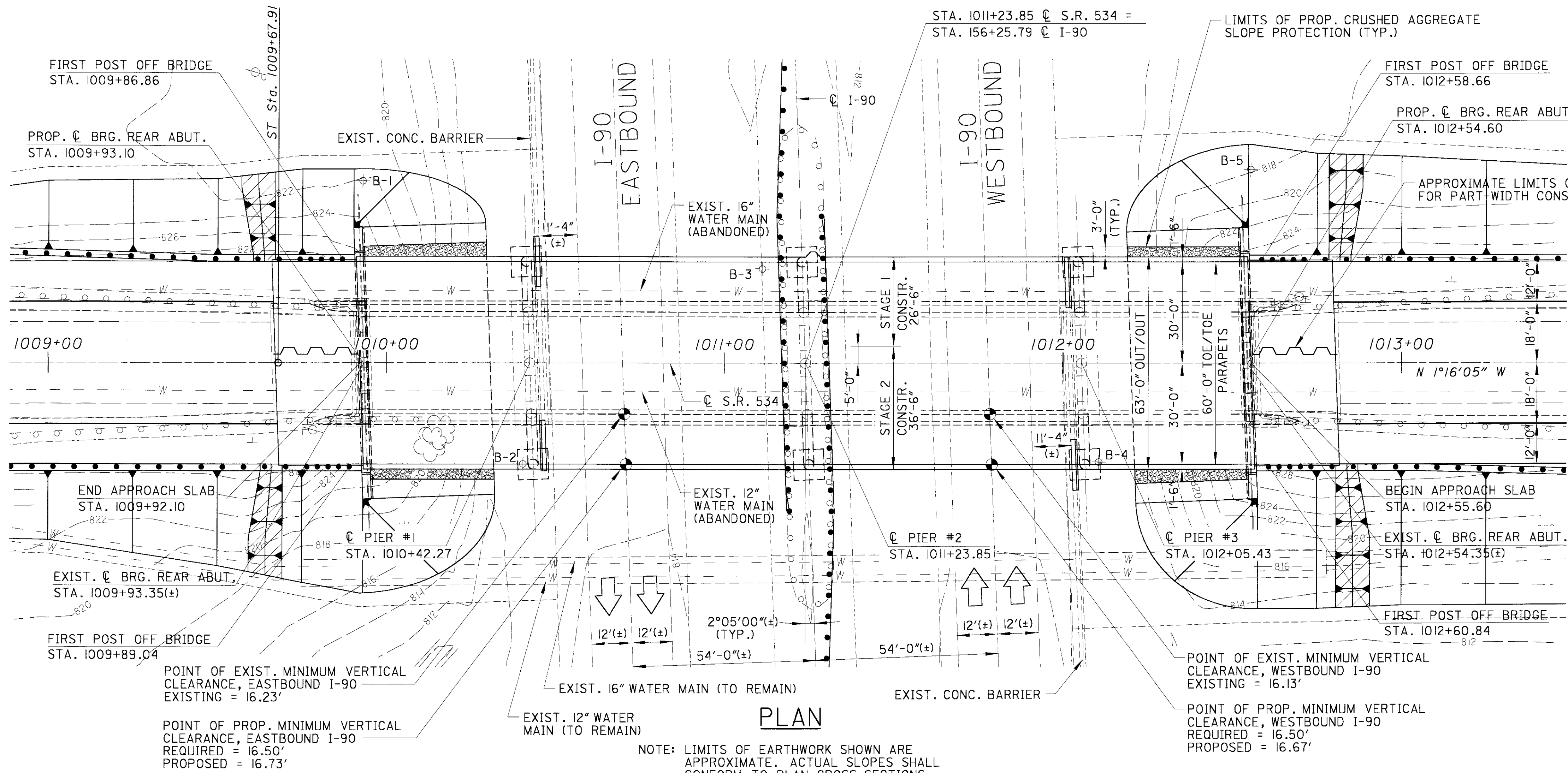




CURVE DATA - C S.R. 534

P.I. STA = 1002+90.82
 D = 40° 00' 00" (RT)
 Dc = 4° 00' 00"
 R = 1,432.39'
 Ls = 400.00'
 Theta = 8° 00' 00"
 LT = 266.94'
 ST = 133.58'

x = 399.22'
 y = 18.59'
 k = 199.87'
 p = 4.65'
 Dc = 24° 00' 00" (RT)
 Lc = 600.00'
 Ts = 722.91'
 Es = 96.88'

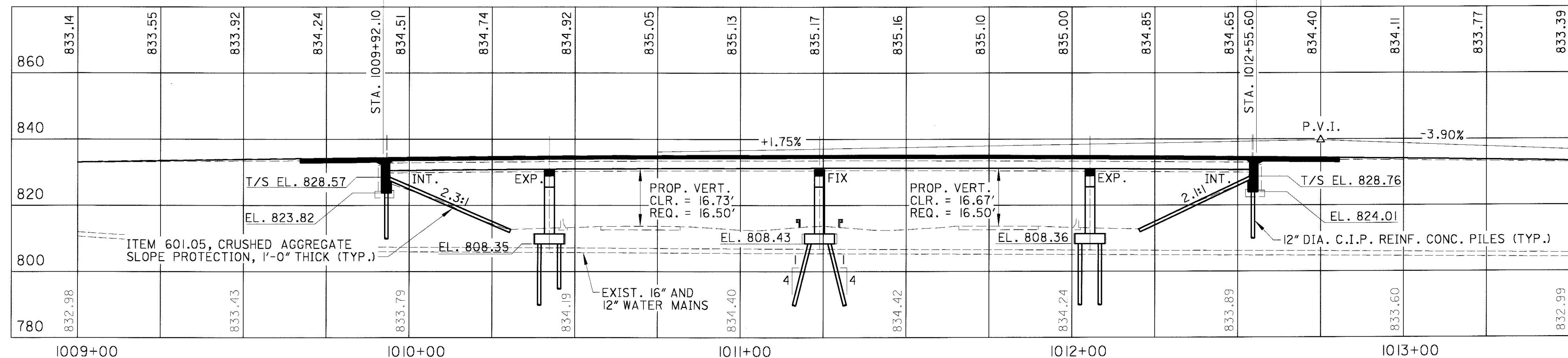
ESTIMATED PILE PAY LENGTHS 12" DIA. CAST-IN-PLACE

REAR ABUT.	65'
FWD. ABUT.	65'
PIER 1	65'
PIER 2	65'
PIER 3	65'

P.V.I. STA. 1012+75.00
 750' VERTICAL CURVE
 ELEV. 839.70
 G1 = +1.75%, G2 = -3.90%
 P.G. ELEV. 834.40

LEGEND:

⊕ SOIL BORING
 ▨ REINFORCED SODDING



BENCHMARK #3

CHISELED SQUARE CUT, E. CORNER OF CONC. STRAIN POLE BASE, STA. 1007+60.73, 41.51' LT
 ELEV: 829.79

BENCHMARK #2

S.E. BOLT OF S. LEG OF "GAS" SIGN AT TOP OF RAMP "C", STA. 1014+97.72, 27.43' LT
 ELEV: 829.37

TRAFFIC DATA

S.R. 534
 CURRENT ADT (2001) = 13390
 DESIGN ADT (2021) = 19130
 ADTT = 8%

EXISTING STRUCTURE

TYPE: CONTINUOUS ROLLED STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
 SPANS: 48'-11" (±), 81'-7" (±), 81'-7" (±), AND 48'-11" (±) CENTER TO CENTER OF BRGS.
 ROADWAY: 30'-0" (±) FACE TO FACE OF CURBS
 2'-2" (±) SAFETY CURBS EACH SIDE,
 36'-4" (±) OUT TO OUT OF DECK.
 SKEW: 2°05'00" (±) RIGHT FORWARD
 ALIGNMENT: TANGENT
 LOADING: C.F. 400 (51)
 WEARING SURFACE: 1 1/2" (±) ASPHALT OVERLAY
 APPROACH SLABS: AS-I-54, 25' LONG
 CROWN: 3/16" / FT. (±)
 DATE BUILT: c.1957
 STRUCTURE FILE NUMBER: 0407119

PROPOSED STRUCTURE

PROPOSED WORK: NEW WIDENED CONCRETE DECK WITH BR-1 PARAPETS, 36" HIGH, WITH 6'-0" VANDAL PROTECTION FENCE. EXISTING ABUTMENTS REMOVED AND REPLACED WITH INTEGRAL ABUTMENTS. EXISTING PIERS WIDENED AND REHABILITATED.

TYPE: CONTINUOUS ROLLED STEEL BEAMS COMPOSITE WITH REINFORCED CONCRETE DECK, NEW INTEGRAL ABUTMENTS, AND WIDENED PIERS.

SPANS: 49'-2", 81'-7" (±), 81'-7" (±), AND 49'-2" CENTER TO CENTER OF BRGS.
 ROADWAY: 60'-0" TOE-TO-TOE OF PARAPETS
 SKEW: 2°05'00" RIGHT FORWARD
 ALIGNMENT: TANGENT
 LOADING: HS20-44 (CASE I) AND THE ALTERNATE MILITARY LOADING
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: AS-I-81, 25' LONG
 CROWN: 3/16" / FT.
 LATITUDE: N 41°46'14"
 LONGITUDE: W 80°56'42"

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-I-81	DATED	9/15/94
BR-I	DATED	1/6/99
BS-I-93	DATED	12/19/94
GSD-I-96	DATED	2/12/97
PCB-91	DATED	7/6/99
ICD-I-82M	DATED	3/20/95
VPF-1-90M	DATED	3/20/95

AND TO THE SUPPLEMENTAL SPECIFICATIONS:

816	DATED	4/21/97	863	DATED	10/12/99
842	DATED	1/6/99	885	DATED	8/10/99
843	DATED	5/5/98	894	DATED	10/12/99
844	DATED	1/6/99	910	DATED	7/28/98
846	DATED	9/9/97	954	DATED	9/9/97

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO “STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES” ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997, 1998 AND 1999 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS20-44, CASE I, AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESSES

CONCRETE CLASS C (SUBSTRUCTURE) - COMPRESSIVE STRENGTH 4000 psi
CLASS S CONCRETE (SUPERSTRUCTURE) - COMPRESSIVE STRENGTH 4500 psi
REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 psi.

NEW STRUCTURAL STEEL - A36, Fy = 36,000 psi.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2-1/2” CONCRETE COVER
SEALING CONCRETE SURFACES

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

EXISTING STRUCTURE VERIFICATION:

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

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF 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.

ITEM 202. PORTIONS OF STRUCTURE REMOVED. OVER 20’ SPAN. AS PER PLAN:

DESCRIPTION: WORK TO BE PAID FOR UNDER THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING STRUCTURE COMPONENTS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE REMOVALS SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

1. EXISTING BRIDGE DECK, INCLUDING CURBS, PARAPETS, RAILING, AND SCUPPERS.
2. EXISTING ABUTMENTS IN THEIR ENTIRETY, INCLUDING FOOTINGS AND WINGWALLS.
3. PORTIONS OF EXISTING CONCRETE PIER CAPS AS DETAILED IN THE PLANS TO ACCOMMODATE THE WIDENING OF THE PIER CAP.
4. EXISTING STEEL END DAMS AND END CROSSFRAMES.
5. EXISTING CROSSFRAMES AS DETAILED IN THE PLANS TO PERMIT RAISING OF THE EXISTING SUPERSTRUCTURE DURING PART-WIDTH CONSTRUCTION.
6. DRILLING HOLES THROUGH THE ENDS OF THE EXISTING STEEL BEAMS TO ACCOMMODATE NEW SUPPORT BOLTS AND REINFORCING STEEL FOR THE CONCRETE END DIAPHRAGM.
7. EXISTING STEEL ROCKERS AND BOLSTERS.
8. MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE USE OF EXPLOSIVES AND/OR HEADACHE BALLS WILL NOT BE PERMITTED. THE USE OF HOE RAMS WILL BE PERMITTED ONLY FOR THE REMOVAL OF THE EXISTING ABUTMENTS, WITH THE FOLLOWING PROVISIONS. DURING STAGE ONE REMOVAL OPERATIONS, HYDRAULIC HOE-RAM TYPE HAMMERS SHALL NOT BE USED WITHIN THREE (3) FEET OF THE REMOVAL LIMIT SHOWN ON THE PLANS, TO AVOID DAMAGE TO THE PORTION OF THE ABUTMENT TO TEMPORARILY REMAIN. DURING STAGE TWO REMOVAL OPERATIONS, HYDRAULIC HOE-RAM TYPE HAMMERS MAY BE USED TO REMOVE THE REMAINDER OF THE EXISTING ABUTMENT.

ITEM 202. PORTIONS OF STRUCTURE REMOVED. OVER 20’ SPAN. AS PER PLAN (CONT.):

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE 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 OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED TWO (2) INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

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

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

EXTRANEIOUS MEMBERS: EXISITING EXTRANEIOUS MEMBERS (i.e., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED “TENSION” SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITON, 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 PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND 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.

CUTLINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS MINIMUM 1” DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWELS BARS WHERE SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

PIER CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18-INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

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.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF THE S.R. 534 OVER I-90 BRIDGE SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF THE DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

NEDO-OEPA
2110 E. AURORA RD.
TWINSBURG, OH 44087
ATTN: JIM VERES
PHONE: (330) 425-9171 / (800) 686-6330
FAX: (330) 487-0769

AT LEAST TEN (10) WORKING DAYS PRIOR TO START OF THE BRIDGE DEMOLITION WORK. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: THE CONTRACTOR’S NAME AND ADDRESS, THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL OR RENOVATION AND A DESCRIPTION OF THE PLANNED DEMOLITION OR RENOVATION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 705 OAKWOOD STREET, RAVENNA, OHIO 44266.

BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20’ SPAN, AS PER PLAN.

ITEM 503. UNCLASSIFIED EXCAVATION. AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL FOR THE ABUTMENTS SHALL BE 304 GRANULAR MATERIAL PLACED IN 6” LIFTS AND COMPACTED IN ACCORDANCE WITH 304.05.

MAINTENANCE OF TRAFFIC:

MAINTENANCE OF TRAFFIC FOR THE STRUCTURE WORK SHALL BE COORDINATED WITH THE OVERALL PROJECT. REFER TO MAINTENANCE OF TRAFFIC NOTES AND DETAILS ELSEWHERE IN THE PLANS.

PILE DRIVING

IF EQUIPMENT FOR PILE DRIVING OPERATIONS OCCUPIES ANY PORTION OF THE EXISTING STRUCTURE, STRESS CALCULATIONS BY A REGISTERED STRUCTURAL ENGINEER SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 501.09 OF THE SPECIFICATIONS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

THE ULTIMATE BEARING VALUE IS 46 TONS FOR THE 12” DIA. ABUTMENT PILES.
THE ULTIMATE BEARING VALUE IS 50 TONS FOR THE 12” DIA. PIER PILES.

ABUTMENT PILES:
24 PILES 65 FEET LONG (ESTIMATED LENGTH)
48 PILES OF ORDER LENGTH 40 FEET LONG
24 SPLICES

PIER PILES:
24 PILES 65 FEET LONG (ESTIMATED LENGTH)
48 PILES OF ORDER LENGTH 40 FEET LONG
24 SPLICES

DESIGN AGENCY
A L&L COMPANY
ENGINEERS · ARCHITECTS · SCIENTISTS

Dodson
Stilson

DESIGNED
PAT

DRAWN
PAT

REVIEWED
GWM

DATE
05/05/00

STRUCTURE FILE NUMBER
0407119

STRUCTURE GENERAL NOTES
BRIDGE NO. ATB-534-1935
S.R. 534 OVER I-90

ATB-534-19 .35

2 / 20

57
75

ITEM 842, CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN:

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

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

THE VERTICAL NEOPRENE STRIP AT THE ABUTMENT VERTICAL CONSTRUCTION JOINT SHALL BE SECURED WITH A SINGLE VERTICAL LINE OF FASTENERS, ON EITHER SIDE OF THE JOINT, STARTING AT 6 INCHES (+/-) FROM THE OUTSIDE VERTICAL EDGE OF THE NEOPRENE.

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

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

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.94 +/- 0.01
BREAKING STRENGTH, GRAB WXF, lbs, MINIMUM	D751	700 x 700
ADHESIVE 1" STRIP, 2" MINIMUM, lbs, MINIMUM	D751	9
BURST STRENGTH (MULLEN) psi, MINIMUM	D751	1400
HEAT AGING 70 hrs, T 212°F, 180 BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLINESS 1hr at -40°F, BEND AROUND 1/4" MANDREL	D2136	NO CRACKING OF COATING

PAYMENT FOR LABOR, MATERIALS, AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 842, CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN.

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 EXISTING BEAMS FOR THE PURPOSE OF RAISING THE BRIDGE PROFILE GRADE AND REPLACING BEARINGS AT THE ABUTMENTS AND PIERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY 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:

- THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
- CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTED JACKING POINTS.
- A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
- 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 THE SAME SIZE.
- ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY SUPPORTS.
- PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
- METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

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

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

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN (CONT.):

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

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

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

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

JACKING OPERATIONS SHALL BE LIMITED TO EXISTING BEAMS AFTER REMOVAL OF THE EXISTING DECK AND ABUTMENT BACKWALL AND BEFORE CONSTRUCTION OF THE NEW DECK, IN ACCORDANCE WITH THE CURRENT STAGE OF CONSTRUCTION. THE CONTRACTOR MAY CHOOSE TO JACK ALL AVAILABLE BEAMS AT ANY ONE ABUTMENT SIMULTANEOUSLY, OR INDIVIDUALLY. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ADJACENT BEAMS SHALL NOT EXCEED 1/4 INCH. MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ABUTMENT AND ADJACENT PIERS SHALL BE 1" OR LESS.

THE JACKING OF BEAMS FOR STAGE 2 CONSTRUCTION SHALL BE COMPLETED PRIOR TO ATTACHING PROPOSED CROSSFRAMES TO THE NEWLY CONSTRUCTED STAGE 1 PORTION OF THE BRIDGE.

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.

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.

INSPECTION OF STRUCTURAL STEEL:

THE ENGINEER SHALL VISUALLY INSPECT ALL EXISTING TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THAT THEY ARE FREE OF DEFECTS. THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS SHALL NOT BE ERECTED UNTIL AFTER THE ENGINEER HAS COMPLETED THIS INSPECTION. THIS INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.08, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH ITEM 894, HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK WITH WARRANTY.

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

CONCRETE SURFACES INCLUDING PARAPETS, ABUTMENTS, WINGWALLS, PIERS, AND END DIAPHRAGMS AS DETAILED IN THE PLANS SHALL BE SEALED WITH AN EPOXY-URETHANE SEALER OF A COLOR CONFORMING TO FEDERAL COLOR No. 27778 - NEUTRAL.

ITEM 816, FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COATS, SYSTEM 1ZEU
ITEM 885, FIELD PAINTING OF EXISTING STEEL, FINISH COAT WITH WARRANTY

ALL SURFACES OF EXPOSED STEEL SHALL BE COATED WITH PAINT OF A COLOR CONFORMING TO ONE OF THE FOLLOWING:

FEDERAL COLOR No. 20233 - DARK NEUTRAL
FEDERAL COLOR No. 24277 - GREEN
FEDERAL COLOR No. 25526 - BLUE

ITEM 843 - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR

A FIELD INSPECTION OF THE EXISTING PIERS WAS PERFORMED ON OCTOBER 10, 2000. NO DETERIORATION WAS APPARENT ON ANY OF THE EXISTING PIER COLUMNS OR CAPS.

A CONTINGENCY QUANTITY OF 100 SQ. FT. OF ITEM 843, PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR, HAS BEEN CARRIED TO THE ESTIMATED QUANTITIES FOR USE AS DIRECTED BY THE ENGINEER TO REPAIR ANY DETERIORATION FOUND AT THE TIME OF CONSTRUCTION.

ANY PATCHING REPAIRS DIRECTED TO BE PERFORMED BY THE ENGINEER SHALL BE COMPLETED AND CURED BEFORE CONCRETE SEALING IS APPLIED.

CONTROL JOINTS FOR CONCRETE PARAPETS:

AS SOON AS A SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1/4" DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT THE LOCATIONS AND SPACINGS SHOWN ON THE PLANS. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO ENSURE 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 1/4". THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPEFICATION TT-S-00227E TO A MINIMUM DEPTH OF 1 INCH. THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACE SHALL BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE.

SUGGESTED CONSTRUCTION PROCEDURE:

STAGE 1 CONSTRUCTION:

- IMPLEMENT STAGE 1 MAINTENANCE OF TRAFFIC. MAINTAIN ONE BI-DIRECTIONAL LANE ON THE EXISTING NORTHBOUND HALF OF THE BRIDGE DECK.
- REMOVE EXISTING SOUTHBOUND BRIDGE DECK AND APPROACH SLABS.
- INSTALL TEMPORARY SHEET PILING.
- REMOVE CROSSFRAMES BETWEEN BEAMS 4 AND 5.
- INSTALL JACKS AND TEMPORARY SUPPORT FOR EXISTING BEAMS. REMOVE EXISTING END CROSSFRAMES.
- REMOVE EXISTING BEARING UNITS AT ABUTMENTS. EXCAVATE AND REMOVE SOUTHBOUND HALF OF EXISTING ABUTMENTS.
- PLACE NEW EMBANKMENT.
- DRIVE PILES FOR NEW ABUTMENTS AND PIER EXTENSIONS.
- REMOVE EXISTING BEARING UNITS AT PIERS. RAISE EXISTING BEAMS TO NEW LOCATION. MAINTAIN JACKS AND TEMPORARY SUPPORT.
- REMOVE CONCRETE AT END OF EXISTING PIER CAP AND PREPARE TOP SURFACE AS SHOWN IN THE PLANS.
- CONSTRUCT NEW ABUTMENTS AND PIER EXTENSIONS.
- CONSTRUCT PROPOSED SLOPE PROTECTION.
- INSTALL NEW ELASTOMERIC BEARING UNITS AT PIERS.
- PLACE EXISTING BEAMS IN FINAL LOCATION. REMOVE JACKS AND TEMPORARY SUPPORT.
- ERECT NEW BEAMS AND INSTALL NEW INTERMEDIATE CROSSFRAMES.
- CONSTRUCT SOUTHBOUND SUPERSTRUCTURE INCLUDING END DIAPHRAGMS FOR INTEGRAL ABUTMENTS.
- CONSTRUCT SOUTHBOUND APPROACH SLABS AND APPROACH PAVEMENT.
- STRIPE AND SIGN SOUTHBOUND ROADWAY TO MAINTAIN TWO-WAY TRAFFIC.

