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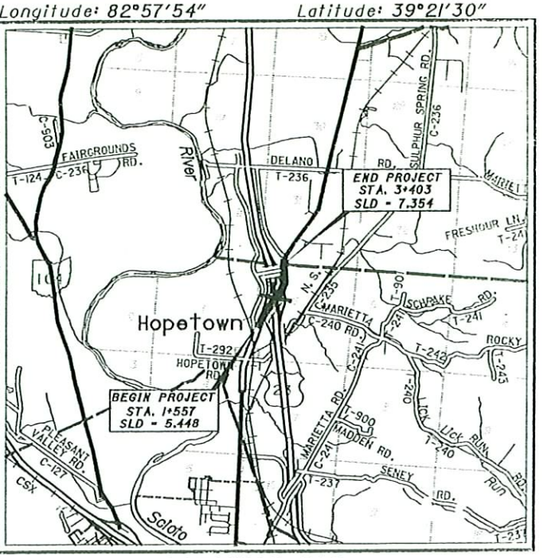
Longitude: 82°57'54" Latitude: 39°21'30"



LOCATION MAP

SCALE IN KILOMETERS

0 1 2 3

PORTION TO BE IMPROVED

STATE & FEDERAL ROUTES

OTHER ROADS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
ROS-159-5.448
SPRINGFIELD TOWNSHIP
ROSS COUNTY

INDEX OF SHEETS:

DESIGN DESIGNATION

CURRENT ADT (1997)	15450
DESIGN YEAR ADT (2017)	23900
DESIGN HOURLY VOLUME (2017)	2390
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	8%
DESIGN SPEED	90 KPH
LEGAL SPEED	55 MPH (89 KPH)

DESIGN FUNCTIONAL CLASSIFICATION : MAJOR ARTERIAL

DESIGN EXCEPTION	APPROVAL DATE	SHEET
NONE REQUIRED		

metric units

PROJECT DESCRIPTION

UPGRADING 1.906 KM OF S.R. 159 BY RESURFACING, INSTALLING SIGNAL LIGHTS AND REPLACING THE DECK ON STRUCTURE ROS-159-0373.

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 REVISED CODE OF OHIO.

1997 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE REVISED CODE OF OHIO, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

FEDERAL PROJECT NO. STP

PID NO. 15437

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

ROS-159-5.448 (SLM 3.38)

1 / 58

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:
DISTRICT NO. 9
OHIO DEPARTMENT OF TRANSPORTATION

STATE OF OHIO · LAWRENCE K. WISE · REGISTERED PROFESSIONAL ENGINEER · 11-26-97
SEAL

STANDARD CONSTRUCTION DRAWINGS

BP-1.1M	10-28-94	TC-21.20M	12-10-96	HL-20.11M	03-31-95	MT-105.10M	04-25-94				
BP-2.1M	04-08-97	TC-41.20M	07-01-94	HL-30.11M	03-31-95	MT-105.11M	04-25-94				
BP-2.2M	10-21-97	TC-41.41M	03-31-94	HL-60.11M	05-01-95						
BP-3.1M	10-28-94	TC-42.20M	03-31-94	HL-60.12M	03-31-95	AS-1-81M	10-25-94				
BP-5.1M	10-28-94	TC-52.10M	07-29-94			BR-1M	12-15-94				
BP-8.1M	04-08-97	TC-52.20M	07-29-94	MT-35.10M	01-30-95	IRJ-8-95M	07-06-95				
		TC-65.10M	11-01-95	MT-35.11M	01-30-95	PCB-91M	03-20-95				
GR-1.1M	10-21-97	TC-65.11M	11-01-95	MT-95.30M	04-25-94	SICD-1 96M	02-12-97				
GR-1.2M	01-03-96	TC-65.12M	11-01-95	MT-95.31M	04-25-94						
GR-2.1M	10-21-97	TC-71.10M	09-01-93	MT-95.32M	04-25-94	HL-20.14M	05-01-95				
GR-3.1M	10-21-97	TC-72.20M	09-01-93	MT-95.40M	04-25-94	MT-30.32M	08-14-96				
GR-4.2M	10-21-97	TC-81.10M	12-10-96	MT-95.70M	01-30-95	HL-50.21M	08-31-94				
		TC-82.10M	11-24-93	MT-97.10M	04-25-94						
CB-2.3M	07-12-95	TC-83.10M	11-24-93	MT-97.11M	01-30-95						
RM-4.2M	10-21-97	TC-84.20M	11-24-93	MT-95.81M	04-25-94						
DM-1.1M	10-21-97	TC-85.20M	11-24-93	MT-99.20M	01-30-95						

SUPPLEMENTAL SPECIFICATIONS

815	05-30-96
910	04-21-97
932	10-02-97

DISTRICT CERTIFIED PLAN

STRUCTURE PLANS REVIEWED BY OFFICE OF STRUCTURAL ENGINEERING

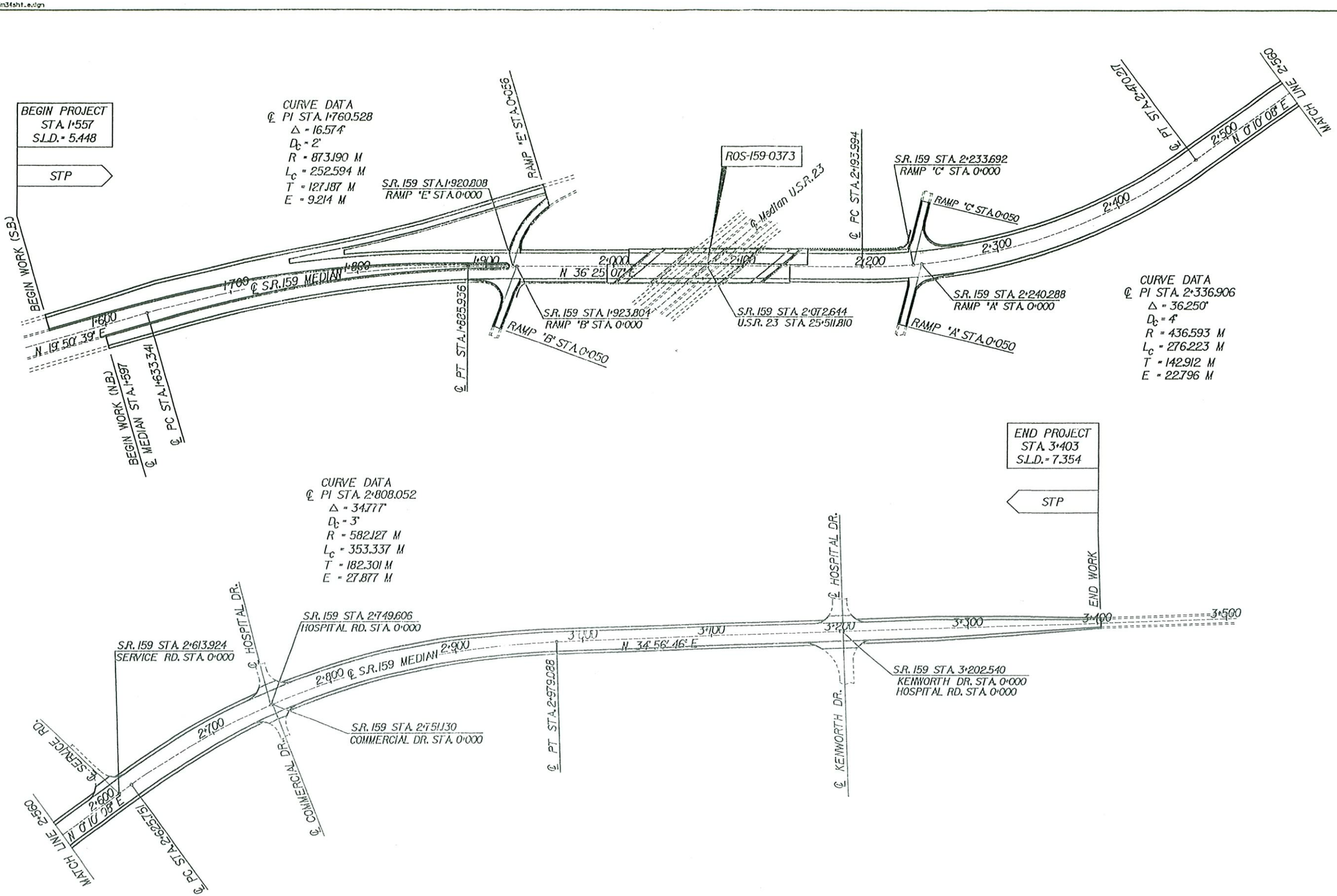
SIGNAL PLANS REVIEWED BY OFFICE OF TRAFFIC ENGINEERING

APPROVED John F. Hagen TME

DATE 11-26-97 DISTRICT DEPUTY DIRECTOR

APPROVED

DATE 12-23-97 DIRECTOR, DEPARTMENT OF TRANSPORTATION



DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9 PRODUCTION

CALCULATED GEC
CHECKED

SCHEMATIC PLAN - S.R. 159

ROS-159-5.448

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GENERAL NOTES

UTILITIES:

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

AMERICAN ELECTRIC POWER
P.O. BOX 468
CHILLICOTHE, OHIO 45601
(614) 774-7135

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 9
650 EASTERN AVENUE
P.O. BOX 467
CHILLICOTHE, OHIO 45601-0467
(614) 773-2691

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

THERE ARE UNDERGROUND ELECTRICAL CIRCUITS FOR THE HIGHWAY LIGHTING THAT BELONG TO THE OHIO DEPARTMENT OF TRANSPORTATION WITHIN THE PROJECT AREA. THESE FACILITIES SHALL REMAIN IN PLACE AND OPERATIONAL DURING CONSTRUCTION. THESE CIRCUITS WILL BE LOCATED AND MARKED BY ODOT BEFORE THE CONTRACTOR STARTS WORK. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING NEAR THESE FACILITIES.

CONTINGENCY QUANTITIES:

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

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

PROTECTION OF RIGHT OF WAY LANDSCAPING

THE CONTRACTOR SHALL CONSTRICT ALL OF HIS/HER ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 10 m FROM THE EDGE OF PAVEMENT. SHOULD THE CONTRACTOR WISH TO USE ANY AREA OUTSIDE THESE LIMITS, A REQUEST IN WRITING MUST BE SUBMITTED TO THE PROJECT ENGINEER. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA THAT THE CONTRACTOR PLANS TO USE AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. THE ENGINEER SHALL APPROVE THE REQUEST IN WRITING BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA. PRIOR TO BEGINNING WORK, THE CONTRACTOR, SUPERINTENDENT OR HIS REPRESENTATIVE, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY SHALL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE LANDSCAPING ITEMS WILL BE MADE. ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS DIRECTED BY THE PROJECT ENGINEER.

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. (PREVIOUS CONSTRUCTION PLANS, PROJECT NO. 558-(69) BUILT AS ROS-23-13.12, SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 9 OFFICE). THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL BE AS SHOWN ON THE TYPICAL SECTIONS.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR FOR THIS CONTRACT MAY HAVE TO COORDINATE HIS WORK WITH OTHER CONTRACTORS WORKING ON THE USR 23 UNDER BRIDGE NO. ROS-159-0373 AND ON THE RAMPS TO USR 23. THE CONTRACTOR FOR BOTH CONTRACTS SHALL COORDINATE THEIR WORK SO THAT THEIR WORK DOES AS TO NOT INTERFERE WITH THE OTHER CONSTRUCTION PROJECT AND SO THAT TRAFFIC CONTROL IS COMPATIBLE ON BOTH PROJECTS. THE ENGINEER SHALL APPROVE ANY ALTERNATE METHODS FOR MAINTENANCE OF TRAFFIC NEED TO RESOLVE CONFLICTS BETWEEN THE TRAFFIC CONTROL FOR EACH PROJECT.

MATERIALS SUPPLIED BY THE DEPARTMENT

ALL MATERIALS ARE TO BE CONTRACTOR FURNISHED, EXCEPT THAT THE DEPARTMENT SHALL SUPPLY RAISED PAVEMENT MARKER (RPM) MATERIALS IN THE QUANTITIES SHOWN HEREIN TO THE CONTRACTOR. PAY ITEMS FOR THE DEPARTMENT SUPPLIED MATERIALS SHALL BE INDICATED AS "INSTALLATION ONLY". THE QUANTITY AND TYPE OF DEPARTMENT SUPPLIED MATERIALS ARE AS FOLLOWS:

RAISED PAVEMENT MARKER, INSTALLATION ONLY (LOW PROFILE TWO-WAY CASTING WITH YELLOW/YELLOW REFLECTOR)	129	EACH
RAISED PAVEMENT MARKER CASTING, INSTALLATION ONLY (LOW PROFILE TWO-WAY CASTING ONLY)	291	EACH

THE CONTRACTOR WILL BE INFORMED AT THE PRE-CONSTRUCTION CONFERENCE OF THE LOCATION WHERE HE SHALL PICK UP THE DEPARTMENT SUPPLIED RPM MATERIALS. FOR SOME PROJECTS HAVING QUANTITIES OF LESS THAN 20 RPM, THE CONTRACTOR MAY PICK UP RPM MATERIALS AT THE DISTRICT OFFICES. QUANTITIES OVER 20 RPM WILL BE PICKED UP AT THE RECYCLER'S WAREHOUSE OR AS ARRANGED WITH THE DISTRICT. THE CONTRACTOR SHALL PICK UP DEPARTMENT SUPPLIED RPM MATERIAL AT THE SPECIFIED LOCATION(S) FOR TRANSPORT TO THE WORK SITE OR TO THE CONTRACTOR'S STORAGE FACILITY. THE RECYCLED RAISED PAVEMENT MARKER (RPM) AUTHORIZATION FORM IS TO BE SIGNED BY THE DISTRICT CONSTRUCTION ENGINEER PRIOR TO PICK UP OF THE RPM MATERIAL. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND/OR THE PARTIES LISTED ON THE AUTHORIZATION FORM IN WRITING AT LEAST FIVE (5) CALENDAR DAYS PRIOR TO PICK UP OF THE DEPARTMENT SUPPLIED MATERIALS. THE CONTRACTOR SHALL STORE THEM WITHOUT DAMAGE OR CONTAMINATION WITH FOREIGN MATTER. A DEDUCTION IN THE AMOUNT OF THE ACTUAL COST TO THE DEPARTMENT SHALL BE MADE FOR MATERIALS DAMAGED BY THE CONTRACTOR OR FOR CASTINGS RECEIVED BY THE CONTRACTOR WHICH WERE NOT INSTALLED AND WERE NOT RETURNED TO THE DEPARTMENT.

RETURN OF NON-PERFORMED RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT

RAISED PAVEMENT MARKERS MATERIALS SUPPLIED BY THE DEPARTMENT, THAT ARE NON-PERFORMED SHALL CAREFULLY REPACKED OR PACKED IN THE BOXES IN THE SAME STYLE AND QUANTITY AS ORIGINALLY RECEIVED FROM THE DEPARTMENT. CASTING STYLES SHALL NOT BE MIXED WITHIN ANY ONE CONTAINER. THE CONTRACTOR SHALL CLEARLY MARK ON THE OUTSIDE OF EACH CONTAINER, THE COLOR OF THE PRISMATIC RETRO-REFLECTOR, THE STYLE OF CASTING. BOXES SHALL BE PLACED ON SKIDS OR PALLETS IN THE SAME STYLE (LOW PROFILE OR CONVENTIONAL, REFLECTORISED OR NON REFLECTORISED) AND NO MORE THAN 420 RPM (OR 21 BOXES) ON ONE SKID.

ONLY USE THE BOXES SUPPLIED BY THE RAISED PAVEMENT MARKER RECYCLER. BOXES MUST BE MARKED WITH THE RECYCLER'S PART OR CATALOG NUMBER AND THE PROJECT NUMBER. THE RECYCLER'S CATALOG OR PART NUMBERS MAY BE OBTAINED FROM THE OFFICE OF TRAFFIC ENGINEERING IN COLUMBUS, OHIO OR FROM THE RECYCLER. BOXES NOT MARKED WITH THE PROPER RECYCLER'S CATALOG OR PART NUMBERS, AND THE DEPARTMENT'S PROJECT NUMBER WILL NOT BE ACCEPTED AT THE RECYCLER'S WAREHOUSE.

NON-PERFORMED MATERIALS WILL BE RETURNED TO THE LOCATION AS SPECIFIED BY THE DISTRICT CONSTRUCTION ENGINEER WITHIN 30 DAYS OF THE COMPLETION OF THE PROJECT.

THE ABOVE WORK, INCLUDING ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE WORK SHALL BE CONSIDERED INCIDENTAL TO THEIR RESPECTIVE PAY ITEMS.

IF THE DEPARTMENT HAS TO REPACKAGE THE RPM MATERIAL CORRECTLY, THE CONTRACTOR WILL BE ASSESSED THE ACTUAL COST FOR REPACKAGING THE MATERIALS BY THE DEPARTMENT'S FORCES.

LOADING OF MATERIALS SUPPLIED BY THE DEPARTMENT AT THE RECYCLER'S WAREHOUSE

TRUCKS SHALL HAVE A LOADING HEIGHT OF 48 INCHES AND BE ABLE TO BACK UP FLUSH TO THE LOADING DOCK.

TRUCKS SHALL NOT HAVE ANY OBSTRUCTION OR PROTRUSIONS THAT PREVENT THE LOADING BY A STANDARD FORKLIFT OR LIFT TRUCK.

SEMI TRUCKS OR 20 FOOT COMMERCIAL TRUCKS ARE THE MOST APPROPRIATE TRUCKS FOR LOADS IN EXCESS OF 4 PALLETS (ONE PALLET = 21 BOXES = 2100 LBS.).

STAKE BODY TRUCKS ARE APPROPRIATE TO LOAD LESS THAN 4 PALLETS, PROVIDED THE TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT BY CHAINING OR STRAPPING DOWN AS NEEDED.

PICKUP TRUCKS ARE APPROPRIATE FOR LOADS OF APPROXIMATELY ONE PALLET, PROVIDED THE PICKUP TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT.

DUMP TRUCKS, TILT BED TRUCKS, AND NONCOMMERCIAL MOVING VANS WILL NOT BE LOADED BY THE RECYCLER'S WAREHOUSE.

THE WAREHOUSE SUPERVISOR WILL REFUSE TO LOAD ANY TRUCK THAT IS UNSAFE TO LOAD OR UNSUITABLE FOR THE LOAD BEING PLACED ON THE TRUCK.

CLEARING AND GRUBBING

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

THIS LUMP SUM ITEM SHALL CONSIST OF REMOVAL OF ALL UNSUITABLE MATERIAL FROM THE EXISTING SHOULDERS AND SLOPES IN ACCORDANCE WITH SECTION 201.04 OF THE CMS PRIOR TO THE PLACEMENT OF ITEM 203, BORROW.

ITEM 202, GUARDRAIL REMOVED FOR STORAGE, AS PER PLAN

GUARDRAIL SHALL BE CAREFULLY REMOVED AS INDIVIDUAL RAIL ELEMENTS BY REMOVING ALL BOLTS FROM ALL SPLICES AND FROM POSTS. THE USE OF CUTTING TORCHES SHALL NOT BE PERMITTED. RAIL ELEMENTS ONLY SHALL BE STACKED ON PROJECT FOR SALVAGE BY STATE FORCES. POSTS, HARDWARE, AND MATERIAL NOT SALVAGEABLE SHALL BE DISPOSED OF IN ACCORDANCE WITH SECTION 202.02 OF THE CMS.

ITEM 203, BORROW

BORROW SHALL BE USED TO RESTORE THE EXISTING SHOULDERS AND SLOPES TO MATCH THE PROPOSED PAVEMENT AS SHOWN ON THE TYPICAL SECTIONS AND AS DIRECTED BY THEENGINEER PRIOR TO THE PLACEMENT OF ITEM 659, SEEDING AND MULCHING.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, BORROW	100	CUBIC METER

ITEM 407, TACK COAT AND ITEM 407, TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF:

0.34 LITERS PER SQUARE METER OF TACK COAT
0.34 LITERS PER SQUARE METER OF TACK COAT FOR INTERMEDIATE COURSE

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDTION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

ITEM 604, CATCH BASIN, NO. 6, AS PER PLAN

CATCH BASIN LOCATED AT STA. 2+036 LT. SHALL BE LOCATED IN THE APPROACH SLAB AND THE APPROACH SLAB AND SHALL HAVE TYPE 4-A CURBS. THE APPROACH SLAB BETWEEN THE BRIDGE AND THE CATCH BASIN SHALL HAVE TYPE 4-A CURBS.

CATCH BASIN LOCATED AT CENTER LINE STA. 2+240 SHALL BE LOCATED IN THE 450 mm PLAIN CONCRETE PAVEMENT WITHOUT CURB. PROVIDE EXPANSION JOINT, AS DETAILED IN STANDARD DRAWING CB-2.3M, TO MEET THE PROPOSED 450 mm PLAIN CONCRETE PAVEMENT. PROVIDE A BUTT JOINT TO MEET EXISTING 229 mm PAVEMENT, WITH PROPOSED 88 mm OVERLAY, AS DETAILED IN PLAN. EXISTING CATCH BASIN SHALL BE REMOVED AND EXISTING 300 mm CONDUIT OUTLET SHALL BE RECONNECTED TO CATCH BASIN WITH 300 mm CONDUIT, TYPE C WITH MASONRY COLLAR AS REQUIRED.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE FOR ITEM 604, CATCH BASIN, NO. 6, AS PER PLAN.

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9 PRODUCTION

CALCULATED GEC
CHECKED CER

GENERAL NOTES

ROS-159-5.448

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GENERAL NOTES

ITEM SPECIAL, TRENCH DRAIN

THIS SHALL BE A PRECAST TRENCH DRAIN SYSTEM WITH FRAME AND GRATE ENCASED IN THE 450 mm PLAIN CONCRETE PAVEMENT AS SHOWN IN THE PLAN.

