

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

**CUY-90-24.10/24.63**

CITY OF CLEVELAND  
CUYAHOGA COUNTY

**PROJECT DESCRIPTION**

THIS PROJECT CONSISTS OF 0.64 MILES OF BRIDGE AND ROADWAY IMPROVEMENTS ALONG IR-90. PROPOSED BRIDGE WORK OVER E140TH STREET AND E152ND STREET INCLUDES REPLACING THE DECKS, PAINTING STEEL, REPLACING APPROACH SLABS, BACK WALLS, AND SEALING CONCRETE SURFACES. PROPOSED ROADWAY WORK INCLUDES RESURFACING, DRAINAGE, LIGHTING, SIGNING AND PAVEMENT MARKINGS.

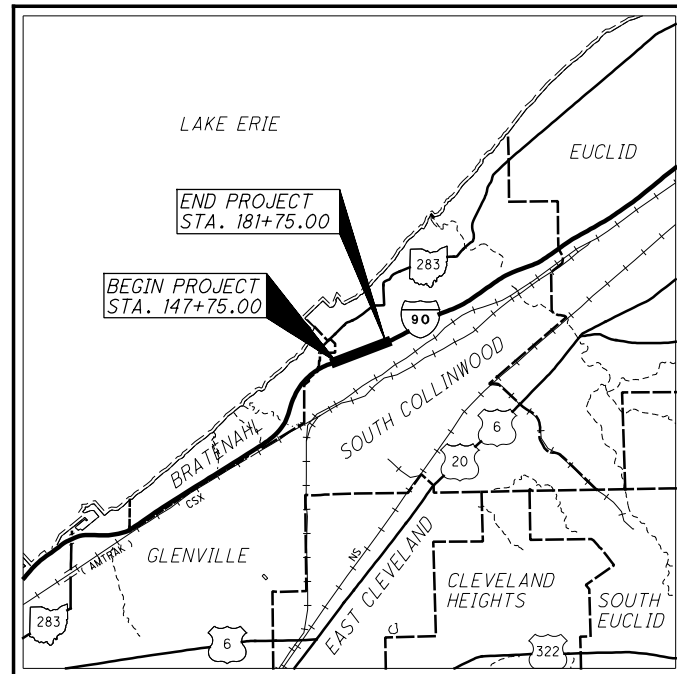
PROJECT EARTH DISTURBED AREA: N/A ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES (ROUTINE MAINTENANCE PROJECT)

**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 SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.



LOCATION MAP

LATITUDE: 41°33'59" LONGITUDE: 81°34'50"



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

**DESIGN DESIGNATION**

MILE 24.10

CURRENT ADT (2019)	122,000
DESIGN YEAR ADT (2039)	127,000
DESIGN HOURLY VOLUME (2039)	13,000
DIRECTIONAL DISTRIBUTION	59%
TRUCKS (24 HOUR B&C)	5%
DESIGN SPEED	70 MPH
LEGAL SPEED	60 MPH

DESIGN FUNCTIONAL CLASSIFICATION:  
URBAN INTERSTATE

NHS PROJECT ----- YES

**DESIGN EXCEPTIONS**

APPROVAL DATE

VERTICAL CLEARANCE, GRADED AND SHOULDER WIDTH

1/15/19

**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:



ARCADIS U.S., Inc.  
222 S. Main Street, Suite 200  
Akron, Ohio 44308  
Tel: 330-434-1995 www.arcadis.com

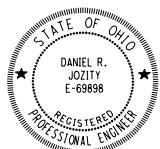
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MILE 24.63

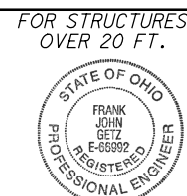
CURRENT ADT (2019)	113,000
DESIGN YEAR ADT (2039)	119,000
DESIGN HOURLY VOLUME (2039)	12,000
DIRECTIONAL DISTRIBUTION	59%
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	70 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
URBAN INTERSTATE	
NHS PROJECT	YES

ENGINEERS SEAL:  
FOR ENTIRE PLAN EXCEPT  
STRUCTURES OVER 20 FT.



SIGNED: *Daniel R. Jozity*  
DATE: 1/10/2020

ENGINEERS SEAL:



SIGNED: *Frank John Getz*  
DATE: 1/10/2020

FOR STRUCTURES  
OVER 20 FT.

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS	
BP-3.1	7/18/14	MGS-1.1	1/19/18	MT-95.31	7/21/17	MT-102.30	10/16/15	TC-9.10	1/19/18	800	7/20/18	
BP-5.1	7/20/18	MGS-2.1	1/19/18	MT-95.32	7/21/17	MT-104.10	10/16/15	TC-21.10	7/21/17	808	1/18/19	
BP-7.1	7/20/18	MGS-3.1	1/19/18	MT-95.60	7/19/13	MT-105.10	7/19/13	TC-21.20	7/20/18	821	4/20/12	
BP-9.1	7/21/17	MGS-3.2	1/18/13	MT-95.61	7/19/13			TC-22.20	1/19/18	832	10/19/18	
F-1.1	7/19/13	MGS-4.2	7/19/13	MT-97.10	7/18/14	HL-30.11	7/20/18	TC-41.20	10/18/13	875	1/17/14	
F-3.1	7/19/13			MT-98.20	7/18/14	HL-30.31	1/17/14	TC-41.30	10/18/13	908	10/20/17	
F-3.3	7/19/13	AS-1-15	7/17/15	MT-98.29	1/20/17	HL-30.32	1/17/14	TC-42.20	10/18/13	921	4/20/12	
		AS-2-15	1/19/18	MT-99.20	7/20/18	HL-30.33	1/17/14	TC-51.11	1/15/16			
CB-2.2	7/20/18	GSD-1-96	7/19/02	MT-99.30	1/19/18	HL-40.10	1/20/17	TC-52.10	10/18/13			
DM-1.1	7/21/17	NBS-1-09	1/19/18	MT-99.60	7/15/16	HL-50.21	7/20/18	TC-52.20	7/20/18			
DM-1.3	7/18/14	PCB-91	1/18/13	MT-101.60	1/20/17	HL-60.31	7/20/18	TC-61.10	1/17/14			
DM-4.1	1/15/16	SBR-1-13	7/20/18	MT-101.70	7/20/18			TC-61.30	1/20/17			
DM-4.3	1/15/16	SBR-2-13	7/20/18	MT-101.75	7/15/16	RM-4.1	7/21/17	TC-65.10	1/17/14			
DM-4.4	1/15/16	SICD-1-96	7/18/14	MT-101.90	7/21/17	RM-4.2	4/18/14	TC-65.11	7/21/17			
HW-2.1	7/20/18	SICD-2-14	7/18/14	MT-102.10	1/20/17	RM-4.3	7/18/14	TC-72.20	7/20/18			
I-2.1	1/15/16	VPF-1-90	7/20/18	MT-102.20	7/18/14	RM-4.4	7/21/17					

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 13.

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DISTRICT DEPUTY DIRECTOR

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

PROPOSAL NOTE  
PN534 4/20/2018

FEDERAL PROJECT NO. **E150730**

PID NO. **88348**

CONSTRUCTION PROJECT NO. \_\_\_\_\_

RAILROAD INVOLVEMENT **NONE**

**CUY-90-24.10/24.63**

1/196

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**ROUNDING**

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

**UTILITIES**

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

CHARTER COMMUNICATIONS  
FORMERLY TIME WARNER CABLE  
8179 DOW CIRCLE  
STRONGSVILLE, OHIO 44136  
ATTN: PAUL SILVESTRO  
PHONE: 216-575-8016,  
EXT 216555034  
FAX: 440-826-2940

CITY OF CLEVELAND DIVISION OF WATER  
1201 LAKESIDE AVE.  
CLEVELAND, OHIO 44114  
ATTN: FRED ROBERTS  
PHONE: 216-644-2444 X75590  
FAX: (216) 664-2378

AT&T  
13630 LORAIN AVE. 2ND FLOOR  
CLEVELAND, OHIO 44111  
ATTN: JAMES JANIS  
PHONE: (216) 476-6142  
FAX: (216) 476-6013

CEI FIRST ENERGY  
THE ILLUMINATING COMPANY  
ATTN: TED RADER  
6896 MILLER ROAD  
BRECKSVILLE OH 44141  
OFFICE: 440-546-8738

CITY OF CLEVELAND  
DIVISION OF CLEVELAND PUBLIC POWER (MELP)  
1300 LAKESIDE AVE.  
CLEVELAND, OHIO 44114  
ATTN: CHRIS HIRZEL  
PHONE: (216) 664-3922, EXT. 115  
FAX: (216) 664-2972

DOMINION EAST OHIO GAS COMPANY  
320 SPRINGSIDE DR.  
FAIRLAWN, OHIO 44333  
ATTN: ED GOUBEUX  
PROJECT MANAGER  
PHONE: (330) 664-2494  
MOBILE: (330) 604-7482

CITY OF CLEVELAND  
DIVISION OF WATER POLLUTION CONTROL  
12302 KIRBY ROAD  
CLEVELAND, OHIO 44108  
ATTN: RACHID ZOGHAIB  
PHONE: (216) 664-3785  
ATTN: ELIE RAMY  
PHONE: 216-664-2513

MCI-WORLDCOM  
120 RAVINE ST.  
AKRON, OHIO 44303  
ATTN: AL GUEST  
PHONE: (330) 253-8267

NORTHEAST OHIO REGIONAL SEWER DISTRICT (NEORS)  
ATTN: MARY MACIEJOWSKI 3900 EUCLID AVE  
CLEVELAND, OHIO 44115-2504  
PHONE: (216) 881-6600, EXT. 6466

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.

**EXISTING PLANS**

EXISTING PLANS ENTITLED CUY-90-23.50 (1959), CUY-90-21.27 (1975), CUY-77-2.82 (1984), CUY-90-23.95 (1990), CUY-90-24.13 (1997), CUY-71-17.91 (2003), CUY-90-23.93 (2012) AND CUY-90-24.70 (2012) MAY BE INSPECTED IN THE ODOT DISTRICT 12 OFFICE IN CLEVELAND.

EXISTING PLANS ARE ALSO AVAILABLE ONLINE THROUGH THE FOLLOWING WEBSTIE: <http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/designfiles.aspx>

**EXISTING TYPICAL SECTIONS**

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM FIELD MEASUREMENTS, RECORDS, AND PAVEMENT CORES AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THE SAME. FOR FURTHER INFORMATION IN REGARD TO THE TYPICAL SECTIONS, THE CONTRACTOR SHALL REFER TO THE PREVIOUS CONSTRUCTION PLANS WHICH CAN BE VIEWED AT THE DISTRICT 12 OFFICE OR ONLINE.



**SURVEYING PARAMETERS**

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

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD88, FROM NGS MBI574 WITH HEIGHT SHIFT  
GEOID: 12B

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD83(2011)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO STATE PLANE - NORTH ZONE  
COMBINED SCALE FACTOR: 0.9999536612  
ORIGIN OR COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENT RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

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.

**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.

**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.

**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 ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRUCT 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.

**ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF THE CMS, THIS ITEM OF WORK WILL INCLUDE THE FOLLOWING ADDITIONAL REQUIREMENTS.

AN OHIO PROFESSIONAL SURVEYOR SHALL DETERMINE THE MINIMUM VERTICAL CLEARANCES OF ALL BRIDGES WITHIN THE PROJECT LIMITS AFTER COMPLETION OF ALL WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. AS A MINIMUM, MEASUREMENTS SHALL BE TAKEN ALONG THE CENTERLINE OF EACH FASCIA BEAM AT THE EDGE OF SHOULDERS, EDGE LINES, LANE LINES, AND CROWN OF THE ROADWAY BELOW. THE MEASUREMENTS SHALL BE DOCUMENTED ON THE ODOT VERTICAL CLEARANCE SURVEY FORM. THE FORM SHALL BEAR THE STAMP OR SEAL OF THE OHIO PROFESSIONAL SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THE OHIO PROFESSIONAL SURVEYOR SHALL SUBMIT THE COMPLETED FORM TO THE PROJECT ENGINEER AND THE DISTRICT BRIDGE MAINTENANCE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 623, CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK ABOVE.

**PROFILE AND ALIGNMENT**

PLACE THE PROPOSED PAVEMENT OUTSIDE OF THE BRIDGE RAISING LIMITS TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS, PROJECT NO. CUY-90-23.50, SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 12 OFFICE OR ONLINE. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY WITH A UNIFORM THICKNESS OF 3 1/4 INCHES AS SHOWN ON THE TYPICAL SECTIONS.

**ITEM 607 - FENCE REBUILT, TYPE CL, AS PER PLAN**

CAREFULLY REMOVE, RECONDITION, AND RE-ERECT FENCE AND COMPONENT PARTS AS DETAILED ON THE PLANS. DO NOT DAMAGE THE FENCE OR COMPONENT PARTS. ANY NEW PARTS WHICH ARE NEEDED, AS DETERMINED BY THE ENGINEER, WILL BE SUPPLIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

THE AMOUNT OF REBUILT FENCE TO BE PAID FOR WILL BE THE NUMBER OF FEET REBUILT, COMPLETE IN PLACE AND MEASURED AS PROVIDED FOR IN 607.09.

PAYMENT FOR THE ABOVE WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 607, FENCE REBUILT, TYPE CL, AS PER PLAN.

**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.

**ITEM 202, GUARDRAIL REMOVED, AS PER PLAN**

THE REMOVAL OF ANCHOR ASSEMBLIES AND BRIDGE TERMINAL ASSEMBLIES SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER LINEAL FOOT OF GUARDRAIL REMOVED. ALL REMOVALS SHALL BE IN ACCORDANCE WITH CMS ITEM 202.09.

**SEEDING AND MULCHING**

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

209, LINEAR GRADING	17 STA.
659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	151 CU. YD.
659, SEEDING AND MULCHING	1,292 SQ. YD.
659, REPAIR SEEDING AND MULCHING	65 SQ. YD
659, INTER-SEEDING	65 SQ. YD.
659, COMMERCIAL FERTILIZER	0.2 TON
659, LIME	0.27 ACRES
659, WATER	7 M. GAL.
659, MOWING	12 M. SQ. FT.
832, EROSION CONTROL	5,000 EACH

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.

CALCULATED  
AMF  
CHECKED  
DRJ

GENERAL NOTES

CUY -90 -24.10 / 24.63

6  
196

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**WORK-SITE TRAFFIC SUPERVISOR (CONT)**

- B. INITIATE TRAFFIC MANAGEMENT / PROVIDE TRAFFIC CONTROL.
- C. ASSIST MOTORIST WITH DISABLED VEHICLES.
- D. RECOMMEND ROADWAY REPAIR NEEDS.
- E. PROVIDE REPAIR RESOURCES.

18. ATTEND POST-INCIDENT DEBRIEFINGS IF REQUIRED.

THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT OF THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORK-SITE TRAFFIC SUPERVISOR:

ITEM 614 WORK-SITE TRAFFIC SUPERVISOR 18 MONTHS

**615, PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF 615, THE CONTRACTOR SHALL LEAVE THE PAVEMENT IN PLACE, THE PAVEMENT SHALL BE FLEXIBLE PAVEMENT AND SHALL HAVE A PAVEMENT SMOOTHNESS TOLERANCE IN ACCORDANCE WITH 441.

**WINTER TIME LIMITATIONS**

CONDUCT ALL WORK SUBJECT TO THE FOLLOWING LIMITATIONS. PAVEMENT AND BRIDGES WORK ARE TREATED SEPERATELY:

1. BY OCTOBER 1ST OF THE FIRST YEAR, COMPLETE ALL PAVEMENT WORK (UP TO AND INCLUDING THE PROPOSED INTERMEDIATE COURSE) REQUIRED FOR THE AFFECTED STAGE OF CONSTRUCTION AND RETURN TRAFFIC TO UN-SHIFTED POSITION WITH FULL LANE WIDTHS AND LEAVING THE PORTABLE BARRIER NEAREST THE MEDIAN, SIMILAR TO THE BRIDGE STAGED CONSTRUCTION DETAILS.

2. PLACE PAVEMENT MARKINGS AND RPM'S FOR THE PHASE OF CONSTRUCTION TO REMAIN IN PLACE OVER WINTER BY OCTOBER 15.

3. FROM OCTOBER 15 TO APRIL 1, COORDINATE ANY PROPOSED WORK REQUIRING LANE CLOSURES WITH ODOT. NO SHORT TERM LANE CLOSURES ARE PERMITTED DURING PERIODS WHEN ODOT IS CONDUCTING SNOW AND ICE OPERATIONS (INCLUDING PRE-TREATMENT) OR WHEN TEMPERATURES ARE BELOW 40 DEGREES AND SNOW IS IN THE FORECAST.

4. THE CONTRACTOR SHALL PLACE WORK ZONE MARKINGS IN ACCORDANCE WITH THE I-90 MAINLINE TRAFFIC CONTROL SHEETS, MAINTAINING FOUR LANES IN EACH DIRECTION AS DETAILED IN THE FINAL CONFIGURATION.

THE FOLLOWING CLASS I, 642 PAINT QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR WORK ZONE PAVEMENT MARKING MEASURES.

ITEM 614, WORK ZONE EDGE LINE, 6"	3.8 MILE
ITEM 614, WORK ZONE LANE LINE, 6"	6.5 MILE
ITEM 614, WORK ZONE CHANNELIZING LINE, 12"	2,100 FOOT
ITEM 614, WORK ZONE DOTTED LINE	2,700 FOOT

**SEQUENCE OF CONSTRUCTION**

THE PROJECT SHALL BE CONSTRUCTED IN SIX MAIN PHASES.

THE CONTRACTOR HAS THE ABILITY TO DO ANY WORK CONCURRENTLY THAT WILL NOT EFFECT THE MAINLINE AT ANY TIME UNLESS OTHERWISE STATED IN THE NOTES.

**RAMP CLOSURES**

DURING THE TIME PERIOD OF THE RAMP CLOSURE, IF APPLICABLE, THE CONTRACTOR SHALL PLACE THE PAVEMENT TO TIE THE RAMP TO THE EXISTING PAVEMENT AS SHOWN IN THE PLANS.

EACH RAMP SHALL BE CLOSED FOR THE DURATION OF THE PHASE UNLESS STATED OTHERWISE.

FREEWAY ENTRANCE RAMPS SHALL BE CLOSED AND DETOURED IN ACCORDANCE WITH THE DETOUR PLANS AND CLOSURES SHALL BE AS PER MT-101.60.

FREEWAY EXIT RAMPS SHALL BE CLOSED AND DETOURED IN ACCORDANCE WITH THE DETOUR PLANS. THE RAMP CLOSURES SHALL BE AS PER MT-98.29.

EAST 140TH AND EAST 152ND

TRAFFIC ON EAST 140TH STREET AND EAST 152ND STREET SHALL BE MAINTAINED AT ALL TIMES WITH THE EXCEPTION OF SHORT TERM CLOSURES FOR BRIDGE RAISING. DURING BRIDGE RAISING LEO'S SHALL HOLD TRAFFIC FOR A MAXIMUM OF 15 MINUTES AT A TIME.

FOR ALL OTHER TIMES THE CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH MT-95.31, MT-95.60 AND MT-95.61 DURING OPERATIONS THAT REQUIRE A LANE CLOSURE. ALL OTHER TIMES TRAFFIC SHALL BE OPEN AND REMAIN ON EXISTING LANES. ALL LANE CLOSURE TIMES AND DURATIONS SHALL BE AT THE APPROVAL OF THE ENGINEER.

**BRIDGE RAISING ON I-90**

DURING BRIDGE RAISING ON I-90, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH MT-99.60.

**PRE-PHASE 1**

PRE-PHASE 1 SHALL CONSIST OF THE RECONSTRUCTION OF THE OUTSIDE SHOULDERS OF IR-90 IN THE EASTBOUND AND WESTBOUND DIRECTIONS. TRAFFIC SHALL BE MAINTAINED PER MT-95.30 DURING ACCEPTABLE PERMITTED LANE CLOSURE MAP (PLCM) TIMES. PLCM TIMES SHALL BE PER THE NOTE ON SHEET 9 .

**PHASE 1**

PHASE 1 SHALL CONSIST OF CONSTRUCTION OF THE MEDIAN AREA. THE CONTRACTOR SHALL REMOVE THE MEDIAN BARRIER, PLACE TEMPORARY PAVEMENT, INSTALL TEMPORARY DRAINAGE ITEMS, REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. FOUR LANES IN EACH DIRECTION SHALL BE SHIFTED TO THE OUTSIDE AND MAINTAINED. THE WESTBOUND EAST 152ND STREET, CALCUTTA AVENUE/EAST 156TH STREET AND THE EASTBOUND EAST 140TH STREET ENTRANCE RAMPS SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEETS 55 TO 56.

**SEQUENCE OF CONSTRUCTION (CONT)**

**PHASE 2**

PHASE 2 SHALL CONSIST OF THE CONSTRUCTION OF THE MIDDLE PORTIONS OF THE EASTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. WESTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND TWO LANES EASTBOUND WILL CONTRA-FLOW TO THE MEDIAN AND TWO LANES EASTBOUND WILL BE SHIFTED TO THE OUTSIDE. THE EASTBOUND EAST 140TH STREET ENTRANCE RAMP SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEET 55.

**PHASE 3**

PHASE 3 SHALL CONSIST OF THE CONSTRUCTION OF THE OUTSIDE PORTION OF THE EASTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. WESTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND EASTBOUND TRAFFIC WILL SHIFTED TO THE MEDIAN. THE EASTBOUND EAST 152ND STREET EXIT AND THE EAST 140TH STREET ENTRANCE RAMP SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEETS 54 AND 55.

**PHASE 4**

PHASE 4 SHALL CONSIST OF THE CONSTRUCTION OF THE MIDDLE PORTIONS OF THE WESTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. EASTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND TWO LANES WESTBOUND WILL CONTRA-FLOW TO THE MEDIAN AND TWO LANES WESTBOUND WILL BE SHIFTED TO THE OUTSIDE. THE WESTBOUND EAST 152ND STREET AND CALCUTTA AVENUE/EAST 156TH STREET ENTRANCE RAMPS SHALL BE CLOSED DURING THIS PHASE. RAMP TRAFFIC SHALL BE DETOURED PER SHEET 56.

**PHASE 5**

PHASE 5 SHALL CONSIST OF THE CONSTRUCTION OF THE OUTSIDE PORTION OF THE WESTBOUND LANES. THE CONTRACTOR SHALL REMOVE AND REPLACE THE BRIDGE DECK AND MILL AND PLACE THE INTERMEDIATE COURSE WITHIN THE WORK ZONE. EASTBOUND TRAFFIC SHALL BE SHIFTED TO THE OUTSIDE AND WESTBOUND TRAFFIC WILL SHIFTED TO THE MEDIAN. THE EAST 140TH STREET EXIT AND CALCUTTA AVENUE/EAST 156TH STREET ENTRANCE RAMPS SHALL BE CLOSED DURING THIS PHASE. THE EAST 152ND STREET RAMP SHALL BE CLOSED TO PLACE THE RAISED PROFILE FOR A MAXIMUM OF 4 WEEKS AS APPROVED BY THE ENGINEER. AFTER THE PAVEMENT RAISING WORK IS COMPLETE THE RAMP SHALL BE REOPEN PER SHEET 42A. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2,500 PER DAY FOR EACH CALENDAR DAY THAT THE RAMP REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

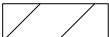
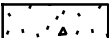

















DURING RAMP CLOSURES TRAFFIC SHALL BE DETOURED PER SHEETS 56 AND 57 .

**SEQUENCE OF CONSTRUCTION (CONT)**

**PHASE 6**

PHASE 6 SHALL CONSIST OF CONSTRUCTION OF THE MEDIAN BARRIER AND BRIDGE PARAPETS, RESURFACING OF THE SHOULDERS, PLACEMENT OF THE PERMANENT DRAINAGE STRUCTURES, AND PLACEMENT OF THE FINAL SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS. 4 LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED. TRAFFIC SHALL BE MAINTAINED PER MT-95.30, ODOTCD FIGURE 6H-37 AND MT-99.20 DURING SURFACE COURSE AND PAVEMENT MARKING INSTALLATION. ALL RAMPS SHALL REMAIN OPEN DURING THIS PHASE.

**LEGEND**

-  WORK AREA
-  PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN
-  DIRECTION OF TRAFFIC
-  IMPACT ATTENUATOR, PLACEMENT PER MT-101.75
-  TYPE A WARNING LIGHT
-  TEMPORARY SIGN SUPPORT
-  CONSTRUCTION DRUM
-  TYPE 3 BARRICADE
-  PAVEMENT MARKING REMOVED
-  WEW WORK ZONE EDGE LINE, CLASS I (WHITE)
-  WEY WORK ZONE EDGE LINE, CLASS I (YELLOW)
-  WL WORK ZONE LANE LINE, CLASS I
-  WCH WORK ZONE CHANNELIZING LINE, CLASS I
-  WDL WORK ZONE DOTTED LINE, CLASS I
-  WCV WORK ZONE GORE MARKING, CLASS II
-  TP PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
-  PB PORTABLE BARRIER
-  WIA IMPACT ATTENUATOR
-  OV SIGN, TEMPORARY OVERLAY

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SHEET NO.	REFERENCE NO.	STATION		SIDE	MAINTENANCE DESCRIPTIONS																			
		FROM	TO		614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE) FT	614 WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW) FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN FT	614 WORK ZONE GORE MARKING, CLASS II, 642 PAINT FT	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SY	622 PORTABLE BARRIER, 32" FT	622 PORTABLE BARRIER, 50", AS PER PLAN FT	622 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT	622 PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN FT	630 PORTABLE BARRIER, "Y" CONNECTOR EACH	630 SIGN, TEMPORARY OVERLAY SF	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL EACH					
PHASE 1 CONTINUED																								
26	WCH-2	171+65	173+05	LT					140															
26	WEW-3	170+97	187+50	LT			1653																	
26	TP-1	170+97	177+35	LT							484													
26	WDL-1	173+05	177+25	LT					420															
26	TP-2	173+87	176+92	RT																				
26	TP-3	179+74	186+34	RT							199													
26	TP-4	180+45	183+82	LT							680													
26	WCH-3	180+75	187+50	LT							195													
26	WCH-4	180+75	187+50	LT					675															
26	WCH-5	180+75	187+50	LT					675															
26	WCH-6	180+75	187+50	RT					675															
26	WCH-7	180+75	187+50	RT					675															
26	WCH-8	180+75	187+50	RT					675															
27	PB-1	187+50	188+69	LT										120										
27	WEW-1	187+50	194+96	LT			746																	
27	WEY-1	187+50	194+96	LT				746																
27	WCH-1	187+50	194+96	LT				746																
27	WCH-2	187+50	194+96	LT				746																
27	WCH-3	187+50	194+96	LT				746																
27	WEY-2	187+50	191+94	RT				444																
27	WEW-2	187+50	191+94	RT			444																	
27	WCH-4	187+50	191+94	RT				444																
27	WCH-5	187+50	191+94	RT				444																
27	WCH-6	187+50	191+94	RT				444																
27	TP-1	187+53	190+05	LT							88													
27	WIA-1	188+69	188+94	LT			1																	
27	OV-19	189+19		LT																				
PHASE 2																								
28	OV-14	115+55		RT																				
28	OV-13	127+85		RT																				
28	WEY-1	136+85	137+50	LT				65																
28	WCH-1	136+85	137+50	LT					65															
28	WCH-2	136+85	137+50	LT					65															
28	WCH-3	136+85	137+50	LT					65															
28	WEW-1	136+85	137+50	LT			65																	
29	WCH-1	137+50	145+85	LT					835															
29	WCH-2	137+50	145+85	LT					835															
29	WCH-3	137+50	145+85	LT					835															
29	WEW-1	137+50	162+50	LT			2500																	
29	WEY-1	137+50	162+50	LT				2500																
29	WCH-4	138+13	150+75	RT					1262															
29	WCH-5	138+13	145+95	RT					782															
29	WCH-6	138+13	150+75	RT					1262															
29	WEY-2	138+13	162+50	RT				2437																
29	OV-20	137+60		RT																				
29	WDL-1	138+78	141+37	RT						259														
29	WCH-11	141+25	145+95	RT					470															
29	WCH-7	141+37	143+13	RT					176															
29	WCH-8	141+37	143+12	RT					175															
29	WEW-3	143+13	157+10	RT			1397																	
29	PB-1	142+85	162+50	LT										1720		250								
29	TP-1	143+35	149+41	LT & RT							1275													
29	WDL-3	152+82	156+79	LT						397														
29	WEW-9	152+82	155+13	LT			231																	
29	WCH-11	156+79	159+00	LT					221															
29	WCH-12	156+79	159+00	LT					221															
<b>SUBTOTALS CARRIED TO SHEET 23</b>					1	0	7036	6192	15029	1076	0	2921	0	1840	0	250	0	237	0	0	0	0		

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 MAK  
 CHECKED  
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**CUY -90-24.10 / 24.63**  
 17  
 196

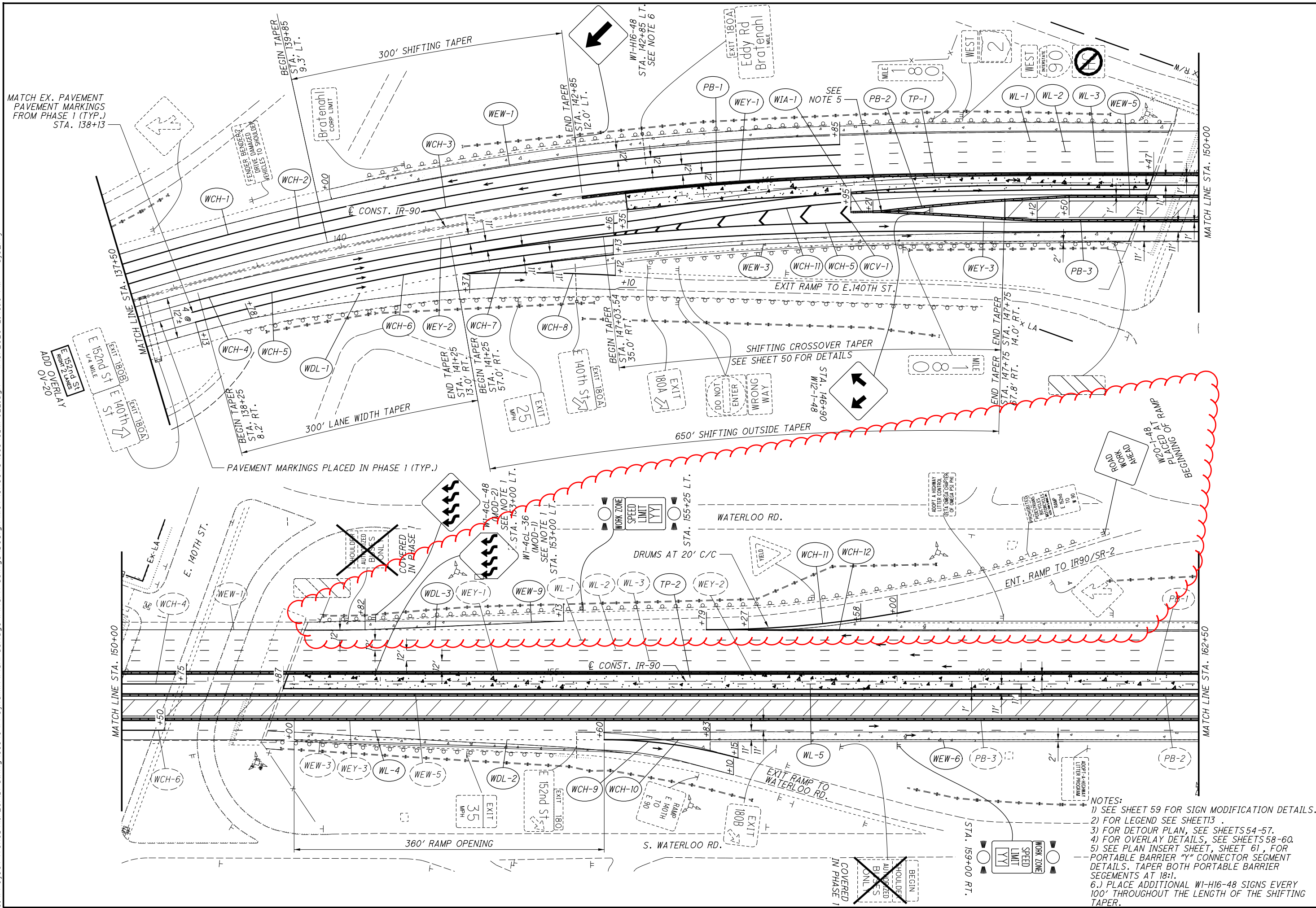


SHEET NO.	REFERENCE NO.	STATION		SIDE	614	614	614	614	614	614	614	615	622	622	622	622	622	630	630							
		FROM	TO		WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (WHITE)	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT (YELLOW)	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT, AS PER PLAN	WORK ZONE GORE MARKING, CLASS II, 642 PAINT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	PORTABLE BARRIER, 32"	PORTABLE BARRIER, 50", AS PER PLAN	PORTABLE BARRIER, 32", BRIDGE MOUNTED	PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN	PORTABLE BARRIER, "Y" CONNECTOR	SIGN, TEMPORARY OVERLAY	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL							
PHASE 5 (EAST 140TH EXIT RAMP OPEN)					EACH	FT	FT	FT	FT	FT	FT	SY	FT	FT	FT	FT	FT	EACH	SF	EACH						
42A	PB-1	17155	172+45	LT																						
42A	PB-2	17145	172+55	LT												90										
42A	PB-3	17245	177+25	LT												110			1							
42A	WEW-1	17165	173+15	LT												480										
42A	WEW-2	17155	177+25	LT				150																		
42A	WIA-1		17255	LT	1																					
42A	WDL-1	17315	177+25	LT																						
<b>SUBTOTALS THIS SHEET</b>					1	0	720	0	0	410	0	0	0	680	0	0	1	0	0							
<b>SUBTOTALS CARRIED FROM SHEET 16</b>					1	19050	8647	10080	8681	585	0	6402	4130	3920	510	510	0	32	0							
<b>SUBTOTALS CARRIED FROM SHEET 17</b>					1	0	7036	6192	15029	1076	0	2921	0	1840	0	250	0	237	0							
<b>SUBTOTALS CARRIED FROM SHEET 18</b>					2	16840	10380	9795	6822	780	133	6616	6740	2310	1020	260	1	0	0							
<b>SUBTOTALS CARRIED FROM SHEET 19</b>					2	13425	10807	6766	8936	624	0	0	6920	1800	1010	250	0	172	6							
<b>SUBTOTALS CARRIED FROM SHEET 20</b>					1	9700	7805	7747	6117	420	100	0	3680	2020	520	260	1	273	0							
<b>SUBTOTALS CARRIED FROM SHEET 21</b>					2	14210	8464	4605	9278	814	0	0	6670	0	1010	0	0	409	0							
<b>SUBTOTALS CARRIED FROM SHEET 22</b>					1	12390	4724	5565	5281	1446	0	0	4840	0	520	0	0	0	10							
LINEAR TOTALS					FT		85615	58583	50750																	
LINEAR TOTALS					MI		16.215	11.095	9.612																	
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					11	6.21	20.71	60144	6155	233	15939	32980	12570	4590	1530	3	1123	16								

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**MAINTENANCE OF TRAFFIC SUBSUMMARY**  
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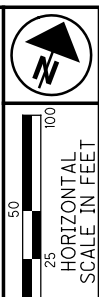
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 CHECKED: DRJ

**MAINTENANCE OF TRAFFIC - I-90**  
**PHASE 2 STA. 137+50 TO STA. 162+50**

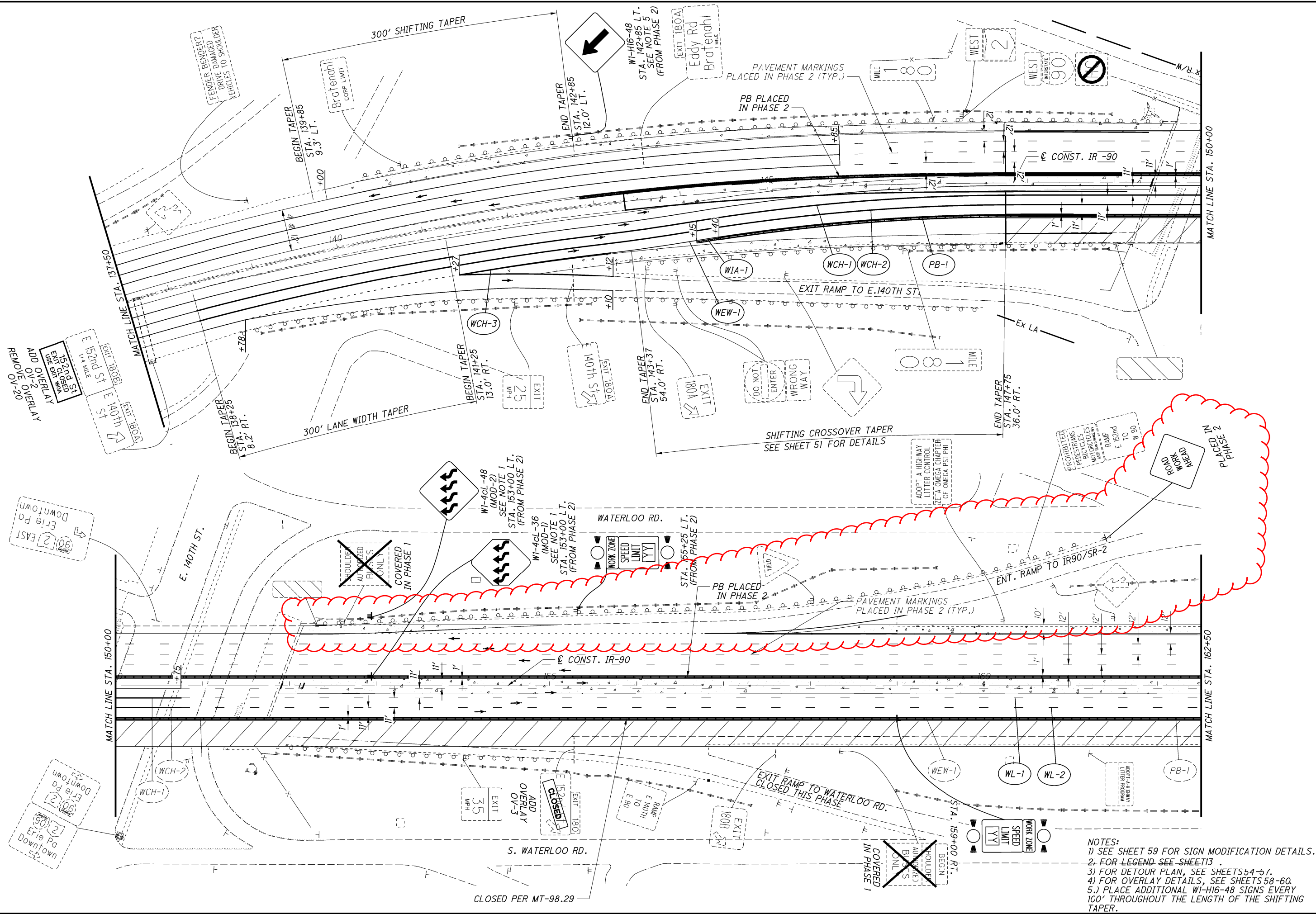
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- NOTES:
- 1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.
  - 2) FOR LEGEND SEE SHEET 13.
  - 3) FOR DETOUR PLAN, SEE SHEETS 54-57.
  - 4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.
  - 5) SEE PLAN INSERT SHEET, SHEET 61, FOR PORTABLE BARRIER "Y" CONNECTOR SEGMENT DETAILS. TAPER BOTH PORTABLE BARRIER SEGMENTS AT 18:1.
  - 6.) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.



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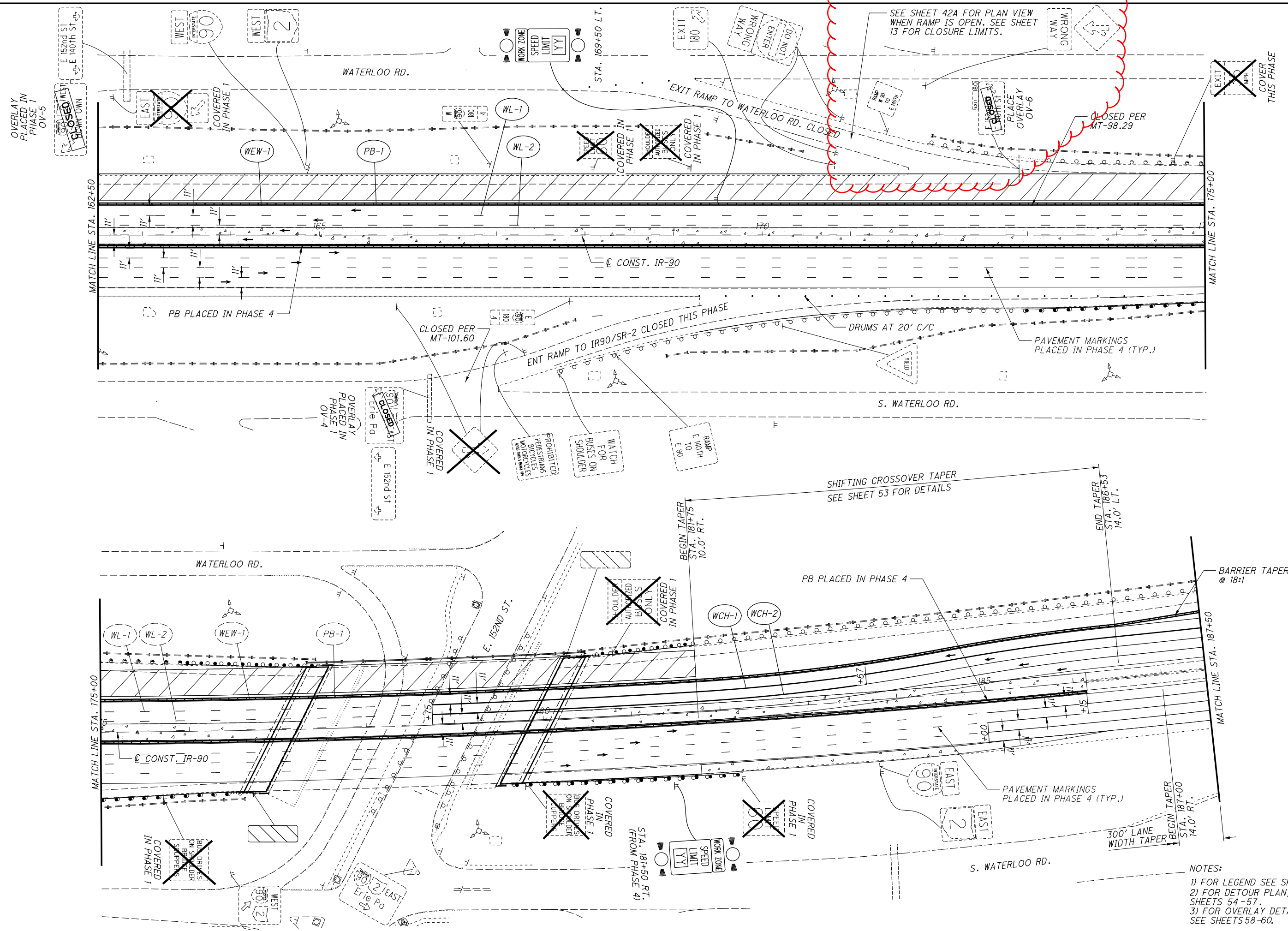
- NOTES:  
 1) SEE SHEET 59 FOR SIGN MODIFICATION DETAILS.  
 2) FOR LEGEND SEE SHEET T13.  
 3) FOR DETOUR PLAN, SEE SHEETS 54-57.  
 4) FOR OVERLAY DETAILS, SEE SHEETS 58-60.  
 5.) PLACE ADDITIONAL W1-H16-48 SIGNS EVERY 100' THROUGHOUT THE LENGTH OF THE SHIFTING TAPER.

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 DRJ

0 50 100  
 HORIZONTAL  
 SCALE IN FEET

**MAINTENANCE OF TRAFFIC - I-90  
 PHASE 3 STA. 137+50 TO STA. 162+50**

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SEE SHEET 42A FOR PLAN VIEW WHEN RAMP IS OPEN. SEE SHEET 13 FOR CLOSURE LIMITS.

- NOTES:
- 1) FOR LEGEND SEE SHEET 13.
  - 2) FOR DETOUR PLAN, SEE SHEETS 54-57.
  - 3) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

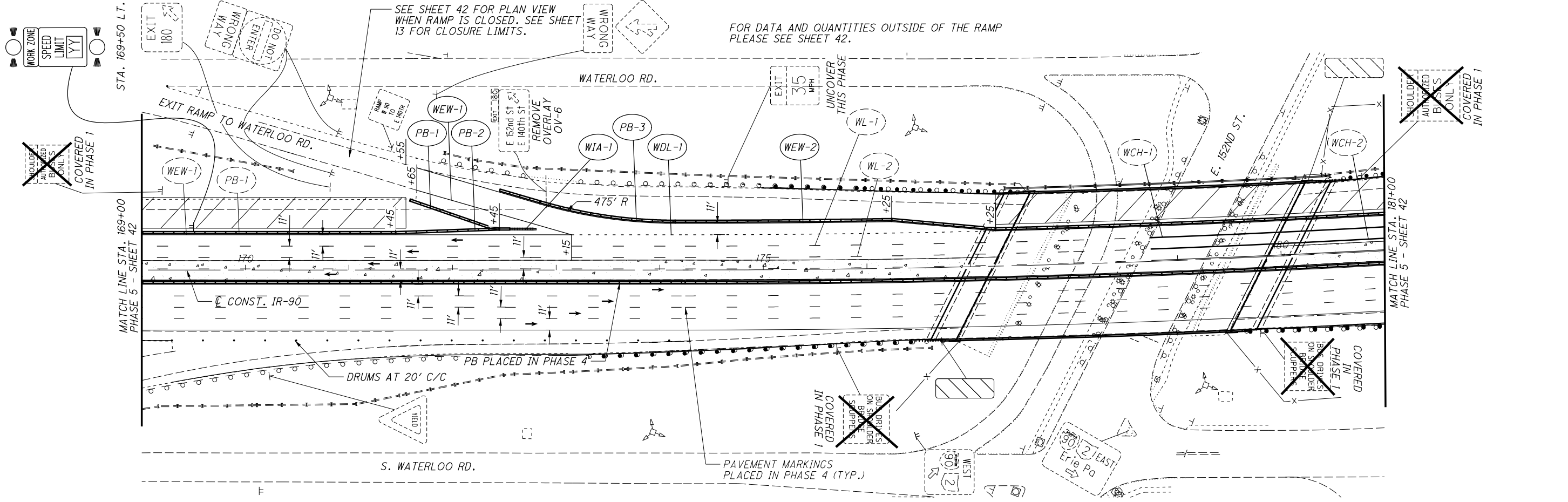
CALCULATED BY BRO. CHECKED BY DRJ.

