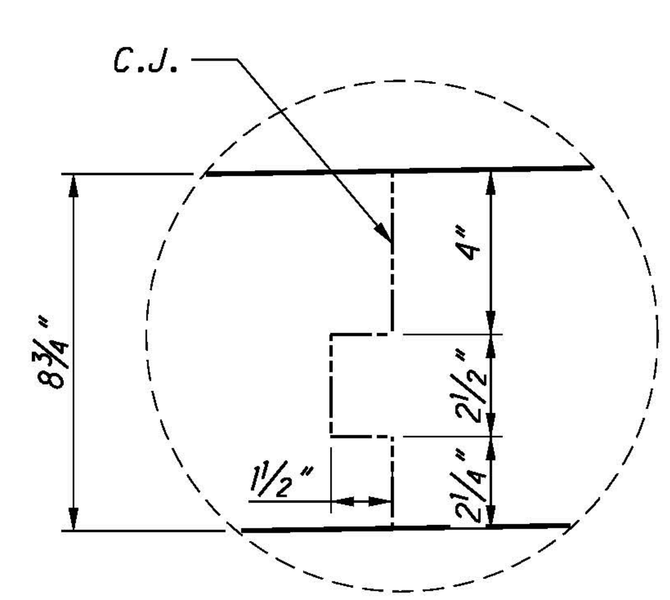


TRANSVERSE SECTION

MIN. LAP LENGTHS	
NO. 4 BARS	2'-0"
NO. 5 BARS	2'-6"



GIRDER AND SHEAR CONNECTOR DETAIL



DETAIL "A"

NOTES:

1. FOR BARRIER DETAILS, SEE SHEET 28/34 AND 29/34.
2. FOR DECK PLANS, SEE SHEETS 21/34 THRU 22/34.
3. FOR DECK KEY PLAN, FINAL DECK ELEVATIONS, SCREED ELEVATIONS, AND TOP OF HAUNCH ELEVATIONS, SEE SHEET 24/34 THRU 27/34.
4. THE TRANSVERSE DECK REINFORCING BARS SHALL BE FIELD BENT TO CONFORM TO THE ROADWAY CROSS SLOPES. FIELD BENDING SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN FOR PAYMENT.
5. FOR REINFORCING LIST, SEE SHEET 33/34.
6. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.
7. FOR PHASE CONSTRUCTION DETAILS, SEE SHEETS 6/34 THRU 8/34.

LEGEND:

(#) - GIRDER DESIGNATION

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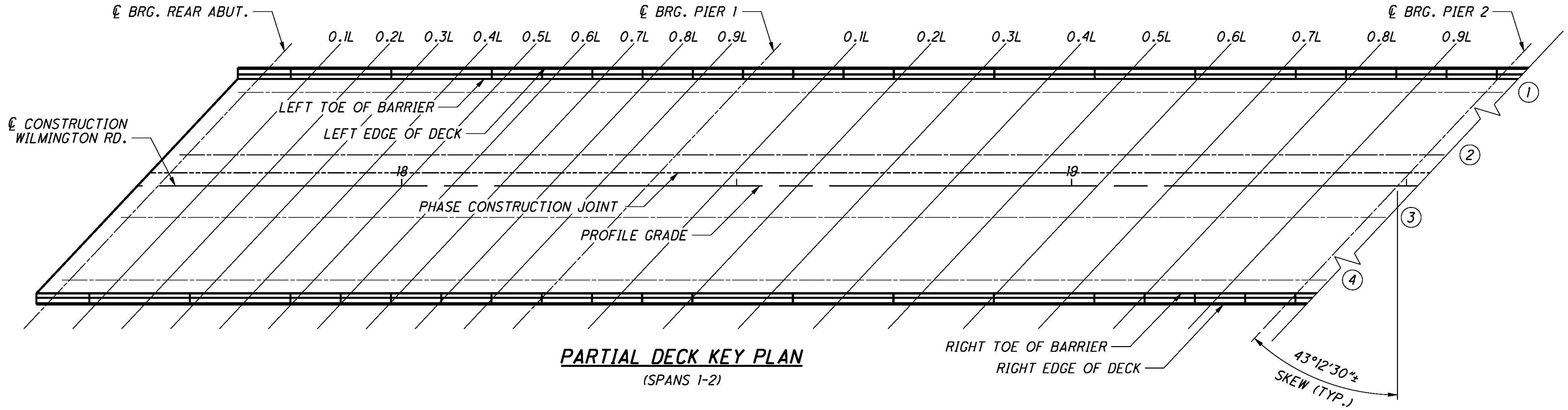
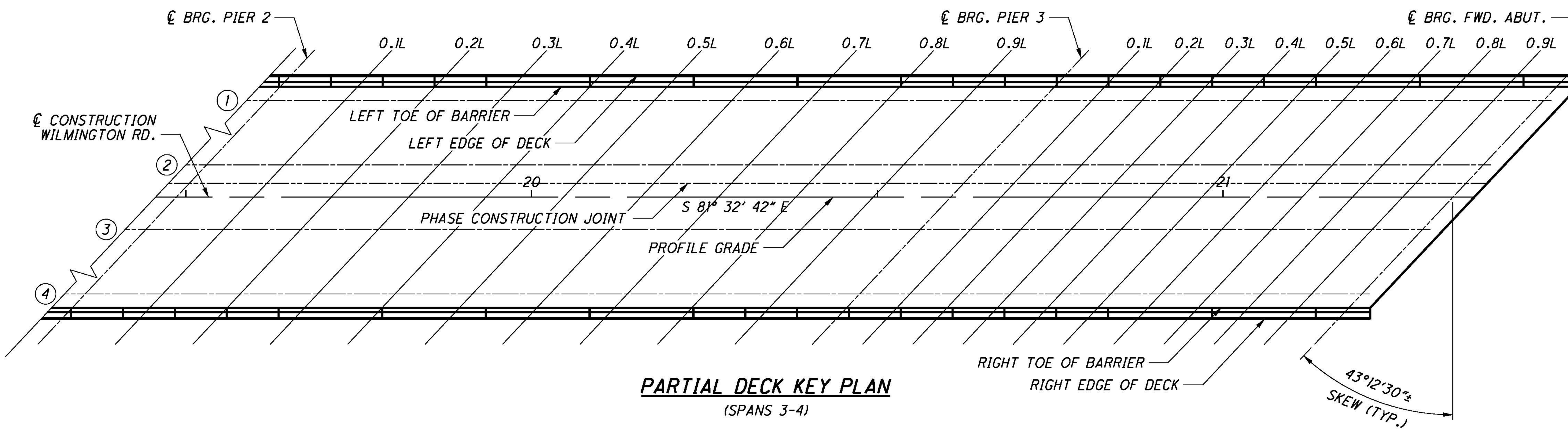
DFT		8302316	

TRANSVERSE SECTION
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

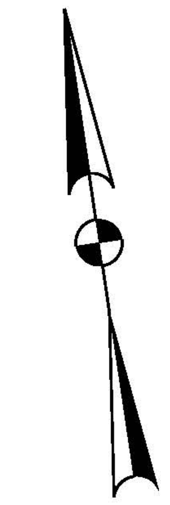
WAR-71-16.81
PID No. 91727

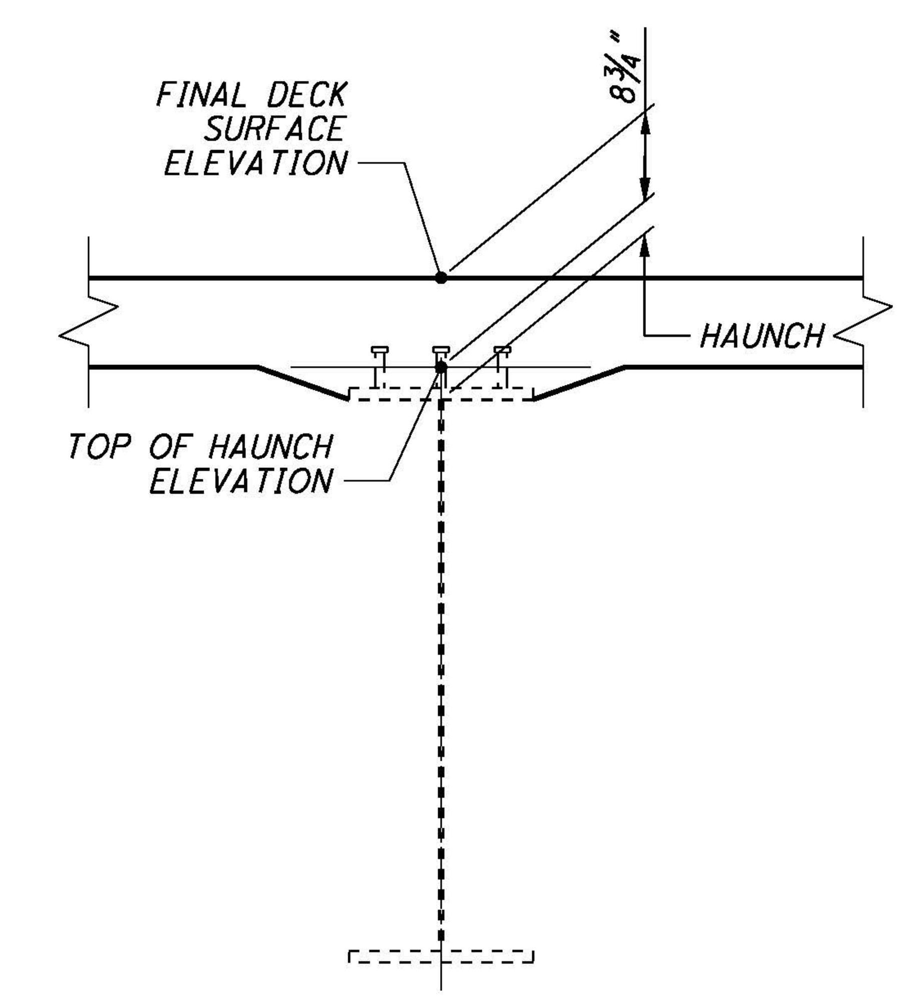


PARTIAL DECK KEY PLAN
(SPANS 1-2)

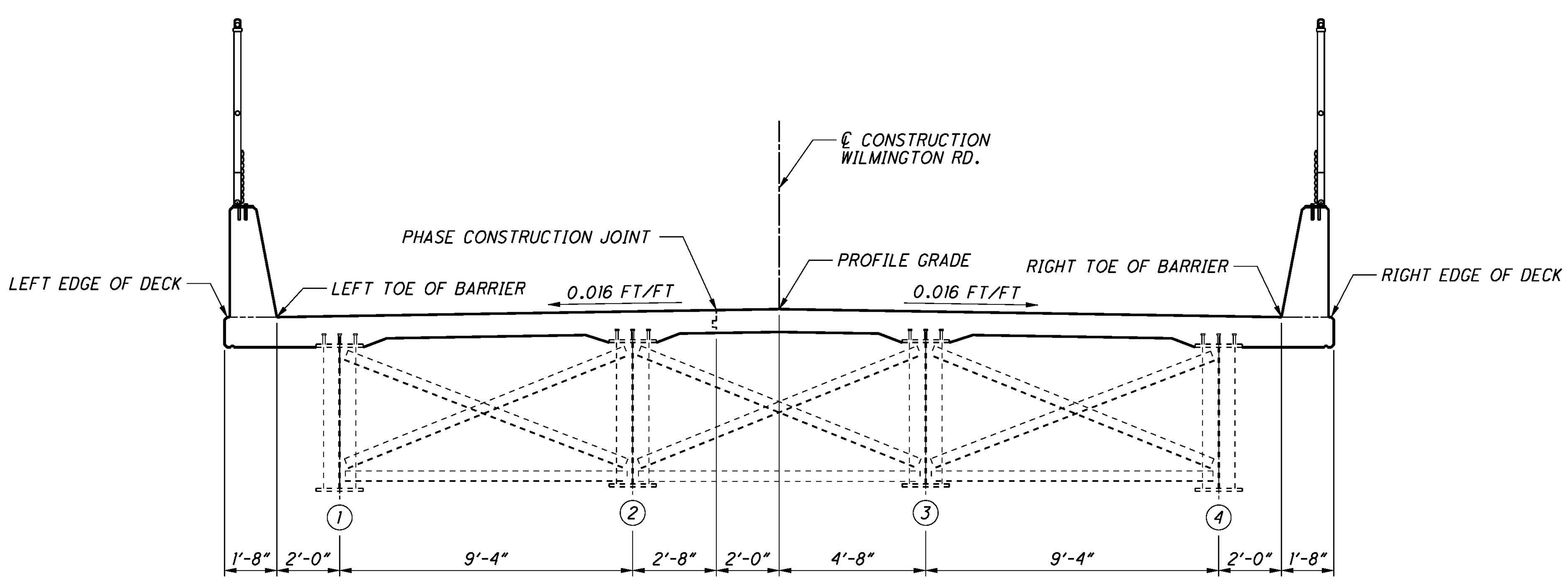


PARTIAL DECK KEY PLAN
(SPANS 3-4)





DECK HAUNCH DETAIL



TYPICAL CROSS SECTION

LEGEND:

(#) - GIRDER DESIGNATION

NOTES:

1. FOR FINAL DECK SURFACE, SCREED, AND TOP OF HAUNCH ELEVATIONS, SEE SHEETS 25/34 THRU 27/34.

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRV		8302316	

DECK KEY PLAN
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

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FINAL DECK SURFACE ELEVATIONS

LOCATION	LEFT E.O.D.		LEFT TOE OF BARRIER		BEAM 1		BEAM 2		CONST. JOINT		PROFILE GRADE		BEAM 3		BEAM 4		RIGHT TOE OF BARRIER		RIGHT E.O.D.	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
℄ BRG. REAR ABUT.	17+80.19	972.51	17+78.63	972.47	17+76.75	972.45	17+67.98	972.37	17+65.48	972.35	17+63.60	972.33	17+59.21	972.14	17+50.45	971.75	17+48.57	971.66	17+47.00	971.62
.1L	17+87.49	972.70	17+85.93	972.66	17+84.05	972.64	17+75.28	972.57	17+72.78	972.54	17+70.90	972.53	17+66.51	972.33	17+57.75	971.95	17+55.87	971.87	17+54.30	971.82
.2L	17+94.79	972.88	17+93.23	972.84	17+91.35	972.83	17+82.58	972.75	17+80.08	972.73	17+78.20	972.72	17+73.81	972.53	17+65.05	972.15	17+63.17	972.06	17+61.60	972.02
.3L	18+02.09	973.06	18+00.53	973.02	17+98.65	973.01	17+89.88	972.94	17+87.38	972.92	17+85.50	972.90	17+81.11	972.72	17+72.35	972.34	17+70.47	972.26	17+68.90	972.22
.4L	18+09.39	973.24	18+07.83	973.20	18+05.95	973.19	17+97.18	973.12	17+94.68	973.10	17+92.80	973.09	17+88.41	972.90	17+79.65	972.53	17+77.77	972.45	17+76.20	972.41
.5L	18+16.69	973.41	18+15.13	973.38	18+13.25	973.36	18+04.48	973.30	18+01.98	973.28	18+00.10	973.27	17+95.71	973.09	17+86.95	972.72	17+85.07	972.64	17+83.50	972.60
.6L	18+23.99	973.58	18+22.43	973.55	18+20.55	973.53	18+11.78	973.48	18+09.28	973.46	18+07.40	973.45	18+03.01	973.27	17+94.25	972.90	17+92.37	972.82	17+90.80	972.78
.7L	18+31.29	973.75	18+29.73	973.71	18+27.85	973.70	18+19.08	973.65	18+16.58	973.63	18+14.70	973.62	18+10.31	973.44	18+01.55	973.08	17+99.67	973.00	17+98.10	972.96
.8L	18+38.59	973.91	18+37.03	973.88	18+35.15	973.87	18+26.38	973.82	18+23.88	973.80	18+22.00	973.79	18+17.61	973.62	18+08.85	973.26	18+06.97	973.18	18+05.40	973.14
.9L	18+45.89	974.07	18+44.33	974.04	18+42.45	974.03	18+33.68	973.98	18+31.18	973.97	18+29.30	973.96	18+24.91	973.78	18+16.15	973.43	18+14.27	973.35	18+12.70	973.32
℄ PIER 1	18+53.19	974.23	18+51.63	974.20	18+49.75	974.19	18+40.98	974.15	18+38.48	974.13	18+36.60	974.12	18+32.21	973.95	18+23.45	973.60	18+21.57	973.53	18+20.00	973.49
.1L	18+64.39	974.46	18+62.83	974.43	18+60.95	974.43	18+52.18	974.39	18+49.68	974.38	18+47.80	974.37	18+43.41	974.20	18+34.65	973.86	18+32.77	973.78	18+31.20	973.75
.2L	18+75.59	974.69	18+74.03	974.66	18+72.15	974.65	18+63.38	974.63	18+60.88	974.62	18+59.00	974.61	18+54.61	974.44	18+45.85	974.10	18+43.97	974.03	18+42.40	974.00
.3L	18+86.79	974.91	18+85.23	974.88	18+83.35	974.88	18+74.58	974.85	18+72.08	974.85	18+70.20	974.84	18+65.81	974.68	18+57.05	974.34	18+55.17	974.27	18+53.60	974.24
.4L	18+97.99	975.12	18+96.43	975.09	18+94.55	975.09	18+85.78	975.07	18+83.28	975.07	18+81.40	975.06	18+77.01	974.90	18+68.25	974.58	18+66.37	974.51	18+64.80	974.47
.5L	19+09.19	975.33	19+07.63	975.30	19+05.75	975.30	18+96.98	975.28	18+94.48	975.28	18+92.60	975.28	18+88.21	975.12	18+79.45	974.80	18+77.57	974.73	18+76.00	974.70
.6L	19+20.39	975.52	19+18.83	975.49	19+16.95	975.49	19+08.18	975.49	19+05.68	975.49	19+03.80	975.48	18+99.41	975.33	18+90.65	975.02	18+88.77	974.95	18+87.20	974.92
.7L	19+31.59	975.71	19+30.03	975.68	19+28.15	975.68	19+19.38	975.69	19+16.88	975.68	19+15.00	975.68	19+10.61	975.53	19+01.85	975.23	18+99.97	975.16	18+98.40	975.13
.8L	19+42.79	975.89	19+41.23	975.87	19+39.35	975.87	19+30.58	975.87	19+28.08	975.88	19+26.20	975.88	19+21.81	975.73	19+13.05	975.43	19+11.17	975.36	19+09.60	975.33
.9L	19+53.99	976.06	19+52.43	976.04	19+50.55	976.04	19+41.78	976.06	19+39.28	976.06	19+37.40	976.06	19+33.01	975.91	19+24.25	975.62	19+22.37	975.56	19+20.80	975.53
℄ PIER 2	19+65.19	976.23	19+63.63	976.20	19+61.75	976.21	19+52.98	976.23	19+50.48	976.23	19+48.60	976.24	19+44.21	976.09	19+35.45	975.80	19+33.57	975.74	19+32.00	975.72
.1L	19+76.39	976.38	19+74.83	976.36	19+72.95	976.37	19+64.18	976.39	19+61.68	976.40	19+59.80	976.41	19+55.41	976.27	19+46.65	975.98	19+44.77	975.92	19+43.20	975.90
.2L	19+87.59	976.53	19+86.03	976.51	19+84.15	976.52	19+75.38	976.55	19+72.88	976.56	19+71.00	976.57	19+66.61	976.43	19+57.85	976.15	19+55.97	976.09	19+54.40	976.07
.3L	19+98.79	976.68	19+97.23	976.66	19+95.35	976.66	19+86.58	976.70	19+84.08	976.71	19+82.20	976.72	19+77.81	976.59	19+69.05	976.31	19+67.17	976.26	19+65.60	976.23
.4L	20+09.99	976.81	20+08.43	976.79	20+06.55	976.80	19+97.78	976.84	19+95.28	976.86	19+93.40	976.86	19+89.01	976.73	19+80.25	976.47	19+78.37	976.41	19+76.80	976.39
.5L	20+21.19	976.94	20+19.63	976.92	20+17.75	976.93	20+08.98	976.98	20+06.48	976.99	20+04.60	977.00	20+00.21	976.87	19+91.45	976.62	19+89.57	976.56	19+88.00	976.54
.6L	20+32.39	977.05	20+30.83	977.04	20+28.95	977.05	20+20.18	977.11	20+17.68	977.12	20+15.80	977.13	20+11.41	977.01	20+02.65	976.75	20+00.77	976.70	19+99.20	976.68
.7L	20+43.59	977.16	20+42.03	977.15	20+40.15	977.16	20+31.38	977.23	20+28.88	977.24	20+27.00	977.25	20+22.61	977.13	20+13.85	976.89	20+11.97	976.83	20+10.40	976.81
.8L	20+54.79	977.27	20+53.23	977.25	20+51.35	977.27	20+42.58	977.34	20+40.08	977.36	20+38.20	977.37	20+33.81	977.25	20+25.05	977.01	20+23.17	976.96	20+21.60	976.94
.9L	20+65.99	977.36	20+64.43	977.35	20+62.55	977.37	20+53.78	977.44	20+51.28	977.46	20+49.40	977.48	20+45.01	977.36	20+36.25	977.13	20+34.37	977.07	20+32.80	977.06
℄ PIER 3	20+77.19	977.45	20+75.63	977.44	20+73.75	977.46	20+64.98	977.54	20+62.48	977.56	20+60.60	977.57	20+56.21	977.46	20+47.45	977.23	20+45.57	977.18	20+44.00	977.17
.1L	20+84.45	977.50	20+82.89	977.49	20+81.01	977.51	20+72.24	977.59	20+69.74	977.62	20+67.86	977.63	20+63.48	977.52	20+54.71	977.30	20+52.83	977.25	20+51.26	977.24
.2L	20+91.72	977.55	20+90.15	977.54	20+88.27	977.56	20+79.51	977.65	20+77.00	977.67	20+75.12	977.69	20+70.74	977.58	20+61.97	977.36	20+60.09	977.31	20+58.53	977.30
.3L	20+98.98	977.60	20+97.41	977.59	20+95.54	977.61	20+86.77	977.70	20+84.26	977.73	20+82.39	977.74	20+78.00	977.64	20+69.23	977.42	20+67.36	977.37	20+65.79	977.36
.4L	21+06.24	977.64	21+04.68	977.63	21+02.80	977.65	20+94.03	977.75	20+91.53	977.78	20+89.65	977.79	20+85.26	977.69	20+76.50	977.48	20+74.62	977.43	20+73.05	977.42
.5L	21+13.51	977.68	21+11.94	977.67	21+10.06	977.69	21+01.29	977.79	20+98.79	977.82	20+96.91	977.84	20+92.53	977.74	20+83.76	977.53	20+81.88	977.48	20+80.32	977.47
.6L	21+20.77	977.72	21+19.20	977.71	21+17.33	977.73	21+08.56	977.84	21+06.05	977.86	21+04.17	977.89	20+99.79	977.78	20+91.02	977.58	20+89.15	977.54	20+87.58	977.52
.7L	21+28.03	977.75	21+26.47	977.74	21+24.59	977.77	21+15.82	977.87	21+13.32	977.90	21+11.44	977.93	21+07.05	977.83	20+98.29	977.63	20+96.41	977.58	20+94.84	977.57
.8L	21+35.30	977.78	21+33.73	977.77	21+31.85	977.80	21+23.08	977.91	21+20.58	977.94	21+18.70	977.96	21+14.32	977.87	21+05.55	977.67	21+03.67	977.63	21+02.11	977.62
.9L	21+42.56	977.81	21+40.99	977.80	21+39.11	977.83	21+30.35	977.94	21+27.84	977.97	21+25.96	978.00	21+21.58	977.90	21+12.81	977.71	21+10.93	977.67	21+09.37	977.66
℄ BRG. FWD. ABUT.	21+49.82	977.83	21+48.26	977.83	21+46.38	977.85	21+37.61	977.97	21+35.11	978.00	21+33.23	978.03	21+28.84	977.94	21+20.08	977.75	21+18.20	977.70	21+16.63	977.70

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 24/34.
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

E.L. ROBINSON ENGINEERING
1801 Watermark Drive, Suite 310 Columbus, Ohio 43215
www.elrobinsonengineering.com

DESIGNED TAS | CHECKED BMG | DRAWN TAS | REVISED | REVIEWED RER | DATE 07/2016 | STRUCTURE FILE NUMBER 8302316

FINAL DECK SURFACE ELEVATIONS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

SCREED ELEVATIONS

LOCATION	LEFT E.O.D.		LEFT TOE OF BARRIER		CONST. JOINT		PROFILE GRADE		RIGHT TOE OF BARRIER		RIGHT E.O.D.	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
℄ BRG. REAR ABUT.	17+80.19	972.51	17+78.63	972.47	17+65.48	972.35	17+63.60	972.33	17+48.57	971.66	17+47.00	971.62
.1L	17+87.49	972.71	17+85.93	972.67	17+72.78	972.55	17+70.90	972.53	17+55.87	971.88	17+54.30	971.83
.2L	17+94.79	972.90	17+93.23	972.86	17+80.08	972.75	17+78.20	972.73	17+63.17	972.09	17+61.60	972.04
.3L	18+02.09	973.09	18+00.53	973.05	17+87.38	972.94	17+85.50	972.92	17+70.47	972.29	17+68.90	972.24
.4L	18+09.39	973.26	18+07.83	973.23	17+94.68	973.13	17+92.80	973.11	17+77.77	972.48	17+76.20	972.44
.5L	18+16.69	973.43	18+15.13	973.40	18+01.98	973.30	18+00.10	973.29	17+85.07	972.66	17+83.50	972.62
.6L	18+23.99	973.60	18+22.43	973.56	18+09.28	973.47	18+07.40	973.46	17+92.37	972.84	17+90.80	972.80
.7L	18+31.29	973.76	18+29.73	973.72	18+16.58	973.64	18+14.70	973.63	17+99.67	973.01	17+98.10	972.97
.8L	18+38.59	973.91	18+37.03	973.88	18+23.88	973.80	18+22.00	973.79	18+06.97	973.18	18+05.40	973.15
.9L	18+45.89	974.07	18+44.33	974.04	18+31.18	973.97	18+29.30	973.96	18+14.27	973.35	18+12.70	973.32
℄ PIER 1	18+53.19	974.23	18+51.63	974.20	18+38.48	974.13	18+36.60	974.12	18+21.57	973.53	18+20.00	973.49
.1L	18+64.39	974.48	18+62.83	974.45	18+49.68	974.39	18+47.80	974.38	18+32.77	973.80	18+31.20	973.76
.2L	18+75.59	974.73	18+74.03	974.70	18+60.88	974.65	18+59.00	974.64	18+43.97	974.07	18+42.40	974.04
.3L	18+86.79	974.98	18+85.23	974.95	18+72.08	974.91	18+70.20	974.89	18+55.17	974.34	18+53.60	974.30
.4L	18+97.99	975.20	18+96.43	975.17	18+83.28	975.14	18+81.40	975.13	18+66.37	974.59	18+64.80	974.56
.5L	19+09.19	975.41	19+07.63	975.38	18+94.48	975.36	18+92.60	975.34	18+77.57	974.82	18+76.00	974.79
.6L	19+20.39	975.60	19+18.83	975.57	19+05.68	975.56	19+03.80	975.54	18+88.77	975.03	18+87.20	975.00
.7L	19+31.59	975.76	19+30.03	975.74	19+16.88	975.74	19+15.00	975.73	18+99.97	975.22	18+98.40	975.19
.8L	19+42.79	975.92	19+41.23	975.89	19+28.08	975.90	19+26.20	975.90	19+11.17	975.39	19+09.60	975.37
.9L	19+53.99	976.07	19+52.43	976.05	19+39.28	976.07	19+37.40	976.07	19+22.37	975.57	19+20.80	975.54
℄ PIER 2	19+65.19	976.23	19+63.63	976.20	19+50.48	976.23	19+48.60	976.24	19+33.57	975.74	19+32.00	975.72
.1L	19+76.39	976.39	19+74.83	976.37	19+61.68	976.41	19+59.80	976.41	19+44.77	975.93	19+43.20	975.90
.2L	19+87.59	976.56	19+86.03	976.54	19+72.88	976.59	19+71.00	976.59	19+55.97	976.12	19+54.40	976.10
.3L	19+98.79	976.73	19+97.23	976.71	19+84.08	976.76	19+82.20	976.76	19+67.17	976.31	19+65.60	976.29
.4L	20+09.99	976.89	20+08.43	976.87	19+95.28	976.93	19+93.40	976.93	19+78.37	976.49	19+76.80	976.47
.5L	20+21.19	977.02	20+19.63	977.00	20+06.48	977.07	20+04.60	977.07	19+89.57	976.65	19+88.00	976.63
.6L	20+32.39	977.13	20+30.83	977.12	20+17.68	977.20	20+15.80	977.20	20+00.77	976.78	19+99.20	976.77
.7L	20+43.59	977.23	20+42.03	977.21	20+28.88	977.30	20+27.00	977.30	20+11.97	976.90	20+10.40	976.88
.8L	20+54.79	977.31	20+53.23	977.29	20+40.08	977.39	20+38.20	977.40	20+23.17	977.00	20+21.60	976.98
.9L	20+65.99	977.38	20+64.43	977.37	20+51.28	977.48	20+49.40	977.49	20+34.37	977.09	20+32.80	977.08
℄ PIER 3	20+77.19	977.45	20+75.63	977.44	20+62.48	977.56	20+60.60	977.57	20+45.57	977.18	20+44.00	977.17
.1L	20+84.45	977.50	20+82.89	977.49	20+69.74	977.62	20+67.86	977.63	20+52.83	977.25	20+51.26	977.23
.2L	20+91.72	977.56	20+90.15	977.54	20+77.00	977.68	20+75.12	977.69	20+60.09	977.31	20+58.53	977.30
.3L	20+98.98	977.61	20+97.41	977.60	20+84.26	977.73	20+82.39	977.75	20+67.36	977.38	20+65.79	977.37
.4L	21+06.24	977.66	21+04.68	977.65	20+91.53	977.79	20+89.65	977.81	20+74.62	977.45	20+73.05	977.43
.5L	21+13.51	977.71	21+11.94	977.70	20+98.79	977.84	20+96.91	977.86	20+81.88	977.51	20+80.32	977.49
.6L	21+20.77	977.75	21+19.20	977.74	21+06.05	977.89	21+04.17	977.91	20+89.15	977.56	20+87.58	977.55
.7L	21+28.03	977.78	21+26.47	977.77	21+13.32	977.93	21+11.44	977.95	20+96.41	977.61	20+94.84	977.60
.8L	21+35.30	977.80	21+33.73	977.80	21+20.58	977.96	21+18.70	977.98	21+03.67	977.65	21+02.11	977.64
.9L	21+42.56	977.82	21+40.99	977.81	21+27.84	977.98	21+25.96	978.01	21+10.93	977.68	21+09.37	977.67
℄ BRG. FWD. ABUT.	21+49.82	977.83	21+48.26	977.83	21+35.11	978.00	21+33.23	978.03	21+18.20	977.70	21+16.63	977.70

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET $\boxed{24/34}$.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

E.L. ROBINSON ENGINEERING
1801 Watermark Drive, Suite 310 Columbus, Ohio 43215
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DATE 07/2016
REVIEWED RER
STRUCTURE FILE NUMBER 8302316
DRAWN TAS
REVISED
DESIGNED TAS
CHECKED BMG

SCREED ELEVATIONS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

TOP OF HAUNCH ELEVATIONS

LOCATION	BEAM 1		BEAM 2		BEAM 3		BEAM 4	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
℄ BRG. REAR ABUT.	17+76.75	971.73	17+67.98	971.64	17+59.21	971.41	17+50.45	971.02
.1L	17+84.05	971.92	17+75.28	971.85	17+66.51	971.61	17+57.75	971.23
.2L	17+91.35	972.12	17+82.58	972.04	17+73.81	971.81	17+65.05	971.44
.3L	17+98.65	972.30	17+89.88	972.23	17+81.11	972.01	17+72.35	971.64
.4L	18+05.95	972.48	17+97.18	972.42	17+88.41	972.19	17+79.65	971.83
.5L	18+13.25	972.65	18+04.48	972.59	17+95.71	972.37	17+86.95	972.01
.6L	18+20.55	972.82	18+11.78	972.76	18+03.01	972.55	17+94.25	972.19
.7L	18+27.85	972.98	18+19.08	972.93	18+10.31	972.72	18+01.55	972.36
.8L	18+35.15	973.14	18+26.38	973.09	18+17.61	972.89	18+08.85	972.53
.9L	18+42.45	973.30	18+33.68	973.25	18+24.91	973.05	18+16.15	972.70
℄ PIER 1	18+49.75	973.46	18+40.98	973.42	18+32.21	973.22	18+23.45	972.87
.1L	18+60.95	973.71	18+52.18	973.68	18+43.41	973.48	18+34.65	973.14
.2L	18+72.15	973.97	18+63.38	973.93	18+54.61	973.75	18+45.85	973.41
.3L	18+83.35	974.21	18+74.58	974.18	18+65.81	974.00	18+57.05	973.68
.4L	18+94.55	974.44	18+85.78	974.42	18+77.01	974.24	18+68.25	973.93
.5L	19+05.75	974.65	18+96.98	974.64	18+88.21	974.46	18+79.45	974.16
.6L	19+16.95	974.84	19+08.18	974.83	18+99.41	974.66	18+90.65	974.37
.7L	19+28.15	975.01	19+19.38	975.01	19+10.61	974.84	19+01.85	974.55
.8L	19+39.35	975.17	19+30.58	975.17	19+21.81	975.02	19+13.05	974.73
.9L	19+50.55	975.32	19+41.78	975.33	19+33.01	975.19	19+24.25	974.90
℄ PIER 2	19+61.75	975.48	19+52.98	975.50	19+44.21	975.36	19+35.45	975.08
.1L	19+72.95	975.65	19+64.18	975.67	19+55.41	975.54	19+46.65	975.26
.2L	19+84.15	975.82	19+75.38	975.85	19+66.61	975.73	19+57.85	975.45
.3L	19+95.35	975.99	19+86.58	976.03	19+77.81	975.90	19+69.05	975.64
.4L	20+06.55	976.15	19+97.78	976.19	19+89.01	976.07	19+80.25	975.82
.5L	20+17.75	976.29	20+08.98	976.33	20+00.21	976.21	19+91.45	975.97
.6L	20+28.95	976.40	20+20.18	976.45	20+11.41	976.34	20+02.65	976.11
.7L	20+40.15	976.50	20+31.38	976.56	20+22.61	976.45	20+13.85	976.23
.8L	20+51.35	976.58	20+42.58	976.64	20+33.81	976.55	20+25.05	976.32
.9L	20+62.55	976.65	20+53.78	976.73	20+45.01	976.64	20+36.25	976.41
℄ PIER 3	20+73.75	976.73	20+64.98	976.81	20+56.21	976.73	20+47.45	976.50
.1L	20+81.01	976.78	20+72.24	976.86	20+63.48	976.79	20+54.71	976.57
.2L	20+88.27	976.84	20+79.51	976.92	20+70.74	976.86	20+61.97	976.63
.3L	20+95.54	976.89	20+86.77	976.98	20+78.00	976.92	20+69.23	976.70
.4L	21+02.80	976.94	20+94.03	977.04	20+85.26	976.98	20+76.50	976.76
.5L	21+10.06	976.99	21+01.29	977.09	20+92.53	977.03	20+83.76	976.82
.6L	21+17.33	977.03	21+08.56	977.13	20+99.79	977.08	20+91.02	976.88
.7L	21+24.59	977.07	21+15.82	977.17	21+07.05	977.12	20+98.29	976.92
.8L	21+31.85	977.09	21+23.08	977.20	21+14.32	977.15	21+05.55	976.96
.9L	21+39.11	977.11	21+30.35	977.22	21+21.58	977.18	21+12.81	976.99
℄ BRG. FWD. ABUT.	21+46.38	977.12	21+37.61	977.24	21+28.84	977.21	21+20.08	977.02

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 24/34.
2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

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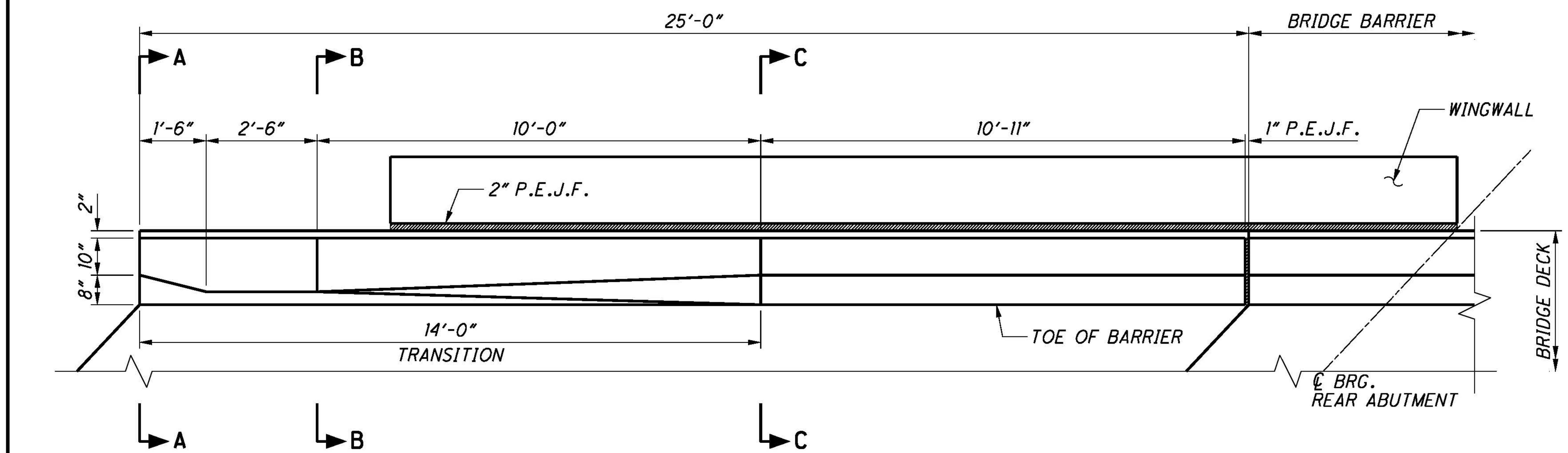
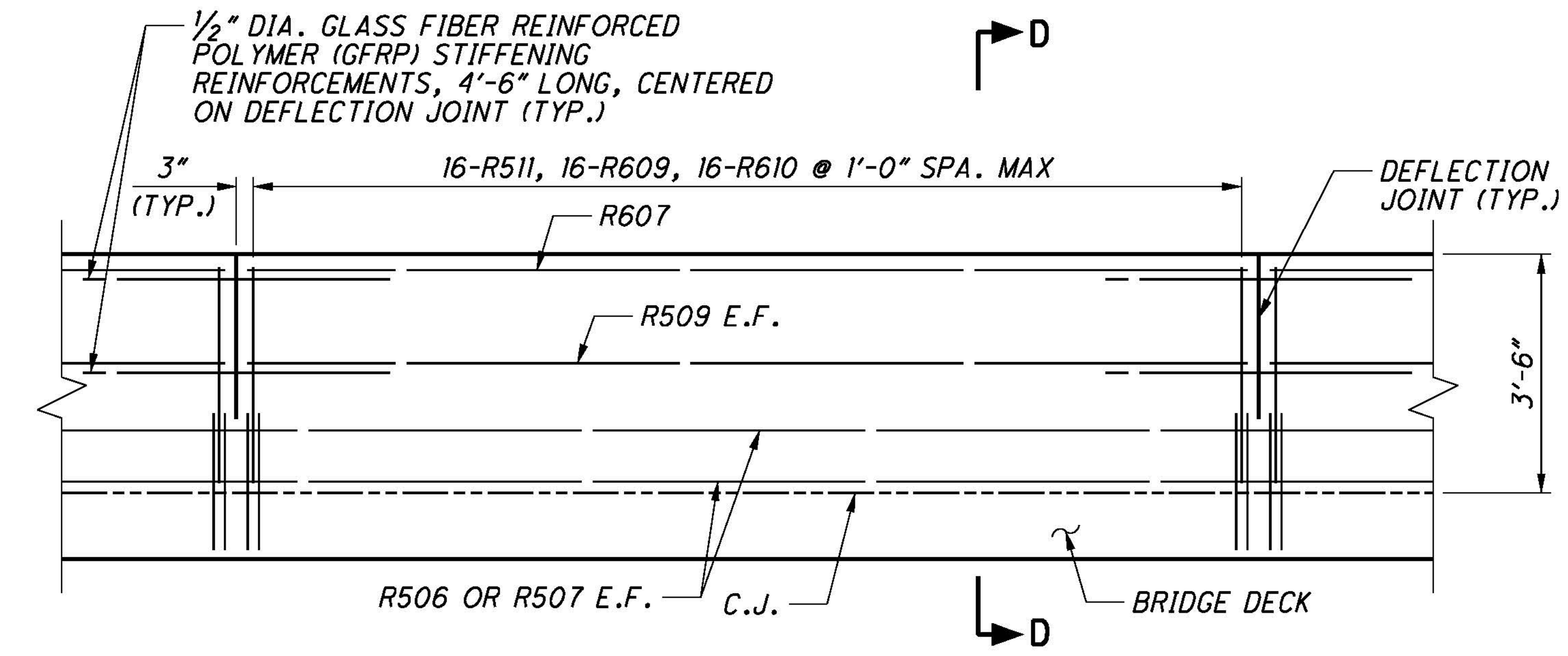
TAS	BMG	TAS		RER	07/2016	8302316

TOP OF HAUNCH ELEVATIONS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

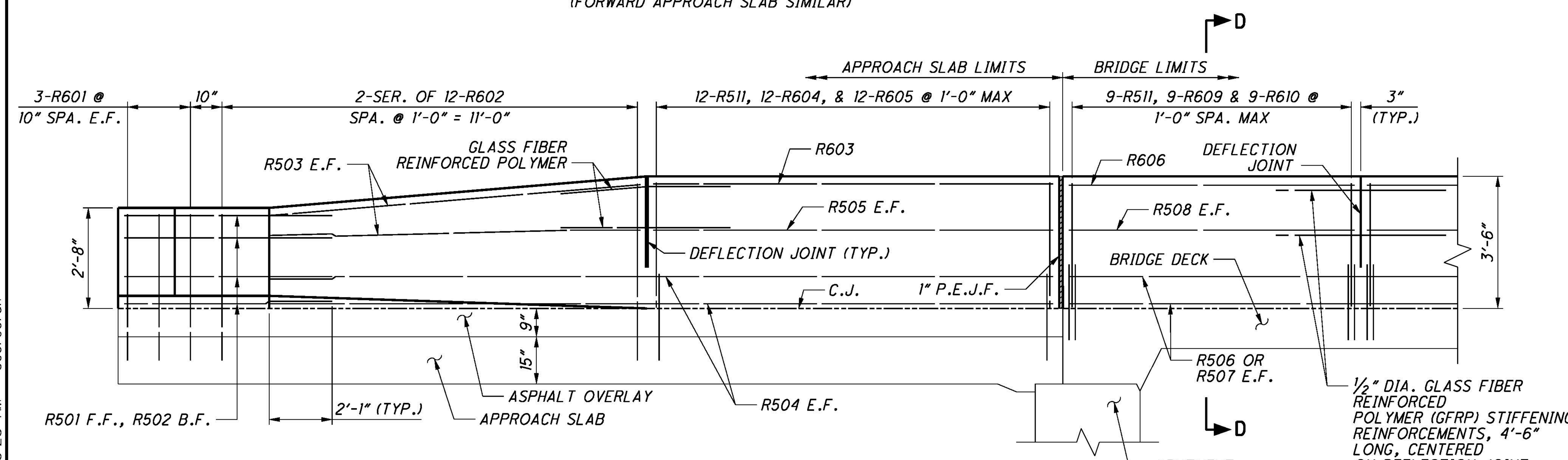
WAR-71-16.81
PID No. 91727



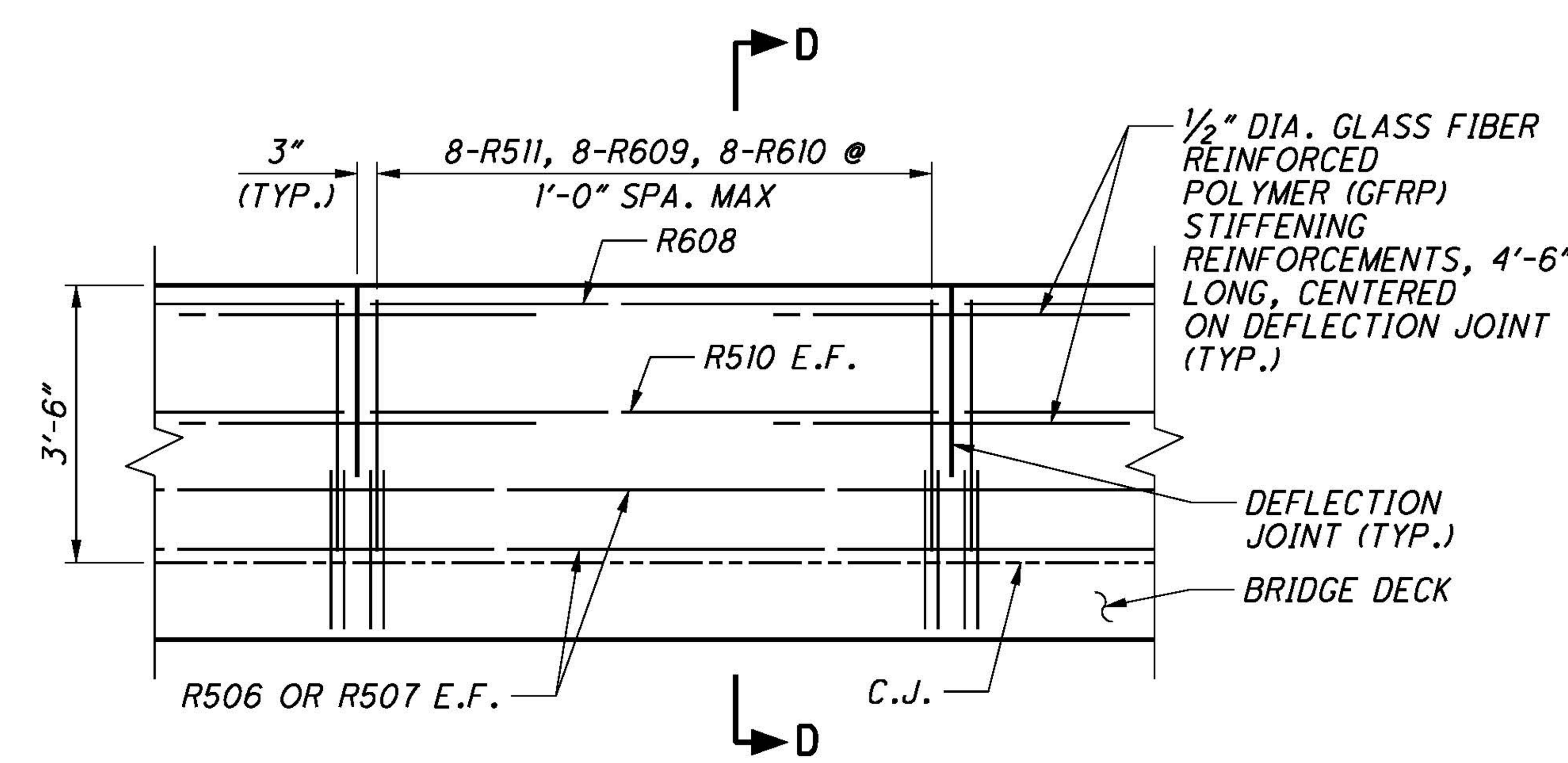
REAR APPROACH SLAB BARRIER PLAN
(FORWARD APPROACH SLAB SIMILAR)



15'-0" INTERIOR PANEL ELEVATION



REAR APPROACH SLAB BARRIER ELEVATION
(FORWARD APPROACH SLAB SIMILAR)

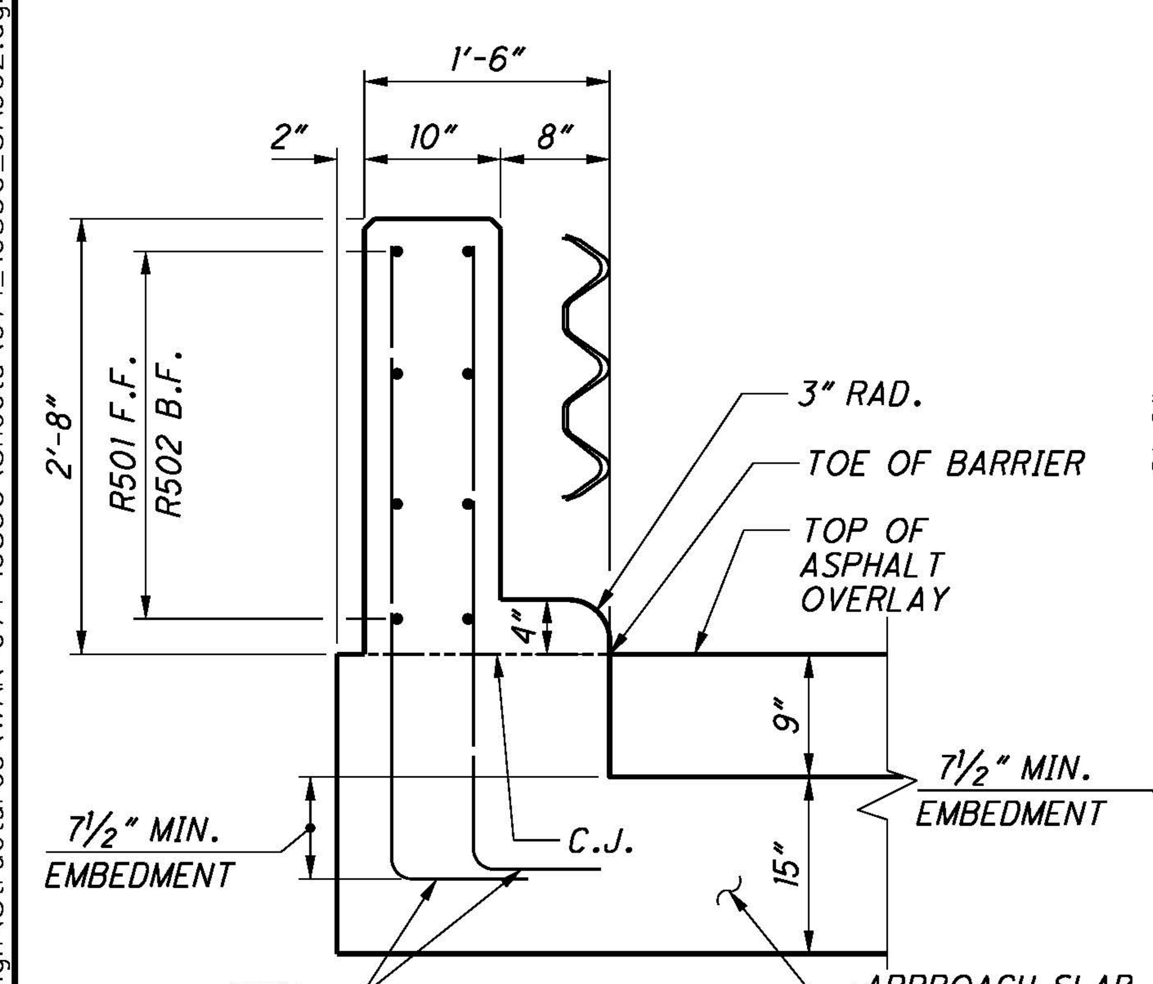


7'-6" INTERIOR PANEL ELEVATION

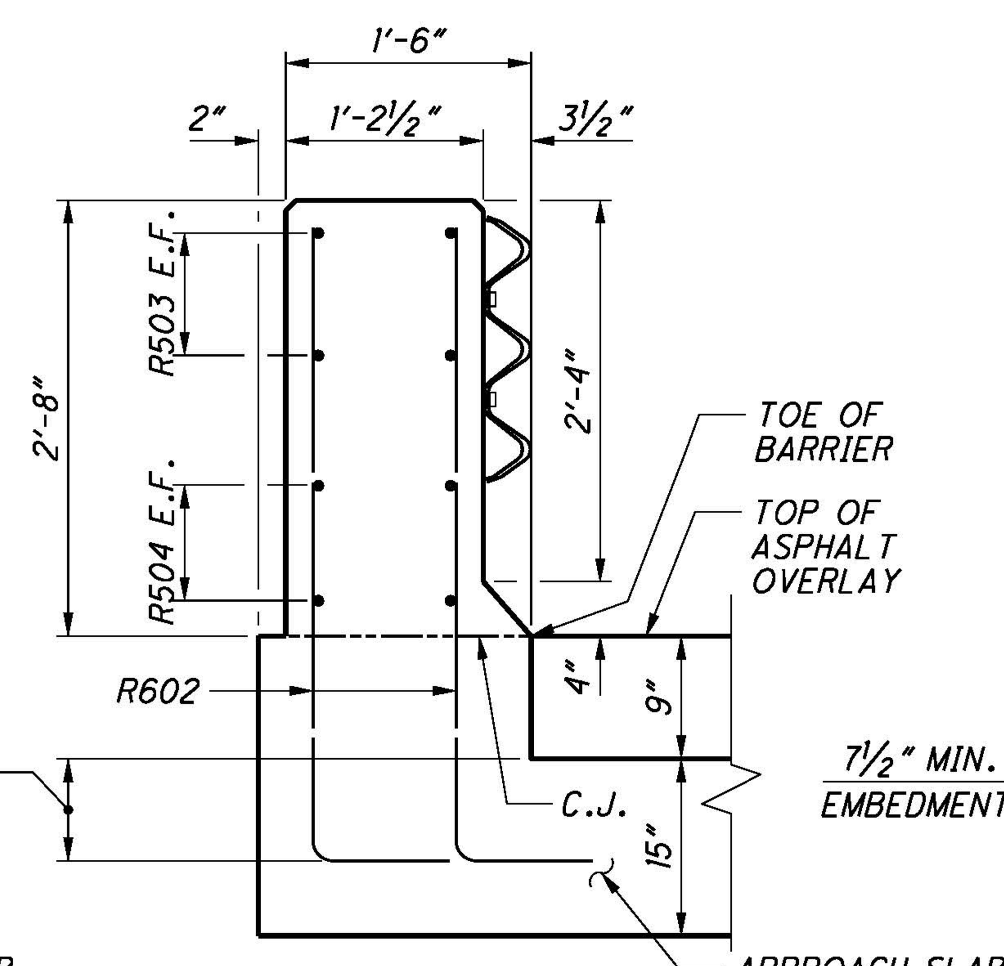
MIN. LAP LENGTHS	
NO. 5 BARS	2'-9"
NO. 6 BARS	3'-4"

NOTES:

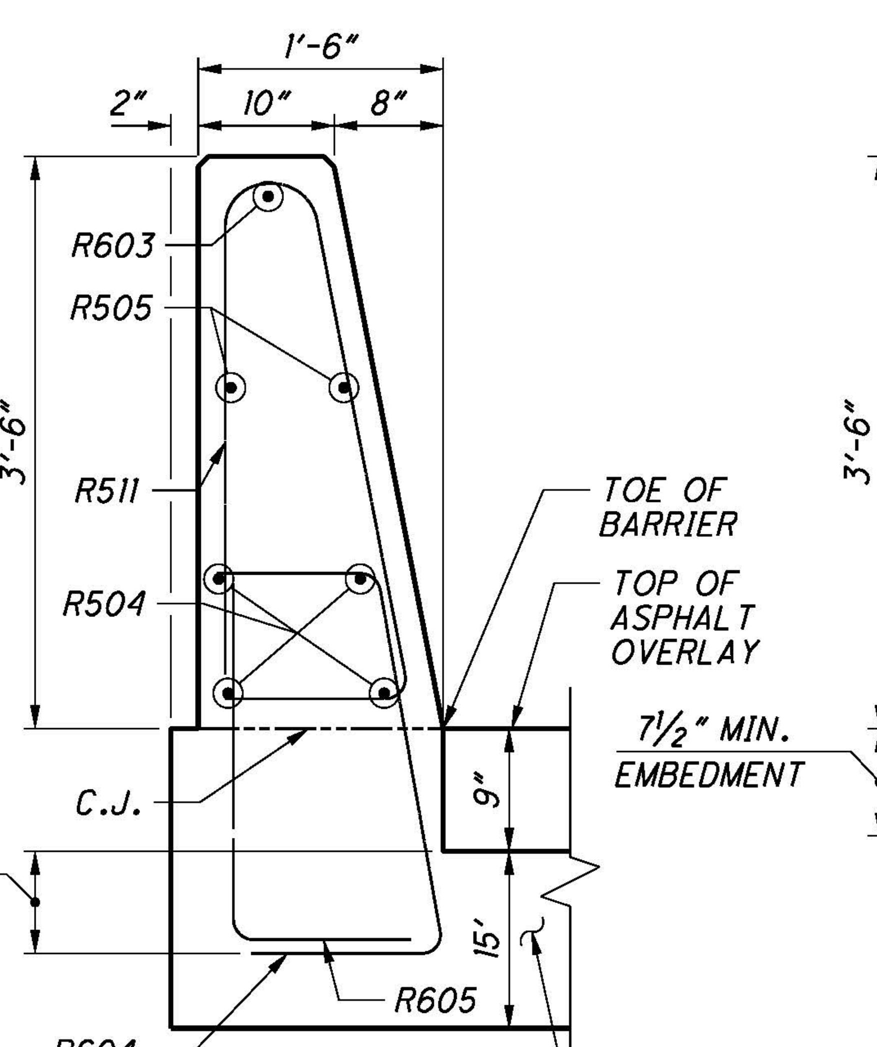
1. FOR MORE INFORMATION, SEE STD. DWG. SBR-1-13.
2. FOR DEFLECTION JOINT LAYOUT PLAN, SEE SHEET 29/34.
3. FOR BRIDGE TERMINAL ASSEMBLY, SEE ROADWAY PLANS AND STD. CONST. DRAWING MGS-3.1.



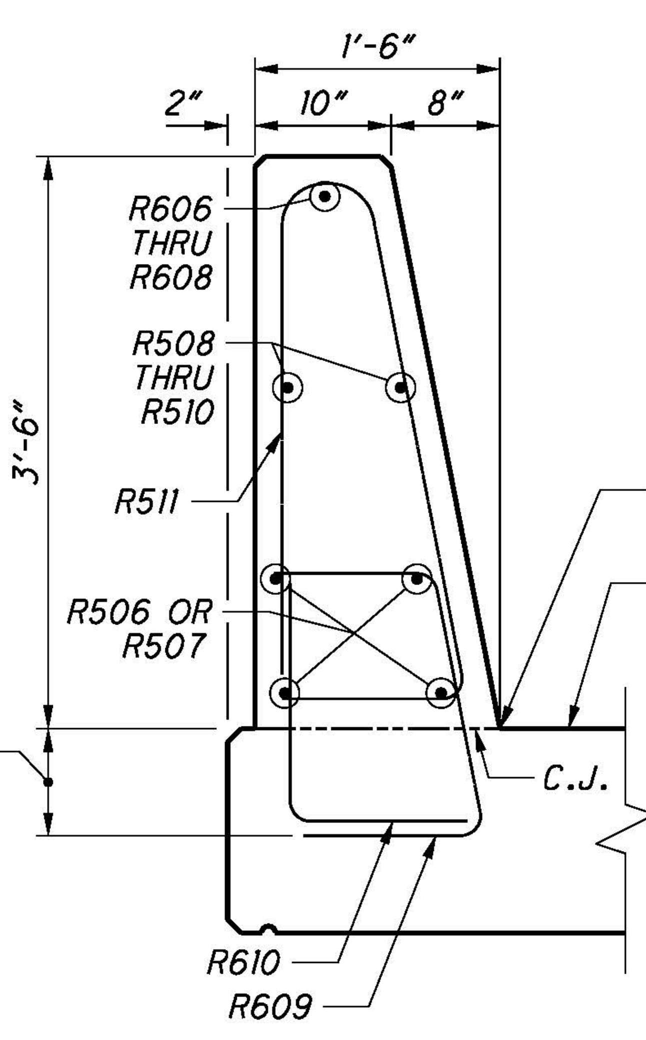
SECTION A-A



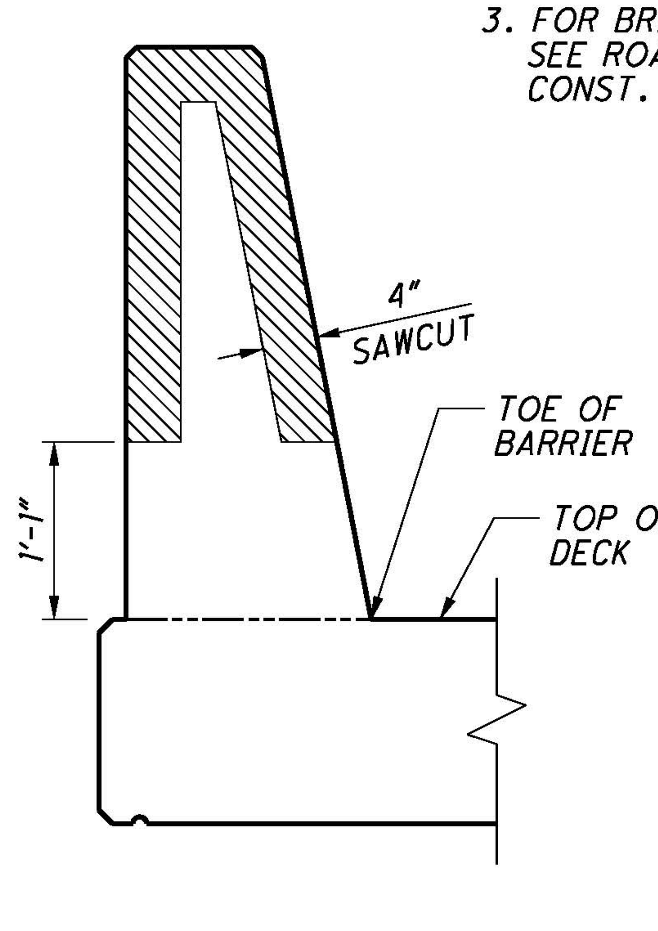
SECTION B-B



SECTION C-C
(GFRP NOT SHOWN)



SECTION D-D
(GFRP NOT SHOWN)



SAWCUT DETAIL
(GFRP NOT SHOWN)

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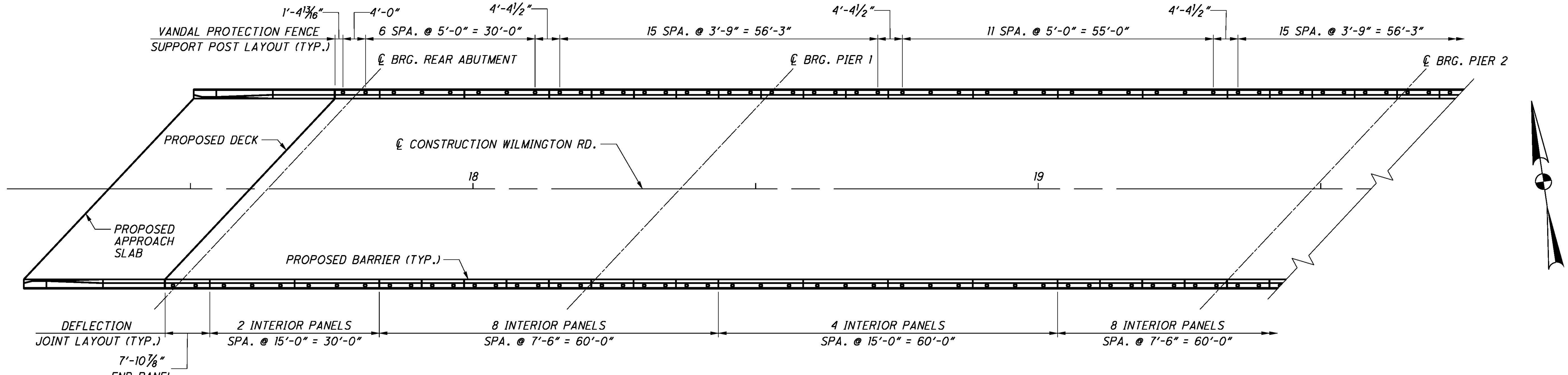
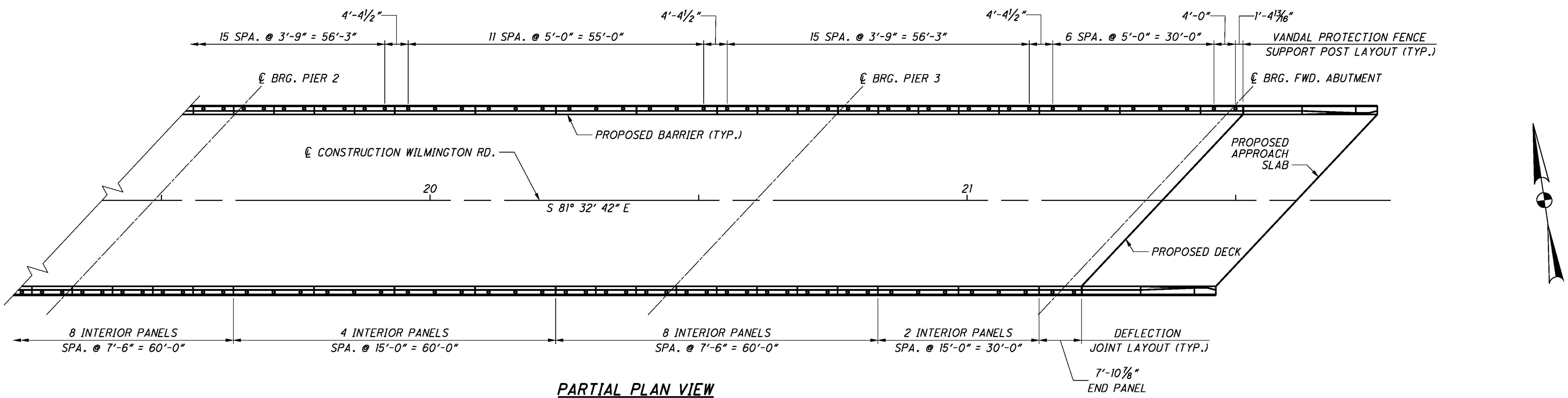
MRV	DFT	FTB		RER	07/2016	8302316

BARRIER DETAILS (1 OF 2)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



PARTIAL PLAN VIEW
(SPANS 1 AND 2)



PARTIAL PLAN VIEW
(SPANS 4 AND 3)

NOTES:

1. THE VANDAL PROTECTION FENCE SHALL BE A 6'-0" STRAIGHT FENCE CONFORMING TO POST SECTION PS-4 WITH BASE PLATE BP-5.
2. FOR ADDITIONAL DETAILS, SEE ODOT STD. DWG. VPF-1-90

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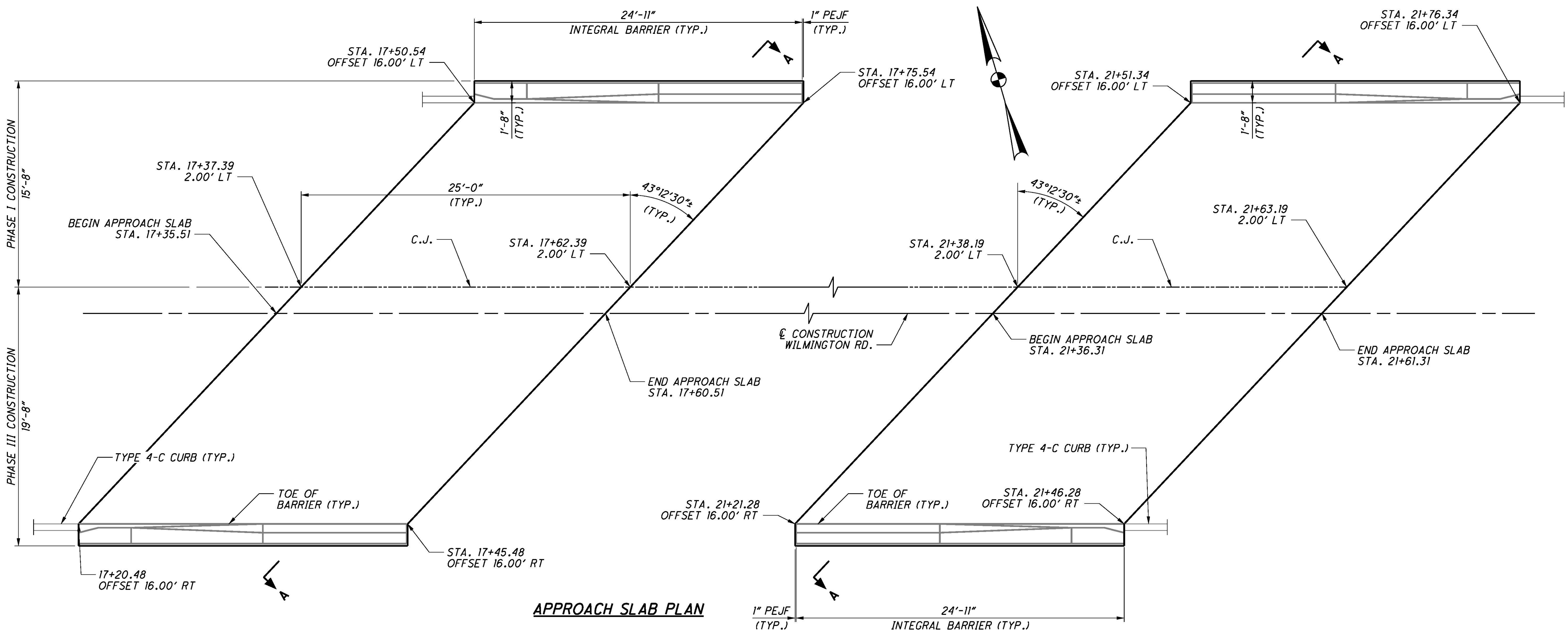
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302316	

BARRIER DETAILS (2 OF 2)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

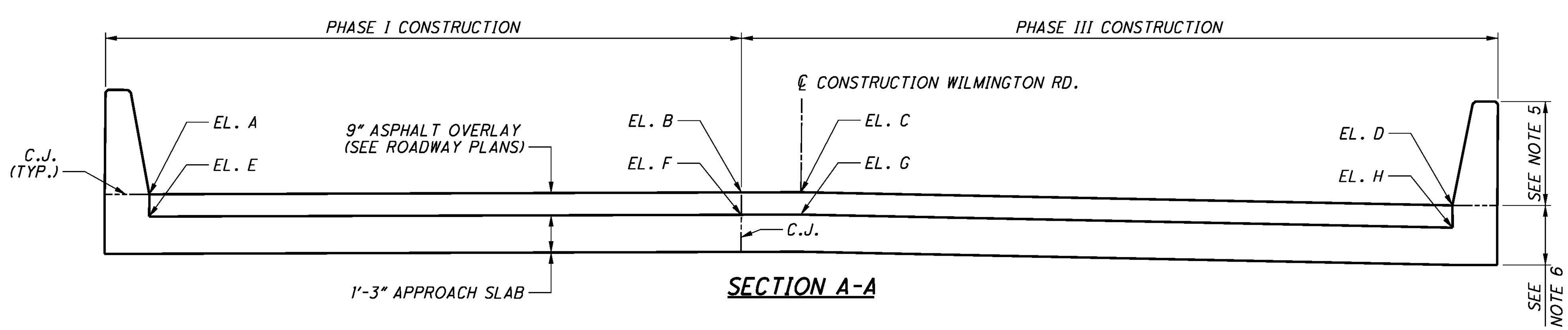
WAR-71-16.81
PID No. 91727



APPROACH SLAB PLAN

APPROACH SLAB ELEVATIONS

LOCATION	TOP OF ASHPALT OVERLAY								TOP OF APPROACH SLAB							
	STA.	EL. A	STA.	EL. B	STA.	EL. C	STA.	EL. D	STA.	EL. E	STA.	EL. F	STA.	EL. G	STA.	EL. H
BEGIN REAR	17+50.54	971.72	17+37.39	971.57	17+35.51	971.55	17+20.48	970.84	17+50.54	970.97	17+37.39	970.82	17+35.51	970.80	17+20.48	970.09
END REAR	17+75.54	972.39	17+62.39	972.27	17+60.51	972.25	17+45.48	971.58	17+75.54	971.64	17+62.39	971.52	17+60.51	971.50	17+45.48	970.83
BEGIN FORWARD	21+51.34	977.83	21+38.19	978.02	21+36.31	978.04	21+21.28	977.72	21+51.34	977.08	21+38.19	977.27	21+36.31	977.29	21+21.28	976.97
END FORWARD	21+76.34	977.88	21+63.19	978.09	21+61.31	978.12	21+46.28	977.82	21+76.34	977.13	21+63.19	977.34	21+61.31	977.37	21+46.28	977.07



SECTION A-A

NOTES:

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE ODOT STANDARD DRAWINGS AS-1-15 AND AS-2-15 TYPE B INSTALLATION.
2. FOR BARRIER ELEVATIONS, SEE SHEET 28/34 .
3. FOR ADDITIONAL BARRIER TRANSITION DETAILS, SEE ODOT STANDARD DRAWING SBR-1-13.
4. FOR PAYMENT OF ITEMS RELATED TO ASPHALT OVERLAY, SEE ROADWAY PLANS.
5. CONCRETE TO BE PAID FOR UNDER ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN.
6. CONCRETE TO BE PAID FOR UNDER ITEM 526, REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15").

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DESIGNED	DRAWN	REVIEWED	DATE
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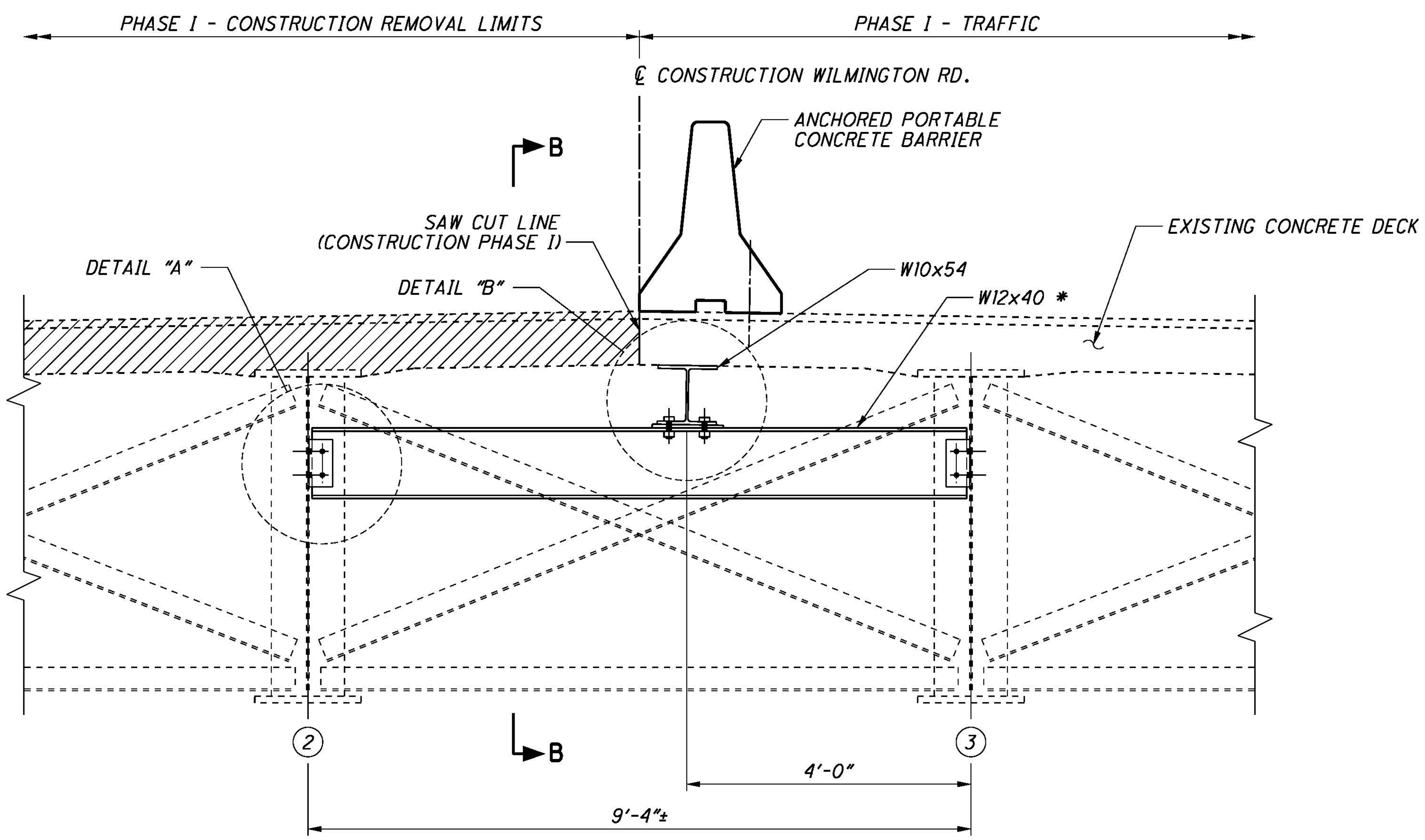
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302316	

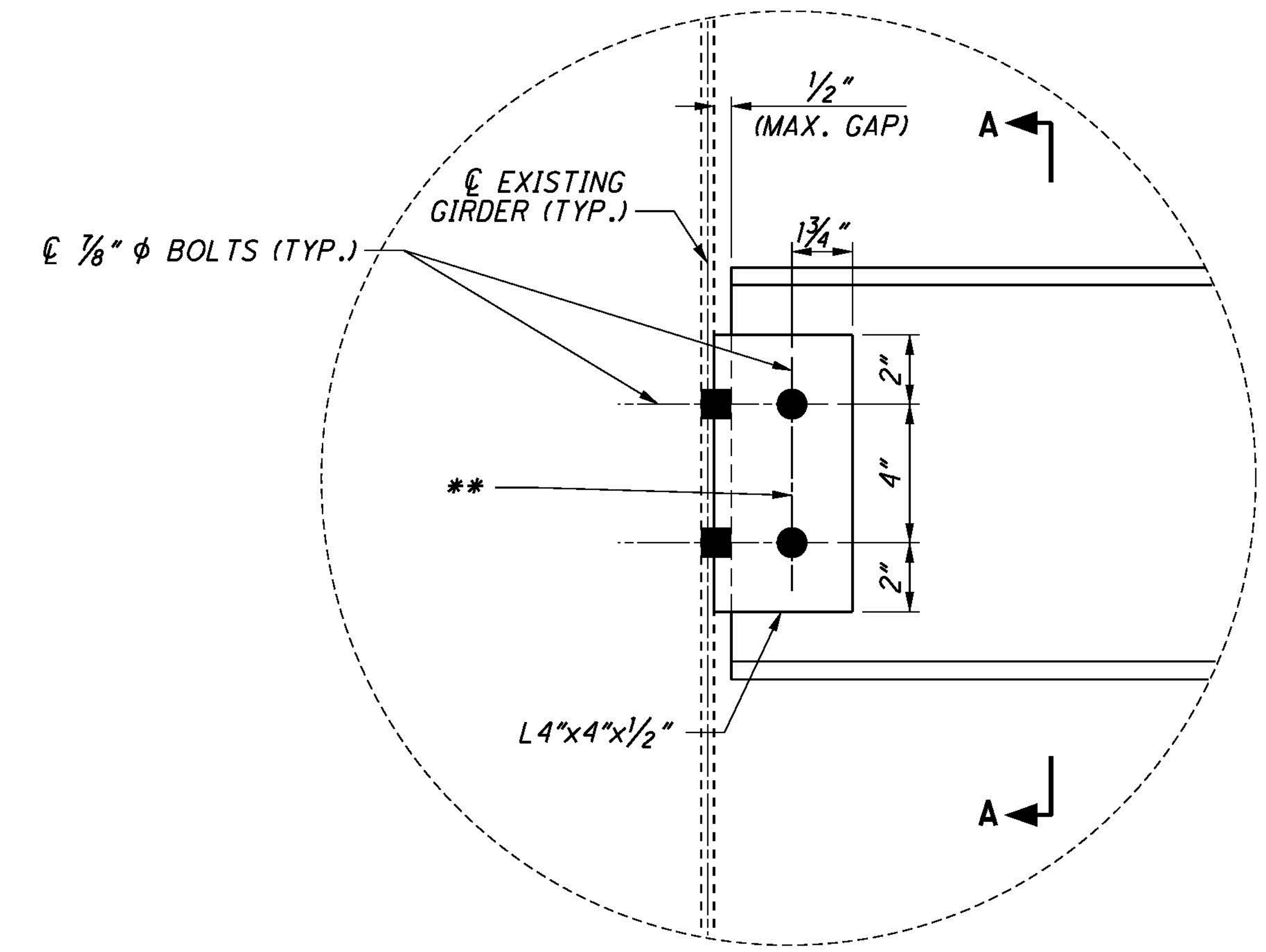
APPROACH SLAB DETAILS
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-761-16.81
PID No. 91727

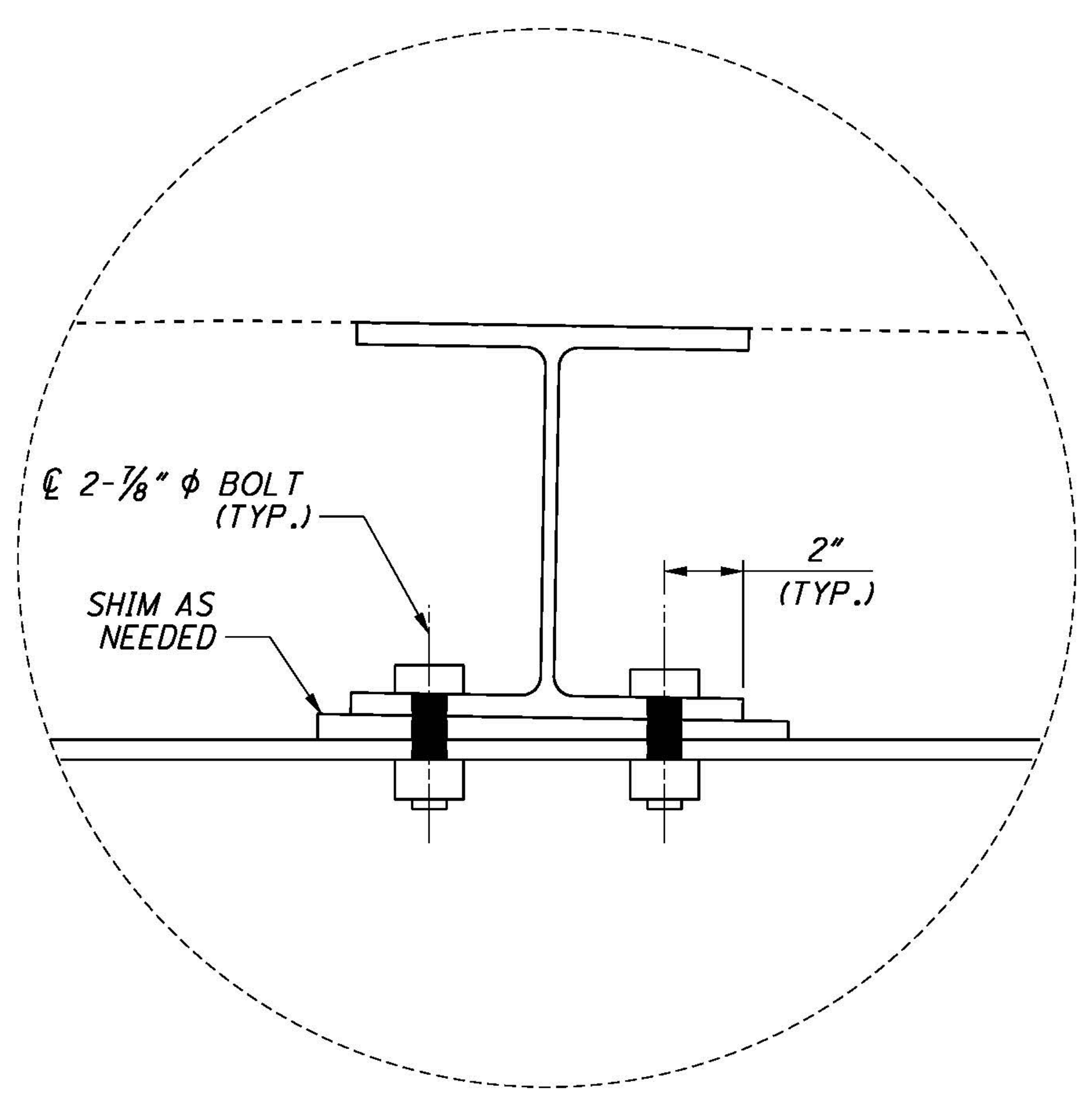
30/34



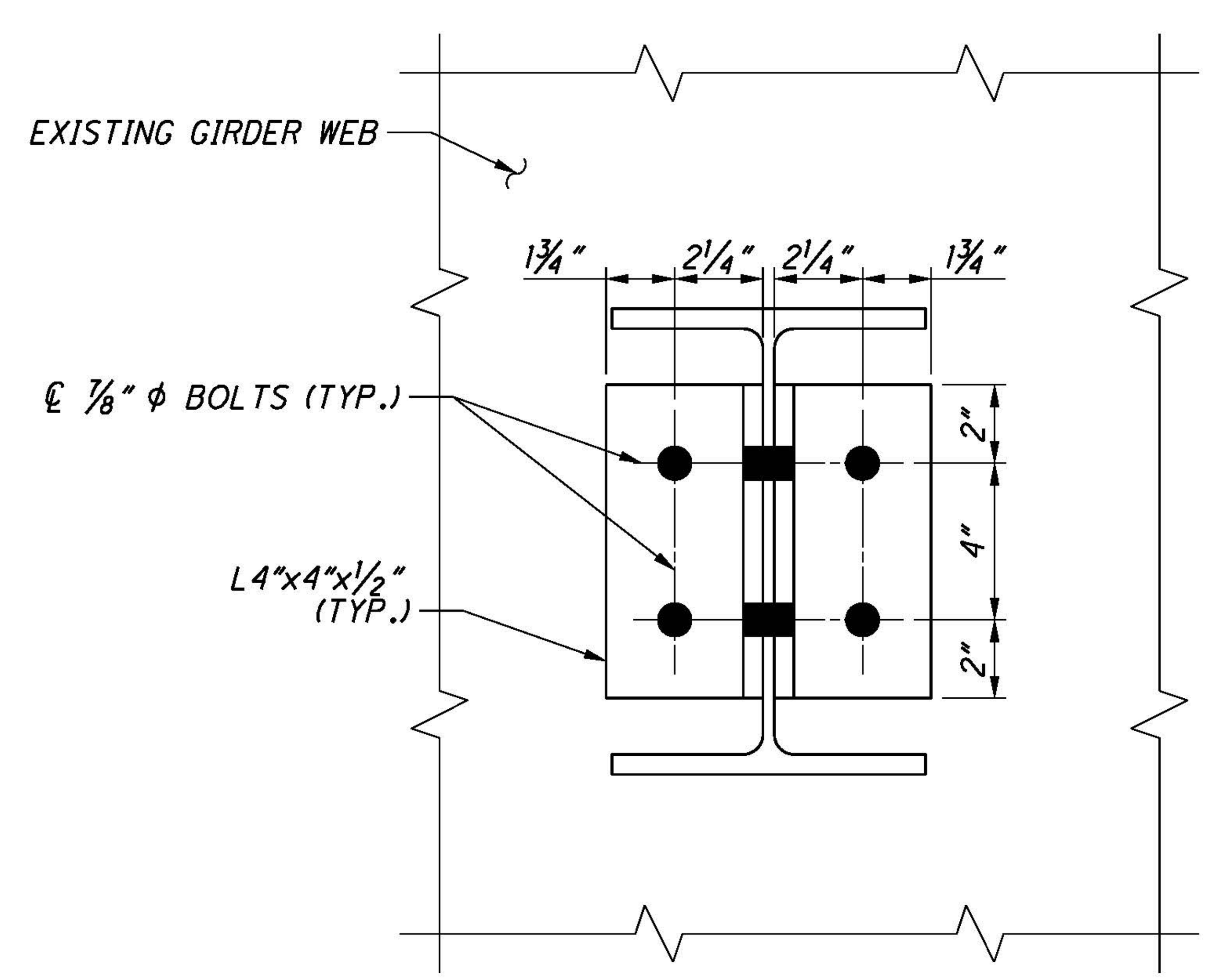
TRANSVERSE SECTION
(LOOKING UPSTATION)



DETAIL "A"
(TYP. @ GIRDERS 2 AND 3)



DETAIL "B"



SECTION A-A

LEGEND:

(#) - GIRDER DESIGNATION

* - TEMPORARY OVERHANG SUPPORT BEAMS SHALL BE INSTALLED PERPENDICULAR TO THE ℄ OF THE GIRDER AND SHALL BE POSITIONED TO AVOID EXISTING CROSSFRAMES, STIFFENERS, GIRDER SPLICE CONNECTIONS, AND PROPOSED CROSSFRAMES.