STAGE 2 CONSTRUCTION:

- TRANSFER TWO-WAY TRAFFIC TO NEW SOUTHBOUND DECK.
- REMOVE REMAINING EXISTING BRIDGE DECK AND APPROACH SLABS.
- REPEAT STAGE 1 OPERATIONS 5 THROUGH 17 FOR NORTHBOUND ROADWAY.
- INSTALL INTERMEDIATE CROSSFRAMES BETWEEN BEAMS 4 AND 5 AFTER CONSTRUCTION OF STAGE 2 SUPERSTRUCTURE. PLACE CLOSURE POUR.
- PAINT EXISTING AND PROPOSED STEEL.
- SEAL PARAPETS AND SUBSTRUCTURE.

THE ABOVE IS A SUGGESTED CONSTRUCTION PROCEDURE. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED CONSTRUCTION PROCEDURE AND SCHEDULE TO THE DIRECTOR FOR APPROVAL BEFORE BEGINNING CONSTRUCTION. NO CONSTRUCTION OPERATIONS WILL BE PERMITTED WITHOUT PRIOR APPROVAL.

PLAN ABBREVIATIONS:

ABUT.	ABUTMENT
BRG.	BEARING
c/c	CENTER-TO-CENTER
C.J.	CONSTRUCTION JOINT
CL.	CLEAR COVER
CONC.	CONCRETE
DIA.	DIAMETER
EXIST.	EXISTING
ES	EACH SIDE
FA	FORWARD ABUTMENT
FS	FAR SIDE
FWD.	FORWARD
HMWM	HIGH MOLECULAR WEIGHT METHACRYLATE
N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
NS	NEAR SIDE
MAX.	MAXIMUM
MIN.	MINIMUM
O.D.	OUTSIDE DIAMETER
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
PEJF	PREFORMED EXPANSION JOINT FILLER
PROP.	PROPOSED
RA	REAR ABUTMENT
SPA.	SPACE, SPACES
REINF.	REINFORCING, REINFORCED
TYP.	TYPICAL

DESIGN AGENCY
Dodson-Stilson, Inc.
A LLC Company
ENGINEERS • ARCHITECTS • SCIENTISTS

Dodson
Stilson

DATE
05/05/00
REVIEWED
GWM
STRUCTURE FILE NUMBER
0407119
DRAWN
PAT
CHECKED
JWB

STRUCTURE GENERAL NOTES
BRIDGE NO. ATB-534-1935
S.R. 534 OVER I-90

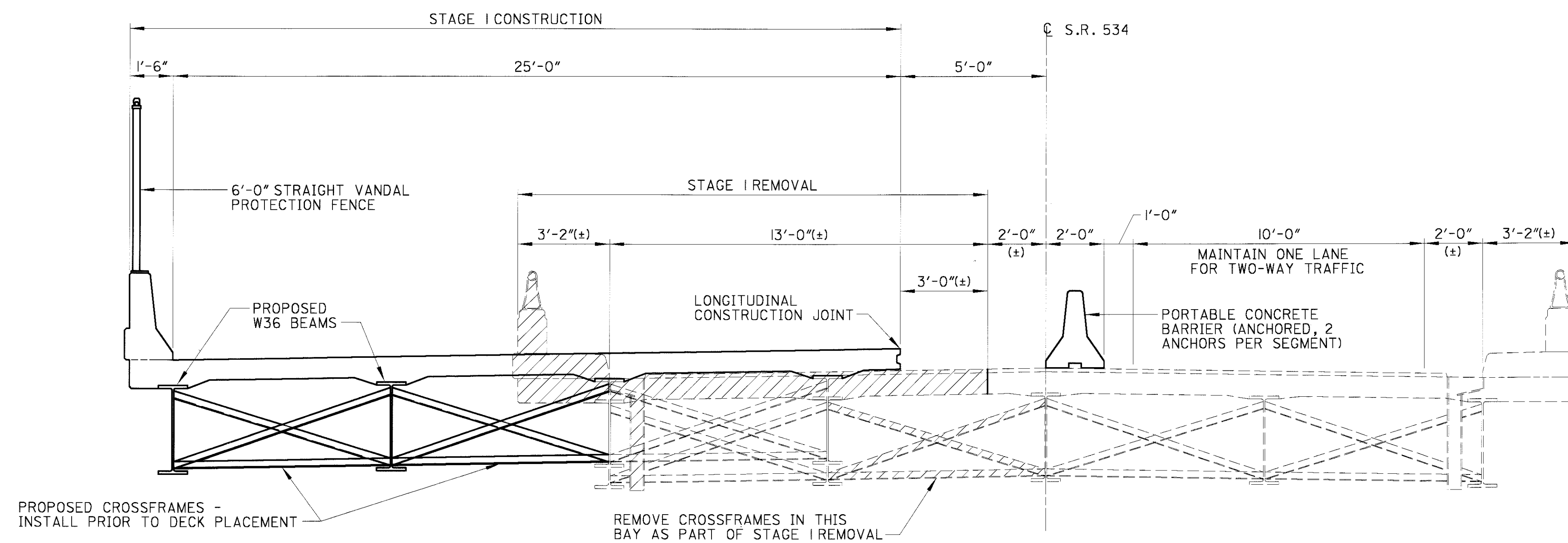
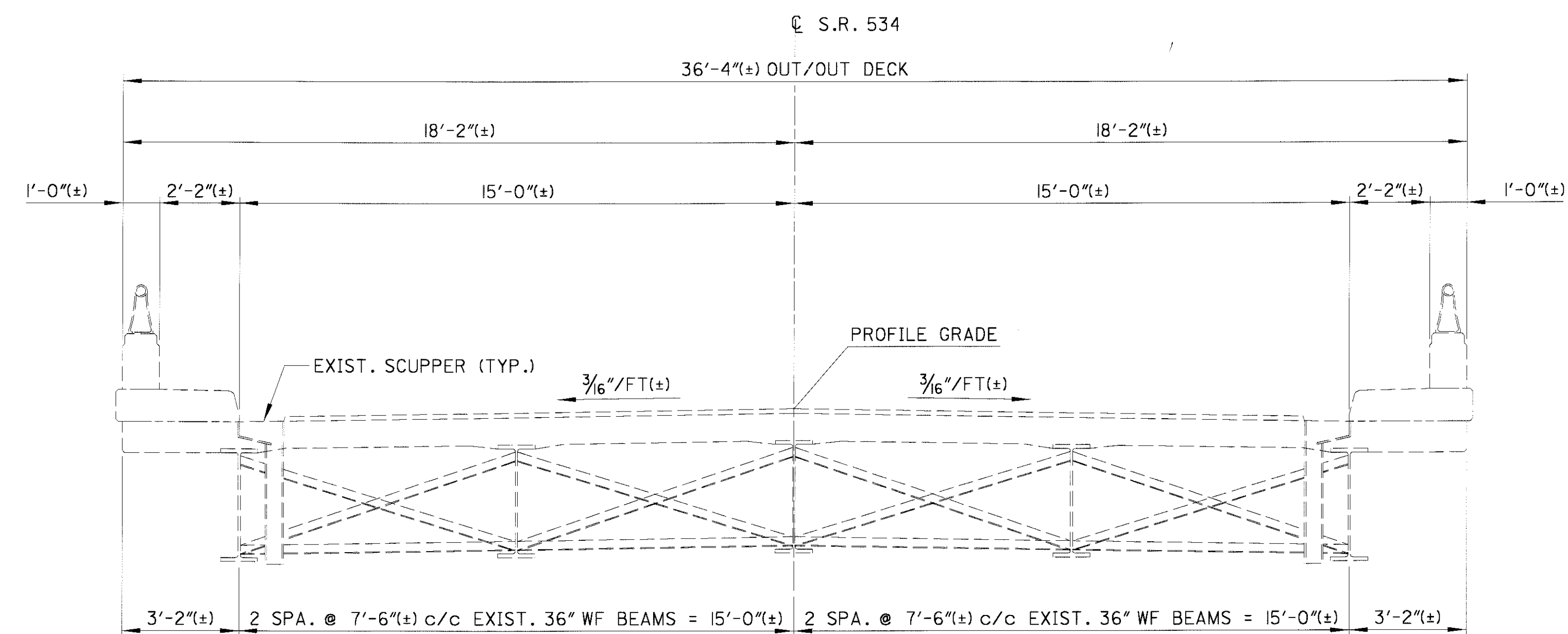
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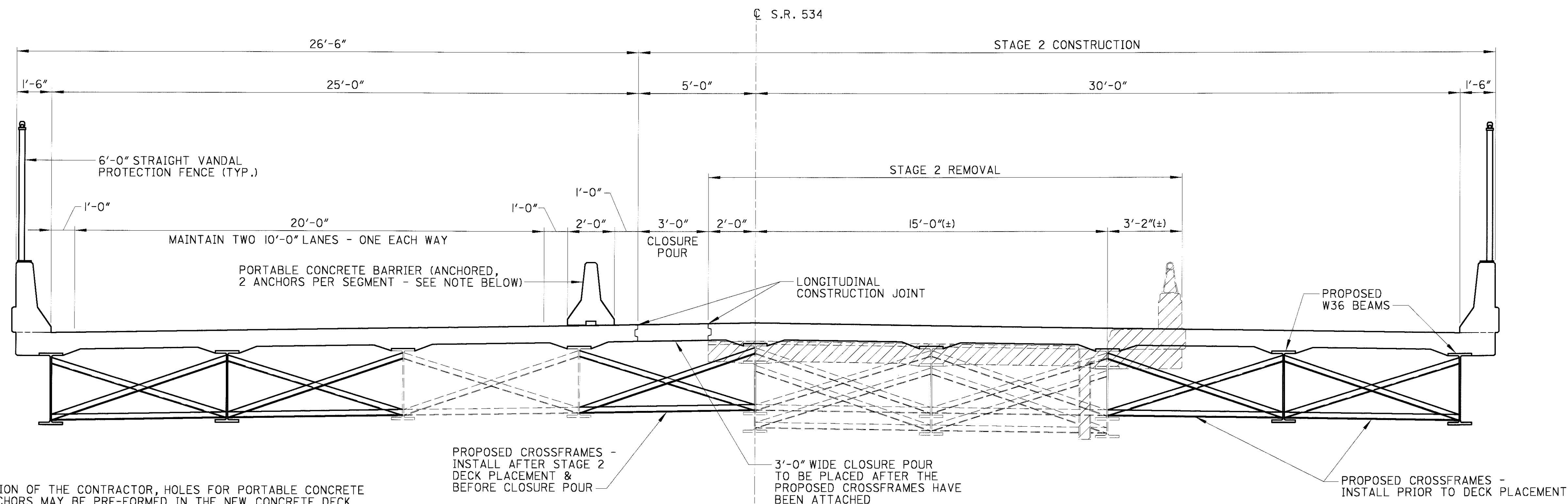
3/20

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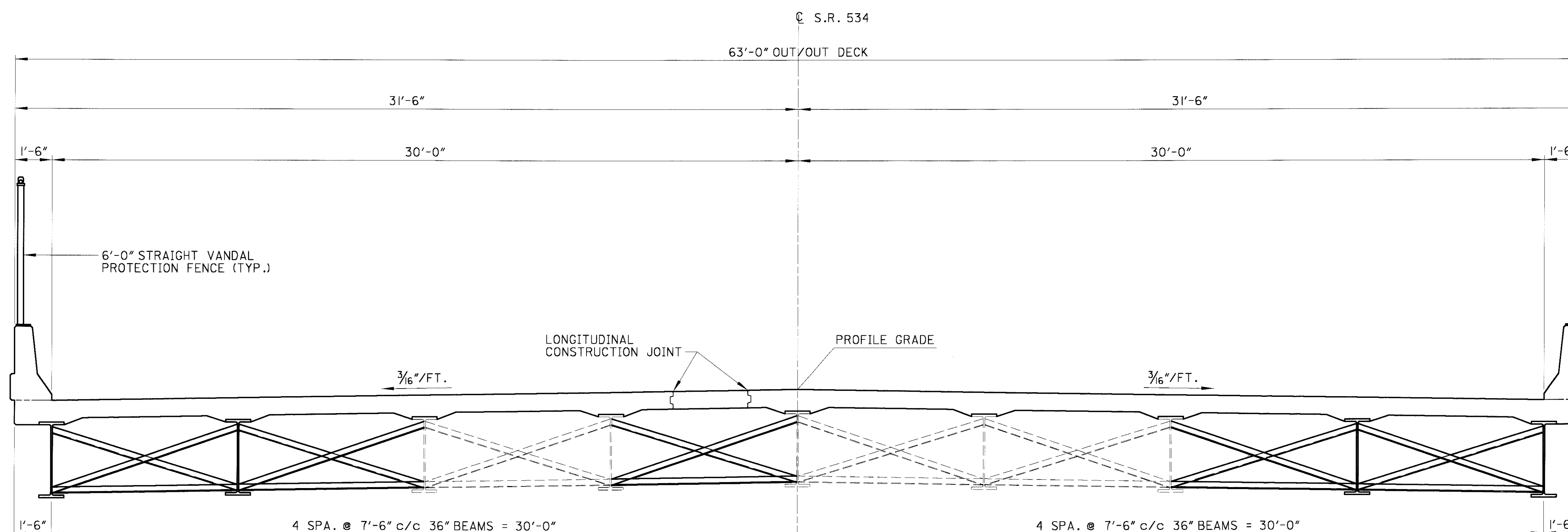
CALCULATED BY: RCK 6/02/00
CHECKED BY: DJC 6/23/00

* DENOTES QUANTITY TO BE USED "AS DIRECTED BY THE ENGINEER"





TRANSVERSE SECTION - STAGE 2 CONSTRUCTION



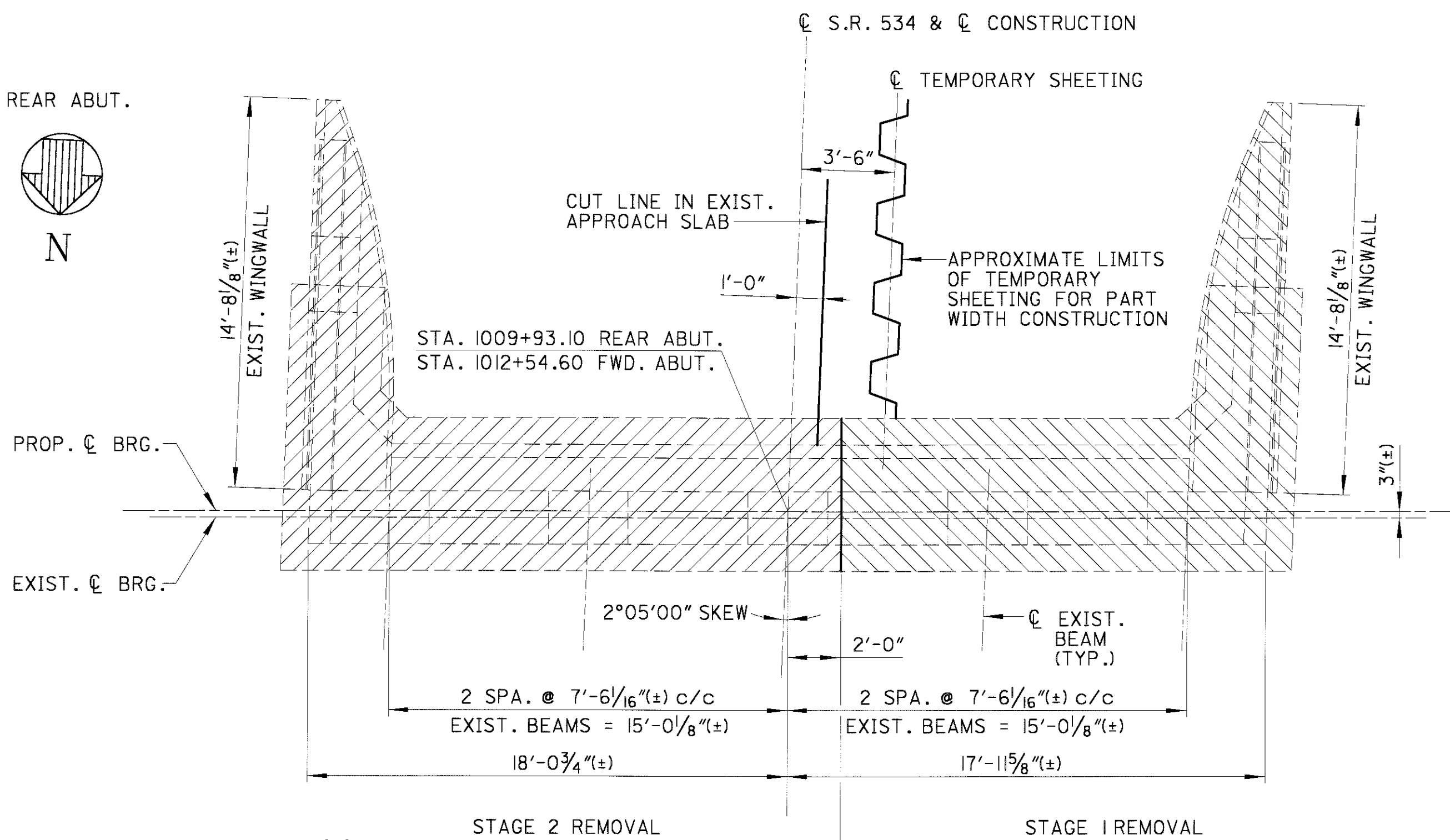
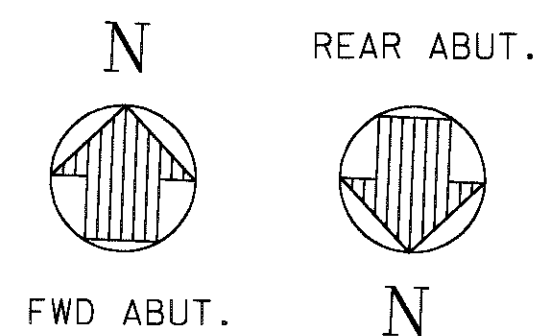
FINAL TRANSVERSE SECTION

LEGEND

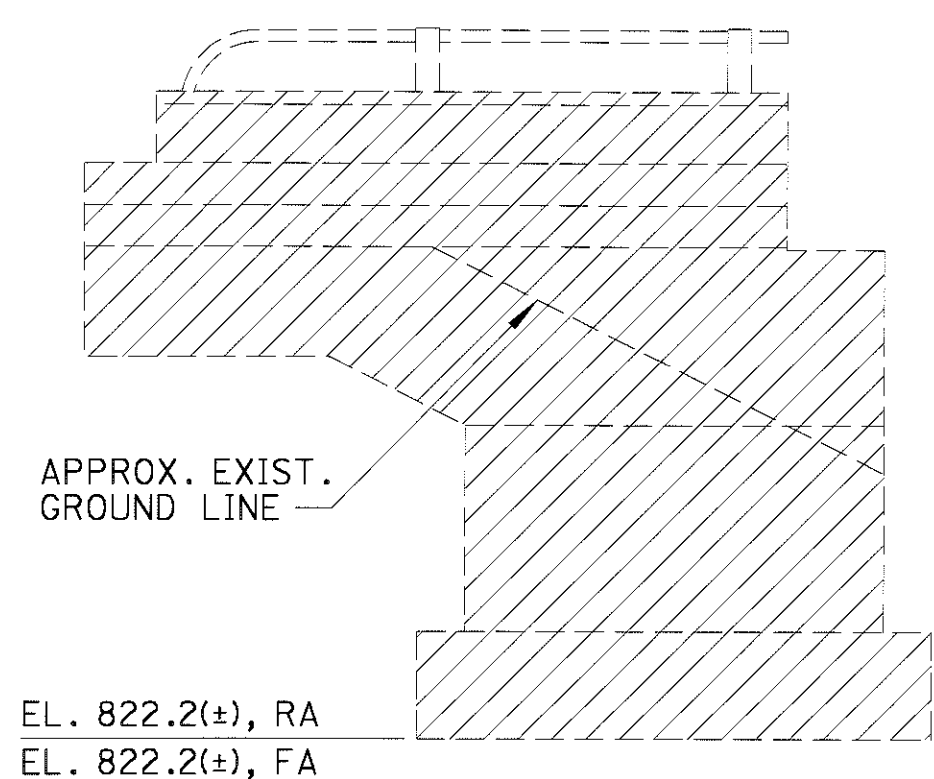
PORTIONS OF EXISTING STRUCTURE TO BE REMOVED.

NOTES

1. FOR STAGE CONSTRUCTION DETAILS AT ABUTMENTS, SEE SHEET 7/20 AND SHEET 9/20.
2. FOR STAGE CONSTRUCTION DETAILS AT PIERS, SEE SHEET 11/20.

