

# RADIUM HOT SPRINGS LIGHTING UPGRADES AND SITE REHABILITATION KOOTENAY NATIONAL PARK

# RADIUM HOT SPRINGS

# LIGHTING UPGRADES AND SITE REHABILITATION

# KOOTENAY NATIONAL PARK

## LIST OF DRAWINGS

Drawing No	Description
G0.0	COVER SHEET LIST OF DRAWINGS
STRUCTURAL	
S0.0	COVER SHEET
S0.1	DESIGN NOTES & ABBREVIATIONS
S0.2	DESIGN TABLES
S0.3	TYPICAL DETAILS
S0.4	TYPICAL DETAILS (2)
S1.0	OVERALL SITE PLAN
S2.0	WEST RAMP SITE/SURVEY PLAN
S2.1	WEST RAMP DEMOLITION PLAN
S2.2	WEST RAMP FOUNDATION PLAN
S2.3	WEST RAMP SUPERSTRUCTURE PLAN
S3.0	EAST RAMP AND HISTORIC BRIDGE SITE SURVEY PLAN
S3.1	EAST RAMP AND HISTORIC BRIDGE DEMOLITION PLAN
S3.2	EAST RAMP AND HISTORIC BRIDGE FOUNDATION PLAN
S3.3	EAST RAMP AND HISTORIC BRIDGE SUPERSTRUCTURE PLAN
S4.1	WEST RAMP AND EAST RAMP ELEVATIONS
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S5.1	WEST RAMP SECTIONS AND DETAILS
S5.2	WEST RAMP SECTIONS AND DETAILS (2)
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S5.5	HISTORIC BRIDGE SECTIONS AND DETAILS
S5.6	HISTORIC BRIDGE SECTIONS AND DETAILS (2)
ELECTRICAL	
E001	SYMBOL LEGEND,GENERAL NOTES, SCHEDULES, AND DRAWING LIST
E100	DEMOLITION PLAN WEST RAMP
E102	BASEMENT LEVEL - EXISTING PANEL LOCATIONS
E200	WEST RAMP-NEW LIGHTING, CONDUIT AND JUNCTION BOXES
E201	EAST RAMP-NEW LIGHTING, CONDUIT AND JUNCTION BOXES
E202	SECOND LEVEL LIGHTING - EAST AND WEST BRIDGES
E203	MAIN FLOOR PLAN - JUNCTION BOXES AND CONDUIT
E204	BASEMENT - NEW ELECTRICAL JUNCTION BOXES, CONDUITS AND PANEL
E900	DETAILS
E901	LIGHTING CONTROL SCHEMATIC

### McELHANNEY MECHANICAL - TO BE SUBMITTED AS ADDENDUM

C1	STORMWATER CATCHMENT AREA PLAN
C2	WEST RAMP PLAN AND PROFILE SHOWING STORM PIPE SIZE AND DRAIN TYPE
C3	EAST RAMP PLAN AND PROFILE SHOWING STORM PIPE SIZE AND DRAIN TYPE
C4	FLOOR DRAIN DETAILS
C5	STORM DRAIN PIPE DETAILS
C6	HEAT TRACE LEADS PLAN (WEST BRIDGE)
C7	HEAT TRACE LEADS PLAN (EAST BRIDGE)
G1	RETAINING WALL PLAN & DETAILS

### WSP - MECHANICAL & ELECTRICAL - TO BE SUBMITTED AS ADDENDUM

M0.1	RADIUM AQUACOURT COVER PAGE
M1.0	SITE PLAN, LEGEND, & DRAWING LIST
M2.0	WEST RAMP SNOW MELT PIPING PLAN
M2.1	EAST RAMP & BRIDGE SNOW MELT PIPING PLAN
M3.0	DETAILS
M4.0	EQUIPMENT SCHEDULES
M4.1	MECHANICAL GENERAL NOTES
E1.0	SITE PLAN

### LANDSCAPE

L001	MATERIALS SCHEDULES & NOTES
L100	LANDSCAPE DETAILS



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**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

Consultant Signature Box Only
Designed by/Concept par XX
Drawn by/Dessiné par XX
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PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architecture et de génie, TPSGC

