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BRIDGE REHABILITATION

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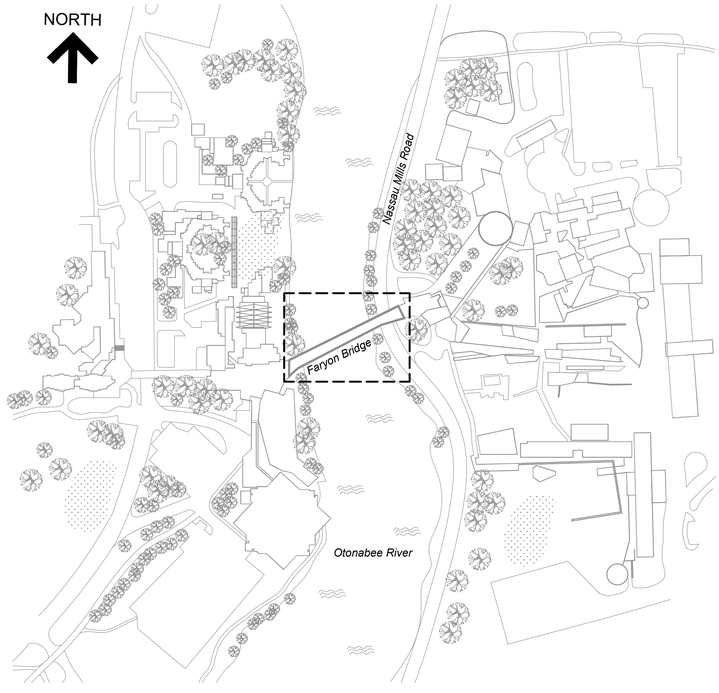

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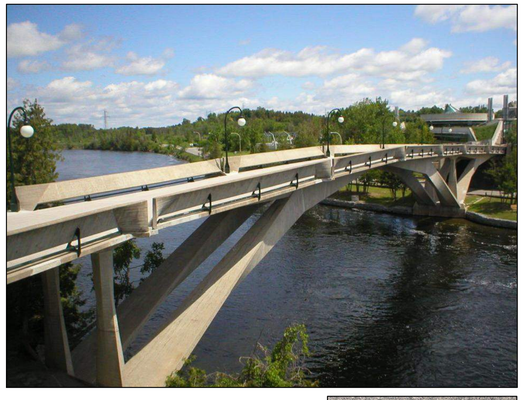


ISSUED FOR TENDER - July 2, 2025

RJC PROJECT No. TOR.140104.0001

1.0 GENERAL NOTES

(THESE NOTES APPLY TO ALL PHASES/ASPECTS OF THE PROJECT)

1. THESE DRAWINGS PROVIDE A SCHEMATIC REPRESENTATION OF THE APPROX. LAYOUT OF THE PEDESTRIAN BRIDGE IN THE AREA OF THE WORK.
2. THE CONTRACTOR MUST REVIEW AND CONFIRM THE EXTENT OF EXISTING SITE CONDITIONS THAT WILL AFFECT OR WILL REQUIRE ADJUSTMENT IN ORDER TO COMPLETE THE WORK AS SHOWN ON THE DOCUMENTS PRIOR TO BIDDING.
3. DISCREPANCIES, AMBIGUITIES OR OMISSIONS IN THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSULTANT IMMEDIATELY.
4. COPIES OF THE ORIGINAL CONSTRUCTION DRAWINGS ARE AVAILABLE FOR VIEWING AND REFERENCE PURPOSES ONLY.
5. THE EXTENT OF WORK IS AS SHOWN ON THE DRAWINGS.
6. HOARDING, SITE PROTECTION AND SIGNAGE TO BE INSTALLED AROUND SITE AND PHASES OF WORK PRIOR TO COMMENCING WORK AS INDICATED IN THE PHASING NOTES AND SECTION 01 56 00.
7. THIS SET OF DRAWINGS DOES NOT INCLUDE COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND AROUND THE JOB SITE DURING CONSTRUCTION, AND FOR DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES REQUIRED TO COMPLETE THE WORK.
8. THE USE OF THESE DRAWINGS IS LIMITED TO THAT EXTENT IDENTIFIED IN THE REVISIONS COLUMNS. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION" BY READ JONES CHRISTOFFERSEN LTD.
9. ALL DIMENSIONS TAKEN FROM THE DRAWINGS SHALL BE CHECKED ON SITE PRIOR TO START OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF SUCH MEASUREMENTS AND REPORT TO THE ENGINEER IN WRITING ALL DISCREPANCIES BETWEEN MEASUREMENTS AT BUILDING AND THOSE SHOWN ON DRAWINGS PRIOR TO COMMENCING WORK.
10. THE CONTRACTOR SHALL REVIEW ALL THE DRAWINGS AND CHECK DIMENSIONS BEFORE CONSTRUCTION. REPORT DISCREPANCIES BETWEEN THE DRAWINGS AND SITE CONDITION TO THE ENGINEER IMMEDIATELY.
11. DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWING. WITHOUT WRITTEN PERMISSION OF RJC.
12. SECTION MARK SHOWN THUS (1/S5.7) DENOTE SECTION 1 ON DRAWING S5.7.
13. THE ENGINEERING FIELD SERVICES: THE ENGINEER WILL PROVIDE FIELD SERVICE DURING THE CONSTRUCTION PHASE OF THE WORK TO SATISFY THEMSELVES, BY MEANS OF A RATIONAL SAMPLING PROCEDURE WHICH THEY IN THEIR SOLE DISCRETION CONSIDER NECESSARY, TO DETERMINE THAT THE CONTRACTOR IS CARRYING OUT THAT WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE FIELD SERVICES PROVIDED APPLY ONLY TO THAT WORK SHOWN ON RJC'S DRAWINGS. THE PERFORMANCE OF THE CONTRACT IS NOT THE ENGINEER'S RESPONSIBILITY NOR ARE THE FIELD SERVICES RENDERED FOR THE CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY CONTROL AND PERFORMING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14. CONTRACTOR WILL BE RESPONSIBLE TO REPAIR/RESTORE/REPAINT ALL EXISTING FINISHES DAMAGED AS A RESULT OF THE CONSTRUCTION ACTIVITY OR REMOVED/MODIFIED IN ORDER TO ALLOW CONSTRUCTION TO BE UNDERTAKEN.
15. PROVIDE SIGNAGE AND TRAFFIC CONTROL SYSTEMS FOR NASSAU MILLS ROAD IN ACCORDANCE WITH BOOK 7 OF THE ONTARIO TRAFFIC MANUAL TO ENSURE SAFE TRAFFIC FLOW THROUGH WORK AREAS.
16. FOR DESCRIPTION OF BRIDGE STRUCTURE, REFER TO SECTION 01 11 00/01 10 01.
17. IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL ENTRANCE AND EXIT WAYS TO BUILDINGS AND OTHER PUBLIC SPACES REMAIN OPEN AT ALL TIMES.
18. THIS SET OF DRAWINGS ALONG WITH THE SPECIFICATIONS FORM THE CONTRACT DOCUMENTS AND MUST BE READ AND INTERPRETED IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS.
19. PROVIDE MEANS FOR PROTECTING OCCUPIED AREAS BELOW THE WORK FROM WATER AND MEMBRANE LEAKAGE BETWEEN THE REMOVAL AND REINSTALLATION OF THE WATERPROOFING SYSTEMS.
    .1 CONTRACTOR TO SUBMIT METHOD OF PROTECTION TO BE USED FOR REVIEW TO THE CONSULTANT PRIOR TO REMOVAL OF EXISTING SYSTEMS.
20. CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF CAN3-A23.1, A23.2, A23.3 AND DOCUMENTS REFERENCED THEREIN.
21. SPECIFIED DESIGN LOADS : (UNFACTORED)

DISTRIBUTED LOADS [kN/m2 (psf)]	: LIVE LOAD
A. BRIDGE DECK	4.0 (80)
B. SNOW LOAD	1.36 (28)
C. WIND LOAD	1.2 (25)

22. CONSTRUCTION LOADS MUST NOT EXCEED THE ABOVE DESIGN LOADS AND DESIGN LOADS MAY ONLY BE APPLIED IF FULL CAPACITY OF EXISTING DETERIORATED STRUCTURE CAN BE USED OR AFTER CONCRETE REACHES ITS DESIGN STRENGTH FOR NEW ELEMENTS AND REPAIRED SECTIONS.
23. ALL WORK TO BE IN ACCORDANCE WITH CSA S6:19 CANADIAN HIGHWAY BRIDGE CODE.
24. SEE ELECTRICAL DRAWINGS FOR SLEEVES, INSERTS, CONDUIT, ETC., TO BE ENCASED IN CONCRETE.
25. DEFINITIONS:
    A. RJC: READ JONES CHRISTOFFERSEN OR ITS REPRESENTATIVE.
    B. SPECIALTY STRUCTURAL ENGINEER: A STRUCTURAL ENGINEER REGISTERED AND LICENSED TO PRACTICE BY THE PROFESSIONAL ENGINEERING ASSOCIATION HAVING JURISDICTION IN THE AREA WHERE THE STRUCTURE IS TO BE BUILT AND WHO IS RESPONSIBLE FOR THE DESIGN AND FIELD REVIEW OF:
    – STRUCTURAL ELEMENTS DESIGNED BY THE CONTRACTOR OR SUBCONTRACTORS, SUCH AS OPEN WEB STEEL JOISTS, PRECAST DOUBLE TEES, PRECAST PLANKS, STRUCTURAL STEEL CONNECTIONS, LIGHT WOOD FRAME ROOF TRUSSES, ETC.
    – TEMPORARY WORKS REDUCED FOR THE PERFORMANCE OF THE WORK.
    – SECONDARY STRUCTURAL ELEMENTS AND NON-STRUCTURAL ELEMENTS. SEE ALSO "NON-STRUCTURAL ELEMENTS" GENERAL NOTES.
    C. CONTINUOUS: FULL TENSION SPLICE AND TENSION DEVELOPMENT LENGTH.
    D. EMBEDMENT: UNLESS NOTED OTHERWISE COMPRESSION EMBEDMENT MEANS A COMPRESSION DEVELOPMENT LENGTH AND TENSION EMBEDMENT MEANS A TENSION DEVELOPMENT LENGTH AS PER CAN/CSA-A23.3 AND AS SHOWN ON THESE GENERAL NOTES DRAWINGS.
    E. GENERAL CONTRACTOR: FOR THE PURPOSES OF THESE DRAWINGS, THE USE OF THE TERM "CONTRACTOR" OR "GENERAL CONTRACTOR" SHALL REFER TO THE PRIME PERSON OR COMPANY RESPONSIBLE FOR CONSTRUCTION OF THE PROJECT AND THE COORDINATION OF TRADES AND SUBCONTRACTORS. THIS MAY BE THE GENERAL CONTRACTOR, OR A CONSTRUCTION MANAGER.

2.0 GENERAL SCOPE OF WORK

IN GENERAL, THIS REHABILITATION PROGRAM INCLUDES THE WHOLESALE REPAIR AND PROTECTION OF THE PEDESTRIAN BRIDGE DECK AND SUPERSTRUCTURE.

IN PARTICULAR, THE WORK, BRIEFLY DESCRIBED BELOW, INCLUDES, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING:

1. THE INSTALLATION AND MAINTENANCE OF SCAFFOLDING, HOARDING, OVERHEAD AND DUST PROTECTION, AND CONSTRUCTION SIGNAGE AROUND THE AREA OF WORK.
2. THE INSTALLATION AND MAINTENANCE OF TRAFFIC CONTROL BARRIERS AND SIGNAGE IN ACCORDANCE WITH THESE DOCUMENTS AND BOOK 7 OF THE ONTARIO TRAFFIC MANUAL.
3. HAZARDOUS SUBSTANCE ABATEMENT AS REQUIRED TO PERFORM THE WORK IN COMPLIANCE WITH THE ENVIRONMENTAL REPORT ENCLOSED.
4. PREPARATION AND SUBMISSION OF SHORING AND SCAFFOLDING, SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER IN THE PROVINCE OF ONTARIO, AS REQUIRED TO PERFORM THE WORK.
5. PREPARATION AND SUBMISSION OF A TRAFFIC MANAGEMENT AND PHASING PLAN, AND ACQUISITION OF ALL REQUIRED PERMITS TO PERFORM THE WORK.
6. SUMMARY OF WORK
    .1 DESIGN, INSTALLATION, AND MAINTENANCE OF TEMPORARY WORKS, HOARDING, DUST, AND OVERHEAD PROTECTION REQUIRED TO EXECUTE THE WORK.
    .2 DESIGN, INSTALLATION, AND MAINTENANCE OF THE IN-WATER TEMPORARY COFFERDAM AS REQUIRED TO PERFORM THE EASTERN BRIDGE ABUTMENT FOUNDATIONS REPAIRS
    .3 REMOVAL AND STOCKPILING OF EXISTING CANDYCANE LIGHT POSTS. LIGHT POST TO BE REFURBISHED TO LIKE NEW CONDITION PRIOR TO REINSTALLATION.
    .4 REMOVAL AND STOCKPILING OF EXISTING STONE FAÇADE ON THE WEST ABUTMENT WALL.
    .5 REMOVAL AND DISPOSAL OF THE EXISTING BRIDGE DECK CONCRETE TOPPING.
    .6 REMOVAL AND DISPOSAL OF EXISTING STEEL GUARDS, BALUSTRADE BRACKETS AND PIPE. CONTRACTOR TO RETAIN SAMPLES AS NECESSARY TO FABRICATE LIKE-FOR-LIKE REPLICATIONS.
    .7 REMOVAL AND DISPOSAL OF THE BRIDGE DECK CONCRETE SLAB EDGES AND BALUSTRADES. EXISTING EMBEDDED REINFORCING STEEL TO REMAIN FOR CONSULTANT'S REVIEW.
    .8 REMOVAL AND DISPOSAL OF EXISTING EXPANSION JOINTS AND CONCRETE NOSINGS.
    .9 REMOVAL AND DISPOSAL OF EAST AND WEST END ABUTMENT STEEL BEARING PADS AND CONCRETE PEDESTALS.
    .10 PERFORM PRESSURIZED AIR INJECTION TO REMOVE ALL MOISTURE FROM ALL PT CABLE DUCTS IN PREPARATION OF BONDED PT CABLE IMPREGNATION.
    .11 PERFORM BONDED PT CABLE IMPREGNATION ON ALL PT CABLES.
    .12 LOCALIZED SURFACE, VERTICAL, AND SOFFIT DELAMINATION REPAIRS, AS DIRECTED BY THE CONSULTANT.
    .13 LOCALIZED SURFACE, VERTICAL, AND SOFFIT DELAMINATION REPAIRS, OF THE POST-TENSIONED CONCRETE ARCHES, COLUMNS, AND BEAMS AS DIRECTED BY THE CONSULTANT. REPAIRS TO INCLUDE BOARD FORM FINISH TO MATCH ORIGINAL WHERE REQUIRED.
    .14 SANDBLASTING CLEAN ALL EXISTING REINFORCING TO REMAIN AND THE SLAB SURFACE.
    .15 SUPPLY AND INSTALLATION OF SUPPLEMENTARY REINFORCING STEEL.
    .16 INSTALLATION OF CONCRETE PEDESTAL BEARINGS AT THE EAST AND WEST ABUTMENTS, INCLUDING FABRICATION AND INSTALLATION OF STEEL BEARING PADS.
    .17 FABRICATION AND INSTALLATION OF STEEL SHEAR KEYS AT BRIDGE ABUTMENTS, INCLUDING NECESSARY CONCRETE REPAIRS.
    .18 INSTALLATION OF BRIDGE DECK EXPANSION JOINT SEALS, COMPLETE WITH STAINLESS STEEL COVER PLATE.
    .19 INSTALLATION OF FULL DEPTH CONCRETE SLAB EDGES OF BRIDGE DECK.
    .20 INSTALLATION OF CAST-IN-PLACE CONCRETE BALUSTRADES, INCLUDING FABRICATION AND INSTALLATION OF BALUSTRADE SUPPORTING GAVANIZED STEEL BRACKETS AND PIPE.
    .21 INSTALLATION OF SLOPED BONDED CONCRETE TOPPING ON THE BRIDGE DECK SLAB. TOPPING SHALL BE SLOPE 2% FROM CENTRE PEAK OF DECK SLAB TOWARDS BOTH SLAB EDGES.
    .22 PERFORM CORROSION POTENTIAL HALF-CELL TESTING ON ARCH AND COLUMN CONCRETE SURFACES FOLLOWED BY INSTALLATION OF NEW CATHODIC PROTECTION ON THE CONCRETE COLUMNS, ABUTMENT FOUNDATIONS, AND PT ARCHES.
    .23 SURFACE PREPARATION AND INSTALLATION OF LITHIUM NITRATE ASR MITIGATION PRODUCT FOLLOWED BY A PENETRATING SILANE SEALER ON ALL SURFACES OF THE BRIDGE SUPERSTRUCTURE, INCLUDING THE BRIDGE ABUTMENT FOUNDATIONS BELOW THE WATERLINE.
    .24 SURFACE PREPARATION, ROUTING AND SEALING OF ALL CRACKS AND CONTROL JOINTS, AND INSTALLATION OF A HEEL BEAD OF SEALANT AT ALL VERTICAL UPTURNS.
    .25 INSTALLATION OF UV STABLE ELASTOMERIC COATING ON ALL SURFACES OF THE BRIDGE SUPERSTRUCTURE ABOVE THE WATER LINE, INCLUDING THE BALUSTRADE SURFACES.
    .26 INSTALLATION OF UV STABLE THIN SYSTEM TRAFFIC DECK COATING ON THE SURFACE OF THE BRIDGE DECK, BRIDGE DECK SLAB EDGES, AND 6" UP BALUSTRADE FOOTINGS.
    .27 FABRICATION AND INSTALLATION OF NEW GALVANIZED STEEL GUARDS, FLAG STAVES, BALUSTRADE BRACKETS AND KICK RAIL TO MATCH ORIGINAL.
    .28 WHOLESALE PAINTING OF ALL NEW GALVANIZED STEEL ACCESSORIES WITH STOCK COLOUR "BOTTLE GREEN".
    .29 REINSTATEMENT OF REFURBISHED CANDYCANE LIGHT POSTS, INCLUDING NEW EMBEDDED CONDUIT IN THE BRIDGE DECK SLAB, WIRING, AND RECEPTACLES.
    .30 INSTALLTION AND MAINTAINANCE OF TEMPORARY POWER CABLE DURING POWER CABLE REPLACEMENT WORK, INCLUDING CORING THROUGH CONCRETE ABUTMENT WALLS AND HOARDING AND PROTECTION AS NECESSARY.
    .31 LOCALIZED VERTICAL DELAMINATION REPAIRS OF THE CONCRETE ABUTMENT BEAMS AS DIRECTED BY THE CONSULTANT.
    .32 REMOVAL AND DISPOSAL OF EXISTING ELECTRICAL RUNS THROUGH THE ENTIRETY OF THE BRIDGE, INCLUDING ROBOTIC BORING AS NECESSARY TO CLEAR BLOCKAGES IN THE EXISTING DUCT BANK.
    .33 SUPPLY AND INSTALL NEW POWER CABLE RUNS WITH ASSOCIATED CONDUIT.
    .34 SUPPLY AND INSTALLATION OF NEW 13.8kV SWITCHGEAR

3.0 HOARDING NOTES

1. SCAFFOLDING, HOARDING, OVERHEAD AND DUST PROTECTION IS REQUIRED AS PER SPECIFICATION SECTION 01 56 00 – PROTECTION OF WORK AND PROPERTY TO PROTECT WATERWAY AND PUBLIC FROM FALLING DEBRIS. OVERHEAD PROTECTION/COVERED WALKWAYS ARE TO BE PROVIDED AS REQUIRED IN ACCORDANCE WITH REQUIREMENT OF ALL BY-LAWS, STANDARDS, OCCUPATIONAL HEALTH AND SAFETY ACT, AND AS REQUIRED BY AUTHORITIES.
2. ADJUST HOARDING LINES TO ACCOMMODATE REPAIRS BUT TO MAINTAIN MARINE, VEHICULAR AND PEDESTRIAN TRAFFIC AS REQUIRED BY THE OWNER AND AUTHORITIES HAVING JURISDICTION.

4.0 PHASING NOTES

1. ALL WORK IS TO BE PHASED SO AS TO MAINTAIN THE PHASING REQUIREMENTS OUTLINED IN SECTIONS 01 11 00 AND 01 11 01. CONTRACTOR'S WORK AREA TO BE FULLY ENCLOSED DURING EACH PHASE. CONTRACTOR WILL BE REQUIRED TO COORDINATE CLOSURE OF THE BRIDGE WITH THE OWNER'S REPRESENTATIVE.
2. SIGNAGE AS OUTLINED IN 01 56 00. CONTRACTOR MAY BE REQUIRED TO INSTALL ADDITIONAL SIGNAGE.
3. BRIDGE TO REMAIN OPEN TO PEDESTRIAN FOOT TRAFFIC FOR THE DURATION OF THE PROJECT. SIGNAGE TO BE SUPPLEMENTED AS REQUIRED BY THE OWNER AND CONSULTANT.
4. PATHWAY BELOW BRIDGE ON WEST BANK TO REMAIN OPEN.
5. NASSAU MILLS ROAD IS TO REMAIN OPEN THROUGHOUT THE PROJECT.
6. THE CONTRACTOR IS TO PROVIDE A DETAILED CONSTRUCTION SCHEDULE, WHICH IDENTIFIES THE LOCATION OF EACH STAGE OF WORK COMPLETE WITH START AND COMPLETION DATES OF EACH PHASE OF THE WORK AND IN A FORM ACCEPTABLE TO BOTH THE OWNER AND THE CONSULTANT. THE CONTRACTOR MUST UPDATE THE CONSTRUCTION SCHEDULE AS THE WORK PROGRESS TO ENSURE THE CURRENT SCHEDULE ACCURATELY FORECASTS THE ACTUAL PROGRESS OF WORK. COPIES OF NEW CONSTRUCTION SCHEDULES MUST BE SUBMITTED TO THE OWNER, AND CONSULTANT FOR REVIEW A MINIMUM 24 HOURS IN ADVANCE OF SCHEDULED CONSTRUCTION PROGRESS MEETING.

5.0 CONCRETE REPAIR NOTES

1. BEFORE STARTING REMOVALS OF CON CRETE, REVIEW WITH RJC THE EFFECT OF DEMOLITION ON STRUCTURAL INTEGRITY. PROVIDE SHORING OF MEMBER AS NECESSARY, INCLUDING PREPARATION AND SUBMISSION OF SHORING SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.
2. IN ADDITION TO REPAIRS SHOW ON THE DRAWINGS, RANDOMLY LOCATED CONCRETE DELAMINATIONS REPAIRS ARE TO BE PERFORMED IN LOCALIZED AREAS IN ACCORDANCE WITH THE APPROPRIATE DETAIL AS DIRECTED BY CONSULTANT.

6.0 STAGING NOTES

1. CONTRACTOR TO PROVIDE SAFE ACCESS TO EXECUTE THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS. ACCESS MAY BE COMPRISED OF: SCAFFOLDING, STAGING, SWING STAGES, FALSE WORK, COMBINATIONS OF THE PROCEEDING OR OTHER METHODS APPROVED BY WORKERS' COMPENSATION BOARD OF ONTARIO.
2. ALL ACCESS SHALL BE SUITABLE FOR THE SAFE AND EFFICIENT PERFORMANCE OF THE WORK. CONTRACTOR TO SUBMIT A PLAN OF THE BRIDGE (PROVIDED) INDICATING THE TYPE OF ACCESS TO BE EMPLOYED ON EACH PORTION OF THE BRIDGE.
3. ALL ACCESS SHALL BE CAPABLE OF RESISTING ITS DEAD LOAD AND THE LIVE LOAD OF THE WORKERS AND STORED MATERIALS. LIVE LOADING TO CONFORM TO CAN/CSA S269.2 M87, ACCESS SCAFFOLD FOR CONSTRUCTION PURPOSES, CLAUSE 5.2.1.(B).
4. PHASING OF ACCESS IS ACCEPTABLE.

7.0 RENOVATION NOTES

1. THE CONTRACT DOCUMENTS ARE BASED ON ASSUMED AS-BUILT DIMENSIONS FOR THE EXISTING BRIDGE STRUCTURE AND ASSUMPTIONS IN ACCORDANCE WITH DETAILING AND PLACING PRACTICE. THESE ASSUMPTIONS MAY VARY FROM THE ACTUAL ON-SITE CONDITIONS. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE CONSULTANT OF ANY ACTUAL VARIATIONS FROM THE ASSUMED CONDITIONS.
2. ENSURE THAT ALL NECESSARY JOB DIMENSIONS ARE TAKEN AND ALL TRADES ARE COORDINATED FOR THE PROPER EXECUTION OF THE WORK. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF SUCH DIMENSIONS, AND FOR COORDINATION.
3. PRIOR TO FABRICATION OF ANY MEMBERS, THE CONTRACTOR SHALL COMPLETE THIS SITE REVIEW OF CRITICAL "TIE-IN" DIMENSIONS AND CONFIRM ALL DIMENSIONS TO ENSURE PROPER FIT OF NEW WORK TO EXISTING. REPORT ANY DISCREPANCIES TO RJC PRIOR TO STARTING WORK.
4. COMMENCEMENT OF CONSTRUCTION OR ANY PART THEREOF CONSTITUTES ACCEPTANCE OF EXISTING CONDITIONS AND MEANS DIMENSIONS AND ELEVATIONS HAVE BEEN CONSIDERED, VERIFIED AND ARE ACCEPTABLE.
5. ANY OPENINGS THAT ARE NOT SHOWN OR INDICATED ON THE DRAWINGS SHALL BE REPORTED TO RJC FOR REVIEW. THESE OPENINGS MAY NOT BE ALLOWED, MAY HAVE TO BE MOVED, OR MAY REQUIRE ADDITIONAL WORK AND DETAILING. DO NOT PROCEED WITH THESE OPENINGS WITHOUT WRITTEN PERMISSION FROM RJC.
6. CONTRACTOR TO ENSURE THAT UNDERGROUND OR IN-SLAB SERVICES ARE NOT DAMAGED THROUGH DEMOLITION, SAWCUTTING, HOLE AUGURING, OR OTHER CONSTRUCTION ACTIVITIES. SEE SPECIFICATION FOR TESTING/LOCATING REQUIREMENTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION, AND THE DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, SHORING, BRACING, ETC., REQUIRED TO COMPLETE THE WORK (SUBMIT SHORING DRAWINGS SEALED BY A SPECIALTY STRUCTURAL ENGINEER).
8. DRILL AND SITE MEASURE BOLT HOLES IN EXISTING STRUCTURE PRIOR TO FABRICATING STEEL CONNECTION PLATES. BOLT HOLES MAY HAVE TO BE MOVED FROM WHAT IS SHOWN ON THE DRAWINGS TO AVOID CUTTING EXISTING REINFORCING OR TO AVOID OTHER SITE CONDITIONS.
9. DO NOT DRILL OR CORE INTO THE EXISTING STRUCTURE WITHOUT FIRST SCANNING THE ELEMENT THAT IS TO BE DRILLED OR CORED FOR EMBEDDED CONDUIT, DUCTS, REINFORCING STEEL, ETC. TO VIEW SCANNING WITH RJC BEFORE PROCEEDING.

8.0 TEMPORARY WORKS

1. THE CONTRACTOR SHALL DESIGN, PROVIDE, ERECT, MAINTAIN, REMOVE AND ASSUME FULL AND SOLE RESPONSIBILITY FOR ALL TEMPORARY WORKS REQUIRED FOR THE SAFE AND COMPLETE EXECUTION OF THE WORKS.
2. IN THE EXECUTION OF THE TEMPORARY WORKS AND FOR THE DURATION OF THE CONTRACT, THE CONTRACTOR SHALL MAKE ADEQUATE PROVISION FOR ALL LIKELY CONSTRUCTION LOADING AND PROVIDE SUFFICIENT BRACING AND PROPS TO KEEP THE WORKS IN PLUMB AND ALIGNMENT AND FREE FROM EXCESSIVE DEFLECTION.
3. ACCESS OF HEAVY CONSTRUCTION EQUIPMENT AND ACCUMULATION OF CONSTRUCTION MATERIALS ON THE SUSPENDED BRIDGE DECK, CANOPIES, ROOFS, ETC. ARE NOT PERMITTED, UNLESS SUCH HAVE BEEN CATERED FOR IN THE CONTRACTOR'S TEMPORARY WORK DESIGN TO THE SATISFACTION OF THE ENGINEER.
4. COSTS OF ALL TEMPORARY WORKS ARE TO BE INCLUDED IN THE CONTRACT PRICE.
5. SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY WORKS FOR REVIEW BEFORE FABRICATION COMMENCES. SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.

9.0 SIGNAGE NOTES:

1. CONTRACTOR SHALL PROVIDE ALL REQUIRED SIGNAGE NECESSARY TO PROTECT THE PUBLIC FROM THE CONSTRUCTION, CONTROL THE TRAFFIC FLOW AROUND THE WORK AREA AND TO INFORM PATRONS THAT CONSTRUCTION ACTIVITY IS IN PROCESS.
2. ADDITIONAL SIGNS MAY BE REQUIRED AT THE DISCRETION OF OWNER OR CONSULTANT AS CONSTRUCTION PROGRESSES TO ENSURE VEHICLE AND PEDESTRIAN TRAFFIC IS MAINTAINED. NO EXTRA WILL BE ENTERTAINED FOR SIGNAGE REQUIREMENTS AFTER TENDER CLOSE.
3. SIGNAGE IS REQUIRED AT ALL STAIRWELL ENTRANCES TO THE WORK AREA. SIGNS TO INDICATE THAT "PEDESTRIAN BRIDGE IS PARTIALLY ENTRANCE IS CLOSED FOR CONSTRUCTION".

10.0 FIELD REVIEW BY READ JONES CHRISTOFFERSEN (RJC)

1. READ JONES CHRISTOFFERSEN PROVIDES FIELD REVIEW ONLY FOR THE WORK SHOWN ON THESE DRAWINGS. THIS REVIEW IS NOT A "FULL TIME" REVIEW BUT IS A PERIODIC REVIEW AT THE SOLE DISCRETION OF READ JONES CHRISTOFFERSEN IN ORDER TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY READ JONES CHRISTOFFERSEN. FIELD REVIEW BY READ JONES CHRISTOFFERSEN IS NOT CARRIED OUT FOR THE CONTRACTOR'S BENEFIT, NOR DOES IT MAKE READ JONES CHRISTOFFERSEN GUARANTORS OF THE CONTRACTOR'S WORK. IT REMAINS THE CONTRACTOR'S RESPONSIBILITY TO BUILD THE WORK IN CONFORMANCE WITH THE DOCUMENTS. RJC SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. RJC WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON RJC'S DRAWINGS. THE EXTENT OF THIS REVIEW IS AT THE SOLE DISCRETION OF RJC AND IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMANCE WITH THE BUILDING ENVELOPE DESIGN CONCEPT. THE REVIEW IS NOT AN APPROVAL OF THE DESIGN, DETAILS, AND DIMENSIONS INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. PROVIDE 24 HOURS ADVANCE NOTICE OF EACH REQUIRED FIELD REVIEW. FIELD REVIEWS SHALL BE SCHEDULED TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH RJC.
3. THE WORK TO BE REVIEWED SHALL BE GENERALLY COMPLETE.

11.0 SHOP DRAWING REVIEW RESPONSIBILITY

AS PART OF THEIR FIELD SERVICES, RJC WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON RJC'S DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS. REVIEW OF SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND IS NOT AN APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PROCESS TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR COORDINATION OF THE WORK OF ALL SUBTRADES.

12.0 DEMOLITION OF STRUCTURAL ELEMENTS

1. SEE TEMPORARY WORKS NOTES.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND SPECIFICATIONS
3. THE DRAWINGS ILLUSTRATE SCHEMATIC APPROACH TO THE TEMPORARY BRACING OF THE EXISTING STRUCTURE AND IS PREPARED FOR CONTRACTOR CONSIDERATION ONLY. THE CONTRACTOR MAY ADOPT THE ILLUSTRATED APPROACH AT HIS SOLE DISCRETION OR PROPOSE ANY OTHER METHOD HE DEEMS APPROPRIATE TO PROVIDE TEMPORARY BRACING, BUT IN NO TIME SHALL THE SAFETY AND INTEGRITY OF THE EXISTING STRUCTURE BE COMPROMISED.
4. THE CONTRACTOR SHALL DESIGN, PROVIDE, CONSTRUCT AND MAINTAIN, REMOVE AND ASSUME FULL AND SOLE RESPONSIBILITY FOR THE TEMPORARY WORKS.
5. SUBMIT SHOP DRAWINGS, DIAGRAMS AND DETAILS SHOWING SEQUENCE OF DEMOLITION WORK AND SUPPORTING STRUCTURES AND UNDERPINNING. SUBMIT CALCULATIONS TO THE CONSULTANT. DRAWINGS AND CALCULATIONS SUBMITTED SHALL BEAR SIGNATURE AND STAMP OF QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.
6. THE PROFESSIONAL ENGINEER EMPLOYED TO DESIGN THE TEMPORARY SHORING, BRACING, NEEDLING AND THE SAME ENGINEER SHALL ALSO BE EMPLOYED TO FULLY SUPERVISE THEIR INSTALLATION AND REMOVAL AND SHALL SUBMIT WEEKLY REPORTS TO THE CONSULTANT, AND OWNER REGARDING THIS WORK.
7. GENERAL CONTRACTOR MUST EXAMINE DRAWINGS OF ALL DISCIPLINES AND COORDINATE THE STRUCTURAL DEMOLITION WORK TO ASSURE THAT THE ADOPTED SEQUENCE OF DEMOLITION WORK PROVIDES FOR SUBSEQUENT CONSTRUCTION OF ALL ELEMENTS OF THE PROJECT WITHOUT INTERFERENCE.
8. IT IS GENERAL CONTRACTOR RESPONSIBILITY TO COORDINATE THE STRUCTURAL DEMOLITION WORK WITH OTHER DEMOLITION REQUIRED BY ARCHITECTURAL AND MECHANICAL DISCIPLINES AND ASSIGN COORDINATED SCOPE OF WORK TO THE SUBTRADES.
9. THE EXISTING STRUCTURE SHOWN ON THE DRAWINGS IS BASED ON THE ORIGINAL DRAWINGS AND LIMITED INFORMATION AVAILABLE AT THE TIME OF DESIGN. THE DEMOLITION SCOPE OF WORK SHALL INCLUDE REMOVAL OF ALL STRUCTURAL AND NON-STRUCTURAL ELEMENTS IN THE AREAS MARKED ON DRAWINGS AND AS INDICATED BY THE ARCHITECT.
10. PROTECTION:
    .A PREVENT MOVEMENT, SETTLEMENT OR DAMAGE OF ELEMENTS OF EXISTING BUILDING TO REMAIN. PROVIDE BRACING, SHORING AS REQUIRED. PROTECT ALL EXISTING SURFACES NOT TO BE RESTORED FROM DAMAGE DURING REMOVAL PROCEDURE. REMOVE OR PROTECT IN PLACE ALL SURFACE – MOUNTED OR PERMANENT ELECTRICAL FIXTURES AND ALL CONDUIT, FIXTURES, EQUIPMENT, ETC. NOT TO BE DEMOLISHED. UPON COMPLETION OF THE REPAIR WORK, REINSTALL ALL EXISTING EQUIPMENT AND FIXTURES DESIGNATED TO REMAIN. MAKE GOOD DAMAGE CAUSED BY DEMOLITION.
    .B TAKE PRECAUTIONS TO SUPPORT AND, IF SAFETY OF ELEMENTS NOT SLATED FOR DEMOLITION APPEARS TO BE ENDANGERED, CEASE OPERATIONS AND NOTIFY ENGINEER IMMEDIATELY.
    .C PREVENT DEBRIS FROM BLOCKING SURFACE DRAINAGE SYSTEM, MECHANICAL, AND ELECTRICAL SYSTEMS WHICH MUST REMAIN IN OPERATION.
11. INSPECTION:
    .A VISIT AND EXAMINE THE SITE AND NOTE ALL CHARACTERISTIC

14.0 CONCRETE COLD WEATHER REQUIREMENTS

(SEE ALSO CAN/CSA–A23.1, CLAUSE 7.4.2.5, EXCEPT THE FOLLOWING MINIMUM REQUIREMENTS MUST ALSO BE MET)

1. FORECASTED AIR TEMPERATURE AT OR BELOW 5°C

   A. THE AGGREGATE OR MIXING WATER SHALL BE HEATED TO MAINTAIN A MINIMUM CONCRETE TEMPERATURE OF 10°C.

   B. CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE WHICH IS AT A TEMPERATURE LESS THAN 5°C.

   C. CONTRACTOR SHALL BE PREPARED TO COVER SLAB IF UNEXPECTED DROP IN AIR TEMPERATURE SHOULD OCCUR.

   D. CONCRETE TEMPERATURE SHALL BE MAINTAINED ABOVE 10°C FOR AT LEAST 7 DAYS OR UNTIL THE CONCRETE REACHES 70% OF SPECIFIED STRENGTH.