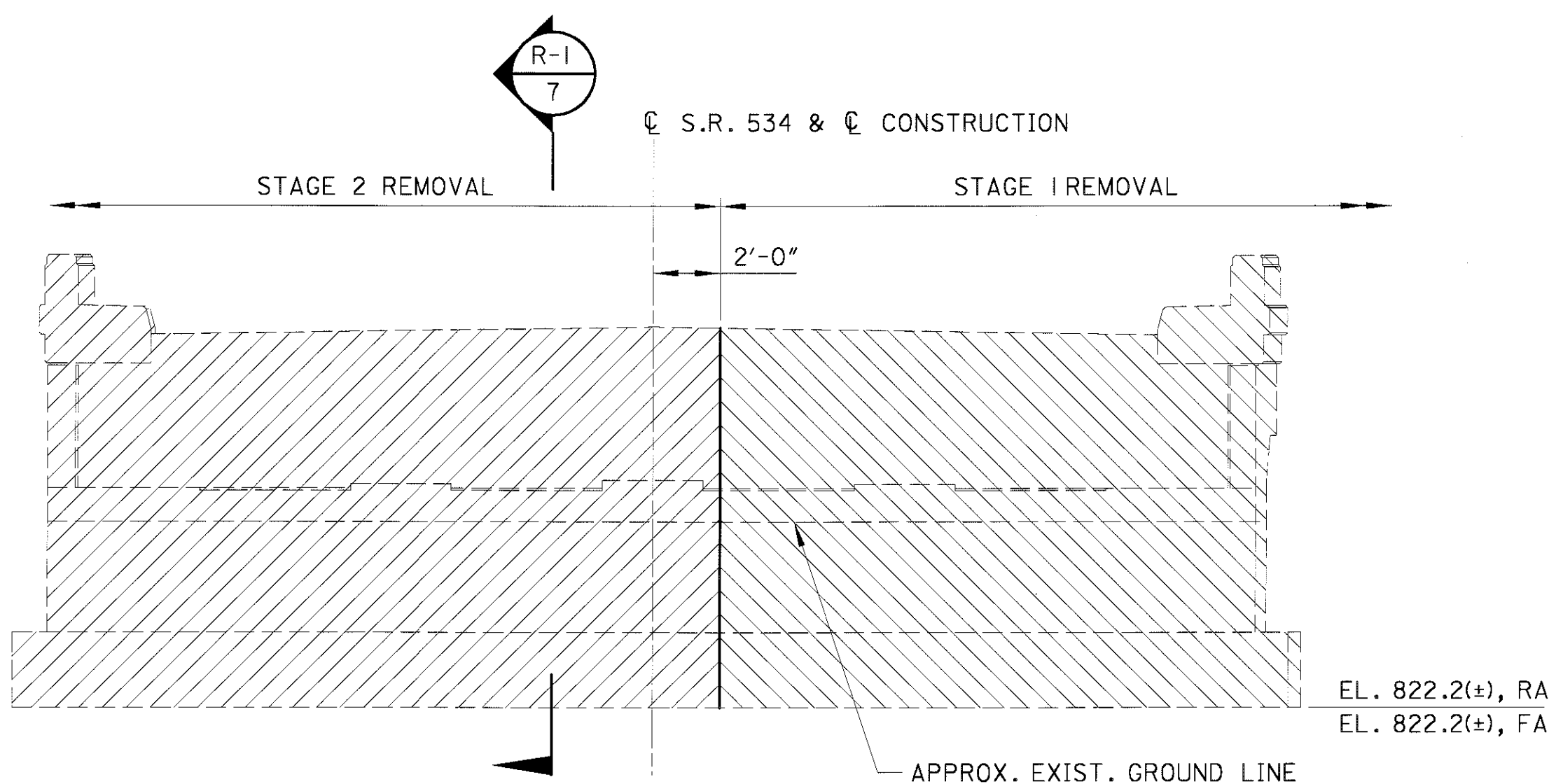


PLAN



ELEVATION

TYPICAL EXIST. WINGWALL

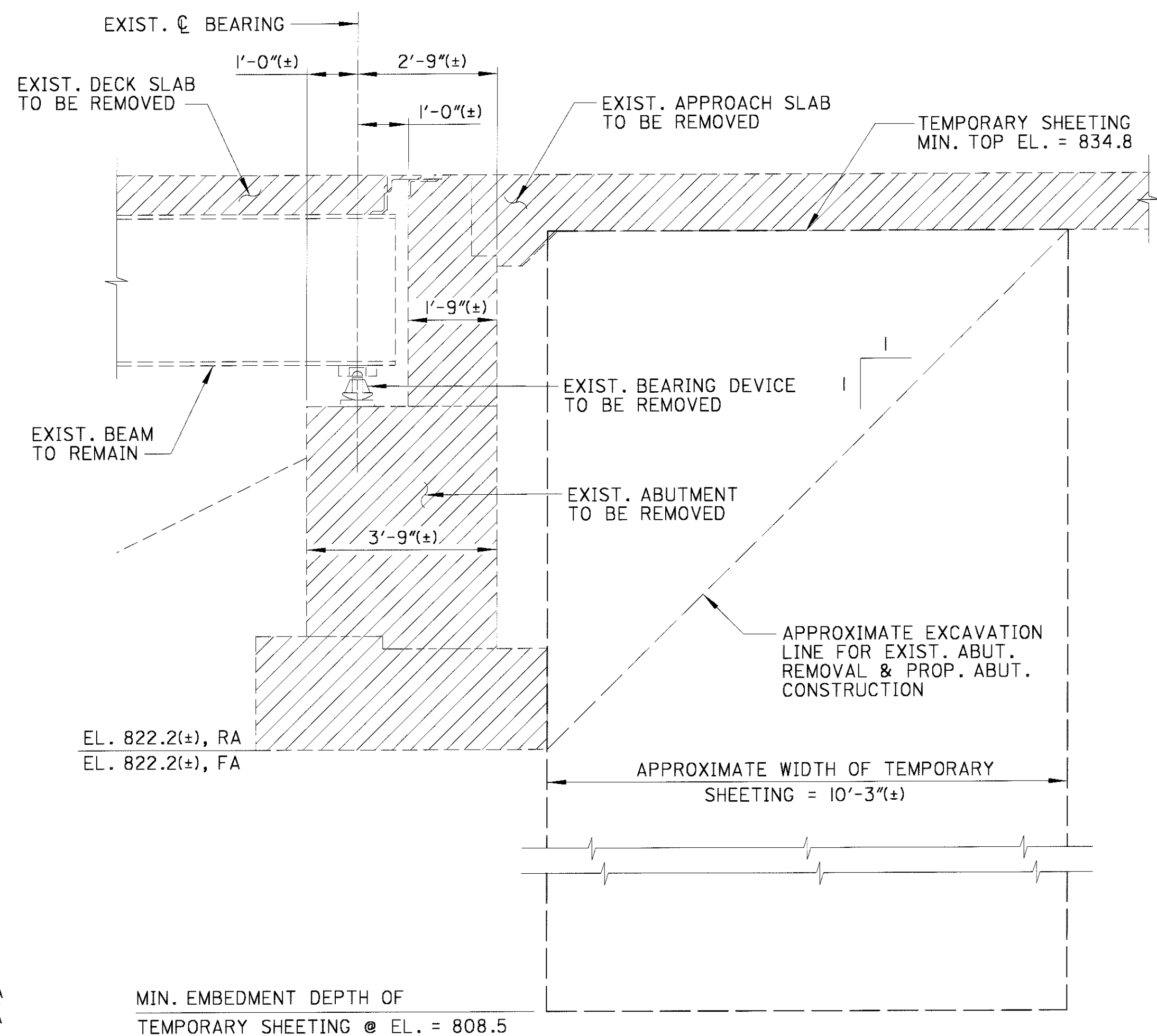


ELEVATION

REAR ABUTMENT SHOWN
FORWARD ABUTMENT OPPOSITE HAND

NOTES

1. THE MINIMUM SECTION MODULUS FOR TEMPORARY CANTILEVERED SHEET PILE WALL (FOR YIELD STRENGTH = 36 ksi) SHALL BE 28.7 in³.
2. TEMPORARY SHEETING SHALL BE INSTALLED BEFORE EXCAVATION AND ABUTMENT REMOVAL IN STAGE 1 CONSTRUCTION. THE SHEETING SHALL REMAIN IN PLACE UNTIL STAGE 2 ABUTMENT HAS BEEN CONSTRUCTED AND THE EMBANKMENT SUFFICIENTLY PLACED AND COMPACTED TO THE LEVEL OF THE PROPOSED SUBGRADE.
3. THE CONTRACTOR MAY PROVIDE AN ALTERNATE MEANS OF SHORING FOR STAGED CONSTRUCTION IN ACCORDANCE WITH ITEM 503.
4. ALL MATERIALS EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO INSTALL AND SUBSEQUENTLY REMOVE THE TEMPORARY SHORING SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM PRICE BID FOR ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.

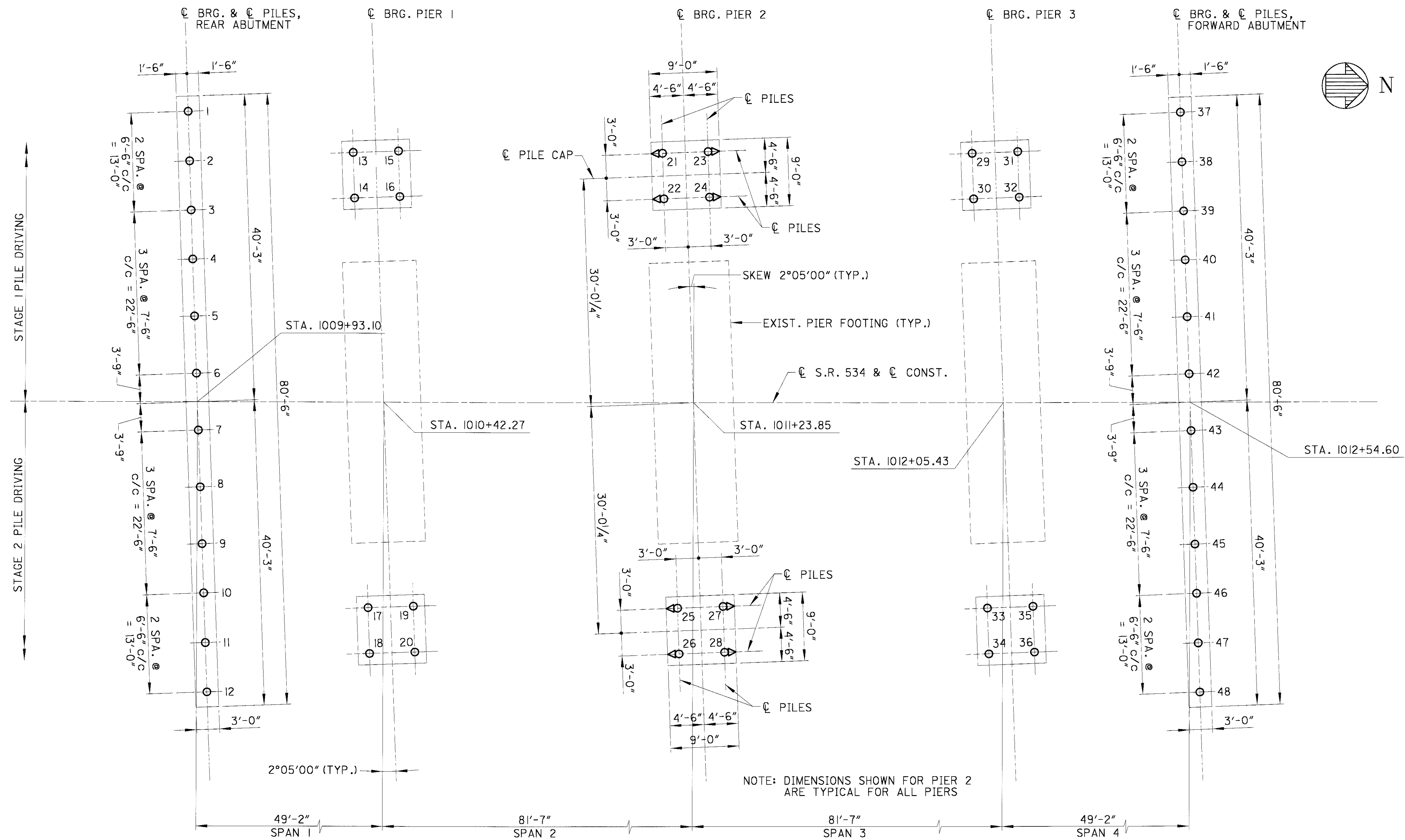


SECTION

SHOWING TEMPORARY SHEETING DETAILS

LEGEND

- LIMITS OF STAGE 1 REMOVAL
- LIMITS OF STAGE 2 REMOVAL

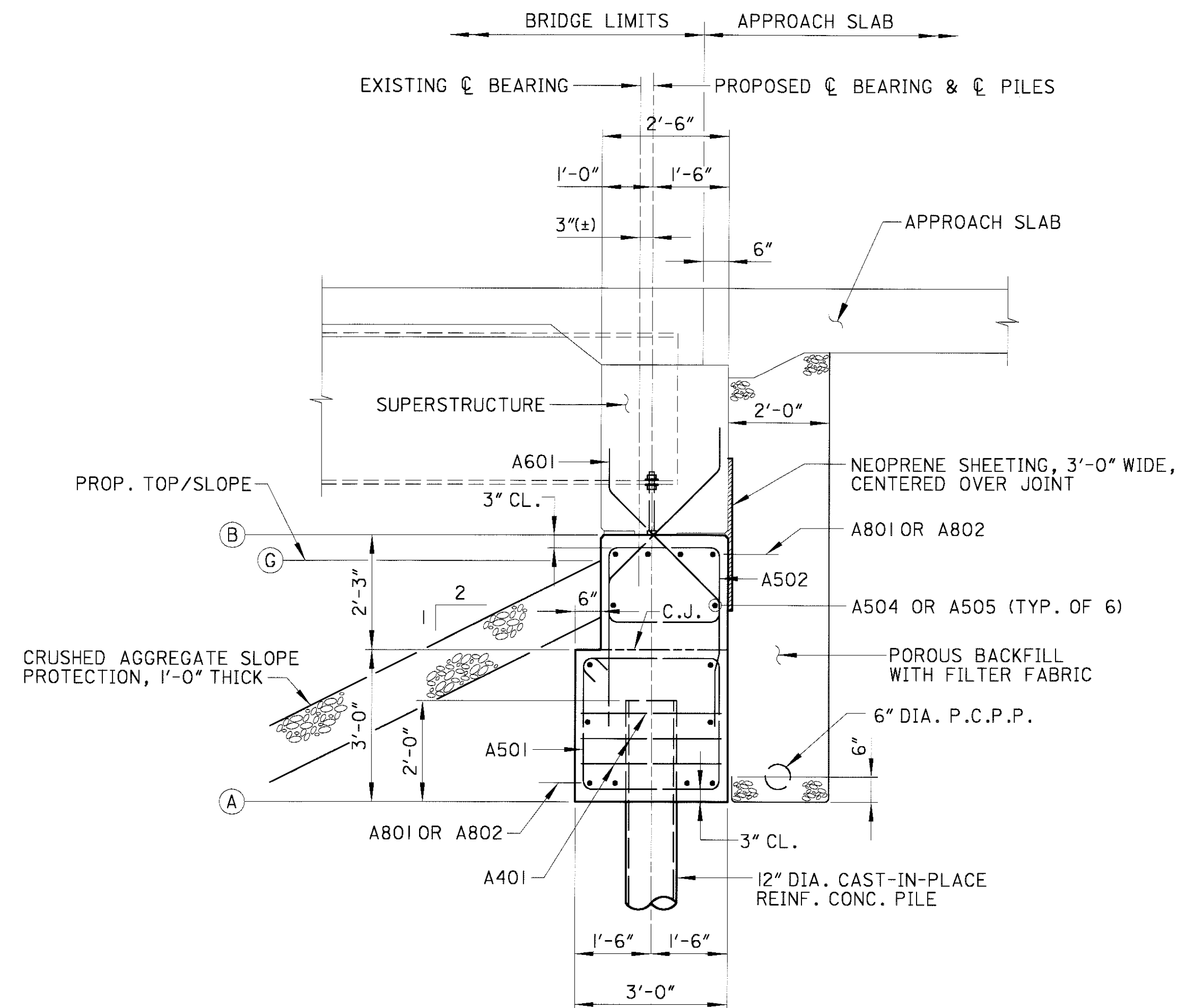


SUBSTRUCTURE LOCATION AND PILE PLAN

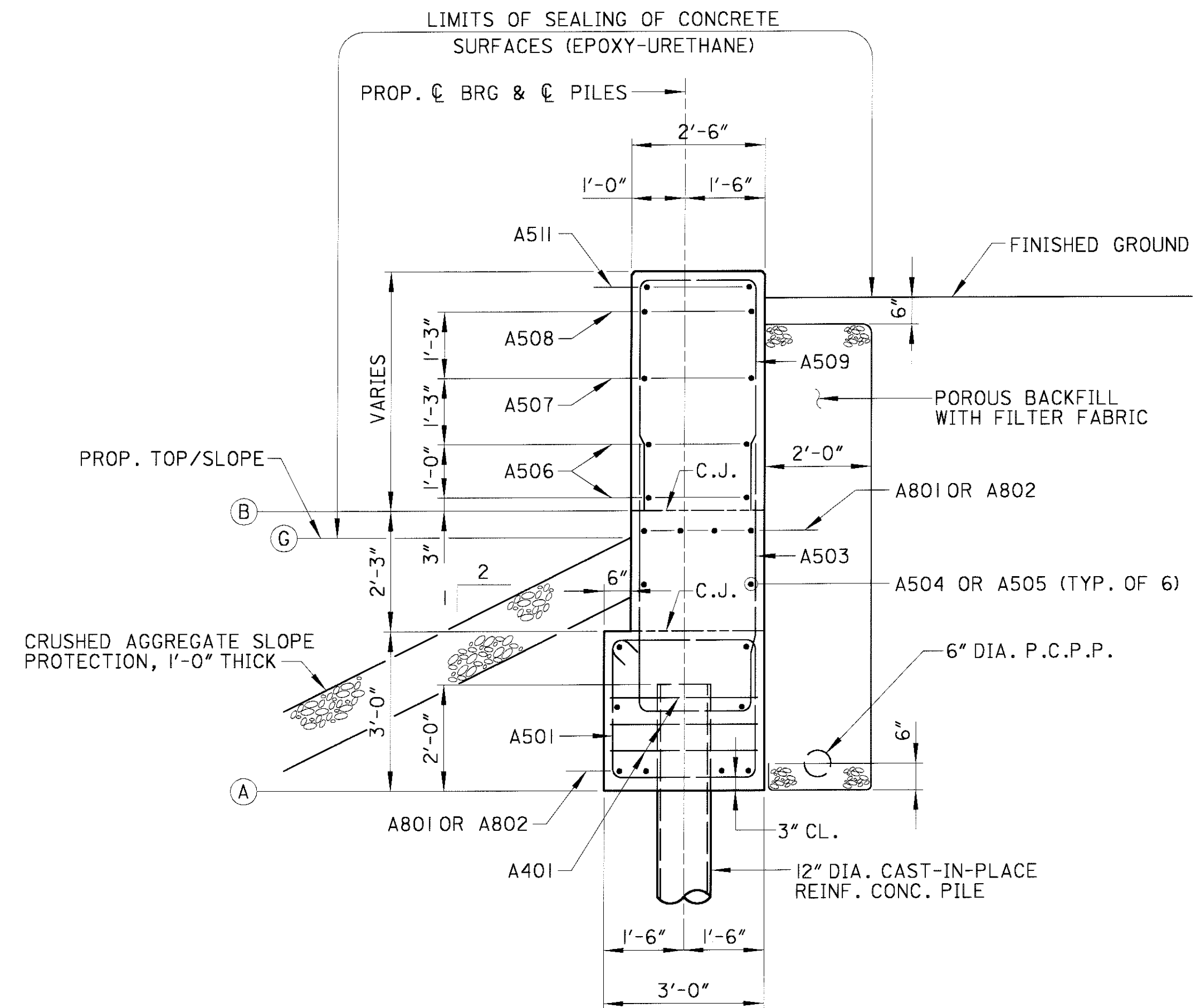
PILE NUMBER	LOCATION	CUT-OFF ELEVATION	ESTIMATED PAY LENGTH
1 THRU 12	REAR ABUT.	825.82	65'
13 THRU 20	PIER 1	809.35	65'
21 THRU 28	PIER 2	809.43	65'
29 THRU 36	PIER 3	809.36	65'
37 THRU 48	FWD. ABUT.	826.01	65'

LEGEND

- - VERTICAL PILE
- ⊗ - PILE BATTERED 1:4 IN DIRECTION SHOWN

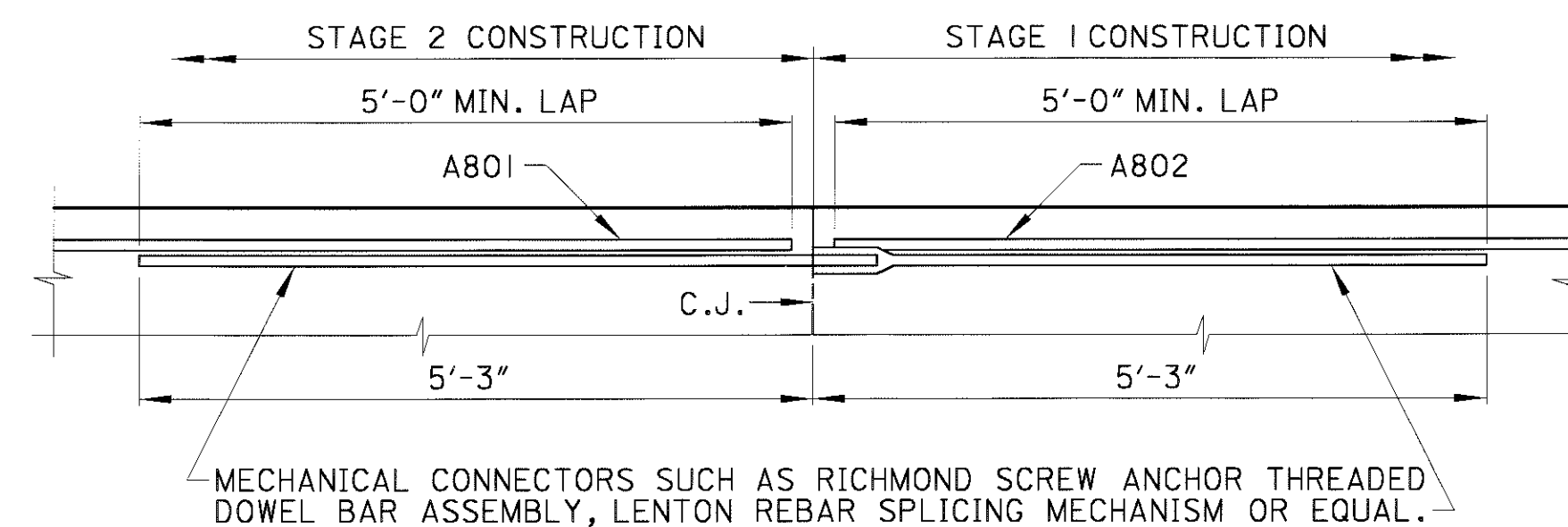


SECTION A-1
9



SECTION A-2
9

NOTE: FOR ABUTMENT PLAN & ELEVATION, TABLE OF ABUTMENT ELEVATIONS AND NOTES, SEE SHEET 9/20.