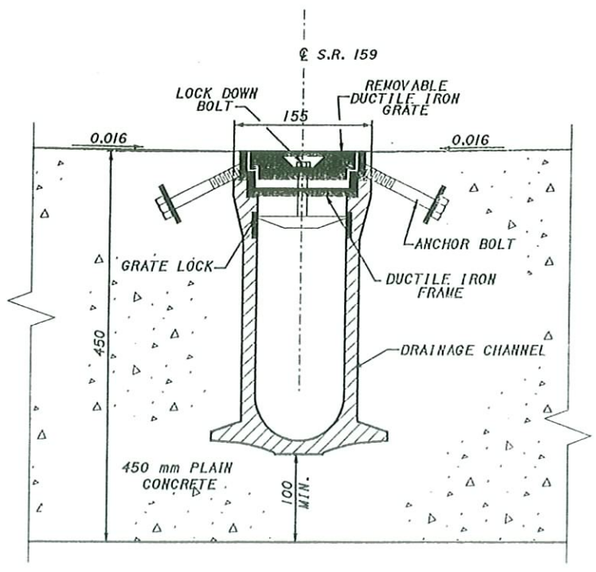
TRENCH DRAIN REQUIREMENTS:

DRAINAGE CHANNEL SHALL BE POLYDRAIN AS MANUFACTURED BY ABT, INC., POLYCAST SERIES 900 AS MANUFACTURED BY QUAZITE, ACO DRAIN NW100 AS MANUFACTURED BY ACO DRAIN, INC. OR APPROVED EQUAL. CHANNELS SHALL HAVE INTERLOCKING JOINTS, PROPERLY FITTING OUTLETS, AND END CAPS. THE 150 MM PVC PIPE AND SPECIALS, IN ACCORDANCE WITH SECTION 707.43, NEEDED TO OUTLET THE DRAINAGE CHANNEL INTO THE PROPOSED CATCH BASIN SHALL BE INCLUDED WITH DRAINAGE CHANNEL.

THE FRAME AND GRATE SHALL MEET ASSHTO-H20 STANDARDS. GRATE SHALL BE SUPPLIED WITH REMOVABLE LOCK DOWNS.

THE TRENCH DRAIN SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S SPECIFICATIONS AND RECOMMENDATIONS. ALL MATERIALS AND INCIDENTALS NEED TO HOLD THE CHANNELS TO LINE AND GRADE, PREVENT FLOATATION AND ENSURE PROPER CONCRETE ENCASEMENT SHALL BE INCLUDED WITH THE TRENCH DRAINS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE FOR ITEM SPECIAL, TRENCH DRAIN



TRENCH DRAIN, AS PER PLAN
DETAIL

NOTE:
THE DETAIL SHOWS POLYDRAIN DRAINAGE CHANNEL WITH 513 AF FRAME AND GRATE FROM ABT, INC., 259 MURDOCK ROAD, P.O. BOX 837, TROUTMAN, NC 28166, PHONE (800) 438-6057. DIMENSIONS SHOWN MAY BE ADJUSTED AS NEEDED TO FIT DIFFERENT TRENCH DRAIN MANUFACTURER'S REQUIREMENTS.

ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T-380MM), AS PER PLAN:

ALL PROVISIONS OF ITEM 611, REINFORCED CONCRETE APPROACH SLAB SHALL APPLY EXCEPT THE CONCRETE SHALL BE HIGH PERFORMANCE CONCRETE USING THE SAME MIX DESIGN AS THE DECK CONCRETE AND THE REINFORCING STEEL SHALL BE GALVANIZED THE SAME AS THE DECK REINFORCING STEEL.

TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLABS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE ABOVE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE PER SQUARE METER FOR ITEM 611- REINFORCED CONCRETE APPROACH SLAB (T-380MM), AS PER PLAN.

ITEM 659, SEEDING AND MULCHING

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 ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

659, SEEDING AND MULCHING	16,086	SQUARE METER
659, COMMERCIAL FERTILIZER	1609	KILOGRAM
659, WATER	161	CUBIC METER

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 203, LINEAR GRADING, AND PAVING UNDER THE GUARDRAIL USING 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN.

ITEM 203, LINEAR GRADING, SHALL CONSIST OF EXCAVATING TOPSOIL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 203.05.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 203.02 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE TREFLAN E.C., SPIKE OR AN APPROVED EQUAL AND SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY. APPROPRIATE LICENSES SHALL BE SUBMITTED TO THE PROJECT SUPERVISOR, PRIOR TO COMMENCING WORK FOR VERIFICATION.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 203, LINEAR GRADING.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1) SET GUARDRAIL POSTS
2) PLACE ITEM 448

METHOD B:
1) PLACE ITEM 448
2) BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3) SET GUARDRAIL POSTS
4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE A BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES, BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2M AND THE SPECIFICATIONS.

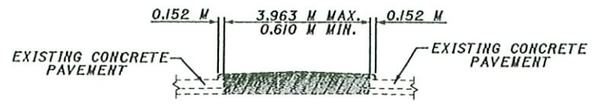
CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, CONTRACTION JOINTS SHALL BE PROVIDE IN THE NEW CONCRETE SO AS TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2M, IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

CONCRETE MEDIAN REMOVED, AS PER PLAN

THIS SHALL INCLUDE THE REMOVAL OF THE CONCRETE MEDIAN AND THE REMOVAL OF THE CONCRETE CURBS FLUSH WITH THE EXISTING REINFORCED CONCRETE PAVEMENT.



▩ — AREA TO BE REMOVED UNDER ITEM 202 CONCRETE MEDIAN REMOVED, AS PER PLAN

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9 PRODUCTION

CALCULATED GEC
CHECKED CER

GENERAL NOTES

ROS-159-5.448

ITEM 614, MAINTAINING TRAFFIC

ALL TRAFFIC CONTROL SIGNS, DEVICES, PAVEMENT MARKINGS AND OPERATIONS USED FOR THE TEMPORARY MAINTENANCE AND CONTROL OF TRAFFIC SHALL AT ALL TIMES BE SUBJECT TO THE DIRECTION AND CONTROL OF THE ENGINEER IN RESPECT TO THEIR CONDITIONS, LOCATIONS, AND TIMES OF APPLICATION. VISIBLE SIGNS, DEVICES, AND PAVEMENT MARKINGS SHALL CONSISTENTLY REFLECT THE CONDITIONS ACTUALLY EXISTING. INAPPROPRIATE SIGNS OR DEVICES SHALL BE REMOVED OR COVERED. INAPPROPRIATE PAVEMENT MARKINGS SHALL BE REMOVED.

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

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON BOTH SR 159 AND USR 23 AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, EXISTING PAVED SHOULDERS, PROPOSED PAVEMENT, AND PROPOSED PAVED SHOULDERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, ERECTING OR REPLACING, MAINTAINING, AND REMOVING ALL TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND PAVEMENT MARKINGS THAT MAY BE REQUIRED BY THE CMS AND/OR THE OHIO MANUAL FOR THE MAINTENANCE OF THROUGH TRAFFIC.

THE FOLLOWING SEQUENCE OF CONSTRUCTION OPERATIONS IS SUGGESTED:

1. PROVIDE TRAFFIC CONTROL ON SR 159 AS PER STANDARD DRAWINGS MT-95.30M, MT- 95.31M, MT-95.32M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED, WHILE COMPLETING PHASE 1 CONSTRUCTION AS FOLLOWS:
   A. INSTALLATION OF TRAFFIC SIGNAL WITH EXCEPTION LOOPS THAT BE REMOVED OR DAMAGED BY OTHER CONSTRUCTION WORK.
   B. REMOVE CONCRETE MEDIAN AND CURB AND REPLACE WITH CONCRETE PAVEMENT AND TRENCH DRAIN AS SHOWN ON SHEET 2.
   C. PLACE ASPHALT CONCRETE INTERMEDIATE COURSE FROM BEGINNING OF PROJECT TO STA. 2+636.526 AND SUSPEND AND RESUME AT THE ENDS OF THE PROPOSED CONCRETE PAVEMENT AT BRIDGE NO. ROS-159-0373.
   D. PLACE TEMPORARY PAVEMENT WEDGES TO FEATHER THE ASPHALT CONCRETE INTERMEDIATE COURSE TO CONCRETE PAVEMENT (USED TO REPLACE THE MEDIAN) AND AT EXISTING BRIDGE NO. ROS-159-0373 AS NEEDED IN ACCORDANCE WITH STANDARD DRAWING BP-3.1M.

NOTE: AN ESTIMATED QUANTITY OF ITEM 614, BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC HAS BEEN PROVIDE FOR PURPOSE OF THE TEMPORARY PAVEMENT WEDGES AND TO MAINTAIN THE WEARING SURFACE ON THE EXISTING BRIDGE AND APPROACHES DURING CONSTRUCTION.

2. AT THE COMPLETION OF THE PHASE 1 CONSTRUCTION PROVIDE TRAFFIC CONTROL AS PER STANDARD DRAWING MT-95.30M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED, WHILE PLACING THE TEMPORARY CONCRETE BARRIER AND TRAFFIC CONTROL FOR THE PHASE 2 CONSTRUCTION AS DETAILED ON SHEET 6 THRU 8 (INCLUDING RELOCATING SIGNAL HEADS, TEMPORARY SIGNAL HEAD, AND TEMPORARY LOOPS).

3. MAINTAIN TRAFFIC ON SR 159 IN ACCORDANCE WITH STANDARD DRAWING MT-95.40M AND DETAILS ON SHEET 6 THRU 8 AND PROVIDE TRAFFIC CONTROL ON USR 23 AS PER STANDARD DRAWINGS MT-95.30M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED WHILE COMPLETING PHASE 2 CONSTRUCTION (PHASE 1 CONSTRUCTION OF SOUTHBOUND LANES OF BRIDGE NO. ROS-159-0373).
   A. PLACE TEMPORARY PAVEMENT WEDGES TO MATCH THE ASPHALT CONCRETE INTERMEDIATE COURSE TO CONCRETE PAVEMENT AT BRIDGE AS NEEDED.

4. AT THE COMPLETION OF THE PHASE 2 CONSTRUCTION PROVIDE TRAFFIC CONTROL AS PER STANDARD DRAWING MT-95.30M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED, WHILE MOVING THE TEMPORARY CONCRETE BARRIER AND PLACING THE TRAFFIC CONTROL FOR THE PHASE 3 CONSTRUCTION AS DETAILED ON SHEET 9 THRU 11 (INCLUDING RELOCATING SIGNAL HEADS, TEMPORARY SIGNAL HEAD, AND TEMPORARY LOOPS).

5. MAINTAIN TRAFFIC ON SR 159 IN ACCORDANCE WITH STANDARD DRAWING MT-95.40M AND DETAILS ON SHEET 9 THRU 11 AND PROVIDE TRAFFIC CONTROL ON USR 23 AS PER STANDARD DRAWINGS MT-95.30M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED WHILE COMPLETING PHASE 3 CONSTRUCTION (PHASE 2 CONSTRUCTION OF NORTHBOUND LANES OF BRIDGE NO. ROS-159-0373).
   A. PLACE TEMPORARY PAVEMENT WEDGES TO MATCH THE ASPHALT CONCRETE INTERMEDIATE COURSE TO CONCRETE PAVEMENT AT BRIDGE AS NEEDED.

6. AT THE COMPLETION OF THE PHASE 3 CONSTRUCTION PROVIDE TRAFFIC CONTROL AS PER STANDARD DRAWING MT-95.30M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED, WHILE REMOVING THE TEMPORARY CONCRETE BARRIER AND THE TRAFFIC CONTROL FOR THE PHASE 3 CONSTRUCTION (INCLUDING REMOVAL OF TEMPORARY SIGNAL HEAD AND RELOCATING SIGNAL HEADS TO THEIR PERMANENT LOCATIONS AND COMPLETION OF ALL SIGNAL WORK).

7. OPEN ALL LANES TO TRAFFIC AND PROVIDE TRAFFIC CONTROL ON SR 159 AS PER STANDARD DRAWINGS MT-95.31M, MT-95.32M, MT-97.10, MT-97.11M, AND MT-99.20M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED DURING WORKING HOURS, TO COMPLETE PHASE 4 CONSTRUCTION AS FOLLOWS:
   A. REMOVE TEMPORARY PAVEMENT WEDGES PLACED AT CONCRETE PAVEMENT AT BRIDGE AND MEDIAN CONSTRUCTION AND PERFORM PAVEMENT PLANNING, BITUMINOUS (38 mm DEPTH) AT BEGINNING AND ENDING OF PROJECT AND AT RAMPS AND PLACE ASPHALT SURFACE COURSE. (SEE TEMPORARY WORK ZONE MARKINGS AND SIGNS NOTE)
   B. PLACE PERMANENT TRAFFIC CONTROL AND COMPLETE ALL REMAINING WORK WITH THE EXCEPTION OF THE BRIDGE PAINTING AND SEALING OF CONCRETE SURFACES.

8. PROVIDE TRAFFIC CONTROL ON USR 23 AS PER STANDARD DRAWINGS MT-95.30M AND LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS NEEDED (PROVIDE TRAFFIC CONTROL ON SR 159 AS PER STANDARD DRAWINGS MT-95.31M AS NEEDED DURING WORKING HOURS ONLY) WHILE COMPLETING THE BRIDGE PAINTING AND SEALING OF CONCRETE SURFACES.

THE CONTRACTOR'S RESPONSIBILITY, UNDER 614, FOR THE MAINTENANCE OF EXISTING PAVEMENTS SHALL BE LIMITED TO THOSE AREAS OF THE EXISTING PAVEMENT WITHIN THE PROPOSED ROADWAY WORK LIMITS AND SHALL NOT INCLUDE THE WORK LIMITS REQUIRED ONLY FOR TEMPORARY SIGNING AND PAVEMENT MARKING.

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

IN ADDITION TO THE REQUIREMENTS OF ITEM 614 MAINTAINING TRAFFIC, THE CONTRACTOR SHALL HAVE AVAILABLE A LOCAL REPRESENTATIVE WHO CAN BE REACHED IN CASES OF EMERGENCIES WITH THE TRAFFIC CONTROL DEVICES. THIS INDIVIDUAL'S NAME AND PHONE NUMBER SHALL BE FURNISHED TO THE ENGINEER AND MADE AVAILABLE TO ALL LOCAL LAW ENFORCEMENT AGENCIES. IN CASES OF EMERGENCIES, THE CONTRACTOR SHALL WITHIN ONE (1) HOUR PROMPTLY RESPOND IN ADDRESSING MALFUNCTIONS, FAILURES, AND/OR DAMAGES TO THE TRAFFIC CONTROL DEVICES AND PROTECT AND PROVIDE MAINTENANCE TO THE TRAVELING PUBLIC. IF, IN THE OPINION OF THE ENGINEER, PROPER RESPONSE IS NOT BEING PROVIDED BY THE CONTRACTOR OR THE CONTRACTOR'S LOCAL REPRESENTATIVE CANNOT BE REACHED, THE DEPARTMENT MAY TAKE THE NECESSARY STEPS TO PROTECT THE TRAVELING PUBLIC AND/OR PLACE THE TRAFFIC CONTROL DEVICES IN PROPER WORKING CONDITION WITH THE COST OF SUCH SERVICES DEDUCTED FROM ANY MONEY WHICH MAY BE DUE OR BECOME DUE THE CONTRACTOR.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM	DESCRIPTION	QUANTITY	
SPECIAL	ASPHALT CURB DIVIDER WITH DELINEATION	1619	METER
614	WORK ZONE SPEED LIMIT SIGN	12	EACH
614	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	200	CU. M.
614	BARRIER REFLECTOR, TYPE B	61	EACH
614	OBJECT MARKER	61	EACH
614	TEMPORARY LANE LINE, CLASS I, 642 PAINT	0.619	KM
614	TEMPORARY LANE LINE, CLASS II, 740.06, TYPE I	2.145	KM
614	TEMPORARY EDGE LINE, CLASS I, 642 PAINT	5.280	KM
614	TEMPORARY EDGE LINE, CLASS I, 740.06, TYPE I	0.278	KM
614	TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT	717	METER
614	TEMPORARY DOTTED LINE, CLASS I, 642 PAINT	589	METER
614	TEMPORARY TRANSVERSE LINE, CLASS I, 642 PAINT	9	METER
614	TEMPORARY STOP LINE, CLASS I, 642 PAINT	49	METER
614	TEMPORARY LANE ARROW, CLASS I, 642 PAINT	24	EACH
614	TEMPORARY WORD ON PAVEMENT, 2500 mm, CLASS I, 642 PAINT	13	EACH
622	PORTABLE CONCRETE BARRIER, 813 mm	174	METER
622	PORTABLE CONCRETE BARRIER, 813 mm, BRIDGE MOUNTED	281	METER

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

SIGNAL TIMING

THE CONTRACTOR SHALL FURNISH TEMPORARY LOOPS WHERE NECESSARY TO IMPLEMENT THE COORDINATED SIGNAL TIMING SHOWN ON SHEET 31 DURING THE MAINTENANCE OF TRAFFIC FOR PHASE 2 AND PHASE 3 CONSTRUCTION. RECALL SHALL NOT BE SUFFICIENT FOR PHASE 2 AND PHASE 3 CONSTRUCTION.

TEMPORARY LOOPS SHALL BE PROVIDED FOR ACTUATING LEFT TURNS ONTO THE RAMPS AND WHEREVER EXISTING OR PROPOSED RAMP LOOPS CAN NOT BE USED BECAUSE OF LANE SHIFTS OR BECAUSE CONSTRUCTION WORK WILL CAUSE THEM TO BECOME DAMAGED.

ALL COSTS FOR LABOR, EQUIPMENT AND MATERIAL INCLUDING LOOP WIRE, LEAD-IN CABLE, CONDUITS, PULL BOXES, ETC. TO PROVIDE COMPLETELY OPERATIONAL TEMPORARY LOOPS SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

NOTE: TEMPORARY LOOPS ARE NOT REQUIRED FOR PHASE 1 CONSTRUCTION AT EITHER SIGNAL BECAUSE THEY ARE CALL TO NON-ACTUATED.

ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.
- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- DURING A TRAFFIC SIGNAL INSTALLATION

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

STATE OF OHIO HIGHWAY PATROL
201 HOSPITAL ROAD
1-614-775-7770

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

ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR 128 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

DESIGN AGENCY: STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9 PRODUCTION

CALCULATED GEC CHECKED CER

MAINTENANCE OF TRAFFIC NOTES

ROS-159-5.448

ITEM 614, WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF THE WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS (R-10) (45 MPH SPEED LIMIT) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 DAYS, OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 150 METERS IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 75 METERS IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1600 METERS FOR 90 KM/H ZONES AND EVERY 800 METERS FOR 70 KM/H ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE. A SIGN TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE.

A SIGN TO INDICATE THE RESUMPTION OF THE STATURORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. R-10 SIGNS (SPEED LIMIT) SHALL BE USED ON UNDIVIDED ROADWAY. R-10 (SPEED LIMIT) AND R-9A SIGNS (SPEED LIMIT) SHALL BE USED ON DIVIDED ROADWAYS. WHEN USED THE R-10 AND R-9A SIGNS SHALL BE MOUNTED SIDE-BY-SIDE ON SEPARATE SUPPORTS.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III-C SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO(2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 3 POSTS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS.

614, WORK ZONE SPEED LIMIT SIGN 12 EA.

ITEM 614, BARRIER REFLECTORS

REFLECTORS AND THEIR MOUNTING SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 802EXCEPT THAT SPACING SHALL BE AS SHOWN ON STANDARD DRAWING MT-95.40M.

ITEM 622, PORTABLE CONCRETE BARRIER

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

ALL COSTS INVOLVED IN REMOVING AND REINSTALLING THE CONCRETE BARRIER WILL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 622, PORTABLE CONCRETE BARRIER.

TEMPORARY WORK ZONE MARKINGS AND SIGNS

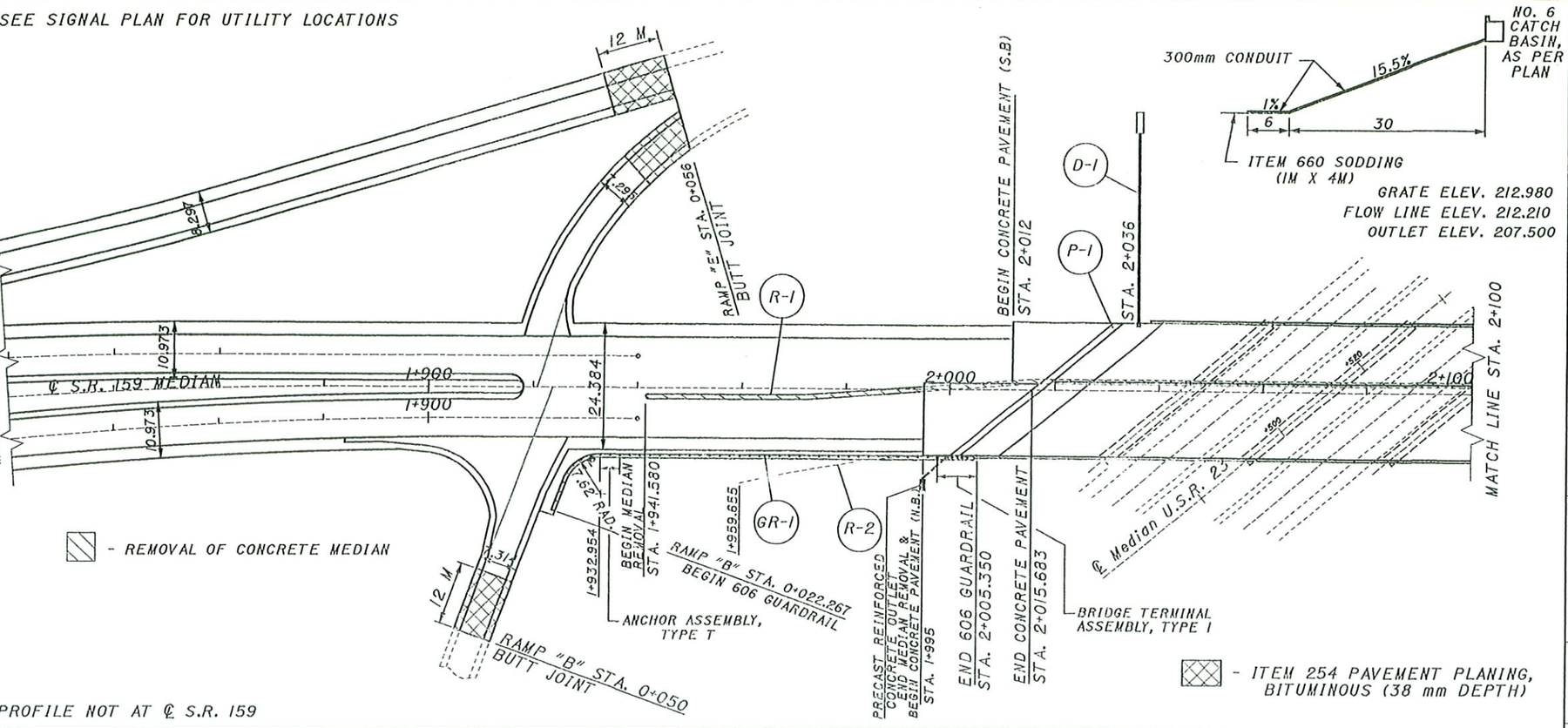
THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS 614.04 AND 614.10.

