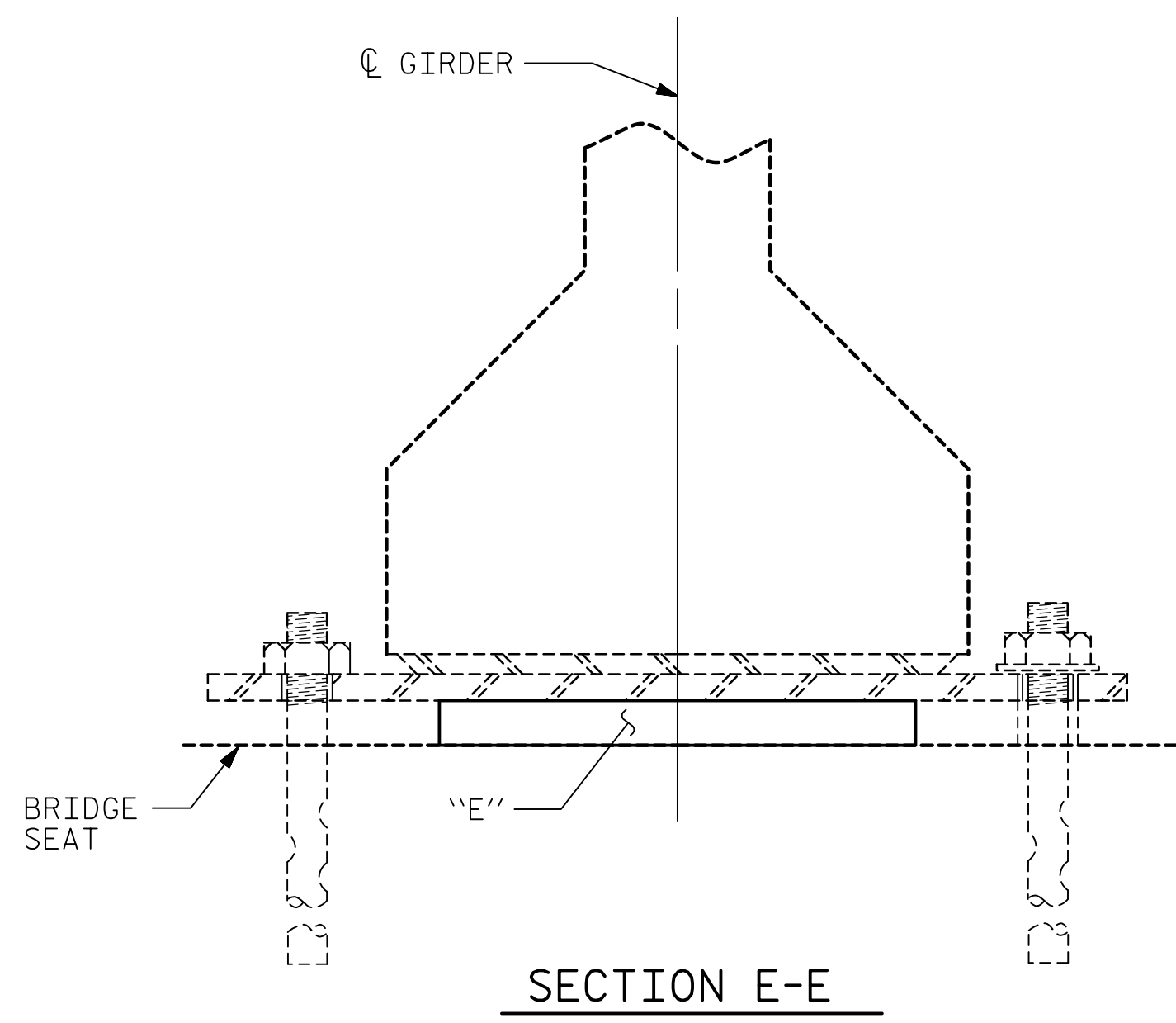