DETAIL OF MECHANICAL CONNECTORS
AT STAGE CONSTRUCTION JOINT

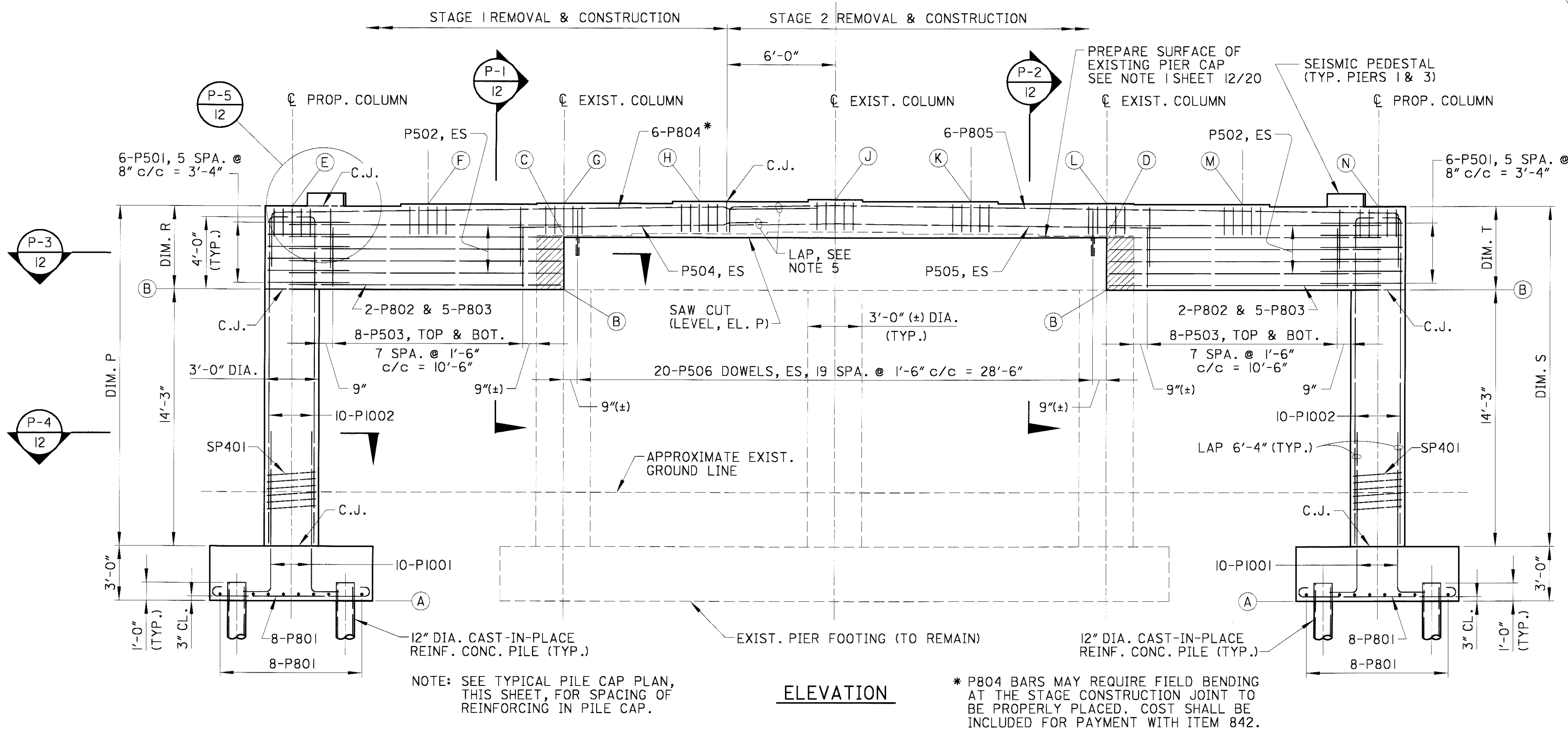
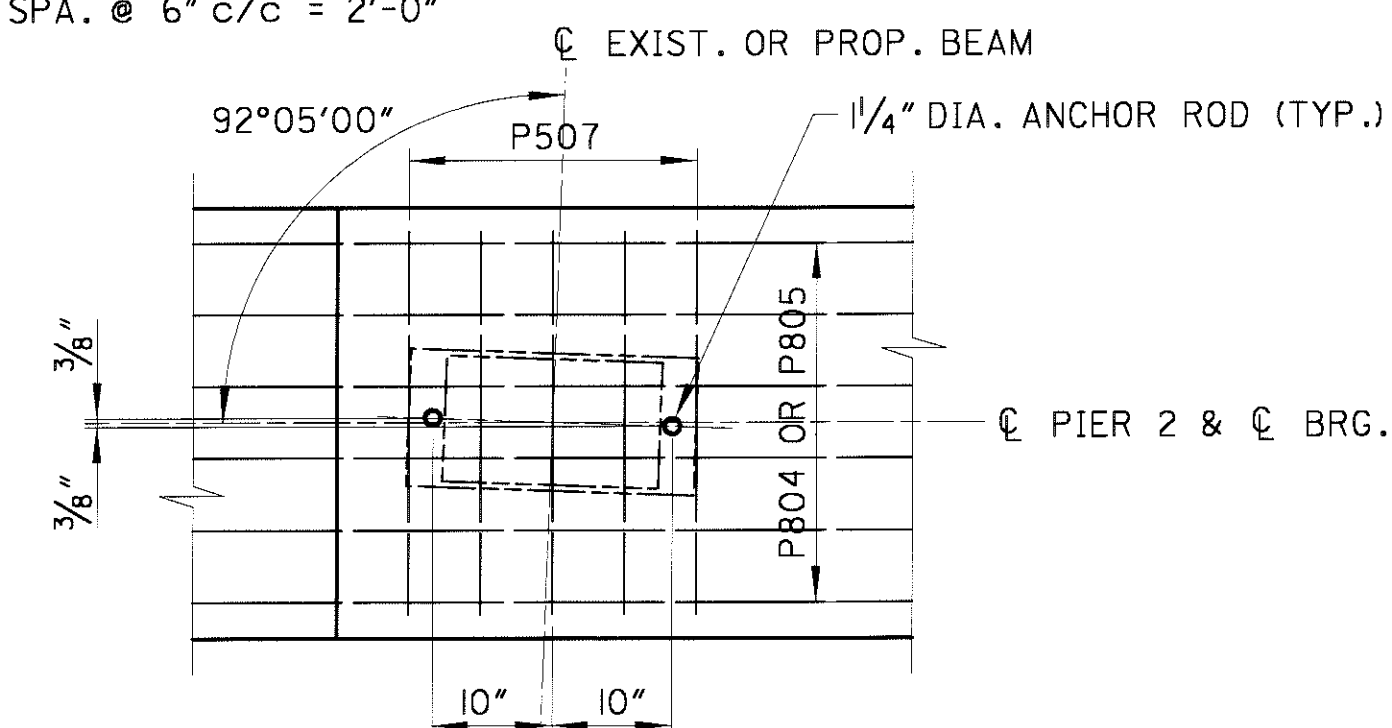
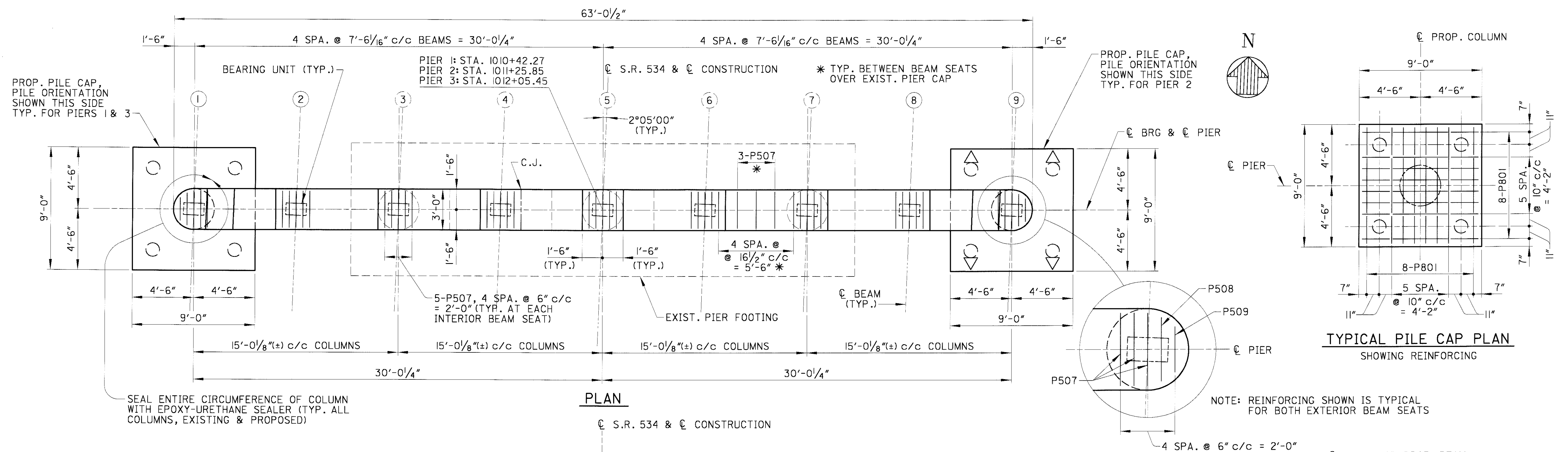


TABLE OF PIER ELEVATIONS

LOCATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(J)	(K)	(L)	(M)	(N)	(P)
PIER 1	808.35	825.60	828.54(±)	828.60(±)	830.21	830.33	830.38	830.50	830.62	830.51	830.39	830.34	830.22	828.46
PIER 2	808.43	825.68	828.67(±)	828.71(±)	830.46	830.58	830.61	830.74	830.82	830.74	830.61	830.58	830.46	828.59
PIER 3	808.36	825.61	828.61(±)	828.63(±)	830.32	830.44	830.49	830.61	830.72	830.61	830.49	830.43	830.31	828.53

TABLE OF PIER DIMENSIONS

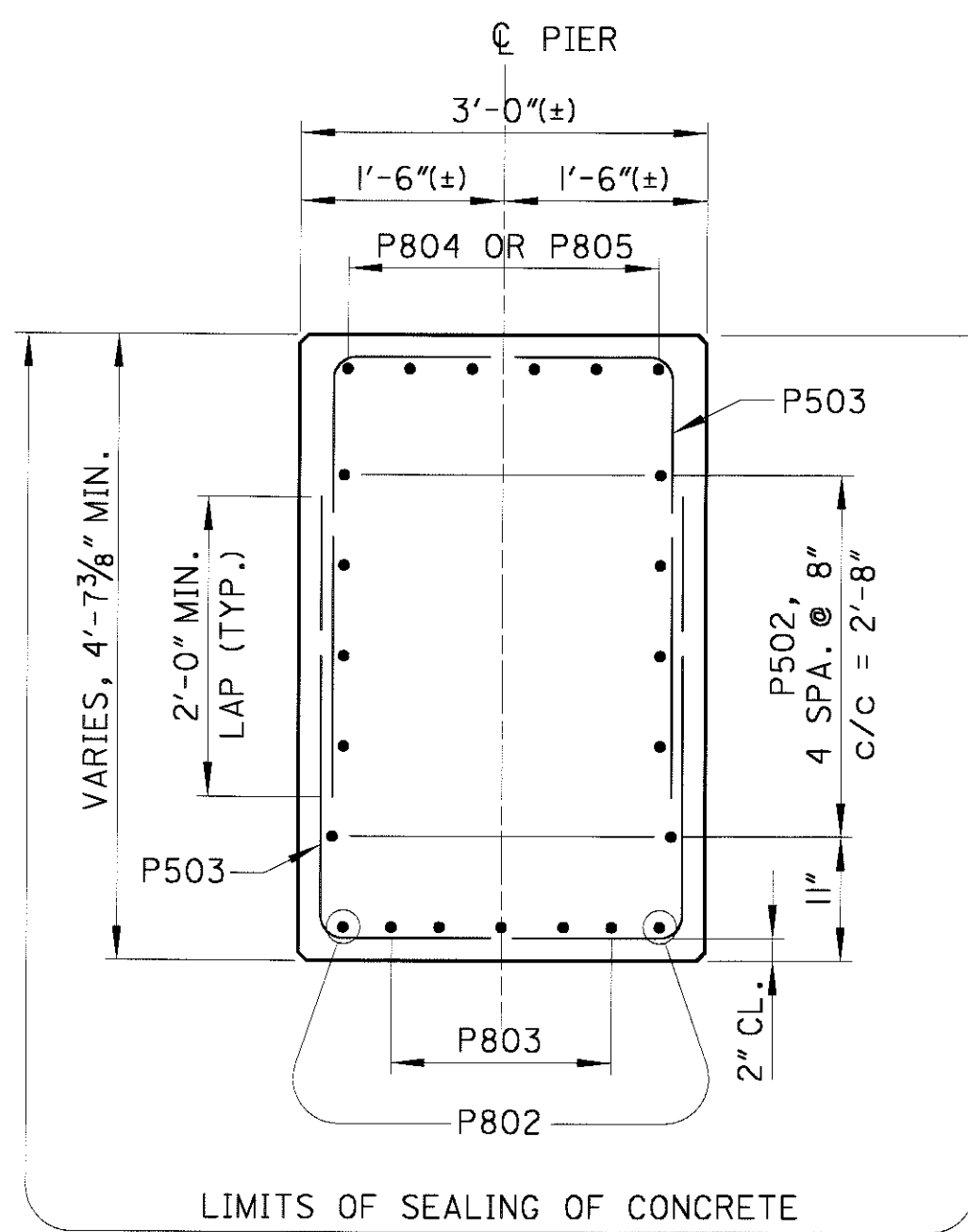
LOCATION	(P)	(R)	(S)	(T)
PIER 1	18'-10 ³ / ₈ "	4'-7 ³ / ₈ "	18'-10 ¹ / ₂ "	4'-7 ¹ / ₂ "
PIER 2	19'-0 ³ / ₈ "	4'-9 ³ / ₈ "	19'-0 ³ / ₈ "	4'-9 ³ / ₈ "
PIER 3	18'-11 ¹ / ₂ "	4'-8 ¹ / ₂ "	18'-11 ³ / ₈ "	4'-8 ³ / ₈ "

LEGEND

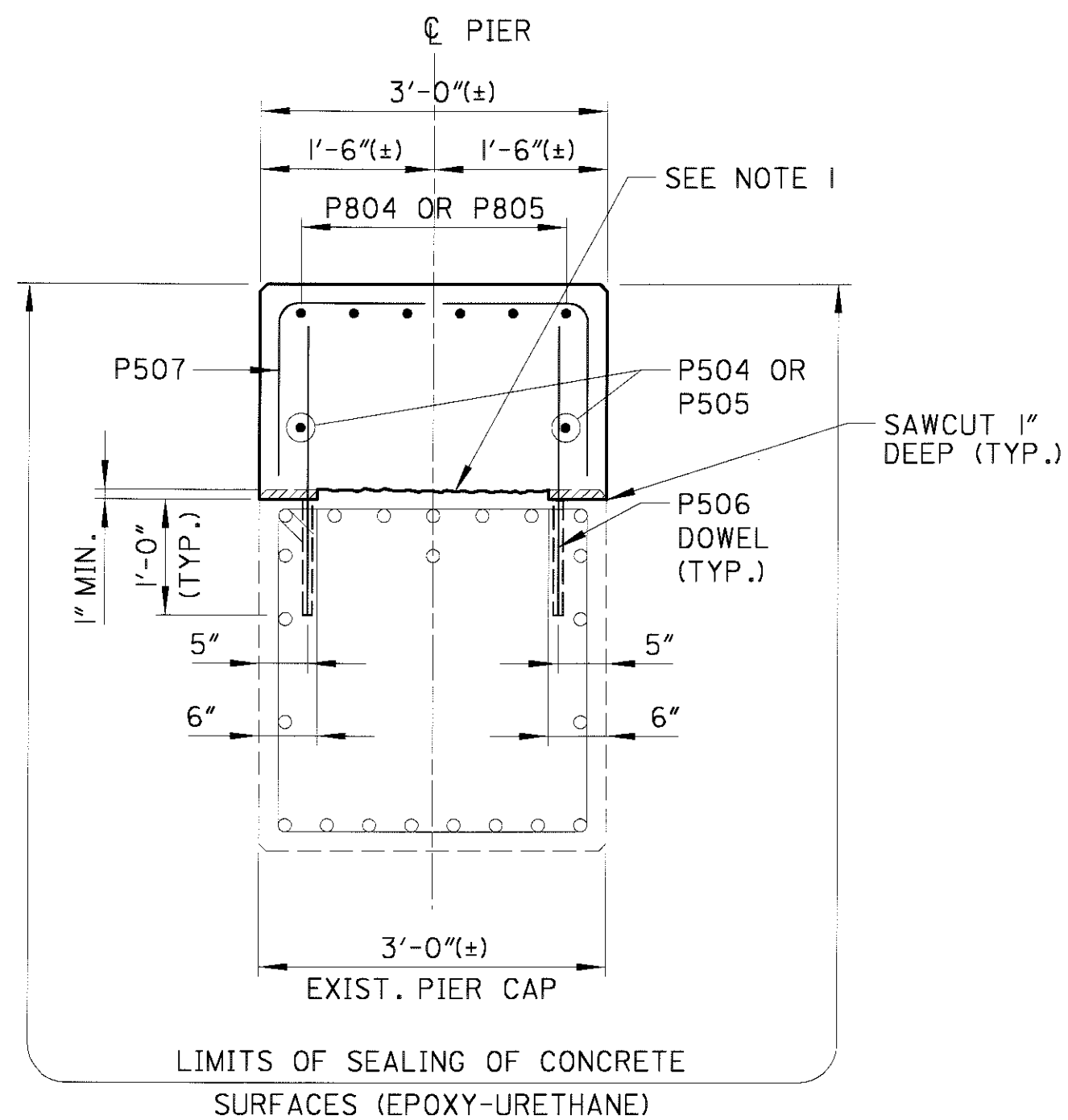
-  - EXISTING BEAM NUMBER  - VERTICAL PILE
 - PROPOSED BEAM NUMBER  - PILE BATTERED 1:4
 - PORTIONS OF EXISTING STRUCTURE TO BE REMOVED  IN DIRECTION SHOWN

NOTES

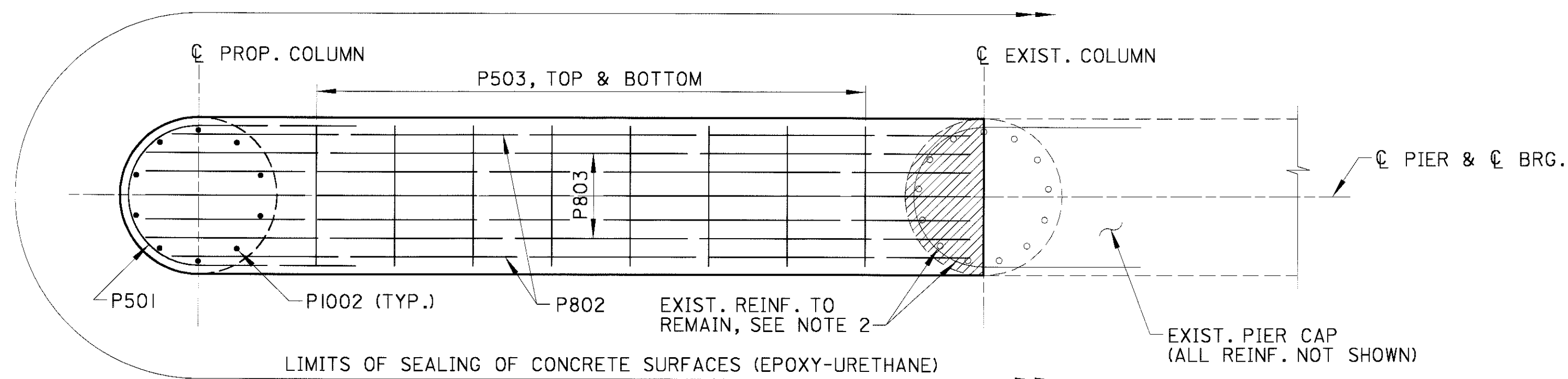
1. BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRESETTING OF BEARING ANCHORS.
2. BEARING ANCHORS (PIER 2): AT THE OPTION OF THE CONTRACTOR, BEARING ANCHOR RODS (OR FORMED HOLES), LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.
3. ALL REINFORCING STEEL SHALL BE PLACED TO PROVIDE A MINIMUM CLEAR COVER OF 2" UNLESS OTHERWISE SHOWN.
4. SPIRAL REINFORCEMENT SHALL EXTEND A MINIMUM OF 2" INTO THE PIER CAP.
5. REINFORCING SPICE LENGTHS SHALL BE 2'-0" FOR #5 BARS AND 5'-0" FOR #8 BARS UNLESS OTHERWISE SHOWN.
6. FOR BEARING DETAILS, SEE SHEET 18/20.
7. FOR SUBSTRUCTURE LOCATION AND PILE PLAN, SEE SHEET 8/20.



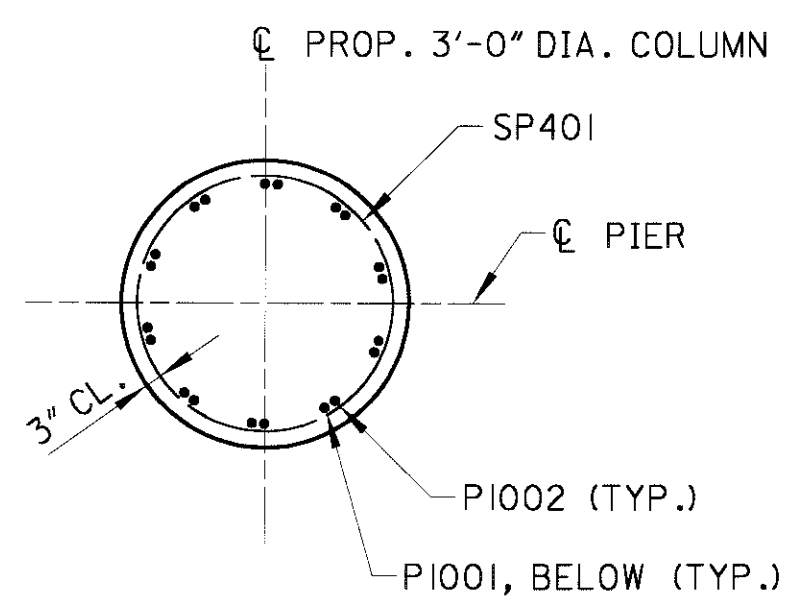
SECTION P-1
II



SECTION P-2
II



SECTION P-3
II



SECTION P-4
II

NOTES

1. PREPARATION OF THE TOP SURFACE OF EXISTING PIER CAPS:
THE TOP SURFACE OF THE EXISTING PIER CAP IN CONTACT WITH THE NEW CONCRETE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND FULLY CLEANED. ALL LOOSE CONCRETE SHALL BE REMOVED IN SUCH A MANNER AND EXTENT TO EXPOSE A CLEAN, SOUND CONCRETE SURFACE. SOUND CONCRETE SHALL BE REMOVED TO A DEPTH NOT LESS THAN 1/4" AND NOT MORE THAN 1".