** - SHORT SLOTTED HOLES NO GREATER THAN 1⅛" IN LENGTH MAY BE PROVIDED IN ANGLE MEMBERS TO FACILITATE INSTALLATION.

NOTES:

1. BOLTS FOR TEMPORARY OVERHANG SUPPORT SHALL BE ⅞ INCH DIAMETER ASTM A325 TYPE I.
2. THE LOCATION OF EXISTING CROSSFRAMES AND STIFFENERS SHALL BE FIELD VERIFIED.
3. FOR CONSTRUCTION SEQUENCE AND PHASED CONSTRUCTION DETAILS, SEE SHEETS 6/34 THRU 8/34.
4. FOR SECTION B-B, SEE SHEET 32/34.
5. ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO FURNISH THE CONSTRUCTION AND REMOVEAL OF THE TEMPORARY OVERHANG SUPPORT SHALL BE INCLUDED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

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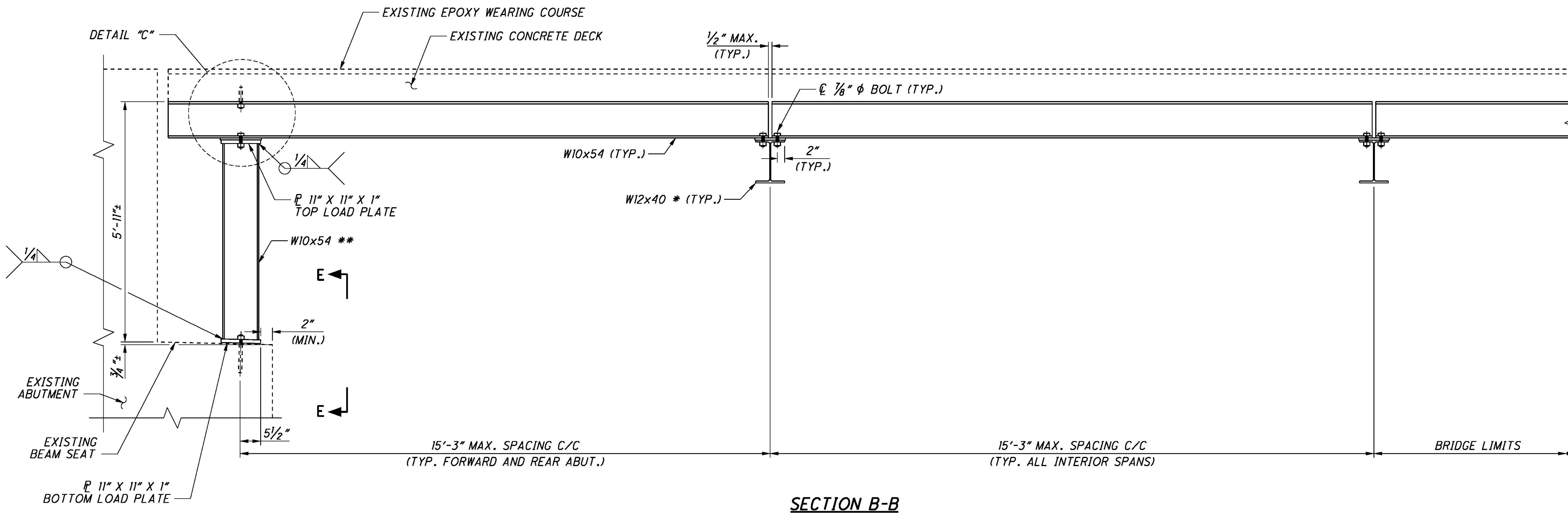
DFT		8302316	

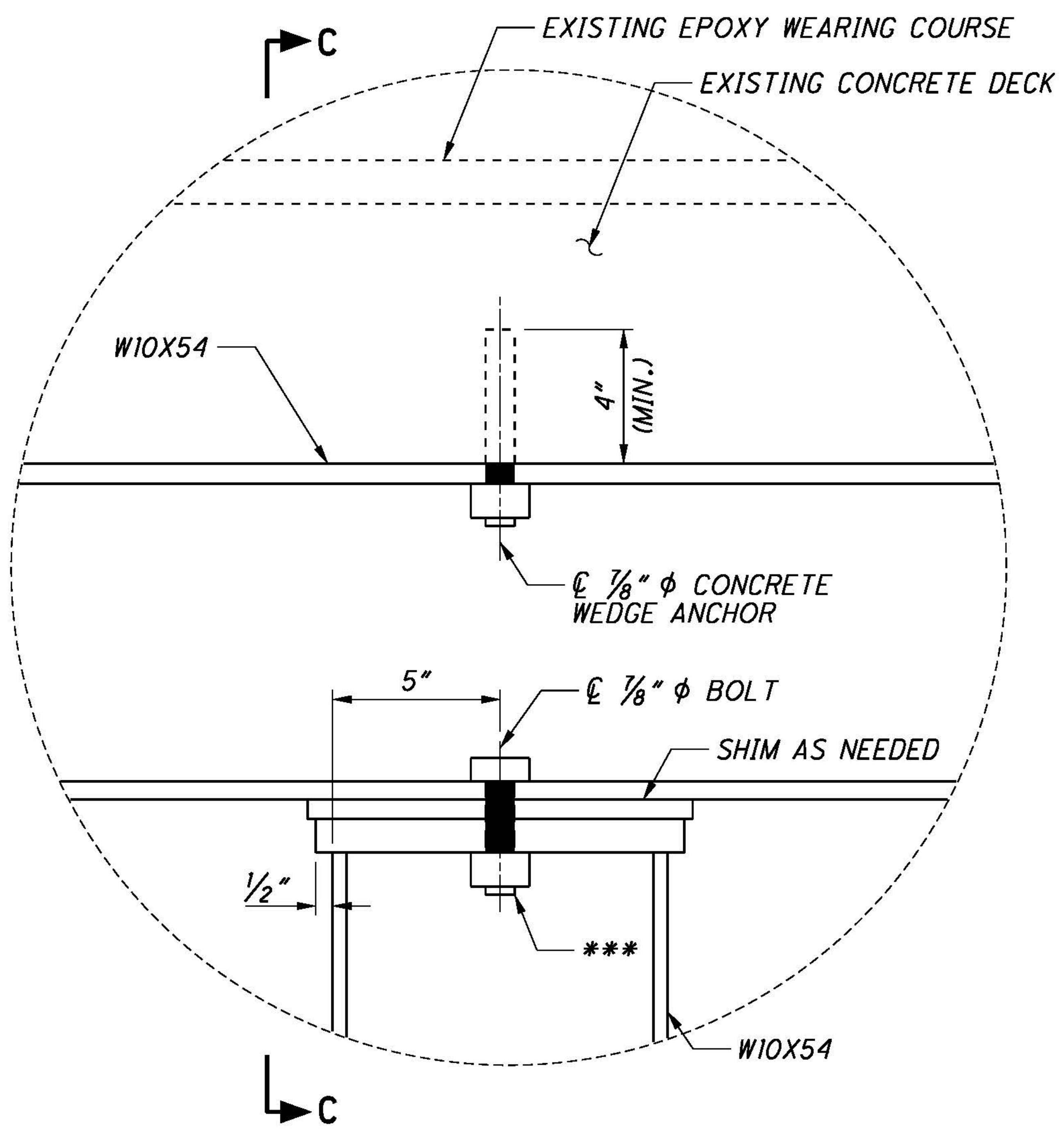
TEMPORARY OVERHANG SUPPORT DETAILS (1 OF 2)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

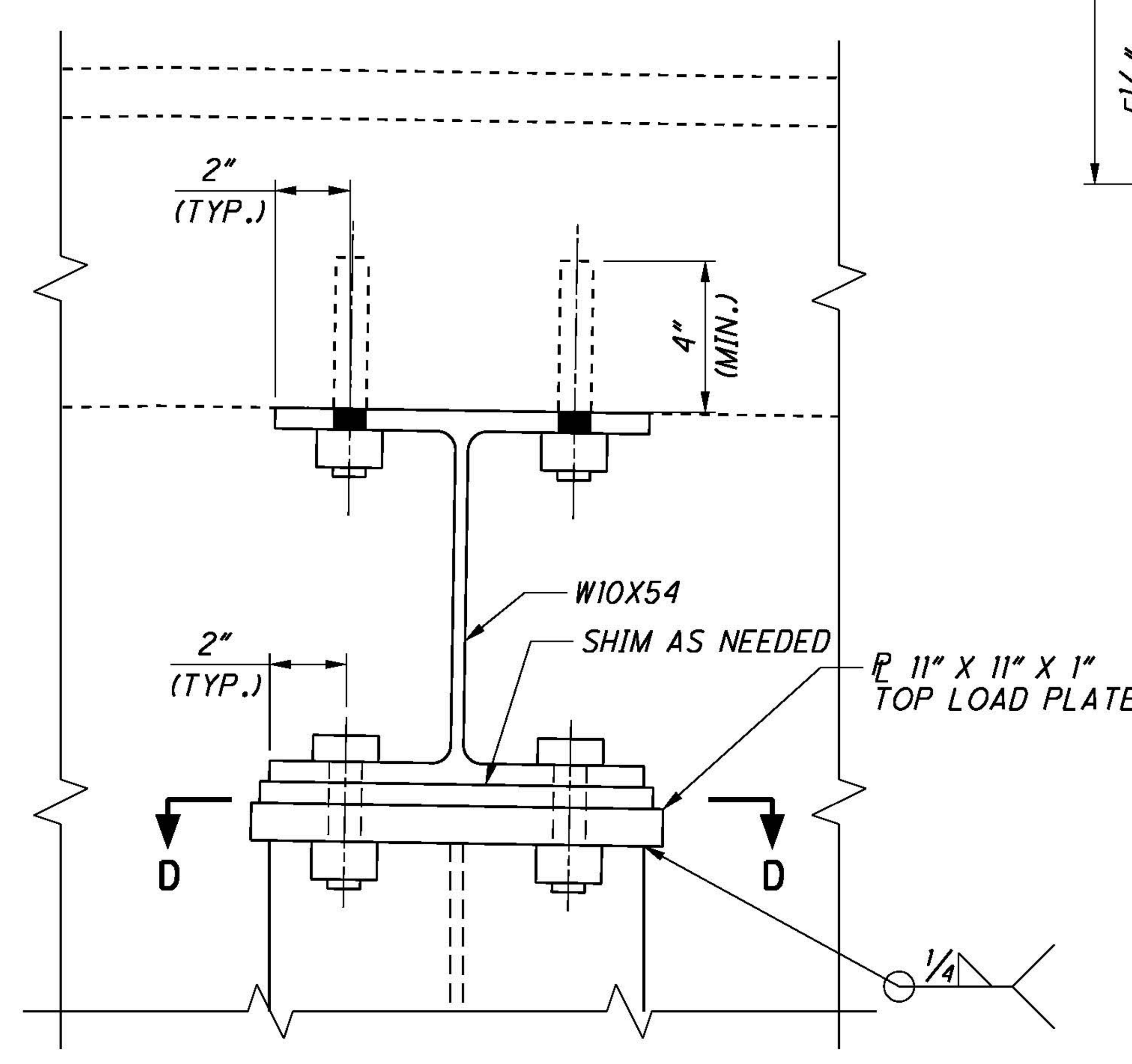


SECTION B-B

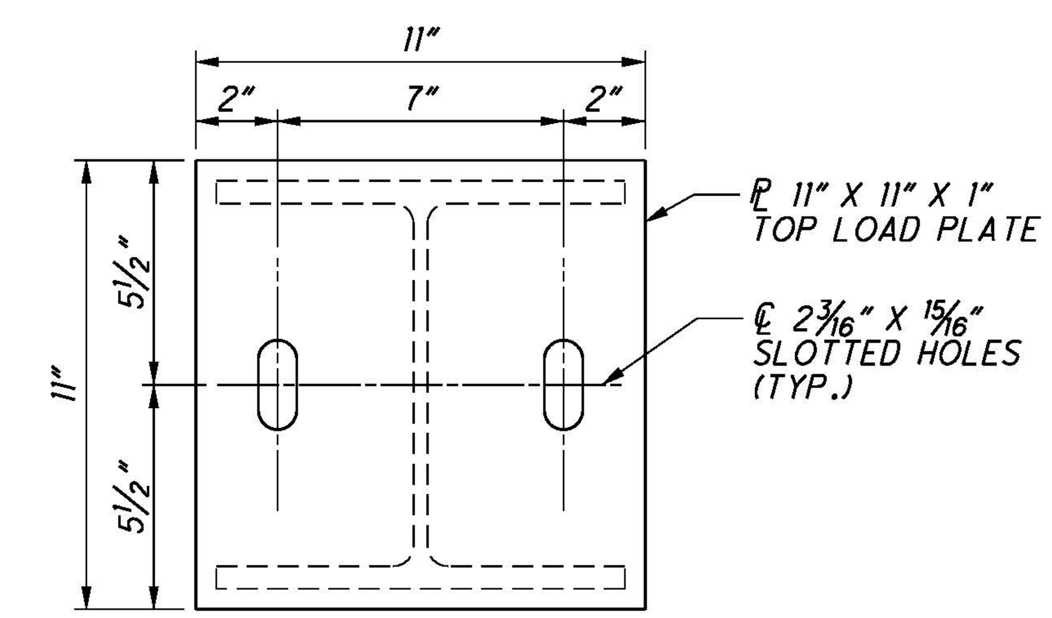
(EXISTING CROSSFRAMES NOT SHOWN FOR CLARITY)



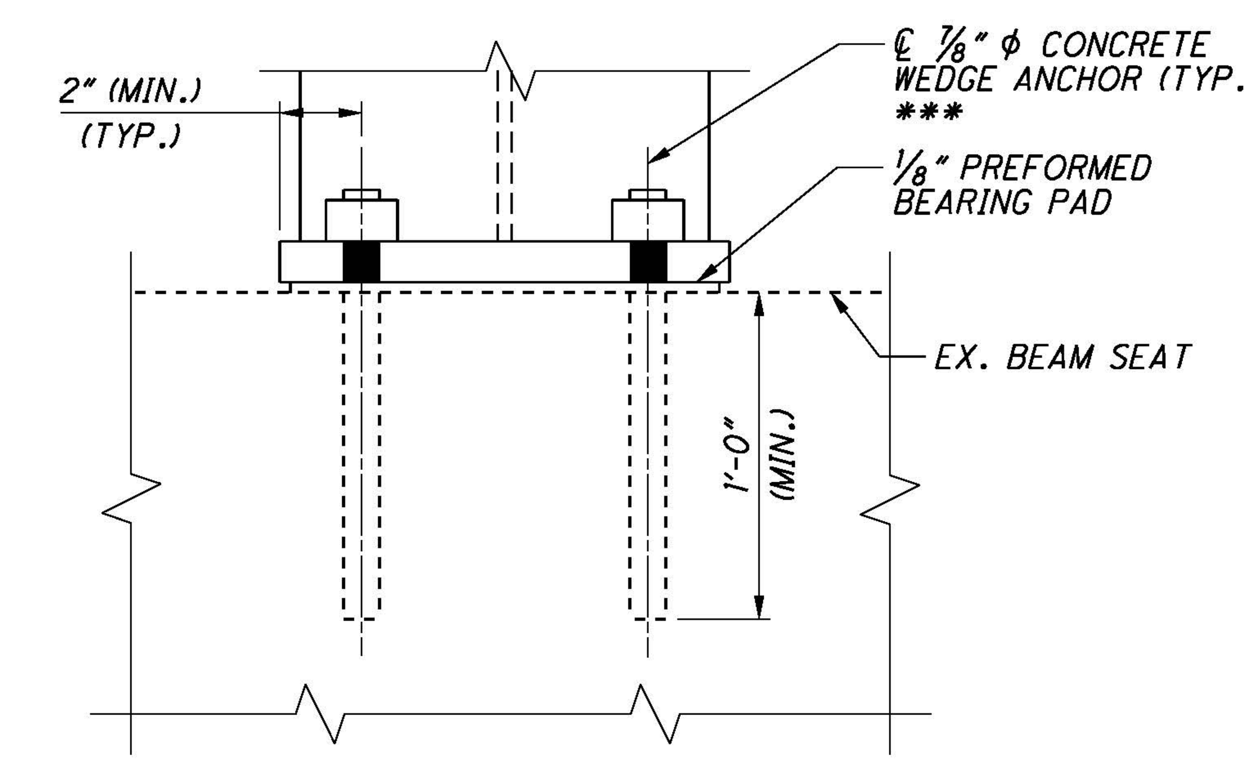
DETAIL "C"



SECTION C-C



SECTION D-D



VIEW E-E

LEGEND:

* - TEMPORARY OVERHANG SUPPORTS SHALL BE INSTALLED PERPENDICULAR TO THE ℄ OF THE GIRDER AND SHALL BE POSITIONED TO AVOID EXISTING CROSSFRAMES, STIFFENERS, GIRDER SPLICE CONNECTIONS, AND PROPOSED CROSSFRAMES.

** - SUPPORT COLUMN SHALL BE POSITIONED TO AVOID EXISTING END CROSSFRAMES. SUPPORT COLUMN SHALL BE FIELD BEVELED AT THE BASE TO MATCH THE SLOPE OF THE EXISTING BEAM SEAT AND FIELD BEVELED AT THE TOP TO MATCH THE CROSS SLOPE OF THE EXISTING DECK.

*** - BOLTS SHALL BE TIGHTENED TO THE SNUG-TIGHT CONDITION.

NOTES:

1. BOLTS FOR TEMPORARY OVERHANG SUPPORT SHALL BE ASTM 7/8 INCH DIAMETER A325 TYPE I. BOLT HOLES SHALL BE 15/16 INCH DIAMETER UNLESS NOTED OTHERWISE.
2. THE LOCATION OF EXISTING CROSSFRAMES AND STIFFENERS SHALL BE FIELD VERIFIED.
3. FOR CONSTRUCTION SEQUENCE AND PHASED CONSTRUCTION DETAILS, SEE SHEETS 6/34 THRU 8/34.
4. TEMPORARY OVERHANG SUPPORTS ARE TO BE INSTALLED ALONG THE ENTIRE LENGTH OF THE SUPERSTRUCTURE.
5. HOLES DRILLED INTO THE BEAM SEAT DURING CONSTRUCTION OF THE TEMPORARY OVERHANG SUPPORT SYSTEM SHALL BE GROUTED UPON REMOVAL OF THE TEMPORARY SUPPORT SYSTEM.
6. ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO FURNISH THE CONSTRUCTION AND REMOVEAL OF THE TEMPORARY OVERHANG SUPPORT SHALL BE INCLUDED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

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DFT		8302316	

TEMPORARY OVERHANG SUPPORT DETAILS (2 OF 2)
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

P:\91727\Design\Structures\WAR-071-1683C\Sheets\071_1683C_SM003.dgn 9/6/2016 8:45:42 AM scorcoran

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR ABUTMENT											
RA501	6	23'-8"	148	STR							
	2 SR	15'-11"									
RA502	OF	TO	122	STR							3'-6 ½"
	3	23'-0"									
RA503	8	15'-11"	133	STR							
RA504	6	21'-7"	135	STR							
	2 SR	13'-11"									
RA505	OF	TO	110	STR							3'-8"
	3	21'-3"									
RA506	8	14'-5"	121	STR							
RA601	17	10'-9"	274	1	1'-11"	9'-0"					
RA602	17	9'-0"	230	STR							
RA603	32	13'-2"	633	2	6'-2"	1'-2"	6'-2"				
	1 SR	8'-6"				2'-8"					
RA604	OF	TO	140	3	1'-2"	TO					0'-5 ½"
	8	14'-10"				5'-10"					
RA605	87	3'-9"	490	1	1'-0"	2'-11"					
RA606	16	6'-9"	162	1	1'-7"	5'-4"					
RA607	15	10'-2"	229	1	1'-11"	8'-5"					
RA608	15	8'-5"	190	STR							
	1 SR	8'-6"				2'-8"					
RA609	OF	TO	139	3	1'-2"	TO					0'-5 ¼"
	8	14'-8"				5'-9"					
RA610	15	5'-11"	133	1	1'-7"	4'-6"					
RA611	4	8'-4"	50	STR							
	SUB-TOTAL		3,439								
FORWARD ABUTMENT											
FA501	6	23'-1"	144	STR							
	2 SR	15'-4"									
FA502	OF	TO	115	STR							3'-0 ¼"
	3	21'-5"									
FA503	8	15'-4"	128	STR							
FA504	6	23'-6"	147	STR							
	2 SR	15'-9"									
FA505	OF	TO	118	STR							3'-1"
	3	21'-11"									
FA506	8	15'-9"	131	STR							
FA601	32	10'-9"	517	1	1'-11"	9'-0"					
FA602	32	9'-0"	433	STR							
FA603	32	11'-10"	569	2	5'-6"	1'-2"	5'-6"				
	1 SR	8'-6"				2'-8"					
FA604	OF	TO	143	3	1'-2"	TO					0'-5 ¾"
	8	15'-4"				6'-1"					
FA605	32	6'-0"	288	1	1'-7"	4'-7"					
FA606	90	3'-9"	507	1	1'-0"	2'-11"					
FA607	4	8'-7"	52	STR							
	1 SR	8'-8"				2'-8"					
FA608	OF	TO	147	3	1'-2"	TO					0'-6 ¼"
	8	15'-10"				6'-4"					
	SUB-TOTAL		3,439								
DIAPHRAGM GUIDE											
*DG501	24	4'-4"	109	STR							
*DG601	10	15'-9"	237	3	3'-9"	3'-8 ½"					
*DG801	14	13'-8"	511	5	2'-8"	3'-7"	2'-4"				
	*SUB-TOTAL		857								
PIERS											
P401	48	2'-3"	72	11	0'-7"	1'-0"	1'-4"				
P402	24	12'-0"	192	37	2'-0"					1'-7"	
P403	24	1'-8"	27	STR							
	SUB-TOTAL		291								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
RD501	52	11'-5"	619	2	3'-6"	4'-8"	3'-6"				
RD502	28	10'-5"	304	2	3'-4"	4'-0"	3'-4"				
RD503	2	10'-1"	21	2	3'-6"	3'-4"	3'-6"				
RD504	1	9'-0"	9	2	3'-4"	2'-7"	3'-4"				
RD505	2	11'-9"	25	2	3'-6"	5'-0"	3'-6"				
RD506	1	10'-9"	11	2	3'-4"	4'-4"	3'-4"				
RD507	4	6'-9"	28	2	1'-0"	5'-0"	1'-0"				
RD508	4	5'-1"	21	2	1'-0"	3'-4"	1'-0"				
RD509	2	15'-6"	32	3	4'-8"	2'-9"					
RD801	24	5'-10"	374	18	3'-8"	1'-0"	1'-0"				
RD802	14	25'-9"	962	STR							
RD803	10	21'-3"	567	38	21'-3"						
RD804	14	6'-0"	224	39	6'-0"						
RD805	8	6'-1"	130	18	3'-9"	1'-1"	1'-1"				
RD806	4	9'-8"	103	1	1'-1"	8'-10"					
RD807	4	8'-7"	91	40	1'-1"	7'-8"					
FD501	52	11'-5"	619	2	3'-6"	4'-8"	3'-6"				
FD502	28	10'-1"	294	2	3'-2"	4'-0"	3'-2"				
FD503	2	11'-9"	25	2	3'-6"	5'-0"	3'-6"				
FD504	1	10'-5"	11	2	3'-2"	4'-4"	3'-2"				
FD505	2	10'-1"	21	2	3'-6"	3'-4"	3'-6"				
FD506	1	8'-8"	9	2	3'-2"	2'-7"	3'-2"				
FD507	4	5'-1"	21	2	1'-0"	3'-4"	1'-0"				
FD508	4	6'-9"	28	2	1'-0"	5'-0"	1'-0"				
FD509	2	15'-2"	32	3	4'-8"	2'-7"					
FD801	24	5'-10"	374	18	3'-8"	1'-0"	1'-0"				
FD802	14	25'-9"	962	STR							
FD803	10	21'-3"	567	38	21'-3"						
FD804	14	6'-0"	224	39	6'-0"						
FD805	8	6'-1"	130	18	3'-9"	1'-1"	1'-1"				
FD806	4	9'-8"	103	1	1'-1"	8'-10"					
FD807	4	8'-7"	91	40	1'-1"	7'-8"					
S401	315	40'-0"	8417	STR							
S402	35	33'-4"	779	STR							
S501	441	40'-0"	18399	STR							
S502	49	37'-10"	1934	STR							
S503	210	60'-0"	13142	STR							
S504	1448	15'-5"	23283	38	15'-5"						
	2 SR	3'-2"			3'-2"						
S505	OF	TO	372	38	TO						
	21	13'-10"			13'-10"						
S506	1434	19'-5"	29041	39	19'-5"						
	2 SR	4'-6"									
S507	OF	TO	684	STR							
	28	18'-11"									
S508	499	5'-11"	3079	24	0'-5 ¾"	2'-7"				0'-2 ¾"	
	2 SR	4'-4"									
S509	OF	TO	423	STR							0'-6 ½"
	21	15'-0"									
	2 SR	3'-4"			3'-4"						
S510	OF	TO	613	39	TO						0'-6 ¼"
	28	17'-8"			17'-8"						
	SUB-TOTAL		107,198								

LEGEND:

* - THE COST OF DIAPHRAGM GUIDE REINFORCEMENT SHALL BE INCLUDED WITH ITEM 511, SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
2. ALL REINFORCING STEEL TO BE EPOXY COATED.
3. FOR BAR TYPE SEE SHEET 34/34

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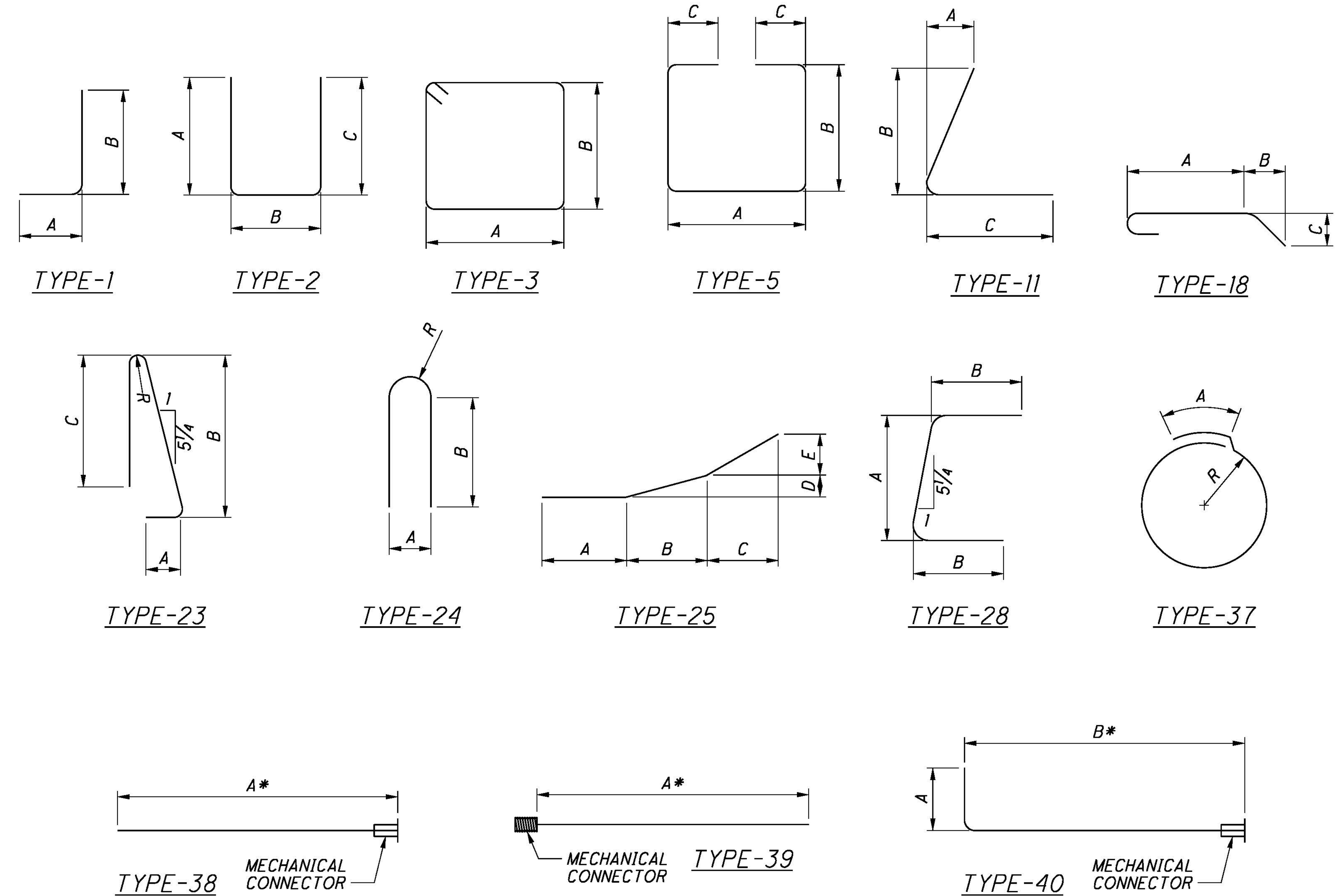
DESIGNED JAA | CHECKED TAS | DRAWN JAA | REVISED | REVIEWED RER | DATE 07/2016 | STRUCTURE FILE NUMBER 8302316

REINFORCING STEEL LIST
BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RAILING											
R501	16	5'-8"	94	25	1'-10"	2'-5"	1'-4 1/4"	0'-1 1/2"	0'-5"		
R502	16	5'-8"	94	STR							
R503	16	10'-0"	167	STR							
R504	16	20'-8"	344	STR							
R505	8	10'-5"	86	STR							
R506	72	40'-0"	3004	STR							
R507	8	40'-6"	338	STR							
R508	8	7'-4"	62	STR							
R509	48	14'-6"	726	STR							
R510	96	7'-0"	700	STR							
R511	852	7'-4"	6216	23	0'-11"	3'-3"	3'-0"			0'-3"	
R601	24	4'-9"	171	1	1'-0"	3'-11"					
	8 SR	4'-9"				3'-11"					
R602	OF	TO	757	1	1'-0"	TO					0'-1"
	12	5'-8"				4'-10"					
R603	4	10'-5"	62	STR							
R604	48	3'-11"	283	28	2'-3"	1'-0"					
R605	48	2'-11"	210	1	1'-0"	2'-3"					
R606	4	7'-4"	44	STR							
R607	24	14'-6"	522	STR							
R608	48	7'-0"	504	STR							
R609	804	3'-3"	3925	28	1'-7"	1'-0"					
R610	804	2'-5"	2918	1	1'-0"	1'-7"					
		SUB-TOTAL	21,227								



LEGEND:

* - REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH ADJUSTMENT AND/OR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF CONNECTOR USED.

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

2. ALL REINFORCING STEEL TO BE EPOXY COATED.

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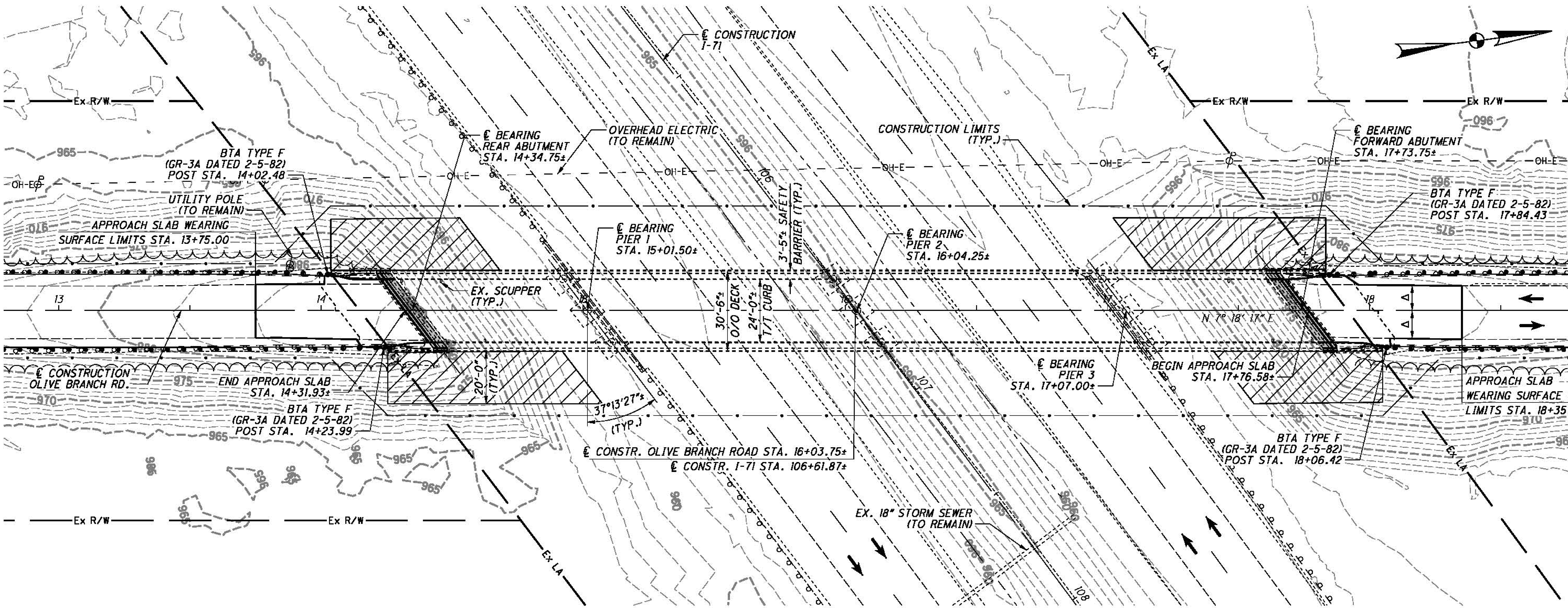
DATE 07/2016 | REVIEWED RER | STRUCTURE FILE NUMBER 8302316
DESIGNED JAA | DRAWN JAA | CHECKED TAS | REVISED

REINFORCING STEEL LIST

BRIDGE NO. WAR-71-1683
I-71 UNDER WILMINGTON RD.

WAR-71-16.81
PID No. 91727



GENERAL PLAN

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL PLATE GIRDER WITH NON-COMPOSITE REINFORCED CONCRETE DECK ON CAP AND COLUMN PIERS AND STUB ABUTMENTS

SPANS: 66'-9"±, 102'-9"±, 102'-9"±, 66'-9"± C/C BEARINGS MEASURED ALONG ℄ CONSTRUCTION OLIVE BRANCH RD.

ROADWAY: 24'-0"± F/F SAFETY CURB 2'-3"± SAFETY CURB

LOADING: CF 130 (57)

SKEW: 37°-13'-27"± R.F.

APPROACH SLABS: 25'-0"± LONG

ALIGNMENT: TANGENT

CROWN: 3/16"/FT±

WEARING SURFACE: 3/4" MWS W/ 1 1/4" EPOXY OVERLAY

STRUCTURAL FILE NUMBER: 8302340

DATE BUILT: 1965

DISPOSITION: EXPANSION JOINTS AND ABUTMENT BEARINGS TO BE REPLACED; MINOR REHABILITATION

COORDINATES: LATITUDE: N 39°26'04"
LONGITUDE: W 84°04'16"

PROPOSED WORK:

1. TEMPORARILY SUPPORT THE BRIDGE AT THE REAR AND FORWARD ABUTMENTS.
2. REMOVE BACKWALL TO APPROACH SLAB SEAT, PORTIONS OF ABUTMENT BARRIER, 3' OF EXISTING REINFORCED CONCRETE DECK, PORTIONS OF EXISTING END CROSSFRAMES, AND ABUTMENT ROCKER BEARINGS.
3. REPLACE ABUTMENT ROCKER BEARINGS WITH ELASTOMERIC BEARING ASSEMBLY.
4. REMOVE TEMPORARY SUPPORTS.
5. ATTACH PROPOSED END CROSSFRAME AND EXPANSION JOINT ASSEMBLY.
6. FORM AND PLACE CONCRETE FOR PROPOSED TOP OF BACKWALL AND 3' OF DECK REUSING EXISTING REINFORCING STEEL.
7. REMOVE UNSOUND CONCRETE AND PATCH ON ABUTMENTS, PIERS, AND PARAPETS. REPAIR PORTION OF VANDAL PROTECTION FENCE FABRIC.
8. REMOVE EXISTING SEALER. SEAL PARAPETS, ABUTMENTS, AND PIERS WITH EPOXY URETHANE SEALER.
9. SEAL WEARING SURFACE USING HMWM SEALER.
10. PAINT STEEL SUPERSTRUCTURE.
11. REPAIR DRAINAGE INFILTRATION BETWEEN EXISTING APPROACH SLAB AND WINGWALL USING LOW STRENGTH MORTAR.
12. REMOVE AND REPLACE 1.75" OF WEARING SURFACE OVER EXISTING APPROACH SLAB AND APPROACH ROADWAY. WORK DETAILED IN ROADWAY PLANS.
13. REMOVE AND REPLACE APPROACH GUARDRAIL, END TERMINAL ASSEMBLIES, AND BRIDGE TERMINAL ASSEMBLIES. SEE ROADWAY PLANS FOR MORE DETAILS.
14. REMOVE ALL TREES AND VEGETATION WITHIN 20' OF STRUCTURE.

LEGEND:

- EXPANSION JOINT REPLACEMENT LIMITS
- VEGETATION TO BE REMOVED
- ⊕ - BENCHMARK
- Δ - FOR DETAILS, SEE ROADWAY PLANS

BENCHMARK DATA

BM #1 STA. 11+59.97,	ELEV. 982.81,	OFFSET 16.22' LT.
BM #2 STA. 13+88.05,	ELEV. 974.76,	OFFSET 16.24 LT.
BM #3 STA. 19+82.20,	ELEV. 979.36,	OFFSET 15.91 LT.
BM #4 STA. 22+00.03,	ELEV. 970.65,	OFFSET 16.20 LT.

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. SEE ROADWAY PLANS FOR APPROACH SLAB WEARING SURFACE REPAIR AND ADDITIONAL BENCHMARK INFORMATION.
3. PIER 2 BEARINGS ARE FIXED. REMAINGING BEARINGS ARE EXPANSION.

DESIGN TRAFFIC:
2018 ADT = 1,550   2018 ADTT = 28
2038 ADT = 4,690   2038 ADTT = 85
DIRECTIONAL DISTRIBUTION = 0.6

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DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
MRV	DFT	MRV		RER	07/2016

STRUCTURE FILE NUMBER 8302340

WARREN COUNTY
STA. 14+31.93
STA. 17+76.58

GENERAL PLAN
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87	REVISED	07/19/2002
GSD-1-96	REVISED	07/19/2002

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED	07/15/2016

DESIGN SPECIFICATIONS:

ALL NEW COMPONENTS OF THIS STRUCTURE CONFORM TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

BEARING DESIGN LOADING:

DESIGN LOADING: HS20-44 AND ALTERNATE MILITARY LOAD (BEARINGS)
FUTURE WEARING SURFACE (FWS) OF 60 LBS/SF.

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60
MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50
YIELD STRENGTH 50 KSI
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:

HMWM RESIN SEALER

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

THE ORIGINAL CONSTRUCTION AND SUBSEQUENT REHABILITATION PLANS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT EIGHT OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO 45036.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC DETAILS, SEE ROADWAY PLANS.

UTILITY LINES:

THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF A PORTION OF CONCRETE DECKS PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES [50 MM] OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL EXPOSED SURFACES OF PIERS, ABUTMENTS, AND PARAPETS SHALL BE SEALED AS SHOWN IN THE PLANS. THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR 17778 (LIGHT NEAUTRAL).

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE IN ACCORDANCE WITH 501.06, TO THE ENGINEER. PROVIDE THE ENGINEER "AS-BUILT" DRAWINGS ACCORDING TO 513.06, EXCEPT 501.04 DOES NOT APPLY. UPON RECEIPT OF THE ENGINEER'S ACCEPTANCE, SUPPLY A COPY OF THE DRAWINGS, ACCORDING TO SUPPLEMENT 1002, TO THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING (END CROSSFRAME) MEMBERS ARE INCLUDED IN THIS ITEM: L4x4x⅜" AND ½" GUSSET PLATES.

ITEM 514 - FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU:

EXISTING STEEL AREAS INDICATED IN THE PLANS SHALL BE CLEANED AND PAINTED WITH A PRIME, INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM OZEU. THE COLOR OF THE FINISH COAT SHALL BE FEDERAL COLOR #14277 "GREEN".

THE SURFACE AREA PAY QUANTITY SHALL BE BASED ON THE SURFACE AREA OF THE MAIN MEMBERS INCREASED BY 15% TO ACCOUNT FOR THE AREA OF END OR INTERMEDIATE CROSSFRAMES, BEARINGS, STIFFENERS AND OTHER STRUCTURAL STEEL INCIDENTALS TO BE CLEANED AND PAINTED.

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CJW		8302340	

GENERAL NOTES
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PATCHING HAS BEEN ESTIMATED FOR THE PIERS AND ABUTMENTS. EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED AND MARKED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ABBREVIATIONS:

BRG. - BEARINGS
℄ - CENTERLINE
CONSTR. - CONSTRUCTION
EB - EAST BOUND
E.F. - EACH FACE
EX. - EXISTING
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
O/O - OUT TO OUT
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
RT. - RIGHT
SPA. - SPACE
STA. - STATION
TYP. - TYPICAL
T/T - TOE TO TOE

MADE BY: MRV DATE: 6/1/2016
CHECKED BY: DFT DATE: 7/8/2016

ESTIMATED QUANTITIES

STRUCTURE FILE NUMBER: 8302340

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENT	PIER	SUPER	GENERAL	AS PER PLAN SHEET NO.
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				LS	2/13
509	20001	200	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	100		100		2/13
511	34444	7	CY	CLASS QC2 CONCRETE, BRIDGE DECK			7		
511	34448	5	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)			5		
511	44110	6	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	6				
512	10100	1323	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	101	287	935		2/13
512	10300	907	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			907		
512	74000	1253	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	72	277	904		
513	10201	1900	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN				1900	2/13
514	00050	19800	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			19800		
514	00056	19800	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			19800		
514	00060	19800	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			19800		
514	00066	19800	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			19800		
514	00504	23	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			23		
514	10000	13	EACH	FINAL INSPECTION REPAIR			13		
516	11210	76	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			76		
516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN				8	8/13
				(BEARING 13" X 18" X 4.335" AND LOAD PLATE 14" X 19" X 2")					
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	3/13
517	75501	48	FT	BRIDGE RAILING REBUILT, AS PER PLAN			48		12/13
519	11101	201	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	111	90			3/13
613	41201	25	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN			25		13/13

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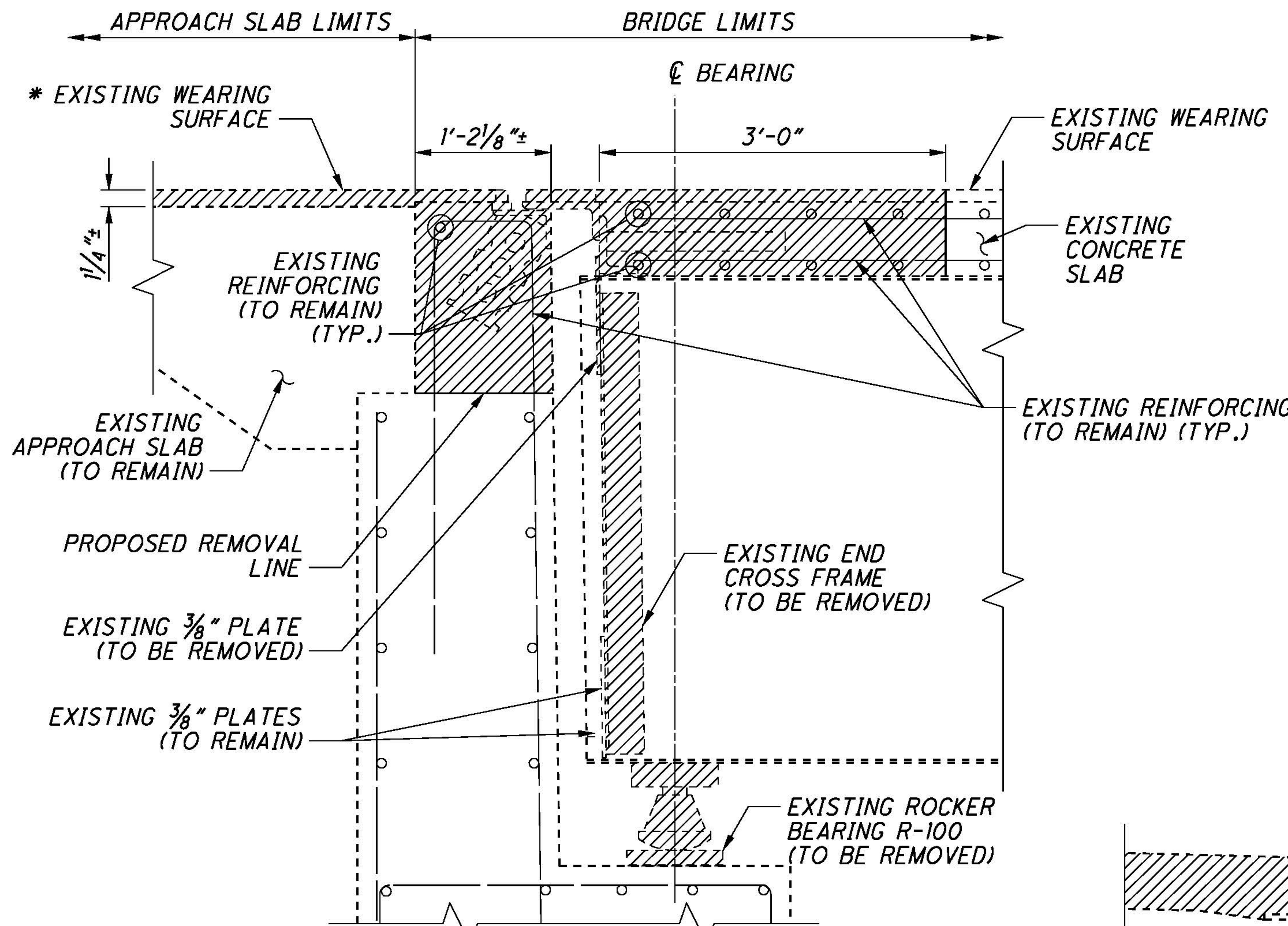
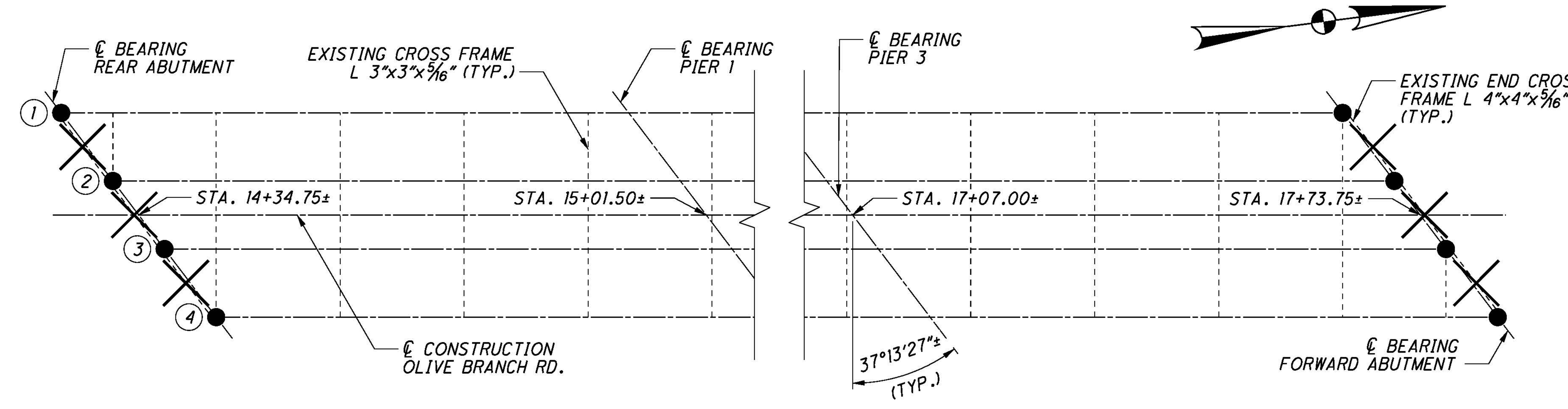
GENERAL NOTES & ESTIMATED QUANTITIES
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727



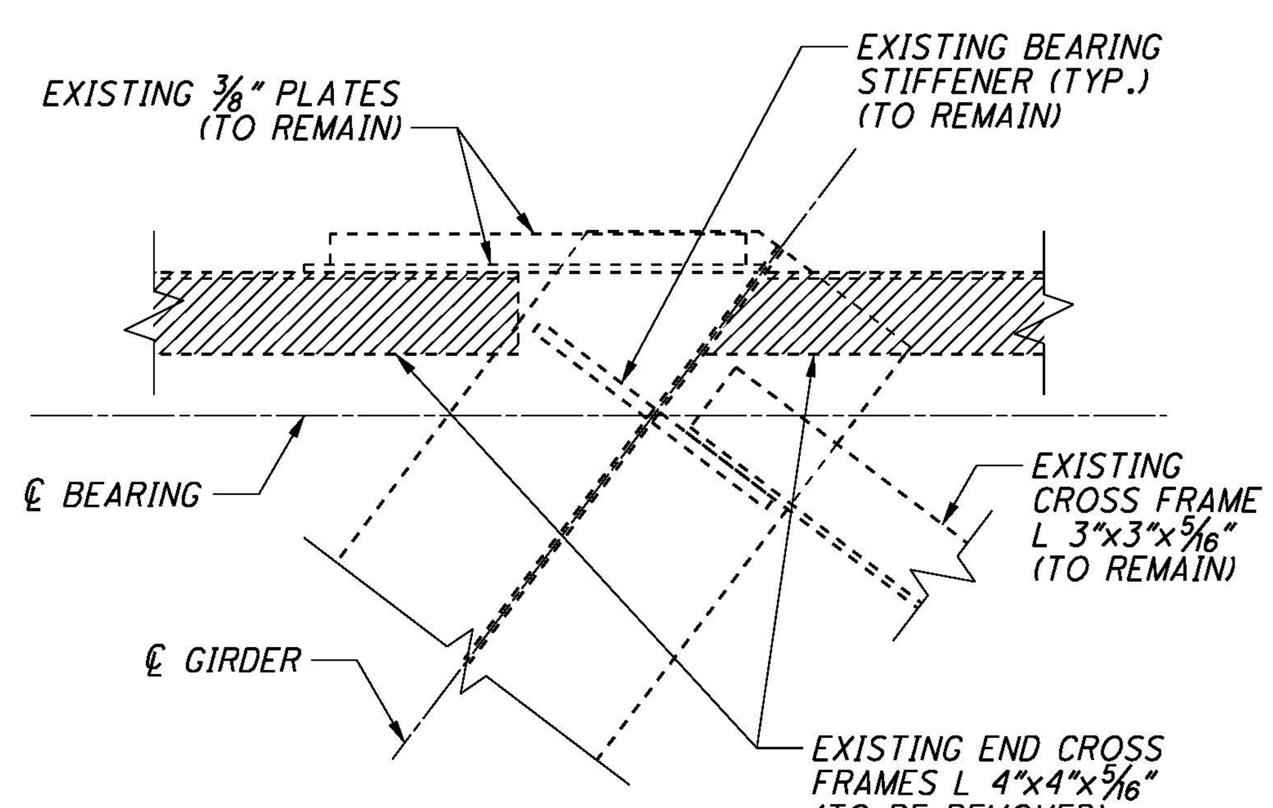
TYPICAL REMOVAL DETAILS

(BEARING STIFFENER NOT SHOWN FOR CLARITY)

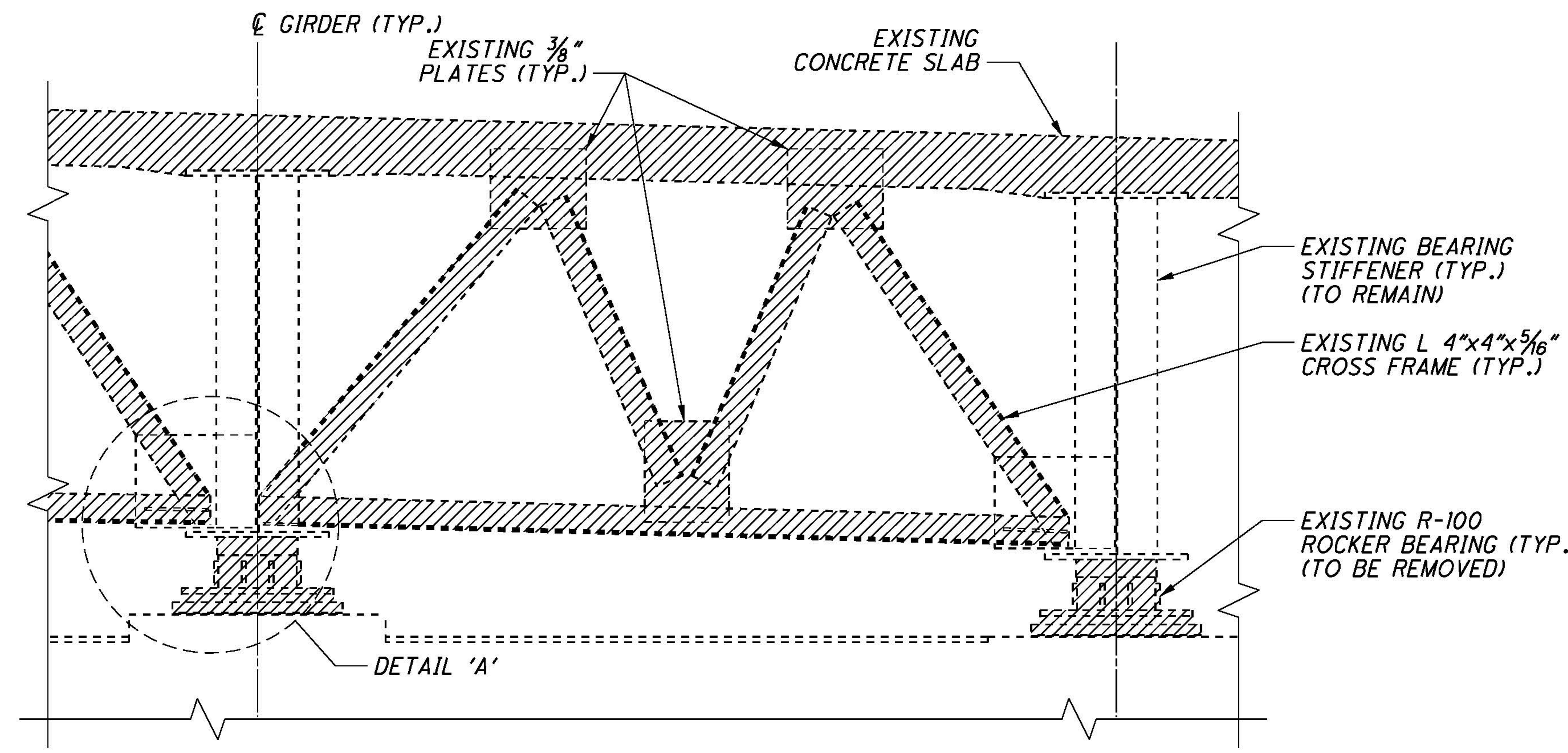


FRAMING PLAN

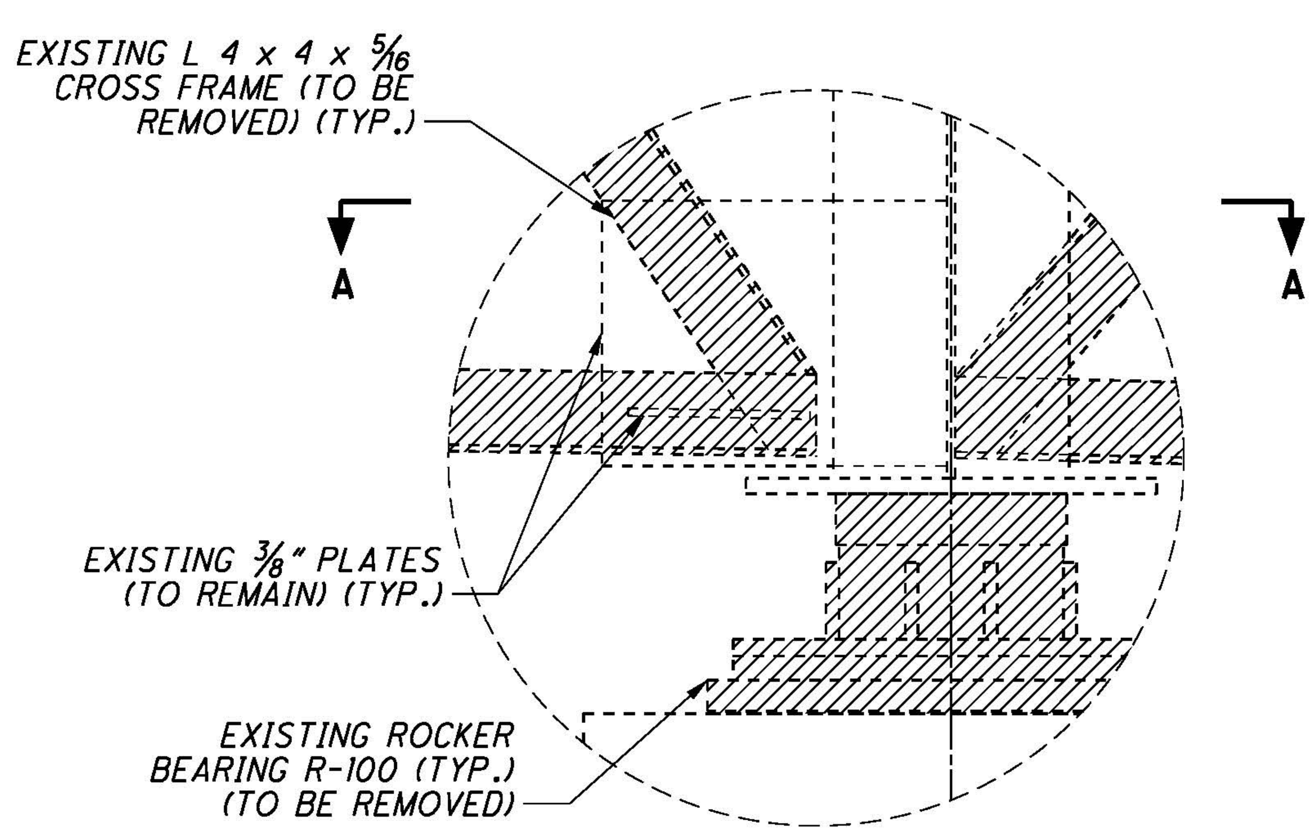
(SPANS 2 AND 3 NOT SHOWN FOR CLARITY)



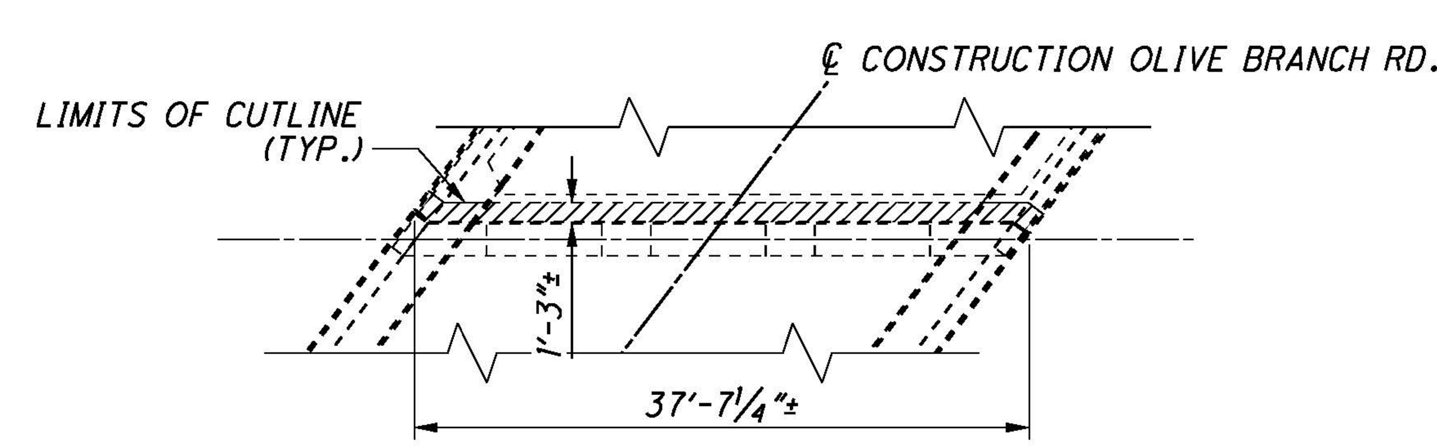
SECTION A-A



TYPICAL END CROSS FRAME REMOVAL ELEVATION



DETAIL 'A'



ABUTMENT BACKWALL REMOVAL PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

LEGEND:

- INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

- END CROSS FRAME TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF SRUCTURE REMOVED, AS PER PLAN.

(#) - GIRDER DESIGNATION

- BEARING TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

* - SEE ROADWAY PLANS FOR MORE INFORMATION

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REMOVAL DETAILS
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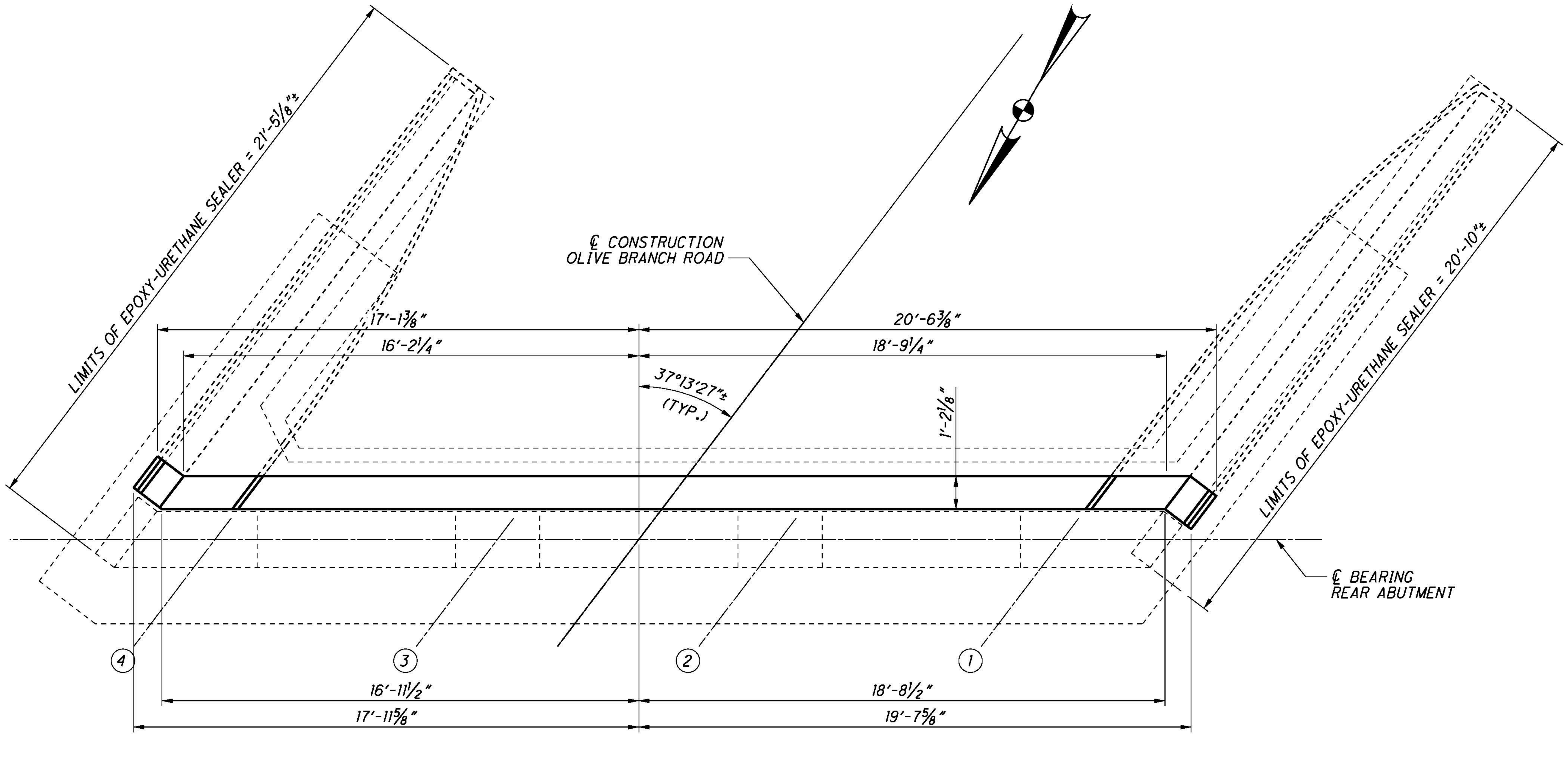
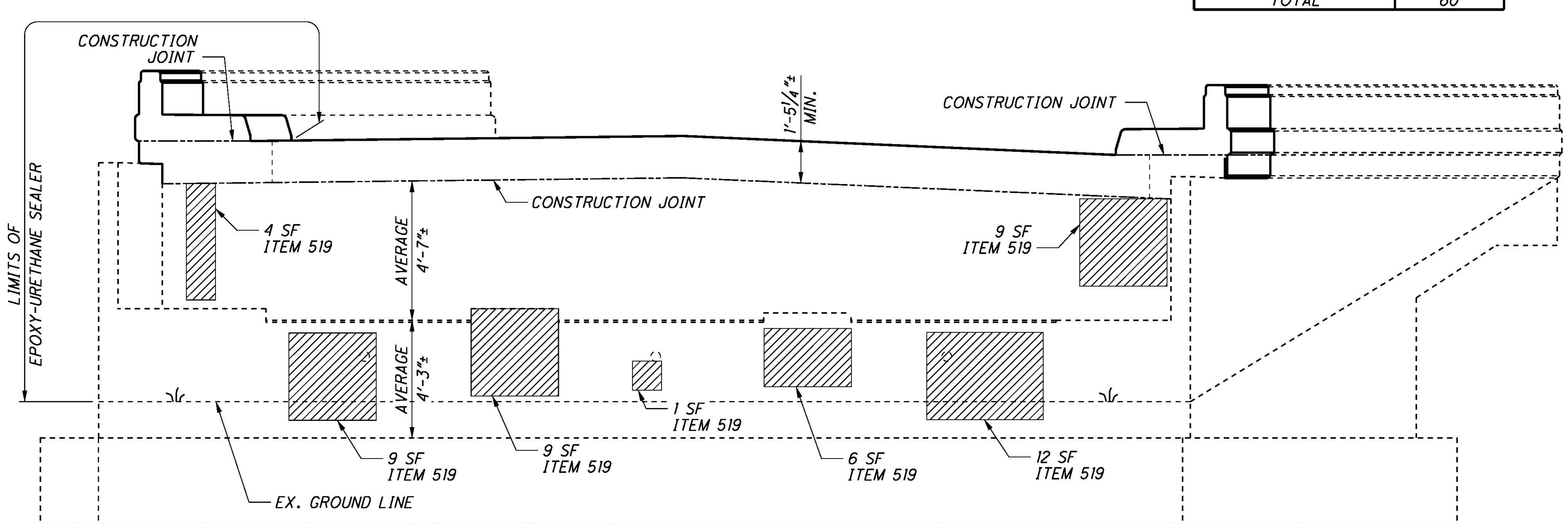
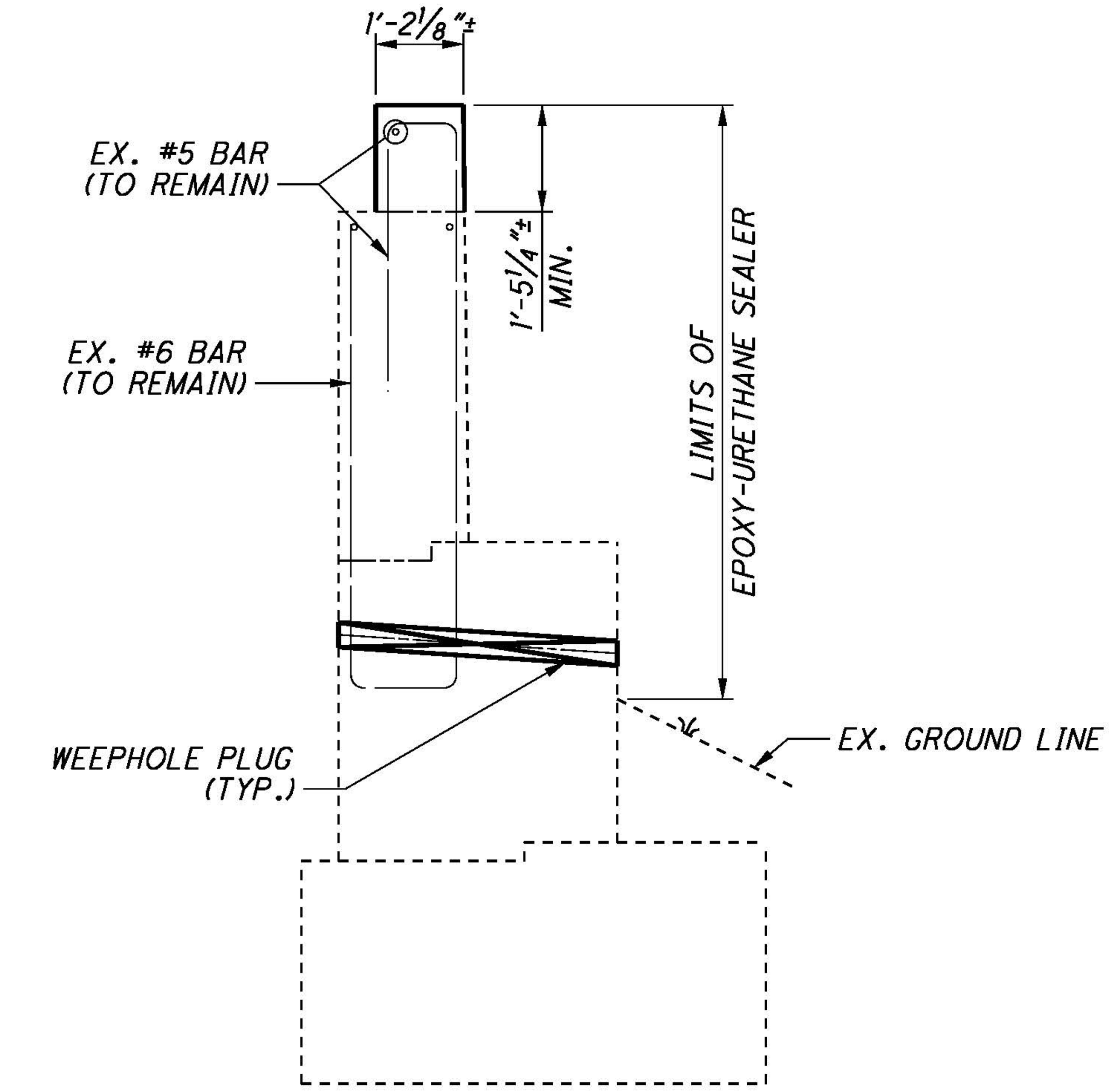


PLAN

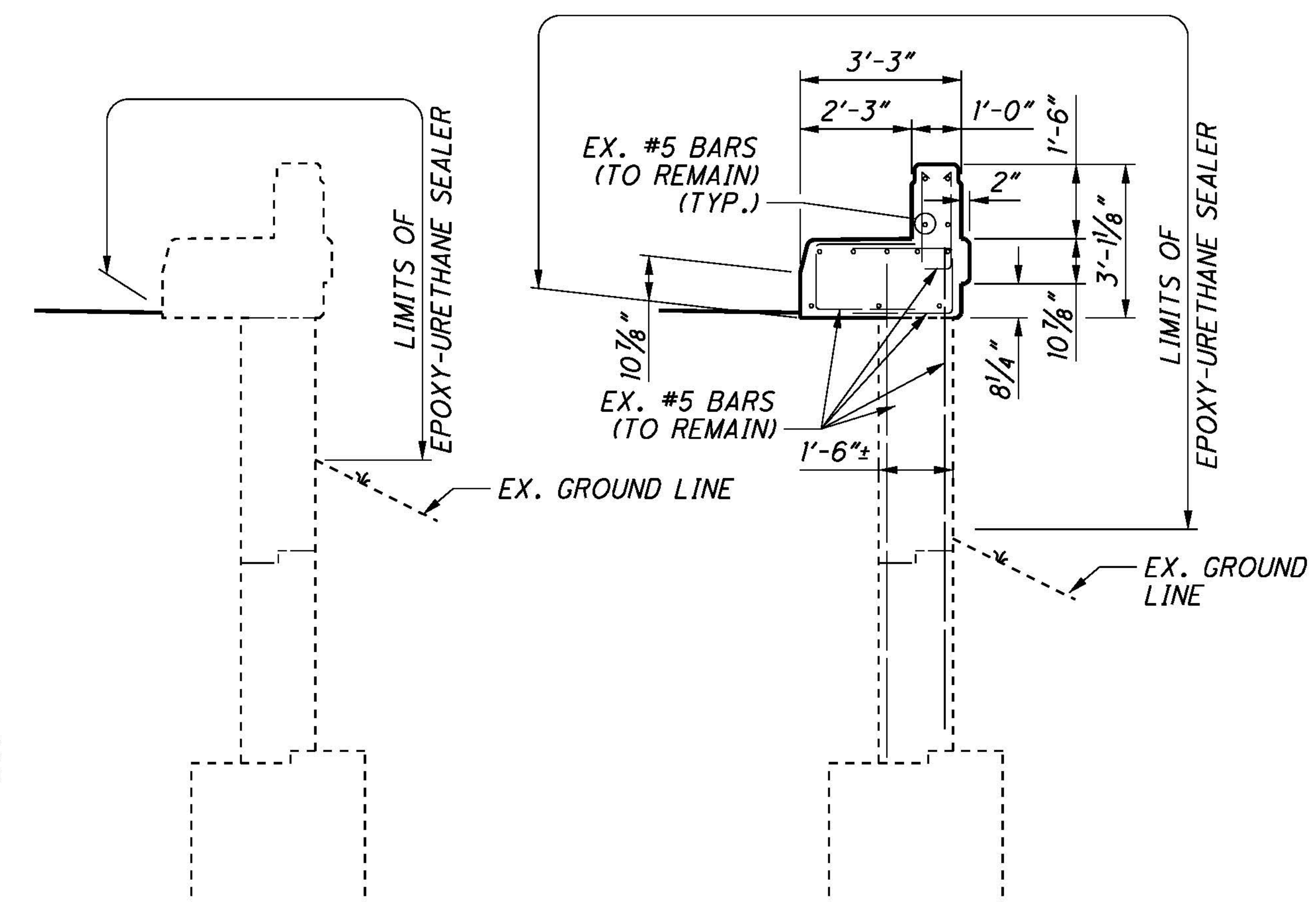
SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
REAR ABUTMENT	50
AS DIRECTED BY THE ENGINEER (20%)	10
TOTAL	60



ELEVATION



TYPICAL ABUTMENT SECTION



TYPICAL WINGWALL SECTIONS

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

(#) - GIRDER DESIGNATION

NOTES:

1. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
2. FOR ADDITIONAL DIMENSIONS, SEE ORIGINAL CONSTRUCTION PLANS.
3. PILING NOT SHOW FOR CLARITY.

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REAR ABUTMENT DETAILS
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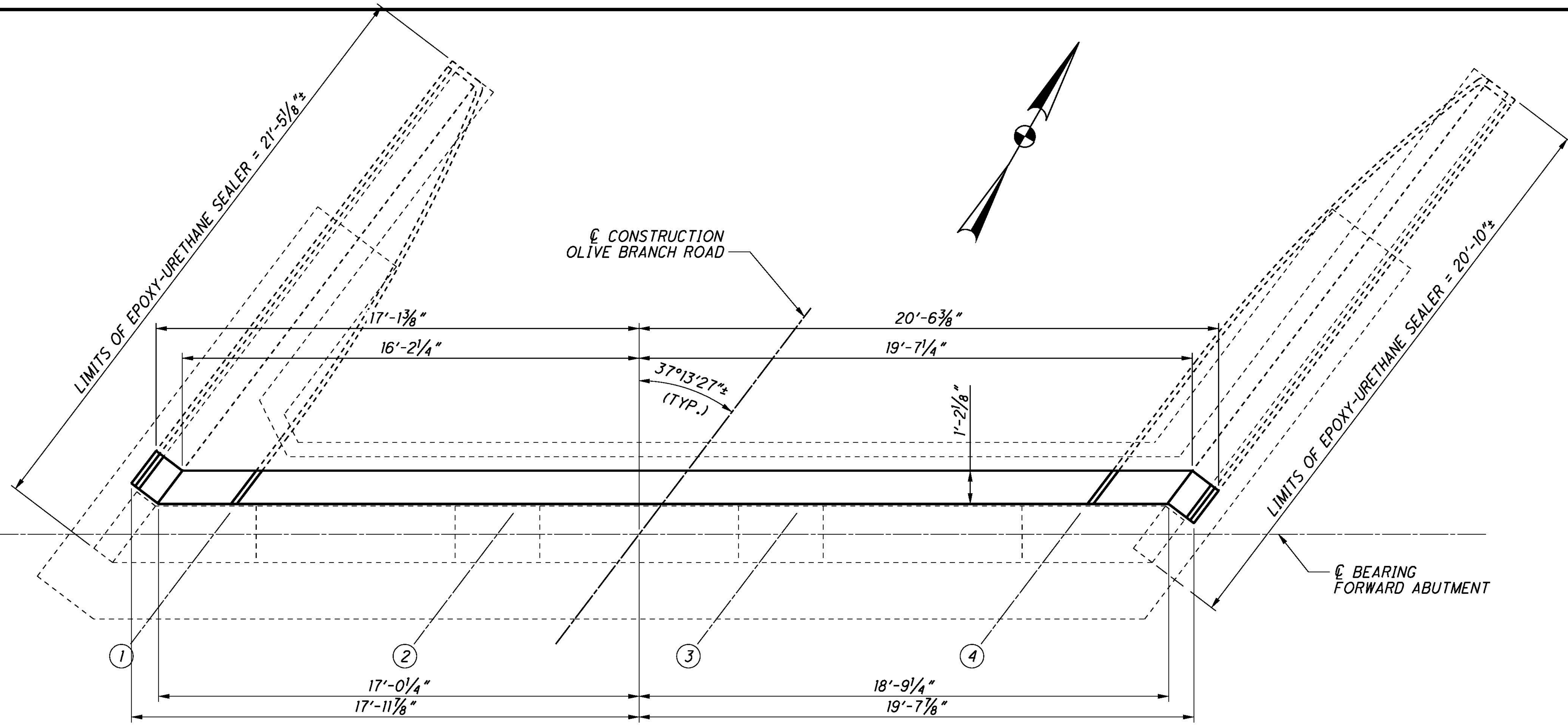
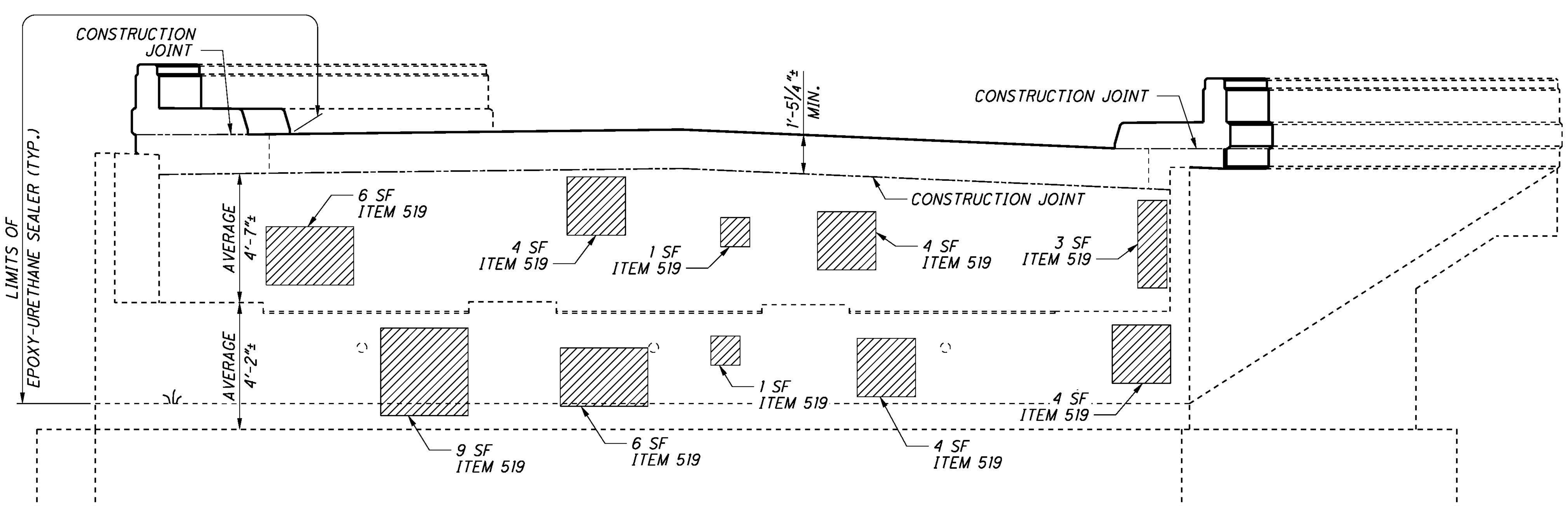


PLAN

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
FORWARD ABUTMENT	42
AS DIRECTED BY THE ENGINEER (20%)	9
TOTAL	51



ELEVATION

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

(#) - GIRDER DESIGNATION

NOTES:

1. FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE SHEET 5/13 .
2. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
3. PILING NOT SHOWN FOR CLARITY.

