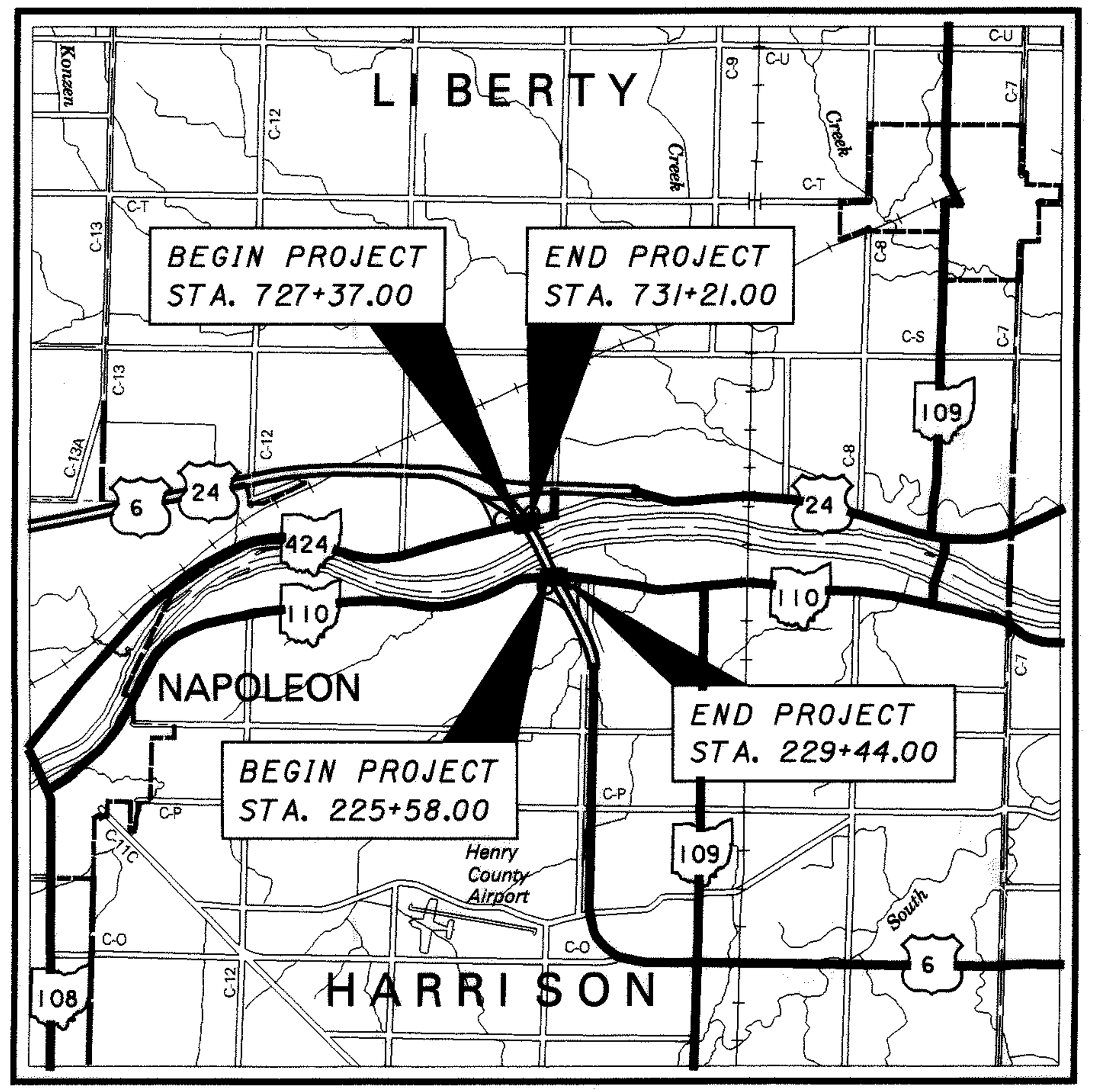
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HEN-110/ 424-4.18/ 13.78
LIBERTY TOWNSHIP
HARRISON TOWNSHIP
HENRY COUNTY



LOCATION MAP

LATITUDE: 41°24′35″ LONGITUDE: 84°03′35″

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

	S.R. 110	S.R. 424
CURRENT ADT (2003)	2300	2100
DESIGN YEAR ADT (2023)	3200	2700
DESIGN HOURLY VOLUME (2023)	320	270
DIRECTIONAL DISTRIBUTION	55%	55%
TRUCKS (24 HOUR B&C)	29%	6%
DESIGN SPEED	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION -
S.R. 110 - RURAL COLLECTOR / NON - NHS
S.R. 424 - RURAL COLLECTOR / NON - NHS

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBERS
VERTICAL CLEARANCE	2/14/02	28 & 47

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL **1-800-362-2764** (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF PRODUCTION
1980 WEST BROAD STREET
COLUMBUS, OHIO 43223

INDEX OF SHEETS:

ENGINEERS SEAL: (FOR ROADWAY WORK)	ENGINEERS SEAL: (FOR STRUCTURES WORK)
STATE OF OHIO JULIE A. DONOVAN E-55273 REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO TEDDY ... ANTONIOS ... PROFESSIONAL ...
Julie A. Donovan 3/13/03	Teddy Antonios 03-13-03

STANDARD CONSTRUCTION DRAWINGS

										SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	7/28/00	RM-4.3	4/18/03	TC-41.20	1/19/01	MT-97.10	4/19/02	AS-1-81	7/19/02	802	7/19/02
		RM-4.5	4/18/03	TC-42.20	4/20/01	MT-97.11	4/19/02				
BP-5.1	7/28/00									832	2/12/03
								SICD-1-96	7/19/02	833	2/12/03
F-2.1	7/28/00	CB-1.1	7/19/02	TC-52.10	4/20/01	MT-101.60	10/18/02			841	10/12/99
				TC-52.20	4/20/01					864	7/11/00
GR-1.1	4/18/03	CB-2.2	7/19/02							898	7/18/03
GR-1.2	4/18/03					MT-105.10	10/18/02			908	4/19/02
GR1.3	4/18/03			TC-61.10	1/19/01	MT-105.11	10/18/02			954	9/9/97
		HW-2.1	7/19/02							SPECIAL PROVISIONS	
GR-2.1	4/18/03	HW-2.2	7/19/02								
				TC-65.10	10/19/01						
GR-3.1	4/18/03			TC-65.12	10/19/01						
GR-3.2	4/18/03	DM-1.1	7/18/03								
		DM-1.4	7/19/02								
GR-4.2	4/18/03	DM-4.4	7/19/02								

PROJECT DESCRIPTION

IMPROVEMENT OF 0.07 MILES OF STATE ROUTE 110 AND 0.07 MILES OF STATE ROUTE 424 BY REHABILITATION OF A STRUCTURE OVER U.S. ROUTE 6, ON EACH OF THE STATE ROUTES, INCLUDING APPROACH RECONSTRUCTION.

PROJECT EARTH DISTURBED AREA:	5.4 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	2.1 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	8 ACRES

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.

2002 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 8.

APPROVED Todd M. ...
DATE 15 MAY 2003 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor Jr.
DATE 8-13-03 DIRECTOR, DEPARTMENT OF TRANSPORTATION

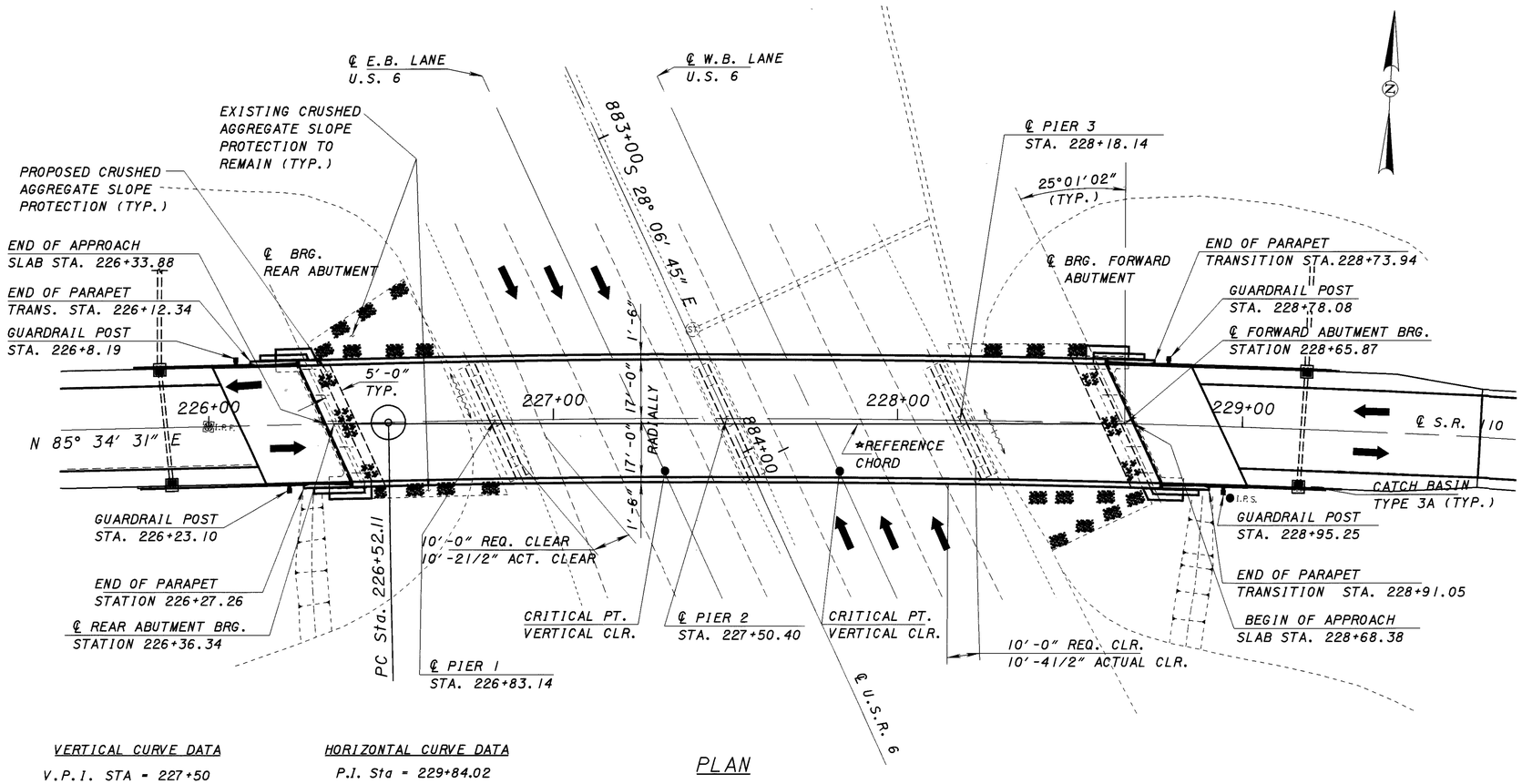
FEDERAL PROJECT NO. E 032(922)

PID NO. 22621

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

HEN-110/ 424-4.18/ 13.78



PLAN

VERTICAL CURVE DATA

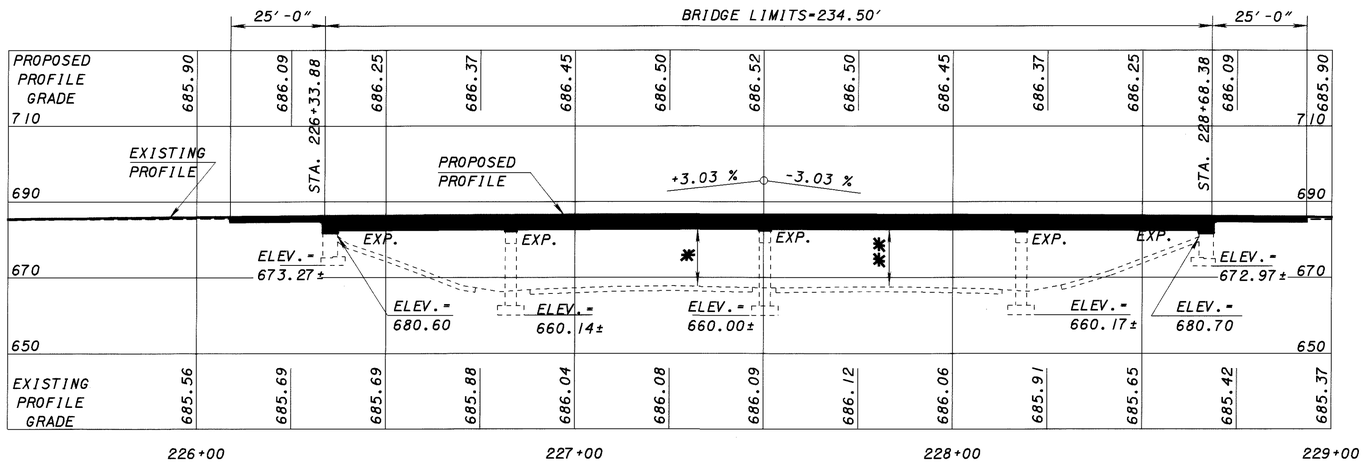
V.P.I. STA = 227+50
V.P.I. ELEVATION = 694.86
L.V.C. = 1,100 FEET
g1 = 3.03%
g2 = -3.03%

HORIZONTAL CURVE DATA

P.I. Sta = 229+84.02
D = 8° 49' 58" (RT)
Dc = 1° 20' 00"
R = 4,297.39'
T = 331.91'
L = 662.50'
E = 12.80'
e = 0.032'

* REFERENCE CHORD IS MEASURED FROM THE INTERSECTION OF ℄ S.R. 110 AND ℄ OF THE ABUTMENT BEARINGS. THE REFERENCE DIAGRAM IS SHOWN ON SHEET 5/20.

THE REFERENCE CHORD BEARING IS N 86° 54' 08" E



PROFILE
(ALONG ℄ S.R. 110)

FOR PAVEMENT TRANSITION DETAIL, SEE SHEET 14/20.

☐ - PROPOSED BRIDGE WORK SEE SHEET 4/20 FOR DESCRIPTION OF THE PROPOSED WORK.

NOTES

✱ 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
15'-2" ACTUAL MINIMUM VERTICAL CLEARANCE

✱✱ 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
15'-4" ACTUAL MINIMUM VERTICAL CLEARANCE

DESIGN TRAFFIC

2003 ADT - 2300 2003 ADTT - 667
2023 ADT - 3200 2023 ADTT - 928

BENCHMARK DATA

MONUMENT
STATION 220+16.75 BK - 220 +21.86 AH,
℄ CONSTRUCTION S.R. 110, ELEVATION - 673.16

MONUMENT
STATION 233+14.62 BK - 233+15.26 AH,
℄ CONSTRUCTION S.R. 110, ELEVATION - 677.70

EXISTING STRUCTURE
(TO BE REHABILITATED)

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.

SPANS: 47'-3"±, 67'-6"±, 67'-6"±, 47'-3"± C/C BRGS.

ROADWAY: 30'-0"± T/T OF CURB 2'-0" SAFETY CURB

LOADING: CF 400 (57)

SKEW: 25°01'02"± (R.F)

WEARING SURFACE: ASPHALT

APPROACH SLABS: 25'-0" LONG (SPECIAL DESIGN)

ALIGNMENT: 1°20' CURVE TO RIGHT

SUPERELEVATION: VARIES

DATE BUILT: 1968 CONDITION: FAIR

SFN: 3503240

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE UNITS WITH SEMI-INTEGRAL ABUTMENTS, CAP AND COLUMN PIERS.

SPANS: 47'-3"±, 67'-6"±, 67'-6"±, 47'-3"± C/C BRGS.*

ROADWAY: 34'-0" T/T OF PARAPETS

LOADING: HS-20-44 (CASE II) AND ALTERNATE MILITARY LOADING

SKEW: 25°01'02" (R.F)

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-81 (25'-0" LONG)

ALIGNMENT: 1° 20" CURVE TO RIGHT

SUPERELEVATION: VARIES
LONGITUDE: 84°03'35" LATITUDE 41°24'35"

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
DATE: 8-21-01
REVIEWED: TAA
STRUCTURE FILE NUMBER: 3503240
DRAWN: TGM
REVISED:
DESIGNED: TGM
CHECKED: JF

HENRY COUNTY
STA. 226+33.88
STA. 228+68.38

SITE PLAN

HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

1/20

78/115

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED OVER 20 FOOT SPAN, AS PER PLAN	LUMP		LUMP		SHEET NUMBER 3/20
503	21101	482	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN				482	SHEET NUMBER 4/20
509	10000	88867	POUND	EPOXY COATED REINFORCING STEEL	12415	1357	75095		SHEET NUMBER 4/20
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	SHEET NUMBER 4/20
510	10000	474	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	174	300			
513	20000	2595	EACH	WELDED STUD SHEAR CONNECTORS			2595		
514	00050	11826	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL *			11826		
514	00056	11826	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT *			11826		
514	00060	11826	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT *			11826		
514	00066	11826	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT *			11826		
514	00504	80	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			80		
516	13900	115	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	115				
516	14021	98	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	98				SHEET NUMBER 4/20
516	44100	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE		15			
				(NEOPRENE), (10½"x17"x2 1/16" PAD & 11½"x18"x1 5/8" PLATE)					
516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE	10				SHEET NUMBER 19/20
				(NEOPRENE), (9"x14"x2 13/16" PAD & 12"x15"x1½" PLATE), AS PER PLAN					
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		SHEET NUMBER 4/20
518	21200	48	CU YD	POROUS BACKFILL WITH FILTER FABRIC	48				
518	40000	69	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	69				
518	40010	100	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	100				
519	11101	66	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	12	54			SHEET NUMBER 4/20
526	25001	402	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN			206		SHEET NUMBER 18/20
864	10100	951	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	123	276	552		
898	10200	300	CU YD	QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (DECK)			300		
898	11000	75	CU YD	QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (PARAPET) **			75		
898	20000	58	CU YD	QC/QA CONCRETE CLASS QSC1 SUBSTRUCTURE	51	7			

* 25% ADDED TO NOMINAL BEAM AREA FOR INCIDENTALS.
** PARAPET ON THE APPROACH SLAB IS INCLUDED WITH THIS PAY ITEM.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
REVIEWED: BCW DATE: 10-01-01
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF
REVISED:
DESIGNED: JFF
CHECKED: TAA

ESTIMATED QUANTITIES
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

GENERAL NOTES

STANDARD DRAWINGS AND SPECIFICATIONS:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED 7-19-02
SICD-1-96	DATED 7-19-02

AND TO SUPPLEMENTAL SPECIFICATIONS:

864	DATED 7-11-00
898	DATED 1-17-03
954	DATED 9-09-97

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 INCLUDING THE 1997-2000 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20, CASE II AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE = 60 PSF

DESIGN DATA:

CLASS QSC2 CONCRETE - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CLASS QSC1 CONCRETE - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616 OR A617 GRADE 60 MINIMUM YIELD STRENGTH 60 KSI.