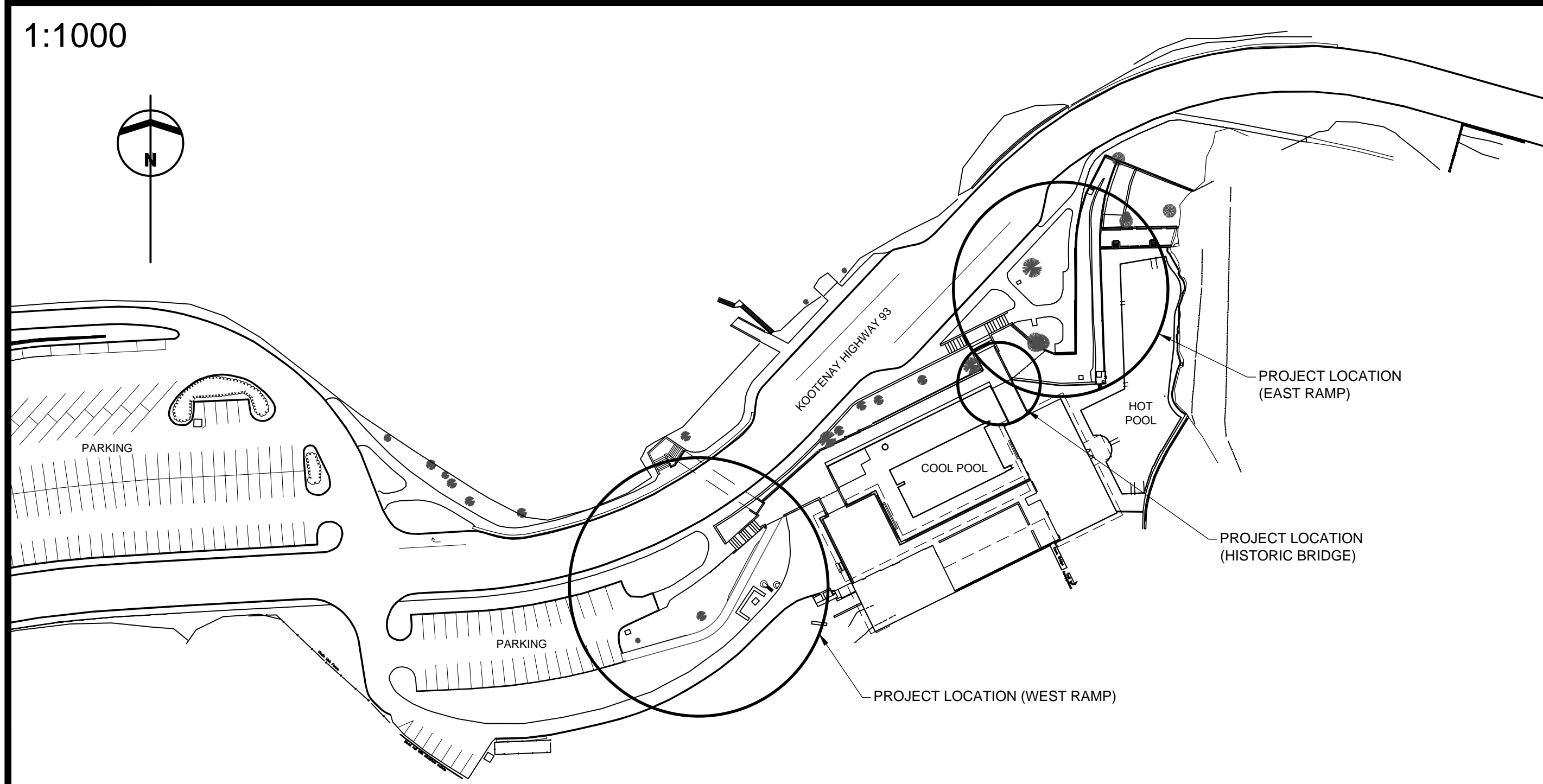
Drawing title/Titre du dessin

**DRAWING LIST**

Project No./No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet/Feuille <b>G0.0</b>	Revision no./ La Révision no. <b>6</b>
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LIST OF DRAWINGS				LEGEND	
SHEET INDEX	RADIUM HOT SPRINGS LIGHTING UPGRADES AND SITE REHABILITATION			GENERAL SYMBOLS	SITE/SURVEY ABBREVIATIONS
DRAWING NO.	DESCRIPTION	DRAWING NO.	DESCRIPTION	<div><div><div>A</div><div>B</div></div><div>MAIN FLOOR</div><div>SCALE 1:1</div></div> <div><div><div>A</div><div>B</div></div><div>SECTION A-A</div><div>SCALE 1:1</div></div> <div><div><div>A</div><div>B</div></div><div>SECTION REFERENCE SYMBOL</div><div>A - DETAIL NUMBER</div><div>B - DRAWING NUMBER</div></div> <div><div><div></div><div></div></div><div>NORTH ARROW</div></div>	<div><div>AB = ANCHOR BOLT</div><div>BA = BRACE</div><div>BB = BASEBOARD</div><div>BD = BUILDING</div><div>BE = BEAM</div><div>BK = BLOCKING</div><div>BL = BUS/SHLINE</div><div>BM = BENCHMARK</div><div>BO = BOULDER</div><div>BP = BOTTOM PLATE</div><div>BR = BRIDGE</div><div>BS = BALLUSTER</div><div>BT = BOLT</div><div>BU = BUTTRICE</div><div>BY = BOUNDARY</div><div>CA = CASING</div><div>CB = CATCH BASIN</div><div>CD = CUPBOARD</div><div>CE = CEDAR TREE</div><div>CG = CEILING BOARD</div><div>CH = CHIMNEY</div><div>CJ = CEILING JOIST</div><div>CK = CREEK</div><div>CL = COLUMN</div><div>CM = CONTROL MONUMENT</div><div>CN = CONTOUR</div><div>CO = CONCRETE</div><div>CR = CURB</div><div>CS = CREST OF SLOPE</div><div>CT = COLLAR TIE</div><div>CV = CULVERT</div><div>DB = DISTRIBUTION BOX</div><div>DC = DOOR CASING</div><div>DE = DECK</div><div>DH = DITCH</div><div>DK = DOCK</div><div>DL = DOOR LEAF</div><div>DO = DRILLHOLE</div><div>DP = DEPRESSION</div><div>DR = DOOR FRAME</div><div>DS = CHANGE OF SLOPE</div><div>DW = DRYWALL</div><div>EB = ELECTRICAL BOX</div><div>EL = ELECTRICAL COMPONENT</div><div>EO = ELECTRICAL OUTLET</div><div>ES = ELECTRICAL SWITCH</div><div>EV = EAVES TROUGH</div><div>FA = FASCIA</div><div>FB = FLOOR BOARD</div><div>FD = FLOOR DRAIN</div><div>FH = FIRE HYDRANT</div><div>FI = FIBER BOARD</div><div>FJ = FLOOR JOIST</div><div>FL = FENCE LINE</div><div>FM = FRAMING</div><div>FO = FLOWER BED</div><div>FP = FIREPLACE</div><div>FR = FIR TREE</div><div>FS = FLASHING</div><div>FU = FURNITURE</div><div>FX = FIXTURE</div><div>FZ = FLOOR ELEVATION</div><div>GA = GRAVEL</div><div>GC = GARBAGE CONTAINER</div><div>GD = GRADE - EXISTING</div><div>GD = GRADE - PROPOSED</div><div>GH = GHOST IMAGE</div><div>GL = GAS LINE</div><div>GR = GUIDE RAIL</div><div>GT = GATE</div><div>GW = GUY WIRE</div><div>GZ = GLAZING</div><div>HA = HATCH</div><div>HD = HEADER</div><div>HE = HEDGE</div><div>HG = HINGE</div><div>HL = HANDLE</div><div>HO = HOLE</div><div>HT = HEATING COMPONENT</div><div>HW = HARDWARE</div><div>HZ = WATER ELEVATION</div><div>IN = INSULATION</div><div>IP = PROPERTY PIN</div><div>JT = JOIST</div><div>LD = LANDING</div><div>LE = LEDGER</div><div>LF = LIGHT FIXTURE</div><div>LG = LOG</div><div>LH = LATCH</div><div>LL = LEGAL PROPERTY LINE</div><div>LO = LOOKOUT</div><div>LS = LIGHT STANDARD</div><div>MA = MARSH</div><div>MB = MEMBRANE (paper, poly)</div><div>MD = MOLDING</div><div>ME = METER</div><div>MH = MANHOLE</div><div>MI = MISCELLANEOUS</div><div>ML = MAPLE TREE</div><div>MO = MONUMENT</div><div>MP = MARKER POST</div><div>MR = MORTAR</div><div>MS = MISSING COMPONENT</div><div>MT = METAL</div><div>NA = NAILER</div><div>NL = NAIL</div><div>OK = OAK TREE</div><div>OP = OPENING</div><div>OS = ON SLOPE</div><div>PA = PARKING AREA</div><div>PB = PANEL BOX</div><div>PC = PHOTO CONTROL POINT</div><div>PI = PIPE</div><div>PL = POWER LINE</div><div>PM = PAVEMENT, ASPHALT</div><div>PN = PINE TREE</div><div>PP = POWER POLE</div><div>PR = PARTITION</div><div>PS = POST</div><div>PT = PUTTY</div><div>PU = PURLIN</div><div>PV = PRIVY, TOILET BUILDING</div><div>PY = PLYWOOD</div><div>QR = QUARTER ROUND</div><div>RA = RAFTER</div><div>RB = ROOF BOARD</div><div>RC = RIDGE CAP</div><div>RD = ROAD</div><div>RE = REBAR</div><div>RF = ROOF</div><div>RG = RIDGE BOARD</div><div>RI = RISER</div><div>RK = ROCK</div><div>RL = RAIL RAILING</div><div>RM = RAMP</div><div>RP = RIDGE POLE</div><div>RR = RAILROAD</div><div>RW = RETAINING WALL</div><div>SB = SCAB</div><div>SC = SCREEN</div><div>SE = SLEEPER</div><div>SF = SEWAGE FIELD</div><div>SG = STRINGER</div><div>SH = SPRINKLER HEAD</div><div>SI = SHINGLE</div><div>SL = SHOULDER LINE</div><div>SN = SIGN</div><div>SO = STONE</div><div>SP = SPRUCE TREE</div><div>SR = STRAPPING</div><div>SS = SPOT ELEVATION</div><div>ST = STUD</div><div>STA = STATION</div><div>SV = SHELVING</div><div>SW = STAIRWAY</div><div>TA = TANK</div><div>TC = TRUSS CHORD</div><div>TD = STAIR TREAD</div><div>TE = TELEPHONE LINE</div><div>TF = TRANSFORMER</div><div>TH = TEST HOLE</div><div>TI = TIE ROD</div><div>TL = TREE LINE</div><div>TM = TRIM BOARD</div><div>TO = TOP PLATE</div><div>TP = TAP</div><div>TR = TRAIL</div><div>TS = TOE OF SLOPE</div><div>TU = TRUSS</div><div>TW = TOWER</div><div>UP = POWER PEDESTAL</div><div>UT = UTILITY</div><div>VE = VENT</div><div>VV = VALVE, MAIN</div><div>WB = WALL BOARD</div><div>WC = WINDOW CASING</div><div>WD = WINDOW FRAME</div><div>WE = WATER EDGE</div><div>WL = WATERLINE</div><div>WS = WINDOW SASH</div><div>WT = WEEPING TILE</div><div>WW = WELL</div><div>WZ = WATER ELEVATION</div></div>
KEY PLAN				MATERIALS	
<div>1:1000</div> <div></div>				<div><div><div></div><div>CONCRETE</div></div><div><div></div><div>EXISTING CONCRETE</div></div><div><div></div><div>EARTH</div></div><div><div></div><div>GRAVEL</div></div><div><div></div><div>RIGID INSULATION</div></div></div>	