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FORWARD ABUTMENT DETAILS

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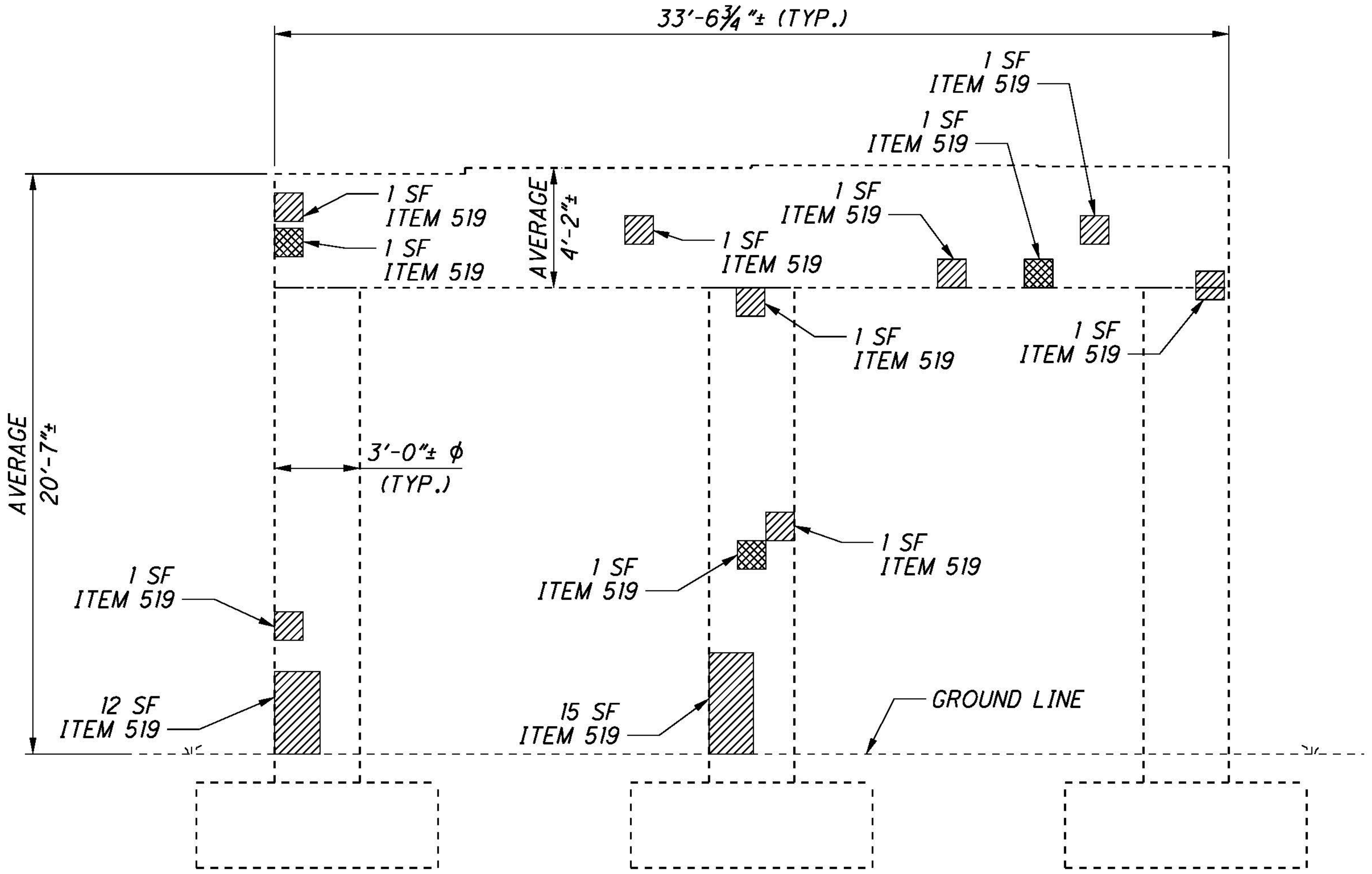
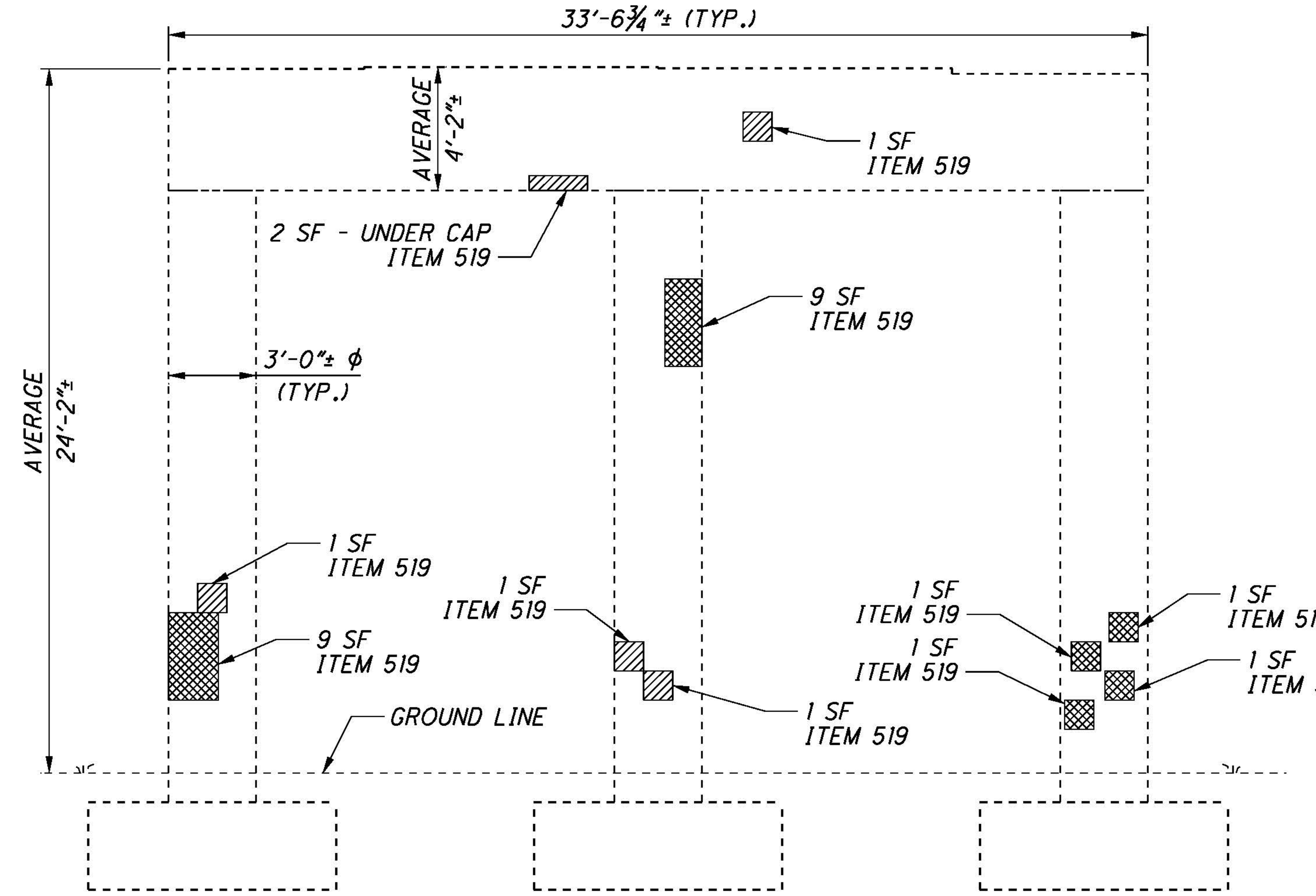
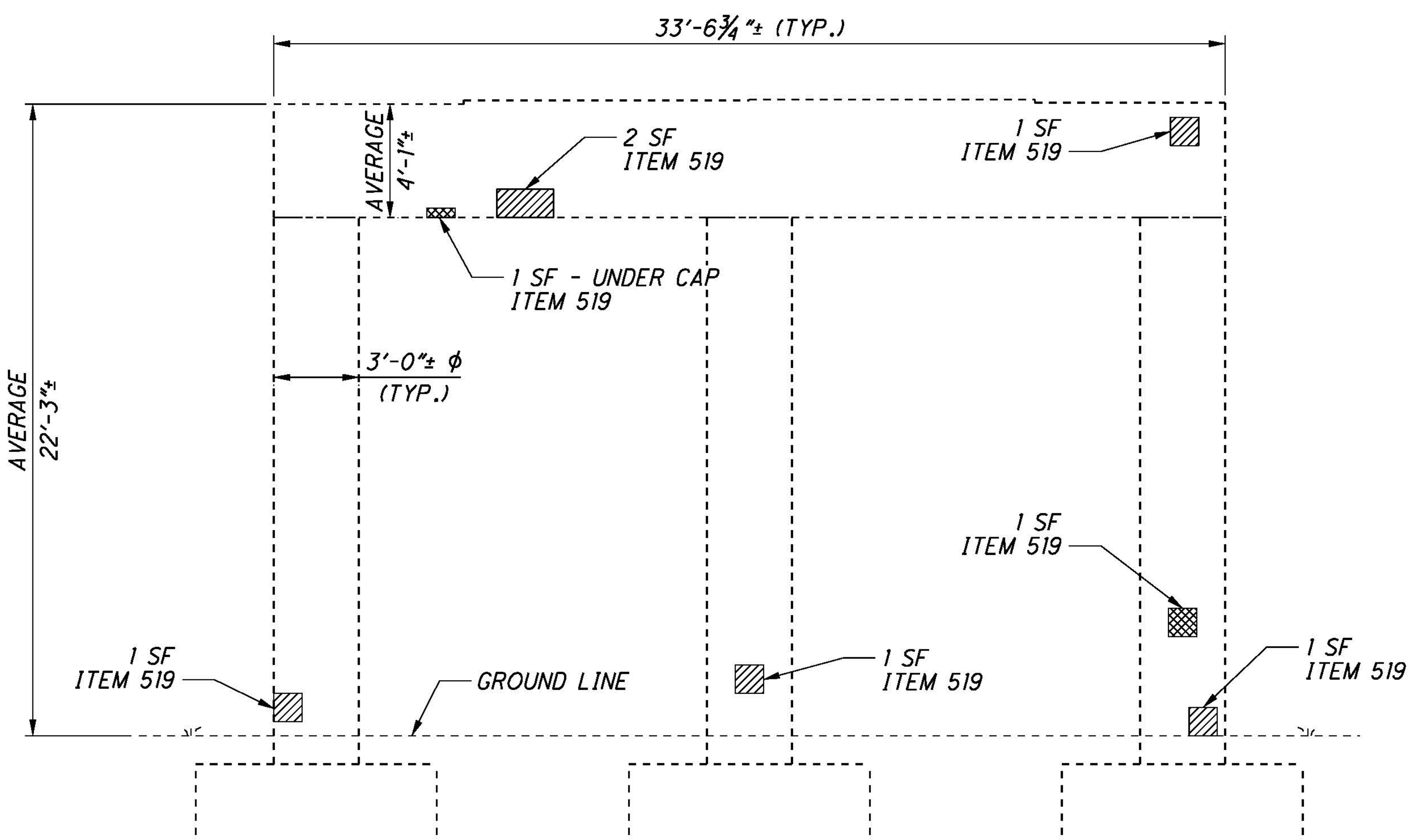


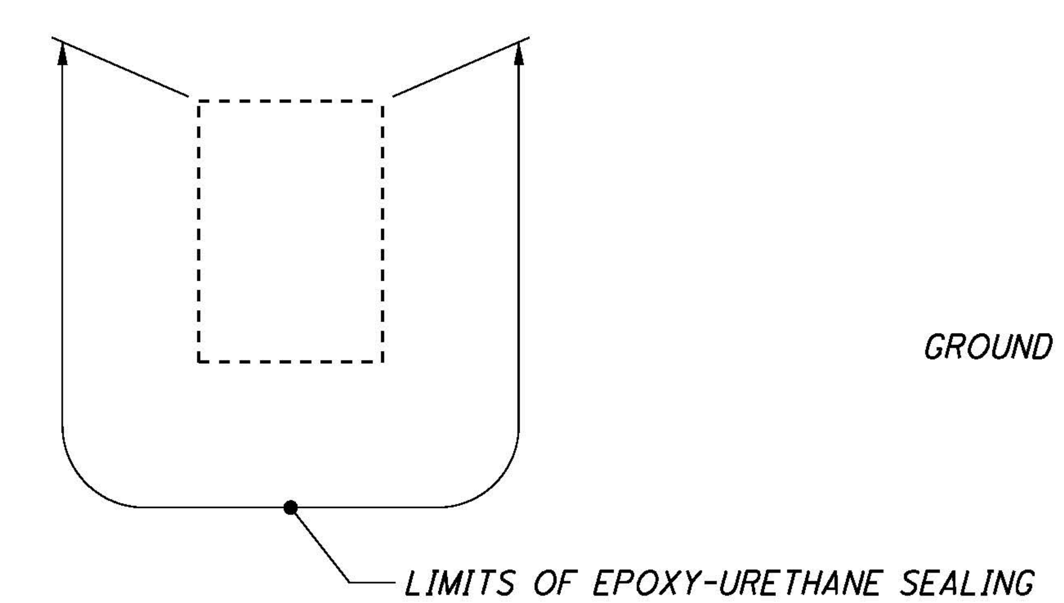
PIER 1 ELEVATION
LOOKING UPSTATION



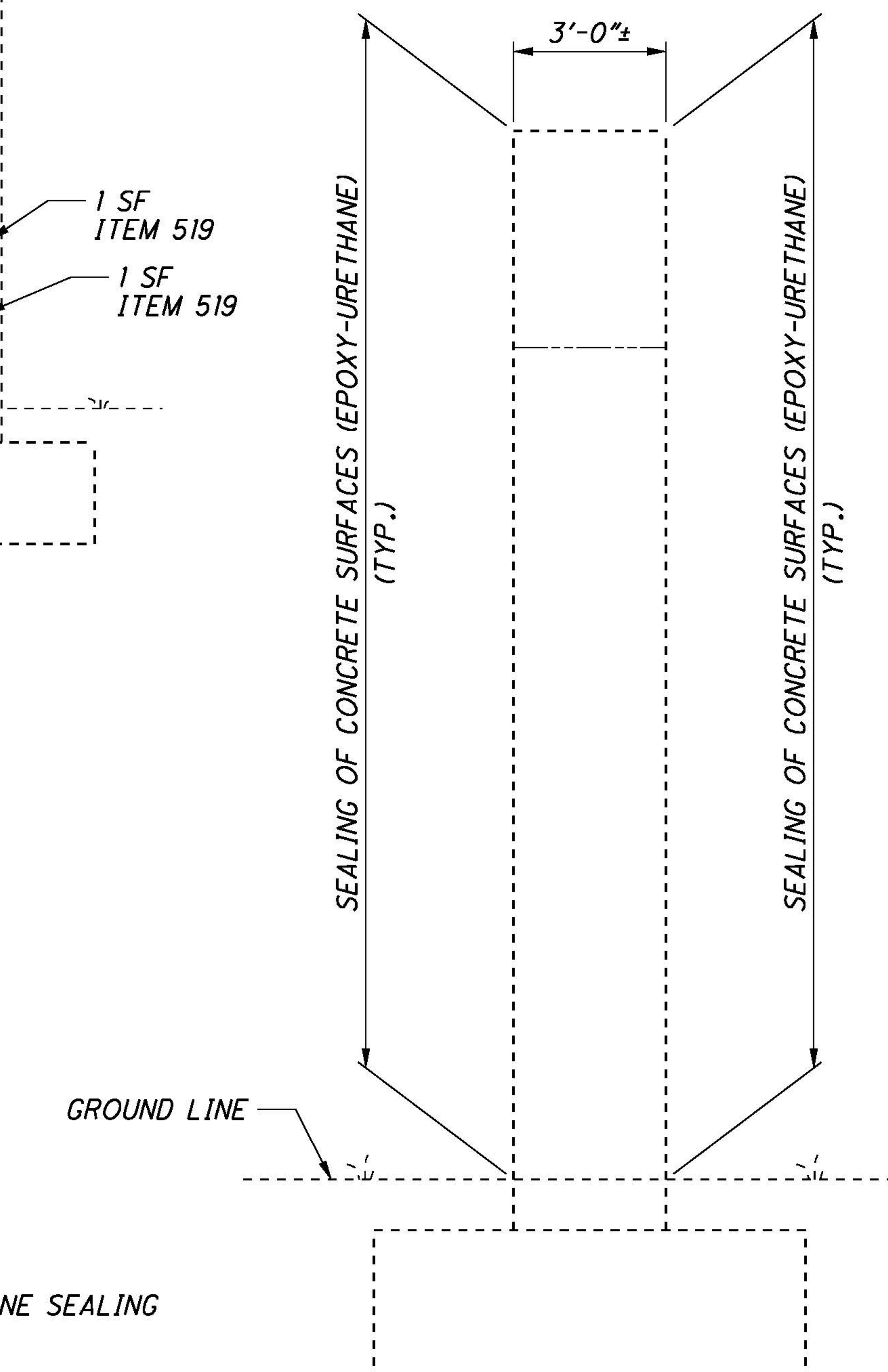
PIER 3 ELEVATION
LOOKING UPSTATION



PIER 2 ELEVATION
LOOKING UPSTATION



TYPICAL PIER CAP SEALING DETAIL



TYPICAL SECTION

PIER 1 SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
PIER 1 (SOUTH)	35
PIER 1 (NORTH)	3
AS DIRECTED BY THE ENGINEER (20%)	8
TOTAL	46

PIER 2 SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
PIER 2 (SOUTH)	6
PIER 2 (NORTH)	2
AS DIRECTED BY THE ENGINEER (20%)	2
TOTAL	10

PIER 3 SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
PIER 3 (SOUTH)	6
PIER 3 (NORTH)	22
AS DIRECTED BY THE ENGINEER (20%)	6
TOTAL	34

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - SOUTH FACE
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - NORTH FACE
(#) - GIRDER DESIGNATION

NOTES:

1. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
2. FOR ADDITIONAL DIMENSIONS, SEE ORIGINAL CONSTRUCTION PLANS.

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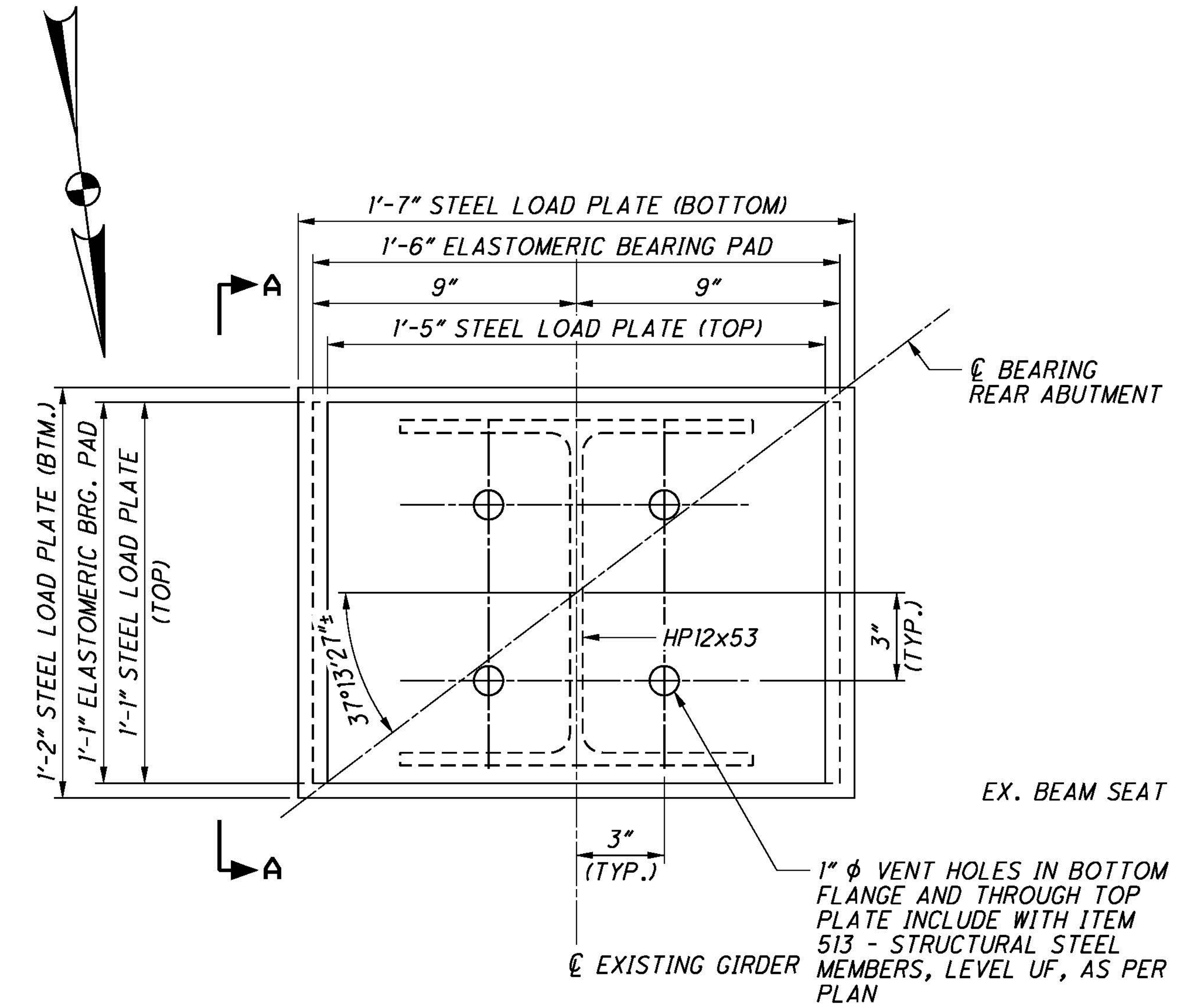
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DFT		8302340	

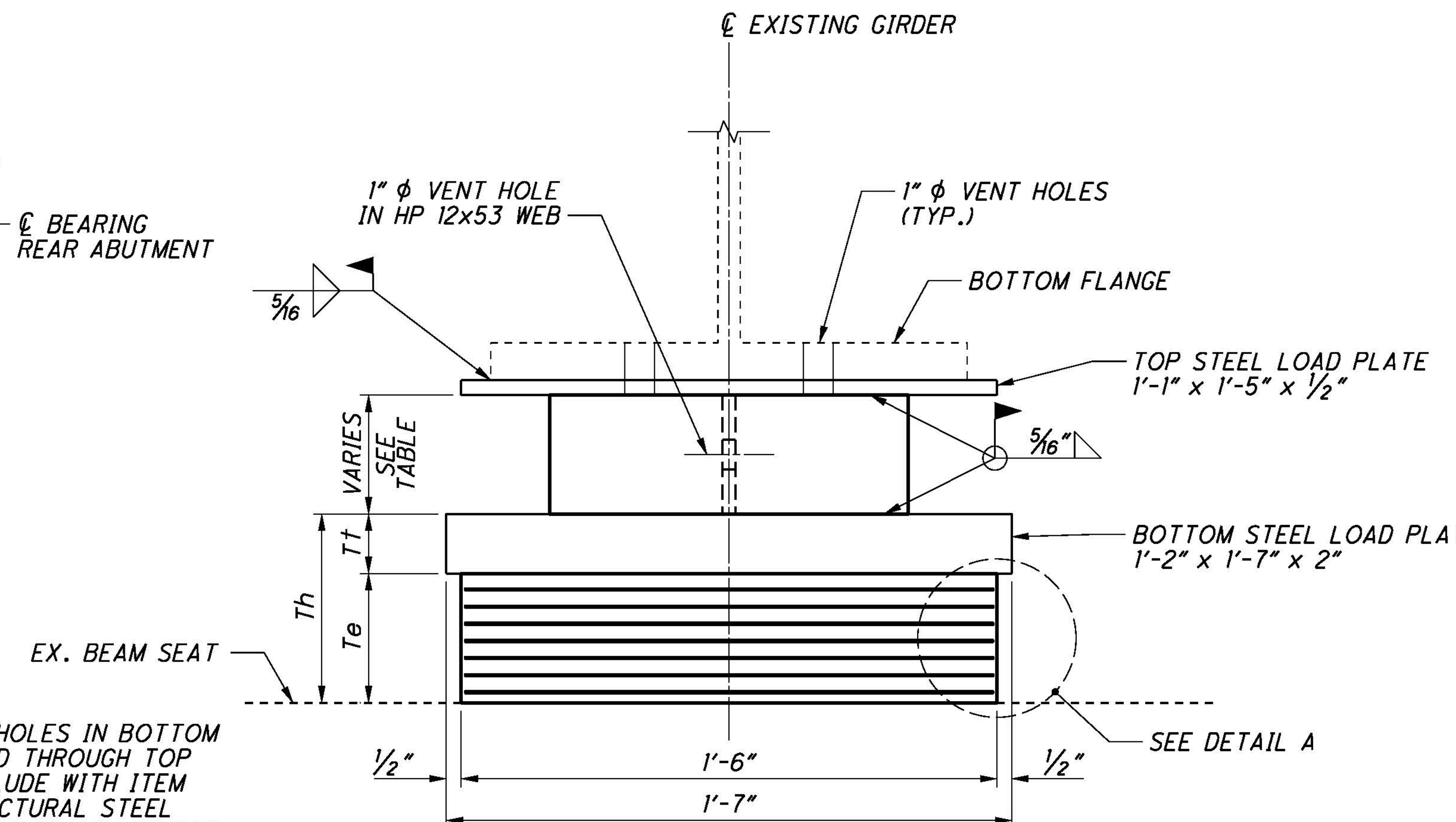
PIER DETAILS
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727

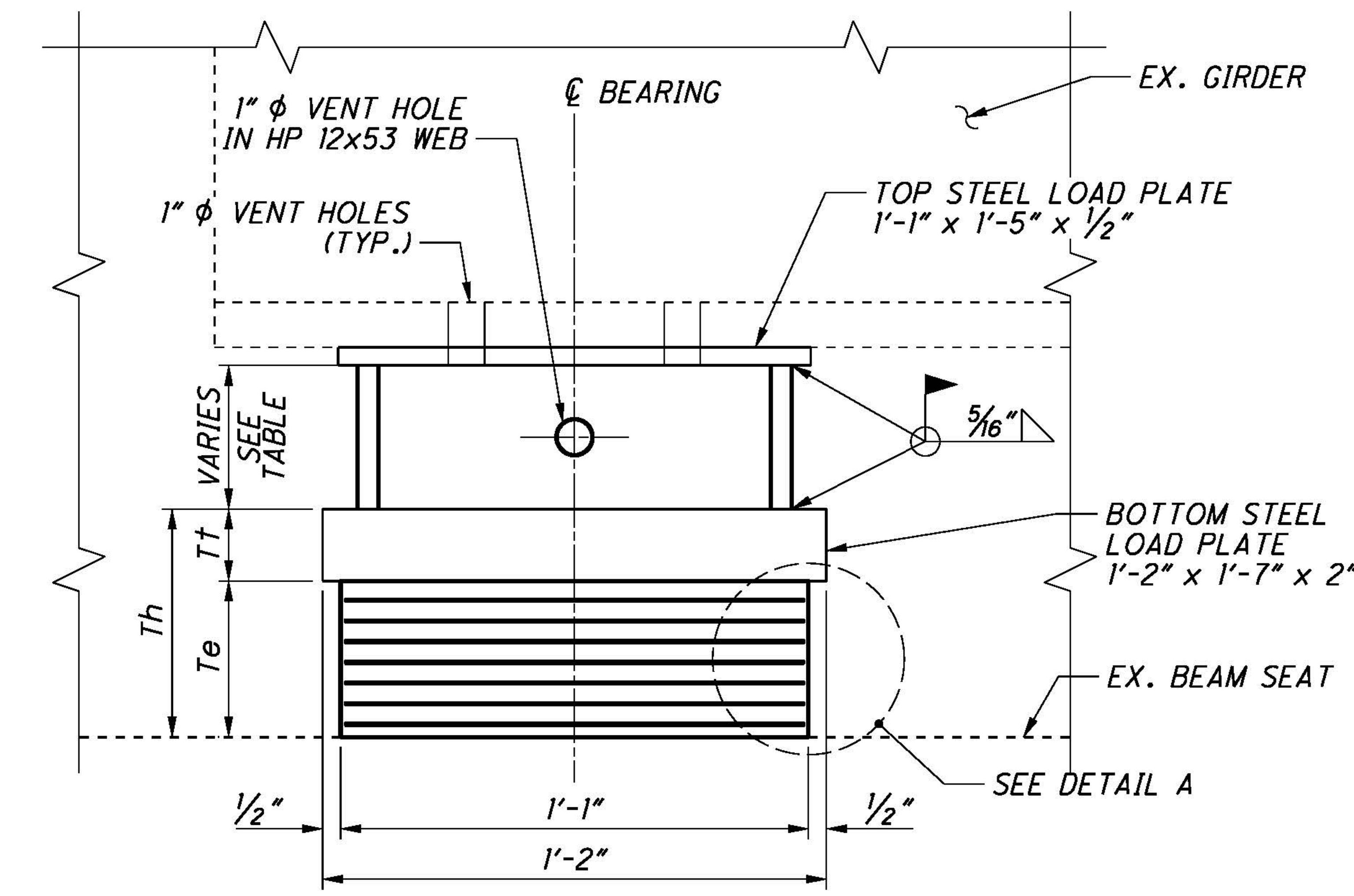


ABUTMENT BEARING PLAN

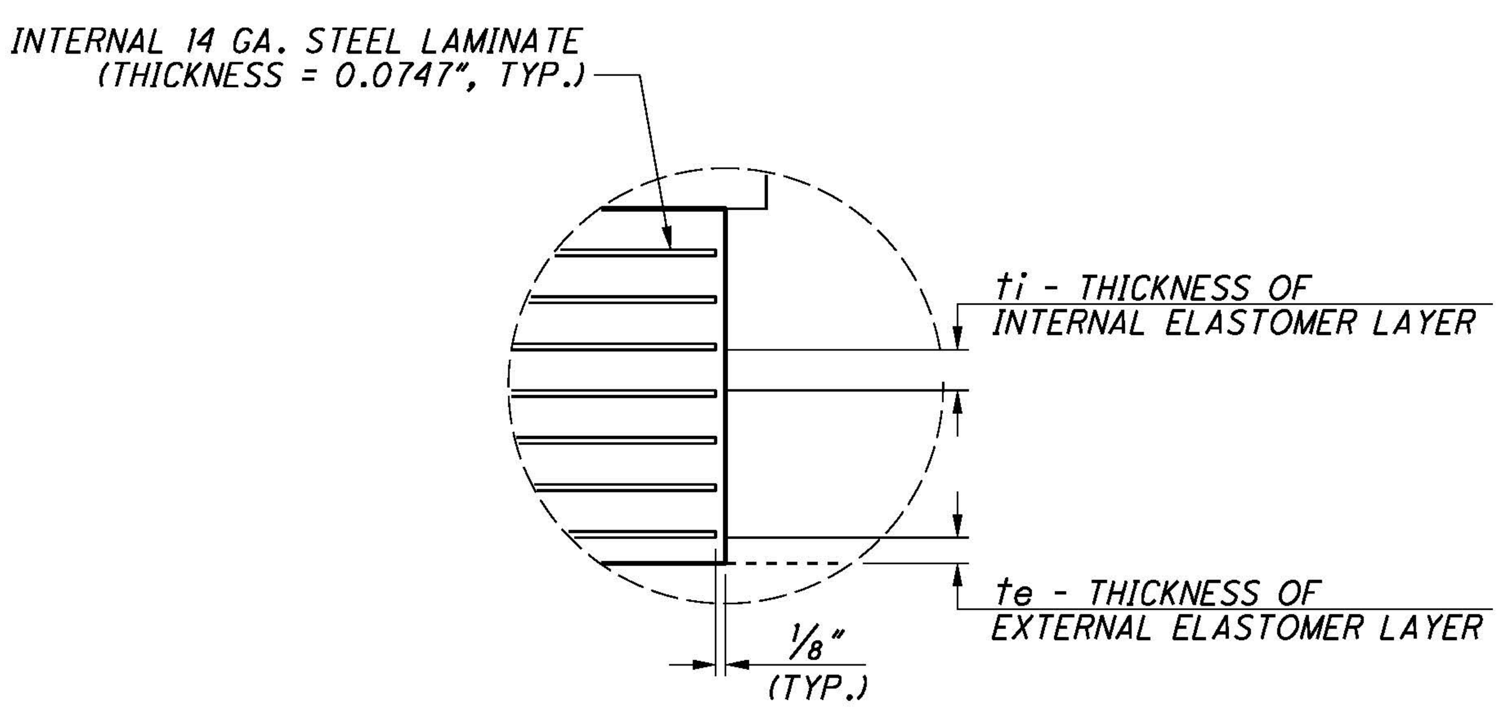
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



ABUTMENT BEARING ELEVATION

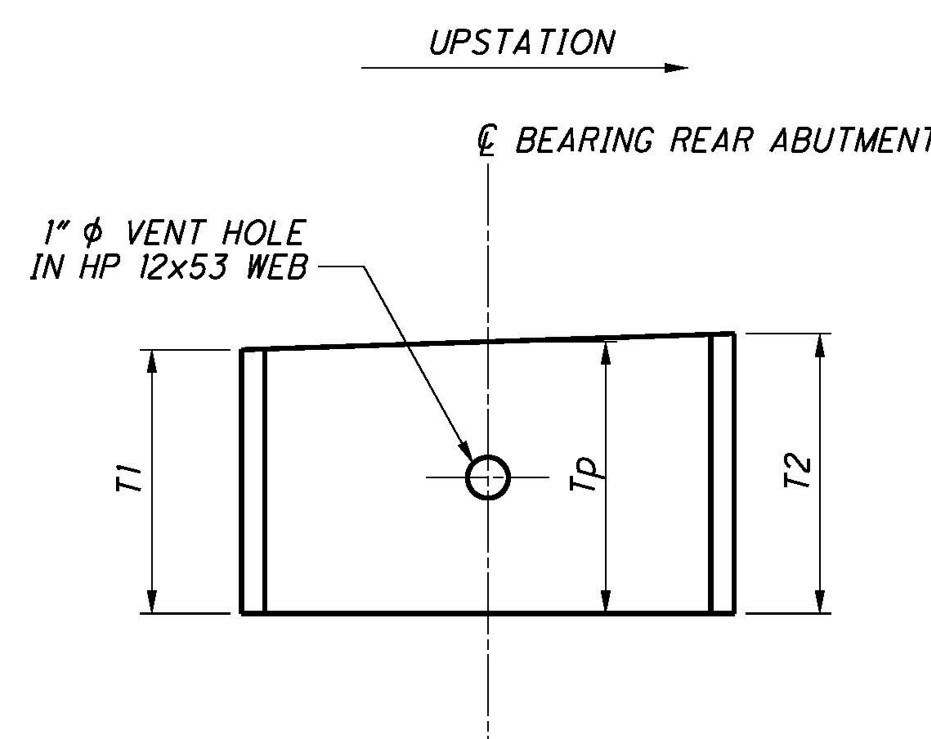


VIEW A-A



DETAIL A

(TYPICAL AT ALL BEAMS)



DETAIL B

(REAR H-PILE SHOWN, FORWARD OPPOSITE)

LEGEND:

Tp = AVERAGE H-PILE THICKNESS

APPROXIMATE H-PILE DIMENSIONS (IN.)

GIRDER	REAR ABUTMENT			FORWARD ABUTMENT		
	T1	Tp	T2	T1	Tp	T2
1	4 11/16"±	4 7/8"±	5"±	4 11/16"±	4 5/8"±	4 1/2"±
2	5 1/4"±	5 3/8"±	5 1/2"±	5 1/2"±	5 7/16"±	5 5/16"±
3	5 5/16"±	5 7/16"±	5 9/16"±	5 1/4"±	5 3/16"±	5 1/16"±
4	4 13/16"±	4 15/16"±	5 1/16"±	4 1/2"±	4 7/16"±	4 5/16"±

ELASTOMERIC BEARING DATA

LOCATION	TYPE	NO. REQ'D.	DL (KIP)	LL W/O IMPACT (KIP)	MAX DESIGN LOAD (DL+LL)	L (IN.)	W (IN.)	ti (IN.)	te (IN.)	NO. OF ti's	NO. OF INTERNAL LAMINATES	Te (IN.)	STEEL LOAD PLATE X (IN.)	STEEL LOAD PLATE Y (IN.)	STEEL LOAD PLATE Tt (IN.)	Th (in.)
ABUTMENT	EXP.	8	93	60	153	13.0	18.0	0.500	0.313	7	7	4.335	14	19	2	6.335

NOTES:

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATES AND HP SHAPES SHALL BE ASTM A709 GRADE 50 STEEL AND PRIME PAINTED IN ACCORDANCE WITH ITEM 513.
3. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCEESS. CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
4. BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ± 10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.
5. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE. IMPACT IS NOT INCLUDED.
6. BASIS OF PAYMENT: THE UNIT BID PRICE FOR ALL ABUTMENT BEARINGS SHALL INCLUDE THE TOP AND BOTTOM LOAD PLATE, HP SHAPE, AND ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
7. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BEAM SEAT AND BOTTOM OF BEAM ELEVATIONS LOCATED AT THE CENTERLINE OF ABUTMENT BEARING. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE PROPOSED HEIGHT OF THE H-PILE (Tp). THE CONTRACTOR SHALL SUBMIT DIMENSIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE ENGINEER, PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO ORDER THE H-PILE SECTIONS LONGER THAN NEEDED AND TRIM THE SECTIONS IN THE FIELD TO FIT THE FIELD CONDITIONS.
8. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

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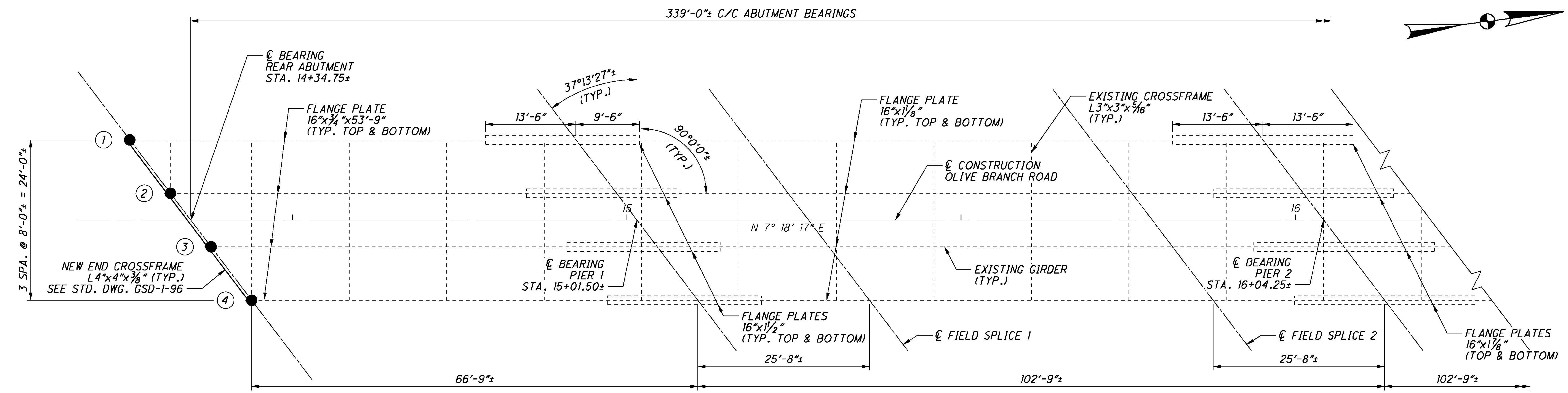
BEARING DETAILS

BRIDGE NO. WAR-71-1736

I-71 UNDER OLIVE BRANCH RD.

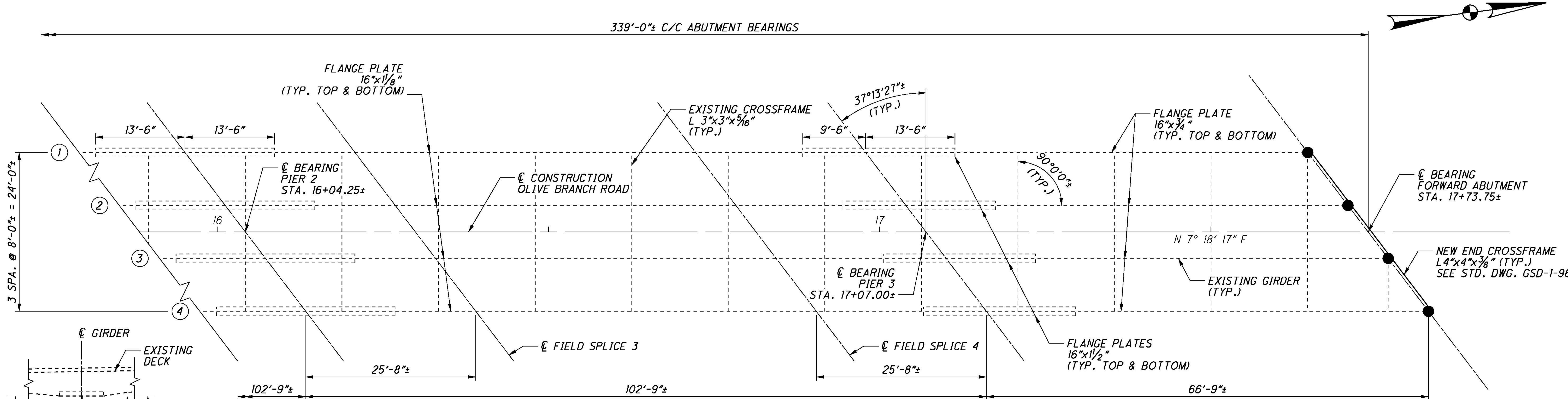
WAR-71-16.81

PID No. 91727



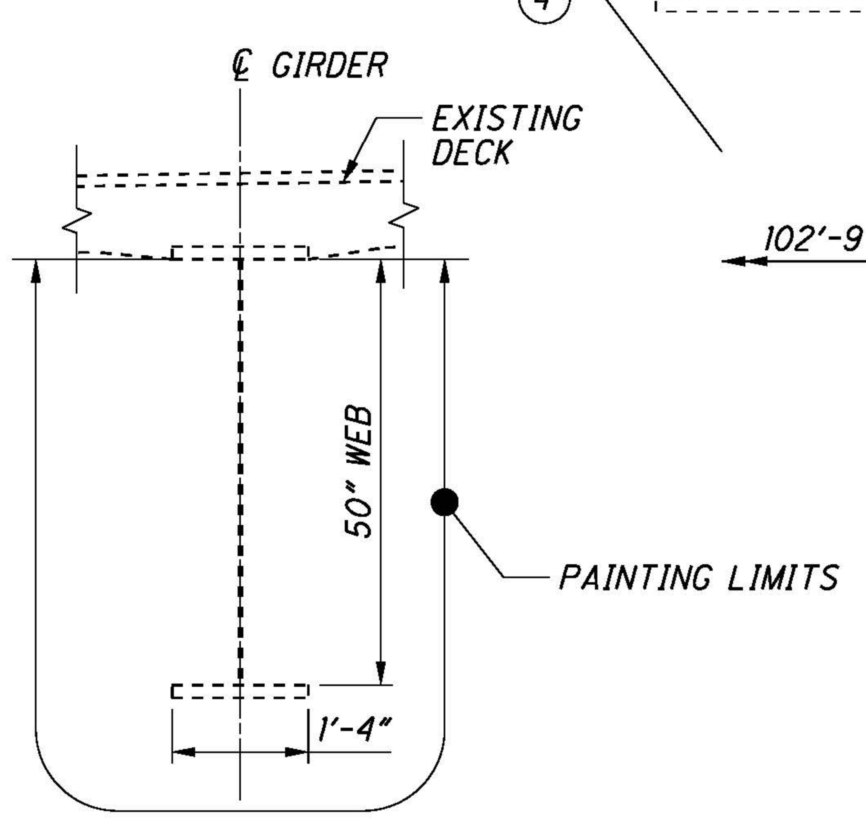
FRAMING PLAN

WEB PLATES ARE 50"x5/16"



FRAMING PLAN

WEB PLATES ARE 50"x5/16"



GIRDER PAINTING LIMITS

LEGEND:

(#) - GIRDER DESIGNATION

● - BEARING TO BE REPLACED

NOTES:

1. FOR PAINT COLOR, SEE SHEET 2/13.
2. FOR TRANSVERSE SECTION, SEE SHEET 11/13.

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FRAMING PLAN
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727

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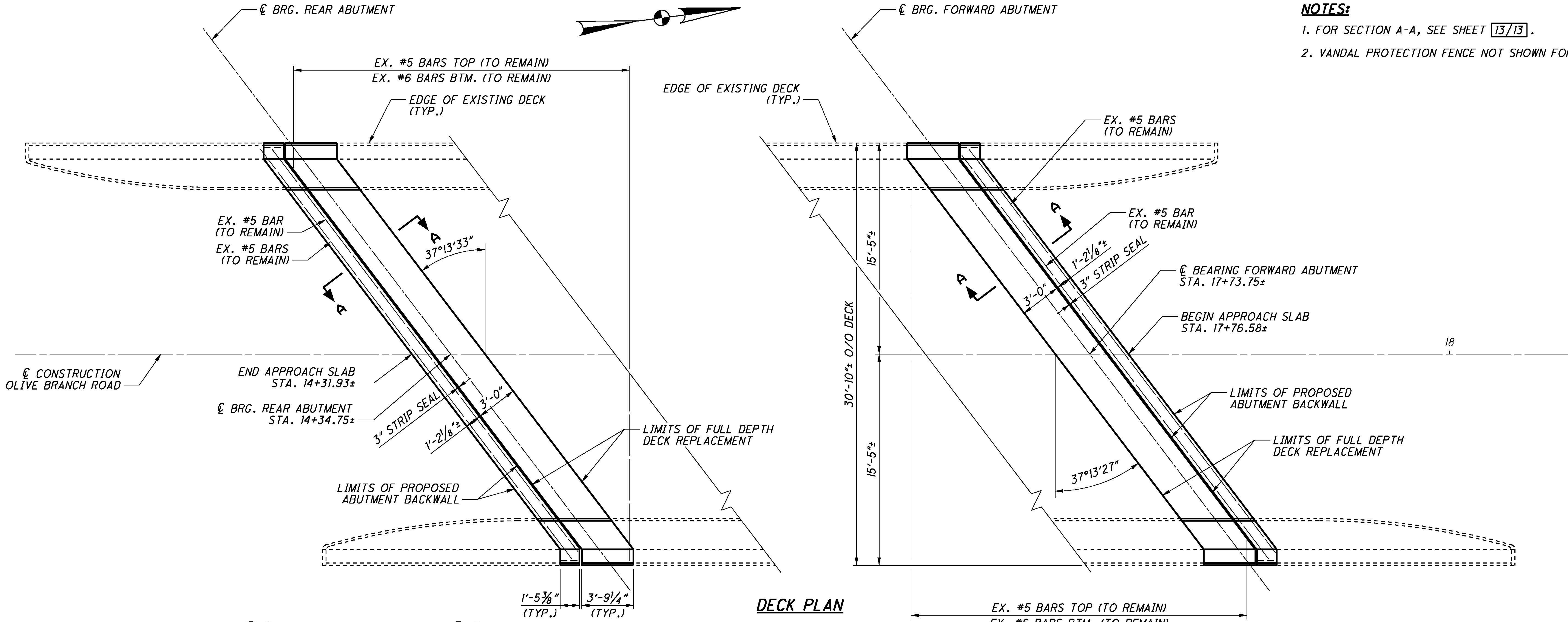
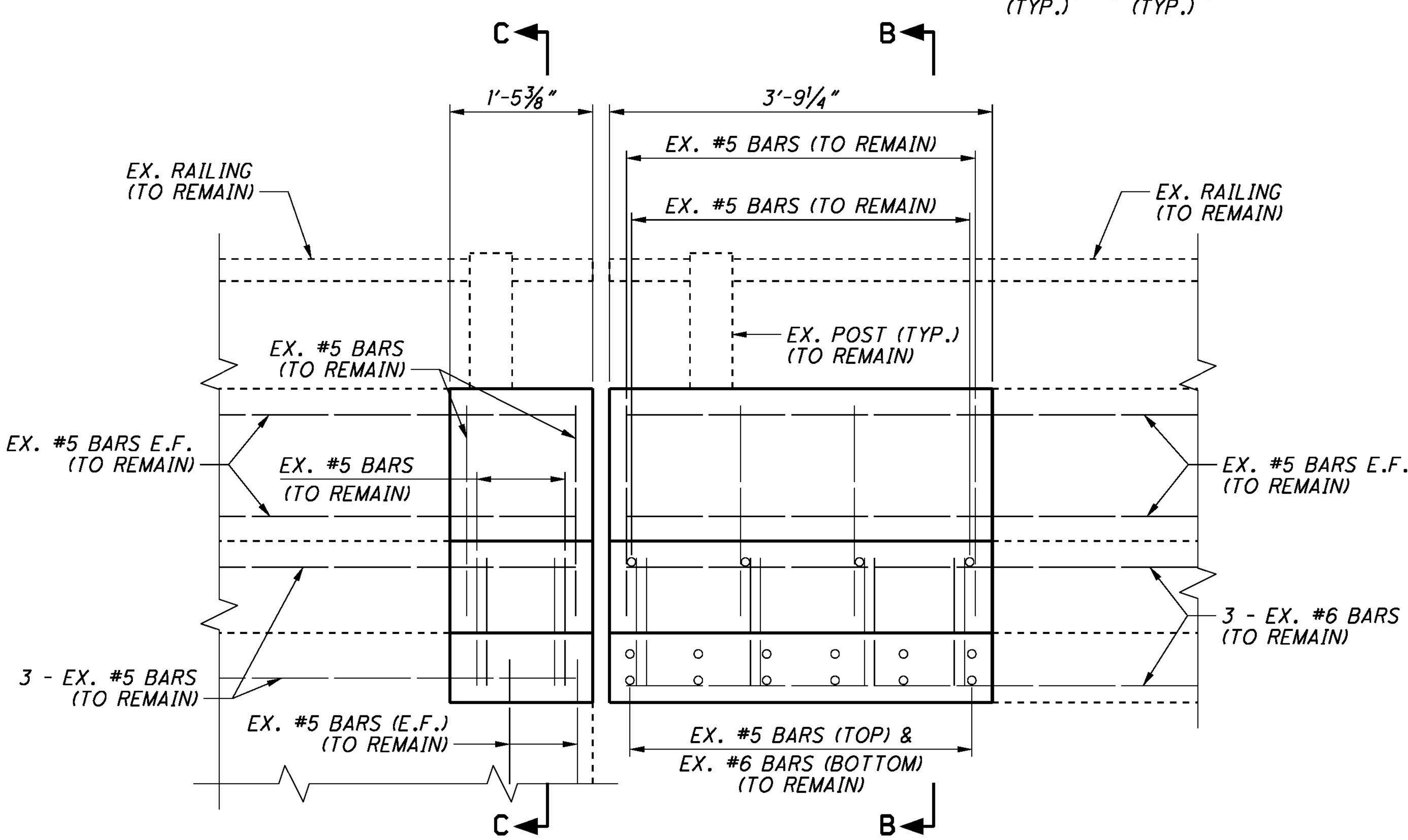
NOTES:

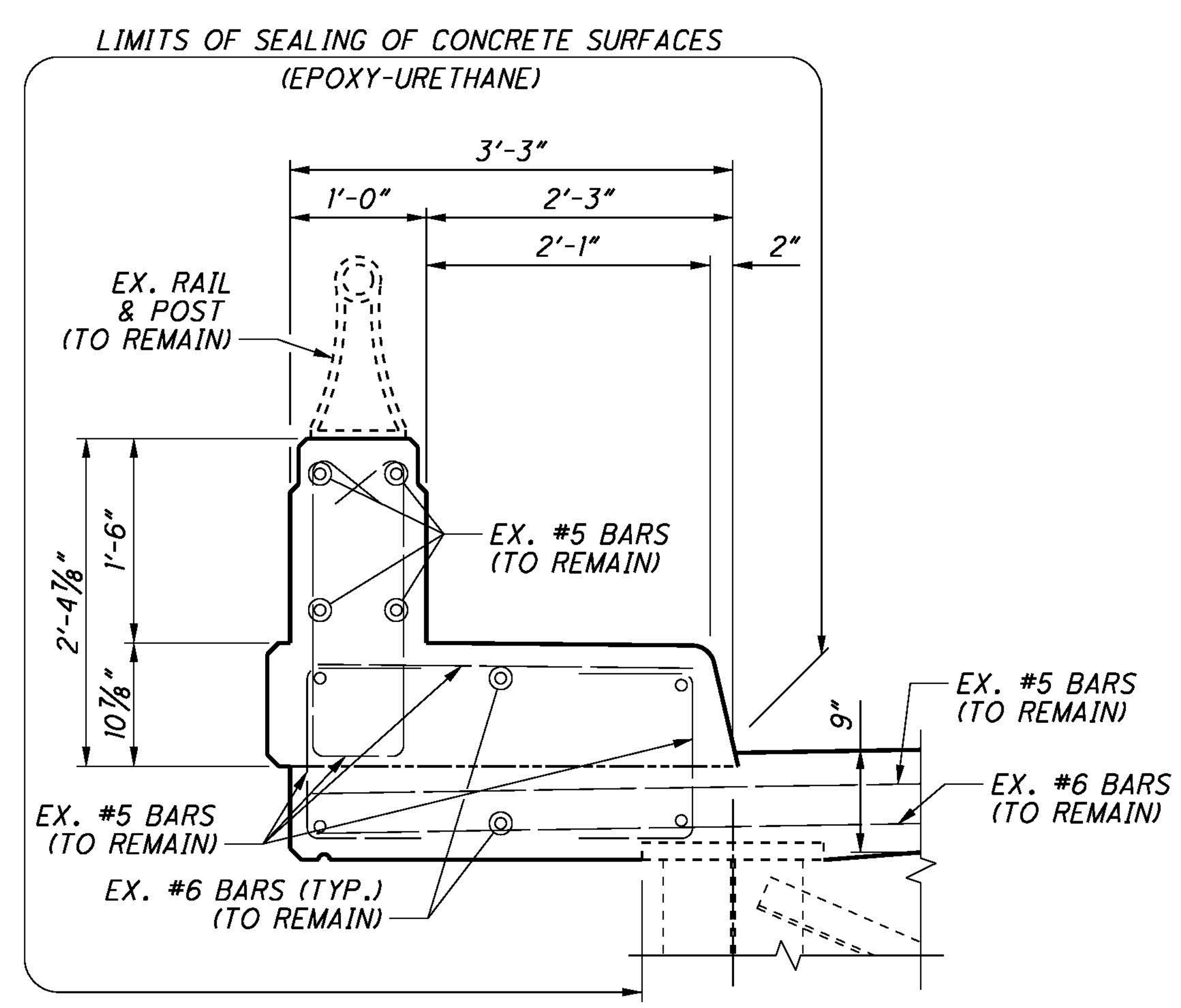
1. FOR SECTION A-A, SEE SHEET 13/13.
2. VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY.



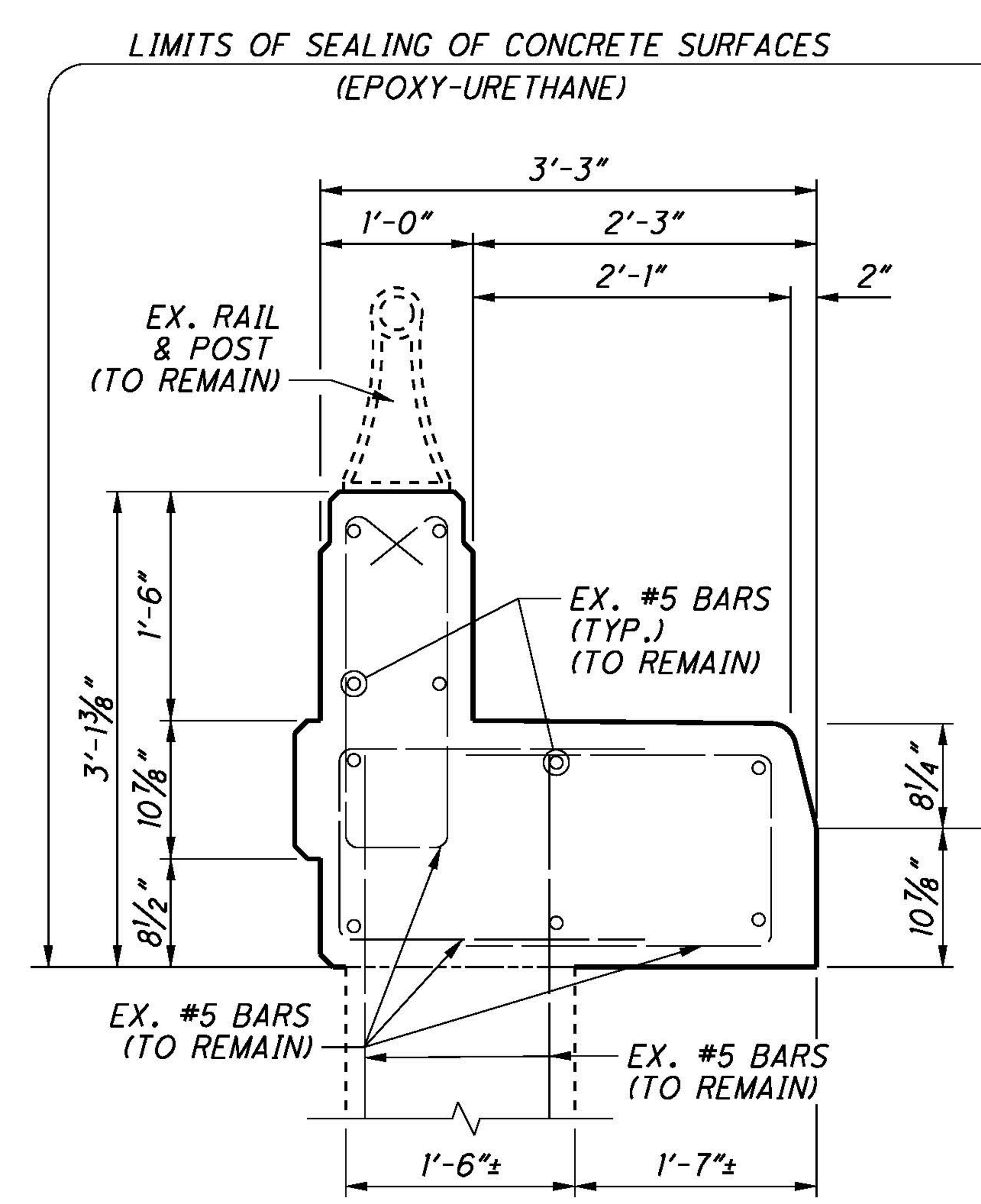
DECK PLAN



TYPICAL RAILING ELEVATION



SECTION B-B



SECTION C-C

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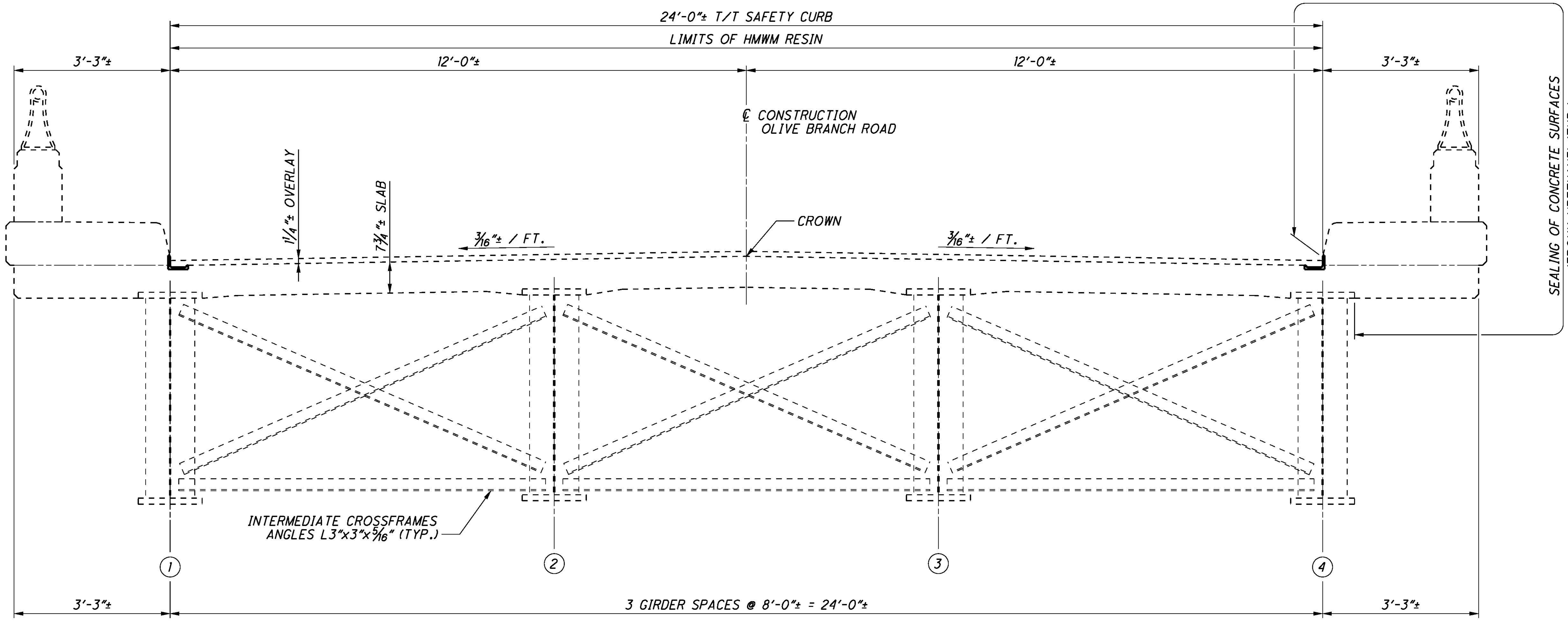
DECK & RAILING REPAIR DETAILS
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727

10/13



TRANSVERSE SECTION

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

LEGEND:

(#) - GIRDER DESIGNATION

NOTES:

1. FOR FRAMING PLAN, SEE SHEET 9/13.
2. SEE ORIGINAL PLANS FOR STIFFENER LOCATIONS.
3. FOR DECK PLAN, SEE SHEET 10/13.

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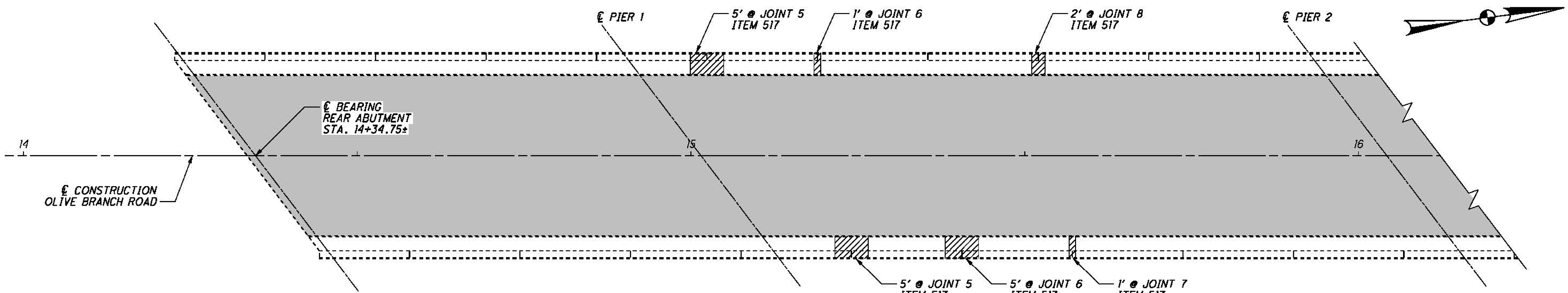
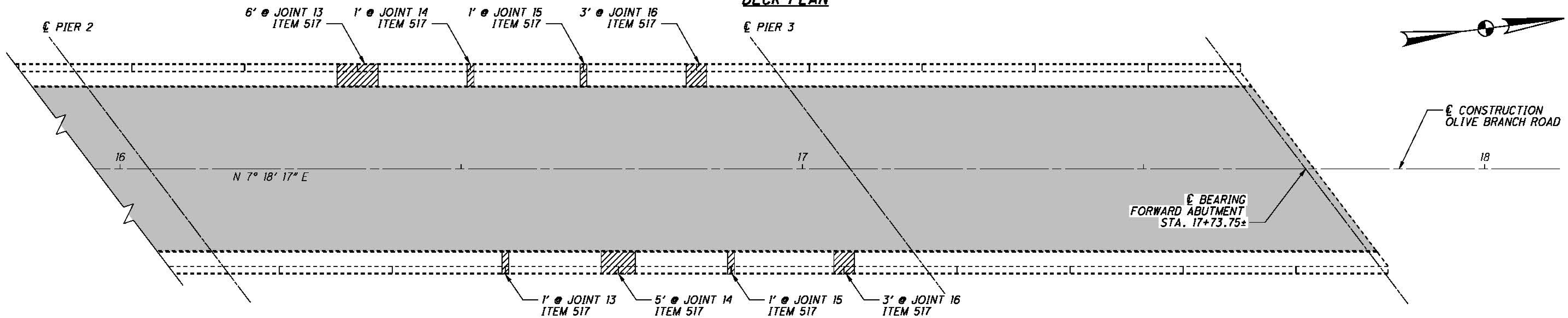
TRANSVERSE SECTION
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

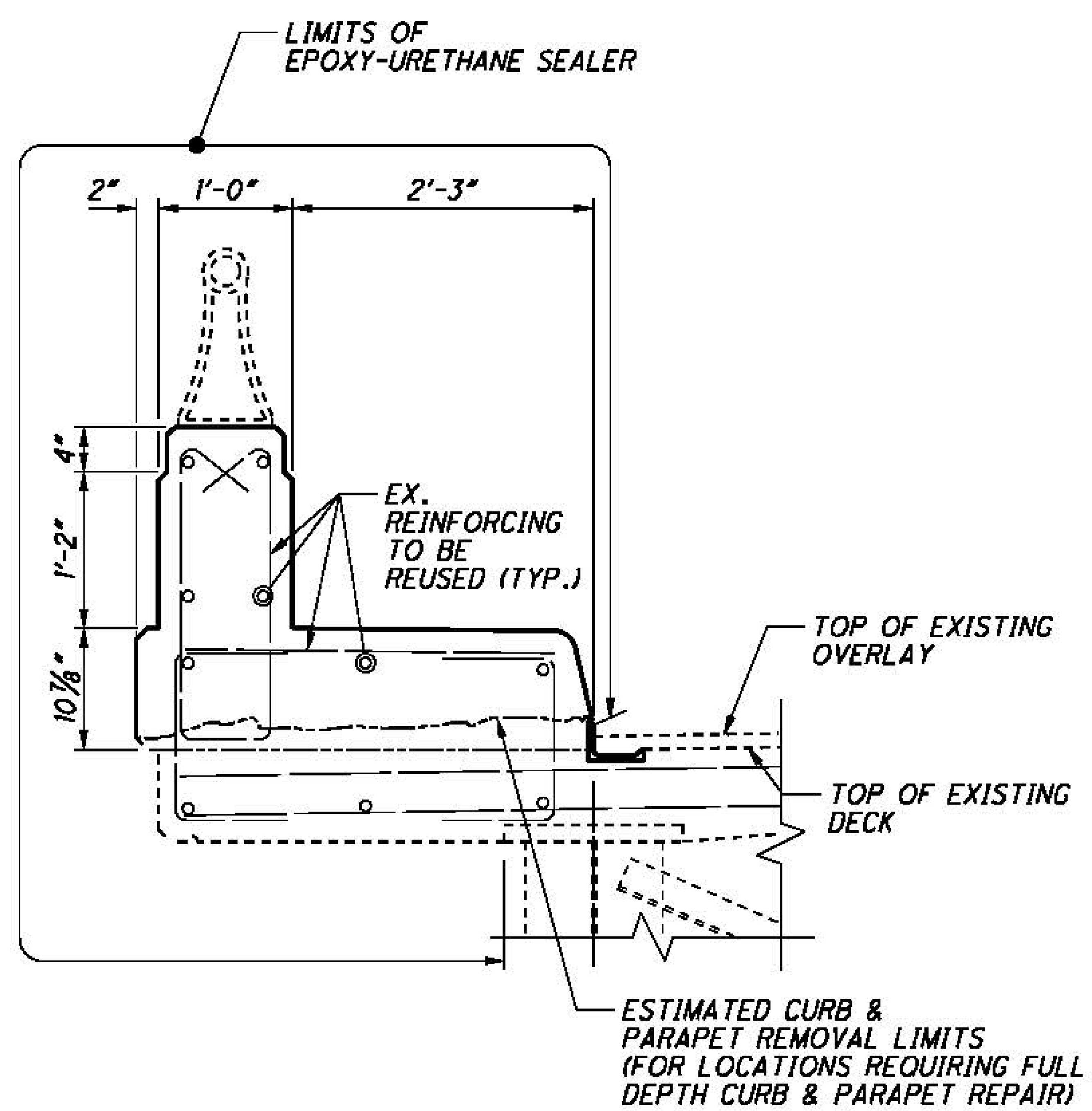
WAR-71-16.81
PID No. 91727



DECK PLAN



DECK PLAN



TYPICAL BARRIER DETAIL

(FOR DIMENSIONS, SEE SHEET 10/13)

SUMMARY OF BARRIER REPAIR	
LOCATION	QUANTITY (FT.)
SPAN 2	19
SPAN 3	21
AS DIRECTED BY THE ENGINEER (20%)	8
TOTAL	48

LEGEND:

- ITEM 517 - BRIDGE RAILING REBUILT, AS PER PLAN

- ITEM 512 - SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

NOTES:

1. PARAPET SHALL BE SEALED WITH EPOXY-URETHANE SEALER. COST FOR REMOVAL OF SEALER ON EXISTING SEALED SURFACES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

2. VANDAL PROTECTION FENCING SHALL BE TEMPORARILY MOVED AND STORED IN ORDER TO FACILITATE THE REPAIR OF THE CONCRETE BARRIER.

3. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED TO FACILITATE THE REPAIR OF THE CONCRETE BARRIER, REMOVAL AND RE-ATTACHMENT OF VANDAL PROTECTION FENCE, AND REPLACEMENT OF DAMAGED PORTIONS OF THE VANDAL PROTECTION FENCE FABRIC SHALL BE PAID FOR UNDER ITEM 517 - BRIDGE RAILING REBUILT, AS PER PLAN.

4. SEAL WEARING SURFACE WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) FROM DECK JOINT TO DECK JOINT, SEE SHEET 13/13. FOR TRANSVERSE LIMITS, SEE TRANSVERSE SECTION ON SHEET 11/13.

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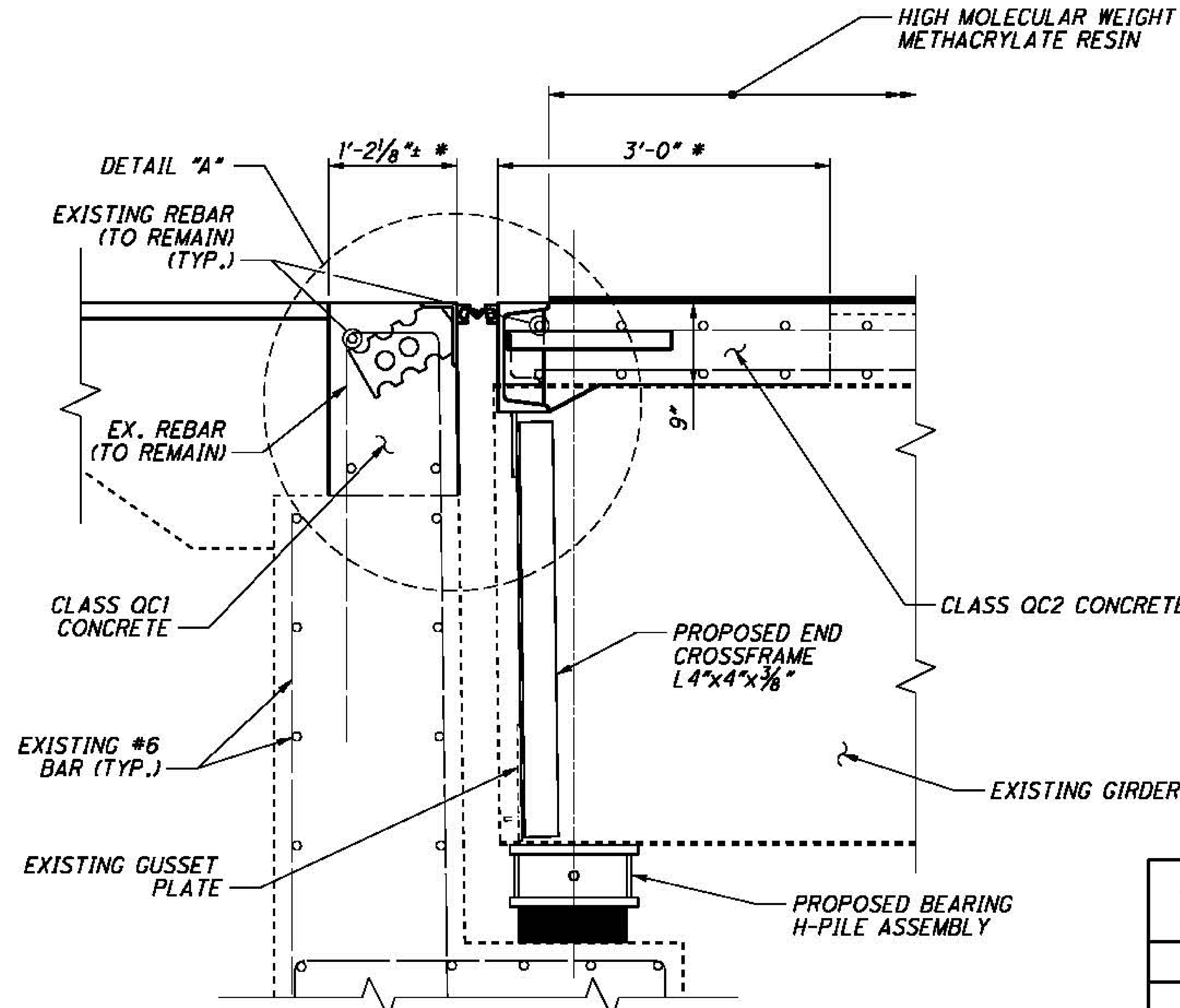
BARRIER REPAIR DETAILS

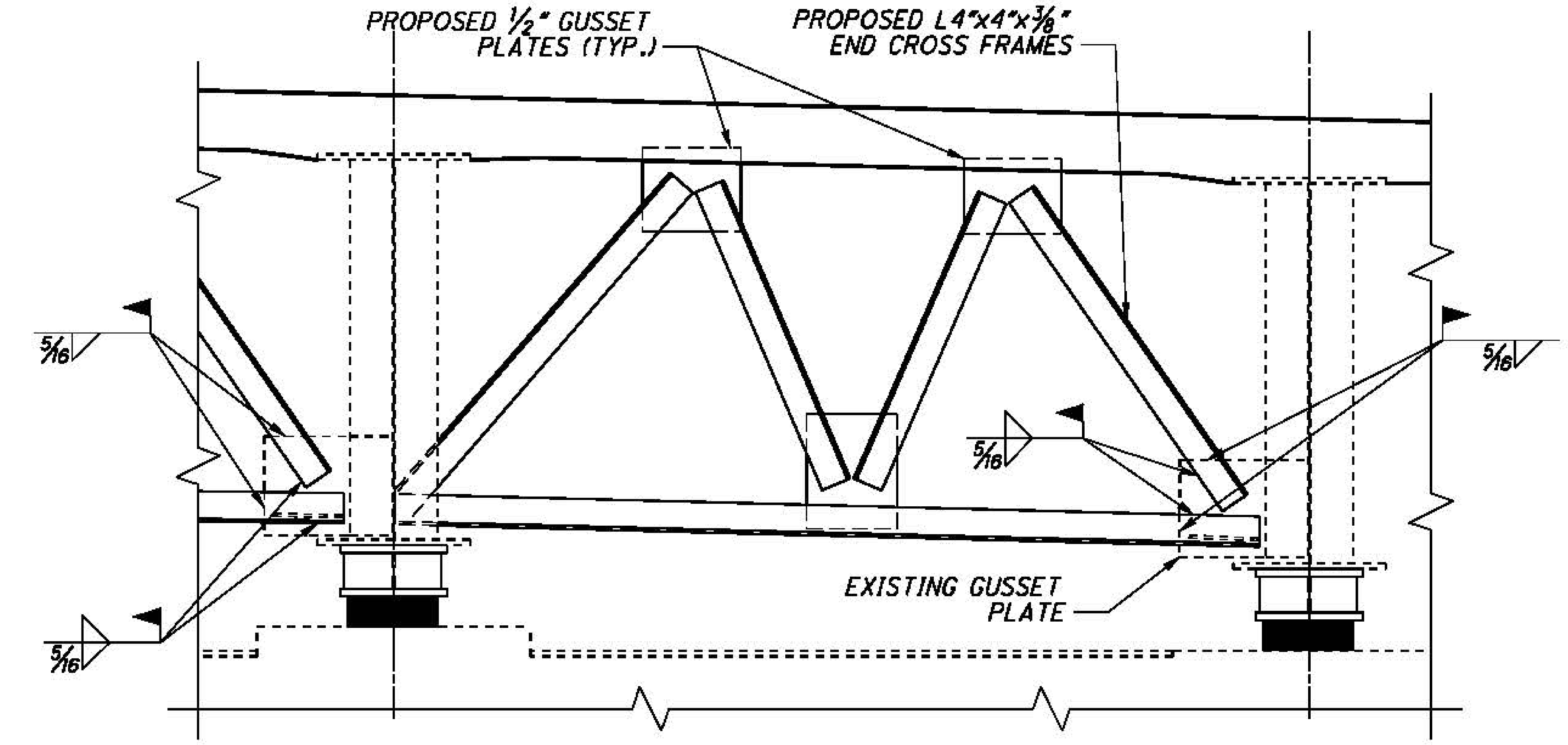
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727



SECTION A-A - TYPICAL ABUTMENT CONSTRUCTION DETAIL

(BEARING STIFFENER NOT SHOWN FOR CLARITY)

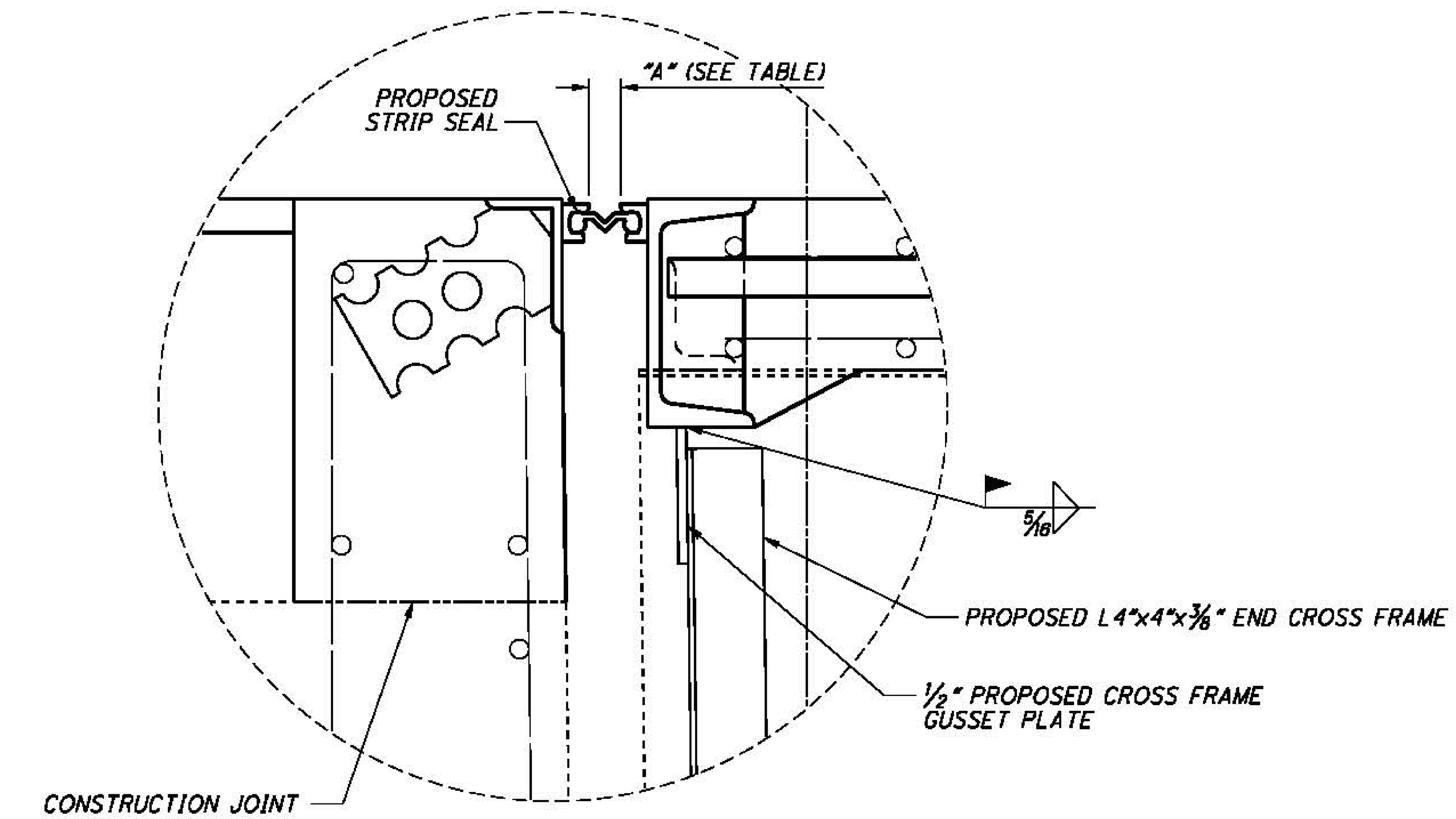


PART END CROSS FRAME ELEVATION

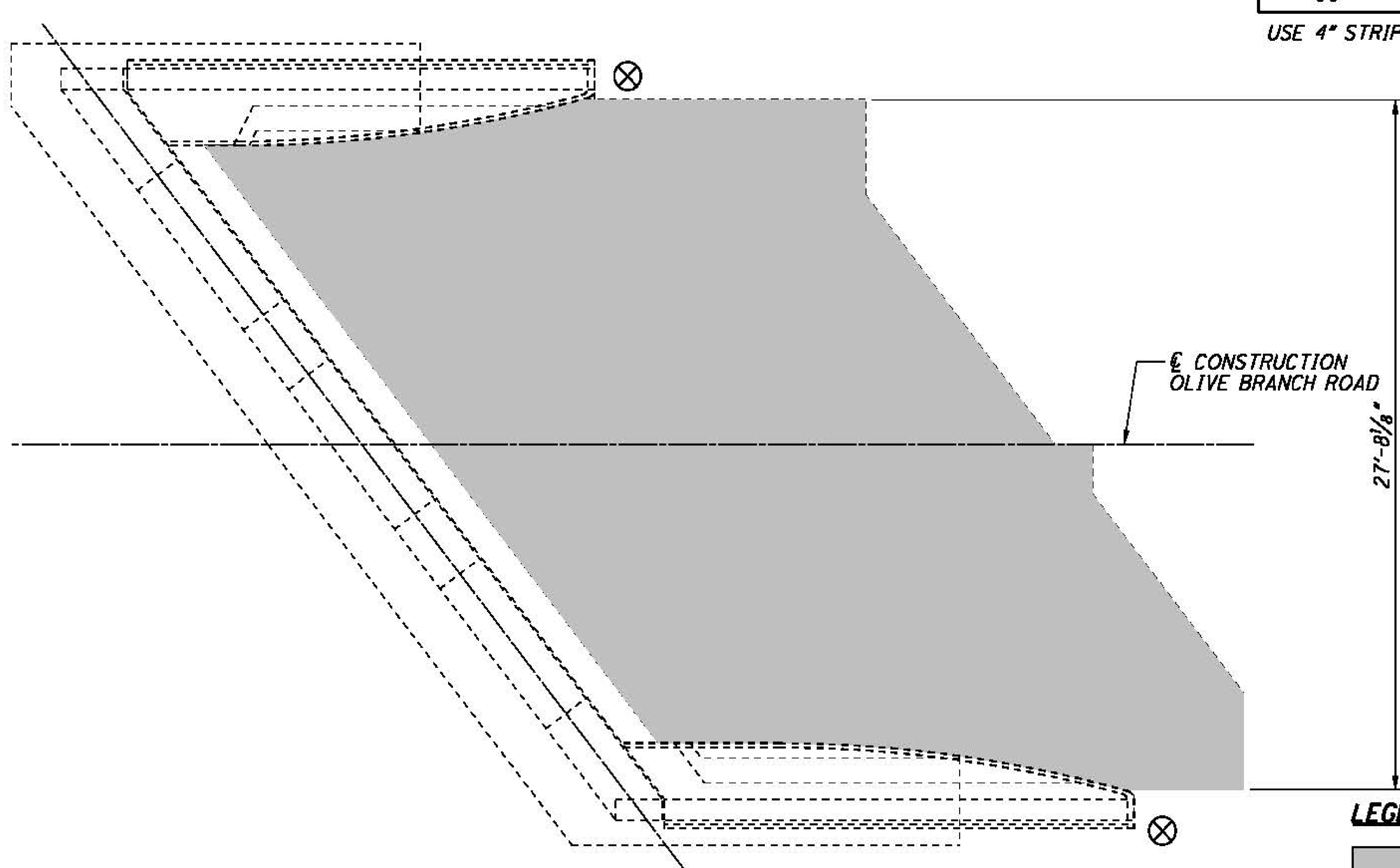
(TYPICAL AT REAR AND FORWARD ABUTMENTS)

AMBIENT TEMP °F	DIMENSION "A"
30°	2.41"
40°	2.30"
50°	2.20"
60°	2.09"
70°	1.99"
80°	1.88"
90°	1.78"

USE 4" STRIP SEAL



DETAIL "A"



DETAIL "B" REAR & FORWARD APPROACH SLAB SUBGRADE REPAIR

SUMMARY OF LSM FILL VOLUMES		
LOCATION	QUANTITY (CY)	CONTRACTOR MEASURED
REAR ABUTMENT	15	
FORWARD ABUTMENT	10	
TOTAL	25	

LEGEND:

- ESTIMATED LIMITS OF LOW STRENGTH MORTAR

⊗ - SEE NOTE 3

NOTES:

1. SEE ODOT STD. DWG. EXJ-4-87 FOR ADDITIONAL EXPANSION JOINT DETAILS.
2. SEE ODOT STD. DWG. GSD-1-96 FOR ADDITIONAL END CROSS FRAME DETAILS.
3. ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN: THIS WORK CONSISTS OF PLACING LOW STRENGTH MORTAR BACKFILL (LSM) UNDER THE REAR AND FORWARD APPROACH SLABS. FOUR POTENTIAL LOCATIONS WHERE ACCESS IS AVAILABLE TO PLACE LSM THAT WILL FLOW UNDER THE APPROACH SLABS ARE SHOWN IN DETAIL "B". ALL VISIBLE LSM PLACEMENT ACCESS LOCATIONS ARE TO BE FIELD VERIFIED. PROVIDE A RECOMMENDED LSM PLACEMENT MEANS AND METHODS PROCEDURE TO THE PROJECT ENGINEER FOR REVIEW. THE MEANS AND METHODS PROCEDURE IS TO INCLUDE A PROCESS THAT PROVIDES TWO FEET OF LSM HEAD ABOVE THE ELEVATION OF THE APPROACH SLAB. CONSIDER USING SAND BAGS OR A WOODEN BOX TO CONSTRUCT THE HEIGHT OF THE LSM DELIVERY TUB/FUNNEL USED TO HOLD THE LSM PRIOR TO THE LSM BEING FORCED TO FLOW UNDER THE APPROACH SLAB WHILE THE LSM MATERIAL HAS TWO FEET OF PRESSURE HEAD. PRIOR TO PLACING THE LSM, SEAL THE ABUTMENT WEEP HOLES. PRIOR TO PLACING THE LSM ALSO SEAL ALL POTENTIAL LSM EXIT POINTS AROUND THE PERIMETER OF THE APPROACH SLABS WITH SAND BAGS. REMOVE THE WEEP HOLE SEALS AND THE SAND BAG SEALS AFTER THE LSM HAS REACHED AN INITIAL SET. THE DEPARTMENT WILL PAY FOR THE ACCEPTED CUBIC YARD UNIT QUANTITY OF LOW STRENGTH MORTAR BACKFILL, AS PER PLAN. INCLUDED IN THIS PAYMENT IS ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.