2. FORECASTED AIR TEMPERATURE BELOW 2°C BUT NOT BELOW –4°C
   (NOTE – FOR THESE CONDITIONS STRUCTURAL CONCRETE TOPPINGS ON METAL DECK SHALL SATISFY THE REQUIREMENTS OF 3).

   A. FORMS AND STEEL SHALL BE FREE FROM ICE AND SNOW.

   B. THE AGGREGATE OR MIXING WATER SHALL BE HEATED TO GIVE A MINIMUM CONCRETE TEMPERATURE OF 10°C AT POINT OF POUR.

   C. CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE WHICH IS AT A TEMPERATURE OF LESS THAN 5°C.

   D. SLABS SHALL BE COVERED WITH CANVAS OR SIMILAR, KEPT A FEW INCHES CLEAR OF SURFACE.

   E. IN WINDY WEATHER, STOREY BELOW SLAB SHALL BE ENCLOSED.

   F. PROTECTION SHALL BE MAINTAINED FOR AT LEAST THE SPECIFIED CURING PERIOD.

   G. CONCRETE TEMPERATURE SHALL BE MAINTAINED ABOVE 10°C FOR AT LEAST THE SPECIFIED CURING PERIOD.

3. FORECASTED AIR TEMPERATURE BELOW –4°C
   A, B, C, D, AS UNDER POINT 2.

   E. STOREY BELOW SHALL BE ENCLOSED AND ARTIFICIAL HEAT PROVIDED. HEATING TO BE STARTED AT LEAST ONE HOUR AHEAD OF POURING AND MAINTAINED FOR A MINIMUM OF THE SPECIFIED CURING PERIOD.

   F. TEMPERATURE OF THE CONCRETE AT ALL SURFACES SHALL BE KEPT AT A MINIMUM OF 20°C FOR 3 DAYS, OR 10°C FOR 7 DAYS. CONCRETE SHALL BE KEPT ABOVE FREEZING TEMPERATURES UNTIL IT REACHES 70% OF ITS SPECIFIED STRENGTH.

   G. ENCLOSURE MUST BE CONSTRUCTED SO THAT AIR CAN CIRCULATE OUTSIDE THE OUTER EDGES AND MEMBERS.

   H. REINFORCING TO BE COVERED AND WARMED TO MAINTAIN ITS TEMPERATURE AT 0°C OR HIGHER AT THE TIME OF CONCRETE PLACEMENT.

15.0 CONCRETE CONSTRUCTION TOLERANCES

(TOLERANCES AS PER CAN/CSA–A23.1 CLAUSE 6.4.2, EXCEPT AS NOTED BELOW.)

CLOSER TOLERANCES SHALL BE MAINTAINED WHERE ARCHITECTURAL DETAILS OR OTHERS REQUIRE.

WHERE ANY DEVIATION OCCURS, AND IT IS ACCEPTABLE TO THE ENGINEER AND ARCHITECT, THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENT OF OTHER BUILDING ELEMENTS TO ACCOMMODATE SUCH DEVIATION. COSTS FOR REMEDIAL WORK FOR DEVIATIONS NOT ACCEPTED SHALL BE BOURNE BY THE CONTRACTOR.

1. VARIATION FROM THE PLUMB.

   A. IN THE LINES AND SURFACES OF COLUMNS, PIERS, WALLS AND IN ARRISES: 0.25% OF HEIGHT (1 IN 400), MAXIMUM 1 1/2" OVER THE ENTIRE HEIGHT OF THE STRUCTURE.

      ONLY ONE CURVATURE ALLOWED PER 10'–0".
      THE TOLERANCE GIVEN IS THE MAXIMUM VARIATION FROM A PLUMB LINE.
      ALL MEASUREMENTS SHALL BE TO THE SAME SIDE OF THE PLUMB LINE.

   B. UNLESS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS – THE TOLERANCES FOR EXPOSED CORNER COLUMNS, CONTROL JOINT GROOVES, AND OTHER CONSPICUOUS LINES SHALL BE: (SEE ALSO ELEVATOR SHOP DRAWINGS ETC.)

      0.125% OF HEIGHT (1 IN 800), MAXIMUM 3/4".
      ONLY ONE CURVATURE ALLOWED PER 20'–0".
      MAXIMUM VARIATION IN WINDOW BAYS 0.2% OF OPENING.

2. PROVIDE FINISH PER SECTION 01 01 39 AND 03 30 00

3. VARIATIONS OF STRUCTURAL CONCRETE ELEMENTS RELATED TO EACH OTHER AND RELATIVE TO A REFERENCED GRID SYSTEM FOR PLAN DIMENSIONS TO MEET CLAUSE 6.4.6 OF CAN/CSA–A23.1.

4. VARIATION IN CROSS–SECTIONAL DIMENSIONS OF COLUMNS AND BEAMS AND IN THE THICKNESS OF SLABS AND WALLS: AS IN CAN/CSA–A23.1.

   ONLY ONE CURVATURE ALLOWED PER 10'–0".

5. FOOTINGS:

   A. VARIATION IN DIMENSIONS IN PLAN: MINUS 3/8"; PLUS 2"

   B. MISPLACEMENT OR ECCENTRICITY: TWO (2) PERCENT OF THE FOOTING WIDTH IN THE DIRECTION OF MISPLACEMENT BUT NOT MORE THAN 2"

   C. REDUCTION IN THICKNESS: MINUS 5% OF SPECIFIED THICKNESS

6. THE ABOVE REQUIREMENTS DO NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OF MEETING MORE RIGID REQUIREMENTS SPECIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS OR AS REQUIRED BY EQUIPMENT SHOP DRAWINGS OR SPECIFICATIONS SUCH AS THOSE FOR ELEVATORS ETC.

16.0 EMBEDMENT / DEVELOPMENT LENGTHS AND SPLICE LENGTHS

BASED ON CAN/CSA–A23.3

WHERE EMBEDMENT OR SPLICES ARE DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY.

WHERE THE DRAWINGS INDICATE A COMPRESSION EMBEDMENT, IT IS A COMPRESSION EMBEDMENT LENGTH AND IT SHALL BE AS NOTED BELOW.

WHERE THE DRAWINGS INDICATE A TENSION EMBEDMENT, IT IS A TENSION EMBEDMENT LENGTH AND SHALL BE AS NOTED BELOW.

WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION EMBEDMENT, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION EMBEDMENT.

WHERE NO SPLICE OR SPLICE TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION SPLICE, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPLICE.

IN TABLES BELOW, EMBEDMENT LENGTHS ARE SHOWN WITHOUT BRACKETS, AND SPLICE LENGTHS ARE SHOWN IN BRACKETS.

ALL LENGTHS ARE FOR Fy = 400 MPa REBAR.

ALL TENSION SPLICE LENGTHS ARE CLASS "B" (1.3d).

COMPRESSION EMBEDMENT AND SPLICE LENGTHS

– COMPRESSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE THE "COMPRESSION DEVELOPMENT LENGTH" AS DEFINED IN CAN/CSA–A23.3 CLAUSE 12.3.2.

– SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A COMPRESSION SPLICE AS DEFINED IN CAN/CSA–A23.3 CLAUSE 12.16.1.

CONCRETE STRENGTH	FUNCTION	REBAR DESIGNATION					
		10M	15M	20M	25M	30M	35M
20 MPa	EMBEDMENT	9"	13"	17"	22"	26"	30"
	(SPLICE)	(12")	(18")	(23")	(29")	(35")	(41")
25 MPa	EMBEDMENT	8"	12"	16"	19"	23"	27"
	(SPLICE)	(12")	(18")	(23")	(29")	(35")	(41")
30 MPa & GREATER	EMBEDMENT	8"	11"	14"	18"	21"	25"
	(SPLICE)	(12")	(18")	(23")	(29")	(35")	(41")

TENSION EMBEDMENT AND SPLICE LENGTHS

– TENSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE A "TENSION DEVELOPMENT LENGTH" AS DEFINED IN CAN/CSA–A23.3 CLAUSE 12.2.3.

– SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A CLASS 'B' TENSION SPLICE (1.3td) AS PER CAN/CSA–A23.3 CLAUSE 12.15.

17.0 CONCRETE FORMWORK STRIPPING AND SHORING

1. THE DESIGN AND FIELD REVIEW OF FORMWORK, SHORING AND RESHORING IS THE RESPONSIBILITY OF THE CONTRACTOR. RESHORING DRAWINGS SHALL BE SUBMITTED TO RJC FOR THE EFFECT ON THE BASE BUILDING STRUCTURE ONLY.

2. NO COLUMN OR WALL FORMS SHALL BE REMOVED BEFORE CONCRETE HAS REACHED 10 MPA FOR ARCHITECTURAL CONCRETE OR 8 MPA FOR OTHER COLUMNS OR WALLS.

3. NO SLABFORMS OR BEAMFORMS SHALL BE REMOVED BEFORE CONCRETE HAS REACHED 75% OF THE 28 DAY STRENGTH BEFORE STRIPPING AND RESHORING.

4. SLABFORMS AND BEAMFORMS FOR POST–TENSIONED CONCRETE MEMBERS SHALL NOT BE REMOVED UNTIL STRESSING OF ALL TENDONS AT A LEVEL IS COMPLETED UNLESS AN ALTERNATE STRESSING SEQUENCE IS NOTED ON THE POST–TENSIONED CONCRETE SHOP DRAWINGS AND APPROVED BY RJC.

5. STRENGTH OF CONCRETE FOR STRIPPING TO BE DETERMINED USING CYLINDERS STORED ON SITE IN A PROTECTED ENCLOSURE THAT MAINTAINS A SIMILAR TEMPERATURE AND HUMIDITY AS THE STRUCTURAL ELEMENTS REPRESENTED. ALTERNATE METHODS, IF ACCEPTABLE TO RJC, MAY BE USED.

6. ALL SLABS, BEAMS, GIRDERS ETC. TO BE SHORED OR RESHORED UNTIL CONCRETE REACHES DESIGN STRENGTH BUT NOT LESS THAN 21 DAYS.

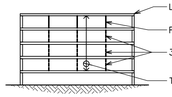
7. SOME MULTI LEVEL OR HANGER ASSEMBLIES REQUIRE FULL SHORING FOR A NUMBER OF LEVELS. SEE STRUCTURAL DRAWINGS FOR SPECIAL SHORING REQUIREMENTS.

8. NO CONCRETE MAY BE REMOVED WITH PERCUSSIVE METHODS SUCH AS CHIPPING OR JACK–HAMMERING WITHOUT PRIOR APPROVAL BY RJC.

9. THE DESIGN OF THE SLABS/FLOORS TO SATISFY THE "STRUCTURAL MOVEMENT" NOTE ASSUMES THE FOLLOWING TYPICAL PRACTICE FOR SHORING AND RESHORING U.N.O.:

   A. COMMON/TYPICAL CONSTRUCTION PRACTICE TO SHORE THE FRESH WEIGHT OF FLOORS HAS BEEN ASSUMED.

   B. THE FRESH WEIGHT OF THE TYPICAL SLABS/FLOORS, BEAMS, GIRDERS, ETC. TO BE SHORED AT LEAST 4 LEVELS BELOW THE FLOOR BEING POURED. SHORING MUST DESIGNED BY A SPECIALTY STRUCTURAL ENGINEER.



   C. FLOORS WITH NON–TYPICAL DEPTHS MAY HAVE TO BE SHORED TO MORE THAN 4 FLOORS.

   D. LOADING APPLIES TO COMPONENTS OF THE BASE BUILDING STRUCTURE (SLABS, COLUMNS, ETC.) BY THE FORMWORK, SHORES, OR RESHORES SHALL NOT EXCEED THE DESIGN LOAD FOR THOSE BASE BUILDING COMPONENTS. WHEN THIS LOADING IS APPLIED BEFORE THE CONCRETE STRENGTH IN THE BASE BUILDING COMPONENTS HAS REACHED THE SPECIFIED COMPRESSIVE STRENGTH, PRORATE THE COMPONENT CAPACITY BY THE RATIO OF ACTUAL CONCRETE STRENGTH TO SPECIFIED CONCRETE STRENGTH.

   E. AT NO TIME SHALL THE FACTORED CONSTRUCTION LOAD EXCEED THE FACTORED DESIGN LOAD ON FLOORS.

   F. CONSIDER THE SEQUENCE OF POST–TENSIONING OF VARIOUS FLOOR ELEMENTS WHEN DESIGNING FORMWORK AND SHORING FOR POST–TENSIONED FLOORS.

   G. TRANSFER GIRDERS, SLABS, OR SUSPENDED AREAS WHERE THE SUPPORTING STRUCTURE IS NOT YET IN PLACE MAY HAVE TO BE RESHORED ALL THE WAY TO LOWEST SLAB ON GRADE LEVEL. IN SUCH CASES THE GENERAL CONTRACTOR IS TO HAVE THE SUBGRADE PREPARED TO SUIT THE LOADS SPECIFIED BY THE TEMPORARY WORKS FORMWORK SUPPLIERS' SPECIALTY STRUCTURAL ENGINEER AND THE METHOD SPECIFIED BY THE GEOTECHNICAL CONSULTANT. SETTLEMENTS OF THE SLAB ON GRDE UNDER SHORING LOADS SHALL NOT EXCEED 3/16".

   H. VERIFICATION OF ALL SUBGRADE MATERIALS WHICH PROVIDE SUPPORT TO TEMPORARY WORKS, INCLUDING SHORING, AND DESIGN OF ANY ASSOCIATED GROUND IMPROVEMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR'S SPECIALTY GEOTECHNICAL ENGINEER.

   I. [TOWER CRANES] [CONCRETE PLACING BOOMS] SUPPORTED BY SUSPENDED STRUCTURE (SLABS, BEAMS, ETC) ARE ASSUMED TO BE SHORED FOR ALL LOAD EFFECTS OVER A MINIMUM OF 10 FLOORS BELOW THE LOWEST LOAD APPLICATION POINTS UNLESS NOTED OTHERWISE.]

   J. SHOP DRAWINGS INDICATING FACTORED VERTICAL REACTIONS AND OTHER LOADING INFORMATION, LOCATION AND CONSTRUCTION SEQUENCE FOR ALL TOWER CRANE(S), OTHER CRANES, AND STRUCTURE–SUPPORTED CONCRETE PUMPS OR PLACING BOOMS TO BE SUBMITTED BY CONTRACTOR TO RJC FOR REVIEW MINIMUM 60 DAYS PRIOR TO START OF CONSTRUCTION.

10. USE OF ALTERNATE SHORING AND RESHORING METHODS FOR SLABS/ FLOORS PROPOSED BY THE CONTRACTOR'S SPECIALTY ENGINEER TO BE SUBMITTED TO RJC FOR REVIEW AGAINST THE BASE BUILDING DESIGN ASSUMPTIONS. SUCH REVIEW BY RJC DOES NOT RELIEVE THE CONTRACTOR OR THE CONTRACTOR'S SPECIALTY ENGINEER OF THEIR RESPONSIBILITY TO ESTABLISH THE MEANS AND METHODS OF CONSTRUCTION THAT SATISFIES ALL REQUIREMENTS OF STRENGTH, STABILITY, SERVICEABILITY AND CONSTRUCTION SAFETY.

18.0 CONCRETE REINFORCEMENT

1. REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS:

   A. CAN/CSA–G30.18R – GRADE 400 MPa – 10M AND LARGER (U.N.O.)
   B. CSA STANDARD G30.5 – GRADE 400 MPa – WELDED WIRE REINFORCEMENT
   C. CAN/CSA–G30.18W – GRADE 400 MPa – ALL REINFORCING THAT WILL BE WELDED OR IS PART OF THE SEISMIC RESISTING ELEMENTS: REINFORCING FOR SHEAR WALLS, HEADERS AND ZONES (INCLUDING ZONE TIES AND HEADER TIES/STIRRUPS) AND MOMENT FRAME COLUMNS AND BEAMS (INCLUDING COLUMN TIES AND BEAM STIRRUPS)
   D. CSA STANDARD G279 – PRESTRESSING STRANDS
   E. EPOXY REINFORCING – ASTM A775M AND ASTM D3963

   (NOTE: G30.18W MAY BE SUBSTITUTED FOR G30.18R)

2. UNLESS OTHERWISE NOTED CONCRETE COVER TO REINFORCEMENT SHALL BE:

   A. FOR FIRE RATINGS:

ELEMENT		FIRE RATING	
		0–2 HOURS	3 HOURS
BEAMS, GIRDERS, COLUMNS, FORMED PILES (TO TIES OR STIRRUPS)		1 5/8"	1 5/8"
RETAINING WALLS (C–1 EXPOSURE)	INSIDE FACE	1 5/8" (30M=1 3/4")	1 5/8" (30M=1 3/4")
	GROUND OR EARTH SIDE	1 5/8" (30M=1 3/4")	1 5/8" (30M=1 3/4")

   NOTES:

   LARGEST COVER REQUIRED GOVERNS.

3. DESIGNATION OF REINFORCING BARS:

   A. BARS SHOWN THUS ——— ——— ——— IN BOTTOM OF BEAMS AND SLABS OR IN FAR FACE OF WALL

      BARS SHOWN THUS ——————— IN TOP OF BEAMS AND SLABS OR IN NEAR FACE OF WALL

   B. STRAIGHT BARS: E.G. 6–10M13.9 MEANS 6–10M BARS 13'–9" LONG.
      E.G. 15M12.6 + 15M10.6 ALT. @ 12" MEANS 1–15M12.6 BAR THEN 1–15M10.6 BAR SPACED 12" AWAY

      BENT BARS: E.G. 13–A20M13.4 MEANS 13–20M BARS 13'–4" H.I.E. 180'.
      E.G. 3–C25M09.10 MEANS 3–25M BARS 9'–10" LONG H.I.E. 90'.
      (NOTE: BENT BAR LENGTHS INCLUDE HOOK DIMENSION).

4. DO NOT SUBSTITUTE DEFORMED WIRE FOR REINFORCING BARS WITHOUT PRIOR APPROVAL OF RJC.

5. SUPPORT REINFORCING WITH CHAIRS, ACCESSORIES, OR REINFORCING BARS AS REQUIRED. BARS USED AS SUPPORT BARS SHALL BE CONSIDERED AS ACCESSORIES.

6. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN CONCRETE COVER AS SPECIFIED. ALL SUPPORTS AND BARS MUST BE TIED TOGETHER TO MAINTAIN REINFORCING STEEL SECURELY IN PLACE DURING CONCRETE PLACEMENT.

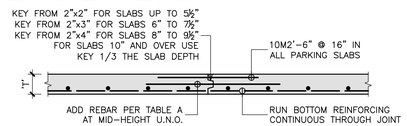
7. IN SUSPENDED SLABS:

   A. BAR SUPPORT CHAIRS SHALL BE PLASTIC, PLASTIC COATED, OR PRECAST CONCRETE BLOCKS EQUAL IN QUALITY TO THE CONCRETE SPECIFIED FOR THE STRUCTURE.

   B. UNCOATED METAL TIES SHALL NOT EXTEND MORE THAN 3/16" INTO THE CONCRETE COVER.

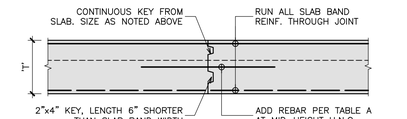
19.0 CONSTRUCTION JOINTS THROUGH SLABS, SLAB BANDS, AND BEAMS

LOCATIONS TO BE APPROVED BY RJC



THROUGH SLABS

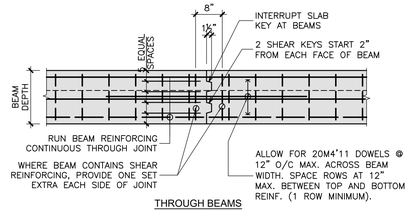
NOTE: TOP REINFORCEMENT SHOWN ON PLAN OR DETAILS TO BE CONTINUOUS THROUGH JOINT OR MECHANICALLY SPLICED



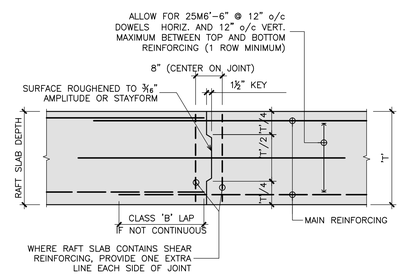
THROUGH SLABS BANDS

TABLE A

SLAB / SLAB BAND THICKNESS	CONCRETE DESIGN STRENGTH f'_c	
	35 MPa OR LESS	GREATER THAN 35 MPa
"T" ≤ 12"	15M3'–3" @12"	20M3'–11" @12"
12" < "T" ≤ 24"	20M3'–11" @12"	25M4'–11" @12"
SLAB BAND	20M3'–11" @12"	25M4'–11" @12"



THROUGH BEAMS



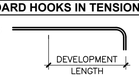
THROUGH RAFT SLAB

NOTES:

1. THESE DETAILS ARE TO ASSIST THE CONTRACTOR IN LOCATING POTENTIAL CONSTRUCTION JOINTS. FINAL CONSTRUCTION JOINT LOCATIONS ARE TO BE APPROVED BY RJC.
2. CONTRACTOR TO SUBMIT ALL PROPOSED CONSTRUCTION JOINT LOCATIONS TO RJC FOR REVIEW MINIMUM 14 DAYS BEFORE START OF FORMWORK AND REINFORCEMENT FOR LEVEL CONTAINING PROPOSED JOINT.
3. REQUIREMENTS FOR KEYS, ROUGHENED SURFACES AND DOWELS AT CONSTRUCTION JOINTS PROVIDED IN THESE DETAILS ARE FOR TYPICAL CONDITIONS AND ARE FOR PRICING AND PLANNING PURPOSES ONLY. A FINAL DESIGN OF THE CONSTRUCTION JOINT DETAILS IS TO BE COMPLETED BY RJC [AT CONTRACTOR'S COST] AFTER THE CONSTRUCTION JOINT LOCATIONS ARE APPROVED.
4. NO STAYFORM PERMITTED IN CONSTRUCTION JOINTS IN PARKING AREAS UNLESS APPROVED IN WRITING BY RJC.

20.0 DEVELOPMENT OF STANDARD HOOKS IN TENSION

BASED ON CAN/CSA–A23.3–04 CLAUSES 12.5.1, 12.5.2, AND 12.5.3.



CONCRETE STRENGTH	REBAR DESIGNATION					
	10M	15M	20M	25M	30M	35M
20 MPa	9"	14"	18"	23"	27"	31"
25 MPa	8"	12"	16"	20"	24"	28"
30 MPa	8"	11"	15"	18"	22"	26"
35 MPa	7"	10"	14"	17"	20"	24"
40 MPa	7"	10"	13"	16"	19"	22"
45 MPa	6"	9"	12"	15"	18"	21"
59 MPa	6"	9"	12"	14"	17"	20"
55 MPa	6"	8"	11"	14"	16"	19"
60 MPa	6"	8"	11"	13"	16"	18"
65 MPa & GREATER	6"	8"	10"	13"	15"	18"

NOTES:

1. TABLE SHOWS DEVELOPMENT LENGTHS FOR GRADE 16" REINFORCEMENT. INCREASE TABLE LENGTHS BY 1.25 FOR GRADE 20" REINFORCEMENT.
2. INCREASE TABLE LENGTHS BY 1.2 FOR EPOXY COATED REINFORCEMENT.

21.0 CONDUIT, PIPES, AND SLEEVES EMBEDDED IN CONCRETE - SLABS

REFER TO CONDUITS, PIPES, AND SLEEVES EMBEDDED IN CONCRETE – GENERAL FOR ADDITIONAL REQUIREMENTS

1. SUSPENDED SLABS (REINFORCED AND POST–TENSIONED):

   A. GUIDELINES FOR CONDUIT SPACING REQUIREMENTS PARALLEL TO THE PLANE OF THE SLAB:

      i. LOCATE CONDUIT BETWEEN TOP AND BOTTOM REINFORCING.

      ii. CONDUIT DIAMETER IN ONE LAYER SHALL NOT EXCEED 1/4 CONCRETE SLAB THICKNESS.

      iii. THREE LAYERS OR MORE CROSSING WILL NOT BE PERMITTED.

      iv. CENTERLINE SPACING OF CONDUITS AND PIPES TO BE NOT LESS THAN 3 DIAMETERS (4" CLEAR MINIMUM), UNLESS NOTED OTHERWISE.

      v. CENTERLINE SPACING BETWEEN PARALLEL CONDUIT AND REINFORCING BARS TO BE 3 BAR DIAMETERS (2" CLEAR MINIMUM), UNLESS NOTED OTHERWISE.

   B. GUIDELINES FOR IN–SLAB CONDUIT SPACING IN RELATION TO COLUMNS, WALLS, BEAMS, ETC.:

      i. NO IN–SLAB CONDUIT OR PIPES WITHIN 2'–0" OR 3 X SLAB THICKNESS OF HEADED STUD ASSEMBLY UNLESS APPROVED IN WRITING BY RJC. WHERE SUCH APPROVAL IS GIVEN, IN–SLAB CONDUIT OR PIPES SHALL NOT BE ADJACENT TO STUD SHAFT AND SHALL NOT BE WITHIN 2 DIAMETERS CLEAR (1" MINIMUM) OF ANY STUD HEAD.

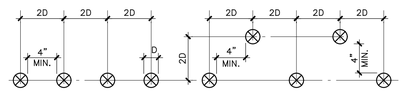
      ii. NO IN–SLAB CONDUIT OR PIPES CLOSER THAN 3 X SLAB THICKNESS (2'–8" MINIMUM) FROM ANY FACE OF SHEAR WALLS AND END FACE OR TIED ZONES IN NON–SHEAR WALLS.

      iii. NO IN–SLAB CONDUIT OR PIPES CLOSER THAN BEAM DEPTH (2'–8" MINIMUM) FROM COLUMN FACE AT BEAMS.

      iv. NO IN–SLAB CONDUIT OR PIPES PARALLEL TO EDGE OF CAPITAL OR DROP CLOSER TO EDGE THAN CAPITAL OR DROP OVERALL HEIGHT (2–8" MINIMUM). NO IN–SLAB CONDUIT CROSSING EDGE OF DROP OR CAPITAL UNLESS APPROVED IN WRITING BY RJC.

   C. GUIDELINES FOR EMBEDDED BOXES AND SLEEVES PERPENDICULAR TO THE PLANE OF THE SLAB:

      i. SPACING OF SLEEVES AND EMBEDDED BOXES TO BE NOT LESS THAN THE FOLLOWING:



      ii. WHERE TOP SLAB BARS GO BETWEEN SLEEVES, ADD 1–15M TOP EACH SIDE OF SLEEVES IN PERPENDICULAR DIRECTIONS. EXTEND 1'–8" MINIMUM PAST SLEEVES.

      iii. SLEEVES AND EMBEDDED BOXES IN FLAT SLABS AND FLAT PLATES NOT TO BE LOCATED NEXT TO COLUMNS UNLESS APPROVED BY RJC IN WRITING.

      iv. CLEAR DIMENSION FOR SLEEVES AND EMBEDDED BOXES TO COLUMNS TO BE 4'–0" MINIMUM UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.

      v. CLEAR DIMENSION OF ALL SLEEVES AND EMBEDDED BOXES TO ANY HEADED STUD ASSEMBLY SHALL NOT BE LESS THAN 2 X SLAB THICKNESS (12" MIN.) UNLESS NOTED OTHERWISE.

22.0 UNBONDED AND BONDED POST-TENSIONING : CONCRETE AND GROUT

1. USE NORMAL WEIGHT CONCRETE. SEE "CONCRETE NOTES" FOR 28 DAY STRENGTH. MINIMUM 28 DAY STRENGTH IS 35 MPa U.N.O. MINIMUM STRENGTH AT STRESSING UNLESS A HIGHER VALUE IS SHOWN ON THE P/T SHOP DRAWINGS.

   A. SLABS ---------- 20 MPa
   A. BEAMS ---------- 30 MPa

2. CONCRETE MIX AND ADMIXTURES.

   A. CALCIUM CHLORIDE SHALL NOT BE USED IN CONCRETE, ADMIXTURES OR GROUT FOR STRESSING POCKETS.
   B. MAXIMUM CHLORIDE ION CONTENT IN CONCRETE SHALL NOT EXCEED THE RECOMMENDATIONS OF COMMITTEE 318 OF THE AMERICAN CONCRETE INSTITUTE OR CSA S413.
   C. THE MIX DESIGN SHALL BE REVIEWED BY RJC, AND SHALL SUIT THE TYPE OF ANCHOR USED AND THE CONTRACTORS STRESSING SCHEDULE.
   D. ALL MIXES SHALL BE MARKED 'P/T MIX – NO CHLORIDES'.

3. GROUT FOR ANCHOR POCKETS SHALL BE A NON–SHRINK, NON–METALLIC PRODUCT, FREE OF CHLORIDES AND OTHER CHEMICALS DELETERIOUS TO METALS. THE GROUT SHALL CONTAIN A BONDING AGENT. USE SIKA TOP 123 OR APPROVED EQUIVALENT.

23.0 UNBONDED AND BONDED POST-TENSIONING - RESHORING

1. DO NOT STRIP FORMS UNTIL ALL THE P/T TENDONS ARE STRESSED. RESHORE IMMEDIATELY UNTIL THE CONCRETE REACHES ITS SPECIFIED 28 DAY STRENGTH, MAINTAIN RESHORES LONGER IF REQUIRED TO SUPPORT SLABS ABOVE.

2. ANY AREAS IN WHICH THE P/T REQUIRES REPAIR SHALL BE SHORED UNTIL THE REPAIRS ARE COMPLETE.

24.0 STAINLESS STEEL - GENERAL

1. STAINLESS STEEL SECTIONS SHALL BE NEW AND CONFORM TO THE FOLLOWING U.N.O.:

   A. BARS AND SHAPES---------- ASTM A276 TYPES 304L OR 316L
   B. PLATES, SHEETS, AND STRIPS ---------- ASTM A167 TYPES 304L OR 316L
   C. BOLTS, THREADED ROD, ---------- ASTM F593 ALLOY GROUP
      HEX CAP SCREWS, AND STUDS CONDITION CW OR SH

2. USE OF STAINLESS STEEL SHAPES, PLATES, BARS OR FASTENERS WITH ALTERNATIVE TYPE OR GRADE THAN NOTED ABOVE SUBJECT TO APPROVAL BY RJC.

3. MATCHING WELD ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH AWS D1.6/D1.6M WITH A STRENGTH EQUAL TO E316L (490 MPa) OR BETTER.

4. REFER TO "STRUCTURAL STEEL – CONNECTION DESIGN BY FABRICATOR" AND "STRUCTURAL STEEL – FABRICATION AND DETAILING" GENERAL NOTES FOR ADDITIONAL INFORMATION AND CRITERIA.

5. DESIGN FORCES INDICATED ON DRAWINGS FOR STRUCTURAL STEEL WORK ARE FACTORED FORCES UNLESS NOTED OTHERWISE. FORCES ARE VERTICAL SHEAR FORCES UNLESS NOTED OTHERWISE.

   A. FORCES ---------- KIPS
   B. MOMENTS ---------- KIP–FT
   C. LINE LOADS ---------- KIP/FT
   D. DISTRIBUTED LOADS ---------- PSF

   SEE "DESIGN LOADS" NOTES FOR DEFINITIONS AND VALUES OF LIVE LOAD, DEAD LOAD AND SUPERIMPOSED DEAD LOAD. SEE ALSO PLANS FOR OTHER LOAD/FORCE REQUIREMENTS.

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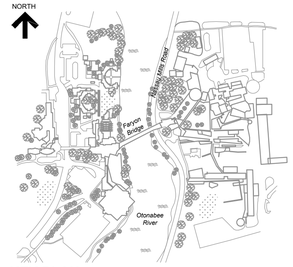

KEY PLAN

No.	Revision	Date	By
1.	ISSUED FOR TENDER	July 2, 25	M.P.

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Seal

Project Name

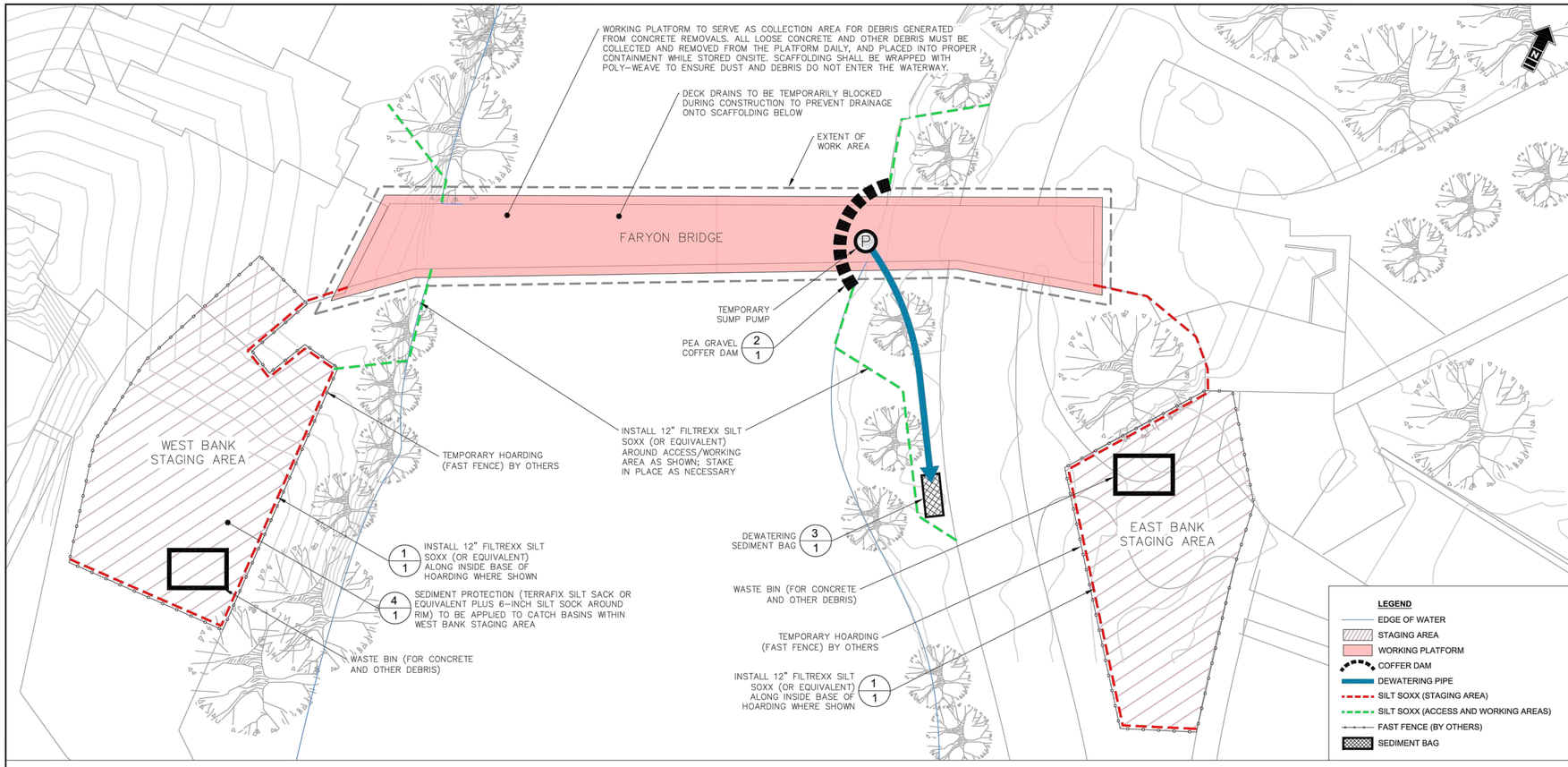
Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

Sheet Title

GENERAL NOTES AND TYPICAL DETAILS

Drawn By **T.S.** Scale **N.T.S.**
Designed By **M.P.** Date **July, 2025**
RJC Project Number **TOR.