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RADIUM HOT SPRINGS LIGHTING UPGRADES AND SITE REHABILITATION KOOTENAY NATIONAL PARK		
TENDER PACKAGE 1		
Consultant Signature Box Only		
Designed by/Concept par ML		
Drawn by/Dessiné par KL		
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PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architecture et de génie, TPSPG		
Drawing title/Titre du dessin		
COVER SHEET		
Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
WESTERN PROJECT # R.072512.001	S0.0	6



DESIGN NOTES

GENERAL

1. ALL CODES AND STANDARDS REFERENCED ARE THE CURRENT VERSION AT THE DATE OF ISSUE.
2. DESIGN IS BASED ON THE NATIONAL BUILDING CODE 2015 AND THE CANADIAN HIGHWAY BRIDGE CODE CSA-S6-14.
3. READ THESE DESIGN NOTES IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS.
4. OBTAIN DEPARTMENTAL REPRESENTATIVE'S APPROVAL BEFORE CUTTING, BORING, OR SLEEVES LOAD-BEARING MEMBERS UNLESS SPECIFICALLY NOTED IN THE CONTRACT DOCUMENTS.
5. THE STRUCTURAL DRAWINGS ARE FOR THE COMPLETED PROJECT. STABILITY OF THE EXISTING AND NEW STRUCTURE DURING CONSTRUCTION REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.
6. REFER TO CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, RECESSES, DEPRESSIONS, SUMPS, TRENCHES, CURBS, HOUSEKEEPING PADS, EQUIPMENT BASES, AND SLOPES NOT INDICATED ON THE STRUCTURAL DRAWINGS.
7. OPENINGS AND SLEEVES INDICATED ON THE STRUCTURAL DRAWINGS ARE REPRESENTATIVE FOR REFERENCE ONLY. COORDINATE ALL OPENING LOCATIONS AND DIMENSIONS WITH THE APPROPRIATE DEPARTMENTAL REPRESENTATIVE AND THE SUB-CONTRACTOR PRIOR TO CONSTRUCTION.
8. REVIEW ALL DRAWINGS AND CHECK DIMENSIONS PRIOR TO IMPLEMENTING THE WORK. REPORT ANY DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE FOR CLARIFICATION BEFORE PROCEEDING.
9. COORDINATE PLACEMENT AND LOCATION OF ITEMS BY SUBSEQUENT TRADES. RELEVANT TRADES SHALL REVIEW PRIOR TO ERECTION AND/OR INSTALLATION.
10. NOTIFY THE DEPARTMENTAL REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO ANY REQUIRED SITE REVIEWS.