0 50 100  
HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - I-90**  
**PHASE 5 STA. 162+50 TO STA. 187+50**



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SEE SHEET 42 FOR PLAN VIEW WHEN RAMP IS CLOSED. SEE SHEET 13 FOR CLOSURE LIMITS.

FOR DATA AND QUANTITIES OUTSIDE OF THE RAMP PLEASE SEE SHEET 42.

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 CHECKED BY: DRJ

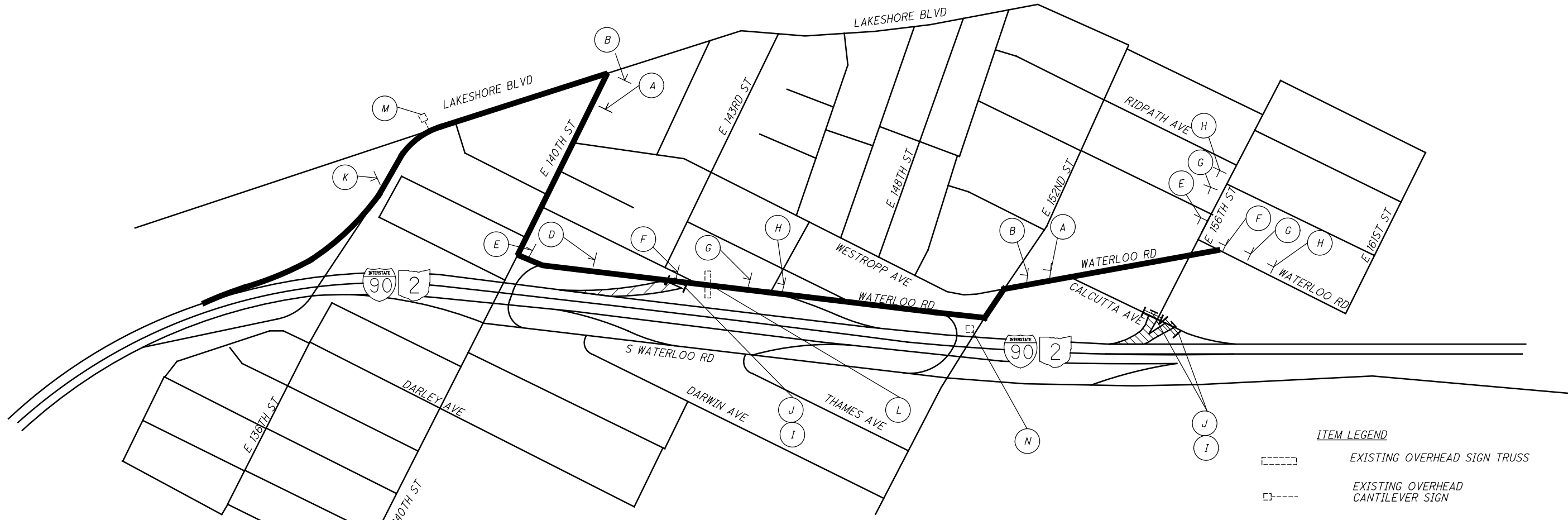
0 50 100  
 HORIZONTAL SCALE IN FEET

**MAINTENANCE OF TRAFFIC - I-90  
 EAST 140TH EXIT RAMP OPEN DETAIL**

**CUY-90-24.10/24.63**

- NOTES:
- 1) FOR LEGEND SEE SHEET 13.
  - 2) FOR DETOUR PLAN, SEE SHEETS 54-57.
  - 3) FOR OVERLAY DETAILS, SEE SHEETS 58-60.

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**CLOSURES FOR PHASE 1, 2, 3, 4, AND 5**

A	B	D	E	F	G	H		L	M	N
<p>M4-8-24 M4-8-24</p> <p>M3-4-24 M3-4-24</p> <p>MI-1-36-2 MI-5-36</p> <p>M5-1L-21 M5-1L-21</p>	<p>M4-8-24 M4-8-24</p> <p>M3-4-24 M3-4-24</p> <p>MI-1-36-2 MI-5-36</p> <p>M6-1L-21 M6-1L-21</p>	<p>M4-8-24 M4-8-24</p> <p>M3-4-24 M3-4-24</p> <p>MI-1-36-2 MI-5-36</p> <p>M5-1R-21 M5-1R-21</p>	<p>M4-8-24 M4-8-24</p> <p>M3-4-24 M3-4-24</p> <p>MI-1-36-2 MI-5-36</p> <p>M6-1R-21 M6-1R-21</p>	<p>M4-8-24 M4-8-24</p> <p>M3-4-24 M3-4-24</p> <p>MI-1-36-2 MI-5-36</p> <p>M6-3-24 M6-3-24</p>	<p>W20-2-36</p>	<p>W20-1-36</p>		<p>M4-10R-48 OR M4-10L-48</p>	<p>R11-2-48 CLOSED PER MT-101.60</p>	<p>M4-8A-24</p>

M4-10R-48  
OR  
M4-10L-48

R11-2-48  
CLOSED PER MT-101.60

M4-8A-24

M4-10R-48  
OR  
M4-10L-48

R11-2-48  
CLOSED PER MT-101.60

M4-8A-24

M4-10R-48  
OR  
M4-10L-48

R11-2-48  
CLOSED PER MT-101.60

M4-8A-24

M4-10R-48  
OR  
M4-10L-48

R11-2-48  
CLOSED PER MT-101.60

M4-8A-24

- ITEM LEGEND**
- EXISTING OVERHEAD SIGN TRUSS
  - EXISTING OVERHEAD CANTILEVER SIGN
  - EXISTING SEMI-OVERHEAD SIGN
  - TEMPORARY SIGN SUPPORT
  - TYPE III BARRICADE
  - DETOUR ROUTE
  - WORK AREA
  - DETOUR ROUTE
  - SIGN OVERLAY

- NOTES:**
1. CLOSURE FOR EAST 156TH STREET SHALL OCCUR DURING ALL PHASES EXCEPT PHASE 6. CLOSURE FOR EAST 152ND STREET SHALL OCCUR DURING ALL PHASES EXCEPT PHASES 2, 3 AND 6.
  2. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.
  3. DETOUR SIGNS SHALL BE UNCOVERED AND VISABLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT.
  4. DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 250' MINIMUM UNLESS NOTED OTHERWISE. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMTCD.
  5. FOR ADDITIONAL SIGNS SEE OTHER MOT SHEETS.
  6. FOR OVERLAY DETAILS, SEE SHEETS 58 AND 59.
  7. EXIT RAMP CLOSURES SHALL BE PER MT-98.29 AND ENTRANCE RAMP CLOSURES SHALL BE PER MT-101.60 AT THE INTERSECTION.

OVERLAY OV-5 OVER EXISTING GUIDE SIGN

M4-10R-48  
OR  
M4-10L-48

R11-2-48  
CLOSED PER MT-101.60

M4-8A-24

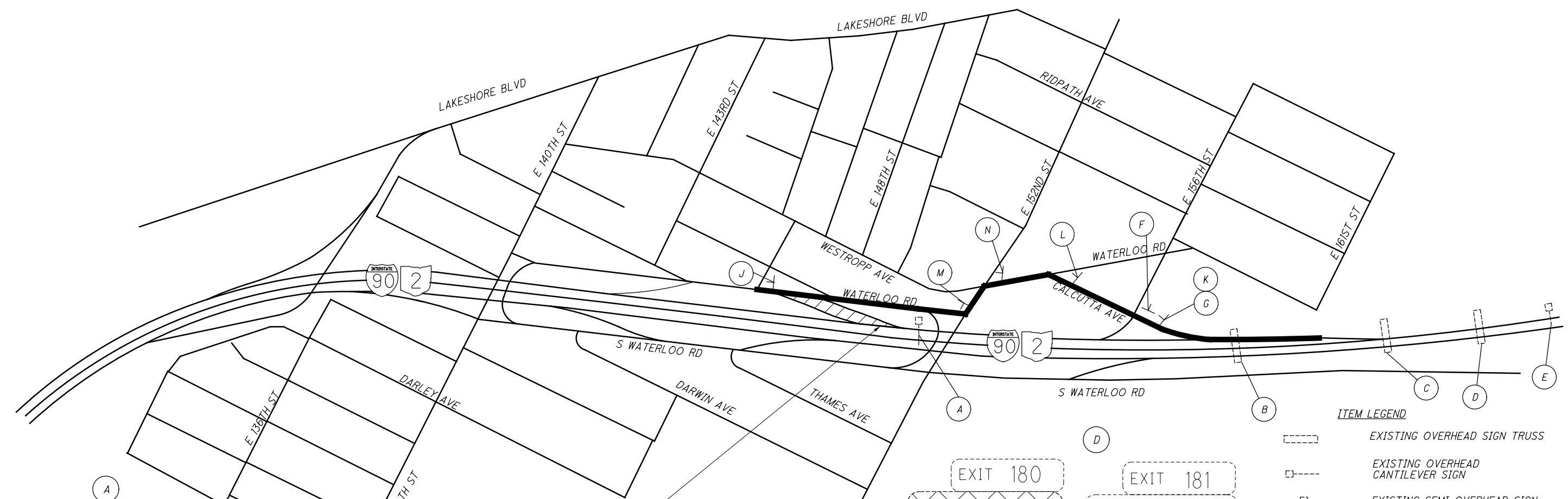
M4-10R-48  
OR  
M4-10L-48

R11-2-48  
CLOSED PER MT-101.60

M4-8A-24



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**CLOSURE FOR PHASE 5**

SIGNS SHALL BE PER MT-98.29

**E 152nd St  
EXIT CLOSED  
USE EXIT 181**

OVERLAY OV-9 OVER EXISTING E 152ND ST. SIGN

EXIT 180  
E 152nd St  
E 140th St  
1 MILE

EXIT 181  
E 156th St  
1/2 MILE  
NO TRUCKS

OVERLAY OV-12 OVER EXISTING NO TRUCKS GUIDE SIGN

EXIT 180  
E 152nd St  
E 140th St  
CLOSED

OVERLAY OV-6 OVER EXISTING GUIDE SIGN

**E 152nd St  
EXIT CLOSED  
USE EXIT 181**

OVERLAY OV-7 OVER EXISTING E 152ND ST. E 140TH ST. GUIDE SIGN

EXIT 180  
E 152nd St  
E 140th St  
1/2 MILE

EXIT 181  
E 156th St  
NO TRUCKS

OVERLAY OV-10 OVER EXISTING NO TRUCKS GUIDE SIGN

EXIT 181  
E 156th St  
1 MILE  
NO TRUCKS

OVERLAY OV-18 OVER EXISTING NO TRUCKS GUIDE SIGN

**NO TRUCKS**  
R5-2-36

**TRUCKS**  
M4-4-24  
**NO TRUCKS**  
R3-1-36

**END  
DETOUR**  
M4-8A-24

**E 152nd St  
EXIT CLOSED  
USE EXIT 181**

OVERLAY OV-8 OVER EXISTING E 152ND ST. E 140TH ST. GUIDE SIGN

EXIT 180  
E 152nd St  
E 140th St  
3/4 MILE

EXIT 181  
E 156th St  
1/4 MILE  
NO TRUCKS

OVERLAY OV-11 OVER EXISTING NO TRUCKS GUID SIGN

**DETOUR**  
M4-8-24  
E 152ND ST  
D3-1-24  
E 140TH ST  
D3-1-24  
**↑**  
M6-3-24

**DETOUR**  
M4-8-24  
E 152ND ST  
D3-1-24  
E 140TH ST  
D3-1-24  
**←**  
M6-1-21

**DETOUR**  
M4-8-24  
E 140TH ST  
D3-1-24  
**→**  
M6-1-21

**DETOUR**  
M4-8-24

**ITEM LEGEND**

	EXISTING OVERHEAD SIGN TRUSS
	EXISTING OVERHEAD CANTILEVER SIGN
	EXISTING SEMI-OVERHEAD SIGN
	TEMPORARY SIGN SUPPORT
	TYPE III BARRICADE
	DETOUR ROUTE
	WORK AREA
	DETOUR ROUTE
	SIGN OVERLAY

- NOTES:**
- CLOSURE SHALL OCCUR DURING PHASE 5 PAVEMENT RAISING ONLY. SEE NOTES FOR DETAILS.
  - WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.
  - DETOUR SIGNS SHALL BE UNCOVERED AND VISABLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT.
  - DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 250' MINIMUM UNLESS NOTED OTHERWISE. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMTCD.
  - FOR ADDITIONAL SIGNS SEE OTHER MOT SHEETS.
  - FOR OVERLAY DETAILS, SEE SHEETS 58 AND 59.
  - EXIT RAMP CLOSURES SHALL BE PER MT-98.29 AND ENTRANCE RAMP CLOSURES SHALL BE PER MT-101.60 AT THE INTERSECTION.

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SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	
90	91	98	111								01/IMS/B R		EXT	TOTAL				
		33									33		625	00480	33	EACH	LIGHTING CONNECTION, UNFUSED PERMANENT	
		4,767									4,767		625	23304	4,767	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	
		1,538									1,538		625	25201	1,538	FT	CONDUIT, 1-1/4", 725.04, AS PER PLAN	97
		51									51		625	25402	51	FT	CONDUIT, 2", 725.05	
		1,026									1,026		625	25600	1,026	FT	CONDUIT, 4", 725.04	
		57									57		625	27501	57	EACH	LUMINAIRE, UNDERPASS, AS PER PLAN CPP STANDARD	97
		51									51		625	29000	51	FT	TRENCH	
		5									5		625	31510	5	EACH	PULL BOX REMOVED	
		1									1		625	31600	1	EACH	PULL BOX, MISC.: CPP STANDARD	97
		7									7		625	31600	7	EACH	PULL BOX, MISC.: ABOVE GRADE PULL BOX	97
		2									2		625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM	
		2									2		625	34001	2	EACH	POWER SERVICE, AS PER PLAN	97
		2									2		625	34450	2	EACH	CONTROL CENTER CABINET, COMPLETE	
		51									51		625	36000	51	FT	PLASTIC CAUTION TAPE	
		LS									LS		SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	97
		57									57		625	75507	57	EACH	LUMINAIRE REMOVED, AS PER PLAN	97
		4									4		631	85030	4	EACH	DISCONNECT SWITCH, 100 AMP	
																	TRAFFIC CONTROL	
	34										34		620	00500	34	EACH	DELINEATOR, POST GROUND MOUNTED	
	208										208		621	00100	208	EACH	RPM	
	33										33		626	00110	33	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY	
	46										46		630	02100	46	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
	73										73		630	03100	73	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
	4										4		630	08600	4	EACH	SIGN POST REFLECTOR	
	3										3		630	31100	3	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-9.10, DESIGN 1	
	2										2		630	79610	2	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED	
	12										12		630	80100	12	SF	SIGN, FLAT SHEET	
	133										133		630	80224	133	SF	SIGN, OVERHEAD EXTRUSHEET	
	3										3		630	84510	3	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
	4										4		630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
	6										6		630	85100	6	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
	4										4		630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
	3										3		630	87400	3	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
3.8											3.8		646	10010	3.8	MILE	EDGE LINE, 6"	
6.5											6.5		646	10110	6.5	MILE	LANE LINE, 6"	
2,114											2,114		646	10310	2,114	FT	CHANNELIZING LINE, 12"	
2,719											2,719		646	20504	2,719	FT	DOTTED LINE, 6"	
																	STRUCTURE REPAIR (CUY-90-2410)	
		LS									LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	108
		1,814									1,814		202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	108
		766									766		202	22901	766	SY	APPROACH SLAB REMOVED, AS PER PLAN	108
		100									100		257	10001	100	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN	109
		LS									LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
		68									68		503	21101	68	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	108
		466,071									466,071		509	10000	466,071	LB	EPOXY COATED REINFORCING STEEL	
		2,500									2,500		510	10000	2,500	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
		4									4		511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	109
		172									172		511	34413	172	CY	CLASS QC2 CONCRETE WITH QC/OA, SUPERSTRUCTURE, AS PER PLAN	108
		1,038									1,038		511	34447	1,038	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK, AS PER PLAN	108
		189									189		511	34451	189	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK (PARAPET), AS PER PLAN	108
		68									68		511	50211	68	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	108
		2,432									2,432		512	10101	2,432	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	110
		11									11		512	33300	11	SY	TYPE A WATERPROOFING	
		12,832									12,832		513	20000	12,832	EACH	WELDED STUD SHEAR CONNECTORS	
		85									85		513	95030	85	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES	109
		90,768									90,768		513	90000	90,768	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT	109
		19									19		513	95030	19	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTAINING TRAFFIC	109
		38,603									38,603		514	00050	38,603	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	

CALCULATED	MAK	CHECKED	DRJ
<b>GENERAL SUMMARY</b>			
<b>CUY-90-24.10 / 24.63</b>			
63			
196			



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SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
III	153									01/IMS/B R		EXT	TOTAL			
STRUCTURE REPAIR (CUY-90-2410) CONT.																
38,603										38,603	514	00056	38,603	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
38,603										38,603	514	00060	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
38,603										38,603	514	00067	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	109
65										65	514	00504	65	MNHR	GRINDING FINNS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
37										37	514	10000	37	EACH	FINAL INSPECTION REPAIR	
298										298	516	10010	298	FT	ARMORLESS PREFORMED JOINT SEAL	
298										298	516	10011	298	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	109
42										42	516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER	
1,550										1,550	516	13900	1,550	SF	2" PREFORMED EXPANSION JOINT FILLER	
980										980	516	25000	980	SF	NYLON REINFORCED NEOPRENE SHEETING	
32										32	516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (3.128"x9.5"x18")	134
48										48	516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (3.128"x14"x18")	134
LS										LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	109
164										164	518	21200	164	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
307										307	518	40000	307	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
73										73	518	40010	73	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
250										250	519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	110
786										786	526	25001	786	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN	109
298										298	526	90030	298	FT	TYPE C INSTALLATION	
6										6	601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	
150										150	601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	110
3,262										3,262	SPECIAL	60610920	3,262	SF	NOISE BARRIER, BRIDGE MOUNTED	110
1,250										1,250	SPECIAL	60610920	1,250	SF	NOISE BARRIER, GROUND MOUNTED	110
STRUCTURE REPAIR (CUY-90-2463)																
LS										LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	150
1,814										1,814	202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	150
752										752	202	22901	752	SY	APPROACH SLAB REMOVED, AS PER PLAN	151
106										106	257	10001	106	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN	151
LS										LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
72										72	503	21101	72	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	150
503,281										503,281	509	10000	503,281	LB	EPOXY COATED REINFORCING STEEL	
2,692										2,692	510	10000	2,692	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
4										4	511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	151
188										188	511	34413	188	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	150
1,112										1,112	511	34447	1,112	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	150
203										203	511	34451	203	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	150
77										77	511	50211	77	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	150
75										75	511	71300	75	SY	CONCRETE, MISC.: MOLDED BRICK SURFACE	152
75										75	511	71300	75	SY	CONCRETE, MISC.: STAINING CONCRETE SURFACES	152
3										3	511	81300	3	EACH	CONCRETE, MISC.: MOCKUP MOLDED BRICK SURFACE	152
75										75	512	10051	75	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN	152
2,581										2,581	512	10101	2,581	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	152
11										11	512	33300	11	SY	TYPE A WATERPROOFING	
13,280										13,280	513	20000	13,280	EACH	WELDED STUD SHEAR CONNECTORS	
91										91	513	95030	91	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES	151
94,360										94,360	513	90000	94,360	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT	151
22										22	513	95030	22	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTAINING TRAFFIC	151
44,470										44,470	514	00050	44,470	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
44,470										44,470	514	00056	44,470	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
44,470										44,470	514	00060	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
44,470										44,470	514	00067	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	151
69										69	514	00504	69	MNHR	GRINDING FINNS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
40										40	514	10000	40	EACH	FINAL INSPECTION REPAIR	
320										320	516	10010	320	FT	ARMORLESS PREFORMED JOINT SEAL	
316										316	516	10011	316	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	151
42										42	516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER	
1,642										1,642	516	13900	1,642	SF	2" PREFORMED EXPANSION JOINT FILLER	
1,078										1,078	516	25000	1,078	SF	NYLON REINFORCED NEOPRENE SHEETING	

GENERAL SUMMARY

CUY-90-24.10 / 24.63

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SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	
9	10	11	12	13	23	153				01/TMS/B R		EXT	TOTAL				
																STRUCTURE REPAIR (CUY-90-2463) CONT.	
						32				32		516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (3.128"x9.5"x18")	183
						48				48		516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (3.128"x14"x18")	183
						LS				LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	151
						181				181		518	21200	181	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
						336				336		518	40000	336	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
						80				80		518	40010	80	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
						250				250		519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	152
						775				775		526	25001	775	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN	151
						322				322		526	90030	322	FT	TYPE C INSTALLATION	
						6				6		601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	
						150				150		601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	152
						2,407				2,407		SPECIAL	60610920	2,407	SF	NOISE BARRIER, BRIDGE MOUNTED	152
						344				344		SPECIAL	60610920	344	SF	NOISE BARRIER, GROUND MOUNTED	152
						262				262		607	39901	262	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	182
																MAINTENANCE OF TRAFFIC	
		450								450		611	04401	450	FT	12" CONDUIT, TYPE B, AS PER PLAN	11
		300								300		611	97011	300	FT	SLOTTED DRAIN, TYPE 2, AS PER PLAN, 12"	11
		600								600		614	11110	600	HR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
				18						18		614	11500	18	MNTH	WORKSITE TRAFFIC SUPERVISOR	
		925								925		614	11630	925	FT	INCREASED BARRIER DELINEATION	
		LS			10					10		614	12336	10	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
										LS		614	12420	LS		DETOUR SIGNING	
	10									10		614	12484	10	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	5									5		614	12500	5	EACH	REPLACEMENT SIGN	
		7,000								7,000		614	12801	7,000	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	11
		1,290								1,290		614	13310	1,290	EACH	BARRIER REFLECTOR, TYPE 1, BI-DIRECTIONAL	
	71									71		614	13314	71	EACH	BARRIER REFLECTOR, TYPE 3, ONE-WAY	
	71	1,020								1,091		614	13350	1,091	EACH	OBJECT MARKER, ONE WAY	
			36							36		614	18601	36	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	12
				6.5	16.2					22.7		614	20110	22.7	MILE	WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	
				3.8	20.7					24.5		614	22110	24.5	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	
					2,100	60,144				62,244		614	23210	62,244	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT	
					2,700	6,155				8,855		614	24200	8,855	FT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT	
						233				233		614	28200	233	FT	WORK ZONE GORE MARKING, CLASS II, 642 PAINT	
						LS				LS		615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
					15,939					15,939		615	20001	15,939	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	13
					32,980					32,980		622	41000	32,980	FT	PORTABLE BARRIER, 32"	
					12,570					12,570		622	41011	12,570	FT	PORTABLE BARRIER, 50", AS PER PLAN	9
					4,590					4,590		622	41020	4,590	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
					1,530					1,530		622	41031	1,530	FT	PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN	9
					3					3		622	41050	3	EACH	PORTABLE BARRIER, "Y" CONNECTOR	
		613			1,123					1,736		630	80300	1,736	SF	SIGN, TEMPORARY OVERLAY	
		13			16					29		630	89894	29	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL	
	108									108		808	18700	108	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
																INCIDENTALS	
	LS									LS		614	11000	LS		MAINTAINING TRAFFIC	
										18		619	16020	18	MNTH	FIELD OFFICE, TYPE C	
										LS		623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	6
										LS		624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

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**625, LUMINAIRE, UNDERPASS, AS PER PLAN, CPP STANDARD**

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE ELECTRO-MATIC AR SERIES 90W (LE3-T2M-090FF2F01), OR EQUAL AS APPROVED BY THE ENGINEER. LUMINAIRES SHALL BE 240V AND 1-PHASE.

IES DISTRIBUTION OF THE LUMINAIRE SHALL BE TYPE II. LUMINAIRES SHALL BE WALL MOUNTED.

LUMINAIRE LED DRIVERS SHALL BE COMPATIBLE WITH 480VAC INPUT, MODULAR AND SHALL HAVE THE MANUFACTURER'S NAME AND PART NUMBER CLEARLY MARKED ON THE DRIVER ENCLOSURE AND SHALL CARRY A MINIMUM OF 5-YEAR REPLACEMENT WARRANTY. EACH LUMINAIRE SHALL INCLUDE AN INTEGRAL LINE FUSE.

THE LED EMITTER ASSEMBLY SHALL CARRY A MINIMUM 5-YEAR REPLACEMENT WARRANTY, 10-YEAR STANDARD MANUFACTURER WARRANTY. THE LUMINAIRE ENCLOSURE SHALL BE RATED IP65, MINIMUM, AS PER IEC 60529, AND SHALL CARRY A MINIMUM 5-YEAR REPLACEMENT WARRANTY WITH A 10-YEAR STANDARD MANUFACTURER LIMITED WARRANTY.

A WRITTEN WARRANTY STATEMENT, SPARE PARTS LIST, AND MANUAL FROM THE LED SUPPLIER SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO THE LUMINAIRES BEING ACCEPTED BY ODOT.

SURGE PROTECTION SHALL BE 10KV/5KA MINIMUM, PER ANSI C62.41.2 AND THE MODULAR PACKAGE SHALL BE CLEARLY MARKED WITH THE MANUFACTURER AND PART NUMBER. COLOR TEMPERATURE SHALL BE 4000K± 400K UNLESS APPROVED OTHERWISE BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE, UNDERPASS, AS PER PLAN" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

**625, PULL BOX, MISC.: ABOVE GRADE PULL BOX**

THIS ITEM SHALL CONSIST OF FURNISHING, INSTALLING, PROVIDING NECESSARY SUPPORTS AND COVERS FOR AN ABOVE GRADE NEMA 4XSS PULL BOX SIZED AS REQUIRED FOR THE LIGHTING CONDUCTORS MOUNTED ON THE BRIDGE PIER CAP.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 625, PULL BOX, MISC.: ABOVE GRADE PULL BOX FOR EACH PULL BOX AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

**625, CONDUIT, 1 1/4", 725.04, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONDUIT, 1 1/4", 725.04, AS PER PLAN SHALL INCLUDE ALL CONDUIT, CLAMPS, SUPPORTS AND ANY OTHER EQUIPMENT REQUIRED FOR INSTALLATION.

PAYMENT SHALL BE MADE AT THE UNIT PRICE FOR EACH LINEAR FOOT FOR ITEM 625, CONDUIT, 1 1/4", 725.04, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

**PADLOCKS AND KEYS**

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH C&MS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

**625, POWER SERVICE, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

CITY OF CLEVELAND  
DIVISION OF CLEVELAND PUBLIC POWER  
1300 LAKESIDE AVE.  
CLEVELAND, OHIO 44114  
ATTN: CHRIS HIRZEL  
PHONE: (216) 664-3922, EXT. 115  
FAX: (216) 664-2972

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

PAY ITEM SHALL INCLUDE (3) #1/0, (1) #6 GROUND, 2" CONDUIT FROM POWER POLE TO CONTROL CENTER, 2" CONDUIT RISER UP THE UTILITY POWER POLE AND ALL ASSOCIATED MATERIALS REQUIRED.

PAYMENT WILL BE MADE AT THE UNIT PRICE FOR EACH C&MS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

**SPECIAL, MAINTAIN EXISTING LIGHTING**

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

**SPECIAL, MAINTAIN EXISTING LIGHTING (CONT)**

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

**SPECIAL, MAINTAIN EXISTING LIGHTING (CONT)**

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

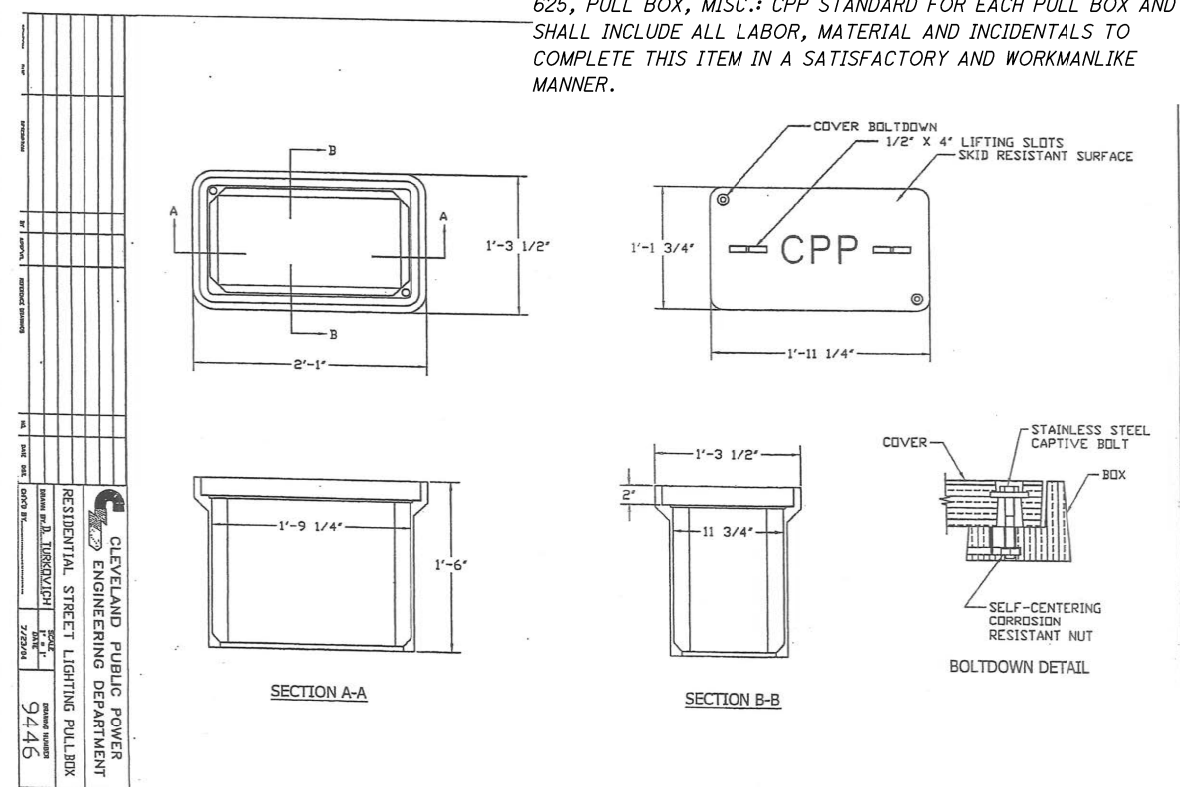
**625, LUMINAIRE REMOVED, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRE REMOVED, AS PER PLAN SHALL INCLUDE THE REMOVAL OF ALL CONDUIT, CLAMPS, SUPPORTS, CABLES AND ANY OTHER EQUIPMENT REQUIRED FOR INSTALLATION.

**625, PULL BOX, MISC.: CPP STANDARD**

THIS ITEM SHALL CONSIST OF FURNISHING, INSTALLING, PROVIDING A PULL BOX IN ACCORDANCE WITH THE CPP STANDARD DETAIL 9446 AS SHOWN DETAIL BELOW.

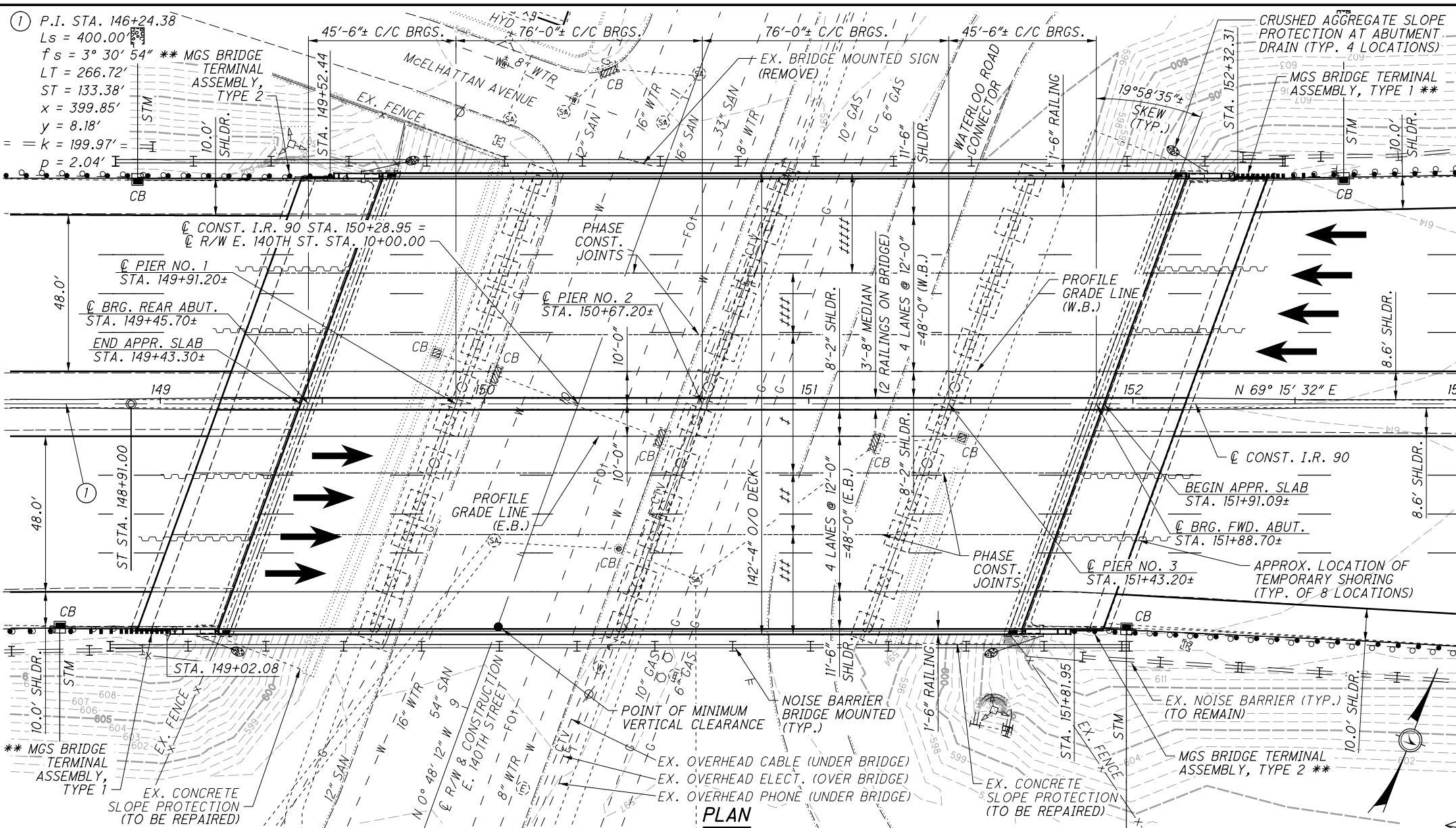
PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 625, PULL BOX, MISC.: CPP STANDARD FOR EACH PULL BOX AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.



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BENCHMARK DATA	
BM #1 STA. 149+41.3,	ELEV. 598.98, OFFSET 139.8' LT.
BM #5 STA. 159+48.00,	ELEV. 600.64, OFFSET 149.00' LT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS

- PROPOSED WORK**
- REPLACE BRIDGE DECK
  - REMOVE STRUCTURE MOUNTED SIGNS
  - REMOVE BRIDGE SCUPPERS
  - PERFORM FATIGUE RETROFITS
  - REPAIR ABUTMENTS AND PIERS
  - REPLACE BEARINGS
  - REPLACE APPROACH SLABS
  - REPAIR CONCRETE SLOPE PROTECTION
  - REPLACE UNDERPASS LIGHTING
  - INSTALL BRIDGE MOUNTED NOISE BARRIER
  - SEAL CONCRETE SUBSTRUCTURE AND SUPERSTRUCTURE
  - PAINT STRUCTURAL STEEL

**DESIGN TRAFFIC:**  
 2019 ADT = 122,000    2019 ADTT = 6,100  
 2039 ADT = 127,000    2039 ADTT = 6,350  
 DIRECTIONAL DISTRIBUTION = 59%

- LEGEND**
- \*\* - INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT
  - 14'-11 3/8" ACTUAL MINIMUM VERTICAL CLEARANCE
  - 14'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  - ± PHASE 1 CONSTRUCTION, 42'-8" (E.B. AND W.B.)
  - ## PHASE 2 CONSTRUCTION, 19'-0" (E.B.)
  - ### PHASE 3 CONSTRUCTION, 30'-8" (E.B.)
  - #### PHASE 4 CONSTRUCTION, 19'-0" (W.B.)
  - ##### PHASE 5 CONSTRUCTION, 30'-8" (W.B.)

**EXISTING STRUCTURE**

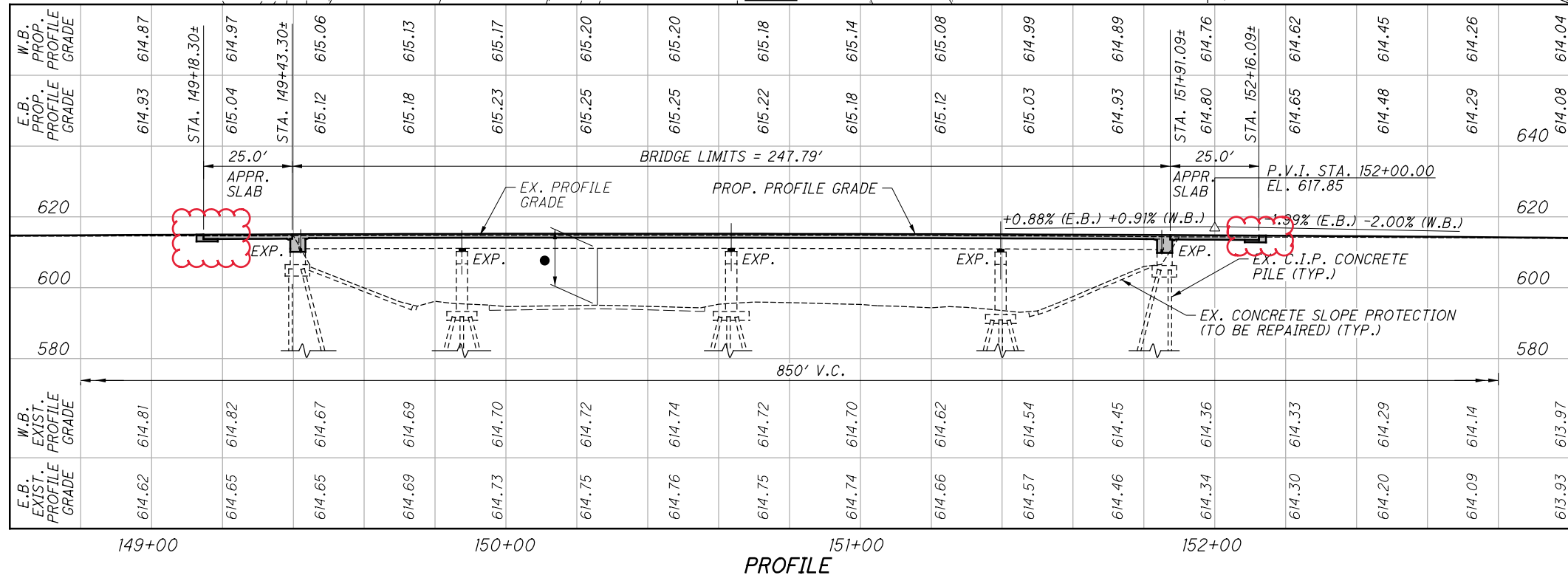
TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH NON-COMPOSITE REINFORCED CONCRETE DECK ON SPILL-THRU STUB ABUTMENTS AND CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES

SPANS: 45'-6", 76'-0", 76'-0" AND 45'-6" C/C BEARINGS  
 ROADWAY: 137'-8" F/F PARAPET (I-90 E.B. AND W.B.)  
 LOADING: CF-2000-57 (AASHTO ALTERNATE LOADING)  
 SKEW: 19° 58' 35" L.F.  
 APPROACH SLABS: AS-1-54 (25'-0" LONG)  
 WEARING COURSE: LATEX MODIFIED CONCRETE OVERLAY  
 STRUCTURAL FILE NUMBER: 1808672  
 DATE BUILT: 1960  
 DISPOSITION: GOOD

**PROPOSED STRUCTURE**

TYPE: 4-SPAN CONTINUOUS STEEL BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED SEMI-INTEGRAL STUB ABUTMENTS AND EXISTING CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES

SPANS: 45'-6", 76'-0", 76'-0" AND 45'-6" C/C BEARINGS  
 ROADWAY: 139'-0" F/F PARAPET (I-90 E.B. AND W.B.)  
 LOADING: HS20 CASE I AND ALTERNATE MILITARY, FWS = 60 PSF  
 SKEW: 19° 58' 35" L.F.  
 APPROACH SLABS: 25'-0" LONG (AS-1-15, AS-2-15)  
 ALIGNMENT: TANGENT  
 CROWN: 0.016' PER FT.  
 WEARING COURSE: 1" MONOLITHIC CONCRETE  
 COORDINATES: LATITUDE 41° 33' 53.88"  
 LONGITUDE -81° 35' 07.93"



DESIGN AGENCY: **ARCADIS**  
 ARCADIS U.S., Inc.  
 222 South Main Street, Suite 200 Akron, Ohio 44308  
 Tel: 330-434-1995 Fax: 330-434-1095 www.arcadis.com

DATE: 8/17/18  
 REVIEWED: RBB  
 DRAWN: CAF  
 DESIGNED: RUB  
 CHECKED: FJG

CUYAHOGA COUNTY  
 STA. 149+43.30 TO  
 STA. 151+91.00

**SITE PLAN**  
 BRIDGE NO. CUY-90-2410  
 INTERSTATE ROUTE 90 OVER EAST 140TH STREET

**CUY-90-24.10/24.63**  
 PID No. 88348

1/42

107  
196



**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	DATED 7-17-15	SICD-1-96	DATED 7-18-14
AS-2-15	DATED 1-19-18	SICD-2-14	DATED 7-18-14
GSD-1-96	DATED 7-19-02	HL-30.32	DATED 1-17-14
HL-50.21	DATED 1-19-18	NBS-1-09	DATED 1-19-18
PCB-91	DATED 1-18-13		
SBR-1-13	DATED 1-17-14		
SBR-2-13	DATED 1-17-14		

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 1-19-18

**DESIGN SPECIFICATIONS**

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

**DESIGN LOADING**

DESIGN LOADING: HS20, CASE 1 AND ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 PSF.

**DESIGN DATA**

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI (NEW CROSSFRAMES, SPLICE PLATES)

**DECK PROTECTION METHOD**

EPOXY COATED REINFORCING STEEL

2 1/2" CONCRETE COVER

CLASS QC2 CONCRETE

**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 PROCESS 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.

**ITEM 202, APPROACH SLAB REMOVED, AS PER PLAN**

THIS ITEM CONSISTS OF REMOVAL OF THE EXISTING CONCRETE APPROACH SLABS INCLUDING THE EXISTING ASPHALT WEARING COURSE.

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

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSSFRAMES, ETC.). THIS ITEM ALSO INCLUDES REMOVAL OF CROSSFRAMES, BACKWALLS, AND WINGWALLS AS SHOWN IN THESE PLANS. 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 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 (STEEL BEAM/ STEEL GIRDER), 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 FORM 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. THE EXISTING SCUPPERS/GUTTERS ARE SUPPORTED BY ANGLES EMBEDDED INTO THE DECK AND WELDED TO THE TOP FLANGES OF BEAMS A, G, H, J, K & S. THE CONTRACTOR SHALL INCLUDE WITH THE DECK REMOVAL PROCEDURE SUBMISSION, A PROCEDURE FOR REMOVING THE DECK IN THE AREA OF EXISTING SCUPPER SHOWING HOW THE DECK WILL BE REMOVED WITHOUT DAMAGING THE EXISTING STEEL BEAMS 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.

MEASUREMENT AND 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 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN**

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE THE EXISTING TIMBER SUBDECK FROM THE BRIDGE AFTER BRIDGE DECK CONSTRUCTION HAS BEEN COMPLETED.

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

**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.

**ITEM 503, COFFERDAMS AND EXCAVATION BRACING**

THIS ITEM INCLUDES ALL TEMPORARY SHORING REQUIRED TO COMPLETE THE WORK SHOWN IN THESE PLANS. TEMPORARY SHORING MAY REMAIN IN PLACE BETWEEN PHASES, BUT MUST BE REMOVED PRIOR TO COMPLETION OF LATTER PHASE APPROACH SLAB CONSTRUCTION.

**ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN**

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL SHALL CONFORM TO CMS 703.17 (CMS 304 MATERIAL) AND MEET THE COMPACTION REQUIREMENTS OF CMS 304.05. IN ADDITION, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6 INCH LIFTS. EXCAVATION OF THE EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

**MECHANICAL CONNECTORS**

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING STEEL BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. MANUFACTURER'S STANDARD CAP OR PLUG SHALL BE USED TO PREVENT CONCRETE FROM ENTERING THE MECHANICAL CONNECTOR.

MECHANICAL CONNECTORS USED FOR EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT. THE MECHANICAL CONNECTOR SYSTEM USED SHALL BE ABLE TO DEVELOP 125 PERCENT OF THE FULL YIELD STRENGTH OF THE REINFORCING STEEL AS A MINIMUM.

ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE MECHANICAL REINFORCING STEEL CONNECTORS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 509, EPOXY COATED REINFORCING STEEL.

**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 THE REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

**ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN**

**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**

**ITEM 511, CLASS QC1 CONCRETE SUBSTRUCTURE, AS PER PLAN**

GENERAL REQUIREMENTS: THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW. IN ADDITION, THE CONTRACTOR SHALL PROVIDE A RUBBED SURFACE IN ACCORDANCE WITH CMS 511.15 (B) ON ALL EXPOSED SURFACES.

THIS ITEM SHALL INCLUDE THE SURVEYING, LAYOUT AND TIME REQUIRED TO DETERMINE THE SCREED TABLE ELEVATIONS USING THE INCLUDED SCREED FORMULA TABLE.

THE STRUCTURAL STEEL THAT WILL BE ENCASED AS PART OF THE SEMI-INTEGRAL DIAPHRAGM CONSTRUCTION, SHALL BE CLEANED PRIOR TO PLACEMENT OF THE CONCRETE PER CMS 514.13, A SOLVENT CLEANING. THIS COST FOR THIS SOLVENT CLEANING IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

THIS COST FOR DRILLING HOLES IN THE EXISTING STEEL FOR PLACEMENT OF REINFORCING STEEL AND PROVIDING VENT HOLES FOR THE PURPOSE OF CONSTRUCTING THE SEMI-INTEGRAL DIAPHRAGM IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

MATERIALS: ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

PARAPET CONSTRUCTION: ANCHOR BOLTS FOR NOISE BARRIERS SHALL BE CAST IN PLACE.

MEDIAN CONSTRUCTION: FOR MAINTENANCE OF TRAFFIC PURPOSES, THE LEFT AND RIGHT BRIDGE DECKS SHALL BE CONTINUOUS ACROSS THE MEDIAN BRIDGE DECK CONSTRUCTION JOINT. GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCEMENT BARS SHALL BE PLACED AS SHOWN IN THESE PLANS. THE TEMPORARY CROSS FRAMES SHALL BE INSTALLED AFTER THE DECK CONCRETE IS PLACED. DURING THE FINAL CONSTRUCTION PHASE, AFTER THE REMOVAL OF THE TEMPORARY CROSS FRAMES AND PRIOR TO MEDIAN BRIDGE RAILING CONSTRUCTION, THE CONTRACTOR SHALL SAW CUT THE FULL DEPTH MEDIAN JOINT. THE CONTRACTOR SHALL DOWEL AND EPOXY GROUT THE MEDIAN REINFORCING BARS INTO THE DECK TAKING CARE NOT TO DAMAGE THE STEEL DECK REINFORCING BARS. ALL WORK REQUIRED TO COMPLETE THIS WORK, NOT SPECIFICALLY INCLUDED IN ANOTHER PAY ITEM IS CONSIDERED INCIDENTAL TO THESE PAY ITEMS.

BASIS OF PAYMENT:

ITEM	EXT	UNITS	DESCRIPTION
511	34413	C.Y.	CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN
511	34447	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
511	34451	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN
511	50211	C.Y.	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN

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DESIGN AGENCY: **ARCADIS** U.S., Inc.  
 222 South Main Street, Suite 200 Akron, Ohio 44308  
 Tel: 330-434-1995 Fax: 330-434-1995 www.arcadis.com  
 DATE: 8/17/18  
 REVIEWED: RBB  
 DRAWN: CAF  
 DESIGNED: RJB  
 CHECKED: FUG  
 STRUCTURE FILE NUMBER: 1808672  
 GENERAL NOTES 1 OF 3  
 BRIDGE NO. CUY-90-2410  
 INTERSTATE ROUTE 90 OVER EAST 140TH STREET  
 CUY-90-24-10 / 24-63  
 PID No. 88348  
 2 / 42  
 108  
 196

**ITEM 511, SEMI INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN**

THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE CONSTRUCTED AS DETAILED IN THE PLANS. THE REINFORCING STEEL SHALL BE DOWELED INTO THE EXISTING ABUTMENT PER CMS 510 USING NON SHRINK, NONMETALLIC GROUT.

ALL OTHER PROVISIONS OF STANDARD DRAWING SICD-2-14 DATED 7-18-14 SHALL APPLY.

THE COST FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE SEMI-INTEGRAL DIAPHRAGM GUIDE, INCLUDING ALL DOWELS, IS INCLUDED IN THE PRICE BID FOR EACH SEMI-INTEGRAL DIAPHRAGM GUIDE CONSTRUCTED AND IN PLACE.

**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 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 511.07, 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, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN. 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.

**ITEM 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT**

THIS ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE FATIGUE RETROFITS AS DETAILED IN THESE PLANS.

PRIOR TO INSTALLATION OF THE NEW STEEL RETROFIT, THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE ENGINEER TO INSPECT WELDS IN THE AREA OF THE RETROFIT FOR CRACKS.

THE DEPARTMENT WILL PAY FOR THE FATIGUE RETROFITS AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT.

**ITEM 513, STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES**

THIS ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED TO REPLACE THE EXISTING INTERMEDIATE CROSSFRAMES THAT INTERFERE WITH INSTALLATION OF THE FATIGUE RETRO-FIT PLATES/BOLTS. THE CROSSFRAMES SHALL BE TYPE 1 PER STANDARD DRAWING GSD-1-96. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK.

THE DEPARTMENT WILL PAY FOR EACH COMPLETED CROSSFRAME AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL MISC.: INTERMEDIATE CROSSFRAMES.

**ITEM 513, STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC**

THE CONTRACTOR SHALL INSTALL TEMPORARY CROSSFRAMES AT THE LOCATIONS INDICATED IN THE PLANS. CROSSFRAMES SHALL BE INSTALLED AFTER PLACEMENT OF THE CONCRETE MEDIAN DECK AND PRIOR TO OPENING TO TRAFFIC (PHASE 2 M.O.T.).

TEMPORARY CROSSFRAMES SHALL BE TYPE 1, PER STANDARD DRAWING GSD-1-98. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK. TEMPORARY CROSSFRAMES DO NOT NEED TO BE PRIME COATED.

THE CROSSFRAMES SHALL BE REMOVED DURING PHASE 6 PRIOR TO SAW CUTTING THE FULL DEPTH MEDIAN CONSTRUCTION JOINT. ALL WELD LOCATIONS SHALL BE GROUND SMOOTH AT TIME OF REMOVAL.

THE COST FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL (PHASE 1) AND REMOVE (PHASE 6) THE TEMPORARY CROSSFRAMES IS INCLUDED IN THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC.

**ITEM 514, SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL**

**ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT**

**ITEM 514, FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT**

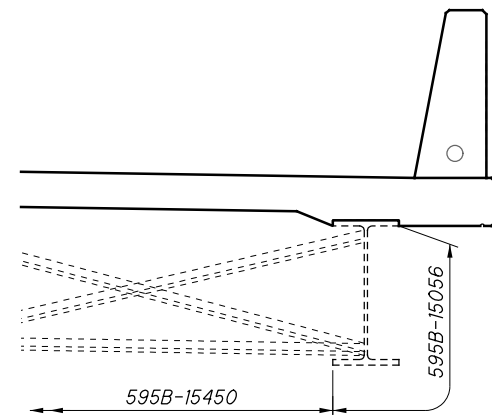
**ITEM 514, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN**

**ITEM 514, FINAL INSPECTION REPAIR**

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH CMS ITEM 514.

THE EXISTING STEEL TO REMAIN THAT WILL BE ENCASED IN CONCRETE BY THE SEMI-INTEGRAL DIAPHRAGM WILL NOT NEED TO BE PAINTED, BUT SHALL BE CLEANED PER CMS 514.13 A SOLVENT CLEANING, PRIOR TO PLACEMENT OF CONCRETE. SOLVENT CLEANING OF THIS ENCASED STEEL WILL BE INCLUDED AS INCIDENTAL TO ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

THE COLOR OF THE STEEL FINISH COAT FOR THE OUTSIDE FACE OF THE STRUCTURAL STEEL FASCIA BEAMS AND THE ENTIRE FASCIA BEARINGS SHALL BE FEDERAL COLOR NUMBER (COLOR-GLOSS) 595B-15056 (CITY OF CLEVELAND BLUE). THE COLOR OF THE FINISH COAT FOR ALL OTHER STRUCTURAL STEEL SHALL BE FEDERAL COLOR NUMBER (COLOR-GLOSS) 595B-15450 BLUE.



**PAINT DETAIL**

**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 257, DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN:**

PRIOR TO INSTALLATION OF THE MEDIAN BARRIER ON THE BRIDGE DECK AND APPROACH SLABS, THE TEMPORARY CONCRETE PAVEMENT WEDGE (SEE DETAIL ON SHEET 9 [42]) SHALL BE REMOVED BY DIAMOND GRINDING IN ACCORDANCE WITH CMS ITEM 257. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE BID FOR ITEM 257, DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN.

**ITEM 516, ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN**

THIS ITEM SHALL BE USED TO SEAL BETWEEN THE TWO HALVES OF THE MEDIAN BARRIER AS DETAILED IN THE PLANS. ARMORLESS PREFORMED JOINT SEAL SHALL MEET THE SAME REQUIREMENTS AS DETAILED IN STANDARD DRAWING AS-2-15, SHEET 8 OF 14 WITH THE FOLLOWING EXCEPTIONS.

R.J. WATSON, INC. - SILICOFLEX SF 225.

WATSON BOWMAN ACME CORP. - WABO-SPS-225

D.S. BROWN COMPANY - V-300

**ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN**

DESCRIPTION: THIS ITEM CONSISTS OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS IN ACCORDANCE WITH THE DETAILS IN THESE PLANS AND ODOT STANDARD DRAWINGS AS-1-15, AS-12-15, SBR-2-13 AND SBR-1-13.

MATERIALS: CONCRETE, REINFORCING STEEL, AND MECHANICAL CONNECTORS FOR THIS ITEM 526 SHALL BE THE SAME MATERIAL AND MEET THE SAME REQUIREMENTS AS THOSE USED FOR THE BRIDGE DECK, AND RAILINGS. SEE STRUCTURE GENERAL NOTES ITEM 511 FOR THE CONCRETE MIX REQUIREMENTS.

METHOD OF MEASUREMENT: THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, MEDIAN BARRIER AND RAILINGS ATTACHED DIRECTLY TO THE APPROACH SLAB, WATERPROOFING, EPOXY COATED REINFORCING STEEL, MECHANICAL CONNECTORS, PREFORMED EXPANSION JOINT FILLER, AND OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT. PAYMENT WILL BE MADE UNDER ITEM 526 REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

**ABBREVIATIONS**

ABUT. = ABUTMENT	HMWM = HIGH MOLECULAR WEIGHT
A.P.P. = AS PER PLAN	METHACRYLATE
APPR. = APPROACH	JT. = JOINT
BOTT. = BOTTOM	M.O.T. = MAINTENANCE OF TRAFFIC
BRG. = BEARING	MIN. = MINIMUM
C.I.P. = CAST IN PLACE	N.F. = NEAR FACE
CLR. = CLEAR	P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
CONC. = CONCRETE	SHLDR. = SHOULDER
CONST. = CONSTRUCTION	SPA. = SPACES
C.P.P. = CORRUGATED PLASTIC PIPE	STA. = STATION
DIA. = DIAMETER	STD. = STANDARD
DWG. = DRAWING	TYP. = TYPICAL
EA. = EACH	W.B. = WESTBOUND
E.B. = EASTBOUND	
E.F. = EACH FACE	
EL. = ELEVATION	
EX. = EXISTING	
EXP. = EXPANSION	
F.F. = FAR FACE	
FWD. = FORWARD	

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 CHECKED: FUG  
 STRUCTURE FILE NUMBER: 1808672

GENERAL NOTES 2 OF 3  
 BRIDGE NO. CUY-90-2410  
 INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10 / 24.63  
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ESTIMATED QUANTITIES					LEFT STRUCTURE				RIGHT STRUCTURE				AS PER PLAN
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENT	PIERS	SUPER.	GENERAL	ABUTMENT	PIERS	SUPER.	GENERAL	STR. SHT. NO.
202	11203	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS				LS	2
202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			907				907		2
202	22901	766	SY	APPROACH SLAB REMOVED, AS PER PLAN				383				383	2
257	10001	100	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN			83	17					3
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING				LS				LS	
503	21101	68	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	34				34				2
509	10000	466,071	LB	EPOXY COATED REINFORCING STEEL	1,628	3,358	228,049		1,628	3,359	228,049		
510	10000	2,500	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	170	450	534	96	170	450			
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2				2				3
511	34413	172	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			86						2
511	34447	1,038	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			519						2
511	34451	189	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			95						2
511	50211	68	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	9	25			9	25			2
512	10101	2,432	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	12	590	554	59	13	591	554	59	4
512	33300	11	SY	TYPE A WATERPROOFING			6				5		
513	20000	12,832	EACH	WELDED STUD SHEAR CONNECTORS			6,416				6,416		
513	90000	90,768	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT			45,384				45,384		
513	95030	85	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES			42				43		
513	95030	19	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC			10				9		
514	00050	38,603	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			19,302				19,301		
514	00056	38,603	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			19,302				19,301		
514	00060	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			19,302				19,301		
514	00067	38,603	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			19,302				19,301		3
514	00504	65	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			33				32		
514	10000	37	EACH	FINAL INSPECTION REPAIR			19				18		
516	10010	298	FT	ARMORLESS PREFORMED JOINT SEAL				149				149	
516	10011	298	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN			149				149		3
516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER			21				21		
516	13900	1,550	SF	2" PREFORMED EXPANSION JOINT FILLER			662	113			663	112	
516	25000	980	SF	NYLON REINFORCED NEOPRENE SHEETING			490				490		
516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x9.5"x18")	16				16				28
516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x14"x18")		24				24			28
516	47001	LS	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LS				LS		3
518	21200	164	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	82				82				
518	40000	307	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	153				154				
518	40010	73	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	35				38				
519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	125				125				4
526	25001	786	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				393				393	3
526	90030	298	FT	TYPE C INSTALLATION				149				149	
601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	3				3				
601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	75				75				4
SPECIAL	60610920	3,262	SF	NOISE BARRIER, BRIDGE MOUNTED			1,786				1,476		4
SPECIAL	60610920	1,250	SF	NOISE BARRIER, GROUND MOUNTED				844				406	4

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 CHECKED: FJG

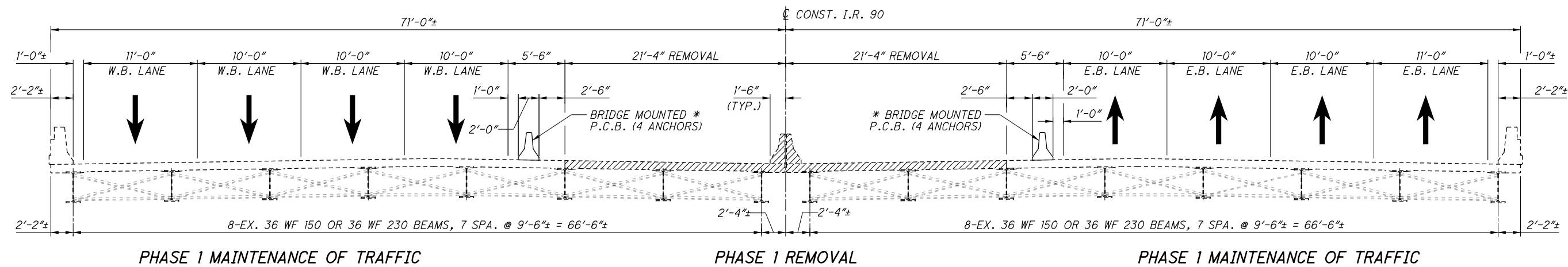
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**ESTIMATED QUANTITIES**  
 BRIDGE NO. CUY-90-2410  
 INTERSTATE ROUTE 90 OVER EAST 140TH STREET

**CUY-90-24.10/24.63**  
 PID No. 88348

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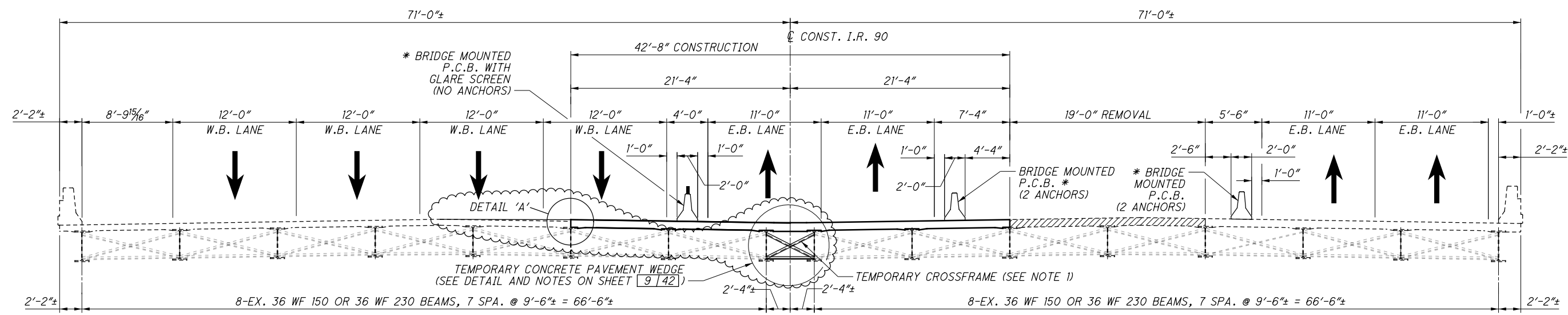
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**PHASE 1 MAINTENANCE OF TRAFFIC**

**PHASE 1 REMOVAL**

**PHASE 1 MAINTENANCE OF TRAFFIC**

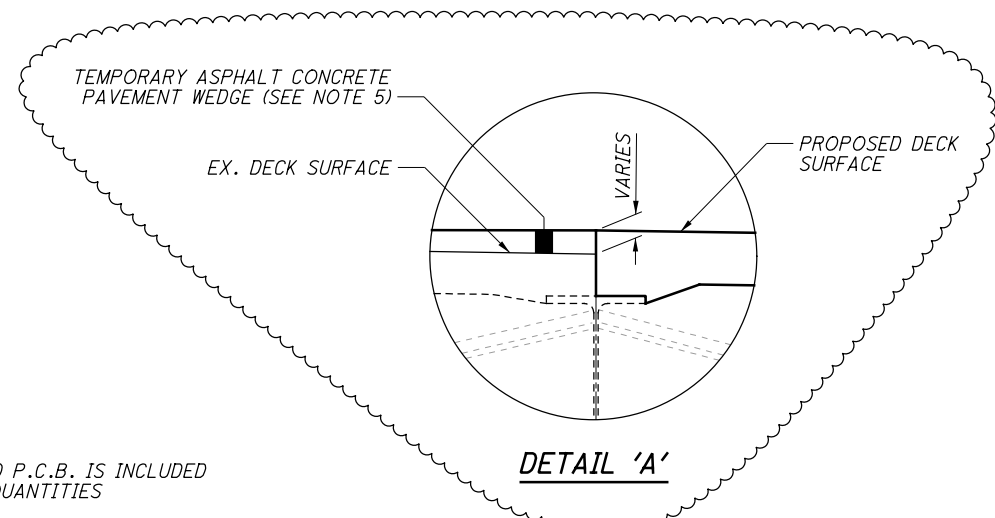


**PHASE 2 MAINTENANCE OF TRAFFIC**

**PHASE 1 CONSTRUCTION AND PHASE 2 M.O.T.**

**PHASE 2 REMOVAL**

**PHASE 2 MAINTENANCE OF TRAFFIC**



**DETAIL 'A'**

**LEGEND**

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

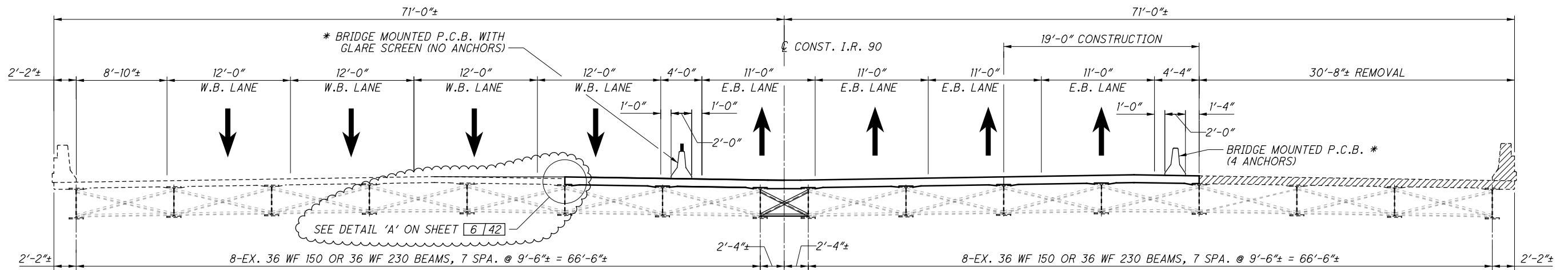
\* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

**NOTES:**

1. FOR LOCATION OF TEMPORARY CROSS FRAMES, SEE FRAMING PLAN ON SHEET [15/42].
2. FOR M.O.T. PLANS SEE SHEETS 9 THRU 61.
3. IN PHASE 1, THE BRIDGE DECK FOR THE LEFT AND RIGHT STRUCTURES SHALL BE PLACED IN TWO SEPARATE DECK POURS.
4. FOR BRIDGE MOUNTED PORTABLE CONCRETE BARRIER (P.C.B.) DETAILS, SEE STANDARD DRAWING PCB-91. BARRIERS SHALL BE ANCHORED TO BRIDGE DECK AS NOTED.
5. A TEMPORARY ASPHALT CONCRETE PAVEMENT WEDGE IS NECESSARY FOR PHASE 2 AND 3 MAINTENANCE OF TRAFFIC DUE TO ELEVATION DIFFERENCE BETWEEN THE NEW AND EXISTING BRIDGE DECK. PAYMENT FOR THE TEMPORARY ASPHALT PAVEMENT WEDGE SHALL BE INCLUDED WITH ITEM 614-MAINTAINING TRAFFIC.

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<p><b>STAGED CONSTRUCTION DETAILS 1 OF 4</b></p>					
<p>BRIDGE NO. CUY-90-2410 INTERSTATE ROUTE 90 OVER EAST 140TH STREET</p>					
<p><b>CUY-90-24.10/24.63</b></p>					
<p>PID No. 88348</p>					
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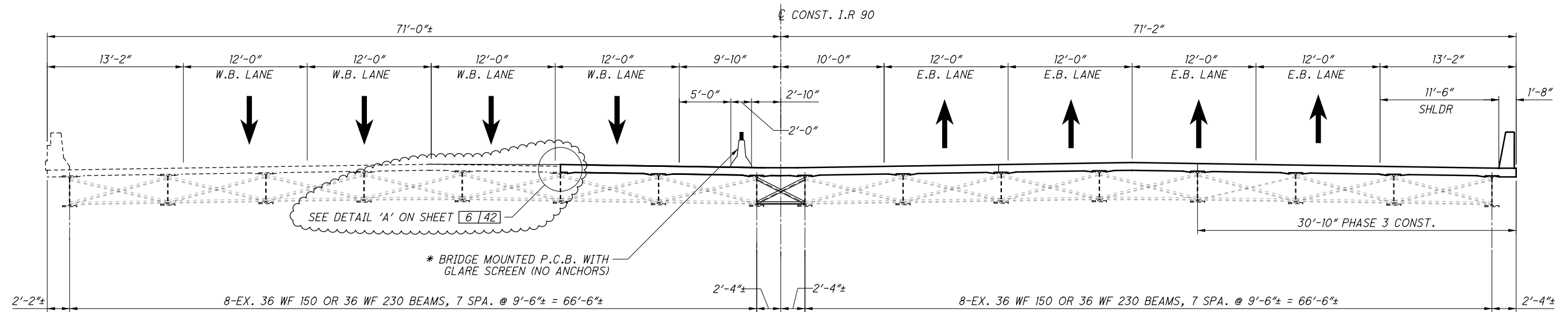


**PHASE 3 MAINTENANCE OF TRAFFIC**

**PHASE 3 MAINTENANCE OF TRAFFIC**

**PHASE 2 CONSTRUCTION AND PHASE 3 M.O.T.**

**PHASE 3 REMOVAL**



**WINTER SHUTDOWN PHASE**

**LEGEND**



ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

\* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

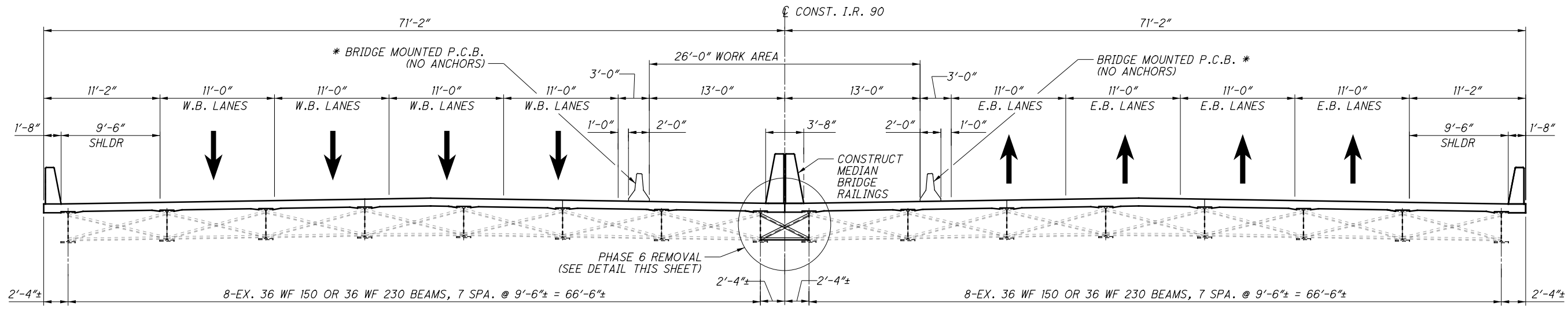
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**STAGED CONSTRUCTION DETAILS 2 OF 4**  
 BRIDGE NO. CUY-90-2410  
 INTERSTATE ROUTE 90 OVER EAST 140TH STREET

**CUY-90-24.10 / 24.63**  
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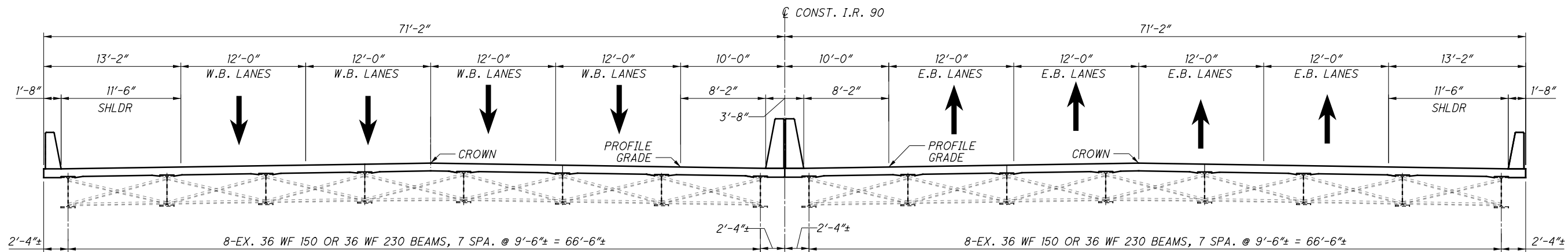
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**PHASE 6 MAINTENANCE OF TRAFFIC**

**PHASE 6 CONSTRUCTION**

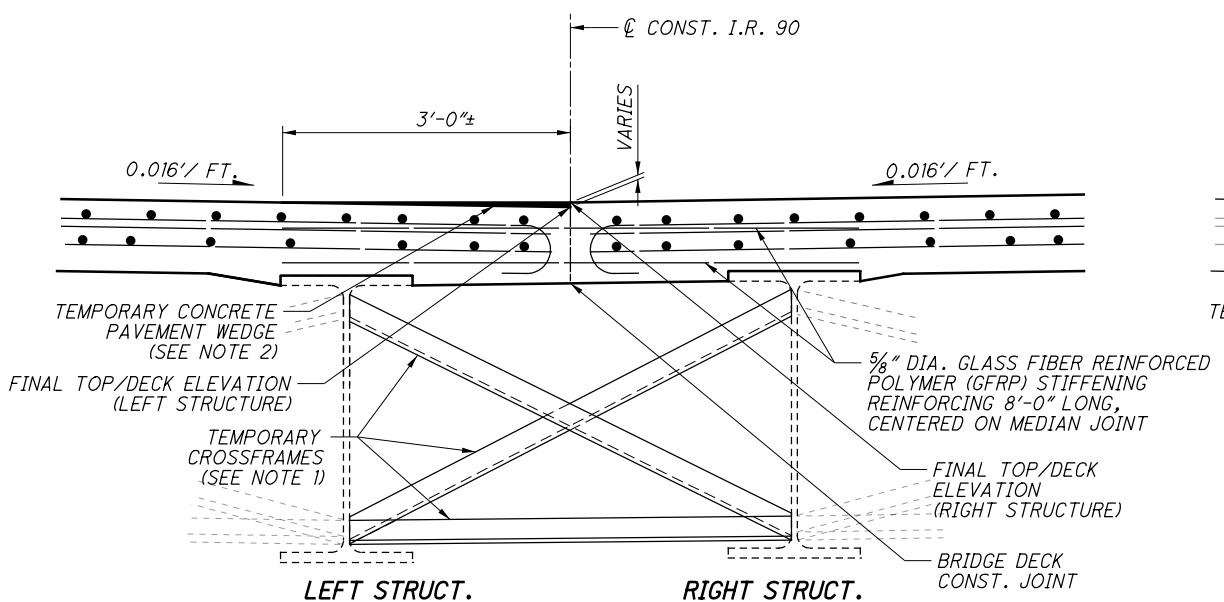
**PHASE 6 MAINTENANCE OF TRAFFIC**



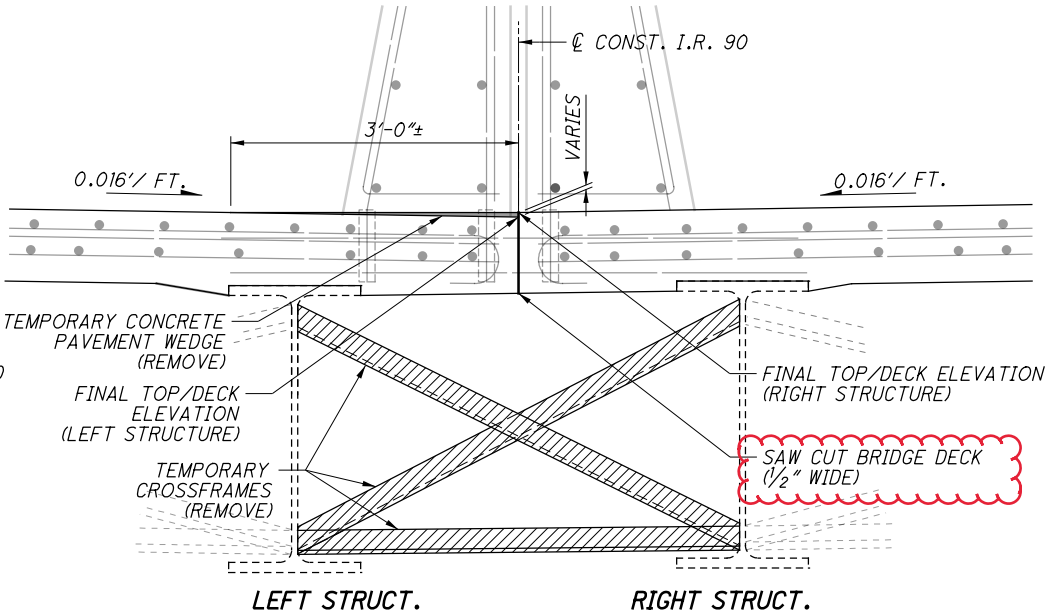
**FINAL CONFIGURATION**

**NOTES**

- TEMPORARY CROSSFRAMES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON SHEET [15 | 42].
- THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE POURED INTEGRALLY WITH THE PHASE 1 DECK CONCRETE FOR THE LEFT STRUCTURE.
- PRIOR TO CONSTRUCTION OF MEDIAN BRIDGE RAILINGS IN PHASE 6, THE TEMPORARY CROSSFRAMES SHALL BE REMOVED AND THE BRIDGE DECK SHALL BE SAWCUT FULL DEPTH. IN ADDITION, THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE REMOVED BY DIAMOND GRINDING.
- UPON REMOVAL OF P.C.B., HOLES IN THE BRIDGE DECK/APPROACH SLAB SHALL BE PATCHED WITH NON-SHRINK NON-METALLIC GROUT.



**TEMPORARY CONCRETE PAVEMENT WEDGE DETAIL**



**PHASE 6 REMOVAL**  
(SEE NOTE 3)

**LEGEND**

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

\* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

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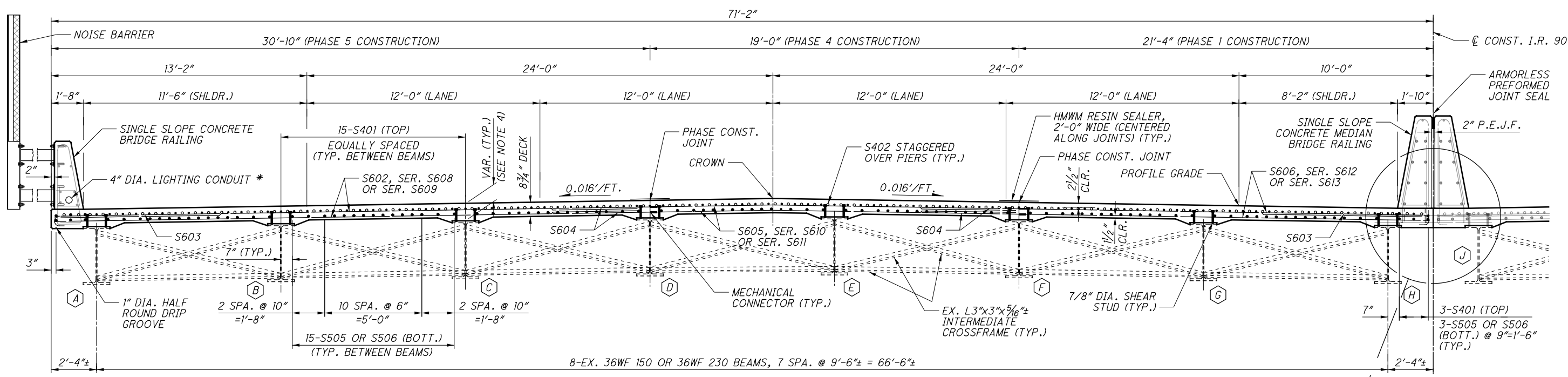
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STAGED CONSTRUCTION DETAILS 4 OF 4

CUY-90-24.10 / 24.63  
 PID No. 88348

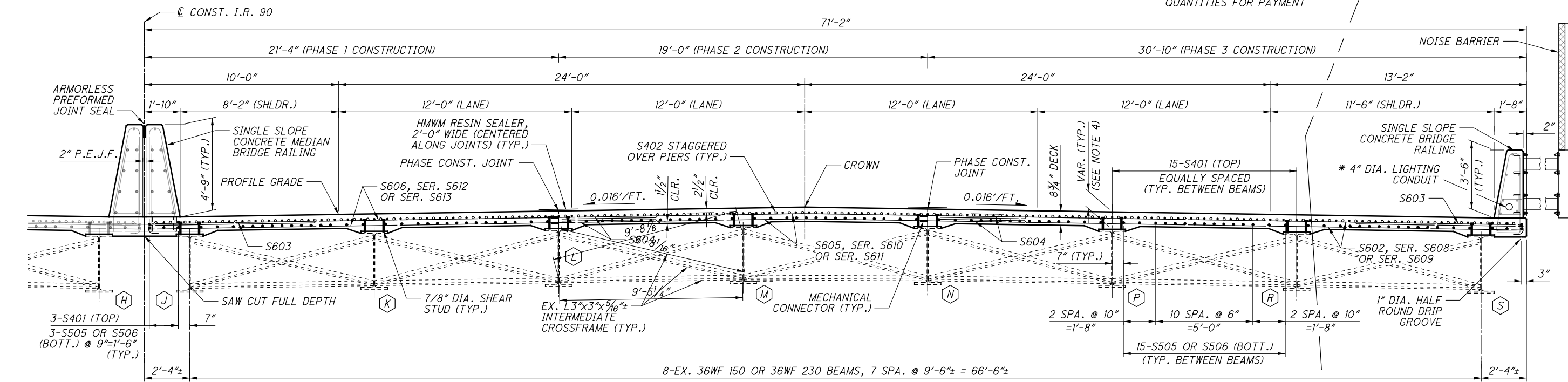
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TRANSVERSE SECTION (LEFT STRUCTURE)

\* INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT

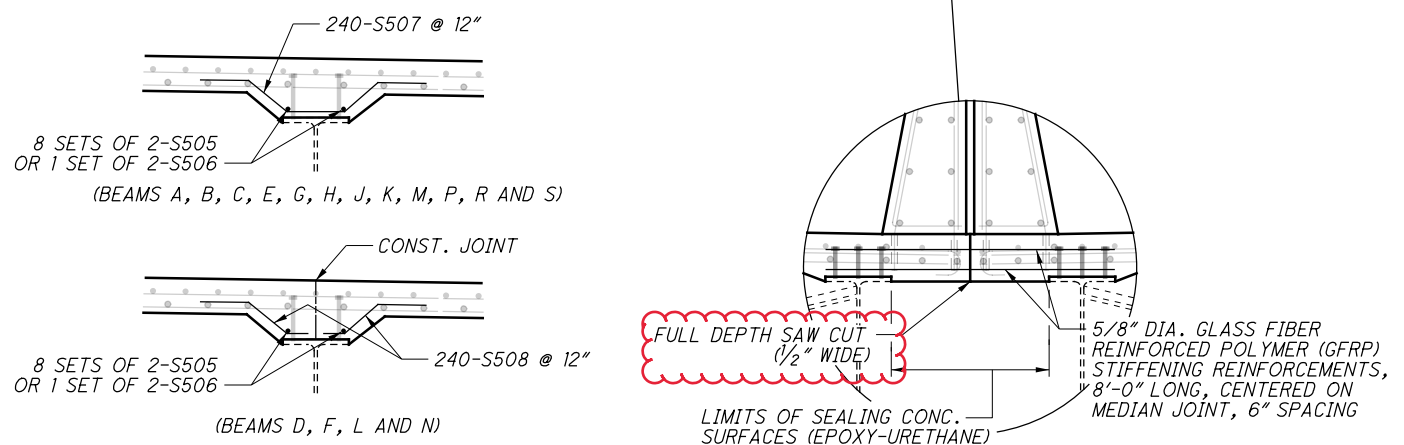


TRANSVERSE SECTION (RIGHT STRUCTURE)

NOTES

- FOR DECK PLAN, SEE SHEET [26/42].
- FOR OUTSIDE AND MEDIAN BRIDGE RAILING DETAILS, SEE SHEETS [27/42] AND [28/42].
- FOR BRIDGE MOUNTED NOISE BARRIER DETAILS, SEE SHEETS [35/42] THRU [37/42].
- 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 AN AVERAGE HAUNCH THICKNESS OF 3 INCHES, AND A CONSTANT HAUNCH WIDTH 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.
- MINIMUM BAR LAPS ARE AS FOLLOWS:
- #4 BAR = 33" #5 BAR = 41"  
#6 BAR = 52" #8 BAR = 87"
- TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN THE DECK SLAB.
- FOR SEMI-INTEGRAL ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS [18/42] AND [20/42].

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, 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.



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DATE: 8/17/18

REVIEWED: RBB

STRUCTURE FILE NUMBER: 1808672

DRAWN: CAF

CHECKED: FUG

DESIGNED: RJB

BRIDGE NO. CUY-90-2410

INTERSTATE ROUTE 90 OVER EAST 140TH STREET

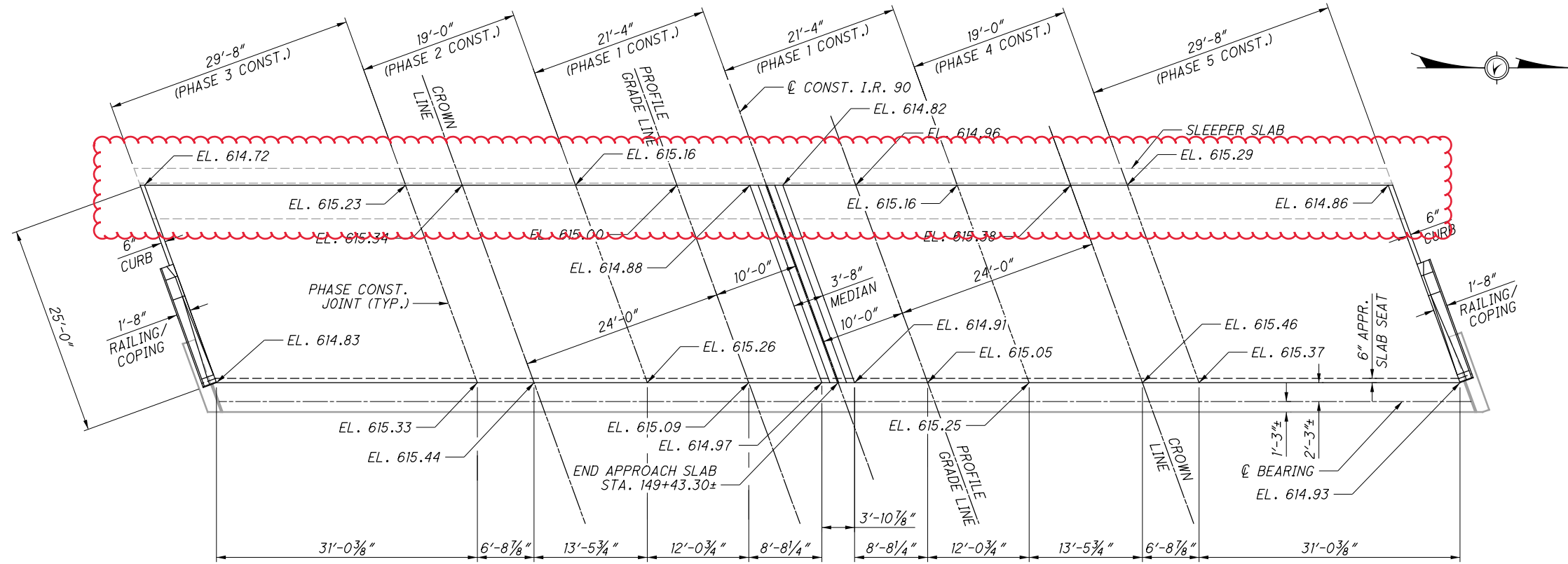
CUY-90-24.10/24.63

PID No. 88348

25/42

131/196

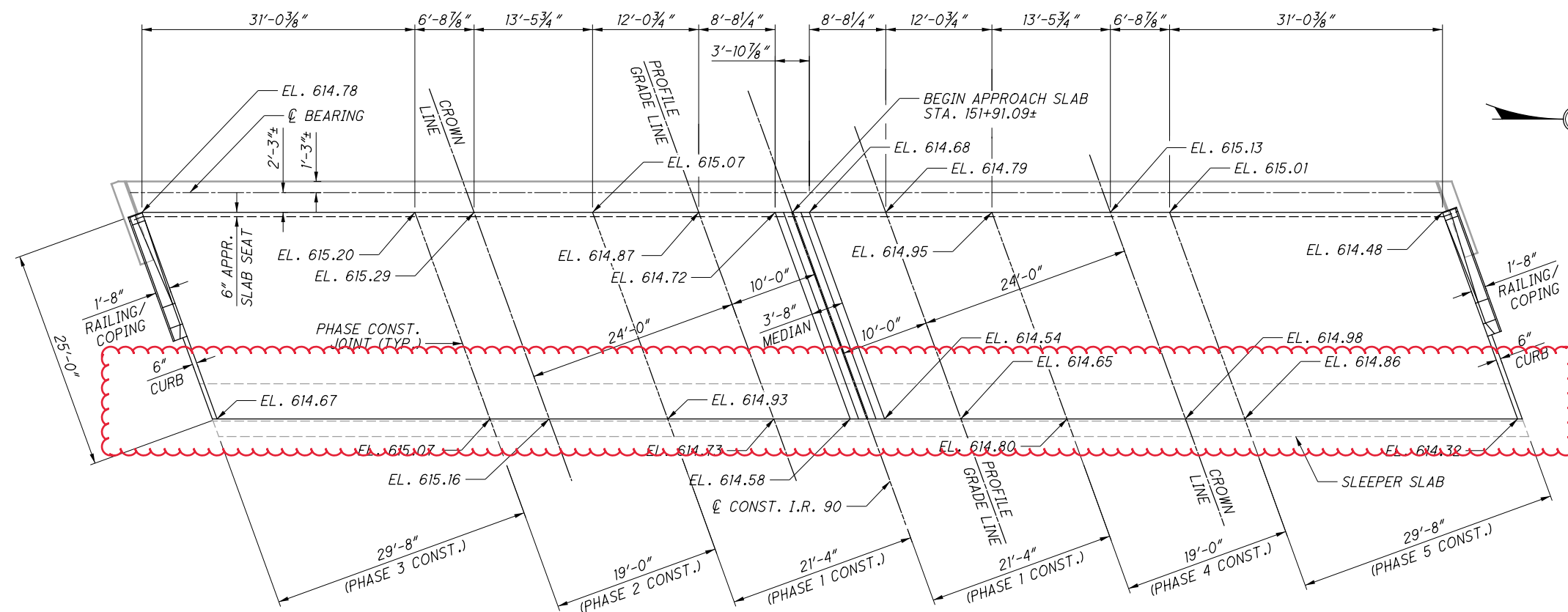
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**REAR APPROACH SLAB ELEVATION PLAN**

**NOTES**

1. FOR APPROACH SLAB REINFORCING, SEE SHEETS 31/42 THRU 34/42.
2. ALL ELEVATIONS ARE LOCATED AT TOP OF APPROACH SLAB.
3. FOR STAGE CONSTRUCTION DETAILS INCLUDING LOCATION AND ANCHORAGE REQUIREMENTS FOR PORTABLE CONCRETE BARRIERS, SEE SHEETS 6/42 THRU 9/42.