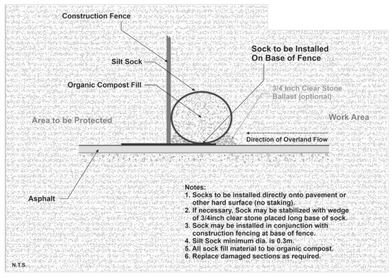


EROSION AND SEDIMENT CONTROL:

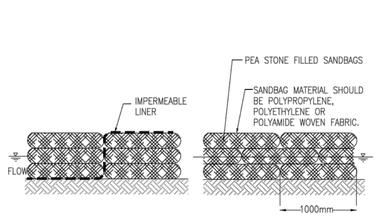
1. EROSION AND SEDIMENT CONTROL (ESC) MEASURES WILL BE IMPLEMENTED PRIOR TO, AND MAINTAINED DURING THE CONSTRUCTION PHASES, TO PREVENT ENTRY OF SEDIMENT INTO THE WATER AND OTHER SENSITIVE NATURAL AREAS.
2. IN-WATER ESC MEASURES (I.E. COFFER DAM) THAT ISOLATES WETTED AREAS, MUST ALSO INCLUDE FISH AND WILDLIFE RELOCATION UNDER PERMIT BY QUALIFIED PERSONNEL TO ENSURE NO FISH ARE TRAPPED IN WORKING AREA.
3. MATERIAL CONTAINMENT (I.E. DEBRIS NETTING AND WORKING PLATFORM UNDER BRIDGE) MAY BE INSTALLED IN SEGMENTS AND MOVED AS REQUIRED TO CONTAIN POSSIBLE FLYING DEBRIS FROM WORKING AREAS. THE CONTRACTOR SHALL ENSURE ADEQUATE WORKING AREAS ARE DELINEATED AND DEBRIS CONTAINMENT IS EFFECTIVE THROUGHOUT CONSTRUCTION.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED ON A DAILY BASIS AND SHOULD BE REPAIRED AND/OR REPLACED IMMEDIATELY AFTER THE INSPECTION IF DEFICIENT. ALL DAMAGES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSULTANT AND SHALL BE REPAIRED/ REPLACED IMMEDIATELY BY THE CONTRACTOR.
5. CONSTRUCTION ACTIVITIES, INCLUDING MAINTENANCE PROCEDURES, WILL BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE OR OTHER DELETERIOUS SUBSTANCES INTO THE WATER. VEHICULAR REFUELING AND MAINTENANCE WILL BE CONDUCTED A MINIMUM OF 30M FROM THE WATER.
6. THE CONTRACTOR SHALL MONITOR THE FIVE DAY WEATHER FORECAST ON A DAILY BASIS TO ANTICIPATE WEATHER CONDITIONS AND SHALL BE PREPARED TO LEAVE THE SITE IN A STABLE AND SECURE CONDITION SHOULD WATER LEVELS RISE.
7. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONTROLLING SEDIMENT AND EROSION WITHIN THE CONSTRUCTION SITE FOR THE TOTAL PERIOD OF THE CONSTRUCTION. ANY SEDIMENT LADEN WATER WILL NOT BE ALLOWED TO DISCHARGE TO THE WATERCOURSE.
8. ACCESS TO SITE TO BE MAINTAINED OR RESTORED TO PRE-CONSTRUCTION CONDITIONS FOLLOWING CONSTRUCTION.
9. ALL DEWATERING SHALL BE DISCHARGED IN DESIGNATED AREAS AS FAR FROM THE ACTIVE CHANNEL AS POSSIBLE AND SHALL DISCHARGE INTO A SEDIMENT BAG OR EQUIVALENT. NO DEWATERING SHALL BE SENT DIRECTLY TO ANY WATERCOURSE OR SEWER. THESE CONTROL MEASURES SHALL BE MONITORED FOR EFFECTIVENESS AND MAINTAINED OR REVISED TO MEET THE OBJECTIVE OF PREVENTING SEDIMENT FROM ENTERING THE WATERCOURSE.
10. DURING THE DEWATERING, IF THE SIZE OF SEDIMENT PARTICULATE IS LESS THAN OPENING OF THE FILTER BAG, THAN A SEDIMENT TANK SHOULD BE USED FOR SILTATION PURPOSES.
11. ALL DISTURBED AREAS ARE TO BE STABILIZED AND/OR RESTORED WITH VEGETATIVE COVER IMMEDIATELY FOLLOWING DISTURBANCE.
12. PERIMETER SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL REMAIN IN PLACE DURING AND AFTER CONSTRUCTION UNTIL THE VEGETATION HAS BEEN ESTABLISHED (WHERE APPLICABLE) AND THE SITE HAS BEEN STABILIZED.
13. ADDITIONAL EROSION AND SEDIMENT CONTROL MATERIALS ARE TO BE KEPT ON SITE FOR EMERGENCY REPAIRS AND MAINTENANCE.
14. ALL TEMPORARY SOIL OR DIRT STOCKPILES ARE TO BE ENCLOSED WITH THE NECESSARY SEDIMENT AND EROSION CONTROL FEATURES, INCLUDING SEEDING IF ANTICIPATED TO BE STORED MORE THAN ONE MONTH. STOCKPILES MUST NOT BE LOCATED IN AREAS OF CONCENTRATED FLOW AND MINIMUM OF 15M FROM TOP OF BANK OR WATERCOURSE OR WETLAND. RUBBLE AND OTHER DELETERIOUS CONSTRUCTION WASTE SHOULD BE STORED IN BINS PRIOR TO DISPOSAL.
15. THE EROSION AND SEDIMENT CONTROL PLAN IS A DYNAMIC DOCUMENT, WHICH MAY BE SUBJECT TO CHANGE OR MODIFICATIONS AS A RESULT OF SITE DEVELOPMENTS OR CHANGES ON SITE.
16. PRIOR TO REMOVAL OF THE EROSION AND SEDIMENT CONTROL MEASURES, THE CONSULTANT AND THE OWNER SHALL CONDUCT A JOINT INSPECTION OF THE CONSTRUCTION SITE TO CONFIRM THAT THE MEASURES CAN BE REMOVED AND DISCUSS THE PROCESS FOR REMOVAL.

1 : 250 metres
5 0 5 10
SCALE

REFERENCE:



DETAIL FAST FENCE WITH SILT SOXX 1/1
N.T.S.



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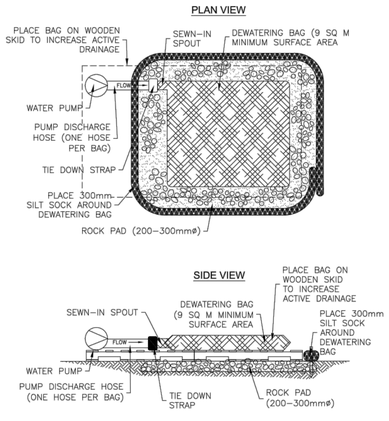

DETAIL SEDIMENT TRAP (BAG) 3/1
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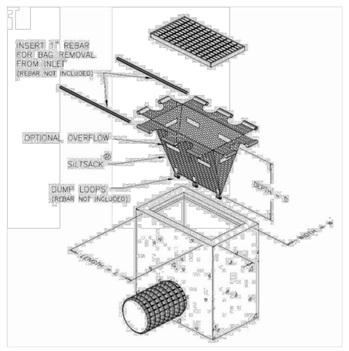

DETAIL TERRAFIX SILT SACK 4/1
N.T.S.

MATRIX SOLUTIONS INC.
CERTIFICATE OF AUTHORIZATION
No.: 100187406
Professional Engineers Ontario

REVISION					
B	04/07/25	UPDATED FOR ORCA PERMIT APPLICATION	CC		HP
A	03/13/25	FOR ORCA PERMIT APPLICATION	CC		
No.	DATE	DESCRIPTION	BY	CHK.	DRN.

MONTROSE ENVIRONMENTAL

READ JONES CHRISTOFFERSON LTD.
FARYON BRIDGE REHABILITATION

EROSION AND SEDIMENT CONTROL PLAN

DATE:	TECHNICAL:	REVIEWER:	DRAWN:
APRIL 2025	C. CUMMINGS		H. PIAGNO
PROJECT: 41845		REVISION: B	SHEET: 1

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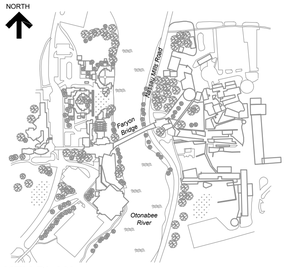

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Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

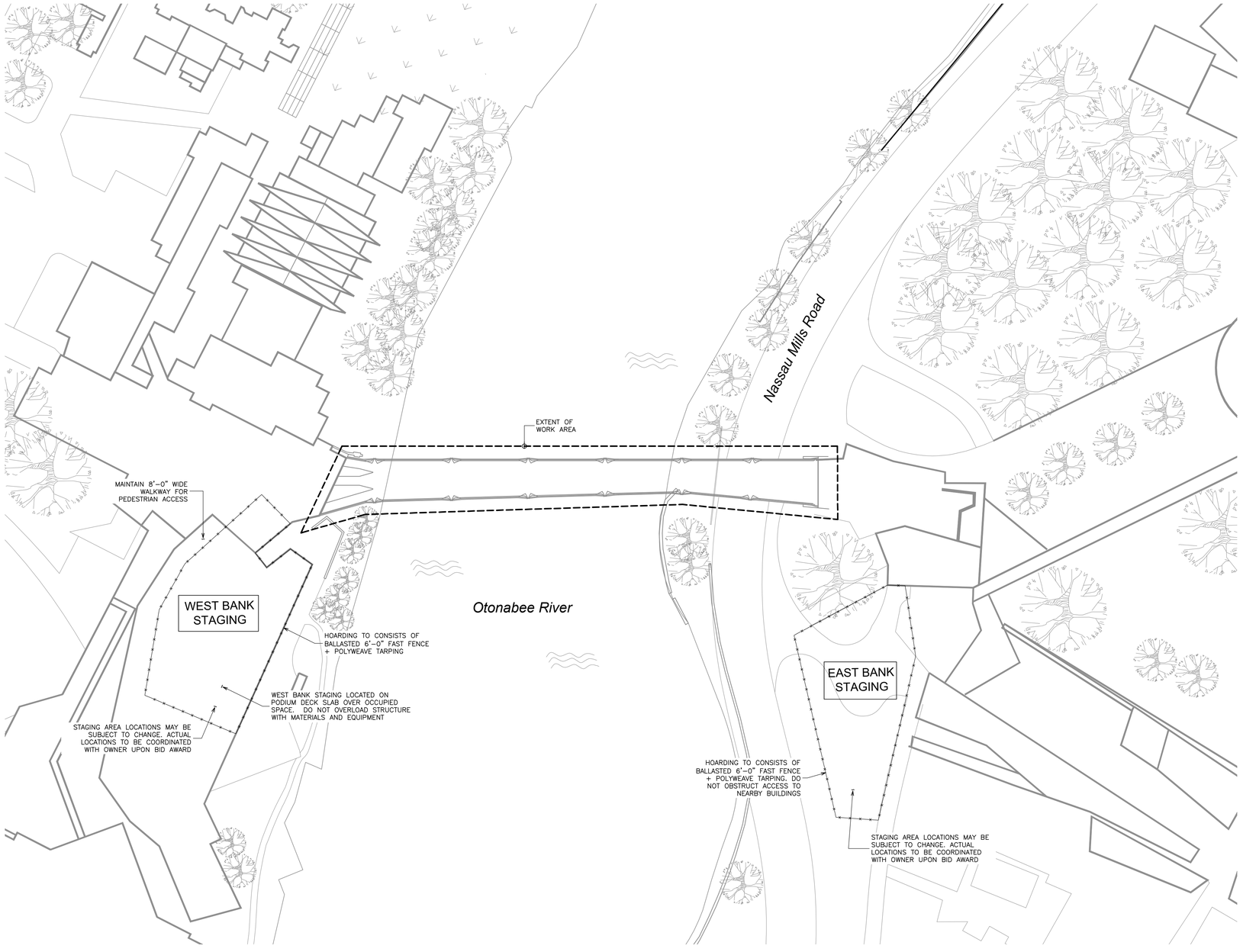
Sheet Title

EROSION AND SEDIMENT CONTROL PLAN

Drawn By **T.S.** Scale **N.T.S.**
Designed By **M.P.** Date **July, 2025**
RJC Project Number **TOR.140104.0001**

Sheet Number Revision

S0.3



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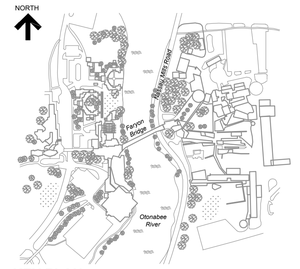

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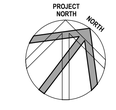

Project Name

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Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

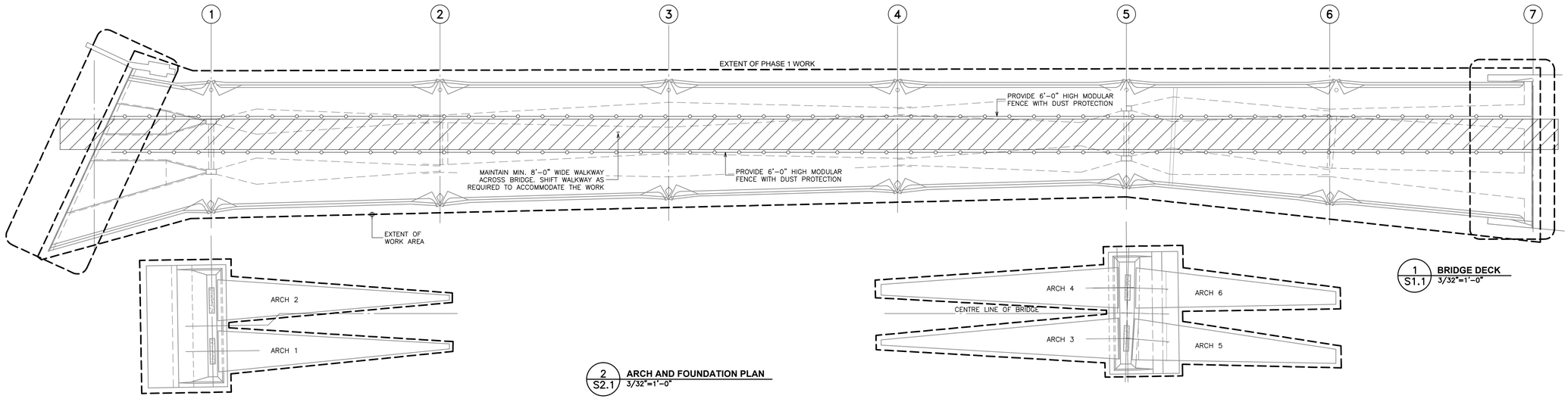
Sheet Title

SITE PLAN

Drawn By	**T.S.**	Scale	**≈ 1/32"=1'-0"**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

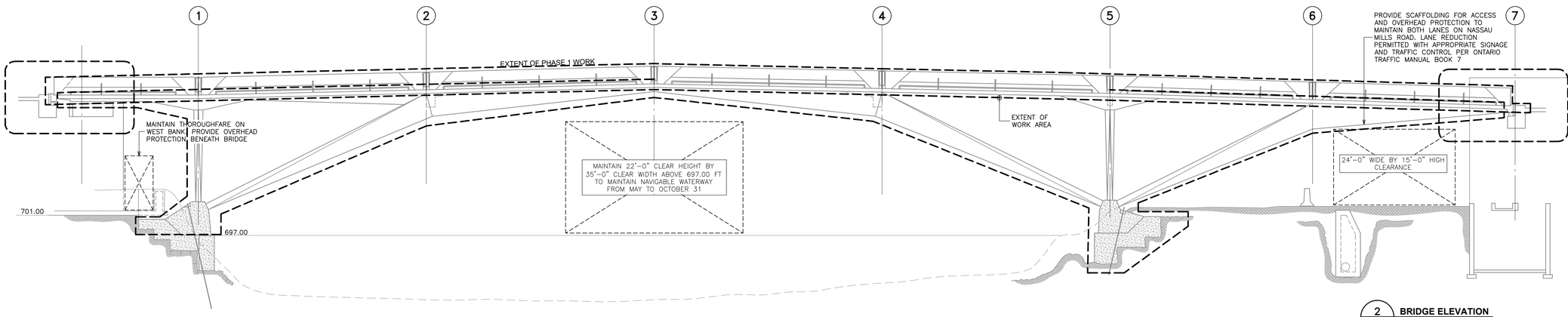
Sheet Number — Revision

S1.0



1 S1.1 **BRIDGE DECK**
3/32"=1'-0"

2 S2.1 **ARCH AND FOUNDATION PLAN**
3/32"=1'-0"



2 S1.1 **BRIDGE ELEVATION**
3/32"=1'-0"

RECOMMENDED WORK EXECUTION:

THE FOLLOWING WORK EXECUTION IS RECOMMENDED METHODOLOGY FOR BIDDERS AND HAS BEEN CONSIDERED AS REASONABLE BY THE PROJECT DESIGN TEAM WHEN DEVELOPING THE PROJECT SCHEDULE AND SCOPE OF WORK. THE WORK EXECUTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND METHODOLOGY CAN BE MODIFIED WHERE PERMISSIBLE BY AUTHORITIES HAVING JURISDICTION AND LOCAL ORDINANCES. NO ADDITIONAL COSTS FOR ACCESS HOARDING, PROTECTION, OR TEMPORARY WORKS NECESSARY WILL BE ENTERTAINED AFTER TENDER CLOSE.

1. GENERAL WORK EXECUTION IN FOLLOWING SEQUENCE:
   - A. EXISTING ABUTMENT WALL EXPANSION JOINT AND BRIDGE DECK END BEAM DEMOLITION TO EXPOSE THE POST TENSIONED TENDON ANCHORS.
   - B. POST-TENSIONED TENDON GAS PURGING AND IMPREGNATION REHABILITATION.
   - C. BRIDGE EXPANSION JOINT AND BEARING PAD RECONSTRUCTION.
   - D. BRIDGE SUPERSTRUCTURE REHABILITATION.
   - E. BRIDGE ABUTMENT BEAM REHABILITATION AND ELECTRICAL DUCT BANK WORK.
   - F. BRIDGE DECK AND BALUSTRADE REHABILITATION.

PHASING NOTES:

THESE NOTES APPLY TO ALL ASPECTS OF THE WORK.

1. INSTALL AND MAINTAIN HOARDING, DUST PROTECTION, AND CONSTRUCTION SIGNAGE PER SPECIFICATION SECTION 01 56 00. CONTRACTOR TO ENSURE NO DEBRIS GENERATED FROM THE WORK ENTERS THE WATERWAY.
2. COORDINATE, SUPPLY, INSTALL, AND MAINTAIN ALL HOARDING, DUST, AND OVERHEAD PROTECTION AND TEMPORARY WORKS REQUIRED TO EXECUTE THE WORK. SITE FENCING SHALL ALSO ACT AS A PRIVACY BARRIER.
3. PERMITS RELATED TO NAVIGABLE WATERWAYS, PARKS CANADA, DEPARTMENT OF FISHERIES AND OCEANS, AND THE OTONABEE CONSERVATION AUTHORITY HAVE BEEN OBTIANED BY THE OWNER. ALL OTHER PERMITS REQUIRED TO PERFORM THE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. MAINTAIN BRIDGE DECK HOARDING AND TEMPORARY WORKS AS NECESSARY TO PROTECT TEMPORARY ARMOURED POWER CABLE ALONG SOUTH BALUSTRADES. REFER TO ELECTRICAL DRAWINGS FOR DETAILS.
5. CONTRACTOR TO ENSURE ACCESS TO WORK AREA IS RESTRICTED TO THE CONTRACTOR'S STAFF, THE CONSULTANT, AND THE OWNER. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SITE SAFETY AND SECURITY.
6. THE CONTRACTOR IS RESPONSIBLE FOR FLAGMEN AND TRAFFIC CONTROL WHEN TRANSPORTING EQUIPMENT AND MATERIAL OUTSIDE OF THE WORK AREA.
7. PEDESTRIAN BRIDGE TO REMAIN ACCESSIBLE AT ALL TIMES. CONTRACTOR TO MAINTAIN A MINIMUM 8'-0" WIDE WALKWAY ACROSS THE BRIDGE. WALKWAY TO BE HOARDED OFF FROM THE SURROUNDING WORK AREAS WITH 6'-0" HIGH MODULAR FENCING.
8. OTONABEE RIVER WATERWAY TO REMAIN ACCESSIBLE AT ALL TIMES. CONTRACTOR TO MAINTAIN A MINIMUM 22'-0" CLEAR HEIGHT BY 35'-0" CLEAR WIDTH ABOVE WATERLINE TO MAINTAIN NAVIGABLE WATERWAY FROM MAY TO OCTOBER 31. TEMPORARY WORKS CANNOT ENCROACH WITHIN THIS NAVIGATION ROUTE DURING THIS PERIOD.
9. NASSAU ROAD TO REMAIN ACCESSIBLE AT ALL TIMES. CONTRACTOR TO MAINTAIN A MINIMUM 15'-0" CLEAR HEIGHT BY 24'-0" CLEAR WIDTH TO MAINTAIN BOTH DRIVELANES. LANE REDUCTION PERMITTED WITH APPROPRIATE SIGNAGE AND TRAFFIC CONTROL PER ONTARIO TRAFFIC MANUAL BOOK 7 IN CONSULTATION WITH ROADWAY AUTHORITIES.
10. SIGNAGE SHOWN ON PHASING DIAGRAMS. CONTRACTOR MAY BE REQUIRED TO INSTALL ADDITIONAL SIGNAGE AS REQUIRED BY THE OWNER.
11. INSTALL AND MAINTAIN TREE PROTECTION SEDIMENT, AND EROSION PROTECTION AS REQUIRED BY MUNICIPAL PERMIT AND CONSERVATION AUTHORITY FOR THE DURATION OF THE PROJECT.
12. WORK HOURS ARE 7AM TO 7PM MONDAY TO FRIDAY AND 9AM TO 5PM SATURDAY IN ACCORDANCE WITH MUNICIPAL BYLAWS.
13. DO NOT OVERLOAD THE SUBJECT BRIDGE OR ADJACENT BUILDING STRUCTURES DURING THE COURSE OF THE WORK.
14. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY WORKS AND SHORING REQUIRED TO EXECUTE THE WORK. SHOP DRAWINGS SHALL BE SEALED BY A LICENSED ENGINEER IN THE PROVINCE OF ONTARIO.
15. TEMPORARY GUARDS TO CONSTRUCTED AND MAINTAINED DURING BALUSTRADE WALL RECONSTRUCTION.
16. MODIFY BIRD NETTING AS NECESSARY TO FACILITATE RESTORATION WORK.
17. BIRD NESTING DETERRENT HAS BEEN INSTALLED ON THE UNDERSIDE OF THE BRIDGE AND AT THE ABUTMENTS IN ACCORDANCE WITH AUTHORITIES. CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE SYSTEM IN A STATE OF GOOD REPAIR AND MODIFY, REMOVE/REINSTATTE AS REQUIRED TO PERFORM THE WORK. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY OF THE SYSTEM, ITS CONDITION, AND FUNCTIONALITY THROUGHOUT THE COURSE OF THE PROJECT. REMOVE AND DISPOSE UPON COMPLETION OF THE PROJECT.

LEGEND:

- EXTENT OF WORK
- CONCRETE BALUSTRADES
- APPROXIMATE EXTENT OF NAVIGABLE ACCEESSWAYS
- APPROXIMATE EXTENT OF PEDESTRIAN BRIDGE WALKWAY
- APPROXIMATE EXTENT OF FENCING/HOARDING

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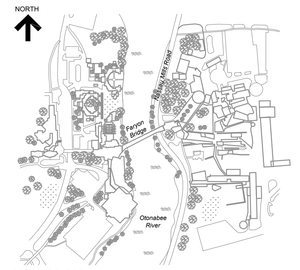

KEY PLAN

No.	Revision	Date	By
1.	ISSUED FOR TENDER	July 2, 25	M.P.

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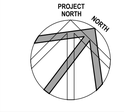


Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

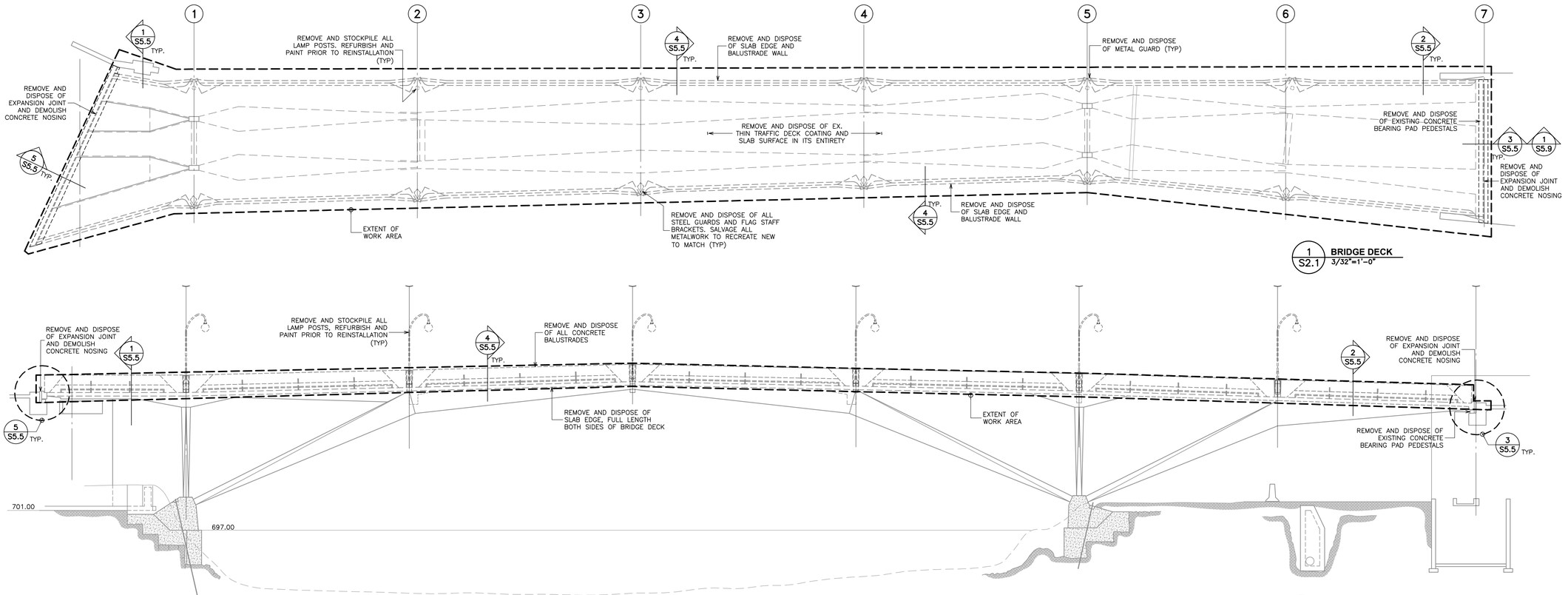
Sheet Title

BRIDGE DECK AND ELEVATION HOARDING AND PROTECTION

Drawn By	T.S.	Scale	3/32"=1'-0"
Designed By	M.P.	Date	July, 2025
RJC Project Number			TOR.140104.0001

Sheet Number — Revision

S1.1



SLAB EDGE DEMOLITION SEQUENCE NOTES:

1. DEMOLITION OF DECK CANTILEVER TO BE LIMITED TO 3'–0" MAX FROM SLAB EDGE. DO NOT ENCROACH WITHIN 8" OF BEAM CROSS SECTION.
2. COMPLETE WORK ON ONE SIDE OF BRIDGE AT A TIME, OR ON BOTH SIDES SIMULTANEOUSLY IF ADEQUATE SPACE FOR PEDESTRIANS AND CONSTRUCTION IS AVAILABLE. IF WORK OCCURS ON BOTH SIDES OF THE DECK, CONSTRUCTION SEQUENCE/PROGRESS IS TO MATCH ON EACH SIDE.
3. THE BRIDGE SHALL NOT BE USED FOR CROWD ASSEMBLY – VIEWING EVENTS – WHILE CONSTRUCTION IS UNDERWAY.
4. DEMOLISH STAGE (1A).
5. DEMOLISH STAGE (1B).
6. PLACE CONCRETE STAGE (1B).
7. PLACE CONCRETE STAGE (1A).

DEMOLITION NOTES:

1. INSTALL HOARDING, DUST PROTECTION, SIGNAGE, AND OVERHEAD PROTECTION AS SHOWN ON THE PHASING DRAWINGS AND IN ACCORDANCE WITH SPECIFICATION SECTION 01 56 00 PRIOR TO UNDERTAKING DEMOLITION WORK.
2. COORDINATE THE WORK IN ACCORDANCE WITH THE DRAWINGS AND GENERAL SITE RESTRICTION AS OUTLINED IN THE SPECIFICATIONS.
3. COMPLETE SLAB EDGE, TOPPING, AND BALUSTRADE REPLACEMENT IS TO BE PERFORMED IN THE SPECIFIC AREAS AND SEQUENCE AS INDICATED ON THIS DRAWING. CONTRACTOR TO REVIEW THE EFFECTS OF DEMOLITION ON THE EXISTING BRIDGE STRUCTURE WITH RJC PRIOR TO UNDERTAKING DEMOLITION WORK.
4. REMOVE, STORE, AND REFURBISH EXISTING CANDYCANE LIGHT FIXTURES IN ORDER TO FACILITATE THE WORK. CONTRACTOR TO PROVIDE TEMPORARY LIGHTING FOR PEDESTRIAN WALKWAY FOR THE DURATION OF THE WORK.
5. CONTRACTOR TO PROTECT ALL ITEMS TO REMAIN. ANY DAMAGES AS A RESULT OF THE CONSTRUCTION ACTIVITY TO THE EXISTING STRUCTURE, FINISHES, EMBEDDED CONDUIT, AND ADJACENT STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. DEMOLITION TO INCLUDE REMOVAL AND DISPOSAL OF EXISTING STEEL GUARDS AND BALUSTRADE BRACKETS.
7. UPON COMPLETION OF THE DEMOLITION, ALL EXISTING EXPOSED SLAB REINFORCING STEEL SHALL BE REVIEWED BY THE CONSULTANT FOR SUPPLEMENTATION AND TO BE SANDBLASTED CLEAN PRIOR TO PLACEMENT OF NEW SLAB.
8. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY WORKS AND SHORING REQUIRED TO EXECUTE THE WORK. SHOP DRAWINGS SHALL BE SEALED BY A LICENSED ENGINEER IN THE PROVINCE OF ONTARIO.

LEGEND:

- EXTENT OF WORK
- CONCRETE BALUSTRADES TO BE DEMOLISHED
- PHASE 1A DEMOLITION
- PHASE 1B DEMOLITION

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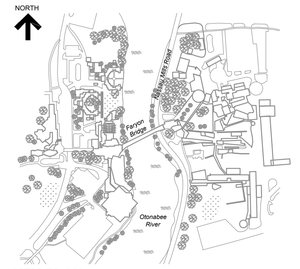

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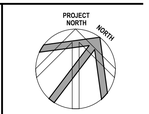
Seal



Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

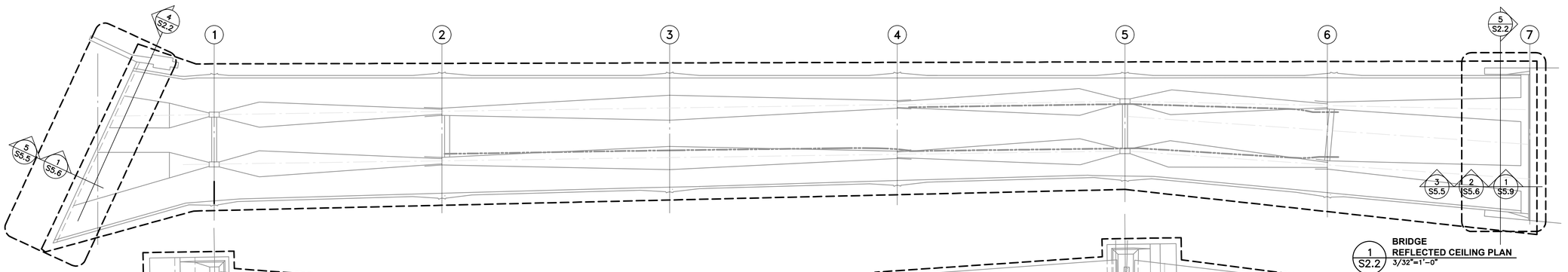
Sheet Title

BRIDGE DECK AND ELEVATION DEMOLITION

Drawn By	**T.S.**	Scale	**3/32"=1'-0"**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

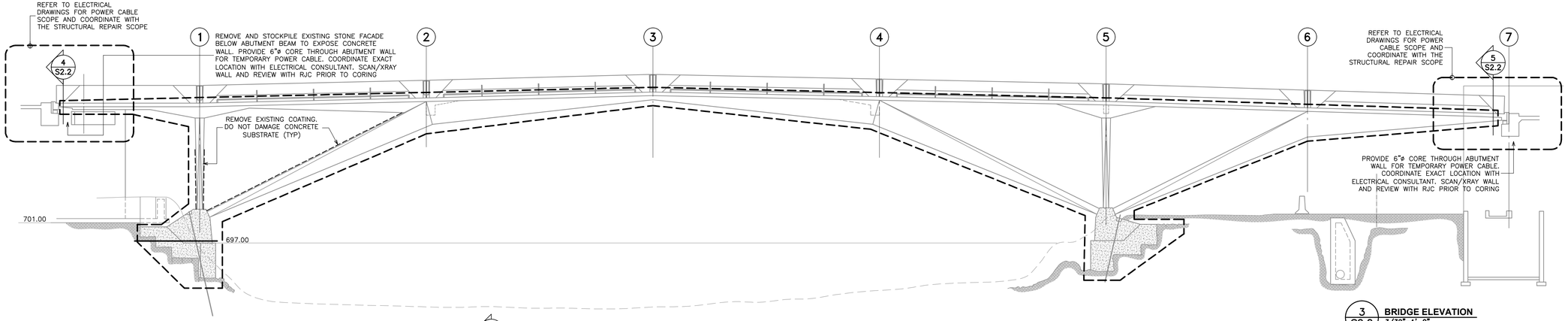
Sheet Number — Revision

S2.1

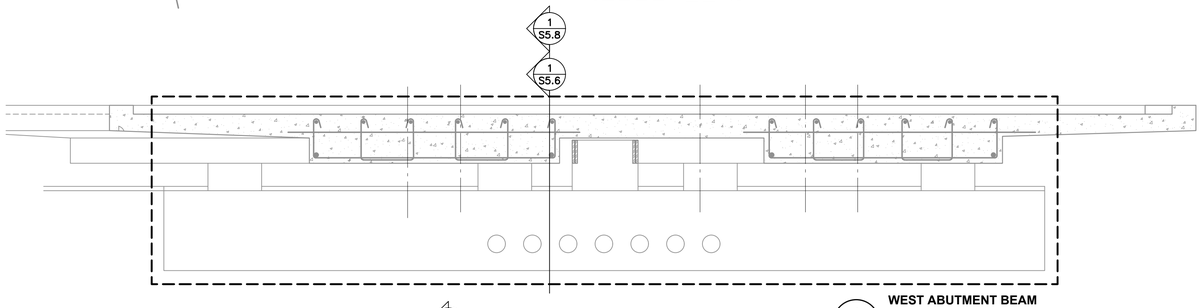


1 S2.2 **BRIDGE REFLECTED CEILING PLAN**
3/32"=1'-0"

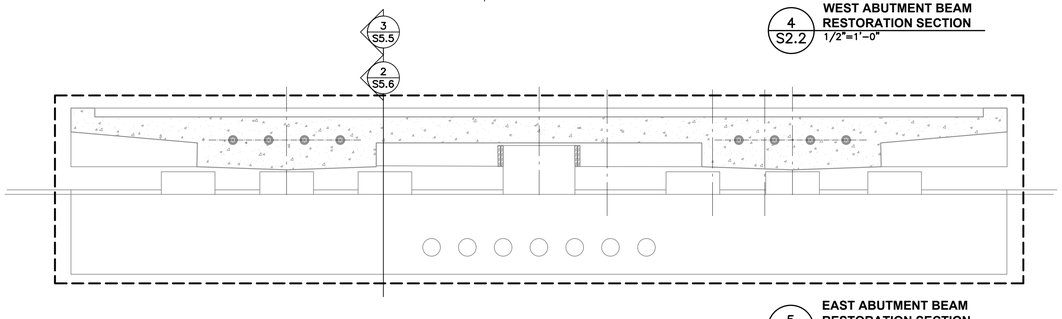
2 S2.2 **ARCH AND FOUNDATION PLAN**
3/32"=1'-0"



3 S2.2 **BRIDGE ELEVATION**
3/32"=1'-0"



4 S2.2 **WEST ABUTMENT BEAM RESTORATION SECTION**
1/2"=1'-0"



5 S2.2 **EAST ABUTMENT BEAM RESTORATION SECTION**
1/2"=1'-0"

ABUTMENT BEARING DESIGN LOADS:
(FOR EACH BEARING PLINTH)

SLS LOAD (kN)	DEAD LOAD TOTAL LOAD	255 315
TRANSLATION (mm)	Δ X Δ Y	±15 ±15
SLS ROTATION (rad)	DEAD LOAD TOTAL LOAD	0.010 0.015

LEGEND:

EXTENT OF WORK

CONCRETE BALUSTRADES

ABUTMENT SHORING NOTES:

1. REVIEW THE EFFECTS OF DEMOLITION WITH RJC PRIOR TO UNDERTAKING REMOVALS.
2. INSTALL AND MAINTAIN TEMPORARY SHORING TO SUPPORT THE STRUCTURE, PRIOR TO UNDERTAKING REMOVALS. SUBMIT SHORING SHOP DRAWINGS AND DEMOLITION SEQUENCE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
3. TEMPORARY WORKS FOR BRIDGE JACKING SHALL TRANSFER LOADS TO EXISTING STRUCTURE, AVOIDING THE NEED TO BEAR TEMPORARY WORKS ON GRADE. SCHEMATIC PLAN PROVIDED FOR GUIDANCE. CONTRACTOR TO SUBMIT SHORING DRAWINGS OF FINAL DESIGN BY SPECIALITY ENGINEER.
4. DESIGN SHORING SYSTEMS FOR BEARING LOADS INDICATED ON THE DRAWINGS PLUS ALLOWANCE FOR CONSTRUCTION LL.
5. NUMBER OF JACKS TO MATCH OR EXCEED NUMBER OF EXISTING BEARINGS.
6. JACKS TO BE IN LINE WITH EXISTING BEARING PLINTHS WHEREVER POSSIBLE.
7. JACKING OPERATIONS TO ENSURE A MAXIMUM 3mm DIFFERENTIAL MOVEMENT BETWEEN ADJACENT JACKS.
8. MAXIMUM LIFT OF EXISTING STRUCTURE IS LIMITED TO ½".