STRUCTURAL STEEL - A36 - YIELD STRENGTH 36 KSI

DECK PROTECTION METHOD - EPOXY COATED REINFORCING STEEL AND 2½" CONCRETE COVER AND HIGH PERFORMANCE CONCRETE.

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" 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 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING BRIDGE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT TWO OFFICE IN BOWLING GREEN, OHIO.

UTILITY LINES:

ALL EXPENSE INVOLVED IN THE RELOCATION OF EFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY. THE CONTRACTOR AND UTILITY ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD AT A MINIMUM.

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

DESCRIPTION:
THIS WORK SHALL CONSIST OF THE REMOVAL OF ASPHALT WEARING SURFACE,
CONCRETE DECKS INCLUDING SIDEWALKS, SCUPPERS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSSFRAMES, ETC.). CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC:
PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR), UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2" OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2" OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2" OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS:
CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS:
DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE ENGINEER.

EXTRANEOUS MEMBERS:
EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS:
NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPEC. FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHOD OR EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT:
THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTAL NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS INTERFERE WITH THE ENGINEER'S INSPECTION THEY SHALL BE REMOVED OR NOT BE ERECTED UNTIL AFTER THE INSPECTION. THE INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.10, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH ITEM 511, SUPERSTRUCTURE CONCRETE FOR PAYMENT. ANY CRACKS FOUND SHOULD BE REPORTED TO THE OFFICE OF CONSTRUCTION IN CENTRAL OFFICE, 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.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS. REMOVE CONCRETE TO A ROUGH SURFACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE. THE JOINT SURFACE SHALL BE THROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL:

SUBSTRUCTURE CONCRETE REMOVAL SHALL BE 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" OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18" LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

TRAFFIC MAINTENANCE:

SEE ROADWAY PLANS FOR ADDITIONAL TRAFFIC NOTES AND DETAILS.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
JFF	JFF	BCW	10-01-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAA		3503240	

GENERAL NOTES
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

GENERAL NOTES CONTINUED

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

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE OR REPOSITION ANY EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.

2. CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTION JACKING POINTS.

3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.

4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES,ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.

5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.

6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.

7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.

8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE SHALL NOT BE USED TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE ENGINEER SHALL BE USED.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR THE REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH.

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1" OR LESS. THIS HEIGHT MAY BE MODIFIED IF CALCULATIONS, BY THE CONTRACTOR'S OHIO REGISTERED PROFESSIONAL ENGINEER, SHOW THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES FOR THOSE COMPONENTS AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION.

JACKING OPERATIONS WILL NOT BE PERMITTED UNTIL ALL EXISTING CONCRETE DECK IS REMOVED. NO LIVE LOAD WILL BE PERMITTED ON THE SUPERSTRUCTURE WHILE JACKING OPERATIONS ARE BEING PERFORMED.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUITABLE MEANS OF REPAIR, SUBJECT TO THE ENGINEERS APPROVAL, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPER-STRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

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

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 100 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

ITEM 509 EPOXY COATED REINFORCING STEEL:

NEW REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED UNDER ITEM 509.

ITEM 519 PATCHING CONCRETE STRUCTURE, AS PER PLAN:

ALL SURFACES TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WITHIN SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING PRIOR TO THE CLEANING SPECIFIED BY 519.04. CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS BY NOT MORE THAN 24 HOURS.

ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE STRIP, 3/32 INCH THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 3 FOOT WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 1 1/4" X #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKE THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES (+/-) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS, AT 6 INCHES CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS WHERE THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST ONE FOOT IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32 INCH THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.94 +/- .01
BREAKING STRENGTH,GRAB WXF, LBS, MINIMUM	D 751	700 X 700
ADHESIVE 1" STRIP, 2" MINIMUM, LBS,MINIMUM	D 751	9
BURST STRENGTH (MULLEN) PSI, MINIMUM	D 751	1400
HEAT AGING 70 HOURS T 212 F, 180 BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40 F, BEND AROUND 1/4 INCH MANDREL	D 2136	NO CRACKING OF COATING

IN LIEU OF THE NEOPRENE SHEETING THE CONTRACTOR MAY CHOOSE TO SUPPLY TYPE 3 MEMBRANE, 711.29 .

PAYMENT FOR LABOR MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

PROPOSED WORK:

1. REMOVE EXISTING DECK, PARAPETS, SCUPPERS AND END DAMS.

2. JACK AND SUPPORT SUPERSTRUCTURE STRINGERS.

3. REMOVE PORTION OF SUBSTRUCTURES.

4. RECONSTRUCT SUBSTRUCTURES, RESUPPORT SUPERSTRUCTURE AND RECONSTRUCT SUPERSTRUCTURE DECK.

5. RECONSTRUCT PARAPETS AND APPROACHES.

6. PAINT STRUCTURAL STEEL, SEAL CONCRETE SURFACES.

ITEM 503 UNCLASSIFIED EXCAVATION AS PER PLAN :

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT ALL BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 304.02 PLACED IN 6 INCH LIFTS AS PER 304.05.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR VERIFICATION, HIS METHOD OF FASEWORK SUPPORT AT THE DECK EDGE CANTILEVERS. THIS SUBMITTAL SHALL INCLUDE STRESS AND DEFLECTION CALCULATIONS PREPARED BY AN OHIO REGISTERED ENGINEER. PENDING THE RESULTS OF THESE CALCULATIONS AND METHOD OFSUPPORT, THE DECK SCREED ELEVATIONS SHOWN IN THIS PLAN MAY NEED TO BE MODIFIED.

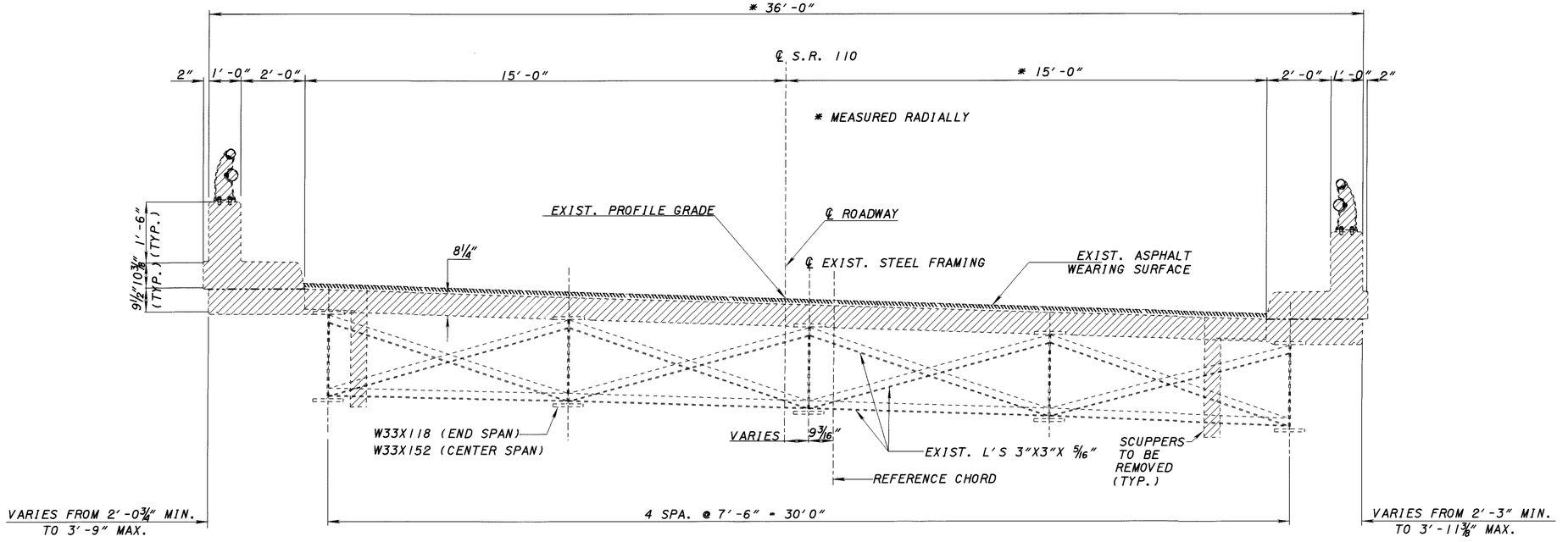
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED JFF | DRAWN JFF | CHECKED TAA | REVISED

REVISED BCW | DATE 10-01-01 | STRUCTURE FILE NUMBER 3503240

GENERAL NOTES
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78



EXISTING TRANSVERSE CROSS - SECTION

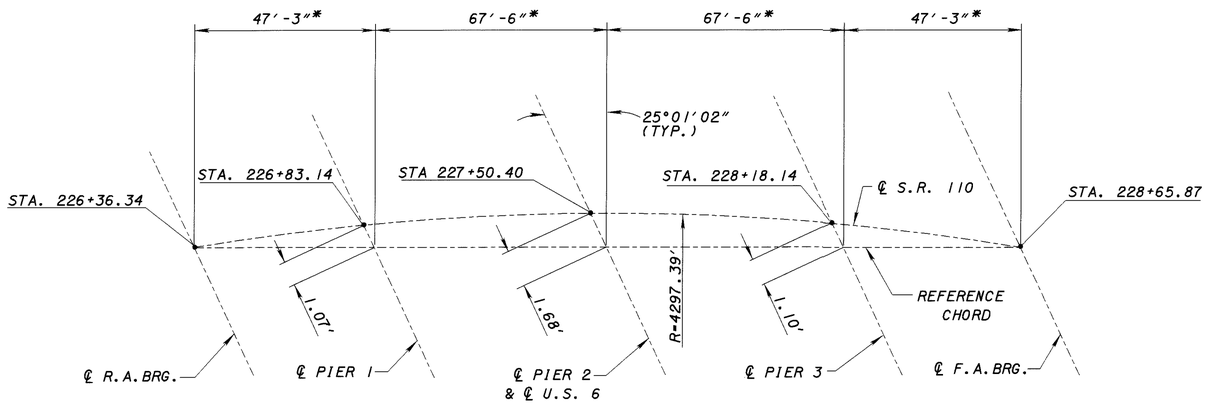
NOTES:

FIELD VERIFY ALL EXISTING DIMENSIONS.

ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

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

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



REFERENCE DIAGRAM

* MEASURED ALONG REFERENCE CHORD

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW | DATE 10-01-01
STRUCTURE FILE NUMBER 3503240

DRAWN JFF | REVISED
DESIGNED JFF | CHECKED TAA

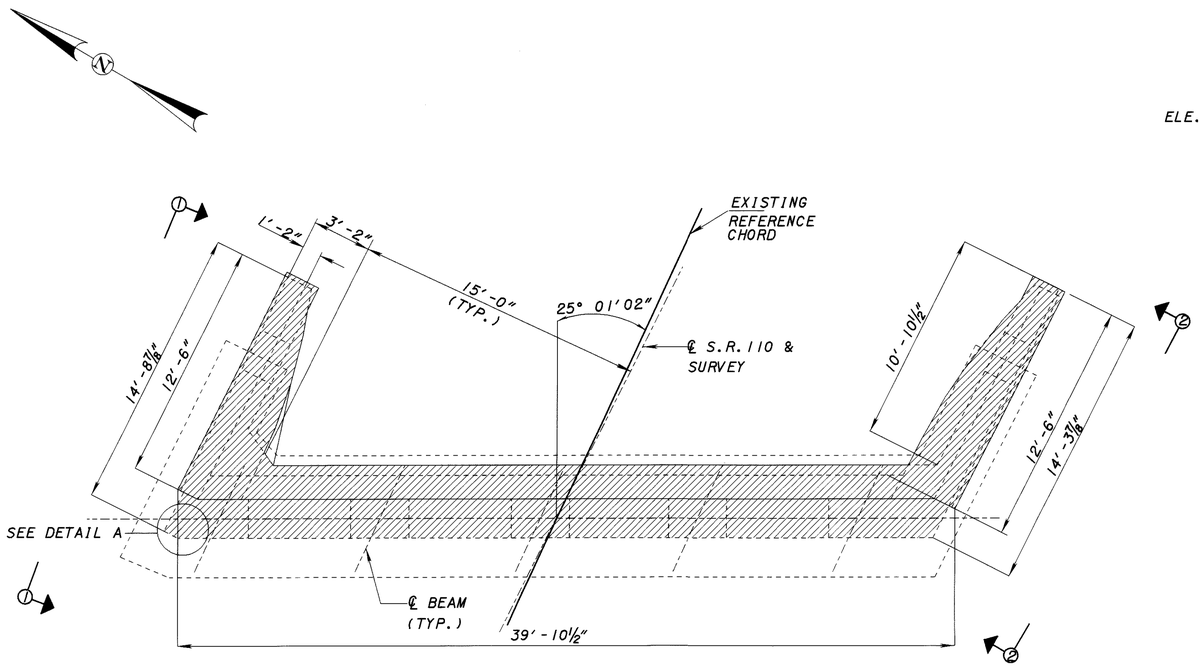
EXISTING SUPERSTRUCTURE REMOVAL DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

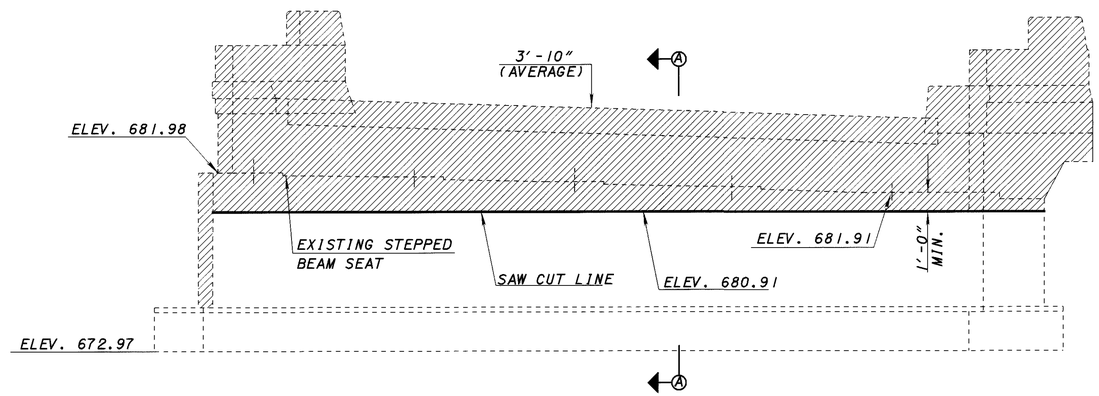
HEN-110/424-4.18/13.78

5 / 20

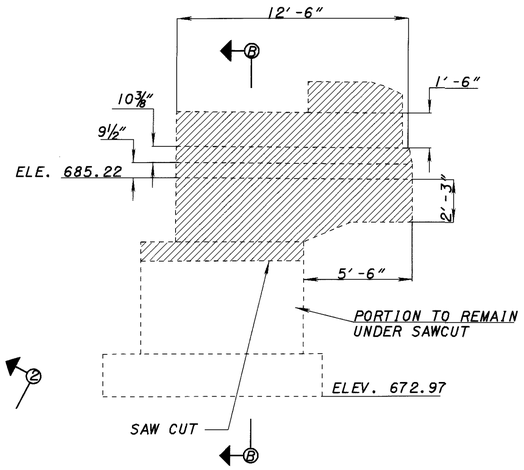
82 / 115



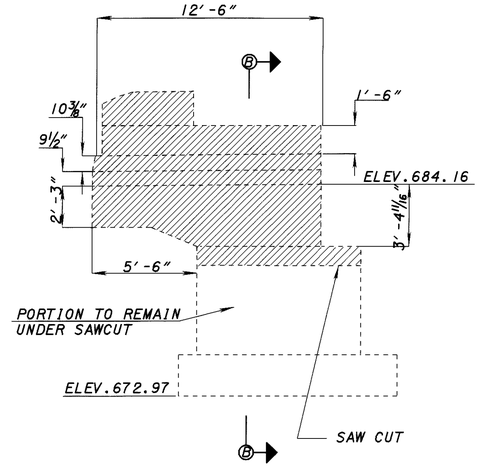
FORWARD ABUTMENT PLAN



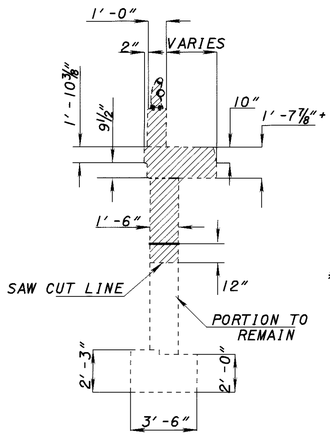
FORWARD ABUTMENT ELEVATION



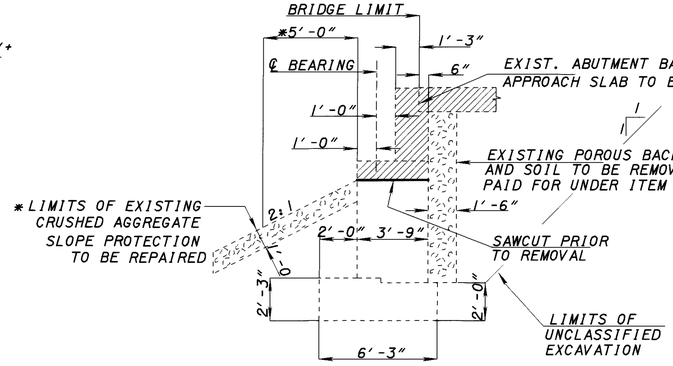
VIEW 2-2
EXIST. NORTH WINGWALL



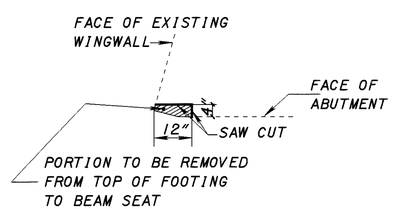
VIEW 1-1
EXIST. SOUTH WINGWALL



SECTION B-B



SECTION A-A



DETAIL A

NOTES:

FIELD VERIFY ALL EXISTING DIMENSIONS.

ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

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

CUT ALL EXISTING VERTICAL REINFORCING STEEL AT REMOVAL LINE

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

REVIEWED: BCW | DATE: 10-01-01 | STRUCTURE FILE NUMBER: 3503240

DRAWN: JFF | REVISED:

DESIGNED: JFF | CHECKED: TAA

EXISTING FORWARD ABUTMENT REMOVAL DETAILS

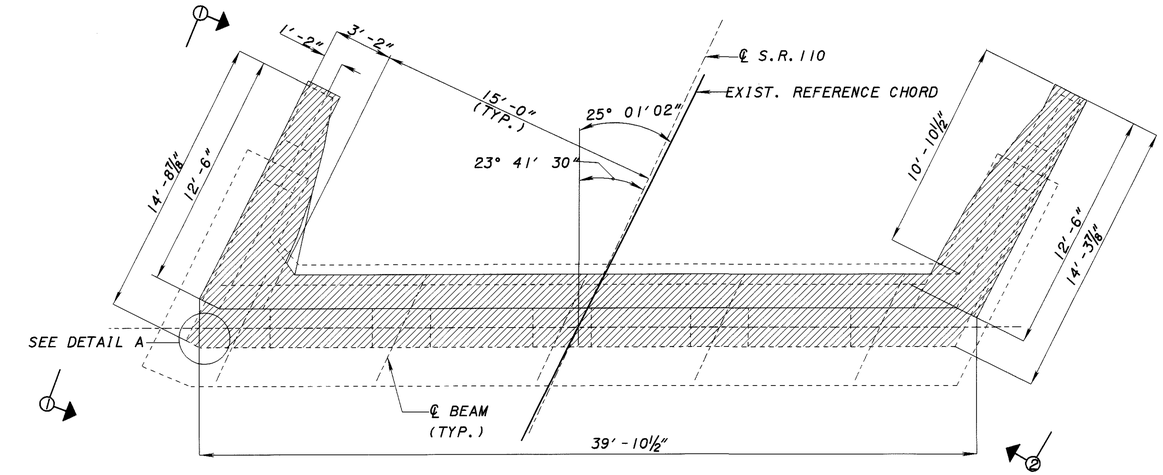
HEN-110-0419

S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

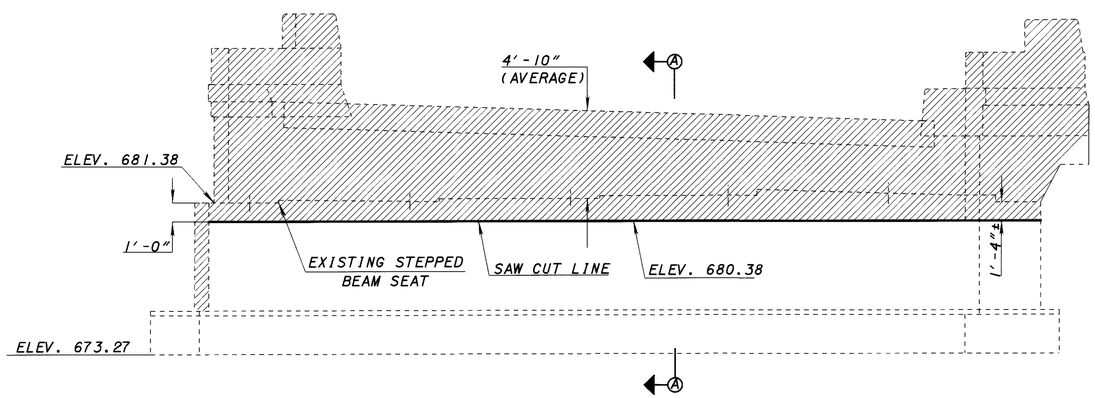
6/20

83/115

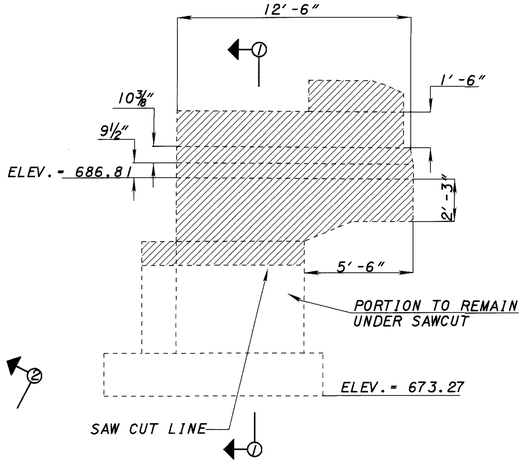


PLAN

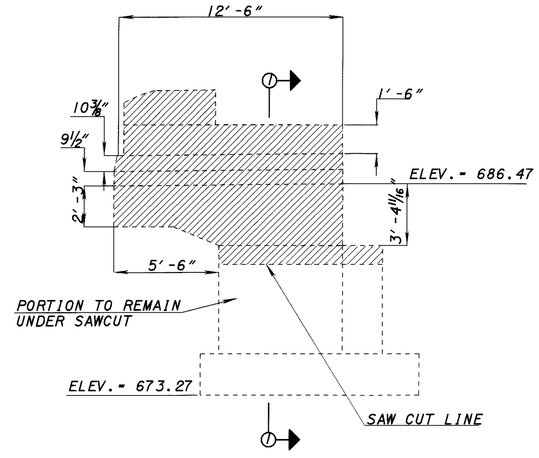
1/4" = 1'



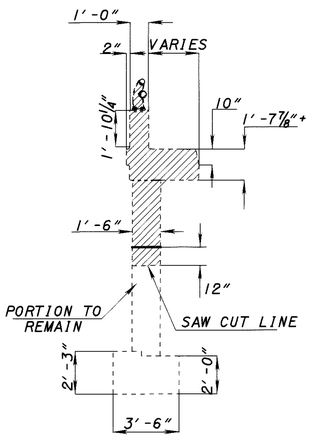
REAR ABUTMENT ELEVATION



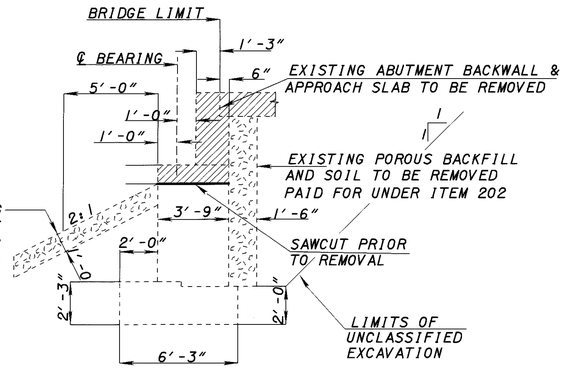
VIEW 2-2
EXIST. NORTH WINGWALL



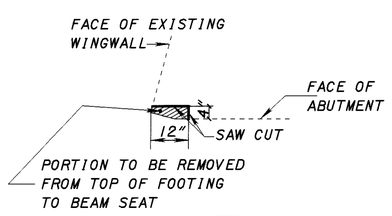
VIEW 1-1
EXIST. SOUTH WINGWALL



SECTION B-B



SECTION A-A



DETAIL A

NOTES:

FIELD VERIFY ALL EXISTING DIMENSIONS.

ALL DIMENSIONS ARE ± ON THE EXISTING STRUCTURE.

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

CUT ALL EXISTING VERTICAL REINFORCING STEEL AT REMOVAL LINE

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED: JFF | DRAWN: JFF | REVIEWED: BCW | DATE: 10-01-01
CHECKED: TAA | REVISED: | STRUCTURE FILE NUMBER: 3503240

EXISTING REAR ABUTMENT REMOVAL DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

7/20

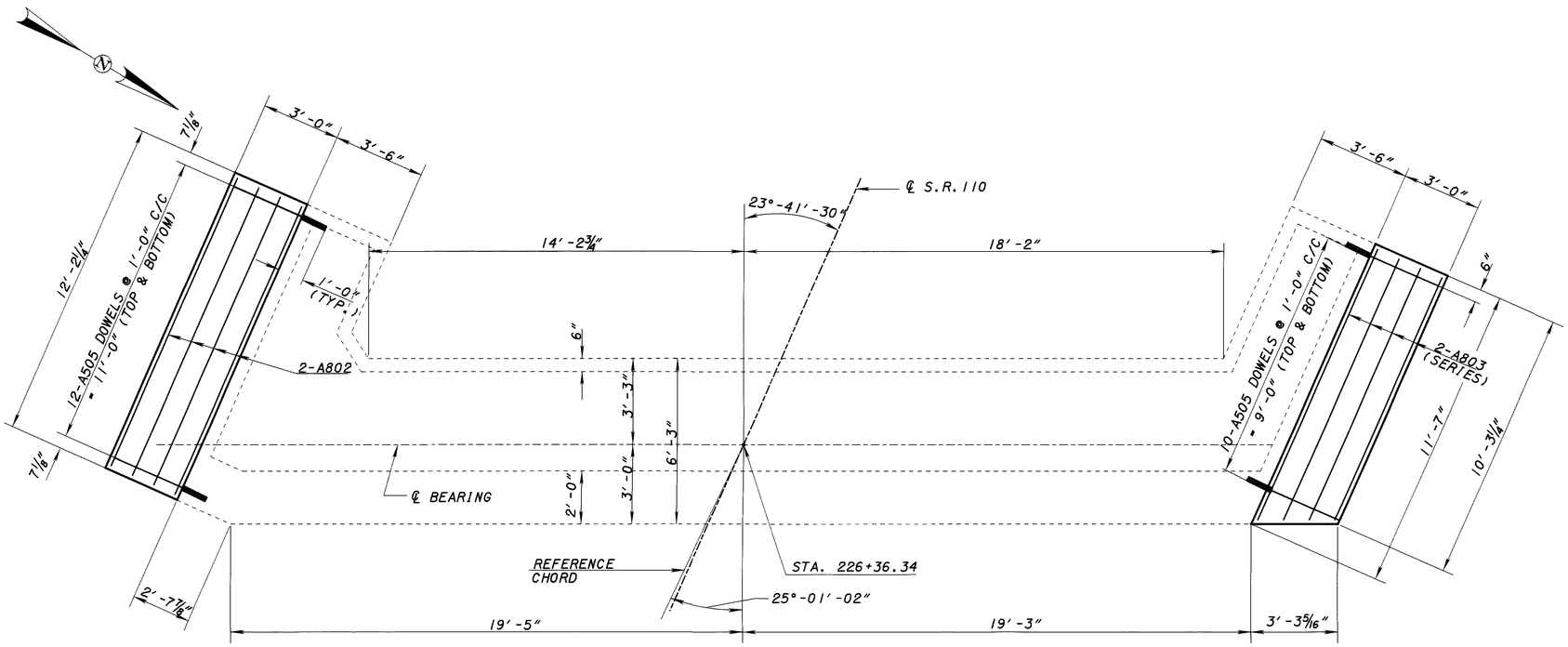
84/115

NOTES

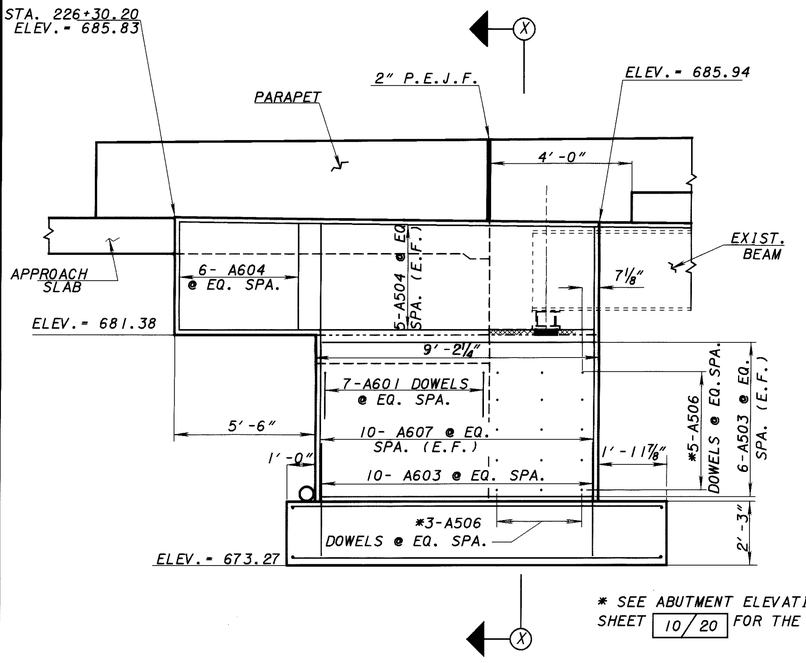
POROUS BACKFILL:

POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 12" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE FACE OF THE WINGWALLS.

FOR VIEW B-B AND C-C SEE SHEET 10/20

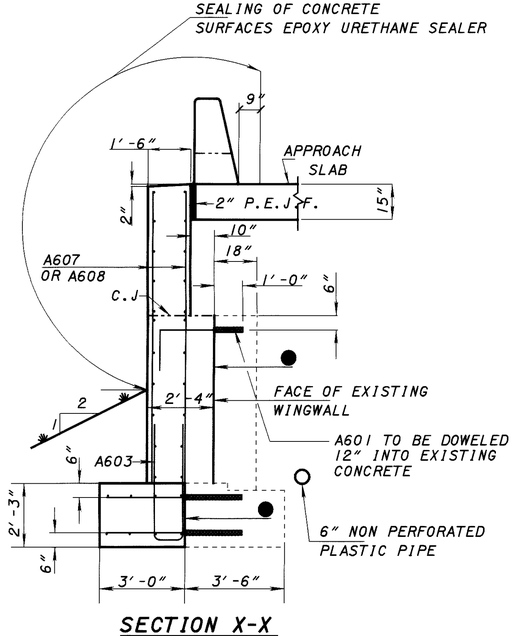


PLAN
FOOTING PLAN



* SEE ABUTMENT ELEVATION VIEW ON SHEET 10/20 FOR THE DOWEL LOCATION.

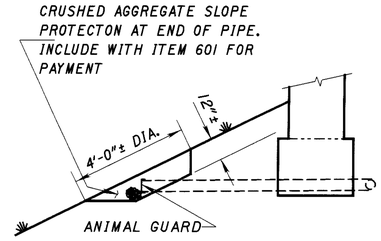
VIEW C-C
WINGWALL ELEVATION

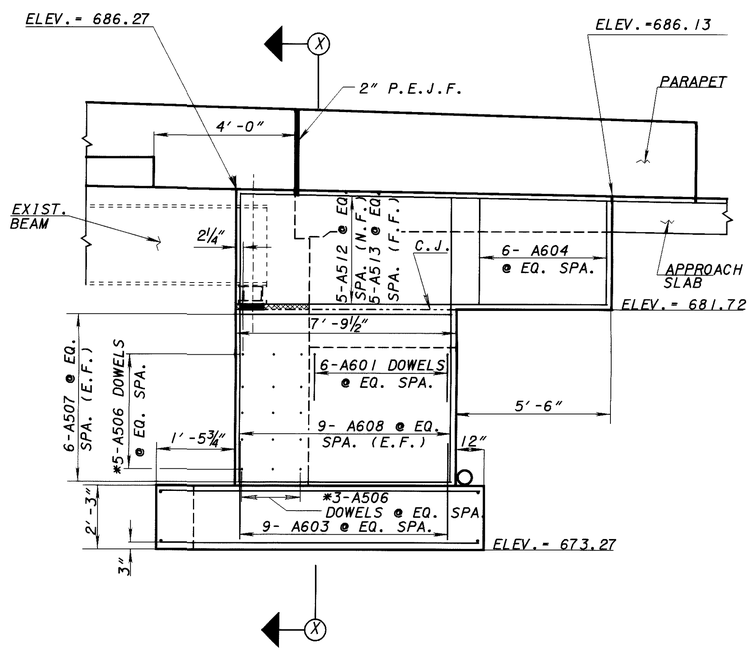


SECTION X-X

● EXISTING CONCRETE SURFACE TO BE SCARIFIED 1/4" PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.