614, TEMPORARY LANE LINE, CLASS II, 740.06, TYPE II	2.339	KILOMETER
614, TEMPORARY CENTER LINE, CLASS II, 740.06, TYPE II	0.242	KILOMETER
614, WORK ZONE MARKING SIGN	16	EACH

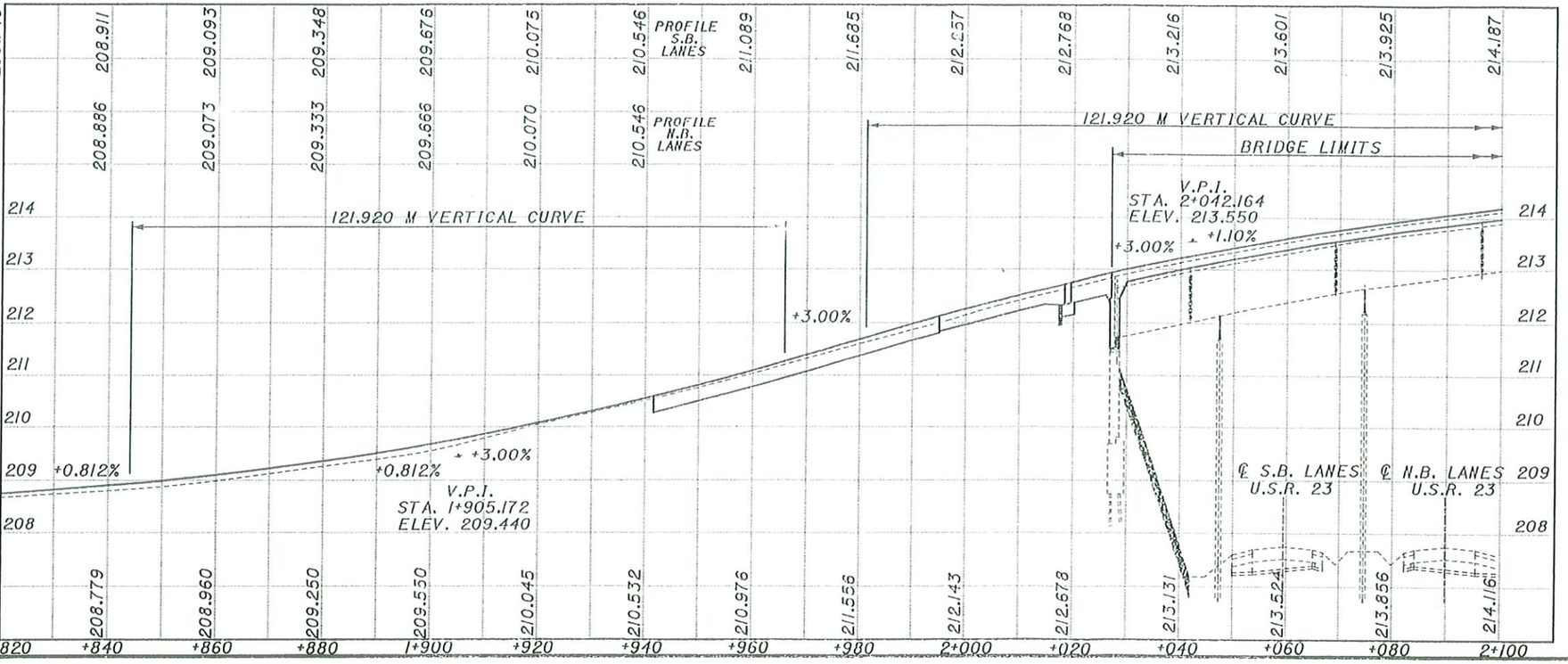
INTERIM COMPLETION DATE

ALL SIX ITEMS OF WORK, WITH THE EXCEPTION OF THE SIX FIELD PAINTING OF EXISTING STEEL ITEMS AND THE SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) ITEM SHALL BE COMPLETED ON OR BEFORE OCTOBER 31, 1998. THIS DATE SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN THE AMOUNT OF $1,000.00 PER DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

SEE SIGNAL PLAN FOR UTILITY LOCATIONS



PROFILE NOT AT ℄ S.R. 159



REF NO.	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED FOR STORAGE AS PER PLAN	202 CONCRETE MEDIAN REMOVED, AS PER PLAN	451 APPROACH SLAB PRESSURE RELIEF JOINT	452 PLAIN CONCRETE PAVEMENT, MISC. 450 mm THICK	603 300mm CONDUIT, TYPE C	604 CATCH BASIN, NO. 6, AS PER PLAN	604 PRECAST REINFORCED CONCRETE OUTLET	606 GUARDRAIL TYPE 5	606 ANCHOR ASSEMBLY TYPE T	606 BRIDGE TERMINAL ASSEMBLY TYPE I	626 BARRIER REFLECTOR TYPE A	660 SODDING UNSTAKED
				METER	METER	METER	SQ. M.	METER	EACH	EACH	METER	EACH	EACH	EACH	SQ. M.
R-1	1+941.580	1+995	℄		53.420		48.668			1					
R-2	1+959.655	2+005.350	RT.	45.695											
GR-1	RAMP "B" 0+022.267	2+005.350	RT.					36	1		83.826	1	1	5	4
P-1	2+015.683		℄			40.314									
D-1	2+036		LT.					36	1		83.826	1	1	5	4
	SUB-TOTAL			45.695	53.420	40.314	48.668	36	1	1	83.826	1	1	5	4
	TOTALS CARRIED TO GENERAL SUMMARY			46	54	41	49	36	1	1	83.826	1	1	5	4

CALCULATED GEC
CHECKED CER

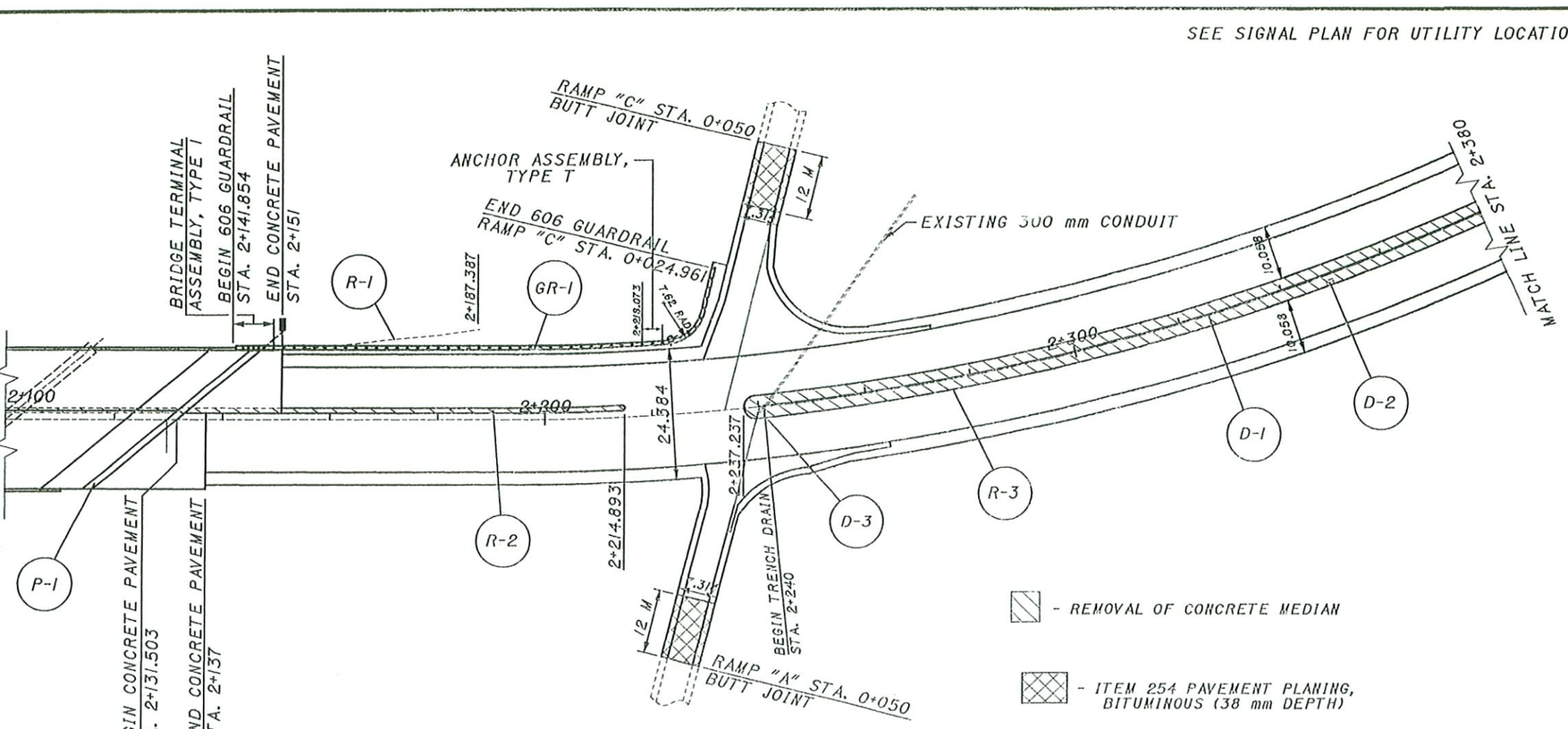
HORIZONTAL SCALE IN METERS
0

PLAN AND PROFILE
FROM STA. 1+820 TO STA. 2+100

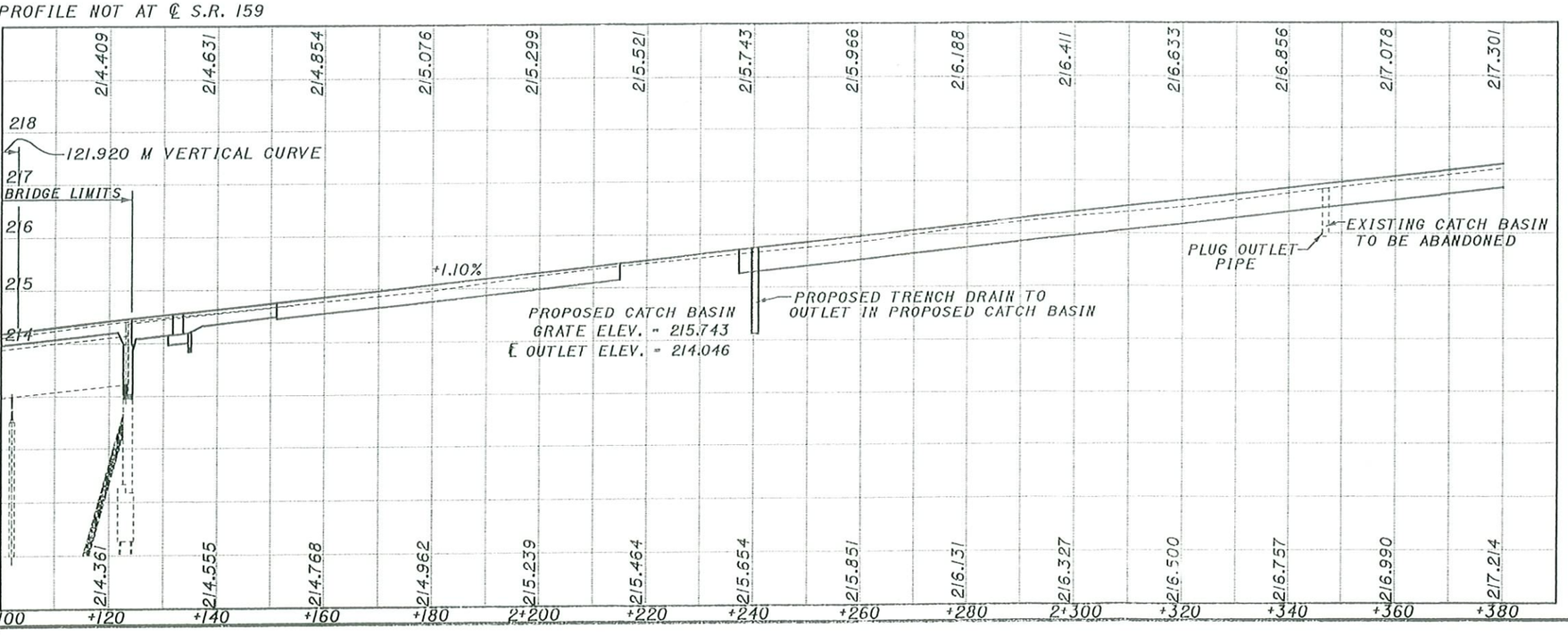
ROS-159-5.448

18
58

SEE SIGNAL PLAN FOR UTILITY LOCATIONS



PROFILE NOT AT ℄ S.R. 159



REF NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN ABANDONED	202 GUARDRAIL REMOVED FOR STORAGE AS PER PLAN	202 CONCRETE MEDIAN REMOVED, AS PER PLAN	451 APPROACH SLAB PRESSURE RELIEF JOINT	452 PLAIN CONCRETE PAVEMENT, MISC: 450 mm THICK	604 CATCH BASIN, NO. 6, AS PER PLAN	604 TRENCH DRAIN	604 PRECAST REINFORCED CONCRETE OUTLET	606 GUARDRAIL TYPE 5	606 ANCHOR ASSEMBLY TYPE T	606 BRIDGE TERMINAL ASSEMBLY TYPE 1	625 BARRIER REFLECTOR TYPE A
				EACH	METER	METER	METER	SQ. M.	EACH	METER	EACH	METER	EACH	EACH	EACH
R-1	2+141.854	2+187.387	LT.		45.533										
R-2	2+151	2+214.893	℄			63.893		57.935							
R-3	2+237.237	2+380	℄			142.763		610.672							
GR-1	2+141.854	RAMP "C" 0+024.961	LT.									95.269	1	1	5
P-1	2+129.637		℄				40.314			1					
D-1	2+240	2+380	℄							140					
D-2	2+349.234		℄	1					1			95.269	1	1	5
D-3	2+240														
	SUB-TOTAL			1	45.533	206.656	40.314	668.607	1	140	1	95.269	1	1	5
	TOTALS CARRIED TO GENERAL SUMMARY			1	46	207	41	669	1	140	1	95.269	1	1	5

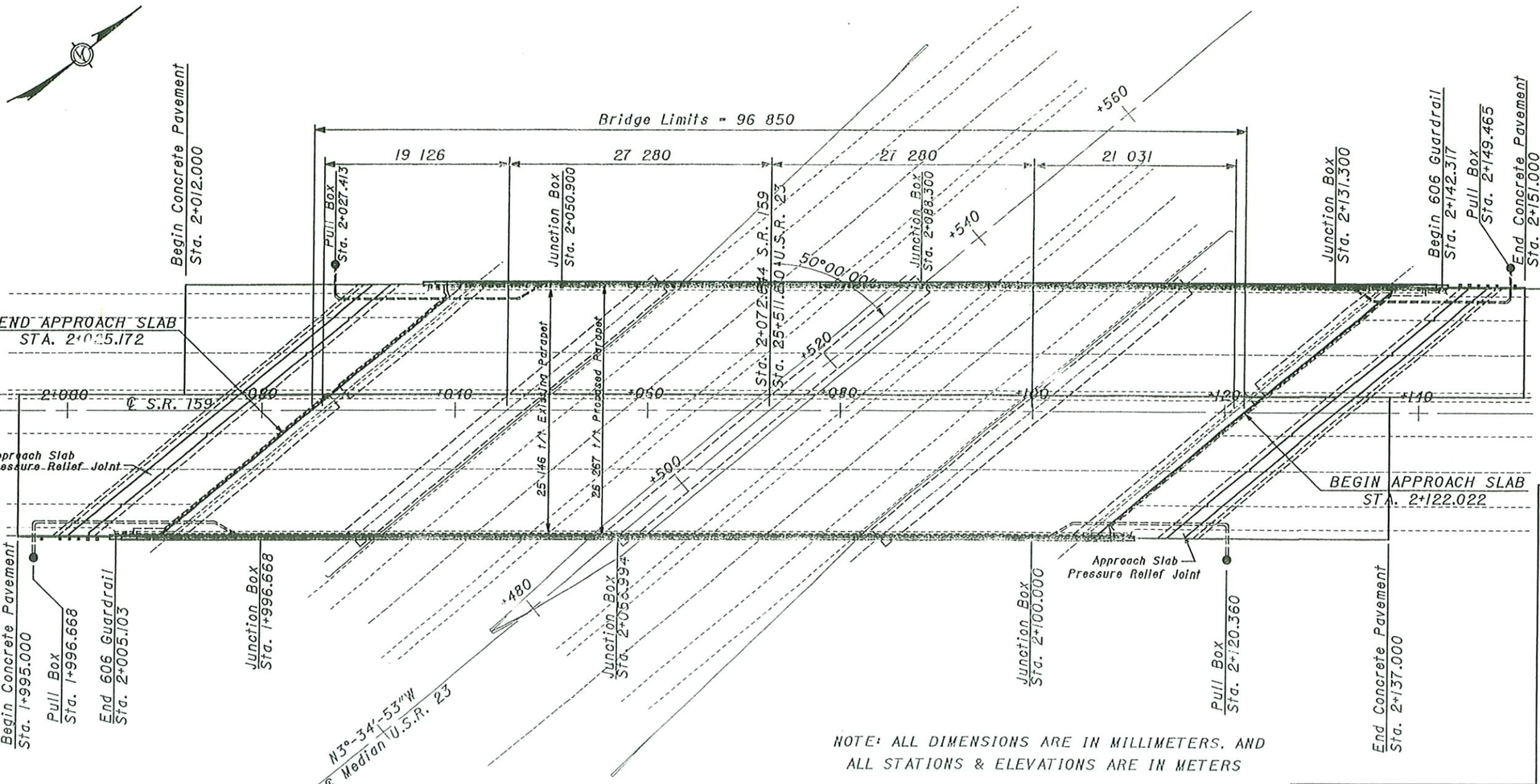
CALCULATED GEC
CHECKED CER

HORIZONTAL SCALE IN METERS

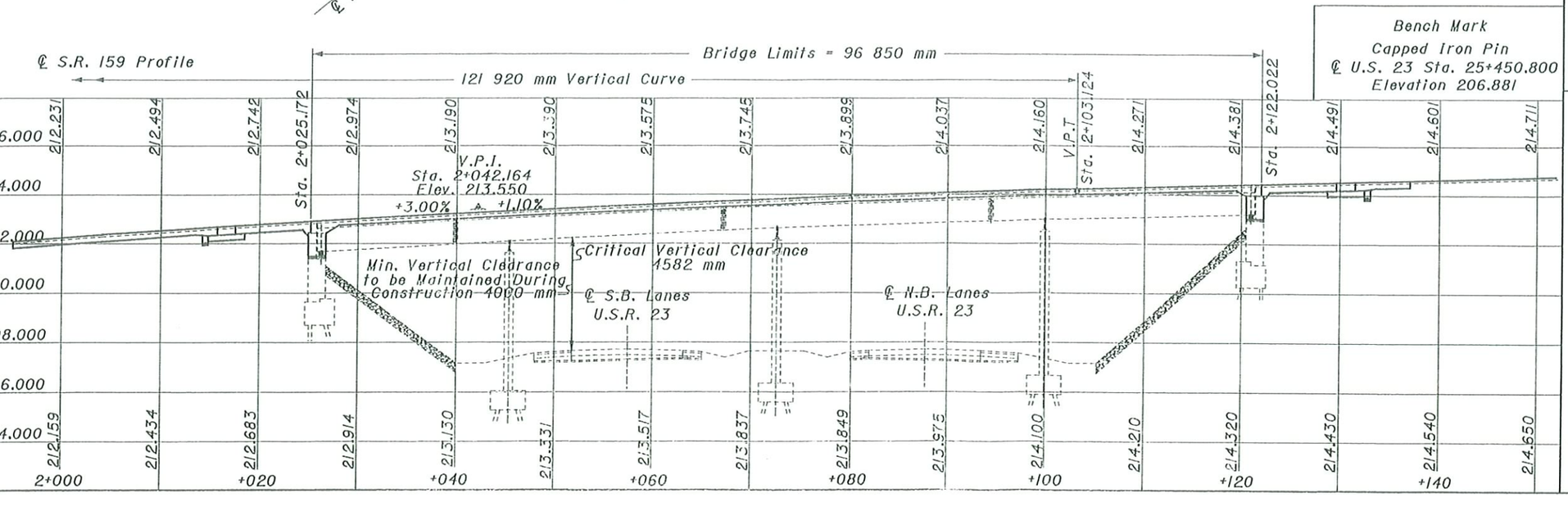
PLAN AND PROFILE
FROM STA. 2+100 TO STA. 2+380

ROS-159-5.448

19
58



NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, AND ALL STATIONS & ELEVATIONS ARE IN METERS



PROPOSED STRUCTURE

Longitude: 82° 57' 54" Latitude: 39° 21' 30"

PROPOSED WORK: New Composite Reinforced Concrete Deck on Existing Continuous Steel Beams and Modify Abutments into Semi-Integral Design, and New Approach Slabs

TYPE: Continuous Steel Beam with Reinforced Concrete Deck and Reinforced Concrete Substructure on Steel Piles

SPAN: 19 126mm - 27 280mm - 27 280mm - 21 031mm c/o Bearings

ROADWAY WIDTH: 25 267 mm t/t Parapet

SIDEWALK WIDTH: None

DESIGN LOADING: MS-18 & Alternate Military

SKEW: 50°00'00" L.F.