DEMOLITION NOTES:

1. INSTALL AND MAINTAIN HOARDING, DUST PROTECTION, SIGNAGE, AND OVERHEAD PROTECTION AS SHOWN ON THE PHASING DRAWINGS AND IN ACCORDANCE WITH SPECIFICATION SECTION 01 56 00 PRIOR TO UNDERTAKING DEMOLITION WORK.
2. COORDINATE THE WORK IN ACCORDANCE WITH THE DRAWINGS AND GENERAL SITE RESTRICTION AS OUTLINED IN THE SPECIFICATIONS.
3. COORDINATE ELECTRICAL SHUTDOWN WITH RJC PRIOR TO UNDERTAKING REMOVALS. REFER TO ELECTRICAL DRAWINGS FOR TEMPORARY POWER AND BORING OF EXISTING DUCTWAYS SCOPES OF WORK.
4. CONTRACTOR TO PROTECT ALL ITEMS TO REMAIN. ANY DAMAGES AS A RESULT OF THE CONSTRUCTION ACTIVITY TO THE EXISTING STRUCTURE, FINISHES, EMBEDDED CONDUIT, AND ADJACENT STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. UPON COMPLETION OF THE DEMOLITION, ALL EXISTING EXPOSED SLAB REINFORCING STEEL SHALL BE REVIEWED BY THE CONSULTANT FOR SUPPLEMENTATION AND TO BE SANDBLASTED CLEAN PRIOR TO PLACEMENT OF NEW SLAB.
6. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY WORKS AND SHORING REQUIRED TO EXECUTE THE WORK. SHOP DRAWINGS SHALL BE SEALED BY A LICENSED ENGINEER IN THE PROVINCE OF ONTARIO.

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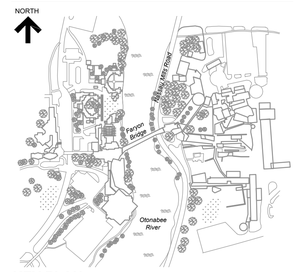

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PROJECT NORTH
NORTH

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

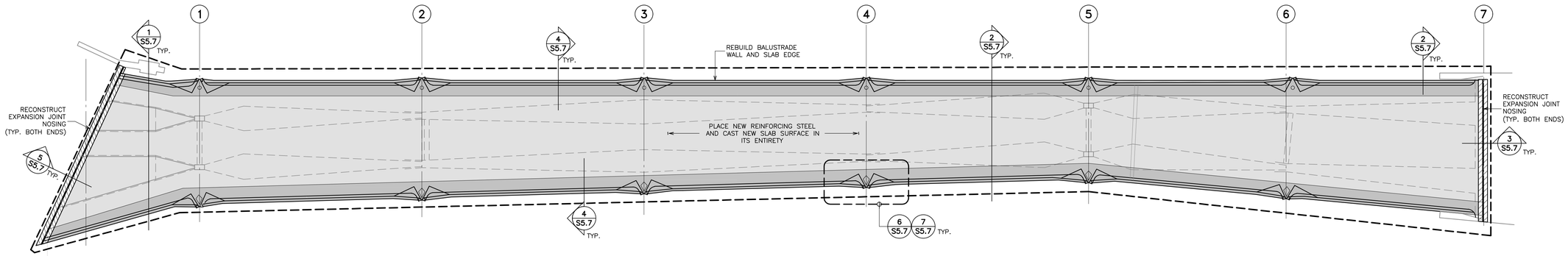
Sheet Title

BRIDGE SUPERSTRUCTURE AND ELEVATION DEMOLITION

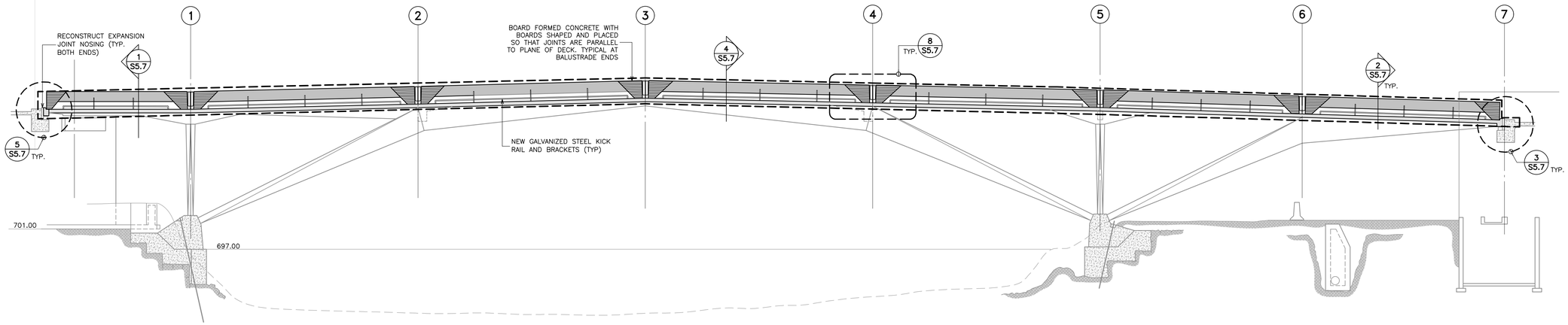
Drawn By	**T.S.**	Scale	**3/32"=1'-0"**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

Sheet Number — Revision

S2.2



1 S3.1 **BRIDGE DECK**
3/32"=1'-0"



2 S3.1 **BRIDGE ELEVATION**
3/32"=1'-0"

SLAB EDGE AND BALUSTRADE RECONSTRUCTION NOTES:

1. RECONSTRUCT SLAB EDGES IN EXTENTS SHOWN PER ASSOCIATED DETAILS. THE THICKNESS OF THE SLAB EDGES IS TO MATCH THE EXISTING SLAB. REFER TO ASSOCIATED DETAILS.
2. RECONSTRUCT CONCRETE BALUSTRADES IN EXTENTS SHOWN PER ASSOCIATED DETAILS. BALUSTRADE DIMENSIONS TO MATCH EXISTING. REFER TO ASSOCIATED DETAILS.
3. RECONSTRUCTION WORK SHALL MATCH SEQUENCE OUTLINED ON S2.1.
4. CONCRETE COVERS TO ALL REINFORCING TO BE 1½" (40mm). CRANK REINFORCING WHERE REQUIRED TO MAINTAIN PROPER COVER.
5. SEE GENERAL NOTES AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
6. CONTRACTOR TO PROTECT ALL ITEMS TO REMAIN. ANY DAMAGES AS A RESULT OF THE CONSTRUCTION ACTIVITY TO THE EXISTING STRUCTURE, FINISHES, EMBEDDED CONDUIT, AND ADJACENT STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. ALL EXISTING EXPOSED SLAB REINFORCING STEEL TO REMAIN IS TO BE SANDBLASTED CLEAN PRIOR TO PLACEMENT OF NEW SLAB.
8. THE CONSULTANT SHALL IDENTIFY REINFORCING STEEL TO BE SUPPLEMENTED FOLLOWING DEMOLITION. ALL NEW SUPPLEMENTARY REINFORCEMENT SHALL MATCH EXISTING SIZE AND LENGTH UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO CONSTRUCT MOCK-UP OF BALUSTRADE RECONSTRUCTION. CONSULTANT AND OWNER TO REVIEW QUALITY OF WORKMANSHIP AND BOARD FORM FINISHES. REVIEWED AND ACCEPTED MOCK-UP CAN BE INCORPORATED INTO THE FINAL WORK.

RESTORATION NOTES:

1. LOCALLY REPAIR CORROSION-RELATED SURFACE AND SOFFIT CONCRETE DETERIORATION PER ASSOCIATED DETAILS AS DIRECTED BY THE CONSULTANT.
2. INSTALL NEW BONDED TOPPING AS PER SPECIFICATION SECTION 03 53 01. TOPPING SURFACE SHALL HAVE A 2% SLOPE TO SLAB EDGES.
3. CONTRACTOR SHALL CONFIRM ALL SLOPES AND TOP OF TOPPING ELEVATIONS A MINIMUM 7 DAYS PRIOR TO CONCRETE PLACEMENT.
4. AFTER ALL CONCRETE REPAIRS ARE COMPLETE, PREPARE NEW CONCRETE SURFACES FOR INSTALLATION OF NEW PMMA TRAFFIC DECK COATING ON THE SLAB SURFACE, AND ELASTOMERIC ON THE BALUSTRADES. REFER TO WATERPROOFING DRAWINGS.
5. AFTER ALL CONCRETE SURFACE PREPARATIONS ARE COMPLETE, INSTALL NEW EMBEDDED ANCHORS FOR REFURBISHED CANDYCANE LIGHTS AND NEW GALVANIZED STEEL GUARDS.

LEGEND:

- EXTENT OF WORK
- NEW CONCRETE BALUSTRADES AND FULL DEPTH SLAB EDGE TO BE RECONSTRUCTED
- BOARD FORM FINISH
- NEW GALVANIZED STEEL FLAG STAFF
- EXTENT OF NEW SLAB SURFACE

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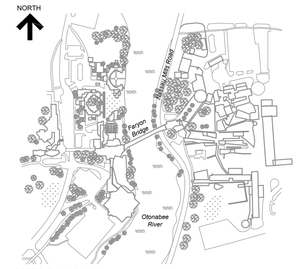

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PROJECT NORTH
NORTH

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

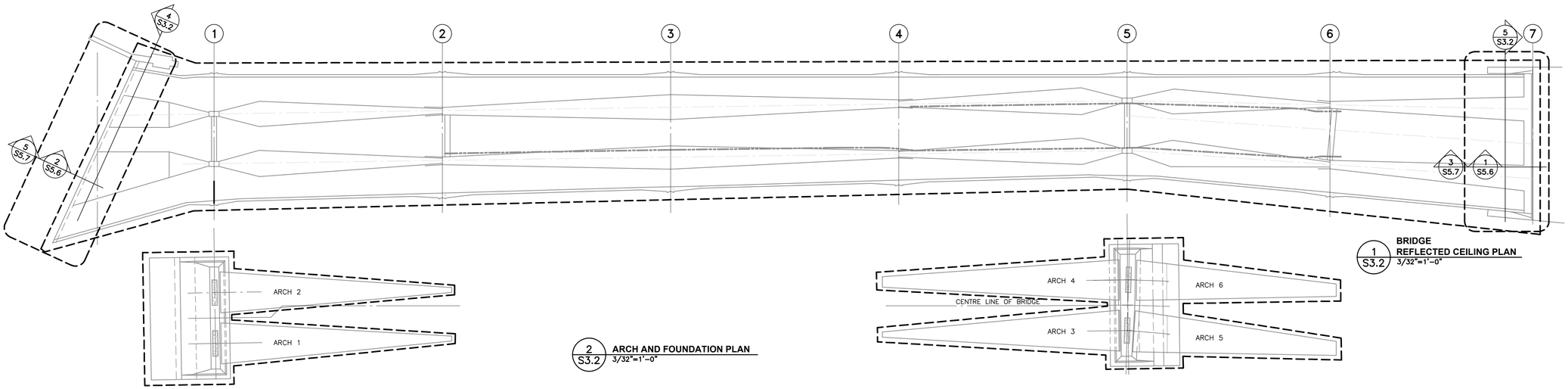
FARYON PEDESTRIAN BRIDGE REHABILITATION

Sheet Title

BRIDGE DECK AND ELEVATION CONCRETE RESTORATION

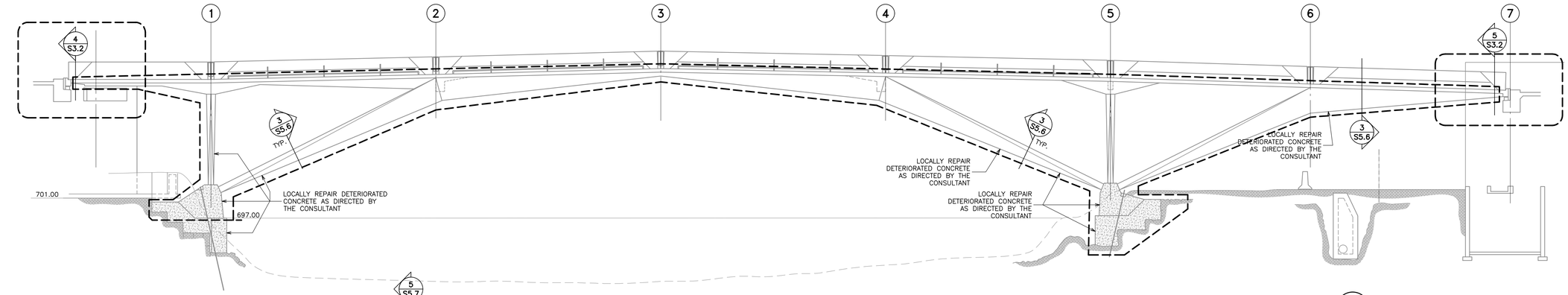
Drawn By **T.S.** Scale **3/32"=1'-0"**
Designed By **M.P.** Date **July, 2025**
RJC Project Number **TOR.140104.0001**

Sheet Number **S3.1** Revision

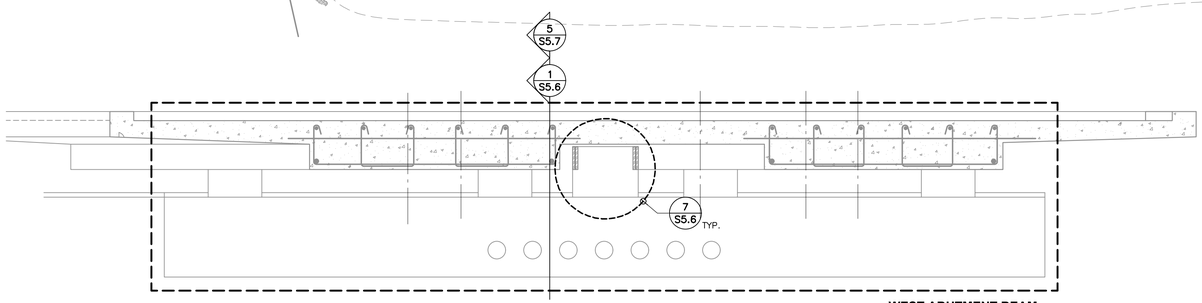


1 S3.2 BRIDGE REFLECTED CEILING PLAN
3/32"=1'-0"

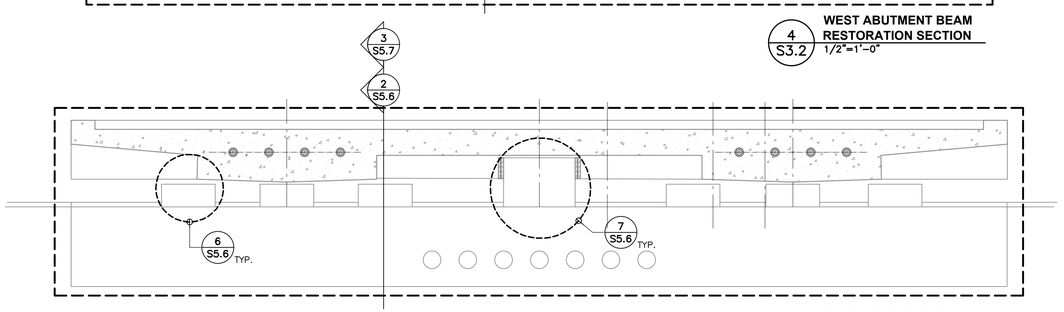
2 S3.2 ARCH AND FOUNDATION PLAN
3/32"=1'-0"



3 S3.2 BRIDGE ELEVATION
3/32"=1'-0"



4 S3.2 WEST ABUTMENT BEAM RESTORATION SECTION
1/2"=1'-0"



5 S3.2 EAST ABUTMENT BEAM RESTORATION SECTION
1/2"=1'-0"

LEGEND:

EXTENT OF WORK

POST-TENSIONED CABLE GAS DRYING AND IMPREGNATION NOTES:

1. LOCALLY REMOVE CONCRETE TO EXPOSE PT CABLE DUCTS AS INDICATED ON DRAWINGS S5.1 AND S5.2.
2. PERFORM TENDON GAS DRYING TO REMOVE ALL MOISTURE FROM CABLE DUCTS IN ACCORDANCE WITH SPECIFICATION SECTION 03 01 20.
3. PERFORM GROUT IMPREGNATION OF BONDED PT CABLES IN ACCORDANCE WITH SPECIFICATION SECTION 03 01 20.
4. REPAIR LOCALIZED CONCRETE REMOVALS AS PER TYPICAL CONCRETE RESTORATION DETAILS ON S5.1 AND S5.2.

EMBEDDED GALVANIC ANODES NOTES:

1. PERFORM CORROSION POTENTIAL TESTING ON BRIDGE ARCH SURFACES. REVIEW RESULTS WITH CONSULTANT PRIOR TO DESIGNING AND INSTALLING GALVANIC ANODES.
2. INSTALL NEW GALVANIC ANODES IN GRID PATTERN IN ACCORDANCE WITH SPECIFICATION SECTION 03 75 00.
3. INSTALL ANODES PER DETAIL 4/S5.1 IN EXTENTS SHOWN ON DRAWINGS S5.1 AND S5.2.
4. INSTALL ANODES PER DETAIL 5/S5.1 WITHIN CONCRETE REPAIR AREAS.
5. ENSURE EXPOSED REINFORCING STEEL IS SECURELY FASTENED WITH TIE WIRE TO PROVIDE GOOD ELECTRICAL CONTINUITY.
6. ATTACH GALVANIC ANODES TO CLEAN STEEL IN A GRID PATTERN WITHIN THE REPAIR AREA. SPACING TO BE REVIEWED BY THE CONSULTANT PRIOR TO INSTALLATION.
7. TEST ELECTRICAL CONTINUITY OF THE REINFORCING STEEL BEFORE INSTALLATION AND ADJUST AS NECESSARY. TEST ELECTRICAL CONTINUITY OF THE REINFORCING STEEL AFTER INSTALLATION. A DC VOLTAGE MEASUREMENT OF < 1mV CONFIRMS GOOD CONTINUITY.
8. SCAN CONCRETE BEFORE DRILLING ANODES TO AVOID EX REINFORCING STEEL AND POST TENSIONING TENDONS.

RESTORATION NOTES:

1. LOCALLY REPAIR CORROSION–RELATED CONCRETE DETERIORATION PER ASSOCIATED DETAILS AS DIRECTED BY THE CONSULTANT.
2. CONTRACTOR TO REFER TO TYPICAL MEMBER SECTIONS ON S5.3 AND S5.4 REGARDING BOARD FORM FINISH.
3. RECONSTRUCT CONCRETE BEARING PEDESTALS, AND SUPPLY AND INSTALL INSTALL NEW GALVANIZED STEEL BEARING PADS PER ASSOCIATED DETAILS AS DIRECTED BY THE CONSULTANT.
4. AFTER ALL CONCRETE REPAIRS ARE COMPLETE, PREPARE ALL CONCRETE SURFACES FOR INSTALLATION OF LITHIUM NITRATE, SILANE SEALER AND ELASTOMERIC WATERPROOFING COATING. REFER TO WATERPROOFING DRAWINGS.

BEARING PAD RECONSTRUCTION NOTES:

1. STAINLESS STEEL AND TEFLON SURFACES SHALL BE PROTECTED FROM ABRASION AND SCRATCHING AND KEPT CLEAN AT ALL TIMES DURING CONSTRUCTION.
2. BEARINGS SHALL BE INSTALLED SUCH THAT THE TOP AND BOTTOM PLATE BEARING SURFACE ARE HORIZONTAL AND PARALLEL BOTH LONGITUDINALLY AND TRANSVERSELY.
3. THE CONTRACTOR SHALL ESTABLISH THE BEARING SEAT ELEVATIONS BY DEDUCTING THE ACTUAL BEARING THICKNESSES FROM THE TOP OF BEARING ELEVATIONS. IF THE ACTUAL BEARING THICKNESSES ARE DIFFERENT FROM THOSE SHOWN ON THE DRAWINGS THE CONTRACTOR SHALL ADJUST THE REINFORCING STEEL AND DIMENSIONS OF THE BEARING PAD TO SUIT UPON INSTRUCTION/APPROVAL OF THE ENGINEER.
4. CONCRETE BEARING SURFACES SHALL BE SUCH THAT THERE IS NO GAP GREATER THAN 1 mm UNDER A 1.0 m STRAIGHT EDGE LAID ACROSS THE BEARING SURFACE IN EACH OF THE PRINCIPAL DIRECTIONS.
5. BEARINGS SHALL BE GROUTED PRIOR TO CASTING DECK CONCRETE.
6. THE BOTTOM SURFACES OF BASE PLATES SHALL BE COATED WITH EPOXY MASTIC ALUMINUM II, OR APPROVED EQUIVALENT, TO PREVENT CONTACT BETWEEN THE ZINC AND GROUT.
7. DAMAGED GALVANIZING SHALL BE REPLACED OR REPAIRED BY METALLIZING. THE THICKNESS OF METALLIZING SHALL NOT BE LESS THAN 180 MICRONS.
8. WHERE EMBEDDED GALVANIZED COMPONENTS ARE IN CONTACT WITH OR NEAR STAINLESS STEEL REBAR, PAINT STAINLESS STEEL WITH EPOXY PAINT.

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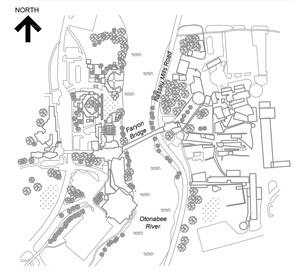

KEY PLAN

No.	Revision	Date	By
1.	ISSUED FOR TENDER	July 2, 25	M.P.

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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

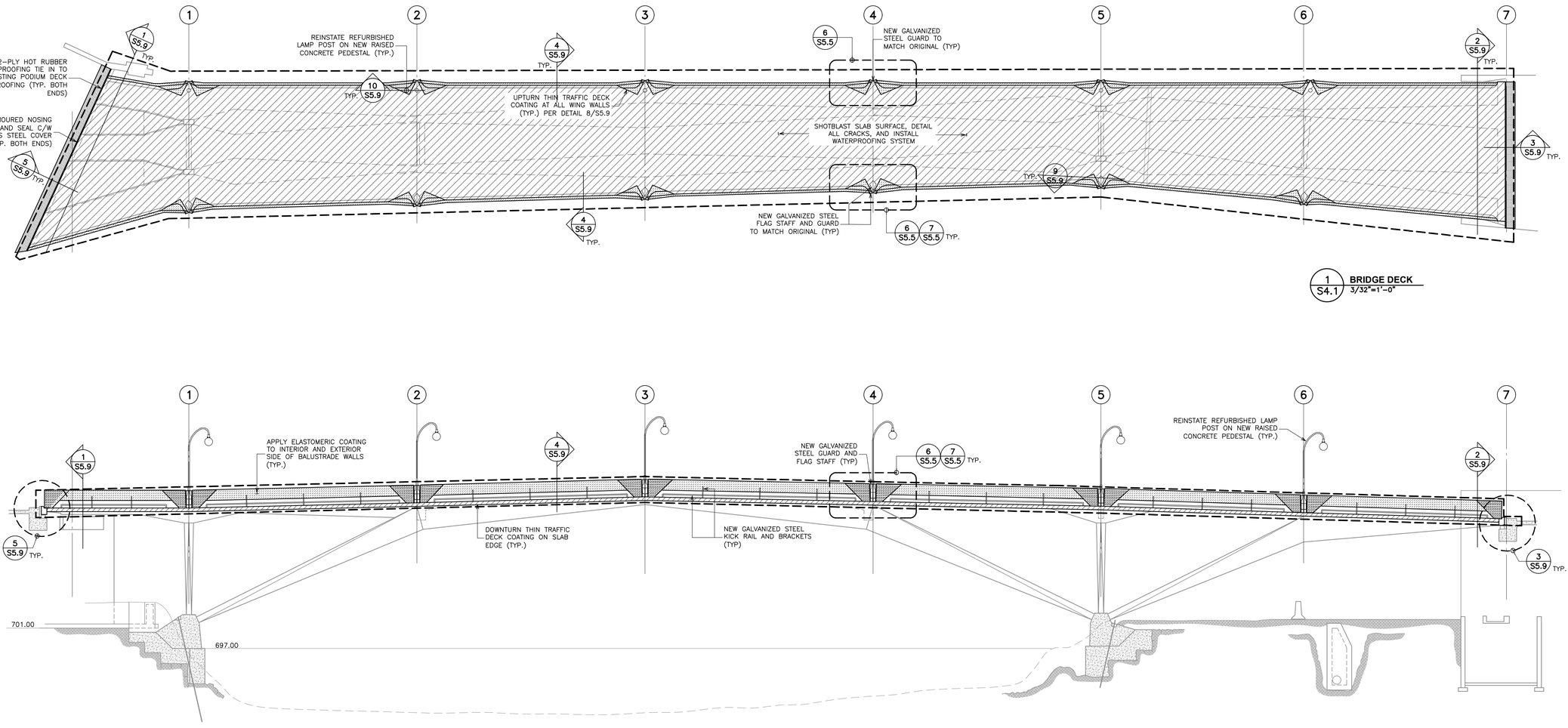
Sheet Title

BRIDGE SUPERSTRUCTURE AND ELEVATION CONCRETE RESTORATION

Drawn By	**T.S.**	Scale	**3/32"=1'-0"**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

Sheet Number — Revision

S3.2



1 S4.1 **BRIDGE DECK**
3/32"=1'-0"

2 S4.1 **BRIDGE ELEVATION**
3/32"=1'-0"

LAMP POST REFURBISHMENT NOTES:

1. CONTRACTOR TO EXERCISE CARE DURING REMOVALS TO NOT DAMAGE LAMP POSTS.
2. REFER TO ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF NEW OPENINGS FOR ELECTRICAL OUTLET BOXES.
3. STRIP EXISTING PAINT FROM ALL SURFACES AND PAINT LAMP POSTS IN ACCORDANCE WITH SPECIFICATION SECTION 09 91 14. COLOUR TO BE "TONECRAFT BOTTLE GREEN 2006-N".
4. REINSTATE REFURBISHED LAMP POSTS PER DETAIL 10 ON DRAWING S5.8.

WATERPROOFING NOTES:

1. INSTALL NEW THIN TRAFFIC DECK COATING WATERPROOFING SYSTEM ON THE SLAB SURFACE AND EDGES IN ACCORDANCE WITH SPECIFICATION SECTION 07 18 00. COMPLETE MOCKUP FOR OWNER AND CONSULTANT REVIEW PRIOR TO WHOLESALE APPLICATION. COMPLETE MOCKUP FOR OWNER AND CONSULTANT REVIEW PRIOR TO WHOLESALE APPLICATION.
2. INSTALL NEW ELASTOMERIC COATING WATERPROOFING SYSTEM ON THE BALUSTRADE SURFACES IN ACCORDANCE WITH SPECIFICATION SECTION 09 96 53. COMPLETE MOCKUP FOR OWNER AND CONSULTANT REVIEW PRIOR TO WHOLESALE APPLICATION. COMPLETE MOCKUP FOR OWNER AND CONSULTANT REVIEW PRIOR TO WHOLESALE APPLICATION.
3. INSTALL NEW ARMOURED NOSING GLAND SEALS IN ACCORDANCE WITH SPECIFICATION SECTION 07 95 00 AND ASSOCIATED DETAILS. FABRICATE AND INSTALL NEW STAINLESS STEEL COVER PLATES.
4. PAINT NEW GALVANIZED STEEL GUARDS AND BALUSTRADE BRACKETS AND PIPE IN ACCORDANCE WITH SPECIFICATION SECTION 09 91 14. COLOUR TO BE "TONECRAFT BOTTLE GREEN 2006-N". COMPLETE MOCKUP FOR OWNER AND CONSULTANT REVIEW PRIOR TO WHOLESALE APPLICATION.
5. ALL NEW COATINGS AND PAINT TO BE UV STABLE.
6. TERMINATE NEW THIN TRAFFIC DECK COATING WATERPROOFING SYSTEM A MINIMUM OF 6" ABOVE FINISHED GRADE AT VERTICAL SURFACES, U.N.O.
7. OBTAIN MANUFACTURER'S WRITTEN ACCEPTANCE OF SURFACE PREPARATION PRIOR TO APPLICATION OF ALL NEW WATERPROOFING SYSTEMS.
8. SLAB SURFACE SHALL BE PREPARED BY BLAST TRACKING. BALUSTRADE SURFACES SHALL BE PREPARED BY SANDBLASTING. SAND BLASTING SHALL NOT BE AN ACCEPTABLE MEANS OF SLAB SURFACE PREPARATION.
9. ROUT AND SEAL ALL CRACKS AND CONTROL JOINT, AND INSTALL HEEL BEAD OF SEALANT AT ALL VERTICAL UPTURN LOCATIONS PRIOR TO INSTALLATION OF NEW THIN TRAFFIC DECK COATING WATERPROOFING SYSTEM INSTALLATION.
10. INSTALL DOUBLE APPLICATION OF MEMBRANE AT VERTICAL UPTURN AND CRACK LOCATIONS AS PART OF NEW THIN TRAFFIC DECK COATING WATERPROOFING SYSTEM INSTALLATION.
11. OVERLAP THIN TRAFFIC DECK COATING WITH ELASTOMERIC COATING AT UPTURNS, U.N.O.
12. WEARCOURSES REQUIRING MULTIPLE LIFTS SHALL HAVE FINAL LIFT INSTALLED CONTINUOUSLY (I.E. NO SEAMS).
13. COLOUR OF THIN TRAFFIC DECK COATING AND ELASTOMERIC COATING WEARCOURSES SHALL BE AMONG STOCK COLOURS, CONFIRMED BY THE CONSULTANT AND OWNER DURING CONSTRUCTION.
14. EXPOSED SLAB SURFACE CONCRETE SHALL HAVE NON-SLIP FINISH.

LEGEND:

- EXTENT OF WORK
- BOARD FORM FINISH
- THIN TRAFFIC DECK COATING
- ELASTOMERIC COATING

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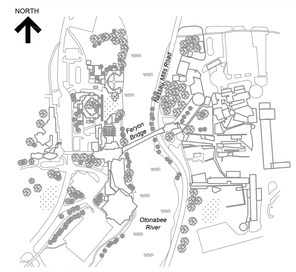

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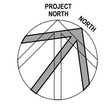


Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

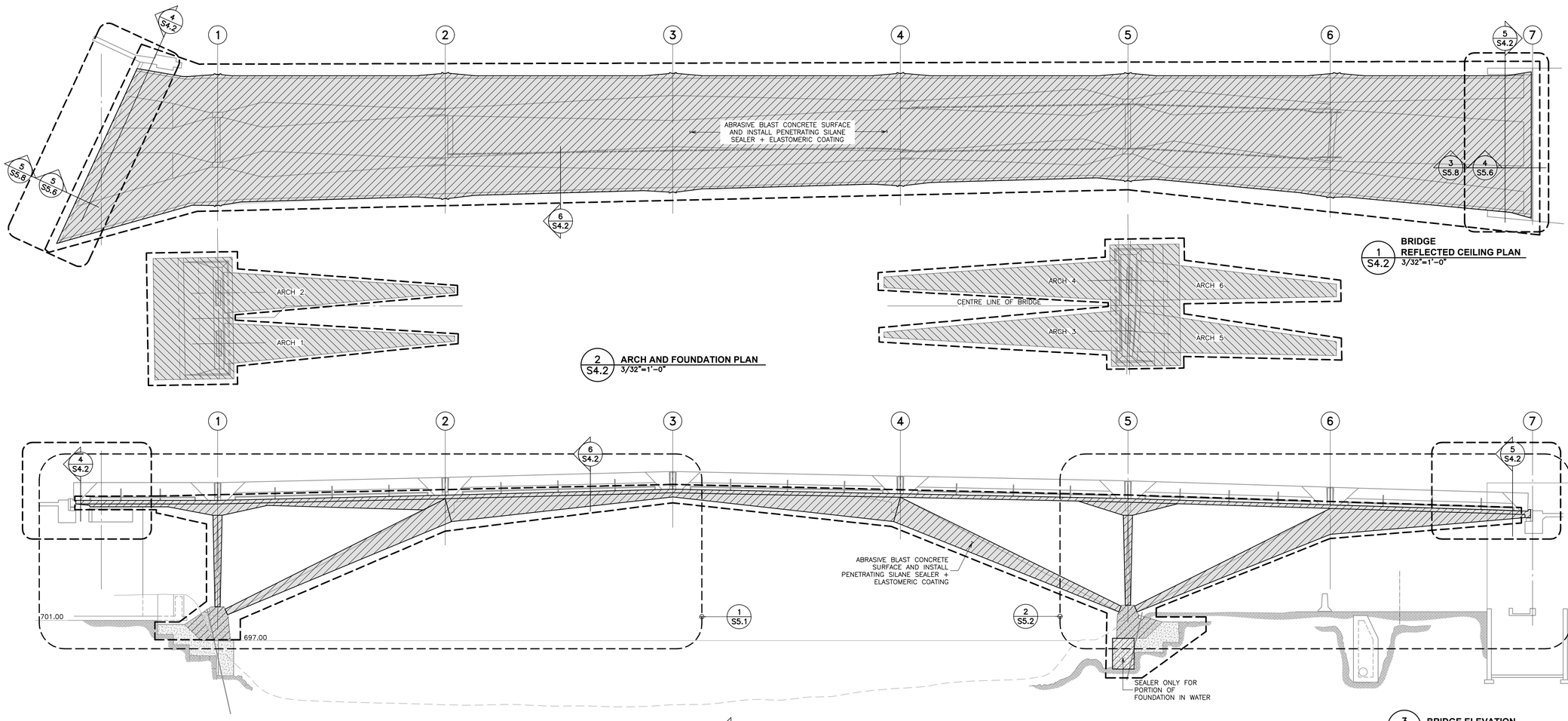
Sheet Title

BRIDGE DECK AND ELEVATION MOISTURE PROTECTION

Drawn By	**T.S.**	Scale	**3/32"=1'-0"**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

Sheet Number — Revision

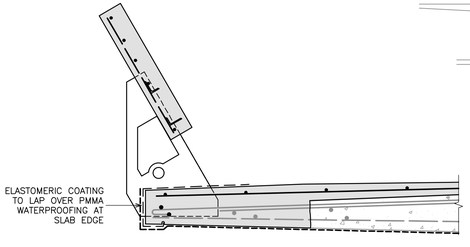
S4.1



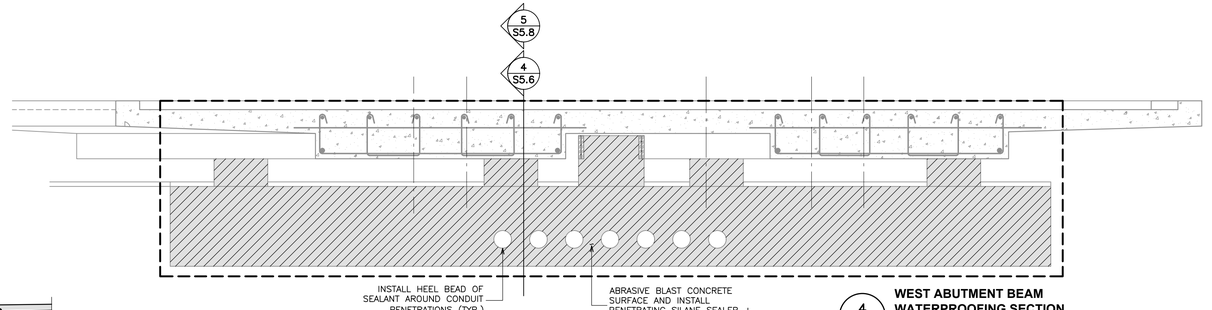
1 S4.2 **BRIDGE REFLECTED CEILING PLAN**
3/32"=1'-0"

2 S4.2 **ARCH AND FOUNDATION PLAN**
3/32"=1'-0"

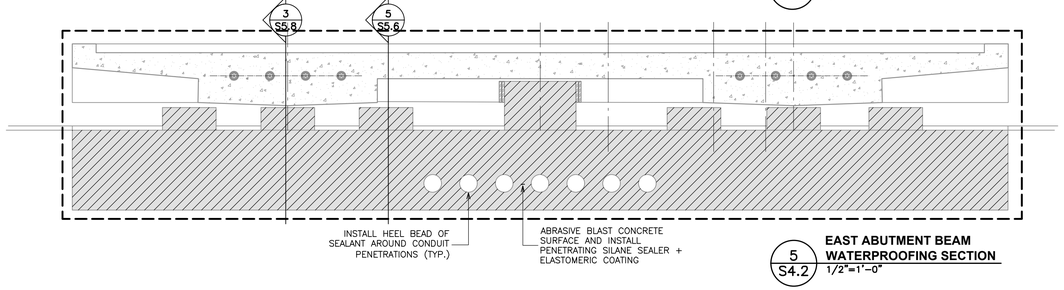
3 S4.2 **BRIDGE ELEVATION**
3/32"=1'-0"



6 S4.2 **BALUSTRADE AND SLAB EDGE WATERPROOFING**
3/4"=1'-0"



4 S4.2 **WEST ABUTMENT BEAM WATERPROOFING SECTION**
1/2"=1'-0"



5 S4.2 **EAST ABUTMENT BEAM WATERPROOFING SECTION**
1/2"=1'-0"

LEGEND:

EXTENT OF WORK

INSTALLATION OF PENETRATING SILANE SEALER + ELASTOMERIC COATING

WATERPROOFING NOTES:

1. INSTALL LITHIUM NITRATE AND SILANE SEALER ON THE SLAB SOFFIT, ARCHES, COLUMNS, ABUTMENT BEAMS AND FOUNDATIONS IN ACCORDANCE WITH SPECIFICATION SECTION 07 19 00. WAIT MIN. 14 DAYS BETWEEN APPLICATION OF LITHIUM NITRATE AND SILANE SEALER.
2. INSTALL NEW ELASTOMERIC COATING SYSTEM ON SLAB SOFFIT, ARCHES, COLUMNS, AND ABOVE WATERLINE FOUNDATIONS IN ACCORDANCE WITH SPECIFICATION SECTION 09 96 53.
3. ELASTOMERIC COATING TO BE UV STABLE. COLOUR SELECTION BY OWNER.
4. OBTAIN MANUFACTURER'S WRITTEN ACCEPTANCE OF SURFACE PREPARATION PRIOR TO APPLICATION OF ALL NEW WATERPROOFING SYSTEMS.
5. CONCRETE SURFACES SHALL BE PREPARED BY SANDBLASTING OR HYDROBLASTING. METHOD CHOSEN BY CONTRACTOR SHALL ENSURE NO DEBRIS CREATED BY SURFACE PREPARATION SHALL ENTER THE RIVER (I.E. FULL ENCLOSURE OR VACUUM).
6. CONTRACTOR SHALL SUBMIT SEQUENCING DRAWINGS OUTLINING METHOD TO EXECUTE THE WORK, TO BE REVIEWED WITH RJC PRIOR TO COMMENCING SURFACE PREPARATION.
7. COLOUR OF ELASTOMERIC COATING WEARCOURSES SHALL BE AMONG STOCK COLOURS, CONFIRMED BY THE CONSULTANT AND OWNER DURING CONSTRUCTION.
8. COMPLETE MOCKUP FOR OWNER AND CONSULTANT REVIEW FOR ALL STEPS PRIOR TO WHOLESALE APPLICATION. MOCKUPS TO INCLUDE BOND STRENGTH TESTS.