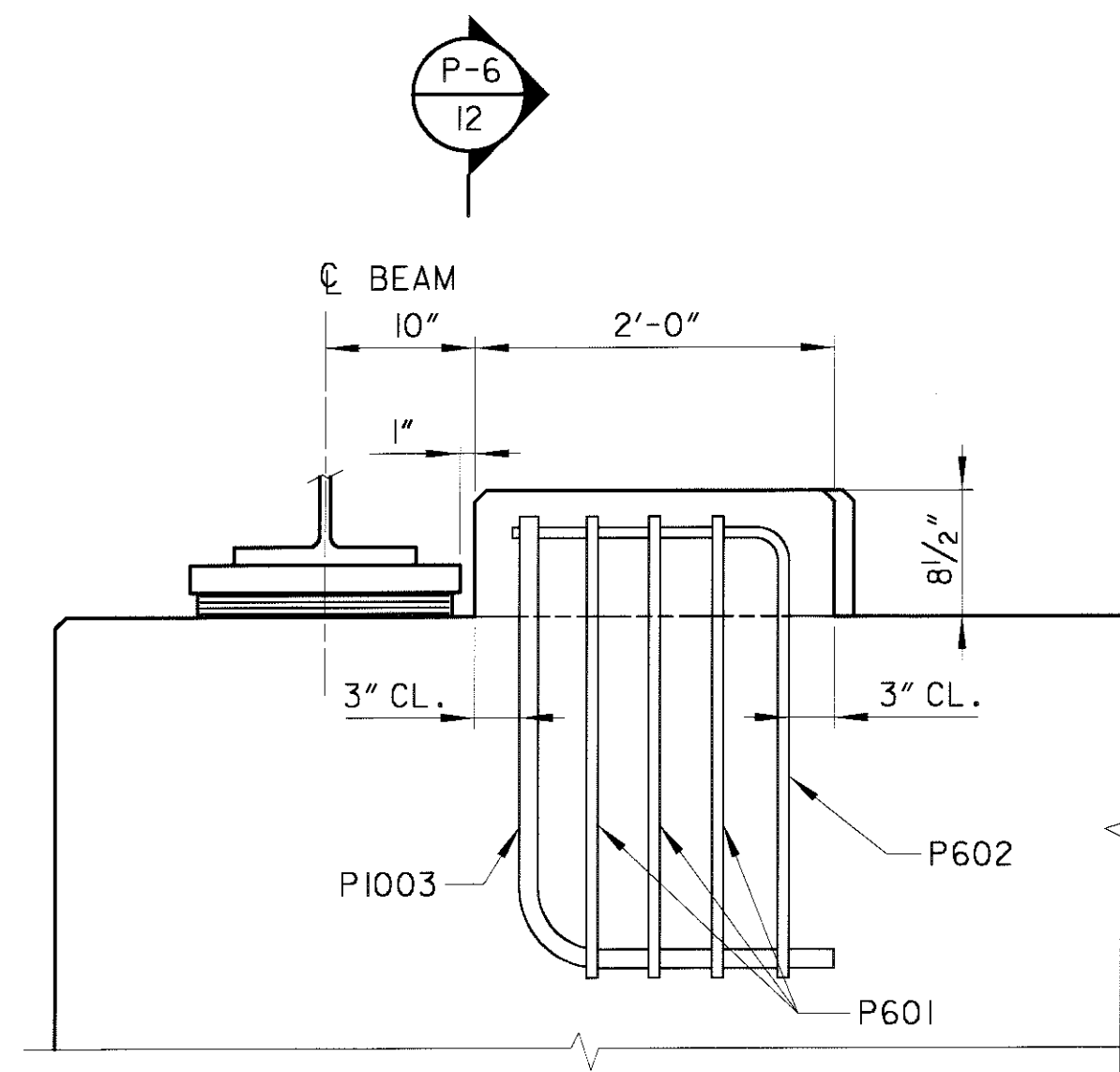
ONLY PNEUMATIC HAND TOOLS THAT WILL GIVE RESULTS SATISFACTORY TO THE ENGINEER SHALL BE USED IN PREPARING THE EXISTING PIER CAP TOP SURFACE. CARE SHALL BE TAKEN IN WORKING AROUND EXISTING REINFORCING STEEL SO AS NOT TO DAMAGE OR DEBOND THE STEEL, OR TO SHATTER THE CONCRETE AROUND IT. REINFORCEMENT THAT IS DAMAGED DURING THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT NO COST TO THE DEPARTMENT.

EXISTING BEARING ANCHOR BOLTS AT PIER 2 MAY REMAIN, AND SHALL BE THOROUGHLY CLEANED OF ALL RUST PRIOR TO PLACING NEW CONCRETE. ALTERNATELY, THEY MAY BE CUT AND REMOVED TO THE TOP OF THE EXISTING CONCRETE SURFACE.

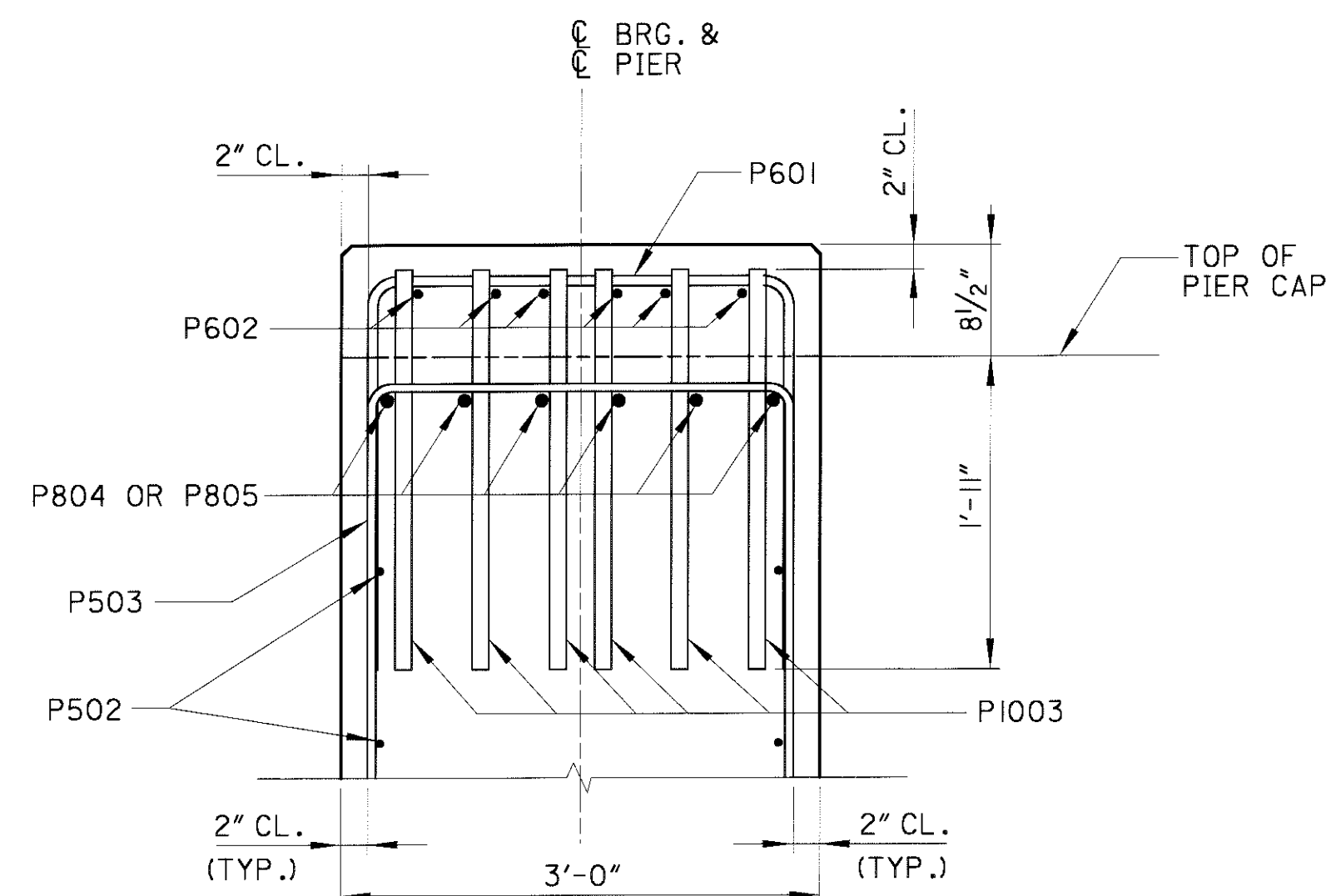
COST OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO PREPARE THE TOP SURFACES OF EXISTING PIER CAPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

FOR ADDITIONAL INFORMATION, REFER TO THE STRUCTURE GENERAL NOTES, SHEET 2/20.
2. ALL EXISTING REINFORCING BARS EXPOSED IN CONCRETE REMOVAL AT THE ENDS OF THE EXISTING PIER CAPS SHALL BE PRESERVED. EXTREME CARE SHALL BE TAKEN IN CONCRETE REMOVAL NOT TO DAMAGE EXISTING REINFORCING BARS. SEE THE GENERAL NOTES FOR ADDITIONAL INFORMATION.
3. LOCATION OF EXISTING REINFORCING BARS IS TAKEN FROM EXISTING PLANS AND IS THEREFORE INDICATIVE OF THE LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING THE BARS IN THE FIELD.

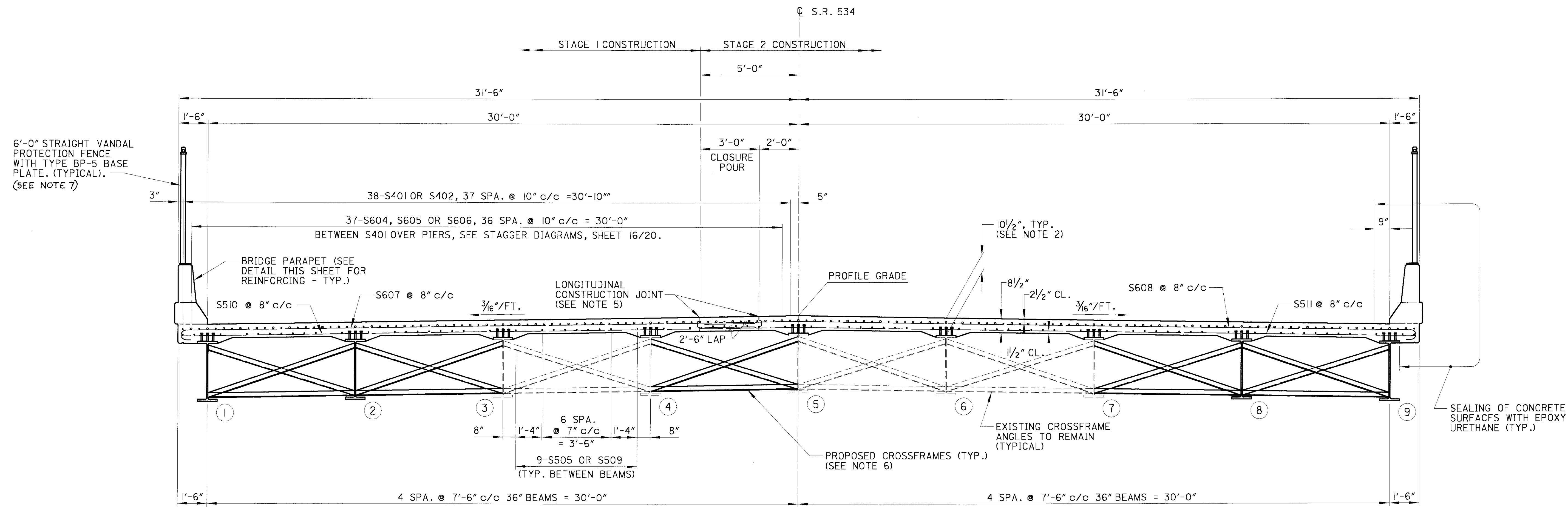
FOR ADDITIONAL NOTES, SEE SHEET 11/20.



DETAIL P-5
II

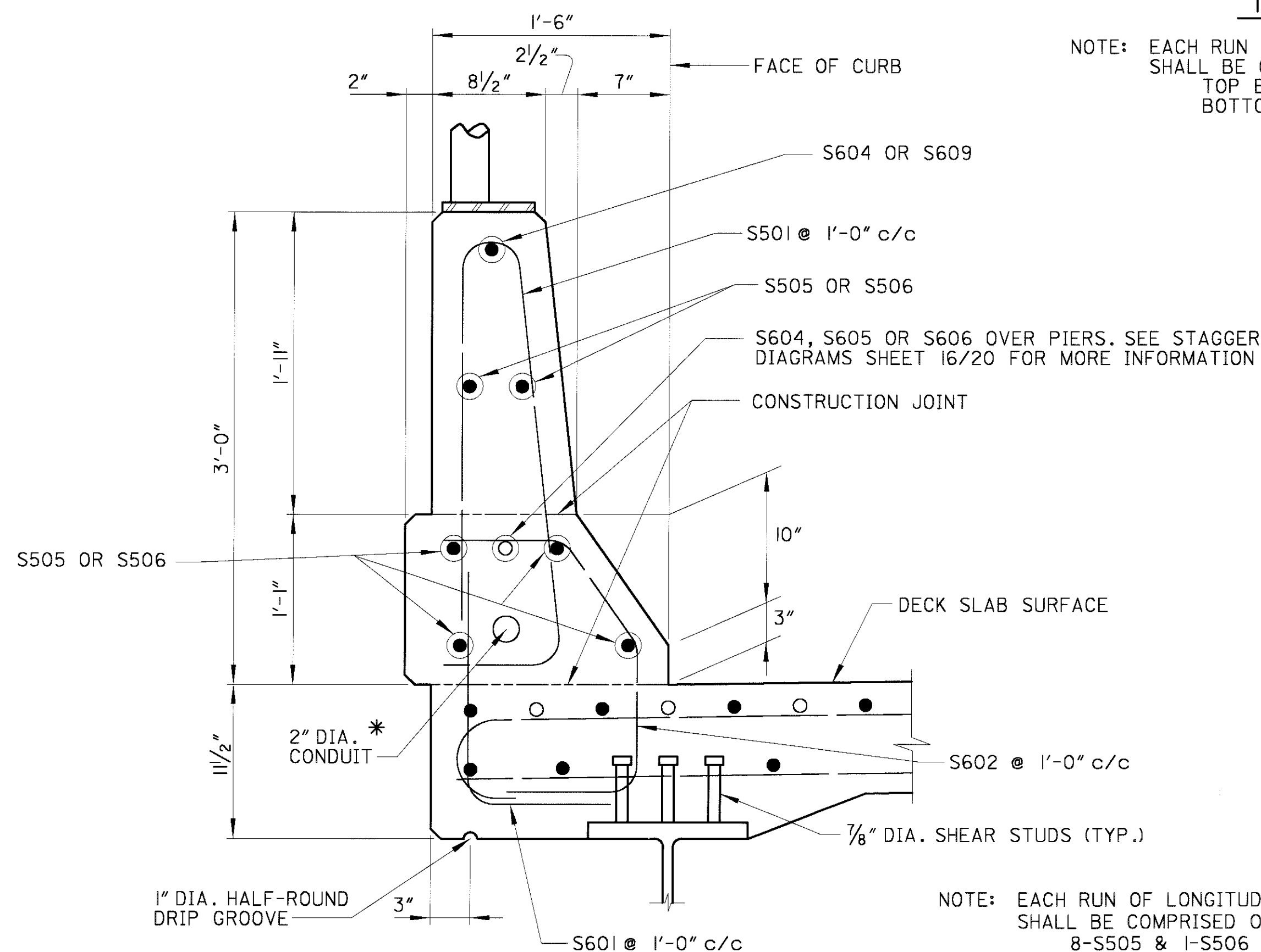


SECTION P-6
12



TRANSVERSE SECTION

NOTE: EACH RUN OF LONGITUDINAL DECK REINFORCING SHALL BE COMPRISED OF THE FOLLOWING:
 TOP BARS: 8-S401 & 2-S402, LAP 1'-6" MIN.
 BOTTOM BARS: 9-S505 & 1-S509, LAP 2'-0" MIN.

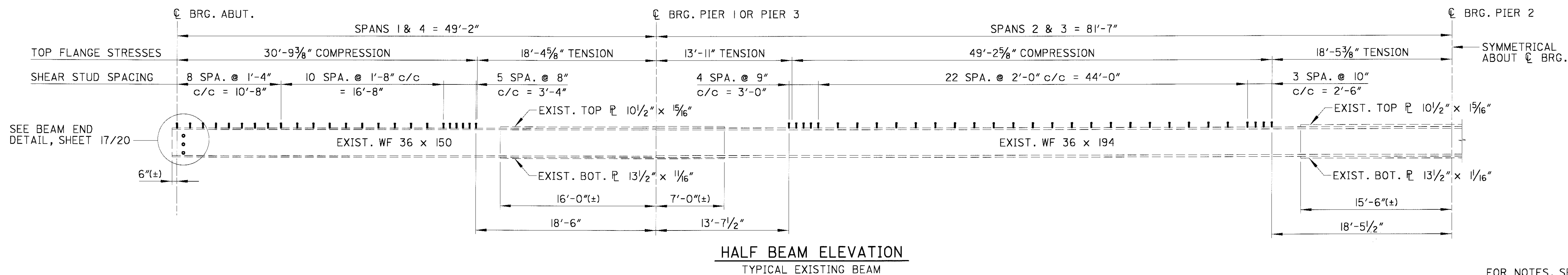
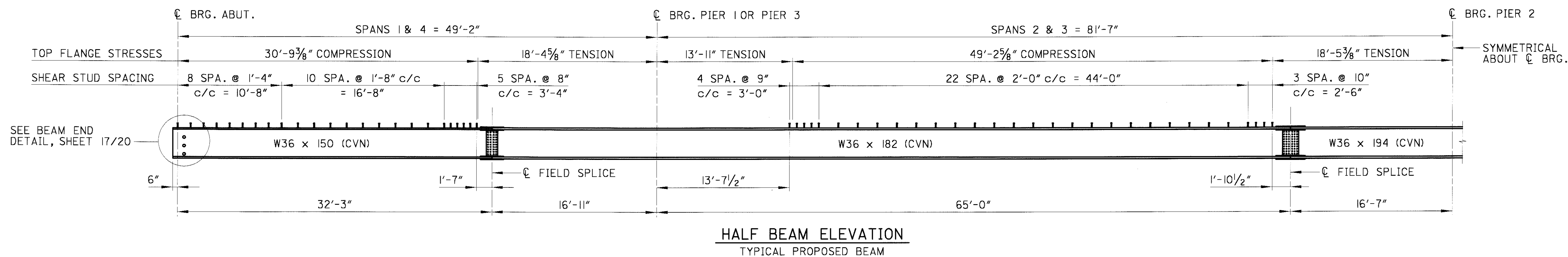
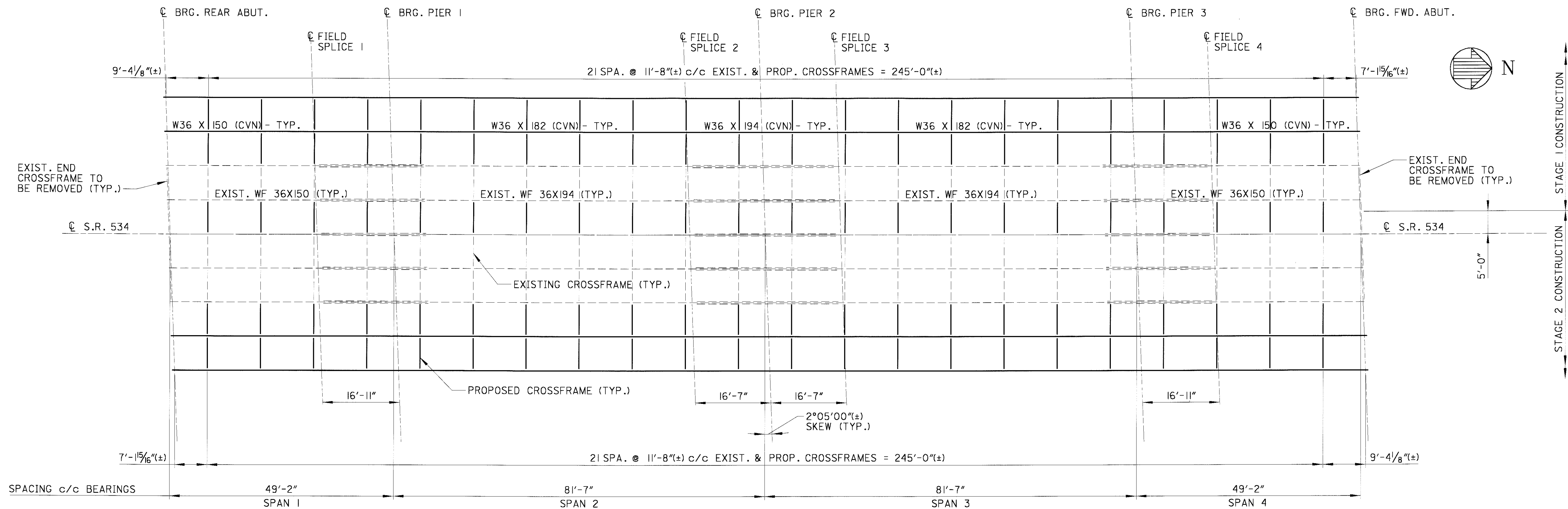


NOTE: EACH RUN OF LONGITUDINAL PARAPET REINFORCING SHALL BE COMPRISED OF THE FOLLOWING:
 8-S505 & 1-S506 (TYP. OF 6), LAP 2'-0" MIN.
 8-S604 & 1-S609 (TOP OF PARAPET), LAP 2'-6" MIN.

TYPICAL BRIDGE PARAPET DETAIL
 SEE STANDARD DRAWING BR-1 FOR MORE INFORMATION

NOTES

- FOR TRANSVERSE REINFORCEMENT SEE DECK SLAB PLAN SHEET 16/20.
- DECK SLAB DEPTH FOR CONCRETE QUANTITY: THE DIMENSION SHOWN FROM THE TOP OF THE CONCRETE DECK TO THE TOP OF THE FLANGE, MINUS THE DESIGN HAUNCH THICKNESS OF 2 INCHES, HAS BEEN USED FOR COMPUTING THE DECK CONCRETE QUANTITIES. CONCRETE REQUIRED TO FILL THE HAUNCHES, INCLUDING ADDITIONAL OR LESS MATERIAL REQUIRED DUE TO HAUNCH CONSTRUCTION TOLERANCES, SHALL BE CONSIDERED AS INCIDENTAL AND WILL NOT BE INCLUDED IN THE QUANTITY CALCULATIONS FOR PAYMENT.
- A HAUNCH WIDTH OF 9 INCHES SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6 AND 12 INCHES.
- LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN THE DECK SLAB EXCEPT AS SHOWN ON THE PLANS.
- THE TWO LONGITUDINAL CONSTRUCTION JOINTS SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE. THE WIDTH OF SEALING SHALL BE TWO FEET (2') CENTERED OVER THE JOINT. PAYMENT SHALL BE INCLUDED WITH ITEM 846 - TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN.
- PROPOSED CROSSFRAMES SHALL CONFORM TO STANDARD DWG. GSD-I-96 (TYPE I). THE CROSSFRAMES SHALL BE PLACED ACCORDING TO STAGE CONSTRUCTION DETAILS.
- FOR FENCE DETAILS SEE STANDARD DRAWING VPF-I-90M, FOR FENCE POST SPACING, SEE SHEET 16/20.
- FOR DECK SLAB PLAN SEE SHEET 16/20.