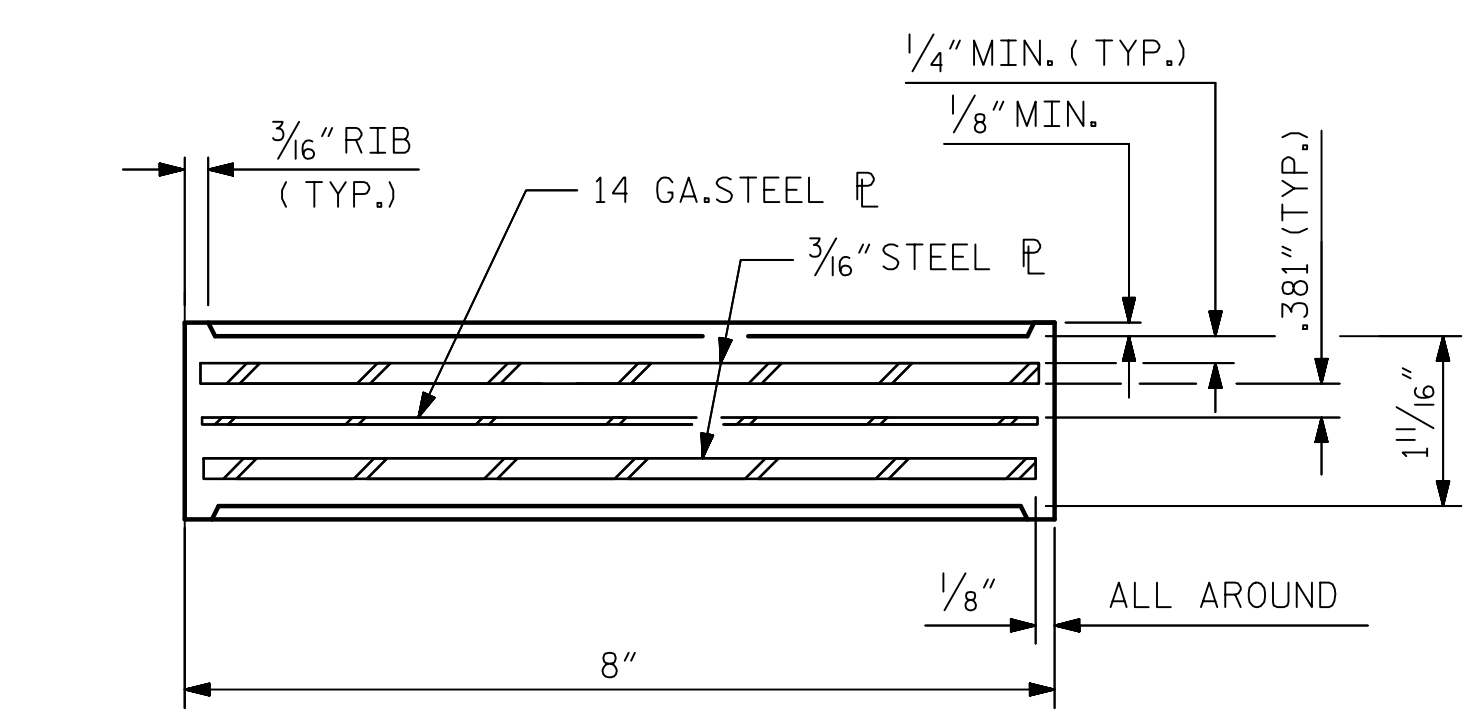