APPROACH SLAB: AS-1-81M (7620mm) T-380mm

ALIGNMENT: Tangent

CROWN: 0.0156

EXISTING STRUCTURE DATA

TYPE: Continuous Steel Beam with Reinforced Concrete Deck and Reinforced Concrete Substructure on Steel Piles (Two Separate Structures)

SPAN: 62'-9" - 89'-6" - 89'-6" - 84'-0" c/o Bearings

ROADWAY WIDTH: 84'-0" t/t Parapets w/ 3' Raised Median

SKEW: 50°00'00" L.F.

LOAD CAPACITY: HS 20 - 44

TYPE OF FLOOR: 8" Reinforced Concrete Slab

TYPE OF SUBSTRUCTURE: Reinforced Concrete

DATE BUILT: 1971

STRUCTURE FILE NUMBER: 7104413

APPROACH SLAB: AS - 1 -67 (25' Long)

WEARING SURFACE: 1" Monolithic Concrete + ¾" Epoxy Overlay

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9 PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
GEC	GEC	LAW	5/21/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KBC		7104413	

ROSS COUNTY
STA. 2+122.022
STA. 2+025.172

ROS-159-5.448

SITE PLAN
BRIDGE NO. ROS-159-0373
OVER USR 23

1/21

37/58

DESIGN SPECIFICATIONS:

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

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81M	DATED	10-25-94	HL-20.14M	DATED	05-01-95
BR-1M	DATED	12-15-94	HL-30.11M	DATED	03-31-95
IRJ-8-95M	DATED	07-06-95	HL-30.32M	DATED	03-31-95
SICD-1-96M	DATED	02-12-97	HL-50.21M	DATED	08-31-94
DM-1.1M	DATED	06-30-95			

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

815 DATED 05-30-96
910 DATED 04-21-97

DESIGN DATA:

DESIGN LOADING - MS18 CASE II AND THE ALTERNATE MILITARY LOADING.

HIGH PERFORMANCE CONCRETE - COMPRESSIVE STRENGTH 31.0 MPa

REINFORCING STEEL - ASTM A615M, A616M OR A617M GRADE 420 MINIMUM YIELD STRENGTH 420 MPa

DECK PROTECTION METHOD: GALVANIZED REINFORCING STEEL, TOP AND BOTTOM MATS AND SEALING OF CONCRETE SURFACES.

65 mm CONCRETE COVER

MONOLITHIC WEARING SURFACE IS ASSUMED FOR DESIGN PURPOSES TO TO BE 25mm

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/OR 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:

DETAIL DRAWINGS OF THE EXISTING BRIDGES MAY BE INSPECTED IN THE DISTRICT 9 BRIDGE OFFICE IN CHILLICOTHE, OHIO OR IN THE OFFICE OF STRUCTURAL ENGINEERING AT 25 SOUTH FRONT STREET IN COLUMBUS, OHIO.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT INCLUDING REMOVAL OF EPOXY AND ASPHALT WEARING SURFACES. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

ABUTMENT REMOVALS:

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 25mm DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, AT LEAST 300mm LENGTH OF PROTRUDING REINFORCING STEEL SHALL BE LEFT IN PLACE. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF OIL, DIRT, DUST, AND OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, AND OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL: 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 16 KILOGRAMS FOR REMOVAL WITHIN 450 mm OF THE PORTIONS TO BE PRESERVED. OUTSIDE THE 450 mm LIMIT, A HAMMER HEAVIER THAN 16 KILOGRAMS, BUT NOT TO EXCEED 32 KILOGRAMS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE IN DIRECT CONTACT WITH THE REINFORCING STEEL THAT IS TO BE RETAINED PLACED IN THE REBUILT STRUCTURE.

DECK REMOVAL:

DESCRIPTION: THIS WORK SHALL CONSIST OF THE REMOVAL OF THE CONCRETE DECK INCLUDING RAILINGS, DECK JOINTS, ABUTMENT BEARINGS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, 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 HIS PLANS FOR THE PROTECTION OF TRAFFIC(VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARENCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

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 DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 50mm OUTSIDE THESE LINES TO CONFIRM THE LOCATIONS OF THE FLANGE EDGES. DECK CUTS OVER OR WITHIN OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 50 mm 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.

WHEN REMOVING THE EXISTING STEEL END FINISHES AND ROCKER BEARINGS CARE SHALL BE TAKEN NOT TO DAMAGE OR GOUGE THE EXISTING BEAM FLANGES. FLANGE SURFACES SHALL BE GROUND SMOOTH.

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, LIGHT HAMMERS APPROVED BY THE ENGINEER SHALL BE USED TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING 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 DIRECTOR.

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 AS GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A REGISTERED ENGINEER SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR 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 INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN:

IN ADDITION TO THE NORMAL REQUIREMENTS OF SECTION 503.03 OF THE CMS FOR THE CONSTRUCTION OF THE STRUCTURE, THE TEMPORARY SHORING REQUIRED TO SUPPORT THE EXISTING EMBANKMENT DURING PHASE 1 AND PHASE 2 CONSTRUCTION AT THE ABUTMENTS, AS SHOWN ON SHEETS [6/21], [7/21], [8/21], [9/21], [10/21], [11/21], [12/21], AND [13/21].

THE DESIGN OF THE TEMPORARY SHORING FOR PHASE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PLANS FOR SUCH SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND CONFORM WITH 501.05. THE CONTRACTOR SHALL SUBMIT FIVE COPIES TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL ENGINEERING, FOR REVIEW AND APPROVAL. CONSTRUCTION OF THE TEMPORARY SHORING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR.

PORTIONS OF THE TEMPORARY SHORING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 503, COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS NEEDED TO COMPLETE THIS WORK.

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

A CONCRETE SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES SHOWN ON SHEETS [7/21], [9/21], [11/21], [13/21], [14/21], & [17/21]. A QUANTITY OF 454 SQ. METER HAS BEEN INCLUDED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE TO INCLUDE THE SEALING OF THE PIER COLUMNS AND PIER CAPS. SEE PROPOSAL FOR SURFACE PREPARATION REQUIREMENTS, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES. THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR STANDARD NO. 17778 (OFF-WHITE).

DESIGN AGENCY: STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
GEC	GEC	LAW	5/21/97	7104413
CHECKED	REVISED			
KBC				

GENERAL NOTES
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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 THE SUPERSTRUCTURE APPROXIMATELY 50 mm AT BOTH ABUTMENTS TO ALLOW FOR THE REMOVAL OF THE BEARING DEVICES, TO THEN LOWER SUPERSTRUCTURE ONTO TEMPORARY SUPPORTS AT BOTH ABUTMENTS TO SUPPORT THE ENDS OF THE BRIDGE DURING THE COMPLETION OF BOTH PHASES OF CONSTRUCTION TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. TEMPORARY SUPPORTS SHALL BE REMOVED AFTER BOTH PHASES OF CONSTRUCTION HAVE BEEN COMPLETED AND PRIOR TO PAINTING OF STRUCTURAL STEEL.

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 DIRECTOR 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 CALCULATION 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 25 mm, JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOADS 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 DIRECTOR 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.

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN AND ADJACENT ABUTMENTS OR PIERS SHALL BE 25 mm OR LESS.

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, THE JACKING OPERATION SHALL IMMEDIATELY CEASE AND APPROVED SUPPORTS SHALL BE INSTALLED. THE CONTRACTOR SHALL THEN ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL.

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

THE JACKING OPERATION SHALL BE DIRECTED BY A PROFESSIONAL ENGINEER EMPLOYED BY THE CONTRACTOR. FAILURE TO HAVE A PROFESSIONAL ENGINEER PRESENT SHALL BE CAUSE FOR CEASING JACKING OPERATIONS.

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

ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SEE SHEET 18/21 FOR BEARING DETAILS, SIDE RETAINER DETAILS, HP STEEL SHAPE DETAILS, AND REQUIREMENTS AND SEE STD. DWG. SICD-1-96M FOR ANCHOR BOLTS AND DETAILS AND REQUIREMENTS NOT SHOWN.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BOND SURFACE SHALL NOT EXCEED 150°C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

SEE SHEET 17/21 FOR LOCATIONS OF 50mm DIAMETER HOLES THAT ARE TO BE DRILLED THRU EACH END OF EACH BEAM. THE HOLES ARE TO BE MACHINED DRILLED.

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION AND THE DRILLING OF THE 50mm DIAMETER HOLES THRU ENDS OF EACH BEAM. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE(NEOPRENE), AS PER PLAN.

ITEM 516 - SEMI-INTREGAL ABUTMENT EXPANSION JOINT SEAL

NEOPRENE SHEETING AND EXPANDANDED POLYSTYRENE FILLER OR REMOVABLE FORMS AS DETAILED AND SPECIFIED ON STD. DWG. SICD-1-96M SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516 - SEMI-INTREGAL ABUTMENT EXPANSION JOINT SEAL.

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25mm 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 AS SHOWN ON SHEET 17/21. 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 6mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E .

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN: UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 GRANULAR MATERIAL PLACED IN 150 mm LIFTS AND COMPACTED IN ACCORDANCE WITH 304.04.

DESIGN AGENCY: STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9

DESIGNED	DRAWN	REVIEWED	DATE
GEC	GEC	LAW	6/21/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KBC		7104413	

GENERAL NOTES
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

3/21

39/58

ITEM 516 - ELASTOMERIC COMPRESSION SEAL, AS PER PLAN

DESCRIPTION:
THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A CONTINUOUS ELASTOMER SEAL WITHIN A CONCRETE JOINT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

REQUIREMENTS:
THE SEALS OF THE SIZE AND SHAPE SHOWN ON THE PLANS SHALL BE AS SUPPLIED BY JEENE TECHNOLOGY OF MICHIGAN, 1900 CHICAGO DRIVE, GRAND RAPIDS, MICHIGAN. THE SEALS SHALL BE EXTRUDED POLYCHLOROPRENE MEETING THE FOLLOWING REQUIREMENTS:

PROPERTY	ASTM	REQUIREMENTS
HARDNESS, TYPE A DUROMETER	D-2240 (MODIFIED)	55 +/- 5 POINTS
ELONGATION @ BREAK MIN.	D-412	250%
TENSILE STRENGTH, MIN.	D-412	13.79 MPA
OVEN AGING, 70 HR. @ 100 C	D-573	
HARDNESS, TYPE-A DUROMETER (POINTS CHANGE)		0 TO +10
ELONGATION, LOSS, MAX.		20%
TENSILE STRENGTH, LOSS, MAX.		20%
COMPRESSION SET, 70 HR. @ 100 C MAX.	D-395 (MODIFIED)	40%
OZONE RESISTANCE 20% STRAIN, 300 PPHM, IN AIR @ 40 C (WIPED WITH TOLUENE TO REMOVE CONTAMINATION	D-1149	NO CRACKS
OIL SWELL, 70 HR. CW 100 C WEIGHT CHANGE, MAX.	ASTM OIL 3	45%
HIGH TEMPERATURE RECOVERY, 70 HR. @ 100 C 50% DEFLECTION, MIN.	D-2628-81	85%
LOW TEMPERATURE RECOVERY, 70 HR. @ 100 C 50% DEFLECTION, MIN.	D-2628-81	83%
LOW TEMPERATURE RECOVERY, 72 HR. CA -10 C 50II/0 DEFLECTION, MIN.	D-2628-81	88%

THE ADHESIVE (ADE-52) SHALL HAVE THE FOLLOWING PROPERTIES:
EPOXY BASE, DOUBLE COMPONENT, THIXOTROPIC PASTE. RESISTS DILUTE ACIDS, ALKALIS, SOLVENTS, GREASES, OILS, MOISTURE, SUNLIGHT AND WEATHERING. TEMPERATURES UP TO 93 C DO NOT WEAKEN BOND INTERFACES. AT ROOM TEMPERATURE (20 C), A STRONG BOND WILL DEVELOP WITHIN 24 HOURS.

POT LIFE	40 MINUTES @ 20 C
TENSILE STRENGTH; MIN.	28.54 MPA
SOLIDS HARDNESS	5 MOHS
FLASH POINT	>93 C
AXIAL COMPRESSION	60.40 MPA
COMPLETE CURE	7 DAYS @ 20 C

AT HIGH AMBIENT TEMPERATURES THE CURE WILL BE ACCELERATED.

ADHESIVE ADE-52 APPLICATION CHART

PROFILE	WIDTH	METER/KILOGRAM	METER/KIT
2540 W	25 MM	4.00	33
3550 W	38 MM	3.36	27
5070 W	51 MM	2.69	22
6080 W	64 MM	2.35	19
8097 W	76 MM	2.02	16

RESTRICTIONS:
1. ALL INSTALLATIONS MUST BE PERFORMED UNDER THE SUPERVISION AND RESPONSIBILITY OF A TECHNICIAN EITHER PROVIDED DIRECTLY BY THE MANUFACTURER, AUTHORIZED CONTRACTOR, OR OWNER AUTHORIZED-TRAINED CREW.

2. THE ADHESIVE ADE-52 DOES NOT BOND ON DAMP OR HUMID SURFACES. NO INSTALLATION MAY BE PERFORMED IN RAINY WEATHER.

3. ALL SURFACES MUST BE COMPLETELY DRY PRIOR TO APPLYING ADHESIVE.

INSTALLATION:
1. PREPARATION
A. THE PRE-FORMED SEAL MUST BE CUT TO THE CORRECT LENGTH OF THE APPROPRIATE GAP FOR INSTALLATION. CARE SHOULD BE TAKEN TO EXTEND THE SEAL TO ITS FULL LENGTH BUT NOT TO EXERT EXCESS TENSION. IT SHOULD BE REMEMBERED THAT THE MATERIAL IS ELASTIC AND IMPROPER STRETCHING DURING LENGTH MEASUREMENT COULD CAUSE THE SEAL TO BE EITHER LONGER OR SHORTER THAN THE DESIRED GAP LENGTH.

B. AFTER SEAL LENGTH IS DETERMINED, BOTH ENDS MUST BE PLUGGED (AIR TIGHT) AND AIR VALVE INSTALLED.

C. BEFORE MIXING THE ADHESIVE ADE-52, AIR MUST BE PUMPED INTO THE SEAL TO ASSURE THAT THERE ARE NO LEAKS PRIOR TO MIXING AND APPLICATION OF THE ADE-52.

2. ADHESIVE ADE-52
A. ADE-52 IS A VERY POWERFUL BONDING AGENT, WITH A FAST-SETTING FACTOR, (POT LIFE OF 30 MINUTES).

B. THE PROPORTIONS OF THE ADHESIVE TO BE MIXED MUST BE ONE PART COMPONENT C TO ONE PART R OR ACCORDING TO SPECIFIC MANUFACTURERS INSTRUCTIONS.

C. THE ADHESIVE MUST BE MIXED "ONLY" AFTER ALL PREPARATION OF GAP AND SEAL ARE TOTALLY FINISHED" (CHECKED AND CONFIRMED)

D. TOTAL TIME AVAILABLE FOR WORLDNG WITH ADE-52 FROM TIME OF MIXING IS AN AVERAGE OF 30 MINUTES AT TEMPERATURES FROM 17 C TO 24 C. AT LOWER TEMPERATURES THE CURE OR SET-UP TIME WILL BE SOMEWHAT EXTENDED AND AT HIGHER TEMPERATURES THE TIME WILL BE SOMEWHAT DIMINISHED.

3. JOINT INSTALLATION IN THE GAP
A. APPLY ADHESIVE TO THE INNER WALLS OF THE CONCRETE, AS EVENLY AS POSSIBLE, WITHOUT LEAVING BLANK SPOTS. IN THE SAME MANNER, APPLY THE ADHESIVE TO THE OUTSIDE WALLS OF THE SEAL.

B. AS THE ADHESIVE IS APPLIED TO THE SEAL WALLS (ON BOTH SIDES), THE SEAL SHOULD BE GRADUALLY INSERTED INTO THE GAP, IN ORDER NOT TO LEAVE SECTIONS OF GLUED SEAL OUTSIDE THE JOINT AND SUSCEPTIBLE TO INTRUSION OF FOREIGN MATTER.

4. PRESSURIZATION
A. THE PRESSURIZATION OF THE SEAL IS DONE THROUGH A VALVE THAT CONVEYS COMPRESSED AIR INTO THE PRE-FORMED SEAL WHOSE ENDS WERE PREVIOUSLY CLOSED, CAUSING THE SEAL TO EXPAND AGAINST THE JOINT'S CONCRETE WALLS. AFTER THE ADHESIVE HAS CURED 24 HOURS, THE VALVE CLAMP IS REMOVED, ALLOWING THE COMPRESSED AIR TO BLEED OFF, THEREBY RE-ESTABLISHING THE ISOBARIC BALANCE.

MEASUREMENT AND PAYMENT:
PAYMENT FOR ACCEPTED QUANTITIES SHALL BE BASED ON THE LENGTH OF JOINT MEASURED ALONG THE CENTERLINE OF THE SEAL COMPLETE IN PLACE AND ACCEPTED. THIS PAYMENT SHALL INCLUDE THE COST OF FURNISHING AND PLACING SEALS, ADHESIVE ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THIS WORK ACCORDING TO THE PLANS AND THIS SPECIFICATION.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER METER.

ITEM	UNIT	DESCRIPTION
516	METER	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9

DESIGNED	DRAWN	REVIEWED	DATE
GEC	GEC	LAW	5/21/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KBC		7104413	

GENERAL NOTES
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

3A/21

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ESTIMATED QUANTITIES

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	GENERAL	PARAPET	ABUT.	SUPER.	SEE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN	LUMP				2/21
503	11101	LUMP		COFFERDAMS, CRIBS, AND SHEETING, AS PER PLAN	LUMP				2/21
503	21101	410	CU. METER	UNCLASSIFIED EXCAVATION, AS PER PLAN				410	
SPECIAL	51148000	642	CU. METER	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK)*				642	
SPECIAL	51148020	69	CU. METER	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET)*				69	
SPECIAL	51148040	103	CU. METER	HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE*			103		3/21
SPECIAL	51149000	LUMP		HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE TRIAL MIX*	LUMP				
SPECIAL	51149010	LUMP		HIGH PERFORMANCE CONCRETE TESTING*	LUMP				
512	33000	87	SQ. METER	TYPE 2 WATERPROOFING			87		
SPECIAL	51267510	1365	SQ. METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)*	454	752	159		2/21
513	20000	3146	EACH	WELDED STUD SHEAR CONNECTOR				3146	
516	10901	94	METER	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN				94	3A/21
516	13600	11	SQ. METER	25 mm PREFORMED EXPANSION JOINT FILLER			11		
516	13900	4	SQ. METER	51 mm PREFORMED EXPANSION JOINT FILLER			4		
516	14000	6	SQ. METER	PREFORMED EXPANSION JOINT FILLER, MISC.: 75 mm THICK			6		
516	14020	82	METER	SEMI-INTREGAL ABUTMENT EXPANSION JOINT SEAL			82		
516	44101	22	EACH	ELASTOMERIC BEARING (406X241X75) WITH INTERNAL LAMINATES AND LOAD PLATE (432X372X38) (NEOPRENE), AS PER PLAN				22	3/21
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	3/21
518	21200	47	CU. METER	POROUS BACKFILL WITH FILTER FABRIC			47		
518	40000	89	METER	150MM PERFORATED CORRUGATED PLASTIC PIPE			89		
518	40010	6	METER	150MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			6		
604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	4				
625	25400	260	METER	CONDUIT, 51 mm,713.04	66		194		
625	29920	6	EACH	STRUCTURE JUNCTION BOX (524 x 270 x 171 mm, 713.10)			6		
625	30706	4	EACH	PULL BOX, 713.08, 600 mm	4				
625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM	2				
626	00200	14	EACH	BARRIER REFLECTOR, TYPE B				14	
632	53202	138	METER	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID REA(PE-39)				138	
815	00050	3759	SQ. METER	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU				3759	
815	00056	3759	SQ. METER	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU				3759	
815	00060	3759	SQ. METER	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU				3759	
815	00066	3759	SQ. METER	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU				3759	
815	00504	200	MAN HOUR	GRINDING FINS, TEARS, SLIVERS				200	
815	00508	219	METER	GRINDING FLANGE EDGES				219	

* SEE PROPOSAL NOTE

DESIGN AGENCY: STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DISTRICT 9

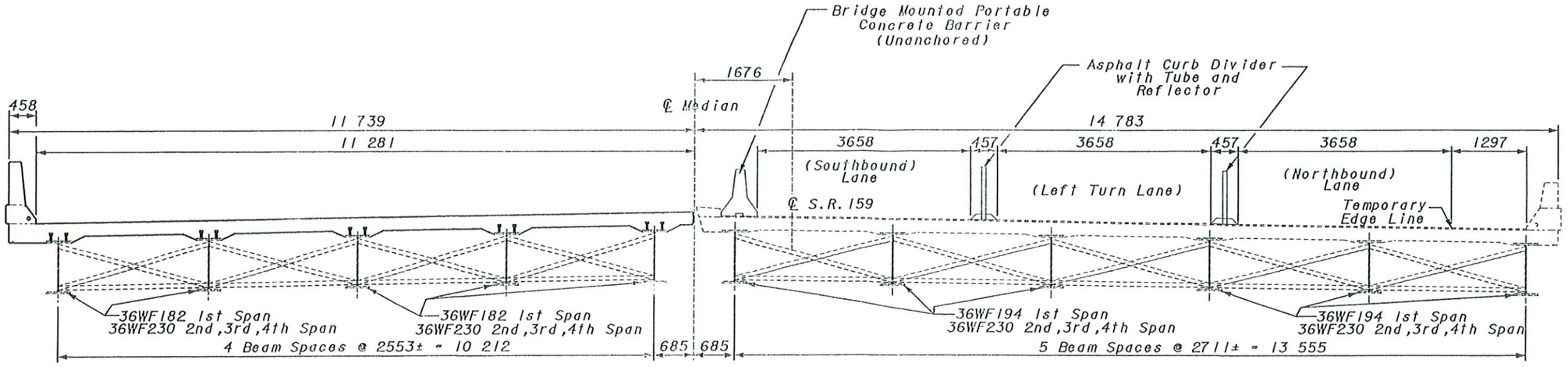
DESIGNED GEC | DRAWN GEC | REVIEWED LAW 5/21/97 | DATE | STRUCTURE FILE NUMBER 7104413