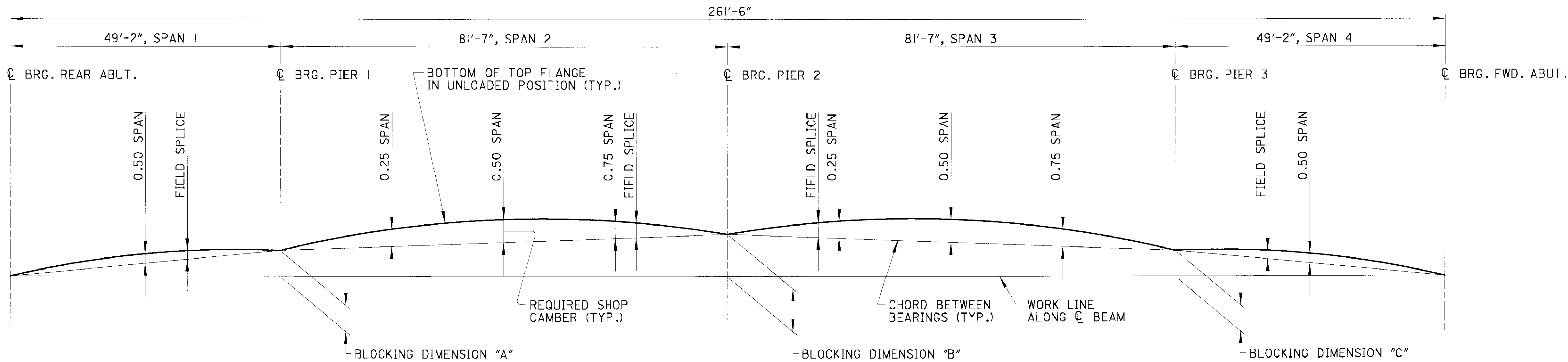
FOR NOTES, SEE SHEET 15/20.

DEFLECTION AND CAMBER (IN INCHES)													
BEAM NUMBER	CAMBER DESCRIPTION	SPAN 1		SPAN 2				SPAN 3				SPAN 4	
		0.50	℄ FIELD SPLICE	0.25	0.50	0.75	℄ FIELD SPLICE	℄ FIELD SPLICE	0.25	0.50	0.75	℄ FIELD SPLICE	0.50
① AND ⑨	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	1/8	3/16	1/16	1/16	1/16	1/16	3/16	1/8	0	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	1/16	1/16	5/16	1/2	5/16	3/16	3/16	5/16	1/2	5/16	1/16	1/16
	ADJUSTMENT FOR VERTICAL CURVATURE	5/16	1/4	9/16	3/4	9/16	1/2	1/2	9/16	3/4	9/16	1/4	5/16
	REQUIRED SHOP CAMBER	3/8	5/16	1	1 7/16	15/16	3/4	3/4	15/16	1 7/16	1	5/16	3/8
② AND ⑧	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	1/8	3/16	1/16	1/16	1/16	1/16	3/16	1/8	0	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	1/8	1/16	7/16	5/8	3/8	1/4	1/4	3/8	5/8	7/16	1/16	1/8
	ADJUSTMENT FOR VERTICAL CURVATURE	5/16	1/4	9/16	3/4	9/16	1/2	1/2	9/16	3/4	9/16	1/4	5/16
	REQUIRED SHOP CAMBER	7/16	5/16	1 1/8	1 9/16	1	13/16	13/16	1	1 9/16	1 1/8	5/16	7/16

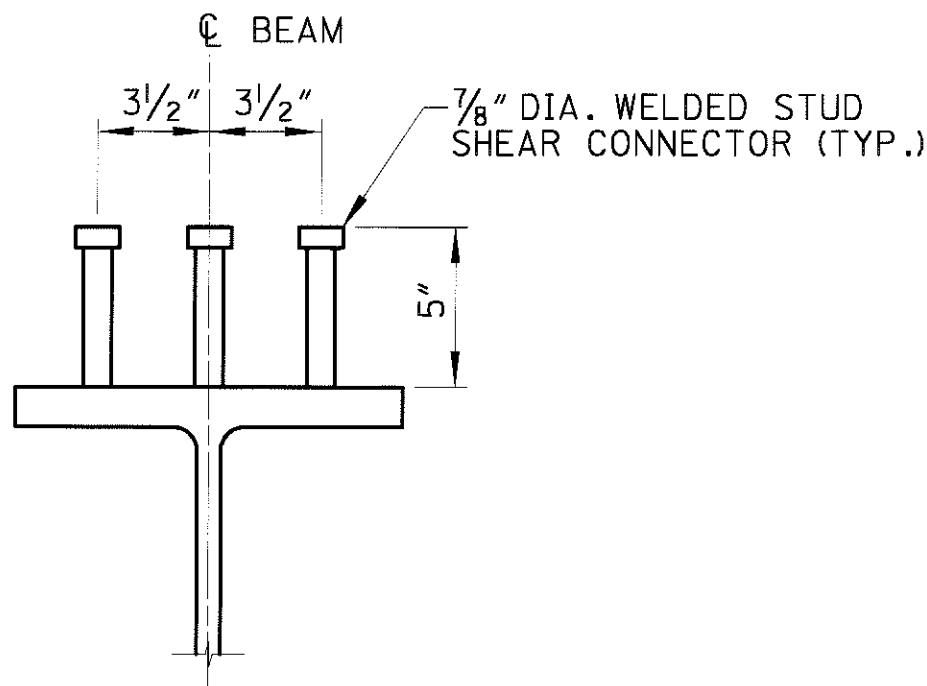
NOTE: POSITIVE DIMENSIONS INDICATE DOWNWARD DEFLECTION AND UPWARD CAMBER.

TABLE OF BLOCKING DIMENSIONS			
BEAM NUMBER	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"
①	4 3/4"	7 3/4"	4 3/4"
②	4 3/4"	7 3/4"	4 3/4"
⑧	4 3/4"	7 3/4"	4 3/4"
⑨	4 3/4"	7 3/4"	4 3/4"

NOTE: POSITIVE DIMENSIONS ARE ABOVE THE WORK LINE



CAMBER AND BLOCKING DIAGRAM



TYPICAL SHEAR CONNECTOR DETAIL
PROPOSED BEAM SHOWN, EXISTING BEAM SIMILAR

NOTES

- FOR BEARING DETAILS SEE SHEET 18/20.
FOR DETAILS OF BOLTED SPLICE, SEE STD. DWG. BS-I-93
- CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01
- WELDED ATTACHMENT: 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 COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG AND BE NOT SMALLER THAN 1/4" FOR THICKNESSES UP TO 3/4" AND 5/16" FOR GREATER THAN 3/4" THICK.
- WELDED STUD SHEAR CONNECTORS SHALL CONFORM TO AASHTO M-169 AND ITEM 863.

** FOR REINFORCING IN THE PARAPET
 TRANSITION, SEE SHEET 19/20.

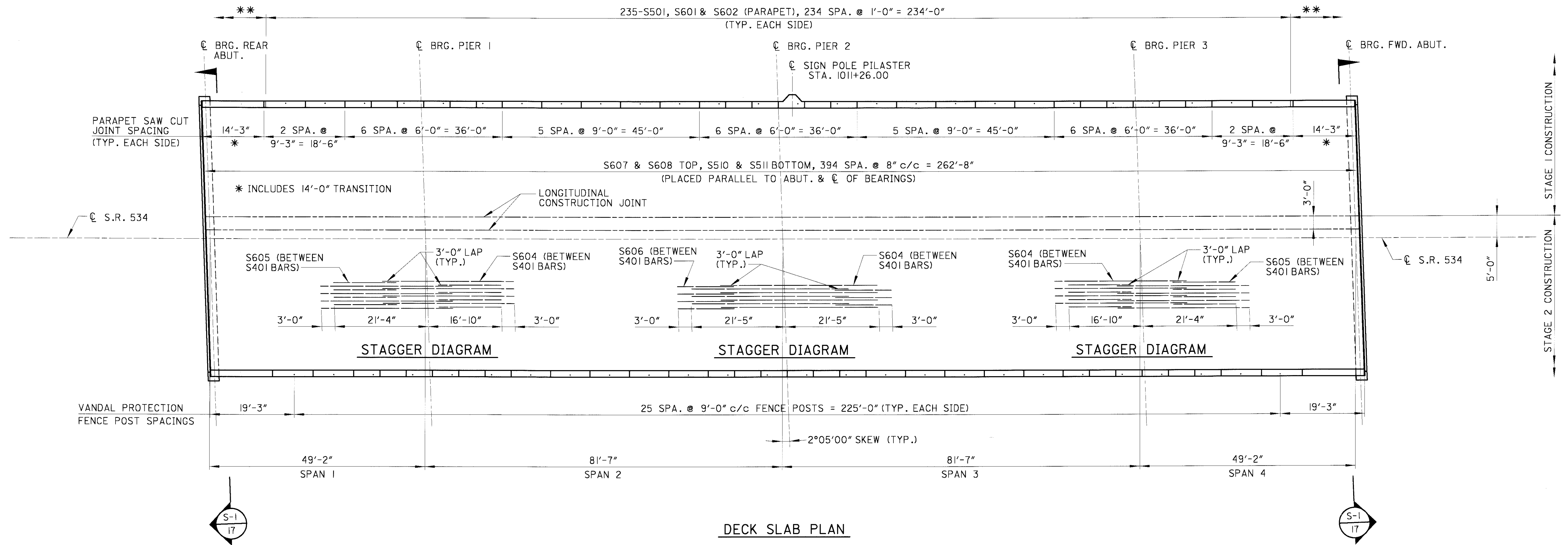


TABLE OF SCREED ELEVATIONS

TABLE OF SCREED ELEVATIONS															
LOCATION	SPAN 1				SPAN 2				SPAN 3				SPAN 4		
	℄ BRG R.A.	0.50	℄ FIELD SPLICE	℄ BRG PIER 1	0.25	0.50	℄ FIELD SPLICE	℄ BRG PIER 2	℄ FIELD SPLICE	0.50	0.75	℄ BRG PIER 3	℄ FIELD SPLICE	0.50	℄ BRG F.A.
BEAM ① & TOE/LEFT PARAPET	833.96	834.20	834.27	834.39	834.54	834.65	834.69	834.70	834.72	834.71	834.63	834.51	834.41	834.36	834.15
BEAM ②	834.08	834.33	834.39	834.51	834.67	834.78	834.81	834.82	834.84	834.83	834.75	834.62	834.52	834.48	834.26
BEAM ③	834.20	834.45	834.51	834.63	834.78	834.88	834.93	834.93	834.95	834.94	834.86	834.74	834.64	834.59	834.38
BEAM ④	834.32	834.57	834.63	834.75	834.90	835.00	835.04	835.05	835.07	835.06	834.98	834.85	834.75	834.71	834.49
LONGITUDINAL C.J. (STAGE 1)	834.36	834.61	834.67	834.79	834.93	835.04	835.08	835.09	835.11	835.09	835.01	834.89	834.79	834.74	834.53
LONGITUDINAL C.J. (STAGE 2)	834.41	834.65	834.71	834.83	834.98	835.09	835.13	835.14	835.15	835.14	835.06	834.94	834.84	834.79	834.58
BEAM ⑤ & PROFILE GRADE	834.44	834.69	834.74	834.86	835.01	835.12	835.16	835.17	835.18	835.17	835.09	834.97	834.87	834.82	834.61
BEAM ⑥	834.33	834.57	834.63	834.75	834.90	835.00	835.05	835.05	835.07	835.05	834.97	834.85	834.75	834.70	834.49
BEAM ⑦	834.21	834.46	834.51	834.63	834.78	834.89	834.93	834.93	834.95	834.94	834.86	834.73	834.63	834.58	834.37
BEAM ⑧	834.10	834.34	834.40	834.52	834.68	834.78	834.82	834.82	834.84	834.83	834.75	834.61	834.51	834.46	834.25
BEAM ⑨ & TOE/RIGHT PARAPET	833.98	834.22	834.29	834.40	834.55	834.66	834.70	834.70	834.71	834.70	834.62	834.49	834.39	834.34	834.13

NOTE: SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT.
 ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

NOTES:

- FOR LONGITUDINAL REINFORCING AND BEAM LOCATIONS, SEE TRANSVERSE SECTION, SHEET 13/20.
- FOR PARAPET TRANSITION DETAILS SEE SHEET 19/20.
- THE FOLLOWING ADDITIONAL REINFORCING STEEL IS REQUIRED AT THE SIGN POLE PILASTER:
 4-S512, 4-S513, 4-S514 & 6-S515. FOR SIGN POLE PILASTER DETAILS, SEE SHEET 19/20.

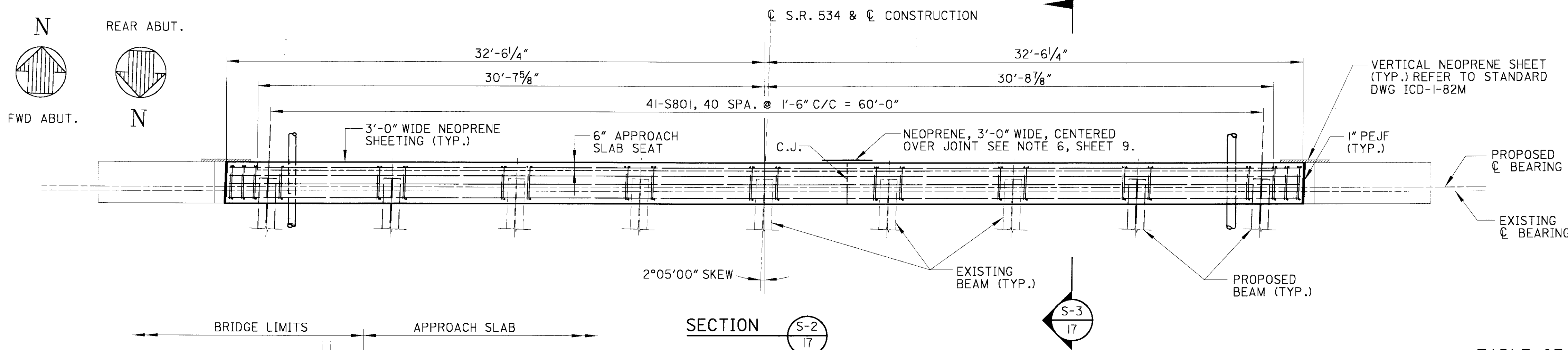
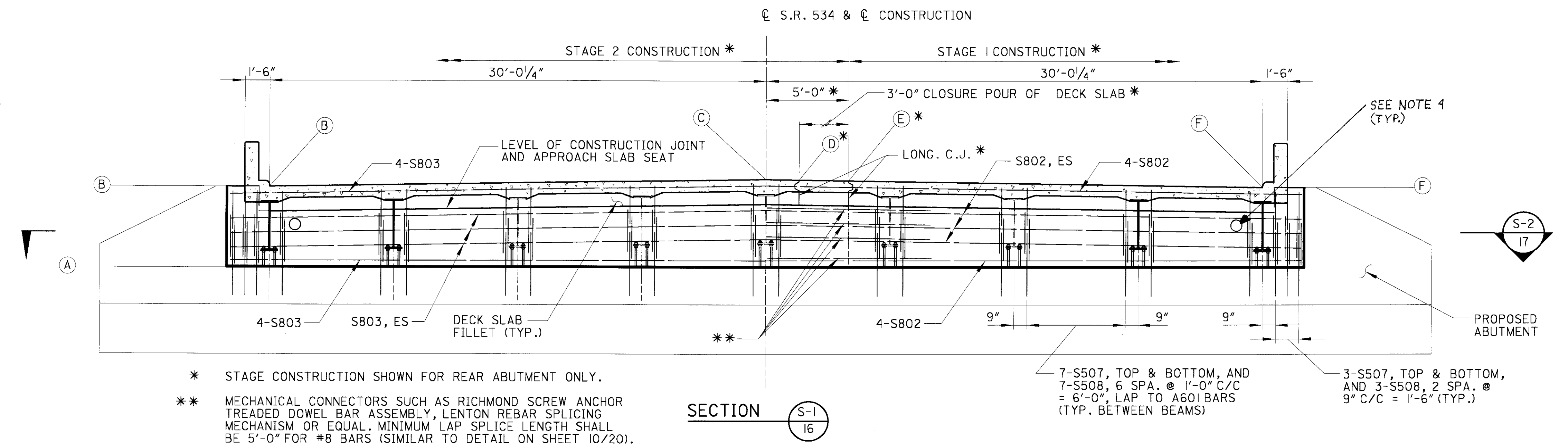


TABLE OF END DIAPHRAGM ELEVATIONS

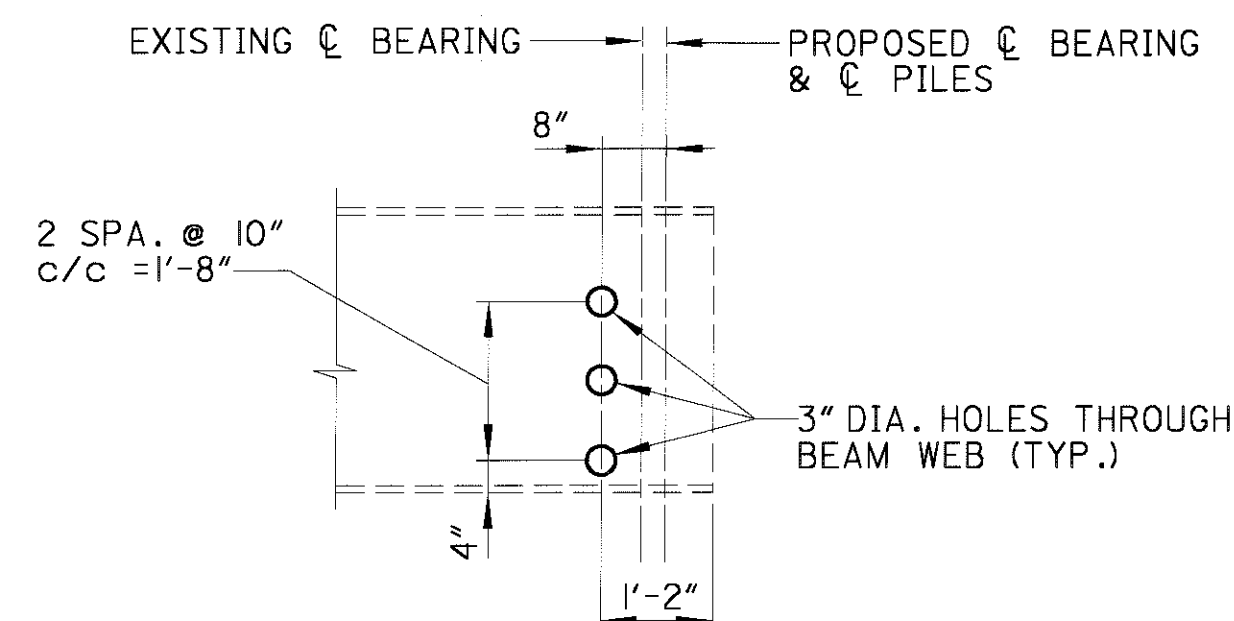
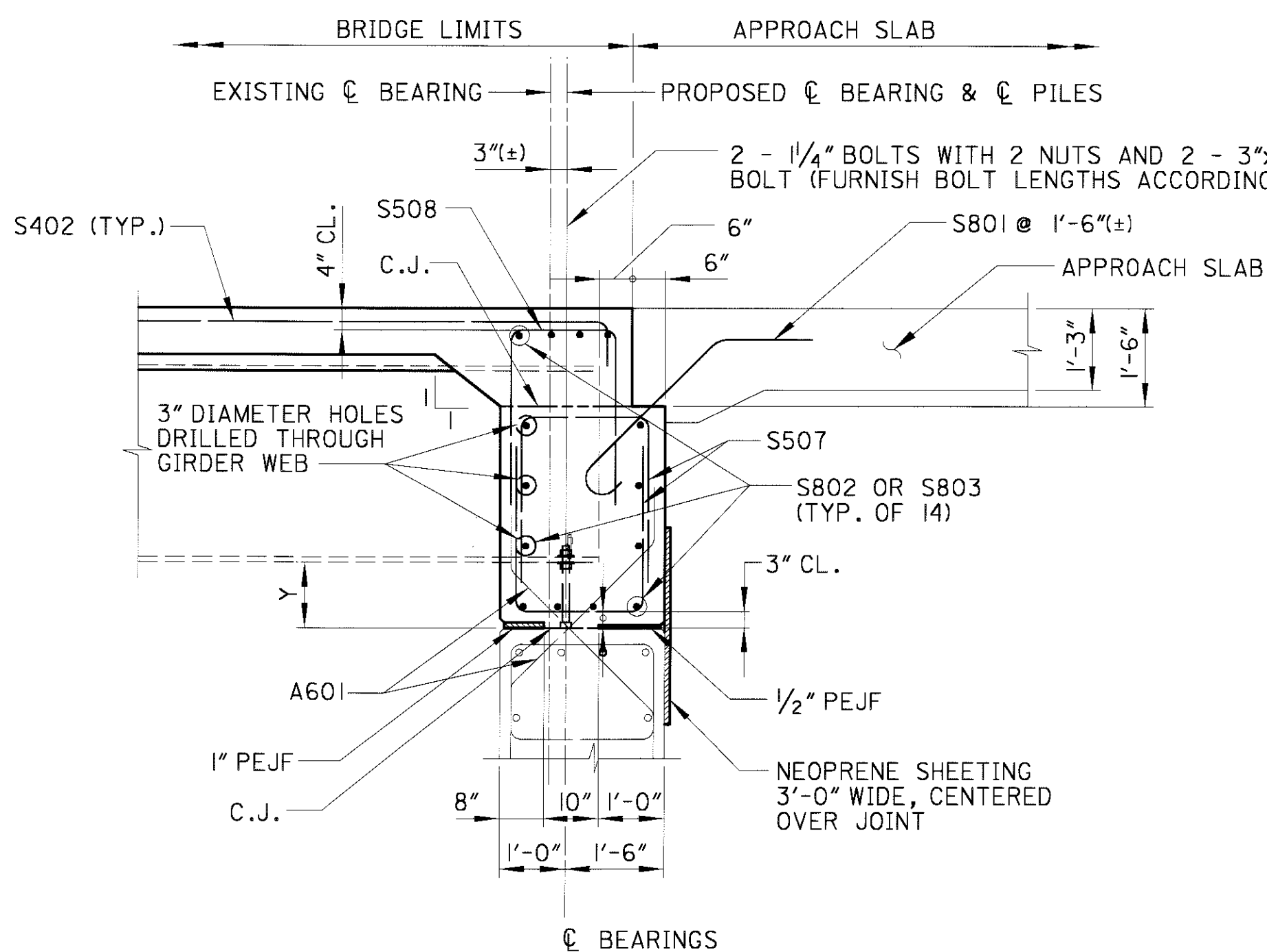
LOCATION	(A)	(B)	(C)	(D)	(E)	(F)
REAR ABUTMENT	829.09	833.98	834.44	834.41	834.36	833.96
FORWARD ABUTMENT	829.26	834.15	834.61	834.58	834.53	834.13