**FORWARD APPROACH SLAB ELEVATION PLAN**

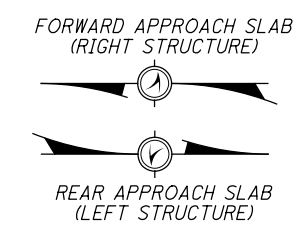
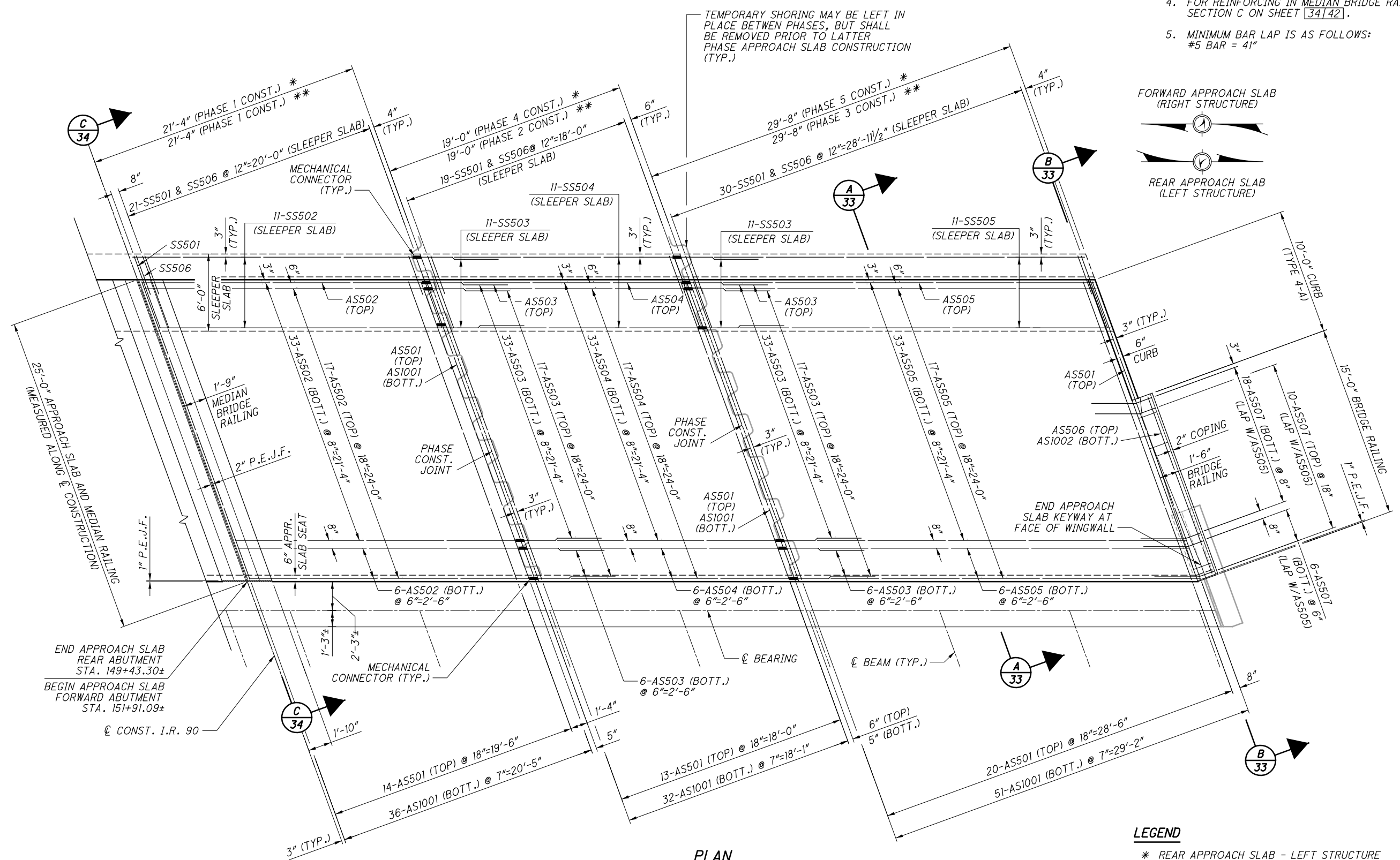
DESIGN AGENCY <b>ARCADIS</b> ARCADIS U.S., Inc. 222 South Main Street, Suite 200 Akron, Ohio 44308 Tel: 330-434-1995 Fax: 330-434-1995 www.arcadis.com	
DATE 8/17/18	REVIEWED RBB
DESIGNED RUB	DRAWN MPB
CHECKED FUG	REVISSED
STRUCTURE FILE NUMBER 1808672	
<b>APPROACH SLAB DETAILS 1 OF 5</b> BRIDGE NO. CUY-90-2410 INTERSTATE ROUTE 90 OVER EAST 140TH STREET	
<b>CUY-90-24.10/24.63</b> PID No. 88348	
30/42	
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**NOTES**

- FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
- FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET [30]42].
- FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET [33]42].
- FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET [34]42].
- MINIMUM BAR LAP IS AS FOLLOWS:  
#5 BAR = 41"



**PLAN**

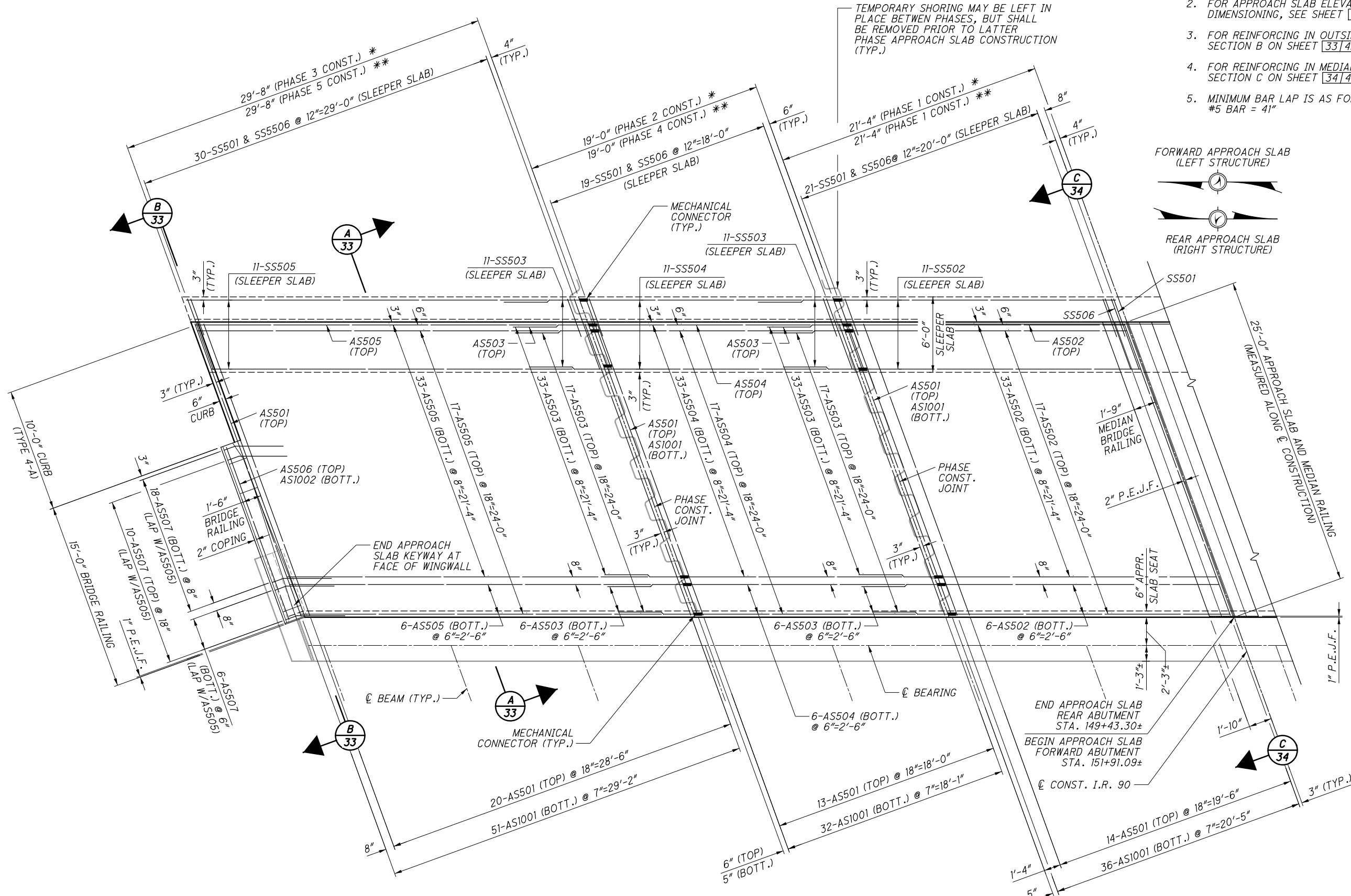
(REAR APPROACH SLAB - LEFT STRUCTURE SHOWN, FORWARD APPROACH SLAB - RIGHT STRUCTURE SIMILAR)

**LEGEND**

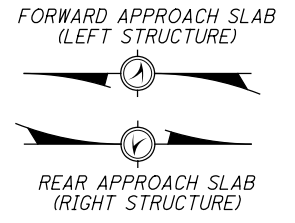
- \* REAR APPROACH SLAB - LEFT STRUCTURE
- \*\* FORWARD APPROACH SLAB - RIGHT STRUCTURE

DESIGN AGENCY <b>ARCADIS</b> ARCADIS U.S., Inc. 222 South Main Street, Suite 200 Akron, Ohio 44308 Tel: 330-434-1995 Fax: 330-374-1995 www.arcadis.com	DATE 8/17/18
	REVIEWED RBB
DRAWN MPB	STRUCTURE FILE NUMBER 1808672
DESIGNED RJB	CHECKED FUG
<b>APPROACH SLAB DETAILS 2 OF 5</b> BRIDGE NO. CUY-90-2410 INTERSTATE ROUTE 90 OVER EAST 140TH STREET	
CUY-90-24.10 / 24.63	PID No. 88348
31 / 42	137 / 196

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- NOTES**
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
  2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET [30|42].
  3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET [33|42].
  4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET [34|42].
  5. MINIMUM BAR LAP IS AS FOLLOWS:  
#5 BAR = 41"



**PLAN**  
(REAR APPROACH SLAB - RIGHT STRUCTURE SHOWN, FORWARD APPROACH SLAB - LEFT STRUCTURE SIMILAR)

- LEGEND**
- \* REAR APPROACH SLAB - RIGHT STRUCTURE
  - \*\* FORWARD APPROACH SLAB - LEFT STRUCTURE

DESIGN AGENCY  
**ARCADIS**  
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DATE	8/17/18
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STRUCTURE FILE NUMBER	1808672
DRAWN	MPB
CHECKED	FUG
DESIGNED	RUB
REVISED	

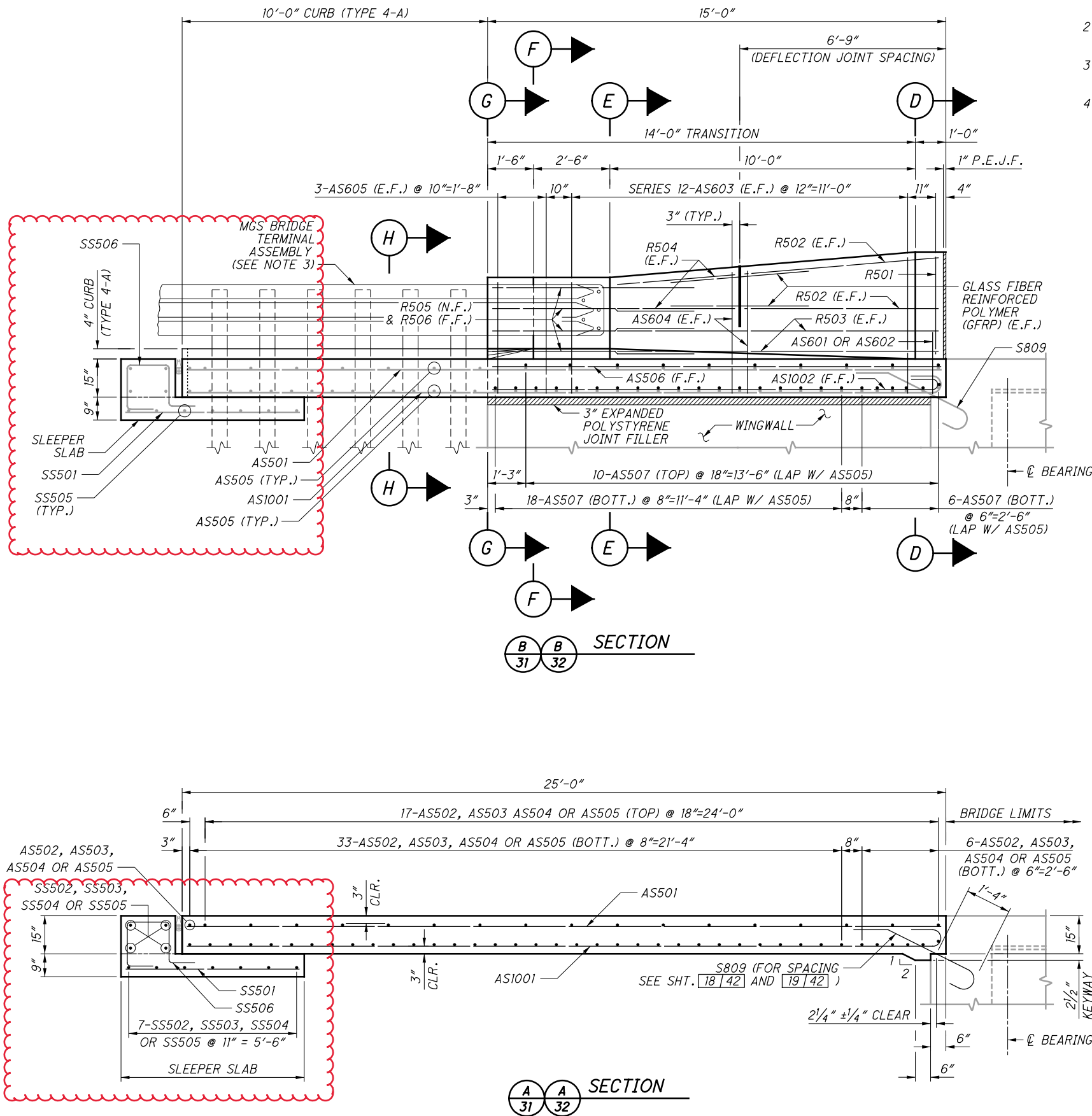
**APPROACH SLAB DETAILS 3 OF 5**  
BRIDGE NO. CUY-90-2410  
INTERSTATE ROUTE 90 OVER EAST 140TH STREET

**CUY-90-24.10 / 24.63**  
PID No. 88348

32 / 42

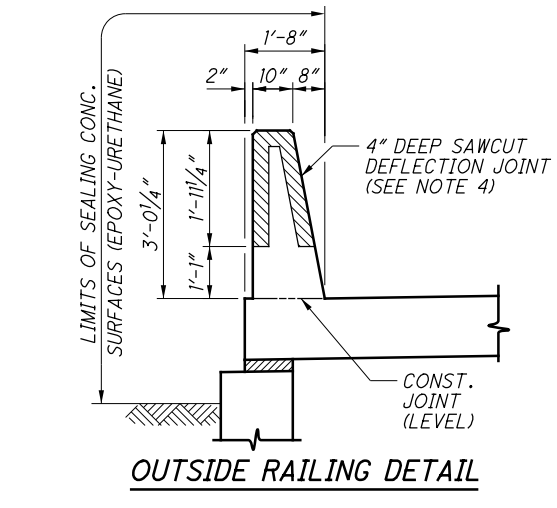
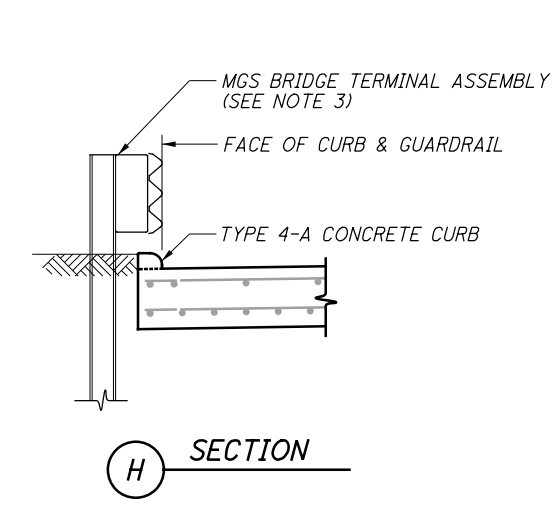
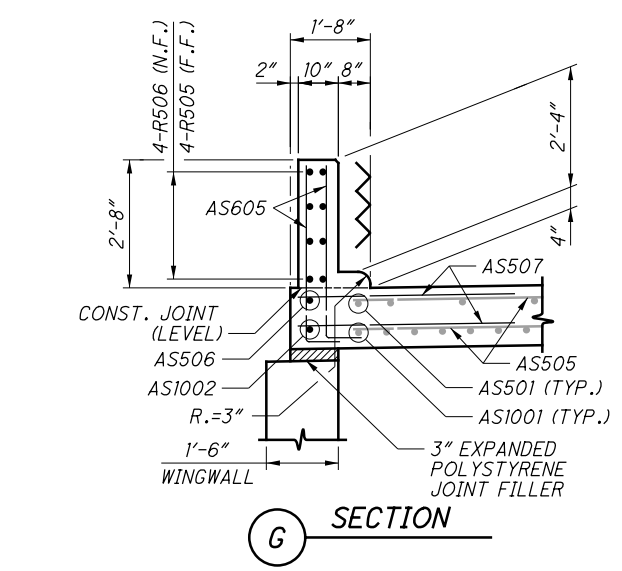
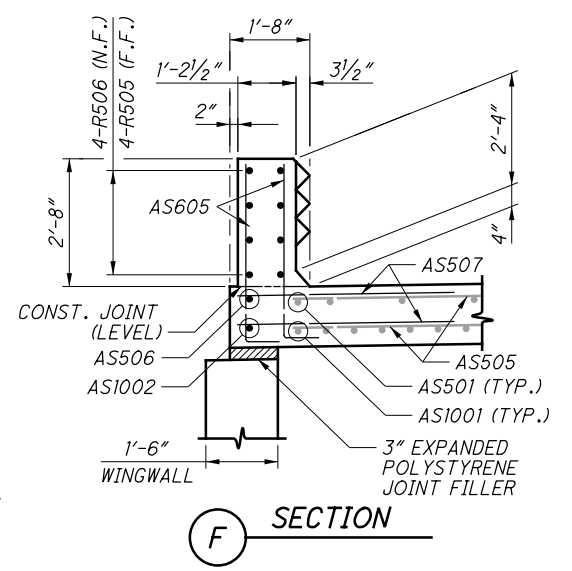
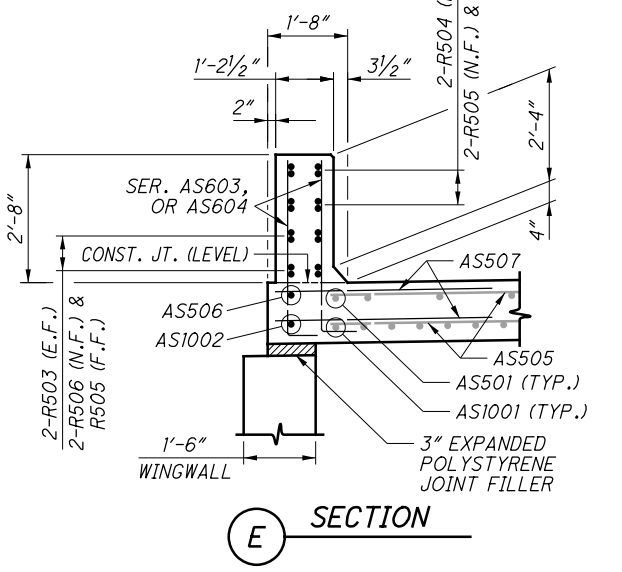
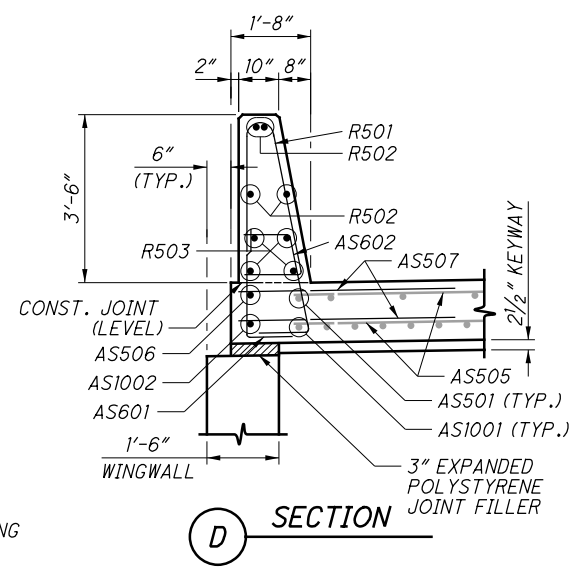
138  
196

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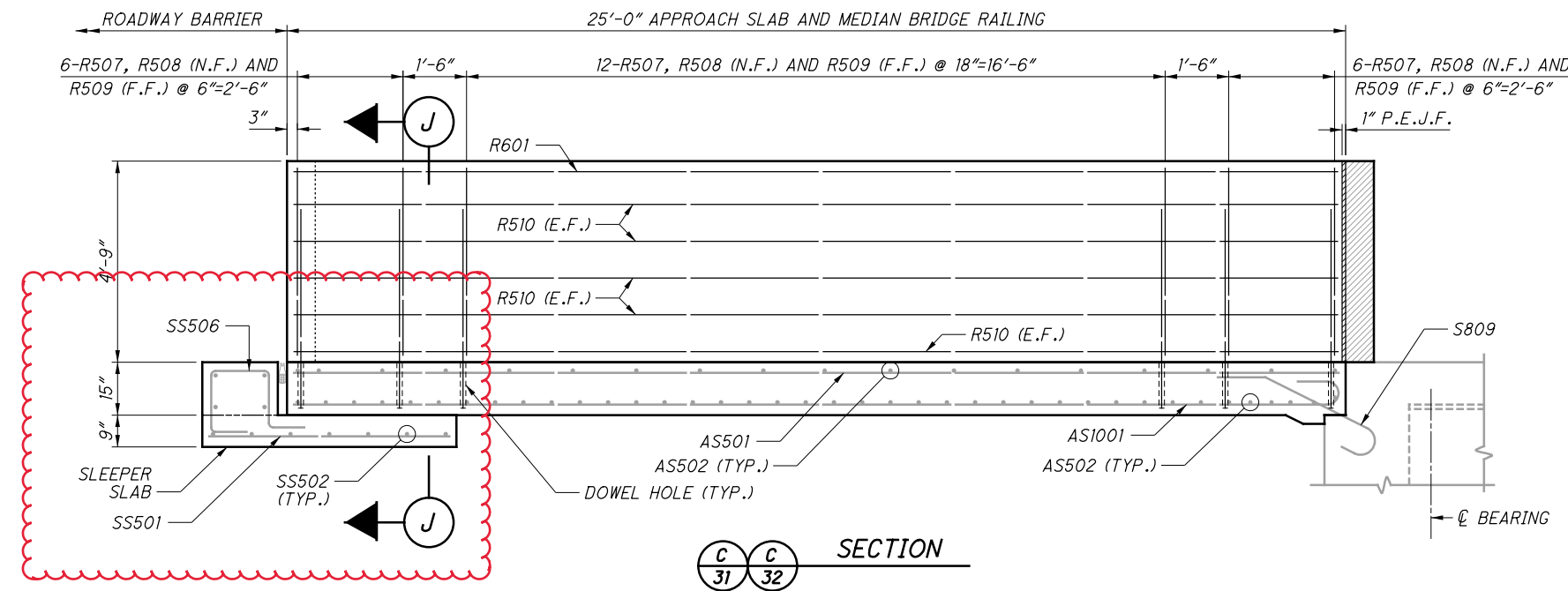
**NOTES**

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE CONCRETE BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-1-13.
3. FOR MGS BRIDGE TERMINAL ASSEMBLY, NOTES AND DETAILS, SEE STANDARD DRAWINGS MGS-3.1 AND MGS-3.2.
4. FOR OUTSIDE RAILING DEFLECTION JOINT DETAIL, SEE SHEET 34 | 42.



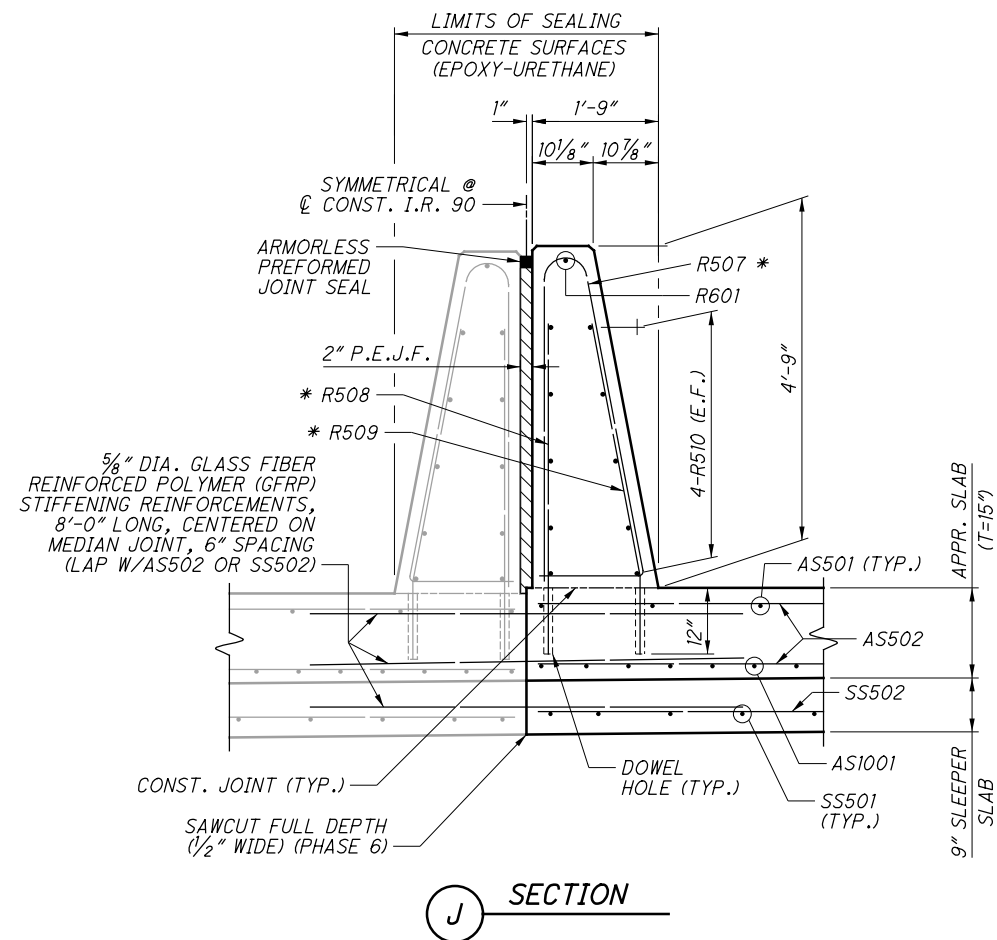
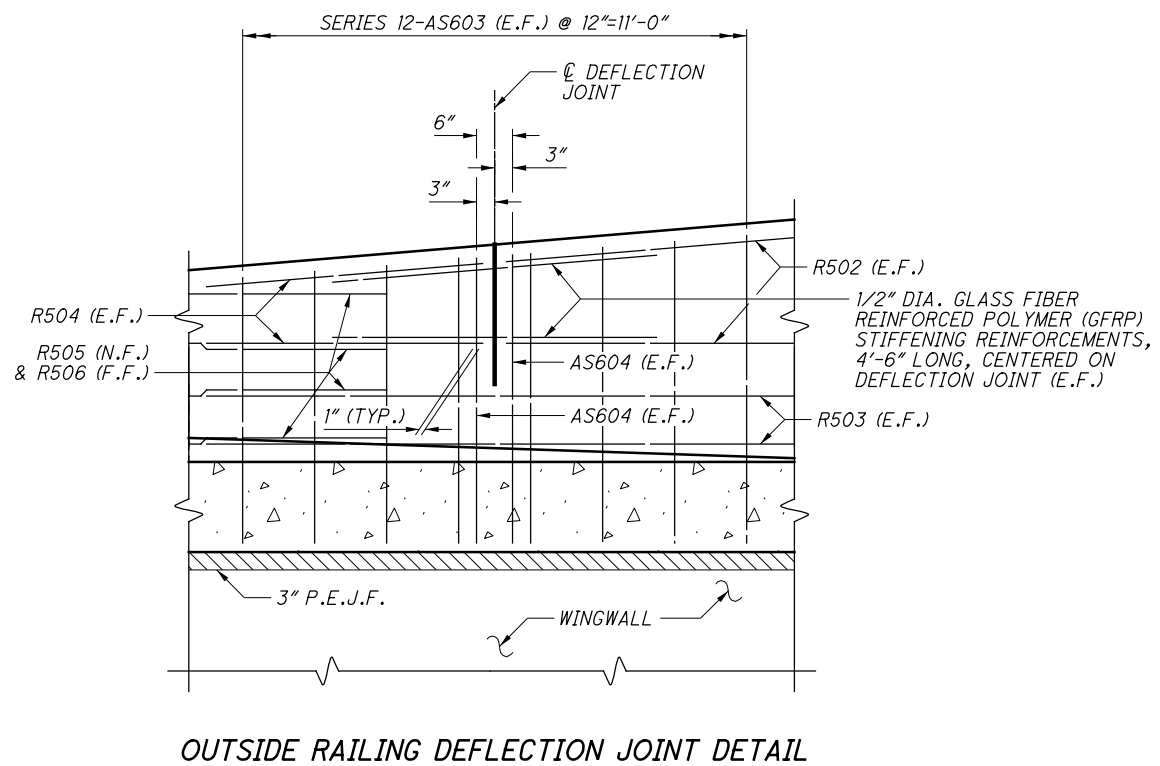


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**NOTES**

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE MEDIAN BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.
3. FOR STAGED CONSTRUCTION DETAILS AND NOTES, SEE SHEETS [6/42] THRU [9/42].



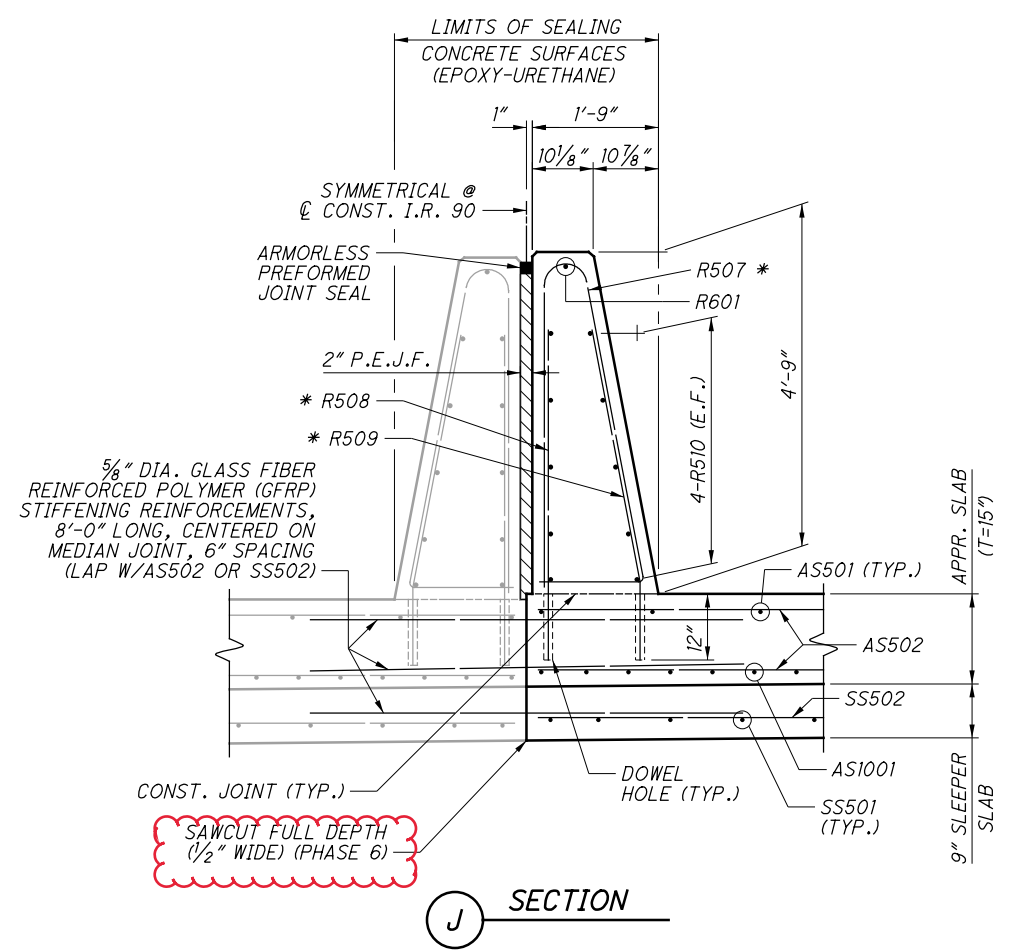
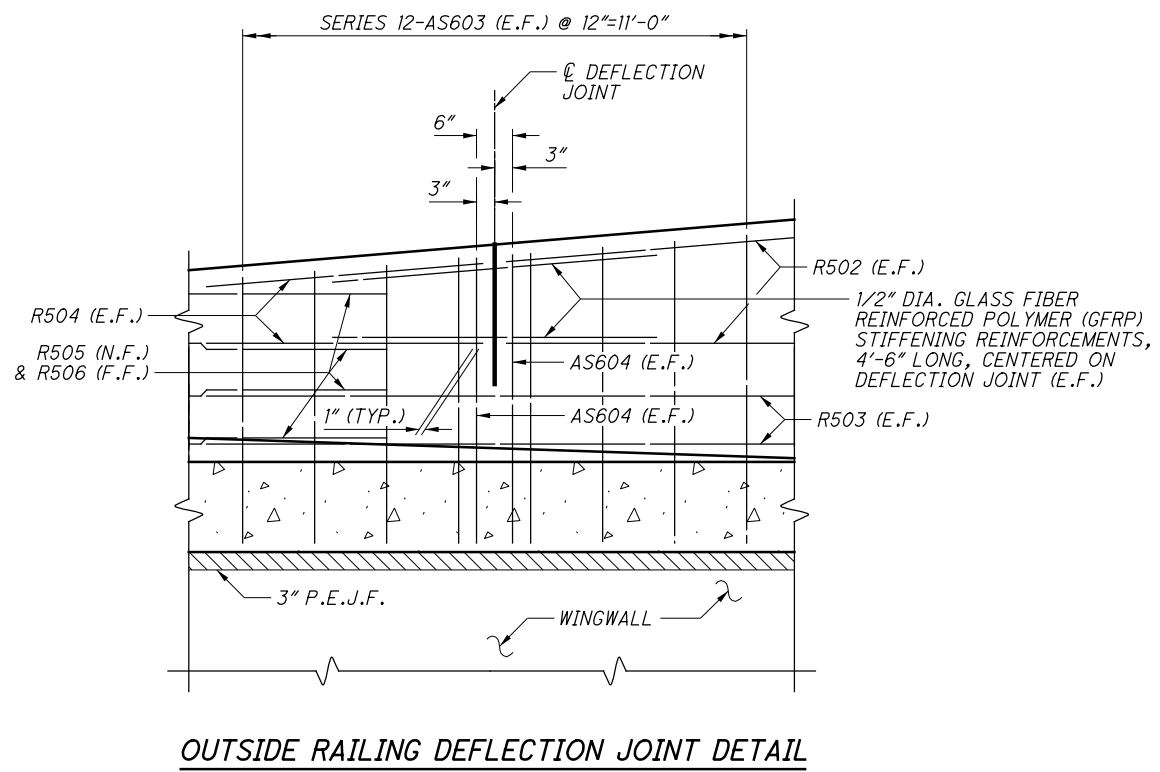
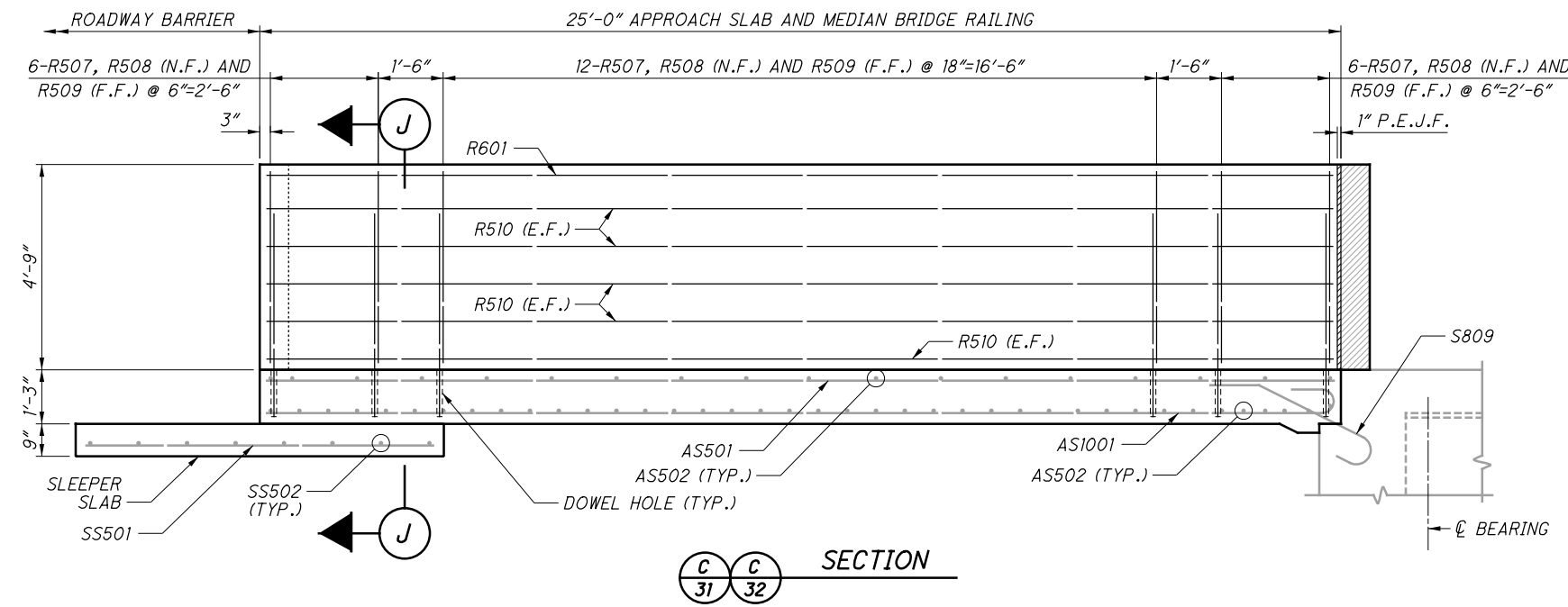
\* - REINFORCING TO BE PLACE IN SKEW PARALLEL TO  $\bar{C}$  BEARING

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DESIGNED RUB	DATE 8/17/18
DRAWN MPB	REVIEWED RBB
CHECKED FUG	STRUCTURE FILE NUMBER 1808672
<b>APPROACH SLAB DETAILS 5 OF 5</b> BRIDGE NO. CUY-90-2410 INTERSTATE ROUTE 90 OVER EAST 140TH STREET	
<b>CUY-90-24.10/24.63</b> PID No. 88348	
34/42	
<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="font-size: 12px; margin-right: 5px;">140</span>  <span style="font-size: 12px;">196</span> </div>	

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**NOTES**

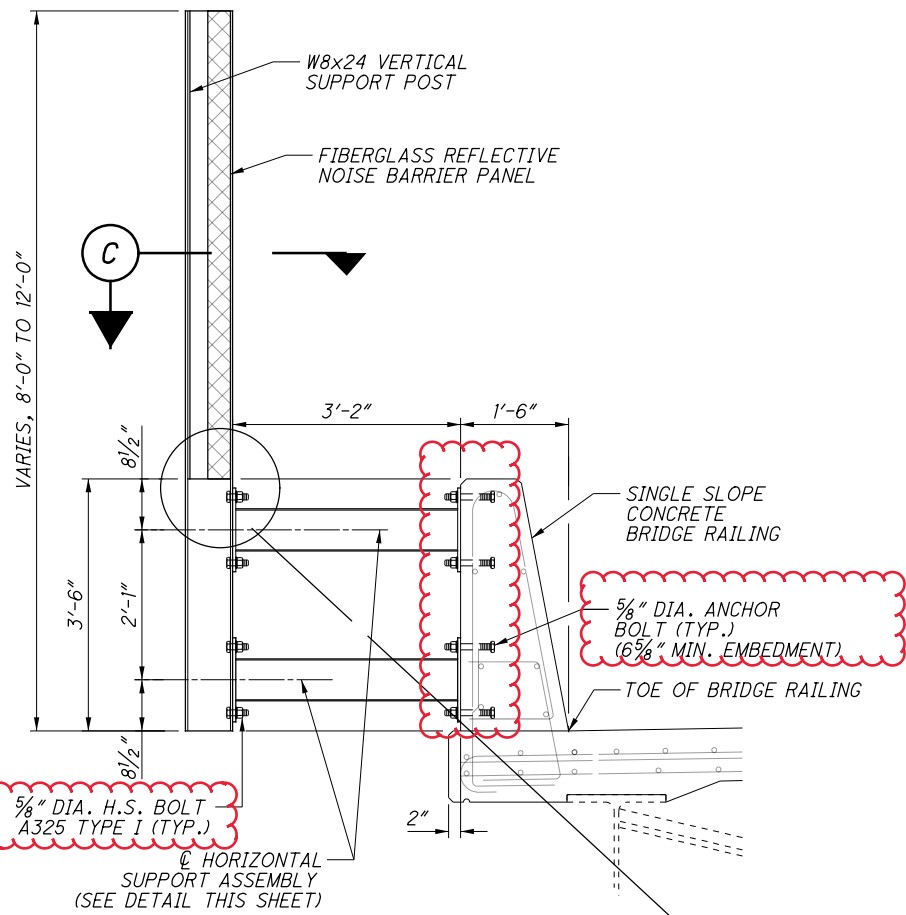
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE MEDIAN BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.
3. FOR STAGED CONSTRUCTION DETAILS AND NOTES, SEE SHEETS 6 42 THRU 9 42.