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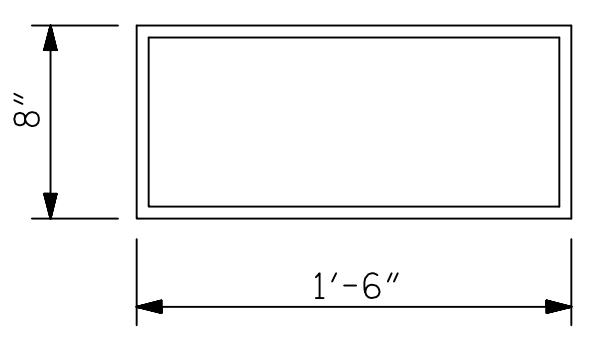
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SECTION E-E



TYPICAL SECTION OF ELASTOMERIC BEARINGS

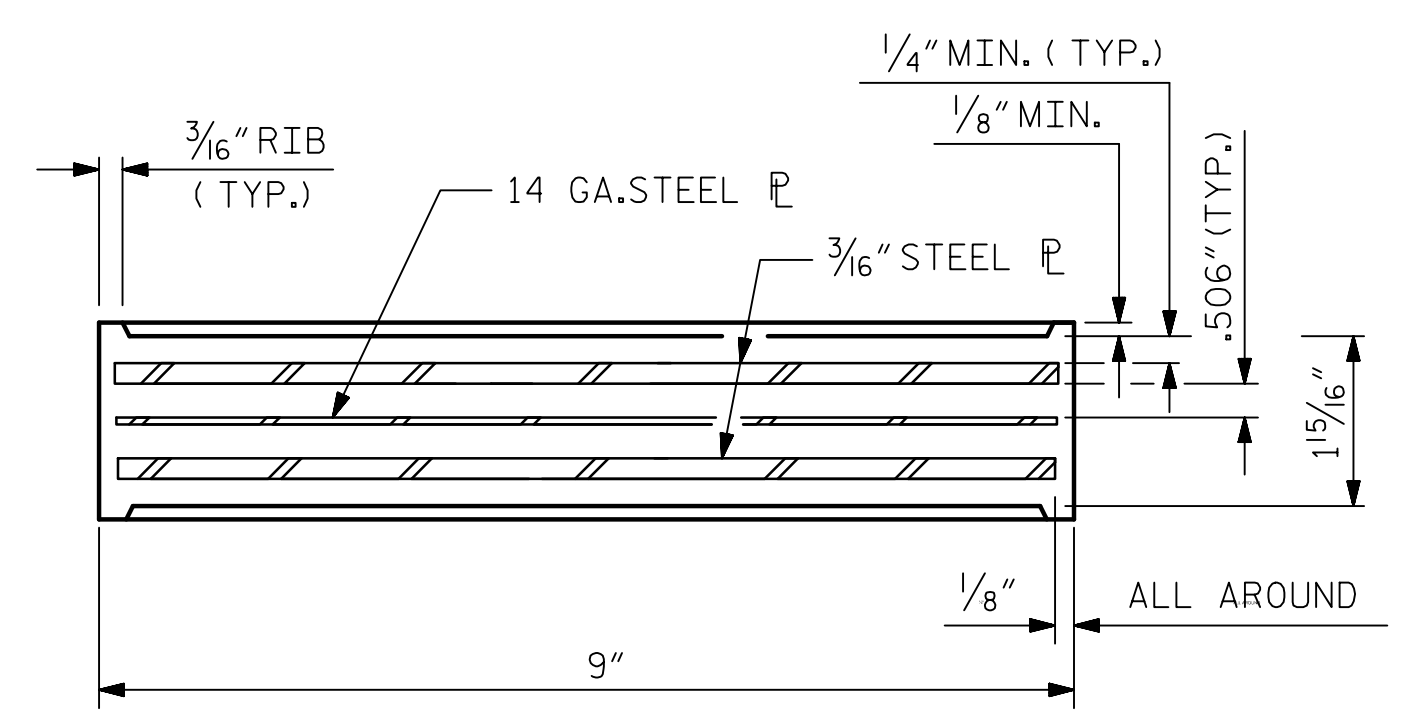


E5 (20 REQ'D)