PIPE OUTLET DETAIL





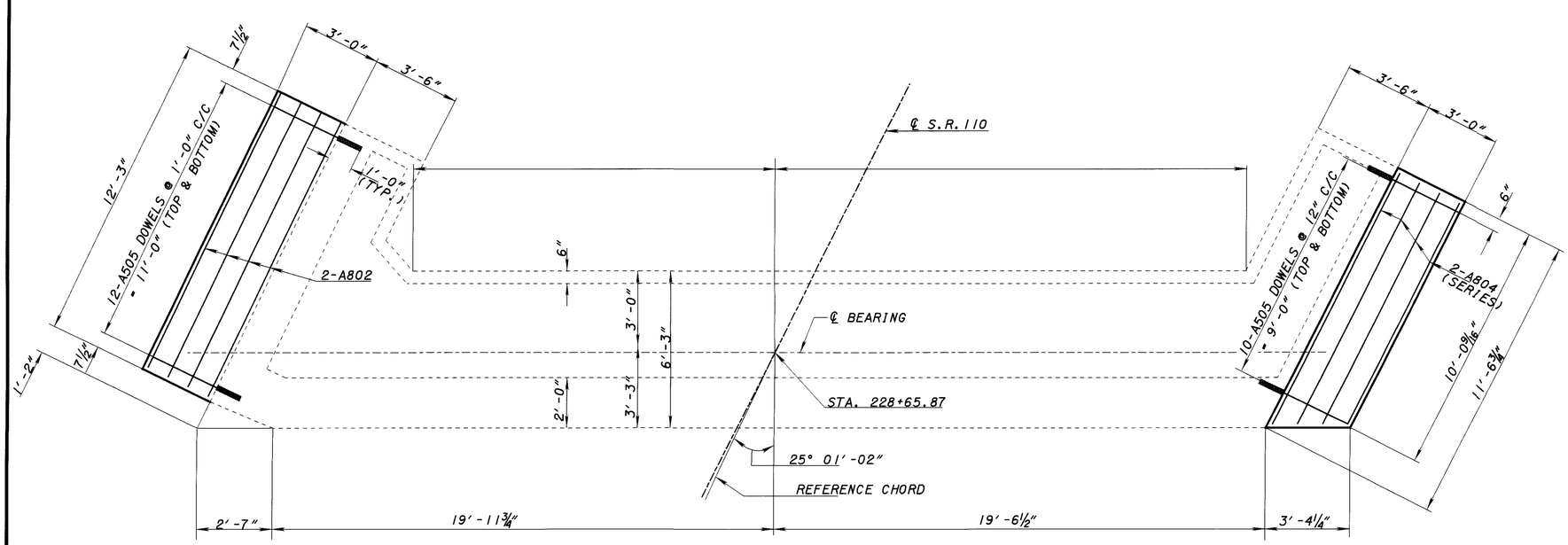
VIEW B-B
WINGWALL ELEVATION

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
DESIGNED JFF | DRAWN JFF | REVIEWED BCW | DATE 10/01/01
CHECKED TAA | REVISED | STRUCTURE FILE NUMBER 3503240

REAR ABUTMENT FOOTING AND WINGWALL DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78



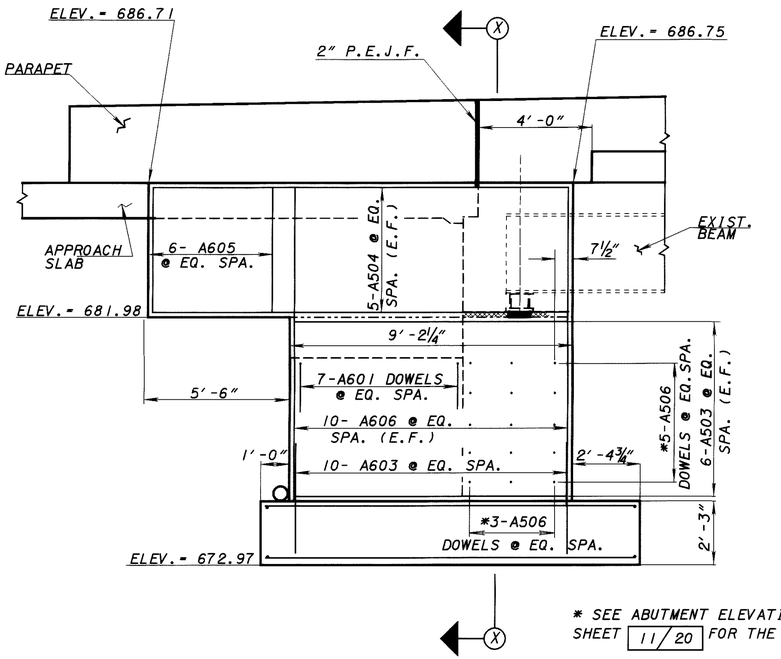
FOOTING PLAN

NOTES

POROUS BACKFILL:

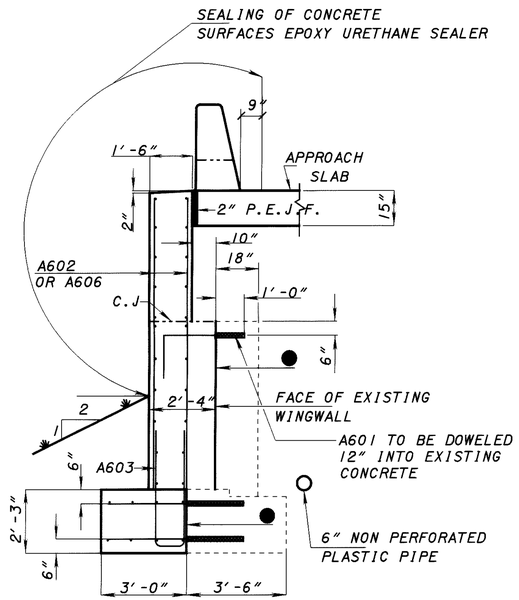
POROUS BACKFILL WITH FILTER FABRIC, 2′-0″ THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 12″ BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE FACE OF THE WINGWALLS.

FOR VIEW D-D & E-E SEE SHEET 11/20



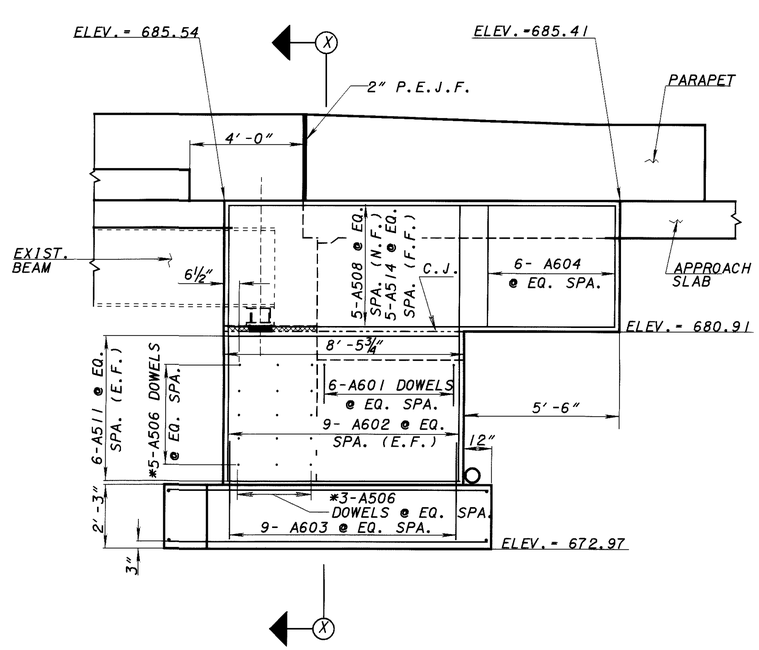
* SEE ABUTMENT ELEVATION VIEW ON SHEET 11/20 FOR THE DOWEL LOCATION.

VIEW E-E
WINGWALL ELEVATION



SECTION X-X

● EXISTING CONCRETE SURFACE TO BE SCARIFIED ¼″ PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.



VIEW D-D
WINGWALL ELEVATION

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION
DESIGNED JFF | DRAWN JFF | REVIEWED BCW | DATE 10-01-01
CHECKED TAA | REVISED | STRUCTURE FILE NUMBER 3503240

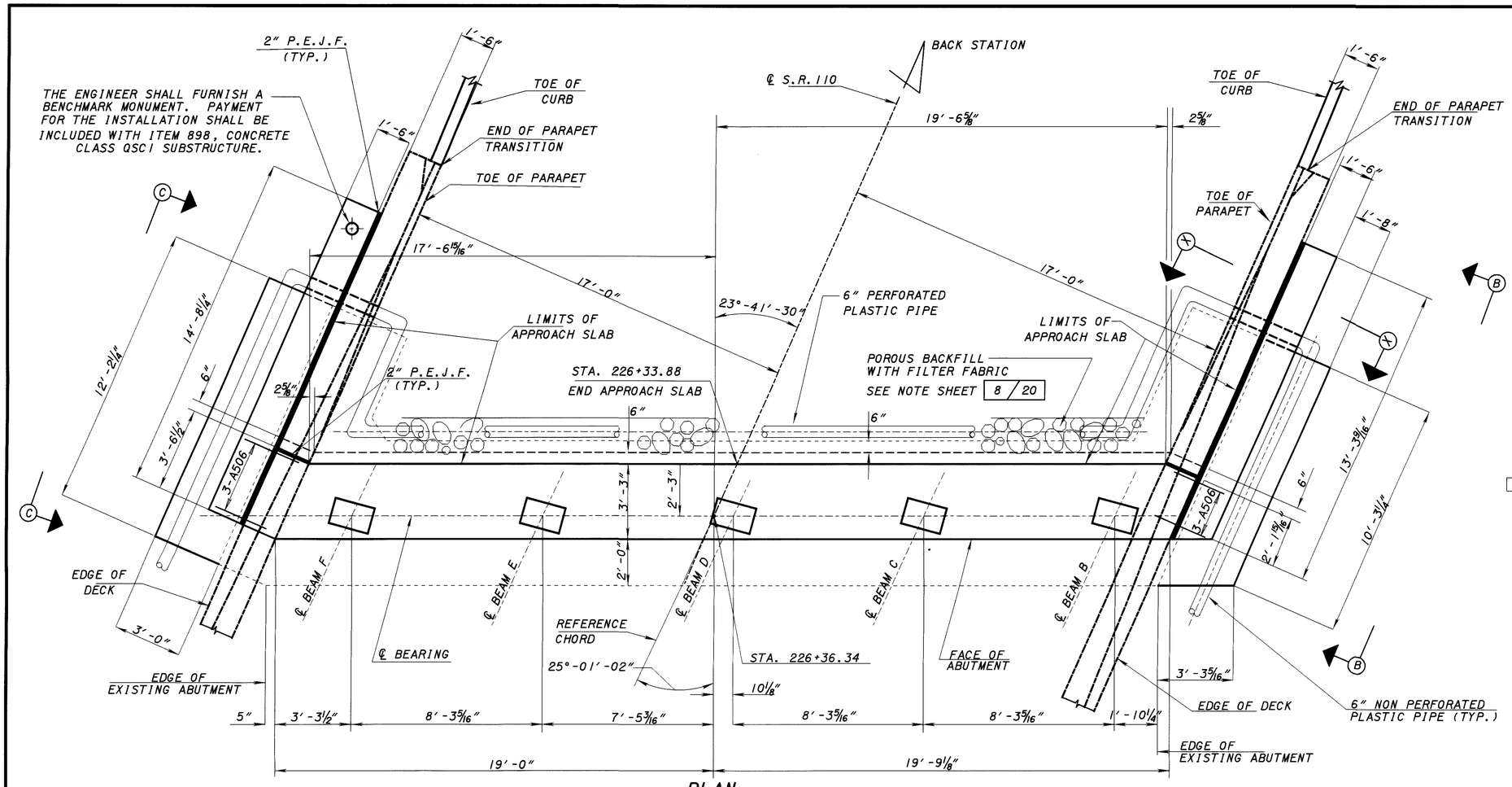
FORWARD ABUTMENT FOOTING AND WINGWALL DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

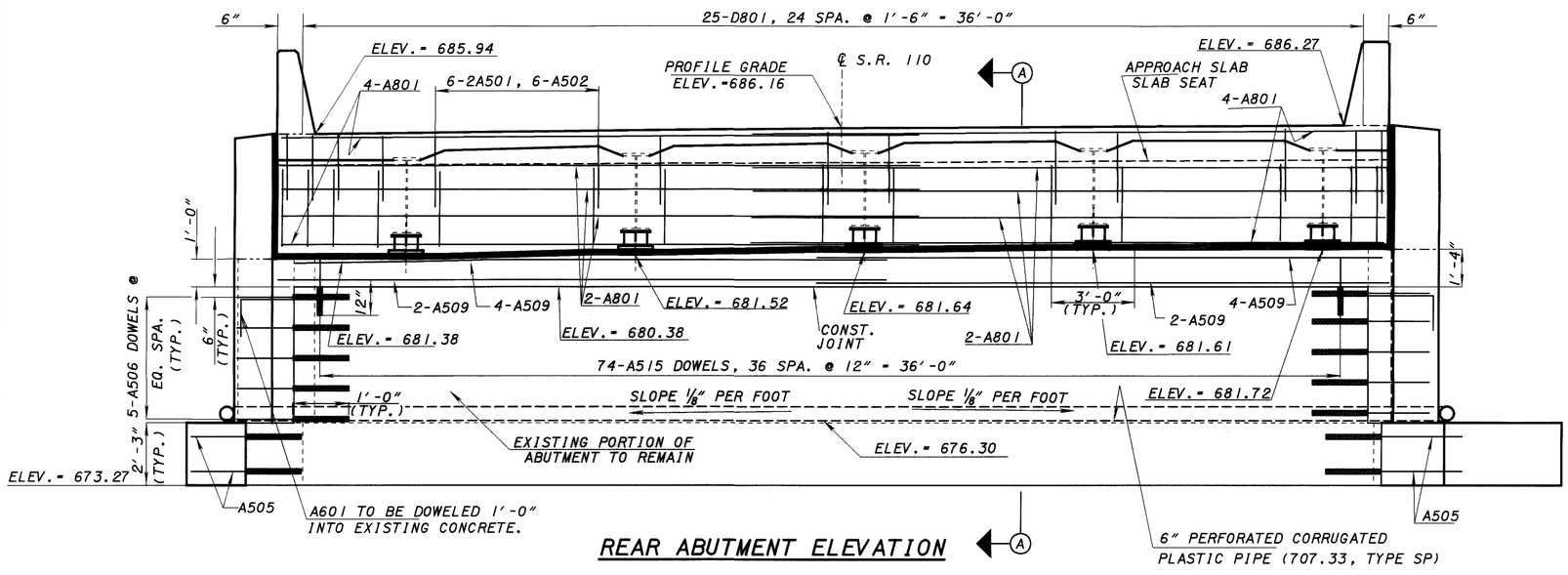
HEN-110/424-4.18/13.78

9/20

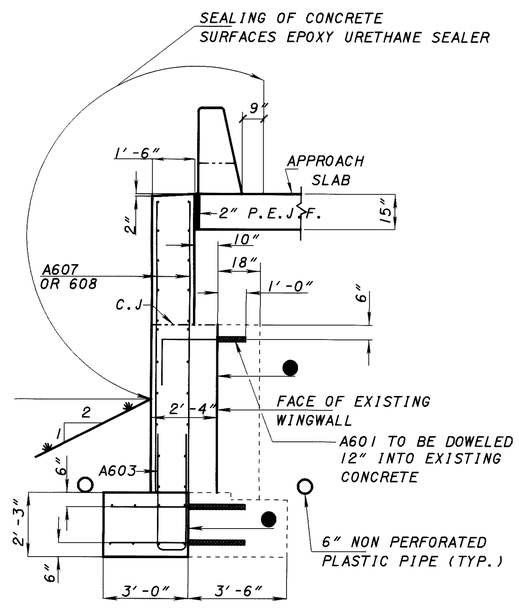
86/115



PLAN



REAR ABUTMENT ELEVATION



SECTION X-X

NOTES

FOR SECTION A-A SEE SHEET 11 / 20

FOR VIEW B-B AND C-C SEE SHEET 8 / 20

NOTES & LEGEND

P.E.J.F.- PREFORMED EXPANSION JOINT FILLER

8 BAR MIN. LAP - 6'-0"

5 BAR MIN. LAP - 2'-6"

FOR ADDITIONAL INFORMATION ON DOWEL HOLES SEE ITEM 510.

ALL ELEVATIONS SHOWN ARE MEASURED ALONG THE BRIDGE LIMITS. BEAM SEAT ELEVATIONS ARE MEASURED ALONG ℄ OF BEARING.

☐ EXISTING PORTION OF ABUTMENT TO REMAIN.

● EXISTING CONCRETE SURFACE TO BE SCARIFIED 1/4" PRIOR TO PLACING THE NEW CONCRETE. PAYMENT TO BE INCLUDED WITH ITEM 898.