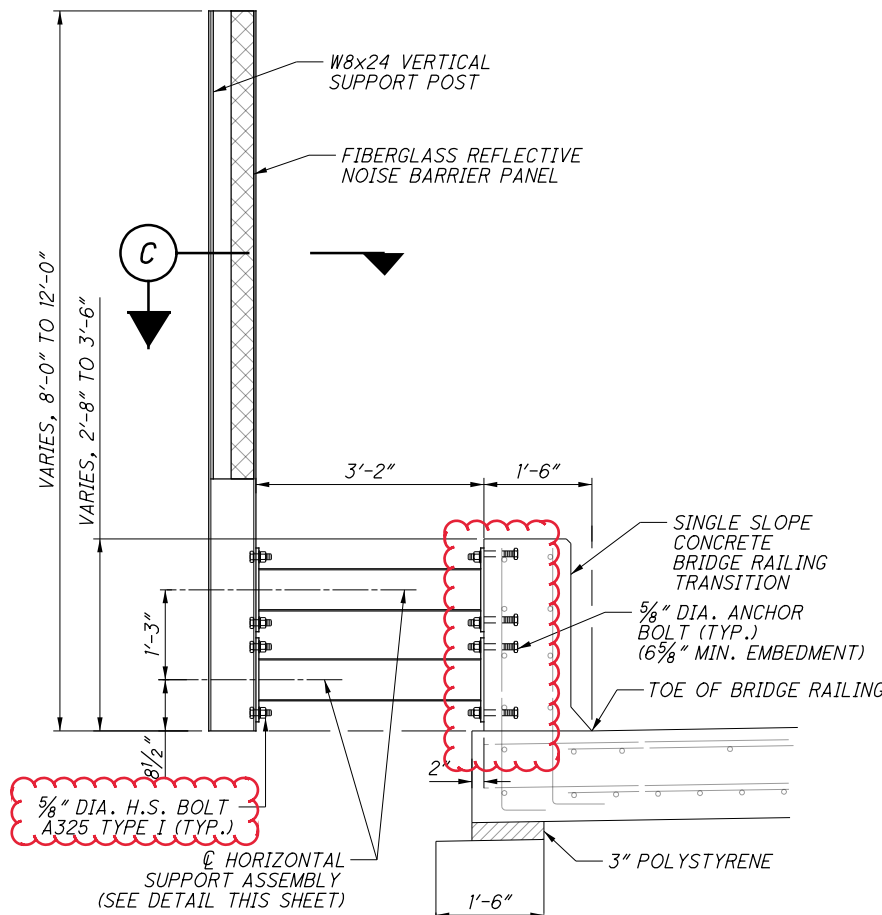
\* - REINFORCING TO BE PLACE IN SKEW PARALLEL TO  $\perp$  BEARING

 DESIGN AGENCY ARCADIS U.S., Inc. 222 South Main Street, Suite 200 Akron, Ohio 44308 Tel: 330-434-1995 Fax: 330-434-1995 www.arcadis.com	DATE 8/17/18	REVIEWED RBB	STRUCTURE FILE NUMBER 1808672	DESIGNED RJB	CHECKED FUG
APPROACH SLAB DETAILS 5 OF 5 BRIDGE NO. CUY-90-2410 INTERSTATE ROUTE 90 OVER EAST 140TH STREET					
CUY-90-24.10/24.63 PID No. 88348					
34/42					
140 196					

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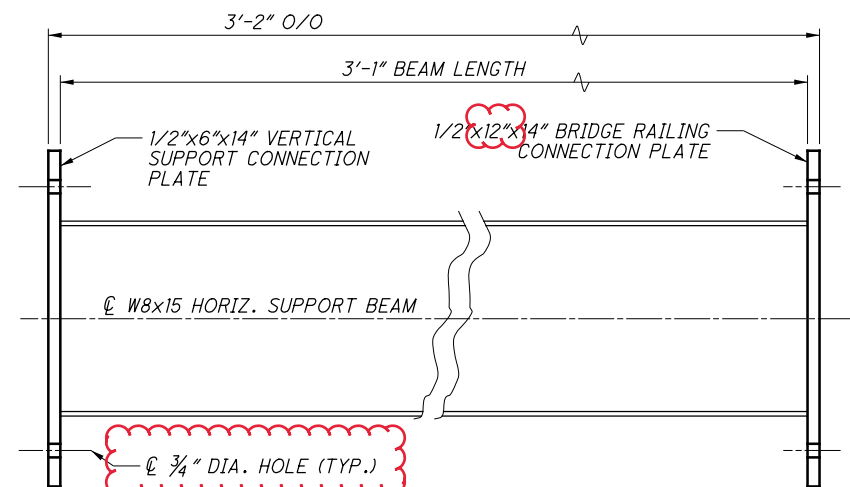


SECTION  
A A  
35 36

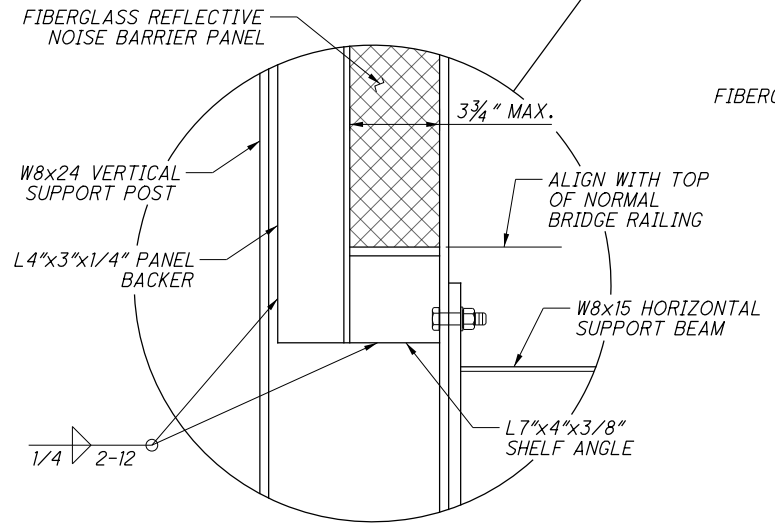


SECTION  
B B  
35 36

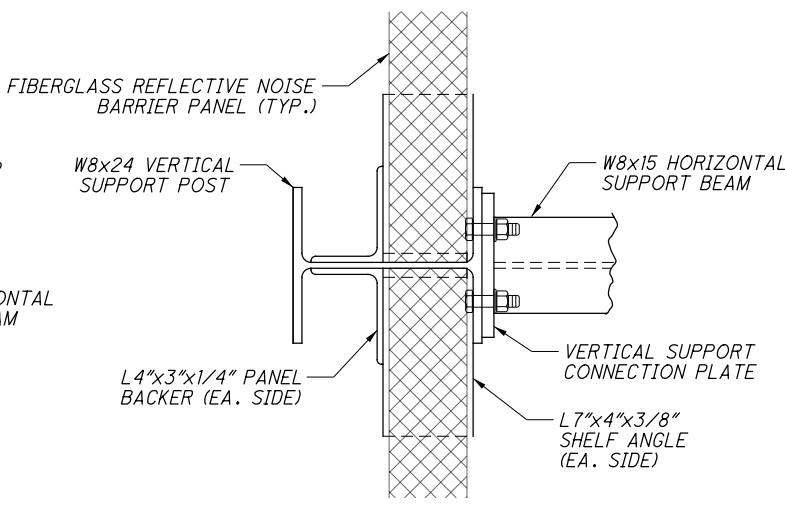
- NOTES**
1. THE NOISE BARRIER SUPPORT ASSEMBLY SHALL BE ANCHORED TO THE CONCRETE PARAPET USING 5/8" DIA. HEAVY HEX HEAD ASTM F 1554 GRADE 55 ANCHOR BOLTS. ANCHOR BOLTS SHALL BE CAST IN PLACE.
  2. FIBERGLASS REFLECTIVE NOISE BARRIER SYSTEM TO BE PER THE SELECTED NOISE BARRIER MANUFACTURER'S SPECIFICATIONS.



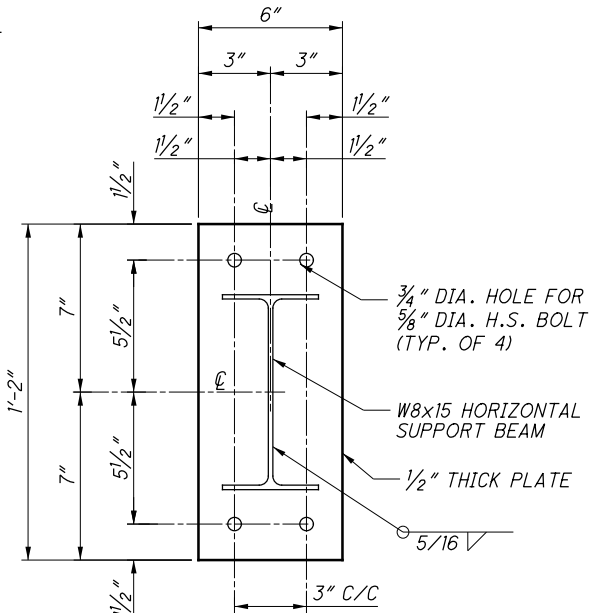
HORIZONTAL SUPPORT ASSEMBLY



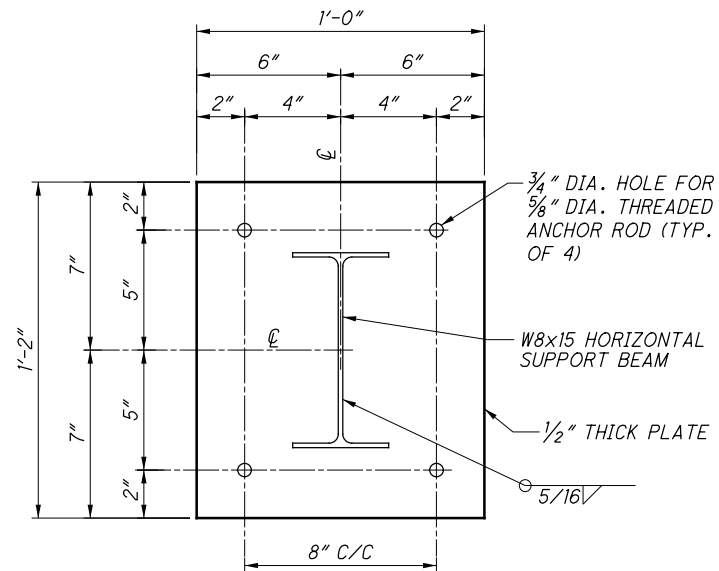
NOISE BARRIER SUPPORT DETAIL



VIEW  
C



VERTICAL SUPPORT CONNECTION PLATE



BRIDGE RAILING CONNECTION PLATE



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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS					
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R
<b>APPROACH SLABS (FOR REFERENCE ONLY)</b>												
REAR												
AS501	50	50	100	24'-7"	2564	STR						
AS502	57	57	114	22'-5"	2665	37	22'-5"					
AS503	114	114	228	6'-0"	1427	39	6'-0"					
AS504	57	57	114	17'-8"	2101	37	17'-8"					
AS505	57	57	114	28'-9"	3418	STR						
AS506	1	1	2	14'-7"	30	STR						
AS507	34	34	68	4'-11"	349	19	3'-5"	1'-5"	0'-6"			
AS601	2	2	4	2'-9"	17	1	1'-0"	1'-11"				
AS602	2	2	4	3'-6"	21	28	1'-11"	0'-11"	1'-0"			
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	343	1	1'-0"	3'-6" TO 4'-4"				7/8"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"				
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"				
AS1001	121	121	242	26'-0"	27074	16	24'-7"					
AS1002	1	1	2	16'-0"	138	16	14'-7"					
FORWARD												
AS501	50	50	100	24'-7"	2564	STR						
AS502	57	57	114	22'-5"	2665	37	22'-5"					
AS503	114	114	228	6'-0"	1427	39	6'-0"					
AS504	57	57	114	17'-8"	2101	37	17'-8"					
AS505	57	57	114	28'-9"	3418	STR						
AS506	1	1	2	14'-7"	30	STR						
AS507	34	34	68	4'-11"	349	19	3'-5"	1'-5"	0'-6"			
AS601	2	2	4	2'-9"	17	1	1'-0"	1'-11"				
AS602	2	2	4	3'-6"	21	28	1'-11"	0'-11"	1'-0"			
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	343	1	1'-0"	3'-6" TO 4'-4"				7/8"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"				
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"				
AS1001	121	121	242	26'-0"	27074	16	24'-7"					
AS1002	1	1	2	16'-0"	138	16	14'-7"					
<b>TOTAL APPROACH SLABS</b>				80,562								

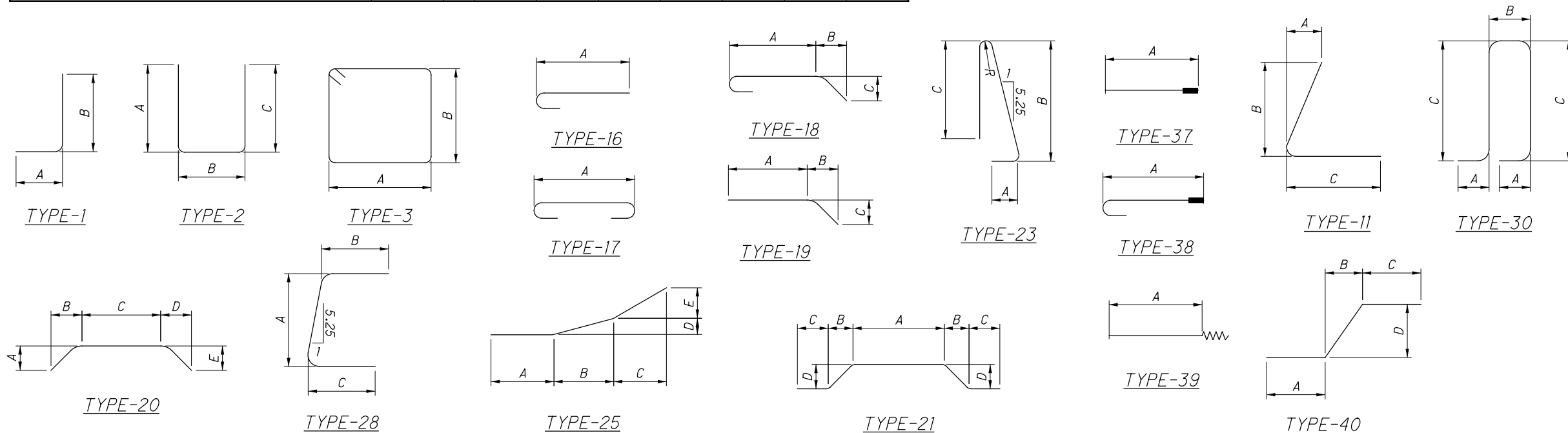
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS					
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R
<b>SLEEPER SLABS (FOR REFERENCE ONLY)</b>												
REAR												
SS501	71	71	142	5'-10"	864	STR						
SS502	11	11	22	22'-5"	514	37	22'-5"					
SS503	22	22	44	6'-0"	275	39	6'-0"					
SS504	11	11	22	17'-8"	405	37	17'-8"					
SS505	11	11	22	28'-9"	660	STR						
SS506	71	71	142	5'-8"	839	30	10"	1'-5"	1'-7"			
FORWARD												
SS501	71	71	142	5'-10"	864	STR						
SS502	11	11	22	22'-5"	514	37	22'-5"					
SS503	22	22	44	6'-0"	275	39	6'-0"					
SS504	11	11	22	17'-8"	405	37	17'-8"					
SS505	11	11	22	28'-9"	660	STR						
SS506	71	71	142	5'-8"	839	30	10"	1'-5"	1'-7"			
<b>TOTAL SLEEPER SLABS</b>				7,114								

**NOTE:**

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.

**BAR MARK LEGEND**

A = ABUTMENT                      P = PIER  
 S = SUPERSTRUCTURE            AS = APPROACH SLAB  
 R = RAILING                        SS = SLEEPER SLAB



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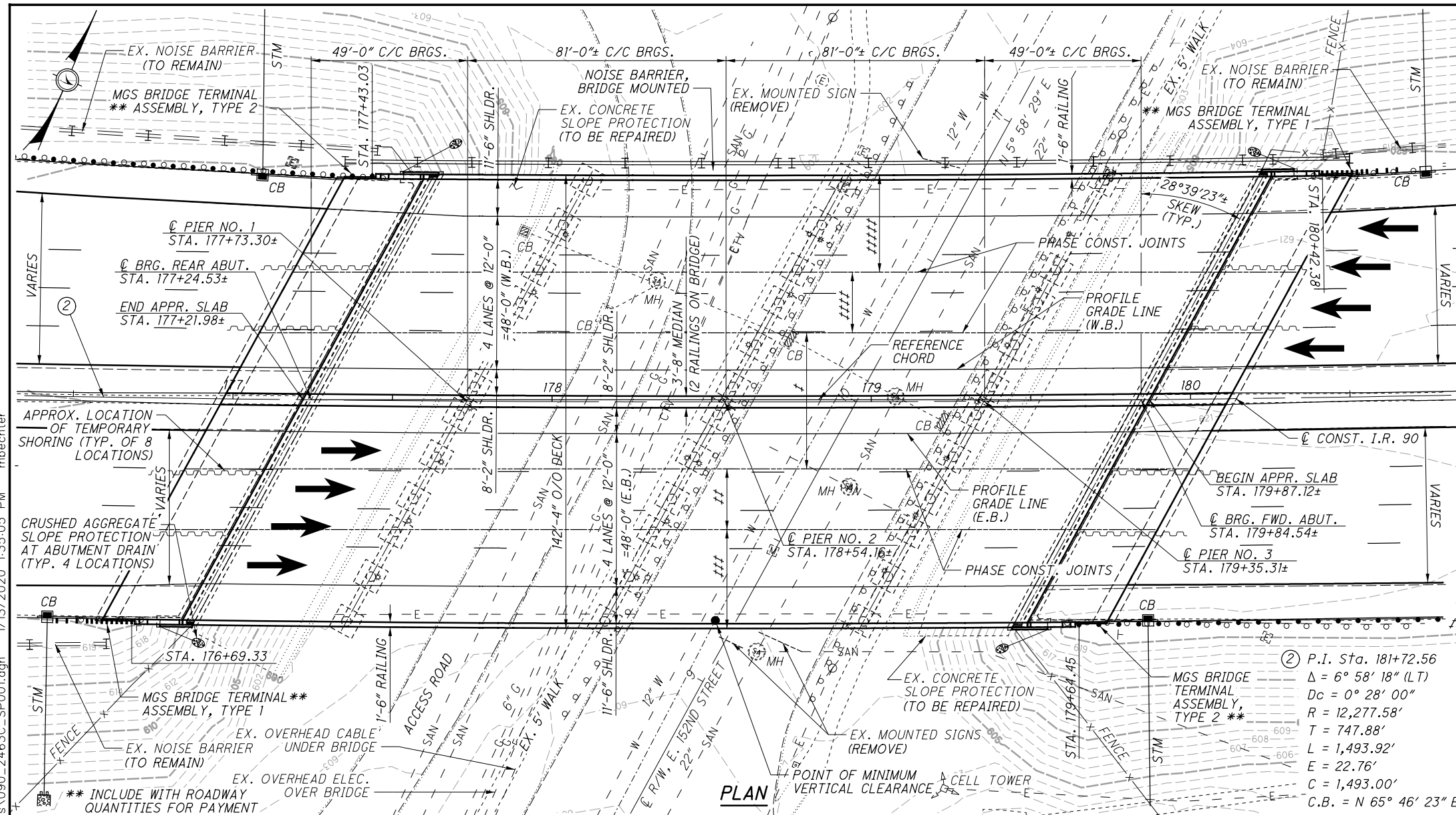
REINFORCING STEEL LIST 3 OF 3  
 BRIDGE NO. CUY-90-2410  
 INTERSTATE ROUTE 90 OVER EAST 140TH STREET

CUY-90-24.10/24.63  
 PID No. 88348

DATE: 8/17/18  
 REVIEWED: RBB  
 STRUCTURE FILE NUMBER: 1808672  
 DRAWN: CAF  
 CHECKED: FUG  
 DESIGNED: RJB

42/42  
 148  
 196

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**BENCHMARK DATA**  
 BM #3 STA. 168+34.00, ELEV. 605.34, OFFSET 163.00' RT.  
 BM #4 STA. 176+70.00, ELEV. 608.54, OFFSET 365.00' RT.  
 FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.  
 FOR CENTERLINE SCHEMATIC, SEE SHEET 3 OF 48 .

**PROPOSED WORK**  
 REPLACE BRIDGE DECK  
 REMOVE STRUCTURE MOUNTED SIGNS  
 REMOVE BRIDGE SCUPPERS  
 PERFORM FATIGUE RETROFITS  
 REPAIR ABUTMENTS AND PIERS  
 REPLACE BEARINGS  
 REPLACE APPROACH SLABS  
 REPAIR CONCRETE SLOPE PROTECTION  
 REPLACE UNDERPASS LIGHTING  
 INSTALL BRIDGE MOUNTED NOISE BARRIER  
 INSTALL BRIDGE MOUNTED FENCE  
 SEAL CONCRETE SUBSTRUCTURE AND SUPERSTRUCTURE  
 PAINT STRUCTURAL STEEL  
 DESIGN TRAFFIC:  
 2019 ADT = 113,000    2019 ADTT = 6,780  
 2039 ADT = 119,000    2039 ADTT = 7,140  
 DIRECTIONAL DISTRIBUTION = 59%

**LEGEND**  
 ● 14'-7 3/4" ACTUAL MINIMUM VERTICAL CLEARANCE  
 ○ 14'-7 3/4" REQUIRED MINIMUM VERTICAL CLEARANCE (DESIGN EXCEPTION)  
 † PHASE 1 CONSTRUCTION, 42'-8 3/4" (E.B. AND W.B.)  
 †† PHASE 2 CONSTRUCTION, 19'-0" (E.B.)  
 ††† PHASE 3 CONSTRUCTION, VARIES, 30'-0 3/8" TO 31'-2 1/8" (E.B.)  
 †††† PHASE 4 CONSTRUCTION, 19'-0" (W.B.)  
 ††††† PHASE 5 CONSTRUCTION, VARIES, 30'-5 1/8" TO 31'-5 1/8" (W.B.)

**EXISTING STRUCTURE**  
 TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH NON-COMPOSITE REINFORCED CONCRETE DECK ON SPILL-THRU STUB ABUTMENTS AND CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES  
 SPANS: 49'-0", 81'-0", 81'-0" AND 49'-0" C/C BRGS. ALONG REFERENCE CHORD  
 ROADWAY: 140'-0" F/F PARAPET (I-90 E.B. AND W.B.)  
 LOADING: CF-2000-57 (AASHTO ALTERNATE LOADING)  
 SKEW: REF. CHORD TO C 152ND ST. 28° 39' 23" L.F.  
 APPROACH SLABS: AS-1-54 (25'-0" LONG)  
 WEARING SURFACE: LATEX MODIFIED CONCRETE OVERLAY  
 STRUCTURAL FILE NUMBER: 1808702  
 DATE BUILT: 1960  
 DISPOSITION: SATISFACTORY

**PROPOSED STRUCTURE**  
 TYPE: 4-SPAN CONTINUOUS STEEL BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED SEMI-INTEGRAL STUB ABUTMENTS AND EXISTING CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES  
 SPANS: 49'-0", 81'-0", 81'-0" AND 49'-0" C/C BRGS. ALONG REFERENCE CHORD  
 ROADWAY: 139'-0" F/F PARAPET (I-90 E.B. AND W.B.)  
 LOADING: HS20 CASE I AND ALTERNATE MILITARY, FWS = 60 PSF  
 SKEW: REF. CHORD TO C 152ND ST. 28° 39' 23" L.F.  
 APPROACH SLABS: 25'-0" LONG (AS-1-15, AS-2-15)  
 ALIGNMENT: 0°28'00" L.C.  
 WEARING SURFACE: 1" MONILITHIC CONCRETE  
 CROWN: 0.016' PER FT.  
 COORDINATES: LATITUDE 41° 34' 04"  
 LONGITUDE -81° 34' 32"

**PROFILE**

W.B. EXIST. PROFILE GRADE	E.B. EXIST. PROFILE GRADE	W.B. PROP. PROFILE GRADE	E.B. PROP. PROFILE GRADE
620.43	620.50	620.71	620.61
620.50	620.53	STA. 176+96.98±	STA. 176+96.98±
620.57	620.55	620.88	620.78
620.70	620.70	STA. 177+21.98±	STA. 177+21.98±
620.82	620.82	621.03	620.94
620.94	620.94	621.16	621.07
621.05	621.05	621.27	621.18
621.11	621.11	621.36	621.28
621.13	621.13	621.43	621.35
621.12	621.12	621.48	621.40
621.11	621.11	621.50	621.43
621.10	621.10	621.51	621.45
621.05	621.05	621.49	621.44
620.98	620.98	621.45	621.41
620.96	620.96	621.40	621.36
620.93	620.93	STA. 179+87.12±	STA. 179+87.12±
620.87	620.87	621.32	621.28
		621.22	621.19
		621.09	621.08
		620.95	620.95

BRIDGE LIMITS = 265.14±

PROP. PROFILE GRADE

EXP.

EX. PROFILE GRADE

EX. C.I.P. CONCRETE PILE (TYP.)

EX. CONCRETE SLOPE PROTECTION (TO BE REPAIRED) (TYP.)

850' V.C.

177+00      178+00      179+00      180+00

DESIGN AGENCY  
**ARCADIS**  
 ARCADIS U.S., Inc.  
 222 South Main Street, Suite 200 Akron, Ohio 44308  
 Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DATE  
 8/17/18

REVIEWED  
 RBB

DRAWN  
 CAF

DESIGNED  
 RUB

CHECKED  
 FJG

CUYAHOGA COUNTY  
 STA. 177+21.98± TO  
 STA. 179+87.12±

**SITE PLAN**

BRIDGE NO. CUY-90-2463  
 INTERSTATE ROUTE 90 OVER EAST 152ND STREET

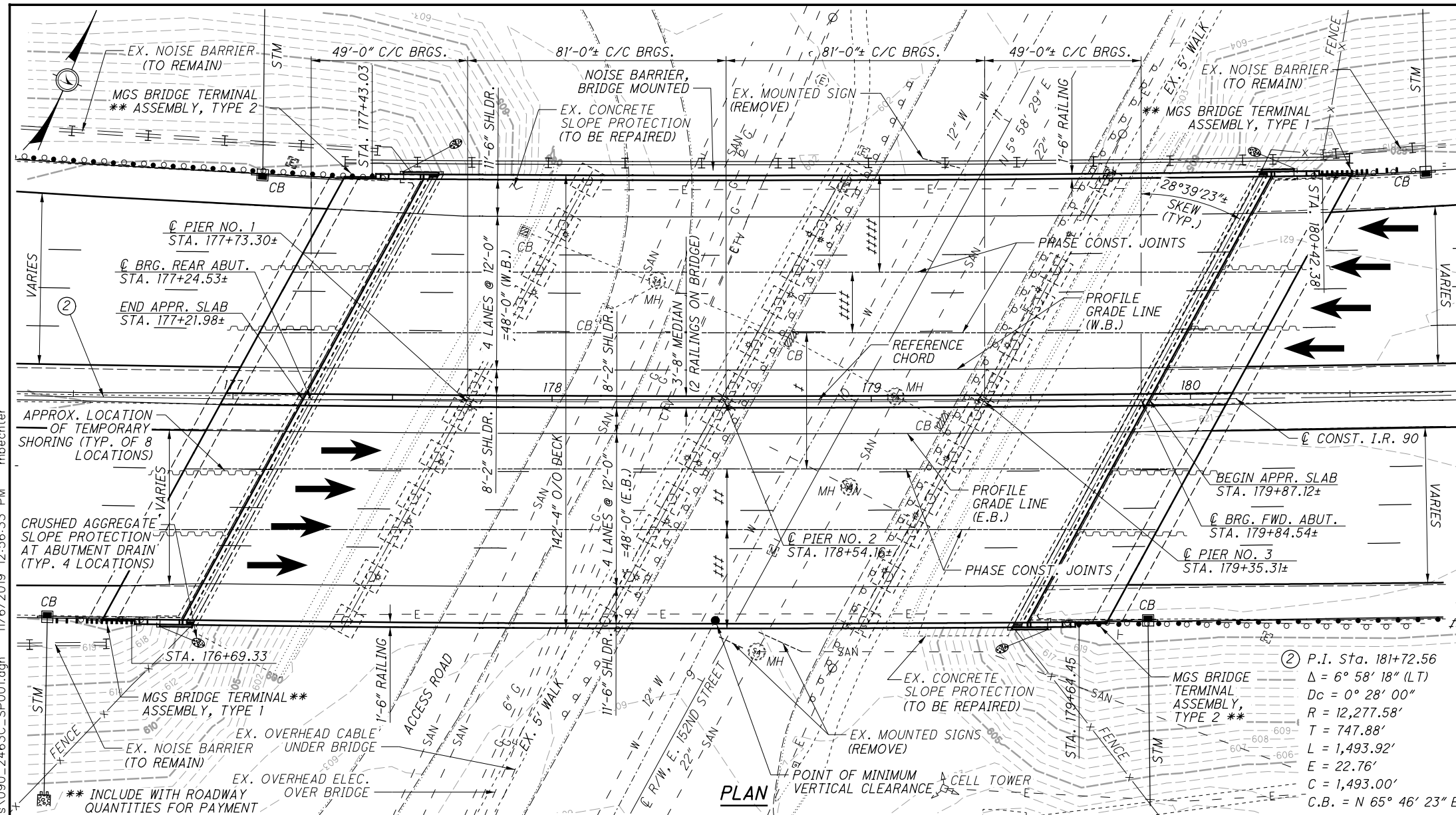
PID No. 88348

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**BENCHMARK DATA**  
 BM #3 STA. 168+34.00, ELEV. 605.34, OFFSET 163.00' RT.  
 BM #4 STA. 176+70.00, ELEV. 608.54, OFFSET 365.00' RT.  
 FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.  
 FOR CENTERLINE SCHEMATIC, SEE SHEET 3 OF 48 .

**PROPOSED WORK**  
 REPLACE BRIDGE DECK  
 REMOVE STRUCTURE MOUNTED SIGNS  
 REMOVE BRIDGE SCUPPERS  
 PERFORM FATIGUE RETROFITS  
 REPAIR ABUTMENTS AND PIERS  
 REPLACE BEARINGS  
 REPLACE APPROACH SLABS  
 REPAIR CONCRETE SLOPE PROTECTION  
 REPLACE UNDERPASS LIGHTING  
 INSTALL BRIDGE MOUNTED NOISE BARRIER  
 INSTALL BRIDGE MOUNTED FENCE  
 SEAL CONCRETE SUBSTRUCTURE AND SUPERSTRUCTURE  
 PAINT STRUCTURAL STEEL  
 DESIGN TRAFFIC:  
 2019 ADT = 113,000    2019 ADTT = 6,780  
 2039 ADT = 119,000    2039 ADTT = 7,140  
 DIRECTIONAL DISTRIBUTION = 59%

**LEGEND**  
 ● 14'-7 3/4" ACTUAL MINIMUM VERTICAL CLEARANCE  
 ○ 14'-7 3/4" REQUIRED MINIMUM VERTICAL CLEARANCE (DESIGN EXCEPTION)  
 † PHASE 1 CONSTRUCTION, 42'-8 3/4" (E.B. AND W.B.)  
 †† PHASE 2 CONSTRUCTION, 19'-0" (E.B.)  
 ††† PHASE 3 CONSTRUCTION, VARIES, 30'-0 3/8" TO 31'-2 1/8" (E.B.)  
 †††† PHASE 4 CONSTRUCTION, 19'-0" (W.B.)  
 ††††† PHASE 5 CONSTRUCTION, VARIES, 30'-5 1/8" TO 31'-5 1/8" (W.B.)

**EXISTING STRUCTURE**  
 TYPE: 4-SPAN CONTINUOUS STEEL BEAM WITH NON-COMPOSITE REINFORCED CONCRETE DECK ON SPILL-THRU STUB ABUTMENTS AND CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES  
 SPANS: 49'-0"±, 81'-0"±, 81'-0"± AND 49'-0"± C/C BRGS. ALONG REFERENCE CHORD  
 ROADWAY: 140'-0"± F/F PARAPET (I-90 E.B. AND W.B.)  
 LOADING: CF-2000-57 (AASHTO ALTERNATE LOADING)  
 SKEW: REF. CHORD TO C 152ND ST. 28° 39' 23"± L.F.  
 APPROACH SLABS: AS-1-54 (25'-0"± LONG)  
 WEARING SURFACE: LATEX MODIFIED CONCRETE OVERLAY  
 STRUCTURAL FILE NUMBER: 1808702  
 DATE BUILT: 1960  
 DISPOSITION: SATISFACTORY

**PROPOSED STRUCTURE**  
 TYPE: 4-SPAN CONTINUOUS STEEL BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED SEMI-INTEGRAL STUB ABUTMENTS AND EXISTING CAP AND COLUMN PIERS ON CAST-IN-PLACE CONCRETE PILES  
 SPANS: 49'-0"±, 81'-0"±, 81'-0"± AND 49'-0"± C/C BRGS. ALONG REFERENCE CHORD  
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 LOADING: HS20 CASE I AND ALTERNATE MILITARY, FWS = 60 PSF  
 SKEW: REF. CHORD TO C 152ND ST. 28° 39' 23"± L.F.  
 APPROACH SLABS: 25'-0" LONG (AS-1-15, AS-2-15)  
 ALIGNMENT: 0°28'00" L.C.  
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 CROWN: 0.016' PER FT.  
 COORDINATES: LATITUDE 41° 34' 04"  
 LONGITUDE -81° 34' 32"

**PROFILE**

Station	E.B. EXIST. PROFILE GRADE	W.B. EXIST. PROFILE GRADE	E.B. PROP. PROFILE GRADE	W.B. PROP. PROFILE GRADE
177+00	620.43	620.50	620.61	620.71
177+25.00	620.50	620.53	620.78	620.88
177+25.00	620.57	620.55	620.94	621.03
177+50.00	620.70	620.70	621.07	621.16
177+75.00	620.82	620.82	621.18	621.27
178+00	620.94	620.94	621.28	621.36
178+25.00	621.05	621.05	621.35	621.43
178+50.00	621.11	621.11	621.40	621.48
178+75.00	621.13	621.13	621.43	621.50
179+00	621.12	621.12	621.45	621.51
179+25.00	621.11	621.11	621.44	621.49
179+50.00	621.10	621.10	621.41	621.45
179+75.00	621.03	621.05	621.36	621.40
180+00	620.98	621.00	621.28	621.32
180+25.00	620.96	621.02	621.19	621.22
180+50.00	620.93	621.04	621.08	621.09
180+75.00	620.87	620.90	620.95	620.95

**PROFILE**

**SITE PLAN**

BRIDGE NO. CUY-90-2463  
 INTERSTATE ROUTE 90 OVER EAST 152ND STREET

**CUY-90-24.10/24.63**  
 PID No. 88348

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149  
196

DESIGN AGENCY  
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STRUCTURE FILE NUMBER  
1808702

CUYAHOGA COUNTY  
STA. 177+21.98± TO  
STA. 179+87.12±



**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	DATED 7-17-15	SICD-1-96	DATED 7-18-14
AS-2-15	DATED 1-19-18	SICD-2-14	DATED 7-18-14
GSD-1-96	DATED 7-19-02	HL-30.32	DATED 1-17-14
HL-50.21	DATED 1-19-18	NBS-1-09	DATED 1-19-18
PCB-91	DATED 1-18-13	VPF-1-90	DATED 1-19-18
SBR-1-13	DATED 1-17-14		
SBR-2-13	DATED 1-17-14		

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 1-19-18

**DESIGN SPECIFICATIONS**

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

**DESIGN LOADING**

DESIGN LOADING: HS20, CASE 1 AND ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 PSF.

**DESIGN DATA**

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH 50,000 PSI (NEW CROSSFRAMES, SPLICE PLATES)

**DECK PROTECTION METHOD**

EPOXY COATED REINFORCING STEEL

2 1/2" CONCRETE COVER

CLASS QC2 CONCRETE

**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 PROCESS 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.

**ITEM 202, APPROACH SLAB REMOVED, AS PER PLAN**

THIS ITEM CONSISTS OF REMOVAL OF THE EXISTING CONCRETE APPROACH SLABS INCLUDING THE EXISTING ASPHALT WEARING COURSE.

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

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSSFRAMES, ETC.). THIS ITEM ALSO INCLUDES REMOVAL OF CROSSFRAMES, BACKWALLS, AND WINGWALLS AS SHOWN IN THESE PLANS. 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 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 (STEEL BEAM/ STEEL GIRDER), 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 FORM 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. THE EXISTING SCUPPERS/GUTTERS ARE SUPPORTED BY ANGLES EMBEDDED INTO THE DECK AND WELDED TO THE TOP FLANGES OF BEAMS A, G, H, J, K & S. THE CONTRACTOR SHALL INCLUDE WITH THE DECK REMOVAL PROCEDURE SUBMISSION, A PROCEDURE FOR REMOVING THE DECK IN THE AREA OF EXISTING SCUPPER SHOWING HOW THE DECK WILL BE REMOVED WITHOUT DAMAGING THE EXISTING STEEL BEAMS 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.

MEASUREMENT AND 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 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN**

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE THE EXISTING TIMBER SUBDECK FROM THE BRIDGE AFTER BRIDGE DECK CONSTRUCTION HAS BEEN COMPLETED.

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

**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.

**ITEM 503, COFFERDAMS AND EXCAVATION BRACING**

THIS ITEM INCLUDES ALL TEMPORARY SHORING REQUIRED TO COMPLETE THE WORK SHOWN IN THESE PLANS. TEMPORARY SHORING MAY REMAIN IN PLACE BETWEEN PHASES, BUT MUST BE REMOVED PRIOR TO COMPLETION OF LATTER PHASE APPROACH SLAB CONSTRUCTION.

**ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN**

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL SHALL CONFORM TO CMS 703.17 (CMS 304 MATERIAL) AND MEET THE COMPACTION REQUIREMENTS OF CMS 304.05. IN ADDITION, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6 INCH LIFTS. EXCAVATION OF THE EXISTING POROUS BACKFILL SHALL BE INCLUDED IN THIS ITEM.

**MECHANICAL CONNECTORS**

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING STEEL BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES. MANUFACTURER'S STANDARD CAP OR PLUG SHALL BE USED TO PREVENT CONCRETE FROM ENTERING THE MECHANICAL CONNECTOR.

MECHANICAL CONNECTORS USED FOR EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY, AND UNIFORMITY MAY BE REPAIRED AS DIRECTED THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT. THE MECHANICAL CONNECTOR SYSTEM USED SHALL BE ABLE TO DEVELOP 125 PERCENT OF THE FULL YIELD STRENGTH OF THE REINFORCING STEEL AS A MINIMUM.

ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE MECHANICAL REINFORCING STEEL CONNECTORS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 509, EPOXY COATED REINFORCING STEEL.

**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 THE REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

**ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN**

**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**

**ITEM 511, CLASS QC1 CONCRETE SUBSTRUCTURE, AS PER PLAN**

GENERAL REQUIREMENTS: THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW. IN ADDITION, THE CONTRACTOR SHALL PROVIDE A RUBBED SURFACE IN ACCORDANCE WITH CMS 511.15 (B) ON ALL EXPOSED SURFACES.

THIS ITEM SHALL INCLUDE THE SURVEYING, LAYOUT AND TIME REQUIRED TO DETERMINE THE SCREED TABLE ELEVATIONS USING THE INCLUDED SCREED FORMULA TABLE.

THE STRUCTURAL STEEL THAT WILL BE ENCASED AS PART OF THE SEMI-INTEGRAL DIAPHRAGM CONSTRUCTION, SHALL BE CLEANED PRIOR TO PLACEMENT OF THE CONCRETE PER CMS 514.13, A SOLVENT CLEANING. THIS COST FOR THIS SOLVENT CLEANING IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

THIS COST FOR DRILLING HOLES IN THE EXISTING STEEL FOR PLACEMENT OF REINFORCING STEEL AND PROVIDING VENT HOLES FOR THE PURPOSE OF CONSTRUCTING THE SEMI-INTEGRAL DIAPHRAGM IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID FOR CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

MATERIALS: ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

PARAPET CONSTRUCTION: ANCHOR BOLTS FOR NOISE BARRIERS AND FENCE POSTS SHALL BE CAST IN PLACE.

MEDIAN CONSTRUCTION: FOR MAINTENANCE OF TRAFFIC PURPOSES, THE LEFT AND RIGHT BRIDGE DECKS SHALL BE CONTINUOUS ACROSS THE MEDIAN BRIDGE DECK CONSTRUCTION JOINT. GLASS FIBER REINFORCED POLYMER (GFRP) REINFORCEMENT BARS SHALL BE PLACED AS SHOWN IN THESE PLANS. THE TEMPORARY CROSS FRAMES SHALL BE INSTALLED AFTER THE DECK CONCRETE IS PLACED. DURING THE FINAL CONSTRUCTION PHASE, AFTER THE REMOVAL OF THE TEMPORARY CROSS FRAMES AND PRIOR TO MEDIAN BRIDGE RAILING CONSTRUCTION, THE CONTRACTOR SHALL SAW CUT THE FULL DEPTH MEDIAN JOINT. THE CONTRACTOR SHALL DOWEL AND EPOXY GROUT THE MEDIAN REINFORCING BARS INTO THE DECK TAKING CARE NOT TO DAMAGE THE STEEL DECK REINFORCING BARS. ALL WORK REQUIRED TO COMPLETE THIS WORK, NOT SPECIFICALLY INCLUDED IN ANOTHER PAY ITEM IS CONSIDERED INCIDENTAL TO THESE PAY ITEMS.

BASIS OF PAYMENT:

ITEM	EXT	UNITS	DESCRIPTION
511	34413	C.Y.	CLASS QC2 CONCRETE WITH QC/QA SUPERSTRUCTURE, AS PER PLAN
511	34447	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
511	34451	C.Y.	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN
511	50211	C.Y.	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN

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DESIGN AGENCY  
**ARCADIS**  
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222 South Main Street, Suite 200 Akron, Ohio 44308  
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DATE: 8/17/18  
REVIEWED: RBB  
DRAWN: CAF  
DESIGNED: RJB  
CHECKED: CMD

STRUCTURE FILE NUMBER: 1808702

GENERAL NOTES 1 OF 3  
BRIDGE NO. CUY-90-2463  
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

PID No. 88348  
CUY-90-24.10/24.63

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**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 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 511.07, 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, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN. 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.

**ITEM 511, SEMI INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN**

THE SEMI-INTEGRAL DIAPHRAGM GUIDE SHALL BE CONSTRUCTED AS DETAILED IN THE PLANS. THE REINFORCING STEEL SHALL BE DOWELED INTO THE EXISTING ABUTMENT PER CMS 510 USING NON SHRINK, NONMETALLIC GROUT.

ALL OTHER PROVISIONS OF STANDARD DRAWING SICD-2-14 DATED 7-18-14 SHALL APPLY.

THE COST FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE SEMI-INTEGRAL DIAPHRAGM GUIDE, INCLUDING ALL DOWELS, IS INCLUDED IN THE PRICE BID FOR EACH SEMI-INTEGRAL DIAPHRAGM GUIDE CONSTRUCTED AND IN PLACE.

**ITEM 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT**

THIS ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL THE FATIGUE RETROFITS AS DETAILED IN THESE PLANS.

PRIOR TO INSTALLATION OF THE NEW STEEL RETROFIT, THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE ENGINEER TO INSPECT WELDS IN THE AREA OF THE RETROFIT FOR CRACKS.

THE DEPARTMENT WILL PAY FOR THE FATIGUE RETROFITS AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT.

**ITEM 513, STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES**

THIS ITEM INCLUDES ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED TO REPLACE THE EXISTING INTERMEDIATE CROSSFRAMES THAT INTERFERE WITH INSTALLATION OF THE FATIGUE RETRO-FIT PLATES/BOLTS. THE CROSSFRAMES SHALL BE TYPE 1 PER STANDARD DRAWING GSD-1-96. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK.

THE DEPARTMENT WILL PAY FOR EACH COMPLETED CROSSFRAME AT THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL MISC.: INTERMEDIATE CROSSFRAMES.

**ITEM 601, CONCRETE SLOPE PROTECTION, AS PER PLAN:**

THE CONTRACTOR SHALL REPLACE ALL UNSOUND AND DETERIORATED PORTIONS OF THE EXISTING CONCRETE SLOPE PROTECTION IDENTIFIED BY THE ENGINEER.

THIS ITEM ALSO INCLUDES STRUCTURAL BACKFILL TYPE 3 MEETING THE REQUIREMENTS OF CMS 703.11 REQUIRED TO SUPPORT THE NEW PORTIONS OF THE CONCRETE SLOPE PROTECTION.

**ITEM 513, STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC:**

THE CONTRACTOR SHALL INSTALL TEMPORARY CROSSFRAMES AT THE LOCATIONS INDICATED IN THE PLANS. CROSSFRAMES SHALL BE INSTALLED AFTER PLACEMENT OF THE CONCRETE MEDIAN DECK AND PRIOR TO OPENING TO TRAFFIC (PHASE 2 M.O.T.).

TEMPORARY CROSSFRAMES SHALL BE TYPE 1, PER STANDARD DRAWING GSD-1-98. THE CLEARANCE BETWEEN THE INSIDE OF THE EXISTING FLANGES AND THE CROSSFRAME SHALL BE INCREASED TO FOUR INCHES, TO ALLOW FOR FATIGUE RETROFIT WORK. TEMPORARY CROSSFRAMES DO NOT NEED TO BE PRIME COATED.

THE CROSSFRAMES SHALL BE REMOVED DURING PHASE 6 PRIOR TO SAW CUTTING THE FULL DEPTH MEDIAN CONSTRUCTION JOINT. ALL WELD LOCATIONS SHALL BE GROUND SMOOTH AT TIME OF REMOVAL.

THE COST FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL (PHASE 1) AND REMOVE (PHASE 6) THE TEMPORARY CROSSFRAMES IS INCLUDED IN THE CONTRACT PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC.