CHECKED KBC | REVISED

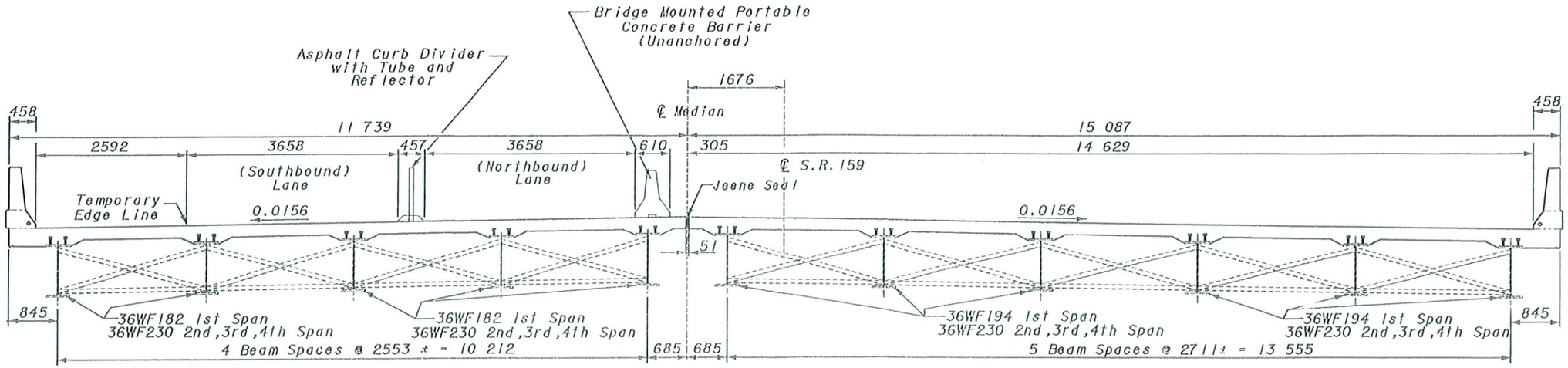
ESTIMATED QUANTITIES
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

4/21



TRANSVERSE SECTION - PHASE 1



TRANSVERSE SECTION - PHASE 2

All Dimensions are
in Millimeters

PHASE 1 AND PHASE 2 CONSTRUCTION
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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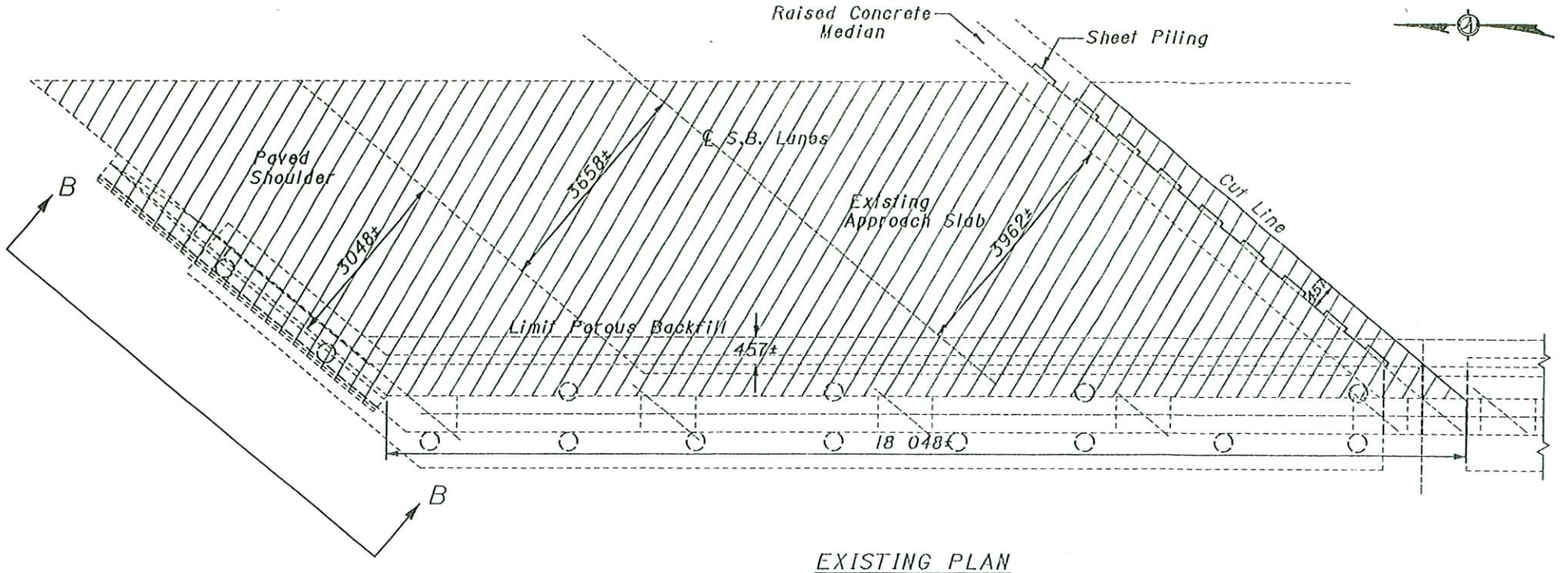
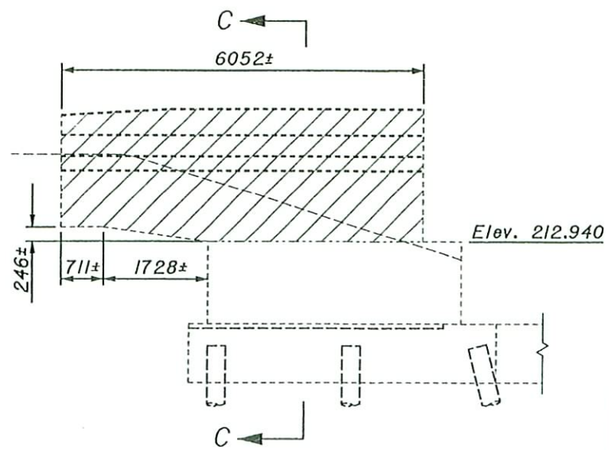
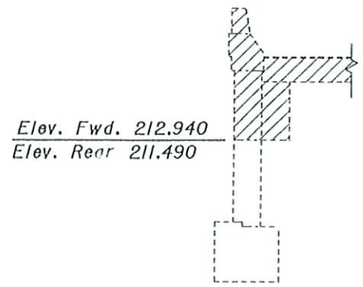
DESIGNED GEC | DRAWN GEC | REVIEWED LAW 5/21/97 | DATE | DESIGN AGENCY STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9
CHECKED KBC | REVISED | SIGNATURE FILE NUMBER 710413



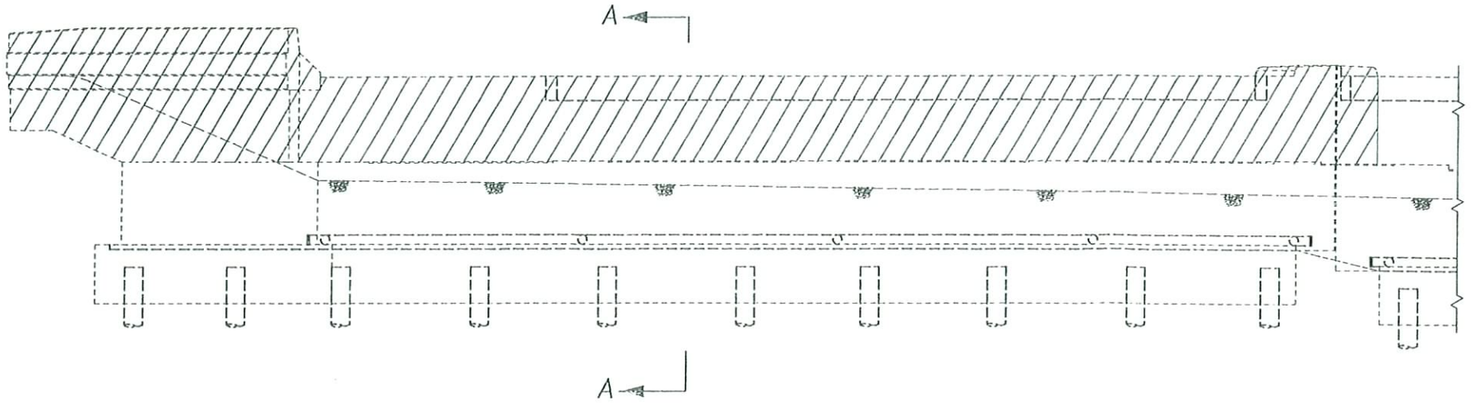
EXISTING PLAN
FORWARD ABUTMENT - LEFT BRIDGE



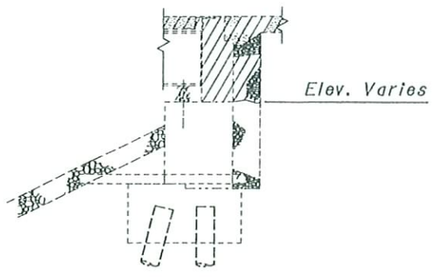
VIEW B-B



SECTION C-C



EXISTING ELEVATION
FORWARD ABUTMENT - LEFT BRIDGE



SECTION A-A

All Dimensions in Millimeters

LEFT FORWARD ABUTMENT REMOVAL DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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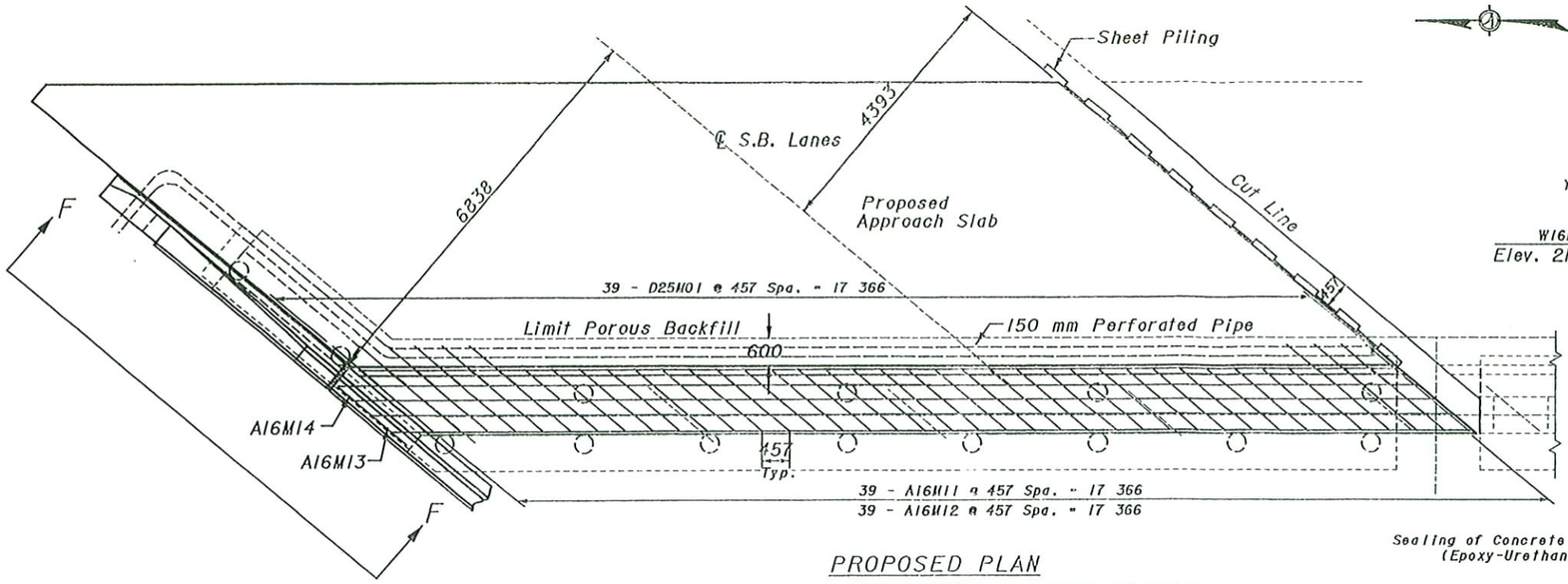
DESIGNED	DRAWN	REVIEWED	DATE
GEC	GEC	LAW	5/21/97
CHECKED	REVISED	STRUCTURE FILE NUMBER	
KBC		7104413	

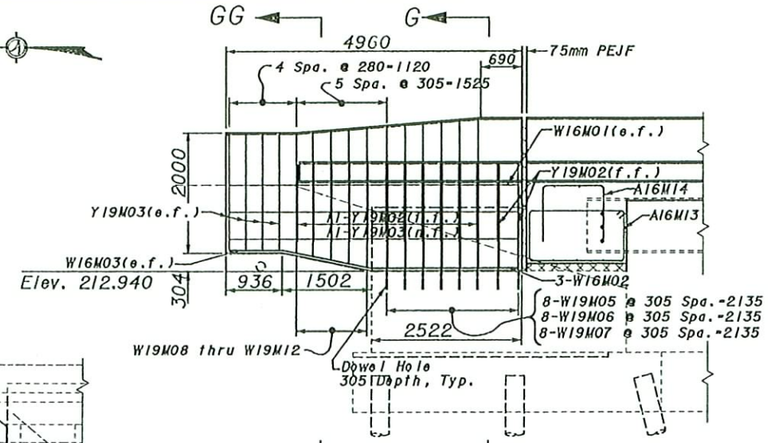
DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9



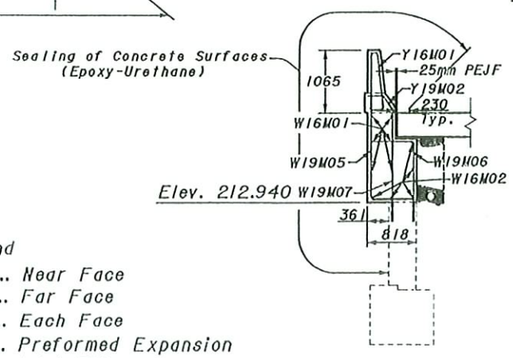
PROPOSED PLAN
FORWARD ABUTMENT - LEFT BRIDGE

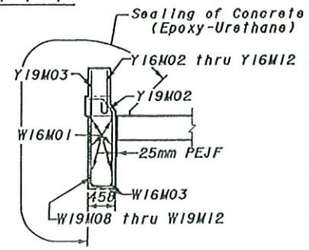
LOCATION*	BOTTOM OF BEAM ELEV.
A	213.210
B	213.223
C	213.236
D	213.245
E	213.248

* FOR HP STEEL SHAPE DIMENSIONS AT THESE LOCATIONS SEE SHEET 18/21



VIEW F-F

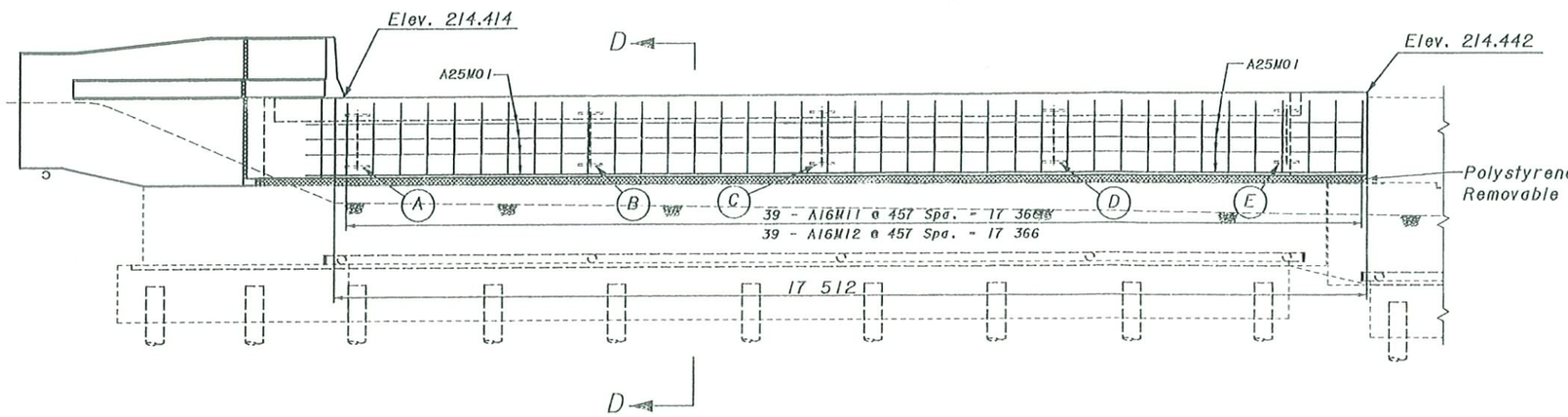




SECTION GG-GG

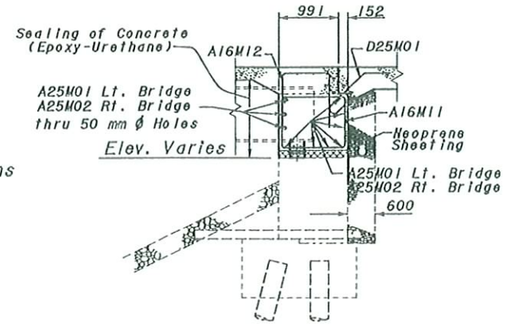
Legend

(n.f.) ..... Near Face
(f.f.) ..... Far Face
(e.f.) ..... Each Face
PEJF ..... Preformed Expansion Joint Filler



PROPOSED ELEVATION
FORWARD ABUTMENT - LEFT BRIDGE

SECTION G-G



SECTION D-D

NOTES:

POROUS BACKFILL WITH FILTER FABRIC, 600 mm thick shall extend up to the plane of the subgrade, to 300 mm below the embankment surface, and laterally to the ends of the wingwalls.

DIAPHRAGM concrete encasing the structural member sections supported in semi-integral and integral type abutments shall be placed at least 48 hours before the actual deck concrete is placed.

For Additional Abutment Details
Refer to Std. Dwg. SICD-1-96M

All Dimensions in Millimeters

DESIGNED GEC | DRAWN GEC | REVIEWED LAW | DATE 5/21/97 | DESIGN AGENCY STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9
CHECKED KBC | REVISED | STRUCTURE FILE NUMBER 7104413

LEFT FORWARD ABUTMENT DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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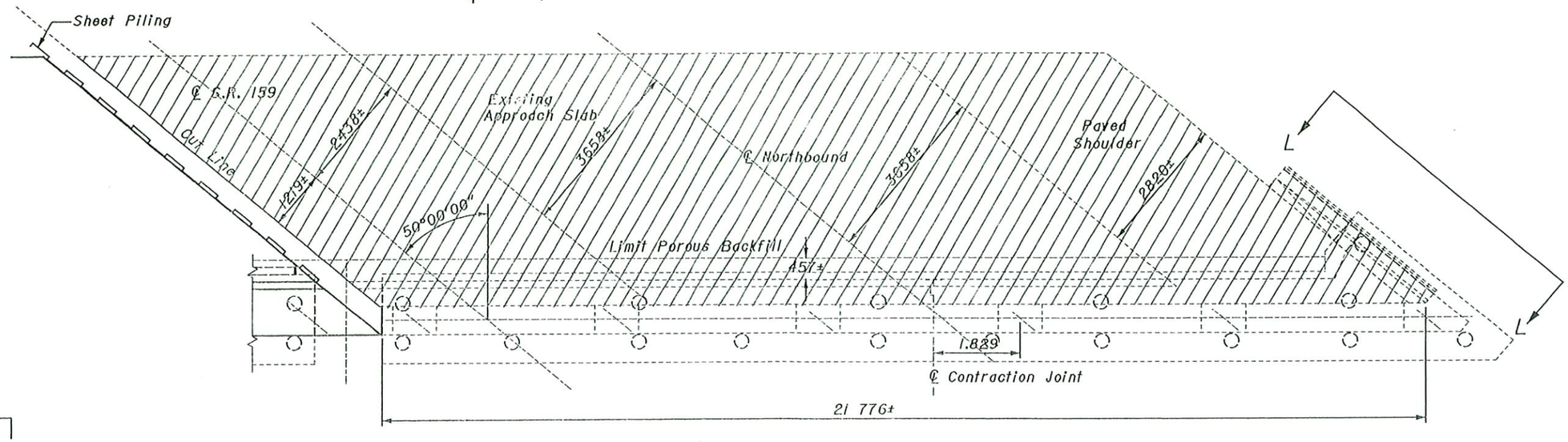
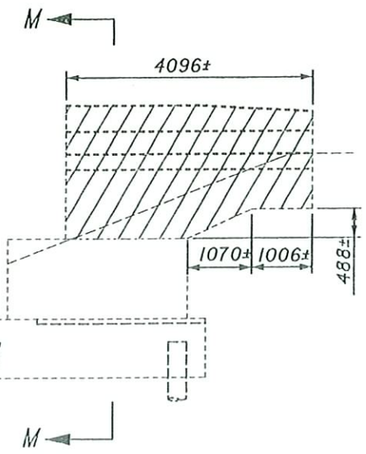
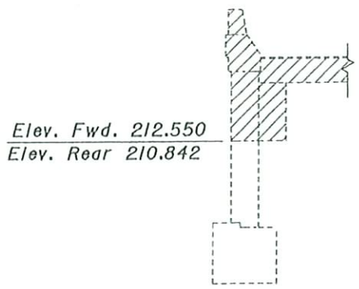