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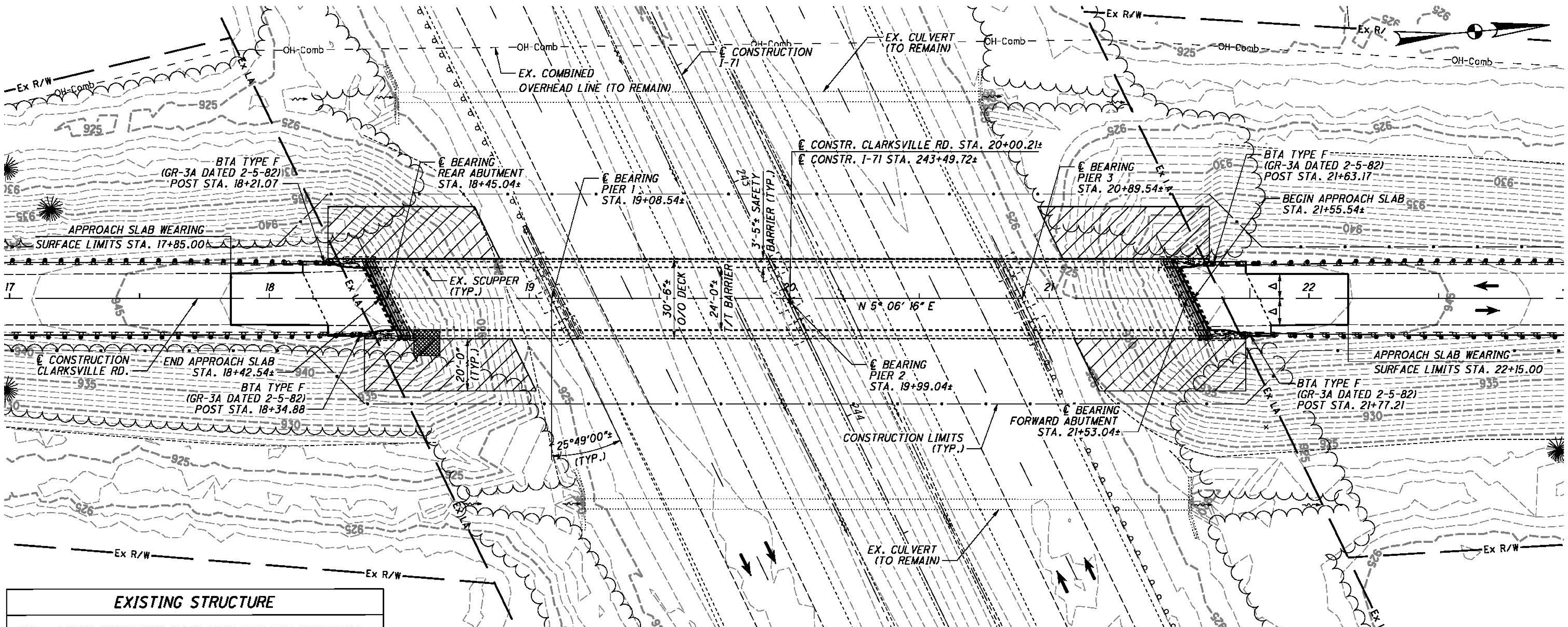
EXPANSION JOINT DETAILS
BRIDGE NO. WAR-71-1736
I-71 UNDER OLIVE BRANCH RD.

WAR-71-16.81
PID No. 91727



GENERAL PLAN

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH NON-COMPOSITE REINFORCED CONCRETE DECK ON CAP AND COLUMN PIERS AND STUB ABUTMENTS

SPANS: 63'-6"±, 90'-6"±, 90'-6"±, 63'-6"± C/C BEARINGS MEASURED ALONG ℄ CONSTRUCTION CLARKSVILLE RD.

ROADWAY: 24'-0"± T/T SAFETY CURB, 2'-3"± SAFETY CURB

LOADING: CF 130 (57)

SKEW: 25°-49'-00"± R.F.

APPROACH SLABS: 25'-0"± LONG

ALIGNMENT: TANGENT

CROWN: 3/16"/FT±

WEARING SURFACE: 3/4" MWS W/ 1 1/4" EPOXY OVERLAY

STRUCTURAL FILE NUMBER: 8302464

DATE BUILT: 1964

DISPOSITION: EXPANSION JOINTS AND ABUTMENT BEARINGS TO BE REPLACED; MINOR REHABILITATION

COORDINATES: LATITUDE: N 39°26'53"
LONGITUDE: W 84°01'34"

BENCHMARK DATA

BM #1 STA. 13+18.12,	ELEV. 932.84,	OFFSET 14.43' RT,
BM #2 STA. 18+22.96,	ELEV. 947.55,	OFFSET 14.18' LT,
BM #3 STA. 21+75.12,	ELEV. 947.45,	OFFSET 14.11' RT,
BM #4 STA. 27+23.59,	ELEV. 926.51,	OFFSET 14.07' RT,

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

PROPOSED WORK:

1. TEMPORARILY SUPPORT THE BRIDGE AT THE REAR AND FORWARD ABUTMENTS.
2. REMOVE BACKWALL TO APPROACH SLAB SEAT, PORTIONS OF ABUTMENT BARRIER, 3' OF EXISTING REINFORCED CONCRETE DECK, PORTIONS OF EXISTING END CROSSFRAMES, AND ABUTMENT ROCKER BEARINGS.
3. REPLACE ABUTMENT ROCKER BEARINGS WITH ELASTOMERIC BEARING ASSEMBLY.
4. REMOVE TEMPORARY SUPPORTS.
5. TRIM BEAM ENDS, ATTACH PROPOSED END CROSSFRAME, AND EXPANSION JOINT ASSEMBLY.
6. FORM AND PLACE CONCRETE FOR PROPOSED TOP OF BACKWALL AND 3' OF DECK REUSING EXISTING REINFORCING STEEL.
7. REMOVE UNSOUND CONCRETE AND PATCH ON DECK WEARING SURFACE, ABUTMENTS, PIERS, AND PARAPETS. REPAIR PORTION OF VANDAL PROTECTION FENCE FABRIC REMOVED.
8. REMOVE EXISTING SEALER. SEAL PARAPETS, ABUTMENTS, AND PIERS WITH EPOXY URETHANE SEALER.
9. SEAL WEARING SURFACE USING HMWM SEALER.
10. PAINT STEEL SUPERSTRUCTURE.
11. REPAIR DRAINAGE INFILTRATION BETWEEN EXISTING APPROACH SLAB AND WINGWALL USING LOW STRENGTH MORTAR.
12. REPAIR SPILL THROUGH SLOPE EMBANKMENT.
13. REMOVE AND REPLACE 1.75" OF WEARING SURFACE OVER EXISTING APPROACH SLAB AND APPROACH ROADWAY WORK DETAILED IN ROADWAY PLANS.
14. REMOVE AND REPLACE APPROACH GUARDRAIL, END TERMINAL ASSEMBLIES, AND BRIDGE TERMINAL ASSEMBLIES. SEE ROADWAY PLANS FOR MORE DETAILS.
15. REMOVE ALL TREES AND VEGETATION WITHIN 20' OF STRUCTURE.

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. SEE ROADWAY PLANS FOR APPROACH SLAB WEARING SURFACE REPAIR.
3. PIER 2 BEARINGS FIXED. REMAINING BEARINGS ARE EXPANSION.

DESIGN TRAFFIC:
2018 ADT = 670 2018 ADTT = 10
2038 ADT = 3,390 2038 ADTT = 48
DIRECTIONAL DISTRIBUTION = 0.7

LEGEND:

- EXPANSION JOINT REPLACEMENT LIMITS
- VEGETATION TO BE REMOVED
- SLOPE REPAIR (10' x 10' AREA UNDER SCUPPER)

⊕ - BENCHMARK

Δ - FOR DETAILS, SEE ROADWAY PLANS

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WARREN COUNTY
STA. 18+42.54
STA. 21+55.54

GENERAL PLAN
BRIDGE NO. WAR-71-1996
I-71 UNDER CLARKSVILLE RD.

WAR-71-16.81
PID No. 91727

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

EXJ-4-87	REVISED	07/19/2002
GSD-1-96	REVISED	07/19/2002

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED	07/15/2016
847	DATED	07/15/2016

DESIGN SPECIFICATIONS:

ALL NEW COMPONENTS OF THIS STRUCTURE CONFORM TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

BEARING DESIGN LOADING:

DESIGN LOADING: HS20-44 ALTERNATE MILITARY LOAD (BEARINGS)
FUTURE WEARING SURFACE (FWS) OF 60 LBS/SF.

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60
MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50
YIELD STRENGTH 50 KSI
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:

HMWM RESIN SEALER

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

IF ANY ADDITIONAL INFORMATION IS REQUIRED, THE ORIGINAL CONSTRUCTION AND SUBSEQUENT REHABILITATION PLANS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT EIGHT OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO 45036.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC DETAILS, SEE ROADWAY PLANS.

UTILITY LINES:

THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF A PORTION OF CONCRETE DECKS PARAPETS, RAILINGS, DECK JOINTS, END CROSSFRAMES, PROTIONS OF EXISTING BACKWALL, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES [50 MM] OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL EXPOSED SURFACES OF PIERS, ABUTMENTS, AND PARAPETS SHALL BE SEALED AS SHOWN IN THE PLANS. THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR 17778 (LIGHT NEAUTRAL).

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE IN ACCORDANCE WITH 501.06, TO THE ENGINEER. PROVIDE THE ENGINEER "AS-BUILT" DRAWINGS ACCORDING TO 513.06, EXCEPT 501.04 DOES NOT APPLY. UPON RECEIPT OF THE ENGINEER'S ACCEPTANCE, SUPPLY A COPY OF THE DRAWINGS, ACCORDING TO SUPPLEMENT 1002, TO THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING (END CROSSFRAME) MEMBERS ARE INCLUDED IN THIS ITEM: L4 x 4 x 3/8" AND 1/2" GUSSET PLATES.

ITEM 514 - FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU:

EXISTING STEEL AREAS INDICATED IN THE PLANS SHALL BE CLEANED AND PAINTED WITH A PRIME, INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM OZEU. THE COLOR OF THE FINISH COAT SHALL BE FEDERAL COLOR #14277 "GREEN".

THE SURFACE AREA PAY QUANTITY SHALL BE BASED ON THE SURFACE AREA OF THE MAIN MEMBERS INCREASED BY 15% TO ACCOUNT FOR THE AREA OF END OR INTERMEDIATE CROSSFRAMES, BEARINGS, STIFFENERS AND OTHER STRUCTURAL STEEL INCIDENTALS TO BE CLEANED AND PAINTED.

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CJW		8302464	

GENERAL NOTES
BRIDGE NO. WAR-71-1996
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WAR-71-16.81
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ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PATCHING HAS BEEN ESTIMATED FOR THE PIERS AND ABUTMENTS. EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED AND MARKED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ABBREVIATIONS:

BRG. - BEARINGS
℄ - CENTERLINE
CONSTR. - CONSTRUCTION
EB - EAST BOUND
E.F. - EACH FACE
EX. - EXISTING
O/O - OUT TO OUT
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
RT. - RIGHT
SPA. - SPACE
STA. - STATION
TYP. - TYPICAL
T/T - TOE-TO-TOE

MADE BY: MRV DATE: 7/8/2016
CHECKED BY: DFT DATE: 7/10/2016

ESTIMATED QUANTITIES

STRUCTURE FILE NUMBER: 8302464

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENT	PIER	SUPER	GENERAL	AS PER PLAN SHEET NO.
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN				LS	2/13
509	20001	200	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	100		100		2/13
511	34444	7	CY	CLASS QC2 CONCRETE, BRIDGE DECK			7		
511	34448	5	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)			5		
511	44110	5	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	5				
512	10100	1188	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	123	220	845		2/13
512	10300	825	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			825		
512	74000	1122	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	104	204	814		
513	10201	1700	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN			1700		2/13
513	21001	1	EACH	TRIMMING OF BEAM END, AS PER PLAN			1		4/13
514	00050	14000	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			14000		
514	00056	14000	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			14000		
514	00060	14000	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14000		
514	00066	14000	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14000		
514	00504	21	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			21		
514	10000	12	EACH	FINAL INSPECTION REPAIR			12		
516	11210	68	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			68		
516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN				8	8/13
				(BEARING 13" X 18" X 4.335" AND LOAD PLATE 14" X 19" X 2")					
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	3/13
517	75501	46	FT	BRIDGE RAILING REBUILT, AS PER PLAN			46		12/13
519	11101	232	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	171	61			3/13
601	20000	12	SY	CRUSHED AGGREGATE SLOPE PROTECTION				12	
613	41201	53	CY	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN				53	13/13
847	10000	7	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY 1 1/4" THICK			7		
847	50000	7	SY	HAND CHIPPING			7		

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GENERAL NOTES & ESTIMATED QUANTITIES
BRIDGE NO. WAR-71-1996
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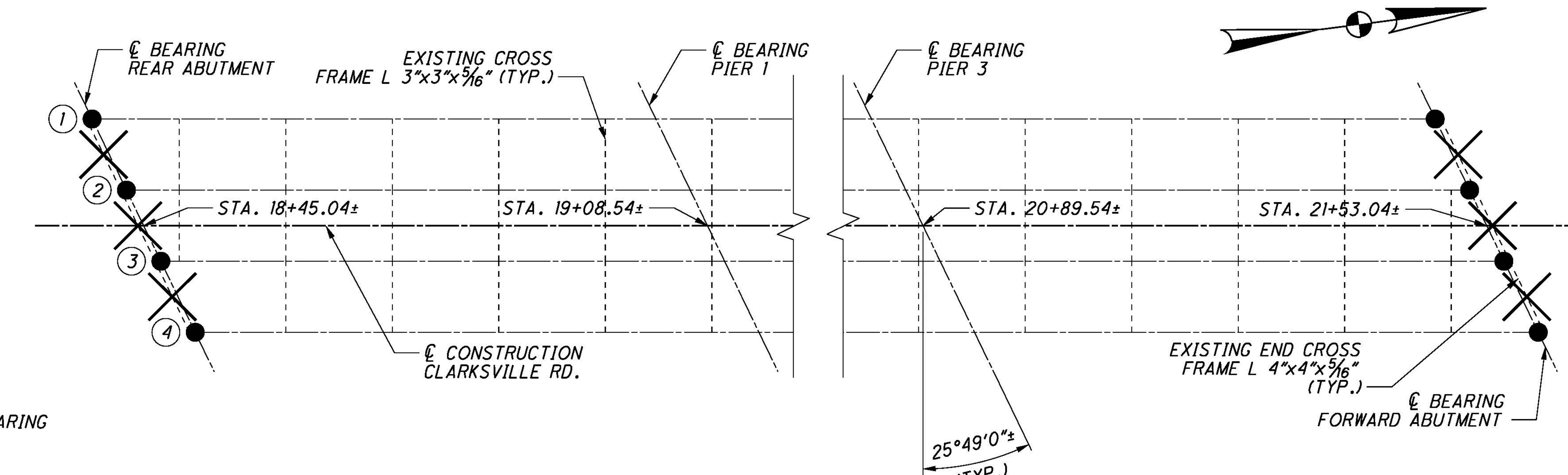
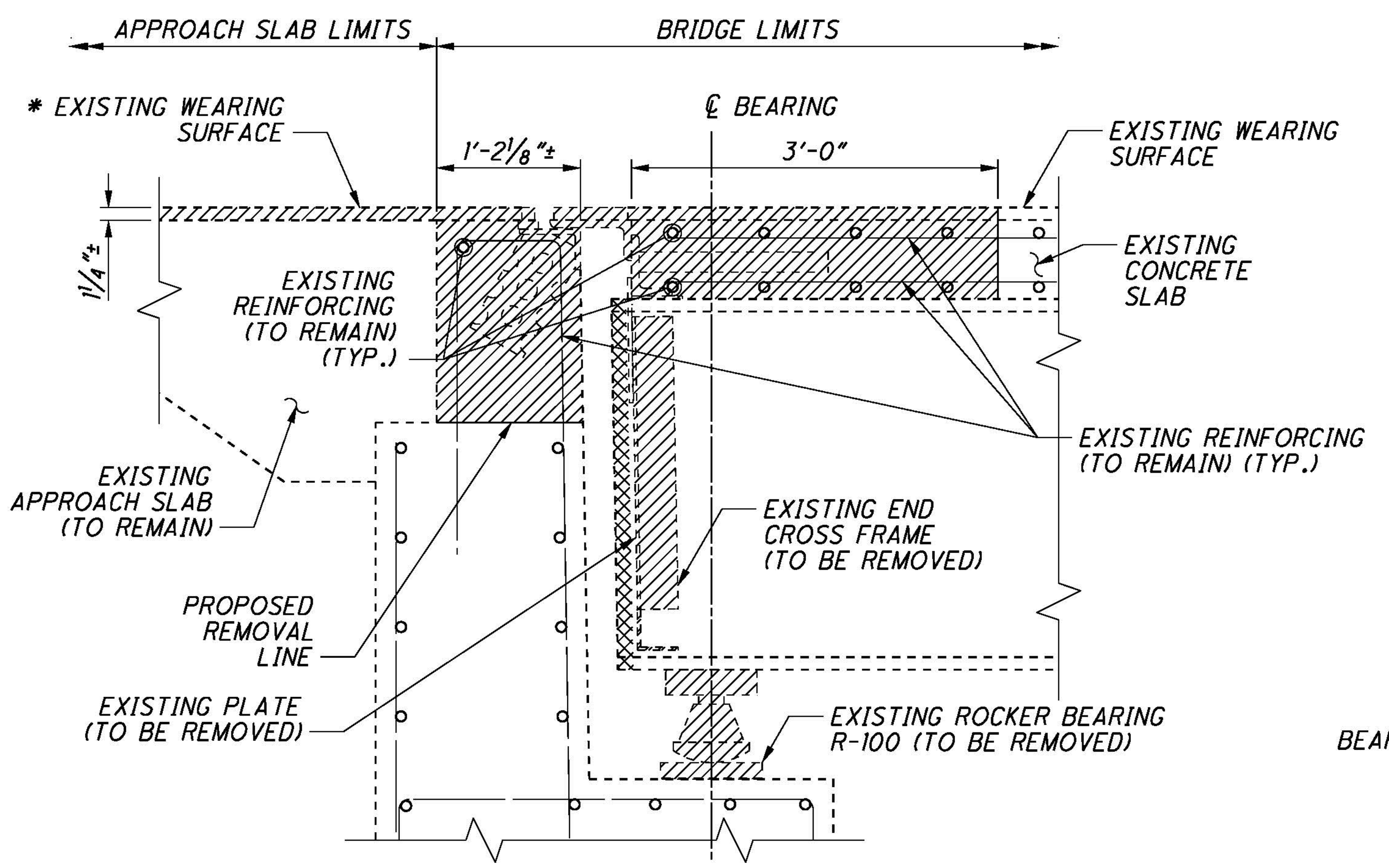
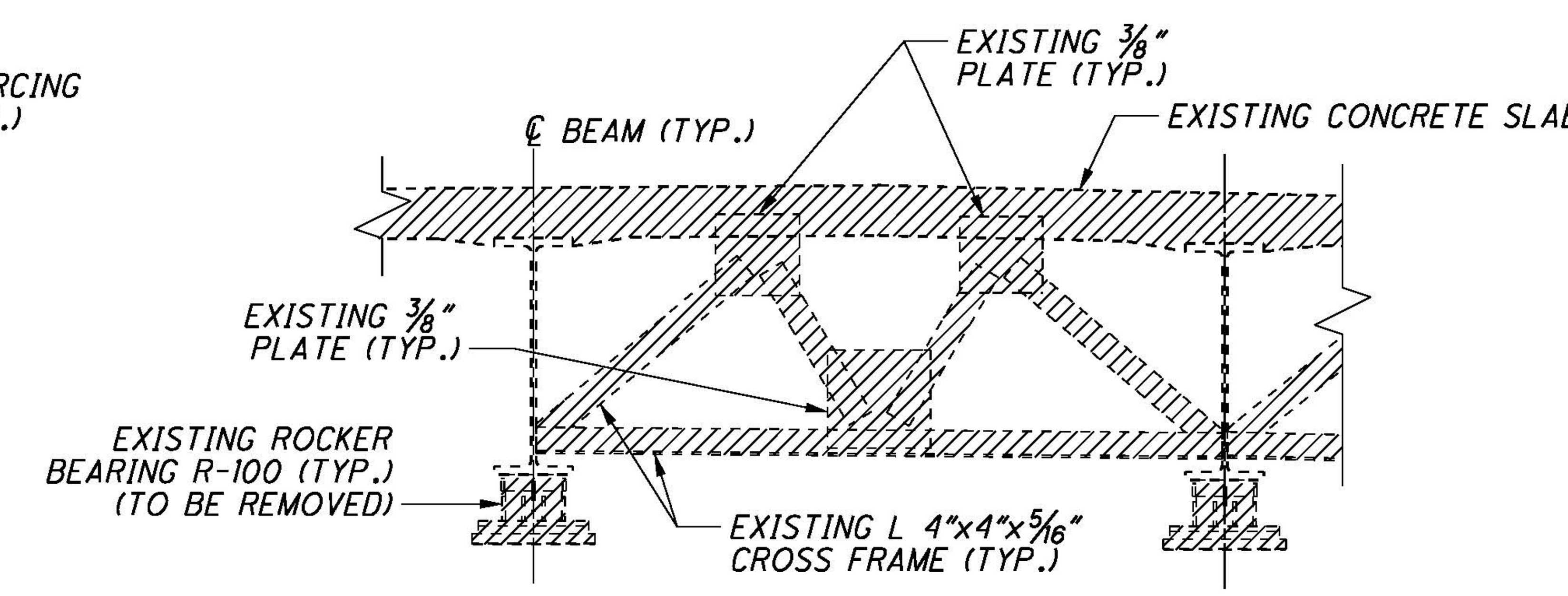


FRAMING PLAN

(SPANS 2 AND 3 NOT SHOWN FOR CLARITY)



TYPICAL REMOVAL DETAILS

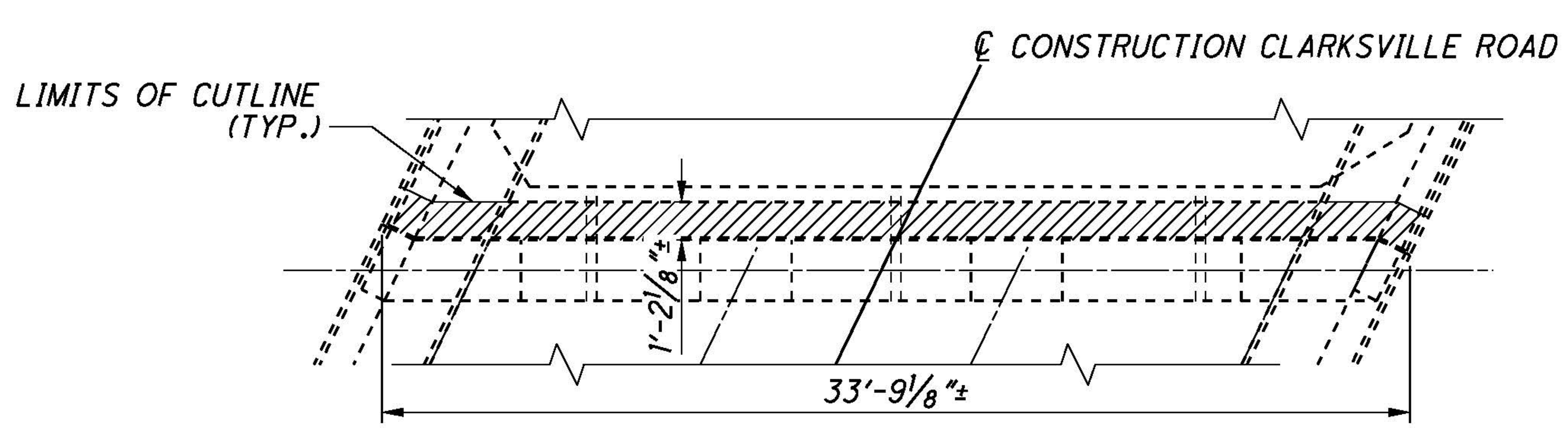


TYPICAL END CROSS FRAME REMOVAL ELEVATION

LEGEND:

- INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED.
- AREA OF BEAM ENDS TO BE TRIMMED PER ITEM 513.
- END CROSS FRAME TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF SRUCTURE REMOVED, AS PER PLAN.
- (#) - BEAM DESIGNATION
- BEARING TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED

* - SEE ROADWAY PLANS FOR MORE INFORMATION



ABUTMENT BACKWALL REMOVAL PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

REAR ABUTMENT

BEAM	EXISTING OPENING	COMMENT	CONTRACTOR MEASUREMENT
1	1 15/16"	TRIM	
2	2 5/8 "	--	
3	2 3/8 "	--	
4	2 1/2 "	--	

FORWARD ABUTMENT

BEAM	EXISTING OPENING	COMMENT	CONTRACTOR MEASUREMENT
1	3 3/4 "	--	
2	3 1/4 "	--	
3	2 3/8 "	--	
4	3 1/4 "	--	

NOTES:

1. ITEM 513, TRIMMING OF BEAM ENDS, AS PER PLAN, SHALL BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER TO ENSURE PROPER CLEARANCE BETWEEN THE BEAM END AND THE ABUTMENT BACKWALL. BEAM ENDS SHALL BE TRIMMED AT LOCATIONS SHOWN IN THE TABLES WITH LESS THAN A TWO INCH CLEARANCE AT 60 DEGREES FAHRENHEIT. THESE MEASUREMENTS SHOULD BE FIELD VERIFIED BY THE CONTRACTOR. A QUANTITY OF THE TOTAL NUMBER OF BEAM ENDS TRTIMMED AT THE ABUTMENTS SHALL BE GIVEN WITH THE FINALY QUANTITY CONTIGENT UPON THE ENGINEER.

   THE EXISTING END PORTION OF THE BEAM SHALL BE CUT ALONG A LINE 2" PARALLEL TO THE ADJACENT BACKWALL USING A MECHANIZED FLAME CUTTING DEVICE WITH A CUTTING TORCH MOUNTED ON A TRAVELING CARRIAGE. THE TRAVELING CARRIAGE SHALL RIDE ON A TRACK THAT IS ATTACHED MAGNETICALLY TO THE MEMBER. CARE SHALL BE TAKEN NOT TO GOUGE OR OTHERWISE DAMAGE THE PORTION OF THE EXISTING STEEL BEAMS THAT ARE TO REMAIN. THE TRIMMED BEAM END SHALL BE IN SUCH A CONDITION THAT WILL ALLOW THE ADHERENCE OF PAINT TO THE ENTIRE TRIMMED SURFACE. ALL NEWLY EXPOSED STEEL SHALL BE PAINTED WITH OZEU SYSTEM.

   ALL LABOR, MATERIAL, AND INCIDENTALS SHALL BE INCLUDED UNDER ITEM 513, TRIMMING OF BEAM ENDS, AS PER PLAN.

2. BEAM END TRIMMING DIMENSIONS WERE MEASUREAD AT 72° F AND CALIBRATED BACK TO 60° F.

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REMOVAL DETAILS
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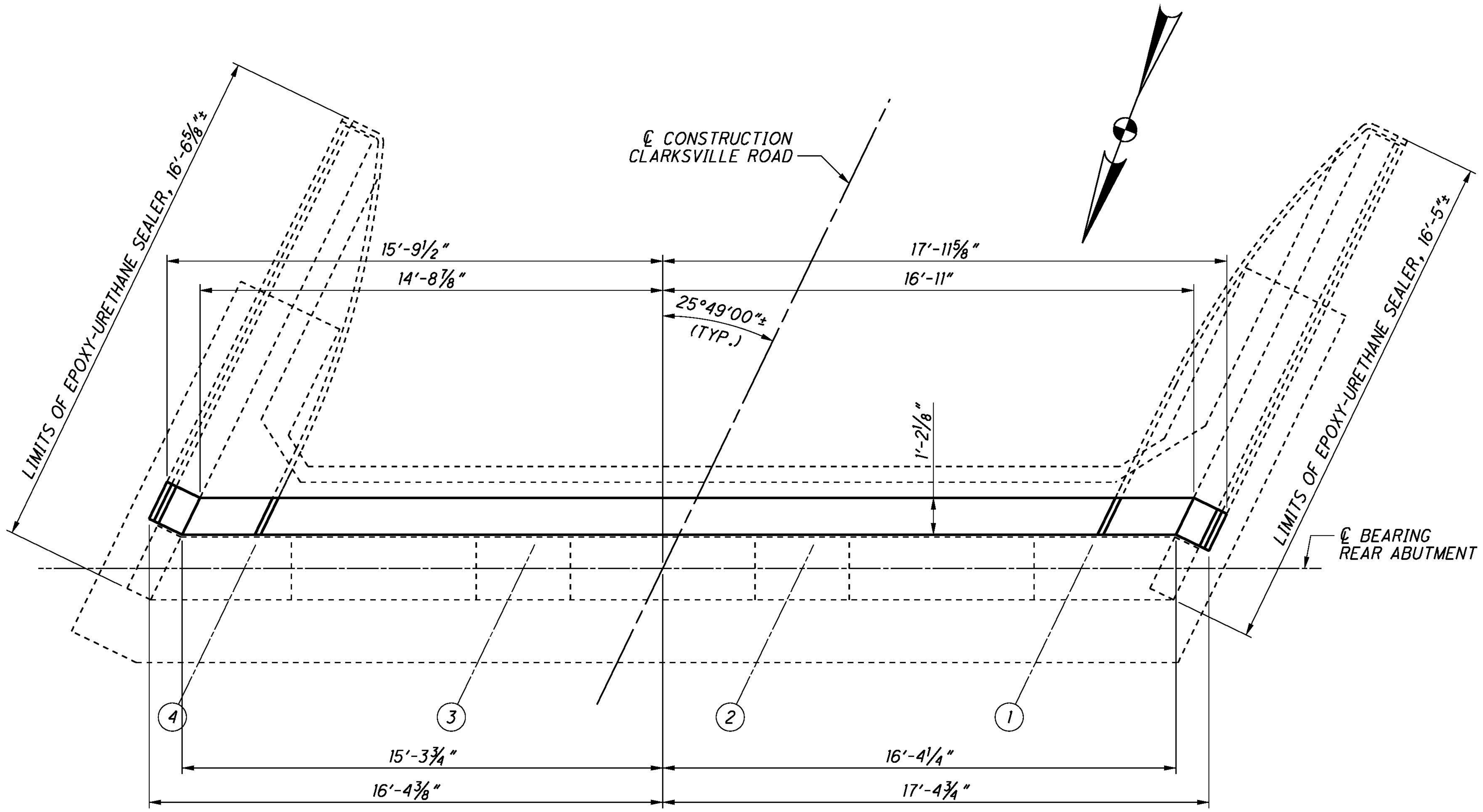
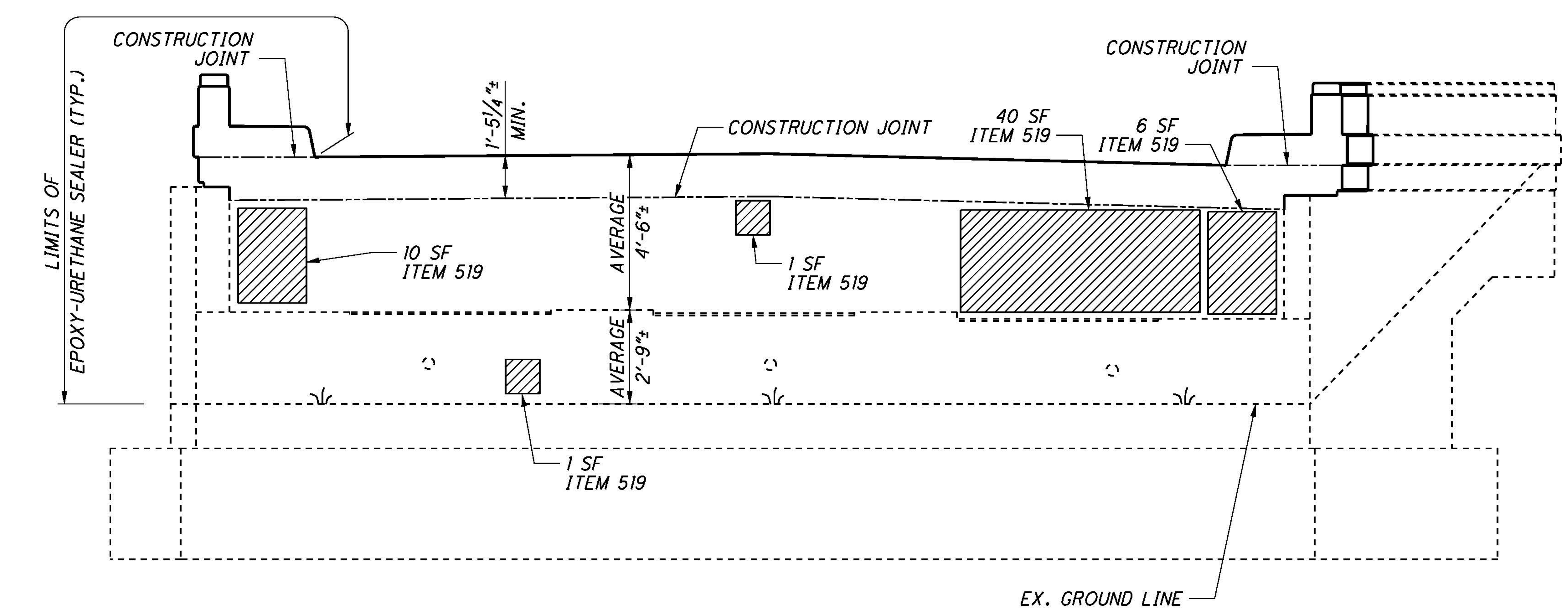
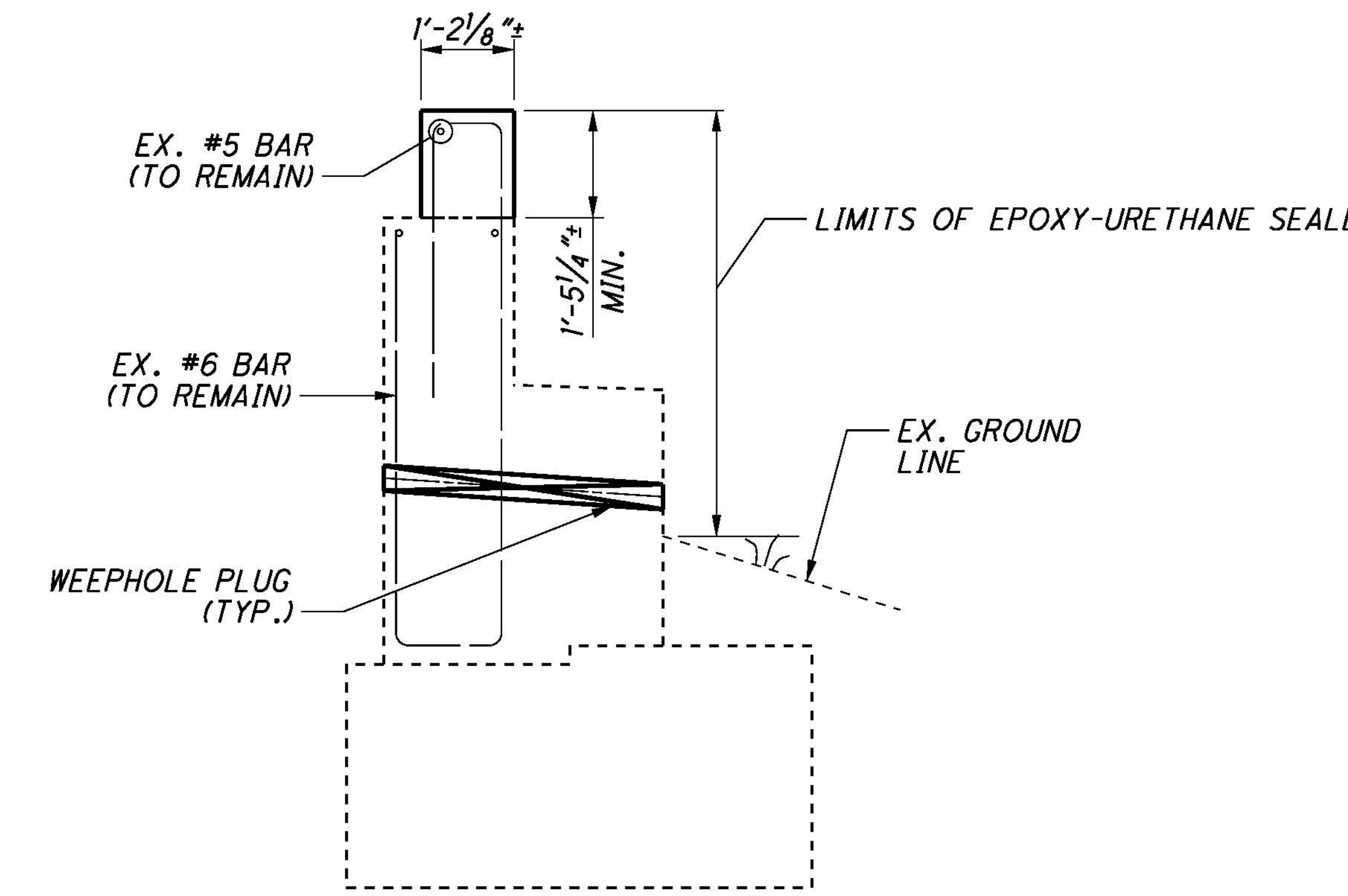


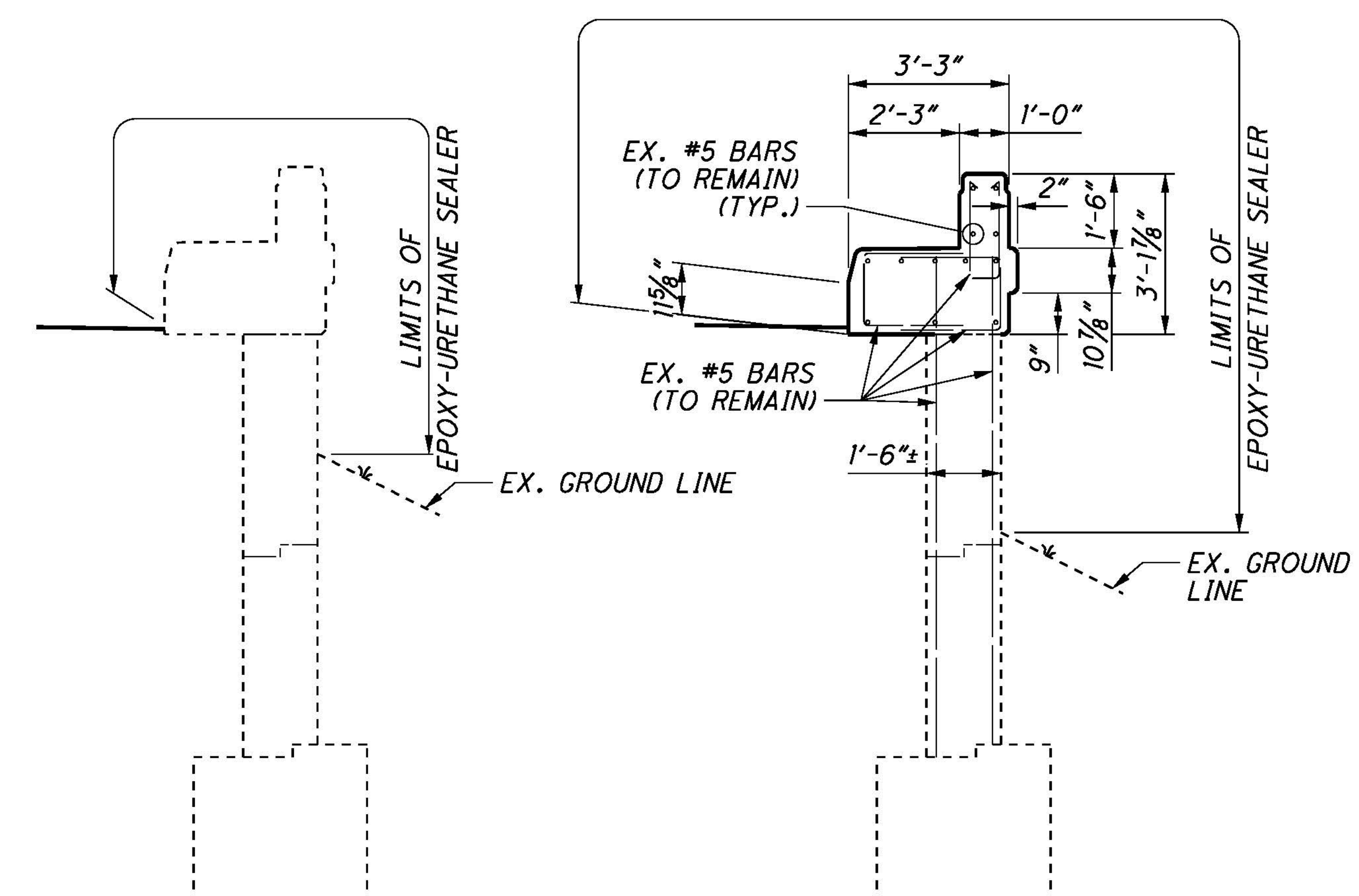
PLAN



ELEVATION



TYPICAL ABUTMENT SECTION



TYPICAL WINGWALL SECTIONS

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
REAR ABUTMENT	58
AS DIRECTED BY THE ENGINEER (20%)	12
TOTAL	70

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

(#) - BEAM DESIGNATION

NOTES:

1. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIEMSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
2. FOR ADDITIONAL DIMENSIONS, SEE ORIGINAL CONSTRUCTION PLANS.
3. PILING NOT SHOWN FOR CLARITY.

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REAR ABUTMENT DETAILS

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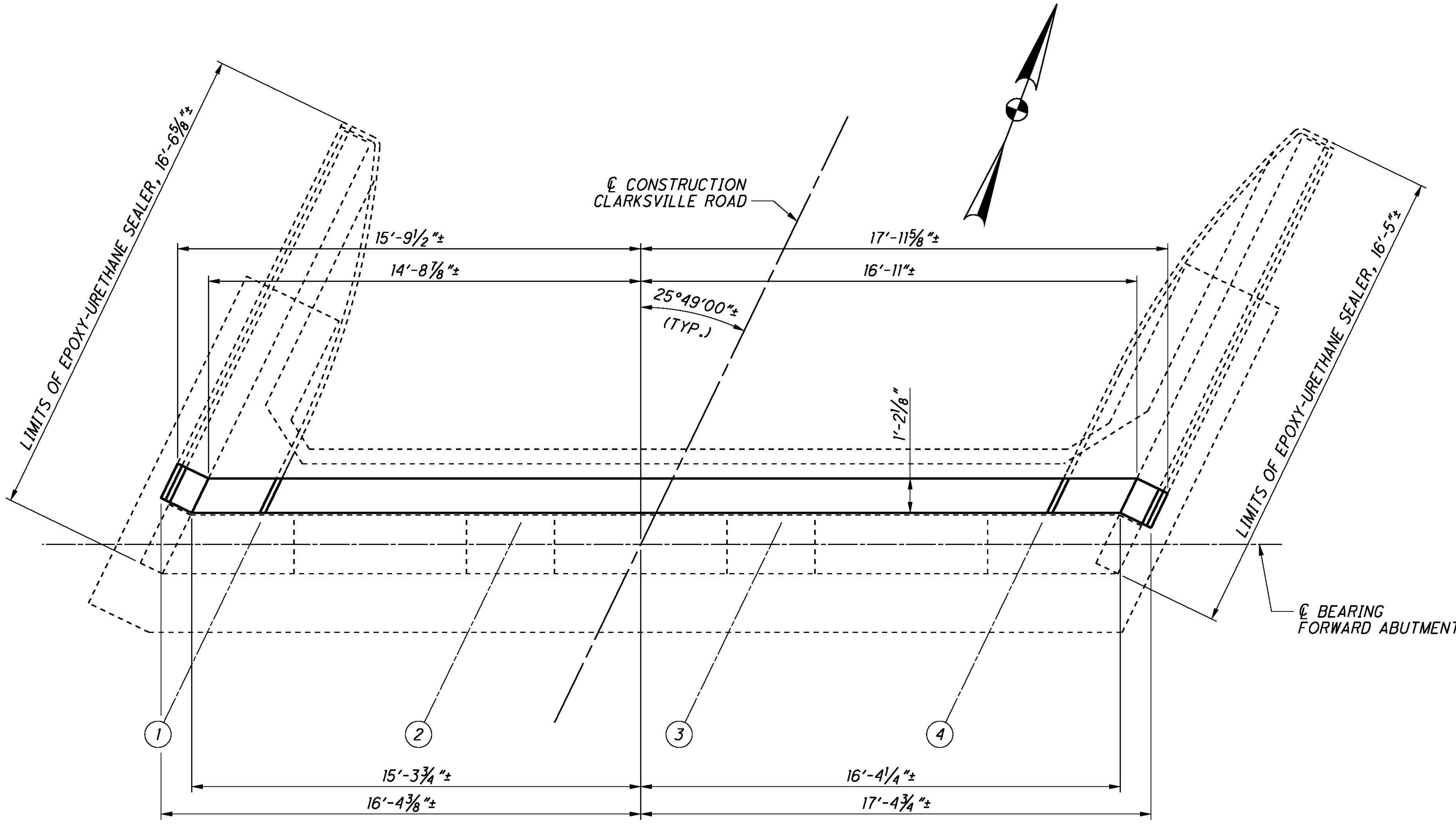
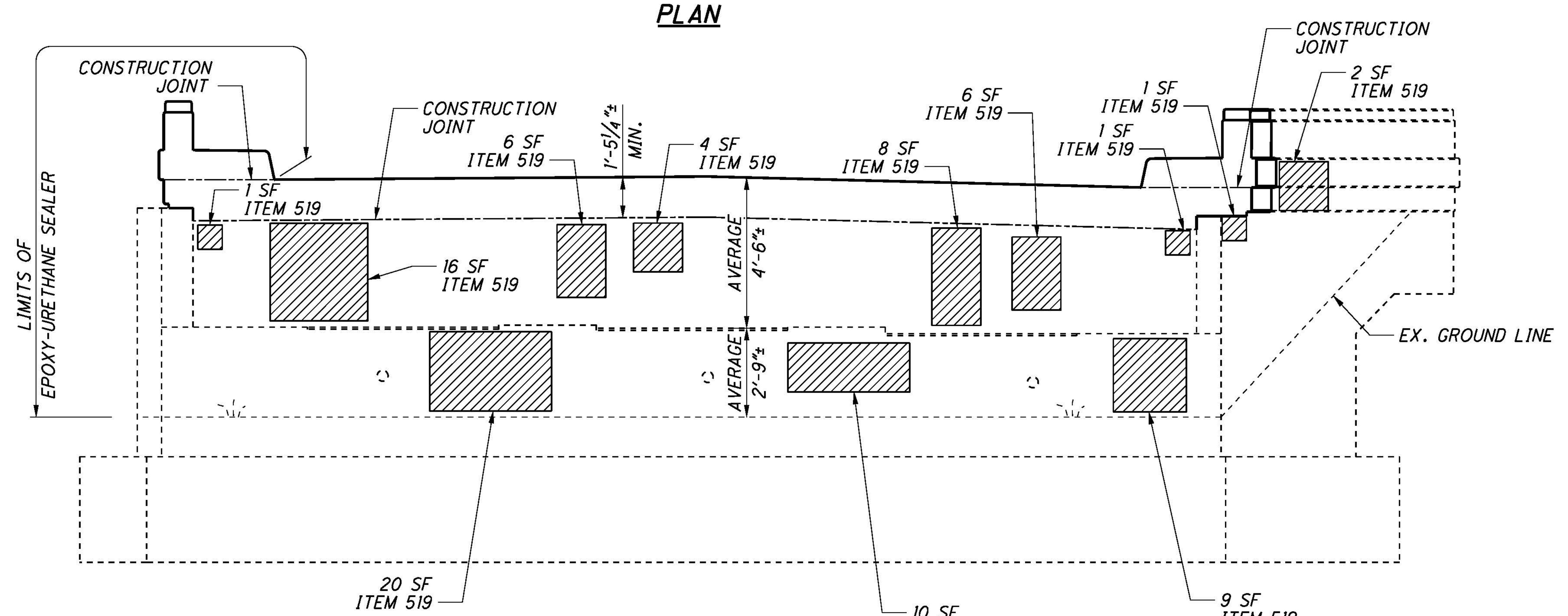


PLAN



ELEVATION

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
FORWARD ABUTMENT	84
AS DIRECTED BY THE ENGINEER (20%)	17
TOTAL	101

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

(#) - BEAM DESIGNATION

NOTES:

1. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIEMSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
2. FOR TYPICAL ABUTMENT AND WINGWALL SECTIONS, SEE SHEET 5/13 .
3. FOR ADDITIONAL DIMENSIONS, SEE ORIGINAL CONSTRUCTION PLANS.
4. PILING NOT SHOWN FOR CLARITY.

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FORWARD ABUTMENT DETAILS
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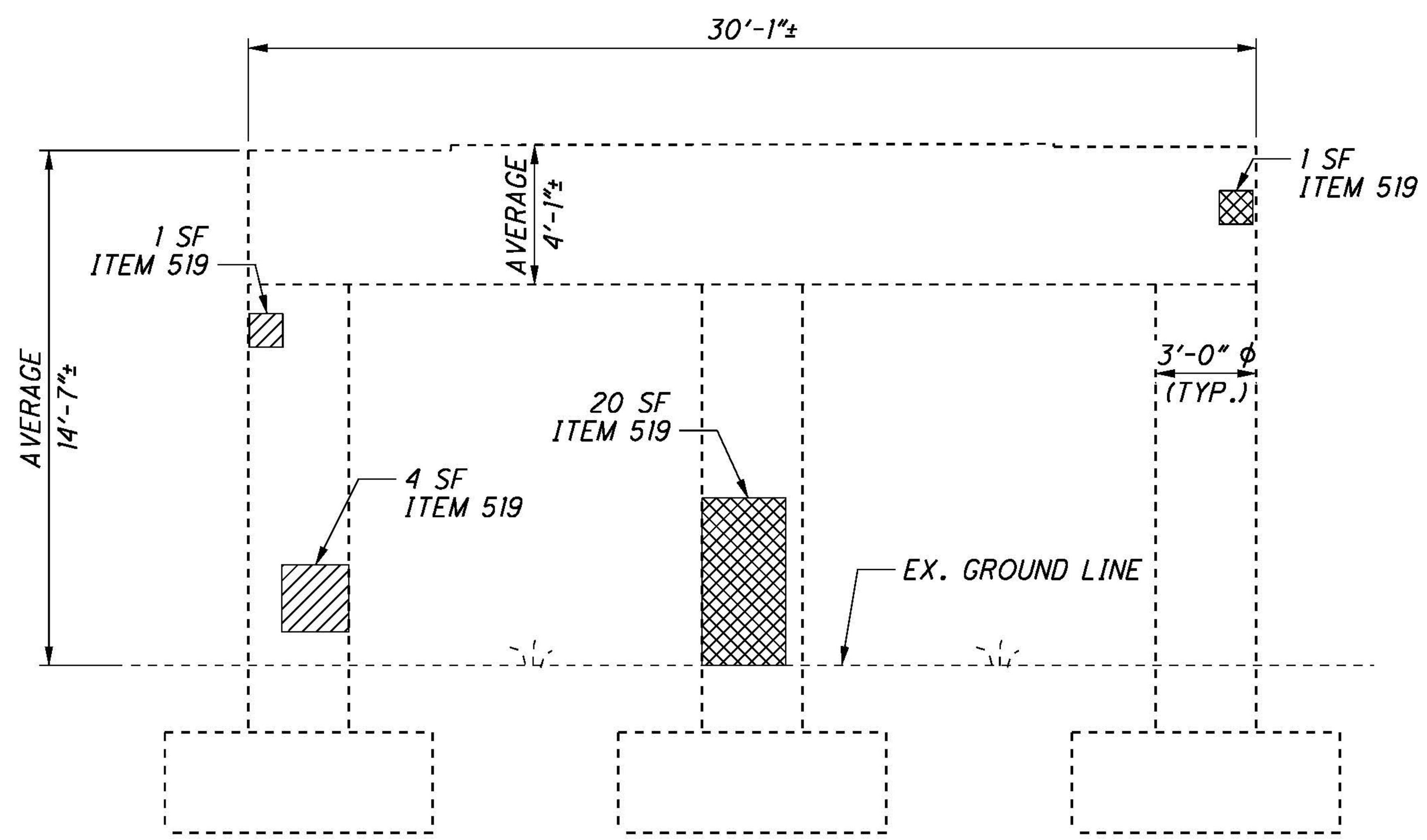
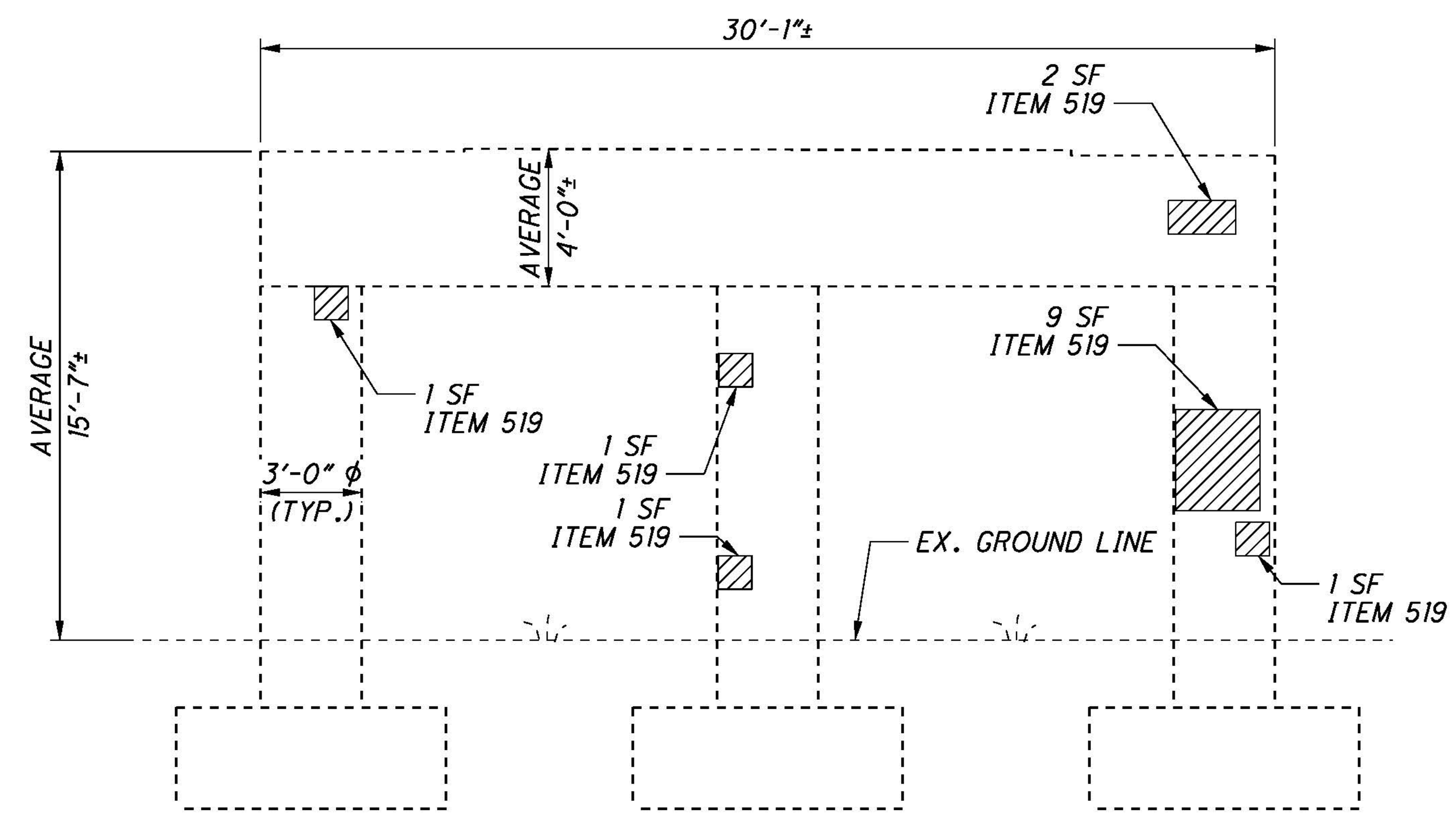
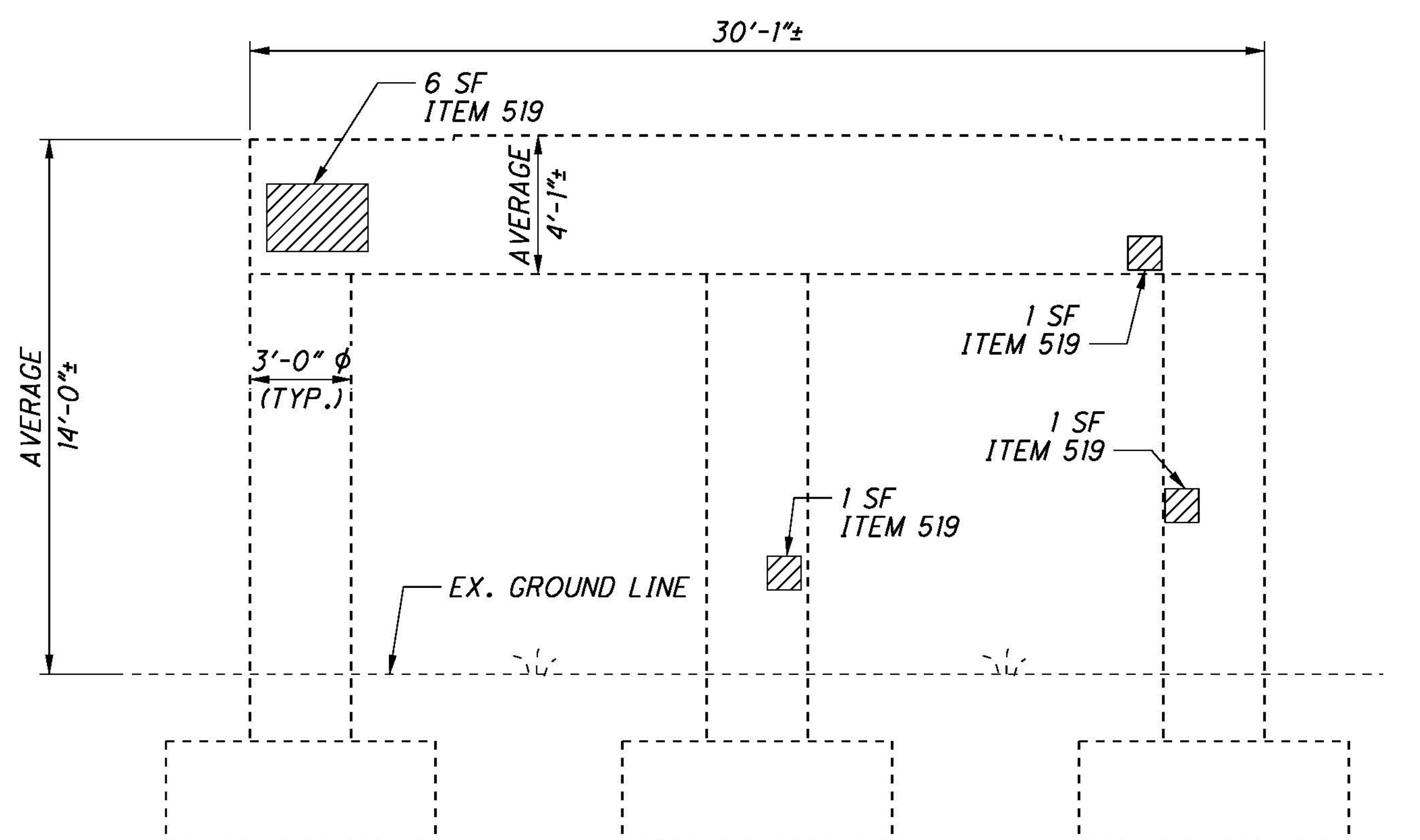


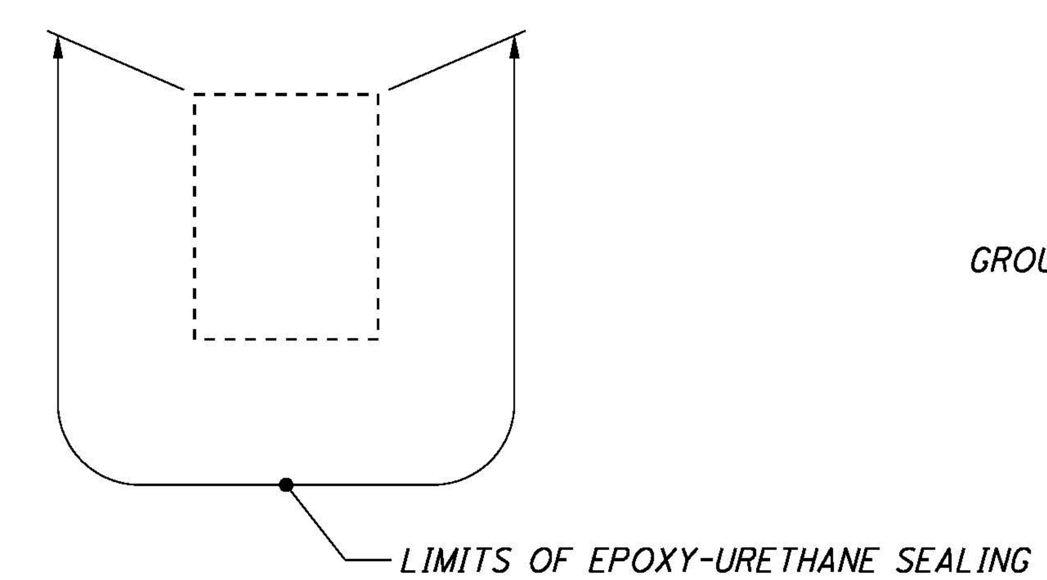
PIER 1 ELEVATION
(LOOKING UP STATION)



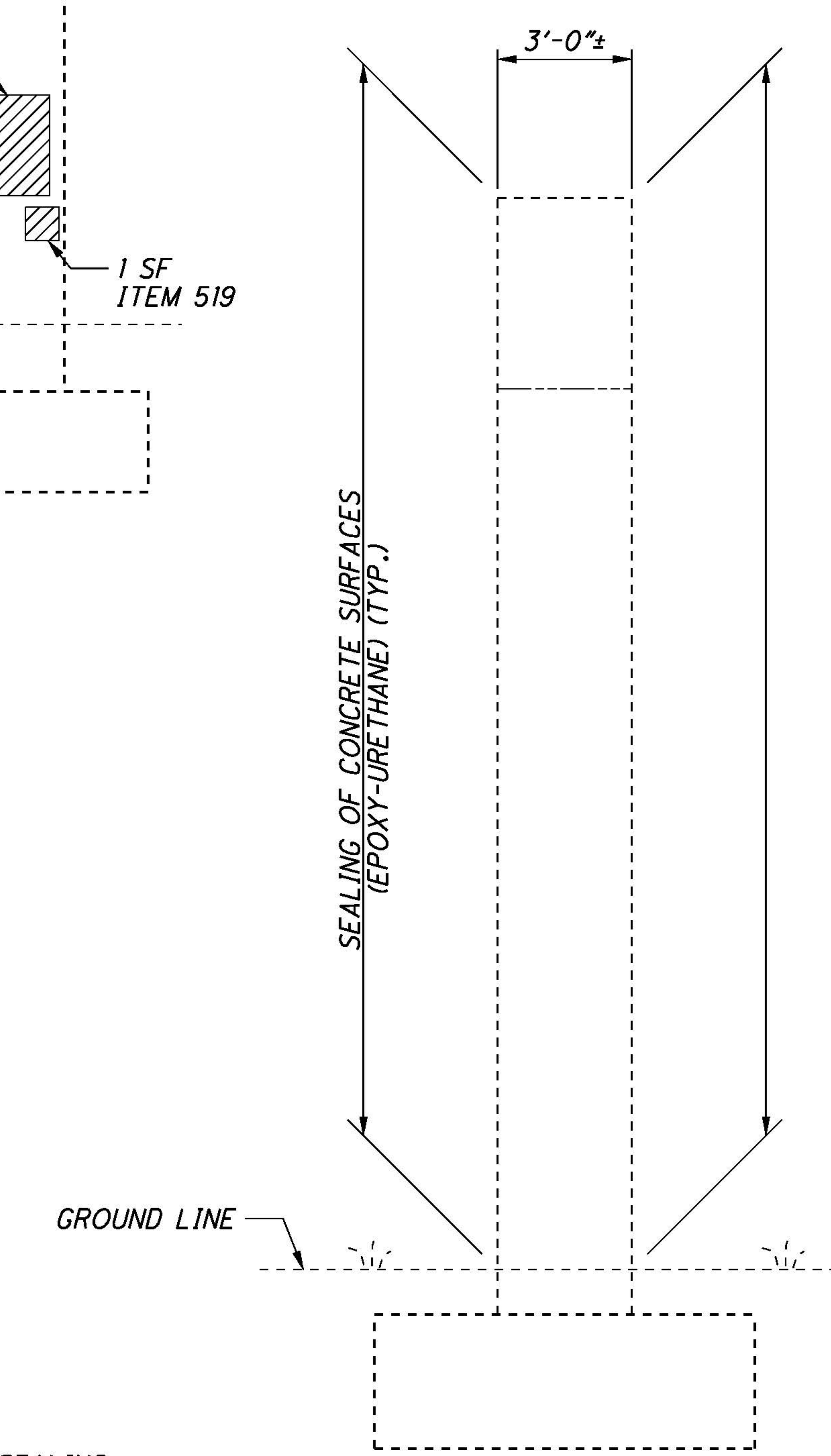
PIER 3 ELEVATION
(LOOKING UP STATION)



PIER 2 ELEVATION
(LOOKING UP STATION)



TYPICAL PIER CAP SEALING DETAIL



TYPICAL SECTION
(ROADWAY BARRIER NOT SHOWN FOR CLARITY)

SUMMARY OF PATCHING PIER 1	
LOCATION	QUANTITY (SQ. FT.)
PIER 1 (SOUTH)	5
PIER 1 (NORTH)	21
AS DIRECTED BY THE ENGINEER (20%)	6
TOTAL	32

SUMMARY OF PATCHING PIER 2	
LOCATION	QUANTITY (SQ. FT.)
PIER 2 (SOUTH)	9
PIER 2 (NORTH)	0
AS DIRECTED BY THE ENGINEER (20%)	2
TOTAL	11

SUMMARY OF PATCHING PIER 3	
LOCATION	QUANTITY (SQ. FT.)
PIER 3 (SOUTH)	15
PIER 3 (NORTH)	0
AS DIRECTED BY THE ENGINEER (20%)	3
TOTAL	18

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - SOUTH FACE
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - NORTH FACE

NOTES:

1. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDTIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
2. FOR ADDITIONAL DIMENSIONS, SEE ORIGINAL CONSTRUCTION PLANS.

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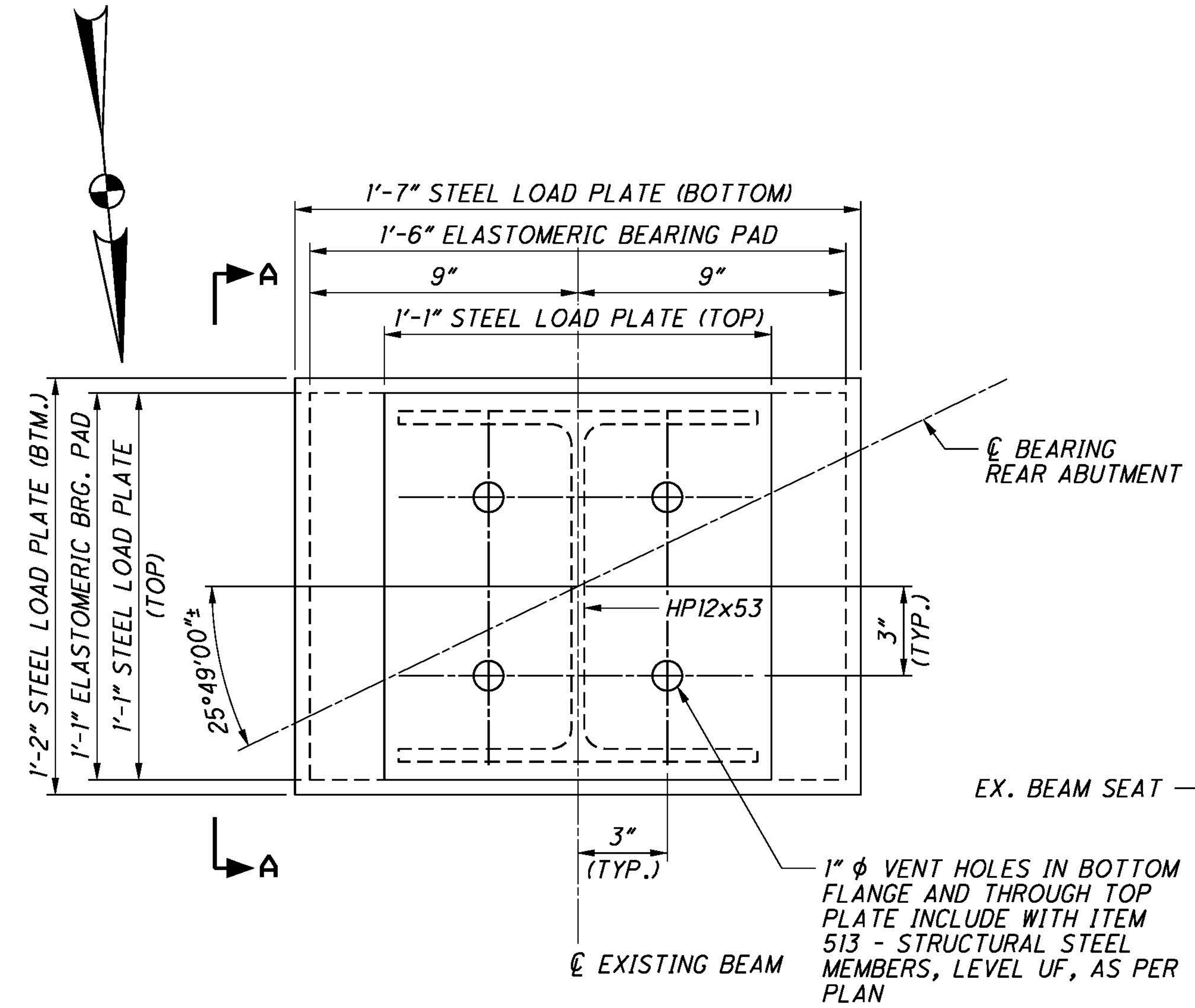
PIER DETAILS
BRIDGE NO. WAR-71-1996
I-71 UNDER CLARKSVILLE RD.

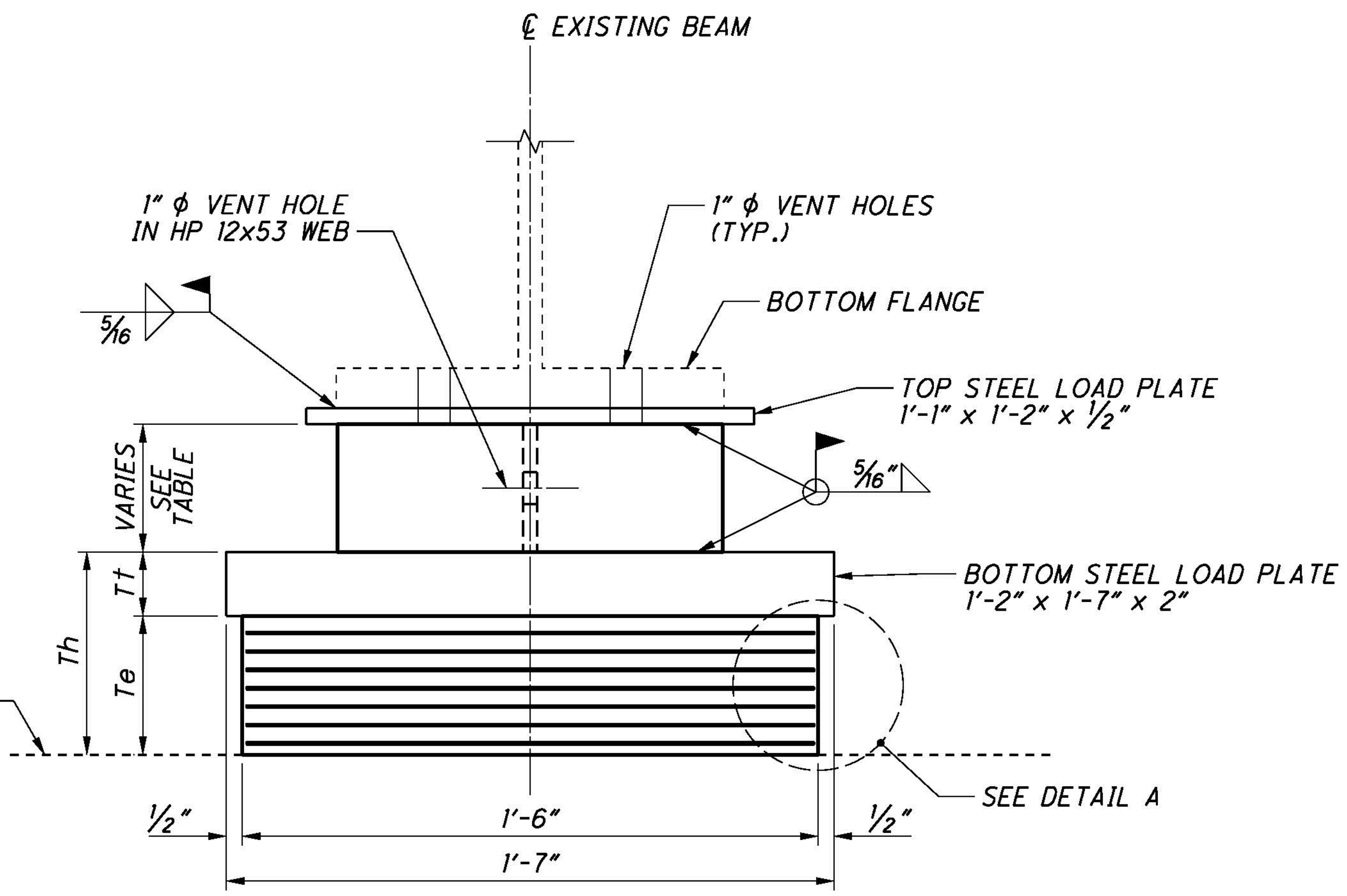
WAR-71-16.81
PID No. 91727

7/13

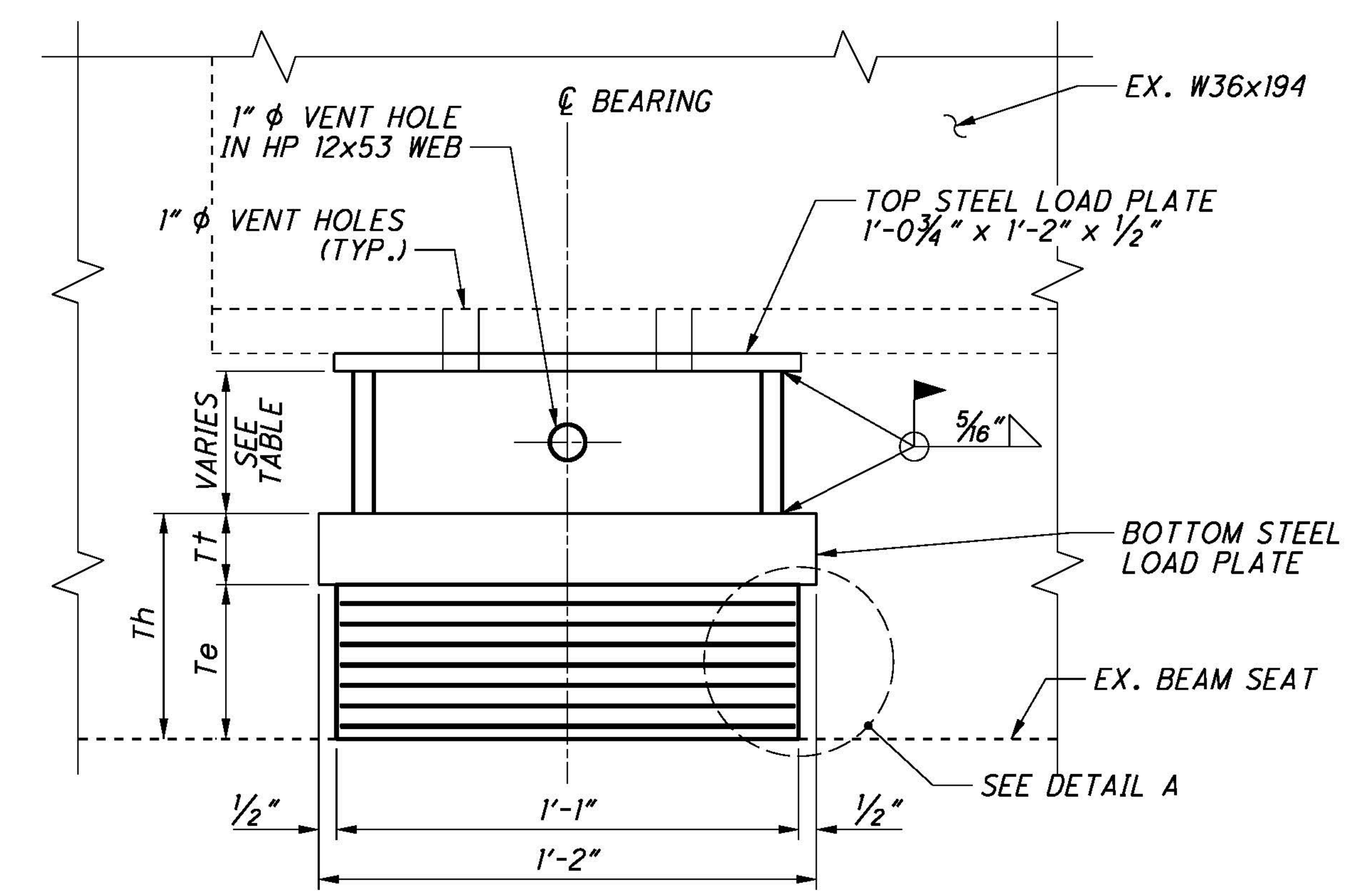


ABUTMENT BEARING PLAN

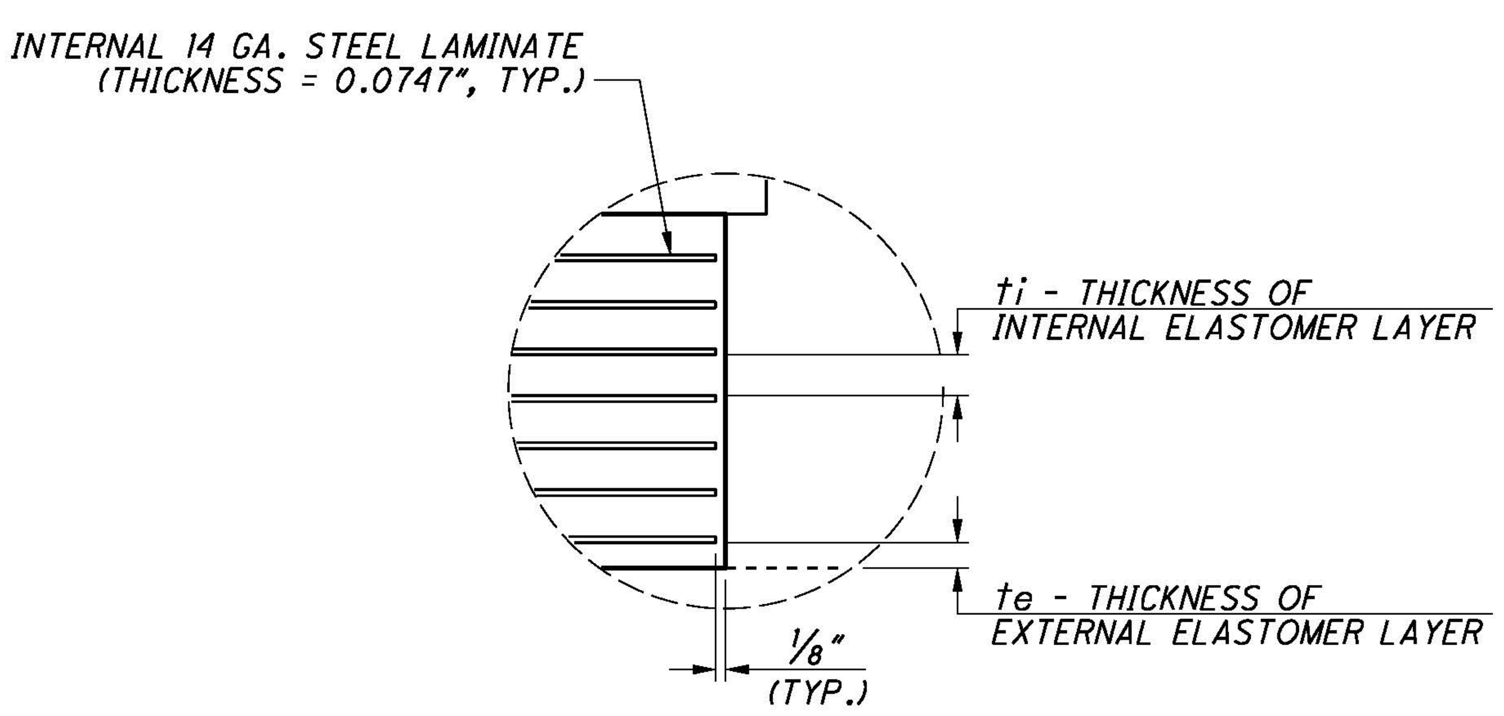
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



ABUTMENT BEARING ELEVATION

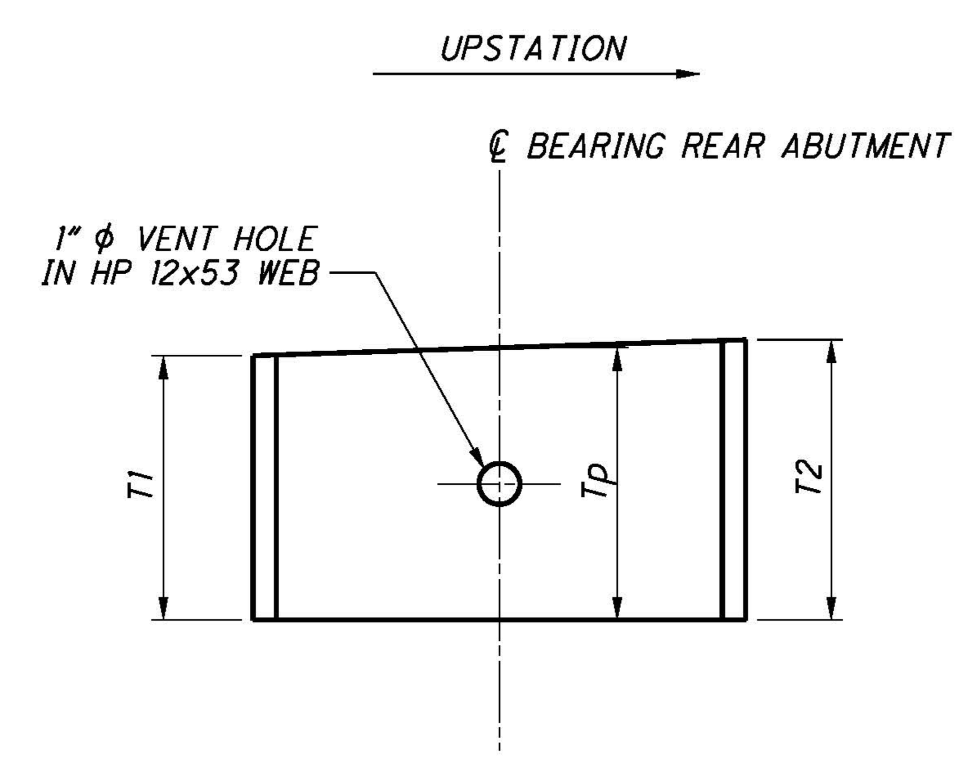


VIEW A-A



DETAIL A

(TYPICAL AT ALL BEAMS)



DETAIL B

(REAR H-PILE SHOWN, FORWARD OPPOSITE)

LEGEND:

Tp = H-PILE HEIGHT MEASURED AT THE CENTERLINE OF BEARING

APPROXIMATE H-PILE DIMENSIONS (IN.)						
BEAM	REAR ABUTMENT			FORWARD ABUTMENT		
	T1	Tp	T2	T1	Tp	T2
1	3 7/8"±	4"±	4 1/16"±	4 5/16"±	4 1/4"±	4 1/8"±
2	4 1/4"±	4 3/8"±	4 7/16"±	4 3/8"±	4 5/16"±	4 3/16"±
3	4 1/16"±	4 3/16"±	4 1/4"±	4 1/2"±	4 7/16"±	4 5/16"±
4	4"±	4 1/8"±	4 3/16"±	4 7/16"±	4 3/8"±	4 1/4"±

ELASTOMERIC BEARING DATA																
LOCATION	TYPE	NO. REQ'D.	DL (KIP)	LL W/O IMPACT (KIP)	MAX DESIGN LOAD (DL+LL)	L (IN.)	W (IN.)	ti (IN.)	te (IN.)	NO. OF ti's	NO. OF INTERNAL LAMINATES	Te (IN.)	STEEL LOAD PLATE X (IN.)	STEEL LOAD PLATE Y (IN.)	STEEL LOAD PLATE Tt (IN.)	Th (in.)
ABUTMENT	EXP.	8	86	49	135	13.0	18.0	0.500	0.313	7	7	4.335	14	19	2	6.335

NOTES:

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATES AND HP SHAPES SHALL BE ASTM A709 GRADE 50 STEEL AND PRIME PAINTED IN ACCORDANCE WITH ITEM 513.
3. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCEESS. CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
4. BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ⅛ OF THE BEARING HEIGHT AT 60°F ± 10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.
5. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE. IMPACT IS NOT INCLUDED.
6. BASIS OF PAYMENT: THE UNIT BID PRICE FOR ALL ABUTMENT BEARINGS SHALL INCLUDE THE TOP AND BOTTOM LOAD PLATE, HP SHAPE, AND ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
7. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BEAM SEAT AND BOTTOM OF BEAM ELEVATIONS LOCATED AT THE CENTERLINE OF ABUTMENT BEARING. THE CONTRACTOR SHALL USE THESE DIMENSIONS TO DETERMINE THE PROPOSED HEIGHT OF THE H-PILE (Tp). THE CONTRACTOR SHALL SUBMIT DIMENSIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE ENGINEER, PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO ORDER THE H-PILE SECTIONS LONGER THAN NEEDED AND TRIM THE SECTIONS IN THE FIELD TO FIT THE FIELD CONDITIONS.
8. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

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BEARING DETAILS
BRIDGE NO. WAR-71-1996
I-71 UNDER CLARKSVILLE RD.