**ITEM 514, SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL**

**ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT**

**ITEM 514, FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT**

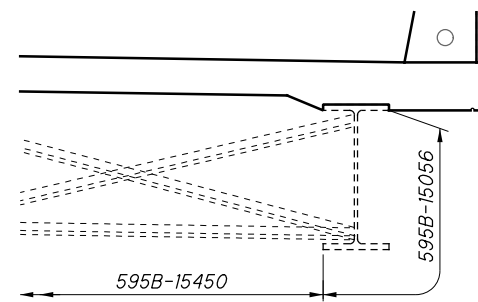
**ITEM 514, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN**

**ITEM 514, FINAL INSPECTION REPAIR**

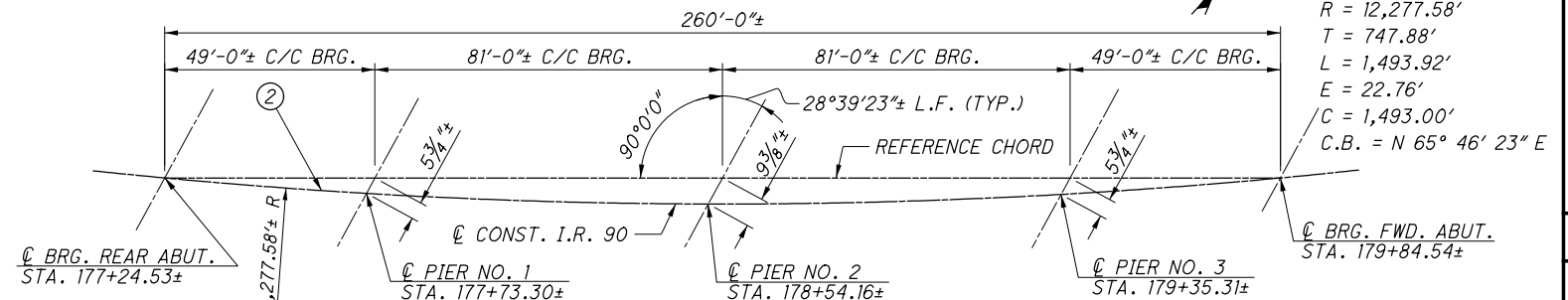
ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH CMS ITEM 514.

THE EXISTING STEEL TO REMAIN THAT WILL BE ENCASED IN CONCRETE BY THE SEMI-INTEGRAL DIAPHRAGM WILL NOT NEED TO BE PAINTED, BUT SHALL BE CLEANED PER CMS 514.13 A SOLVENT CLEANING, PRIOR TO PLACEMENT OF CONCRETE. SOLVENT CLEANING OF THIS ENCASED STEEL WILL BE INCLUDED AS INCIDENTAL TO ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

THE COLOR OF THE STEEL FINISH COAT FOR THE OUTSIDE FACE OF THE STRUCTURAL STEEL FASCIA BEAMS AND THE ENTIRE FASCIA BEARINGS SHALL BE FEDERAL COLOR NUMBER (COLOR-GLOSS) 595B-15056 (CITY OF CLEVELAND BLUE). THE COLOR OF THE FINISH COAT FOR ALL OTHER STRUCTURAL STEEL SHALL BE FEDERAL COLOR NUMBER (COLOR-GLOSS) 595B-15450 BLUE.



**PAINT DETAIL**



**CENTERLINE SCHEMATIC**

**ITEM 257, DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN:**

PRIOR TO INSTALLATION OF THE MEDIAN BARRIER ON THE BRIDGE DECK AND APPROACH SLABS, THE TEMPORARY CONCRETE PAVEMENT WEDGE (SEE DETAIL ON SHEET 9748) SHALL BE REMOVED BY DIAMOND GRINDING IN ACCORDANCE WITH CMS ITEM 257. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE BID FOR ITEM 257, DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN.

**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 516, ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN**

THIS ITEM SHALL BE USED TO SEAL BETWEEN THE TWO HALVES OF THE MEDIAN BARRIER AS DETAILED IN THE PLANS. ARMORLESS PREFORMED JOINT SEAL SHALL MEET THE SAME REQUIREMENTS AS DETAILED IN STANDARD DRAWING AS-2-15, SHEET 8 OF 14 WITH THE FOLLOWING EXCEPTIONS.

R.J. WATSON, INC. - SILICOFLEX SF 225.

WATSON BOWMAN ACME CORP. - WABO-SPS-225

D.S. BROWN COMPANY - V-300

**ITEM 519, PATCHING CONCRETE STRUCTURES, AS PER PLAN**

PRIOR TO ANY DECK REMOVAL OPERATIONS AND PRIOR TO INSTALLING NEW BEARINGS, THE CONTRACTOR SHALL PATCH ALL UNSOUND AND DETERIORATED AREAS IDENTIFIED BY THE ENGINEER ON PORTIONS OF THE ABUTMENTS AND PIERS TO REMAIN.

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.

**ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN**

DESCRIPTION: THIS ITEM CONSISTS OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS IN ACCORDANCE WITH THE DETAILS IN THESE PLANS AND ODOT STANDARD DRAWINGS AS-1-15, AS-12-15, SBR-2-13 AND SBR-1-13.

MATERIALS: CONCRETE, REINFORCING STEEL, AND MECHANICAL CONNECTORS FOR THIS ITEM 526 SHALL BE THE SAME MATERIAL AND MEET THE SAME REQUIREMENTS AS THOSE USED FOR THE BRIDGE DECK, AND RAILINGS. SEE STRUCTURE GENERAL NOTES ITEM 511 FOR THE CONCRETE MIX REQUIREMENTS.

METHOD OF MEASUREMENT: THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, MEDIAN BARRIER AND RAILINGS ATTACHED DIRECTLY TO THE APPROACH SLAB, WATERPROOFING, EPOXY COATED REINFORCING STEEL, MECHANICAL CONNECTORS, PREFORMED EXPANSION JOINT FILLER, AND OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT. PAYMENT WILL BE MADE UNDER ITEM 526 REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

**ABBREVIATIONS**

- ABUT. = ABUTMENT
- A.P.P. = AS PER PLAN
- APPR. = APPROACH
- BOTT. = BOTTOM
- BRG. = BEARING
- C.I.P. = CAST IN PLACE
- CLR. = CLEAR
- CONC. = CONCRETE
- CONST. = CONSTRUCTION
- C.P.P. = CORRUGATED PLASTIC PIPE
- DIA. = DIAMETER
- DWG. = DRAWING
- EA. = EACH
- E.B. = EASTBOUND
- E.F. = EACH FACE
- EL. = ELEVATION
- EX. = EXISTING
- EXP. = EXPANSION
- F.F. = FAR FACE
- FWD. = FORWARD
- HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE
- JT. = JOINT
- M.O.T. = MAINTENANCE OF TRAFFIC
- MIN. = MINIMUM
- N.F. = NEAR FACE
- P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
- SHLDR. = SHOULDER
- SPA. = SPACES
- STA. = STATION
- STD. = STANDARD
- TYP. = TYPICAL
- W.B. = WESTBOUND

② P.I. Sta. 181+72.56  
 $\Delta = 6^\circ 58' 18''$  (LT)  
 $D_c = 0^\circ 28' 00''$   
 $R = 12,277.58'$   
 $T = 747.88'$   
 $L = 1,493.92'$   
 $E = 22.76'$   
 $C = 1,493.00'$   
 $C.B. = N 65^\circ 46' 23'' E$

⊙ BRG. REAR ABUT. STA. 177+24.53±  
 ⊙ PIER NO. 1 STA. 177+73.30±  
 ⊙ PIER NO. 2 STA. 178+54.16±  
 ⊙ PIER NO. 3 STA. 179+35.31±  
 ⊙ BRG. FWD. ABUT. STA. 179+84.54±

DESIGN AGENCY: **ARCADIS** U.S., Inc. 222 South Main Street, Suite 200 Akron, Ohio 44308 Tel: 330-434-1995 Fax: 330-434-1995 www.arcadis.com

DATE: 8/17/18  
 REVIEWED: RBB  
 DRAWN: CAF  
 DESIGNED: RJB  
 CHECKED: CMD

STRUCTURE FILE NUMBER: 1808702

GENERAL NOTES 2 OF 3  
 BRIDGE NO. CUY-90-2463  
 INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24-10 / 24-63  
 PID No. 88348

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ESTIMATED QUANTITIES					LEFT STRUCTURE				RIGHT STRUCTURE				AS PER PLAN
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENT	PIERS	SUPER.	GENERAL	ABUTMENT	PIERS	SUPER.	GENERAL	STR. SHT. NO.
202	11203	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS				LS	2
202	11305	1,814	SY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			907				907		2
202	22901	752	SY	APPROACH SLAB REMOVED, AS PER PLAN				376				376	3
257	10001	106	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT, AS PER PLAN			89	17					
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING				LS				LS	
503	21101	72	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	36				36				2
509	10000	503,281	LB	EPOXY COATED REINFORCING STEEL	1,792	3,563	246,285		1,792		246,285		
510	10000	2,692	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	188	474	588	96	188	474	588	96	
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2				2				3
511	34413	188	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN		94					94		2
511	34447	1,112	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN		556					556		2
511	34451	203	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN		101					102		2
511	50211	77	CY	CLASS QC1 CONCRETE, SUBSTRUCTURE, AS PER PLAN	11	28			10	28			2
511	71300	75	SY	CONCRETE, MISC.: MOLDED BRICK SURFACE							75		
511	71300	75	SY	CONCRETE, MISC.: STAINING CONCRETE SURFACES							75		
511	81300	3	EACH	CONCRETE, MISC.: MOCKUP MOLDED BRICK SURFACE								3	
512	10051	75	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN							75		4
512	10101	2,581	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	13	622	597	59	14	623	594	59	4
512	33300	11	SY	TYPE A WATERPROOFING			6				5		
513	20000	13,280	EACH	WELDED STUD SHEAR CONNECTORS			6,640				6,640		
513	90000	94,360	LB	STRUCTURAL STEEL, MISC.: FATIGUE RETROFIT			47,180				47,180		
513	95030	91	EACH	STRUCTURAL STEEL, MISC.: INTERMEDIATE CROSSFRAMES			45				46		
513	95030	22	EACH	STRUCTURAL STEEL, MISC.: TEMPORARY CROSSFRAMES FOR MAINTENANCE OF TRAFFIC			11				11		
514	00050	44,470	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			22,235				22,235		
514	00056	44,470	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			22,235				22,235		
514	00060	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			22,235				22,235		
514	00067	44,470	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			22,235				22,235		3
514	00504	69	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			34				35		
514	10000	40	EACH	FINAL INSPECTION REPAIR			20				20		
516	10010	320	FT	ARMORLESS PREFORMED JOINT SEAL			160				160		
516	10011	316	FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN			158				158		3
516	13600	42	SF	1" PREFORMED EXPANSION JOINT FILLER			21				21		
516	13900	1,642	SF	2" PREFORMED EXPANSION JOINT FILLER			709	113			708	112	
516	25000	1,078	SF	NYLON REINFORCED NEOPRENE SHEETING			539				539		
516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x9.5"x18")	16				16				34
516	44201	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (3.128"x14"x18")		24				24			34
516	47001	LS	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS				LS	3
518	21200	181	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	91				90				
518	40000	336	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	168				168				
518	40010	80	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	42				38				
519	11101	250	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	125				125				3
526	25001	775	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				388				387	3
526	90030	322	FT	TYPE C INSTALLATION				161				161	
601	20000	6	SY	CRUSHED AGGREGATE SLOPE PROTECTION	3				3				
601	21001	150	SY	CONCRETE SLOPE PROTECTION, AS PER PLAN	75				75				3
SPECIAL	60610920	2,407	SF	NOISE BARRIER, BRIDGE MOUNTED			2,407						4
SPECIAL	60610920	344	SF	NOISE BARRIER, GROUND MOUNTED				344					4
607	39901	262	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN							262		4

DESIGN AGENCY  
**ARCADIS**  
 ARCADIS U.S., Inc.  
 222 South Main Street, Suite 200 Akron, Ohio 44308  
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DATE: 8/17/18  
 REVIEWED: RBB  
 STRUCTURE FILE NUMBER: 1808702

DRAWN: CAF  
 CHECKED: CMD

DESIGNED: RJB  
 CHECKED: CMD

**ESTIMATED QUANTITIES**  
 BRIDGE NO. CUY-90-2463  
 INTERSTATE ROUTE 90 OVER EAST 152ND STREET

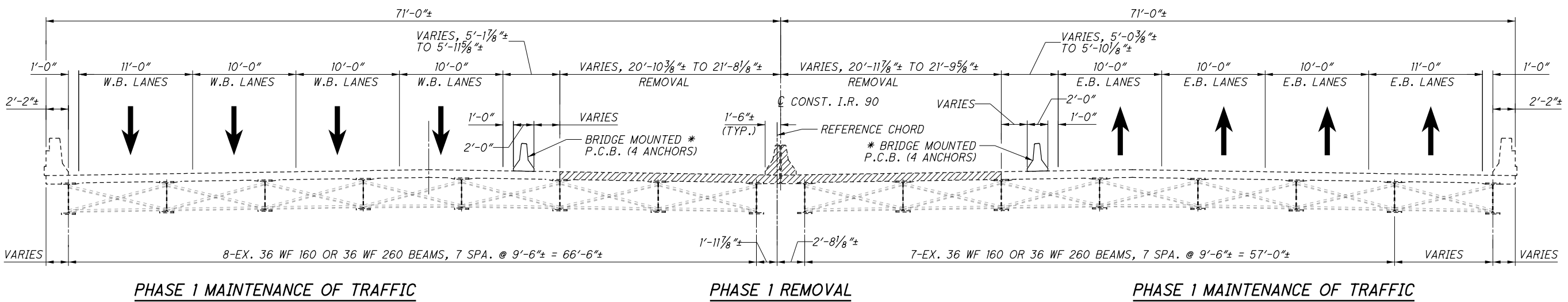
**CUY-90-24.10/24.63**  
 PID No. 88348

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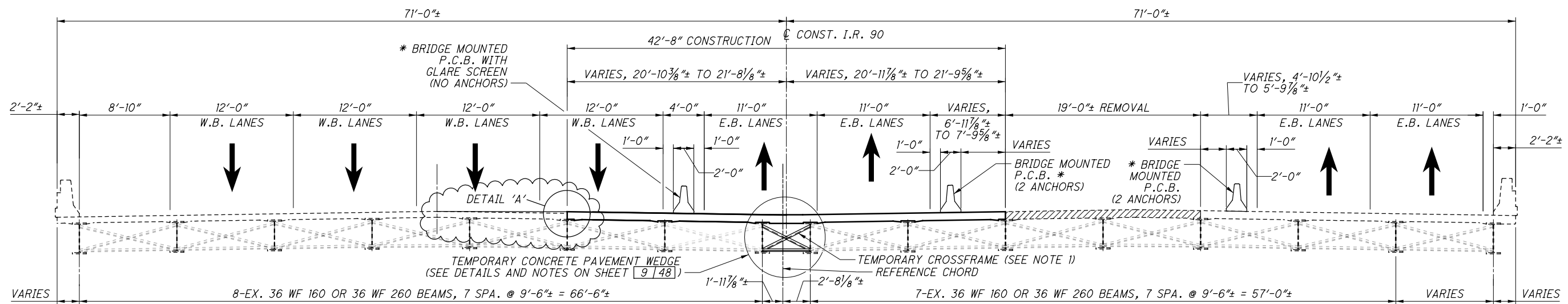
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**PHASE 1 MAINTENANCE OF TRAFFIC**

**PHASE 1 REMOVAL**

**PHASE 1 MAINTENANCE OF TRAFFIC**

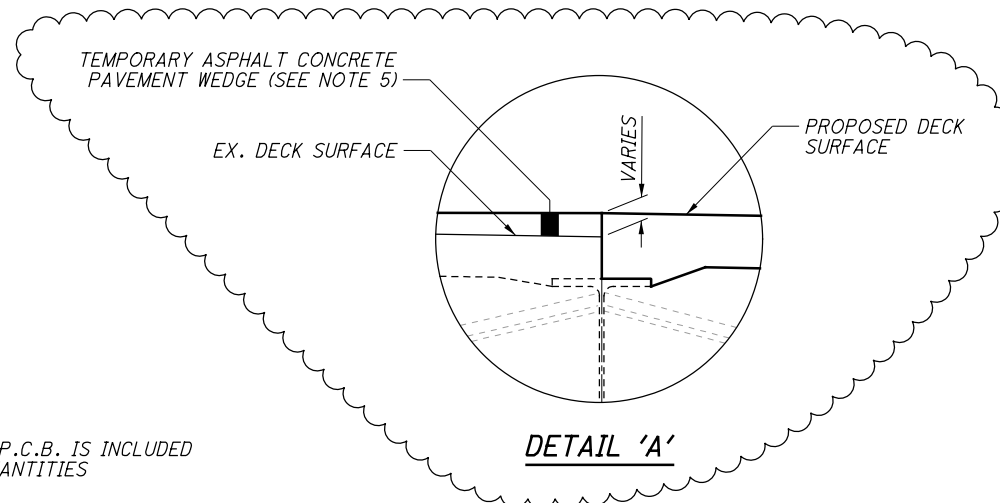


**PHASE 2 MAINTENANCE OF TRAFFIC**

**PHASE 1 CONSTRUCTION AND PHASE 2 M.O.T.**

**PHASE 2 REMOVAL**

**PHASE 2 MAINTENANCE OF TRAFFIC**



**DETAIL 'A'**

**LEGEND**



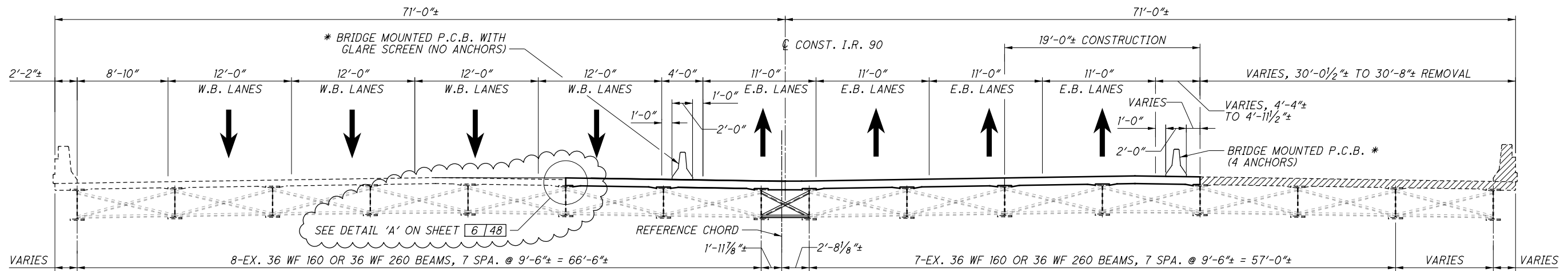
ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

\* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

**NOTES:**

1. FOR LOCATION OF TEMPORARY CROSS FRAMES, SEE FRAMING PLAN ON SHEET [17 [48]].
2. FOR M.O.T. PLANS SEE SHEETS 9 THRU 61.
3. IN PHASE 1, THE BRIDGE DECK FOR THE LEFT AND RIGHT STRUCTURES SHALL BE PLACED IN TWO SEPERATE DECK POURS.
4. FOR BRIDGE MOUNTED PORTABLE CONCRETE BARRIER (P.C.B.) DETAILS, SEE STANDARD DRAWING PCB-91. BARRIERS SHALL BE ANCHORED TO BRIDGE DECK AS NOTED.
5. A TEMPORARY ASPHALT CONCRETE PAVEMENT WEDGE IS NECESSARY FOR PHASE 2 AND 3 MAINTENANCE OF TRAFFIC DUE TO ELEVATION DIFFERENCE BETWEEN THE NEW AND EXISTING BRIDGE DECK. PAYMENT FOR THE TEMPORARY ASPHALT PAVEMENT WEDGE SHALL BE INCLUDED WITH ITEM 614-MAINTAINING TRAFFIC.

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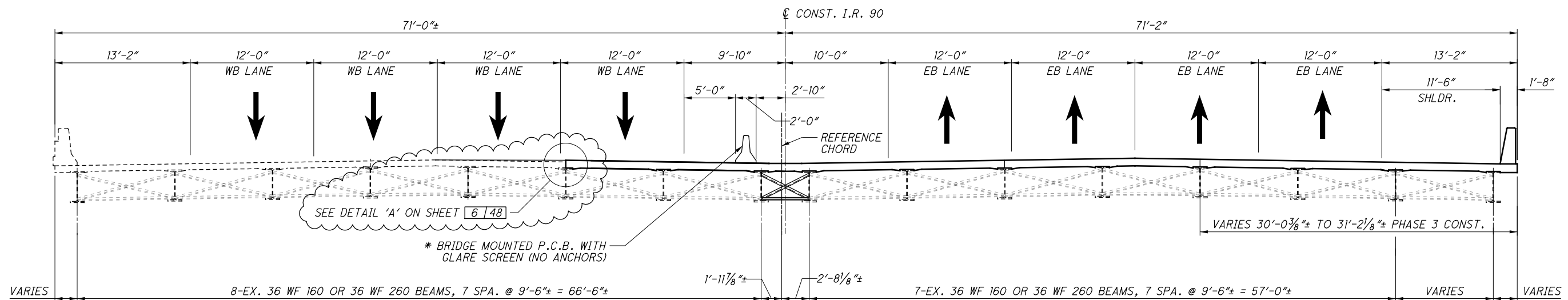


**PHASE 3 MAINTENANCE OF TRAFFIC**

**PHASE 3 MAINTENANCE OF TRAFFIC**

**PHASE 2 CONSTRUCTION AND PHASE 3 M.O.T.**

**PHASE 3 REMOVAL**



**WINTER SHUTDOWN PHASE**

**LEGEND**



ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

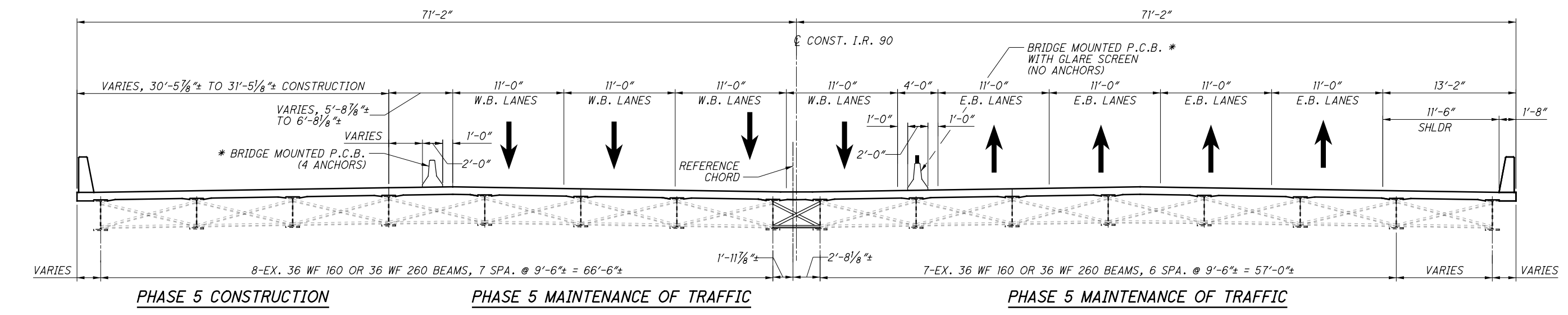
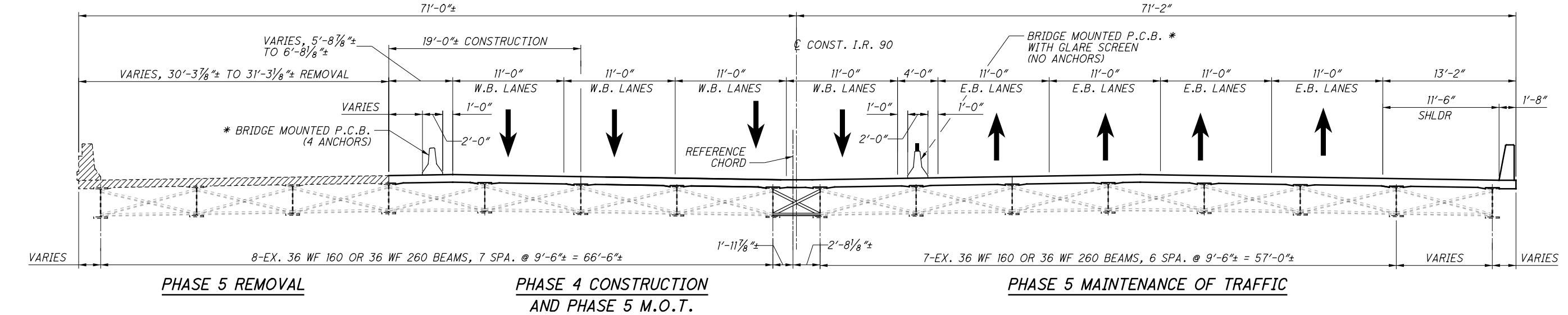
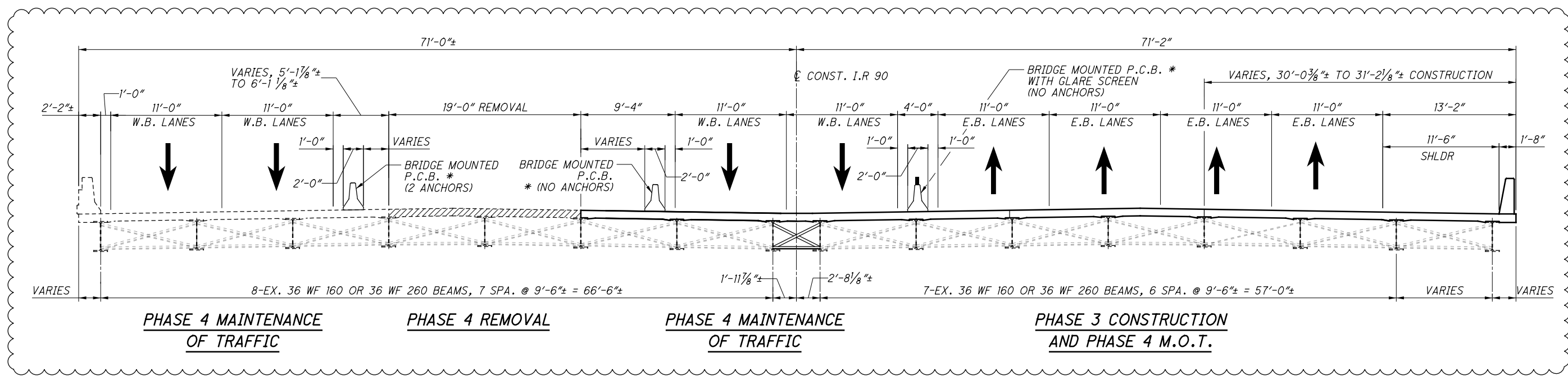
\* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

DESIGNED	RJB	CHECKED	CMD
DRAWN	CAF	REVISED	
REVIEWED	RBB	STRUCTURE FILE NUMBER	1808702
DATE	8/17/18		

**STAGED CONSTRUCTION DETAILS 2 OF 4**  
BRIDGE NO. CUY-90-2463  
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

**CUY-90-24.10/24.63**  
PID No. 88348

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**LEGEND**



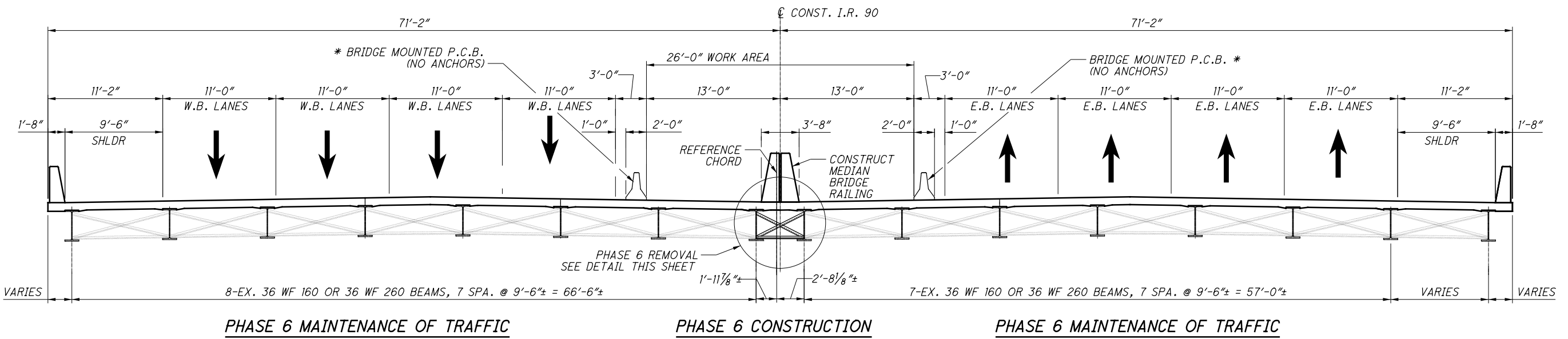
ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

\* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

DESIGN AGENCY <b>ARCADIS</b> ARCADIS U.S., Inc. 222 South Main Street, Suite 200 Akron, Ohio 44308 Tel: 330-434-1995 Fax: 330-434-1995 www.arcadis.com	DATE 8/17/18	REVIEWED RBB	STRUCTURE FILE NUMBER 1808702
DRAWN CAF	CHECKED RUB	DESIGNED RUB	REVISED CMD
<b>STAGED CONSTRUCTION DETAILS 3 OF 4</b>			
BRIDGE NO. CUY-90-2463 INTERSTATE ROUTE 90 OVER EAST 152ND STREET			
CUY-90-24.10/24.63			
PID No. 88348			
8 / 48			
156			
196			



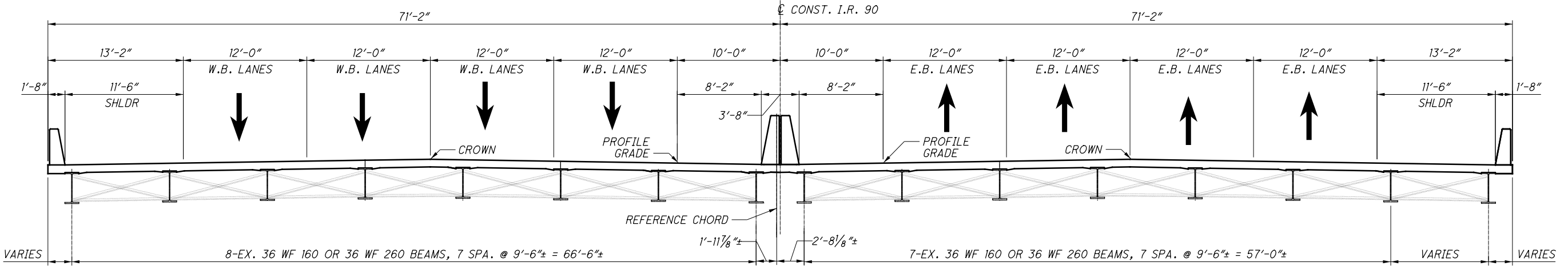
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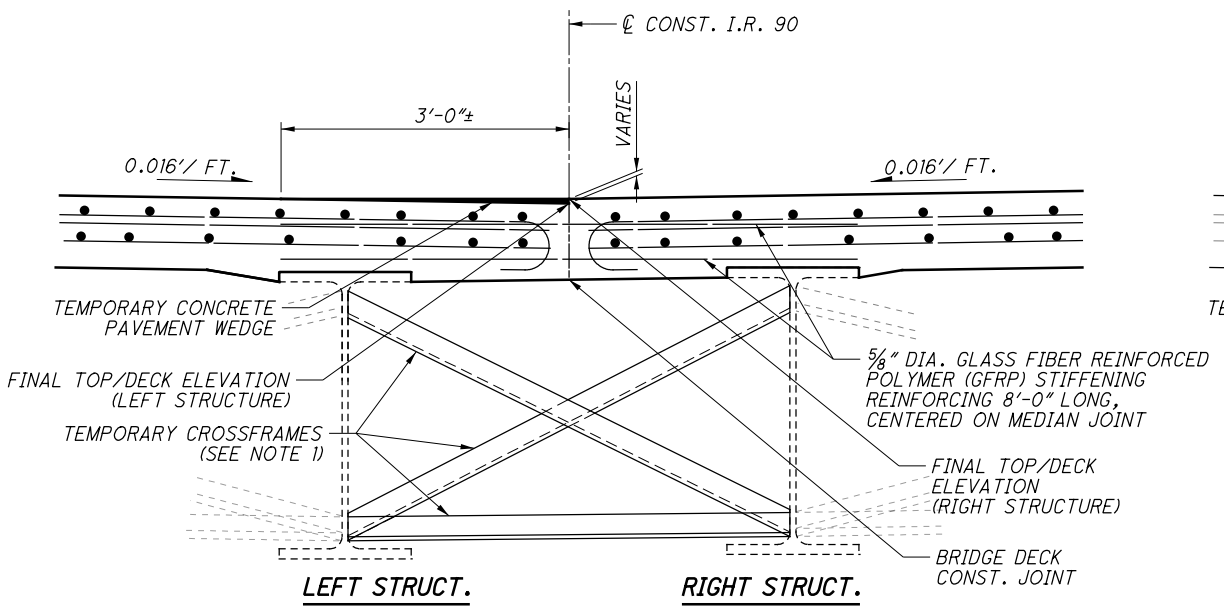
**PHASE 6 MAINTENANCE OF TRAFFIC**

**PHASE 6 CONSTRUCTION**

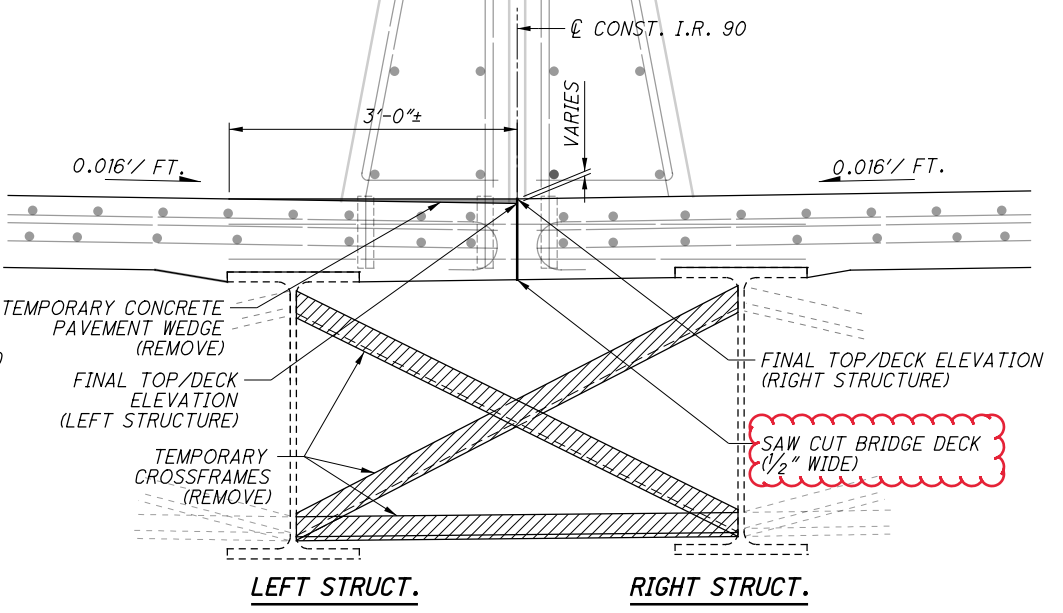
**PHASE 6 MAINTENANCE OF TRAFFIC**



**FINAL CONFIGURATION**



**TEMPORARY CONCRETE PAVEMENT WEDGE DETAIL**



**PHASE 6 REMOVAL**

(SEE NOTE 3)

**NOTES**

1. TEMPORARY CROSSFRAMES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON SHEET [17 | 48].
2. THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE POURED INTEGRALLY WITH THE PHASE 1 DECK CONCRETE FOR THE LEFT STRUCTURE.
3. PRIOR TO CONSTRUCTION OF MEDIAN BRIDGE RAILINGS IN PHASE 6, THE TEMPORARY CROSSFRAMES SHALL BE REMOVED AND THE BRIDGE DECK SHALL BE SAWCUT FULL DEPTH. IN ADDITION, THE TEMPORARY CONCRETE PAVEMENT WEDGE SHALL BE REMOVED BY DIAMOND GRINDING.
4. UPON REMOVAL OF P.C.B., HOLES IN THE BRIDGE DECK/APPROACH SLAB SHALL BE PATCHED WITH NON-SHRINK NON-METALLIC GROUT.

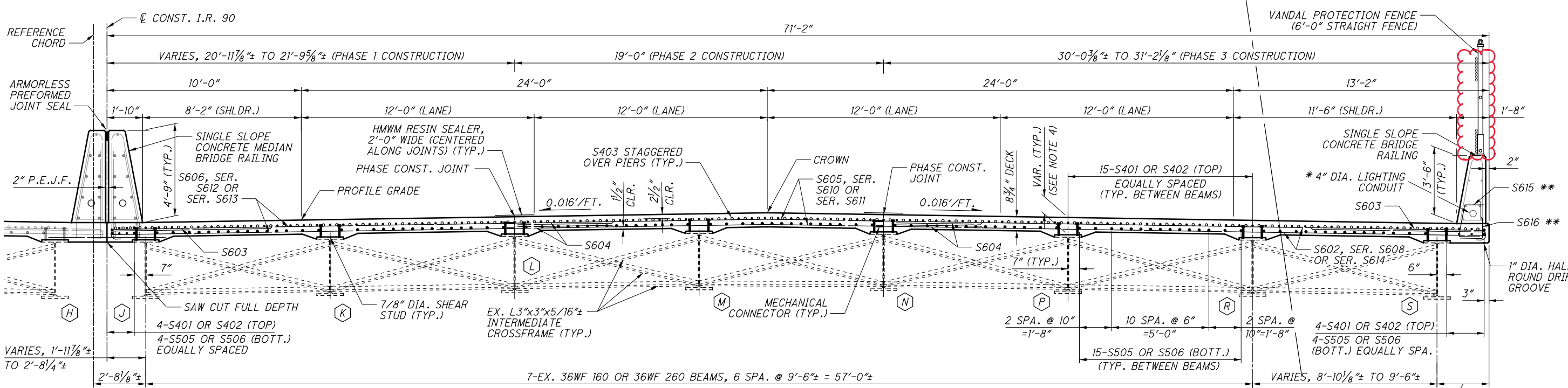
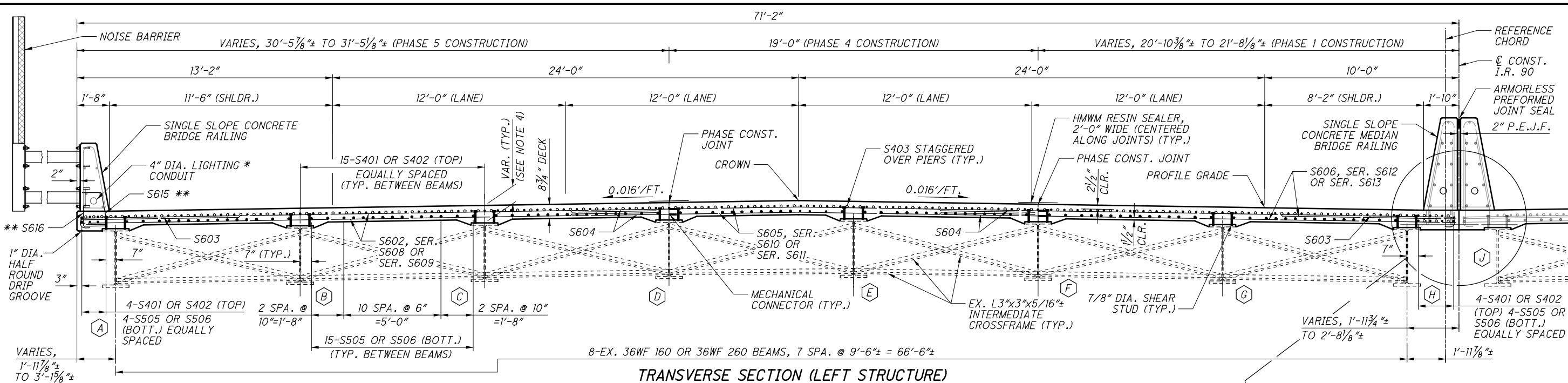
**LEGEND**

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

\* BRIDGE MOUNTED P.C.B. IS INCLUDED WITH ROADWAY QUANTITIES

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DRAWN CAF	CHECKED CMD	DESIGNED RUB	REVISIONS REVISED	FILE NUMBER 1808702
<b>STAGED CONSTRUCTION DETAILS 4 OF 4</b> BRIDGE NO. CUY-90-2463 INTERSTATE ROUTE 90 OVER EAST 152ND STREET				
CUY-90-24-10 / 24-63 PID No. 88348				
9 / 48				
157 196				

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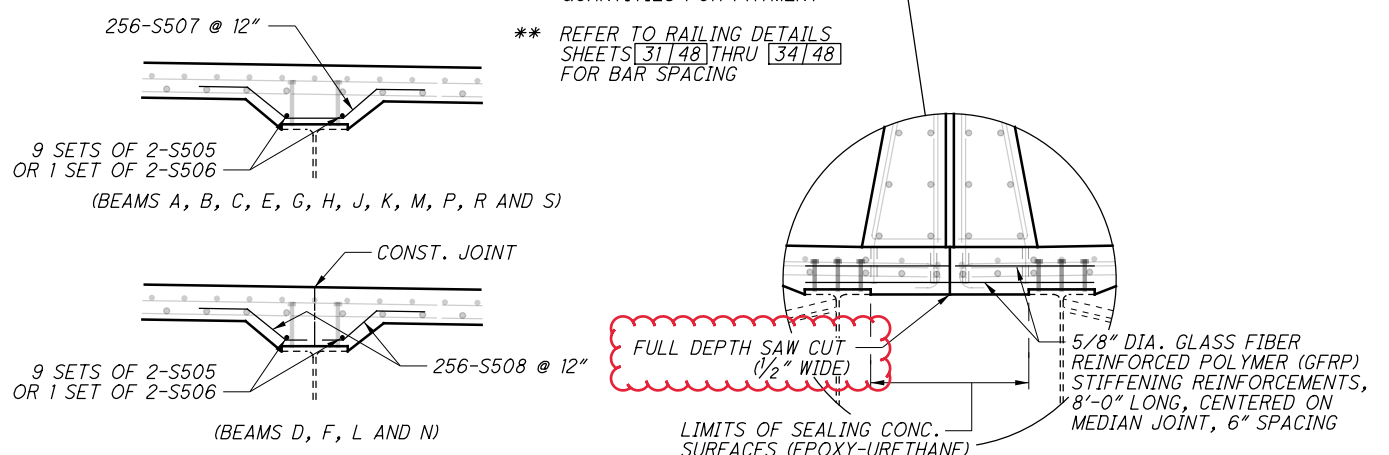


**NOTES**

- FOR DECK PLAN, SEE SHEET [30/48].
- FOR OUTSIDE AND MEDIAN BRIDGE RAILING DETAILS, SEE SHEETS [31/48] THRU [34/48].
- FOR BRIDGE MOUNTED NOISE BARRIER DETAILS, SEE SHEETS [43/48] THRU [45/48].
- 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 AN AVERAGE HAUNCH THICKNESS OF 3 INCHES, AND A CONSTANT HAUNCH WIDTH 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 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.

- MINIMUM BAR LAPS ARE AS FOLLOWS:  
 #4 BAR = 33" #5 BAR = 41"  
 #6 BAR = 52" #8 BAR = 87"
- TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN THE DECK SLAB.
- FOR SEMI-INTEGRAL ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS [20/48] AND [21/48].