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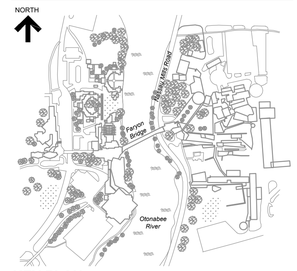

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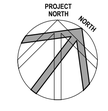


Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

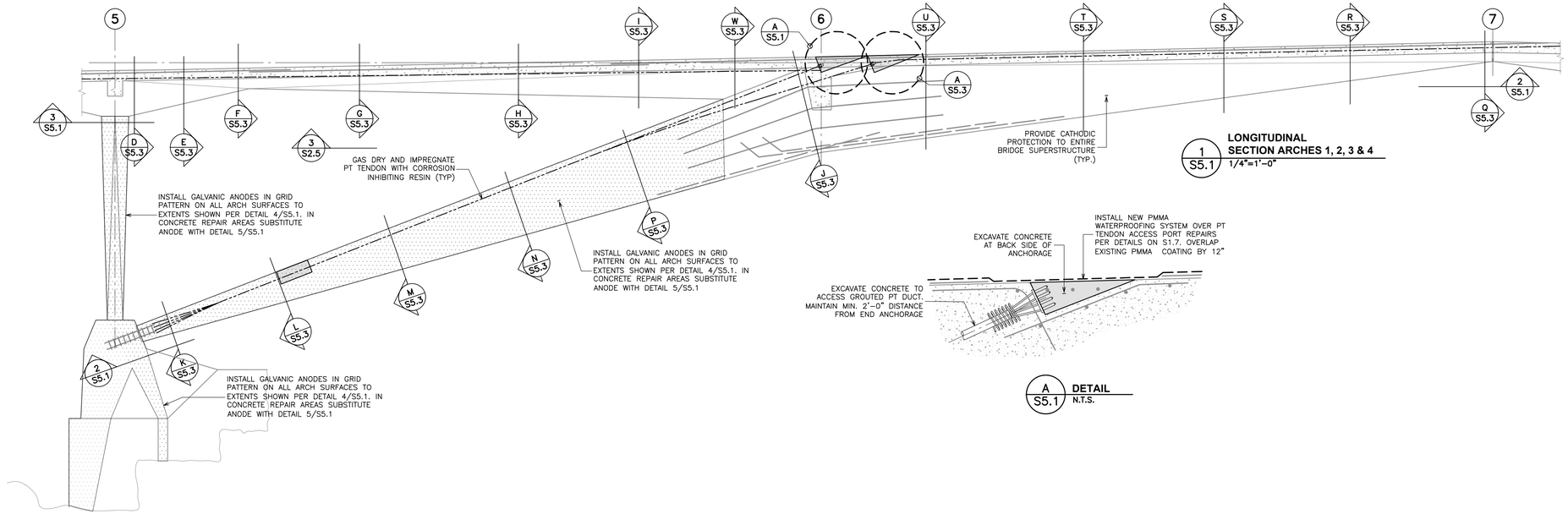
Sheet Title

BRIDGE SUPERSTRUCTURE AND ELEVATION MOISTURE PROTECTION

Drawn By	**T.S.**	Scale	**3/32"=1'-0"**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

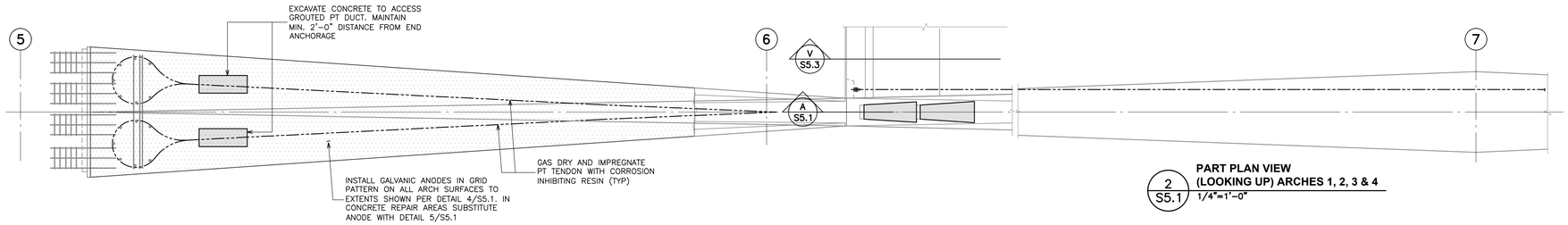
Sheet Number — Revision

S4.2

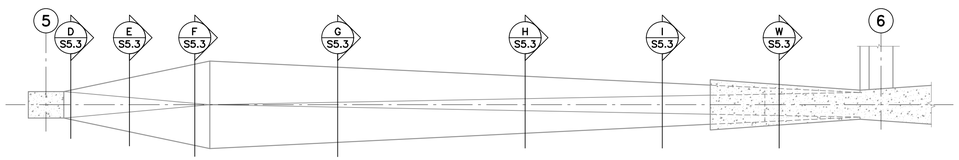


1 S5.1 LONGITUDINAL SECTION ARCHES 1, 2, 3 & 4
1/4"=1'-0"

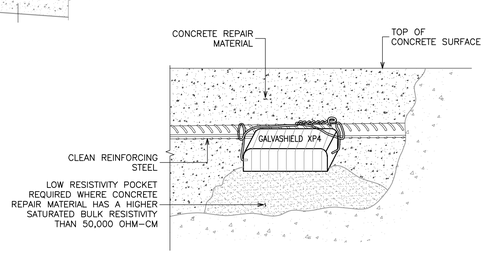
A S5.1 DETAIL
N.T.S.



2 S5.1 PART PLAN VIEW (LOOKING UP) ARCHES 1, 2, 3 & 4
1/4"=1'-0"



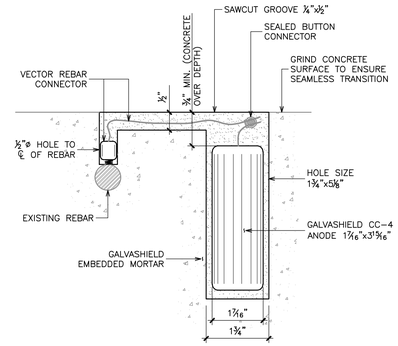
3 S5.1 PART PLAN VIEW (LOOKING UP) ARCHES 1, 2, 3 & 4
1/4"=1'-0"



NOTES:

1. ENSURE EXPOSED REINFORCING STEEL IS SECURELY FASTENED WITH TIE WIRE TO PROVIDE GOOD ELECTRICAL CONTINUITY.
2. ATTACH GALVANIC ANODES TO CLEAN STEEL IN A GRID PATTERN WITHIN THE REPAIR AREA. SPACING TO BE REVIEWED BY THE CONSULTANT PRIOR TO INSTALLATION.
3. TEST ELECTRICAL CONTINUITY OF THE REINFORCING STEEL BEFORE INSTALLATION AND ADJUST AS NECESSARY. TEST ELECTRICAL CONTINUITY OF THE REINFORCING STEEL AFTER INSTALLATION. A DC VOLTAGE MEASUREMENT OF < 1mV CONFIRMS GOOD CONTINUITY.

5 S5.1 CONCRETE REPAIR GALVANIC ANODE INSTALLATION DETAIL
6"=1'-0"



NOTES:

1. SCAN SLAB BEFORE DRILLING ANODE HOLE.
2. AVOID INSTALLING ANODES IN BOARD FORM FINISH.

4 S5.1 TYPICAL GALVANIC ANODE INSTALLATION DETAIL
6"=1'-0"

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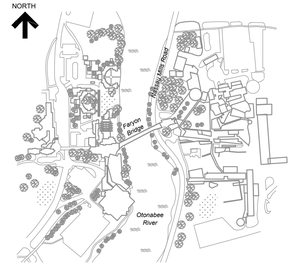
NORTH



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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

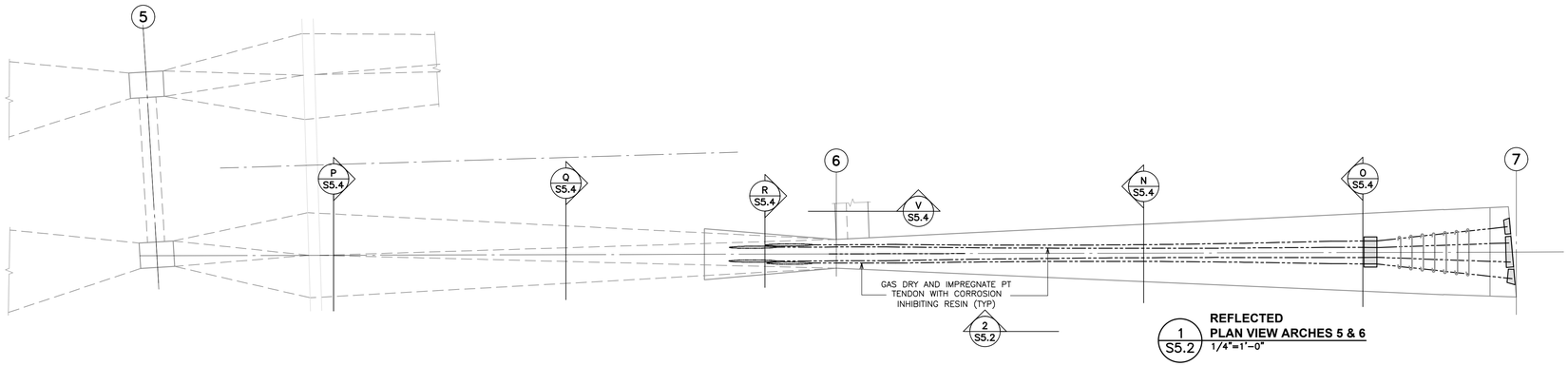
FARYON PEDESTRIAN BRIDGE REHABILITATION

Sheet Title

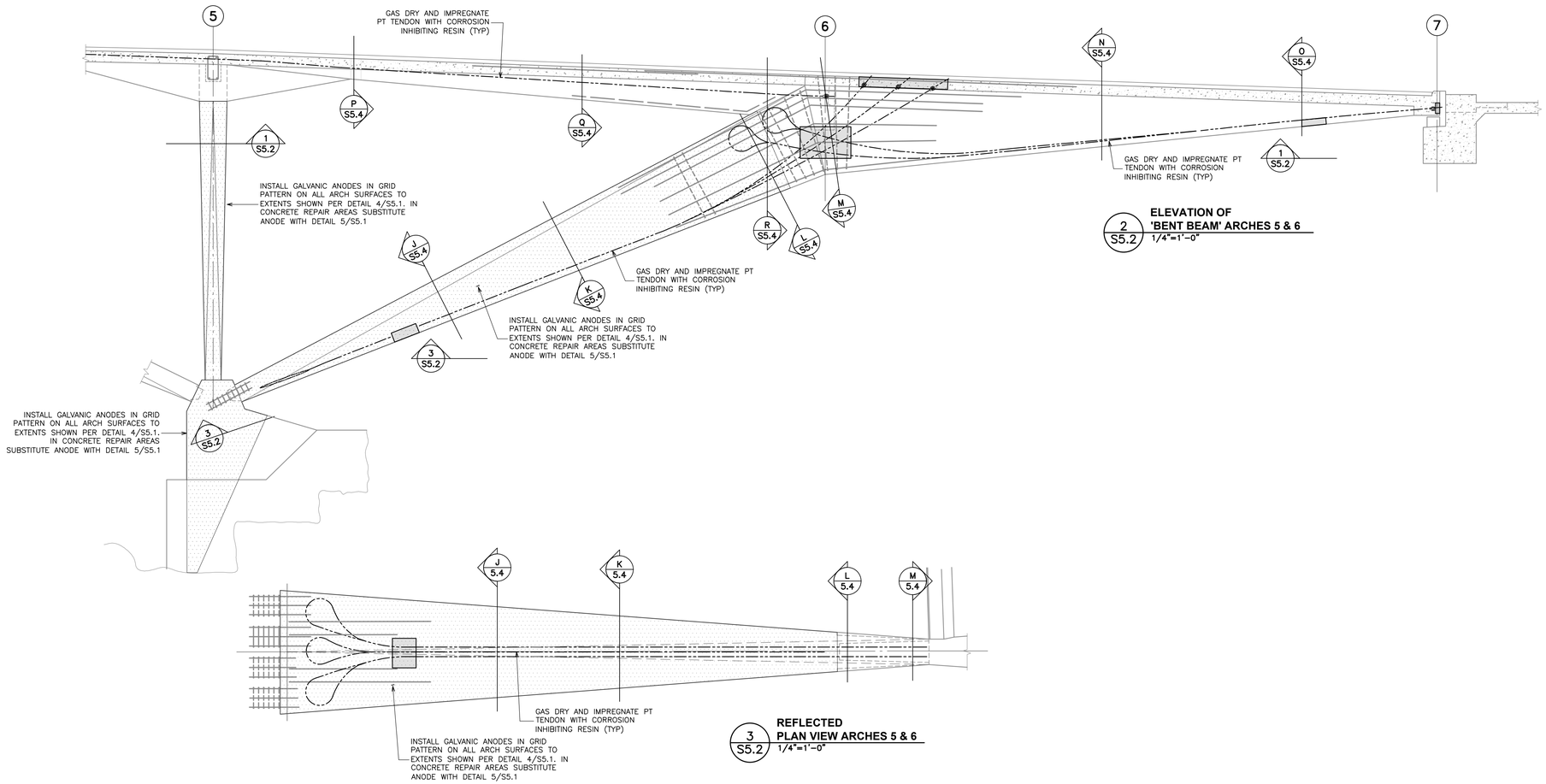
POST TENSION TENDON REHABILITATION

Drawn By	T.S.	Scale	AS NOTED
Designed By	M.P.	Date	July, 2025
RJC Project Number			TOR.140104.0001

Sheet Number: **S5.1**
Revision



1 S5.2 REFLECTED PLAN VIEW ARCHES 5 & 6
1/4"=1'-0"



2 S5.2 ELEVATION OF 'BENT BEAM' ARCHES 5 & 6
1/4"=1'-0"

3 S5.2 REFLECTED PLAN VIEW ARCHES 5 & 6
1/4"=1'-0"

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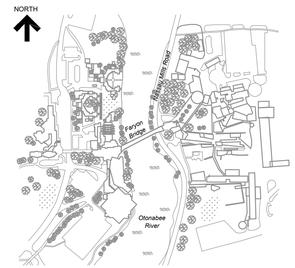

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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

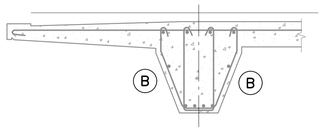
Sheet Title

POST TENSION TENDON REHABILITATION

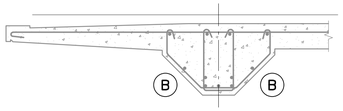
Drawn By	**T.S.**	Scale	**AS NOTED**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

Sheet Number — Revision

S5.2



I S5.3 **SECTION** 1/2"=1'-0"



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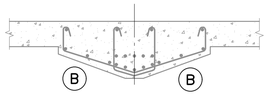

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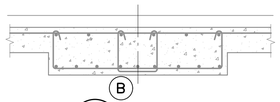

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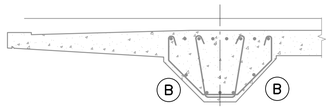

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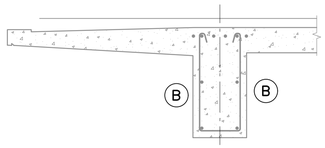

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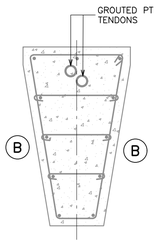

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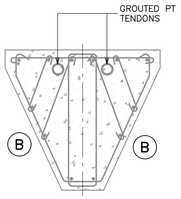

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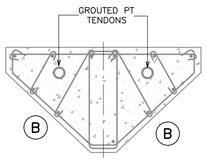

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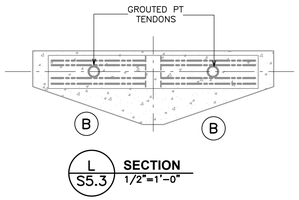

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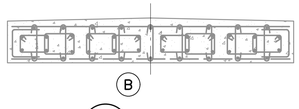

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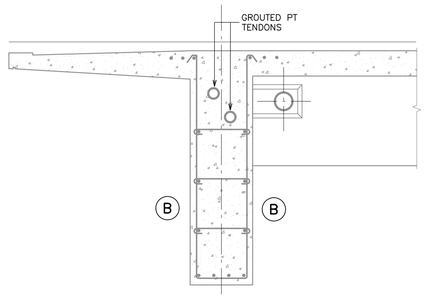

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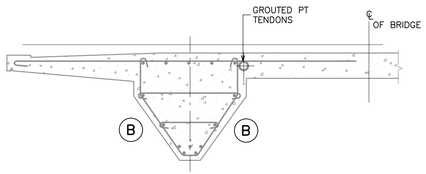

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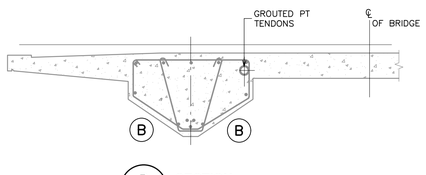

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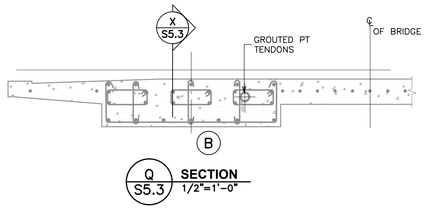

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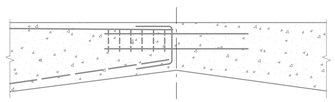

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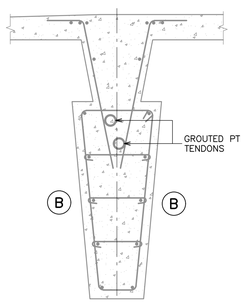

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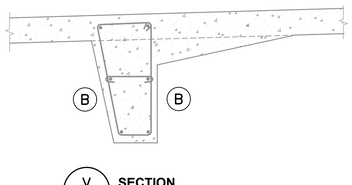

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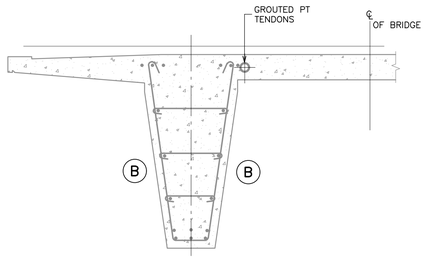
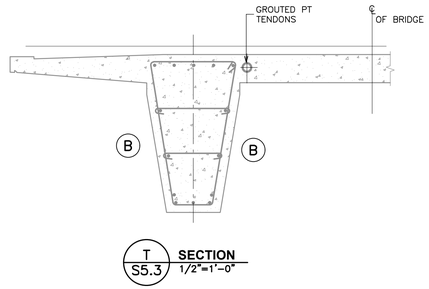


U S5.3 **SECTION** 1/2"=1'-0"



T S5.3 **SECTION** 1/2"=1'-0"

LEGEND:

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Read Jones Christoffersen Ltd.
Engineers
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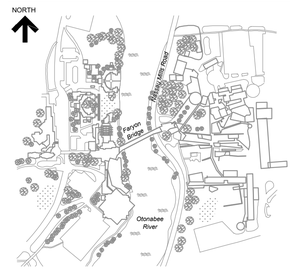
North Tower, Suite 300
Toronto, ON M5J 1V6 Canada
tel 416-977-5335
email toronto@rjc.ca



KEY PLAN

No.	Revision	Date	By
1.	ISSUED FOR TENDER	July 2, 25	M.P.

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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

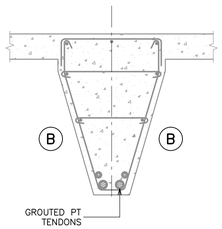
Sheet Title

SECTIONS AND DETAILS

Drawn By	**T.S.**	Scale	**AS NOTED**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

Sheet Number — Revision

S5.3



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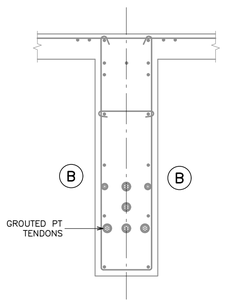

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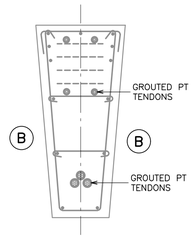

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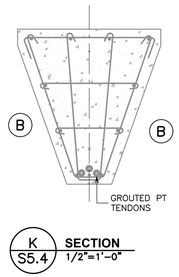

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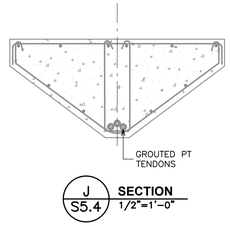

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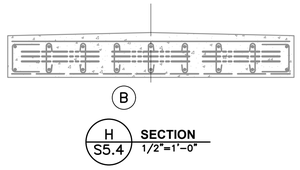

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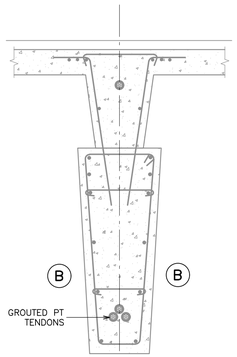

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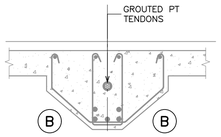

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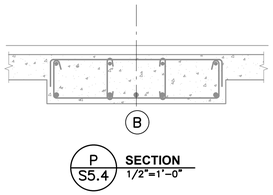

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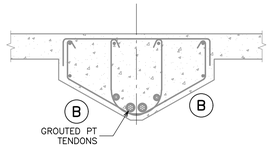

O S5.4 **SECTION** 1/2"=1'-0"

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B BOARD FORM FINISH

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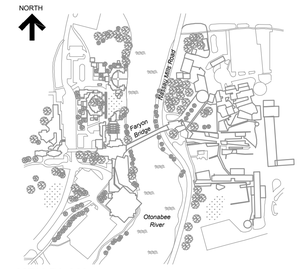
Engineers
rjc.ca

100 University Avenue,
North Tower, Suite 300
Toronto, ON M5J 1V6 Canada
tel 416-977-5335
email toronto@rjc.ca



KEY PLAN

No.	Revision	Date	By
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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

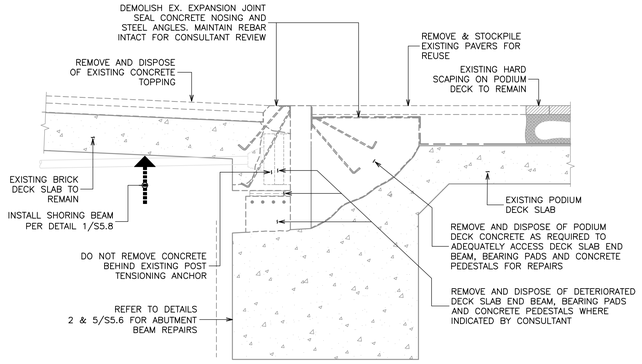
Sheet Title

SECTIONS AND DETAILS

Drawn By	**T.S.**	Scale	**AS NOTED**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

Sheet Number — Revision

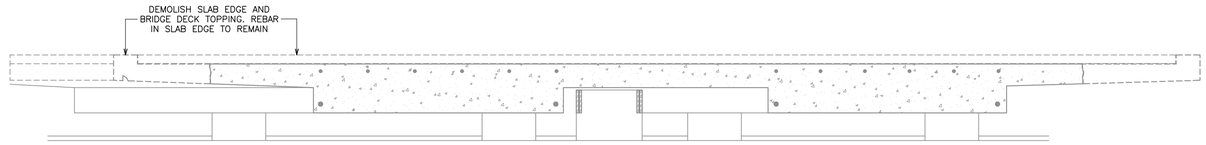
S5.4



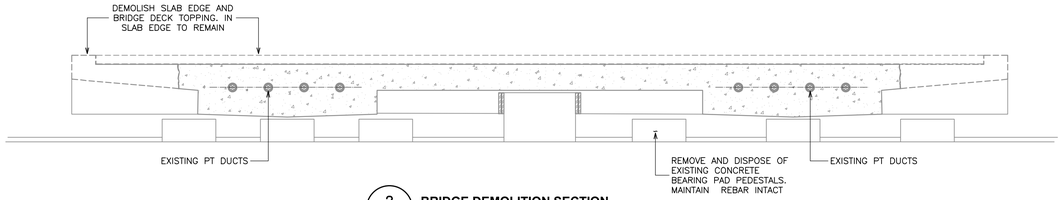
NOTES:

1. INSTALL SHORING PRIOR TO REMOVING TIMBER CRIBBING TO FACILITATE REMOVALS.
2. NOTIFY CONSULTANT IF DECK SLAB END BEAM CONCRETE DETERIORATION EXTENDS BEHIND POST TENSIONING ANCHORS.

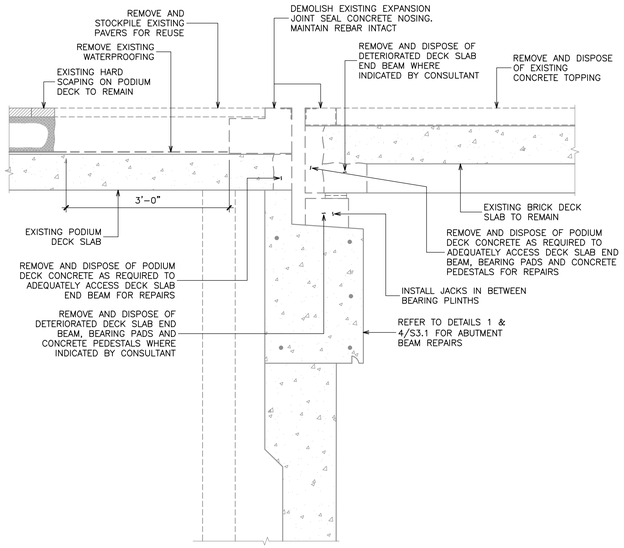
3 / S5.5 — EAST ABUTMENT DEMOLITION DETAIL
3/4"=1'-0"



1 / S5.5 — BRIDGE DEMOLITION SECTION
1/2"=1'-0"



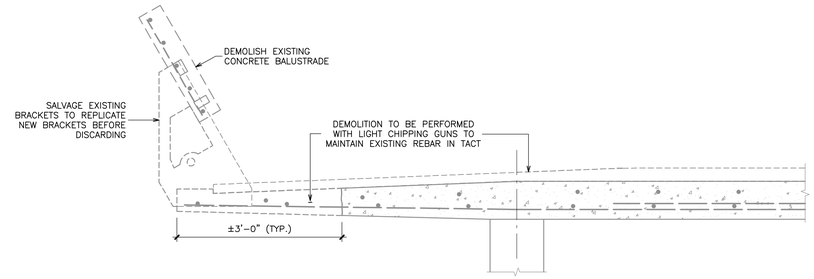
2 / S5.5 — BRIDGE DEMOLITION SECTION
1/2"=1'-0"



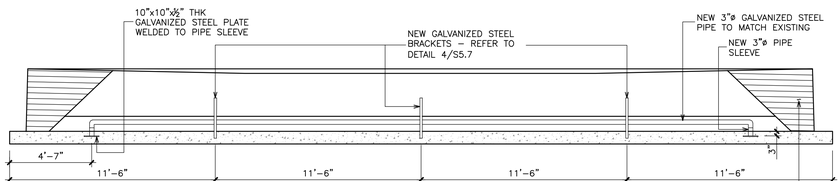
NOTES:

1. INSTALL JACKS IN BETWEEN BEARING PLINTHS TO FACILITATE REMOVALS.
2. NOTIFY CONSULTANT IF DECK SLAB END BEAM CONCRETE DETERIORATION EXTENDS BEHIND POST TENSIONING ANCHORS.

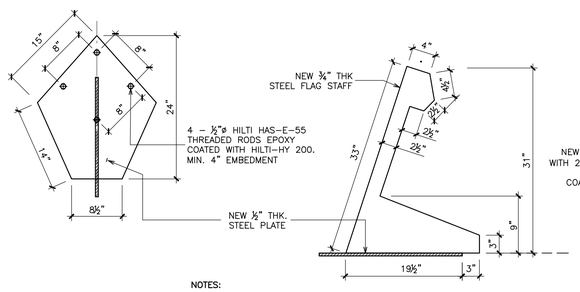
5 / S5.5 — WEST ABUTMENT DEMOLITION DETAIL
3/4"=1'-0"



4 / S5.5 — BALUSTRADE/BRIDGE DECK DEMOLITION DETAIL
3/4"=1'-0"



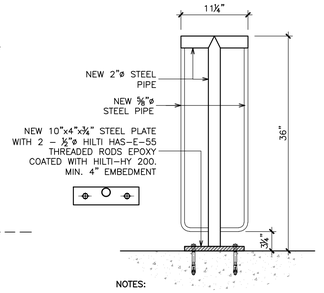
8 / S5.5 — BALUSTRADE STEEL PIPE DETAIL
1/4"=1'-0"



NOTES:

1. CONFIRM STEEL FLAG STAFF DIMENSIONS BASED ON EXISTING CONDITIONS.
2. ALL FABRICATED STEEL TO BE GALVANIZED.

7 / S5.5 — STEEL FLAGSTAFF DETAIL
N.T.S.



NOTES:

1. CONFIRM STEEL GUARD DIMENSIONS BASED ON EXISTING CONDITIONS.
2. ALL FABRICATED STEEL TO BE GALVANIZED

6 / S5.5 — STEEL GUARD DETAIL
1"=1'-0"

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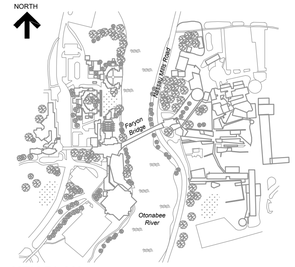
NORTH



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No.	Revision	Date	By
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Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

Sheet Title

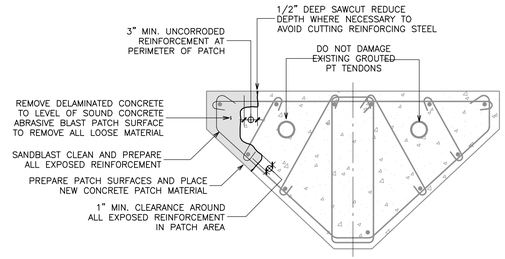
PHASE 1

SECTIONS AND DETAILS

Drawn By	T.S.	Scale	AS NOTED
Designed By	M.P.	Date	July, 2025
RJC Project Number			TOR.140104.0001

Sheet Number — Revision

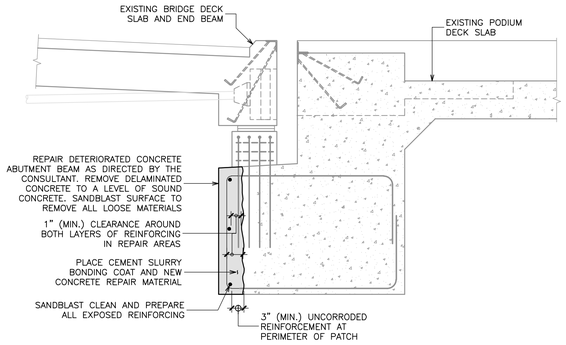
S5.5



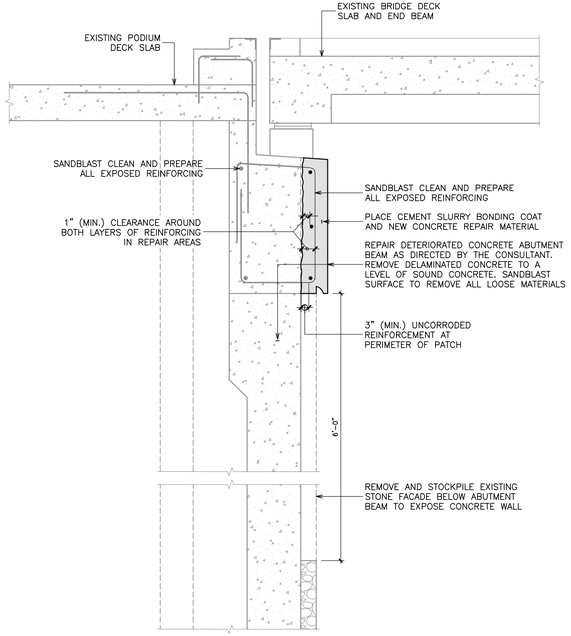
NOTE:

1. CONTRACTOR TO REFER TO TYPICAL MEMBER SECTIONS ON S5.3 AND S5.4 REGARDING BOARD FORM FINISH.

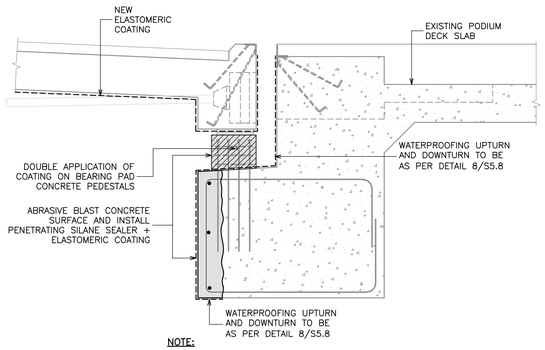
3 / S5.6 TYPICAL SUPERSTRUCTURE CONCRETE DELAMINATION DETAIL
3/4"=1'-0"



2 / S5.6 EAST ABUTMENT DELAMINATION REPAIR
3/4"=1'-0"



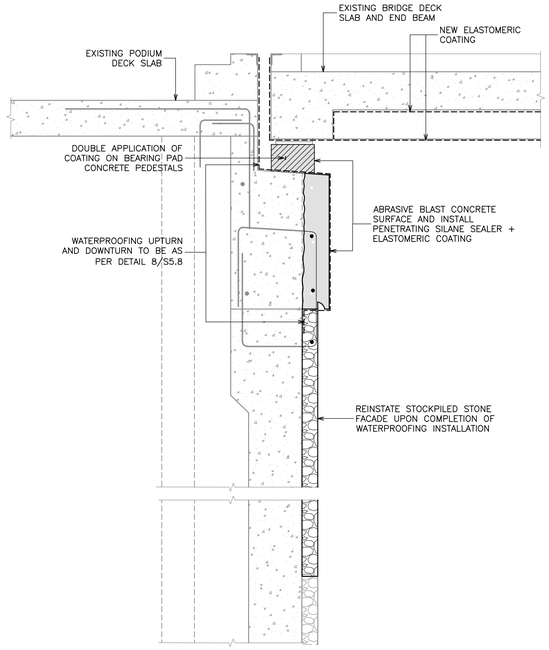
1 / S5.6 WEST ABUTMENT DELAMINATION REPAIR
3/4"=1'-0"



NOTE:

1. INSTALL HEEL BEAD OF SEALANT AT ALL JOINTS AS PER DETAIL 6/S5.8 PRIOR TO APPLICATION OF ELASTOMERIC COATING.

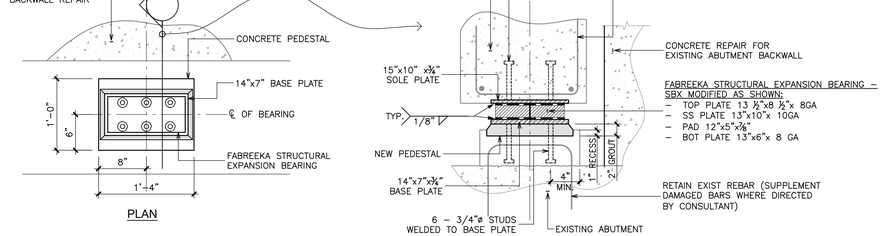
5 / S5.6 EAST ABUTMENT WATERPROOFING DETAIL
3/4"=1'-0"



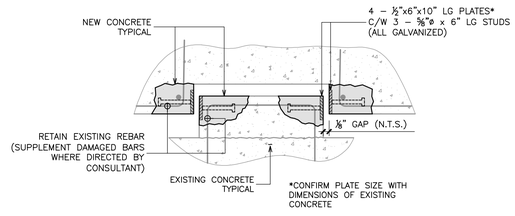
NOTE:

1. INSTALL HEEL BEAD OF SEALANT AT ALL JOINTS AS PER DETAIL 6/S5.8 PRIOR TO APPLICATION OF ELASTOMERIC COATING.

4 / S5.6 WEST ABUTMENT WATERPROOFING DETAIL
3/4"=1'-0"



6 / S5.6 BEARING PAD TYPICAL DETAIL
N.T.S.