EXISTING STRUCTURES

1. THE STRUCTURAL DESIGN IS BASED ON INFORMATION GATHERED FROM THE RECORD DRAWINGS AND FROM LIMITED VISUAL OBSERVATIONS ON SITE.
2. VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO IMPLEMENTING AFFECTED WORK.
3. NOTIFY THE DEPARTMENTAL REPRESENTATIVE OF ANY SITE CONDITIONS THAT DIFFER FROM THE CONTRACT DOCUMENTS OR THE RECORD DRAWINGS.
4. SHORE AND UNDERPIN EXCAVATIONS AS REQUIRED TO PREVENT DISTURBANCE TO ADJACENT STRUCTURES, STREETS, SIDEWALKS AND UTILITIES.

DESIGN LOADS

1. UNLESS NOTED OTHERWISE, THE LOADS NOTED IN TABLES AND ON DRAWINGS ARE UNFACTORED.
2. CLIMATIC INFORMATION REFER TO CLIMATIC INFORMATION TABLE
3. SITE INFORMATION REFER TO SITE INFORMATION TABLE
4. DESIGN LOADS REFER TO DESIGN LOADS TABLE
5. LATERAL LOADS FROM WIND AND SEISMIC LOADS ARE RESISTED BY CONCRETE MOMENT FRAMES AND CONCRETE SHEAR WALLS
6. CONSTRUCTION LOADS SHALL NOT EXCEED THE LOADS NOTED ON THE DRAWINGS. REFER TO DESIGN LOADS TABLE U.N.O.

DELEGATED DESIGN

1. PORTIONS OF THE DETAILED DESIGN ARE DELEGATED TO THE CONTRACTOR/TRADE CONTRACTOR. RETAIN A PROFESSIONAL DEPARTMENTAL REPRESENTATIVE REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA TO COMPLETE THE DESIGN.
2. SUBMIT SHOP DRAWINGS FOR COMPONENTS REQUIRING DELEGATED DESIGN UNDER THE PROFESSIONAL SEAL AND SIGNATURE OF THE DEPARTMENTAL REPRESENTATIVE RESPONSIBLE FOR THE DESIGN.
3. THE FOLLOWING COMPONENTS REQUIRE DELEGATED DESIGN:
  - 3.1. STEEL FABRICATION DRAWINGS
  - 3.2. CONCRETE MIX DESIGNS
4. THE DEPARTMENTAL REPRESENTATIVE RESPONSIBLE FOR THE DESIGN IS ALSO RESPONSIBLE FOR REVIEW OF FABRICATION AND INSTALLATION OF THE COMPONENTS. UPON COMPLETION OF THE WORK, CERTIFY TO THE DEPARTMENTAL REPRESENTATIVE IN WRITING UNDER PROFESSIONAL SEAL THAT SUCH REVIEW HAS BEEN COMPLETED.
5. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.