- \* INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT
- \*\* REFER TO RAILING DETAILS SHEETS [31/48] THRU [34/48] FOR BAR SPACING

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 STRUCTURE FILE NUMBER

DESIGNED: RUB  
 CHECKED: FJG

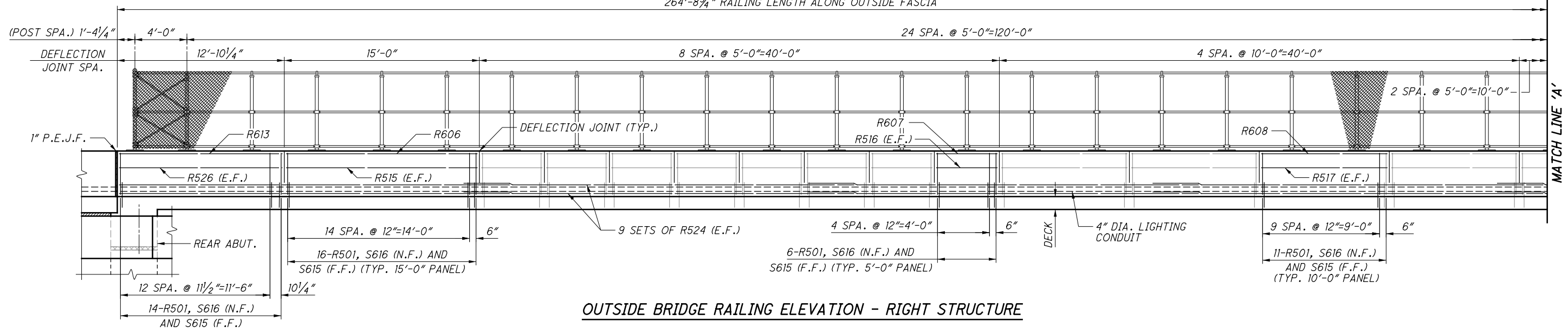
DRAWN: CAF  
 REVISED:

TRANSVERSE SECTION  
 BRIDGE NO. CUY-90-2463  
 STATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10/24.63  
 PID No. 88348

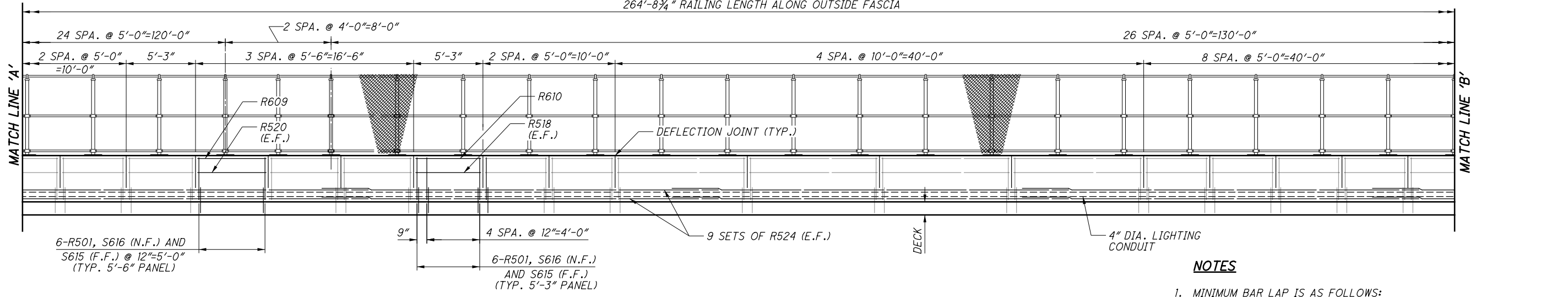
29/48  
 177  
 196

264'-8 3/4" RAILING LENGTH ALONG OUTSIDE FASCIA



**OUTSIDE BRIDGE RAILING ELEVATION - RIGHT STRUCTURE**

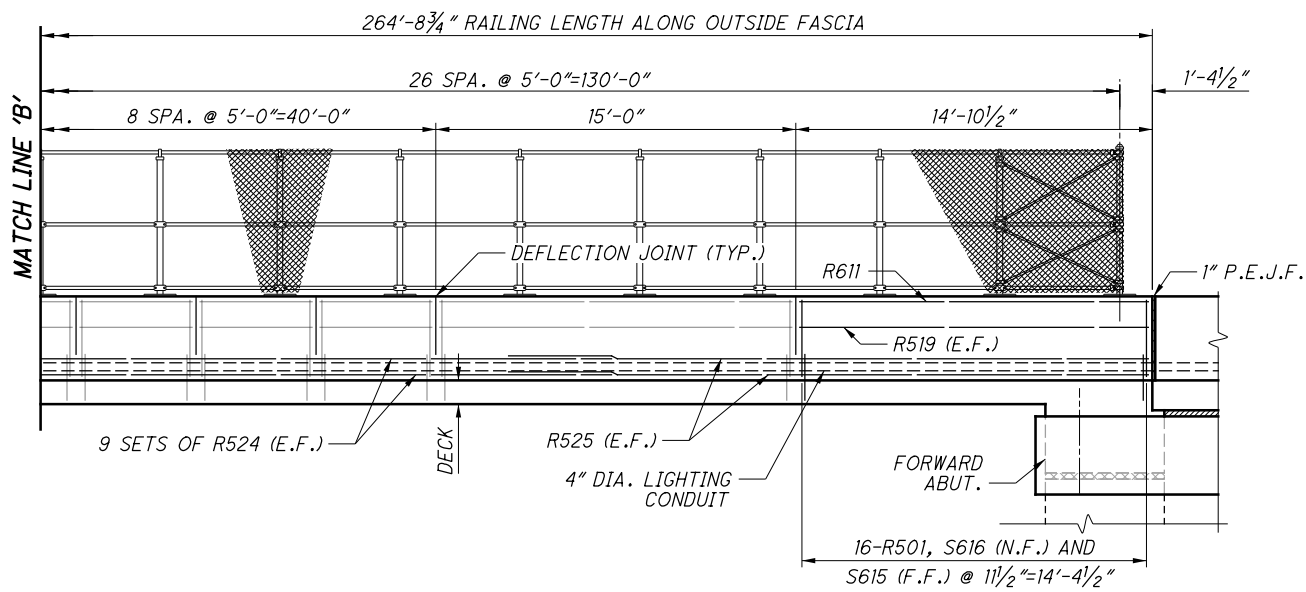
264'-8 3/4" RAILING LENGTH ALONG OUTSIDE FASCIA



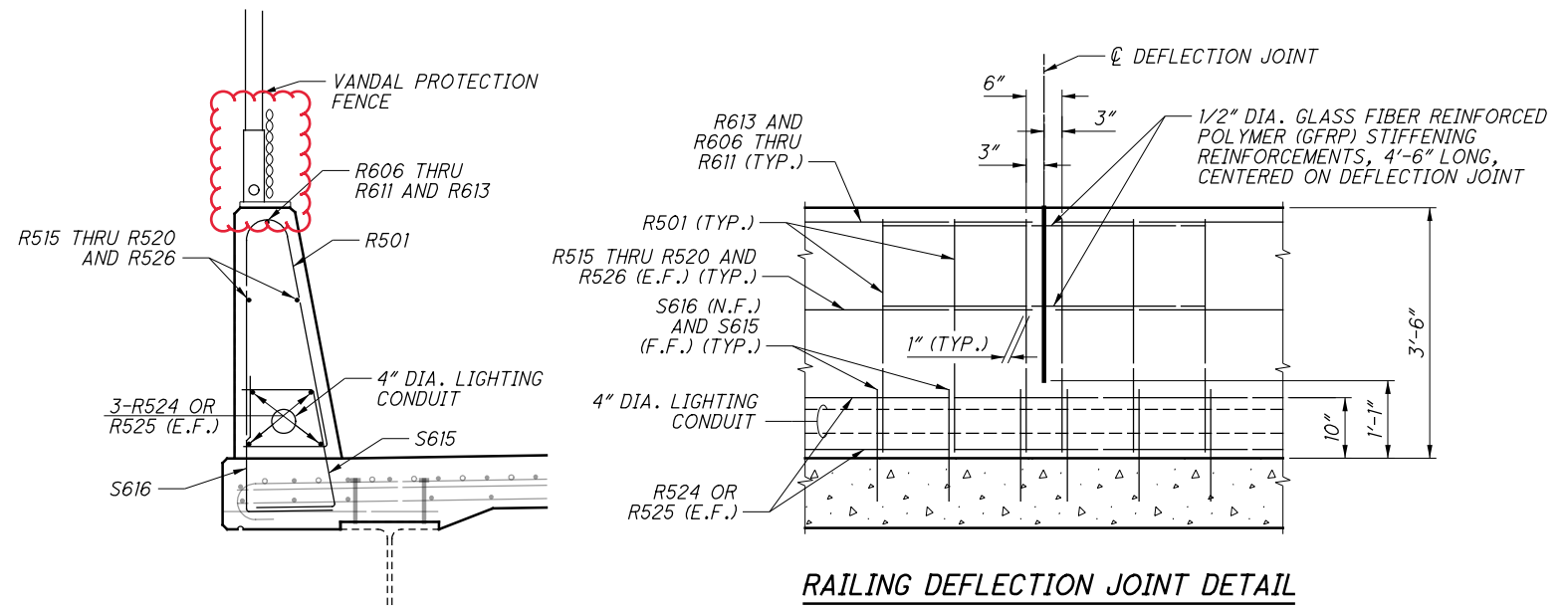
**OUTSIDE BRIDGE RAILING ELEVATION - RIGHT STRUCTURE**

**NOTES**

1. MINIMUM BAR LAP IS AS FOLLOWS:  
#5 BAR = 41"
2. FOR DEFLECTION JOINT DETAIL, AND SEALING CONCRETE SURFACES, SEE RAILING DETAIL SHEET 31/48.



**OUTSIDE BRIDGE RAILING ELEVATION - RIGHT STRUCTURE**



**RAILING DEFLECTION JOINT DETAIL**

(VANDAL PROTECTION FENCE NOT SHOWN FOR CLARITY)

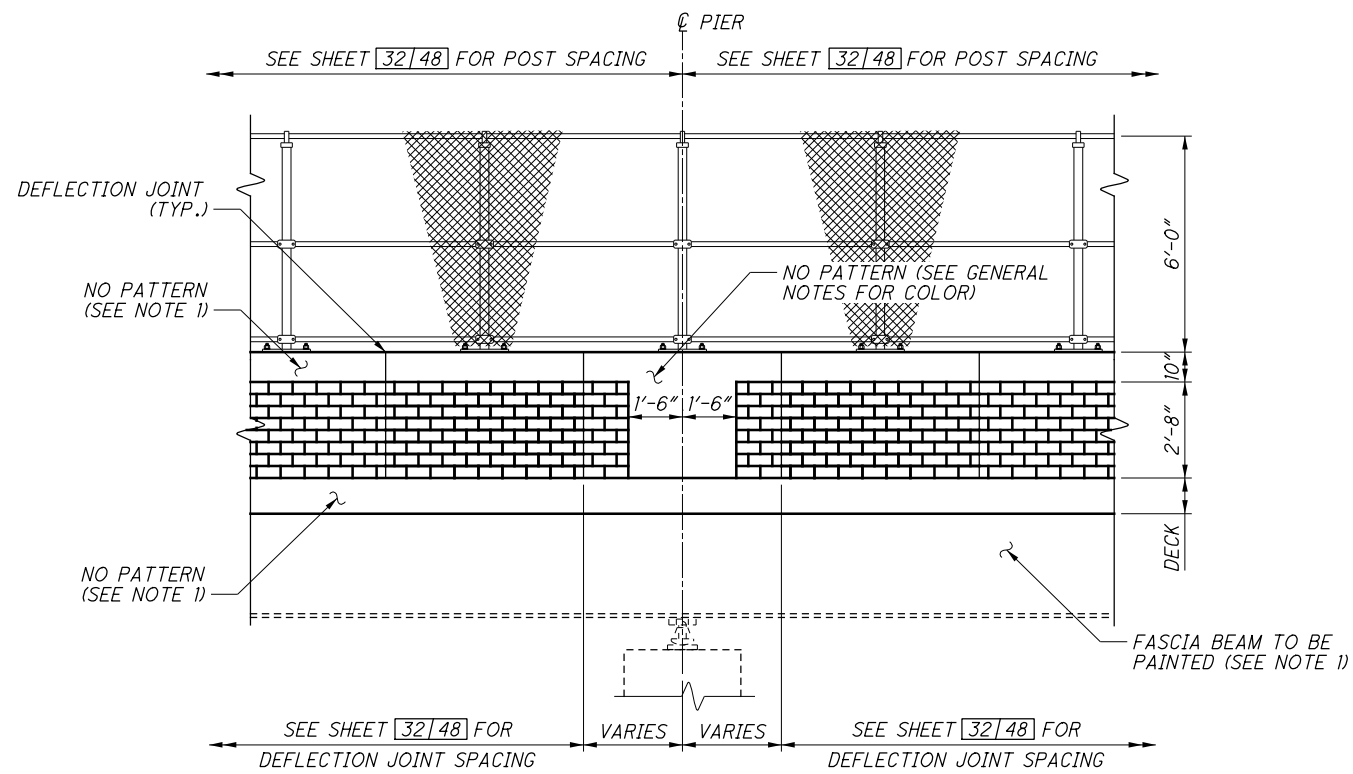
**OUTSIDE BRIDGE RAILING SECTION**

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STRUCTURE FILE NUMBER	1808702
DRAWN	CAF
REVISOR	REVISOR
DESIGNED	FJG
CHECKED	FJG
<p><b>RAILING DETAILS 2 OF 4</b> BRIDGE NO. CUY-90-2463 STATE ROUTE 90 OVER EAST 152ND STREET</p>	
<p>CUY-90-24.10/24.63 PID No. 88348</p>	
<p>32/48</p>	
<p>180 196</p>	

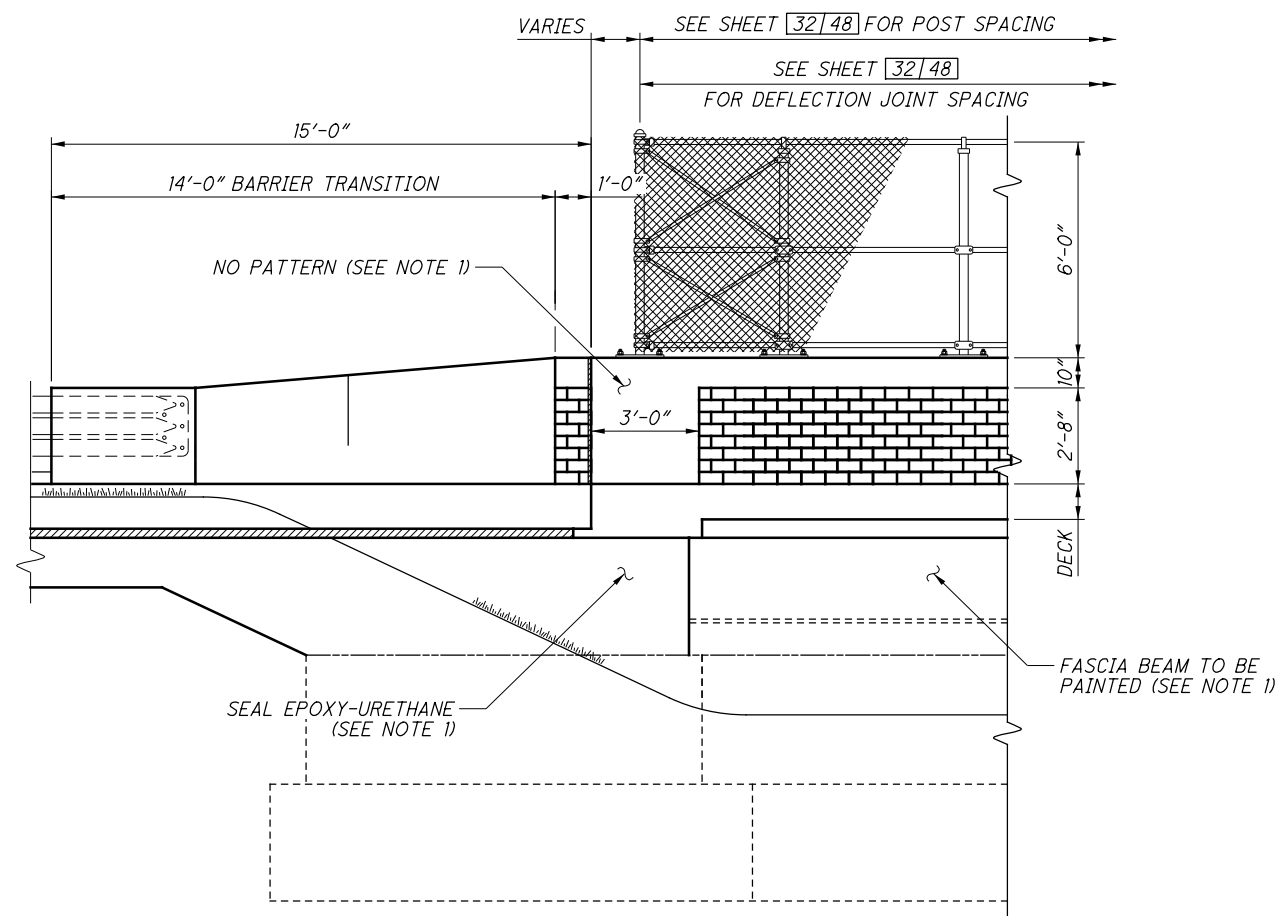


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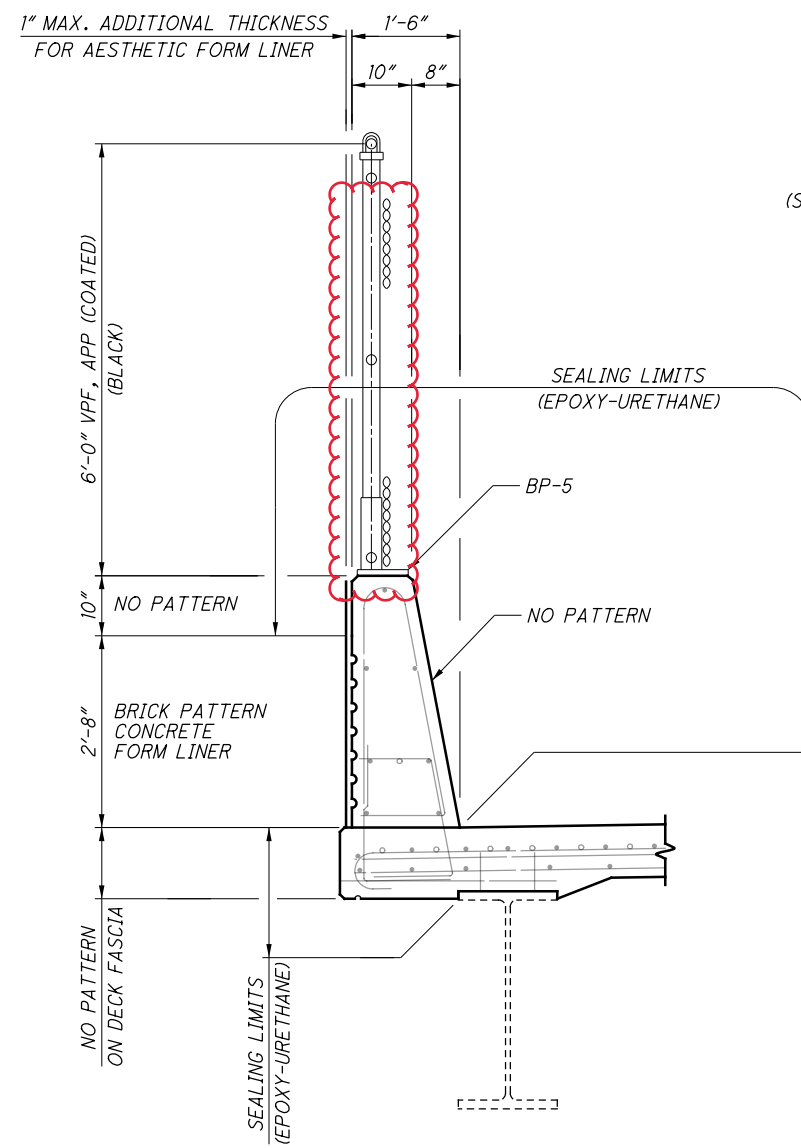
**PIER DETAIL**

(PIER NO. 2 SHOWN, PIER NO. 1 AND PIER NO. 3 SIMILAR)



**ABUTMENT DETAIL**

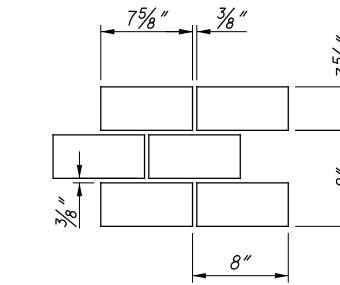
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



**RAILING DETAIL**

**NOTE**

1. FOR PAINT, STAIN AND SEALER COLOR, SEE GENERAL NOTE SHEET [4/48].

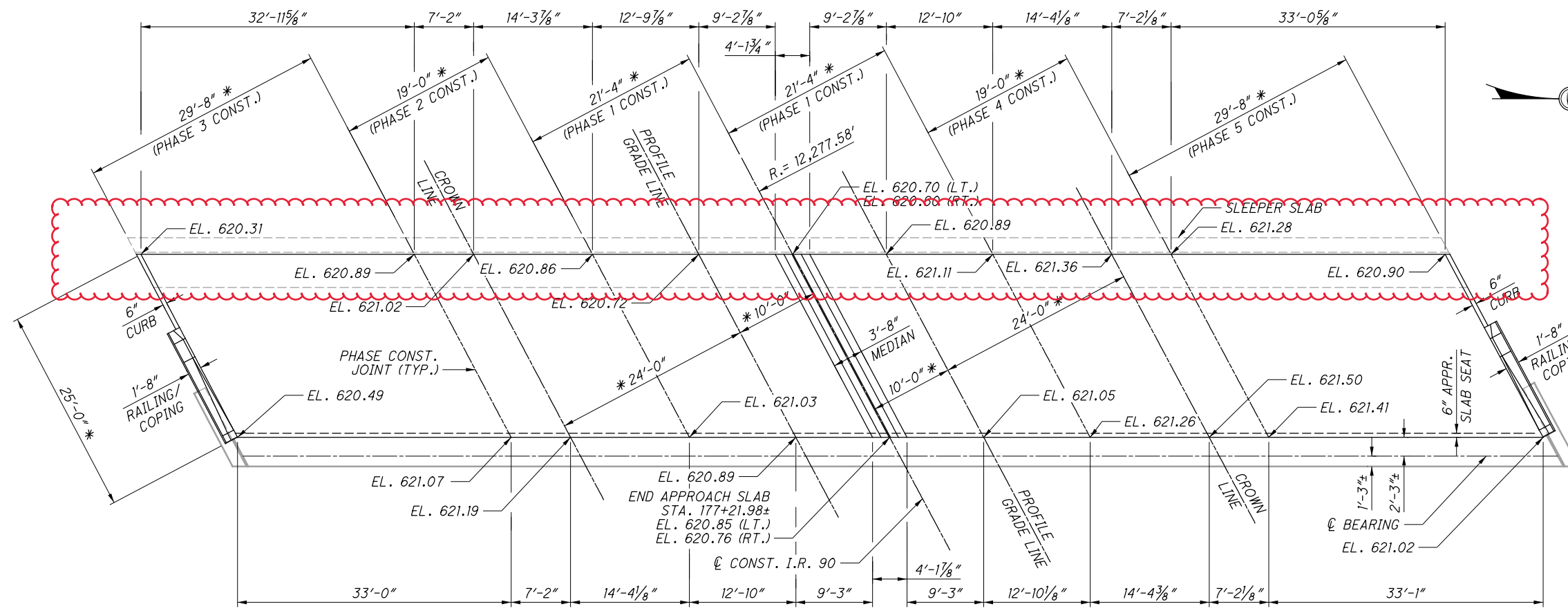


**BRICK PATTERN**

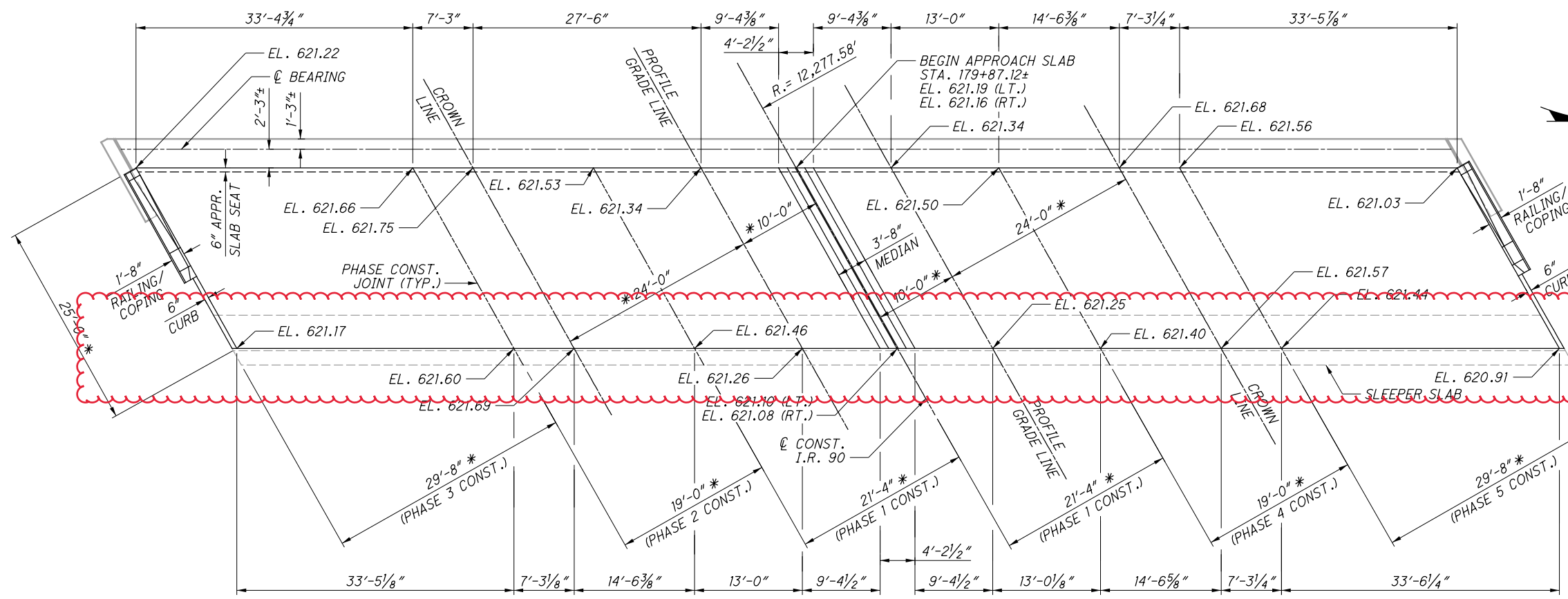
(SEE GENERAL NOTES FOR COLOR)

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REVIEWED RBB	DATE 8/17/18
STRUCTURE FILE NUMBER 1808702	
RAILING DETAILS 4 OF 4 BRIDGE NO. CUY-90-2463 INTERSTATE ROUTE 90 OVER EAST 152ND STREET	
CUY-90-24.10/24.63 PID No. 88348	
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**REAR APPROACH SLAB ELEVATION PLAN**



**FORWARD APPROACH SLAB ELEVATION PLAN**

**NOTES**

1. FOR APPROACH SLAB REINFORCING, SEE SHEETS [37|48] THRU [42|48].
2. ALL ELEVATIONS ARE LOCATED AT TOP OF APPROACH SLAB.
3. FOR STAGE CONSTRUCTION DETAILS INCLUDING LOCATION AND ANCHORAGE REQUIREMENTS FOR PORTABLE CONCRETE BARRIERS, SEE SHEETS [6|48] THRU [9|48].

**LEGEND**

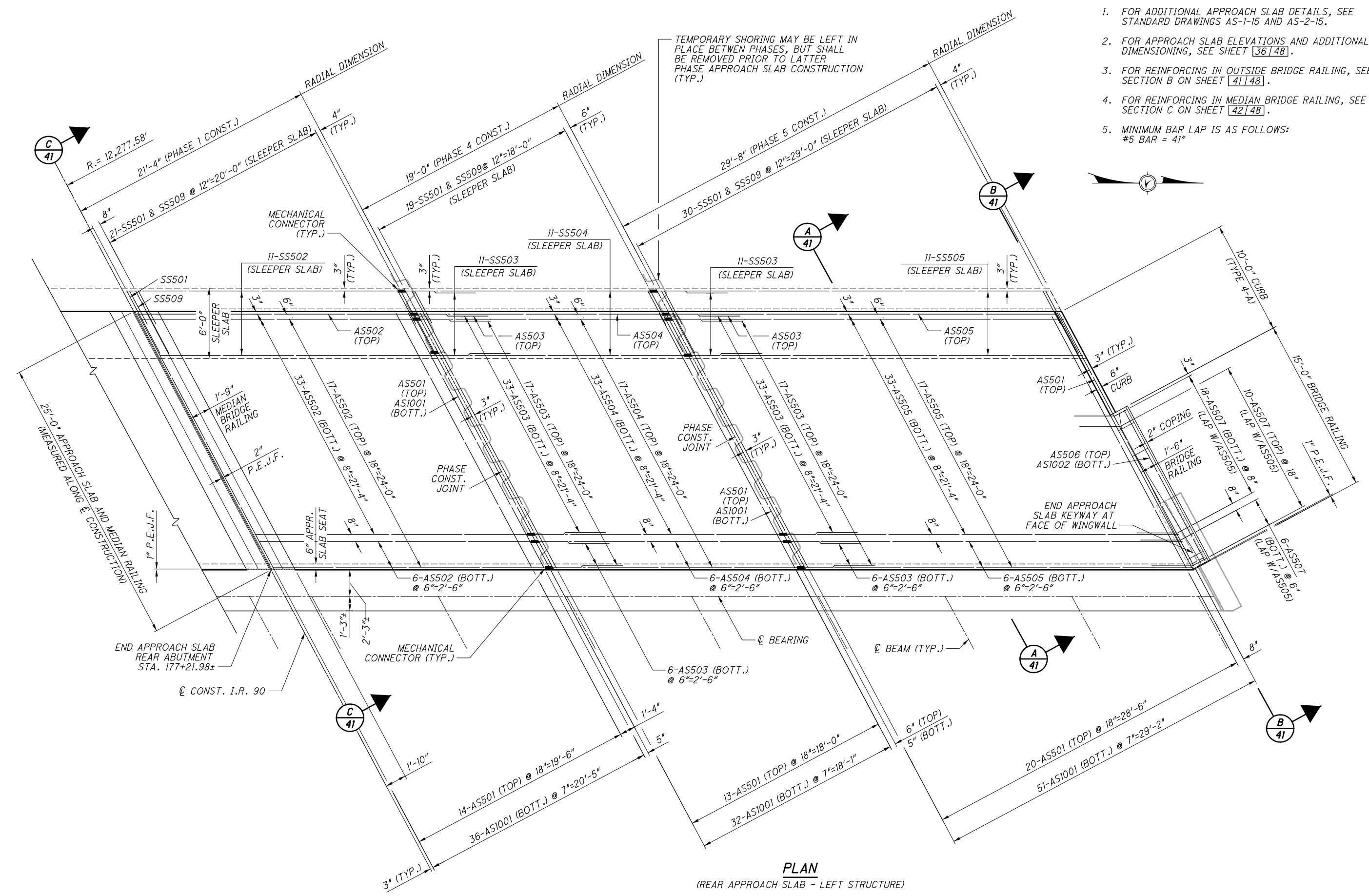
\* - DENOTES RADIAL DIMENSION

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**NOTES**

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 36/48.
3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 41/48.
4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 42/48.
5. MINIMUM BAR LAP IS AS FOLLOWS:  
#5 BAR = 41"

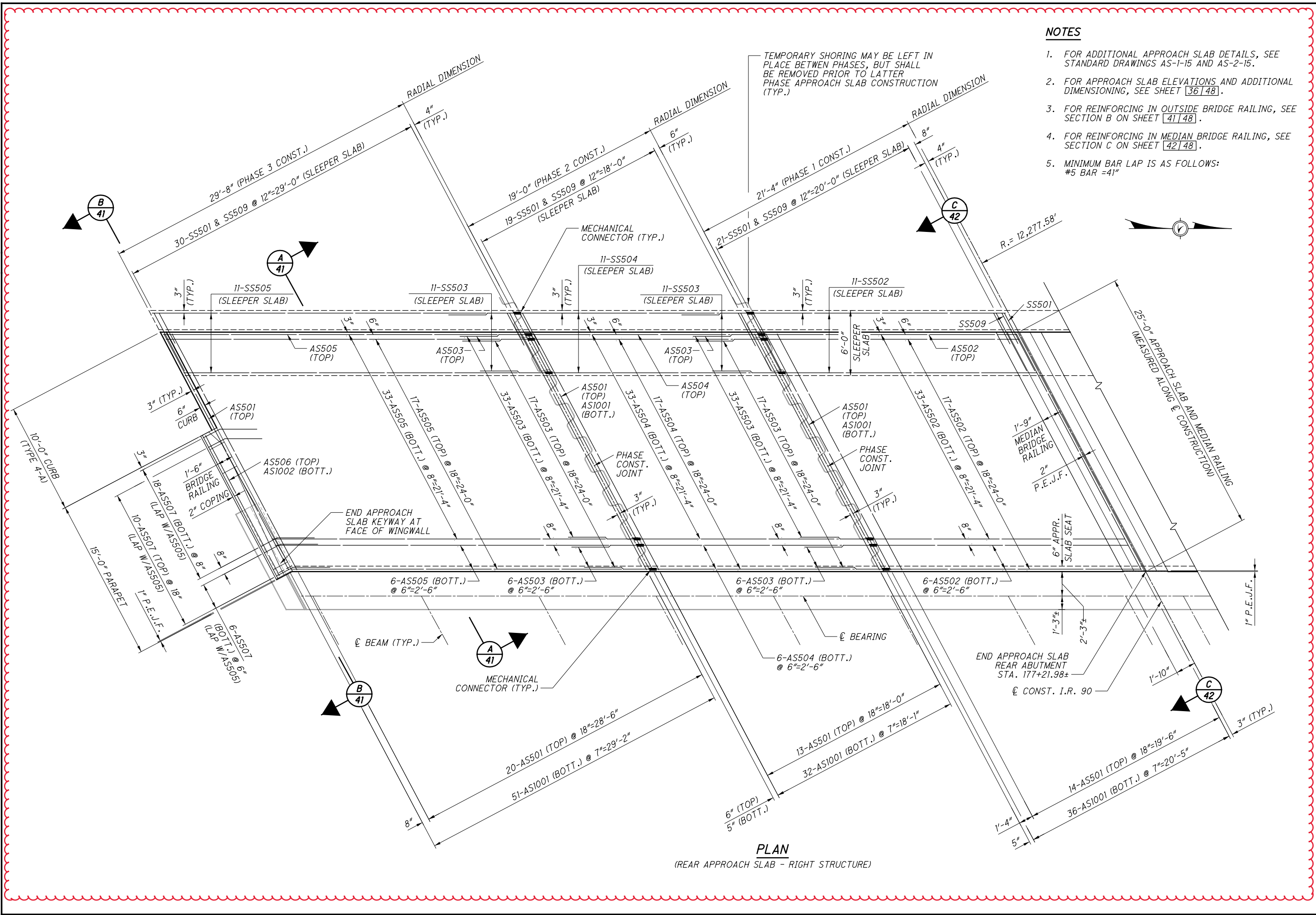


**PLAN**  
(REAR APPROACH SLAB - LEFT STRUCTURE)

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<b>APPROACH SLAB DETAILS 2 OF 7</b> BRIDGE NO. CUY-90-2463 INTERSTATE ROUTE 90 OVER EAST 152ND STREET	
CUY-90-24.10/24.63	PID No. 88348
37/48	185 196



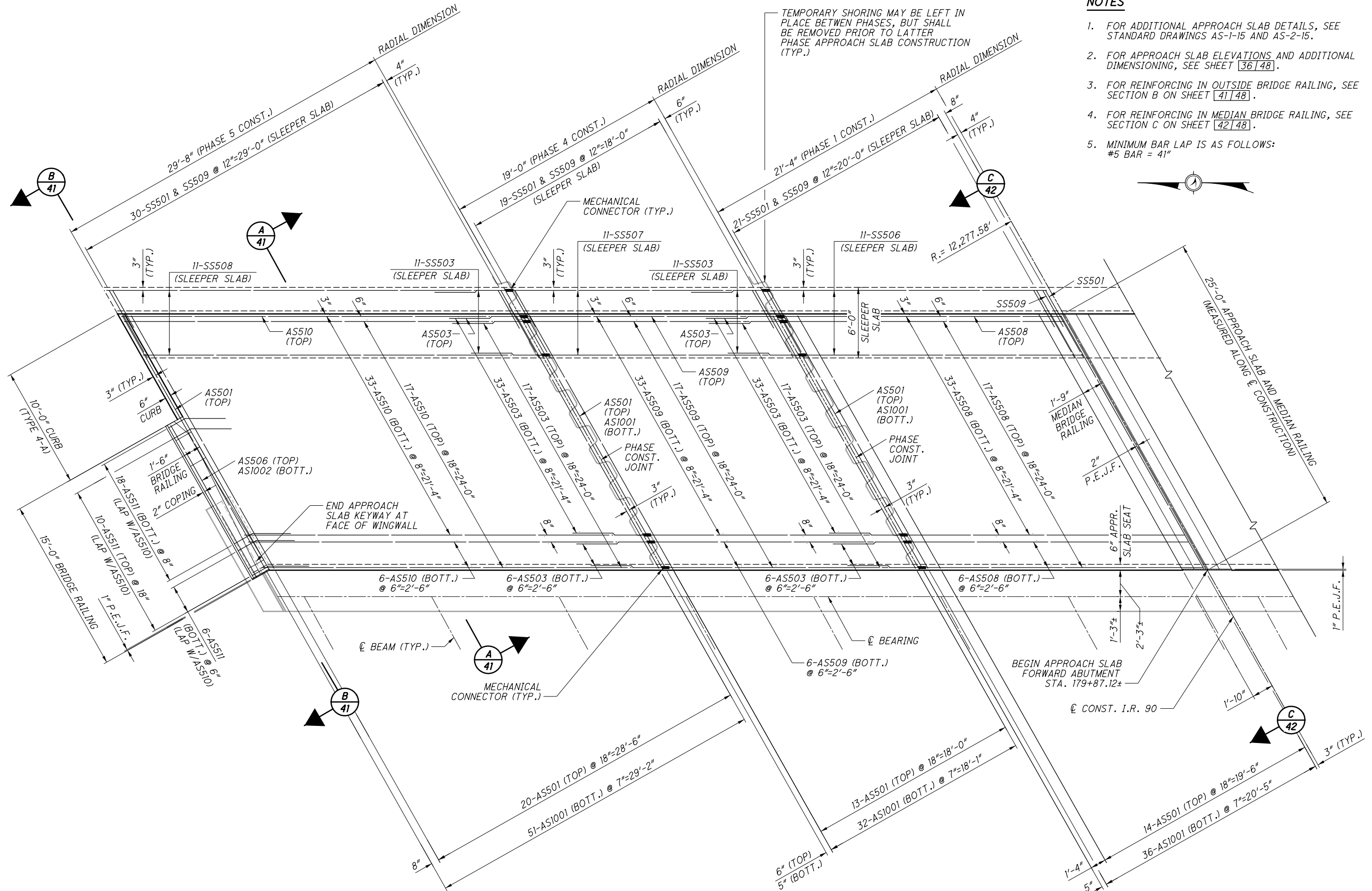
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- NOTES**
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
  2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 36/48.
  3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 41/48.
  4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 42/48.
  5. MINIMUM BAR LAP IS AS FOLLOWS:  
#5 BAR = 41"

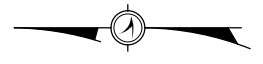
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REVIEWED	RBB	DATE	8/17/18
STRUCTURE FILE NUMBER	1808702		
<b>APPROACH SLAB DETAILS 3 OF 7</b>			
BRIDGE NO. CUY-90-2463			
INTERSTATE ROUTE 90 OVER EAST 152ND STREET			
<b>CUY-90-24.10/24.63</b>		<b>PID No. 88348</b>	
38/48		186/196	

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**PLAN**  
(FORWARD APPROACH SLAB - LEFT STRUCTURE)

- NOTES**
- FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
  - FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET [36|48].
  - FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET [41|48].
  - FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET [42|48].
  - MINIMUM BAR LAP IS AS FOLLOWS:  
#5 BAR = 41"



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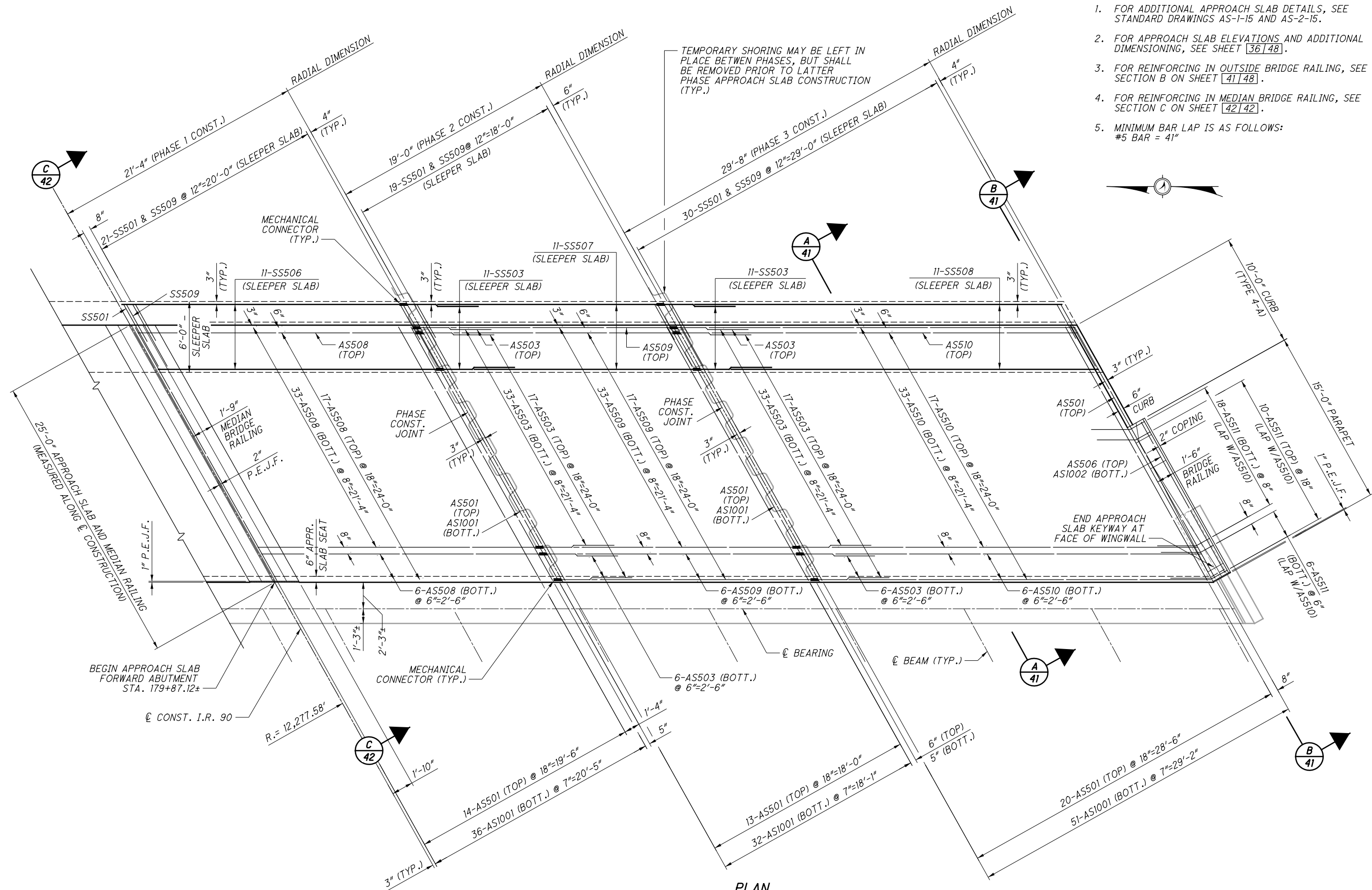
**APPROACH SLAB DETAILS 4 OF 7**  
BRIDGE NO. CUY-90-2463  
INTERSTATE ROUTE 90 OVER EAST 152ND STREET

CUY-90-24.10 / 24.63  
PID No. 88348

39 / 48

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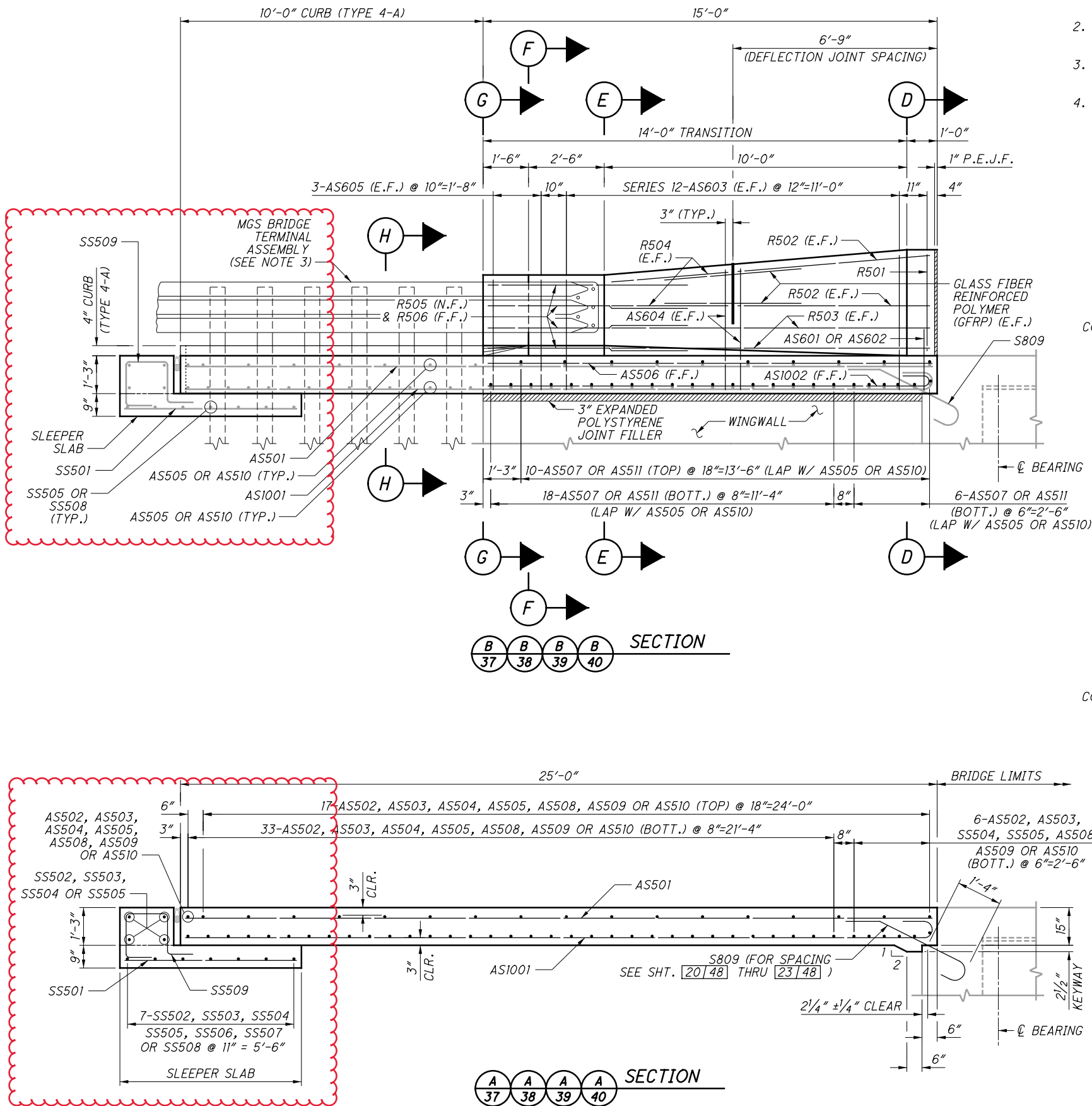
- NOTES**
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
  2. FOR APPROACH SLAB ELEVATIONS AND ADDITIONAL DIMENSIONING, SEE SHEET 36/48.
  3. FOR REINFORCING IN OUTSIDE BRIDGE RAILING, SEE SECTION B ON SHEET 41/48.
  4. FOR REINFORCING IN MEDIAN BRIDGE RAILING, SEE SECTION C ON SHEET 42/42.
  5. MINIMUM BAR LAP IS AS FOLLOWS:  
#5 BAR = 41"