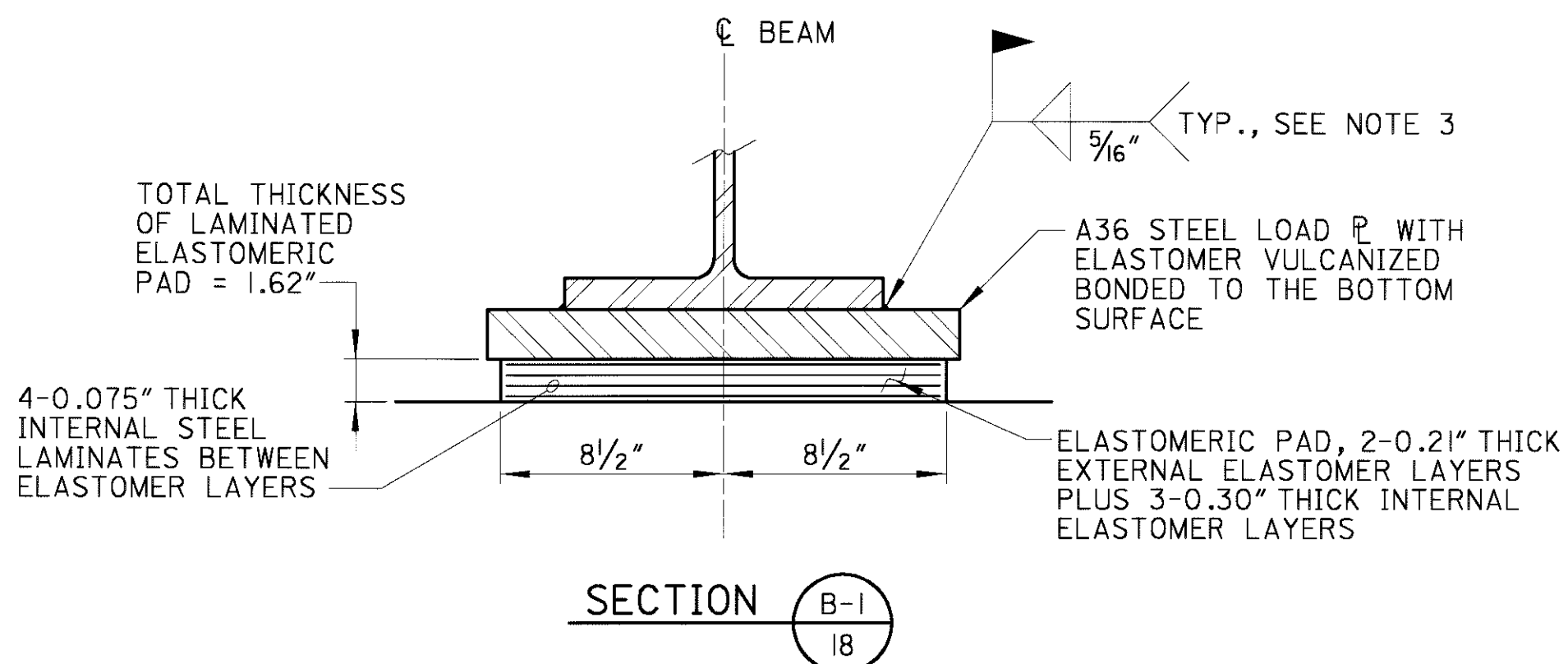
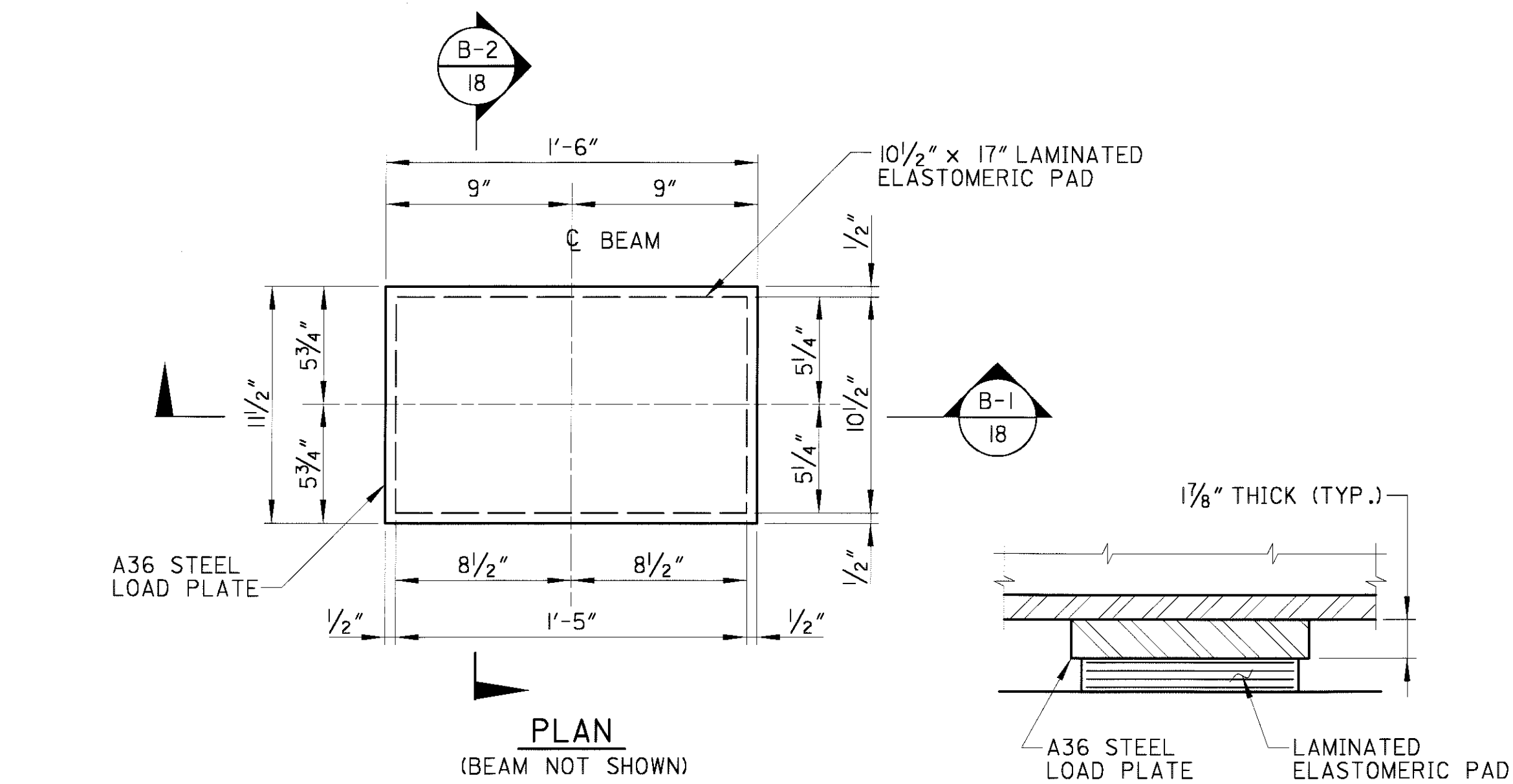
TABLE OF DIMENSION Y (IN INCHES)

BEAM NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
REAR ABUTMENT	12	13 1/16	14 9/16	16	17 1/16	16 1/16	14 1/16	13 5/8	12 5/16
FORWARD ABUTMENT	12 1/4	13 3/8	14 1/16	16 1/16	17 1/16	16	14 9/16	13 7/16	12

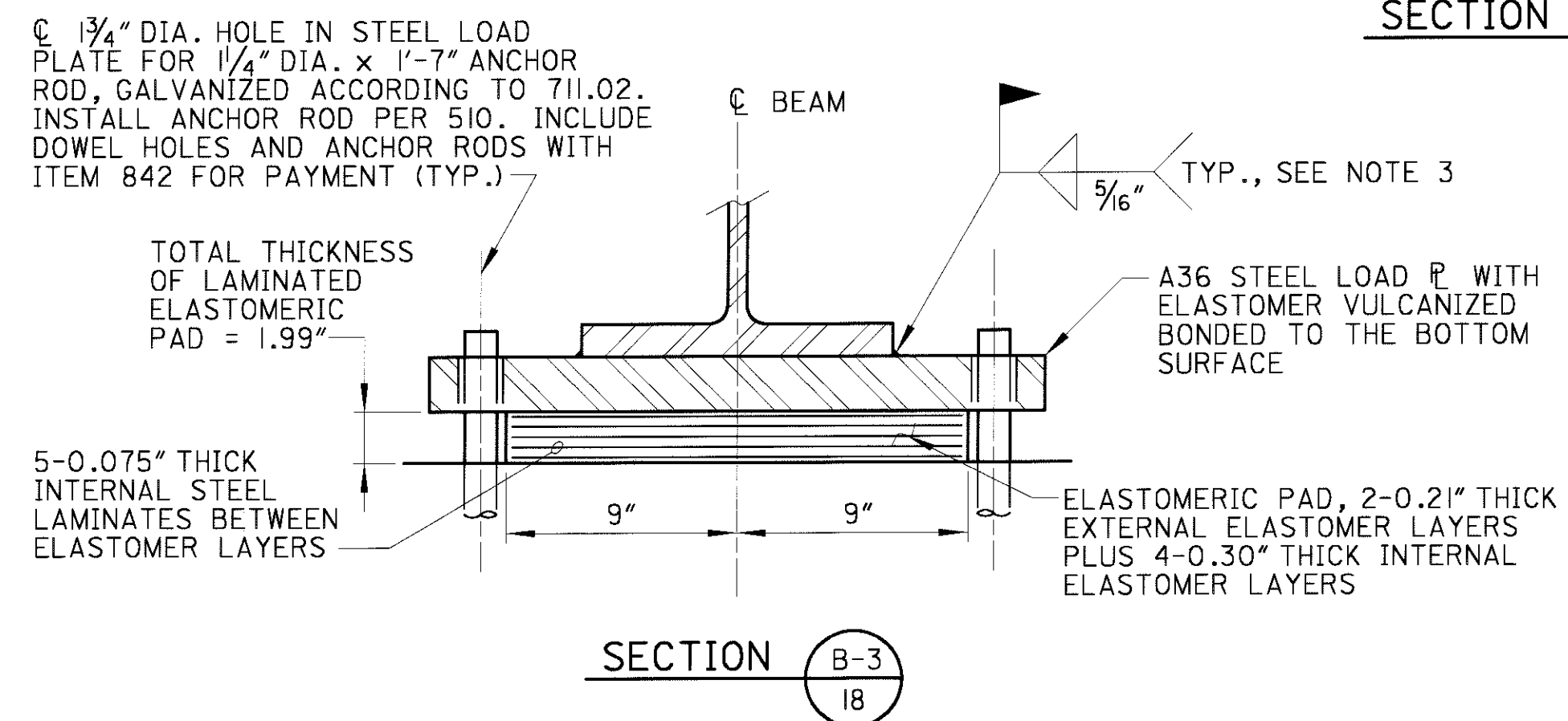
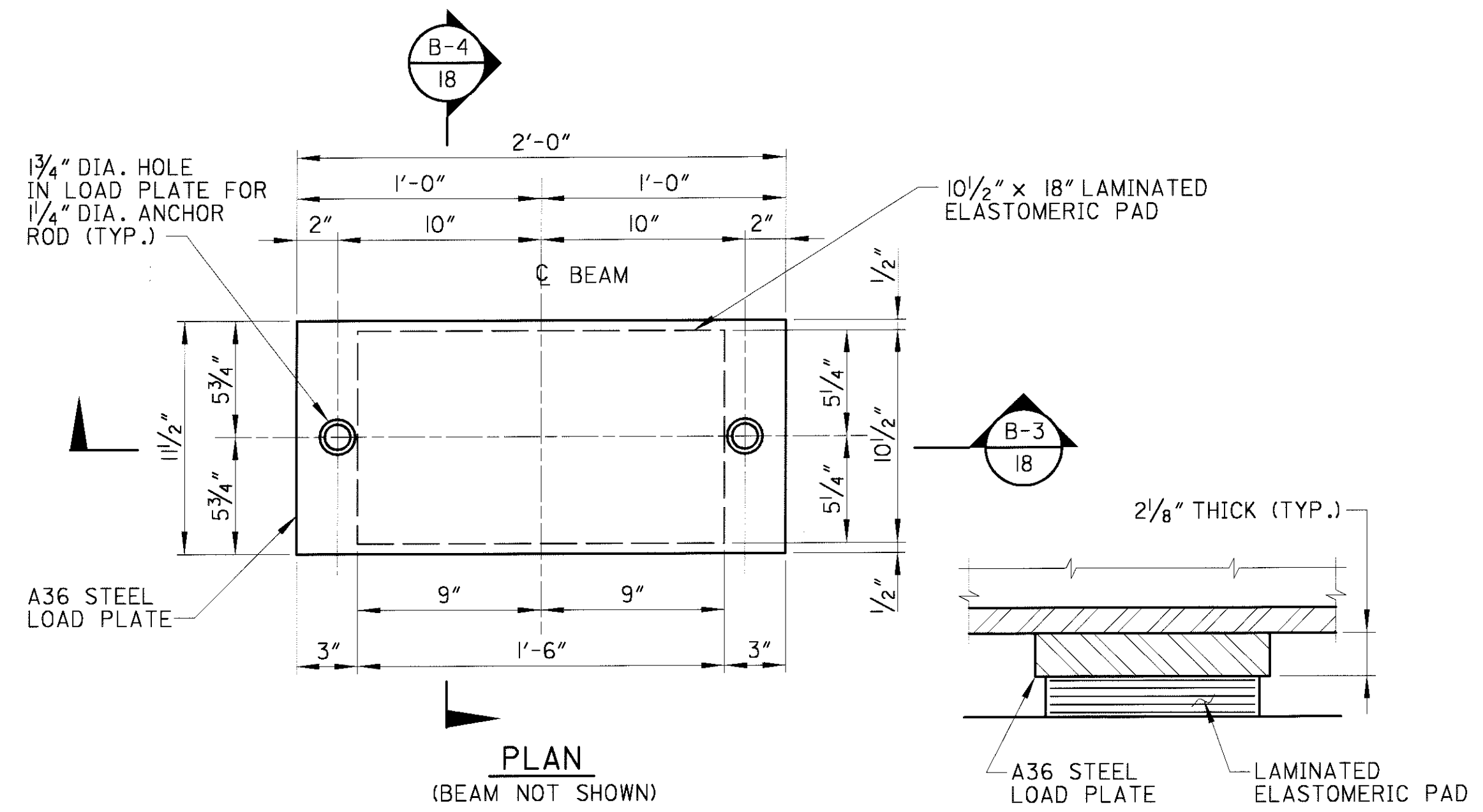
NOTE:

- PILES ARE NOT SHOWN IN THE END DIAPHRAGM ELEVATION.
- APPROACH SLAB SEAT AND CONSTRUCTION JOINT SHALL BE 1'-6" MINIMUM BELOW TOP OF GRADE ELEVATION.
- FOR ABUTMENT DETAILS, SEE SHEET 9/20.
- 2" ELECTRICAL CONDUIT TO MISS NEOPRENE SHEETING. SEE STD. CONST. DWG HL-30.32M, HL-30.31M FOR ADDITIONAL DETAILS.