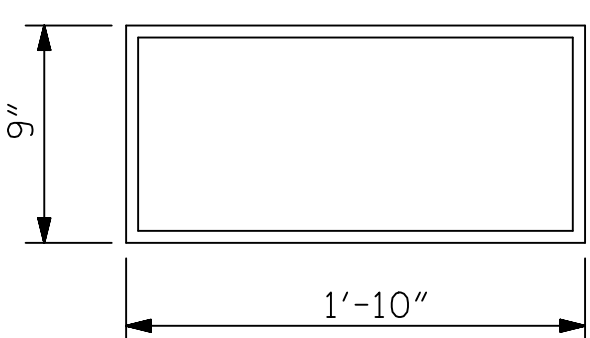
PLAN VIEW OF ELASTOMERIC BEARING

TYPE III

REPLACE ALL EXISTING BEARINGS IN SPANS C AND D



TYPICAL SECTION OF ELASTOMERIC BEARINGS



E6 (20 REQ'D)

PLAN VIEW OF ELASTOMERIC BEARING

TYPE IV

REPLACE ALL EXISTING BEARINGS IN SPANS A AND B

ELASTOMERIC BEARING NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

THE ELASTOMER IN THE STEEL REINFORCED BEARINGS SHALL HAVE A SHEAR MODULUS OF 0.160 KSI, IN ACCORDANCE WITH AASHTO M251.

FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

MAXIMUM ALLOWABLE SERVICE LOADS	
D.L.+L.L. (NO IMPACT)	
TYPE II	145K
TYPE III	205K
TYPE IV	225K

ESTIMATED JACKING LOADS

VALUES ARE FOR ENTIRE SUPERSTRUCTURE, ADDITIONAL LOAD TO DEFLECT CONTINUOUS UNIT. LIVE LOADS ARE NOT INCLUDED.

END BENT 1	557K
BENT 1	1150K
BENT 2	555k (SPAN B ONLY)
BENT 2	335k (SPAN C ONLY)
BENT 3	700K
END BENT 2	337K

NOTES (BRIDGE JACKING):

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL SUBMIT JACKING PLANS AND CALCULATIONS FOR REVIEW AND APPROVAL PRIOR TO MATERIAL PURCHASE OR FABRICATION OF THE JACKING SYSTEM. JACKING PLANS AND CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN NORTH CAROLINA.

ALL BEAMS AT A SUBSTRUCTURE UNIT WITHIN A SUPERSTRUCTURE UNIT SHALL BE LIFTED AT THE SAME TIME WITH A HYDRAULIC JACKING SYSTEM AND THE SAME DISPLACEMENT (TYPE II JACKING).

THE BEAMS SHALL BE LIFTED ENOUGH THAT THE BEAMS CLEAR THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE THE CONTRACTOR SHALL PROVIDE A METHOD TO SUPPORT THE BEAM FOR DEAD AND LIVE LOADS AND REMOVE THE JACKS DURING REPAIR OPERATIONS. IF THE JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION, THEY SHALL HAVE MECHANICAL LOCK-OFF CAPABILITIES.

IF DURING THE JACKING PROCESS, OR WHILE THE BEAM IS BEING SUPPORTED, THE BEAM SHIFTS FROM ITS ORIGINAL POSITION, ALL WORK SHALL CEASE, THE BRIDGE SHALL BE CLOSED TO TRAFFIC, AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE BEAMS FROM BEING LIFTED.

THE MAXIMUM JACKING AT THE END BENTS OR BENT 2 IS 1/4" WITHOUT INSTALLING TRAFFIC BEARING SHIM PLATES. SEE SPECIAL PROVISIONS.

REACTIONS AND ESTIMATED JACKING FORCES LISTED ARE FOR THE CONVENIENCE OF THE CONTRACTOR AND SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY TO PREPARE AND SUBMIT JACKING PLANS AND CALCULATIONS PRIOR TO BEGINNING WORK.

JACKING SCHEMATICS SHOWN ARE FOR REPRESENTATION ONLY AND ARE NOT WORKING DETAILS. CONTRACTOR SHALL COMPLETELY DESIGN JACKING PLAN. SEE SPECIAL PROVISIONS.