EXISTING PLAN
FORWARD ABUTMENT - RIGHT BRIDGE

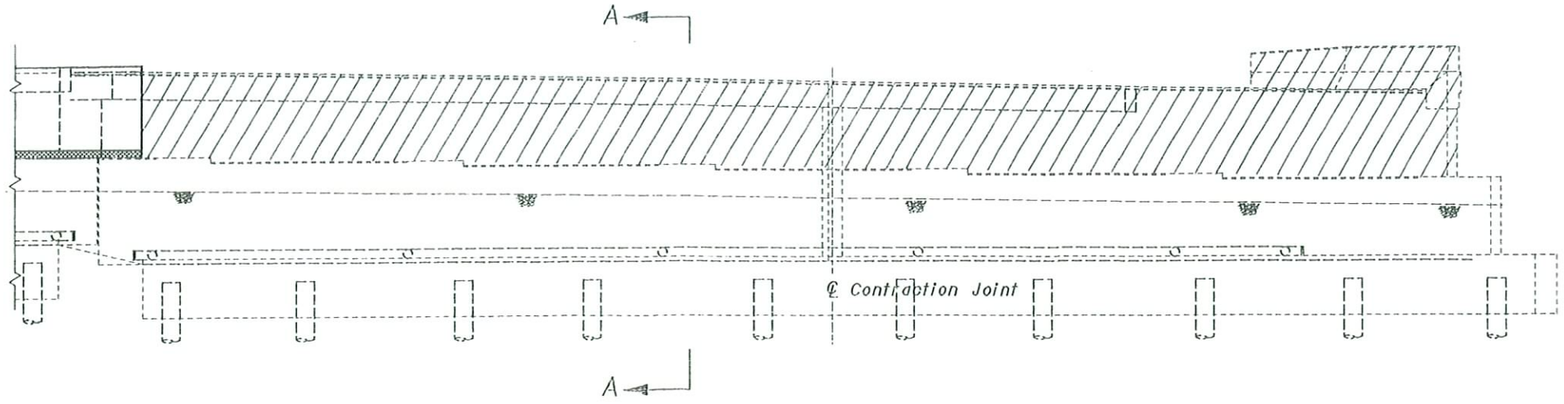
For Section A-A See Sheet 6721



VIEW L-L



SECTION M-M



EXISTING ELEVATION
FORWARD ABUTMENT - RIGHT BRIDGE

All Dimensions in Millimeters

DESIGNED GEC
DRAWN GEC
CHECKED KBC
REVISED
REVISED LAW 5/21/97
DATE
DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9
STRUCTURE FILE NUMBER 7104413

RIGHT FORWARD ABUTMENT REMOVAL DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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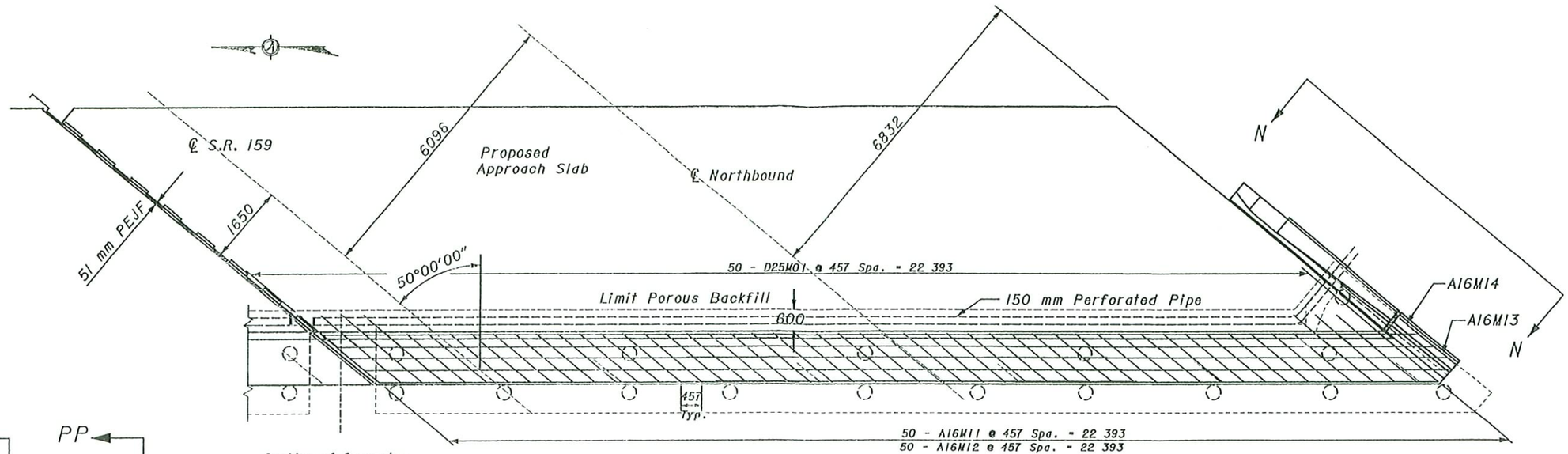
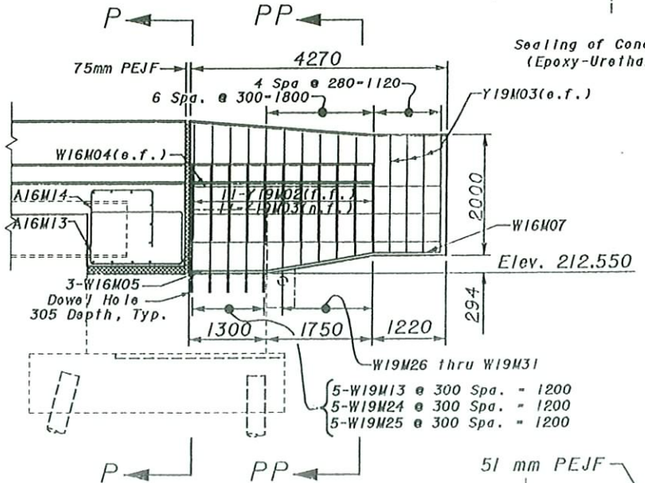


PROPOSED PLAN
FORWARD ABUTMENT - RIGHT BRIDGE

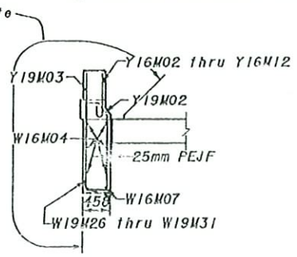
Legend
(n.f.) ..... Near Face
(f.f.) ..... Far Face
(e.f.) ..... Each Face
PEJF ..... Preformed Expansion Joint Filler

LOCATION*	BOTTOM OF BEAM ELEV.
A	213.209
B	213.131
C	213.057
D	212.982
E	212.896
F	212.824

* FOR HP STEEL SHAPE DIMENSIONS AT THESE LOCATIONS SEE SHEET 18/21

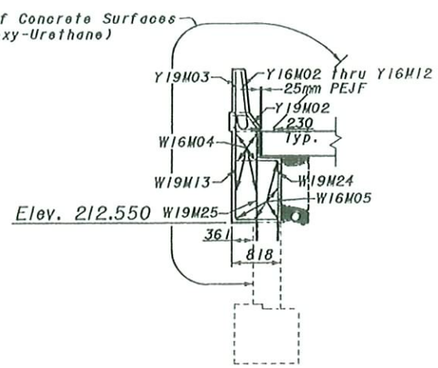


VIEW N-N

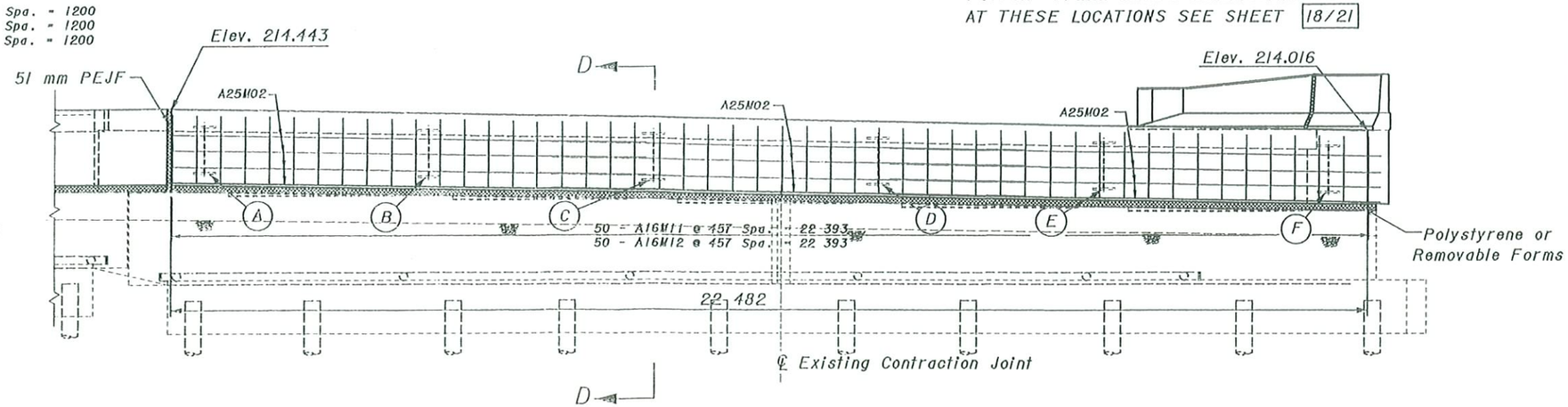


SECTION PP-PP

For Section D-D See Sheet 7/21



SECTION P-P



NOTES:
See Sheet 7/21 for Notes

PROPOSED ELEVATION
FORWARD ABUTMENT - RIGHT BRIDGE

For Additional Abutment Details
Refer to Std. Dwg. SICD-1-96M

All Dimensions in Millimeters

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9

REVIEWED LAW DATE 5/21/97
STRUCTURE FILE NUMBER 7104413

DRAWN GEC
REVISED

DESIGNED GEC
CHECKED KBC

RIGHT FORWARD ABUTMENT DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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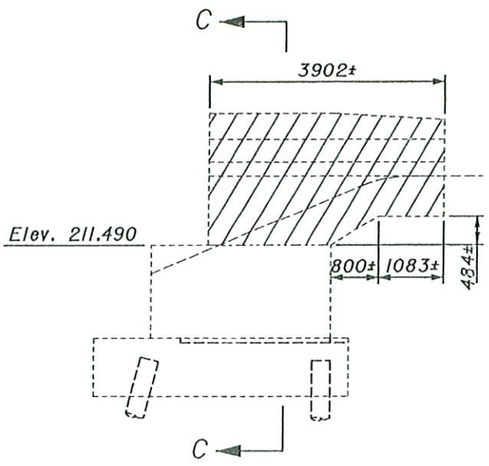
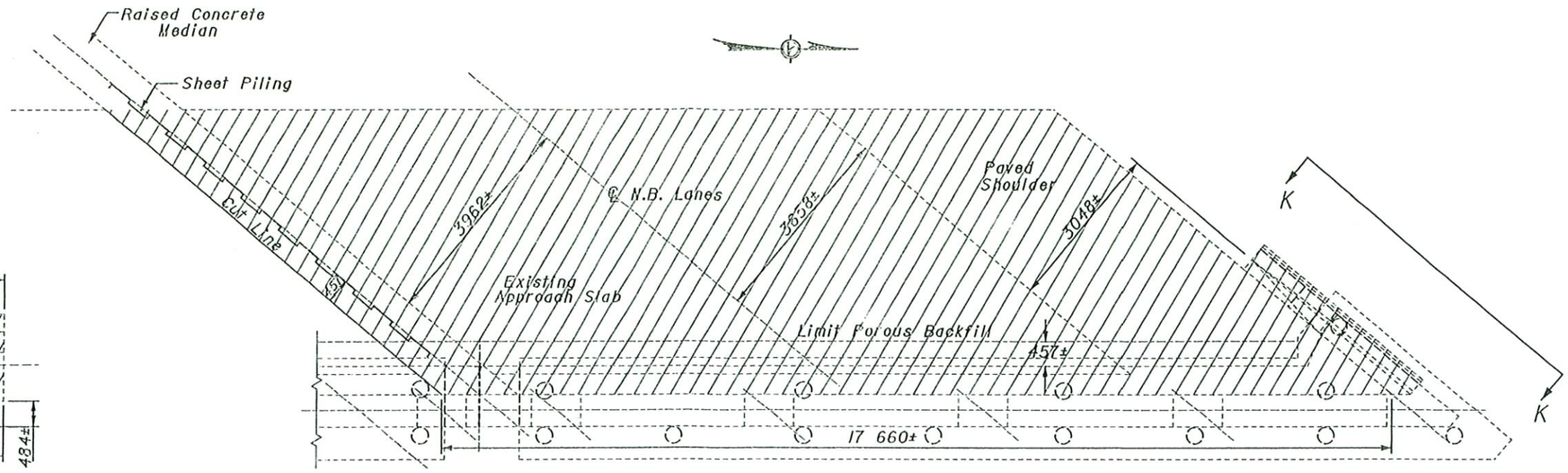
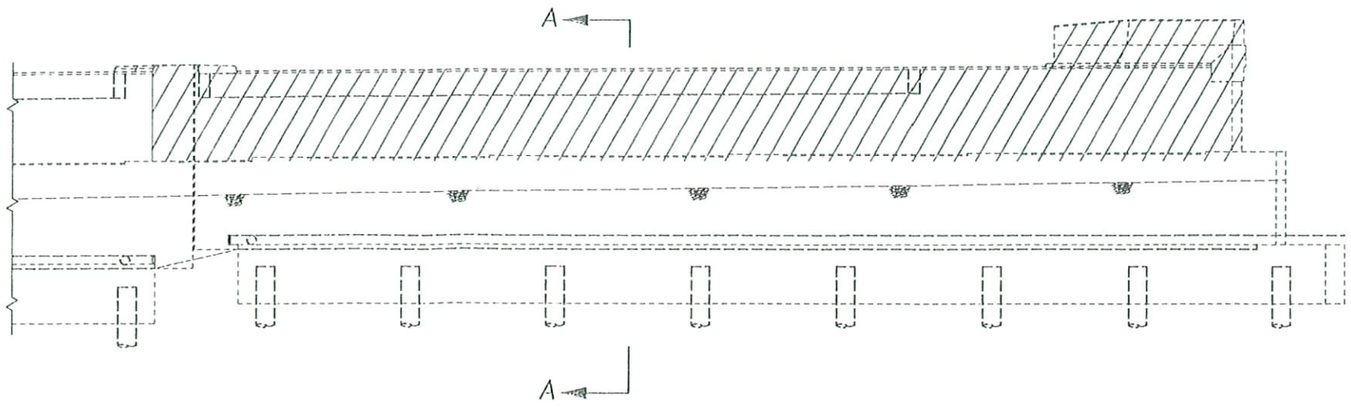


VIEW K-K



EXISTING PLAN
REAR ABUTMENT - LEFT BRIDGE

For Section A-A and Section C-C
See Sheet 6/21



EXISTING ELEVATION
REAR ABUTMENT - LEFT BRIDGE

All Dimensions in Millimeters

DESIGNED GEC
DRAWN GEC
CHECKED KBC
REVISED
REVIEWED LAW 5/21/97
DATE
STRUCTURE FILE NUMBER 7104413
DESIGN AGENCY STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9

LEFT REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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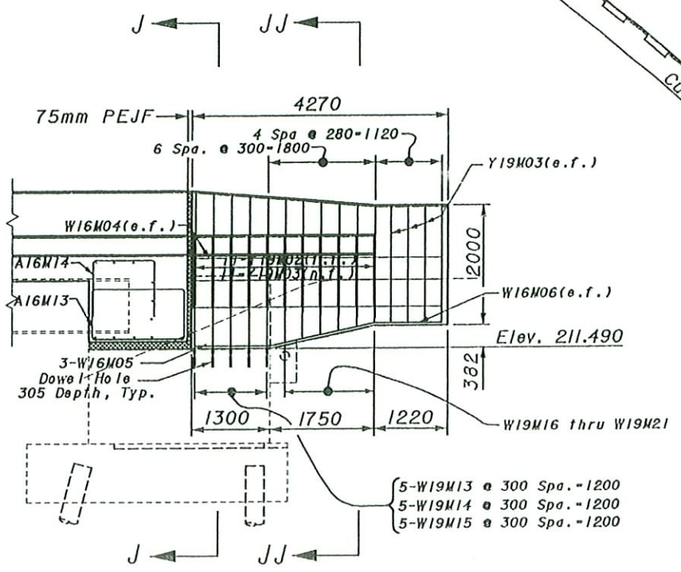
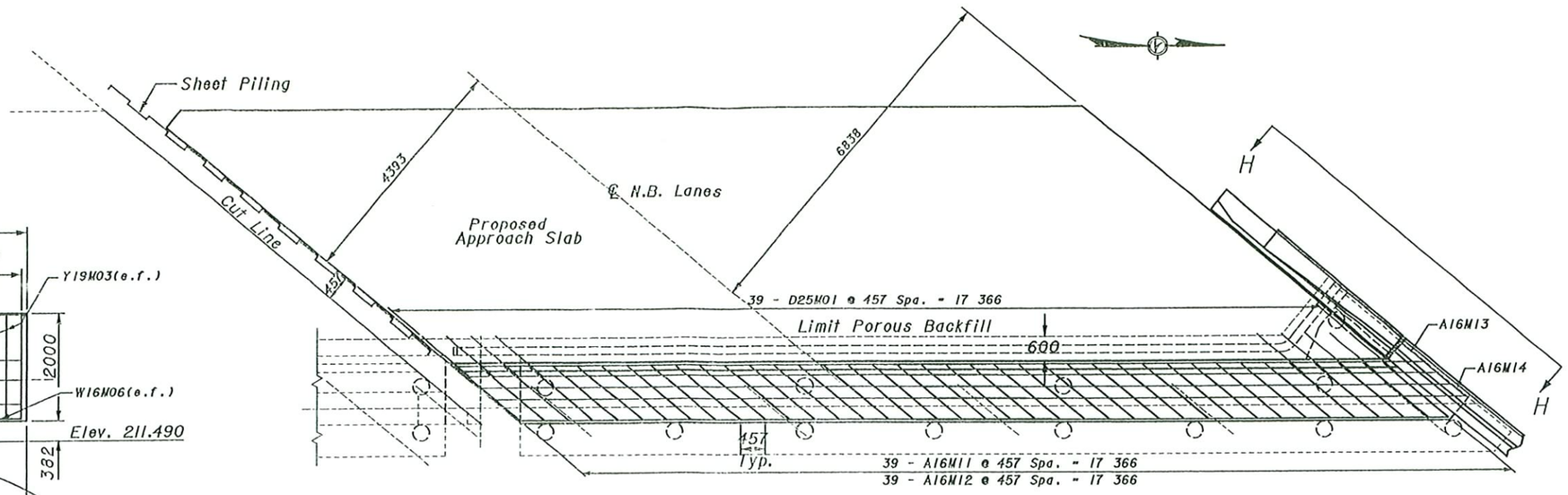


VIEW H-H



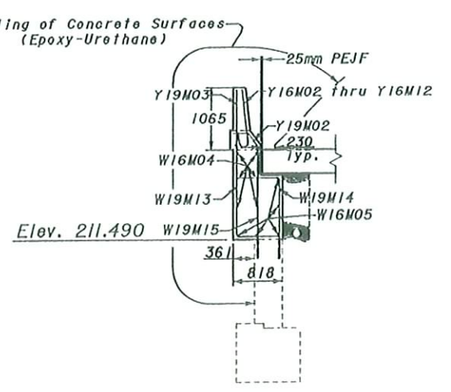
EXISTING PLAN
REAR ABUTMENT - LEFT BRIDGE

Legend

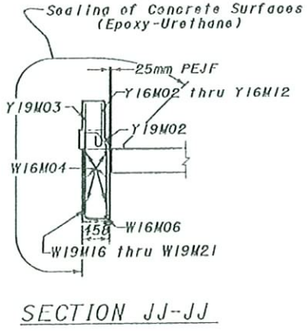
(n.f.) ..... Near Face
(f.f.) ..... Far Face
(e.f.) ..... Each Face
PEJF ..... Preformed Expansion Joint Filler

LOCATION*	BOTTOM OF BEAM ELEV.
A	211.779
B	211.809
C	211.833
D	211.856
E	211.877

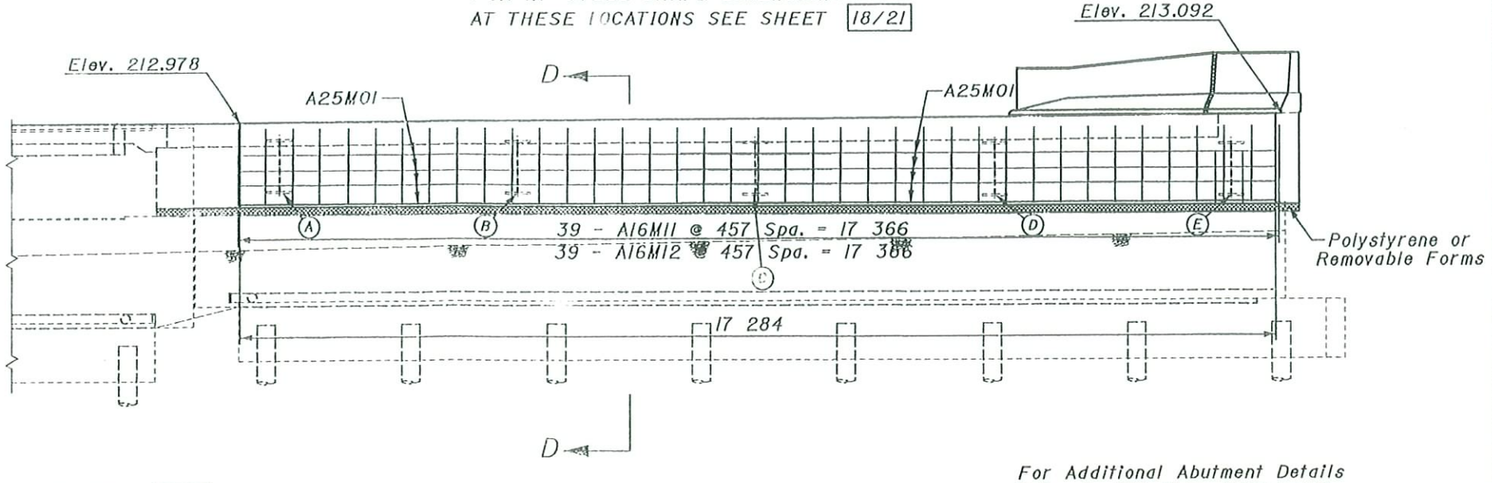
* FOR HP STEEL SHAPE DIMENSIONS AT THESE LOCATIONS SEE SHEET 18/21



SECTION J-J



SECTION JJ-JJ



For Section D-D See Sheet 7/21

For Additional Abutment Details
Refer to Std. Dwg. SICD-1-96M

EXISTING ELEVATION
REAR ABUTMENT - LEFT BRIDGE

NOTES:
See Sheet 7/21 for Notes

All Dimensions in Millimeters

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9

REVIEWED LAW DATE 5/21/21
STRUCTURE FILE NUMBER 7104413

DRAWN GEC
REVISED

DESIGNED GEC
CHECKED KBC

LEFT REAR ABUTMENT DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

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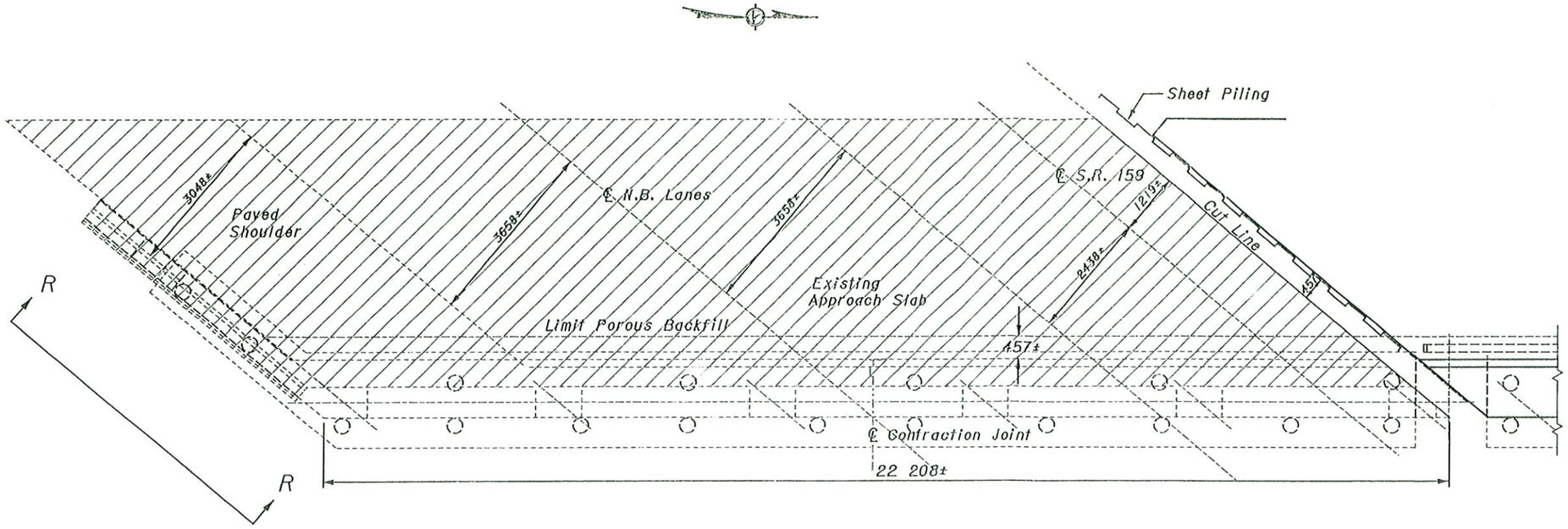
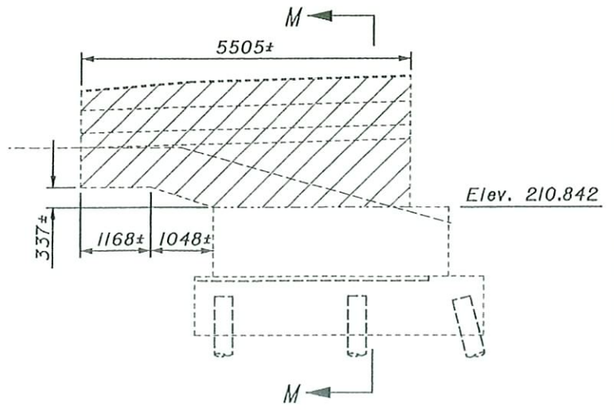