7 / S5.6 SHEAR KEY TYPICAL DETAIL
N.T.S.

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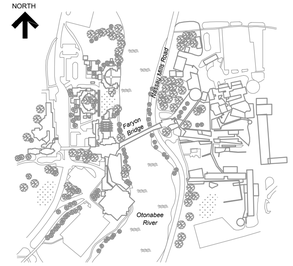
Toronto, ON M5J 1V6 Canada
tel 416-977-5335
email toronto@rjc.ca

NORTH



KEY PLAN

No.	Revision	Date	By
1.	ISSUED FOR TENDER	July 2, 25	M.P.

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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

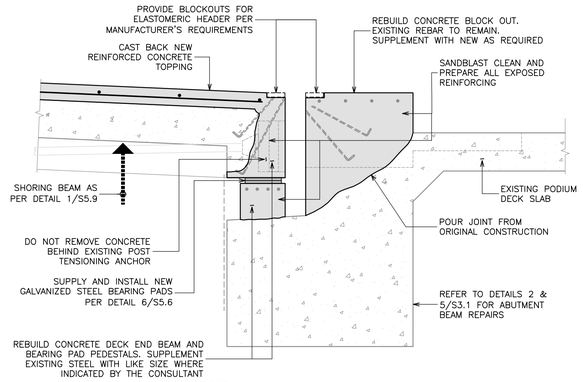
Sheet Title

PHASE 2

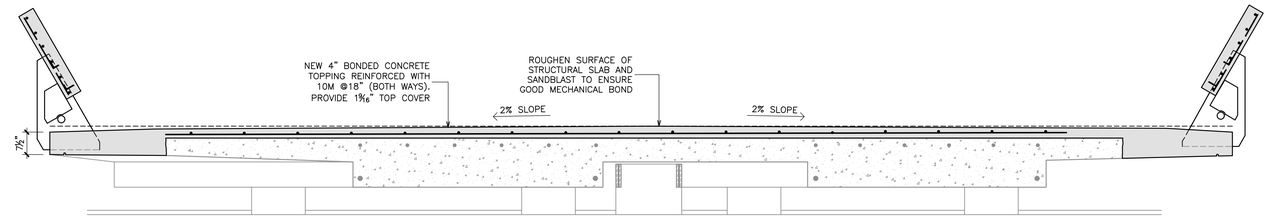
SECTIONS AND DETAILS

Drawn By **T.S.** Scale **AS NOTED**
Designed By **M.P.** Date **July, 2025**
RJC Project Number **TOR.140104.0001**

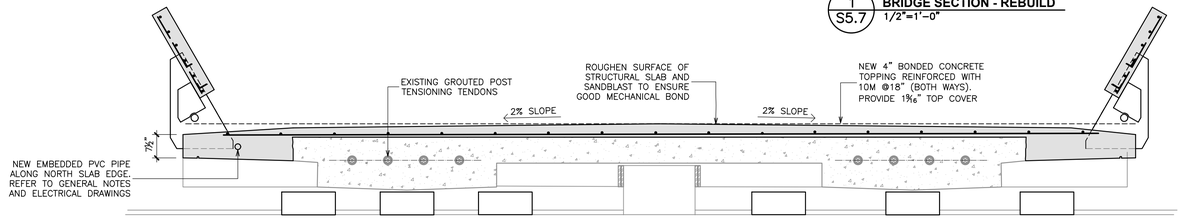
Sheet Number **S5.6** Revision



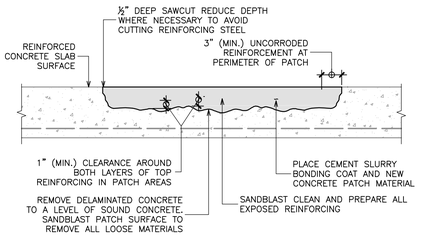
3 / S5.7 EAST ABUTMENT - REBUILD
3/4"=1'-0"



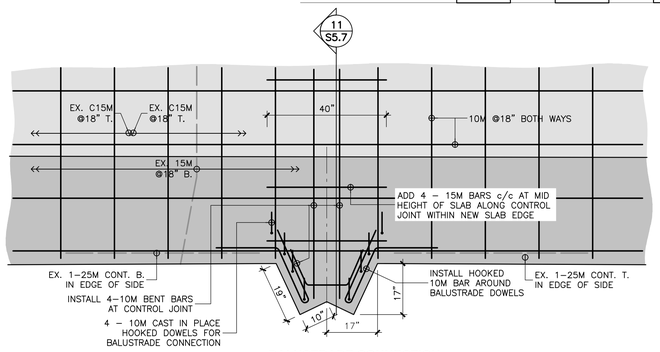
1 / S5.7 BRIDGE SECTION - REBUILD
1/2"=1'-0"



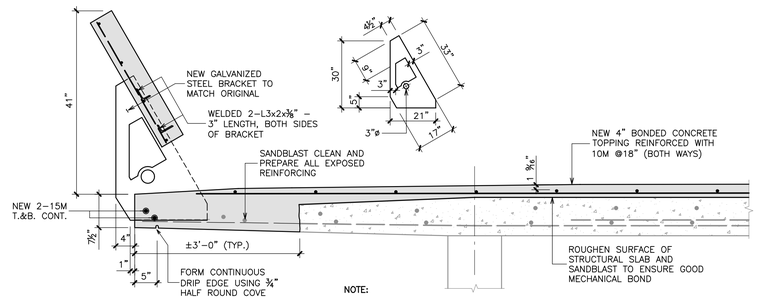
2 / S5.7 BRIDGE SECTION - REBUILD
1/2"=1'-0"



9 / S5.7 TYPICAL SLAB SURFACE CONCRETE DELAMINATIONS
N.T.S.

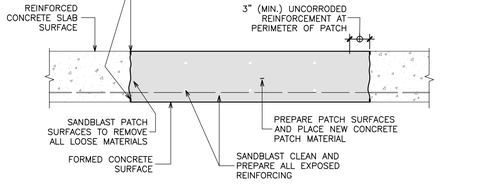


6 / S5.7 BALUSTRADE CONNECTION DECK PLAN DETAIL
1/2"=1'-0"

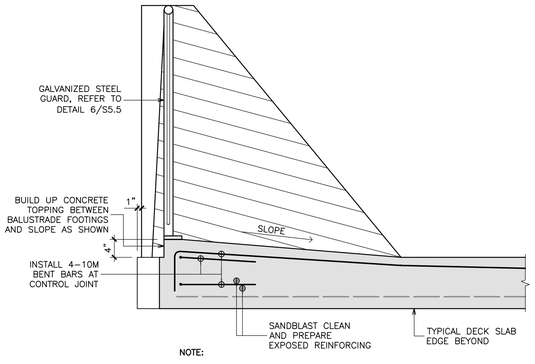


NOTE:
1. BEVEL ALL EDGES OF RECONSTRUCTED BALUSTRADES.

4 / S5.7 BALUSTRADE/ BRIDGE DECK - REBUILD
3/4"=1'-0"

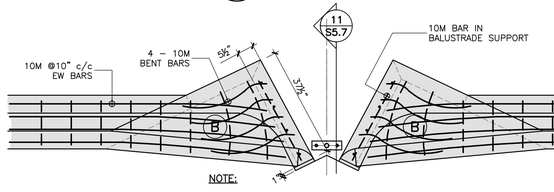


10 / S5.7 TYPICAL FULL DEPTH THROUGH SLAB DELAMINATION REPAIR
N.T.S.



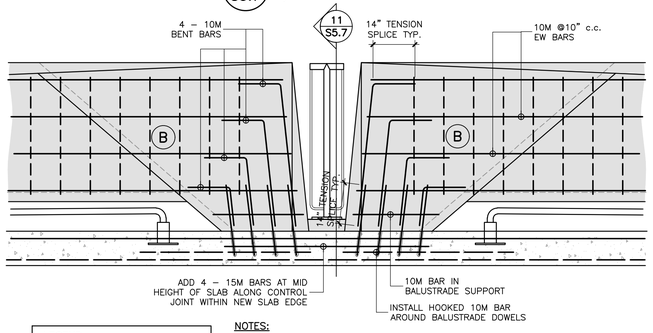
NOTE:
1. CRANK BARS AS REQUIRED TO MAINTAIN PROPER COVER FOR CURVED BALUSTRADE FACE.

11 / S5.7 SLOPED TOPPING BETWEEN BALUSTRADE CONNECTION DETAIL
3/4"=1'-0"



NOTE:
1. CRANK BARS AS REQUIRED TO MAINTAIN PROPER COVER FOR CURVED BALUSTRADE FACE.

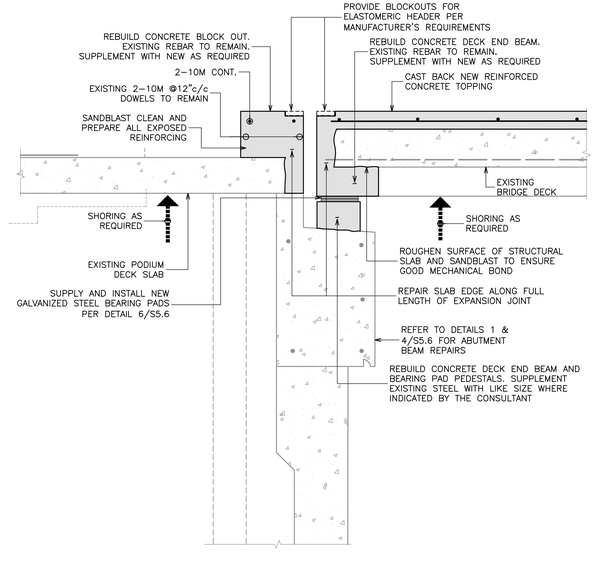
7 / S5.7 BALUSTRADE CONNECTION PLAN DETAIL
1/2"=1'-0"



LEGEND:
(B) BOARD FORM FINISH

NOTES:
1. CRANK BARS AS REQUIRED TO MAINTAIN PROPER COVER FOR CURVED BALUSTRADE FACE.
2. BOARD FORM FINISH NOT SHOWN FOR CLARITY.

8 / S5.7 BALUSTRADE CONNECTION SECTION DETAIL
1/2"=1'-0"



5 / S5.7 WEST ABUTMENT - REBUILD
3/4"=1'-0"

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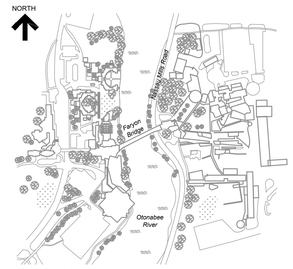

KEY PLAN

No.	Revision	Date	By
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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

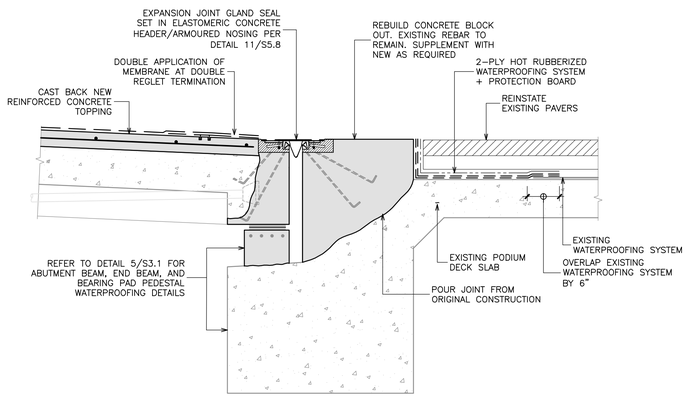
Sheet Title

PHASE 1

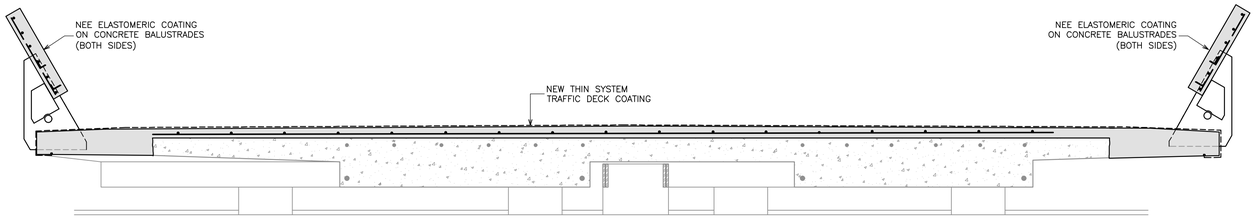
SECTIONS AND DETAILS

Drawn By	T.S.	Scale	AS NOTED
Designed By	M.P.	Date	July, 2025
RJC Project Number			TOR.140104.0001

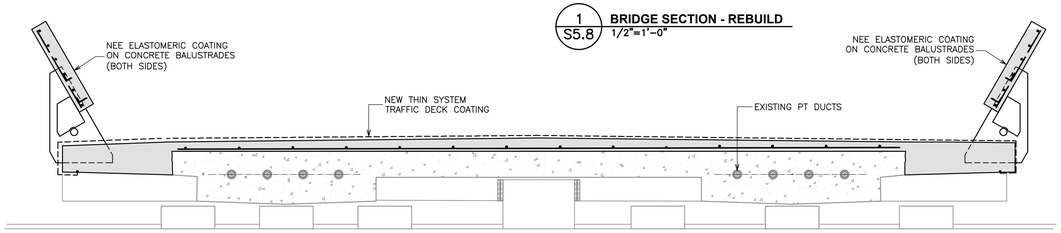
Sheet Number: **S5.7**
Revision



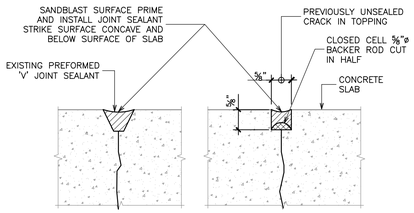
3 / S5.8 EAST ABUTMENT - WATERPROOFING DETAIL
3/4"=1'-0"



1 / S5.8 BRIDGE SECTION - REBUILD
1/2"=1'-0"



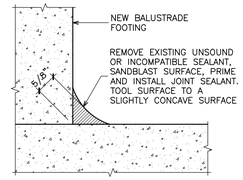
2 / S5.8 BRIDGE SECTION - REBUILD
1/2"=1'-0"



NOTES:

1. SANDBLAST JOINT SURFACE PRIOR TO APPLICATION OF PRIMER OR NEW SEALANT.
2. ENSURE ROUGH EDGES ARE GROUND SMOOTH.
3. CLEAN JOINT OF ALL DUST, PAINT, LOOSE OR FOREIGN MATERIAL PRIOR TO APPLICATION OF NEW MATERIALS.
4. ERECT SUITABLE BARRICADES TO ENSURE THAT TRAFFIC WILL NOT BE ALLOWED ONTO SEALED AREAS PRIOR TO THE MATERIALS BEING FULLY CURED.

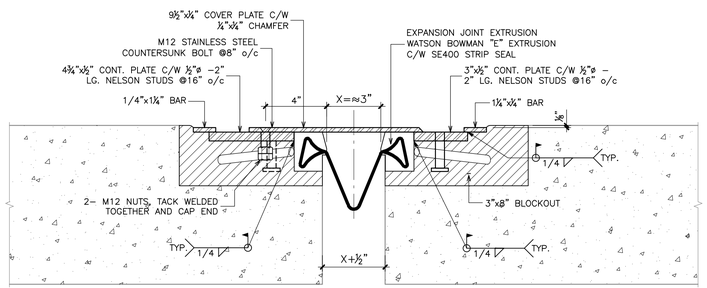
7 / S5.8 CRACK SEALANT DETAIL
N.T.S.



NOTES:

1. SANDBLAST JOINT SURFACE PRIOR TO APPLICATION OF PRIMER OR NEW SEALANT.
2. ENSURE ROUGH EDGES ARE GROUND SMOOTH.
3. CLEAN JOINT OF ALL DUST, PAINT, LOOSE OR FOREIGN MATERIAL PRIOR TO APPLICATION OF NEW MATERIALS.
4. ERECT SUITABLE BARRICADES TO ENSURE THAT TRAFFIC WILL NOT BE ALLOWED ONTO SEALED AREAS PRIOR TO THE MATERIALS BEING FULLY CURED.

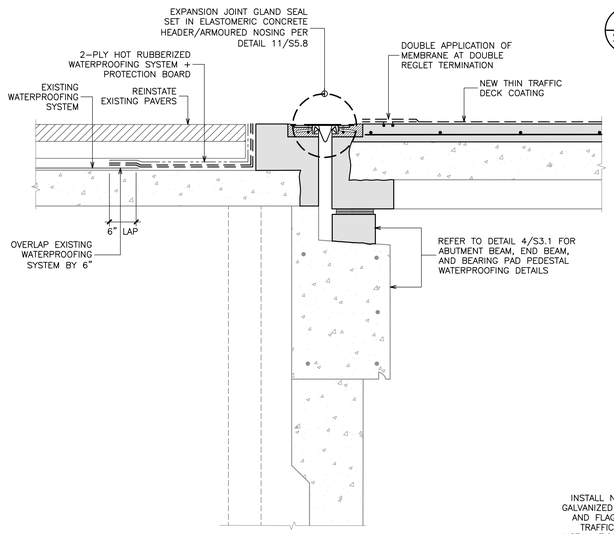
6 / S5.8 HEEL BEAD SEALANT DETAIL
N.T.S.



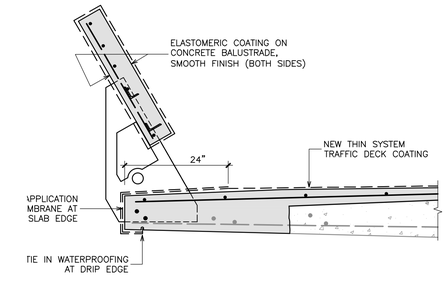
NOTES:

1. ALL METAL COMPONENTS TO BE HOT DIP GALVANIZED TO G164 UNLESS NOTED OTHERWISE.
2. BRUSH BLAST GALVANIZING AND APPLY PPG SFT650 NON-SLIP COATING TO ALL TOP PLATES (WALKING SURFACES). REFER TO SPECIFICATION SECTION 05 50 00.
3. RECESS JOINT AND COVER PLATE ASSEMBLY ⅛" FROM TOP OF DECK/BLOCKOUT.

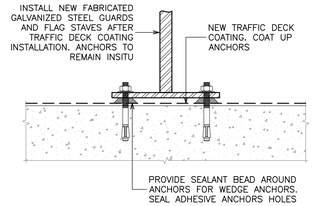
11 / S5.8 EXPANSION JOINT TYPICAL DETAIL
N.T.S.



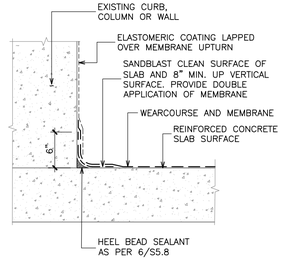
5 / S5.8 WEST ABUTMENT WATERPROOFING DETAIL
3/4"=1'-0"



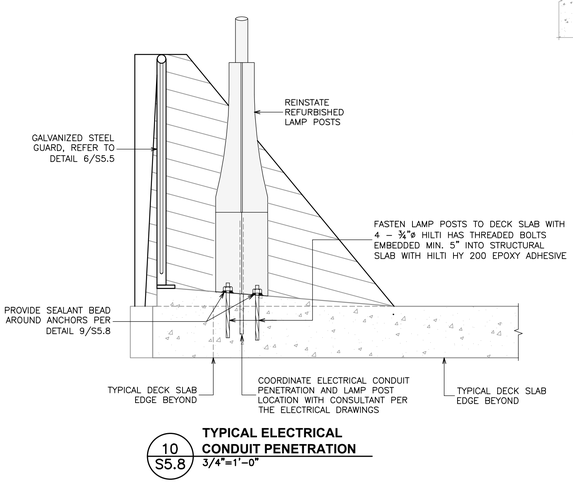
4 / S5.8 BALUSTRADE AND SLAB EDGE WATERPOOFING
3/4"=1'-0"



9 / S5.8 TYPICAL TRAFFIC DECK COATING DETAIL AT STEEL GUARD & FLAG STAFF
N.T.S.



8 / S5.8 TYPICAL WATERPROOFING VERTICAL UPTURN DETAIL
N.T.S.



10 / S5.8 TYPICAL ELECTRICAL CONDUIT PENETRATION
3/4"=1'-0"

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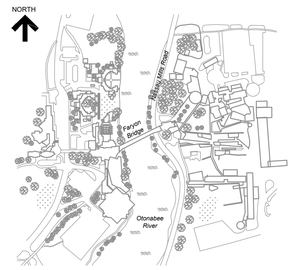

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Seal

Project Name

Reginald Faryon Bridge
Trent University
Peterborough, Ontario

FARYON PEDESTRIAN BRIDGE REHABILITATION

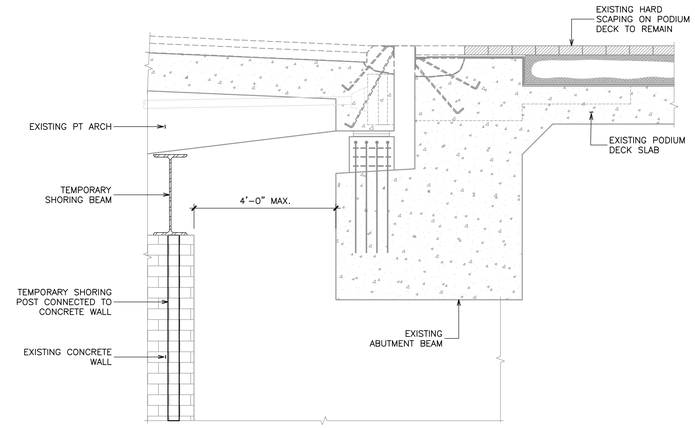
Sheet Title

SECTIONS AND DETAILS

Drawn By	T.S.	Scale	AS NOTED
Designed By	M.P.	Date	July, 2025
RJC Project Number			TOR.140104.0001

Sheet Number — Revision

S5.8



NOTES:

1. SECTION ONLY SHOWS CONCEPT FOR TEMPORARY SHORING. CONTRACTOR IS RESPONSIBLE FOR THE SELECTION, DESIGN, AND INSTALLATION OF TEMPORARY SHORING.
2. REFER TO ABUTMENT SHORING NOTES ON S2.2.

1 / S5.9 **EAST ABUTMENT TEMPORARY SHORING**
3/4"=1'-0"

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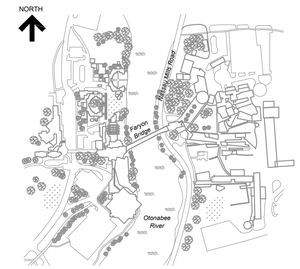
Toronto, ON M5J 1V6 Canada
tel 416-977-5335
email toronto@rjc.ca



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FARYON PEDESTRIAN BRIDGE REHABILITATION

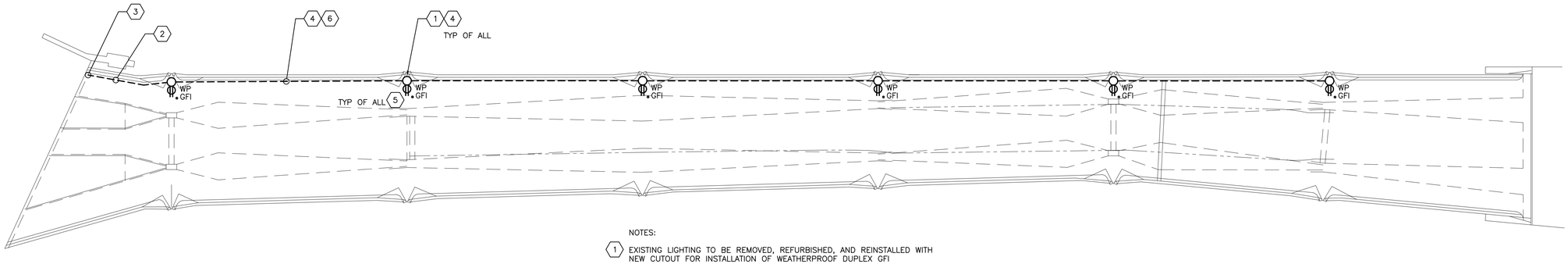
Sheet Title

SECTIONS AND DETAILS

Drawn By	**T.S.**	Scale	**AS NOTED**
Designed By	**M.P.**	Date	**July, 2025**
RJC Project Number			**TOR.140104.0001**

Sheet Number — Revision

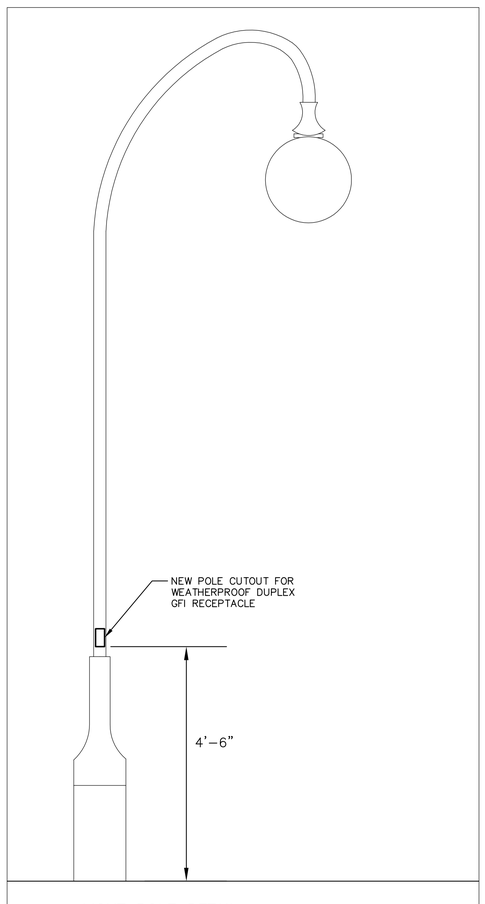
S5.9



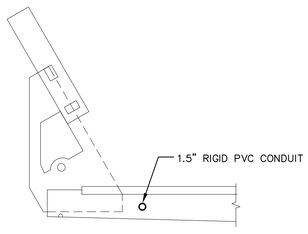
NOTES:

1. EXISTING LIGHTING TO BE REMOVED, REFURBISHED, AND REINSTALLED WITH NEW CUTOUT FOR INSTALLATION OF WEATHERPROOF DUPLEX GFI RECEPTACLE.
2. REMOVE EXISTING SURFACE MOUNTED ARMOURED CABLE SUPPLYING LIGHT FIXTURES AND RECEPTACLES, REMOVE WIRING TO CONTROL CONTACTOR IN MECHANICAL ROOM AND MAKE SAFE.
3. RUN NEW POWER/LIGHTING WIRES IN NEW RIGID PVC CONDUIT. PASS CONDUIT THROUGH EXISTING WALL PENETRATIONS FROM MECHANICAL ROOM AT WEST END OF BRIDGE TO EXTERIOR. RUN CONDUIT UP THE WALL VERTICALLY AND INTO THE NEW SLAB EDGE.
4. RUN NEW CONDUIT AND POWER CABLES IN SLAB FOR LIGHTING AND RECEPTACLES. STUB CONDUIT UP AT EACH LIGHT FIXTURE TO PROVIDE POWER FOR LIGHT FIXTURE AND POWER RECEPTACLE. PROVIDE NEW WIRING INSIDE POLES TO LIGHT AND RECEPTACLE.
5. INSTALL NEW WATERPROOF, GFI RECEPTACLES MOUNTED ON LIGHT POLE IN NEW CUTOUT HOLE. SEE DETAIL 2/E1
6. 3 POWER CIRCUITS RUN IN CONDUIT. 1 FOR LIGHTING, 2 FOR RECEPTACLE POWER. REFER TO DETAIL 3/E1 FOR CROSS SECTION VIEW. REFER TO 4/E1 FOR CONNECTION DETAILS.

1/E1 TOP VIEW BRIDGE
SCALE: 3/32"=1'0"



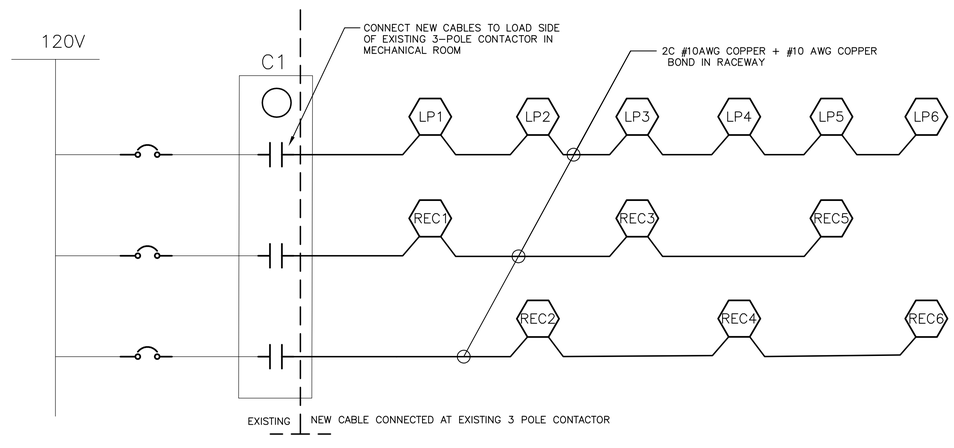
2/E1 LIGHT POLE DETAIL
SCALE: 3/4"=1'0"



NOTES:

1. RUN NEW CONDUIT IN NEW EDGE OF SLAB. COORDINATE WITH CONTRACTOR RESPONSIBLE FOR CONCRETE WORK.

3/E1 BRIDGE EDGE CROSS SECTION
SCALE: 3/4"=1'0"



4/E1 WIRING DIAGRAM
SCALE: N/A

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	02/07/2025	MJM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

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PROJECT
FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

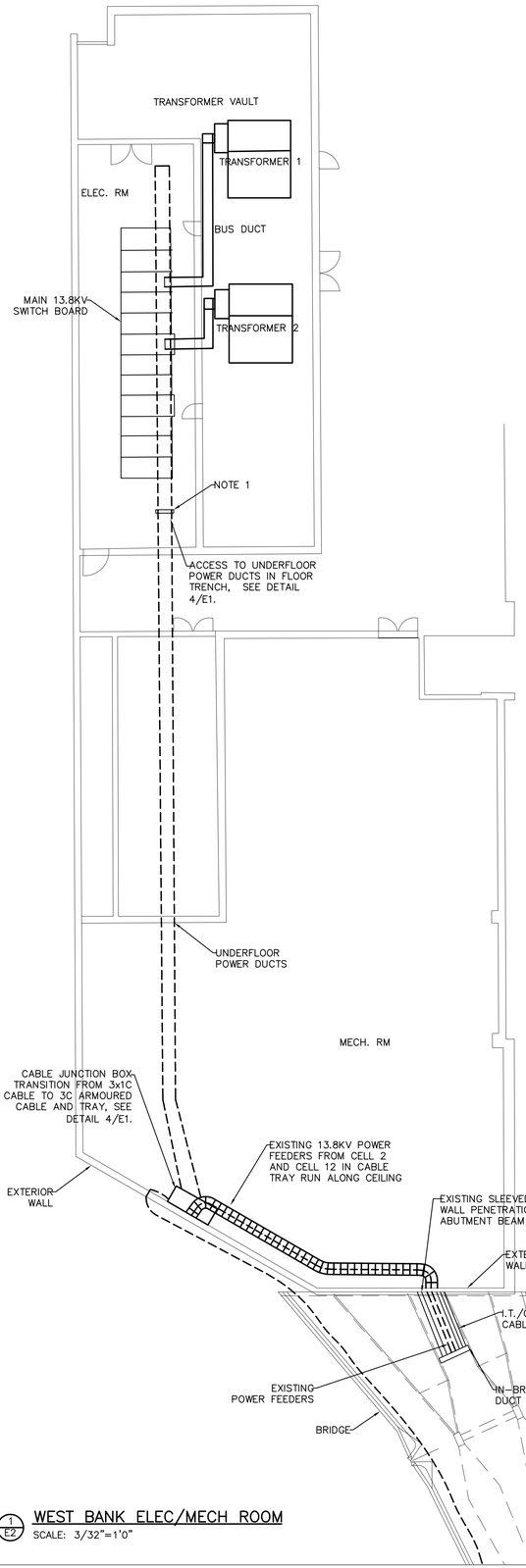
TITLE
BRIDGE LIGHTING AND OUTLETS

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E1
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

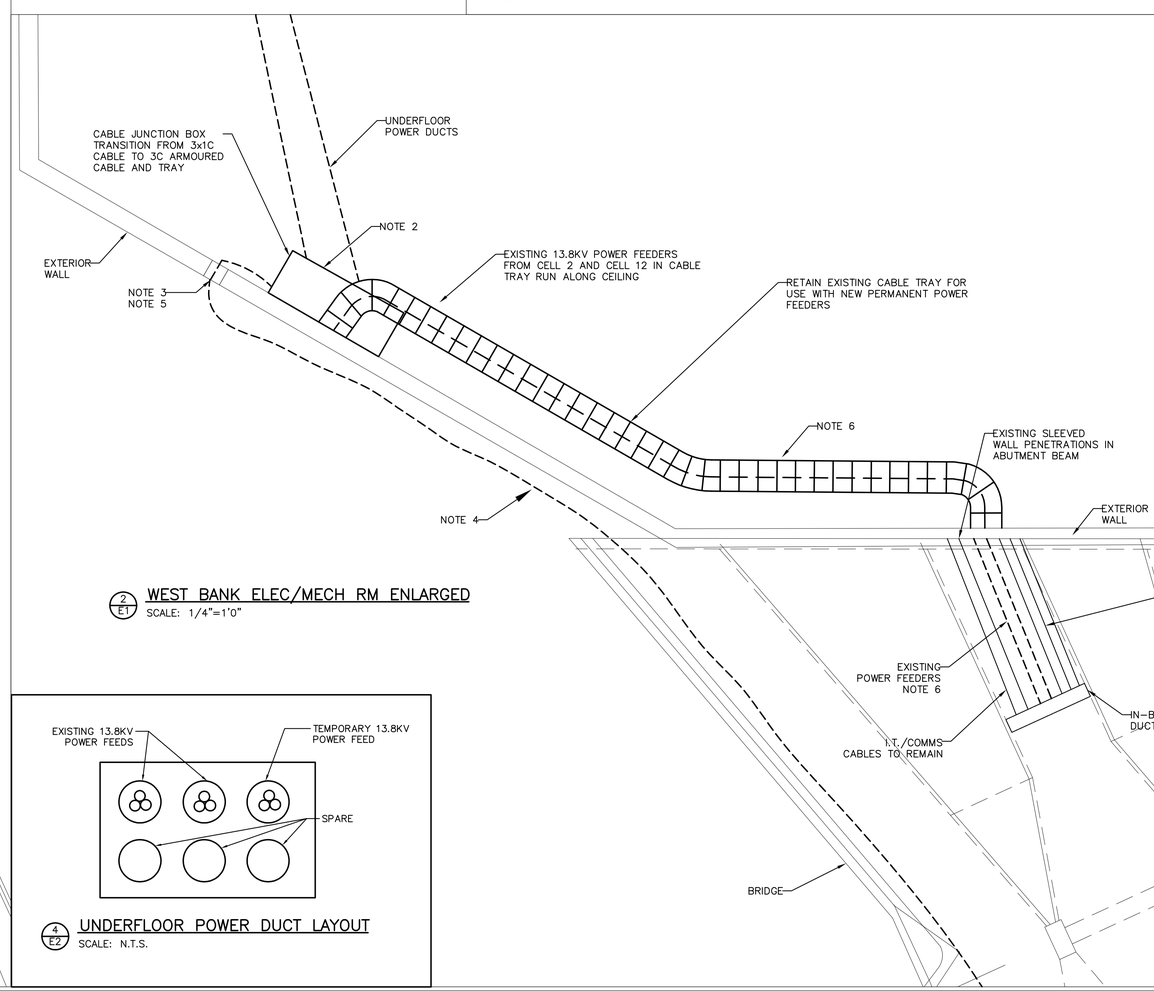
CADD FILE NO. 7491E1

NOTES:

1. EXISTING 13.8KV FEEDERS ARE TO REMAIN IN PLACE UNTIL TEMPORARY FEED IS INSTALLED AND OPERATIONAL. REFER TO SINGLE LINE DIAGRAMS FOR DETAILS OF ELECTRICAL WIRING WORK.
2. CORE DRILL HOLE IN EXTERIOR MECHANICAL ROOM WALL AT A HEIGHT 4m OR ABOVE. PROVIDE PROTECTIVE PVC SLEEVE FOR PASSAGE OF CABLE. COORDINATE EXACT LOCATION OF CORE DRILL ON SITE WITH SITE CONDITIONS AND CLEAR OF BRIDGE ABUTMENT BEAM WORK AREA. REFER TO STRUCTURAL DRAWINGS FOR CORE DRILLING DETAILS.
3. RUN NEW TEMPORARY FEEDER CABLES FROM MAIN SWITCHGEAR CUBICLE THROUGH EXISTING SPARE DUCT IN UNDER FLOOR POWER DUCTS TO EXISTING JUNCTION BOX.
4. AT JUNCTION BOX SPLICE TEMPORARY POWER CABLES AND TRANSITION FROM 3x1C CABLE TO 1x3C CONDUCTOR ARMOURED CABLE. USE EXISTING BOND BUS FOR BONDING OF ARMOUR CABLE SHEATH.
5. RUN TEMPORARY FEEDER UP WALL AND THROUGH NEW SLEEVED PENETRATION AND SEAL TO PREVENT MOISTURE FROM ENTERING THE MECHANICAL ROOM THROUGH THE OPENING.
6. RUN FEEDER FROM WALL PENETRATION TO TOP OF BRIDGE DECK AND PROVIDE MOUNTING SUPPORT AS NEEDED. CONTINUE CABLE RUN ALONG THE SOUTH SIDE OF THE BRIDGE. RUN CABLE TIGHT TO BALUSTRADES. REFER TO STRUCTURAL DRAWINGS FOR PROTECTIVE HOARDING DETAILS.
7. ONCE TEMPORARY POWER FEED IS INSTALLED AND OPERATIONAL REMOVE EXISTING 13.8KV POWER CABLES TO SOURCE AND MAKE SAFE. EXISTING CABLE TRAY IS TO REMAIN FOR USE WITH NEW FEEDERS.
8. RUN NEW PERMANENT FEEDER CABLES FROM MAIN SWITCHGEAR CUBICLES THROUGH EXISTING AVAILABLE DUCTS IN UNDER FLOOR DUCTS TO EXISTING JUNCTION BOX.
9. AT JUNCTION BOX SPLICE NEW PERMANENT POWER CABLES AND TRANSITION FROM 3x1C CABLES TO 1x3C CONDUCTOR ARMOURED CABLES. USE EXISTING BOND BUS FOR BONDING OF ARMOUR CABLE SHEATHS.
10. RUN NEW PERMANENT FEEDERS IN EXISTING CABLE TRAY TO EXISTING SLEEVED WALL PENETRATION IN ABUTMENT BEAM.
11. RUN NEW PERMANENT FEEDERS THROUGH WALL PENETRATION TO REFURBISHED BRIDGE DUCTS AND PROVIDE MOUNTING SUPPORT AS NEEDED. SEAL AROUND CABLES TO PREVENT MOISTURE FROM ENTERING THE MECHANICAL ROOM THROUGH THE OPENINGS. RUN FEEDERS THROUGH BRIDGE DUCTS INTO MECHANICAL ROOM ON THE EAST BANK. REFER TO OTHER DRAWINGS FOR CABLE ROUTING DETAILS.
12. ONCE PERMANENT POWER FEEDS ARE INSTALLED AND OPERATIONAL REMOVE TEMPORARY POWER CABLES TO SOURCE AND MAKE SAFE. SEAL AND PATCH CORE DRILLED HOLE. REFER TO STRUCTURAL DRAWINGS FOR DETAILS ON CORE HOLE DRILLING AND REPAIR.