BRIDGE SHALL BE CLOSED TO TRAFFIC DURING HYDRAULIC LIFTING OPERATIONS UNTIL LIFTING IS COMPLETE AND BEAMS ARE SUPPORTED BY MEANS OTHER THAN HYDRAULICS, UNLESS ALLOWED BY THE ENGINEER. ALL TRAFFIC CLOSURES SHALL BE COORDINATED WITH THE ENGINEER TWO WEEKS PRIOR TO JACKING OPERATIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED TO THE EXISTING STRUCTURE BY THE BRIDGE JACKING OPERATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL JACKS AS NECESSARY. A BLOCKING PLAN SHALL BE INCLUDED AS PART OF THE JACKING PLAN.

THE CONTRACTOR SHALL MONITOR THE PLAN LOCATION OF THE GIRDERS FROM INITIAL JACKING UNTIL GIRDERS ARE SECURED ON THEIR PERMANENT BEARINGS. IF THE PLAN LOCATION OF THESE GIRDERS SHIFT FROM ITS ORIGINAL POSITION, THE CONTRACTOR SHALL SECURE FROM ADDITIONAL MOVEMENT IMMEDIATELY. NOTIFY ENGINEER PRIOR TO PROCEEDING WORK OPERATIONS.

CONTRACTOR TO TAKE APPROPRIATE MEANS TO REMOVE NUT ON ANCHOR BOLT WITHOUT DAMAGING THE ANCHOR BOLT. CONTRACTOR SHALL SUBMIT NUT REMOVAL METHOD TO INCLUDE PROCEDURES THAT WILL LOOSEN BOND BETWEEN INTERLOCKING THREADS TO ENGINEER FOR APPROVAL PRIOR TO REMOVING ANCHOR BOLT NUTS.

JACKING SHALL BE CONDUCTED IN A MANNER SUCH THAT THE SUPERSTRUCTURE WILL NOT BE DAMAGED.

EFFECT OF VIBRATIONS FROM TRAFFIC SHOULD BE CONSIDERED DURING JACKING AND WHEN JACKS ARE LOCKED.

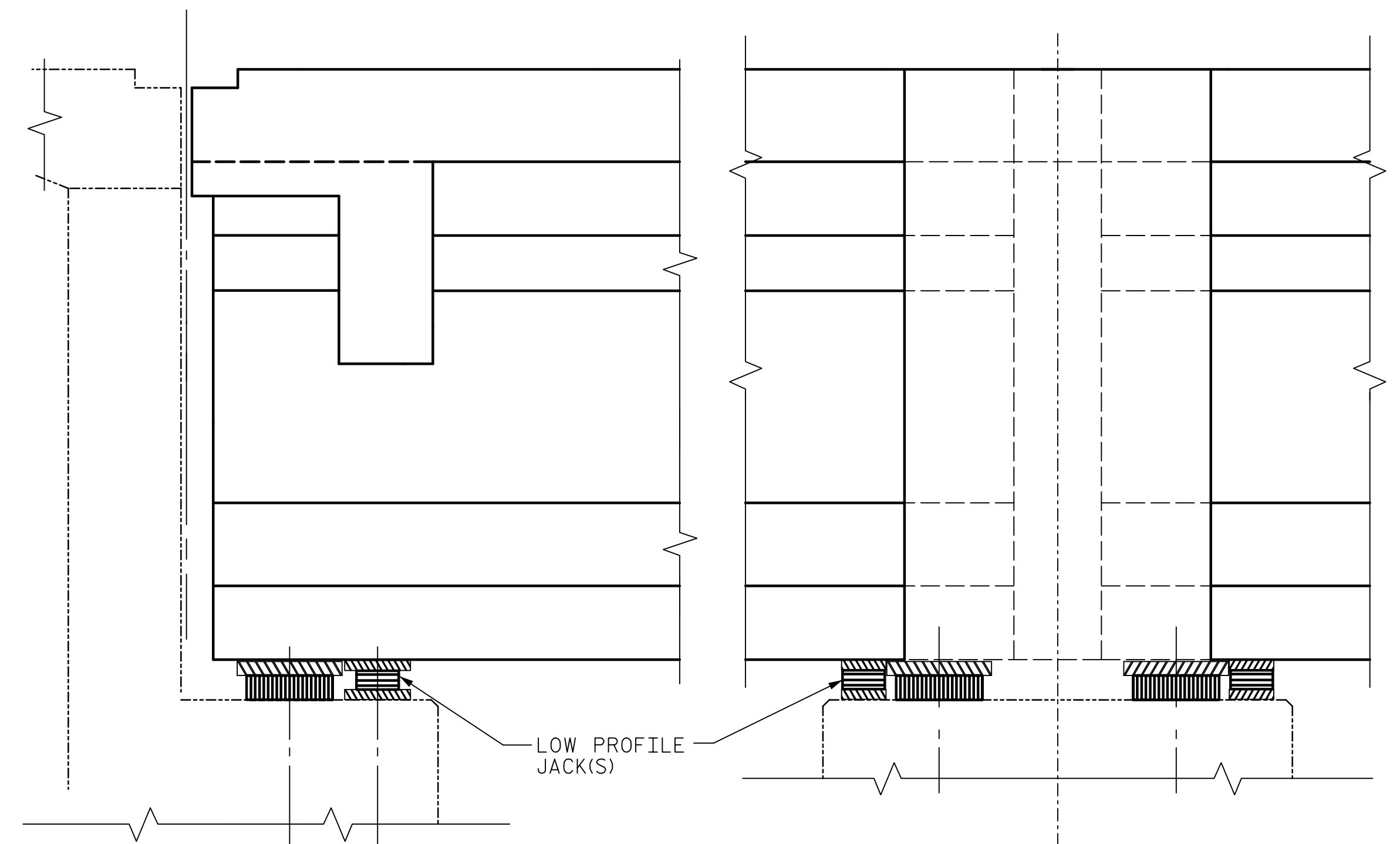
PROVISIONS SHALL BE MADE TO ACCOUNT FOR THERMAL MOVEMENTS DURING THE PERIOD THAT THE STRUCTURE IS RESTING ON TEMPORARY SUPPORTS.