**PLAN**  
(FORWARD APPROACH SLAB - RIGHT STRUCTURE)

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<b>APPROACH SLAB DETAILS 5 OF 7</b> BRIDGE NO. CUY-90-2463 INTERSTATE ROUTE 90 OVER EAST 152ND STREET	
CUY-90-24.10/24.63	PID No. 88348
40/48	188 196

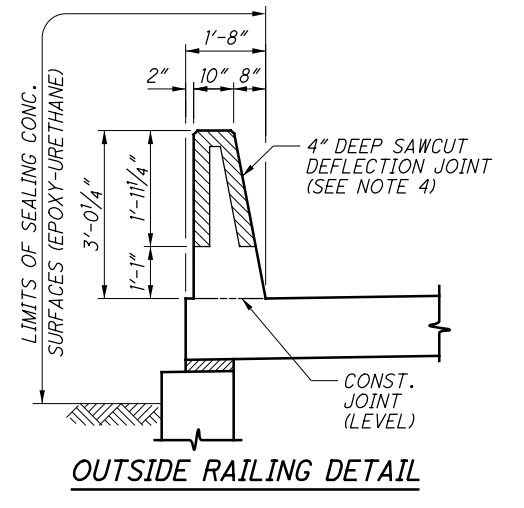
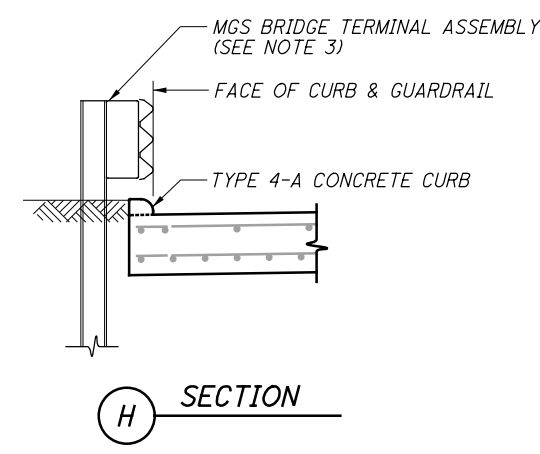
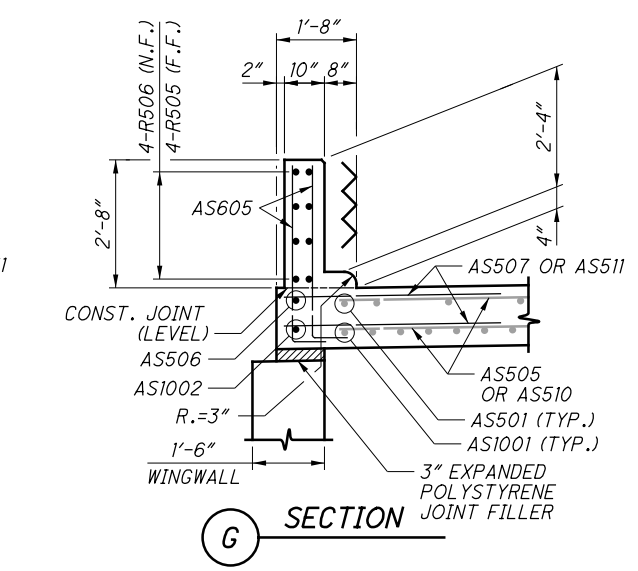
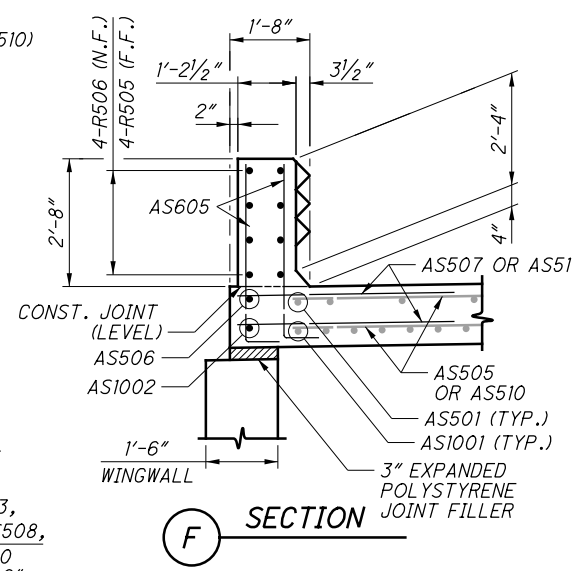
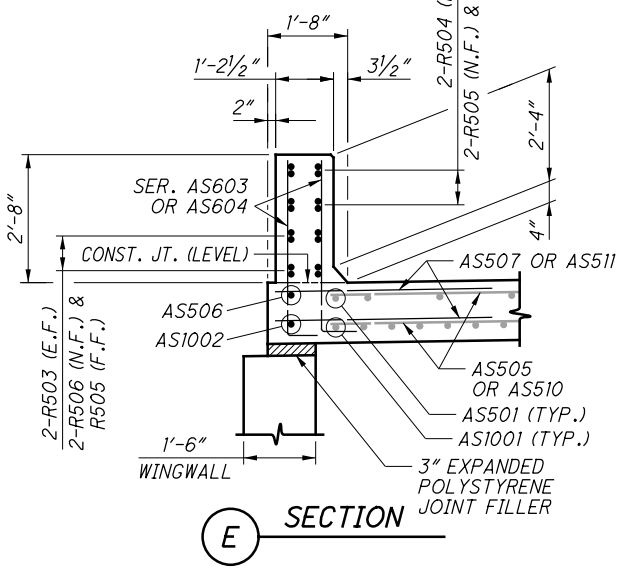
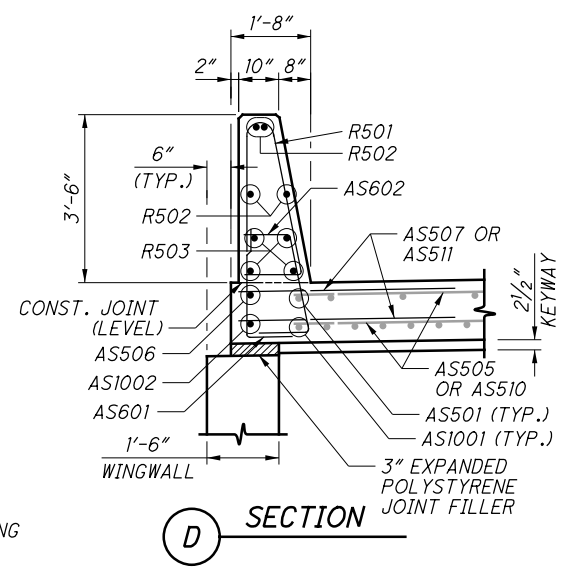


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**NOTES**

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE CONCRETE BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-1-13.
3. FOR MGS BRIDGE TERMINAL ASSEMBLY, NOTES AND DETAILS, SEE STANDARD DRAWINGS MGS-3.1 AND MGS-3.2.
4. FOR OUTSIDE RAILING DEFLECTION JOINT DETAIL, SEE SHEET 42/48.



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 CHECKED: CMD  
 DESIGNED: RJB

STRUCTURE FILE NUMBER: 1808702

BRIDGE NO. CUY-90-2463  
 INTERSTATE ROUTE 90 OVER EAST 152ND STREET

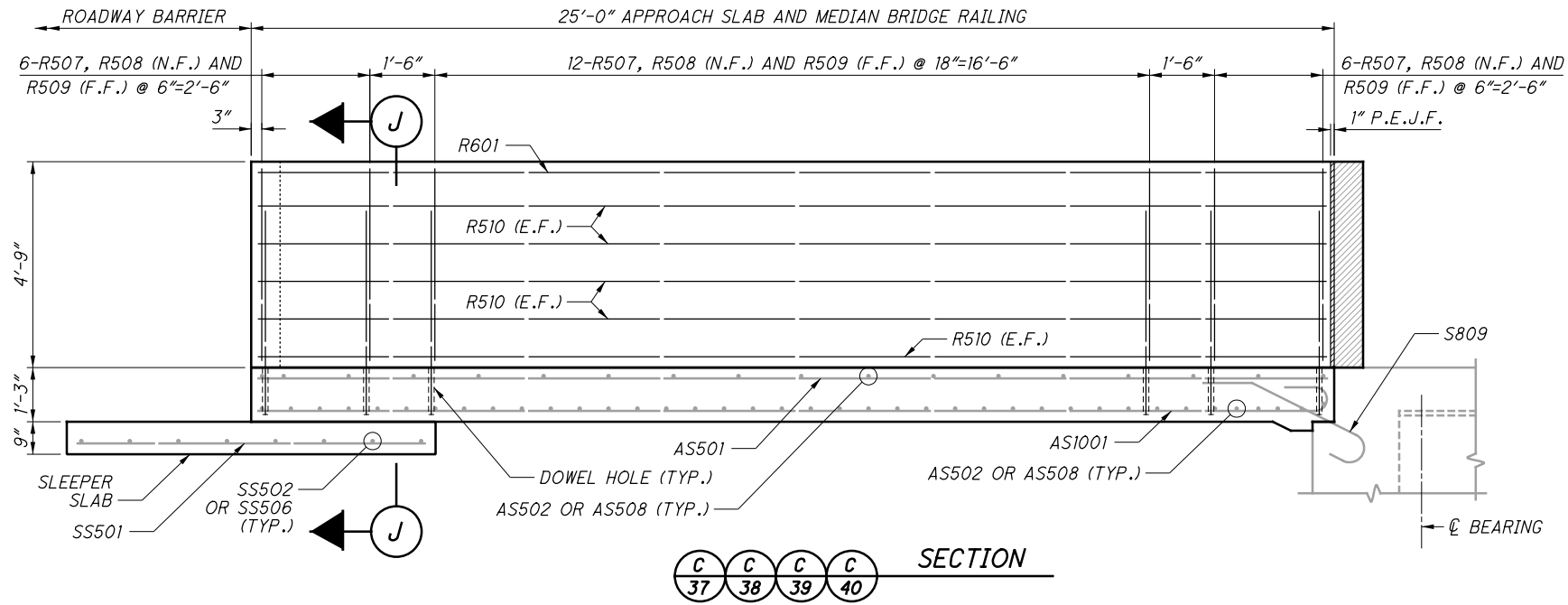
APPROACH SLAB DETAILS 6 OF 7

CUY-90-24.10/24.63  
 PID No. 88348

41/48

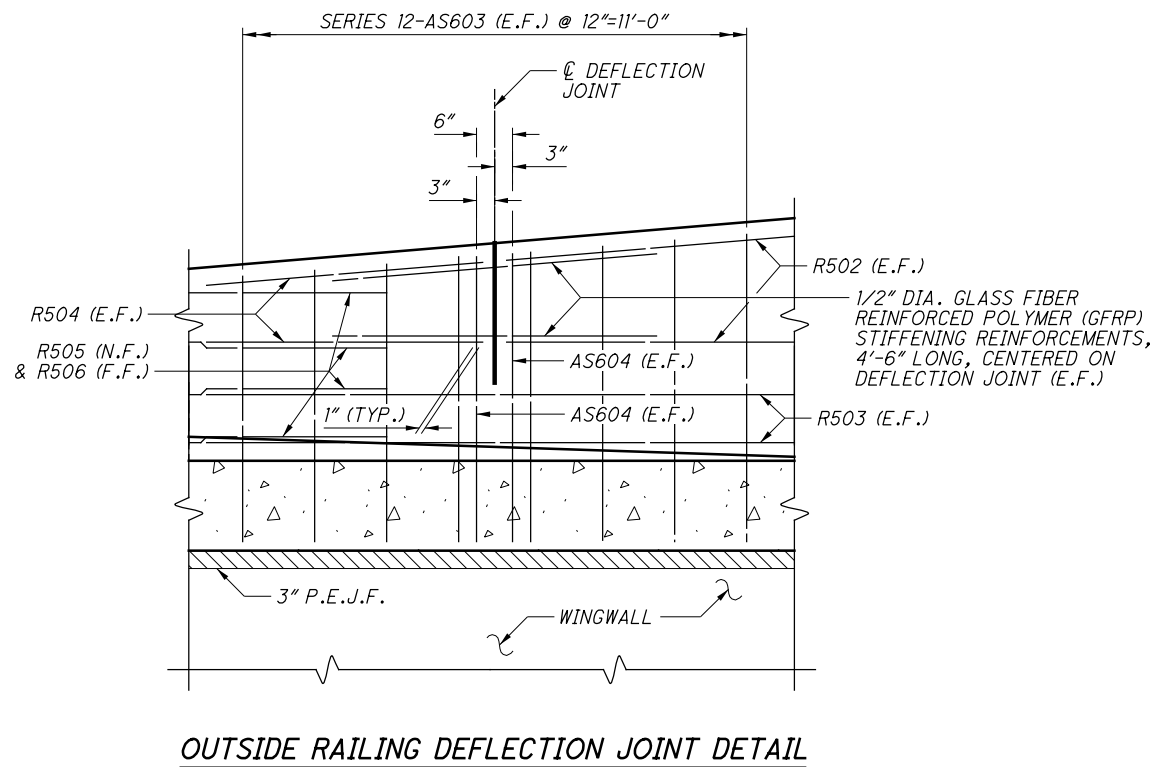
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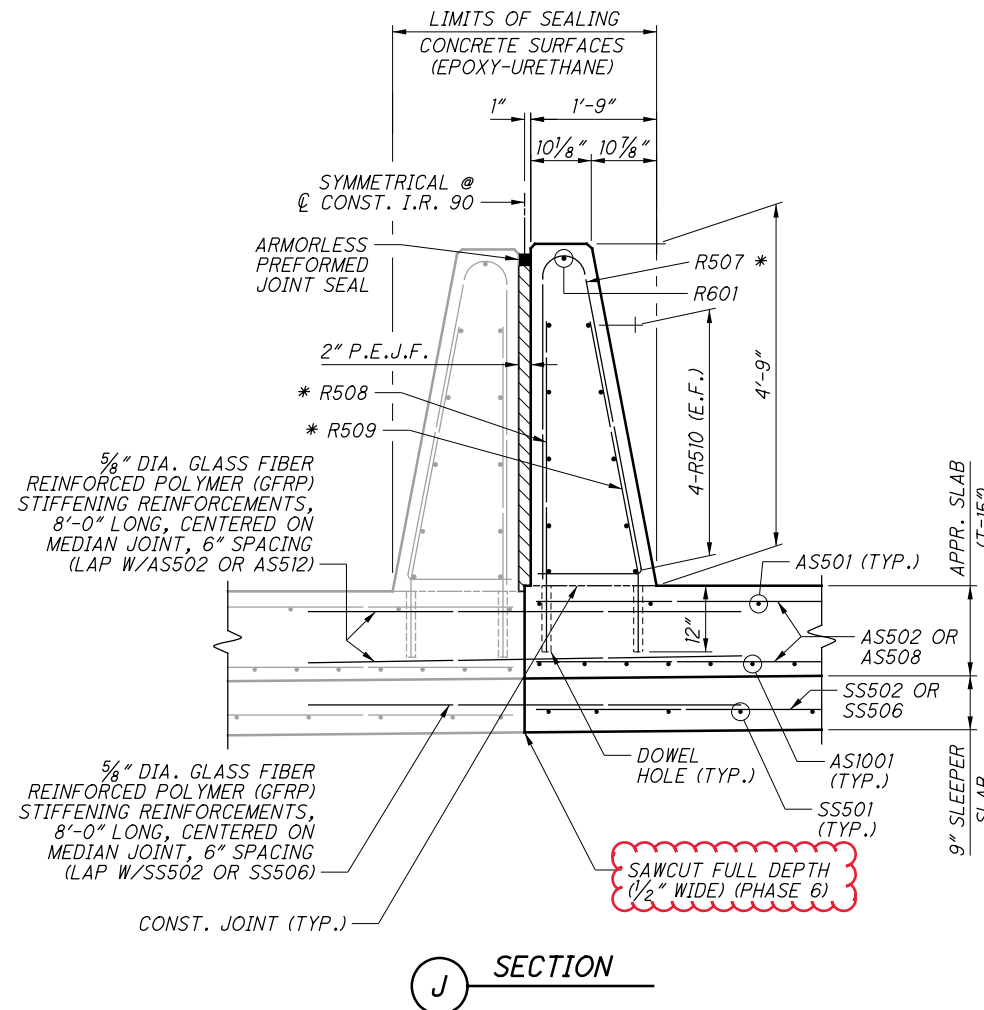


**NOTES**

1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE MEDIAN BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.
3. FOR STAGED CONSTRUCTION DETAILS AND NOTES, SEE SHEETS 6 | 48 THRU 9 | 48.



**OUTSIDE RAILING DEFLECTION JOINT DETAIL**

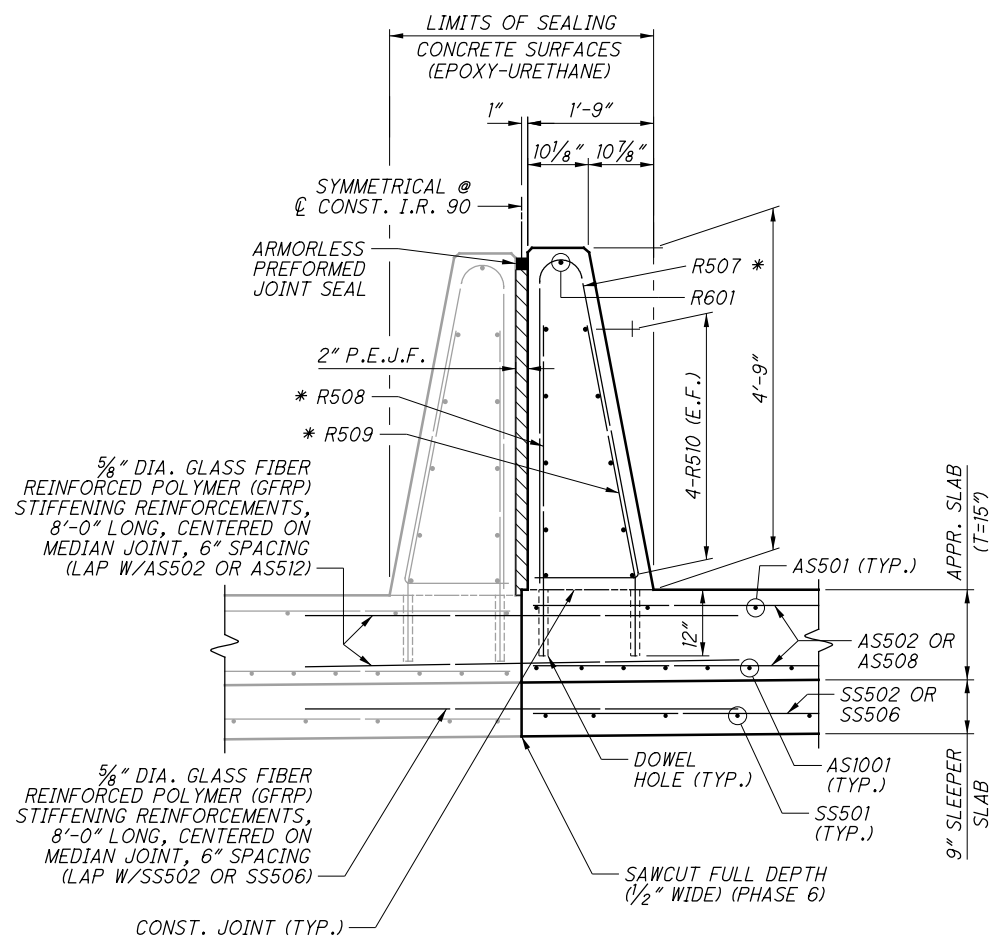
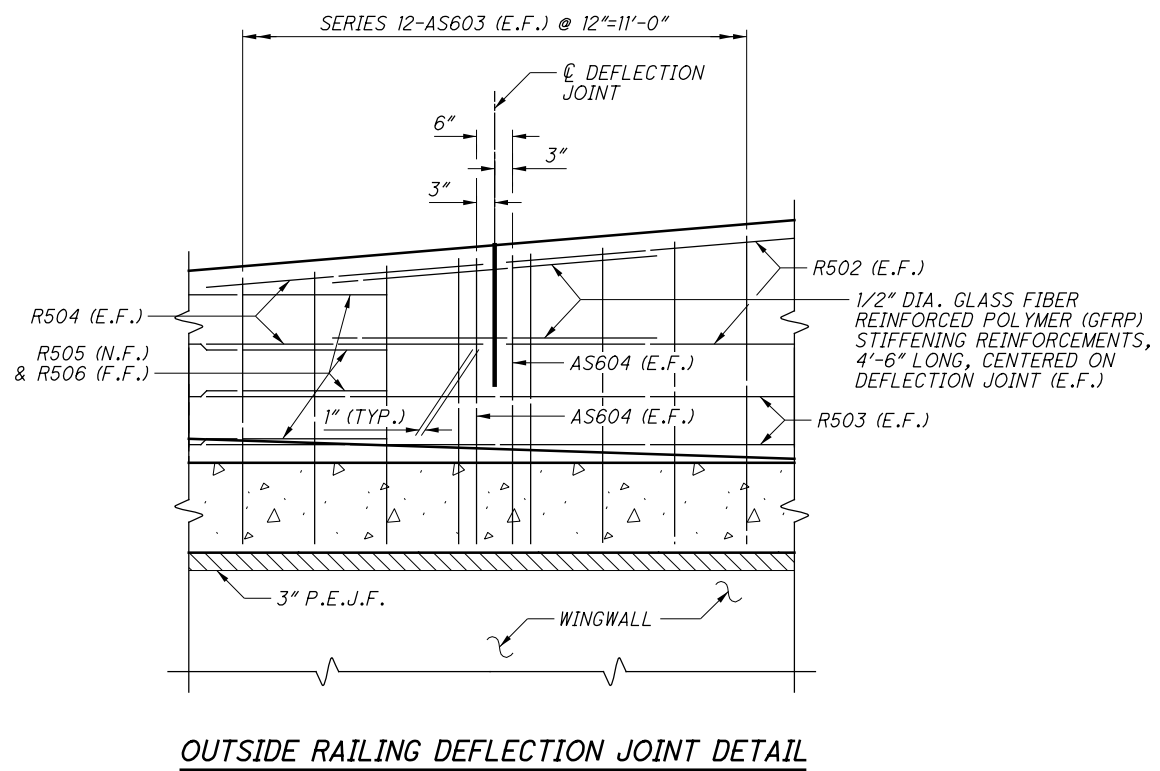
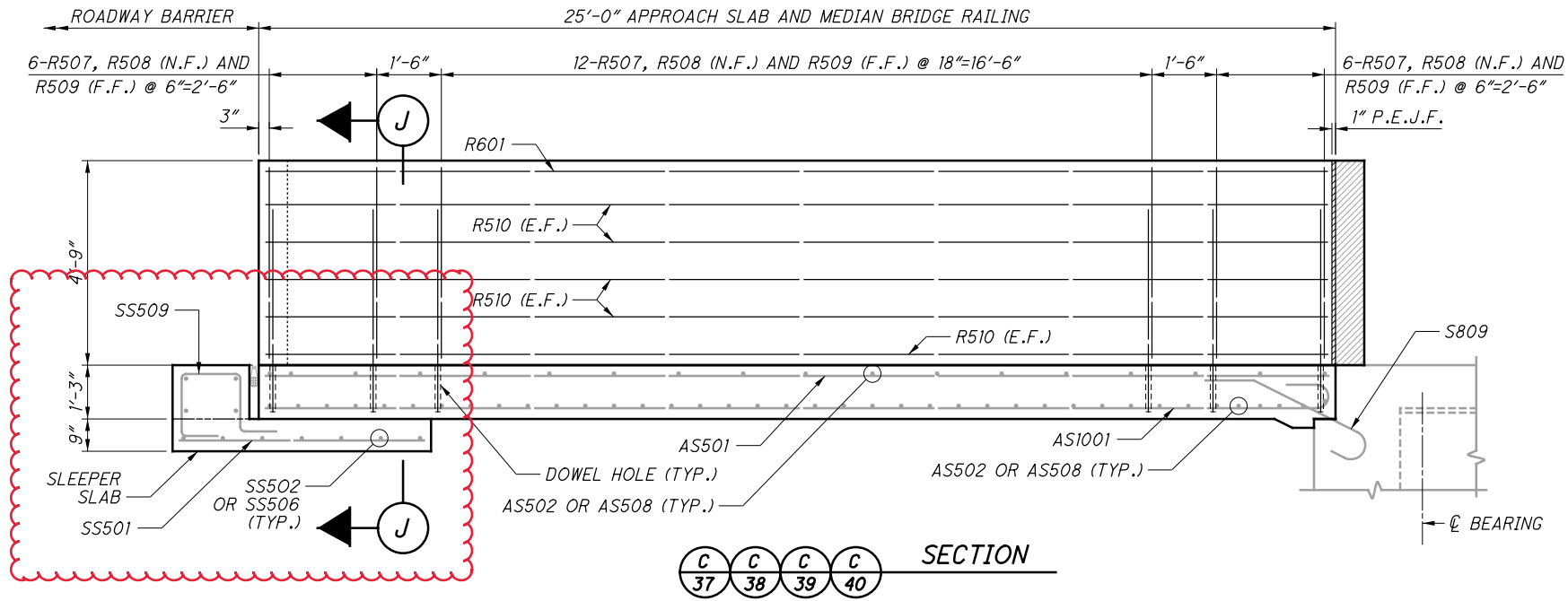


**J SECTION**

\* - REINFORCING TO BE PLACE IN SKEW PARALLEL TO  $\varnothing$  BEARING

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<b>APPROACH SLAB DETAILS 7 OF 7</b>				
CUY-90-24.10/24.63 PID No. 88348				
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190 196				

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**NOTES**

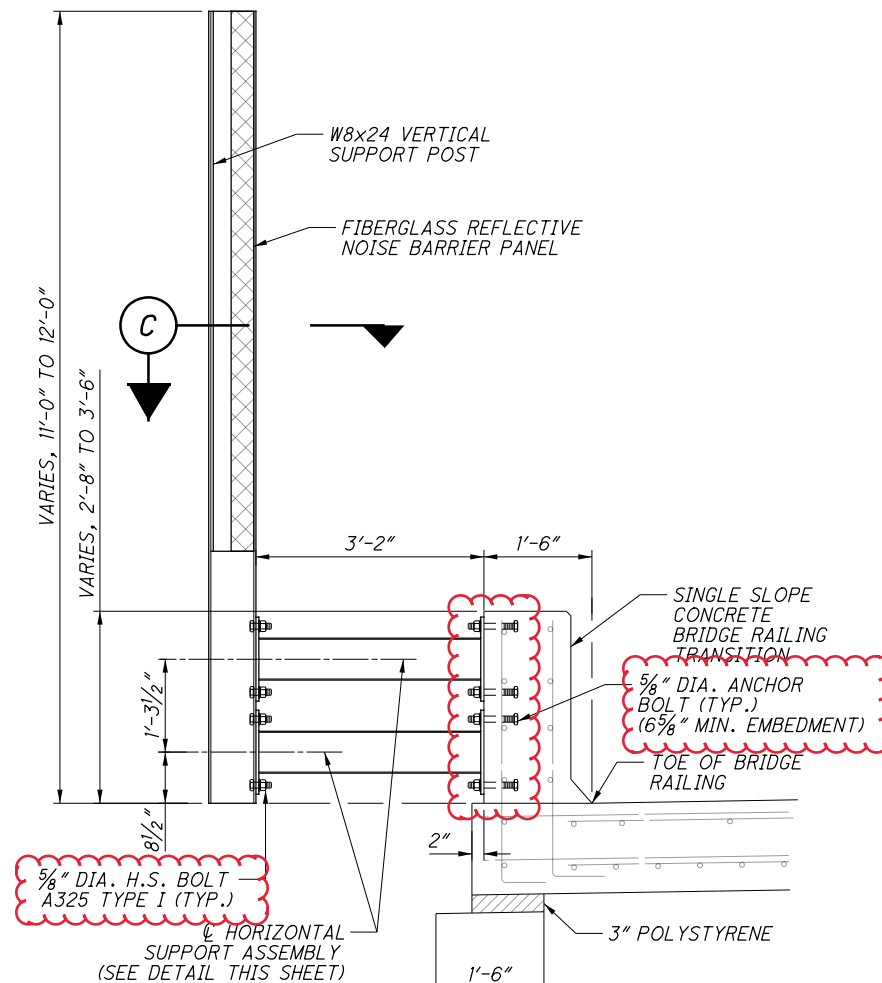
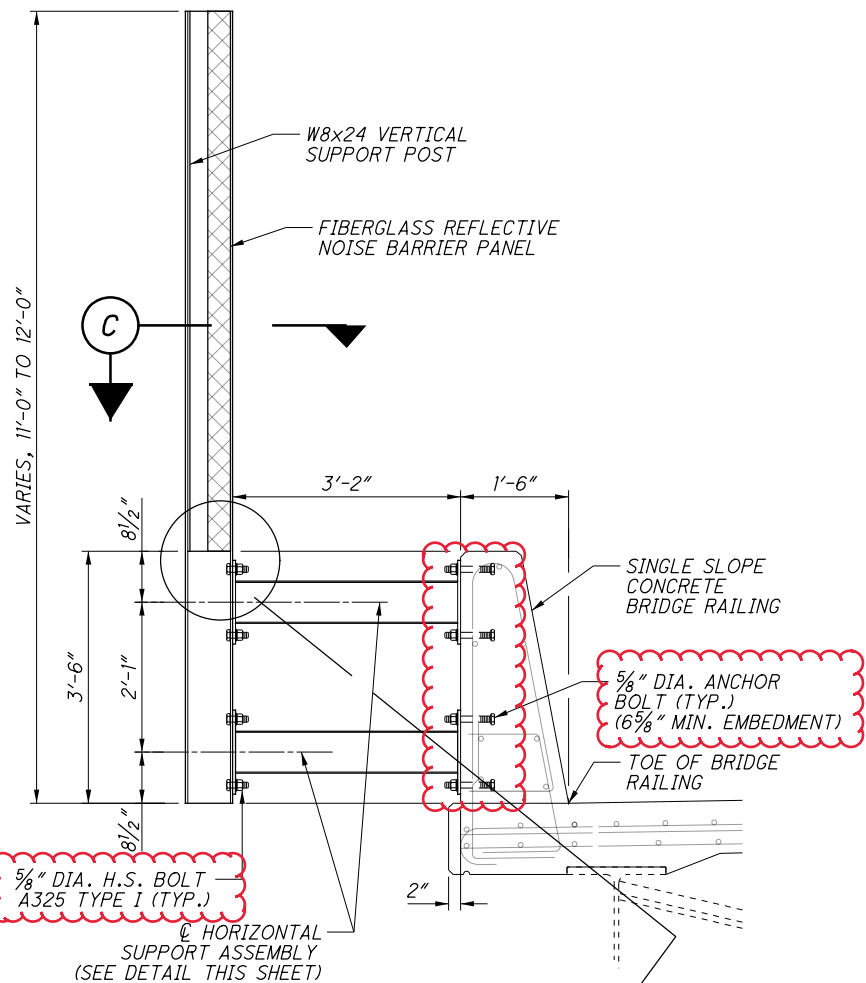
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15.
2. FOR ADDITIONAL SINGLE SLOPE MEDIAN BRIDGE RAILING DETAILS, SEE STANDARD DRAWING SBR-2-13.
3. FOR STAGED CONSTRUCTION DETAILS AND NOTES, SEE SHEETS 6/48 THRU 9/48.

DESIGN AGENCY <b>ARCADIS</b> ARCADIS U.S., Inc. 222 South Main Street, Suite 200 Akron, Ohio 44308 Tel: 330-434-1995 Fax: 330-374-1995 www.arcadis.com	DATE 8/17/18
	REVIEWED RBB
DRAWN MPB	STRUCTURE FILE NUMBER 1808702
DESIGNED RUB	CHECKED CMD
<b>APPROACH SLAB DETAILS 7 OF 7</b> BRIDGE NO. CUY-90-2463 INTERSTATE ROUTE 90 OVER EAST 152ND STREET	
<b>CUY-90-24.10/24.63</b>	<b>PID No. 88348</b>
42/48	190 196

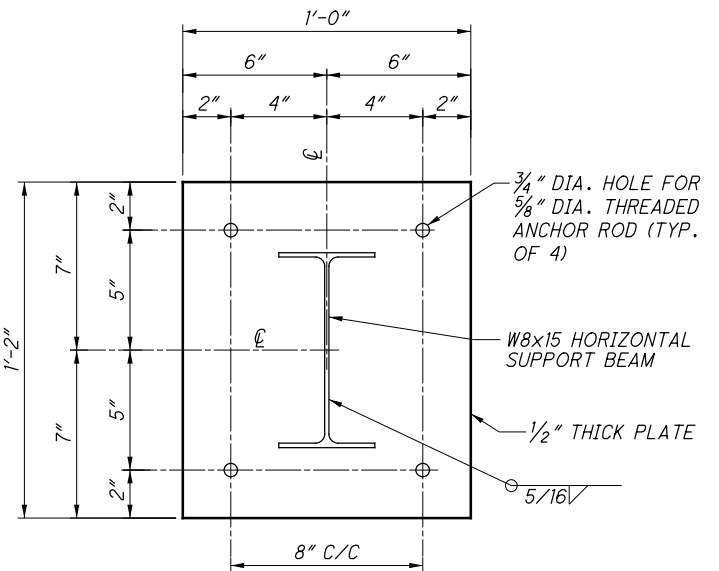
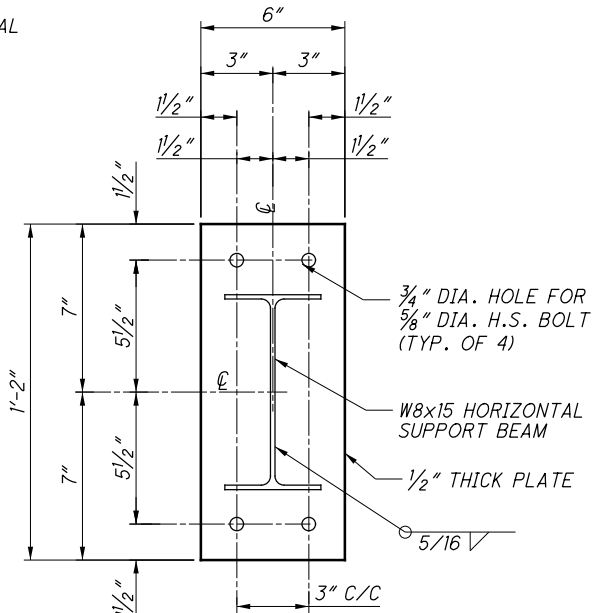
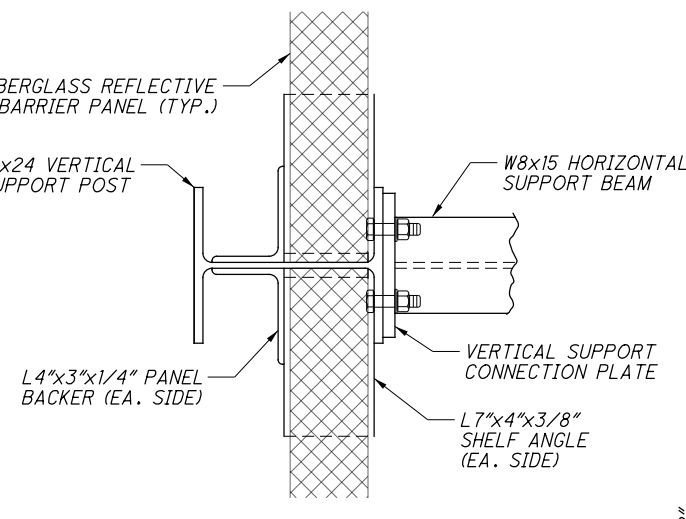
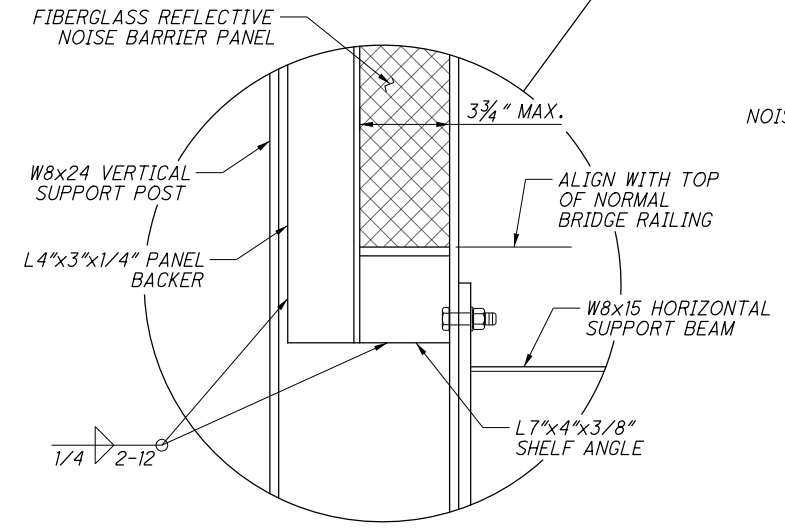
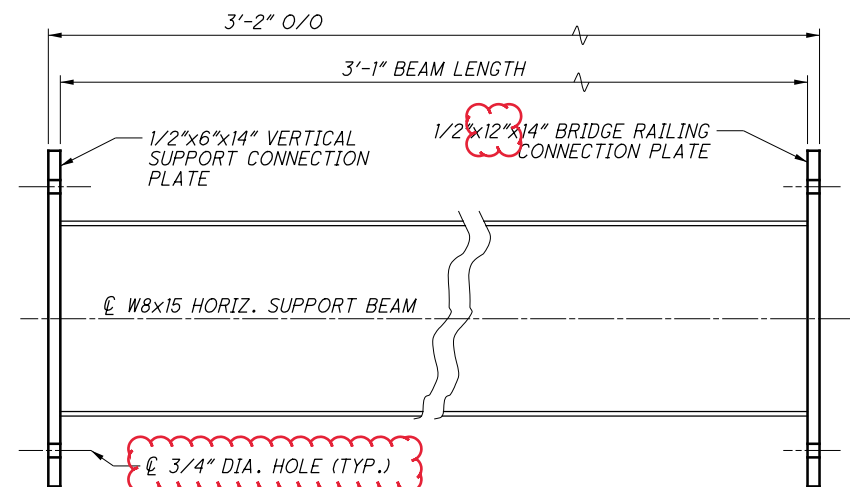
\* - REINFORCING TO BE PLACE IN SKEW PARALLEL TO  $\varnothing$  BEARING



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- NOTES**
1. THE NOISE BARRIER SUPPORT ASSEMBLY SHALL BE ANCHORED TO THE CONCRETE PARAPET USING 5/8" DIA. HEAVY HEX HEAD ASTM F 1554 GRADE 55 ANCHOR BOLTS. ANCHOR BOLTS SHALL BE CAST IN PLACE.
  2. FIBERGLASS REFLECTIVE NOISE BARRIER SYSTEM TO BE PER THE SELECTED NOISE BARRIER MANUFACTURER'S SPECIFICATIONS.



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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS					
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R
<b>APPROACH SLABS (FOR REFERENCE ONLY)</b>												
<i>REAR</i>												
AS501	50	50	100	24'-7"	2564	STR						
AS502	57	57	114	23'-10"	2834	37	23'-10"					
AS503	114	114	228	6'-0"	1427	39	6'-0"					
AS504	57	57	114	19'-0"	2259	37	19'-0"					
AS505	57	57	114	30'-10"	3666	STR						
AS506	1	1	2	14'-7"	30	STR						
AS507	34	34	68	4'-10"	343	19	3'-5"	1'-3"	0'-8"			
AS601	1	1	2	2'-9"	8	1	1'-0"	1'-11"				
AS602	1	1	2	3'-5"	10	28	1'-11"	0'-11"				
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	342	1	1'-0"	3'-6" TO 4'-4"				0'-1"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"				
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"				
AS1001	121	121	242	26'-0"	27074	16	24'-7"					
AS1002	1	1	2	16'-0"	138	16	14'-7"					
<i>FORWARD</i>												
AS501	50	50	100	24'-7"	2564	STR						
AS502 NOT USED												
AS503	114	114	228	6'-0"	1427	39	6'-0"					
AS504 AND AS505 NOT USED												
AS506	1	1	2	14'-7"	30	STR						
AS507 NOT USED												
AS508	57	57	114	24'-2"	2873	37	24'-2"					
AS509	57	57	114	19'-3"	2289	37	19'-3"					
AS510	57	57	114	31'-4"	3726	STR						
AS511	34	34	68	4'-11"	349	19	3'-5"	1'-4"	0'-9"			
AS601	1	1	2	2'-9"	8	1	1'-0"	1'-11"				
AS602	1	1	2	3'-5"	10	28	1'-11"	0'-11"				
AS603	2 SR OF 12	2 SR OF 12	4 SR OF 12	4'-4" TO 5'-2"	342	1	1'-0"	3'-6" TO 4'-4"				0'-1"
AS604	4	4	8	4'-8"	56	1	1'-0"	3'-10"				
AS605	6	6	12	4'-4"	78	1	1'-0"	3'-6"				
AS1001	121	121	242	26'-0"	27074	16	24'-7"					
AS1002	1	1	2	16'-0"	138	16	14'-7"					
<b>TOTAL APPROACH SLABS</b>					81,739							

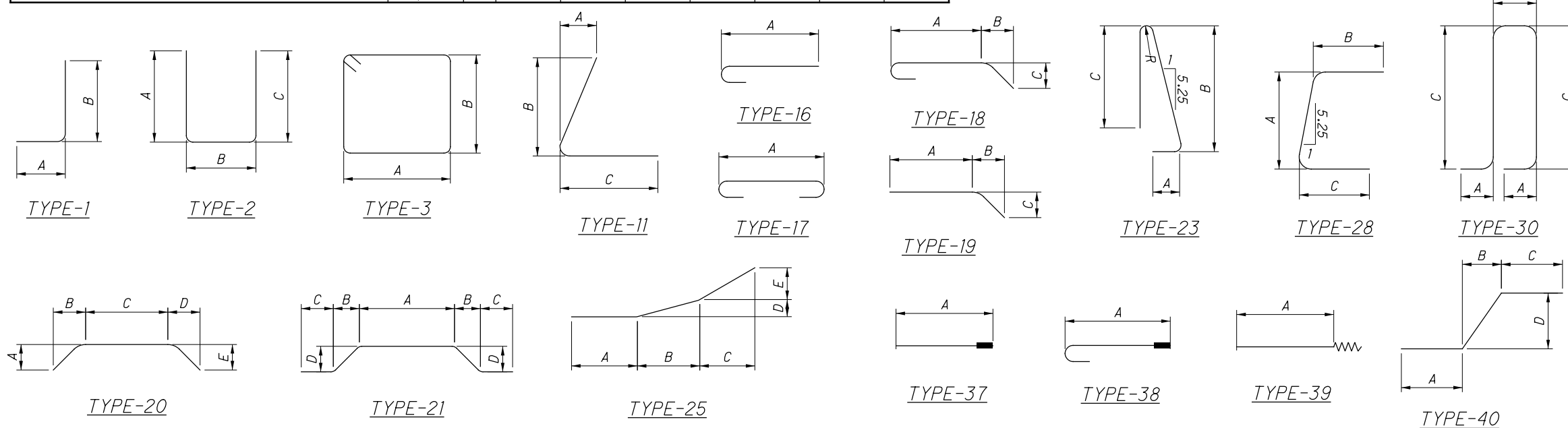
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS					
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R
<b>SLEEPER SLABS (FOR REFERENCE ONLY)</b>												
<i>REAR</i>												
SS501	71	71	142	6'-4"	938	STR						
SS502	11	11	22	23'-10"	547	37	23'-10"					
SS503	22	22	44	6'-0"	275	39	6'-0"					
SS504	11	11	22	19'-0"	436	37	19'-0"					
SS505	11	11	22	30'-10"	708	STR						
SS506 THRU SS508 NOT USED												
SS509	71	71	142	5'-10"	864	30	10"	1'-6 1/4"	1'-7"			
<i>FORWARD</i>												
SS501	71	71	142	6'-4"	938	STR						
SS502 NOT USED												
SS503	22	22	44	6'-0"	275	39	6'-0"					
SS504 AND SS505 NOT USED												
SS506	11	11	22	24'-2"	555	37	24'-2"					
SS507	11	11	22	19'-3"	442	37	19'-3"					
SS508	11	11	22	31'-4"	719	STR						
SS509	71	71	142	5'-10"	864	30	10"	1'-6 1/4"	1'-7"			
<b>TOTAL SLEEPER SLABS</b>					7,561							

**NOTE:**

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.

**BAR MARK LEGEND**

- A = ABUTMENT
- S = SUPERSTRUCTURE
- R = RAILING
- P = PIER
- AS = APPROACH SLAB
- SS = SLEEPER SLAB



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 DATE: 8/17/18  
 REVIEWED: RBB  
 STRUCTURE FILE NUMBER: 1808702  
 DRAWN: CAF  
 CHECKED: CMD  
**REINFORCING STEEL LIST 3 OF 3**  
 BRIDGE NO. CUY-90-2463  
 INTERSTATE ROUTE 90 OVER EAST 152ND STREET  
 CUY-90-24.10/24.63  
 PID No. 88348  
 48/48  
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