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE:

THE CONTRACTOR SHALL PLACE THE DIAPHRAGM CONCRETE SEPARATELY. THE CONCRETE SHALL HAVE AT LEAST 48 HOURS OF SET TIME BEFORE DECK CONCRETE CAN BE PLACED. THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK SHOULD BE AT THE BOTTOM OF THE TOP FLANGE.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

DESIGNED: JFF | DRAWN: JFF | CHECKED: TAA | REVISED: | REVIEWED: BCW | DATE: 10-01-01 | STRUCTURE FILE NUMBER: 3503240

REAR ABUTMENT

HEN-110-0419

S.R. 110 OVER U.S. 6

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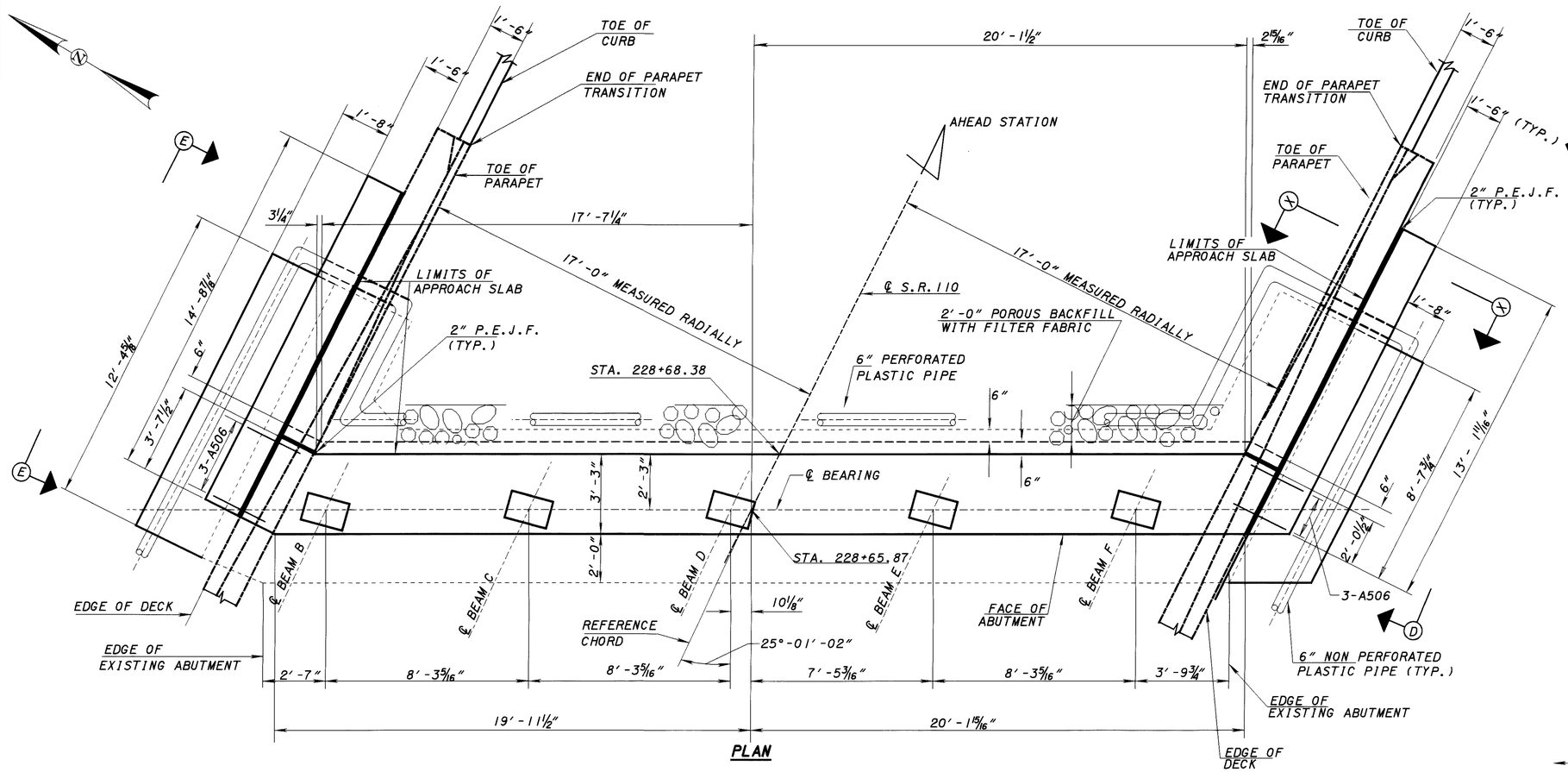
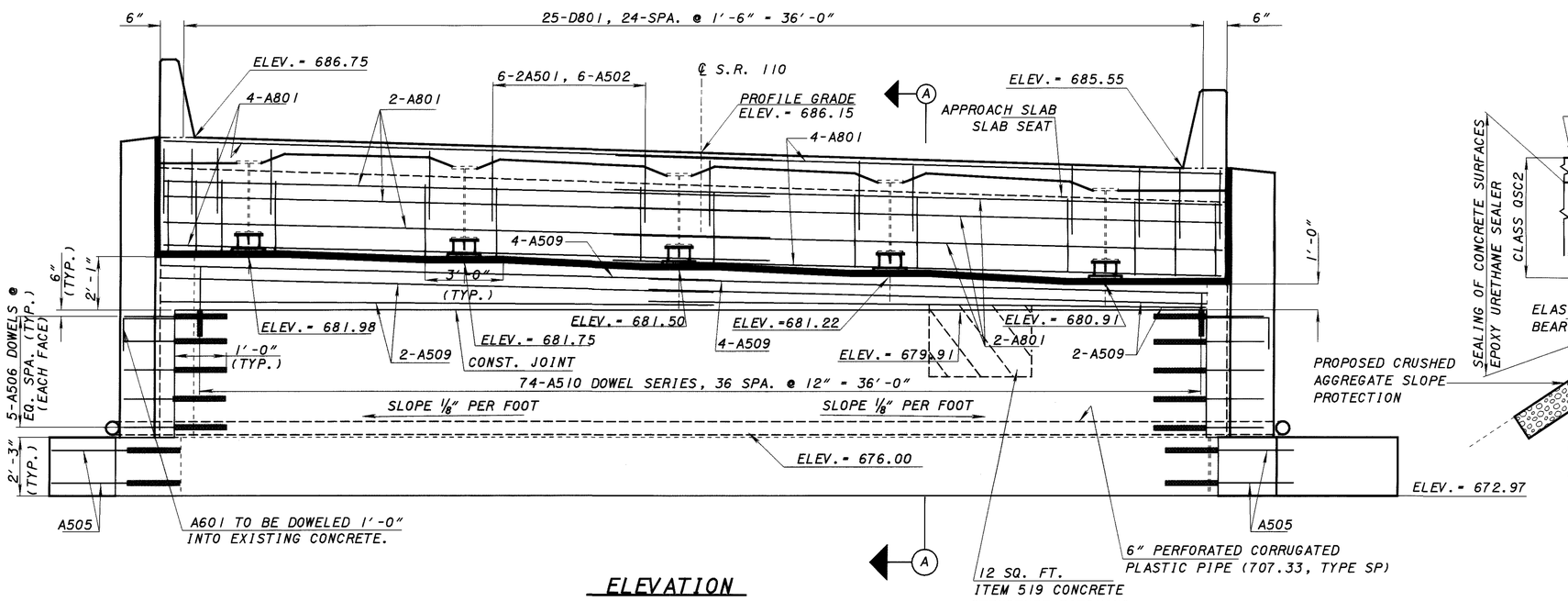
10 / 20

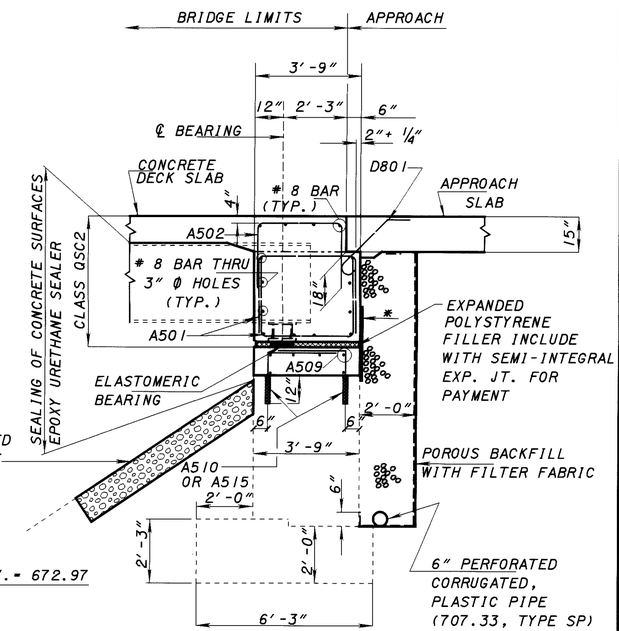
87 / 115



PLAN



ELEVATION



SECTION (A)-(A)

NOTES

FOR VIEW D-D AND E-E SEE SHEET 9/20

FOR SECTION X-X SEE SHEET 10/20

ALL ELEVATIONS SHOWN ARE MEASURED ALONG THE BRIDGE LIMITS. BEAM SEAT ELEVATIONS ARE MEASURED ALONG ℄ OF BEARING.

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE:

THE CONTRACTOR SHALL PLACE THE DIAPHRAGM CONCRETE SEPARATELY. THE CONCRETE SHALL HAVE AT LEAST 48 HOURS OF SET TIME BEFORE DECK CONCRETE CAN BE PLACED. THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK SHOULD BE AT THE BOTTOM OF THE TOP FLANGE.

NOTES & LEGEND

* NYLON REINFORCED NEOPRENE SHEETING, 3'-0" WIDE, CENTERED ABOUT JOINTS. AT WINGWALL TURN BACK 1'-6" (NO ANCHORS REQUIRED) HOLD BACK AGAINST WINGWALL UNTIL POROUS BACKFILL IS IN PLACE. INCLUDE WITH ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL FOR PAYMENT.

P.E.J.F.- PREFORMED EXPANSION JOINT FILLER

* 8 BAR MIN. LAP = 6'-0"

* 5 BAR MIN. LAP = 2-6"

FOR ADDITIONAL INFORMATION ON DOWEL HOLES SEE ITEM 510.

☐ EXISTING PORTION OF ABUTMENT TO REMAIN.

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION

DESIGNED JFF | DRAWN JFF | CHECKED TAA | REVISED | REVIEWED BCW | DATE 10-01-01 | STRUCTURE FILE NUMBER 3503240

FORWARD ABUTMENT

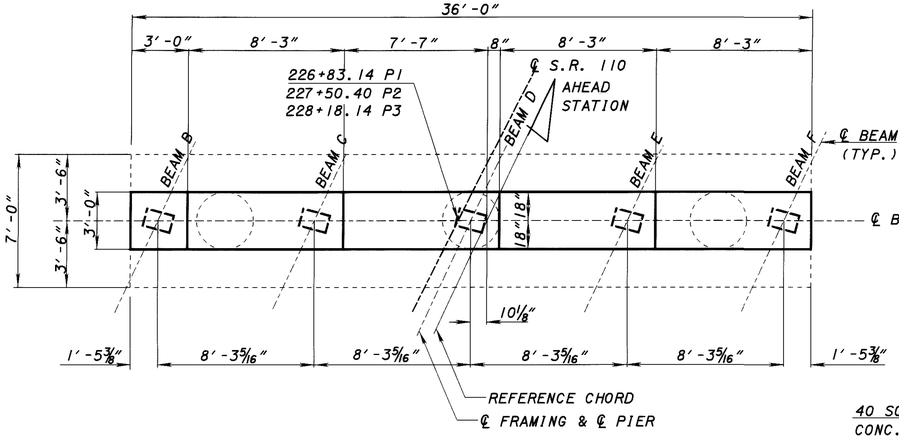
HEN-110-04/9

S.R. 110 OVER U.S. 6

HEN-110/4.24-4.18/13.78

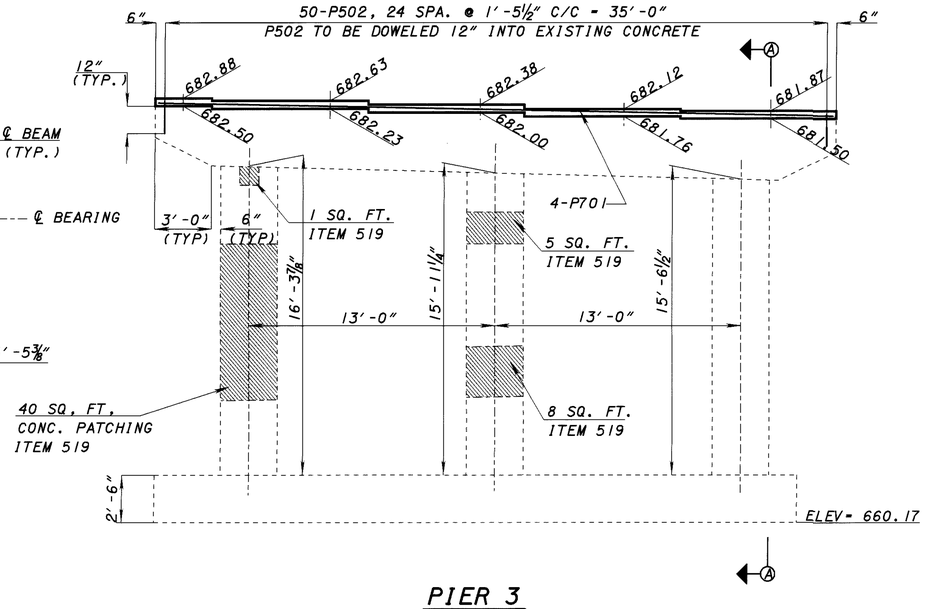
11/20

88/115

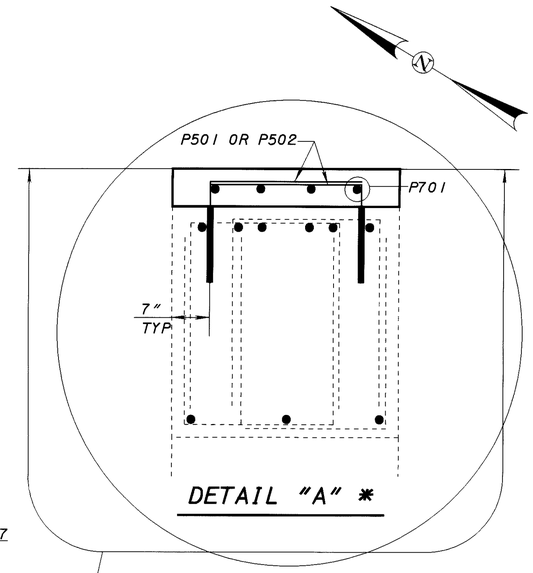


PLAN

(ALL PIERS)

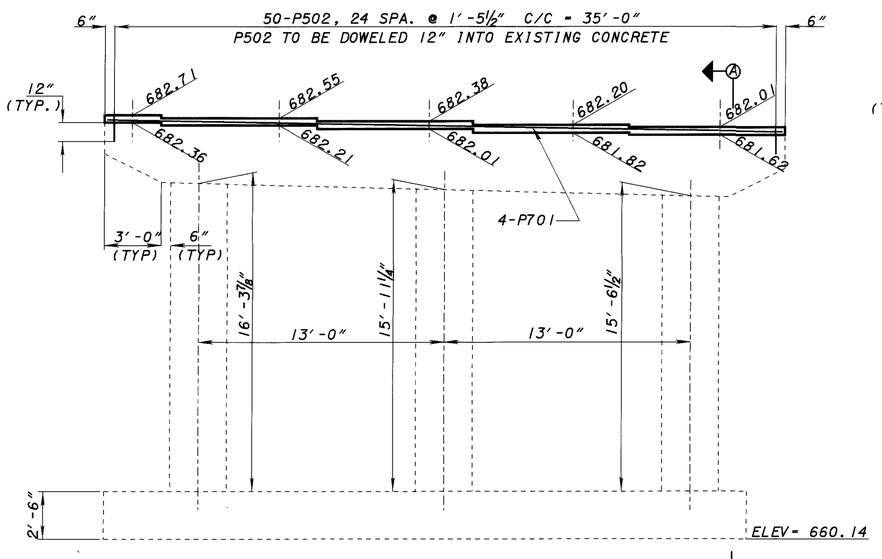


PIER 3

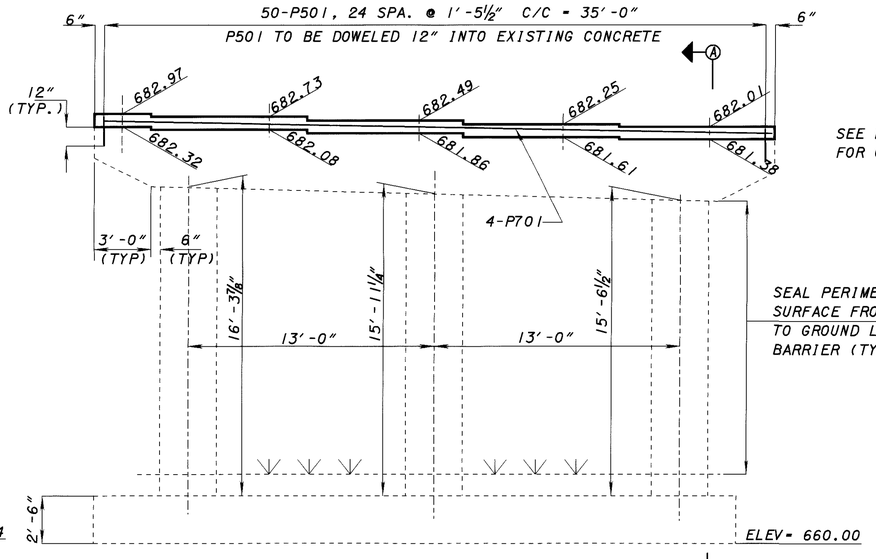


* BEFORE DOWELING P501 OR P502 BARS, LOCATE EXISTING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF RE- BAR HOLES.