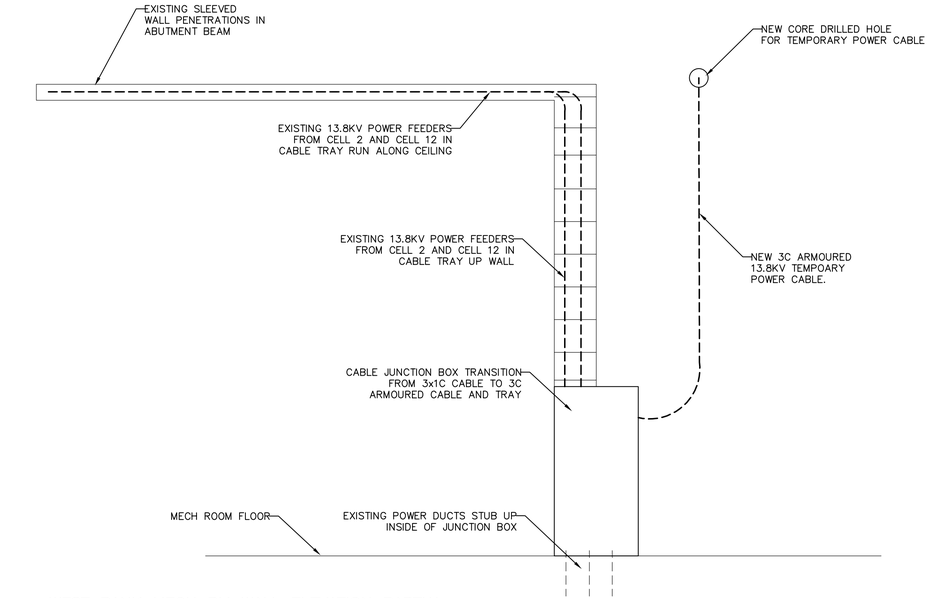


1/E2 WEST BANK ELEC/MECH ROOM
SCALE: 3/32"=1'0"



2/E1 WEST BANK ELEC/MECH RM ENLARGED
SCALE: 1/4"=1'0"

4/E2 UNDERFLOOR POWER DUCT LAYOUT
SCALE: N.T.S.



3/E2 WEST BANK MECH RM WALL ELEVATION PARTIAL
SCALE: N.T.S.

NO.	DESCRIPTION	DATE	BY
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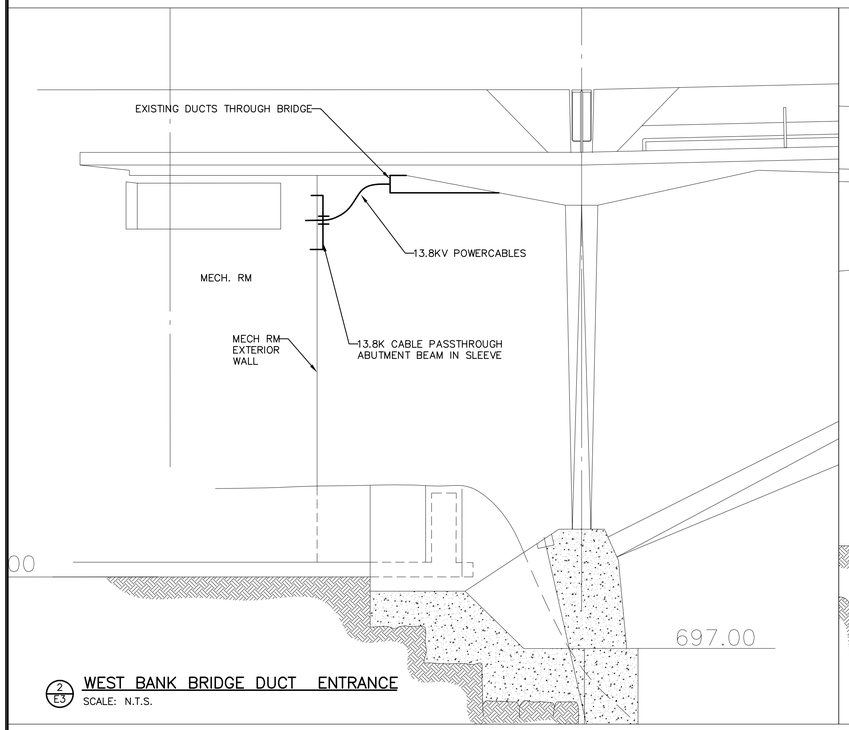
PROJECT
FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

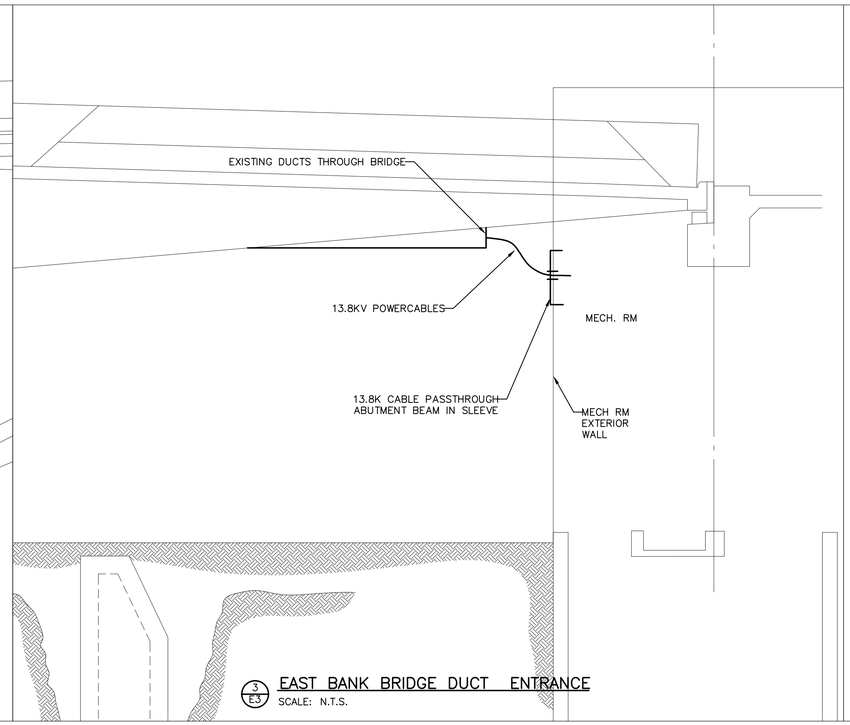
TITLE
WEST BANK POWER LAYOUT

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E2
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

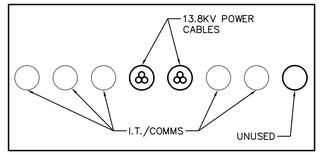
CADD FILE NO. 7491E2

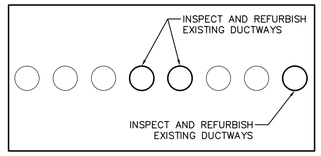


2/E3 WEST BANK BRIDGE DUCT ENTRANCE
SCALE: N.T.S.



3/E3 EAST BANK BRIDGE DUCT ENTRANCE
SCALE: N.T.S.

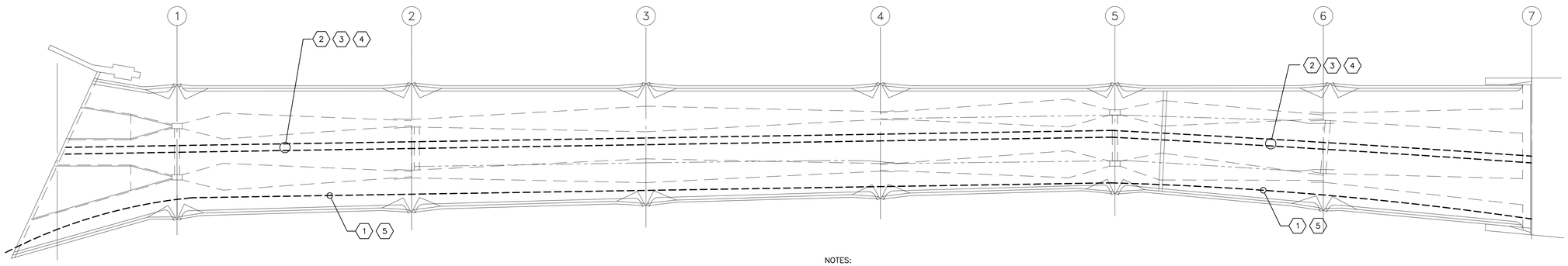




NOTES:

1. ONCE THE TEMPORARY POWER FEED IS IN PLACE AND OPERATIONAL DISCONNECT AND REMOVE EXISTING 13.8KV POWER CABLES FROM BRIDGE DUCTS.
4. PERFORM CAMERA INSPECTION OF DUCTWAYS BEFORE AND AFTER REFURBISHMENT TO ENSURE ALL DEBRIS IS REMOVED AND DUCTWAY IS CLEAR AND IN SUITABLE CONDITION.
5. REFURBISH EXISTING DUCTS AS NECESSARY TO PROVIDE A SUITABLE DUCT FOR USE WITH NEW CABLES. RERUBISHMENT INCLUDES UP TO MACHINE BORING DUCTS TO REMOVE ALL EXISTING DEBRIS AND DAMAGED CONDUIT FROM THE DUCTWAY.
6. PROVIDE A CLEAN SMOOTH SURFACE IN THE DUCTWAY SUITABLE FOR THE PULLING OF POWER CABLES EITHER BY INSTALLING NEW PVC DUCT OR PIPE LINERS IN THE DUCTWAY.
7. BORING OF DUCTWAY TO BE CARRIED OUT BY A DEDICATED CONTRACTOR SKILLED AND COMPETENT IN DRILLING AND BORING WORK. DRILLING AND BORING TO BE CARRIED OUT BY ROBOTIC IN PIPE DRILLING EQUIPMENT. SITE SPACE DOES NOT FACILITATE TRADITIONAL DRILLING EQUIPMENT. CONTRACTOR IS TO INVESTIGATE SITE FOR CONDITIONS, STAGING AND WORKING SPACE. ANY PROPOSED ALTERATIONS OR RESTRICTIONS TO THE WORK SHOULD BE NOTED PRIOR TO BIDDING. EXTRAS WILL NOT BE AWARDED FOR FAILURE TO ASSESS SITE CONDITIONS AND RESTRICTIONS PRIOR TO BIDDING.
8. COORDINATE WORK AND SCHEDULE WITH ELECTRICAL CONTRACTOR AND PRIMARY BRIDGE WORK CONTRACTOR.

4/E3 BRIDGE DUCT LAYOUT DETAIL
SCALE: N.T.S.



1/E3 TOP VIEW BRIDGE
SCALE: 3/32"=1'0"

NOTES:

1. TEMPORARY POWER FEED RUN ALONG THE SOUTH SIDE OF THE BRIDGE. RUN CABLE TIGHT TO BALUSTRADES AND REFER TO STRUCTURAL DRAWINGS FOR PROTECTIVE HOARDING DETAILS.
2. EXISTING 13.8KV POWER CABLES RUN IN BRIDGE DUCTWAY. FEEDERS TO REMAIN IN PLACE UNTIL TEMPORARY POWER FEED IS INSTALLED AND OPERATIONAL.
3. ONCE TEMPORARY POWER FEED IS IN PLACE REMOVE EXISTING POWER CABLES FROM BRIDGE DUCTS AND INSPECT/REPAIR EXISTING DUCTWAYS FOR REUSE. SEE DETAIL 4/E3.
4. INSTALL NEW 18.3KV POWER CABLES IN REFURBISHED DUCTS.
5. REMOVE TEMPORARY POWER FEEDER ONCE NEW PERMANENT POWER CABLES ARE INSTALLED AND OPERATIONAL.

NO.	DESCRIPTION	DATE	BY
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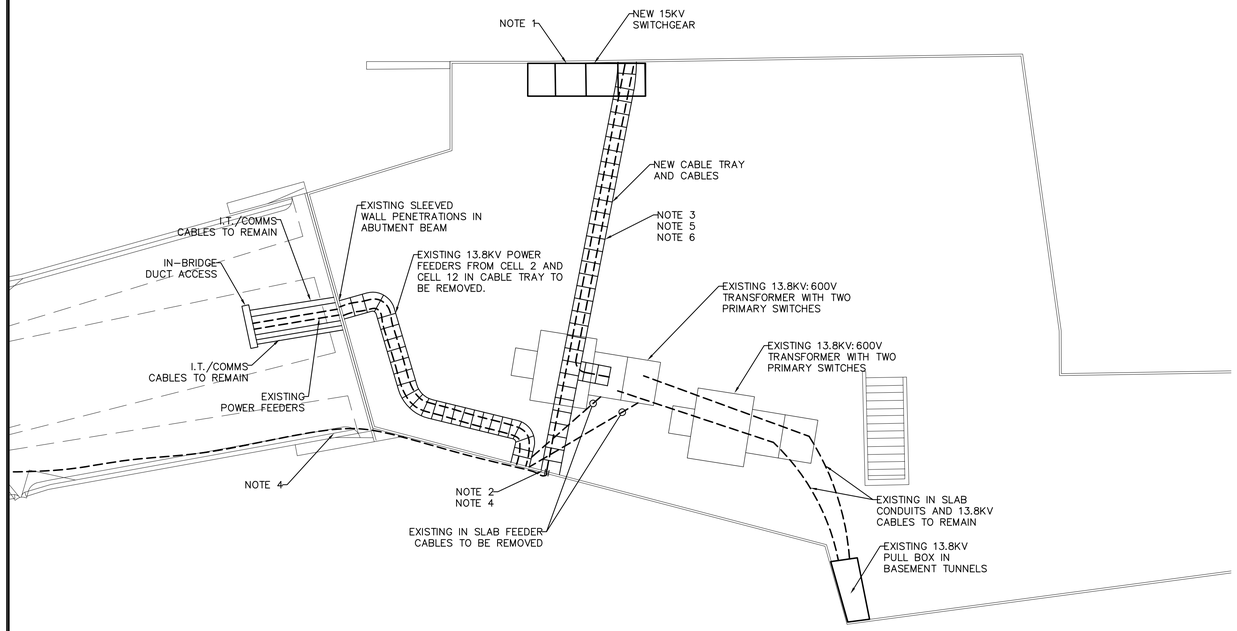
PROJECT
FAYRON BRIDGE RESTORATION PHASE 2
Trent University
Peterborough ON

TITLE
BRIDGE POWER FEEDS LAYOUT

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E3
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

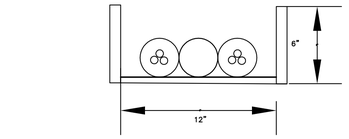
CADD FILE NO. 7491E3



1/E4 EXISTING EAST BANK MECH RM LAYOUT W TEMP POWER
SCALE: 1/8"=1'0"

NOTES:

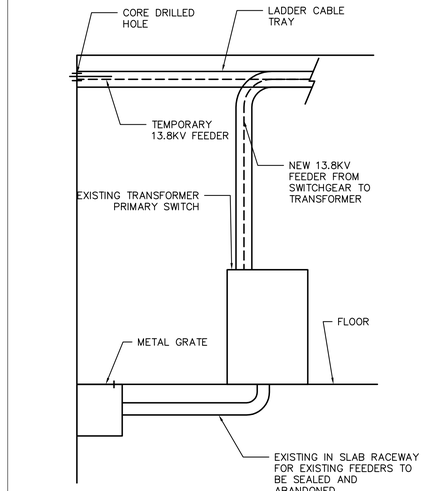
1. INSTALL NEW 15KV SWITCHGEAR AND BOND TO BUILDING GROUND. REFER TO SWITCHGEAR DRAWINGS AND SPECIFICATION FOR MORE DETAILS.
2. CORE DRILL A MINIMUM 6" HOLE IN EXTERIOR MECHANICAL ROOM WALL AT A HEIGHT 4m OR ABOVE. PROVIDE PROTECTIVE PVC SLEEVE FOR PASSAGE OF CABLE. COORDINATE EXACT LOCATION OF CORE DRILL ON SITE WITH SITE CONDITIONS AND CLEAR OF BRIDGE ABUTMENT BEAM WORK AREA. REFER TO STRUCTURAL DRAWINGS FOR CORE DRILLING DETAILS.
3. INSTALL NEW ALUMINUM LADDER TYPE CABLE TRAY FOR USE WITH NEW AND TEMPORARY 13.8KV POWER CABLES. RUN CABLE TRAY FROM CABLE WALL PENETRATION AT SOUTH WALL AND ALONG CEILING AND DOWN NORTH WALL TO NEW SWITCHGEAR. ALSO PROVIDE VERTICAL CABLE TRAY DOWN TO TOP OF THE TRANSFORMER PRIMARY SWITCH. REFER TO CABLE TRAY DETAIL ON THIS DRAWING. COORDINATE INSTALLATION OF CABLE TRAY AROUND EXISTING DUCTWORK AND CEILING HUNG SUPPORT RODS AND CABLES.
4. RUN NEW TEMPORARY FEEDER CABLE FROM SOUTH SIDE OF BRIDGE DECK TO SOUTH WALL OF EAST BANK MECH ROOM AND THROUGH NEW CORE DRILLED SLEEVED OPENING, PROVIDE MOUNTING SUPPORT AS NEEDED.
5. RUN TEMPORARY FEEDER CABLE IN CABLE TRAY AND TERMINATE IN NEW SWITCHGEAR.
6. RUN NEW FEEDER CABLE FROM SWITCHGEAR IN CABLE TRAY TO EXISTING TRANSFORMER SWITCH IN MECHANICAL ROOM. USE NEW VERTICAL CABLE TRAY RUN TO BRING NEW FEEDERS INTO SWITCH TO TERMINATE.



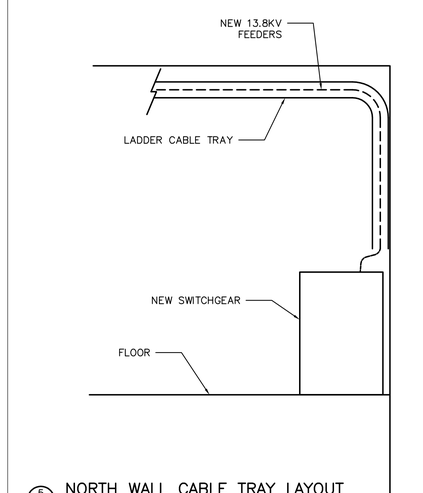
CABLE TRAY NOTES:

1. CABLES IN CABLE TRAY ARRANGED MAINTAIN MINIMUM OF ONE CABLE DIAMETER BETWEEN CABLES. MINIMUM CABLE TRAY WIDTH OF 12"
2. CABLE SHEATHS TO BE BONDED AT ONE END OF RUN.
3. CABLE TRAY IS TO BE ALUMINUM WITH STEEL CABLE FASTENERS AT REQUIRED INTERVALS. NO MAGNETIC METAL RING SHALL BE INSTALLED ON THE CABLE TRAY SO AS TO ENCLOSE THE CABLE IN A FERROUS LOOP.
4. CABLE TRAY TO BE BONDED WITH A #3 AWG ALUMINUM CABLE AS PER OESC RULE 12-2208 AND TABLE 16. BOND WIRE TO BE CONNECTED TO CABLE TRAY AT INTERVALS NOT EXCEEDING 15m.

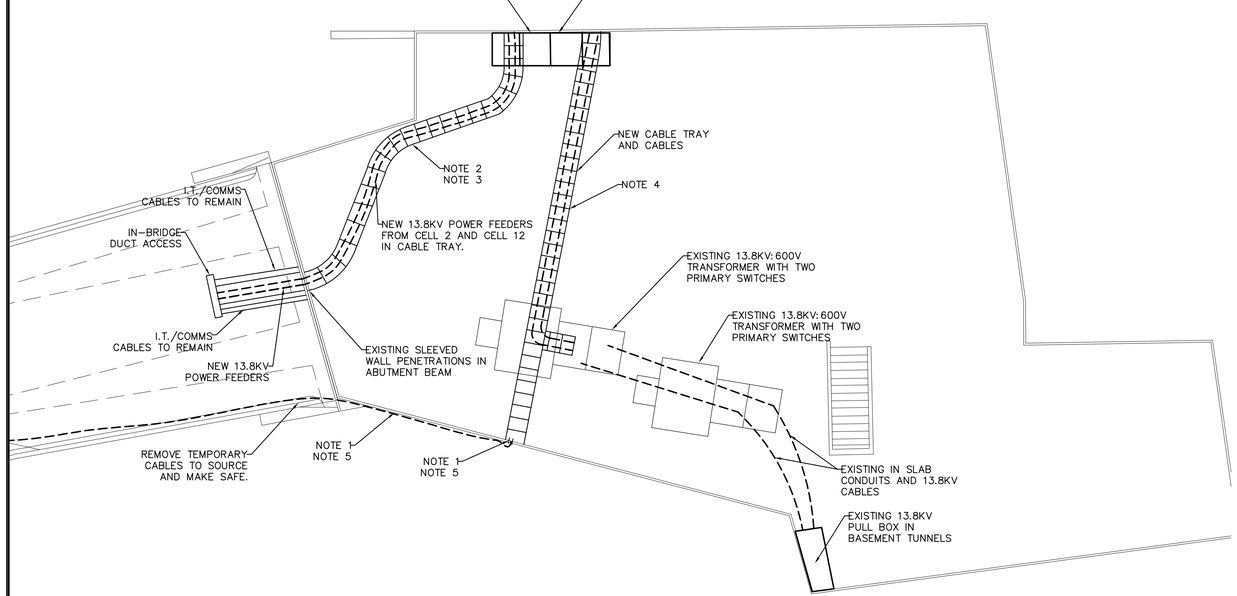
3/E3 CABLE TRAY LAYOUT
SCALE: E4



4/E3 SOUTH WALL CABLE TRAY LAYOUT
SCALE: N.T.S.



5/E4 NORTH WALL CABLE TRAY LAYOUT
SCALE: N.T.S.



2/E4 PROPOSED EAST BANK MECH RM LAYOUT W NEW POWER FEEDS
SCALE: 1/8"=1'0"

NOTES:

1. EXISTING 13.8KV TEMPORARY FEEDERS ARE TO REMAIN IN PLACE UNTIL NEW PERMANENT FEEDERS ARE INSTALLED AND OPERATIONAL.
2. INSTALL NEW ALUMINUM LADDER TYPE CABLE TRAY FOR USE WITH NEW 13.8KV POWER CABLES. RUN CABLE TRAY FROM PENETRATIONS IN ABUTMENT BEAM ALONG CEILING AND DOWN NORTH WALL TO NEW SWITCHGEAR. REFER TO CABLE TRAY DETAIL ON THIS DRAWING. COORDINATE INSTALLATION OF CABLE TRAY AROUND EXISTING DUCTWORK AND CEILING HUNG SUPPORT RODS AND CABLES.
3. RUN NEW PERMANENT FEEDERS IN THROUGH EXISTING OPENINGS IN ABUTMENT BEAM AND IN NEW CABLE TRAY TO NEW SWITCHGEAR. TERMINATE NEW CELL 2 AND CELL 12 FEEDERS ON INCOMING TERMINALS OF DOUBLE SWITCH SECTIONS.
4. RUN NEW FEEDER FROM SWITCHGEAR IN CABLE TRAY TO EXISTING TRANSFORMER PRIMARY SWITCH IN MECHANICAL ROOM.
5. ONCE PERMANENT POWER FEEDS ARE INSTALLED AND OPERATIONAL REMOVE TEMPORARY POWER CABLES AND SEAL AND PATCH CORE DRILLED HOLE. REFER TO STRUCTURAL DRAWINGS FOR DETAILS ON CORE HOLE DRILLING AND REPAIR.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	08/04/2025	MJM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

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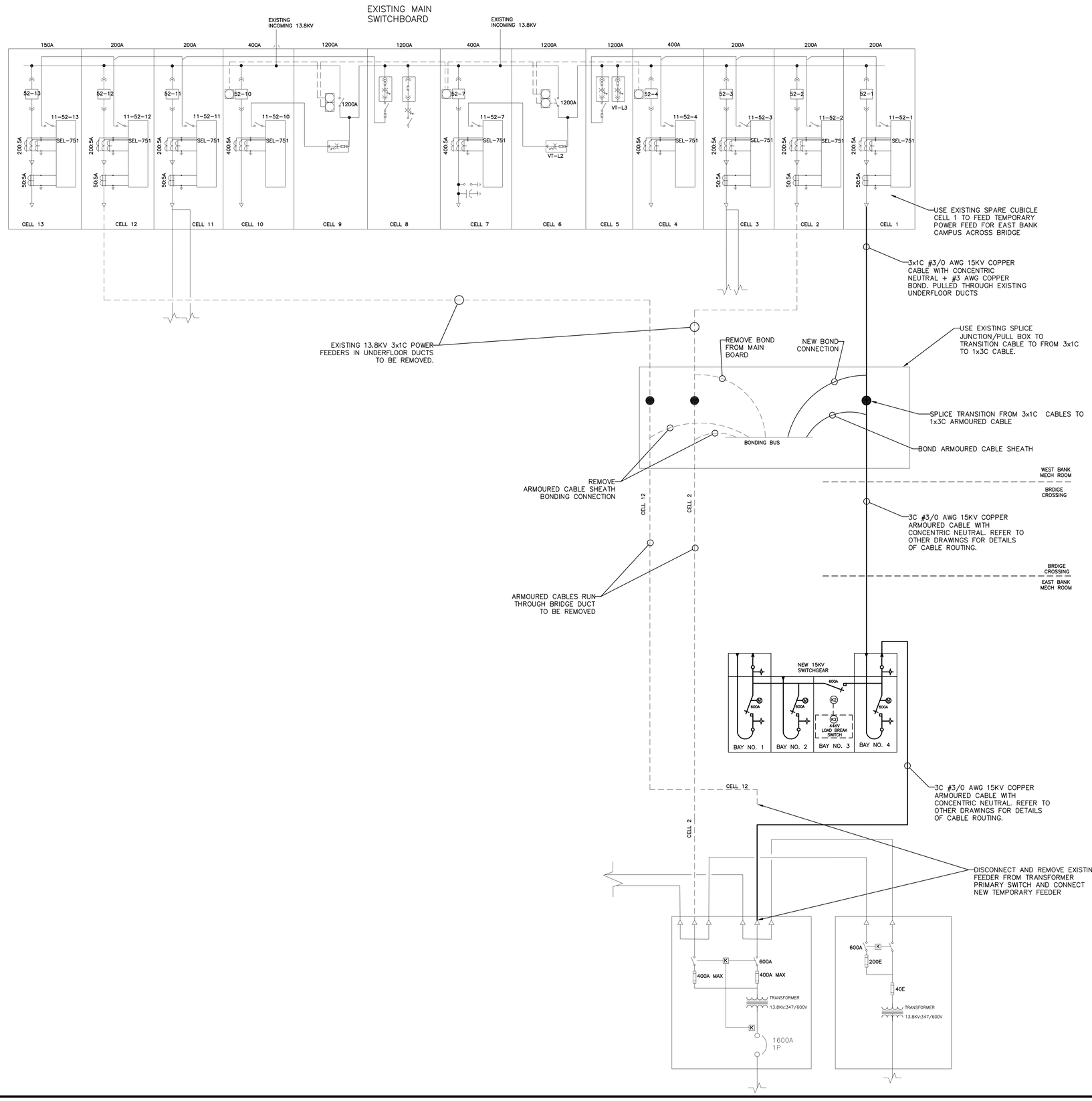
PROJECT
FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

TITLE
EAST BANK POWER LAYOUT

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E4
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

CADD FILE NO. 7491E4



NOTES:

1. EXISTING PERMANENT POWER TO REMAIN IN PLACE AND OPERATIONAL AS MUCH AS PRACTICABLE UNTIL TEMPORARY POWER FEED IS INSTALLED AND OPERATIONAL.
2. PROVIDE AND INSTALL NEW 13.8KV SWITCHGEAR IN MECHANICAL ROOM ON EAST BANK. REFER TO LAYOUT DRAWINGS AND SWITCHGEAR SPEC FOR MORE INFORMATION.
3. FEED NEW TEMPORARY POWER FEED FROM EXISTING SWITCHBOARD CUBICLE AND TERMINATE IN SINGLE SWITCH OF NEW SWITCHGEAR ON EAST BANK. REFER TO OTHER DRAWINGS FOR DETAILS OF TEMPORARY POWER FEED ROUTING.
4. REMOVE EXISTING CELL 2 AND CELL 12 POWER CABLES. DISCONNECT FROM TRANSFORMER SWITCH ON EAST BANK SWITCH AND REMOVE TO MAIN SWITCHBOARD.
5. RETAIN EXISTING CABLE TRAY IN WEST BANK MECHANICAL ROOM FOR USE WITH NEW FEEDERS.
6. REMOVE EXISTING BOND WIRE FROM JUNCTION BOX AND REPLACE WITH BOND CONNECTION FROM TEMPORARY POWER FEED.

NO.	DESCRIPTION	DATE	BY
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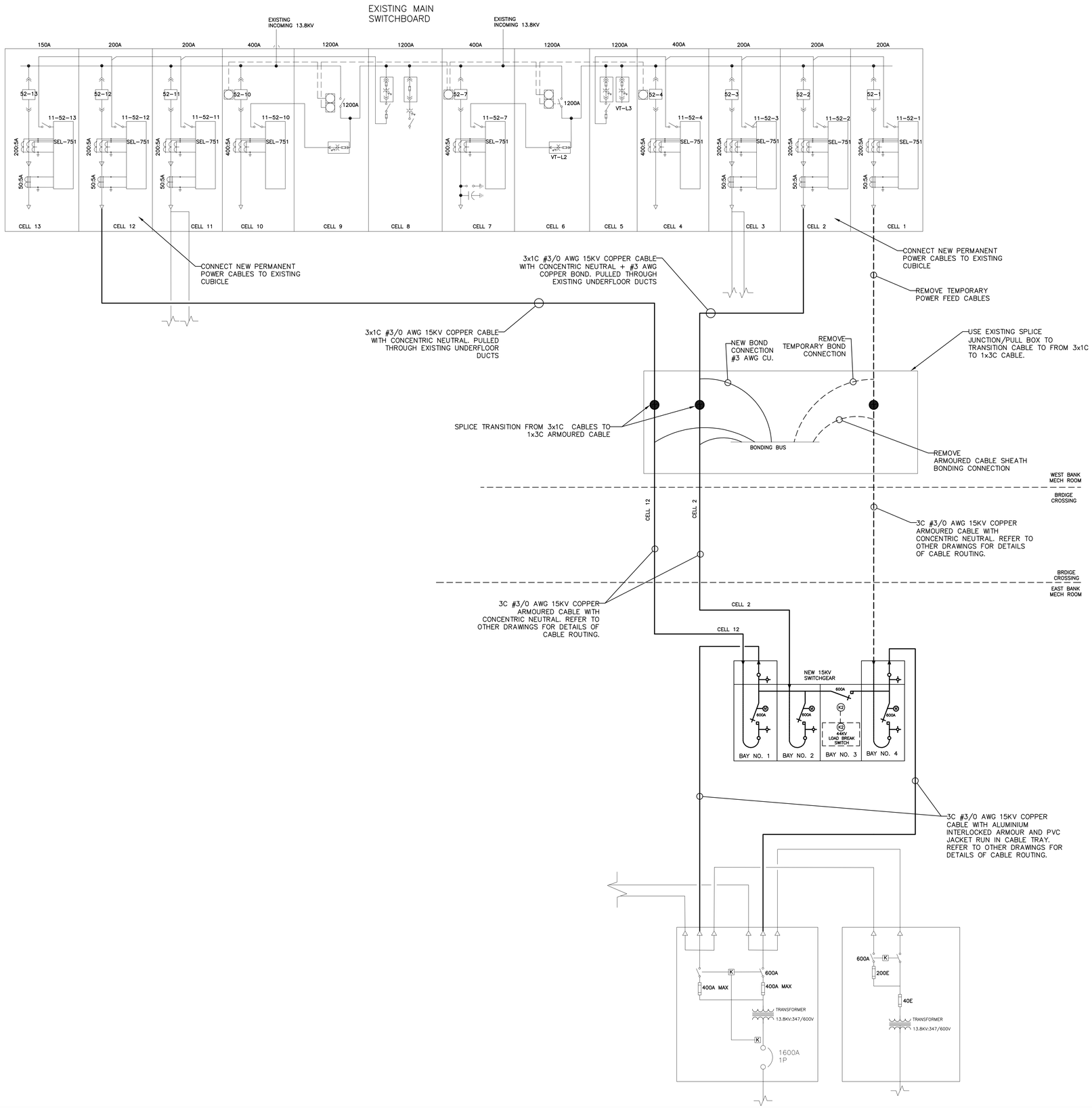
PROJECT
FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

TITLE
PARTIAL SLD
NEW TEMPORARY POWER

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E5
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

CADD FILE NO. 7491E5



NOTES:

1. TEMPORARY POWER TO REMAIN IN PLACE AND OPERATIONAL AS MUCH AS PRACTICABLE UNTIL NEW PERMANENT POWER FEED IS INSTALLED AND OPERATIONAL.
2. CONNECT NEW PERMANENT POWER FEEDS TO EXISTING SWITCHBOARD CUBICLES AND TERMINATE IN DUAL SWITCH OF NEW SWITCHGEAR ON EAST BANK. REFER TO OTHER DRAWINGS FOR DETAILS OF POWER FEED ROUTING.
3. REMOVE TEMPORARY POWER CABLES. DISCONNECT FROM EAST BANK SWITCHGEAR AND REMOVE TO MAIN SWITCHBOARD.
4. REMOVE TEMPORARY BOND WIRE FROM JUNCTION BOX AND REPLACE WITH BOND CONNECTION FROM NEW PERMANENT POWER FEED.