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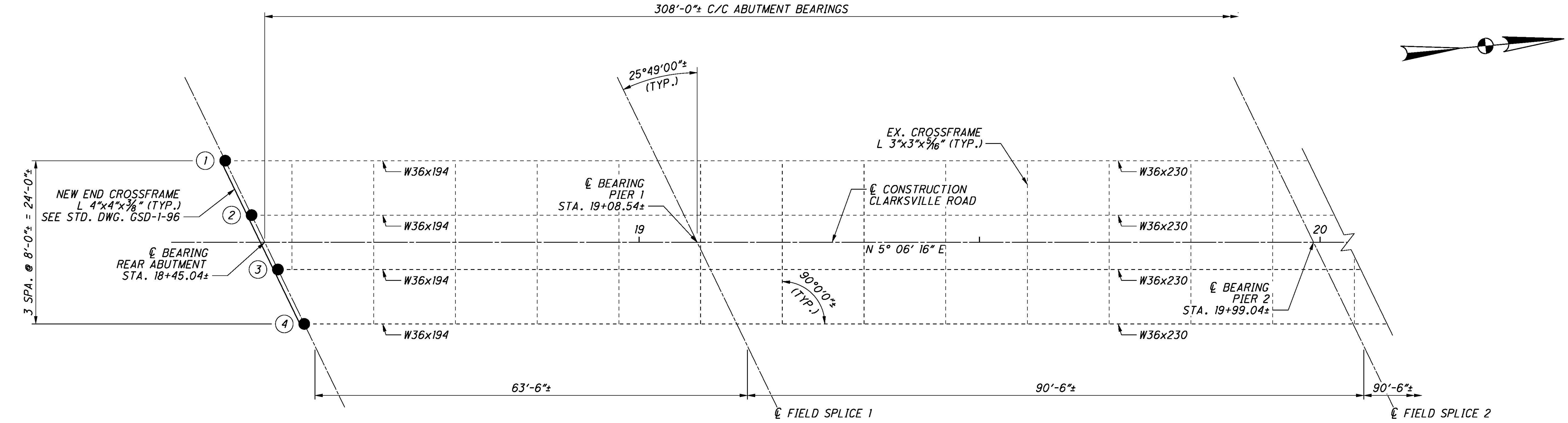
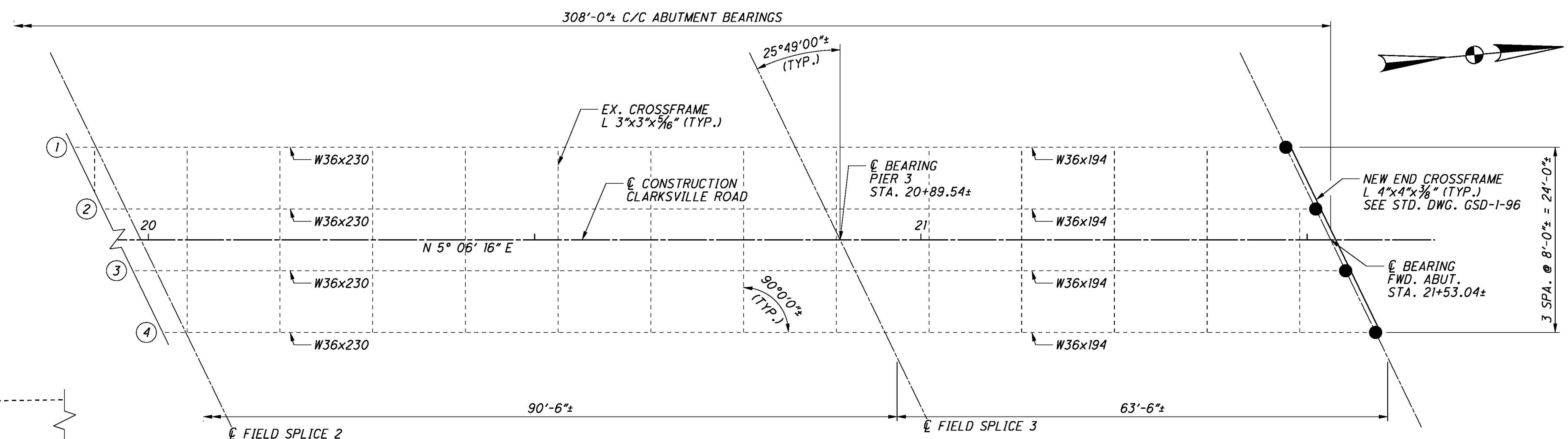
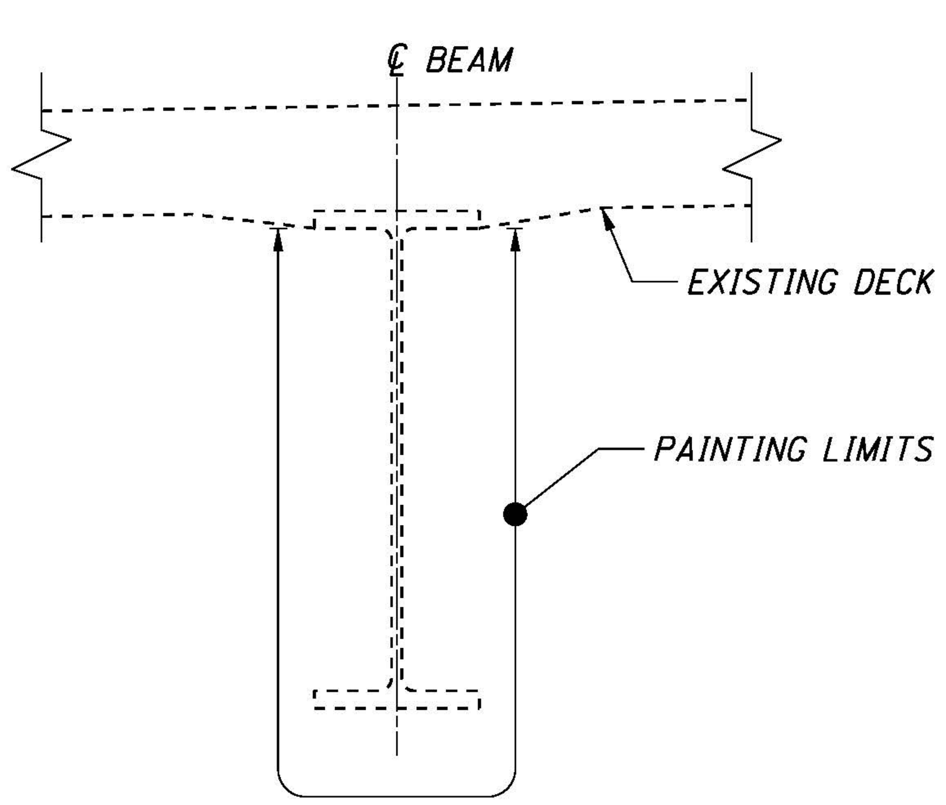


FRAMING PLAN



FRAMING PLAN



BEAM PAINTING LIMITS

LEGEND:

(#) - GIRDER DESIGNATION

● - BEARING TO BE REPLACED

NOTES:

1. FOR PAINT COLOR, SEE SHEET 2/13.
2. FOR TRANSVERSE SECTION, SEE SHEET 11/13.

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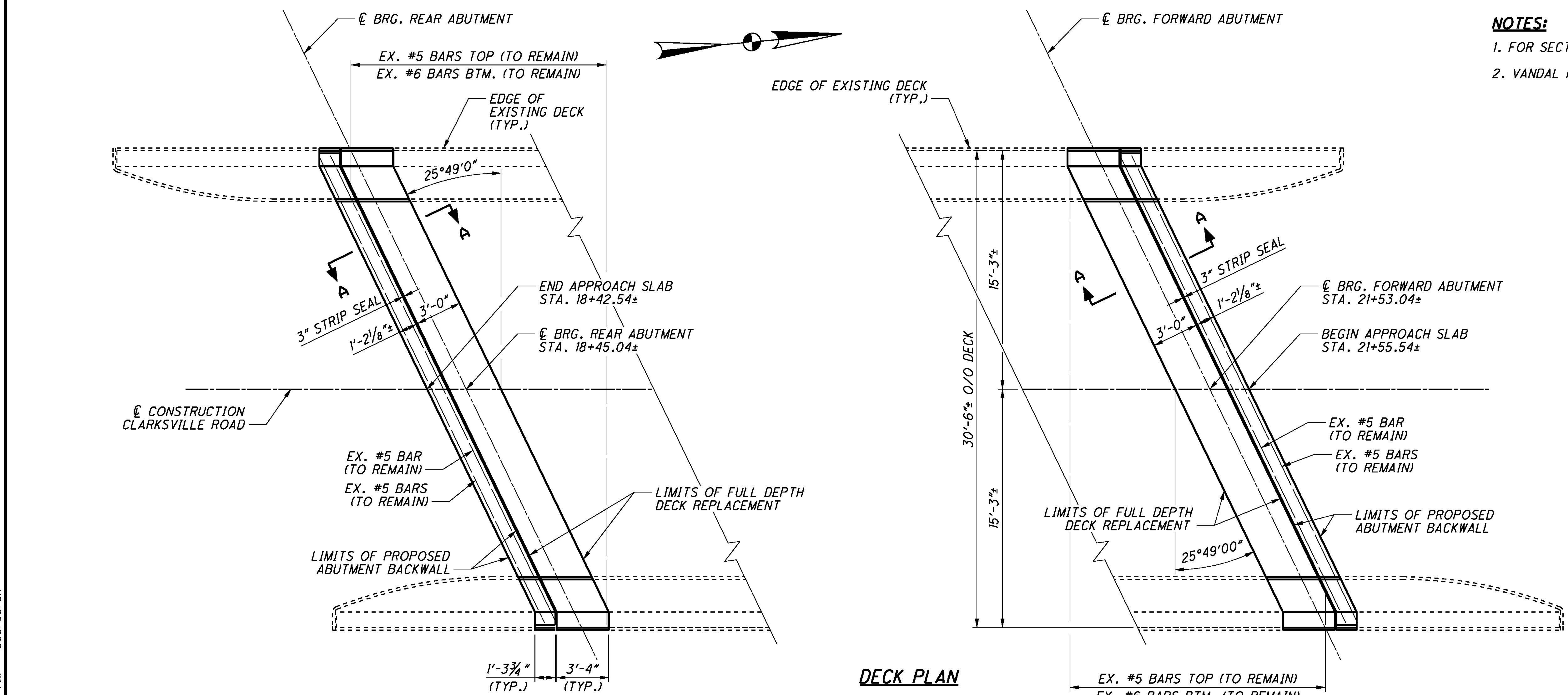
FRAMING PLAN
BRIDGE NO. WAR-71-1996
I-71 UNDER CLARKSVILLE RD.

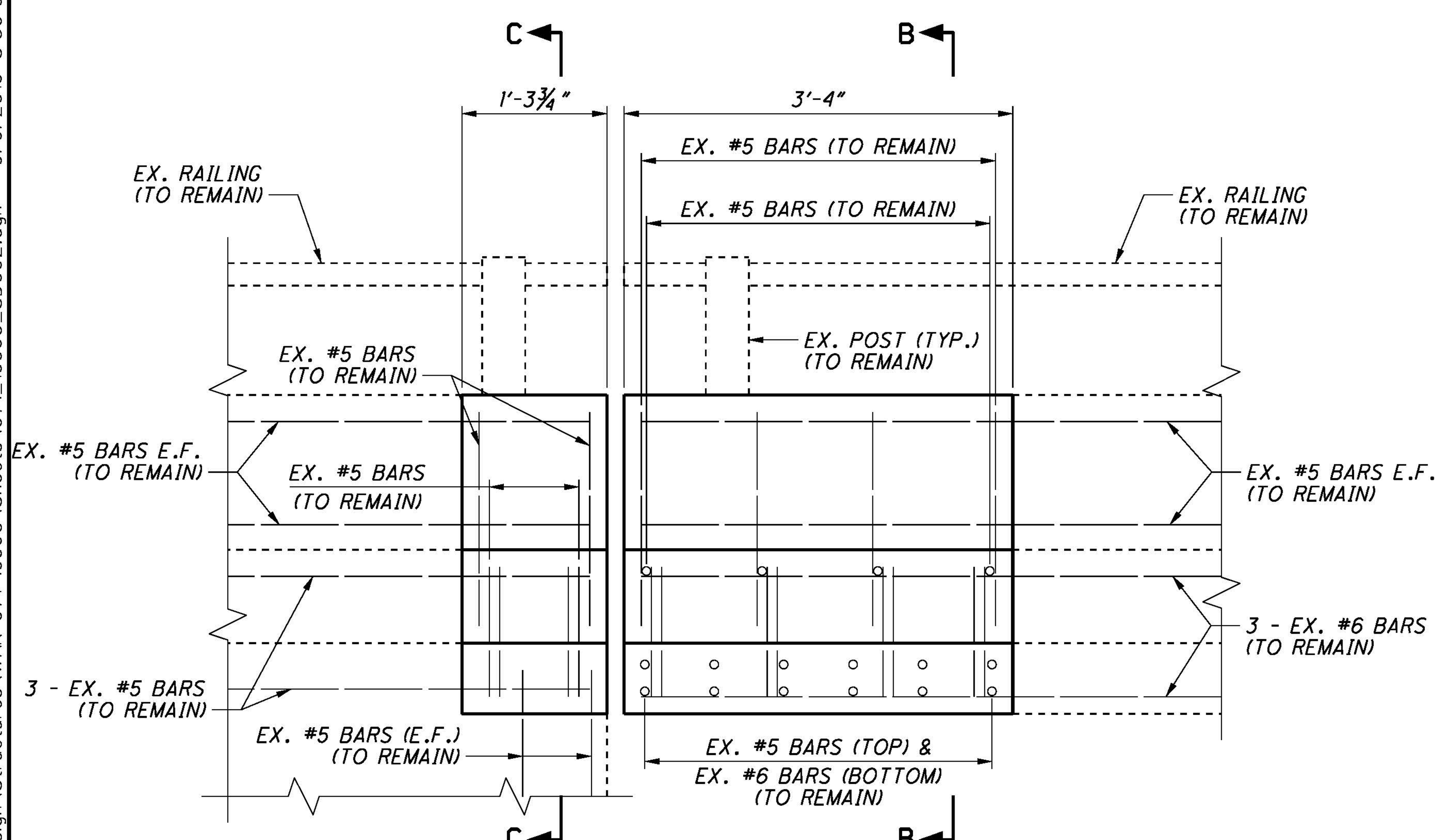
WAR-71-16.81
PID No. 91727

NOTES:

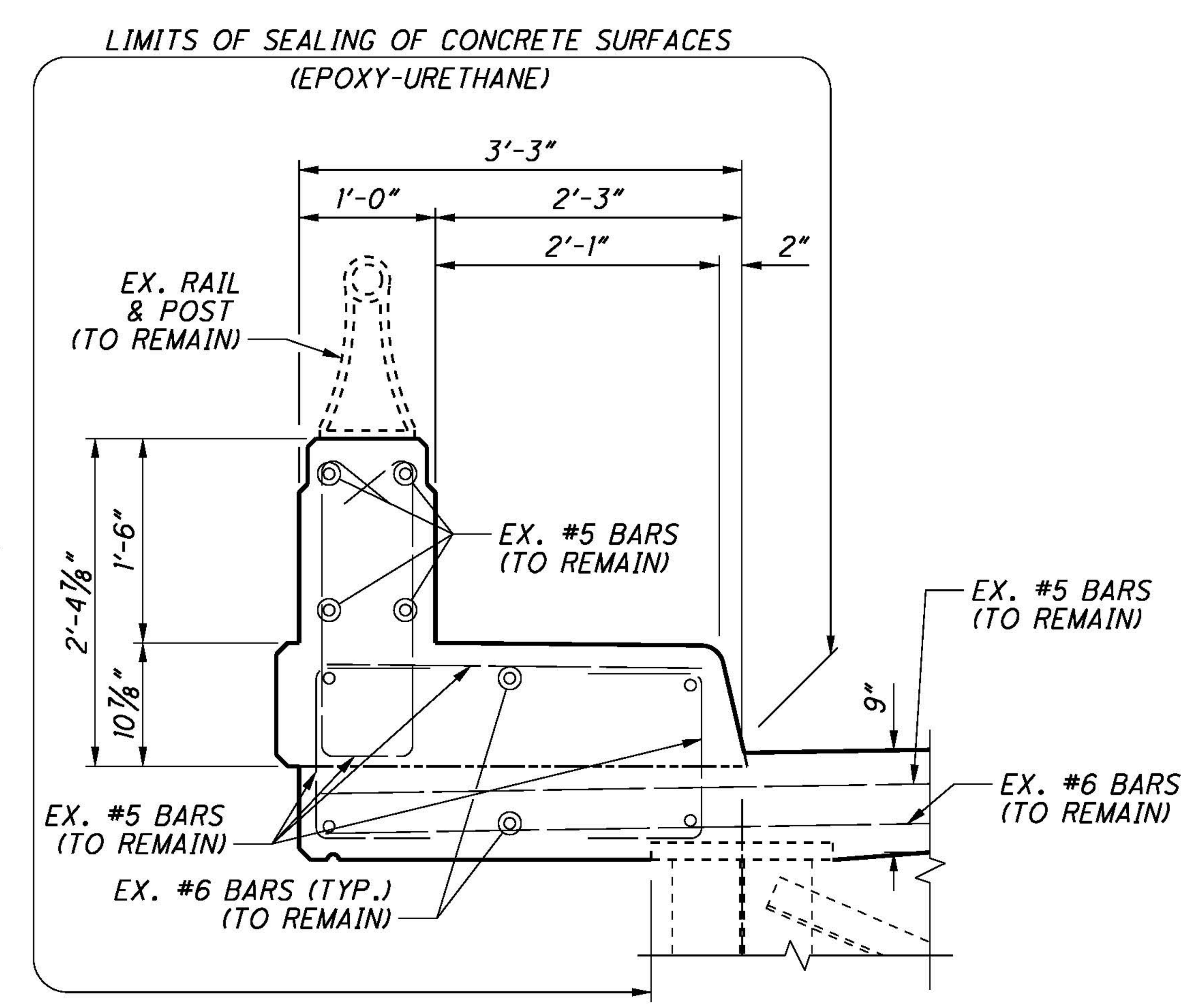
1. FOR SECTION A-A, SEE SHEET 13/13.
2. VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY.



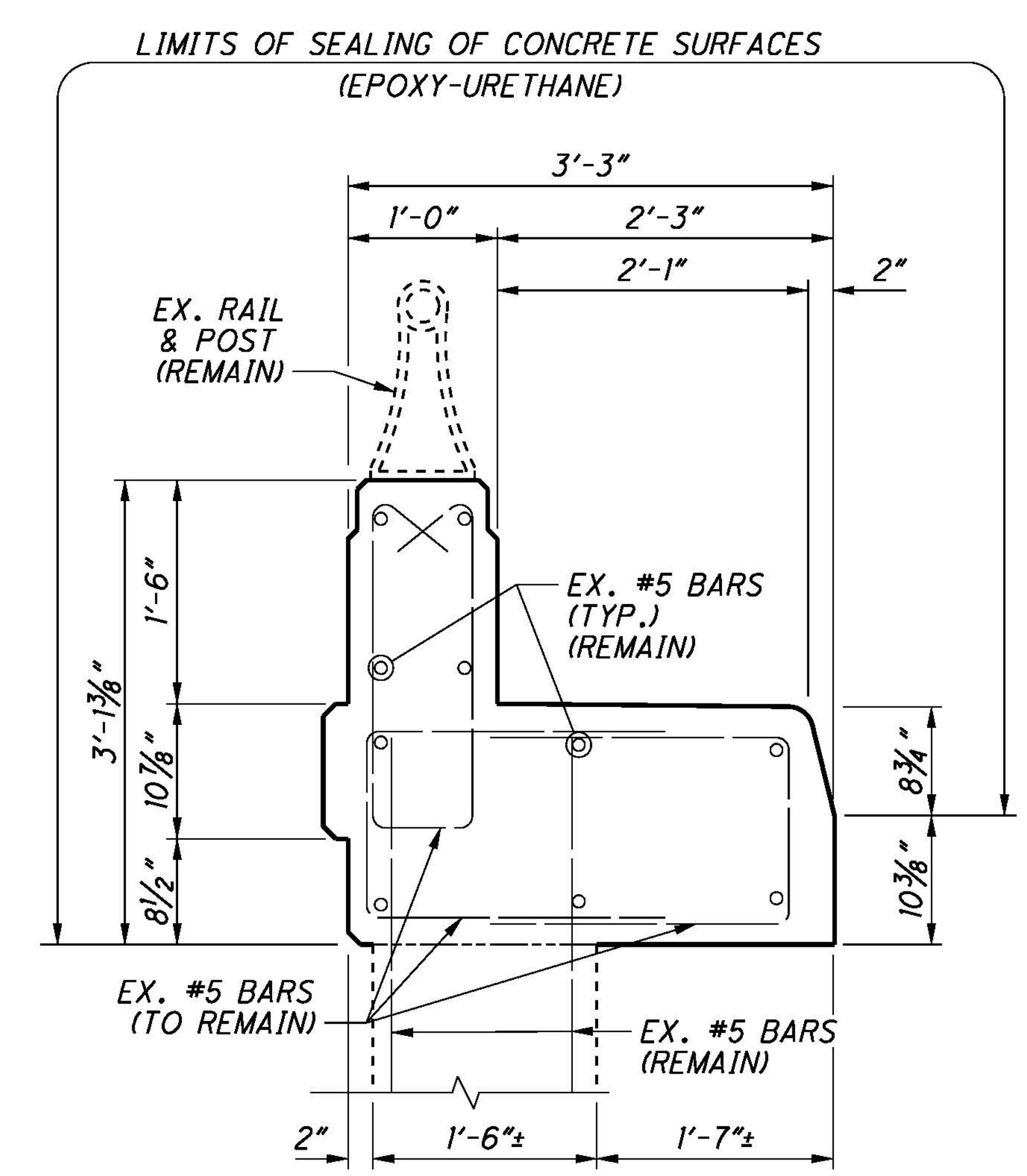
DECK PLAN



TYPICAL RAILING ELEVATION



SECTION B-B



SECTION C-C

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DECK & PARAPET DETAILS
BRIDGE NO. WAR-71-1996
I-71 UNDER CLARKSVILLE RD.

WAR-71-16.81
PID No. 91727

10/13

129/160

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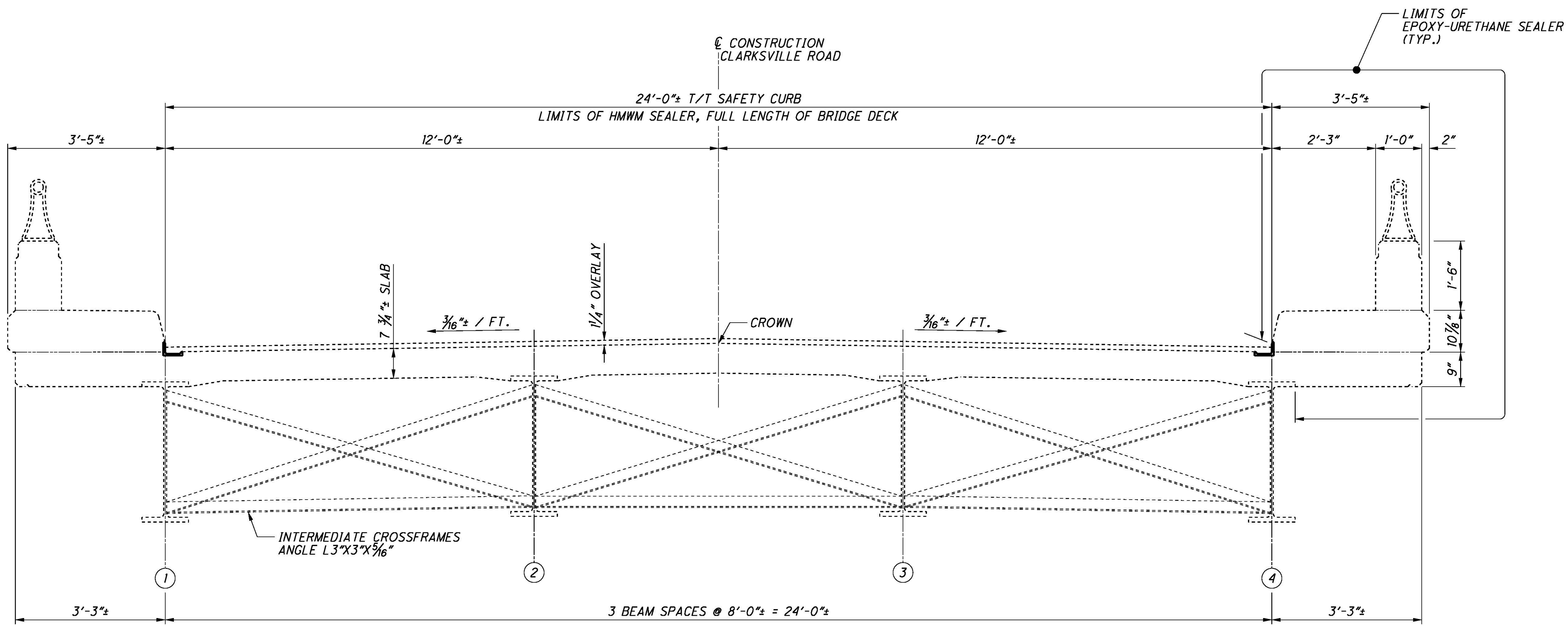

TRANSVERSE SECTION

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

LEGEND:

(#) - BEAM DESIGNATION

NOTES:

1. FOR FRAMING PLAN, SEE SHEET 9/13.
2. FOR DECK PLAN, SEE SHEET 12/13.

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TRANSVERSE SECTION
BRIDGE NO. WAR-71-1996
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WAR-71-16.81
PID No. 91727

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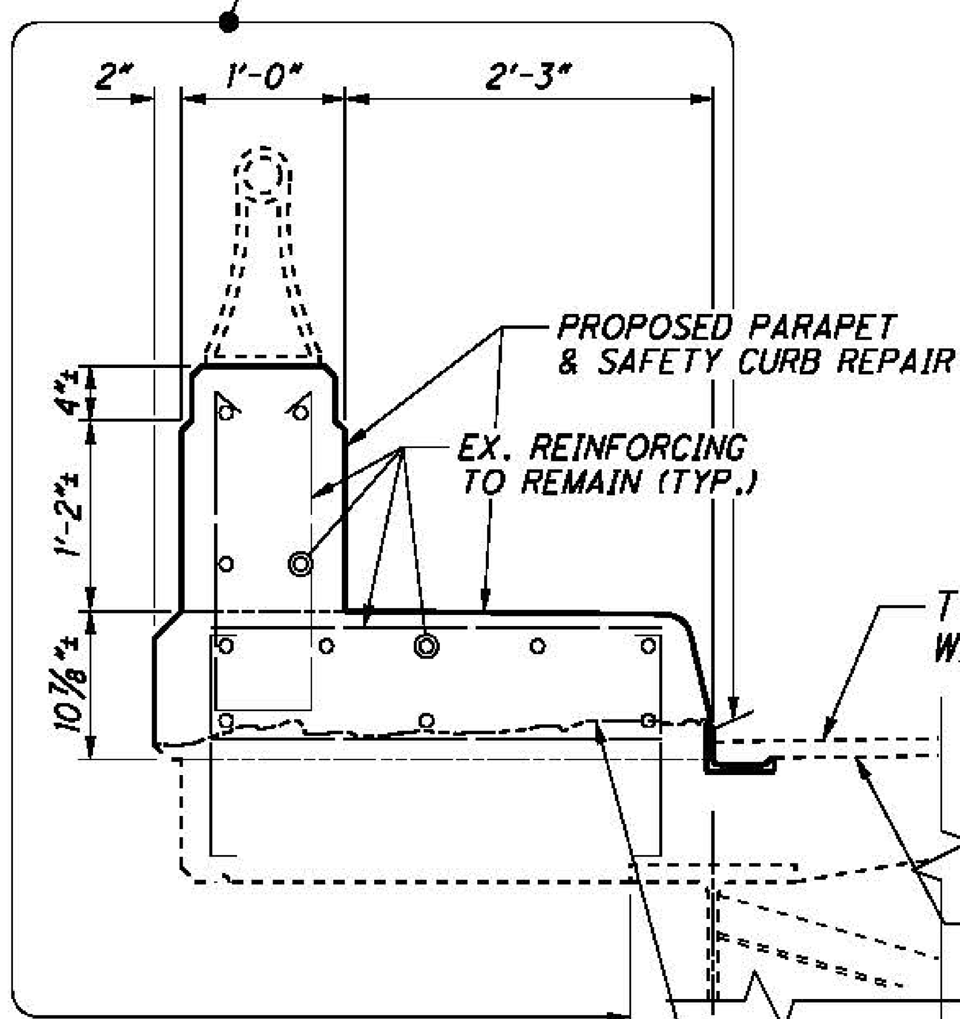
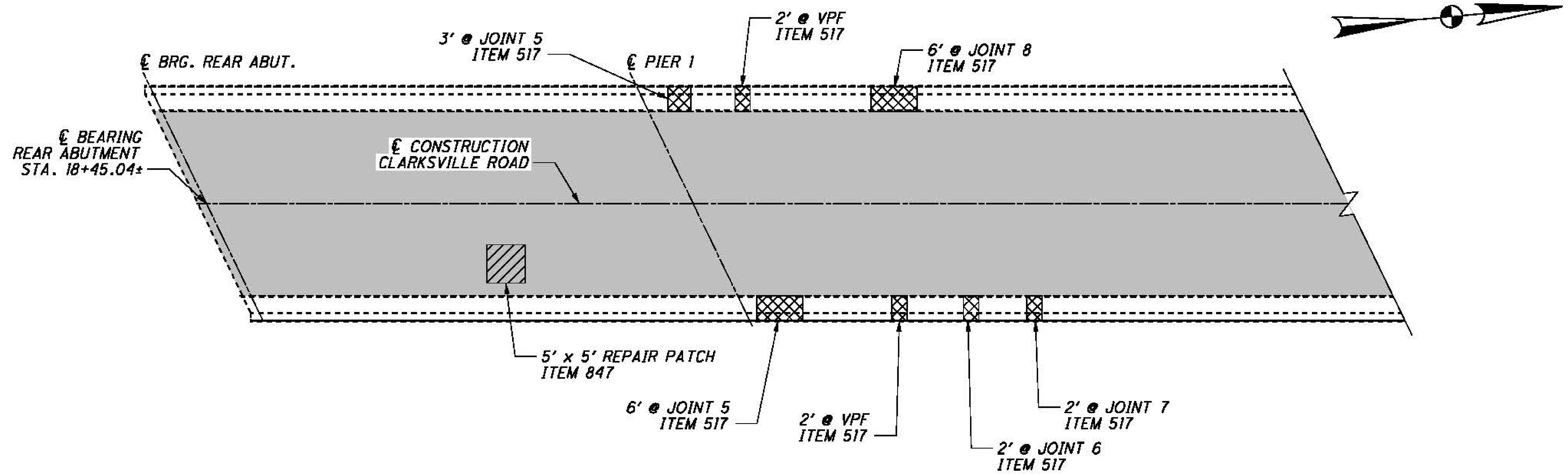
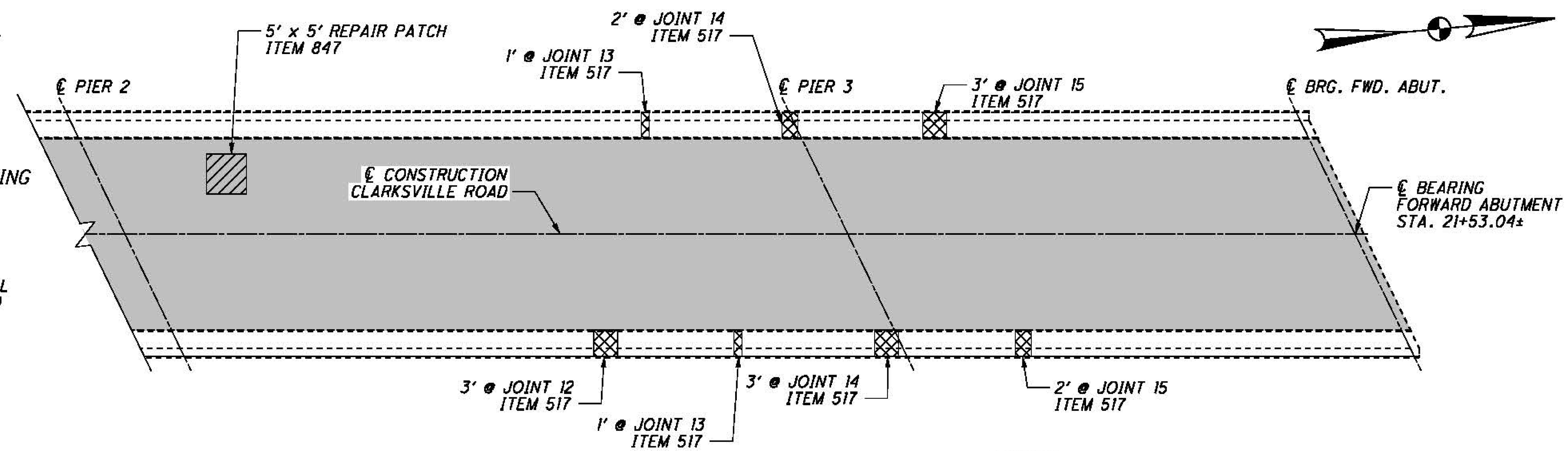


PROPOSED PARAPET REPAIR

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)



DECK PLAN



DECK PLAN

SUMMARY OF DECK PATCHING	
LOCATION	QUANTITY (SQ. YD.)
SPAN 1 & 2	3
SPAN 3 & 4	3
AS DIRECTED BY THE ENGINEER (20%)	1
TOTAL	7

SUMMARY OF BARRIER REPAIR	
LOCATION	QUANTITY (FT.)
SPAN 1 & 2	23
SPAN 3 & 4	15
AS DIRECTED BY THE ENGINEER (20%)	8
TOTAL	46

LEGEND:

- ITEM 517 - BRIDGE RAILING REBUILT, AS PER PLAN
- ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY
- ITEM 512 - SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN, AS PER PLAN

NOTES:

1. AREAS IDENTIFIED IN PLANS TO BE PATCHED PER 847 INCLUDING UNSOUND CONTIGUOUS AREAS. THE DECK NEED NOT BE SOUNDED OUTSIDE OF THESE AREAS. UNSOUND AREAS NOT CONTIGUOUS TO THESE AREAS SHALL NOT BE REPAIRED UNLESS THE AREA IS VISUALLY DISTRESSED AND IS LIKELY TO SPALL SOON IN THE OPINION OF THE ENGINEER.

2. VANDAL PROTECTION FENCING AND RAIL SHALL BE TEMPORARILY MOVED AND STORED IN ORDER TO FACILITATE THE REPAIR OF THE CONCRETE BARRIER.

3. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED TO FACILITATE THE REPAIR OF THE CONCRETE BARRIER AND DAMAGED PORTIONS OF THE VANDAL PROTECTION FENCE FABRIC SHALL BE PAID FOR UNDER ITEM 517 - BRIDGE RAILING REBUILT, AS PER PLAN.

4. 4. SEAL WEARING SURFACE WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) FROM DECK JOINT TO DECK JOINT, SEE SHEET 13/13. FOR TRANSVERSE LIMITS, SEE TRANSVERSE SECTION ON SHEET 11/13.

5. PARAPET SHALL BE SEALED WITH EPOXY-URETHANE SEALER. COST FOR REMOVAL OF SEALER ON EXISTING SEALED SURFACES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

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DECK & PARAPET REPAIR DETAILS

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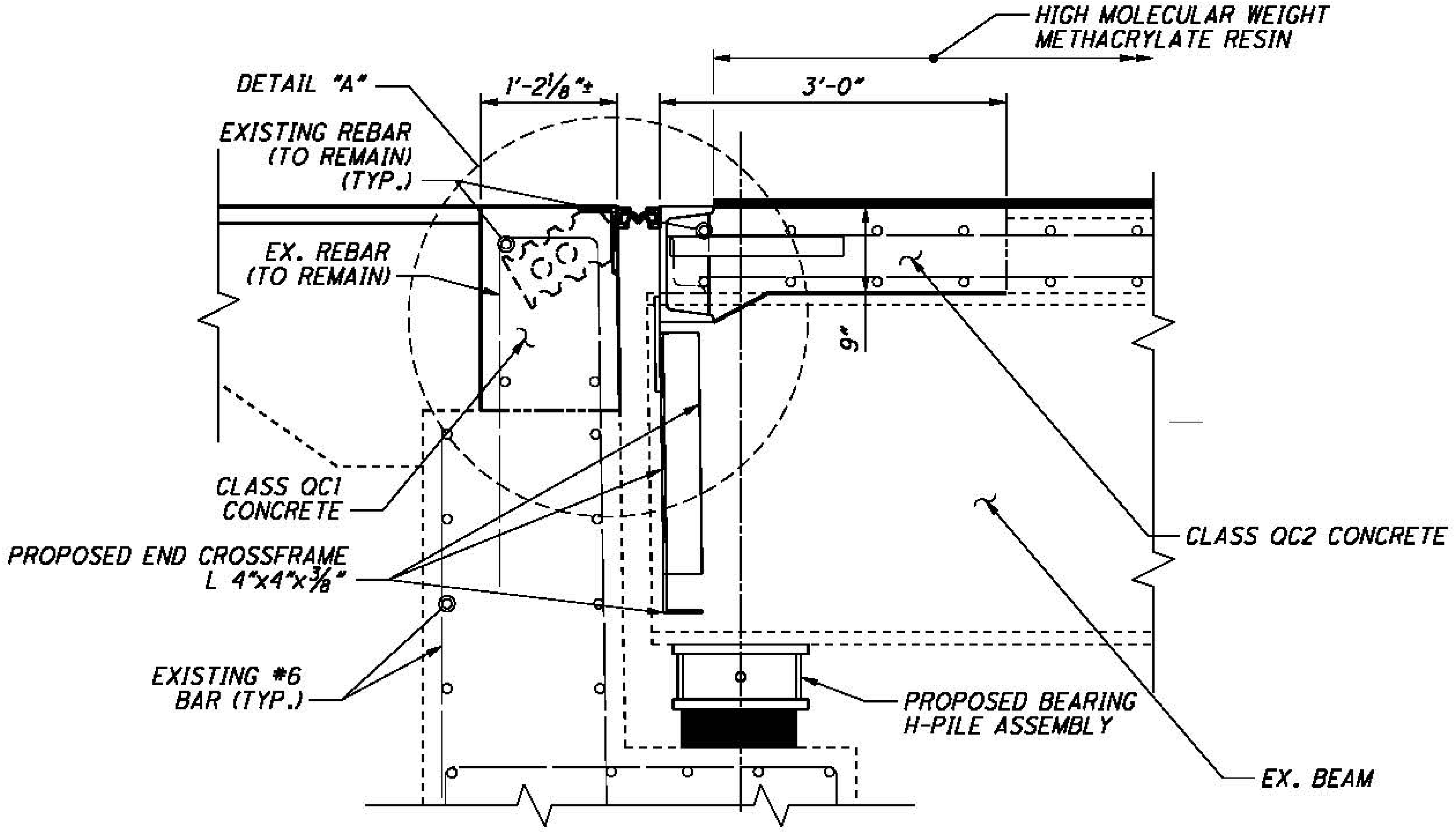
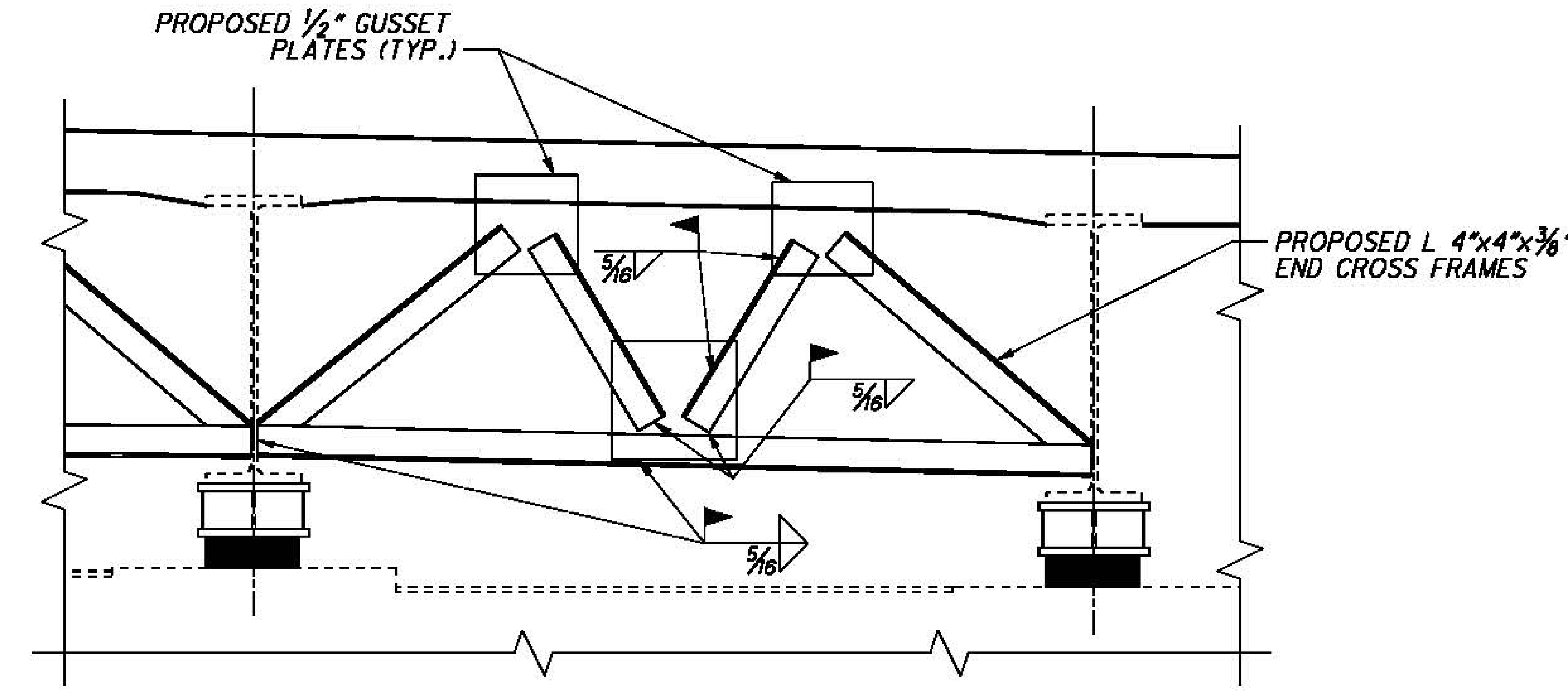
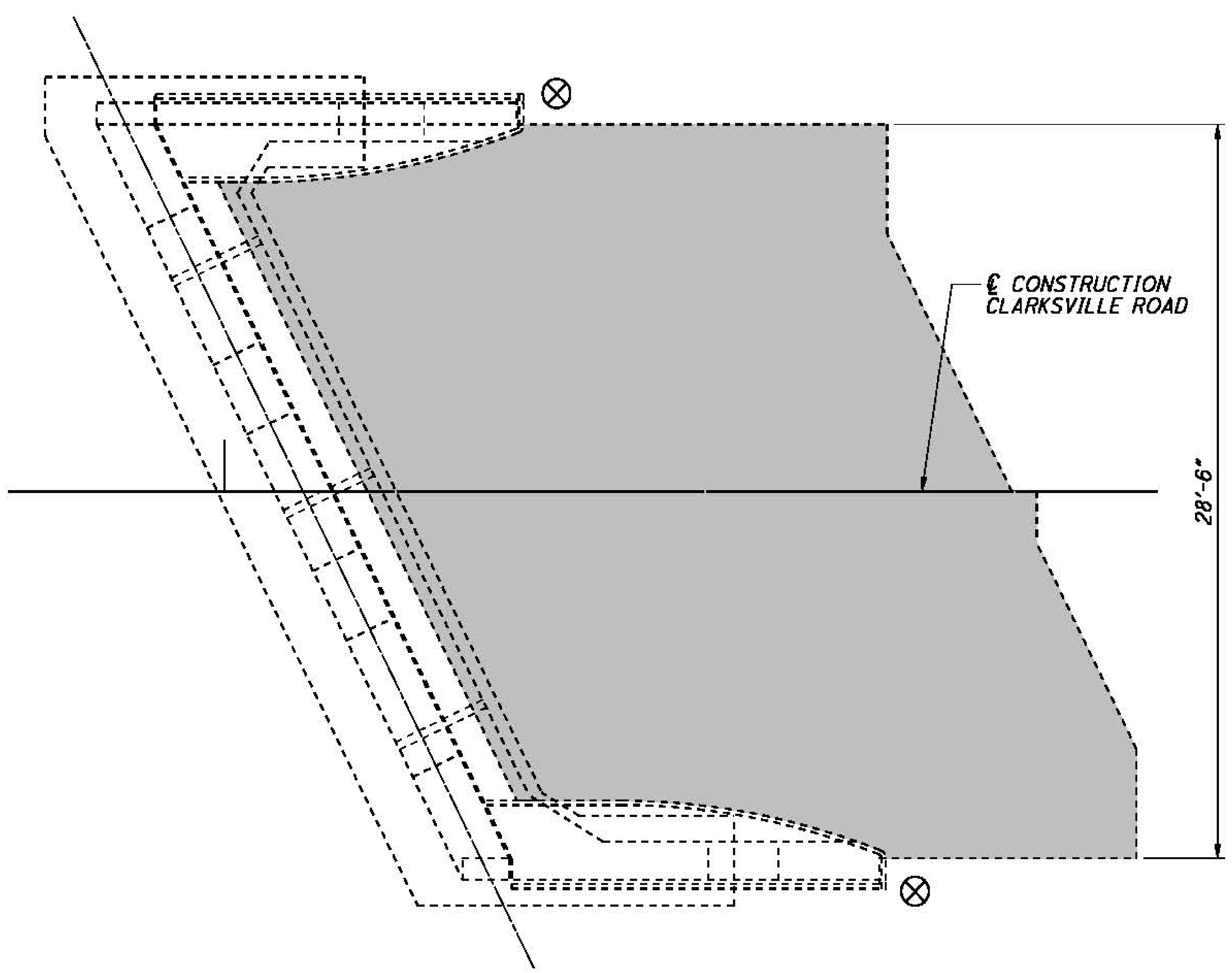
WAR-71-16.81
PID No. 91727



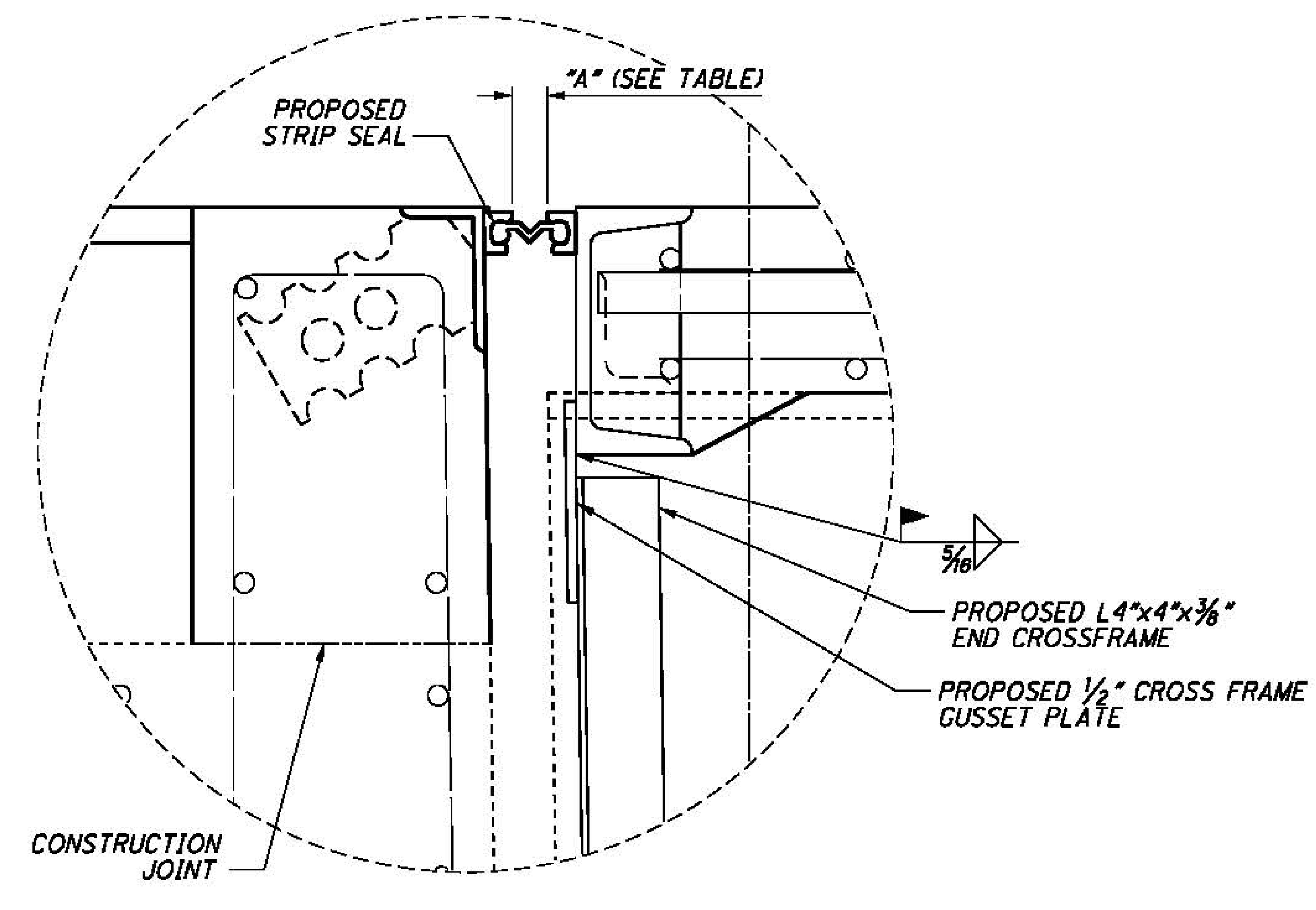
SECTION A-A TYPICAL ABUTMENT CONSTRUCTION DETAIL



PART END CROSS FRAME ELEVATION
(TYPICAL AT REAR AND FORWARD ABUTMENTS)



DETAIL "B" REAR & FORWARD APPROACH SLAB SUBGRADE REPAIR



DETAIL "A"

AMBIENT TEMP °F	DIMENSION "A"
30°	2.41"
40°	2.30"
50°	2.20"
60°	2.09"
70°	1.98"
80°	1.87"
90°	1.76"

USE 4" STRIP SEAL

LEGEND

- ESTIMATED LIMITS OF LOW STRENGTH MORTAR

⊗ - SEE NOTE 3

SUMMARY OF PATCHING AREAS		
LOCATION	QUANTITY (CY)	CONTRACTOR MEASURED
REAR ABUTMENT	0	
FORWARD ABUTMENT	53	
TOTAL	53	

NOTES:

1. SEE ODOT STD. DWG. EXJ-4-87 FOR ADDITIONAL EXPANSION JOINT DETAILS.
2. SEE ODOT STD. DWG. GSD-1-96 FOR ADDITIONAL END CROSS FRAME DETAILS.
3. ITEM 613 - LOW STRENGTH MORTAR BACKFILL, AS PER PLAN: THIS WORK CONSISTS OF PLACING LOW STRENGTH MORTAR BACKFILL (LSM) UNDER THE REAR AND FORWARD APPROACH SLABS. FOUR POTENTIAL LOCATIONS WHERE ACCESS IS AVAILABLE TO PLACE LSM THAT WILL FLOW UNDER THE APPROACH SLABS ARE SHOWN IN DETAIL "B". ALL VISIBLE LSM PLACEMENT ACCESS LOCATIONS ARE TO BE FIELD VERIFIED. PROVIDE A RECOMMENDED LSM PLACEMENT MEANS AND METHODS PROCEDURE TO THE PROJECT ENGINEER FOR REVIEW. THE MEANS AND METHODS PROCEDURE IS TO INCLUDE A PROCESS THAT PROVIDES TWO FEET OF LSM HEAD ABOVE THE ELEVATION OF THE APPROACH SLAB. CONSIDER USING SAND BAGS OR A WOODEN BOX TO CONSTRUCT THE HEIGHT OF THE LSM DELIVERY TUB/FUNNEL USED TO HOLD THE LSM PRIOR TO THE LSM BEING FORCED TO FLOW UNDER THE APPROACH SLAB WHILE THE LSM MATERIAL HAS TWO FEET OF PRESSURE HEAD. PRIOR TO PLACING THE LSM, SEAL THE ABUTMENT WEEP HOLES. PRIOR TO PLACING THE LSM ALSO SEAL ALL POTENTIAL LSM EXIT POINTS AROUND THE PERIMETER OF THE APPROACH SLABS WITH SAND BAGS. REMOVE THE WEEP HOLE SEALS AND THE SAND BAG SEALS AFTER THE LSM HAS REACHED AN INITIAL SET. THE DEPARTMENT WILL PAY FOR THE ACCEPTED CUBIC YARD UNIT QUANTITY OF LOW STRENGTH MORTAR BACKFILL, AS PER PLAN. INCLUDED IN THIS PAYMENT IS ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.

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EXPANSION JOINT DETAILS
BRIDGE NO. WAR-71-1996
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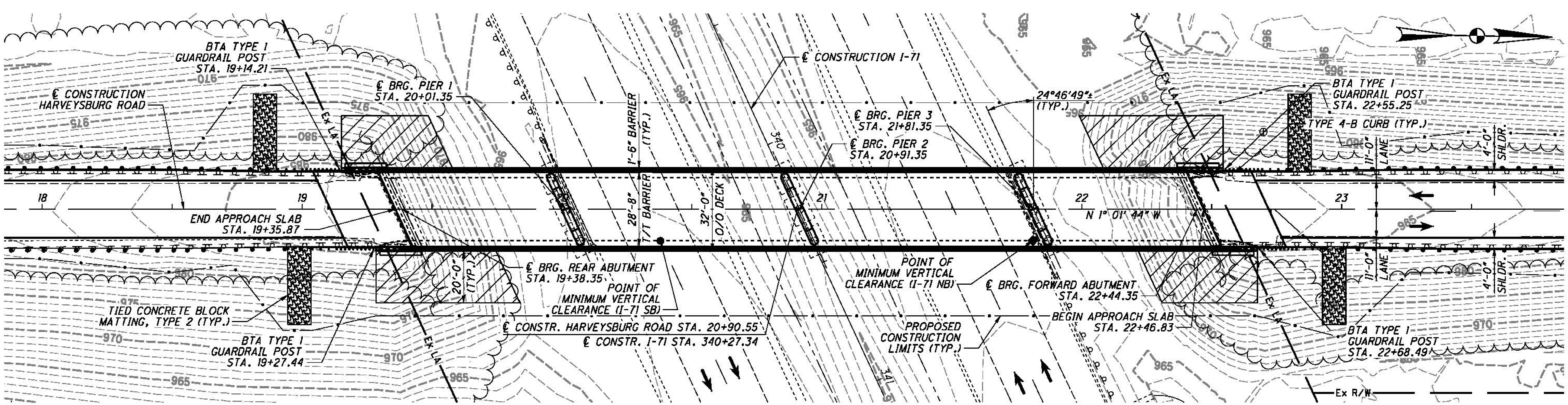
WAR-71-16.81
PID No. 91727



PLAN

BENCHMARK DATA			
BM #1 STA. 16+42.99,	ELEV. 967.20,	OFFSET 17.46' RT,	
BM #2 STA. 22+69.84,	ELEV. 981.85,	OFFSET 29.75' LT,	
BM #3 STA. 29+40.84,	ELEV. 965.18,	OFFSET 15.92' RT,	

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

DESIGN TRAFFIC:
2018 ADT = 1250 2018 ADTT = 390
2038 ADT = 4250 2038 ADTT = 1326
DIRECTIONAL DISTRIBUTION = 0.65

LEGEND:

DTBD - DISPOSITION TO BE DETERMINED
16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
● 17'-1" ACTUAL MINIMUM VERTICAL CLEARANCE (I-71 SB)
◆ 16'-8" ACTUAL MINIMUM VERTICAL CLEARANCE (I-71 NB)
⊕ - BENCHMARK
- VEGETATION TO BE REMOVED

NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. A DATUM CORRECTION OF -0.68' WAS USED TO ESTABLISH THE BOTTOM OF FOOTING ELEVATIONS FROM THE EXISTING PLANS.

PROPOSED WORK:

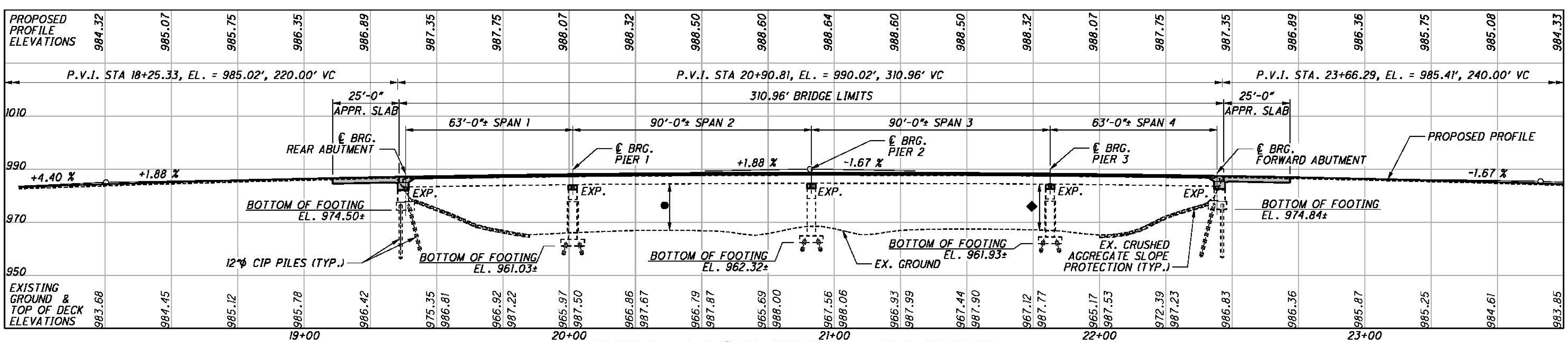
1. REMOVE DECK, ABUTMENT BACKWALLS, EXPANSION JOINTS, APPROACH SLABS, BEARINGS, INDICATED CROSSFRAMES, AND VEGETATION NEAR STRUCTURE.
2. RAISE BRIDGE TO CONSTRUCT PORTIONS OF NEW PIER CAPS AND INSTALL NEW BEARINGS AT THE INDICATED SUBSTRUCTURE LOCATIONS.
3. CONSTRUCT NEW PORTIONS OF THE ABUTMENTS INCLUDING WINGWALLS AND SEMI-INTEGRAL DIAPHRAGM GUIDES.
4. CONSTRUCT NEW PORTIONS OF THE SUPERSTRUCTURE INCLUDING SEMI-INTEGRAL DIAPHRAGMS, DECK, BARRIERS, AND APPROACH SLABS.
5. INSTALL VANDAL PROTECTION FENCING, SEAL CONCRETE SURFACES, AND PAINT ALL OF THE SUPERSTRUCTURE STRUCTURAL STEEL.

EXISTING STRUCTURE

TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK ON STUB ABUTMENTS AND CAP-AND-COLUMN PIERS
SPANS: 63'-0"±, 90'-0"±, 90'-0"±, 63'-0"± C/C BEARINGS MEASURED ALONG ℄ HARVEYSBURG RD.
ROADWAY: 24'-0"± F/F SAFETY CURB
LOADING: CF-130 (57)
SKEW: 24°-46'-49"± R.F.
APPROACH SLABS: 25'-0"± LONG
ALIGNMENT: TANGENT
CROWN: 3/16"/FT
STRUCTURAL FILE NUMBER: 8302529
DATE BUILT: 1964
DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: 4-SPAN STEEL BEAM WITH NEW COMPOSITE REINFORCED CONCRETE DECK ON CONVERTED SEMI-INTEGRAL ABUTMENTS AND MODIFIED CAP-AND-COLUMN PIERS
SPANS: 63'-0"±, 90'-0"±, 90'-0"±, 63'-0"± C/C BEARINGS MEASURED ALONG ℄ CONSTRUCTION HARVEYSBURG RD.
ROADWAY: 28'-8" T/T BARRIER
LOADING: HS20 CASE II AND ALT. MILITARY FWS LOADING: 60 PSF
SKEW: 24°-46'-49"± R.F.
APPROACH SLABS: 25'-0" LONG (AS-1-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
WEARING SURFACE: 1" MONOLITHIC CONCRETE
COORDINATES: LATITUDE: N 39°27'30" LONGITUDE: W 83°59'40"



PROFILE ALONG ℄ CONSTRUCTION HARVEYSBURG RD.

WARREN COUNTY
STA. 19+35.87
STA. 22+46.83

SITE PLAN
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

DESIGNED	DRAWN	REVIEWED	DATE
TAS/MRV	FIB	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8302529	

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07/17/2015
AS-2-15	REVISED	07/17/2015
SBR-1-13	REVISED	01/17/2014
SICD-1-96	REVISED	07/18/2014
SICD-2-14	DATED	07/18/2014
VPF-1-90	REVISED	07/17/2015

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	07/15/2016

DESIGN SPECIFICATIONS:

ALL NEW COMPONENTS OF THIS STRUCTURE CONFORM TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

SPECIAL DESIGN SPECIFICATIONS:

THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAMS USED FOR STRUCTURAL ANALYSIS WERE MDX AND TAEG.

DESIGN LOADING:

DESIGN LOADING: HS20-44 CASE II AND ALTERNATE MILITARY LOAD
FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL WITH 2 1/2" CONCRETE COVER.

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

IF ANY ADDITIONAL INFORMATION IS REQUIRED, THE ORIGINAL CONSTRUCTION AND SUBSEQUENT REHABILITATION PLANS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT EIGHT OFFICE, 505 SOUTH STATE ROUTE 741, LEBANON, OHIO 45036.

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC DETAILS, SEE ROADWAY PLANS.

UTILITY LINES:

THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.26 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511, SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS, PARAPETS, RAILINGS, DECK JOINTS, END CROSSFRAMES, PORTIONS OF EXISTING BACKWALL AND WINGWALLS, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). ALSO INCLUDED ARE ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED TO FACILITATE THE FIELD DRILLING OF THE HOLES IN THE BEAM ENDS TO ACCOMODATE THE TRANSVERSE SEMI-INTEGRAL DIAPHRAGM REBAR. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING THEIR BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN-UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN-UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED TO FIELD DRILL THE 3 INCH DIAMETER BEAM END HOLES TO FACILITATE THE SEMI-INTEGRAL DIAPHRAGM REBAR SHALL BE INCLUDED IN THIS ITEM.

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DESIGNED	DRAWN	REVIEWED	DATE
MRV/TAS	TAS	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8302529	

GENERAL NOTES (1 OF 2)
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

THE CLASS QC2 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA: WATER/CEMENT RATIO = 0.40 MAXIMUM; MICRO-SILICA ADMIXTURE (7% BY WEIGHT OF CEMENT ADDED TO THE TOTAL CEMENTITIOUS CONTENT); 2 LBS./CY. POLYPROPYLENE FIBERS (1.25" MIN.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE CORROSION INHIBITOR DOSAGE RATE SHALL BE WITHIN THE MANUFACTURES RECOMMENDED LIMITS. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST NEED NOT APPLY.

THE FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, FIBERS AND MICRO-SILICA PRIOR TO THE ADDITION OF WATER AND ADMIXTURES.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY UNLESS A LARGER SIZE IS APPROVED BY THE ENGINEER. IF PROBLEMS WITH BALLING OF THE FIBERS OCCUR, THE ENGINEER OR READY MIX SUPPLIER CAN REDUCE THE MAXIMUM SIZE OF THE LOAD AS A MEANS TO RESOLVE THE BALLING PROBLEM. CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AND EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIERS CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

APPROACH SLABS, DIAPHRAGMS, AND BRIDGE RAILING CONCRETE (WHEN APPLICABLE) ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508. PERMANENT STAY-IN-PLACE (SIP) FORMS ARE NOT ALLOWED. THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

ALL EXPOSED SURFACES OF PIERS, ABUTMENTS, AND PARAPETS SHALL BE SEALED AS SHOWN IN THE PLANS. THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR 17778 (LIGHT NEUTRAL). THE SURFACE TO BE SEALED SHALL HAVE SURFACE PREPARATION PER CMS 512.03 (F).

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL

EXISTING STEEL AREAS INDICATED IN THE PLANS SHALL BE CLEANED AND PAINTED WITH A PRIME, INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM OZEU. THE COLOR OF THE FINISH COAT SHALL BE FEDERAL COLOR #14277 "GREEN".

THE SURFACE AREA PAY QUANTITY SHALL BE BASED ON THE SURFACE AREA OF THE MAIN MEMBERS INCREASED BY 15% TO ACCOUNT FOR THE AREA OF END OR INTERMEDIATE CROSSFRAMES, BEARINGS, STIFFENERS AND OTHER STRUCTURAL STEEL INCIDENTALS TO BE CLEANED AND PAINTED.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PATCHING HAS BEEN ESTIMATED FOR THE PIERS AND ABUTMENTS. EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED AND MARKED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ABBREVIATIONS:

ABUT. - ABUTMENT
APPR. - APPROACH
B - BOTTOM
Ⓑ - BASELINE
B.F. - BACK FACE
BTM. - BOTTOM
BRG. - BEARING
℄ - CENTERLINE
C/C - CENTER TO CENTER
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEAR
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONSTR. - CONSTRUCTION
CVN - CHARPY V-NOTCH
DIA. - DIAMETER
DIM. - DIMENSION
DWG. - DRAWING
EB - EASTBOUND
E.F. - EACH FACE
EL. - ELEVATION
EOP - EDGE OF PAVEMENT
EQ. - EQUAL
EST. - ESTIMATED
EX. - EXISTING
EXP. - EXPANSION
F.F. - FRONT FACE
FT. - FOOT OR FEET
FWD. - FORWARD
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
JT. - JOINT
LT. - LEFT
MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MSE - MECHANICALLY STABILIZED EARTH
NB - NORTHBOUND
NO. - NUMBER
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
O/O - OUT TO OUT
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
R - RADIUS
REQD. - REQUIRED
R.R. - RAILROAD
R/W - RIGHT OF WAY
SB - SOUTHBOUND
SER. - SERIES
SHLDR - SHOULDER
SPA. - SPACE OR SPACES
STA. - STATION
STD. - STANDARD
STR - STRAIGHT
T - TOP
T&B - TOP & BOTTOM
TEMP. - TEMPORARY
T/S - TOP OF SLOPE
T/T - TOE TO TOE
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VAR. - VARIES
WB - WESTBOUND

MADE BY: BMG DATE: 7/16/2016
CHECKED BY: DTA DATE: 7/16/2016

ESTIMATED QUANTITIES

STRUCTURE FILE NUMBER: 8302529

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENT	PIER	SUPER	GENERAL	AS PER PLAN SHEET NO.
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	2/28
202	22900	156	SY	APPROACH SLAB REMOVED				156	
202	23500	978	SY	WEARING COURSE REMOVED			978		
503	21300	LS		UNCLASSIFIED EXCAVATION				LS	
509	10001	101673	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	4332	1135	96206		2/28, 19/28
509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	100				3/28
510	10001	270	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	168	102			8/28, 9/28, 11-13/28
511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2				8/28, 12/28
511	34447	353	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			353		3/28
511	34451	103	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			103		3/28
511	43260	13	CY	CLASS QC2 CONCRETE, PIER CAP		13			
511	44110	32	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	32				
512	10100	1219	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	70	285	864		
512	74000	295	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	10	285			
513	20000	3348	EA	WELDED STUD SHEAR CONNECTORS			3348		
514	00050	13700	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			13700		
514	00056	13700	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			13700		
514	00060	13700	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			13700		
514	00066	13700	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			13700		
514	00504	21	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			21		
514	10000	13	EACH	FINAL INSPECTION REPAIR			13		
516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER			17		
516	13900	273	SF	2" PREFORMED EXPANSION JOINT FILLER	273				
516	14020	95	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	95				
516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	8				14/28
				(BEARING 13" x 18" x 4.335" AND LOAD PLATE 14" x 19" x 2")					
516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN		12			15/28
				(BEARING 16.5" x 23.5" x 4.523" AND LOAD PLATE 17.5" x 24.5" x 2")					
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	3/28
518	21201	49	CY	POROUS BACKFILL WITH GEOTEXTILE FILTER FABRIC, AS PER PLAN	49				7-12/28
518	40000	74	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	74				
518	40011	84	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	84				8/28, 12/28
519	11101	95	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	59	36			3/28
526	25010	174	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				174	
607	39900	622	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC				622	

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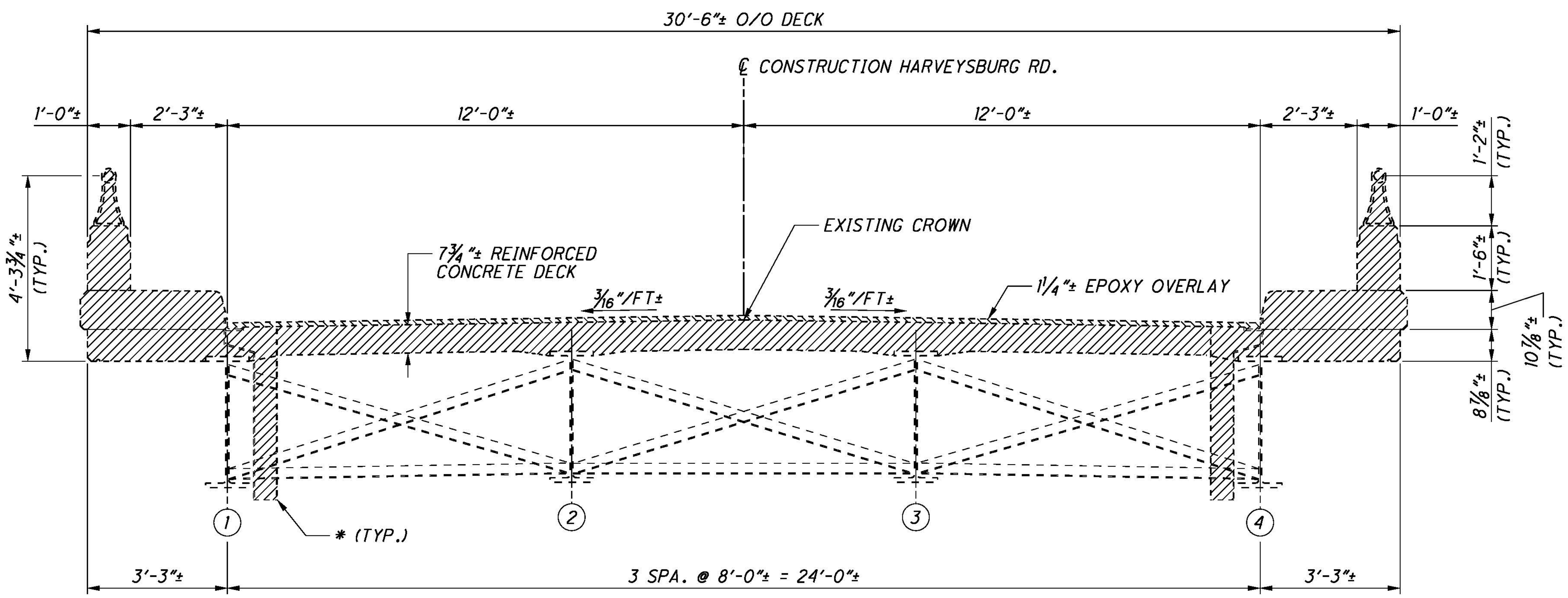
ESTIMATED QUANTITIES
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727



REMOVAL SECTION

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

LEGEND:

- INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - WEARING COURSE REMOVED

- INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

(#) - BEAM DESIGNATION

* - SCUPPER ANCHORING BARS WELDED TO BEAM SHALL BE REMOVED AND GROUND FLUSH AT WEB DURING REMOVAL. GRINDING SHALL BE DONE IN A HORIZONTAL DIRECTION. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN.

PROPOSED WORK:

1. REMOVE PORTIONS OF THE EXISTING SUPERSTRUCTURE TO THE LIMITS SHOWN IN PLANS.
2. REMOVE PORTIONS OF THE EXISTING SUBSTRUCTURE AND APPROACH SLABS TO THE LIMITS SHOWN IN PLANS.
3. JACK AND RAISE THE SUPERSTRUCTURE TO ELEVATIONS SHOWN IN PLANS.
4. REPLACE ABUTMENT AND PIER BEARINGS WITH ELASTOMERIC BEARING ASSEMBLIES.
5. PATCH ALL AREAS WHERE UNSOUND CONCRETE IS LOCATED ON ABUTMENTS, WINGWALLS, AND PIERS.
6. CONSTRUCT THE NEW PORTIONS OF THE PIERS, ABUTMENTS, AND WINGWALLS.
7. INSTALL NEW ABUTMENT AND PIER BEARINGS.
8. INSTALL SHEAR STUDS TO THE EXISTING BEAMS.
9. CONSTRUCT NEW DECK, BARRIER AND SEMI-INTEGRAL DIAPHRAGMS TO THE LIMITS SHOWN IN THE PLANS.
10. CONSTRUCT THE APPROACH SLABS.
11. INSTALL NEW VANDAL PROTECTION FENCE TO THE LIMITS SHOWN IN THE PLANS.
12. SEAL CONCRETE SURFACES WITH EPOXY-URETHANE SEALER TO THE LIMITS SHOWN IN THE PLANS.
13. PAINT SUPERSTRUCTURE STEEL.
14. REMOVE AND REPLACE APPROACH GUARDRAIL, END TERMINAL ASSEMBLIES, AND BRIDGE TERMINAL ASSEMBLIES. SEE ROADWAY PLANS FOR MORE DETAILS.
15. REMOVE ALL TREES AND VEGETATION WITHIN 20 FT OF THE STRUCTURE.

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SUPERSTRUCTURE REMOVAL DETAIL
BRIDGE NO. WAR-71-2179
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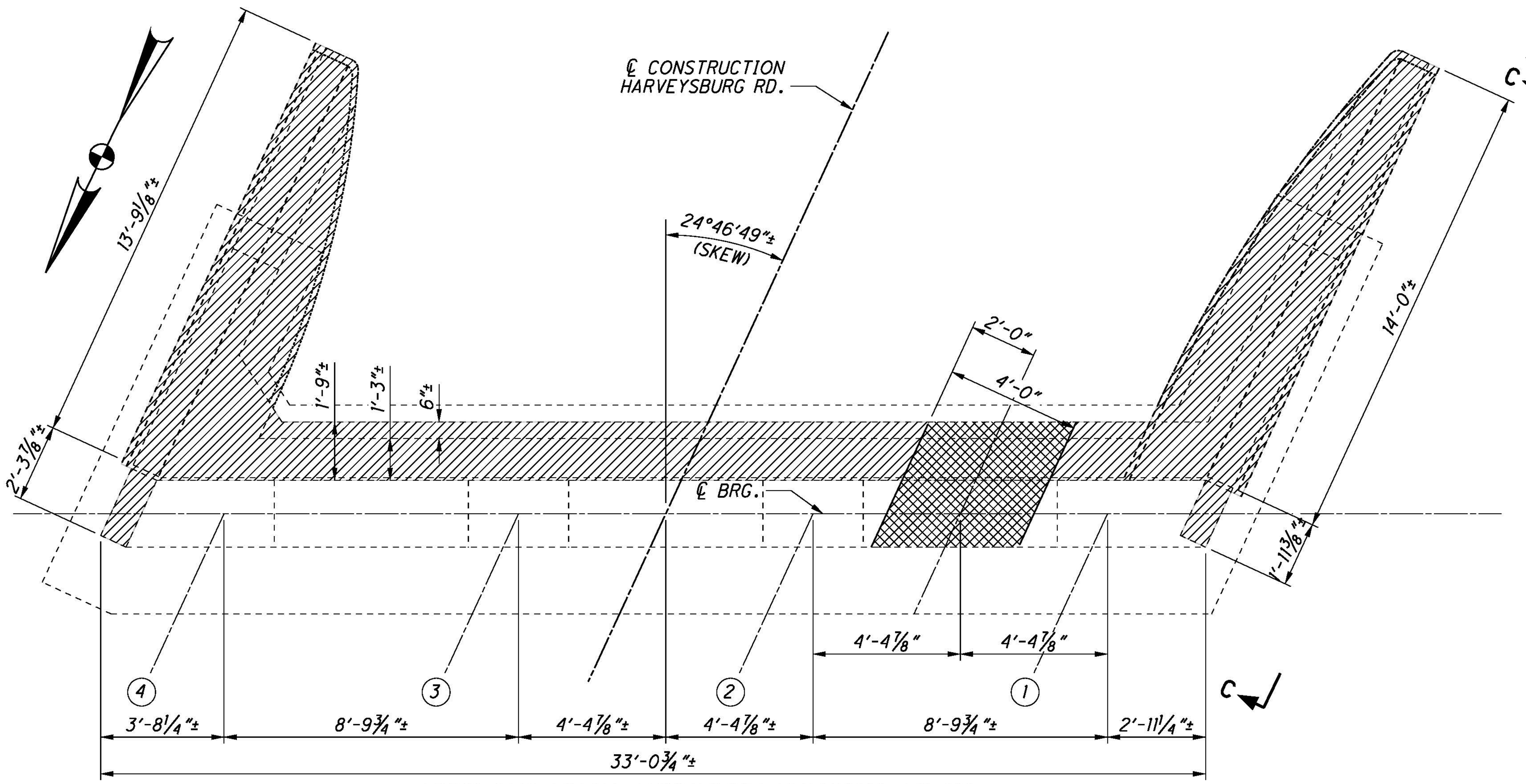
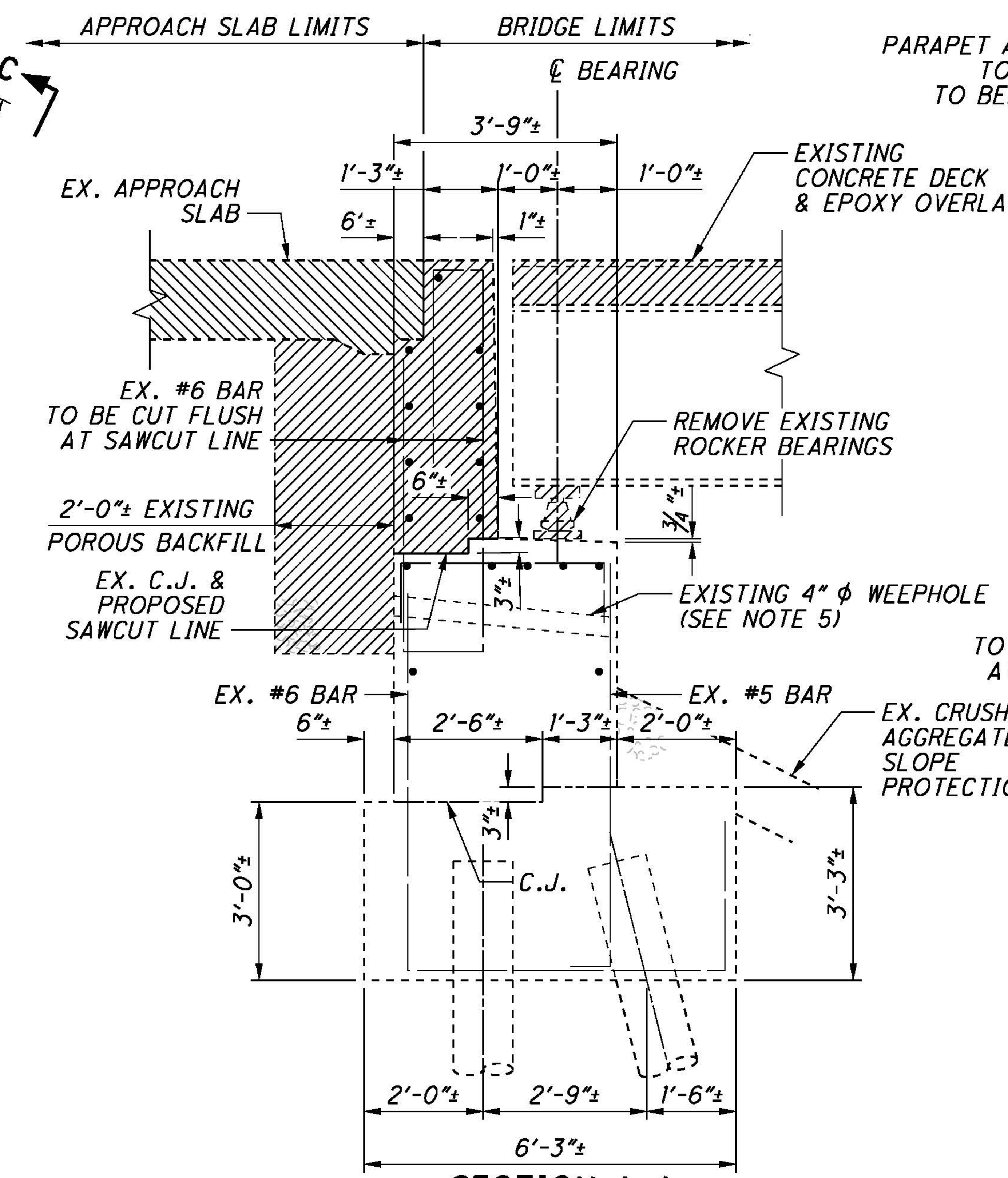
WAR-71-16.81
PID No. 91727

5/28

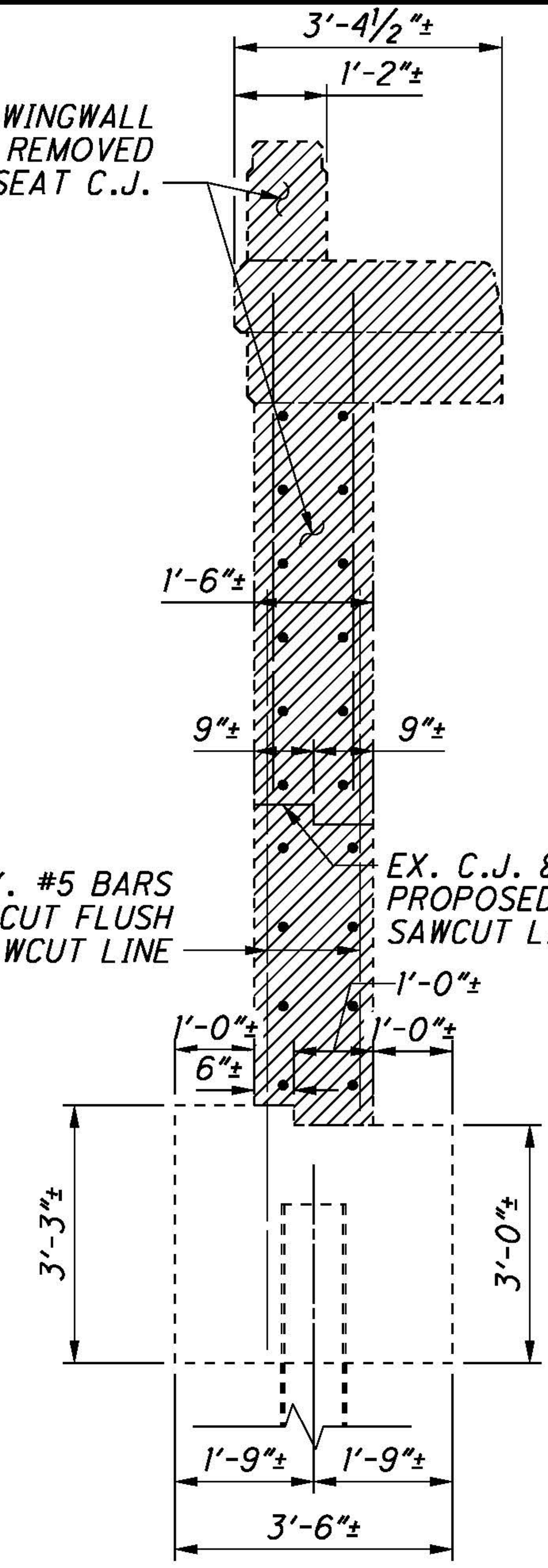


EXISTING REAR ABUTMENT REMOVAL PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND) (SEE NOTE 2)



SECTION A-A



SECTION B-B

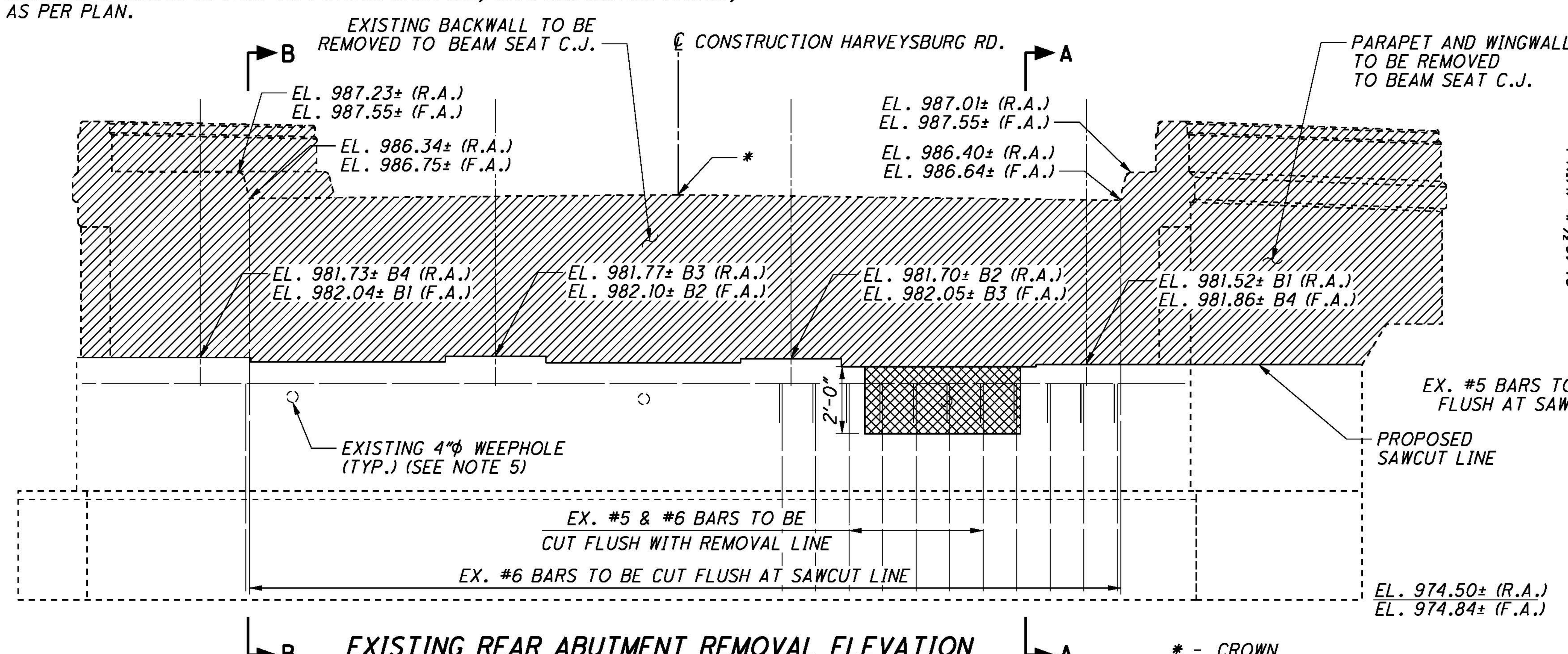
(RAILING NOT SHOWN FOR CLARITY)

NOTES:

1. THE REMOVAL LIMITS SHOWN ARE THE MINIMUM AMOUNT NECESSARY TO PERFORM THE PROPOSED WORK. ANY ADDITIONAL REMOVAL PERFORMED BY THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEER PRIOR TO STARTING REMOVAL. ALL ADDITIONAL REMOVAL SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE DEPARTMENT.
2. PILES NOT SHOWN FOR CLARITY.
3. APPROACH SLAB NOT SHOWN FOR CLARITY.
4. CUT ALL EXISTING REINFORCING AT REMOVAL LINES AS DIRECTED BY PLANS.
5. CLEAR EXISTING WEEPHOLES AND FILL WITH NON-SHRINK, NON-METALLIC GROUT PER CMS 705.20. ALL MATERIALS, LABOR, AND INCIDENTALS FOR PAYMENT SHALL BE INCLUDED IN ITEM 518 POROUS BACKFILL, WITH GEOTEXTILE FABRIC, AS PER PLAN.