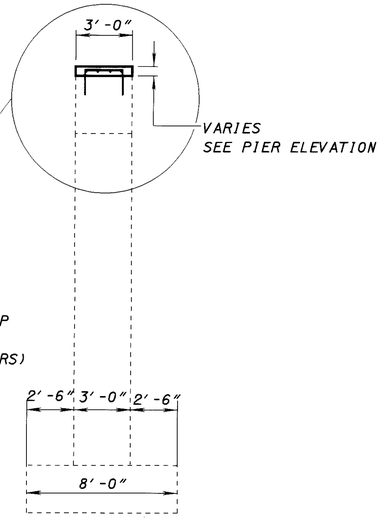
¼″ SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED ¼″ INTO SOUND CONCRETE PRIOR TO PLACEMENT OF THE CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE, OR ANOTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 898 CLASS QSC1 CONCRETE, SUBSTRUCTURE.



PIER 1



PIER 2



SECTION A-A

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

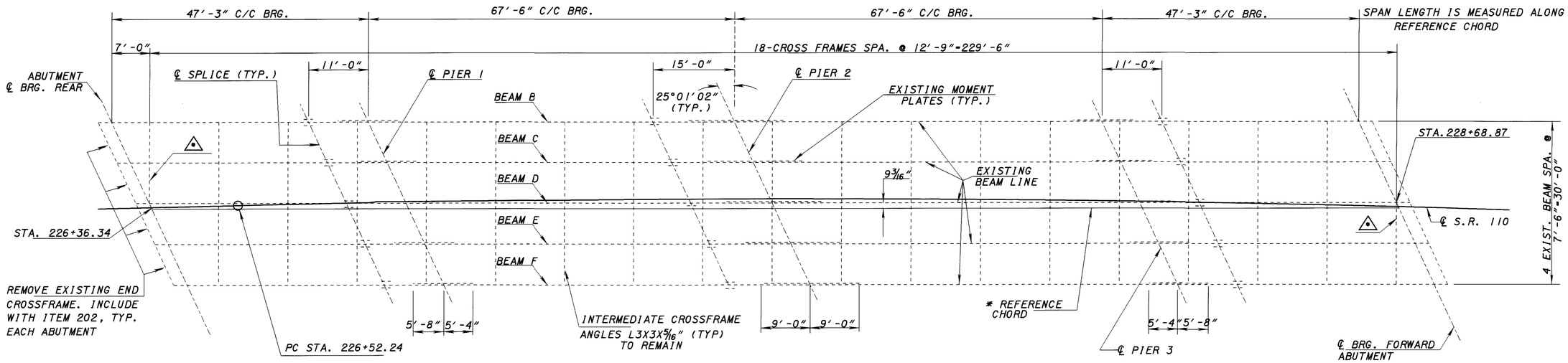
DATE 10-01-01
REVIEWED BCW
STRUCTURE FILE NUMBER 3503240
DRAWN JFF
REVISED
DESIGNED JFF
CHECKED TAA

PIER DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

12/20

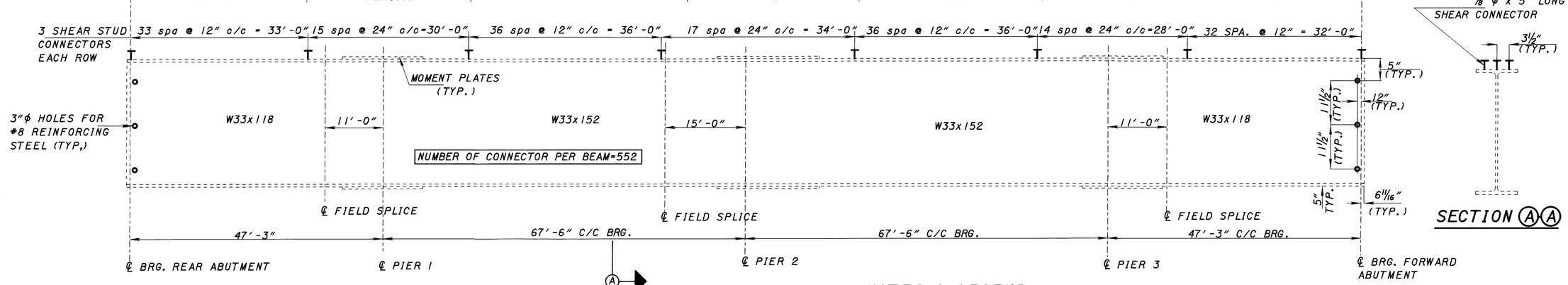
89
115



STEEL FRAMING PLAN

⚠ REMOVE EXISTING INTERMEDIATE CROSSFRAME GRIND EXISTING WELDMENTS FLUSH WITH EXISITING BEAM SURFACES.

* REFERENCE CHORD IS MEASURED FROM THE INTERSECTION OF ℄ S.R. 110 AND THE ℄ OF THE ABUTMENT BEARINGS.



ELEVATION

NOTES & LEGEND:

FOR SCREED DIAGRAM AND TABLE SEE SHEET 14/20

WELDED ATTACHMENT:

FINISHING MACHINE MAY BE MADE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG, AND BE NOT SMALLER THAN 1/4" FOR THICKNESS UP TO 3/4" AND 5/16" FOR GREATER THAN 3/4" THICK. 3"1/16 HOLES DRILLED IN THE EXISTING BEAMS SHALL BE PAID UNDER ITEM 511-CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN. THIS PAYMENT IS INCIDENTAL TO THE PAY ITEM LATERAL AND LONGITUDINAL SPACING OF WELDED STUD CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE PROVIDED.

CAULKING NOTE:

PAID FOR UNDER FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT. THE PERIMETER OF ALL BEAM SPLICE PLATED LOCATED ON THE BEAM WEB AND INNER AND OUTER BOTTOM FLANGE SURFACE SHALL BE CAULKED. BEAM ENDS AT THE FACE OF THE SEMI-INTEGRAL ABUTMENT BACKWALLS SHALL ALSO BE CAULKED.

LATERAL AND LONGITUDINAL SPACING OF WELDED STUD CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE PROVIDED.

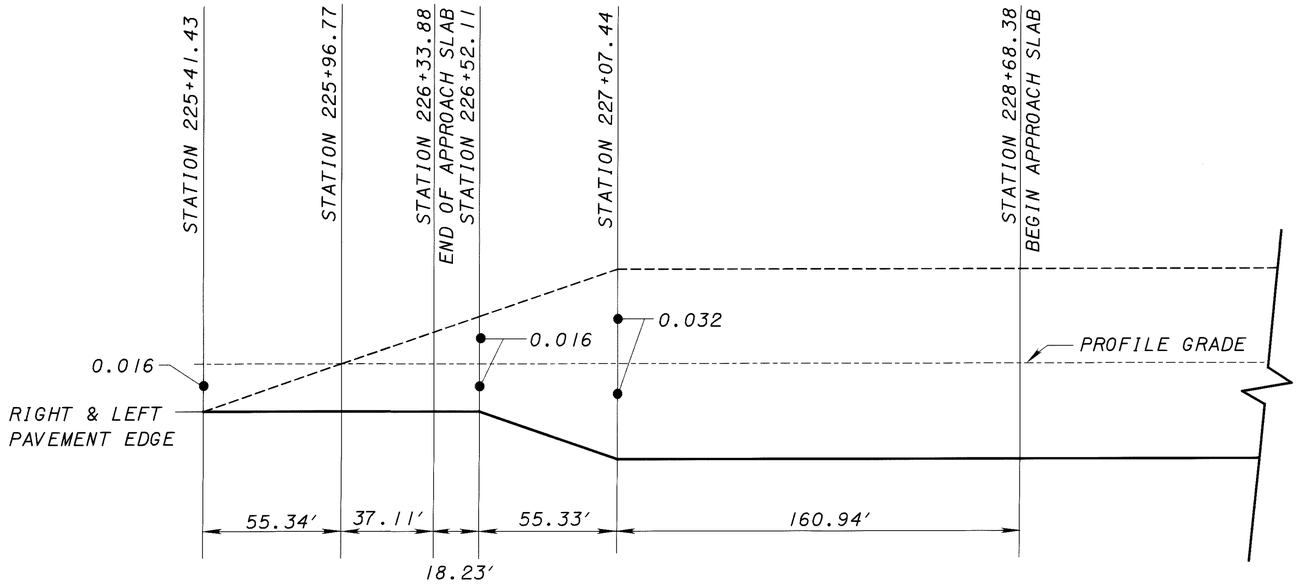
DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DATE: 10-01-01
REVIEWED: BCW
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF
REVISED:
DESIGNED: JFF
CHECKED: TAA

FRAMING PLAN
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

13/20

90/115



PAVEMENT TRANSITION DETAIL

NOTE:

SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATION OF THE CALCULATED DEAD LOAD DEFLECTION.

SCREED ELEVATIONS BEFORE PLACEMENT OF CONCRETE DECK

DIFFERENT LOCATION		REAR ABUT.	SPAN NO. 1			PIER 1	SPAN NO. 2			PIER 2	SPAN NO. 3			PIER 3	SPAN NO. 4			FORWARD ABUT.
			1/4 POINT	1/2 POINT	3/4 POINT		1/4 POINT	1/2 POINT	3/4 POINT		1/4 POINT	1/2 POINT	3/4 POINT		1/4 POINT	1/2 POINT	3/4 POINT	
LEFT TOE OF PARAPET	STATION	226+28.88	226+40.58	226+52.27	226+63.92	226+75.57	226+92.30	227+09.04	227+25.77	227+42.51	227+59.36	227+76.21	227+93.07	228+09.92	228+21.79	228+33.67	228+45.54	228+57.42
	FINAL DECK ELEVATION	686.27	686.41	686.53	686.65	686.76	686.90	687.02	687.05	687.06	687.06	687.05	687.02	686.97	686.92	686.87	686.81	686.75
BEAM B	STATION	226+29.35	226+41.16	226+52.96	226+64.73	226+76.50	226+93.31	227+10.13	227+26.96	227+43.78	227+60.60	227+77.41	227+94.23	228+11.05	228+22.82	228+34.59	228+46.36	228+58.12
	FINAL DECK ELEVATION	686.27	686.40	686.51	686.62	686.72	686.84	686.94	686.97	686.98	686.98	686.96	686.93	686.89	686.85	686.81	686.76	686.70
BEAM C	STATION	226+32.68	226+44.48	226+56.28	226+68.07	226+79.86	226+96.71	227+13.56	227+30.41	227+47.26	227+64.11	227+80.95	227+97.80	228+14.64	228+26.44	228+38.23	228+50.01	228+61.80
	FINAL DECK ELEVATION	686.23	686.33	686.41	686.49	686.56	686.65	686.71	686.73	686.74	686.73	686.71	686.68	686.64	686.60	686.55	686.50	686.44
PROFILE GRADE	STATION	226+36.34	226+48.04	226+59.74	226+71.44	226+83.14	226+99.96	227+16.77	227+33.58	227+50.40	227+67.34	227+84.27	228+01.21	228+18.14	228+30.07	228+42.01	228+53.94	228+65.89
	FINAL DECK ELEVATION	686.16	686.23	686.29	686.35	686.39	686.45	686.49	686.51	686.52	686.51	686.49	686.45	686.39	686.34	686.28	686.22	686.15
BEAM D	STATION	226+36.00	226+47.81	226+59.62	226+71.42	226+83.23	227+00.11	227+16.99	227+33.87	227+50.75	227+67.63	227+84.50	228+01.38	228+18.25	228+30.07	228+41.88	228+53.69	228+65.49
	FINAL DECK ELEVATION	686.17	686.24	686.30	686.35	686.39	686.44	686.47	686.49	686.50	686.49	686.47	686.43	686.39	686.34	686.30	686.24	686.18
BEAM E	STATION	226+39.33	226+51.13	226+62.96	226+74.79	226+86.62	227+03.53	227+20.44	227+37.35	227+54.26	227+71.16	227+88.07	228+04.97	228+21.88	228+33.71	228+45.54	228+57.37	228+69.20
	FINAL DECK ELEVATION	686.07	686.14	686.17	686.19	686.21	686.22	686.24	686.26	686.26	686.25	686.22	686.19	686.13	686.09	686.04	685.98	685.92
BEAM F	STATION	226+42.65	226+54.47	226+66.32	226+78.17	226+90.02	227+06.95	227+23.89	227+40.83	227+57.77	227+74.71	227+91.65	228+08.58	228+25.51	228+37.36	228+49.21	228+61.06	228+72.91
	FINAL DECK ELEVATION	685.97	686.03	686.03	686.02	686.01	685.98	686.00	686.02	686.02	686.00	685.98	685.94	685.88	685.84	685.78	685.72	685.66
RIGHT TOE OF PARAPET	STATION	226+43.80	226+55.52	226+67.27	226+79.03	226+90.78	227+07.53	227+24.28	227+41.02	227+58.36	227+75.38	227+92.40	228+09.42	228+26.43	228+38.42	228+50.42	228+62.41	228+74.40
	FINAL DECK ELEVATION	685.94	685.99	685.99	685.98	685.96	685.93	685.96	685.98	685.98	685.96	685.93	685.88	685.82	685.76	685.70	685.63	685.55

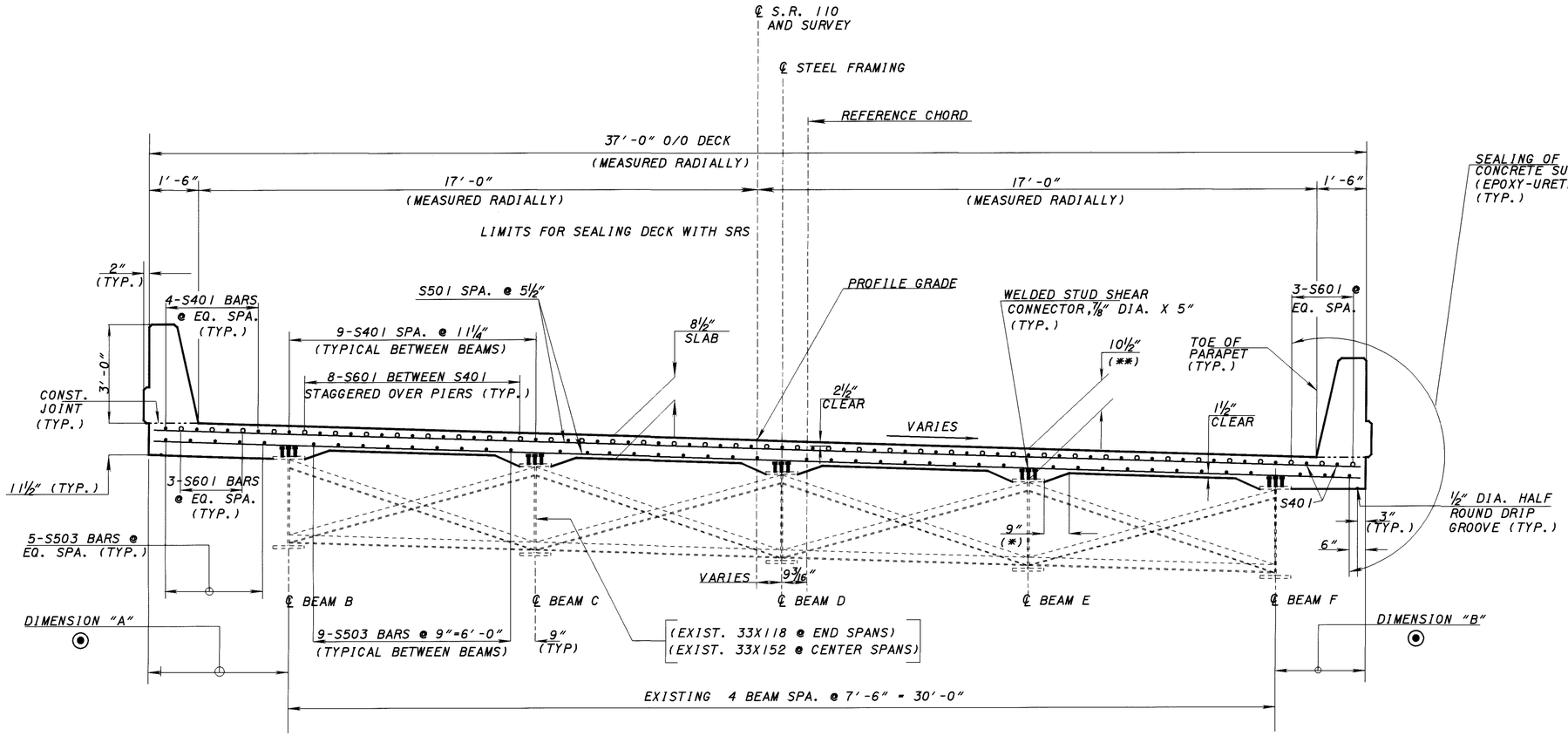
DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
REVIEWED: BCW DATE: 10-01-01
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF REVISED:
DESIGNED: JFF CHECKED: TAA

SUPERSTRUCTURE DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

14/20

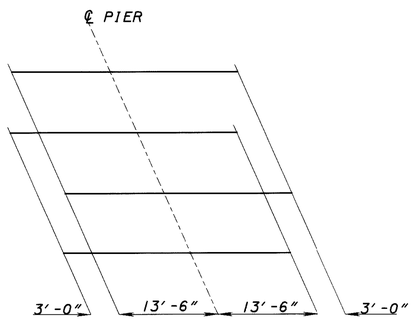
91/115



TRANSVERSE SECTION

LOCATION	DIMENSION "A"	DIMENSION "B"
℄ REAR ABUT.	2′-6 3/4″	4′-1 3/8″
1/4 SPAN 1	2′-10 1/8″	3′-10 1/8″
1/2 SPAN 1	3′-1 3/8″	3′-7 1/8″
3/4 SPAN 1	3′-4 1/2″	3′-4 1/2″
℄ PIER 1	3′-7 1/8″	3′-2 1/4″
1/4 SPAN 1	3′-10 1/4″	2′-11 3/4″
1/2 SPAN 1	4′-0 5/8″	2′-10″
3/4 SPAN 1	4′-2 1/8″	2′-9 1/8″
℄ PIER 2	4′-3″	2′-9″
1/4 SPAN 2	4′-2 7/8″	2′-9 3/4″
1/2 SPAN 2	4′-2 1/8″	2′-11 1/4″
3/4 SPAN 2	4′-0 1/2″	3′-1 1/2″
℄ PIER 3	3′-10″	3′-4 1/2″
1/4 SPAN 3	3′-8″	3′-7 1/4″
1/2 SPAN 3	3′-5 1/4″	3′-10 1/4″
3/4 SPAN 3	3′-2 1/2″	4′-1 5/8″
℄ FWD. ABUT.	2′-11 1/8″	4′-5 1/2″

◉ DIMENSION "A" & "B" ARE MEASURED PERPENDICULAR TO THE FASCIA BEAMS.