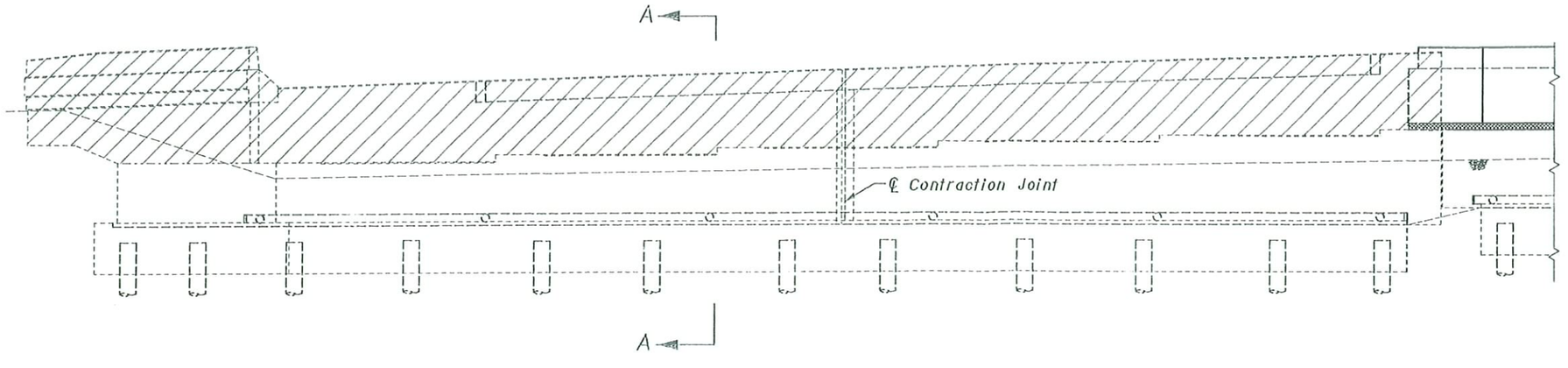
For Section M-M See Sheet 6/21

EXISTING PLAN
REAR ABUTMENT - RIGHT BRIDGE



VIEW R-R

For Section A-A See Sheet 8/21



EXISTING ELEVATION
REAR ABUTMENT - RIGHT BRIDGE

All Dimensions in Millimeters

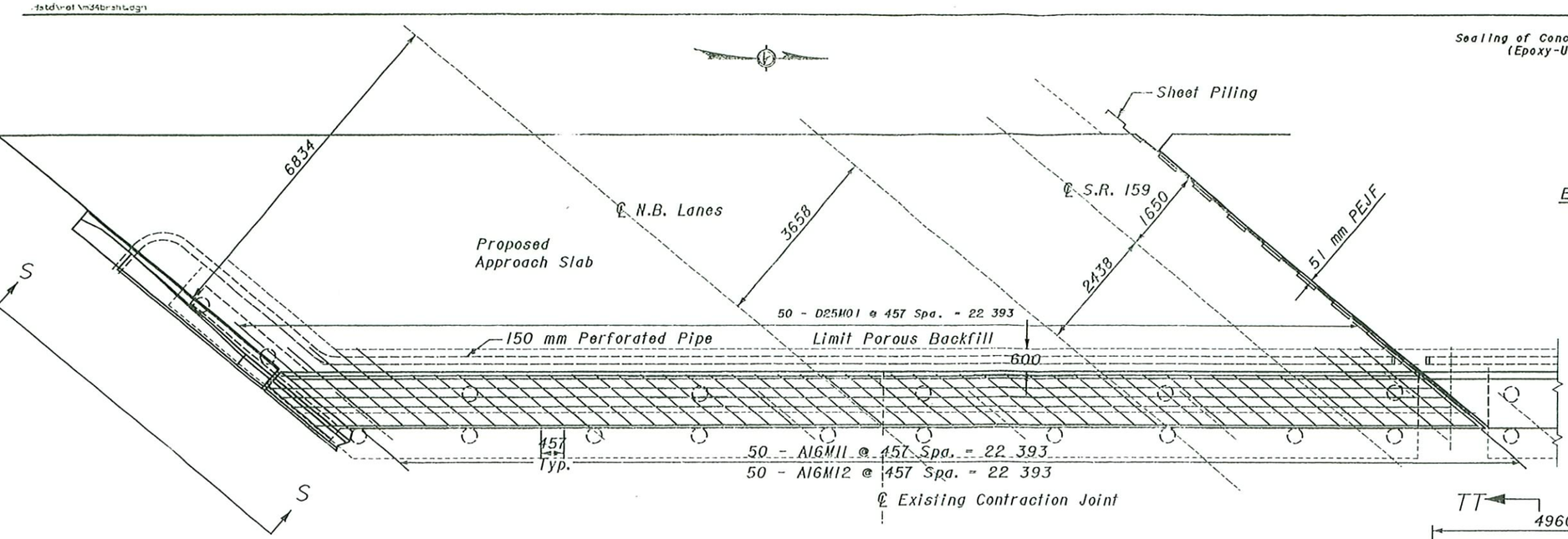
DESIGNED GEC
DRAWN GEC
REVIEWED LAW 5/21/97
DATE
DESIGN AGENCY STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9
CHECKED KBC
REVISED
STRUCTURE FILE NUMBER 7/1044/3

RIGHT REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

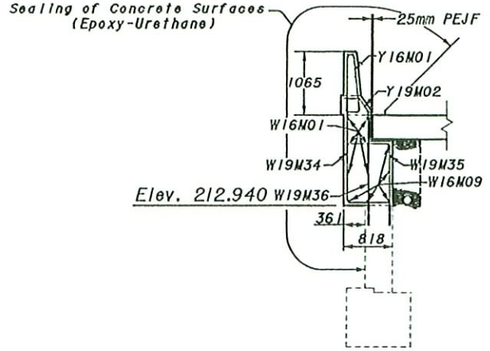
ROS-159-5.448

12/21

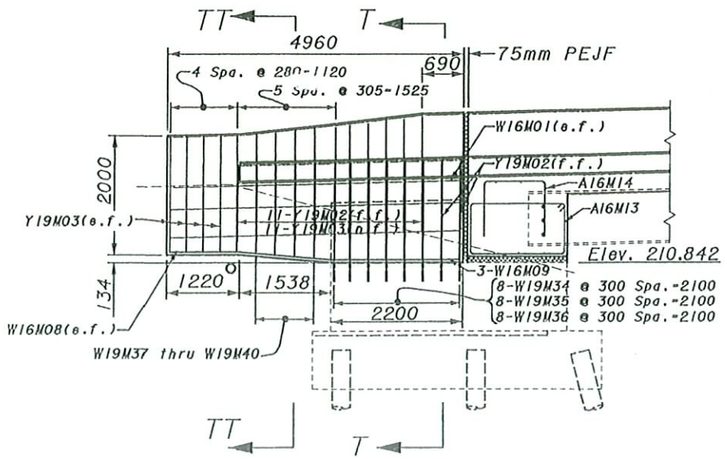
49/58



PROPOSED PLAN
REAR ABUTMENT - RIGHT BRIDGE



SECTION T-T



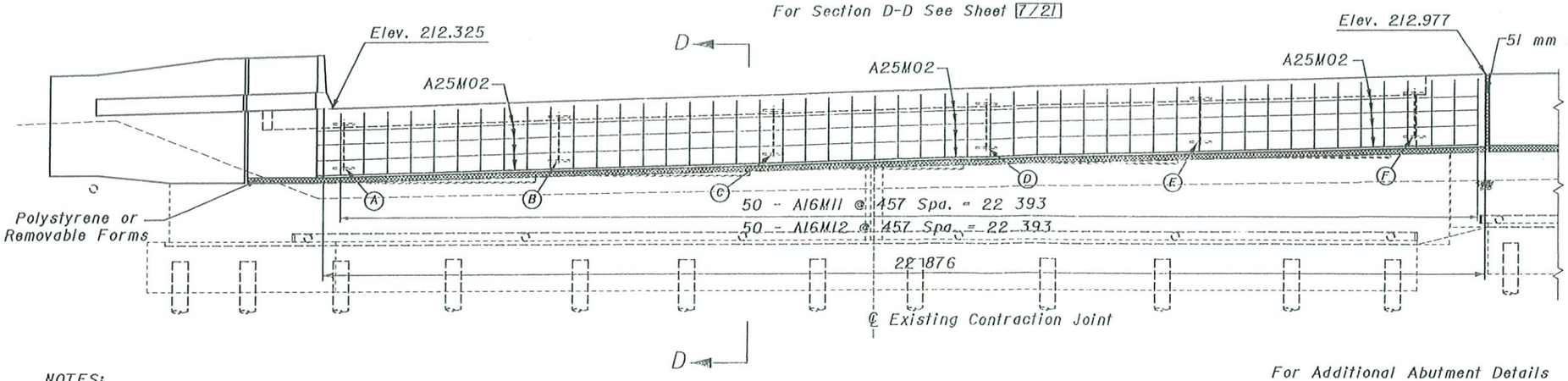
LOCATION*	BOTTOM OF BEAM ELEV.
A	211.124
B	211.252
C	211.375
D	211.494
E	211.614
F	211.724

* FOR HP STEEL SHAPE DIMENSIONS AT THESE LOCATIONS SEE SHEET 18/21

Legend

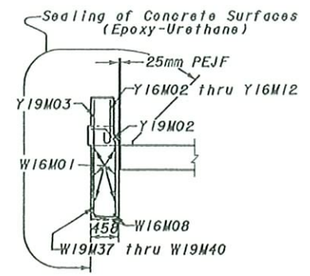
(n.f.) ..... Near Face
(f.f.) ..... Far Face
(e.f.) ..... Each Face
PEJF ..... Preformed Expansion Joint Filler

For Section D-D See Sheet 7/21



PROPOSED ELEVATION
REAR ABUTMENT - RIGHT BRIDGE

VIEW S-S



SECTION TT-TT

NOTES:
See Sheet 7/21 for Notes

For Additional Abutment Details
Refer to Std. Dwg. SICD-1-96M

All Dimensions in Millimeters

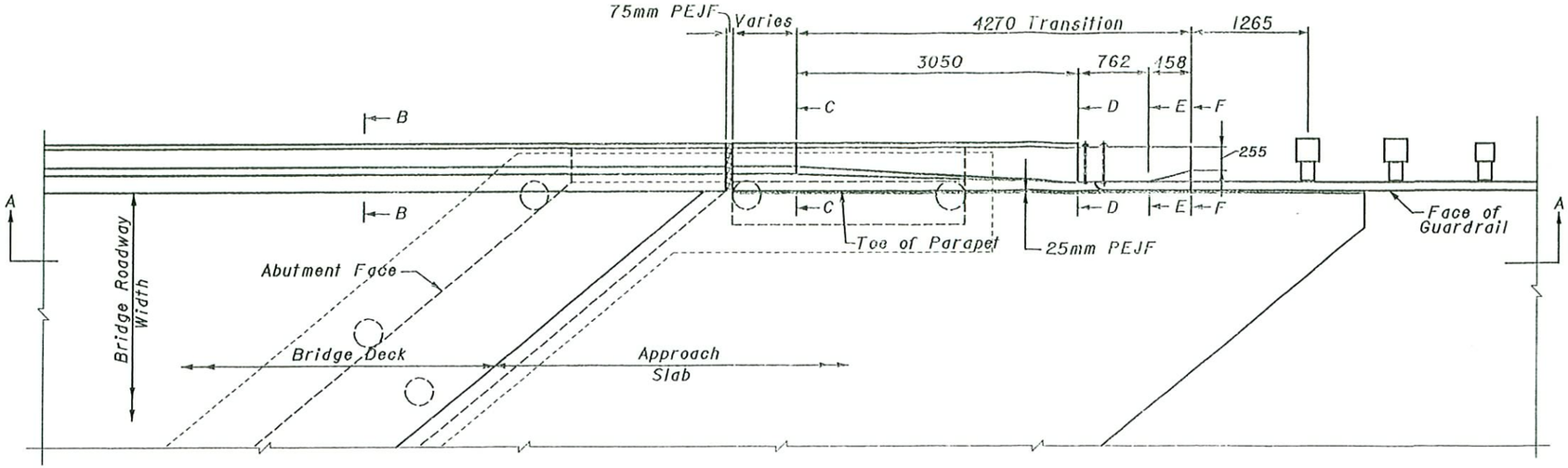
DESIGNED GEC
DRAWN GEC
CHECKED KBC
REVISED
REVIEWED LAW 5/21/97
DATE
STRUCTURE FILE NUMBER 7.10413
DESIGN AGENCY STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9

RIGHT REAR ABUTMENT DETAILS
BRIDGE NO. ROS-159-0375
OVER USR 23

ROS-159-5.448

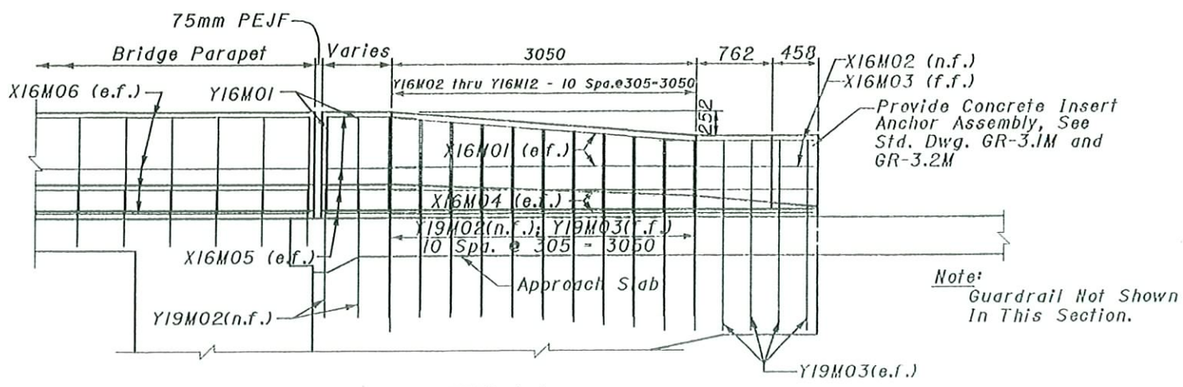
13/21

50/58



For Additional Parapet Transition Details
Refer to Std. Dwg. BR-1M

PART PLAN PARAPET TRANSITION

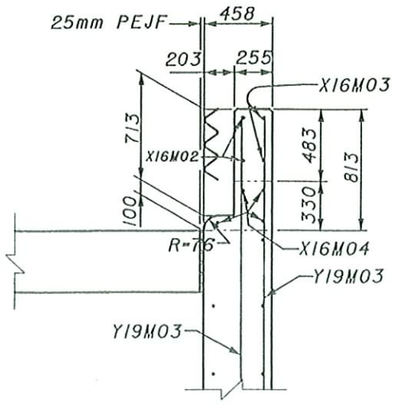


Note:
Guardrail Not Shown In This Section.

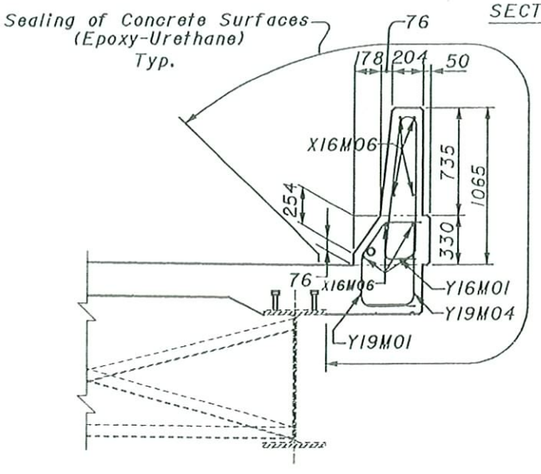
SECTION A-A

Legend

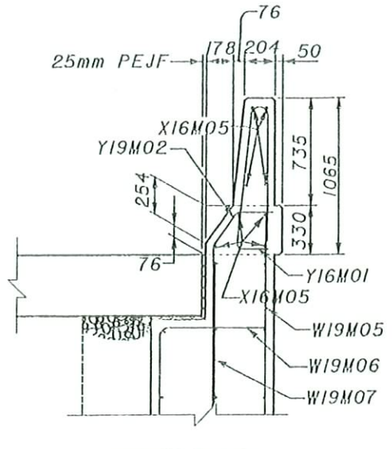
(n.f.) ..... Near Face
(f.f.) ..... Far Face
(e.f.) ..... Each Face
PEJF ..... Preformed Expansion Joint Filler



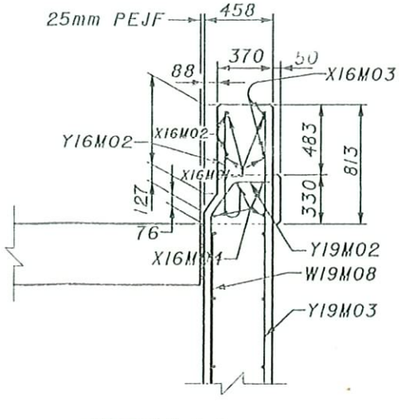
SECTION F-F



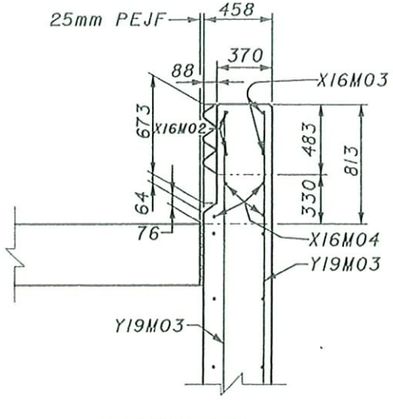
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

All Dimensions in Millimeters

DESIGN AGENCY	STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9
DATE	5/21/97
REVIEWED	LAW
STRUCTURE FILE NUMBER	7104413
DRAWN	GEC
REVISED	
DESIGNED	GEC
CHECKED	KBC

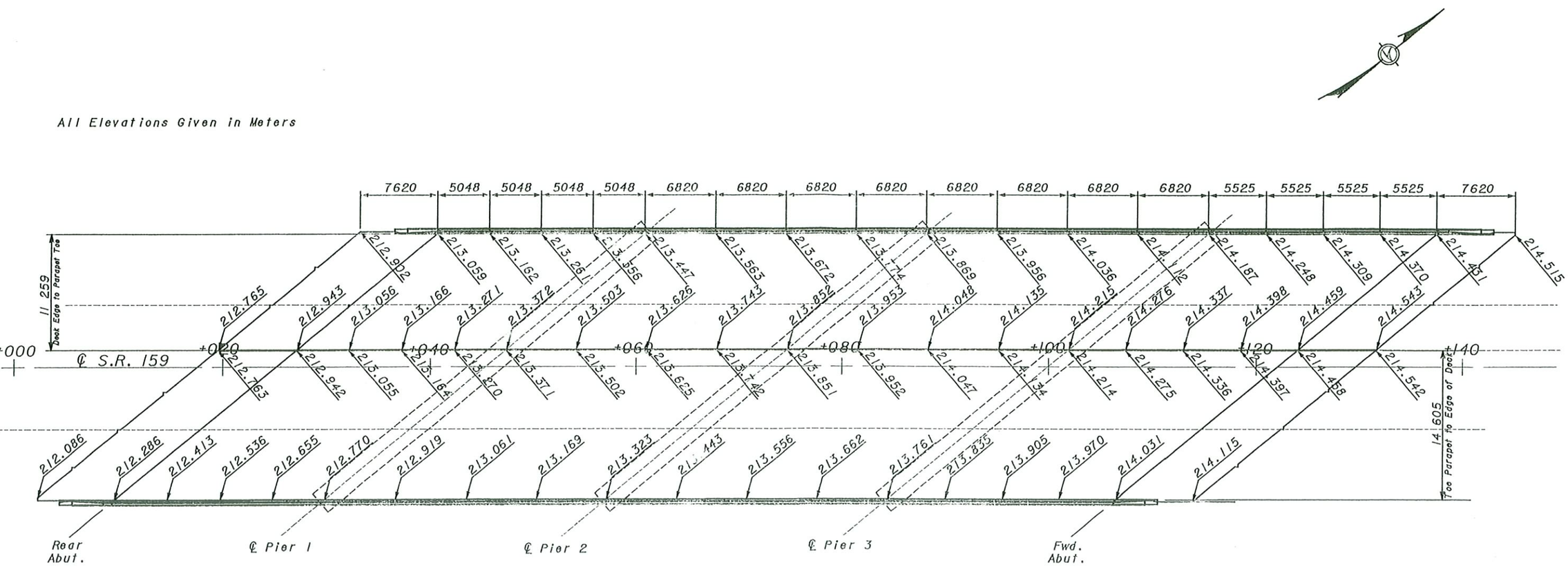
PARAPET TRANSITION
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

14/21

51/58

All Elevations Given in Meters



PROPOSED DECK ELEVATIONS

Deflection Due To Dead Load (mm)																
Rear Abut.	1/4	1/2	3/4	℄ Pier 1	1/4	1/2	3/4	℄ Pier 2	1/4	1/2	3/4	℄ Pier 3	1/4	1/2	3/4	Fwd. Abut.
0	-6	-6	-1	0	-9	-16	-8	0	-7	-14	-8	0	-4	-9	-7	0

Notes:

Welded Attachment of supports for concrete deck 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 compresion flanges shall be not closer than 25mm from edge of flange, be not more than 50mm long, and be not smaller than the minimum size required by AASHTO.
(Tension and Compression zones shown on Sheet 17/21)

Screed Elevations are for the deck slab surface prior to concrete placement. Allowance has been made for anticipated calculated dead load deflections.