LEGEND:

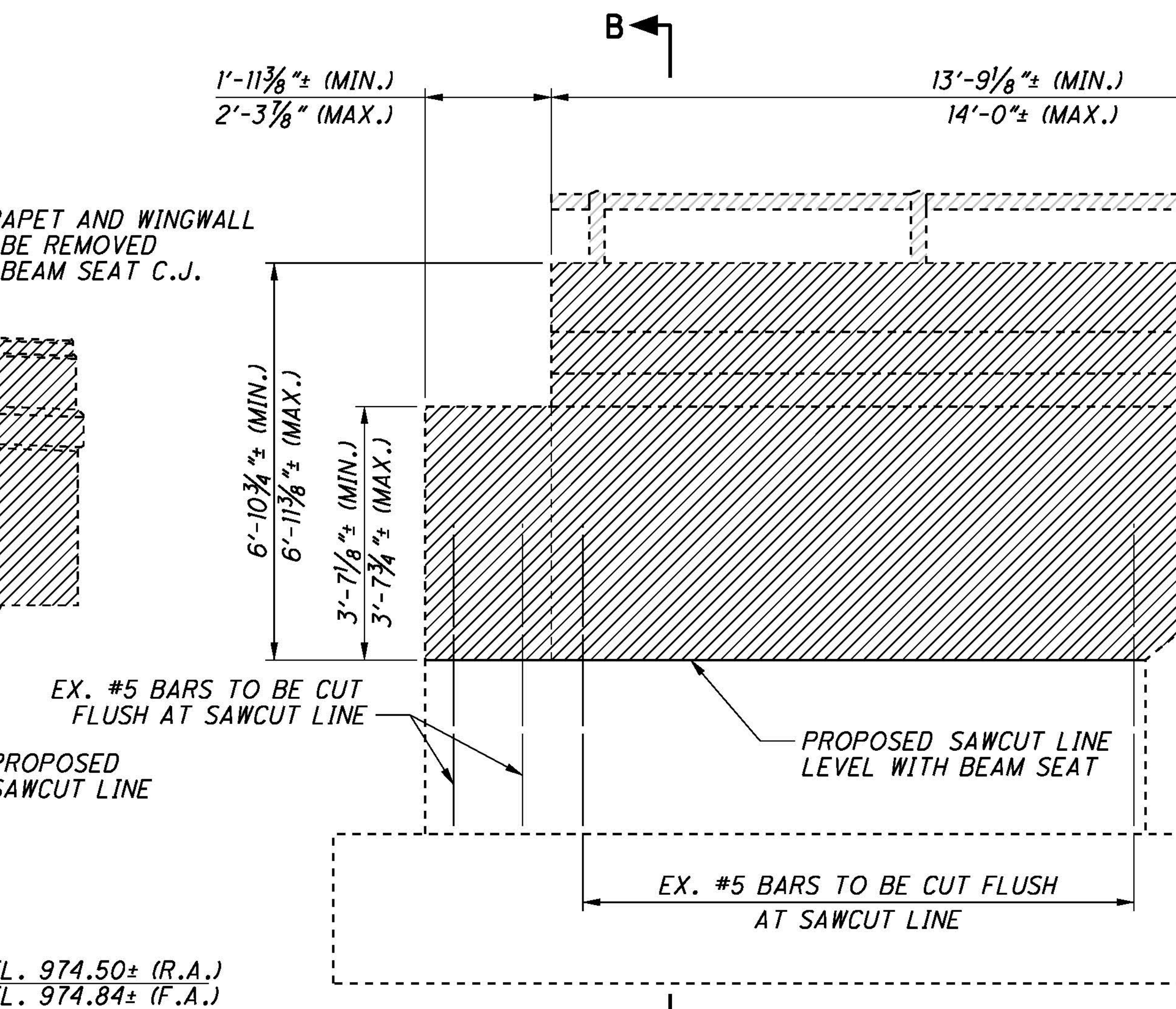
- INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED.
- INDICATES APPROACH SLAB TO BE REMOVED AS PER ITEM 202 - APPROACH SLAB REMOVED.
- INDICATES SEMI-INTERGRAL DIAPHRAGM GUIDE REMOVAL LIMITS CENTERED BETWEEN GIRDER 1 AND 2 (R.A. & F.A)
- (#) - BEAM DESIGNATION



EXISTING REAR ABUTMENT REMOVAL ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR BUT OPPOSITE HAND) (SEE NOTE 2)

* - CROWN
EL. 986.56± (R.A.)
EL. 986.92± (F.A.)



VIEW C-C

(TYPICAL WINGWALL REMOVAL DETAIL, ALL OTHER WINGWALLS SIMILAR)

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ABUTMENT REMOVAL DETAILS
BRIDGE NO. WAR-71-2179
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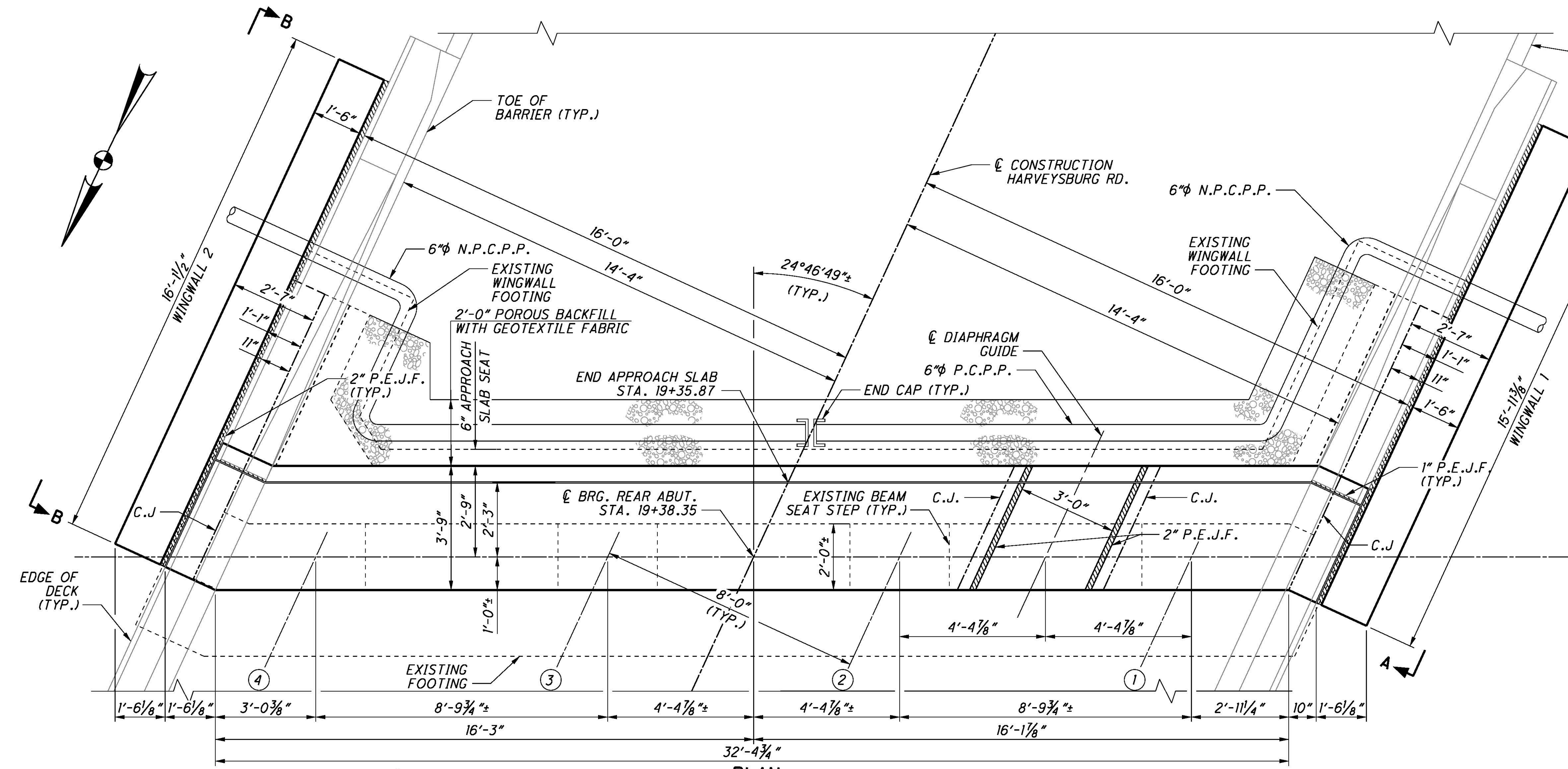
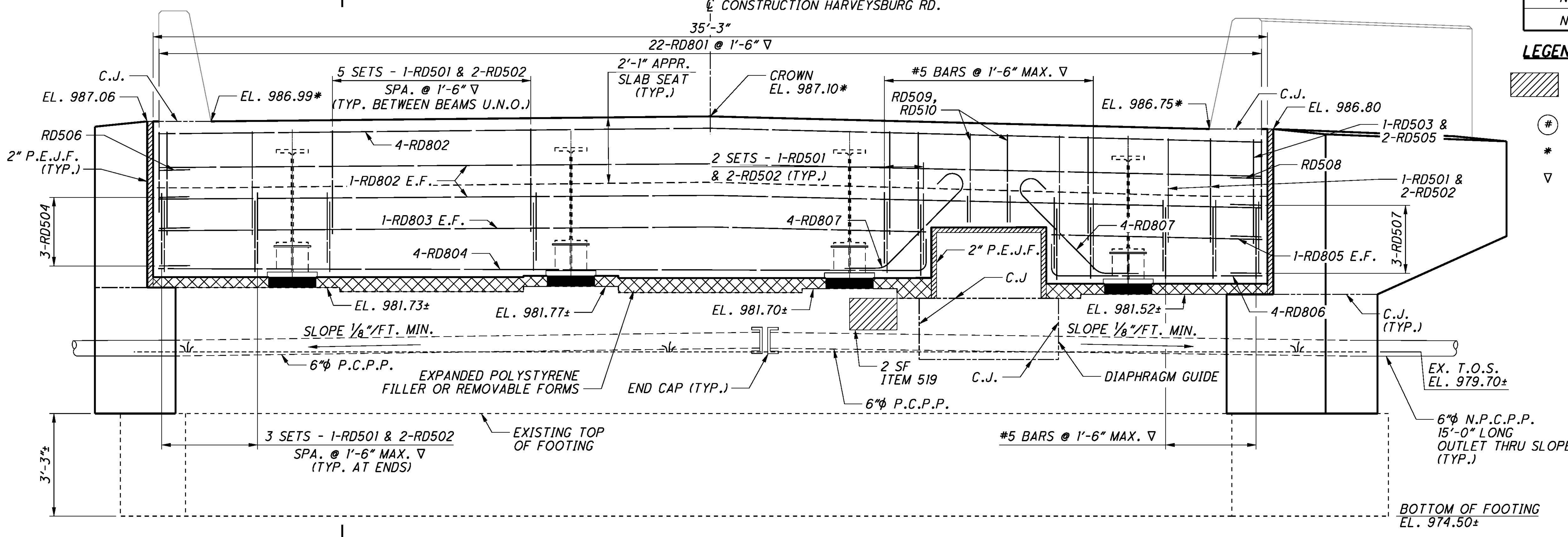
PID No. 91727



PLAN



ELEVATION

NOTES:

1. FOR VIEW A-A AND SECTION C-C, SEE SHEET 9/28.
2. FOR VIEW B-B, DIAPHRAGM GUIDE, AND PIPE OUTLET DETAIL, SEE SHEET 12/28.
3. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, SICD-2-14, AND EXISTING PLANS.
4. EXISTING PILING NOT SHOWN FOR CLARITY.
5. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.

MIN. LAP LENGTHS	
NO. 5 BARS	2'-6"
NO. 6 BARS	3'-10"

LEGEND:

- (hatch) - ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- (#) - BEAM DESIGNATION
- * - ELEVATIONS GIVEN AT BRIDGE LIMITS
- ▽ - BARS ALIGNED PARALLEL WITH BEAMS WITH SPACING PERPENDICULAR TO BEAMS

SUMMARY OF PATCHING AREAS

LOCATION	QUANTITY (SQ. FT.)
REAR ABUTMENT	2
AS DIRECTED BY THE ENGINEER (20%)	1
TOTAL	3

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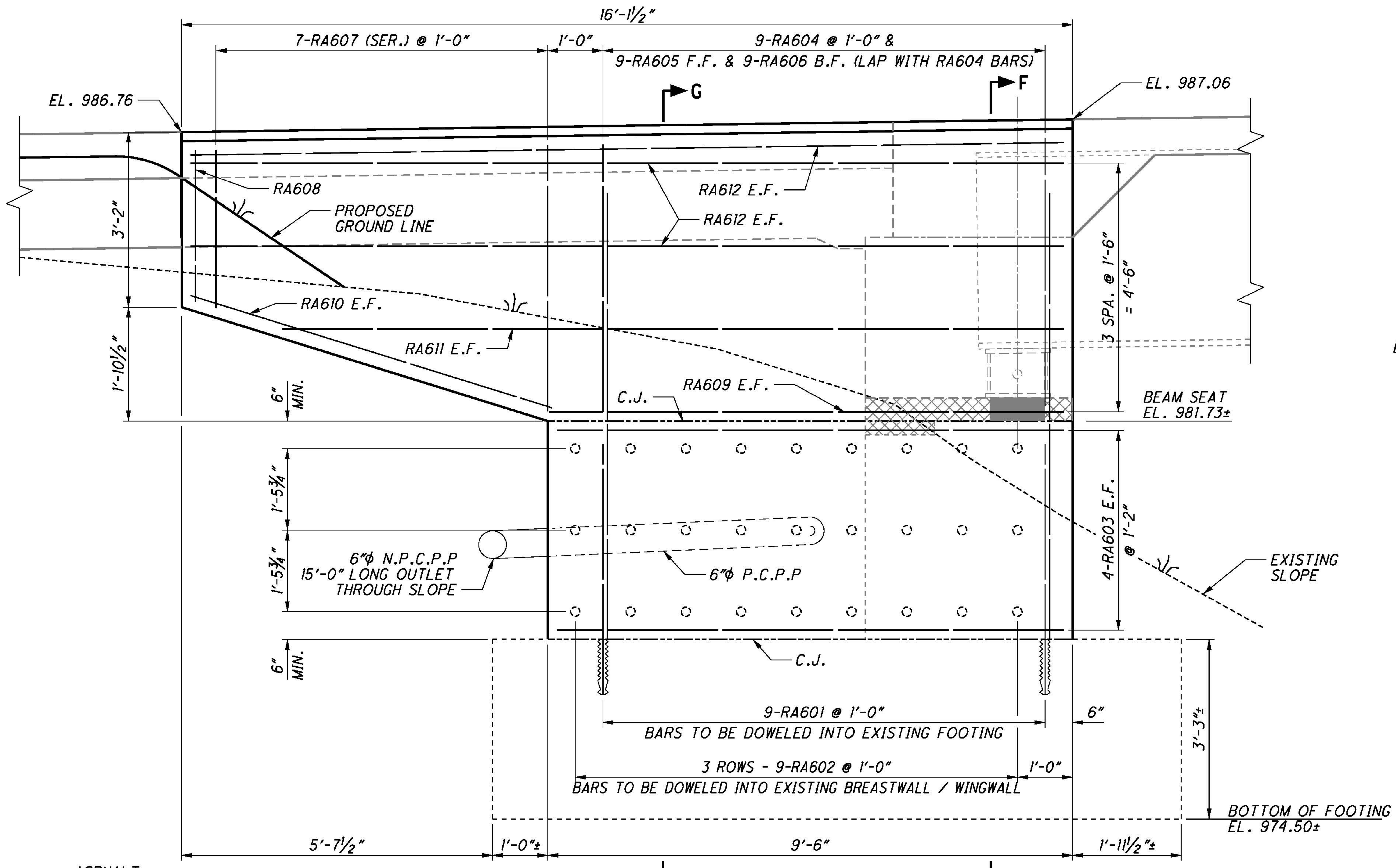
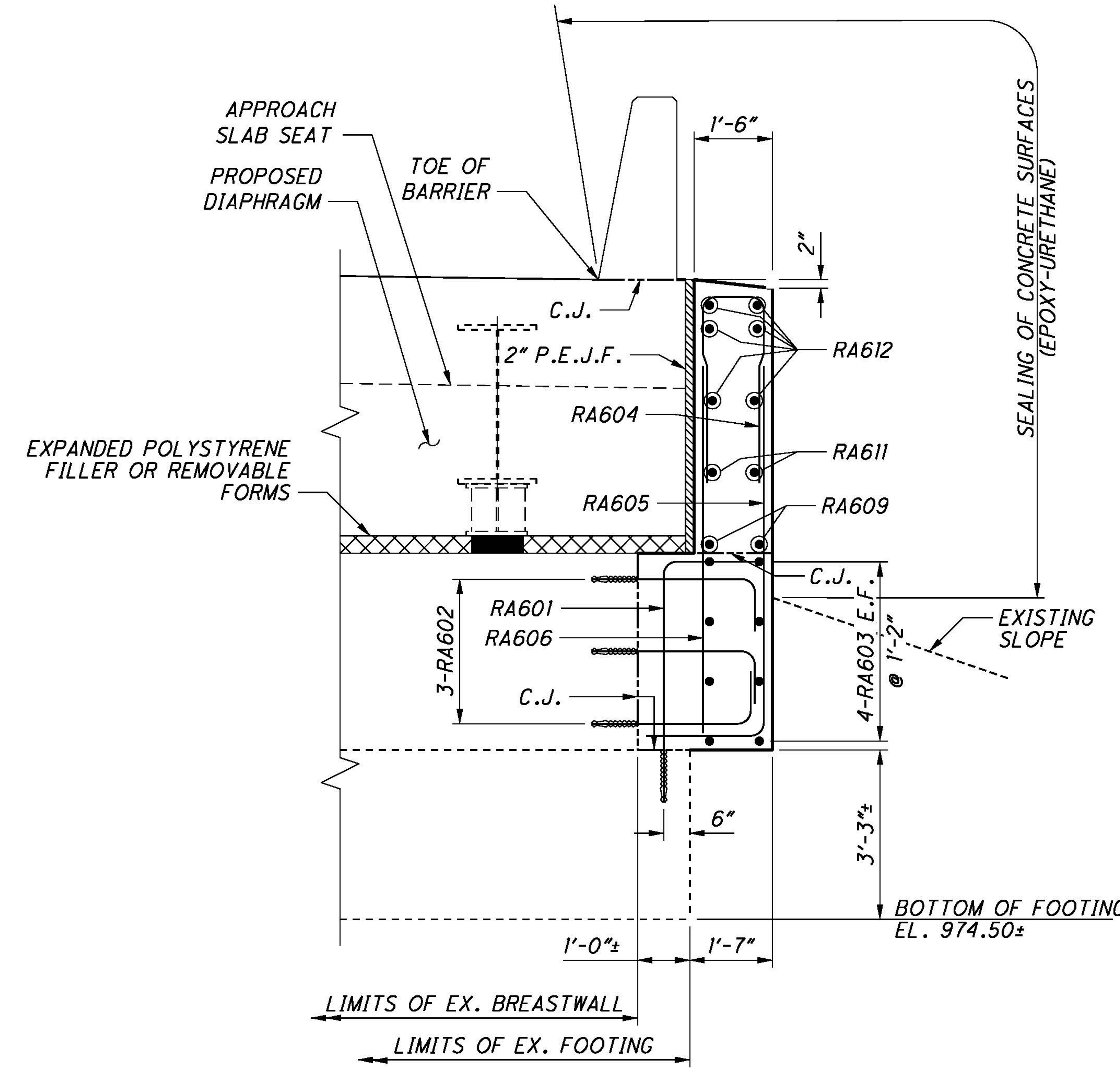
REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

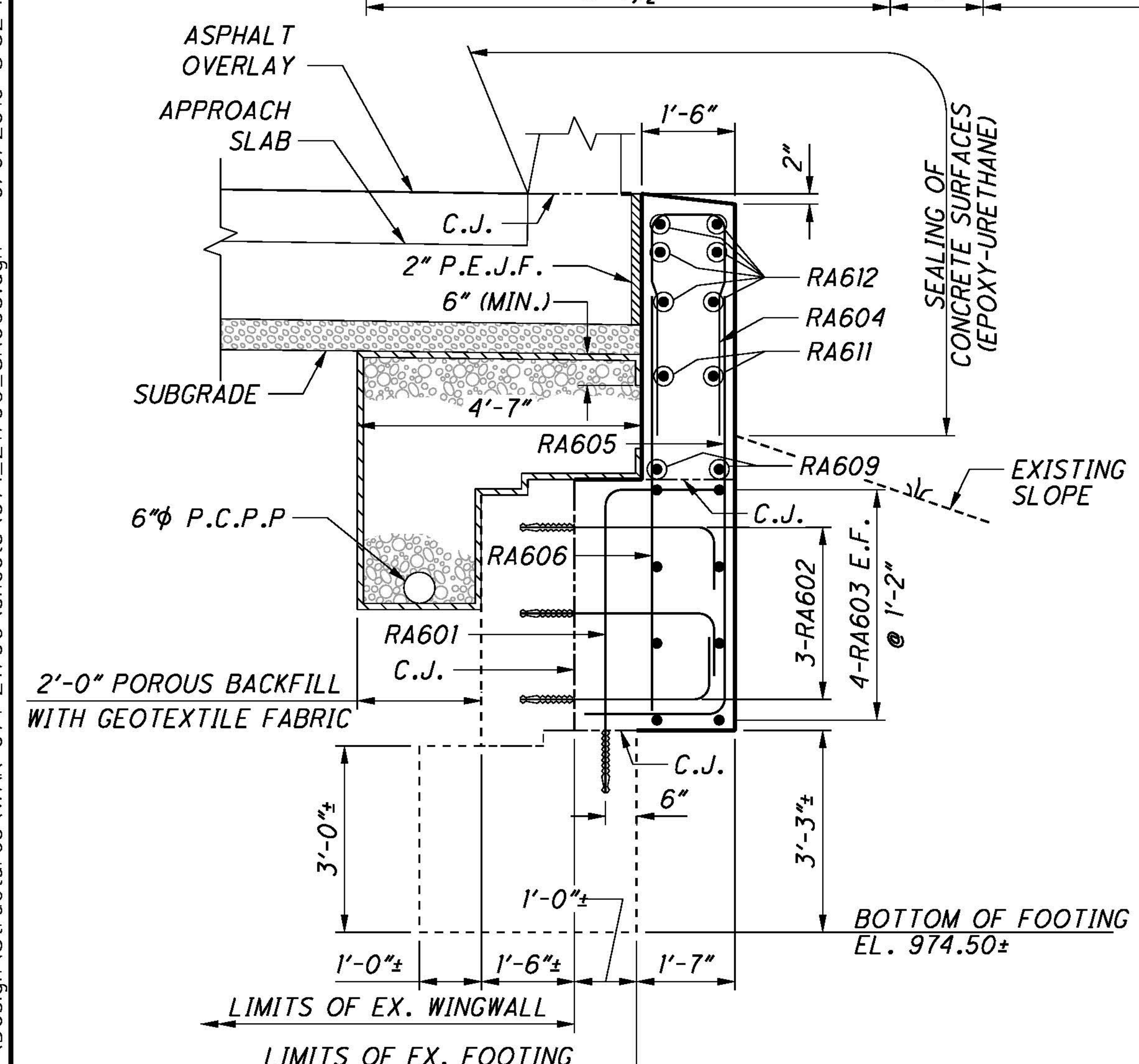
7/28



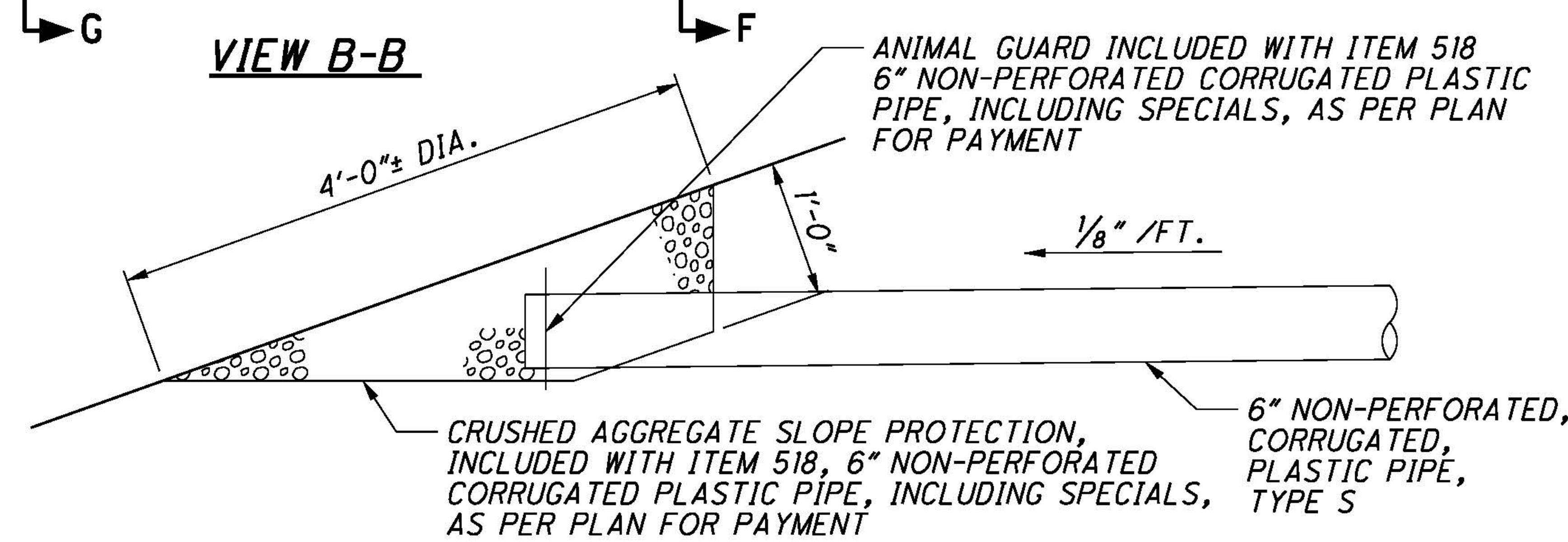
VIEW B-B



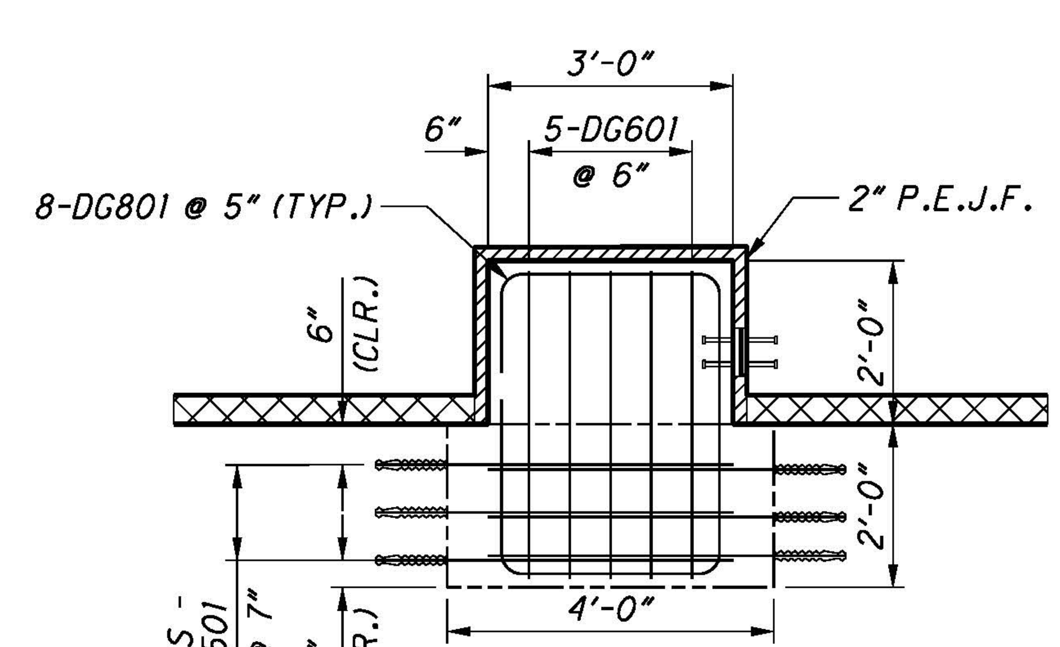
SECTION F-F



SECTION G-G



TERMINATION OF 6" N.P.C.P.P. DETAIL



DIAPHRAGM GUIDE

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10½ INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 -DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM AGUIDE DETAILS, SEE SHEET 7/28.
3. FOR BEARING DETAILS, SEE SHEET 14/28.
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. EXISTING PILING NOT SHOWN FOR CLARITY.
6. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
7. FOR REAR ABUTMENT LEFT WINGWALL AND SEMI-INTEGRAL DIAPHRAGM DETAILS, SEE SHEET 9/28.
8. ADDITIONAL REINFORCEMENT, CONCRETE, LABOR AND INCIDENTALS REQUIRED TO FACILITATE THE CONSTRUCTION OF THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE PAID FOR UNDER ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.

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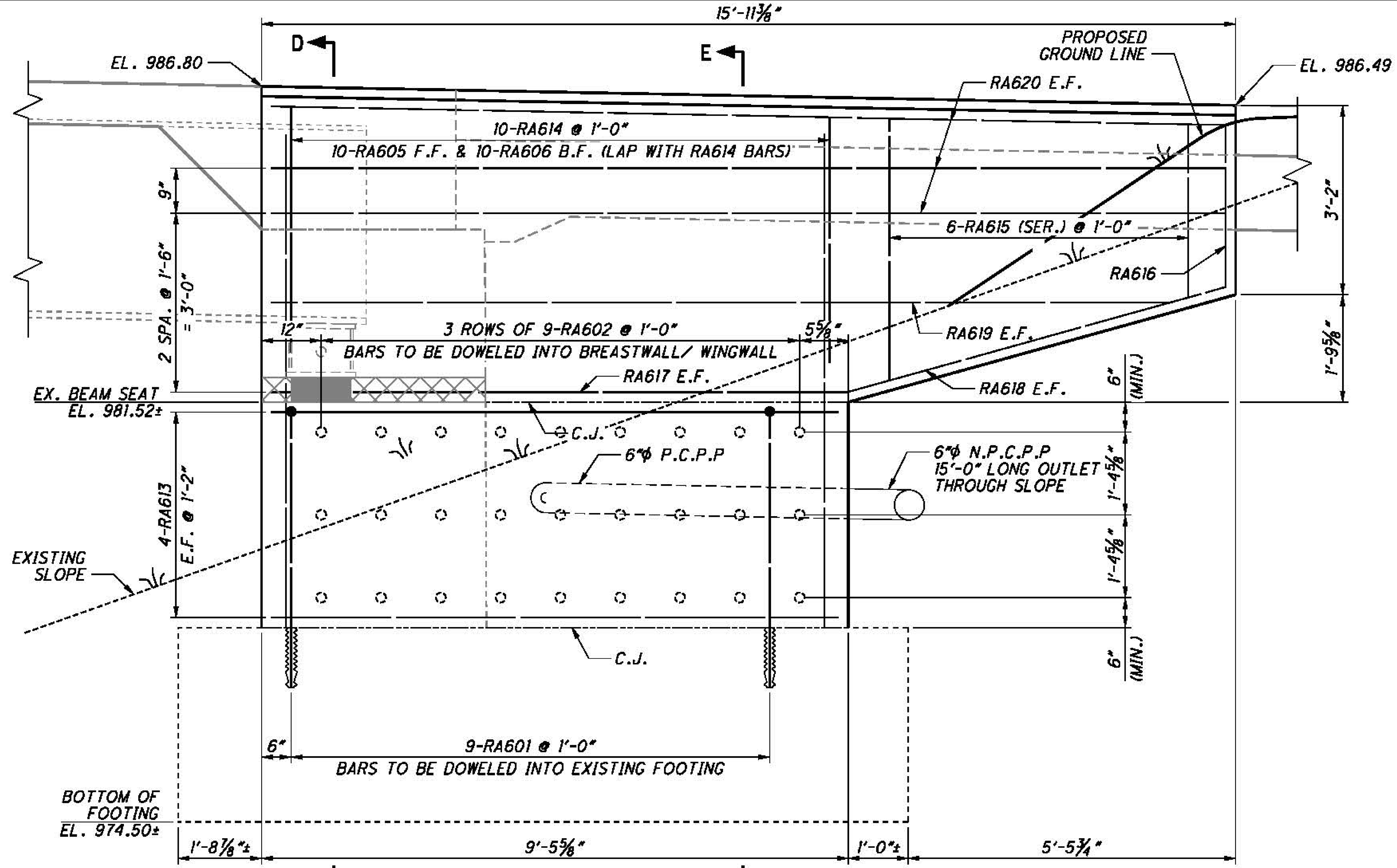
REAR ABUTMENT RIGHT WINGWALL AND DIAPHRAGM DETAILS

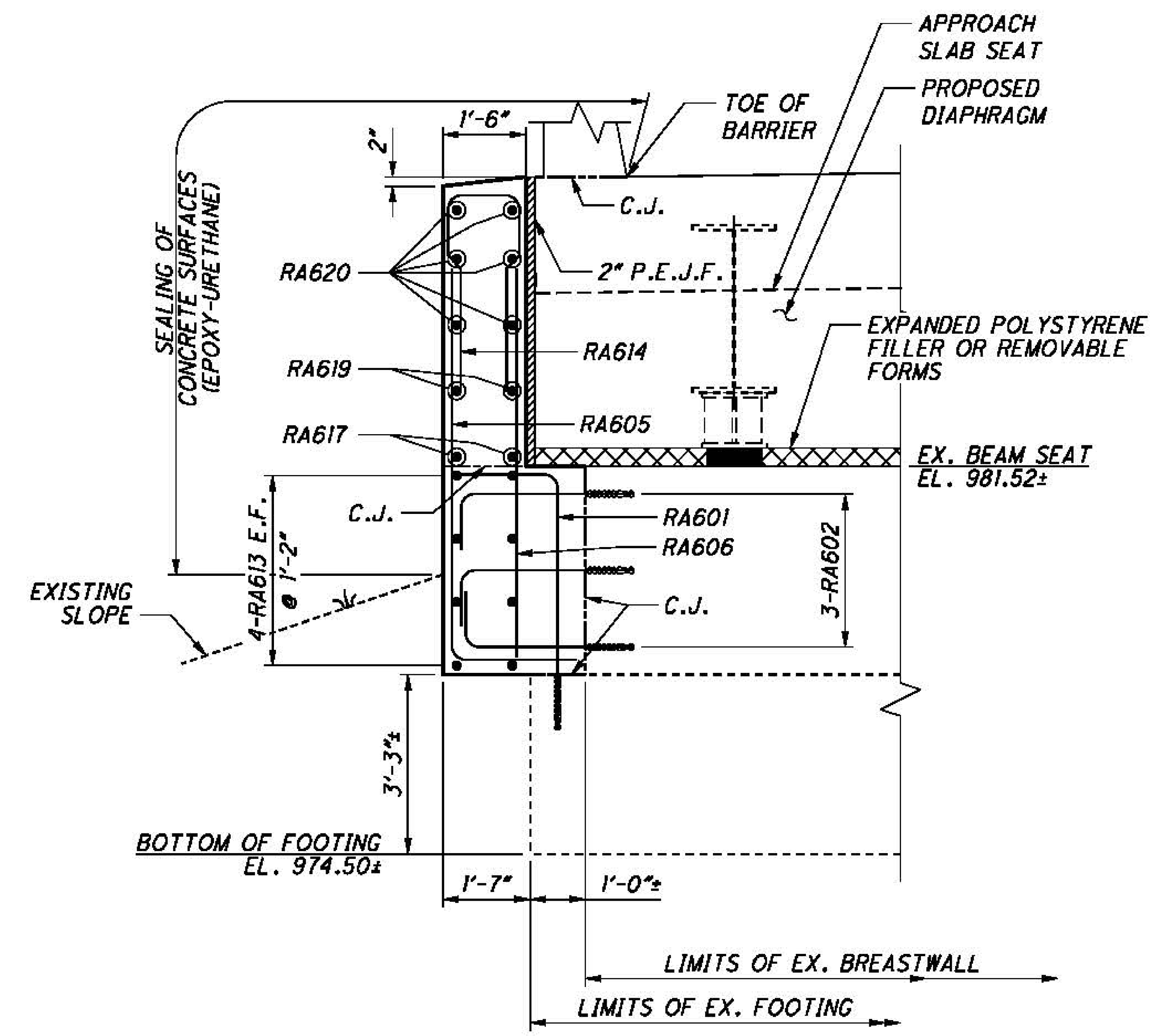
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

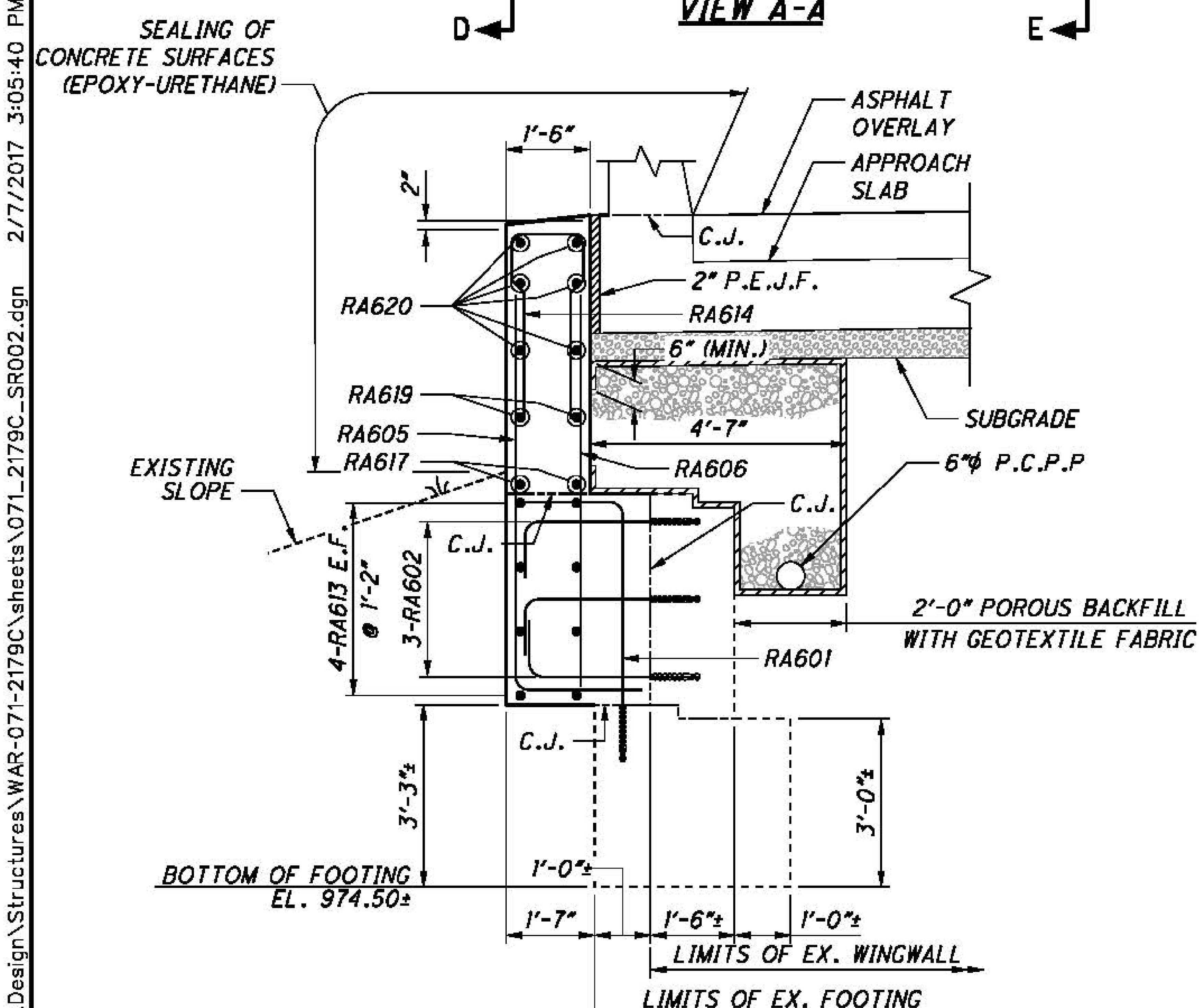
8/28



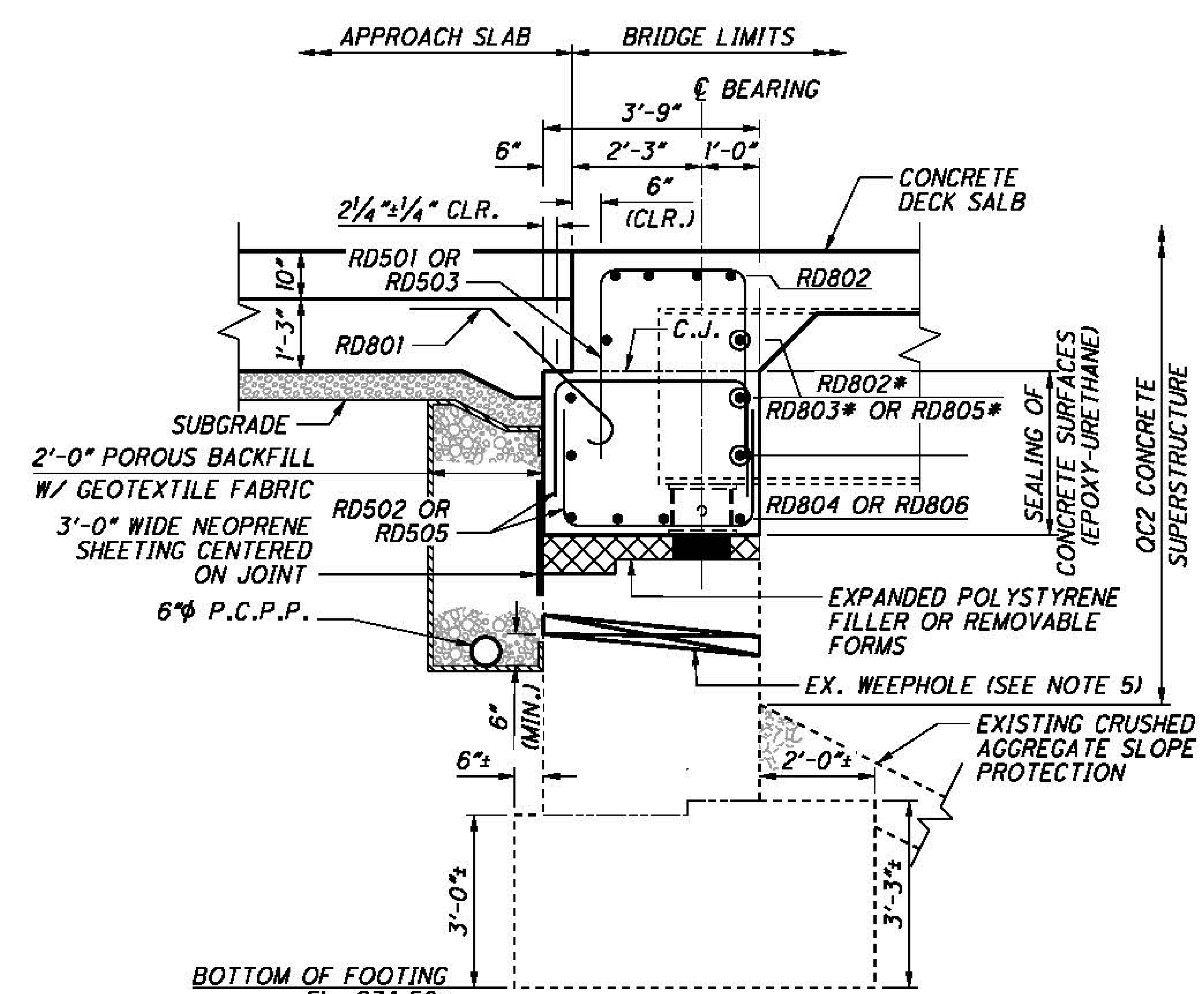
VIEW A-A



SECTION D-D



SECTION E-E



SECTION C-C

* #8 BARS F.F. THRU 3"ϕ HOLES IN STRUCTURAL STEEL

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10½ INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 -DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEET 7/28.
3. FOR BEARING DETAILS, SEE SHEET 14/28.
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. CLEAR EXISTING WEEPHOLES AND FILL WITH NON-SHRINK, NON-METALLIC GROUT PER CMS 705.20. ALL MATERIALS, LABOR, AND INCIDENTALS FOR PAYMENT SHALL BE INCLUDED IN ITEM 518 POROUS BACKFILL, WITH GEOTEXTILE FABRIC, AS PER PLAN.
6. PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.
7. EXISTING PILING NOT SHOWN FOR CLARITY.
8. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
9. FOR REAR ABUTMENT RIGHT WINGWALL, DIAPHRAGM GUIDE, AND THE TERMINATION OF THE 6" NON-PERFORATED CORRUGATED PLASTIC PIPE DETAILS, SEE SHEET 8/28.

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REAR ABUTMENT LEFT WINGWALL AND DETAILS

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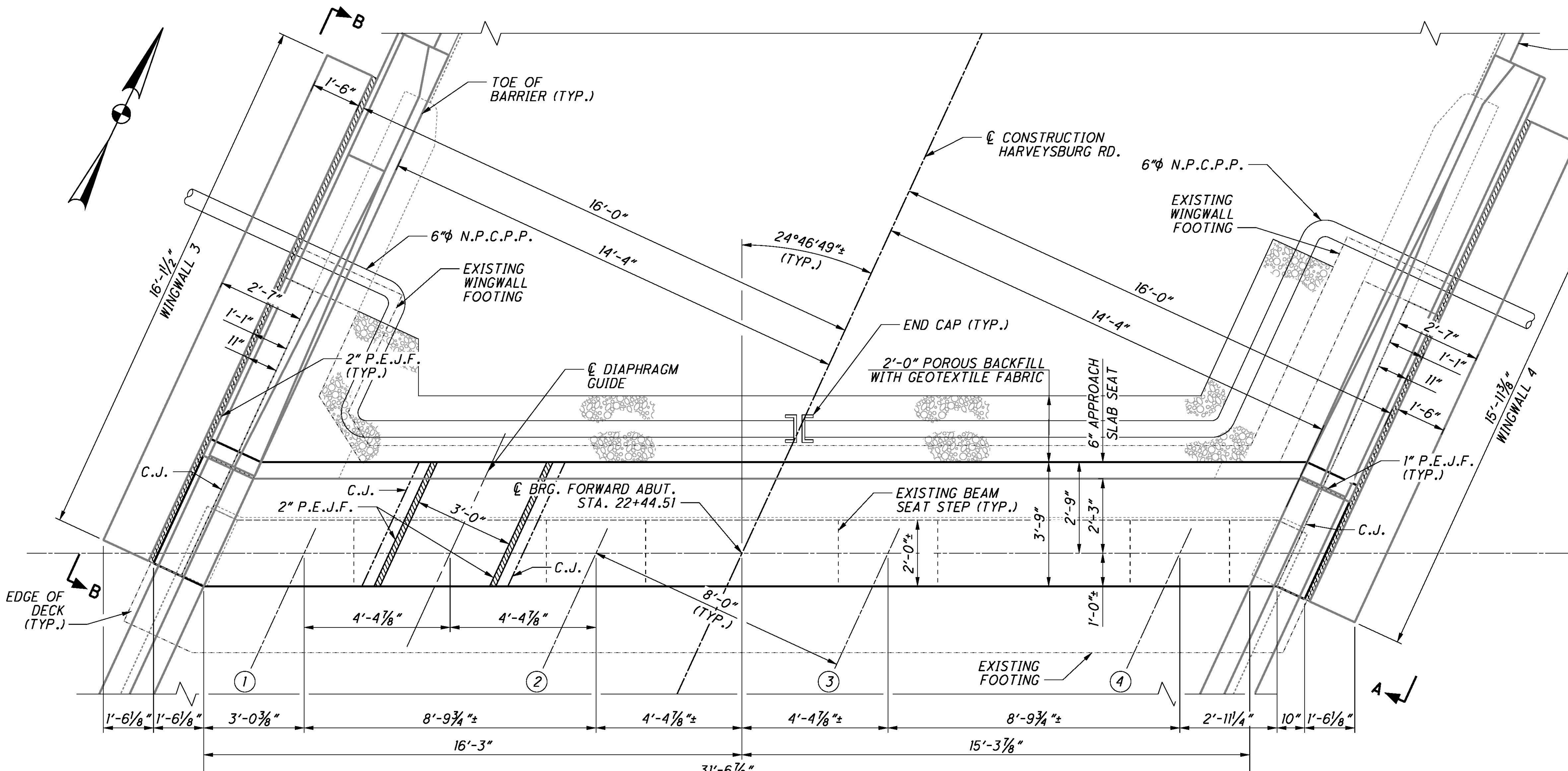
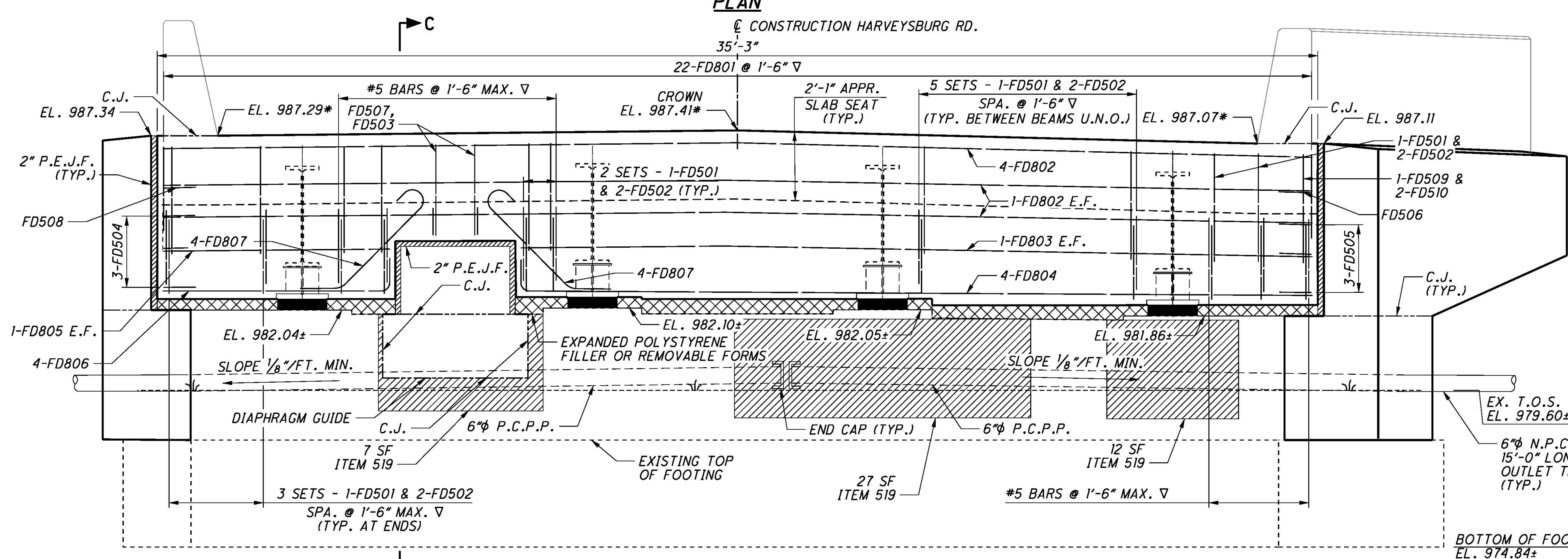


PLAN



ELEVATION

NOTES:

1. FOR VIEW A-A AND SECTION C-C, SEE SHEET 9/28.
2. FOR VIEW B-B, DIAPHRAGM GUIDE DETAIL, AND PIPE OUTLET DETAIL, SEE SHEET 12/28.
3. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 12/28.
4. FOR ADDITIONAL SEMI-INTEGRAL ABUTMENT DETAILS, SEE ODOT STD. DWG. SICD-1-96 AND SICD-2-14.
5. PILES NOT SHOWN FOR CLARITY.
6. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDITIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.

MIN. LAP LENGTHS	
NO. 5 BARS	2'-6"
NO. 6 BARS	3'-10"

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- (#) - BEAM DESIGNATION
- * - ELEVATIONS GIVEN AT BRIDGE LIMITS
- ∇ - BARS ALIGNED PARALLEL WITH BEAMS WITH SPACING PERPENDICULAR TO BEAMS

SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
FORWARD ABUTMENT	46
AS DIRECTED BY THE ENGINEER (20%)	10
TOTAL	56

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FORWARD ABUTMENT PLAN AND ELEVATION

BRIDGE NO. WAR-71-2179
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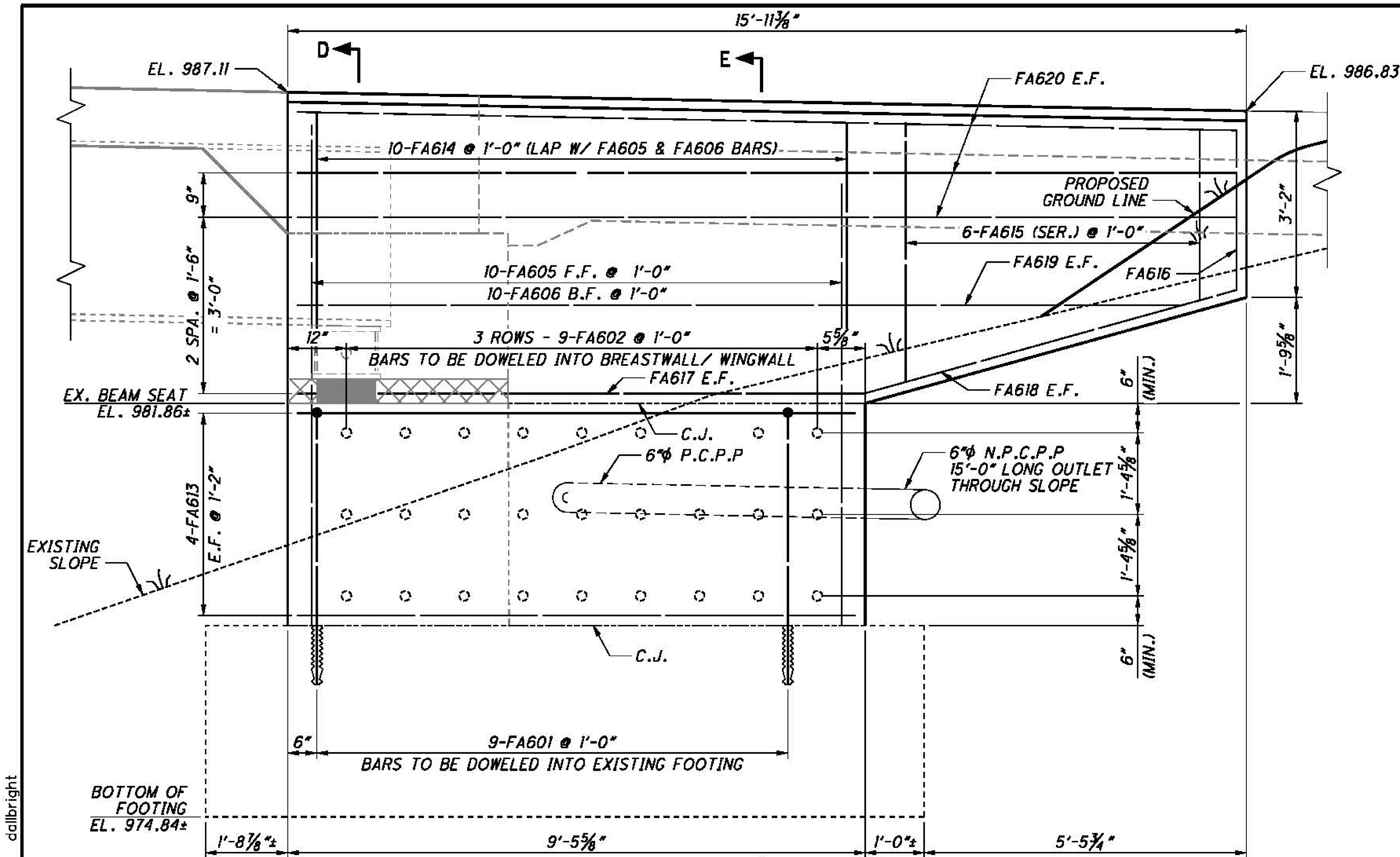
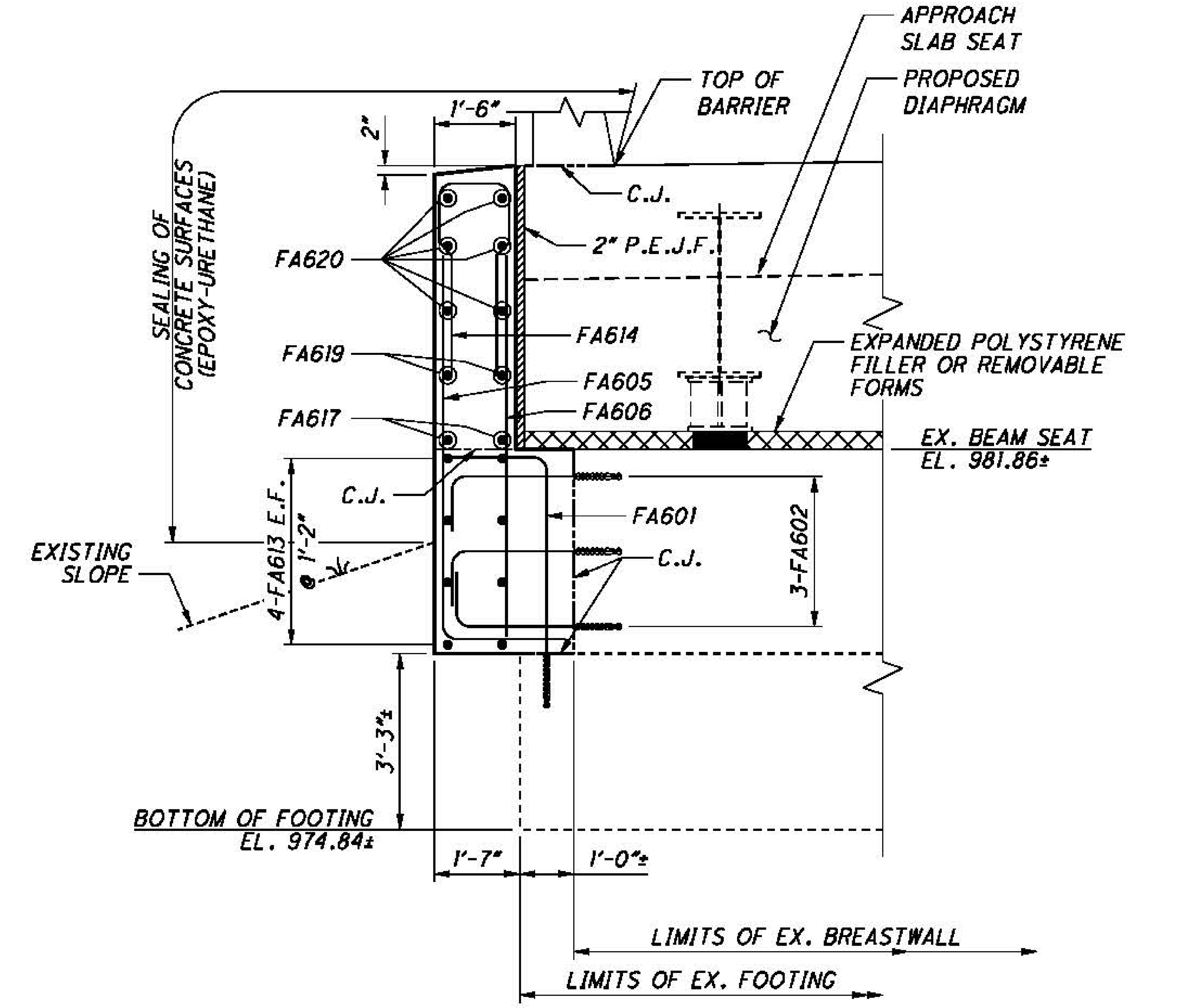
WAR-71-16.81
PID No. 91727

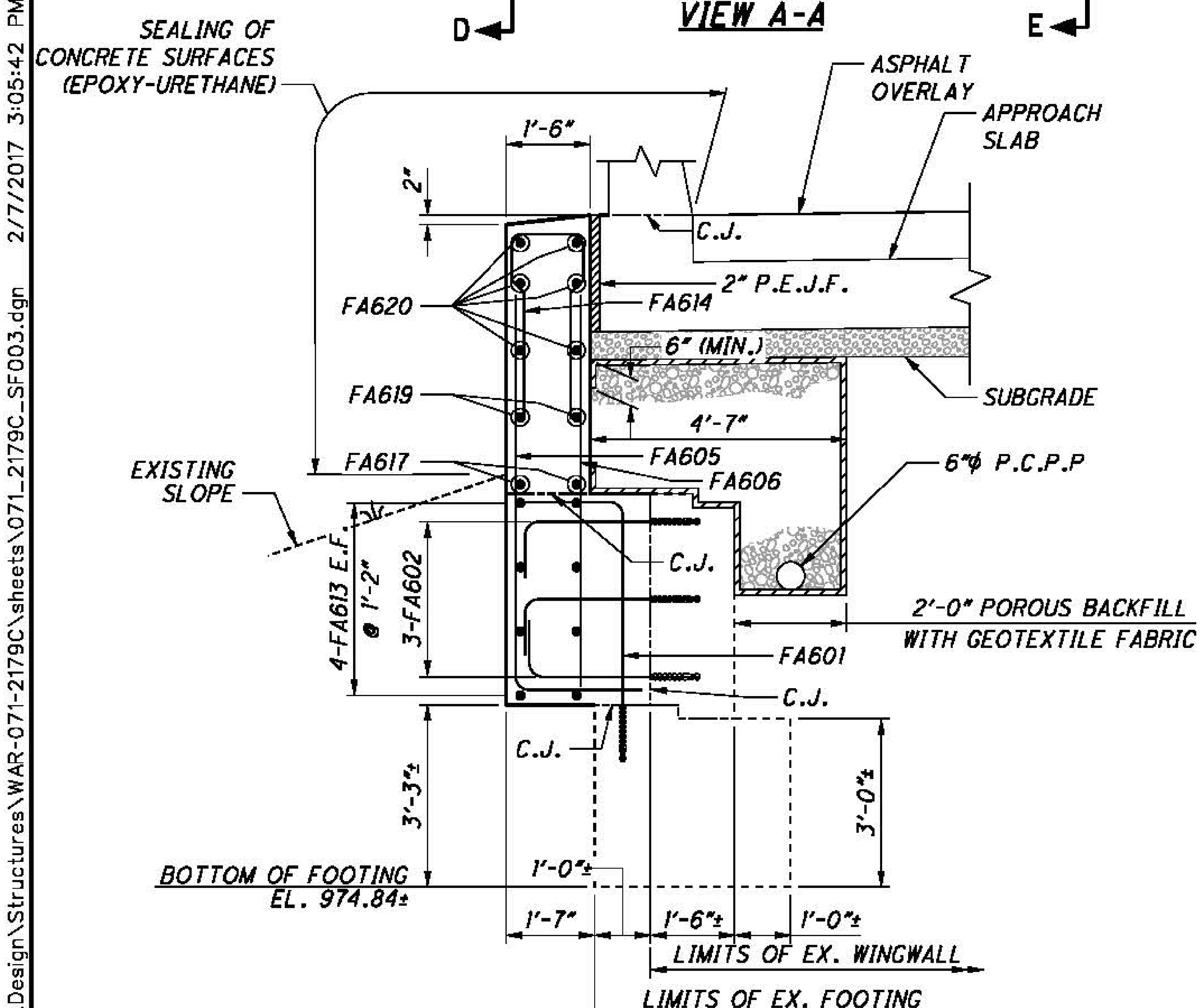
10/28



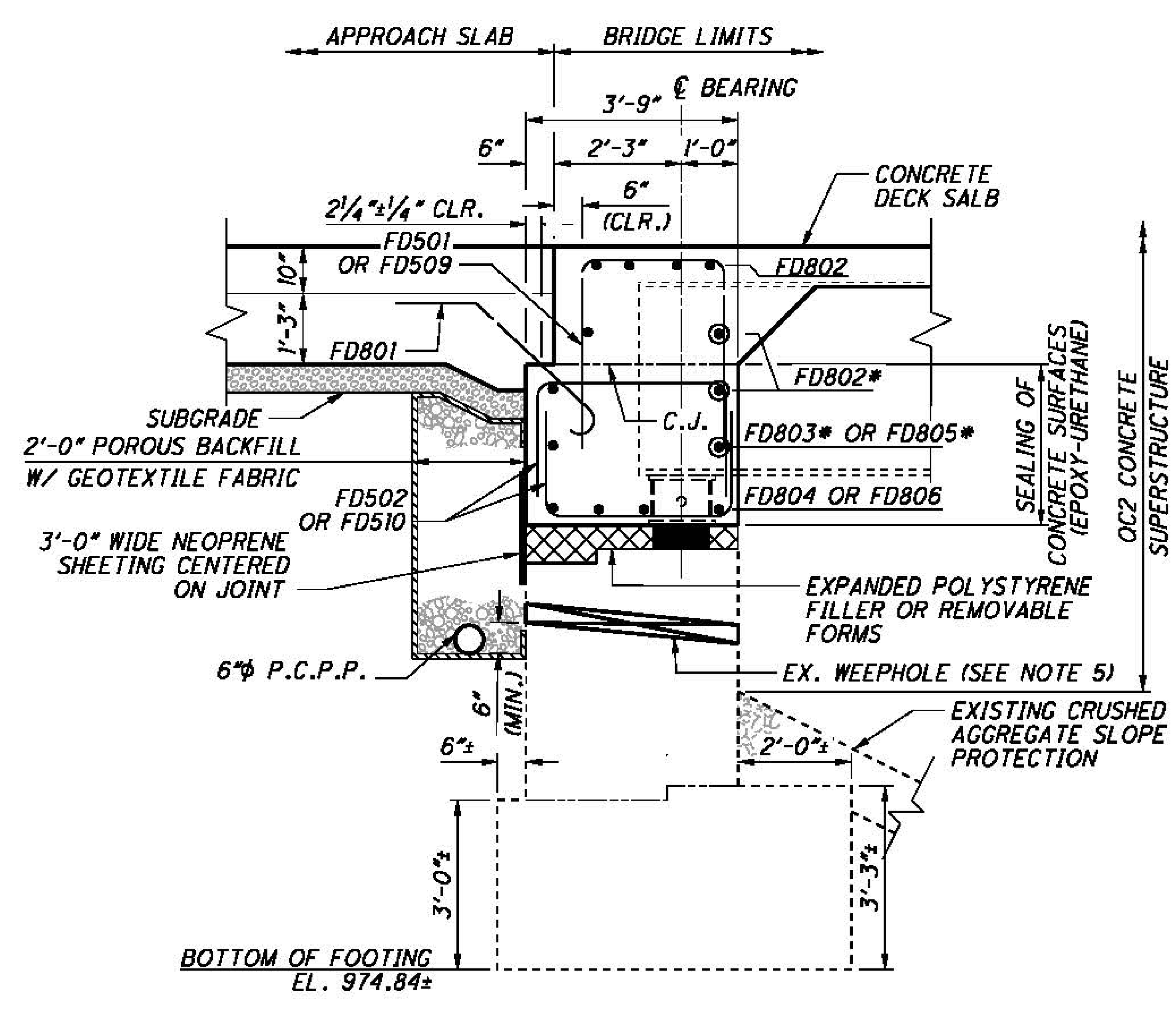
VIEW A-A



SECTION D-D



SECTION E-E



SECTION C-C

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10½ INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 -DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEET 10/28 .
3. FOR BEARING DETAILS, SEE SHEET 14/28 .
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. CLEAR EXISTING WEEPHOLES AND FILL WITH NON-SHRINK, NON-METALLIC GROUT PER CMS 705.20. ALL MATERIALS, LABOR, AND INCIDENTALS FOR PAYMENT SHALL BE INCLUDED IN ITEM 518 POROUS BACKFILL, WITH GEOTEXTILE FABRIC, AS PER PLAN.
6. PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.
7. EXISTING PILING NOT SHOWN FOR CLARITY.
8. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
9. FOR FORWARD ABUTMENT RIGHT WINGWALL, DIAPHRAGM GUIDE, AND THE TERMINATION OF THE 6" NON-PERFORATED CORRUGATED PLASTIC PIPE DETAILS, SEE SHEET 12/28 .

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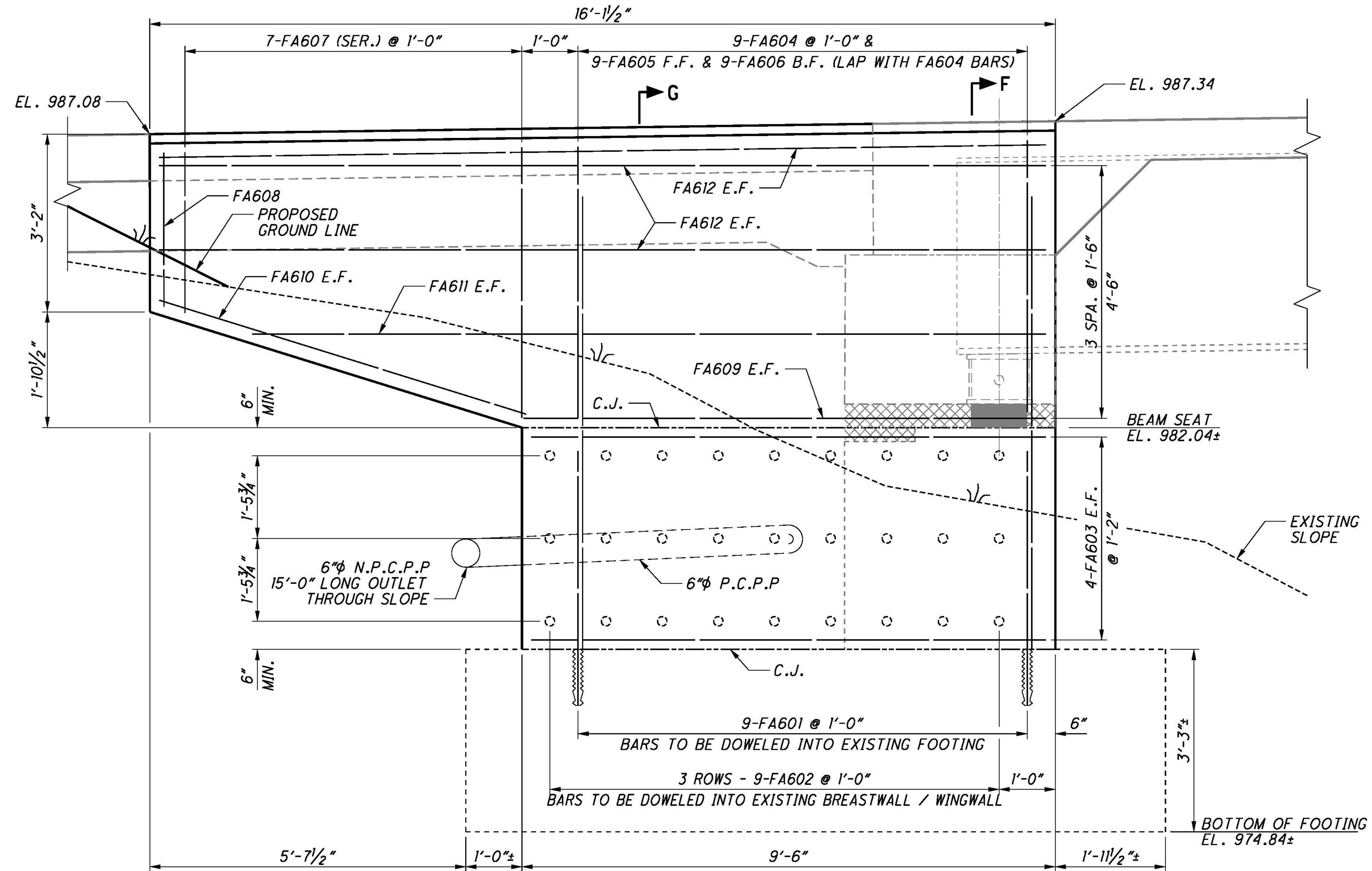
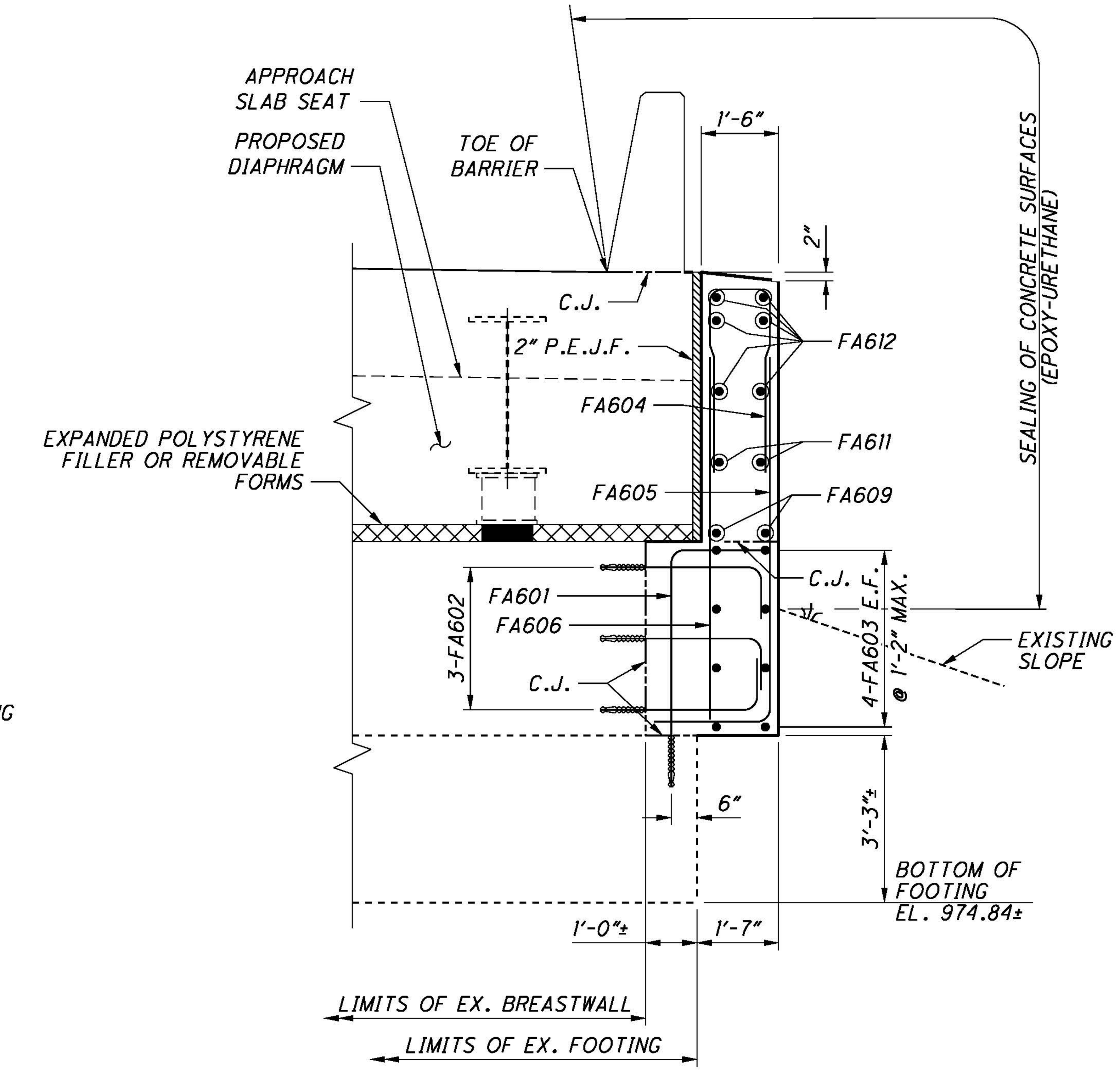
FORWARD ABUTMENT RIGHT WINGWALL DETAILS

BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

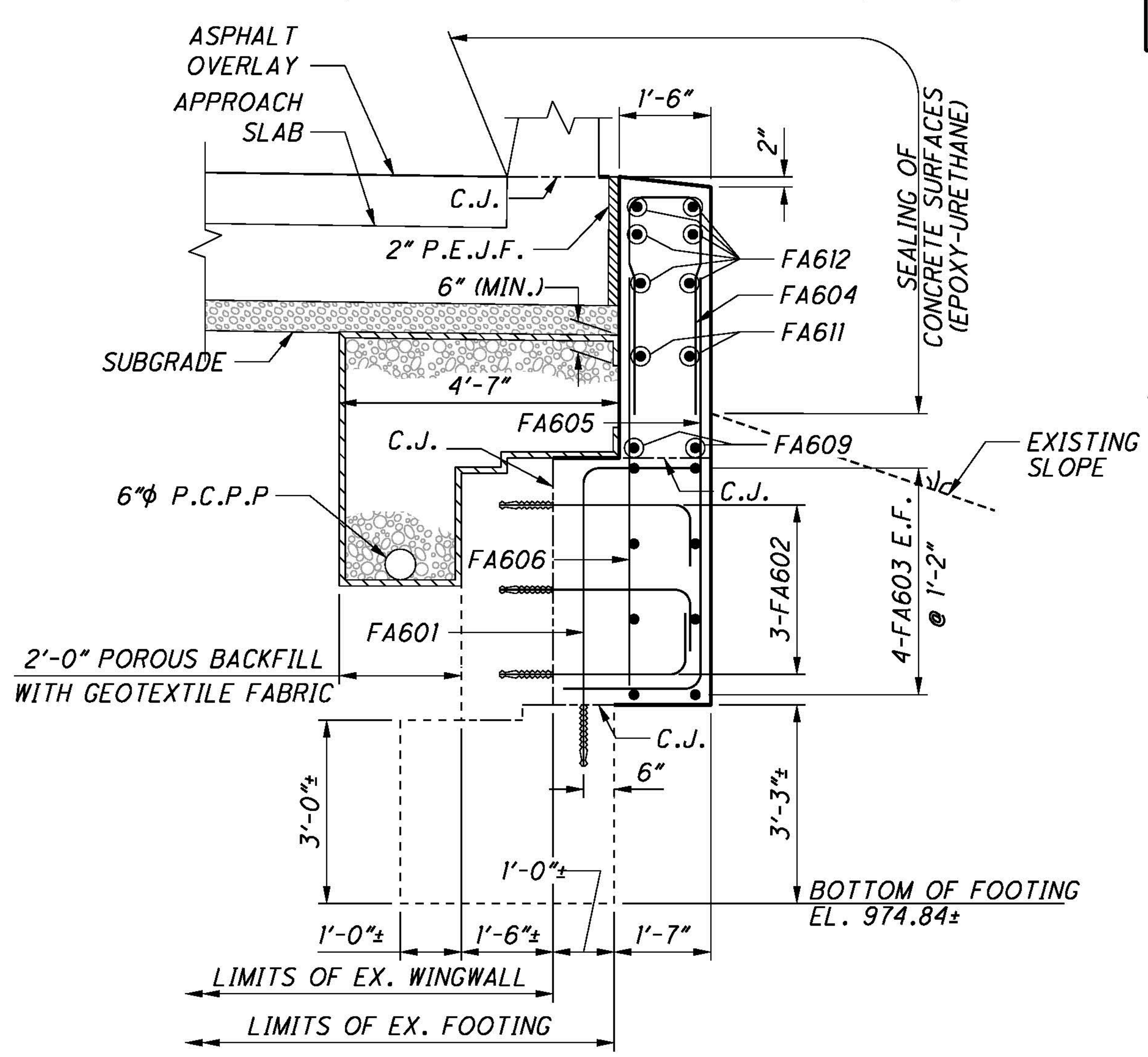
WAR-71-16.81
PID No. 91727



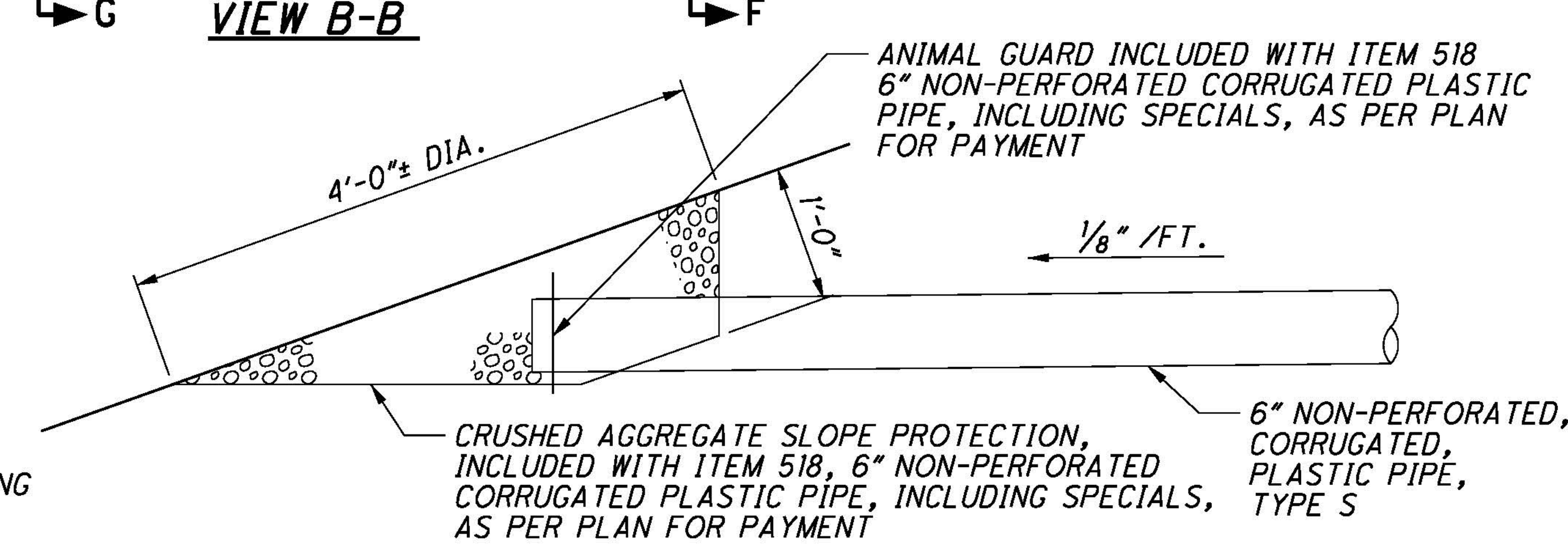
VIEW B-B



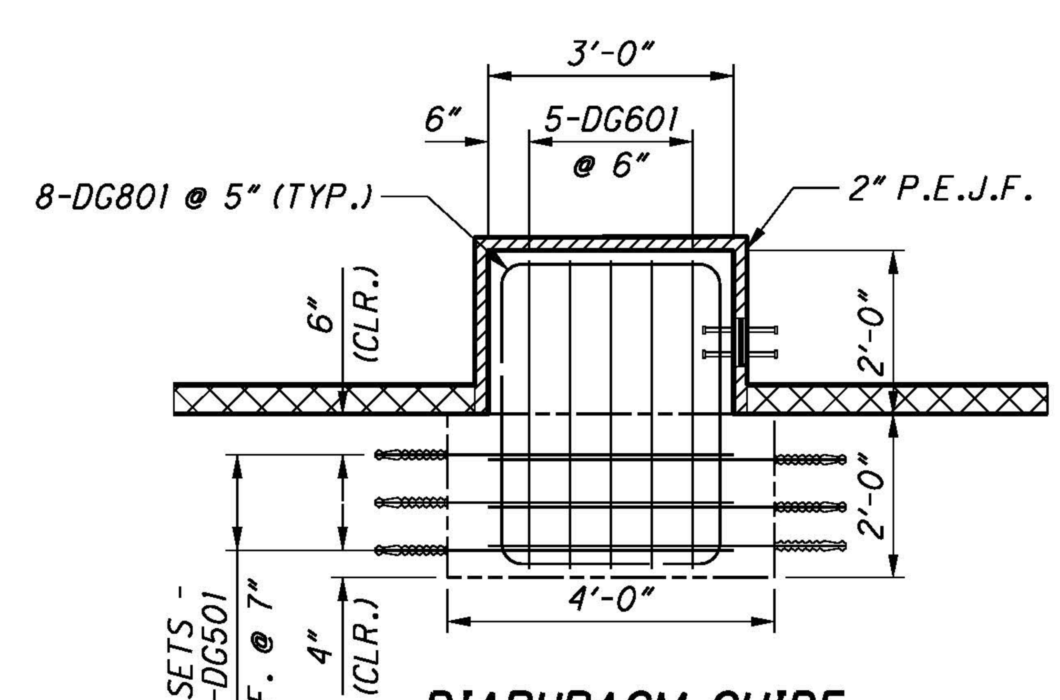
SECTION F-F



SECTION G-G



TERMINATION OF 6" N.P.C.P.P. DETAIL



DIAPHRAGM GUIDE

NOTES:

1. MINIMUM EMBEDMENT DEPTH OF DOWELS TO BE 10½ INCHES. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 -DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
2. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEET 10/28.
3. FOR BEARING DETAILS, SEE SHEET 14/28 .
4. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STD. DWG. SICD-1-96, ODOT STD. DWG. SICD-2-14, AND EXISTING PLANS.
5. EXISTING PILING NOT SHOWN FOR CLARITY.
6. REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT IS INCIDENTAL TO THE ITEM.
7. FOR FORWARD ABUTMENT RIGHT WINGWALL AND SEMI-INTEGRAL DIAPHRAGM DETAILS, SEE SHEET 11/28 .
8. ADDITIONAL REINFORCEMENT, CONCRETE, LABOR AND INCIDENTALS REQUIRED TO FACILITATE THE CONSTRUCTION OF THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE PAID FOR UNDER ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.