STAGGER OF S601 BARS OVER PIERS

NOTES

1. ALL REINFORCING STEEL IS EPOXY COATED.

   FOR PARAPET DETAILS, SEE SHEET 17,18 / 20

   REINFORCING STEEL MAY BE FIELD OR SHOP BENT TO ACCOMMODATE THE CROWN OF THE DECK. PAYMENT SHALL BE INCLUDED WITH ITEM 509 EPOXY COATED REINFORCING STEEL.

(**) **DECK SLAB DEPTH:**
THE THEORETICAL DESIGN THICKNESS FOR THE SLAB IS 8½″. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. A HAUNCH WIDTH OF 9″ SHALL BE USED FOR COMPUTING CONCRETE QUANTITY . HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6″AND 12″.

(*) A HAUNCH WIDTH OF 9 INCHES SHALL BE USED. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 INCHES AND 12 INCHES.

DESIGN AGENCY: ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

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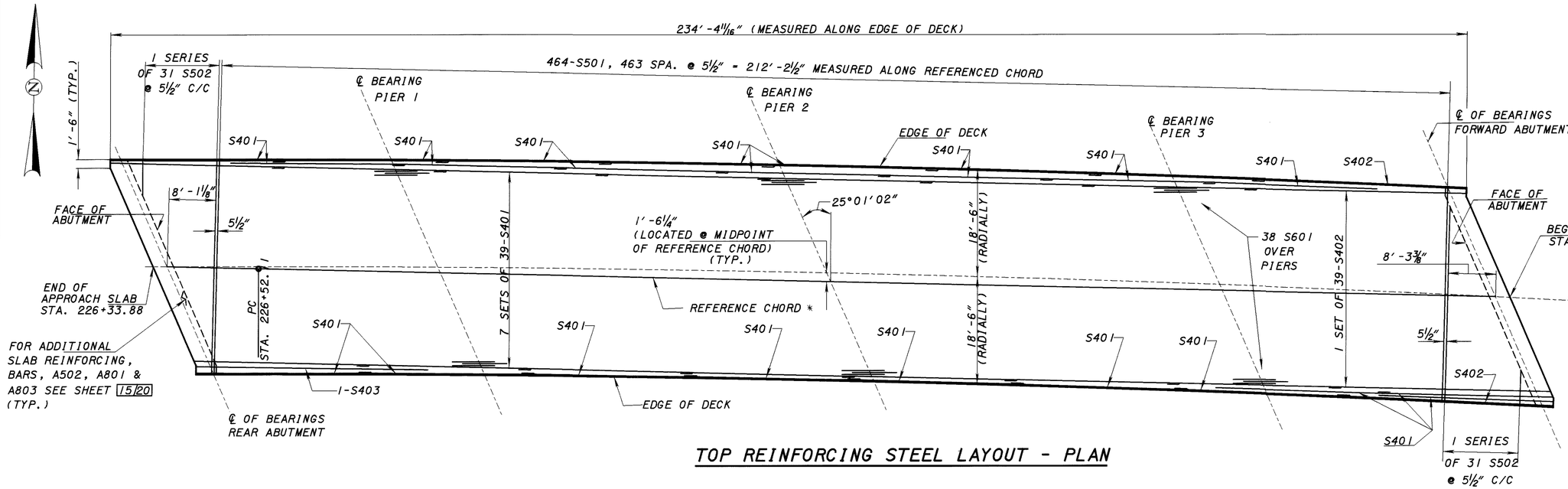
DESIGNED: JFF
CHECKED: TAA

SUPERSTRUCTURE DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

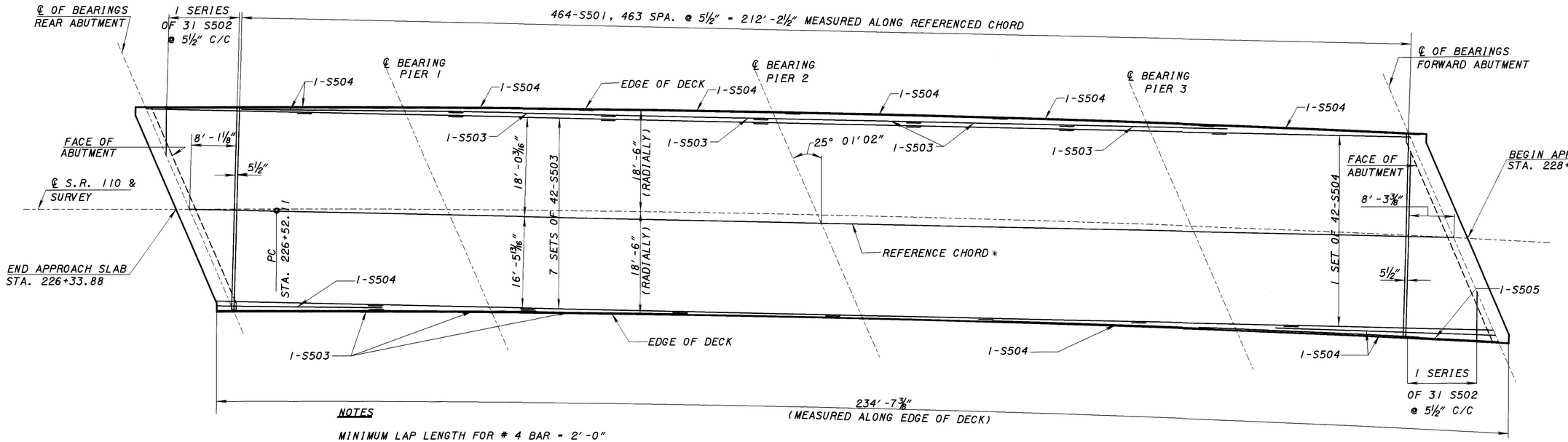
HEN-110/424-4.18/13.78

15/20

92/115



TOP REINFORCING STEEL LAYOUT - PLAN



BOTTOM REINFORCING STEEL LAYOUT-PLAN

NOTES

MINIMUM LAP LENGTH FOR # 4 BAR = 2′-0″

MINIMUM LAP LENGTH FOR # 5 BAR = 2′-6″

MINIMUM LAP LENGTH FOR # 6 BAR = 3′-0″

ALL TRANSVERSE STEEL ARE PLACED PERPENDICULAR TO REFERENCE CHORD.

ALL LONGITUDITIONAL STEEL ARE PLACED PARALLEL TO THE REFERENCE CHORD OR AS NOTED.

* REFERENCE CHORD IS MEASURED FROM THE INTERSECTION OF ℄ S.R. 110 AND THE ℄ OF THE ABUTMENT BEARINGS.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW DATE 10-01-01
STRUCTURE FILE NUMBER 3503240
DRAWN JFF REVISED
DESIGNED JFF CHECKED TAA

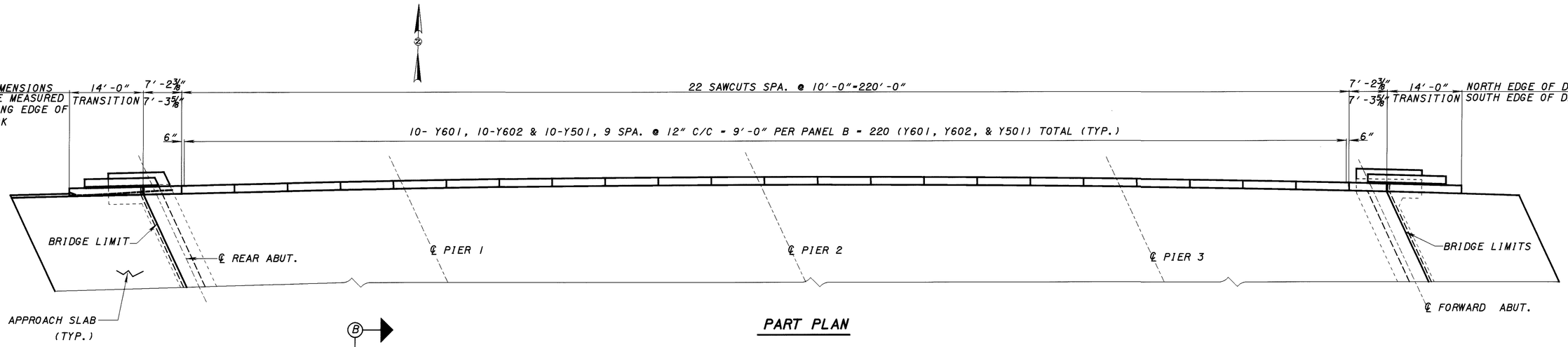
SUPERSTRUCTURE DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

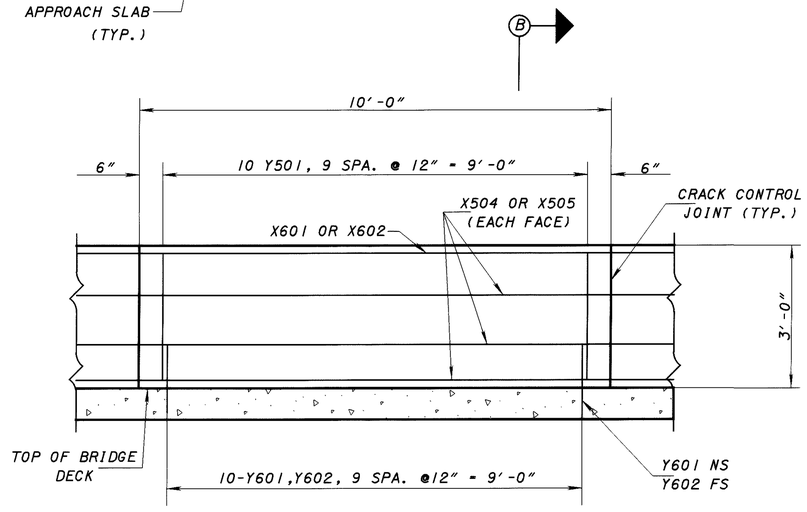
HEN-110/424-4.18/13.78

16/20

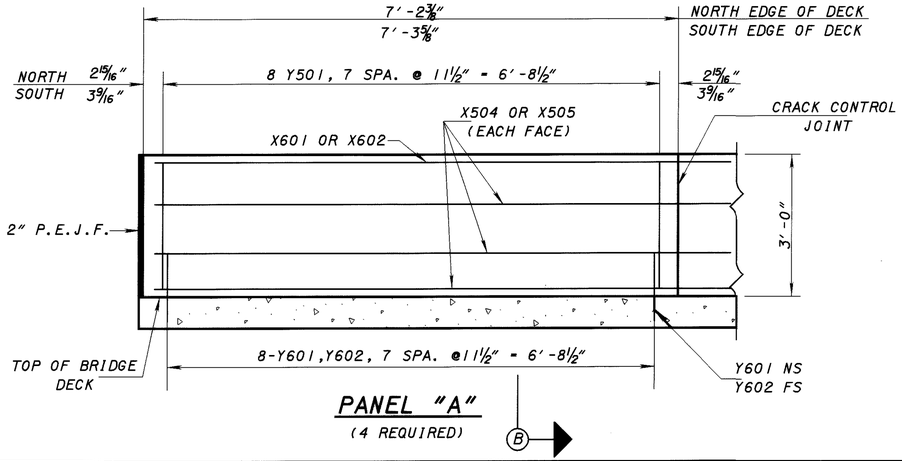
93/115



PART PLAN



PANEL "B"
(44 REQUIRED)

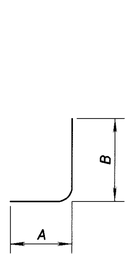


PANEL "A"
(4 REQUIRED)

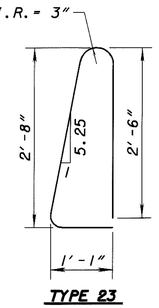
MARK	TOTAL	LENGTH	WEIGHT LB	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PARAPETS											
Y501	472	6'-5"	3159	23							
Y601	472	3'-11"	2777	34							
Y602	472	3'-0"	2127	1	1'-1"	1'-11"					
	8 SR	4'-4"			3'-6"						
Y603	OF	TO	595	1	TO	10"					3/8"
	11	4'-8"			3'-10"						
Y604	40	4'-0"	240	1	3'-6"	6"					
X501	32	10'-0"	334	STR							
X502	12	5'-6"	69	25							
X503	20	5'-6"	115	STR							
X504	96	30'-0"	3004	STR							
X505	12	14'-6"	182	STR							
X601	16	30'-0"	721	STR							
X602	2	18'-6"	56	STR							
TOTAL = 13,379 LBS											

NOTES

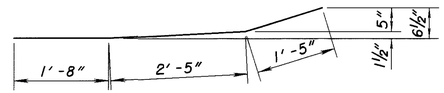
FOR SECTION B-B SEE SHEET 18/20
GENERAL NOTES SHEET 3/20 FOR
PARAPET CRACK CONTROL SAW JOINT DETAILS SEE DETAIL A SHEET 18/20



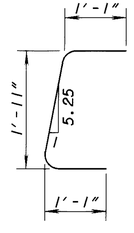
TYPE 1



TYPE 23



TYPE 25



TYPE 34

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DATE: 10-01-01
REVIEWED: BCW
STRUCTURE FILE NUMBER: 3503240
DRAWN: JFF
REVISED:
DESIGNED: JFF
CHECKED: TAA