FOUNDATION AND GEOTECHNICAL NOTES

1. FOUNDATION DESIGN IS BASED ON THE FOUNDATION INVESTIGATION SOILS REPORT NUMBER 2511-00606-00 PREPARED BY MCELHANNY CONSULTING SERVICES LTD., TITLED EAST TOP RETAINING WALL, RADIUM HOT SPRINGS POOL, KOOTENAY NATIONAL PARK GEOTECHNICAL INVESTIGATION, AND DATED JUNE 16, 2016. ENSURE THAT THE REQUIREMENTS OUTLINED IN THE REPORT ARE READ AND UNDERSTOOD PRIOR TO COMMENCING WITH FOUNDATION WORK.
2. SPREAD FOOTINGS HAVE BEEN DESIGNED BASED ON A FACTORED BEARING RESISTANCE OF 200 kPa.
3. STRIP FOOTINGS HAVE BEEN DESIGNED BASED ON A FACTORED BEARING RESISTANCE OF 200 kPa.
4. BEAR ALL FOOTINGS ON UNDISTURBED SOIL NOTWITHSTANDING THE ELEVATIONS INDICATED ON THE DRAWINGS.
5. BRING OVER-EXCAVATION AND CAVITIES IN THE FOOTING BASE UP TO THE REQUIRED LEVELS WITH 10 MPa CONCRETE.
6. REMOVE ALL ORGANIC MATERIAL FROM THE BUILDING AREA.
7. REMOVE ALL LOOSE OR SATURATED MATERIAL AND GROUNDWATER FROM THE BASE OF FOOTING EXCAVATIONS BY APPROVED METHODS PRIOR TO PLACING FOUNDATIONS.
8. PROTECT EXCAVATIONS FOR FOOTINGS FROM RAIN, SNOW, FREEZING TEMPERATURES, STANDING WATER, LOSS OF MOISTURE AND DEGRADATION BY APPROVED METHODS.
9. BEARING SURFACES TO BE INSPECTED IN THE FIELD BY A PROFESSIONAL GEOTECHNICAL DEPARTMENTAL REPRESENTATIVE REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA PRIOR TO PLACING CONCRETE. IMPROVE SUBGRADE AS MAY BE REQUIRED AND AS DIRECTED IN WRITING BY A PROFESSIONAL GEOTECHNICAL DEPARTMENTAL REPRESENTATIVE REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA
10. GEOTECHNICAL TESTING AGENCY TO BE APPROVED BY AND RESPONSIBLE TO THE DEPARTMENTAL REPRESENTATIVE AND PAID FOR BY THE CONTRACTOR.
11. UNLESS OTHERWISE SHOWN ON PLAN, FOUNDATION ELEMENTS ARE TO BE CENTERED UNDER WALLS, GRADE BEAMS, AND COLUMNS.
12. PROVIDE DOWELS FROM FOOTINGS AND GRADE BEAMS, TO MATCH ALL VERTICAL COLUMN AND WALL REINFORCEMENT OR AS NOTED ON THE DRAWINGS.
13. FOUNDATION AND RETAINING WALLS HAVE BEEN DESIGNED BASED ON THE FOLLOWING SOIL DATA:
  - 0 TO 4.5 m BELOW GRADE  $\gamma = 19 \text{ kN/m}^3$ ,  $K_0 = 0.56$
14. FOUNDATION AND RETAINING WALLS HAVE BEEN DESIGNED BASED ON A SURFACE SURCHARGE LOAD OF 4.8 kPa.
15. FOUNDATION AND RETAINING WALLS HAVE BEEN DESIGNED ASSUMING AN EFFECTIVE DRAINAGE SYSTEM IS PROVIDED BEHIND THE WALLS.
16. BACKFILL MATERIAL TO CONSIST OF DRAINAGE MATERIALS AND SITE EXCAVATED MATERIAL AND BE COMPACTED TO 90% OF STANDARD PROCTOR MAXIMUM DRY DENSITY IN MAXIMUM LIFTS OF 600 mm.
17. DO NOT BACKFILL BEHIND FOUNDATION WALLS UNTIL THE FLOOR SLAB(S) TO WHICH IT IS TIED ARE COMPLETE AND CONCRETE HAS REACHED 28-DAY DESIGN STRENGTH.
18. BACKFILL WALLS BELOW GRADE EVENLY ON BOTH SIDES ENSURING THAT NO PORTION OF THE FILL IS PLACED MORE THAN 200 mm ABOVE ANY OTHER PORTION OF THE FILL DURING BACKFILLING.
19. GRANULAR BACKFILL MATERIAL - REFER TO GEOTECHNICAL REPORT. PARTICLES OF CRUSHED GRAVEL MIX RETAINED ON THE PLUS 5 mm SIEVE ARE TO CONSIST OF DURABLE PARTICLES OF CRUSHED STONE, GRAVEL OR SLAG CAPABLE OF WITHSTANDING THE EFFECTS OF HANDLING, SPREADING AND COMPACTING WITHOUT DEGRADATION THAT PRODUCES DELETERIOUS FINES, AND AT LEAST 50% BY WEIGHT IS TO HAVE TWO OR MORE FRACTURED FACES.
20. REFER TO GEOTECHNICAL REPORT FOR RECOMMENDATIONS REGARDING GRADE SUPPORTED SLABS AND SIDEWALKS. INSTALL BASE AND SUB-BASE MATERIALS TO SPECIFIED THICKNESSES AND IN ACCORDANCE WITH RECOMMENDATIONS. OVER-EXCAVATE AND RE-COMPACT SUB-GRADE AS REQUIRED TO THE GEOTECHNICAL SPECIFICATION. DO NOT INSTALL VAPOUR RETARDER UNDER SLABS-ON-GRADE OR SIDEWALKS.