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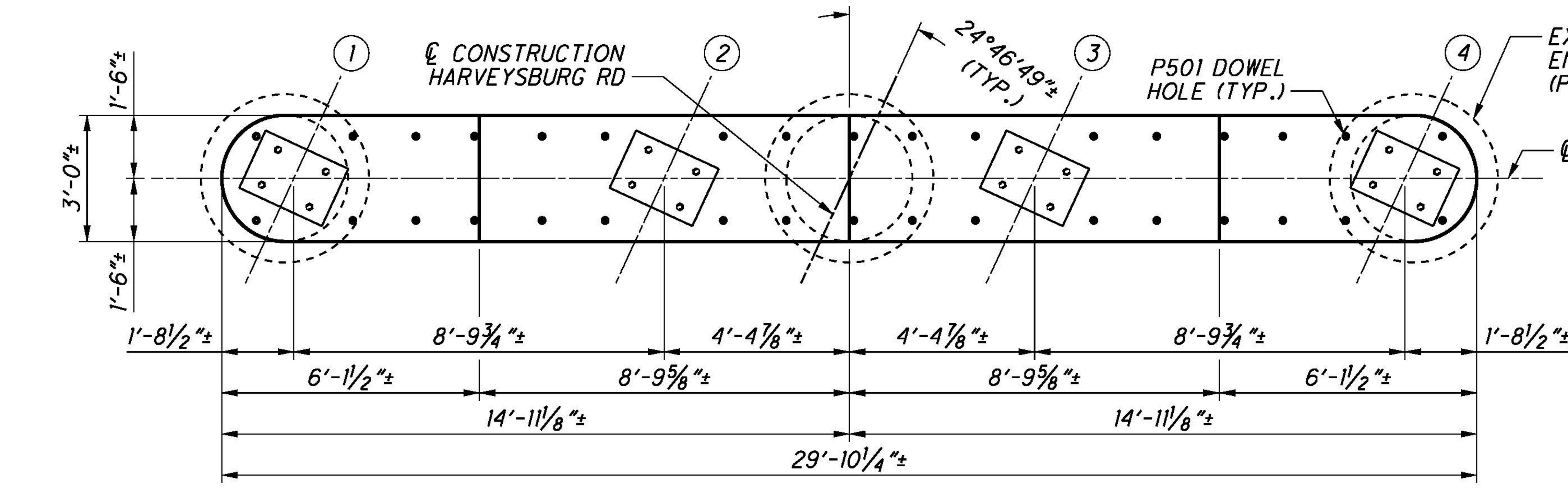
FORWARD ABUTMENT LEFT WINGWALL AND DIAPHRAGM DETAILS

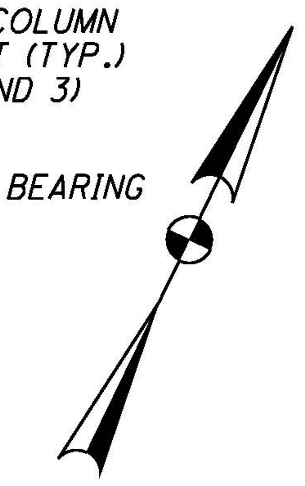
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

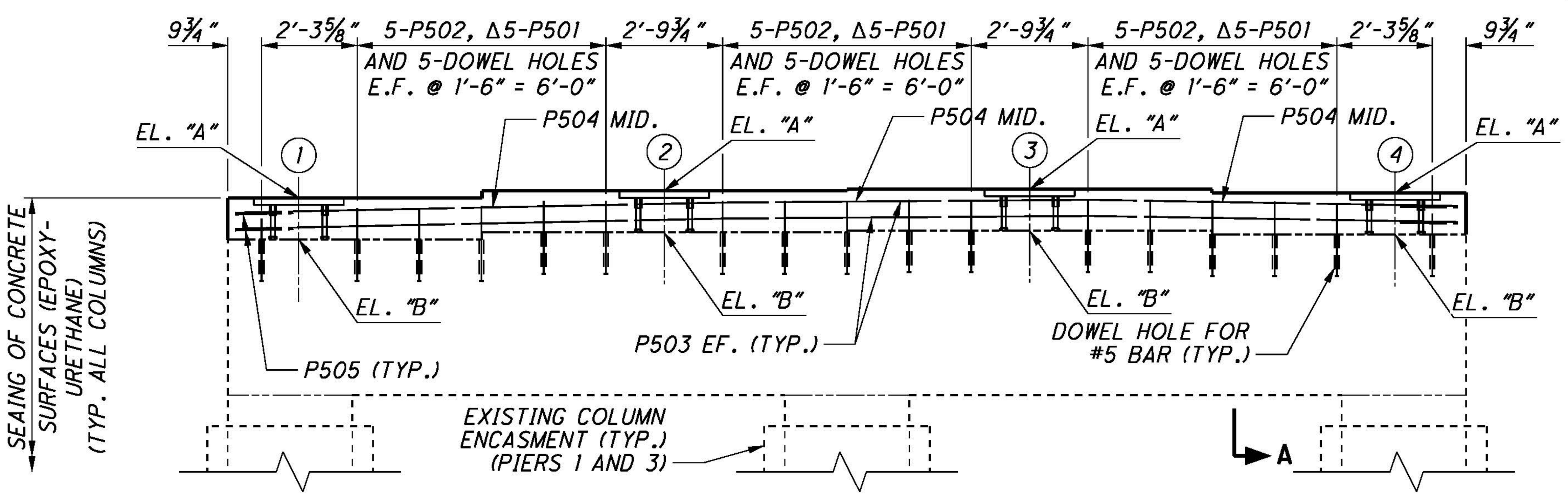
WAR-71-16.81
PID No. 91727



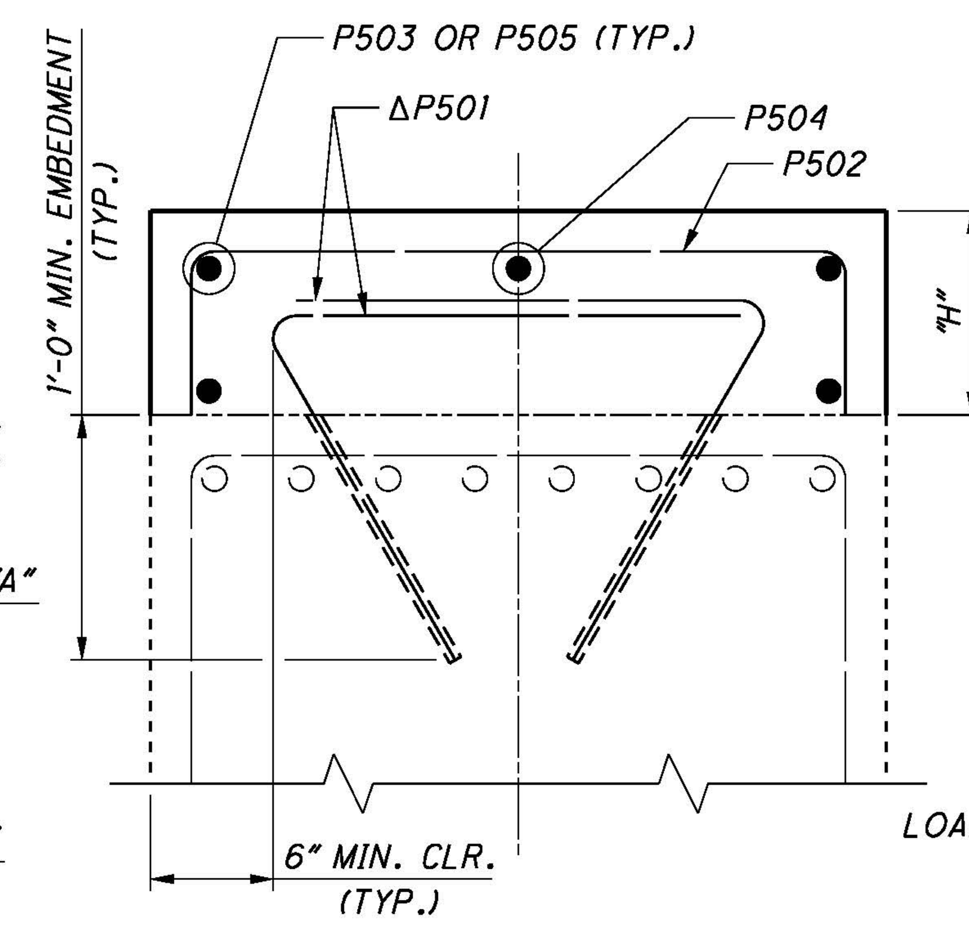
PLAN

(FOOTINGS NOT SHOWN FOR CLARITY)

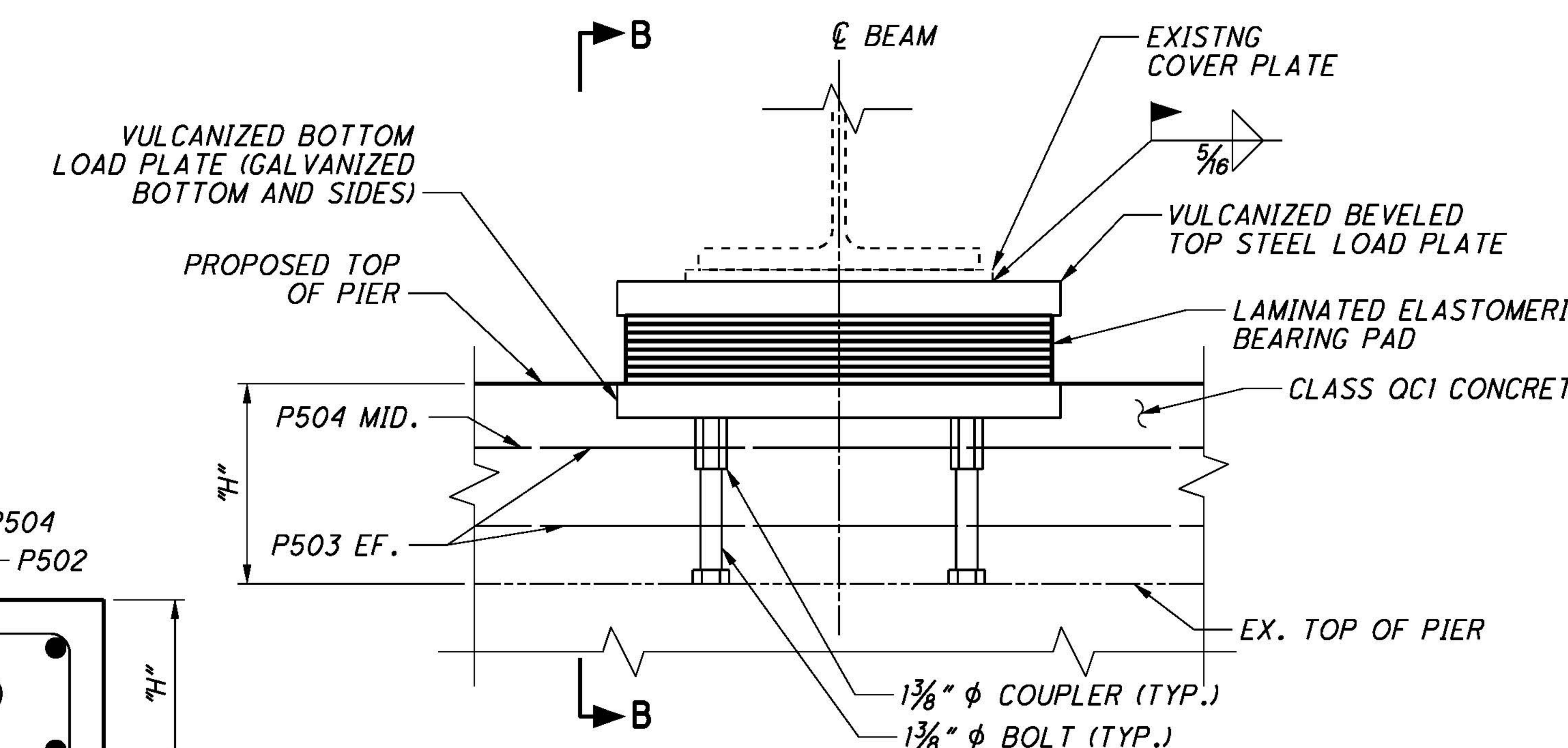




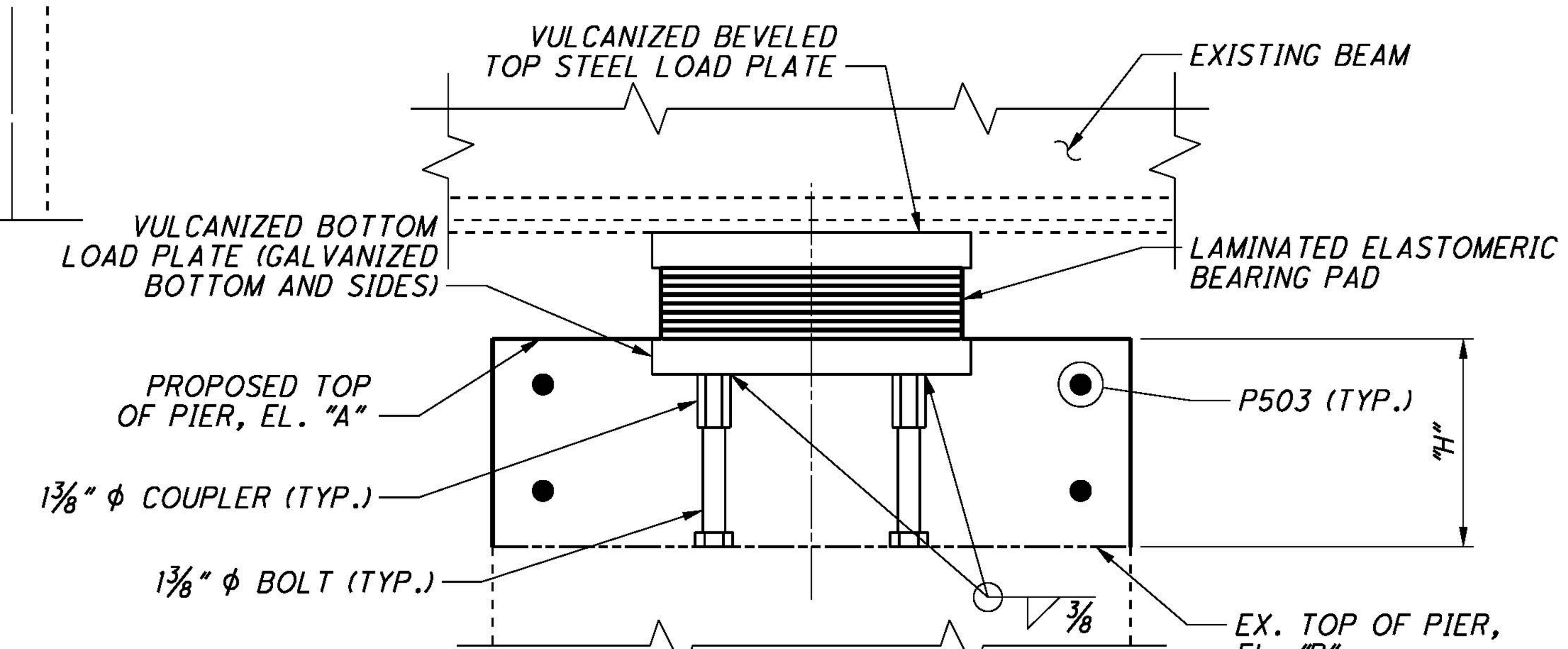
ELEVATION



SECTION A-A



TYPICAL PEDESTAL ELEVATION

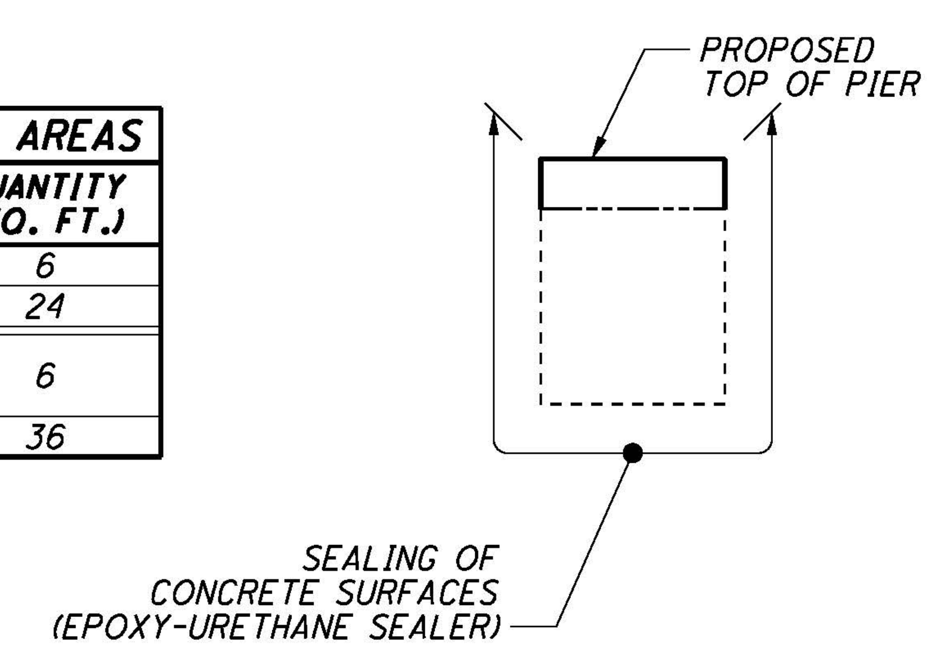


SECTION B-B

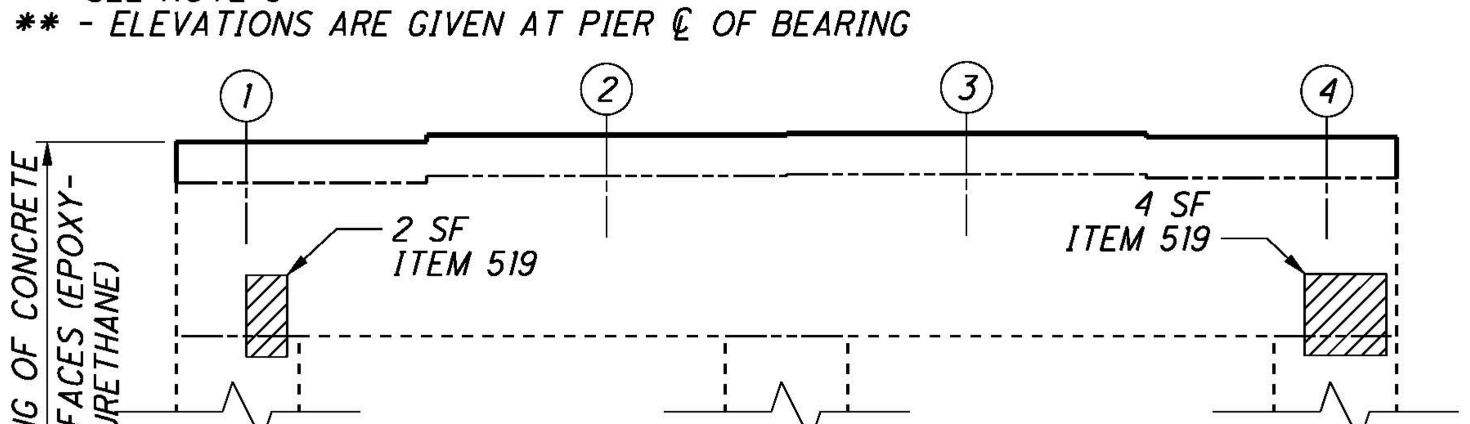
ESTIMATED PEDESTAL HEIGHT AND ELEVATIONS*					
PIER	BEAM	EST. PROP. EL. "A"	EST. PROP. BOTTOM OF BEAM EL. **	EX. EL. "B"	EST. PEDESTAL HEIGHT DIM. "H" (IN.)
1	B1	983.22±	983.77±	982.18±	12.5±
1	B2	983.39±	983.94±	982.30±	13.1±
1	B3	983.43±	983.98±	982.37±	12.7±
1	B4	983.35±	983.90±	982.28±	12.8±
2	B1	983.84±	984.38±	982.58±	15.0±
2	B2	983.97±	984.51±	982.72±	15.0±
2	B3	983.97±	984.51±	982.71±	15.1±
2	B4	983.85±	984.39±	982.62±	14.8±
3	B1	983.51±	984.06±	982.41±	13.3±
3	B2	983.60±	984.16±	982.50±	13.3±
3	B3	983.57±	984.12±	982.49±	13.0±
3	B4	983.41±	983.96±	982.34±	12.8±

* - SEE NOTE 3
** - ELEVATIONS ARE GIVEN AT PIER ℄ OF BEARING

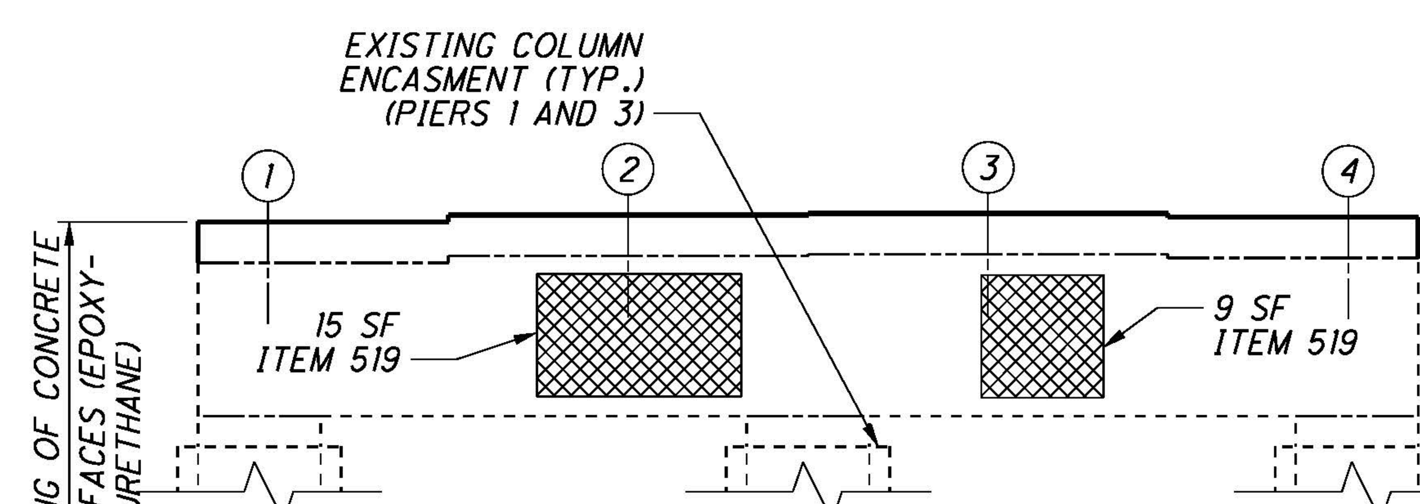
SUMMARY OF PATCHING AREAS	
LOCATION	QUANTITY (SQ. FT.)
PIER 2 (SOUTHEAST)	6
PIER 3 (NORTHWEST)	24
AS DIRECTED BY THE ENGINEER (20%)	6
TOTAL	36



TYPICAL PIER CAP SEALING DETAIL



PIER 2 PATCHING ELEVATION



PIER 3 PATCHING ELEVATION

LEGEND:

- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - SOUTHEAST FACE
- ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN - NORTHWEST FACE
- (#) - BEAM DESIGNATION
- Δ - P501 SHALL BE PLACED 30° OUT OF PLUMB FROM VERTICAL TO ALLOW FOR PLACEMENT

NOTES:

1. NEW CONCRETE SURFACES SHALL BE SEALED WITH EPOXY-URETHANE SEALER.
2. AN ADDITIONAL 20% CONTINGENCY HAS BEEN ADDED TO THE FIELD MEASURED PATCHING AREAS TO ALLOW FOR ADDTIONAL AREAS OF DETERIORATION. THE FINAL DIMENSIONS AND LOCATION OF THE DETERIORATED AREAS TO BE PATCHED SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN THE FIELD FOR FINAL PAYMENT.
3. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE HEIGHT OF THE PROPOSED PIER CAP AND ADJUSTABLE PEDESTAL SO THAT THE FINAL PROPOSED CONTRACTOR CALCULATED BEAM SEAT ELEVATIONS ARE IN AGREEMENT WITH THEIR FIELD VERIFIED MEASUREMENTS. THE FINAL CAP HEIGHT "H" CAN BE CALCULATED BY SUBTRACTING THE EXISTING BEAM SEAT ELEVATION AND THE THICKNESS OF THE ELASTOMERIC BEARING WITH LOAD PLATE AT EACH BEARING LOCATION FROM THE EXISTING BOTTOM OF BEAM ELEVATION AND ADDING THE AMOUNT THE BRIDGE IS TO BE RAISED. THE PIER CAP IS TO BE INCREASED BY 4.73 INCHES (THE AMOUNT THE BRIDGE IS TO BE RAISED). THE HEIGHT OF THE PROPOSED PIER CAP IS A CONTRACTOR CALCULATED DIMENSION AND ANY MODIFICATIONS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER.

   PROPOSED DIMENSION "H" = (CONTRACTOR'S EXISTING BOTTOM OF STEEL ELEVATION) - (CONTRACTOR'S EXISTING BEAM SEAT ELEVATION) - (HEIGHT OF BEARING'S TOP LOAD PLATE AND LAMINATED ELASTOMERIC BEARING PAD) + (AMOUNT THE BRIDGE IS TO BE RAISED)
4. FIELD TRIM REBAR AS NECESSARY.
5. FOR REINFORCING LIST, SEE SHEET 27/28.
6. FOR ELASTOMERIC BEARING AND TOP BEVELED LOAD PLATE DETAILS, SEE SHEET 14/28.
7. REMOVE TOP OF PIER CONCRETE BEFORE DOWELING TO LOCATE EXISTING REBAR. ADJUST DOWEL HOLES AS NECESSARY TO CLEAR BEAM SEAT STEPS.
8. FURNISH ONE OF THE FOLLOWING EPOXY TYPES FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: HILTI HIT RE 500, HILTI, 5400 SOUTH 122 ND EAST AVENUE,TULSA, OK 74146, PHONE: (800) 879-6000; POWERS FASTENERS PE1000+EPOXY, POWERS FASTENERS, 2 POWERS LANE, BREWSTER, NY 10509, PHONE: (914) 235-6300; SIMPSON STRONG-TIE EDOT SET-XP, SIMPSON STRONG-TIE, COLUMBUS, OH 43228, PHONE: (800) 899-5099. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE INSTALLATION OF THE DOWLS SHALL BE INCLUDED UNDER ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT, AS PER PLAN.
9. THE CONTRACTOR SHALL CAST THE CONCRETE FOR THE PIER CAPS AND ALLOW THE CONCRETE TO CURE TO A MINIMUM OF 75% OF THE DESIGN STRENGTH PRIOR TO INSTALLATION OF DECK FORMWORK, REBAR, AND CONCRETE.

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PIER MODIFICATION DETAILS

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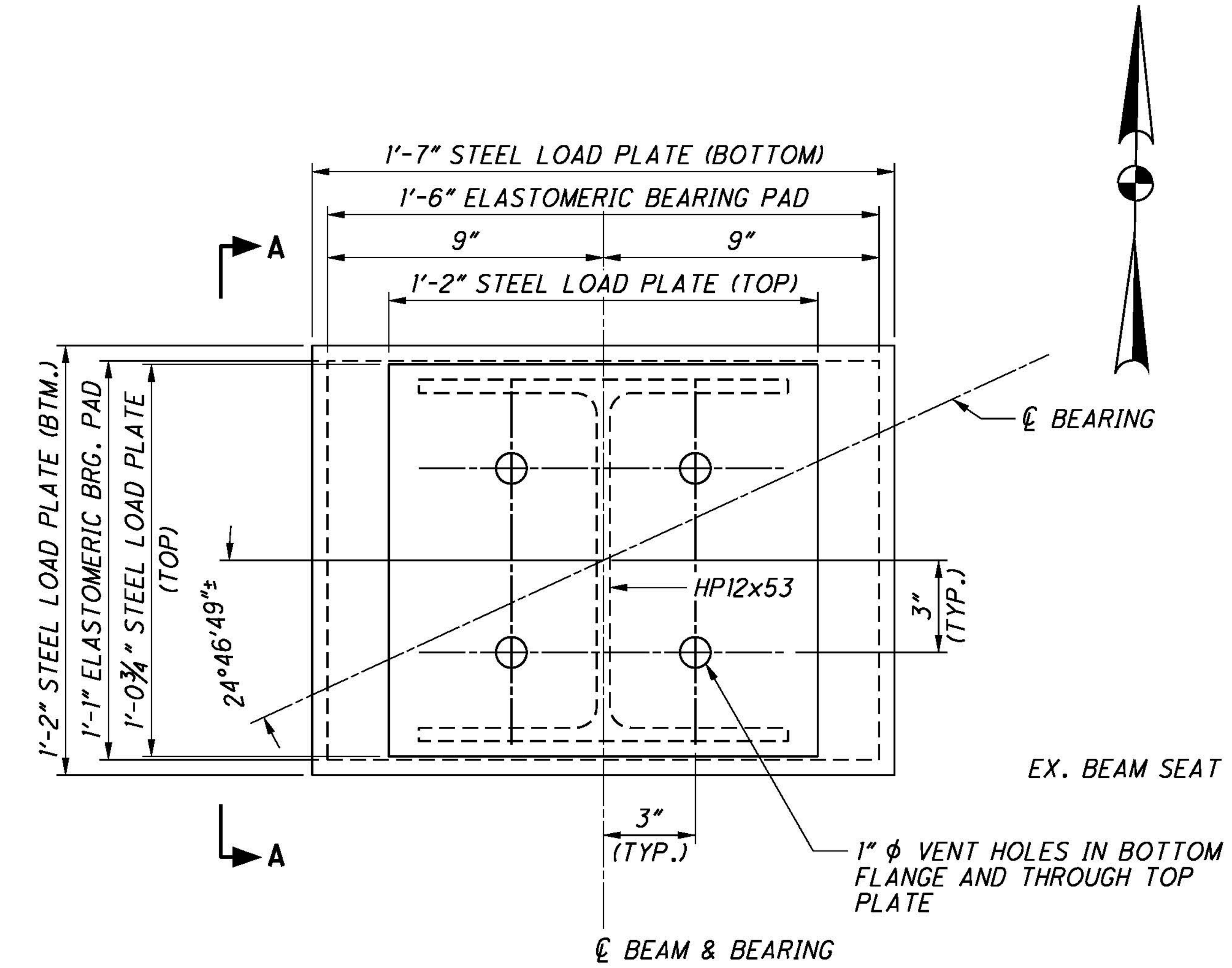
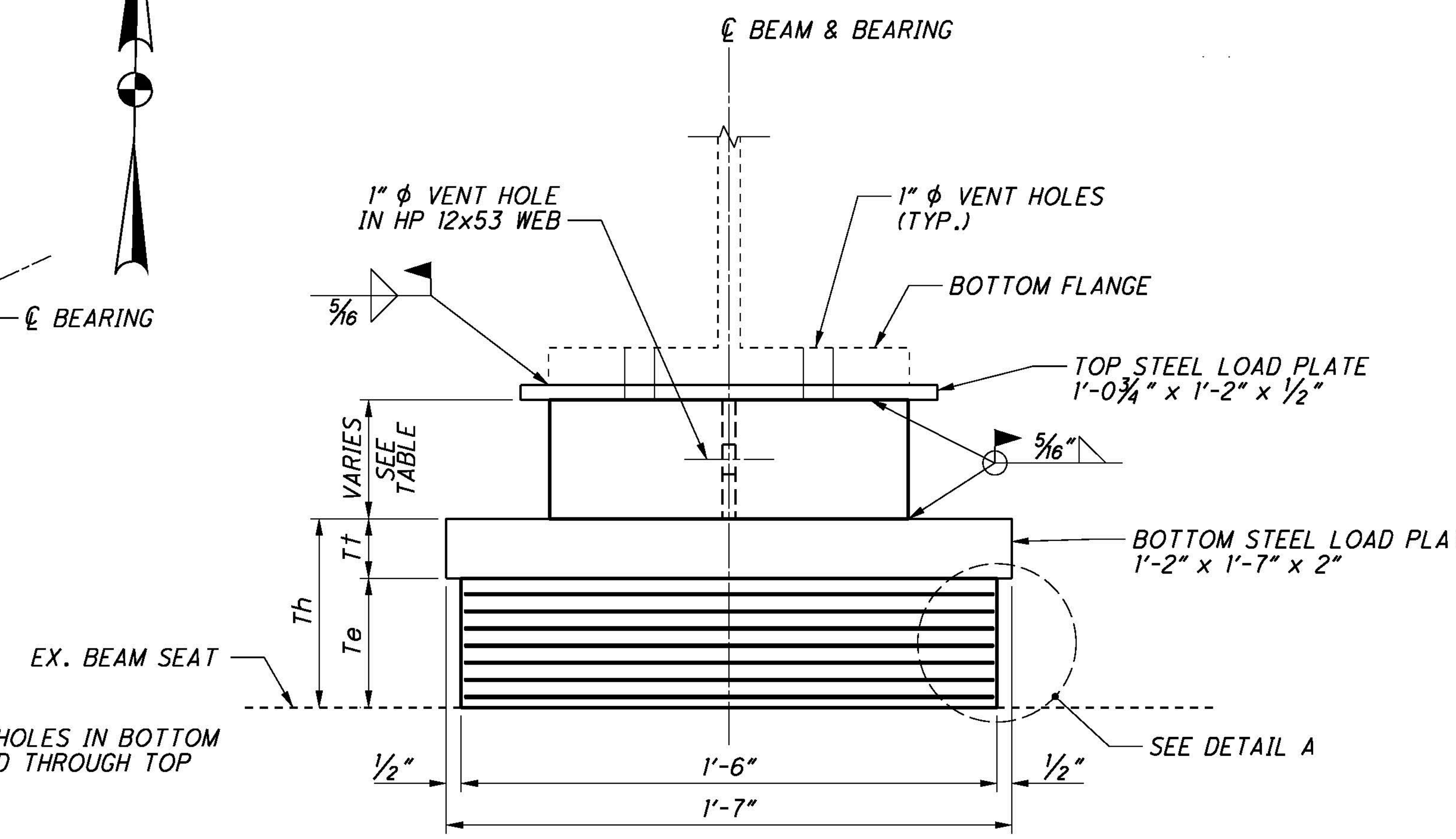
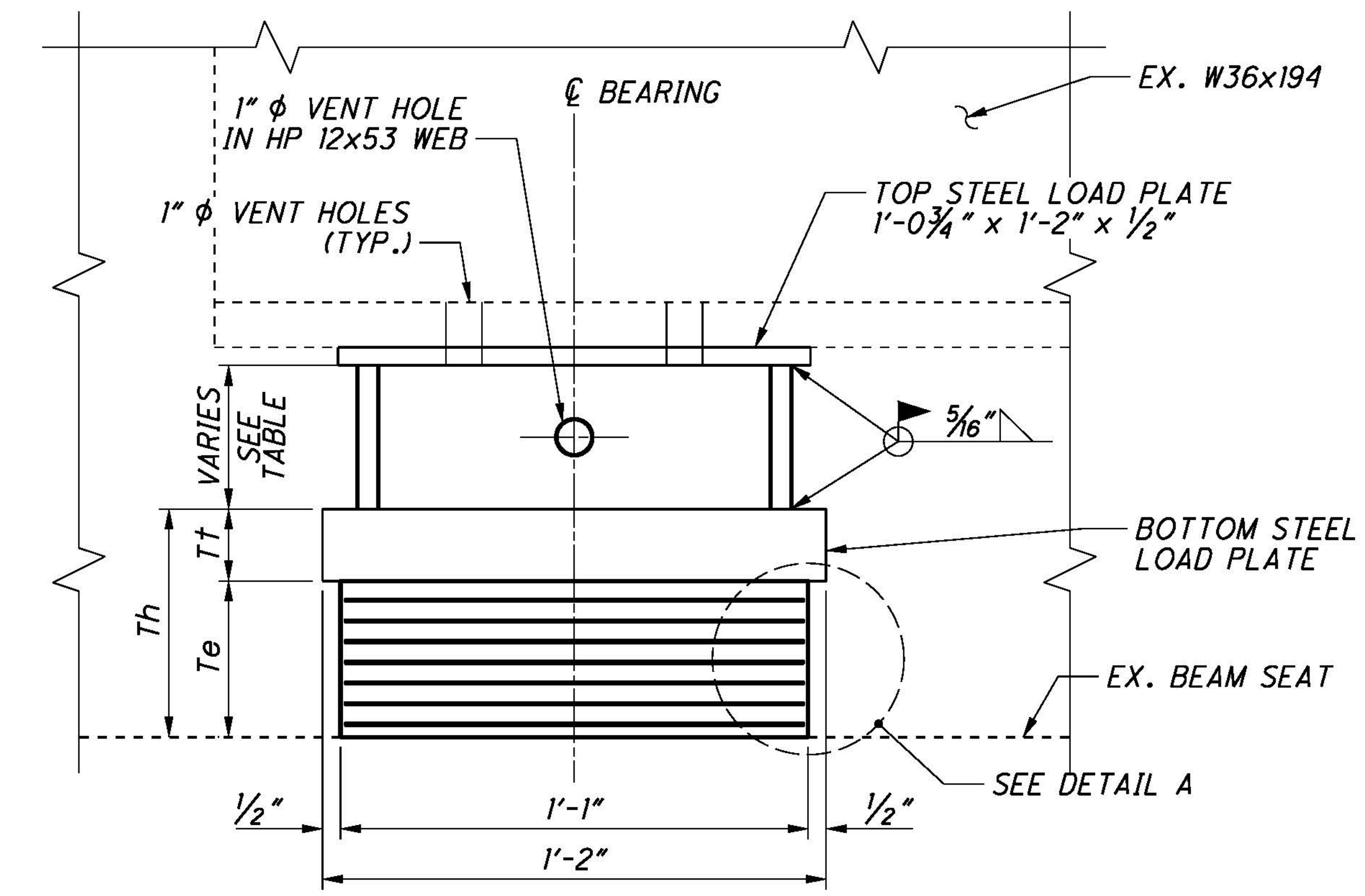


ABUTMENT BEARING PLAN

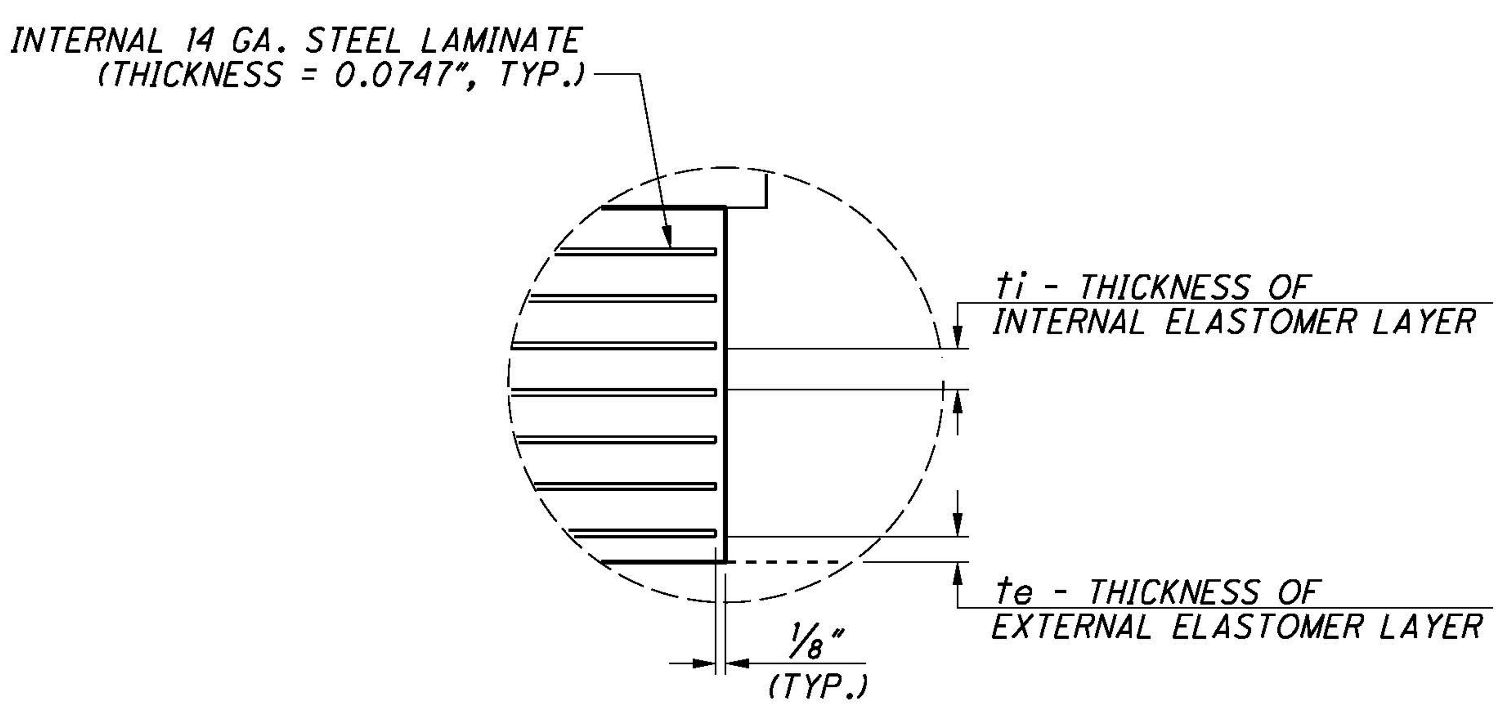
(REAR ABUTMENT SHOWN FORWARD ABUTMENT BEARING SHOWN BUT OPPOSITE HAND)



ABUTMENT BEARING ELEVATION

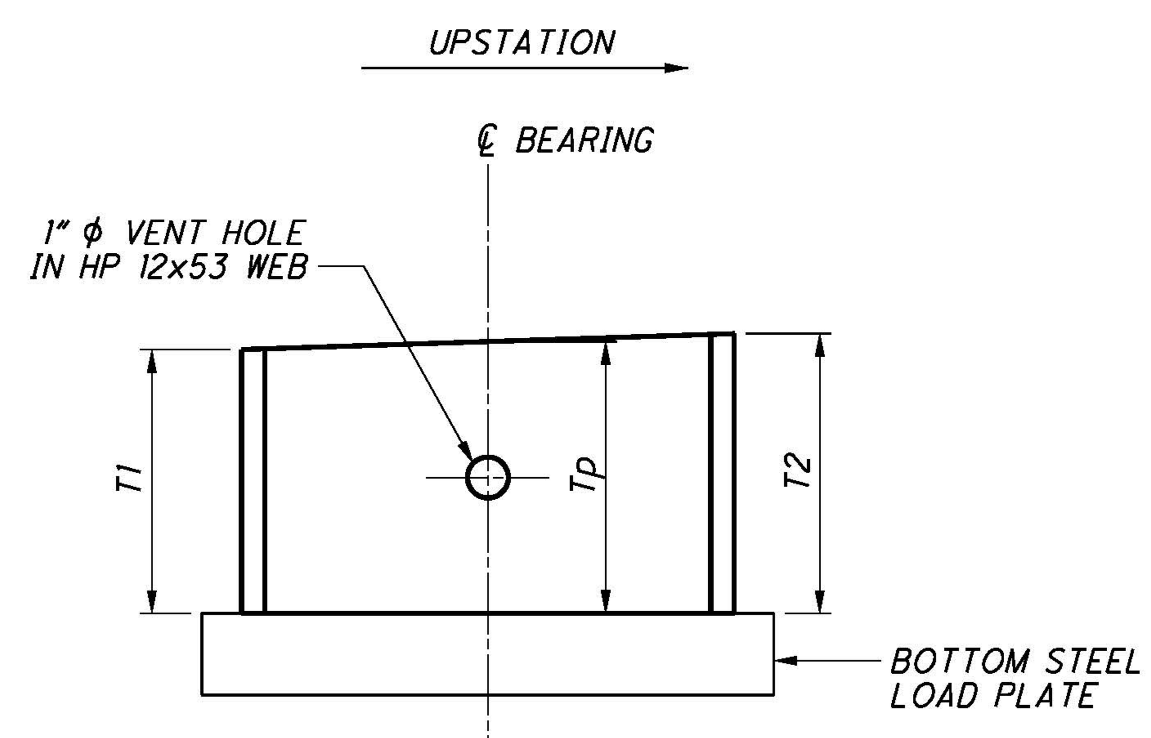


VIEW A-A



DETAIL A

(TYPICAL AT ALL BEAMS)



DETAIL B

(REAR H-PILE SHOWN, FORWARD OPPOSITE)

NOTES:

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

2. THE STEEL LOAD PLATES AND HP SHAPES SHALL BE ASTM A709 GRADE 50 STEEL AND PRIME PAINTED IN ACCORDANCE WITH ITEM 513.

3. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCEESS. CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

4. BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ⅛ OF THE BEARING HEIGHT AT 60°F ± 10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

5. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE. IMPACT IS NOT INCLUDED.

6. BASIS OF PAYMENT: THE UNIT BID PRICE FOR ALL ABUTMENT BEARINGS SHALL INCLUDE THE LOAD PLATE, HP SHAPE, AND ALL MATERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

7. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

8. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO THE JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO SCOTT KRAMER, DISTRICT 8 BRIDGE DESIGN ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE ELEVATIONS IS NOT REQUIRED. THE CONTRACTOR IS TO DETERMINE THE FINAL HP SECTION HEIGHT BY SUBTRACTING THE EXISTING BOTTOM OF BEAM ELEVATION FROM THE EXISTING BEAM SEAT ELEVATION AND PROPOSED BEARING HEIGHT INCLUDING 1/2" THICK TOP PLATE AND A 2" THICK LOAD PLATE). THIS HP SECTION HEIGHT IS TO BE INCREASED BY THE AMOUNT THE BRIDGE IS TO BE RAISED OF 4.73 INCHES. THIS HP SECTION HEIGHT IS A CONTRACTOR CALCULATED DIMENSION AND ANY SHIMS NEEDED AS A RESULT OF THE CONTRACTOR'S ERROR WILL BE AT THE CONTRACTOR'S EXPENSE AND WILL NEED TO BE APPROVED BY THE DISTRICT 8 BRIDGE DESIGN ENGINEER. THE CONTRACTOR IS TO ORDER THE H-PILE SECTIONS LONGER THAN NEEDED AND TRIM IN THE FIELD TO FIT FIELD CONDITIONS.

   FINAL HP SECTION LENGTH = (CONTRACTOR'S BOTTOM OF STEEL ELEVATION) - (EXISTING BEAM SEAT ELEVATION) - (BEARING HEIGHT INCLUDING 1/2" THICK TOP PLATE, 2" THICK LOAD PLATE) + (AMOUNT THE BRIDGE IS TO BE RAISED)

9. NEW BEARINGS SHOULD NOT BE INSTALLED UNTIL THE DECK IS REMOVED.

APPROXIMATE H-PILE DIMENSIONS (IN.)

BEAM	REAR ABUTMENT			FORWARD ABUTMENT		
	T1	Tp	T2	T1	Tp	T2
1	9 1/16"±	9 1/8"±	9 1/4"±	8 15/16"±	8 7/8"±	8 3/4"±
2	9 1/4"±	9 5/16"±	9 7/16"±	9 1/16"±	8 15/16"±	8 7/8"±
3	9 3/16"±	9 5/16"±	9 7/16"±	8 15/16"±	8 13/16"±	8 11/16"±
4	9"±	9 1/16"±	9 3/16"±	8 15/16"±	8 13/16"±	8 3/4"±

ELASTOMERIC BEARING DATA

LOCATION	TYPE	NO. REQ'D.	DL (KIP)	LL W/O IMPACT (KIP)	MAX DESIGN LOAD (DL+LL)	L (IN.)	W (IN.)	ti (IN.)	te (IN.)	NO. OF ti's	NO. OF INTERNAL LAMINATES	Te (IN.)	STEEL LOAD PLATE X (IN.)	STEEL LOAD PLATE Y (IN.)	STEEL LOAD PLATE Tt (IN.)	Th (in.)
ABUTMENT	EXP.	8	85	49	134	13.0	18.0	0.500	0.313	7	7	4.335	14	19	2	6.335

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ABUTMENT BEARING DETAILS
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

14/28

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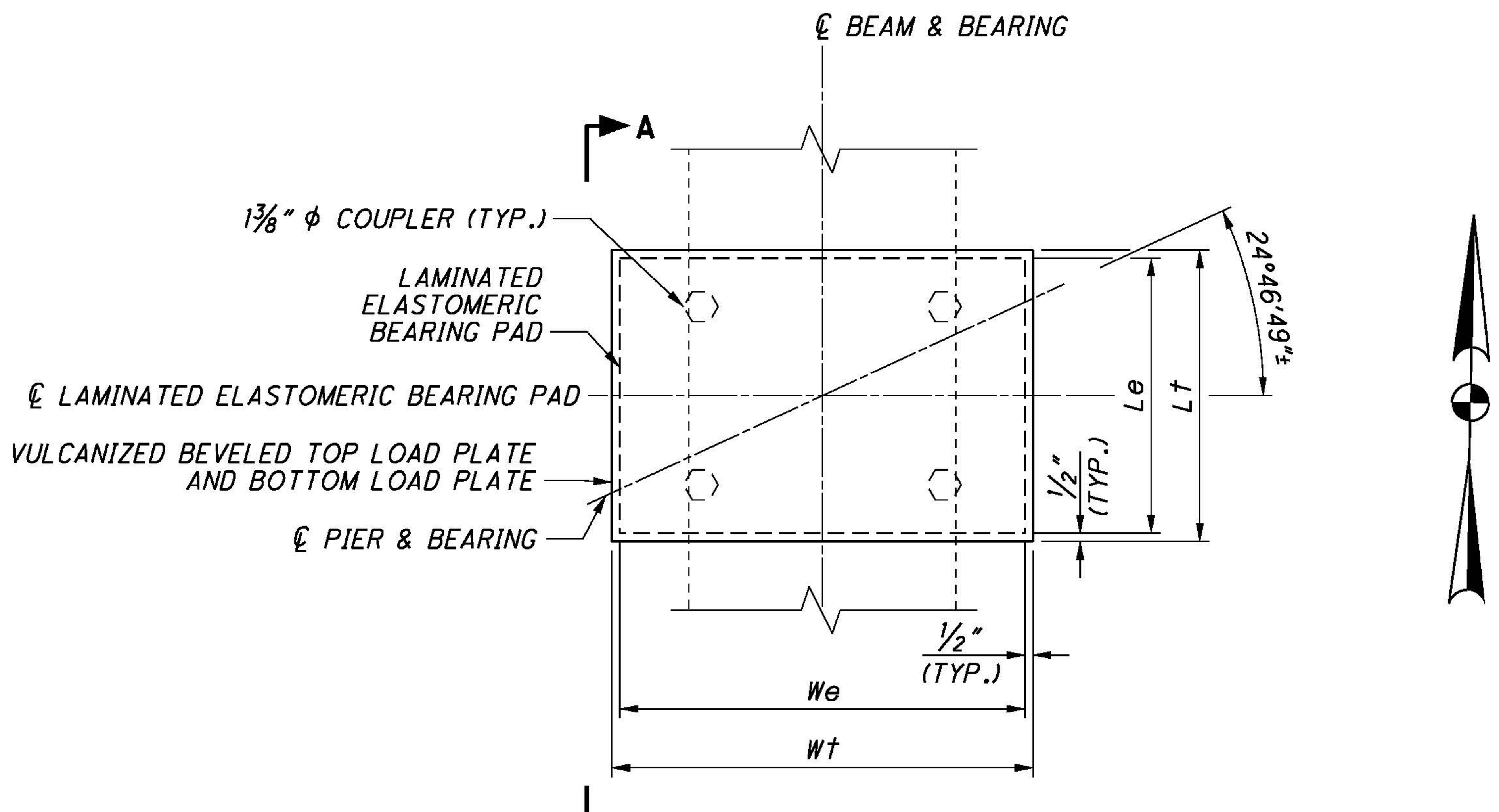
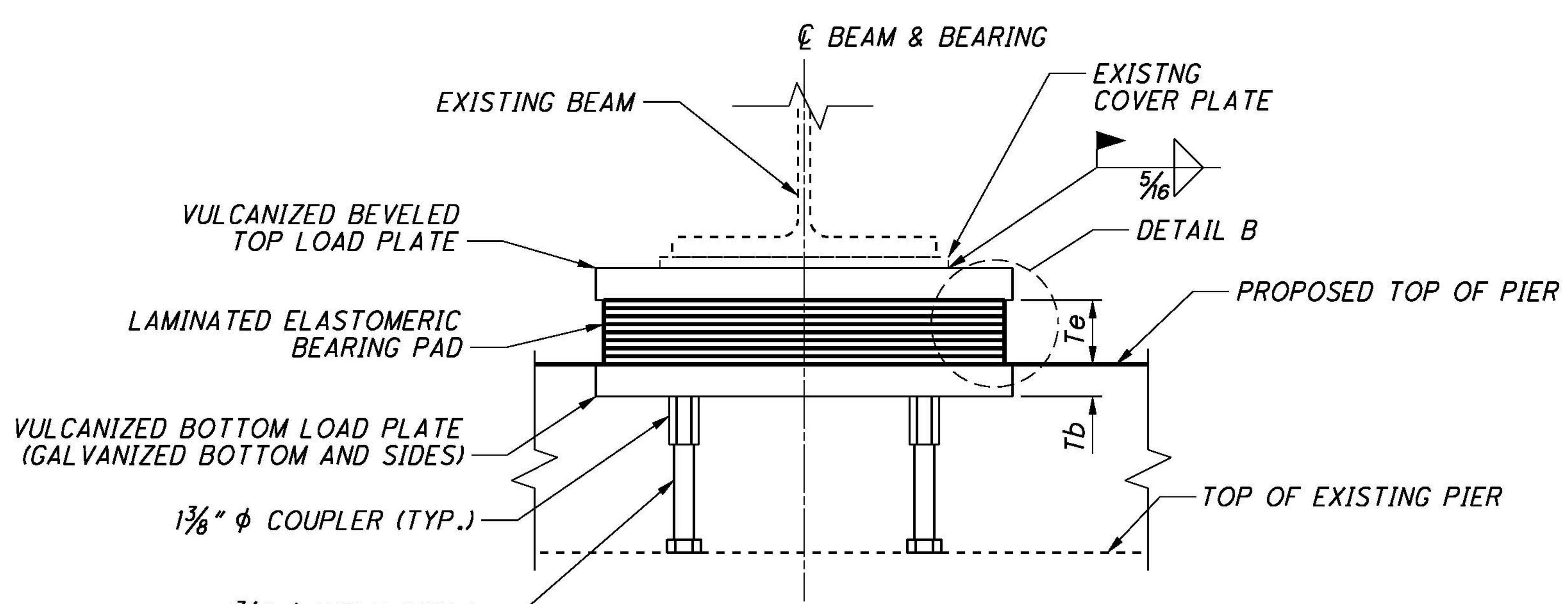
LAMINATED ELASTOMERIC BEARING DATA											
LOCATION	NO. REQ'D.	DL (KIP)	LL W/O IMPACT (KIP)	MAX DESIGN LOAD (DL + LL) (KIP)	Le (IN.)	We (IN.)	ti (IN.)	NO. OF ti's	NO. OF INTERNAL LAMINATES	Te (IN.)	Tb (IN.)
PIER 1	4	165	71	236	16.5	23.5	0.500	8	7	4.523	2.0
PIER 2	4	187	76	263	16.5	23.5	0.500	8	7	4.523	2.0
PIER 3	4	165	71	236	16.5	23.5	0.500	8	7	4.523	2.0

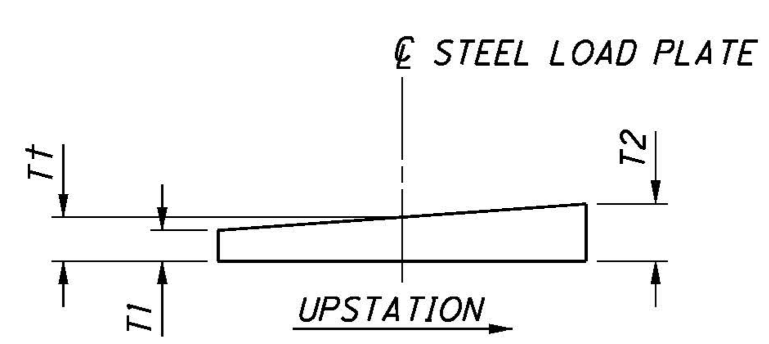
LOAD PLATE BEVEL TABLE (IN.)					
LOCATION	Lt	Wt	T1	Tt	T2
PIER 1	17 1/2"	24 1/2"	2"	2 1/8"	2 1/4"
PIER 2	17 1/2"	24 1/2"	2"	2"	2"
PIER 3	17 1/2"	24 1/2"	2 1/8"	2 1/16"	2"



PIER BEARING PLAN

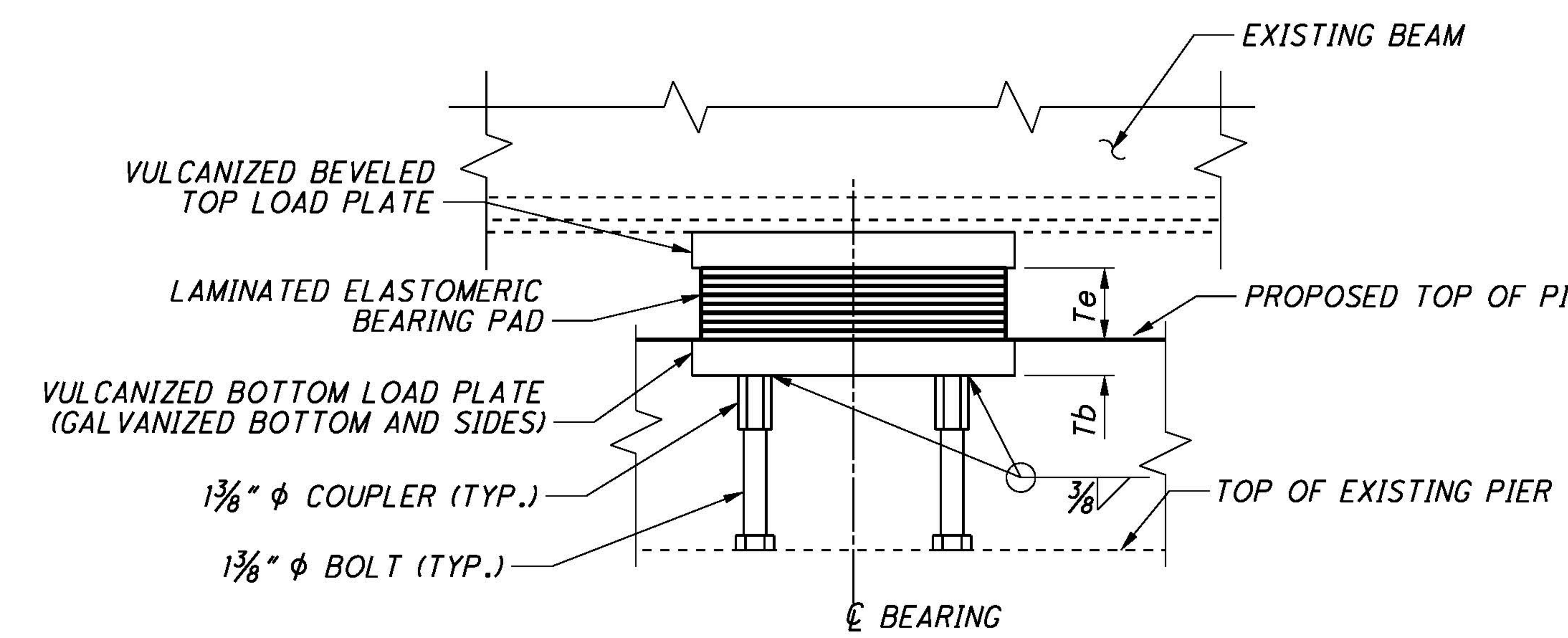


PIER BEARING ELEVATION

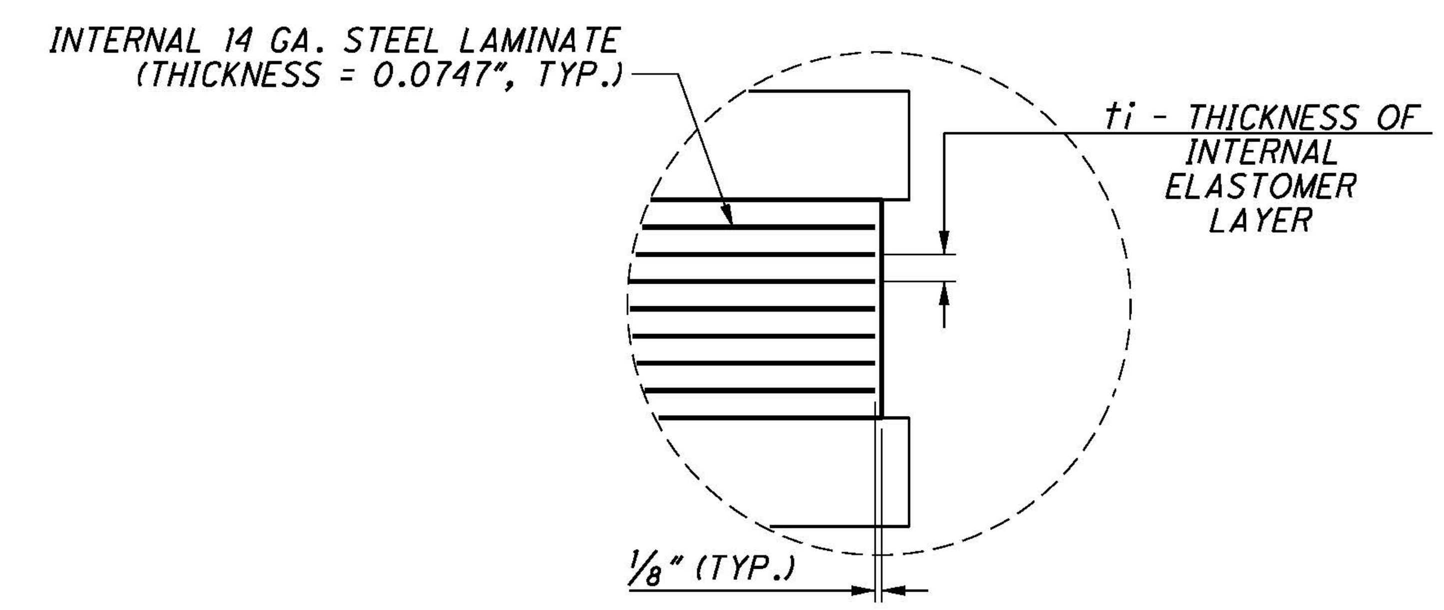


VULCANIZED BEVELED TOP LOAD PLATE

(SEE LOAD PLATE BEVEL TABLE)



VIEW A-A



DETAIL B

NOTES:

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. CONTROL WELDING OF LOAD PLATE TO THE SUPERSTRUCTURE SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. LOAD PLATES SHALL BE A MINIMUM ASTM A709 GRADE 50 STEEL.
4. BOTTOM LOAD PLATES FOR BEARING MODIFICATIONS SHALL BE GALVANIZED AS PER 711.02.
5. BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ⅛ OF THE BEARING HEIGHT AT 60°F ± 10°F, RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.
6. THE STEEL BEVELED LOAD PLATES AT THE PIERS SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514 TO MATCH BEAM COLOR.
7. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE. IMPACT IS NOT INCLUDED.
8. BASIS OF PAYMENT: THE UNIT BID PRICE FOR ALL PIER BEARINGS SHALL INCLUDE THE LOAD PLATE AND ALL METERIALS, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
9. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
10. HIGH STRENGTH BOLTS SHALL BE 1⅜" DIAMETER A325 TYPE 3 GALAVANIZED PER CMS 711.02.
11. 1⅜" DIAMETER HEX COUPLING NUT WELDED TO PLATE SHALL BE GALAVANIZED PER CMS 711.02.
12. NEW BEARINGS SHOULD NOT BE INSTALLED UNTIL THE DECK IS REMOVED.

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DESIGNED TAS/MRV | CHECKED BMG | DRAWN DTA | REVISED | REVIEWED RER | DATE 07/2016 | STRUCTURE FILE NUMBER 8302529

PIER BEARING DETAILS
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

15/28

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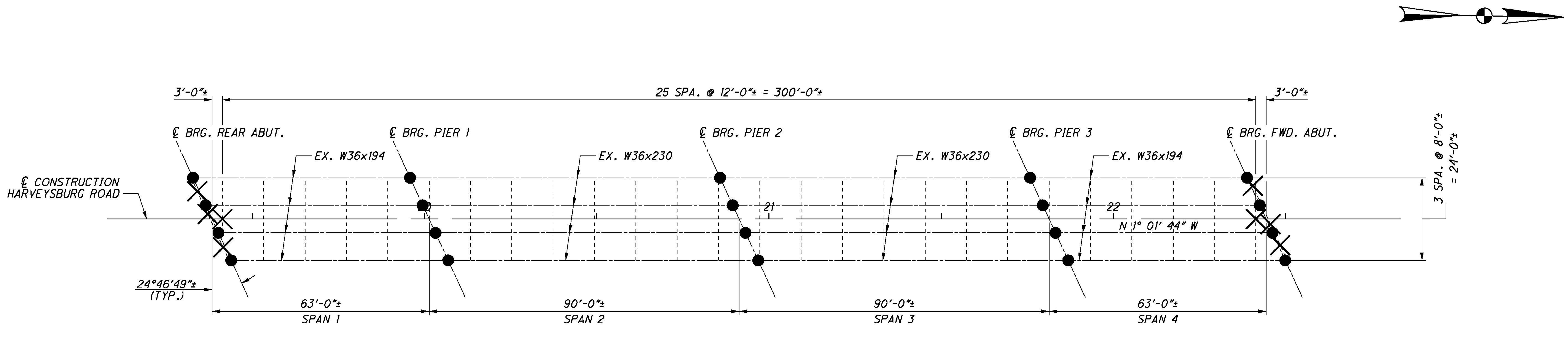
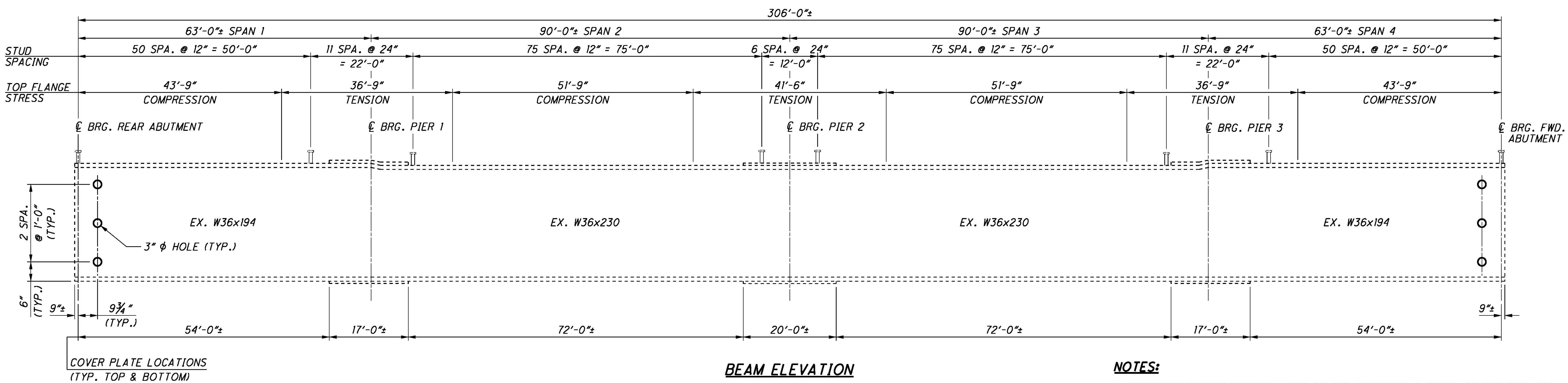


FRAMING PLAN



BEAM ELEVATION

NOTES:

1. PAINT THE ENTIRE SURFACE AREA OF ALL STRUCTURAL STEEL AS PER ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL.

2. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.

3. SHEAR CONNECTOR PLACEMENT ON FLANGE SPLICE PLATES IS NOT PERMITTED. ADJUST SPACINGS IF NECESSARY TO AVOID INTERFERENCE WITH SPLICE PLATES AND CONNECTION BOLTS.

LEGEND:

X - CROSSFRAME TO BE REMOVED. WELDS SHALL BE REMOVED AND GROUND FLUSH DURING REMOVAL. PAYMENT INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN. CROSSFRAME SHALL BE LEFT IN PLACE DURING CONSTRUCTION WHERE FEASIBLE AND SHALL BE REMOVED IMMEDIATELY PRIOR TO PLACEMENT OF THE SEMI-INTEGRAL DIAPHRAGM CONCRETE.

● - BEARINGS TO BE REPLACED.

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FRAMING PLAN & BEAM ELEVATION
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

16/28

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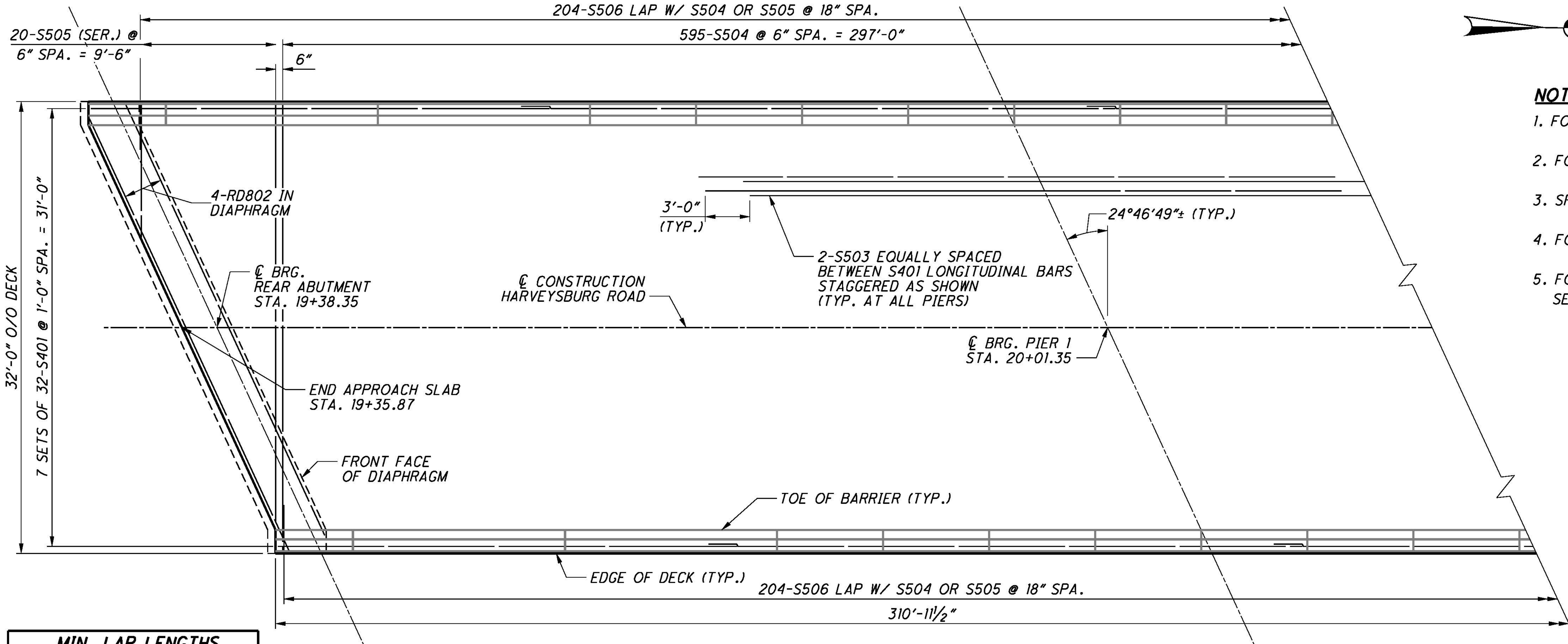


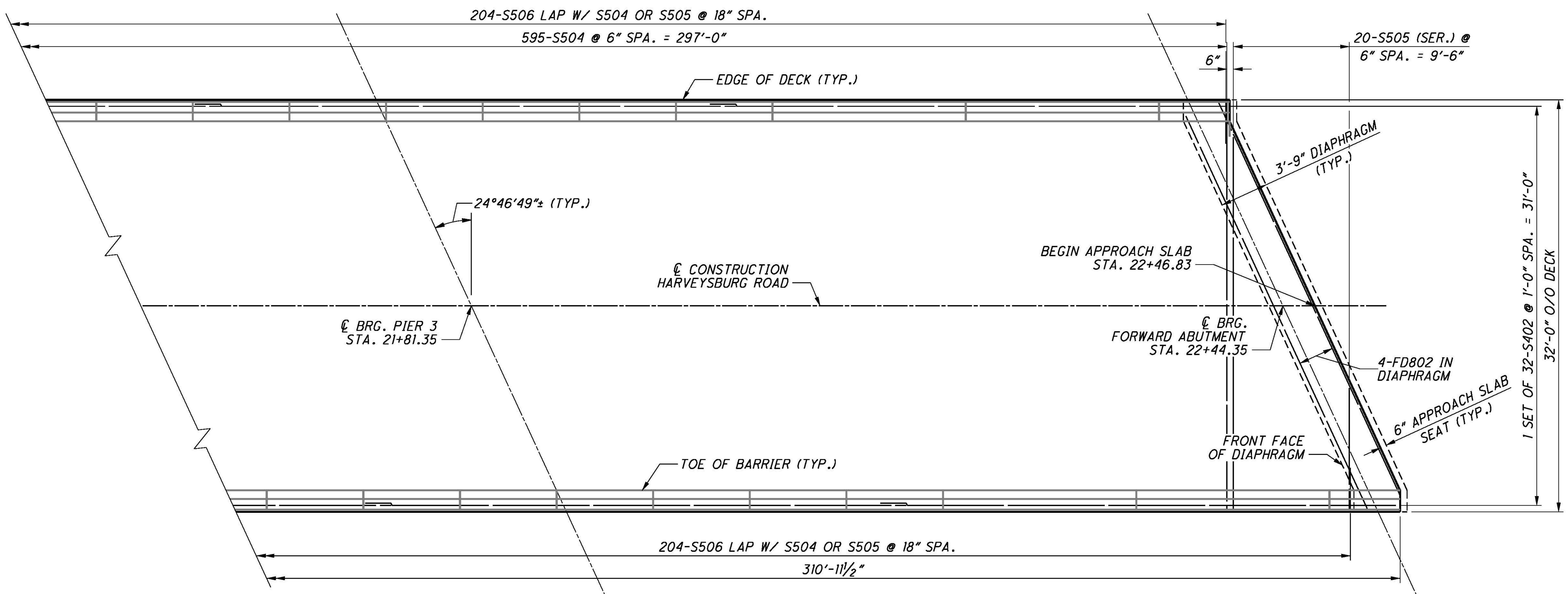
MIN. LAP LENGTHS	
NO. 4 BARS	2'-0"
NO. 5 BARS	2'-6"

PARTIAL DECK PLAN

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 19/28 .
2. FOR BOTTOM OF DECK REINFORCING PLAN, SEE SHEET 18/28 .
3. SPANS 2 AND 3 NOT SHOWN FOR CLARITY.
4. FOR BARRIER DETAILS, SEE SHEET 24/28 .
5. FOR FINAL DECK SURFACE, SCREED, AND TOP OF HAUNCH ELEVATIONS, SEE SHEETS 21/28 THRU 23/28 .



PARTIAL DECK PLAN

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

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BMG		8302529	

DECK PLAN - TOP REINFORCING
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

17/28

149/160

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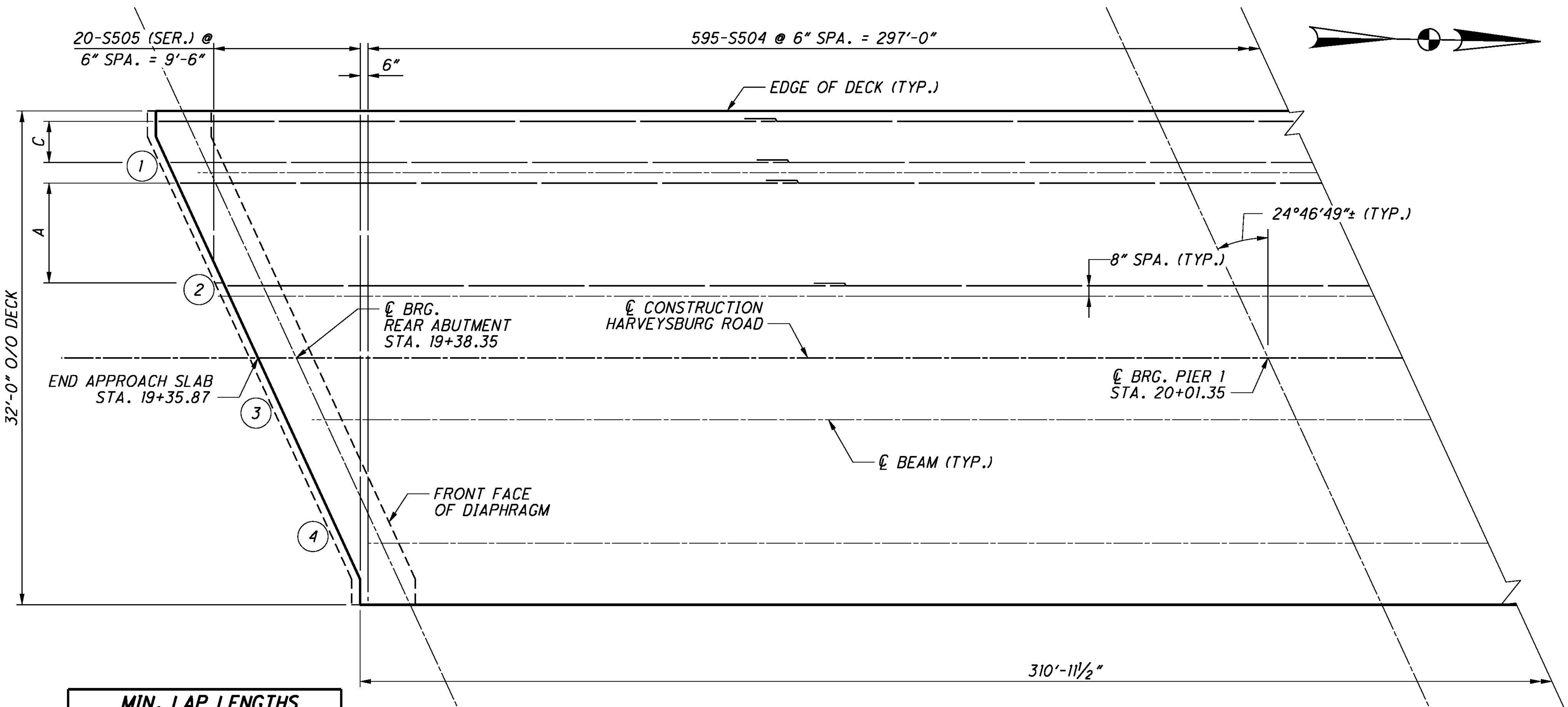
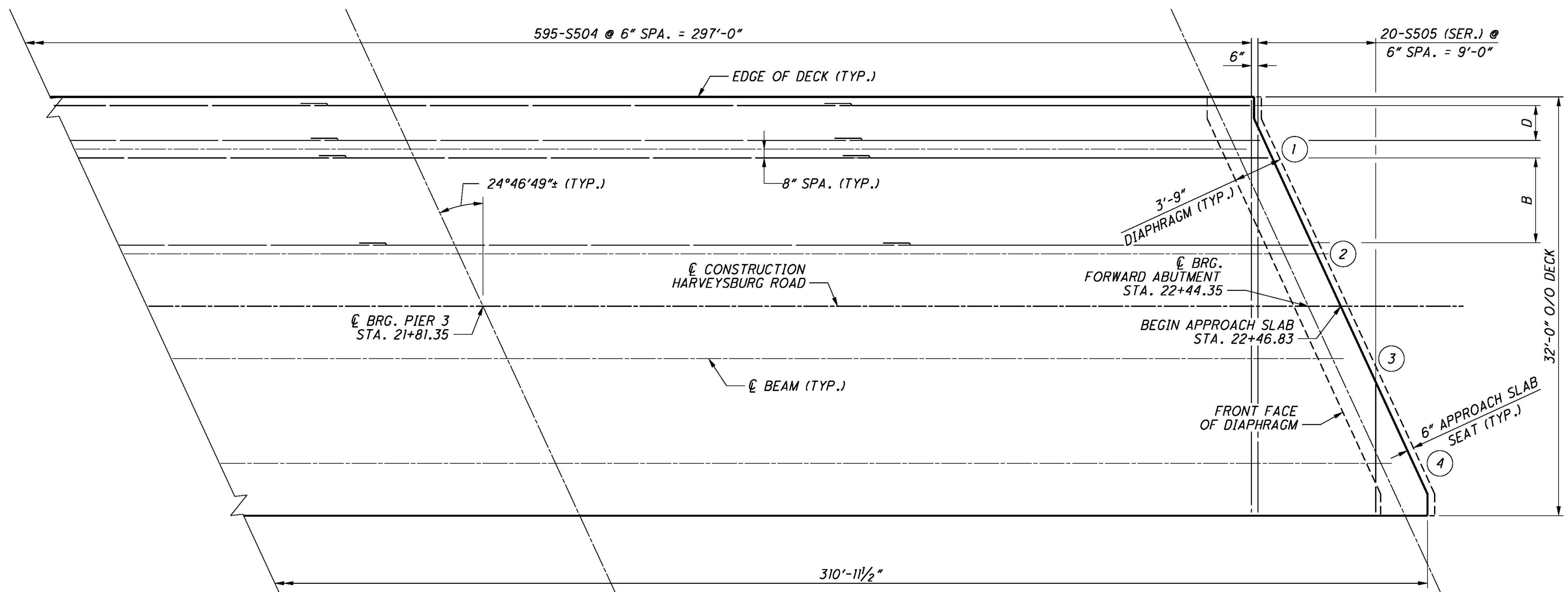


PARTIAL DECK PLAN

MIN. LAP LENGTHS	
NO. 4 BARS	2'-0"
NO. 5 BARS	2'-6"



PARTIAL DECK PLAN

REINFORCING:

A - 7 SETS OF 11-S501 @ 8" SPA. = 6'-8", (TYP.)

B - 1 SETS OF 11-S502 @ 8" SPA. = 6'-8", (TYP.)

C - 7 SETS OF 5-S501 @ 8" SPA. = 2'-8", (TYP.)

D - 1 SETS OF 5-S502 @ 8" SPA. = 2'-8", (TYP.)

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 19/28.
2. FOR TOP OF DECK REINFORCING PLAN, SEE SHEET 17/28.
3. SPANS 2 AND 3 NOT SHOWN FOR CLARITY.
4. FOR BARRIER DETAILS, SEE SHEET 24/28.
5. FOR FINAL DECK SURFACE, SCREED, AND TOP OF HAUNCH ELEVATIONS, SEE SHEETS 21/28 THRU 23/28.

LEGEND:

(#) - BEAM DESIGNATION

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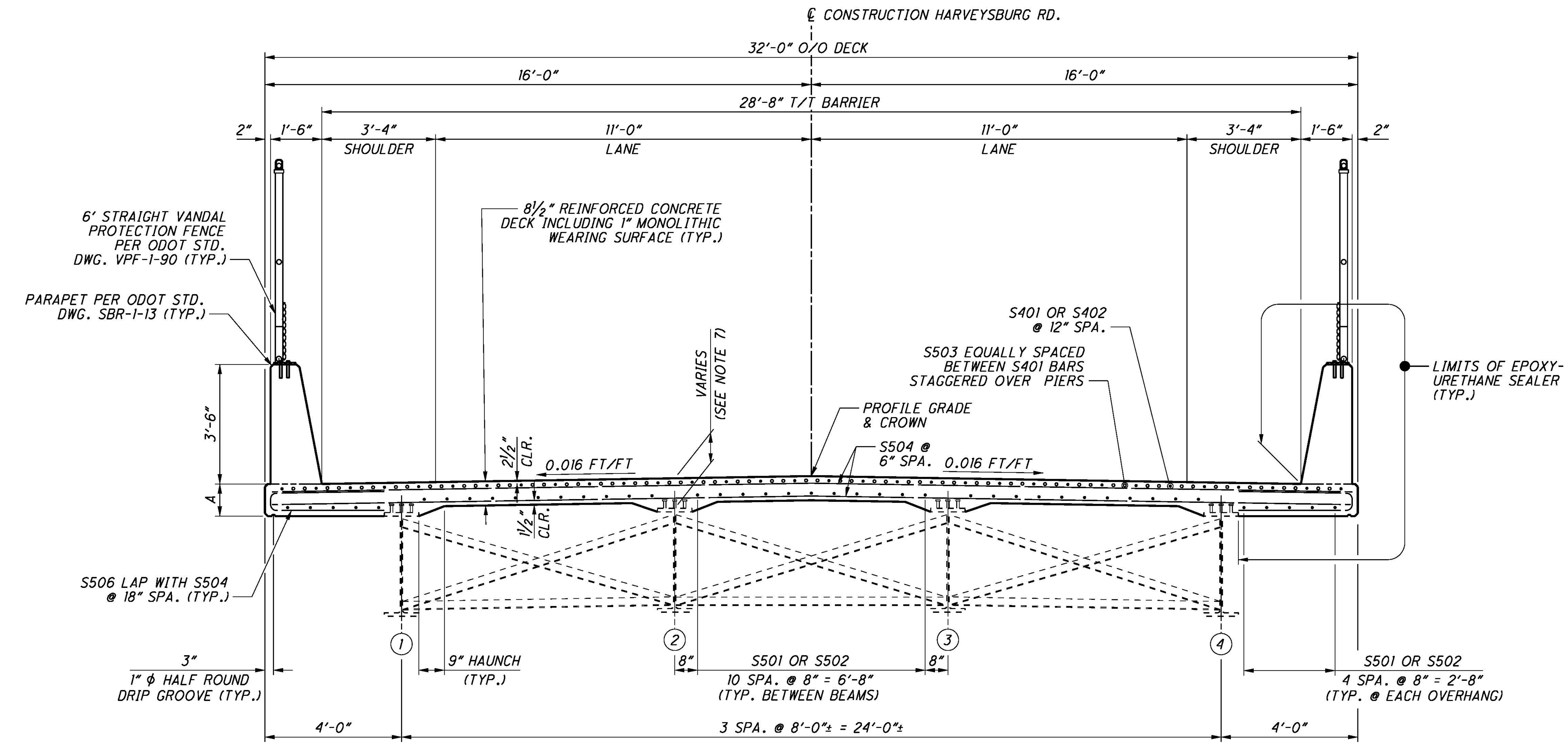
DESIGNED MRV	CHECKED BMG		

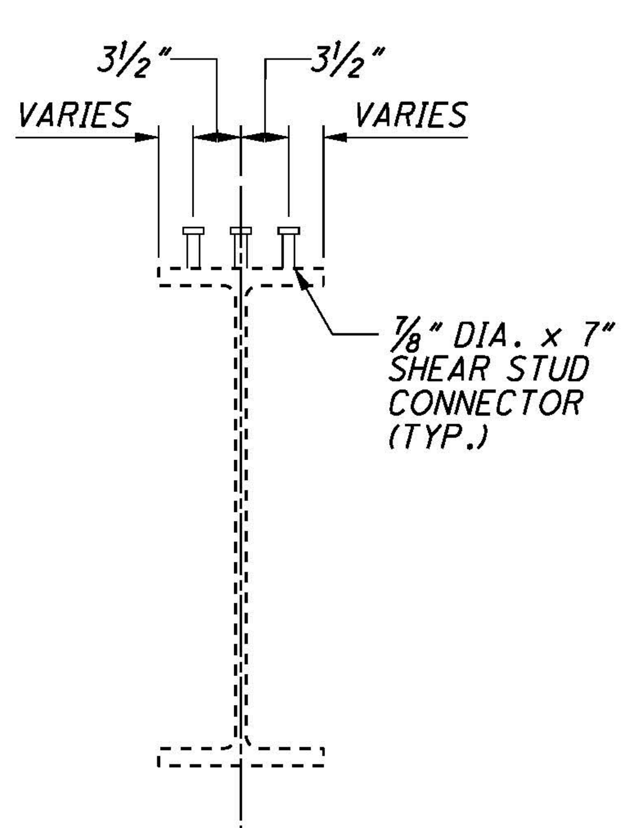
DECK PLAN - BOTTOM REINFORCING
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727



TRANSVERSE SECTION

MIN. LAP LENGTHS	
NO. 4 BARS	2'-0" MIN.
NO. 5 BARS	2'-6" MIN.