EXPANSION BEARING
PIERS 1 & 3 - 18 REQUIRED



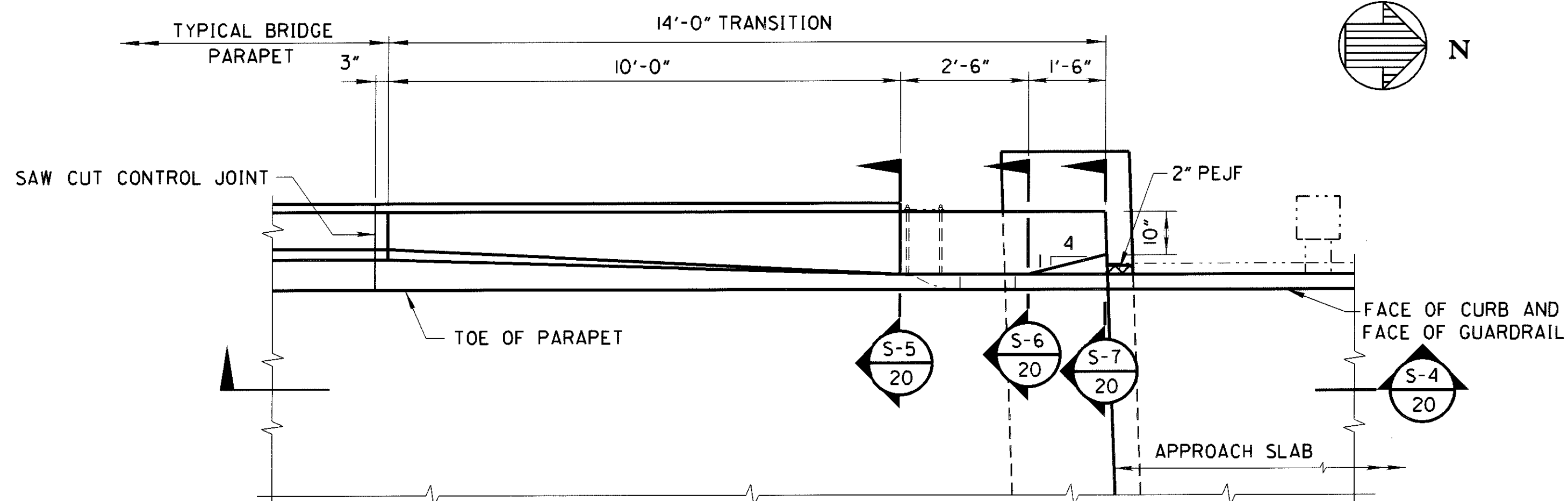
FIXED BEARING
PIER 2 - 9 REQUIRED

NOTES

1. BEARING DESIGN LOADS:

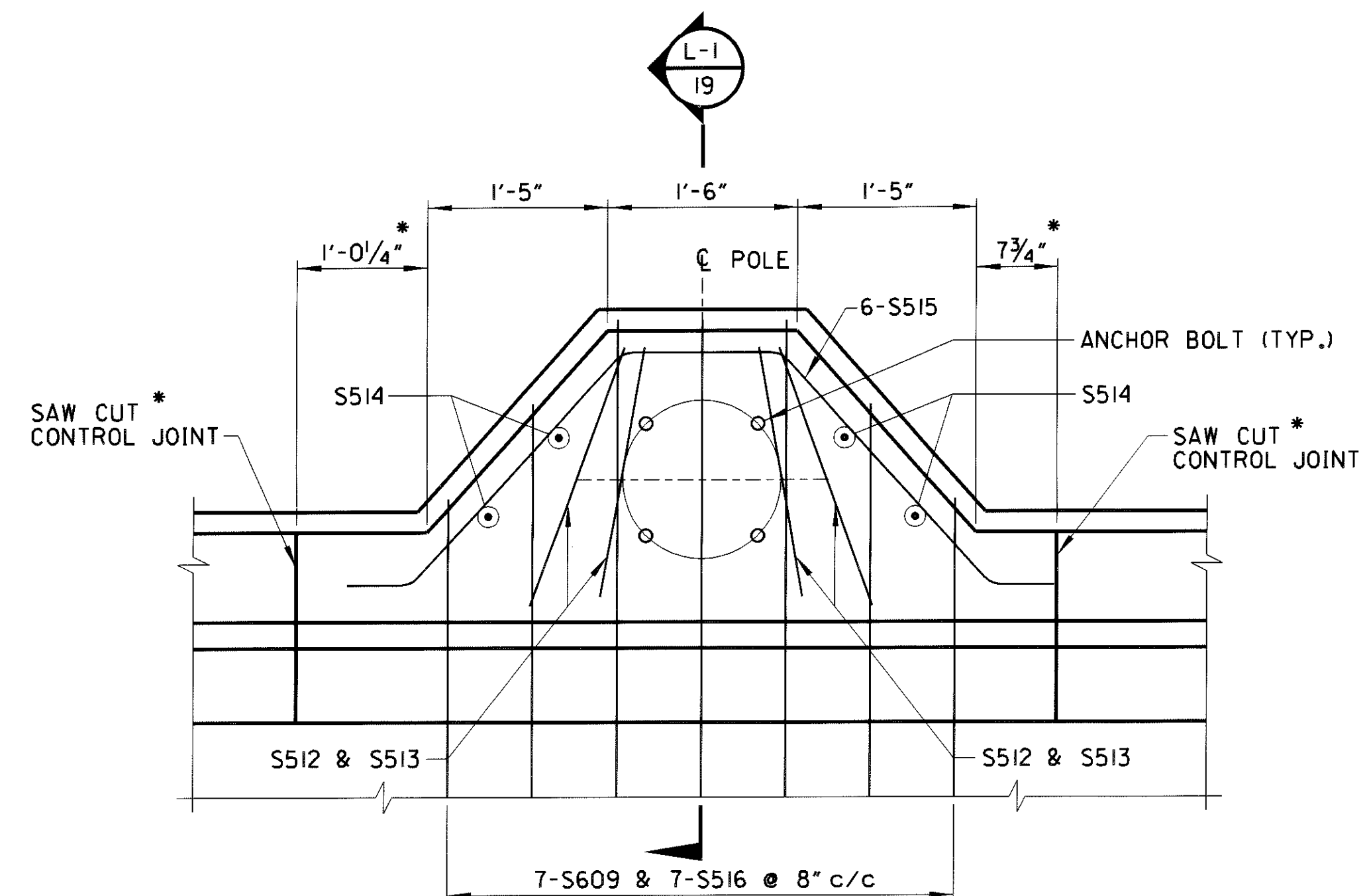
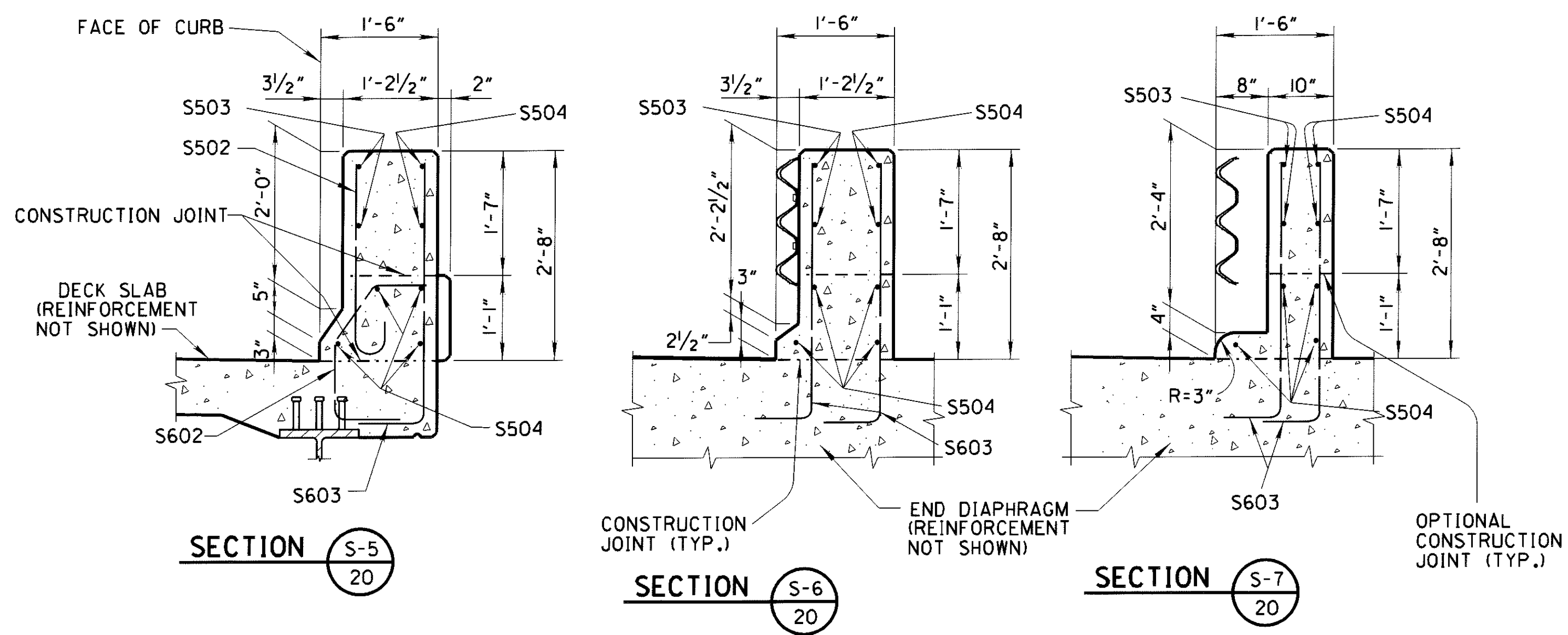
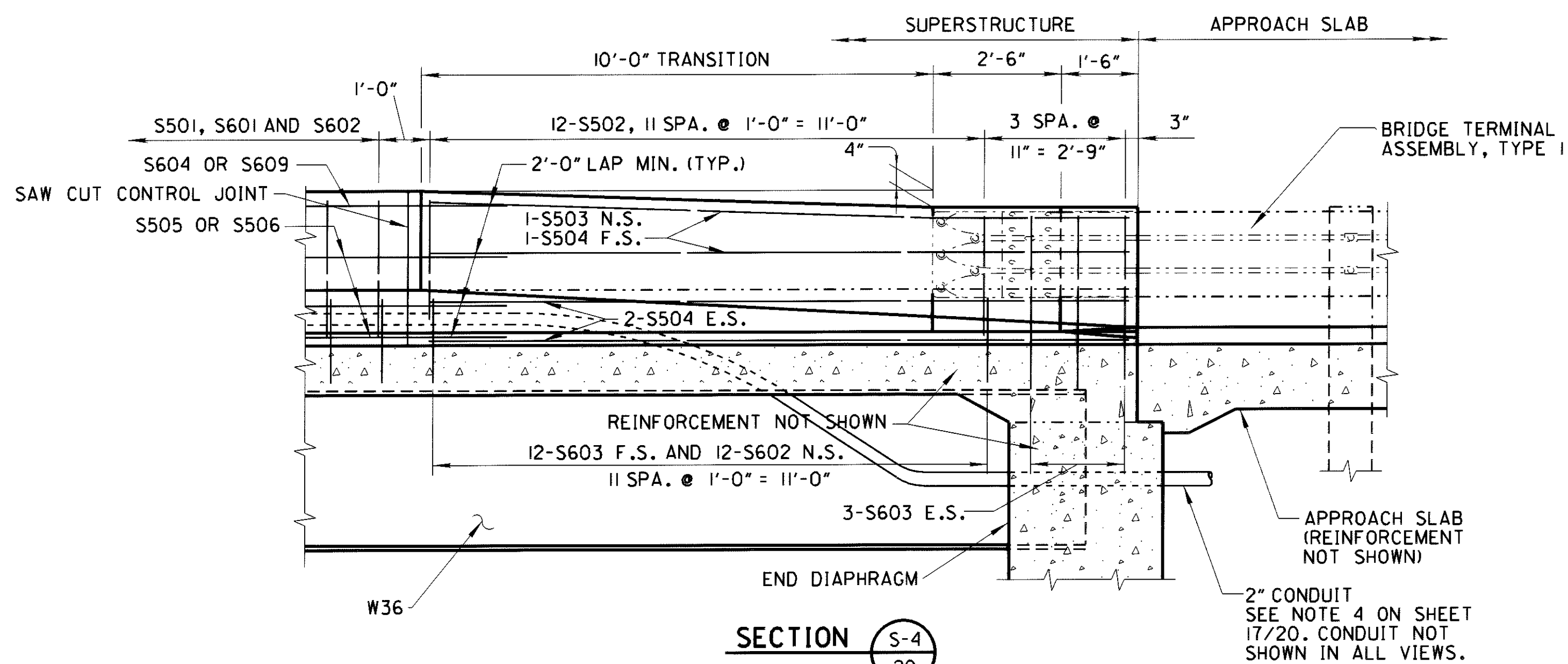
	EXPANSION BEARING (PIERS 1 & 3)	FIXED BEARING (PIER 2)
DEAD LOADS	108.7 K	135.0 K
LIVE LOADS (NO IMPACT)	51.7 K	57.8 K
TOTAL DESIGN LOAD	160.4 K	192.8 K

- A36 STEEL LOAD PLATES SHALL BE USED FOR ALL BEARINGS. THE LOAD PLATE SHALL BE VULCANIZED BONDED TO THE LAMINATED ELASTOMERIC PAD DURING THE MOLDING PROCESS.
- WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
- BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F (±) 10°F, THE BEAMS OR GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (±) 10°F.
- BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS AND STEEL LOAD PLATES. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
- ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND ARTICLE 18.7 OF SECTION 18, BEARINGS, DIVISION II, CONSTRUCTION OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES. BEARING MATERIAL SHALL BE GRADE 3, 50 DUROMETER ELASTOMER AND THE BEARING SHALL MEET THE LOAD TEST REQUIREMENTS FOR DESIGN METHOD A. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BEARINGS, EACH.



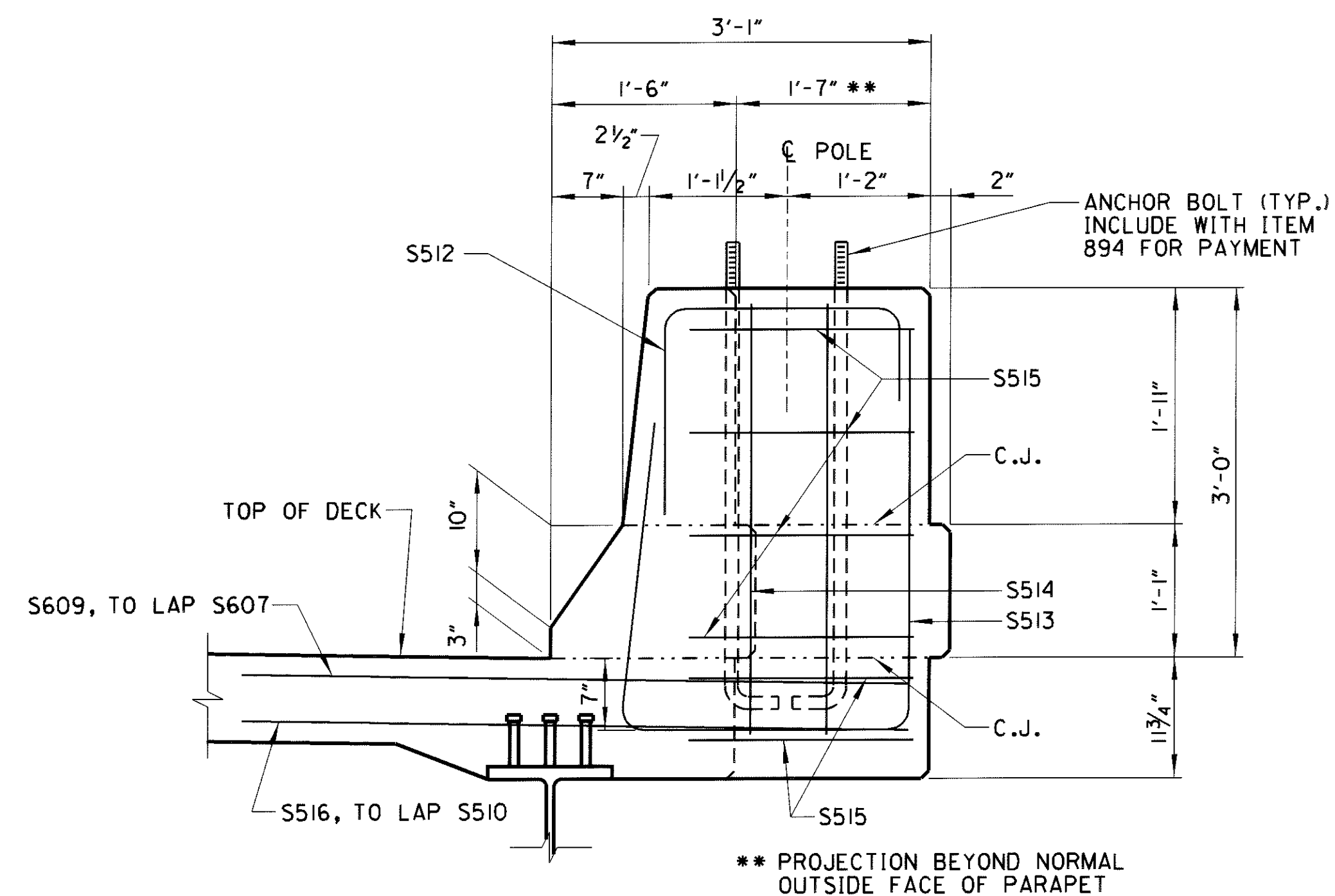
PARAPET - PART PLAN AT ABUTMENT

NORTHWEST PARAPET TRANSITION SHOWN,
NORTHEAST, SOUTHWEST AND SOUTHEAST
PARAPET TRANSITIONS SIMILAR.



* FOR SAW CUT SPACING, SEE DECK PLAN SHEET 16/20

PLAN



SECTION L-1/19

DECK SLAB REINFORCING NOT SHOWN
SIGN POLE PILASTER DETAILS

NOTES:

1. FOR TYPICAL BRIDGE PARAPET AND DECK SLAB REINFORCEMENT SEE DECK SLAB PLAN SHEET 16/20.
2. FOR TYPICAL BRIDGE PARAPET SECTION, SEE SHEET 13/20.
3. FOR BRIDGE TERMINAL ASSEMBLY TYPE I SEE STANDARD CONSTRUCTION DRAWING GR-3.IM.
4. TRANSVERSE AND LONGITUDINAL REINFORCING BARS AS SHOWN ON THE TYPICAL BRIDGE PARAPET DETAIL, SHEET 13/20, SHALL ALSO BE PROVIDED, CONTINUOUS THROUGH THE PILASTER.
5. FOR ADDITIONAL DETAILS NOT SHOWN, SEE ODOT STANDARD DRAWING TC-16.20M.

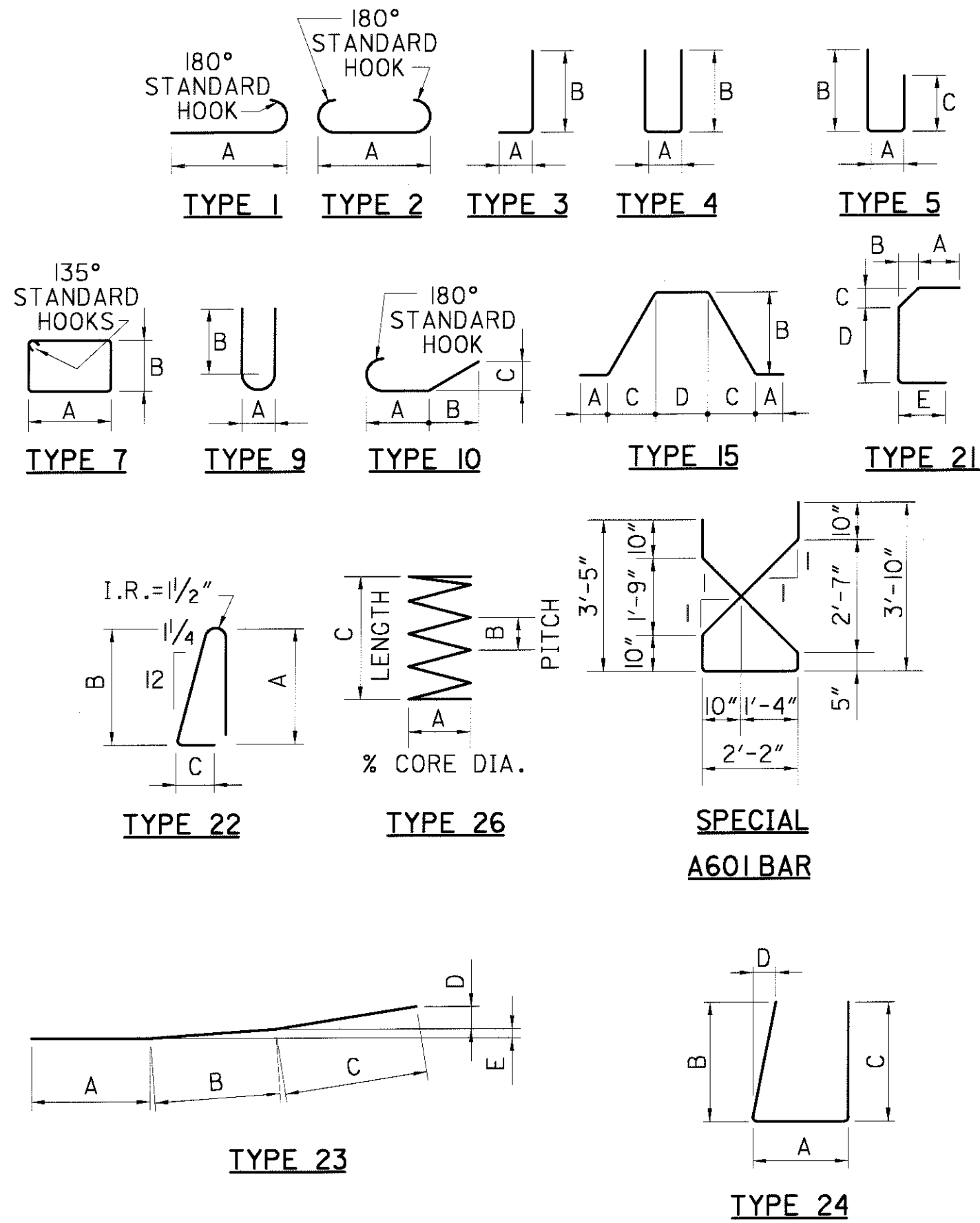
LEGEND:

N.S.=NEAR SIDE
F.S.=FAR SIDE
E.S.=EACH SIDE

REINFORCING STEEL LIST										
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	SER INC
REAR ABUTMENT										
A401	36	9'-2"	220	7	2'-6"	1'-10"				
A501	59	11'-0"	677	7	2'-8"	2'-7"				
A502	47	8'-11"	437	4	2'-2"	3'-6"				
A503	12	11'-11"	149	4	2'-2"	5'-0"				
A504	12	23'-6"	294	STR						
A505	6	37'-8"	236	STR						
A506	8	7'-2"	60	STR						
A507	4	4'-7"	19	STR						
A508	4	2'-1"	9	STR						
	2	6'-11"				2'-6"				
A509	SER OF		72	4	2'-2"					7"
	4	10'-5"				4'-3"				
A510	4	4'-7"	19	STR						
A511	4	7'-8"	32	STR						
A601	62	10'-9"	1001	SPECIAL						
A801	16	25'-0"	1068	STR						
A802	8	35'-0"	748	STR						
REAR ABUTMENT TOTAL =			5041	LBS.						
FORWARD ABUTMENT										
A401	36	9'-2"	220	7	2'-6"	1'-10"				
A501	59	11'-0"	677	7	2'-8"	2'-7"				
A502	47	8'-11"	437	4	2'-2"	3'-6"				
A503	12	11'-11"	149	4	2'-2"	5'-0"				
A505	6	37'-8"	236	STR						
A506	8	7'-2"	60	STR						
A507	4	4'-7"	19	STR						
A508	4	2'-1"	9	STR						
	2	6'-11"				2'-6"				
A509	SER OF		72	4	2'-2"					7"
	4	10'-5"				4'-3"				
A510	4	4'-7"	19	STR						
A511	4	7'-8"	32	STR						
A601	62	10'-9"	1001	SPECIAL						
A801	16	25'-0"	1068	STR						
A802	8	35'-0"	748	STR						
FORWARD ABUTMENT TOTAL =			5041	LBS.						

REINFORCING STEEL LIST										
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	SER INC
PIERS										
SP401	6	325'-6"	1305	26	2'-6"	4 1/2"	14'-5"			
P501	36	10'-2"	382	9	2'-8"	4'-4"				
P502	60	15'-0"	939	STR						
P503	96	8'-11"	893	4	2'-8"	3'-2"				
P504	6	14'-0"	88	STR						
P505	6	24'-0"	150	STR						
P506	120	2'-6"	313	STR						
P507	159	5'-5"	898	4	2'-8"	1'-6"				
P508	6	5'-1"	32	4	2'-4"	1'-6"				
P509	6	4'-5"	28	4	1'-8"	1'-6"				
P601	12	7'-3"	131	4	2'-8"	2'-6"				
P602	24	4'-2"	150	3	1'-10"	2'-6"				
P801	96	10'-6"	2691	2	8'-8"					
P802	12	15'-3"	489	STR						
P803	30	15'-9"	1262	STR						
P804	18	32'-4"	1554	3	3'-0"	29'-6"				
P805	18	40'-6"	1946	5	36'-6"	3'-0"	1'-5"			
P1001	60	10'-5"	2689	3	1'-10"	8'-11"				
P1002	60	19'-9"	5099	3	1'-10"	18'-3"				
P1003	24	4'-0"	413	3	2'-6"	1'-11"				
PIERS TOTAL =			20277	LBS.						
SUPERSTRUCTURE										
S401	608	30'-0"	12184	STR						
S402	152	19'-2"	1946	3	8"	18'-7"				
S501	470	6'-0"	2941	22	2'-6"	2'-9"	8"			
S502	48	3'-0"	150	1	2'-5"					
S503	8	13'-10"	115	23	10'-0"	2'-5"	1'-5"	1 1/2"	5"	
S504	24	13'-10"	346	STR						
S505	780	30'-0"	24406	STR						
S506	12	15'-6"	194	STR						
S507	248	6'-11"	1789	STR						
S508	124	6'-7"	851	4	1'-8"	2'-7"				
S509	76	11'-6"	912	STR						
S510	395	29'-1"	11982	STR						
S511	395	36'-1"	14866	STR						
S512	4	4'-1"	17	5	1'-11"	1'-8"	9"			
S513	4	7'-10"	33	24	2'-4"	2'-6"	3'-3"	3"		
S514	4	3'-6"	15	STR						
S515	6	7'-1"	44	15	6"	1'-10"	1'-8"	1'-3"		
S516	7	5'-5"	40	STR						
S601	470	2'-4"	1647	3	11"	1'-7"				
S602	518	2'-11"	2269	21	9"	6"	8 1/2"	9"	10 1/2"	
S603	72	3'-10"	415	3	11"	3'-1"				
S604	247	30'-0"	11130	STR						
S605	154	14'-2"	3277	STR						
S606	77	18'-10"	2178	STR						
S607	395	29'-9"	17650	1	29'-1"					
S608	395	36'-9"	21803	1	36'-1"					
S609	7	5'-5"	57	STR						
S801	82	4'-9"	1040	10	2'-0"	1'-0"	1'-0"			
S802	28	27'-2"	2031	STR						
S803	28	37'-2"	2779	STR						
SUPERSTRUCTURE TOTAL =			139107	LBS.						

BENDING DIAGRAMS



REINFORCING STEEL NOTES:

- SERIES BARS - EACH BAR VARIES BY TABULATED AMOUNT.
- ALL DIMENSIONS ARE OUT TO OUT.
- TYPE 'STR' INDICATES A STRAIGHT BAR.
- THE BAR SIZE NUMBER IS SPECIFIED IN THE 'MARK' COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A #5 BAR SIZE.
- ALL BARS SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE.
- SUBTOTALS AND TOTAL WEIGHTS ARE FOR INFORMATIONAL PURPOSES ONLY. IF THE REINFORCING LIST PROVIDED IN THE PLANS IS USED IT SHALL BE VERIFIED BY THE CONTRACTOR. ANY REVISIONS IN THE REINFORCING STEEL LIST AS SHOWN IN THE PLANS WILL NOT BE REASON FOR ADJUSTMENT IN THE BID PRICE FOR STRUCTURAL CONCRETE.