CAST-IN-PLACE REINFORCED CONCRETE

1. CONCRETE MATERIALS, QUALITY, MIXING, PLACING, FORMWORK AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA-A23.1.
2. SUPPLY CONTROLLED CONCRETE IN ACCORDANCE WITH CSA-A23.1 WITH PROPERTIES NOTED IN CONTROLLED CONCRETE TABLE.
3. USE TYPE GU CEMENT FOR ALL CONCRETE UNLESS NOTED OTHERWISE IN CONTROLLED CONCRETE TABLE.
4. MAXIMUM FLY ASH CONTENT NOT TO EXCEED 25% OF THE TOTAL CEMENTITIOUS MATERIAL EXCEPT AS FOLLOWS:
  - 4.1. CONCRETE FOR FOOTINGS, PILES, COLUMNS, WALLS, GRADE BEAMS: MAXIMUM 40%.
  - 4.2. CONCRETE WITH EXPOSURE CLASSES C-XL, C-1 and C-2: MAXIMUM 15%.
5. LIMIT  $C_{60}$  CONTENT IN H.Y. ASH TO LESS THAN 12% FOR CONCRETE WITH EXPOSURE CLASSES S-1, S-2, AND S-3.
6. NOTIFY DEPARTMENTAL REPRESENTATIVE 72 HOURS PRIOR TO CONCRETE POURS TO ALLOW FOR REVIEW OF REINFORCEMENT.
7. DO NOT USE ADMIXTURES CONTAINING CALCIUM CHLORIDE.
8. FOR RAMP SLABS AND BEAMS, DESIGN THE CONCRETE MIX WITH AGGREGATE GRADING AND WATER TO CEMENTING MATERIALS RATIO TO MINIMIZE SHRINKAGE.
9. CONSTRUCTION JOINTS
  - 9.1. VERTICAL CONSTRUCTION JOINTS IN WALLS SHALL BE AT MID-SPAN EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS OR WHERE AUTHORIZED BY THE DEPARTMENTAL REPRESENTATIVE.
  - 9.2. VERTICAL CONSTRUCTION JOINTS IN BEAMS AND SLABS SHALL BE AT EXPANSION JOINTS ONLY EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS OR WHERE AUTHORIZED BY THE DEPARTMENTAL REPRESENTATIVE.
  - 9.3. HORIZONTAL CONSTRUCTION JOINTS IN BEAMS AND WALLS ARE NOT PERMITTED EXCEPT WHERE SHOWN ON THE DRAWINGS OR WHERE AUTHORIZED BY THE DEPARTMENTAL REPRESENTATIVE.
10. FIELD AND LABORATORY TESTING OF CONCRETE TO BE COMPLETED BY A THIRD PARTY TESTING AND INSPECTION AGENCY APPROVED BY AND RESPONSIBLE TO THE DEPARTMENTAL REPRESENTATIVE. TESTING AGENCY SHALL BE CERTIFIED TO CSA-A283 AND TESTING TO BE COMPLETED IN ACCORDANCE WITH CSA-A23.2. TESTING PAID FOR BY CONTRACTOR.
11. ALL EXPOSED CORNERS SHALL BE CONSTRUCTED WITH MINIMUM 25mm CHAMFER OR FILLET U.N.O.