SHEAR CONNECTOR DETAIL

LENGTH	HAUNCH	OVERHANG "A"
SPAN 1	3"	12½"
SPAN 2	3⅝"	13⅛"
SPAN 3	3⅝"	13⅛"
SPAN 4	3"	12½"

NOTES:

1. FOR BARRIER DETAILS AND SEALING LIMITS, SEE SHEET 24/28.
2. FOR DECK PLANS, SEE SHEETS 17/28 THRU 18/28 .
3. FOR DECK KEY PLAN, FINAL DECK ELEVATIONS, SCREED ELEVATIONS, AND TOP OF HAUNCH ELEVATIONS, SEE SHEET 21/28 THRU 23/28 .
4. THE TRANSVERSE DECK REINFORCING BARS SHALL BE FIELD BENT TO CONFORM TO THE ROADWAY CROSS SLOPES. FIELD BENDING SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN FOR PAYMENT.
5. FOR REINFORCING LIST, SEE SHEET 27/28 .
6. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3⅜ INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS.

LEGEND:

(#) - BEAM DESIGNATION

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TRANSVERSE SECTION
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

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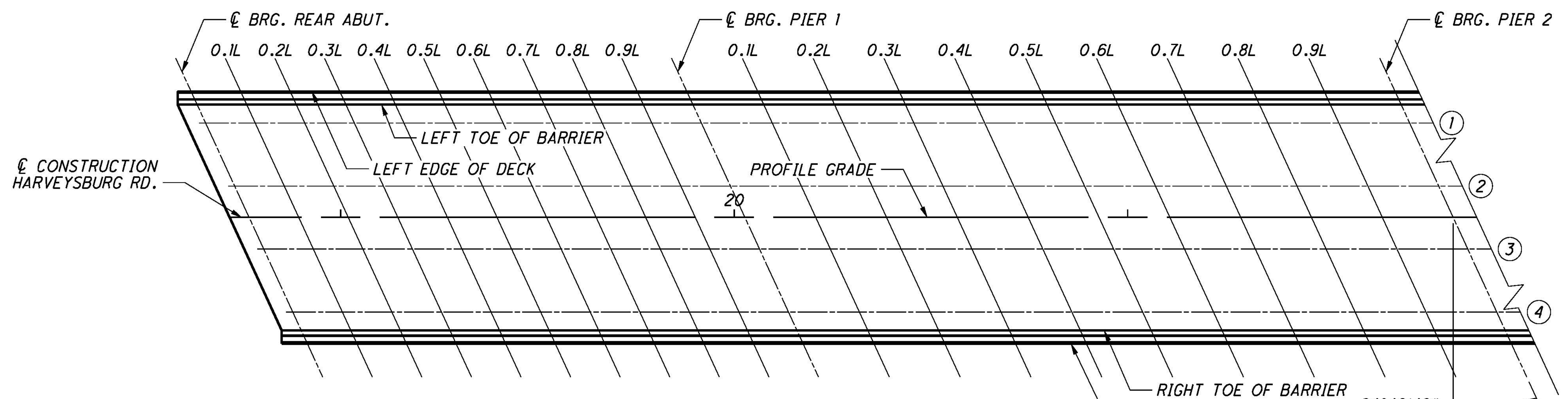
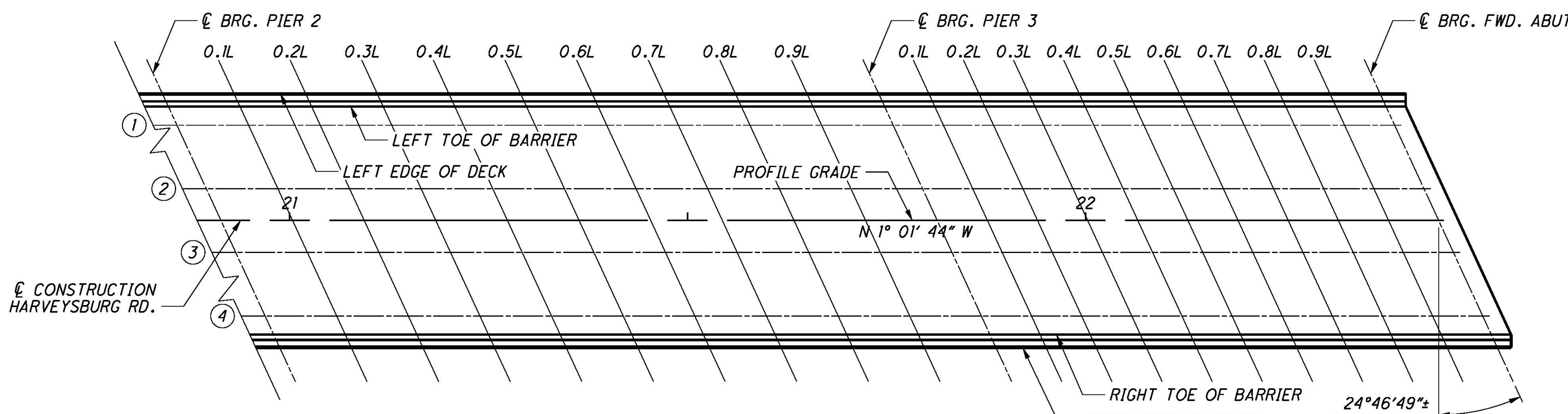
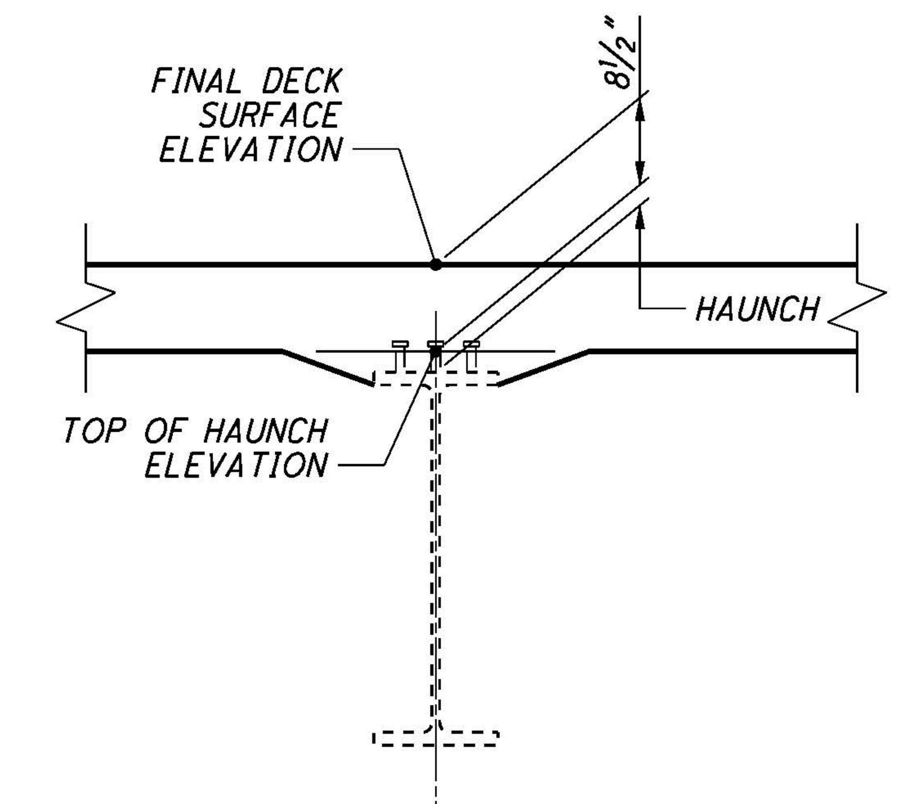


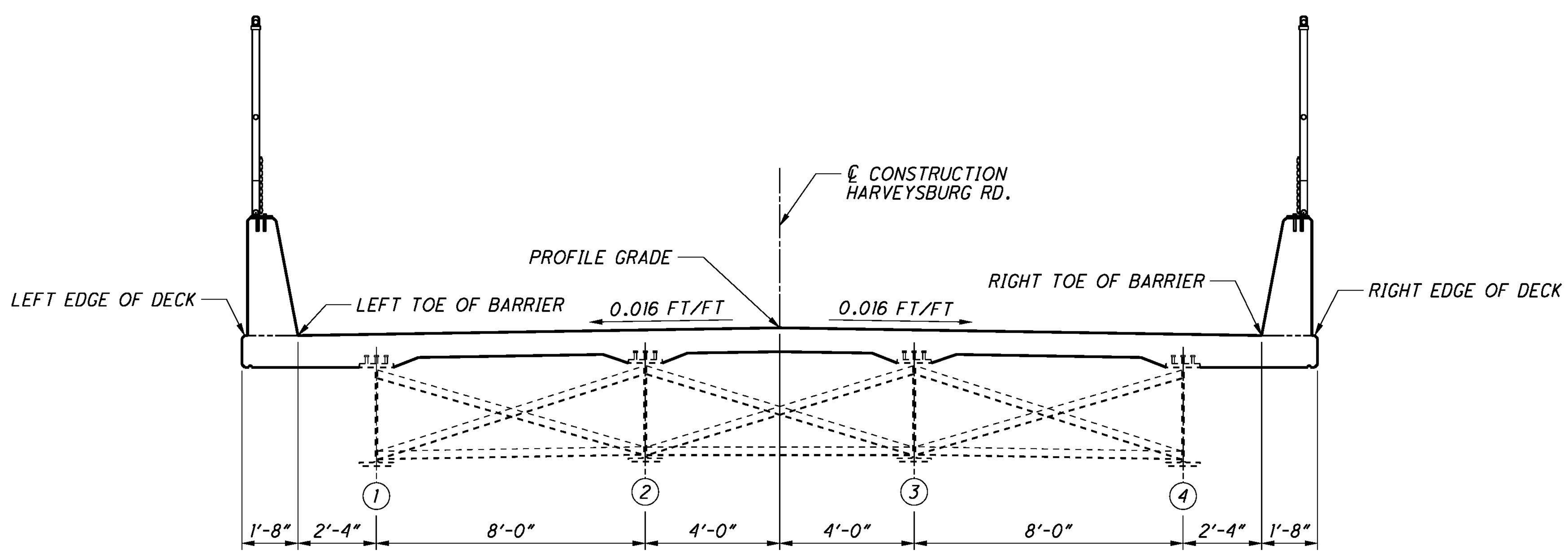
PARTIAL DECK KEY PLAN
(SPANS 1-2)



PARTIAL DECK KEY PLAN
(SPANS 3-4)



DECK HAUNCH DETAIL



TYPICAL CROSS SECTION

LEGEND:

(#) - BEAM DESIGNATION

NOTES:

1. FOR SCREED, TOP OF HAUNCH, AND FINAL DECK SURFACE ELEVATIONS, SEE SHEETS 21/28 THRU 23/28.

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DECK KEY PLAN
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

FINAL DECK SURFACE ELEVATIONS

LOCATION	LEFT E.O.D.		LEFT TOE OF BARRIER		BEAM 1		BEAM 2		PROFILE GRADE		BEAM 3		BEAM 4		RIGHT TOE OF BARRIER		RIGHT E.O.D.	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
℄ BRG. REAR ABUT.	19+30.96	986.78	19+31.73	986.79	19+32.81	986.85	19+36.50	987.05	19+38.35	987.15	19+40.20	987.12	19+43.89	987.06	19+44.97	987.04	19+45.74	987.05
.1L	19+37.26	986.90	19+38.03	986.91	19+39.11	986.97	19+42.80	987.16	19+44.65	987.26	19+46.50	987.23	19+50.19	987.17	19+51.27	987.15	19+52.04	987.16
.2L	19+43.56	987.01	19+44.33	987.03	19+45.41	987.08	19+49.10	987.28	19+50.95	987.37	19+52.80	987.34	19+56.49	987.27	19+57.57	987.25	19+58.34	987.26
.3L	19+49.86	987.12	19+50.63	987.14	19+51.71	987.19	19+55.40	987.38	19+57.25	987.48	19+59.10	987.44	19+62.79	987.37	19+63.87	987.35	19+64.64	987.36
.4L	19+56.16	987.23	19+56.93	987.24	19+58.01	987.30	19+61.70	987.48	19+63.55	987.58	19+65.40	987.54	19+69.09	987.47	19+70.17	987.45	19+70.94	987.46
.5L	19+62.46	987.33	19+63.23	987.34	19+64.31	987.40	19+68.00	987.58	19+69.85	987.67	19+71.70	987.64	19+75.39	987.56	19+76.47	987.54	19+77.24	987.55
.6L	19+68.76	987.43	19+69.53	987.44	19+70.61	987.49	19+74.30	987.67	19+76.15	987.76	19+78.00	987.73	19+81.69	987.65	19+82.77	987.63	19+83.54	987.64
.7L	19+75.06	987.52	19+75.83	987.53	19+76.91	987.58	19+80.60	987.76	19+82.45	987.85	19+84.30	987.81	19+87.99	987.73	19+89.07	987.71	19+89.84	987.72
.8L	19+81.36	987.61	19+82.13	987.62	19+83.21	987.67	19+86.90	987.85	19+88.75	987.93	19+90.60	987.89	19+94.29	987.81	19+95.37	987.79	19+96.14	987.79
.9L	19+87.66	987.69	19+88.43	987.70	19+89.51	987.75	19+93.20	987.92	19+95.05	988.01	19+96.90	987.97	20+00.59	987.88	20+01.67	987.86	20+02.44	987.87
℄ PIER 1	19+93.96	987.77	19+94.73	987.78	19+95.81	987.83	19+99.50	988.00	20+01.35	988.08	20+03.20	988.04	20+06.89	987.95	20+07.97	987.93	20+08.74	987.94
.1L	20+02.96	987.87	20+03.73	987.88	20+04.81	987.93	20+08.50	988.10	20+10.35	988.18	20+12.20	988.14	20+15.89	988.04	20+16.97	988.02	20+17.74	988.02
.2L	20+11.96	987.97	20+12.73	987.98	20+13.81	988.02	20+17.50	988.19	20+19.35	988.27	20+21.20	988.22	20+24.89	988.13	20+25.97	988.10	20+26.74	988.10
.3L	20+20.96	988.05	20+21.73	988.06	20+22.81	988.11	20+26.50	988.27	20+28.35	988.35	20+30.20	988.30	20+33.89	988.20	20+34.97	988.17	20+35.74	988.17
.4L	20+29.96	988.13	20+30.73	988.14	20+31.81	988.18	20+35.50	988.34	20+37.35	988.42	20+39.20	988.37	20+42.89	988.26	20+43.97	988.23	20+44.74	988.24
.5L	20+38.96	988.20	20+39.73	988.20	20+40.81	988.25	20+44.50	988.40	20+46.35	988.48	20+48.20	988.42	20+51.89	988.32	20+52.97	988.28	20+53.74	988.29
.6L	20+47.96	988.26	20+48.73	988.26	20+49.81	988.30	20+53.50	988.45	20+55.35	988.53	20+57.20	988.47	20+60.89	988.36	20+61.97	988.33	20+62.74	988.33
.7L	20+56.96	988.31	20+57.73	988.31	20+58.81	988.35	20+62.50	988.50	20+64.35	988.57	20+66.20	988.51	20+69.89	988.40	20+70.97	988.36	20+71.74	988.37
.8L	20+65.96	988.34	20+66.73	988.35	20+67.81	988.39	20+71.50	988.53	20+73.35	988.60	20+75.20	988.54	20+78.89	988.42	20+79.97	988.39	20+80.74	988.39
.9L	20+74.96	988.38	20+75.73	988.38	20+76.81	988.42	20+80.50	988.55	20+82.35	988.62	20+84.20	988.56	20+87.89	988.44	20+88.97	988.40	20+89.74	988.40
℄ PIER 2	20+83.96	988.40	20+84.73	988.40	20+85.81	988.44	20+89.50	988.57	20+91.35	988.64	20+93.20	988.57	20+96.89	988.45	20+97.97	988.41	20+98.74	988.41
.1L	20+92.96	988.41	20+93.73	988.41	20+94.81	988.45	20+98.50	988.58	21+00.35	988.64	21+02.20	988.58	21+05.89	988.45	21+06.97	988.41	21+07.74	988.41
.2L	21+01.96	988.41	21+02.73	988.41	21+03.81	988.45	21+07.50	988.57	21+09.35	988.64	21+11.20	988.57	21+14.89	988.44	21+15.97	988.40	21+16.74	988.39
.3L	21+10.96	988.40	21+11.73	988.40	21+12.81	988.44	21+16.50	988.56	21+18.35	988.62	21+20.20	988.55	21+23.89	988.42	21+24.97	988.38	21+25.74	988.37
.4L	21+19.96	988.39	21+20.73	988.39	21+21.81	988.42	21+25.50	988.54	21+27.35	988.60	21+29.20	988.53	21+32.89	988.39	21+33.97	988.34	21+34.74	988.34
.5L	21+28.96	988.36	21+29.73	988.36	21+30.81	988.39	21+34.50	988.51	21+36.35	988.56	21+38.20	988.49	21+41.89	988.35	21+42.97	988.31	21+43.74	988.30
.6L	21+37.96	988.33	21+38.73	988.33	21+39.81	988.36	21+43.50	988.47	21+45.35	988.52	21+47.20	988.45	21+50.89	988.30	21+51.97	988.26	21+52.74	988.25
.7L	21+46.96	988.28	21+47.73	988.28	21+48.81	988.31	21+52.50	988.42	21+54.35	988.47	21+56.20	988.40	21+59.89	988.24	21+60.97	988.20	21+61.74	988.19
.8L	21+55.96	988.23	21+56.73	988.23	21+57.81	988.26	21+61.50	988.36	21+63.35	988.41	21+65.20	988.33	21+68.89	988.18	21+69.97	988.13	21+70.74	988.12
.9L	21+64.96	988.17	21+65.73	988.16	21+66.81	988.19	21+70.50	988.29	21+72.35	988.34	21+74.20	988.26	21+77.89	988.10	21+78.97	988.05	21+79.74	988.05
℄ PIER 3	21+73.96	988.10	21+74.73	988.09	21+75.81	988.12	21+79.50	988.22	21+81.35	988.26	21+83.20	988.18	21+86.89	988.02	21+87.97	987.97	21+88.74	987.96
.1L	21+80.26	988.04	21+81.03	988.04	21+82.11	988.06	21+85.80	988.16	21+87.65	988.20	21+89.50	988.12	21+93.19	987.95	21+94.27	987.90	21+95.04	987.89
.2L	21+86.56	987.98	21+87.33	987.98	21+88.41	988.00	21+92.10	988.09	21+93.95	988.14	21+95.80	988.05	21+99.49	987.88	22+00.57	987.83	22+01.34	987.82
.3L	21+92.86	987.92	21+93.63	987.91	21+94.71	987.94	21+98.40	988.02	22+00.25	988.07	22+02.10	987.98	22+05.79	987.81	22+06.87	987.76	22+07.64	987.75
.4L	21+99.16	987.85	21+99.93	987.84	22+01.01	987.87	22+04.70	987.95	22+06.55	987.99	22+08.40	987.90	22+12.09	987.73	22+13.17	987.68	22+13.94	987.67
.5L	22+05.46	987.78	22+06.23	987.77	22+07.31	987.79	22+11.00	987.87	22+12.85	987.91	22+14.70	987.82	22+18.39	987.65	22+19.47	987.60	22+20.24	987.58
.6L	22+11.76	987.70	22+12.53	987.69	22+13.61	987.71	22+17.30	987.79	22+19.15	987.83	22+21.00	987.74	22+24.69	987.56	22+25.77	987.51	22+26.54	987.50
.7L	22+18.06	987.61	22+18.83	987.60	22+19.91	987.63	22+23.60	987.70	22+25.45	987.74	22+27.30	987.65	22+30.99	987.47	22+32.07	987.41	22+32.84	987.40
.8L	22+24.36	987.53	22+25.13	987.52	22+26.21	987.54	22+29.90	987.61	22+31.75	987.65	22+33.60	987.56	22+37.29	987.37	22+38.37	987.32	22+39.14	987.30
.9L	22+30.66	987.44	22+31.43	987.42	22+32.51	987.44	22+36.20	987.52	22+38.05	987.55	22+39.90	987.46	22+43.59	987.27	22+44.67	987.21	22+45.44	987.20
℄ BRG. FWD. ABUT.	22+36.96	987.34	22+37.73	987.33	22+38.81	987.35	22+42.50	987.42	22+44.35	987.45	22+46.20	987.35	22+49.89	987.16	22+50.97	987.11	22+51.74	987.10

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET $\boxed{20/28}$.
2. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

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DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	STRUCTURE FILE NUMBER	DATE
TAS	BMG	TAS		RER	8302529	07/2016

FINAL DECK SURFACE ELEVATIONS
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

SCREED ELEVATIONS

LOCATION	LEFT E.O.D.		LEFT TOE OF BARRIER		PROFILE GRADE		RIGHT TOE OF BARRIER		RIGHT E.O.D.	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
℄ BRG. REAR ABUT.	19+30.96	986.78	19+31.73	986.79	19+38.35	987.15	19+44.97	987.04	19+45.74	987.05
.1L	19+37.26	986.91	19+38.03	986.92	19+44.65	987.27	19+51.27	987.16	19+52.04	987.17
.2L	19+43.56	987.03	19+44.33	987.05	19+50.95	987.39	19+57.57	987.27	19+58.34	987.28
.3L	19+49.86	987.15	19+50.63	987.17	19+57.25	987.50	19+63.87	987.38	19+64.64	987.39
.4L	19+56.16	987.26	19+56.93	987.27	19+63.55	987.60	19+70.17	987.48	19+70.94	987.49
.5L	19+62.46	987.36	19+63.23	987.37	19+69.85	987.70	19+76.47	987.57	19+77.24	987.58
.6L	19+68.76	987.45	19+69.53	987.46	19+76.15	987.78	19+82.77	987.65	19+83.54	987.66
.7L	19+75.06	987.53	19+75.83	987.54	19+82.45	987.86	19+89.07	987.72	19+89.84	987.73
.8L	19+81.36	987.61	19+82.13	987.62	19+88.75	987.94	19+95.37	987.79	19+96.14	987.79
.9L	19+87.66	987.69	19+88.43	987.70	19+95.05	988.01	20+01.67	987.86	20+02.44	987.87
℄ PIER 1	19+93.96	987.77	19+94.73	987.78	20+01.35	988.08	20+07.97	987.93	20+08.74	987.94
.1L	20+02.96	987.88	20+03.73	987.89	20+10.35	988.19	20+16.97	988.03	20+17.74	988.03
.2L	20+11.96	988.00	20+12.73	988.01	20+19.35	988.30	20+25.97	988.13	20+26.74	988.13
.3L	20+20.96	988.10	20+21.73	988.11	20+28.35	988.39	20+34.97	988.22	20+35.74	988.22
.4L	20+29.96	988.19	20+30.73	988.20	20+37.35	988.47	20+43.97	988.29	20+44.74	988.30
.5L	20+38.96	988.26	20+39.73	988.26	20+46.35	988.54	20+52.97	988.35	20+53.74	988.36
.6L	20+47.96	988.32	20+48.73	988.32	20+55.35	988.58	20+61.97	988.39	20+62.74	988.39
.7L	20+56.96	988.35	20+57.73	988.35	20+64.35	988.61	20+70.97	988.40	20+71.74	988.41
.8L	20+65.96	988.36	20+66.73	988.37	20+73.35	988.62	20+79.97	988.41	20+80.74	988.41
.9L	20+74.96	988.39	20+75.73	988.39	20+82.35	988.63	20+88.97	988.41	20+89.74	988.41
℄ PIER 2	20+83.96	988.40	20+84.73	988.40	20+91.35	988.64	20+97.97	988.41	20+98.74	988.41
.1L	20+92.96	988.42	20+93.73	988.42	21+00.35	988.65	21+06.97	988.42	21+07.74	988.42
.2L	21+01.96	988.43	21+02.73	988.43	21+09.35	988.66	21+15.97	988.42	21+16.74	988.41
.3L	21+10.96	988.44	21+11.73	988.44	21+18.35	988.66	21+24.97	988.42	21+25.74	988.41
.4L	21+19.96	988.45	21+20.73	988.45	21+27.35	988.65	21+33.97	988.40	21+34.74	988.40
.5L	21+28.96	988.43	21+29.73	988.43	21+36.35	988.62	21+42.97	988.38	21+43.74	988.37
.6L	21+37.96	988.39	21+38.73	988.39	21+45.35	988.58	21+51.97	988.32	21+52.74	988.31
.7L	21+46.96	988.33	21+47.73	988.33	21+54.35	988.52	21+60.97	988.25	21+61.74	988.24
.8L	21+55.96	988.26	21+56.73	988.26	21+63.35	988.44	21+69.97	988.16	21+70.74	988.15
.9L	21+64.96	988.18	21+65.73	988.17	21+72.35	988.35	21+78.97	988.06	21+79.74	988.06
℄ PIER 3	21+73.96	988.10	21+74.73	988.09	21+81.35	988.26	21+87.97	987.97	21+88.74	987.96
.1L	21+80.26	988.04	21+81.03	988.04	21+87.65	988.20	21+94.27	987.90	21+95.04	987.89
.2L	21+86.56	987.98	21+87.33	987.98	21+93.95	988.14	22+00.57	987.83	22+01.34	987.82
.3L	21+92.86	987.93	21+93.63	987.92	22+00.25	988.08	22+06.87	987.77	22+07.64	987.76
.4L	21+99.16	987.87	21+99.93	987.86	22+06.55	988.01	22+13.17	987.70	22+13.94	987.69
.5L	22+05.46	987.81	22+06.23	987.80	22+12.85	987.94	22+19.47	987.63	22+20.24	987.61
.6L	22+11.76	987.73	22+12.53	987.72	22+19.15	987.86	22+25.77	987.54	22+26.54	987.53
.7L	22+18.06	987.64	22+18.83	987.63	22+25.45	987.77	22+32.07	987.44	22+32.84	987.43
.8L	22+24.36	987.55	22+25.13	987.54	22+31.75	987.67	22+38.37	987.34	22+39.14	987.32
.9L	22+30.66	987.45	22+31.43	987.43	22+38.05	987.56	22+44.67	987.22	22+45.44	987.21
℄ BRG. FWD. ABUT.	22+36.96	987.34	22+37.73	987.33	22+44.35	987.45	22+50.97	987.11	22+51.74	987.10

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET $\boxed{20/28}$.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

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SCREED ELEVATIONS
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

TOP OF HAUNCH ELEVATIONS

LOCATION	BEAM 1		BEAM 2		BEAM 3		BEAM 4	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
℄ BRG. REAR ABUT.	19+32.81	986.14	19+36.50	986.34	19+40.20	986.41	19+43.89	986.35
.1L	19+39.11	986.27	19+42.80	986.46	19+46.50	986.53	19+50.19	986.47
.2L	19+45.41	986.39	19+49.10	986.59	19+52.80	986.65	19+56.49	986.58
.3L	19+51.71	986.51	19+55.40	986.70	19+59.10	986.76	19+62.79	986.69
.4L	19+58.01	986.62	19+61.70	986.80	19+65.40	986.86	19+69.09	986.79
.5L	19+64.31	986.72	19+68.00	986.90	19+71.70	986.96	19+75.39	986.88
.6L	19+70.61	986.80	19+74.30	986.98	19+78.00	987.04	19+81.69	986.96
.7L	19+76.91	986.88	19+80.60	987.06	19+84.30	987.11	19+87.99	987.03
.8L	19+83.21	986.97	19+86.90	987.15	19+90.60	987.19	19+94.29	987.11
.9L	19+89.51	987.04	19+93.20	987.21	19+96.90	987.26	20+00.59	987.17
℄ PIER 1	19+95.81	987.12	19+99.50	987.29	20+03.20	987.33	20+06.89	987.24
.1L	20+04.81	987.23	20+08.50	987.40	20+12.20	987.44	20+15.89	987.34
.2L	20+13.81	987.34	20+17.50	987.51	20+21.20	987.54	20+24.89	987.45
.3L	20+22.81	987.45	20+26.50	987.61	20+30.20	987.64	20+33.89	987.54
.4L	20+31.81	987.53	20+35.50	987.69	20+39.20	987.72	20+42.89	987.61
.5L	20+40.81	987.61	20+44.50	987.75	20+48.20	987.77	20+51.89	987.68
.6L	20+49.81	987.65	20+53.50	987.80	20+57.20	987.82	20+60.89	987.71
.7L	20+58.81	987.68	20+62.50	987.83	20+66.20	987.84	20+69.89	987.74
.8L	20+67.81	987.70	20+71.50	987.84	20+75.20	987.85	20+78.89	987.74
.9L	20+76.81	987.72	20+80.50	987.85	20+84.20	987.86	20+87.89	987.74
℄ PIER 2	20+85.81	987.73	20+89.50	987.86	20+93.20	987.86	20+96.89	987.74
.1L	20+94.81	987.75	20+98.50	987.88	21+02.20	987.88	21+05.89	987.75
.2L	21+03.81	987.77	21+07.50	987.88	21+11.20	987.88	21+14.89	987.76
.3L	21+12.81	987.78	21+16.50	987.89	21+20.20	987.88	21+23.89	987.75
.4L	21+21.81	987.77	21+25.50	987.88	21+29.20	987.88	21+32.89	987.74
.5L	21+30.81	987.75	21+34.50	987.86	21+38.20	987.84	21+41.89	987.71
.6L	21+39.81	987.71	21+43.50	987.82	21+47.20	987.80	21+50.89	987.65
.7L	21+48.81	987.65	21+52.50	987.76	21+56.20	987.74	21+59.89	987.58
.8L	21+57.81	987.58	21+61.50	987.68	21+65.20	987.65	21+68.89	987.50
.9L	21+66.81	987.50	21+70.50	987.59	21+74.20	987.56	21+77.89	987.40
℄ PIER 3	21+75.81	987.41	21+79.50	987.51	21+83.20	987.47	21+86.89	987.31
.1L	21+82.11	987.35	21+85.80	987.45	21+89.50	987.41	21+93.19	987.24
.2L	21+88.41	987.29	21+92.10	987.38	21+95.80	987.35	21+99.49	987.18
.3L	21+94.71	987.24	21+98.40	987.32	22+02.10	987.28	22+05.79	987.11
.4L	22+01.01	987.18	22+04.70	987.26	22+08.40	987.21	22+12.09	987.04
.5L	22+07.31	987.11	22+11.00	987.18	22+14.70	987.14	22+18.39	986.97
.6L	22+13.61	987.03	22+17.30	987.11	22+21.00	987.06	22+24.69	986.88
.7L	22+19.91	986.95	22+23.60	987.02	22+27.30	986.97	22+30.99	986.79
.8L	22+26.21	986.85	22+29.90	986.92	22+33.60	986.87	22+37.29	986.68
.9L	22+32.51	986.74	22+36.20	986.82	22+39.90	986.76	22+43.59	986.57
℄ BRG. FWD. ABUT.	22+38.81	986.64	22+42.50	986.71	22+46.20	986.64	22+49.89	986.45

NOTES:

1. FOR DECK KEY PLAN, SEE SHEET 20/28.
2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

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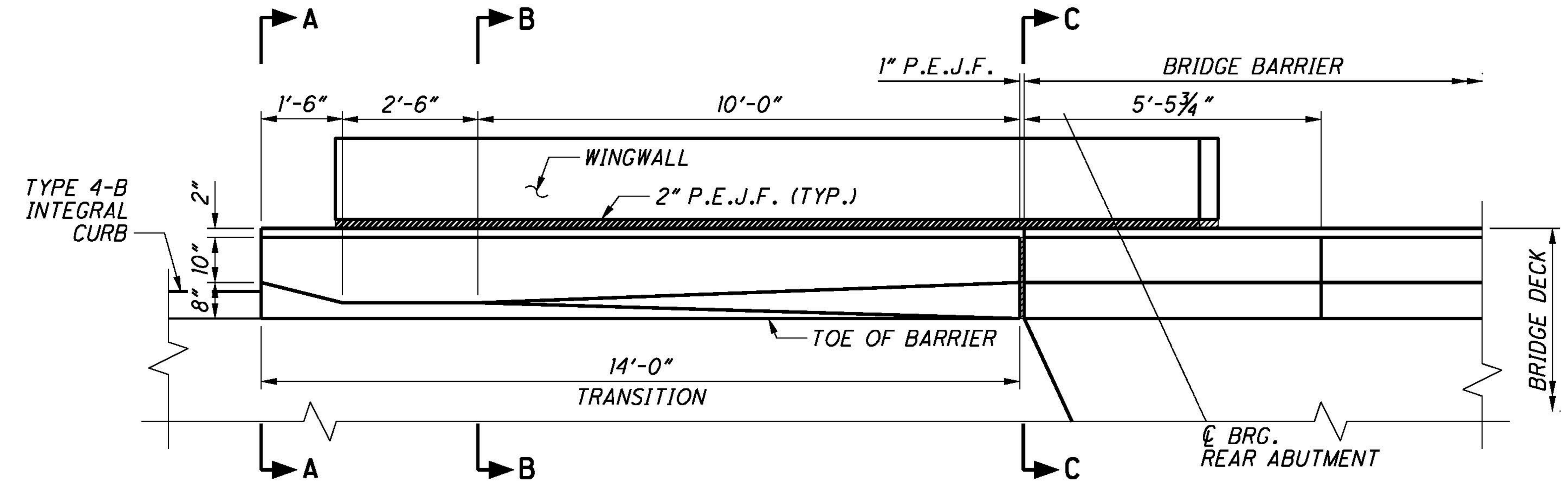
DESIGNED TAS | DRAWN DTA | REVIEWED RER | DATE 07/2016
CHECKED BMG | REVISED | STRUCTURE FILE NUMBER 8302529

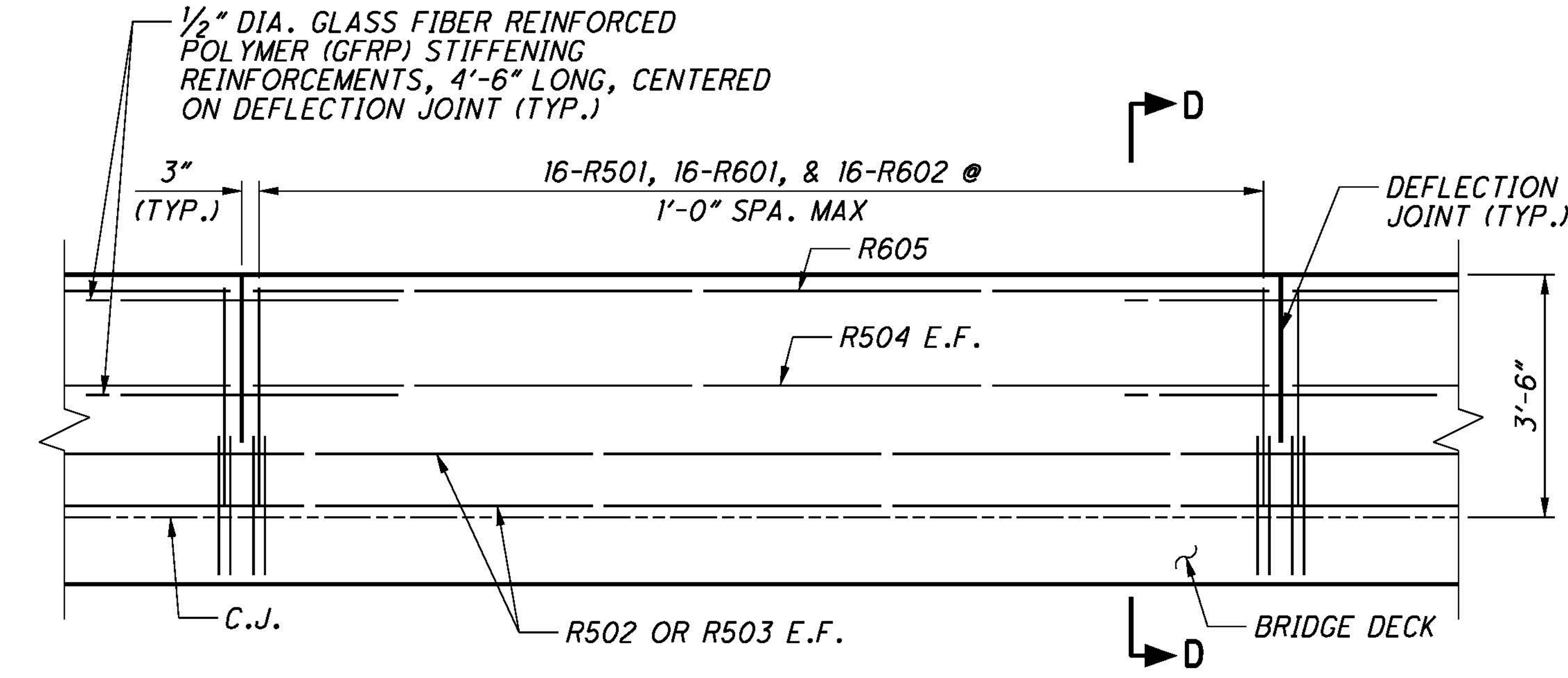
TOP OF HAUNCH ELEVATIONS
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

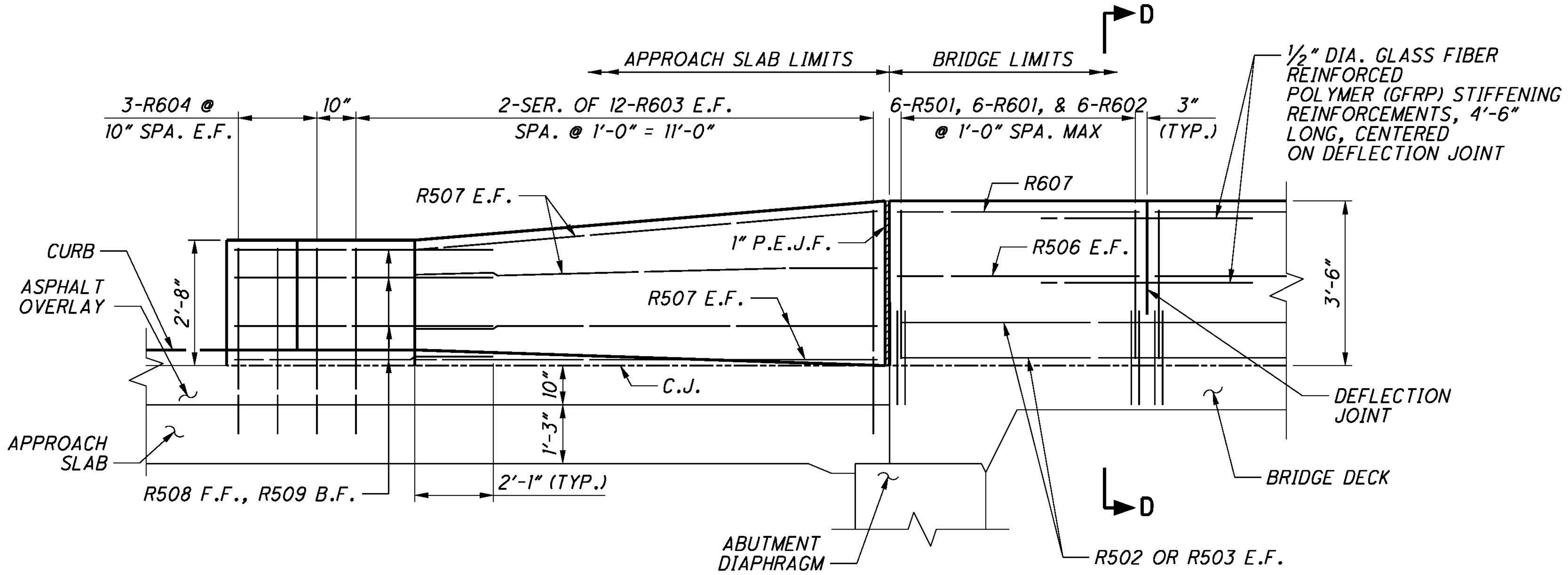


REAR APPROACH SLAB BARRIER PLAN

(FORWARD APPROACH SLAB SIMILAR)

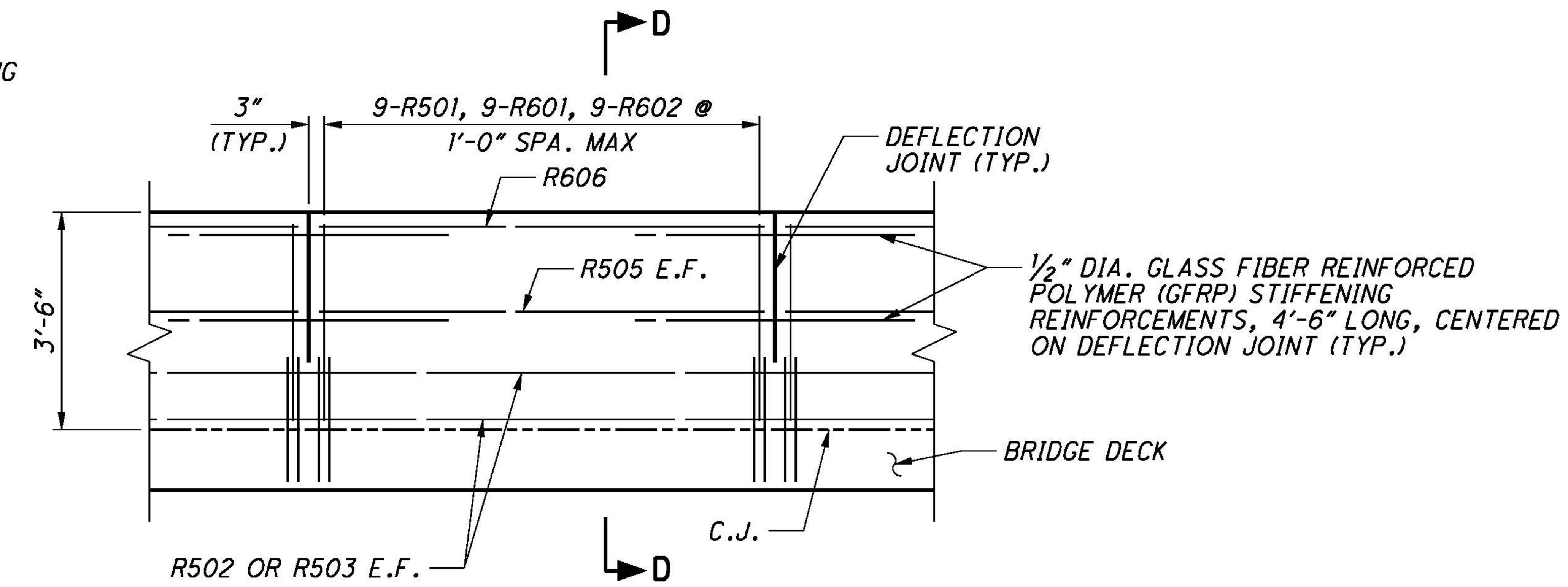


15'-0" INTERIOR PANEL ELEVATION



REAR APPROACH SLAB BARRIER ELEVATION

(FORWARD APPROACH SLAB SIMILAR)

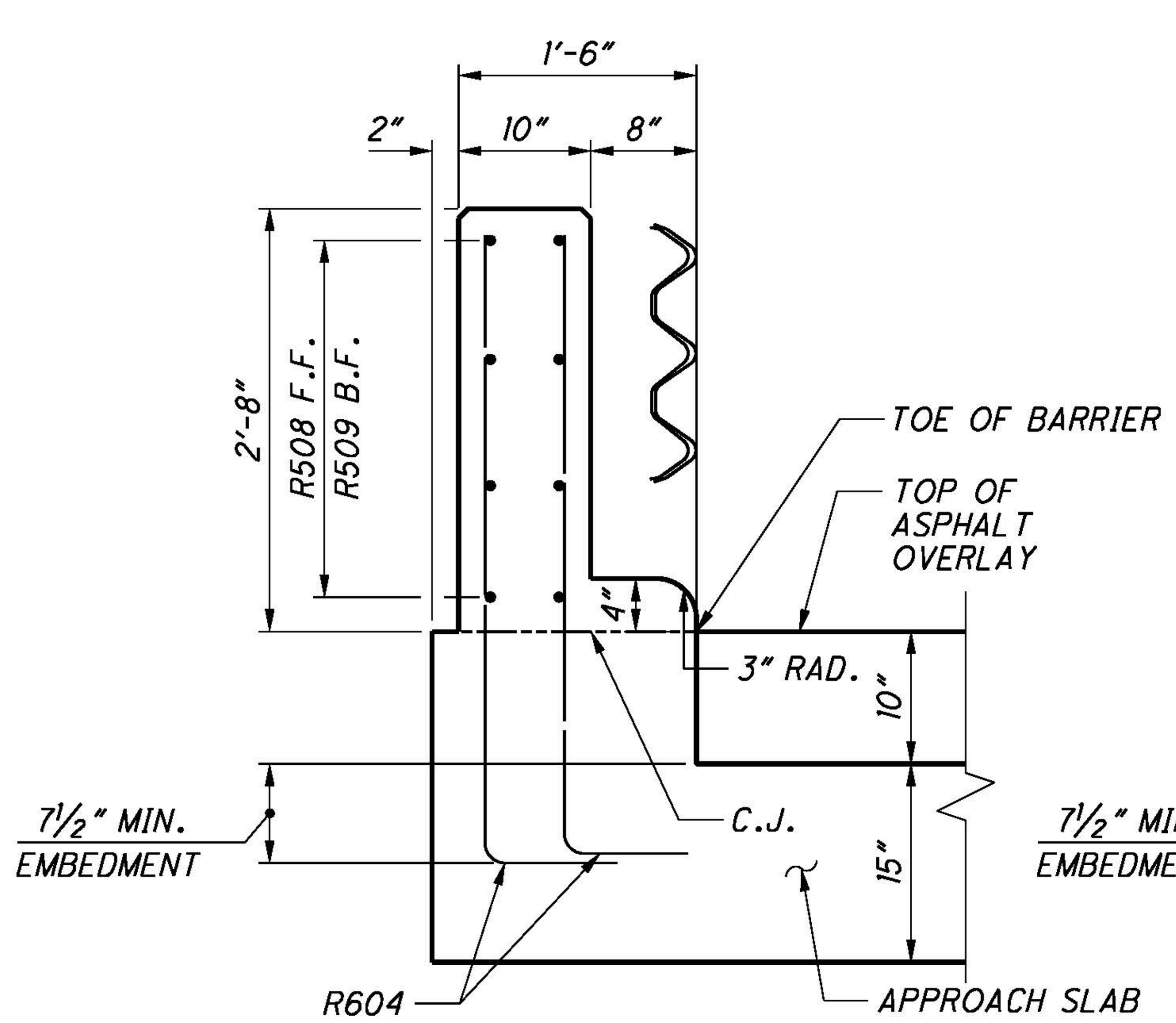


7'-6" INTERIOR PANEL ELEVATION

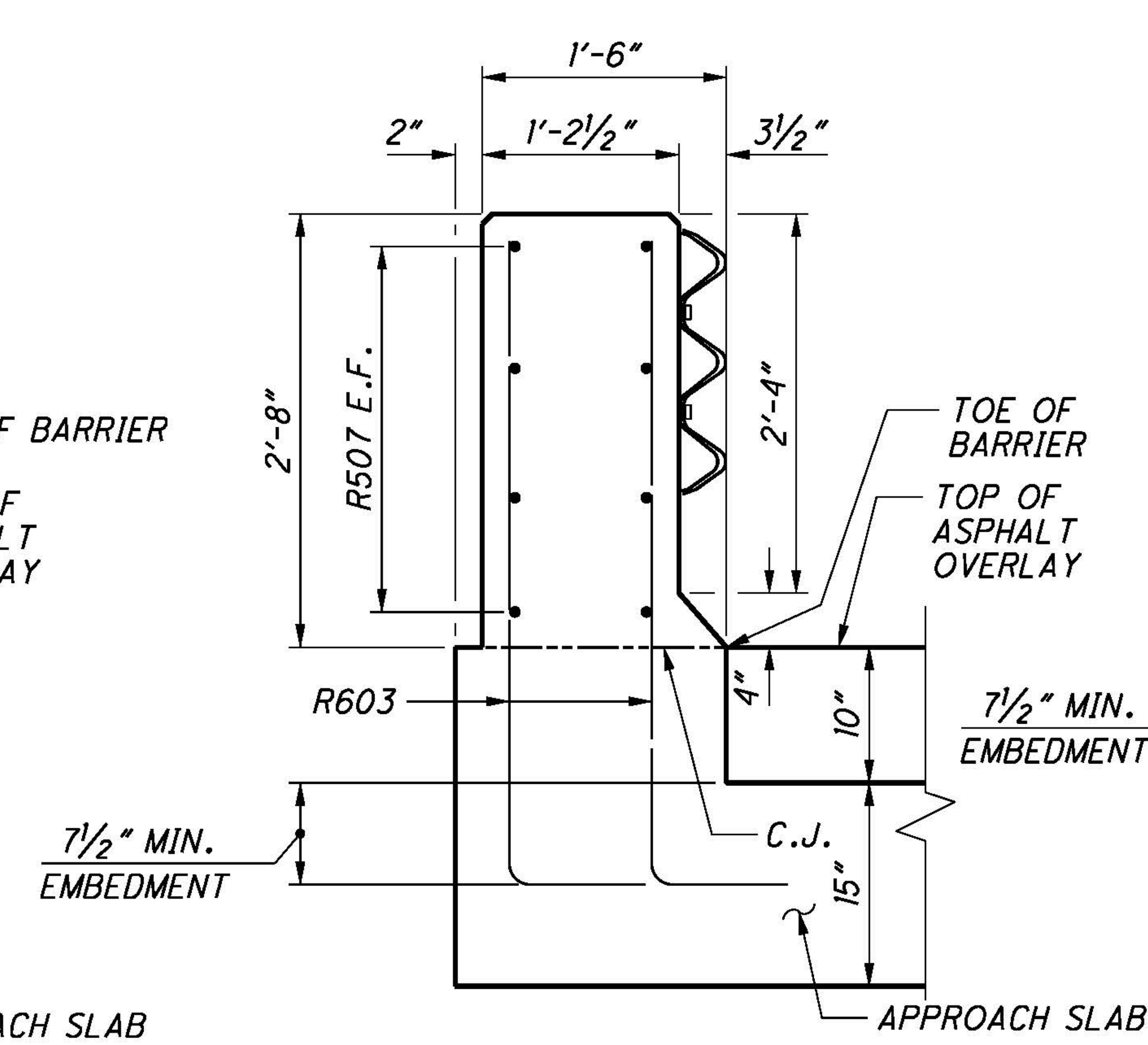
MIN. LAP LENGTHS	
NO. 5 BARS	2'-9"
NO. 6 BARS	3'-4"

NOTES:

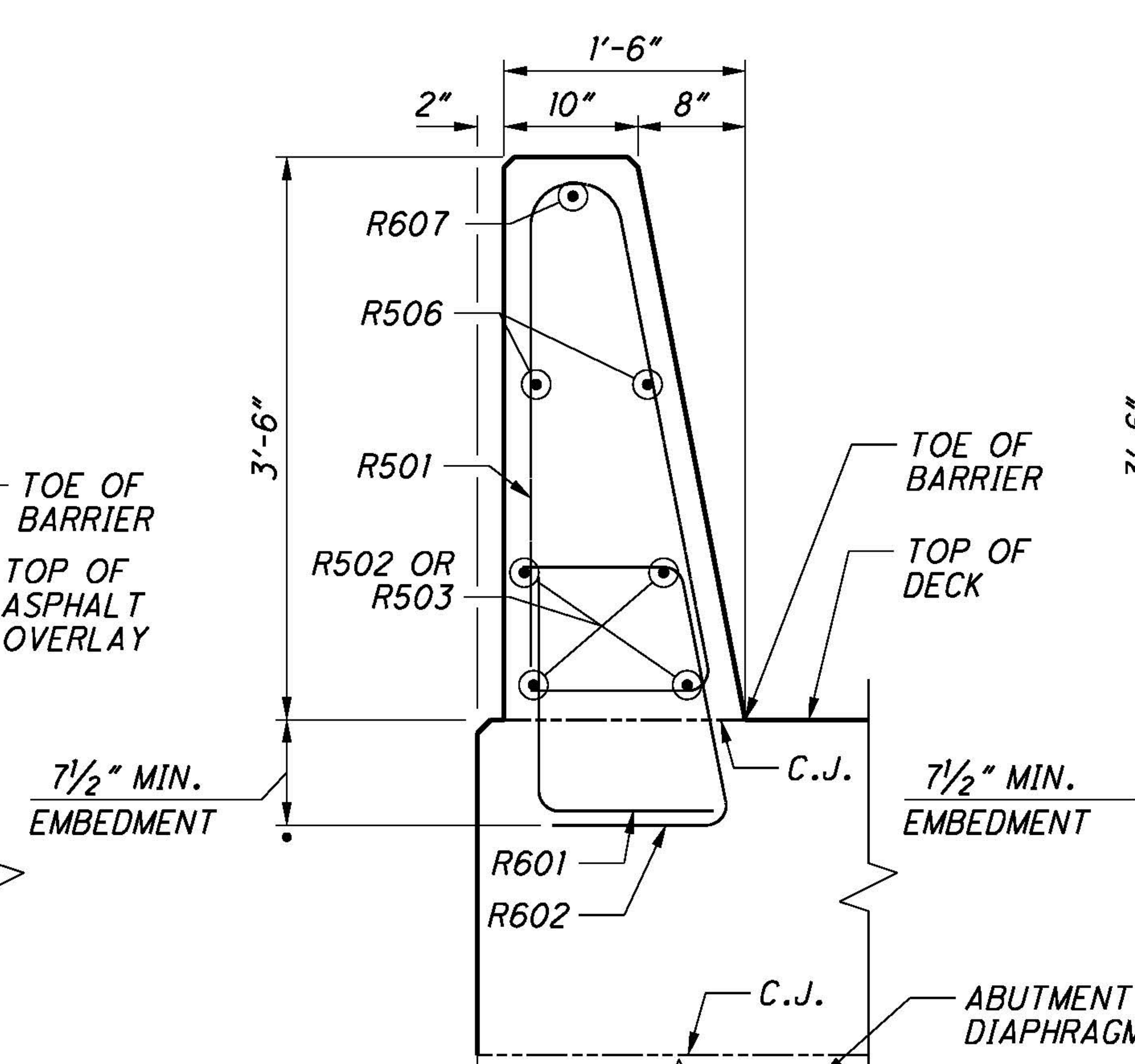
1. FOR MORE INFORMATION, SEE STD. DWG. SBR-1-13.
2. FOR DEFLECTION JOINT LAYOUT PLAN, SEE SHEET 25/28.
3. FOR BRIDGE TERMINAL ASSEMBLY, SEE ROADWAY PLANS AND STD. CONST. DRAWING MGS-3.1.



SECTION A-A

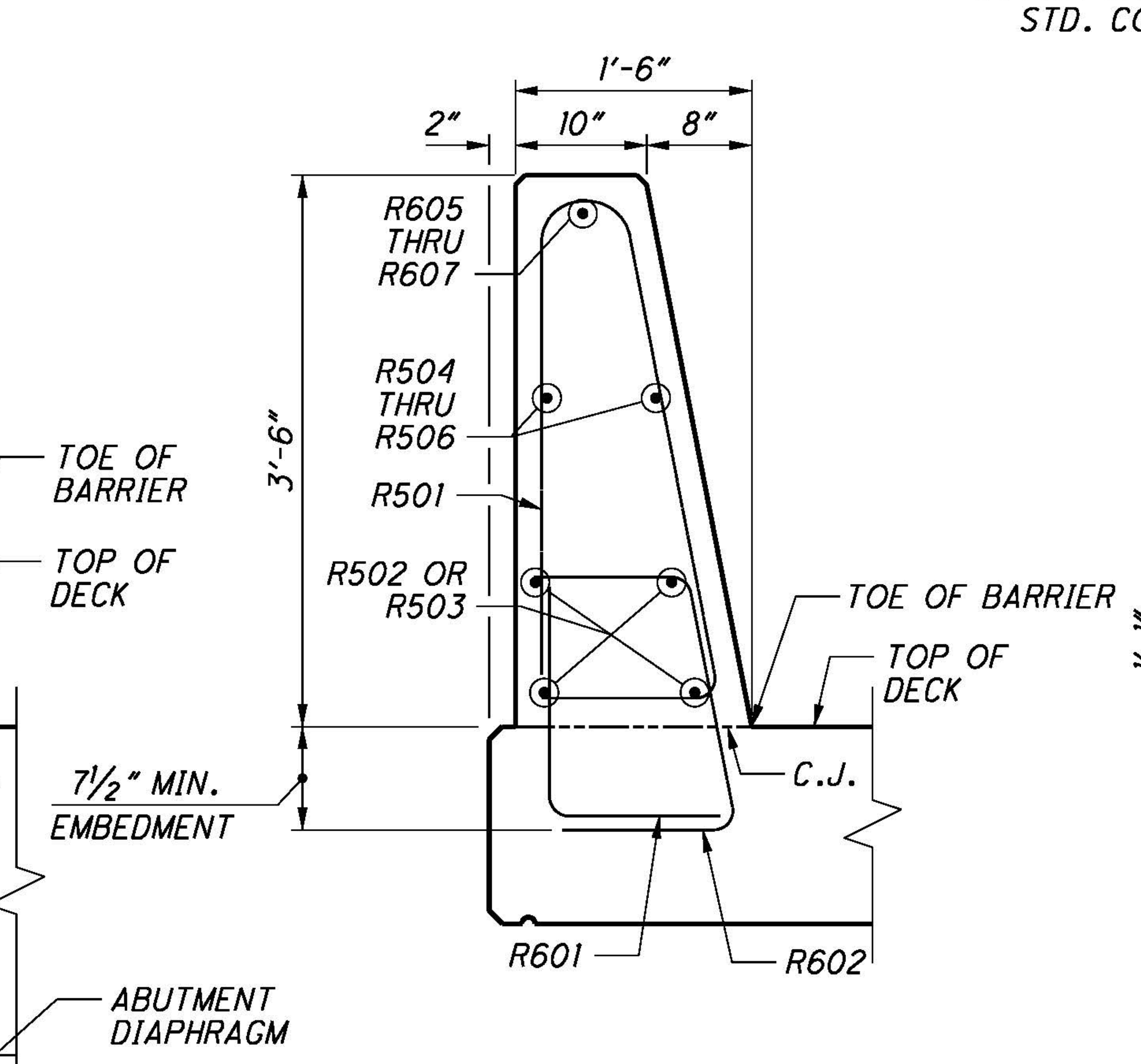


SECTION B-B



SECTION C-C

(GFRP NOT SHOWN)



SECTION D-D

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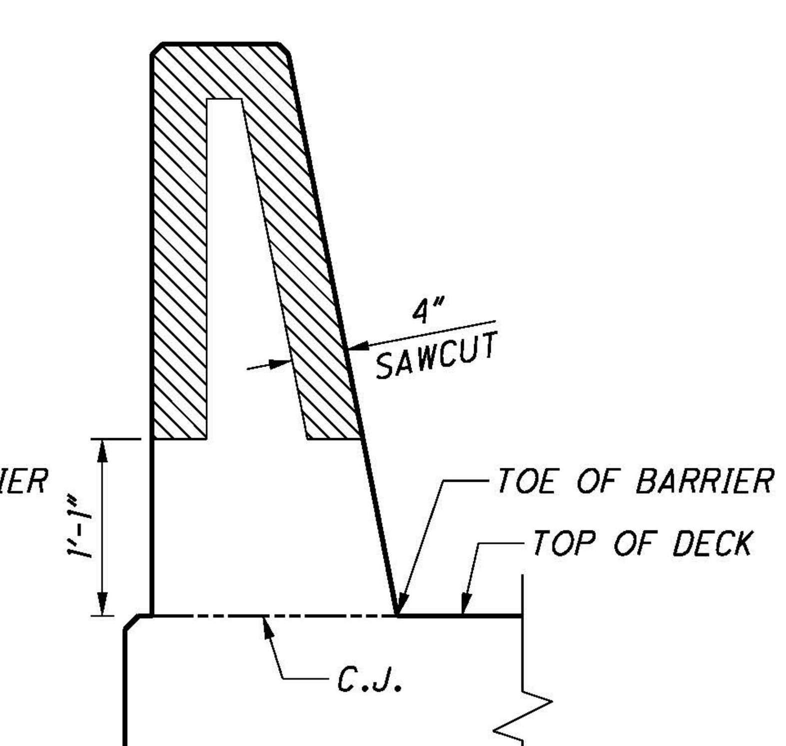

SAWCUT DETAIL

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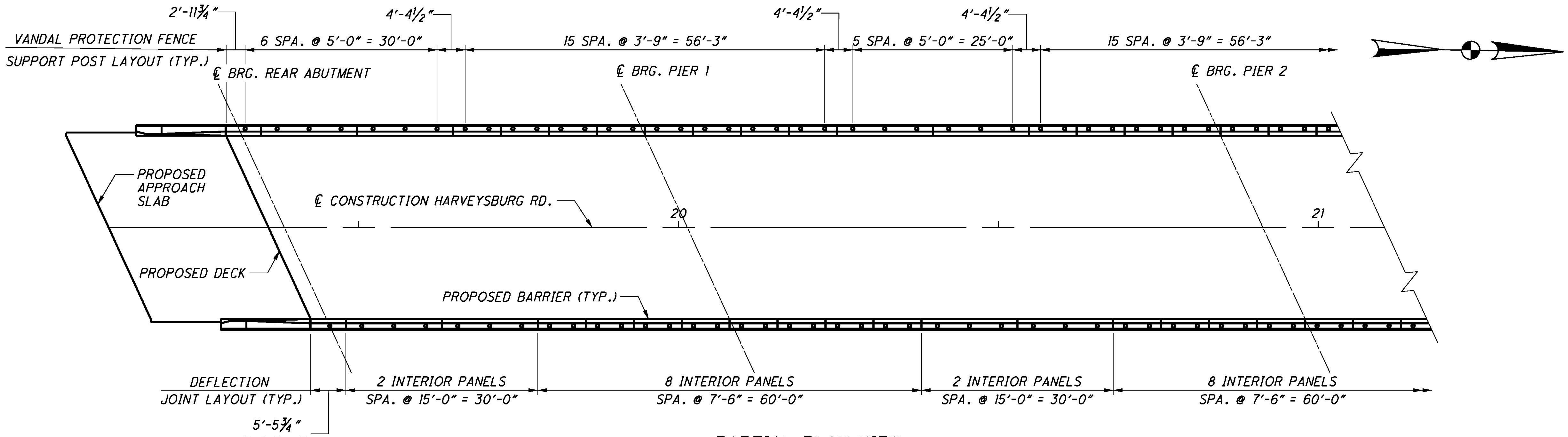
DESIGNED	DRAWN	REVIEWED	DATE
MRV	FTB	RER	07/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8302529	

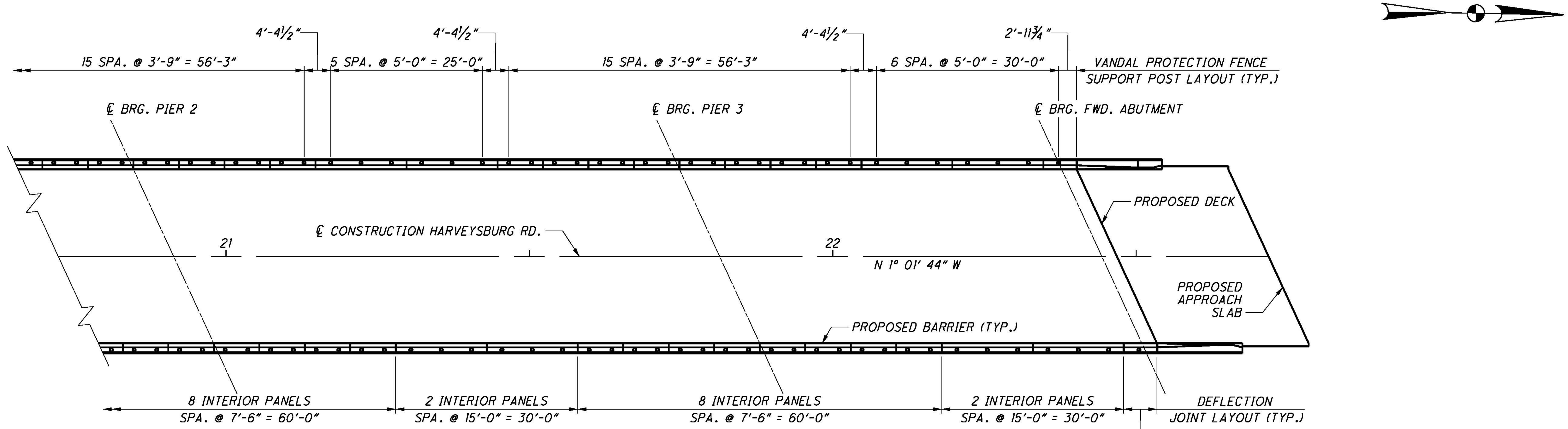
BARRIER DETAILS (1 OF 2)
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

24/28



PARTIAL PLAN VIEW
(SPANS 1 AND 2)



PARTIAL PLAN VIEW
(SPANS 4 AND 3)

NOTES:

1. THE VANDAL PROTECTION FENCE SHALL BE A 6'-0" STRAIGHT FENCE CONFORMING TO POST SECTION PS-4 WITH BASE PLATE BP-5.
2. FOR ADDITIONAL DETAILS, SEE ODOT STD. DWG. VPF-1-90

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TAS/MRV	BMG	TAS		RER	07/2016	8302529

BARRIER DETAILS (2 OF 2)
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

25/28

157/160

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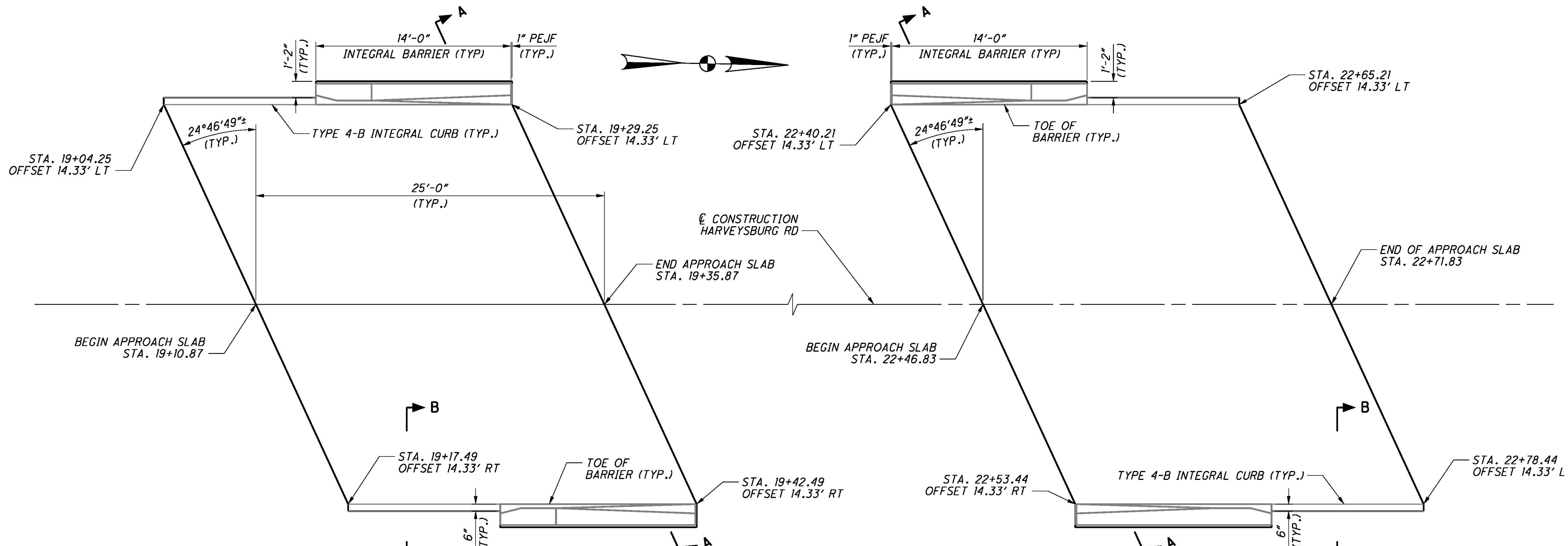
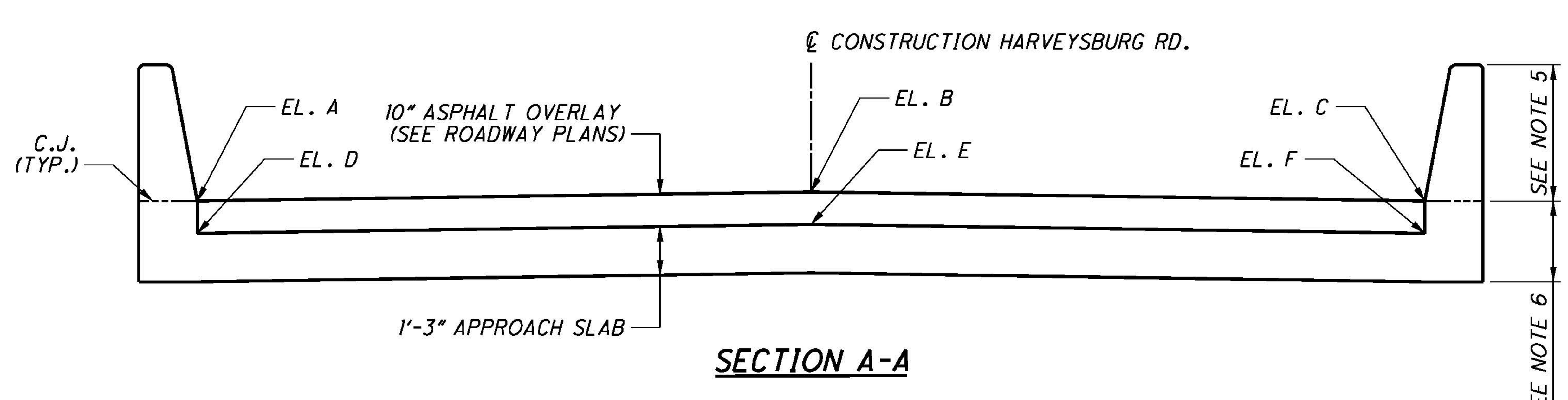
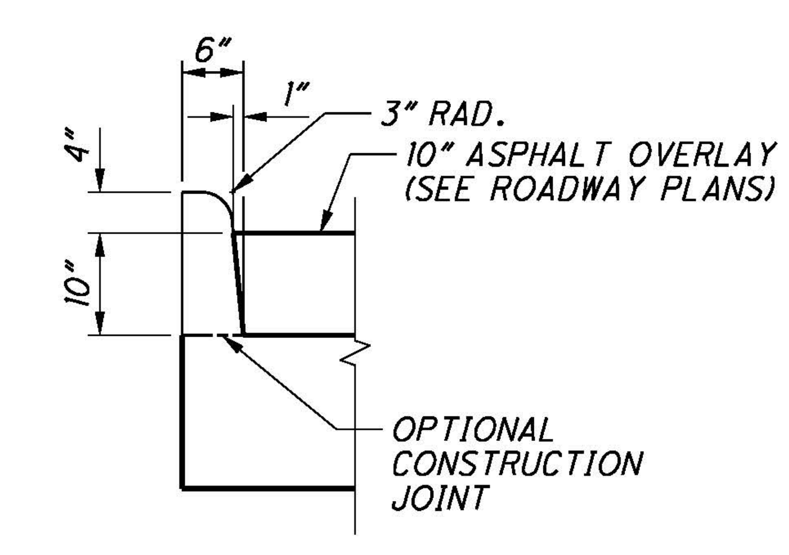


APPROACH SLAB PLAN

APPROACH SLAB ELEVATIONS												
LOCATION	TOP OF ASHPALT OVERLAY						TOP OF APPROACH SLAB					
	STA.	EL. A	STA.	EL. B	STA.	EL. C	STA.	EL. D	STA.	EL. E	STA.	EL. F
BEGIN REAR	19+04.25	986.22	19+10.87	986.60	19+17.49	986.51	19+04.25	985.39	19+10.87	985.76	19+17.49	985.67
END REAR	19+29.25	986.74	19+35.87	987.10	19+42.49	986.99	19+29.25	985.91	19+35.87	986.27	19+42.49	986.16
BEGIN FORWARD	22+40.21	987.29	22+46.83	987.41	22+53.44	987.07	22+40.21	986.45	22+46.83	986.58	22+53.44	986.23
END FORWARD	22+65.21	986.85	22+71.83	986.95	22+78.44	986.59	22+65.21	986.02	22+71.83	986.12	22+78.44	985.76



SECTION A-A



SECTION B-B

NOTES:

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE ODOT STANDARD DRAWINGS AS-1-15 AND AS-2-15 TYPE B INSTALLATION (WITH CAST-IN-PLACE CONCRETE TURN BACK WINGWALLS).
2. FOR BARRIER ELEVATIONS, SEE SHEET 24/28.
3. FOR ADDITIONAL BARRIER TRANSITION DETAILS, SEE ODOT STANDARD DRAWING SBR-1-13.
4. FOR PAYMENT OF ITEMS RELATED TO ASPHALT OVERLAY, SEE ROADWAY PLANS.
5. CONCRETE TO BE PAID FOR UNDER ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN.
6. CONCRETE TO BE PAID FOR UNDER ITEM 526, REINFORCED APPROACH SLABS WITH QC/QA (T=15").
7. FOR MORE TYPE 4-B CURB DETAILS, SEE ODOT STD. DWG. BP-5.1.

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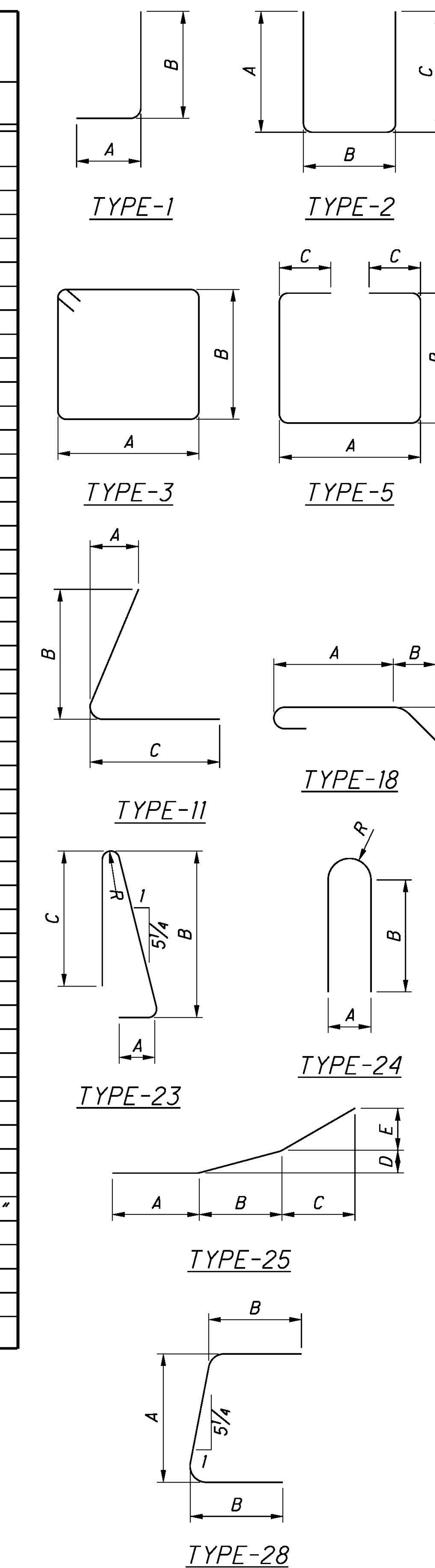
APPROACH SLAB DETAILS
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD

WAR-761-16.81
PID No. 91727

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR ABUTMENT											
RA601	18	6'-3"	169	1	1'-10"	4'-7"					
RA602	54	4'-1"	331	1	1'-0"	3'-3"					
RA603	8	9'-2"	110	STR							
RA604	9	10'-6"	142	2	4'-10"	1'-2"	4'-10"				
RA605	19	9'-11"	283	1	1'-10"	8'-3"					
RA606	19	8'-3"	235	STR							
	1 SR	6'-6"			2'-10"		2'-10"				
RA607	OF	TO	89	2	TO	1'-2"	TO				0'-4"
	7	10'-6"			4'-10"		4'-10"				
RA608	1	6'-4"	10	2	2'-9"	1'-2"	2'-9"				
RA609	2	9'-3"	28	STR							
RA610	2	6'-9"	20	STR							
RA611	2	14'-1"	42	STR							
RA612	6	15'-9"	142	STR							
RA613	8	9'-1"	109	STR							
RA614	10	9'-0"	135	2	4'-1"	1'-2"	4'-1"				
	1 SR	6'-4"			2'-9"		2'-9"				
RA615	OF	TO	72	2	TO	1'-2"	TO				0'-4"
	6	9'-8"			4'-5"		4'-5"				
RA616	1	6'-2"	9	2	2'-8"	1'-2"	2'-8"				
RA617	2	9'-3"	28	STR							
RA618	2	6'-7"	20	STR							
RA619	2	14'-8"	44	STR							
RA620	6	15'-7"	140	STR							
	SUB-TOTAL		2,158								
FORWARD ABUTMENT											
FA601	18	6'-3"	169	1	1'-10"	4'-7"					
FA602	54	4'-1"	331	1	1'-0"	3'-3"					
FA603	8	9'-2"	110	STR							
FA604	9	10'-6"	142	2	4'-10"	1'-2"	4'-10"				
FA605	19	10'-2"	290	1	1'-10"	8'-6"					
FA606	19	8'-6"	243	STR							
	1 SR	6'-6"			2'-10"		2'-10"				
FA607	OF	TO	89	2	TO	1'-2"	TO				0'-4"
	7	10'-6"			4'-10"		4'-10"				
FA608	1	6'-4"	10	2	2'-9"	1'-2"	2'-9"				
FA609	2	9'-3"	28	STR							
FA610	2	6'-9"	20	STR							
FA611	2	14'-1"	42	STR							
FA612	6	15'-9"	142	STR							
FA613	8	9'-1"	109	STR							
FA614	10	9'-0"	135	2	4'-1"	1'-2"	4'-1"				
	1 SR	6'-4"			2'-9"		2'-9"				
FA615	OF	TO	72	2	TO	1'-2"	TO				0'-4"
	6	9'-8"			4'-5"		4'-5"				
FA616	1	6'-2"	9	2	2'-8"	1'-2"	2'-8"				
FA617	2	9'-9"	29	STR							
FA618	2	6'-7"	20	STR							
FA619	2	14'-8"	44	STR							
FA620	6	15'-7"	140	STR							
	SUB-TOTAL		2,174								
DIAPHRAGM GUIDE											
*DG501	24	4'-2"	104	STR							
*DG601	10	15'-9"	237	3	3'-9"	3'-8 ½"					
*DG801	16	13'-8"	584	5	2'-8"	3'-7"	2'-4"				
	*SUB-TOTAL		925								
PIERS											
P501	102	3'-10"	408	11	1'-1"	1'-11"	2'-0"				
P502	51	4'-1"	217	2	0'-10"	2'-8"	0'-10"				
P503	12	26'-10"	336	STR							
P504	9	6'-3"	59	STR							
P505	12	9'-2"	115	24	2'-8"	2'-6"				1'-4"	
	SUB-TOTAL		1,135								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
RD501	19	9'-5"	187	2	3'-3"	3'-2"	3'-3"				
RD502	38	9'-0"	357	2	2'-9"	3'-9"	2'-9"				
RD503	1	9'-1"	9	2	3'-3"	2'-10"	3'-3"				
RD504	3	5'-6"	17	2	1'-0"	3'-9"	1'-0"				
RD505	2	8'-8"	18	2	2'-9"	3'-5"	2'-9"				
RD506	1	5'-0"	5	2	1'-0"	3'-3"	1'-0"				
RD507	3	5'-2"	16	2	1'-0"	3'-5"	1'-0"				
RD508	1	4'-8"	5	2	1'-0"	2'-11"	1'-0"				
RD509	2	12'-6"	26	3	3'-2"	2'-9"					
RD510	2	9'-10"	21	3	3'-9"	0'-10"					
RD801	22	5'-1"	299	18	2'-11"	1'-0"	1'-0"				
RD802	8	34'-10"	744	STR							
RD803	2	24'-3"	129	STR							
RD804	4	25'-4"	271	1	1'-4"	24'-3"					
RD805	2	6'-6"	35	STR							
RD806	4	7'-7"	81	1	1'-4"	6'-6"					
RD807	8	6'-2"	132	18	3'-9"	1'-2"	1'-2"				
FD501	19	9'-7"	190	2	3'-4"	3'-2"	3'-4"				
FD502	38	8'-6"	337	2	2'-6"	3'-9"	2'-6"				
FD503	2	9'-10"	21	3	3'-9"	0'-10"					
FD504	3	5'-4"	17	2	1'-0"	3'-7"	1'-0"				
FD505	3	5'-2"	16	2	1'-0"	3'-5"	1'-0"				
FD506	1	4'-8"	5	2	1'-0"	2'-11"	1'-0"				
FD507	2	4'-11"	10	2	1'-0"	3'-2"	1'-0"				
FD508	1	5'-0"	5	2	1'-0"	3'-3"	1'-0"				
FD509	2	10'-1"	21	2	3'-9"	2'-10"	3'-9"				
FD510	2	8'-2"	17	2	2'-6"	3'-5"	2'-6"				
FD801	22	5'-1"	299	18	2'-11"	1'-0"	1'-0"				
FD802	8	34'-10"	744	STR							
FD803	2	24'-2"	129	STR							
FD804	4	25'-4"	271	1	1'-4"	24'-2"					
FD805	2	6'-6"	35	STR							
FD806	4	7'-7"	81	1	1'-4"	6'-6"					
FD807	8	6'-2"	132	18	3'-9"	1'-2"	1'-2"				
S401	224	40'-0"	5985	STR							
S402	32	44'-6"	951	STR							
S501	301	40'-0"	12558	STR							
S502	43	48'-0"	2153	STR							
S503	186	45'-0"	8730	STR							
S504	1190	31'-6"	39097	STR							1'-0 ¼"
	4 SR	9'-8"									
S505	OF	TO	1620	STR						0'-3"	
	20	29'-2"									
S506	408	7'-6"	3192	24	0'-6½"	3'-4"					
	SUB-TOTAL		78,922								



NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

2. ALL REINFORCING STEEL TO BE EPOXY COATED.

LEGEND:

* - THE COST OF DIAPHRAGM GUIDE REINFORCEMENT SHALL BE INCLUDED WITH ITEM 511, SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.

E.L. ROBINSON ENGINEERING
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www.elrobinsonengineering.com

REVIEWED RER | DATE 07/2016 | STRUCTURE FILE NUMBER 8302529
DRAWN DTA | REVISED
DESIGNED DTA | CHECKED MRV

REINFORCING STEEL LIST (1 OF 2)
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
					RAILIING						
R501	712	7'-4"	5446	23	0'-11"	3'-3"	3'-0"			0'-3"	
R502	56	40'-0"	2336	STR							
R503	8	49'-9"	415	STR							
R504	32	14'-6"	484	STR							
R505	96	7'-0"	701	STR							
R506	8	4'-11"	41	STR							
R507	32	10'-0"	334	STR							
R508	16	5'-9"	96	25	1'-10"	2'-5"	1'-5"	0'-1 1/2"	0'-5"		
R509	16	5'-8"	95	STR							
R601	712	2'-5"	2584	1	1'-0"	1'-7"					
R602	712	2'-9"	2941	28	1'-1"	1'-0"					
	8 SR	4'-9"				3'-11"					
R603	OF	TO	757	1	1'-0"	TO					0'-1"
	12	5'-8"				4'-10"					
R604	24	4'-9"	171	1	1'-0"	3'-11"					
R605	16	14'-6"	348	STR							
R606	48	7'-0"	505	STR							
R607	4	4'-11"	30	STR							
		SUB-TOTAL	17,284								

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

2. ALL REINFORCING STEEL TO BE EPOXY COATED.

3. FOR BAR SHAPES, SEE SHEET 27/28.

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REVIEWED RER | DATE 07/2016 | STRUCTURE FILE NUMBER 8302529
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REINFORCING STEEL LIST (2 OF 2)
BRIDGE NO. WAR-71-2179
I-71 UNDER HARVEYSBURG RD.

WAR-71-16.81
PID No. 91727