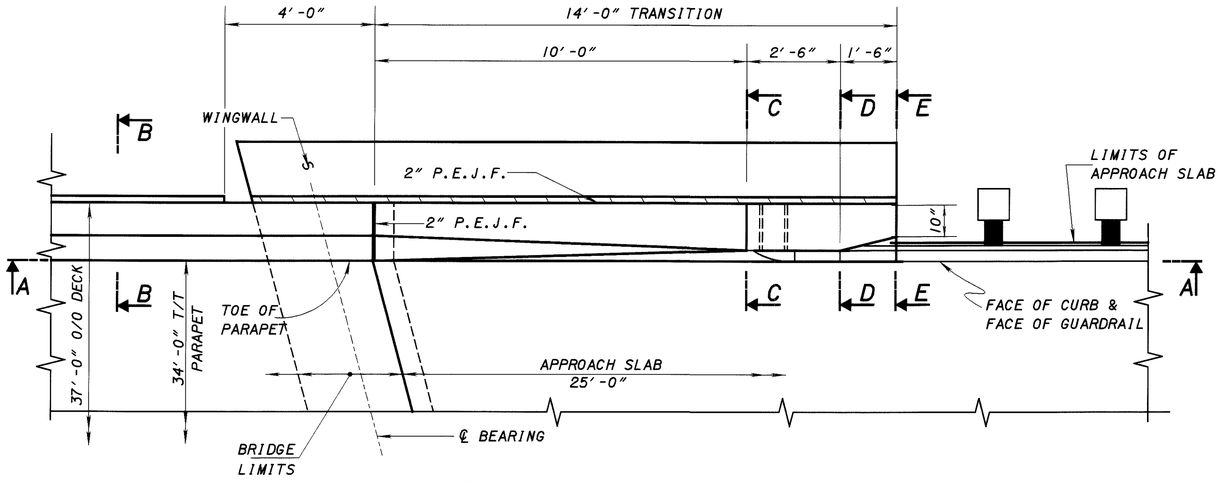
PARAPET DETAILS

HEN-110-0419
S.R. 110 OVER U.S. 6

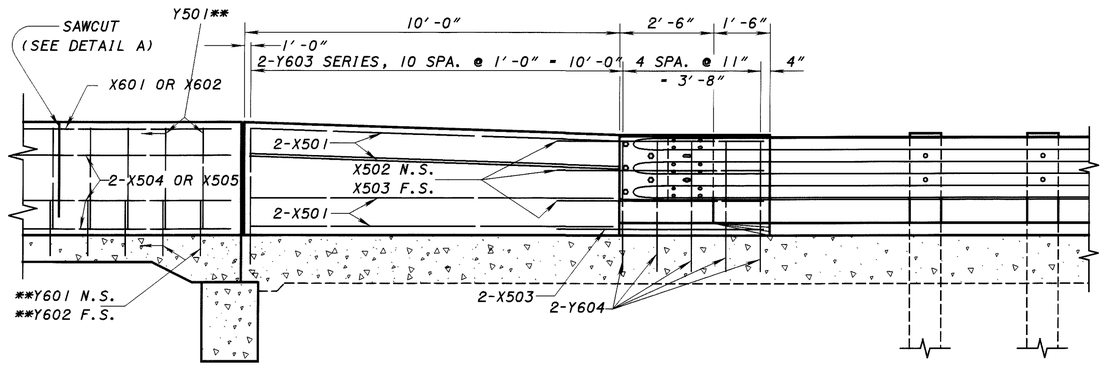
HEN-110/424-4.18/13.78

17/20

94/115

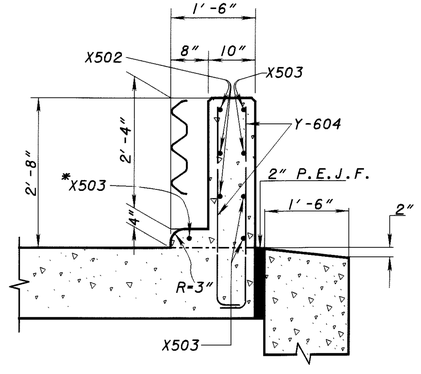


PART PLAN AT ABUTMENT



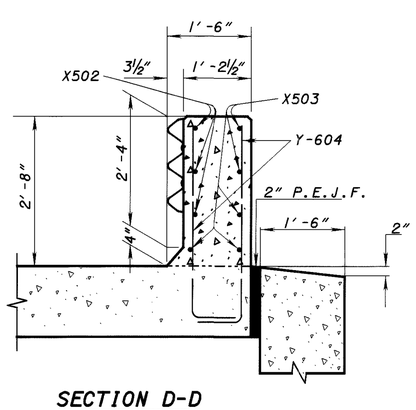
**SPACING SHOWN ON SHEET 15/18

VIEW A-A

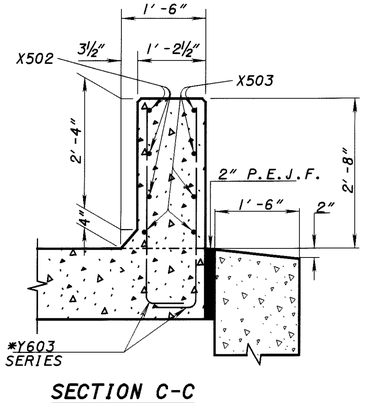


SECTION E-E

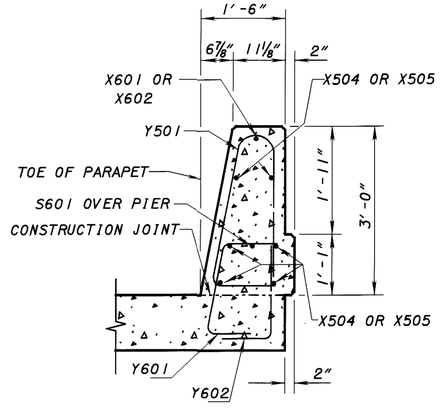
* FIELD BEND IF NECESSARY



SECTION D-D

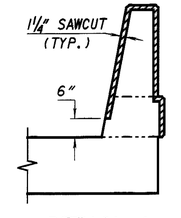


SECTION C-C



SECTION B-B

Area = 3.81 ft²



DETAIL A

(Section through sawcut)
Sawcut Perimeter = 7'-6"

NOTES

CONTROL JOINTS FOR CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1¼" DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6'-0". AND A MAXIMUM OF 10'-0" ON CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼". THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 1 INCH. THE BOTTOM ½" OF THE INSIDE AND OUTSIDE FACE SHOULD BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE. THE COST OF THE 1¼" SAWCUT AND THE CAULKING MATERIAL SHALL BE INCLUDED WITH THE ABOVE ITEM 898 FOR PAYMENT.

QUANTITIES OF CONCRETE FOR THE PARAPET ARE INCLUDED WITH ITEM 898 QC/QA CONCRETE CLASS QSC2 SUPERSTRUCTURE (PARAPET).

FOR BRIDGE TERMINAL ASSEMBLY SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

MIN. LAP SPLICES: #5 BAR = 2'-6"
#6 BAR = 3'-0"

LEGEND: N.S. = NEAR SIDE
F.S. = FAR SIDE

FOR ADDITIONAL REINFORCEMNT, SEE STD DRAWING AS-1-81.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, (T= 15")

CONCRETE FOR THIS ITEM SHALL BE CLASS HP CONCRETE, MIX 3 OR 4.

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION

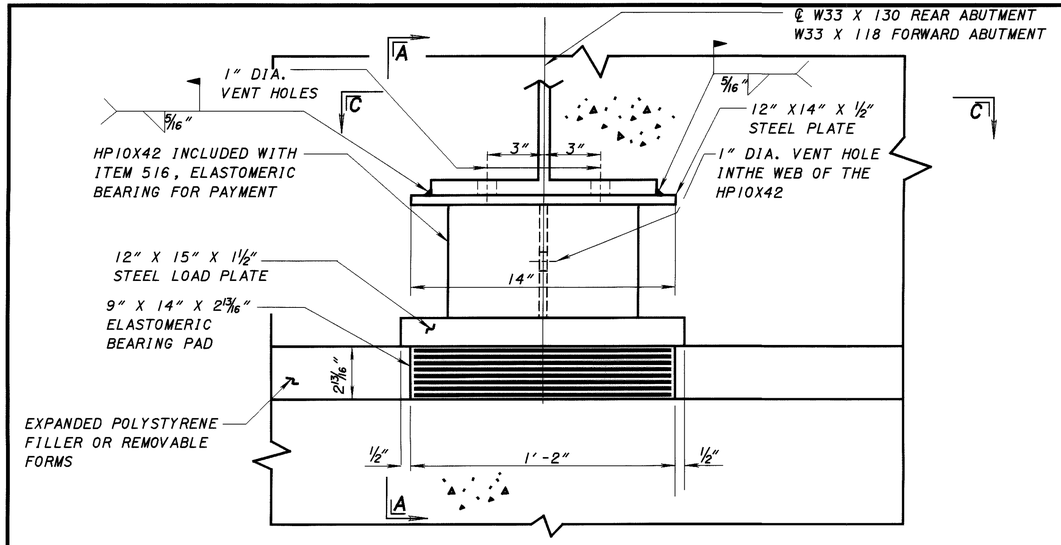
DESIGNED	DRAWN	REVISED	DATE	STRUCTURE FILE NUMBER
JFF	JFF	BCW	10-01-01	3503240
CHECKED	REVISED			
TAA				

APPROACH SLAB PARAPET DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

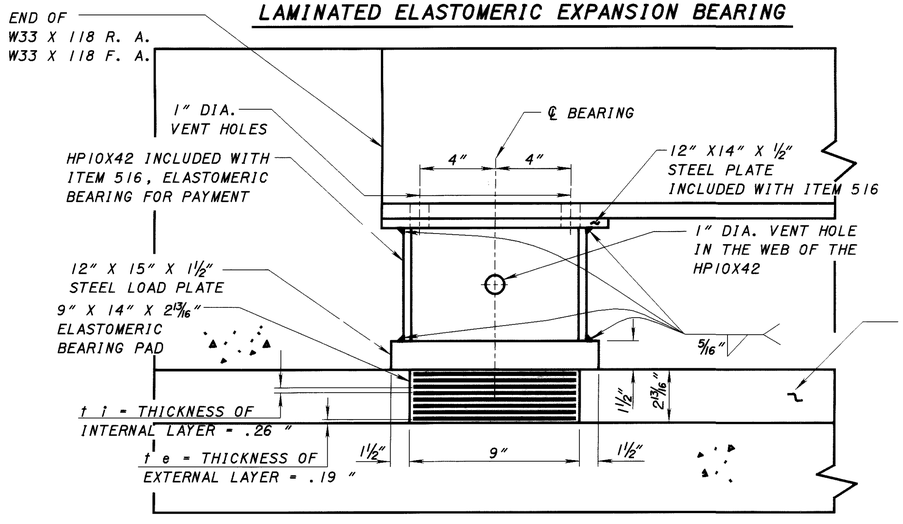
HEN-110/424-4.18/13.78

18/20

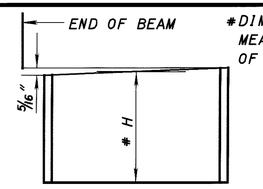
95/115



REAR AND FORWARD ABUTMENT
LAMINATED ELASTOMERIC EXPANSION BEARING

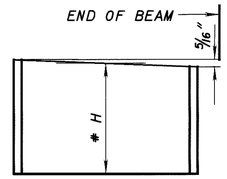


SECTION (A)—(A)



*DIMENSION H IS MEASURED TO ℄ OF HP10x42.

HP10X42 BEVELED DETAIL
(AT REAR ABUTMENT)



HP10X42 BEVELED DETAIL
(AT FORWARD ABUTMENT)

DIMENSION H (INCHES)		
	REAR ABUT	FWD ABUT
BEAM B	7.93"	9.97"
BEAM C	8.77"	9.61"
BEAM D	7.68"	9.49"
BEAM E	7.93"	9.73"
BEAM F	8.41"	10.33"

BEARING TABLE

BEARING LOCATION	TYPE	L	W	t_1 In.	t_e In.	n_1	n_2	STEEL LOAD ℄	TOTAL HEIGHT*	DL, Kips	LL, Kips	TOTAL, Kips
REAR & FORWARD ABUTMENT	EXP	9"	14"	.26"	.19"	7	8	12"x15"x1½"	4 5/16"	65	40	105
PIER 1	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	100	52	152
PIER 2	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	111	55	166
PIER 3	EXP	10½"	17"	.31"	.22"	4	5	11½"x18"x1 5/8"	3 11/16"	100	52	152

n_1 - NUMBER OF INTERNAL ELASTOMER LAYERS, t_1 ELASTOMER LAYERS ARE 50 DUROMETERS
n_2 - NUMBER OF STEEL LAMINATES, 0.0747" THICKNESS * TOTAL HEIGHT INCLUDES LOAD PLATE

NOTES:

MATERIALS: THE HP SHAPE (SUPPORT MEMBER) AND STEEL LOAD PLATES SHALL BE A36 STEEL. THE HP SHAPE AND STEEL PLATES SHALL BE GALVANIZED.

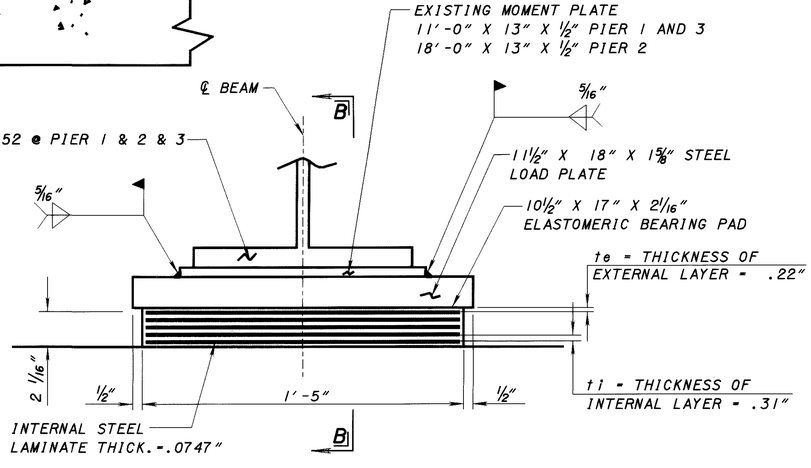
WELDING: WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION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

ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE.

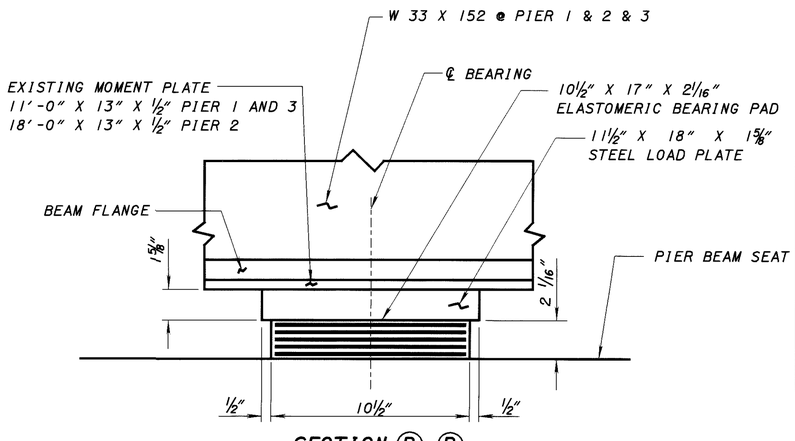
BEARING REPOSITIONING: IF THE EXISTING STEEL BEAMS ARE AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F WHEN THE BEARINGS ARE PLACED AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE SIXTH OF THE BEARING HEIGHTS AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARING TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, VENT HOLES, PROTECTIVE COATING, HP10x42, STEEL PLATES AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE):

9"x14"x2 13/16" WITH 12"x15"x1½" LOAD PLATE, AS PER PLAN (ABUTMENTS)
10½"x17"x2 1/16" WITH 11½"x18"x1 5/8" LOAD PLATE. (PIERS)



PIER 1, PIER 2 AND PIER 3
LAMINATED ELASTOMERIC EXPANSION BEARING



SECTION (B)—(B)

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
DESIGNED: DB | CHECKED: TAA
DRAWN: DB | REVISED:
REVIEWED: BCW | DATE: 10/01/01
STRUCTURE FILE NUMBER: 3503240

BEARING PAD DETAILS
HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78

MARK	NUMBER REAR	NUMBER FWD	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS													
A501	60	60	120	9′-3″	1158	2	2′-11″	3′-5″	2′-11″				
A502	30	30	60	7′-9″	485	2	2′-5″	2′-11″	2′-5″				
A503	12	12	24	8′-10″	221	STR							
A504	10	10	20	14′-4″	299	STR							
A505	44	44	88	3′-9″	344	STR							
A506	30	30	60	3′-1″	193	STR							
A507	12		12	7′-5″	93	STR							
A508		10	10	12′-9″	133	STR							
A509	12	16	28	22′-0″	643	STR							
		2 SR		4′-6″			1′-9″						
A510		0F	74	TO	388	1	TO	2′-9″					3/16″
		37		5′-7″			2′-10″						
A511		12	12	8′-1″	101	STR							
A512	5		5	12′-11″	68	STR							
A513	5		5	13′-7″	71	STR							
A514	5		5	13′-5″	70	STR							
A515	74		74	4′-11″	380	1	2′-2″	2′-9″					
A601	13	13	26	5′-3″	205	2	1′-1″	3′-1″	1′-1″				
A602		18	18	10′-1″	273	STR							
A603	19	19	38	11′-2″	638	2	5′-0″	1′-2″	5′-0″				
A604	12	6	18	9′-4″	252	2	4′-1″	1′-2″	4′-1″				
A605		6	6	9′-8″	87	2	4′-3″	1′-2″	4′-3″				
A606		20	20	11′-4″	341	STR							
A607	20		20	10′-2″	305	STR							
A608	18		18	10′-6″	284	STR							
A801	28	28	56	23′-1″	3451	STR							
A802	8	8	16	11′-9″	502	STR							
	2SR			9′-11″									
A803	0F		8	TO	450	STR							5″
	4			11′-2″									
		2SR		9′-8″									
A804		0F	8	TO	223	STR							6″
		4		11′-2″									
D801	25	25	50	5′-8″	757	18	2′-10″	1′-0″	1′-0″				
PIERS													
P501			50	3′-3″	169	1	1′-5″	1′-10″					
P502			100	3′-0″	313	1	1′-2″	1′-10″					
P701			12	35′-8″	875	STR							
TOTAL - 13,772 LBS													

MARK	TOTAL	LENGTH	WEIGHT LB	TYPE	DIMENSIONS A	B	C	INC
SUPERSTRUCTURE								
S401	297	30′-0″	5952	STR				
S402	41	38′-0″	1041	STR				
S403	1	40′-0″	27	STR				
S501	928	36′-7″	35409	STR				
	4 SR	6′-0″						
S502	0F	TO	2554	STR				11″
	31	33′-6″						
S503	302	30′-0″	9450	STR				
S504	51	40′-0″	2128	STR				
S505	1	17′-0″	18	STR				
S601	114	30′-0″	5137	STR				
TOTAL - 61,716 LBS								

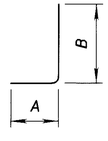
TOTAL - 88,867 LBS

NOTES

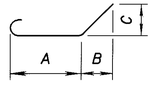
ALL REINFORCING STEEL SHALL BE EPOXY COATED.

THE BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT INDICATES THE BAR SIZE. FOR EXAMPLE, AN A501 IS A #5 BAR. THE DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES THE INSIDE RADIUS.

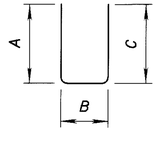
REIFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED WITH THE ASSOCIATED CONCRETE ITEM.



TYPE-1



TYPE-18



TYPE-2

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED BCW DATE 10-01-01
STRUCTURE FILE NUMBER 3503240

DRAWN JFF
REVISED

DESIGNED JFF
CHECKED TAA

REINFORCING STEEL SCHEDULE

HEN-110-0419
S.R. 110 OVER U.S. 6

HEN-110/424-4.18/13.78