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KIRKLAND ENGINEERING LTD.

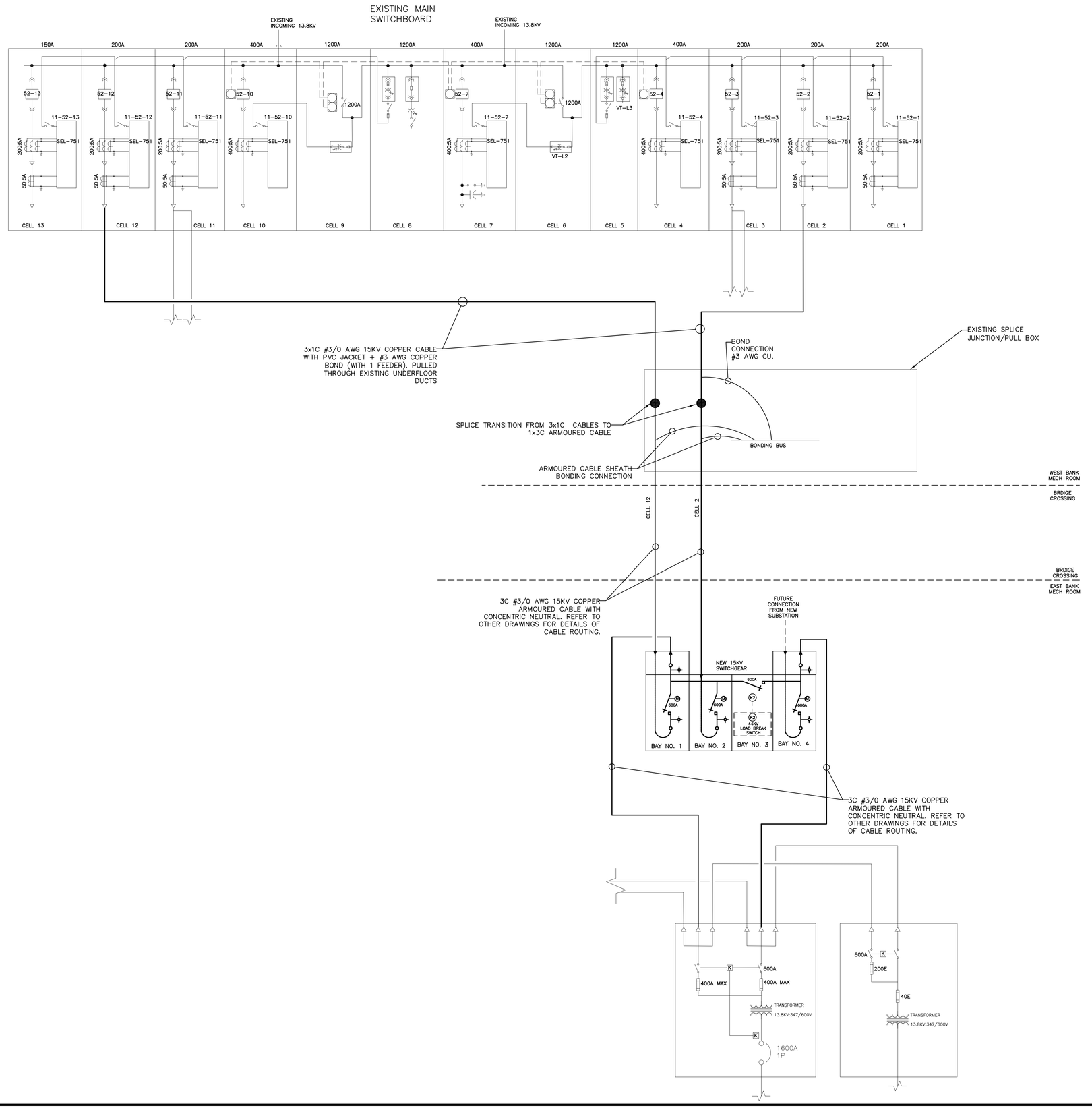
PROJECT
FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

TITLE
PARTIAL SLD
NEW PERMANENT POWER

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E6
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

CADD FILE NO. 7491E6



NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	02/07/2025	MJM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
M.J.MCPHAIL
100208170
JUL 2/25
PROVINCE OF ONTARIO

ELECTRICAL

NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY THE ENGINEER.

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KIRKLAND ENGINEERING LTD.

PROJECT

FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

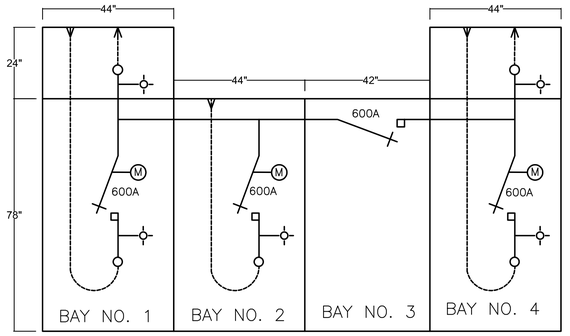
TITLE

PARTIAL SLD
FINAL CONFIGURATION

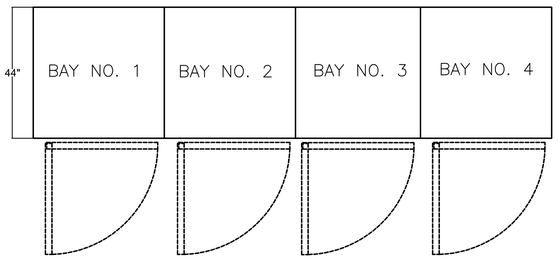
DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E7
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

CADD FILE NO. 7491E7

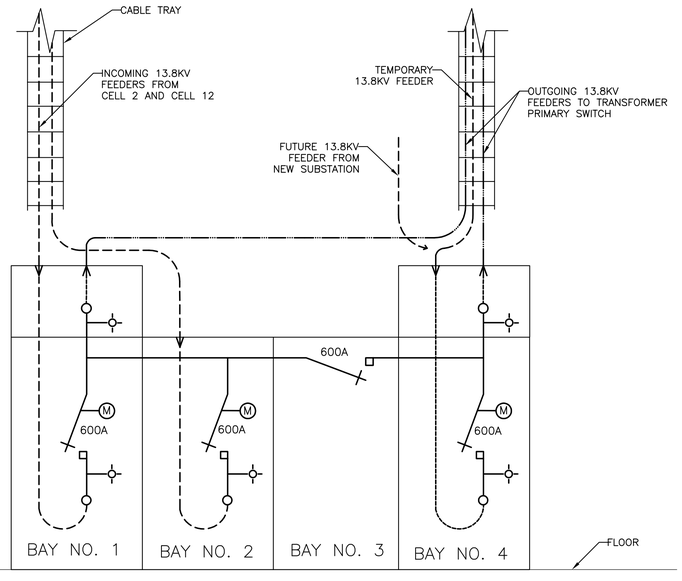
FRONT VIEW



TOP VIEW



1 E8 SWITCHGEAR DIMENSION DRAWING
SCALE: N.T.S.



2 E8 SWITCHGEAR INSTALLATION CONFIGURATION
SCALE: N.T.S.

13.8 KV METAL–ENCLOSED SWITCHGEAR SPECIFICATION

1.0 APPLICABLE STANDARDS

THE EQUIPMENT SHALL BE BUILT TO THE FOLLOWING STANDARDS: –

CSA C22.2 NO. 193–M1989 (INTERRUPTER SWITCH)
CSA 22.2 NO. 31, M1989 (SWITCHGEAR ASSEMBLIES)
EEMAC G8–2, 1972 (SWITCHGEAR ASSEMBLIES)
ANSI C37.20.3 1987 (SWITCHGEAR ASSEMBLIES)

THE MANUFACTURER SHALL PROVIDE, UPON REQUEST, CERTIFIED TEST DATA FOR ANY ASSEMBLY OR COMPONENT TO SUBSTANTIATE THE FOLLOWING RATINGS: –

2.0 SWITCHGEAR RATINGS

THE ASSEMBLY RATING SHALL BE AS FOLLOWS; –

VOLTAGE	–MAXIMUM	15.0 KV
	–NOMINAL	13.8 KV
B.I.L		95 KV
SHORT CIRCUIT RATINGS		25,000 AMPERES (SYM)
		600 MVA
FAULT CLOSING		40,000AMPERES (ASYM)
CORONA EXTINCTION VOLTAGE TO GROUND		10.5KV RMS
HIGH POTENTIAL TEST (ONE MINUTE AT 60 HZ)		36 KV
MAIN BUS (COPPER)		600 AMPERES

3.0 ENCLOSURES

THE ENCLOSURE SHALL BE INDOOR CONSTRUCTION WITH FRONT ACCESS ONLY AND TOP FEED IN AND OUT. THE CONSTRUCTION SHALL BE WELDED 11–GAUGE FLAT ROLLED STEEL COMPLETE WITH A FOUR–INCH STEEL CHANNEL WELDED ALONG THE BOTTOM, FREE STANDING.

THE FINISH SHALL CONSIST OF LIGHT GRAY ANSI 70 OR AS DIRECTED BY OWNER. A MIMIC BUS AND IDENTIFICATION NAMEPLATE SHALL BE INCLUDED.

4.0 INTERRUPTER SWITCHES

4.1 S&C 600 AMPERE MINI–RUPTER SWITCHES

VOLTAGE	–MAXIMUM	17.0 KV
	–NOMINAL	14.4 KV
B.I.L		95 KV
AMPERES CONTINUOUS AND INTERRUPTING		600 AMPERES
MOMENTARY		40,000 AMPERES (ASYM)
SHORT TIME (ONE SECOND)		25,000 AMPERES (SYM)
FAULT CLOSING (ONE TIME DUTY CYCLE)		40,000 AMPERES (ASYM)

THE INTERRUPTER SWITCHES SHALL BE FACTORY ALIGNED AND TESTED ON A FRAME BEFORE BEING INSTALLED IN THE SWITCHGEAR.

INTERRUPTER UNITS SHALL NOT RELY ON SEPARATE BLADES.

4.2 S&C MS–2 TYPE SWITCH MOTOR OPERATOR

THE INTERRUPTER SWITCH SHALL INCLUDE A MS–2 TYPE MOTOR OPERATOR TO CLOSE AND OPEN THE SWITCH WITH PUSHBUTTONS FOR LOCAL OPERATION AND PROVISIONS FOR REMOTE OPERATION, SUPPLY VOLTAGE FOR MOTOR OPERATOR SHALL BE 120VAC.

5.0 INSULATORS AND ISOLATING BUSHINGS

THE STAND–OFF INSULATORS SHALL BE SKIRTED AND HAVE A MINIMUM OF 12 INCHES OF CREEPAGE DISTANCE TO MAINTAIN THE 95 KV BIL AND 36 KV, 60 HZ ONE MINUTE HIGH POTENTIAL TEST.

WHERE REQUIRED EACH BAY SHALL BE ISOLATED FROM ADJACENT BAYS THROUGH BUSHINGS.

6.0 INFRARED WINDOW

EACH COMPARTMENT CONTAINING INCOMING OR OUTGOING CABLES OR BUS CONNECTIONS SHALL HAVE TWO (2) I.R. WINDOWS THAT WILL SUPPORT THE USE IF LONG–WAVE AND SHORT–WAVE I.R. CAMERA SYSTEMS.

The windows shall have a removable metallic cover plate.

7.0 SWITCHGEAR BAY FEATURES

ALL BAYS – COMMON FEATURES:

1. GROUND BUS BOLTED TO WELDED BRACKET, COMPLETE WITH CLAMP TYPE CONNECTOR.
2. INDOOR FEATURES INCLUDING PAINT FINISH
3. COLOUR CODED PHASE MARKERS.
4. ALL NECESSARY COPPER BUSWORK AND INTERCONNECTIONS BETWEEN BAYS.
5. GEAR WILL BE RATED FOR 25KA SYM SHORT CURRENT CIRCUIT RATING WITH A SHORT TIME DURATION OF AT LEAST 1 SECOND.
6. GEAR WILL BE SUPPLIED WITH 600A COPPER BUS WITH TIN–PLATED JOINTS
7. MIMIC BUS – WHITE LINES ON RED BACKGROUND 1/2" GLUE FASTENED WITH RIVETS

SWITCH BAY – COMMON FEATURES:

1. SAFETY GLASS VIEWING WINDOW FOR OBSERVATION OF SWITCH CONTACTS.
2. HINGED, BOLTED, AND PADLOCKABLE ACCESS PANEL ON FRONT OF BAY.
3. COPPER TERMINALS ON MINI–RUPTER® SWITCHES.

8.0 SWITCHGEAR BAY DETAILS

8.1 BAY 1 (ENTRANCE, APPROX. DIM: 44" WIDE X 44" DEEP X 102" HIGH)

- S&C MINI–RUPTER® SWITCH, THREE–POLE, WITH MANUAL QUICK–MAKE, QUICK–BREAK OPERATING MECHANISM, RATED 600A CONTINUOUS AND INTERRUPTING; 40KA MOMENTARY; AND 40KA FAULT CLOSING AT 13.8KV
- 24" TOP HAT FOR CABLE CONNECTIONS.
- SET OF REVERSE (TOP) ENTRANCE OR EXIT CABLES PER PHASE
- 2 SETS OF POTENTIAL INDICATORS VISIBLE THROUGH VIEWING WINDOW (LINE AND LOAD SIDE).
- SET OF TWO INFRARED WINDOWS FOR FULL VISIBILITY.
- S&C TYPE MS–2 SWITCH OPERATOR TO OPEN & CLOSE MINI–RUPTER SWITCH
- REMOTE CONTROL BOX WITH PUSH BUTTONS FOR UP TO THREE (3) MOTOR OPERATORS

8.2 BAY 2 (ENTRANCE, APPROX. DIM: 44" WIDE X 44" DEEP X 78" HIGH)

- S&C MINI–RUPTER® SWITCH, THREE–POLE, WITH MANUAL QUICK–MAKE, QUICK–BREAK OPERATING MECHANISM, RATED 600A CONTINUOUS AND INTERRUPTING; 40KA MOMENTARY; AND 40KA FAULT CLOSING AT 13.8KV
- SET OF REVERSE (TOP) ENTRANCE OR EXIT CABLES PER PHASE
- 2 SETS OF POTENTIAL INDICATORS VISIBLE THROUGH VIEWING WINDOW (LINE AND LOAD SIDE).
- SET OF TWO INFRARED WINDOWS FOR FULL VISIBILITY.
- S&C TYPE MS–2 SWITCH OPERATOR TO OPEN & CLOSE MINI–RUPTER SWITCH

8.3 BAY 3 (TIE, APPROX. DIM: 42" WIDE X 44" DEEP X 78" HIGH)

- S&C MINI–RUPTER® SWITCH, THREE–POLE, WITH MANUAL QUICK–MAKE, QUICK–BREAK OPERATING MECHANISM, RATED 600A CONTINUOUS AND INTERRUPTING; 40KA MOMENTARY; AND 40KA FAULT CLOSING AT 13.8KV
- SET OF TWO INFRARED WINDOWS FOR FULL VISIBILITY.
- KEY INTERLOCK, 1–BARREL MOUNTED ON SWITCH HANDLE

8.4 BAY 4 (ENTRANCE, APPROX. DIM: 44" WIDE X 44" DEEP X 102" HIGH)

- S&C MINI–RUPTER® SWITCH, THREE–POLE, WITH MANUAL QUICK–MAKE, QUICK–BREAK OPERATING MECHANISM, RATED 600A CONTINUOUS AND INTERRUPTING; 40KA MOMENTARY; AND 40KA FAULT CLOSING AT 13.8KV
- 24" TOP HAT FOR CABLE CONNECTIONS.
- SET OF REVERSE (TOP) ENTRANCE OR EXIT CABLES PER PHASE
- 2 SETS OF POTENTIAL INDICATORS VISIBLE THROUGH VIEWING WINDOW (LINE AND LOAD SIDE).
- SET OF TWO INFRARED WINDOWS FOR FULL VISIBILITY.
- S&C TYPE MS–2 SWITCH OPERATOR TO OPEN & CLOSE MINI–RUPTER SWITCH

9.0 MANUFACTURER

9.1 SWITCHGEAR MANUFACTURER SHALL BE S&C OR APPROVED EQUAL
9.2 S&C CONTACT
EDWIN PADRON <EDWIN.PADRON@SANDC.COM>
437–433–1345

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	02/07/2025	MJM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
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100208170
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KIRKLAND ENGINEERING LTD.

PROJECT
FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

TITLE
SWITCHGEAR DETAILS AND SPECIFICATION

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E8
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

CADD FILE NO. 7491E8

ELECTRICAL SPECIFICATIONS

1 GENERAL CONDITIONS

.1 DO ALL WORK IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE, CURRENT EDITION, BASED UPON THE CANADIAN ELECTRICAL CODE, PART I, CSA STANDARD C22.1, AND ALL BULLETINS TO DATE.
.2 THE QUALITY OF THE MATERIALS AND WORKMANSHIP SHALL BE ACCEPTABLE TO THE OWNER AND ENGINEER.

2 SCOPE OF WORK

.1 PROVIDE ALL MATERIALS EQUIPMENT AND LABOUR TO PROVIDE A COMPLETE OPERATING INSTALLATION AS DESIGNATED IN THIS SPECIFICATION AND AS INDICATED ON THE DRAWINGS EXCEPT WHERE OTHERWISE NOTED.
.2 THE SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO, SUPPLY AND INSTALLATION OF THE FOLLOWING ITEMS:
.3 SELECTIVE DEMOLITION OF 15KV DISTRIBUTION WIRING
.4 13.8KV SWITCHGEAR SUPPLY AND INSTALL
.5 13.8KV CABLEING AND DISTRIBUTION WIRING
.6 COORDINATION AND SHORT CIRCUIT STUDY

3 GENERAL

.1 ALL MATERIALS SHALL BE CSA APPROVED, NEW AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
.2 OBTAIN AND PAY FOR SPECIAL ESA INSPECTION OF SPECIFIED NON-CSA APPROVED ELECTRICAL EQUIPMENT.

4 EXAMINATION OF SITE

.1 PRIOR TO SUBMITTING TENDERS, THIS CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ALL EXISTING CONDITIONS.
.2 ALLOW FOR ALL COSTS ASSOCIATED WITH COMPLETING THE WORK OF THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH EXISTING SITE AND BUILDING CONDITIONS.
.3 NO ALLOWANCE FOR EXTRA PAYMENTS TO THE CONTRACTOR WILL BE MADE BY THE OWNER FOR FAILING TO VISIT AND EXAMINE SITE CONDITIONS.

5 REVISIONS AND EXTRAS

.1 ADDITIONAL MONEY OVER THE CONTRACT PRICE SHALL NOT BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED BY TRENT UNIVERSITY OR KIRKLAND ENGINEERG. CLAIMS FOR EXTRAS SHALL BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR, HOURLY RATES, ETC.

6 INSURANCE

MAINTAIN INSURANCE TO FULLY PROTECT THE OWNER, CONTRACTOR AND ENGINEER FROM ANY AND ALL CLAIMS UNDER THE WORKMEN'S COMPENSATION ACT. ALSO ALL INSURANCE AS NOTED WITHIN ARCHITECTURAL GENERAL CONDITIONS. POST PROJECT NOTIFICATION AT THE SITE IN ACCORDANCE WITH MINISTRY OF LABOUR REQUIREMENTS.

7 PERMITS, FEES AND INSPECTION

.1 PAY ALL ELECTRICAL SAFETY AUTHORITY (ESA) FEES ASSOCIATED WITH PERMIT, INSPECTION AND EQUIPMENT APPROVAL.
.2 NOTIFY ENGINEER OF CHANGES REQUIRED BY ELECTRICAL SAFETY AUTHORITY PRIOR TO MAKING CHANGES.
.3 FURNISH CERTIFICATES OF ACCEPTANCE FROM ESA AND AUTHORITIES HAVING JURISDICTION OF COMPLETION OF WORK TO ENGINEER.

8 DRAWINGS

.1 PREPARE WITHOUT EXTRA COST, ANY LARGE SCALE INTERERENCE DRAWINGS WHICH MAY BE REQUIRED BY THE EXAMINING AUTHORITIES OR THE ENGINEER.
.2 PRIOR TO PROCEEDING WITH THE WORK; EXAMINE DRAWINGS BY OTHER TRADES INCLUDING ARCHITECTURAL AND MECHANICAL.
.3 WHERE DISCREPANCIES ARE NOTED BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS, CONTACT ENGINEER FOR RESOLUTION BEFORE STARTING ON THAT PART OF THE WORK.

9 SHOP DRAWINGS AND PRODUCT DATA

.1 'SHOP DRAWINGS' MEANS DRAWINGS, DIAGRAMS, ILLUSTRATIONS, SCHEDULES, PERFORMANCE, CHARTS, BROCHURES, AND OTHER DATA WHICH ARE TO BE PROVIDED BY CONTRACTOR TO ILLUSTRATE DETAILS OF A PORTION OF THE WORK.
.2 INDICATE MATERIALS, METHODS OF CONSTRUCTION, AND ATTACHMENT OR ANCHORAGE, NECESSARY FOR COMPLETION OF WORK.
.3 ADJUSTMENTS MADE ON SHOP DRAWINGS BY OWNER OR ENGINEER ARE NOT INTENDED TO CHANGE CONTRACT PRICE.
.4 MAKE CHANGES IN SHOP DRAWINGS AS OWNER OR ENGINEER MAY REQUIRE.
.5 SUBMIT 1 GOOD QUALITY DIGITAL COPY OF PRODUCT DATA SHEETS OR BROCHURES FOR POWER DISTRIBUTION EQUIPMENT AND HIGH VOLTAGE COMPONENTS.
.6 PROVIDE 2 MAINTENANCE MANUALS COMPLETE WITH WARRANTEE, CERTIFICATE OF INSPECTION BY ESA, FIRE ALARM VERIFICATION REPORT, AND COPY OF ALL PRODUCT LITERATURE AND MAINTENANCE INFORMATION.

10 AS BUILT DRAWINGS

PROVIDE TWO MARKED COPIES OF "AS-BUILT" DRAWINGS SHOWING ALL CHANGES TO THE ORIGINAL DESIGN AND SYSTEMS AS INSTALLED. ALL CHANGES SHALL BE MARKED CLEARLY AND NEATLY.

11 CUTTING AND PATCHING

ELECTRICAL CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS DIVISION. CUTTING AND DRILLING SHALL BE PERFORMED IN A MANNER SO AS TO CAUSE LITTLE DAMAGE AS POSSIBLE. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ANY DAMAGE CAUSED TO THE BUILDING BY WORK OF THIS DIVISION.

12 SUPPORTS AND HANGERS

PROVIDE STRUCTURAL SUPPORTS HANGERS BRACKETS AND INSERTS REQUIRED FOR INSTALLATION OF EQUIPMENT AND CONDUIT. PROVIDE CONDUIT FOR ALL SERVICES PENETRATING THE FLOOR SLAB. SEAL ALL PENETRATIONS THROUGH FIRE WALLS AND FLOOR SLABS WITH AN APPROVED NON-SHRINK, FIREPROOF AND WATERPROOF FIRESTOPPING MATERIAL APPROVED BY THE OWNER OR ENGINEER.

13 EQUIPMENT AND MATERIAL

ALL MATERIALS USED THROUGHOUT SHALL BE NEW, C.S.A. APPROVED AND OF ONE MANUFACTURE FOR LIKE EQUIPMENT. OBTAIN AND PAY FOR SPECIAL ELECTRICAL SAFETY AUTHORITY INSPECTION OF SPECIFIED NON-C.S.A. ELECTRICAL EQUIPMENT.

14 CARE, OPERATION AND STARTUP

INSTRUCT OPERATING PERSONNEL IN THE OPERATION, CARE AND MAINTENANCE OF EQUIPMENT.

15 CO-ORDINATION

CO-ORDINATE WITH OTHER TRADES, INCLUDING STRUCTURAL BRIDGE WORK. SO AS NOT TO INTERFERE WITH THE WORK OR SCHEDULE OF OTHER TRADES.

16 IDENTIFICATION

PROVIDE WEATHER PROOF PERMANENT NAMEPLATES ON NEW SWITCHGEAR USING LABELING AS DIRECTED BY OWNER.

17 WARRANTY

UPON COMPLETION OF THE WORK, PROVIDE A WRITTEN ONE YEAR GUARANTEE COVERING MATERIALS AND WORKMANSHIP. REPAIR OR REPLACE, WITHOUT COST TO THE OWNER, ANY DEFECTS IN WORKMANSHIP OR MATERIALS WHICH IN THE OPINION OF THE OWNER, ARE NOT DUE TO MISUSE OR NEGLECT.

18 CONDUITS

.1 RIGID GALVANIZED STEEL CONDUIT TO BE USED WHERE SUBJECT TO MECHANICAL DAMAGE.
.2 ELECTRICAL METALLIC TUBING (EMT) WITH COUPLINGS TO BE USED EXCEPT WHERE EMBEDDED IN CONCRETE OR SUBJECT TO UNDUE MOISTURE OR MECHANICAL DAMAGE.
.3 RIGID PVC CONDUIT WHERE EMBEDDED IN CONCRETE OR BELOW GRADE.
.4 FOR UNDERGROUND CONDUITS, SLOPE CONDUITS TO PROVIDE DRAINAGE.
.5 FLEXIBLE ALUMINUM CONDUIT WITH WEATHERPROOF COVERING TO BE USED WHERE SUBJECT TO VIBRATION OR STRAIN RELIEF.
.6 BEND CONDUIT COLD. REPLACE IF KINKED OR FLATTENED MORE THAN 1/10TH OF ITS ORIGINAL DIAMETER.
.7 MECHANICALLY BEND STEEL CONDUIT OVER 3/4" DIA.
.8 FIELD THREADS ON RIGID CONDUIT MUST BE OF SUFFICIENT LENGTH TO DRAW CONDUITS UP TIGHT.
.9 INSTALL PULL CORD IN EMPTY CONDUITS.
.10 REMOVE AND REPLACE BLOCKED CONDUIT SECTIONS.
.11 DRY CONDUITS OUT BEFORE INSTALLING WIRE.
.12 DO NOT PASS CONDUITS THROUGH STRUCTURAL MEMBERS EXCEPT AS INDICATED.
.13 FOR CONDUITS IN CAST-IN-PLACE CONCRETE, LOCATE TO SUIT REINFORCING STEEL. INSTALL IN CENTRE ONE THIRD OF SLAB.
.14 PROTECT CONDUITS FROM DAMAGE WHERE THEY STUB OUT OF CONCRETE.
.15 INSTALL SLEEVES WHERE CONDUITS PASS THROUGH SLAB OR WALL.
.16 PROVIDE OVERSIZED SLEEVE FOR CONDUITS PASSING THROUGH WATERPROOF MEMBRANE, BEFORE MEMBRANE IS INSTALLED. USE COLD MASTIC BETWEEN SLEEVE AND CONDUIT.
.17 FOR CONDUITS IN CAST-IN-PLACE CONCRETE, ENCASE CONDUITS COMPLETELY IN CONCRETE COVER AND ORGANIZE CONDUITS IN SLAB TO MINIMIZE CROSS-OVERS.
.18 FOR CONDUITS IN CAST-IN-PLACE SLABS ON GRADE RUN CONDUITS BELOW SLAB AND ENCASED IN 3" CONCRETE ENVELOPE. PROVIDE 2" OF SAND OVER CONCRETE ENVELOPE BELOW FLOOR SLAB.

19 GROUNDING

.1 INSTALL COMPLETE PERMANENT, CONTINUOUS GROUNDING SYSTEM INCLUDING, ELECTRODES, CONDUCTORS, CONNECTORS, ACCESSORIES AS INDICATED TO CONFORM TO REQUIREMENTS OF ESA, ENGINEER, AND LOCAL AUTHORITY HAVING JURISDICTION OVER THE INSTALLATION. WHERE EMT IS USED, RUN BOND WIRE IN CONDUIT.
.2 INSTALL CONNECTORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
.3 PROTECT EXPOSED GROUNDING CONDUCTORS FROM MECHANICAL INJURY.
.4 MAKE BURIED CONNECTIONS, AND CONNECTIONS TO ELECTRODES, USING COPPER CAD WELDING PROCESS CONNECTORS.
.5 USE MECHANICAL CONNECTORS FOR GROUNDING CONNECTIONS TO EQUIPMENT PROVIDED WITH LUGS.
.6 SOLDERED JOINTS NOT PERMITTED.

20 WIRE AND CABLE

.1 MINIMUM SIZE OF CONDUCTORS SHALL BE #12 AWG.
.2 CONDUCTORS SHALL BE COPPER, SIZED AS INDICATED, WITH 600V INSULATION OF CROSS LINKED THERMOSETTING POLYETHYLENE MATERIAL RW90-XLPE.
.3 SIZE OF WIRING FOR BRANCH CIRCUITS GREATER THAN 30m IN LENGTH SHALL BE #10 AWG UNLESS OTHERWISE INDICATED ON THE PLANS.
.4 WIRES TO BE COLOURED AS FOLLOWS:

12V DC BLUE
120V AC NEUTRAL WHITE
120V AC SWITCHED BLACK OR RED
120V AC LINE BLACK.

.5 USE MATERIALS AND METHODS APPROVED BY THE ONTARIO ELECTRICAL SAFETY CODE FOR USE IN NON-COMBUSTIBLE CONSTRUCTION.
.6 ARMOURED CABLE TYPE AC90 (BX) WITH INTERLOCKING ARMOUR FABRICATED FROM ALUMINUM STRIP C/W COPPER INSULATED CONDUCTORS, SIZE AS INDICATED, TO BE USED IN CONCEALED WALL AND CEILING CAVITIES.

21 MEDIUM VOLTAGE 15KV CABLE

.1 THE CABLE SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE CANADIAN STANDARDS AND REQUIREMENTS AND BE APPROVED FOR USE BY AN APPROVING AUTHORITY SUCH AS ULC OR CSA.
.2 CABLE SHALL BE SUITABLE FOR OPERATION ON A SYSTEM WITH VOLTAGE: 13.8 KV - , 3 PHASE, 60HZ NOMINAL
.3 THE CABLE SHALL BE SUNLIGHT AND MOISTURE RESISTANT AND SUITABLE FOR THE FOLLOWING INSTALLATION METHODS:
- IN UNDERGROUND CONDUITS OR CONCRETE ENCASED DUCT BANKS IN WET OR DRY
- LOCATIONS.
- DIRECT BURIAL
- CABLE TRAY

.4 SINGLE CONDUCTOR CABLE
.1 CABLE SHALL CONSIST OF THE FOLLOWING CONSTRUCTION COMPONENTS
- CONDUCTOR
- CONDUCTOR SHEILD
- INSULATION
- INSULATION SHEILD
- COPPER CONCENTRIC WIRE SHEILD
- OUTER JACKET

.2 CONDUCTOR SHALL BE A 3/0 BARE COMPACT CLASS "B" STRANDED COPPER.
.3 CONDUCTOR SHIELD SHALL BE AN EXTRUDED THERMOSET SEMICONDUCTING CONDUCTOR SHIELD CABLE INSULATION SHALL BE NO LEAD ETHYLENE PROPYLENE RUBBER (NL-EPR) (133% RATED)
.4 THE INSULATION SHALL BE SUITABLE FOR USE AT A MAXIMUM OPERATING TEMPERATURE OF 90C CONTINUOUS, 130C EMERGENCY LOADING, AND 250C FOR SHORT CIRCUIT CONDITIONS.
.5 THE INSULATION SHIELD SHALL CONSIST OF AN EXTRUDED SEMI-CONDUCTING THERMOSETTING LAYER, CLEAN AND FREE STRIPPING FROM INSULATION.
.6 A COPPER CONCENTRIC WIRE SHIELD SHALL BE APPLIED OVER SEMICONDUCTING MATERIAL
.7 OUTER JACKET - A (SR) SUNLIGHT RESISTANT POLYVINYL-CHLORIDE (PVC) JACKET SHALL BE SUPPLIED RATED -40C BASED ON COLD BEND AND COLD IMPACT TESTS
.8 THE CABLE ASSEMBLY SHALL HAVE A MINIMUM FLAME TEST RATING OF FT1, AND BE IDENTIFIED ON THE JACKET ALONG WITH OTHER MARKINGS INCLUDING THE MANUFACTURER'S NAME AND FILE NUMBER

.5 THREE CONDUCTOR ARMOURED CABLE
.1 CABLE SHALL CONSIST OF THE FOLLOWING CONSTRUCTION COMPONENTS
- CONDUCTOR
- CONDUCTOR SHEILD
- INSULATION
- INSULATION SHEILD
- COPPER CONCENTRIC WIRE SHEILD
- FILLER
- GROUNDING CONDUCTOR
- BINDER
- INNER JACKET
- ARMOUR
- OUTER JACKET

.2 CONDUCTOR SHALL BE 3 x 3/0 BARE COMPACT CLASS "B" STRANDED COPPER.
.3 CONDUCTOR SHIELD SHALL BE AN EXTRUDED THERMOSET SEMICONDUCTING CONDUCTOR SHIELD CABLE INSULATION SHALL BE NO LEAD ETHYLENE PROPYLENE RUBBER (NL-EPR) (133% RATED)
.4 THE INSULATION SHALL BE SUITABLE FOR USE AT A MAXIMUM OPERATING TEMPERATURE OF 90C CONTINUOUS, 130C EMERGENCY LOADING, AND 250C FOR SHORT CIRCUIT CONDITIONS.
.5 THE INSULATION SHIELD SHALL CONSIST OF AN EXTRUDED SEMI-CONDUCTING THERMOSETTING LAYER, CLEAN AND FREE STRIPPING FROM INSULATION.
.6 A COPPER CONCENTRIC WIRE SHIELD SHALL BE APPLIED OVER SEMICONDUCTING MATERIAL
.7 INTERSTICES FILL WITH NON-HYDROSCOPING/NON-WICKING FILLERS
.8 GROUNDING CONDUCTOR SHALL BE CLASS B COMPRESSED STRANDED BARE COPPER GROUND
.9 BINDER TO BE POLYPROPYLENE TAPE
.10 INNER JACKET IS POLYVINYL-CHLORIDE (PVC)
.11 ALUMINUM INTERLOCKED ARMOUR
.12 OUTER JACKET - A (SR) SUNLIGHT RESISTANT POLYVINYL-CHLORIDE (PVC) JACKET SHALL BE SUPPLIED RATED -40C BASED ON COLD BEND AND COLD IMPACT TESTS
.13 THE CABLE ASSEMBLY SHALL HAVE A MINIMUM FLAME TEST RATING OF FT1, AND BE IDENTIFIED ON THE JACKET ALONG WITH OTHER MARKINGS INCLUDING THE MANUFACTURER'S NAME AND FILE NUMBER

.6 THE CABLE SHALL BE NEW, UNUSED MATERIAL.
.7 THE CABLES SHALL BE MEGGERED AND DC HI-POT TESTED PRIOR TO COMMISSIONING INTO SERVICE.

22 MEDIUM VOLTAGE 15KV SWITCHGEAR

.1 SPECIFICATION FOR MEDIUM VOLTAGE SWITCHGEAR INCLUDE SWITCHGEAR SPECIFICATON DRAWING AS WELL AS ALL DETAILS INCLUDED ON DESIGN DRAWINGS.

23 STUDIES

.1 CONTRACTOR IS RESPONSIBLE TO HAVE A COORDINATION AND SHORT CIRCUIT STUDY CONDUCTED FROM THE MAIN SERVICE TRANSFORMERS TO THE NEW SWITCHGEAR LOAD-BREAK SWITCHES CONNECTION . CONTRACTOR IS TO BRING ANY CHANGES REQUIRED BY FINDINGS OF THE STUDY TO THE ENGINEER AND OWNER'S ATTENTION IN A REASONABLE TIME TO ALLOW FOR PROPER ASSESSMENT AND HANDLING OF CHANGES.

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0	ISSUED FOR TENDER	02/07/2025	MJM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
M.J.MCPHAIL
100208170
JUL 2/25
PROVINCE OF ONTARIO
ELECTRICAL

NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY THE ENGINEER.

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Peterborough, Ontario
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KIRKLAND ENGINEERING LTD.

PROJECT
FAYRON BRIDGE RESTORATION

Trent University
Peterborough ON

TITLE
ELECTRICAL SPECIFICATIONS

DESIGN	MJM	SCALE	AS NOTED
DRAWN	CEM	DWG NO.	E9
CHECKED	MJM		
APPROVED	MJM		
PROJECT	7491		

CADD FILE NO. 7491E9