To obtain Screed Elevation add Dead Load Deflection to the corresponding Proposed Deck Elevation.

All Dimensions in Millimeters

DESIGNED GEC
DRAWN GEC
CHECKED KBC
REVISED
REVIEWED LAW 5/2 97
STRUCTURE FILE NUMBER 7104413
DESIGN AGENCY STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9

PROPOSED DECK ELEVATIONS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

15/21

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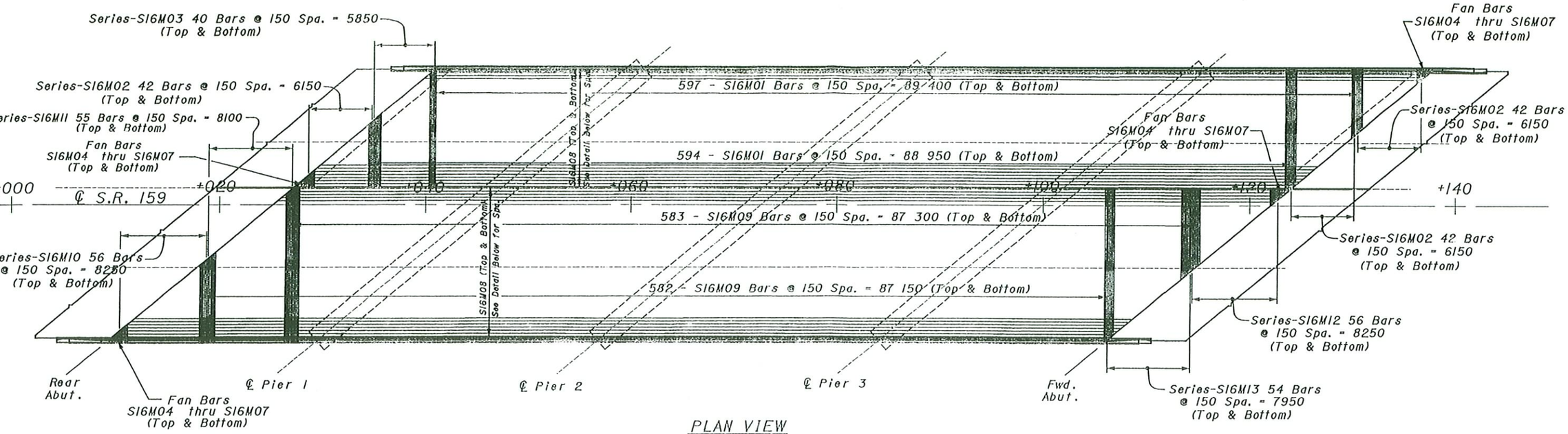
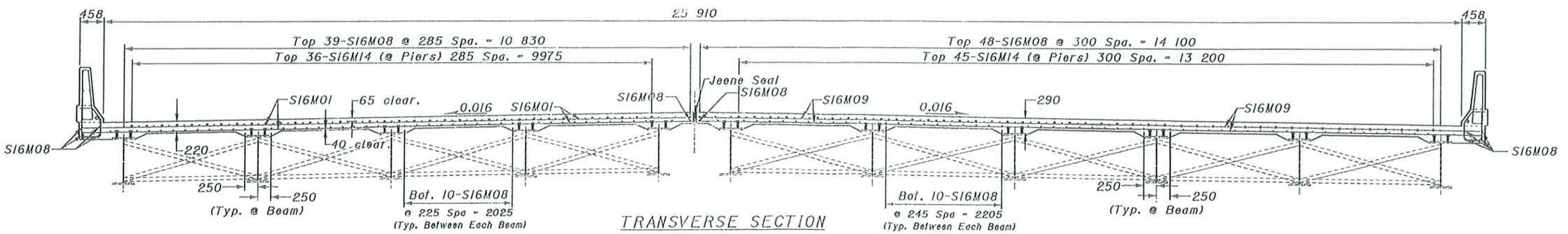


PLAN VIEW
DECK REINFORCING STEEL

For Additional Reinforcing Steel
Over Piers See Details on Sheet 17/21

All Dimensions in Millimeters



TRANSVERSE SECTION
DECK REINFORCING STEEL

NOTES:

Deck Slab Depth: The distance shown from top of deck slab to top of steel beam is the theoretical design dimension including the design haunch thickness of 70mm. The quantity of deck concrete to be paid for shall be based on this dimension, minus the design haunch thickness, 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 finish grade.

A Haunch Width of 225mm shall be used for computing quantity of concrete. However, the haunch width may vary between 150mm and 300mm.

SPAN LENGTH (METER)	
SPAN 1	13.166
SPAN 2	27.280
SPAN 3	27.280
SPAN 4	26.050

BEAM DIMENSIONS			
BEAM	DEPTH (METER)	FLANGE (METER)	PERIMETER* (METER)
36WF182	0.924	0.308	2.772
36WF194	0.927	0.308	2.778
36WF230	0.911	0.419	3.079

* PERIMETER = 2XDEPTH + 3XFLANGE

PAINT QUANTITIES

LINE(1-6) = (13.166X2.778) + (27.280X3.079) + (27.280X3.079) + (26.050X3.079)
= 284.774 SQ. M.

LINE(7-11) = (13.166X2.772) + (27.280X3.079) + (27.280X3.079) + (26.050X3.079)
= 284.694 SQ. M.

SUB-TOTAL 284.774X6 + 284.694X5
= 3132.11 SQ. M.

ADD 20% (CROSSFRAMES AND INCIDENTALS)
0.20 X 3132.11 = 626.42 SQ. M.

TOTAL 3132.11 + 626.42 = 3758.53 SQ. M.

USE 3759 SQ. M. (CARRIED TO GENERAL SUMMARY)

GRINDING FLANGE EDGES

SPAN 2 & SPAN 3
27.280 + 27.280 = 54.56 M
54.56X4 FLANGE EDGES = 218.24 M

USE 219 M (CARRIED TO GENERAL SUMMARY)

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 9

DESIGNED GEC
DRAWN GEC
CHECKED KBC
REVISED
REVISED LAW 5/21/97
DATE
STRUCTURE FILE NUMBER 7104413

DECK PLAN AND TRANSVERSE SECTION
BRIDGE NO. ROS-159-0373
OVER USR 23

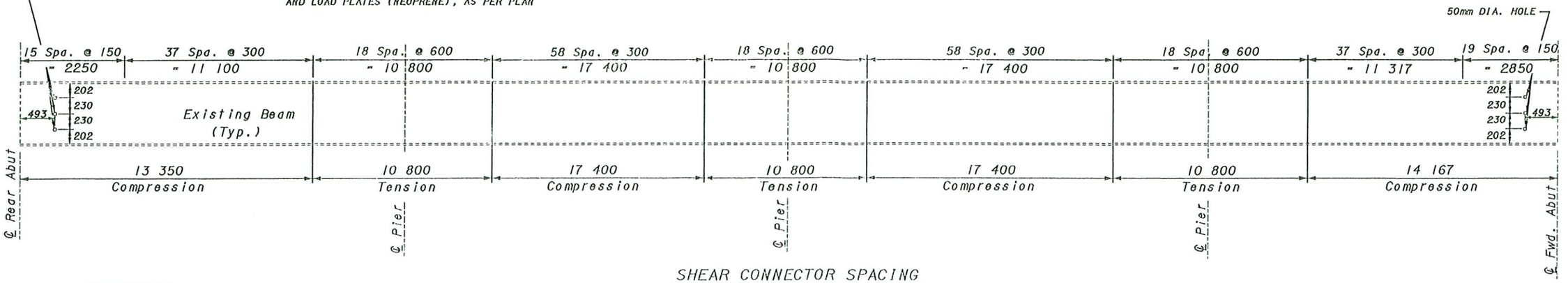
ROS-159-5.448

16/21

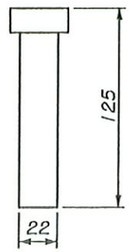
53/58

Metric Units

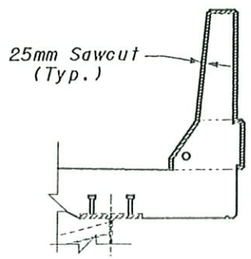
PAYMENT FOR 50mm DIA. HOLES SHALL BE INCLUDED IN ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATES (NEOPRENE), AS PER PLAN



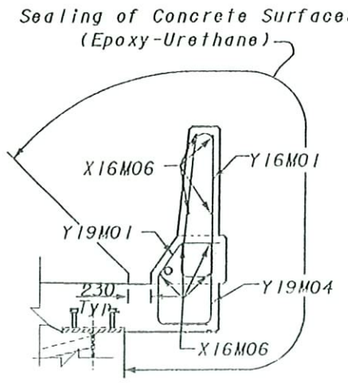
SHEAR CONNECTOR SPACING DETAILS



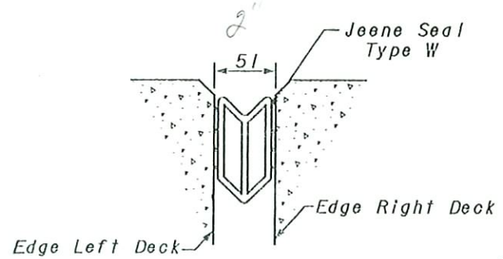
SHEAR CONNECTOR DETAIL



DETAIL A



SECTION B-B



ELASTOMERIC COMPRESSION SEAL DETAIL

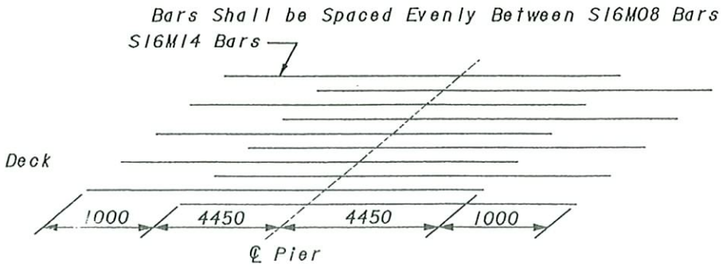
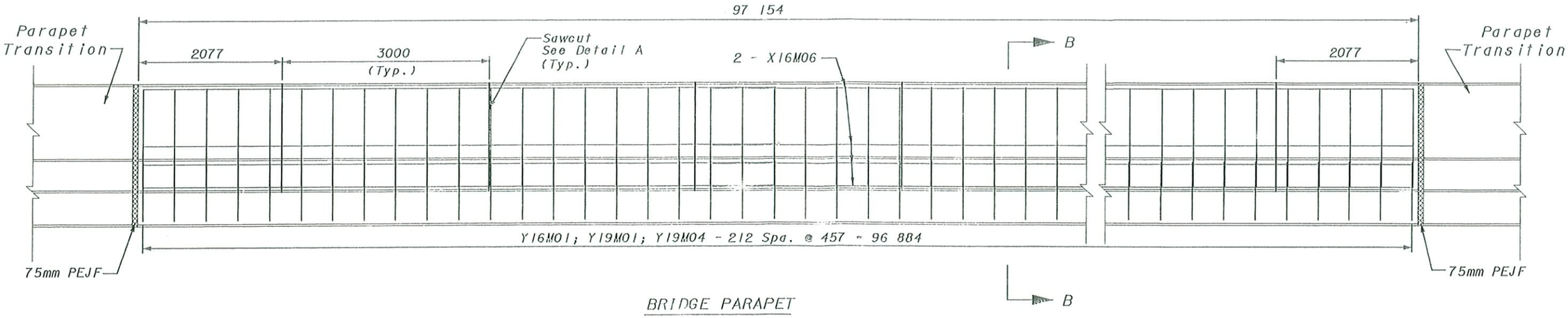


DIAGRAM SHOWING STAGGER OF S16M14 BARS OVER PIERS



BRIDGE PARAPET

PEJF - Preformed Expansion Joint Filler

All Dimensions in Millimeters

DESIGN AGENCY: STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9

DESIGNED GEC | DRAWN GEC | REVIEWED LAW | DATE 5/21/97 | CHECKED KBC | REVISED | STRUCTURE FILE NUMBER 7104413

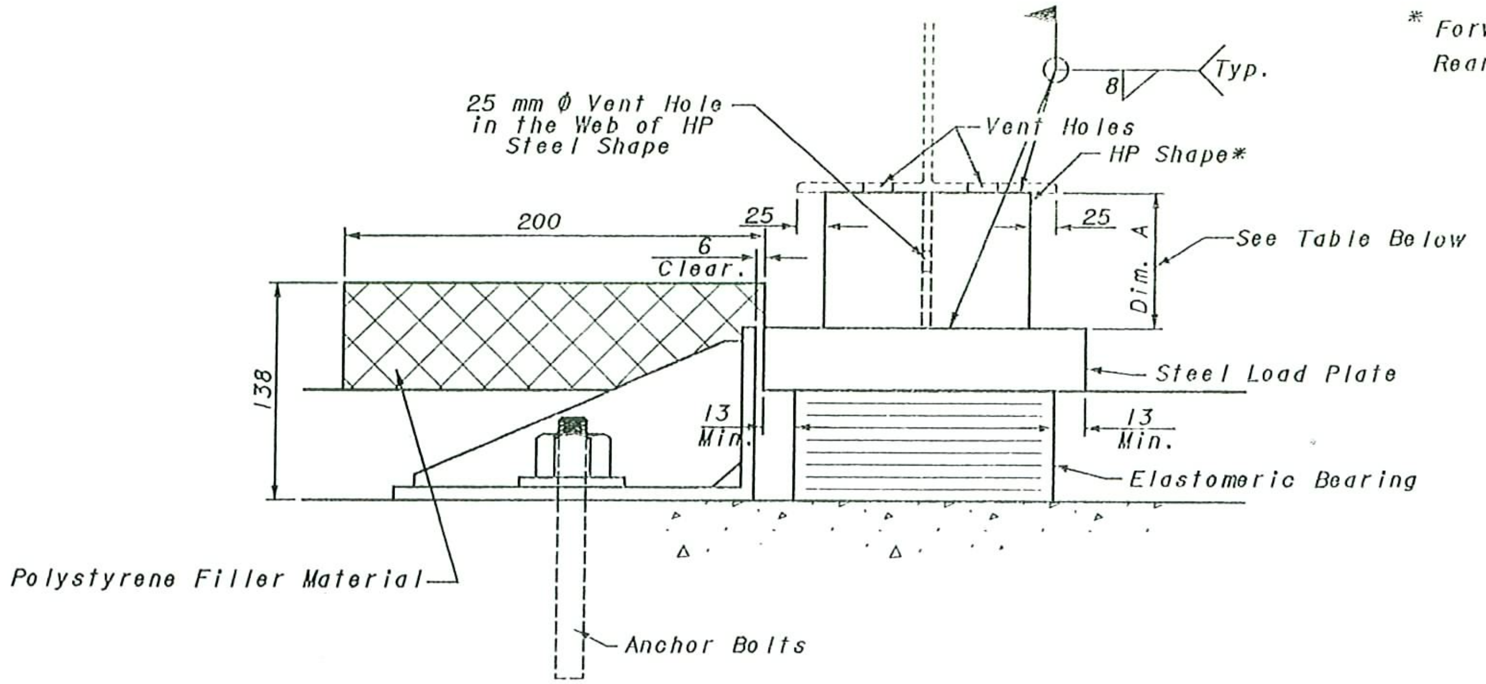
MISCELLANEOUS DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448

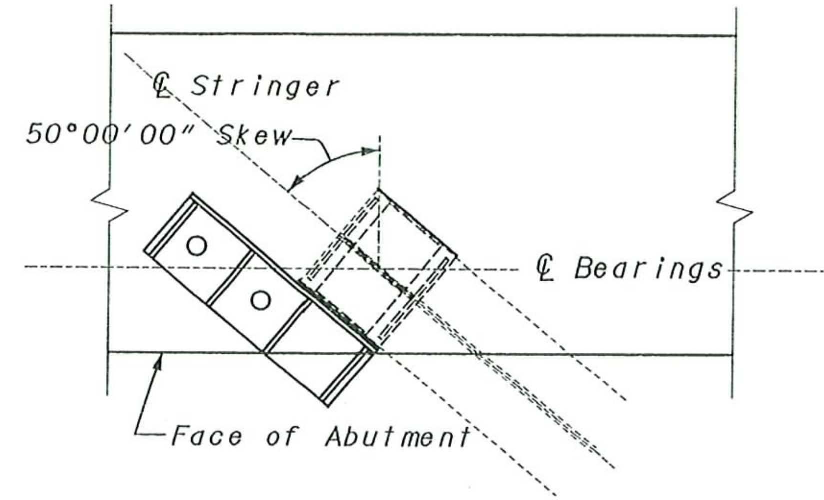
17/21

54/58

* Forward Abut. HP Steel Shape Shall be HP360 X 108
Rear Abut. HP Steel Shape Shall be HP250 X 62



ELEVATION VIEW
BEARING ASSEMBLY DETAIL

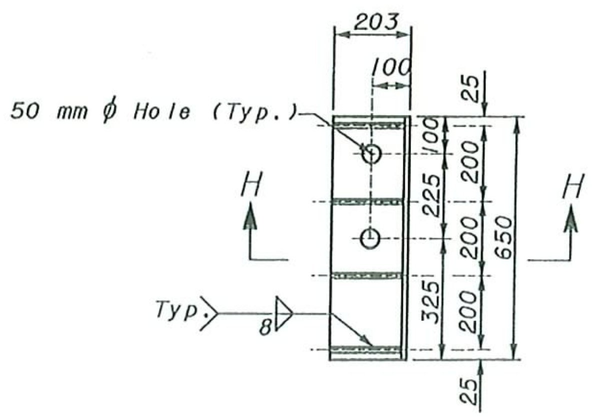


BEARING RETAINER FOR SKEW > 30°

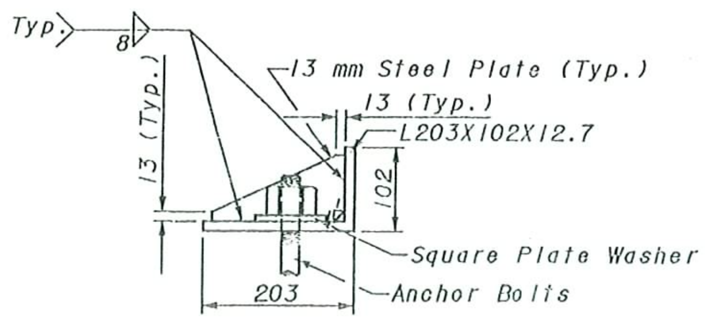
NOTES:

HP Steel Shape Included with Item 516 Elastomeric Bearing for Payment

38mm Dia. Anchor Bolts with Nut and 100mm X 100mm X 13mm Square Washer with 45mm Dia. Holes. Grout with Epoxy Nonshrinking Grout in 45mm X 250mm Deep Field Drilled Holes.



BEARING RETAINER ASSEMBLY



SECTION H-H

Locations	Dimension A (mm)			
	Forward Abutment (HP360 X 108)		Rear Abutment (HP250 X 62)	
	Left Bridge	Right Bridge	Left Bridge	Right Bridge
A	156	160	170	169
B	159	163	176	170
C	165	167	173	170
D	167	162	174	172
E	165	159	173	175
F	—	161	—	170

HP STEEL SHAPE DIMENSIONS

Use 406 X 241 X 75 Brg. Pad
50 Durometer 8 Steel Laminates (2 mm)
with 432 X 372 X 38 Load Plate

ELASTOMERIC BEARING DETAILS

Refer to Std. Dwg. SICD-1-96M for Additional Details

DESIGN AGENCY: STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9

DESIGNED GEC | CHECKED KBC | DRAWN GEC | REVISED | REVIEWED LAW | DATE 5/21/97 | STRUCTURE FILE NUMBER 7104413

MISCELLANEOUS DETAILS
BRIDGE NO. ROS-159-0373
OVER USR 23

ROS-159-5.448