THE BRIDGE SHALL BE INSPECTED PRIOR TO JACKING TO VERIFY THAT ITEMS CONNECTED TO THE SUPERSTRUCTURE WILL NOT BE DAMAGED DURING THE JACKING AND BEARING REPLACEMENT PROCEDURE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING THE JACKING TO DETERMINE A JACKING LOCATION AT EACH BEARING AND PROVIDE A DESIGN FOR THE JACKING LOADS. JACKS SHALL HAVE A MINIMUM SAFE LOAD CAPACITY OF 125% OF THE LOAD SPECIFIED IN THE JACKING LOAD TABLE. THE CONTRACTOR SHALL SUBMIT THE JACKING PLAN, DETAILS, PROCEDURES AND SUPPORTING CALCULATIONS TO THE ENGINEER FOR REVIEW AND APPROVAL.

JACKING SHALL BE COMPLETED PRIOR TO WIDENING OF THE EXISTING BRIDGE AND PC OVERLAY.

PROJECT NO. U-5748
 WAKE COUNTY
 STATION: 24+88.00 -L-



JACKING AT END BENT
(DETAIL IS FOR ILLUSTRATION ONLY)

JACKING AT INTERIOR BENT
(DETAIL IS FOR ILLUSTRATION ONLY)
(SHOWN AT BENT 1 OR 3, SIMILAR AT BENT 2)

DRAWN BY : D. KIM	DATE : 10/2022
CHECKED BY : G. COLS	DATE : 10/2022
DESIGNED BY : G. COLS	DATE : 10/2022
DESIGN CHECKED BY : D. TUTTLE	DATE : 10/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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 AECOM License No. F-0342

PROFESSIONAL ENGINEER
 GREGORY R. COLS
 SEAL 041343
 NORTH CAROLINA

2/10/2023

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 RALEIGH

PRESERVATION
ELASTOMERIC BEARING DETAILS AND JACKING
 (SOUTHBOUND)

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S2-57
 TOTAL SHEETS 119