CONCRETE REINFORCEMENT

1. REINFORCEMENT STEEL TO CONFORM TO CSA-G30.18 GRADE 400R FOR PLAIN BARS, WITH ADDITIONAL REQUIREMENTS AS PER CAN/CSA-S6-14, CL 8.4.2.1 APPLIED, GRADE 400W FOR GALVANIZED BARS.
2. DO NOT WELD REINFORCEMENT UNLESS APPROVED IN WRITING BY THE DEPARTMENTAL REPRESENTATIVE. REINFORCEMENT TO BE WELDED TO CONFORM TO CSA-G30.18, GRADE 400W. WELDING ONLY PERMITTED TO BE UNDERTAKEN BY AN ORGANIZATION CERTIFIED TO CSA-W186.
3. NOTIFY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO CONCRETE PLACEMENT TO ALLOW FOR REVIEW OF REINFORCEMENT. REVIEW BY DEPARTMENTAL REPRESENTATIVE DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO BUILD THE STRUCTURE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
4. SUBMIT SHOP DRAWINGS AND DETAILS FOR ALL REINFORCEMENT FOR REVIEW PRIOR TO FABRICATION.
5. REINFORCEMENT NOTED WITH "G" AS 10MG IS TO BE GALVANIZED PER ASTM A767 CLASS II.
6. CLEAR CONCRETE COVER TO REINFORCEMENT - REFER TO CLEAR CONCRETE COVER TO REINFORCEMENT TABLE.
7. STANDARD END HOOK LENGTHS FOR REINFORCEMENT - REFER TO STANDARD END HOOKS TABLE.
8. REINFORCEMENT SPLICES - REFER TO REINFORCEMENT SPLICES TABLE.
  - 8.1. WHERE SPLICES ARE INDICATED ON THE DRAWINGS, SUCH DIMENSIONS SHALL APPLY.
  - 8.2. WHERE THE DRAWINGS INDICATE TENSION OR COMPRESSION SPLICES, SPLICE IN ACCORDANCE WITH REINFORCEMENT SPLICES TABLE.
  - 8.3. WHERE NO SPLICE OR SPLICE TYPE IS INDICATED ON THESE DRAWINGS, PROVIDE A TENSION SPLICE FOR BEAMS AND COLUMNS AND A COMPRESSION SPLICE OTHERWISE.
9. LAP SPLICES SHALL BE STAGGERED SO THAT NO MORE THAN 50% OF THE REINFORCING STEEL CROSSING A SECTION IS SPICED AT THE SAME POINT.
10. EMBEDMENT OF DOWELS - REFER TO REINFORCEMENT SPLICES TABLE
  - 10.1. WHERE EMBEDMENT IS DIMENSIONED ON THE DRAWINGS, SUCH DIMENSIONS SHALL APPLY.
  - 10.2. WHERE THE DRAWINGS INDICATE TENSION OR COMPRESSION EMBEDMENT, SPLICE AS NOTED IN THE REINFORCEMENT SPLICES TABLE.
  - 10.3. WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS INDICATED ON THESE DRAWINGS, PROVIDE A TENSION EMBEDMENT FOR COLUMNS AND BEAMS AND A COMPRESSION SPLICE OTHERWISE.
11. WELDED WIRE MESH TO CONFORM TO ASTM A497/A497M.
12. DO NOT CUT REINFORCEMENT AT OPENINGS WHERE IT CAN BE SPREAD CONTINUOUS AROUND OPENING.
13. TYPICAL BEAM REINFORCEMENT UNLESS OTHERWISE NOTED - TOP REINFORCEMENT TO BE CONTINUOUS OVER SUPPORTS; SPLICE AT MIDSPAN. BOTTOM REINFORCEMENT TO BE CONTINUOUS BETWEEN SUPPORTS; SPLICE AT SUPPORTS.
14. ALL REINFORCEMENT TO BE SUPPORTED AT 900mm MAXIMUM SPACING.
15. SUPPLY SUPPORT BARS TO SUPPORT MAIN REINFORCEMENT AS REQUIRED.
16. ANY REINFORCEMENT ADDED TO THE STRUCTURE TO FACILITATE CONSTRUCTION SHALL HAVE THE SAME MATERIAL AND CORROSION PROPERTY AS THE ADJACENT REINFORCEMENT.

CONCRETE FORMWORK

1. DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CAN/CSA-S26.9.
2. PROVIDE CAMBER OF SPAN/800 FOR ALL BEAMS AND GIRDERS WITH A SPAN GREATER THAN OR EQUAL TO 8 m. CAMBER BOTH THE TOP AND UNDERSIDE OF CONCRETE TO MAINTAIN SPECIFIED DEPTH UNLESS NOTED OTHERWISE.
3. LEAVE FORMS IN PLACE OR PROVIDE SHORING FOR ALL SLABS, BEAMS, AND GIRDERS UNTIL CONCRETE HAS REACHED SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
4. REFER TO SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR CHAMFERS ON CORNERS FOR BEAMS, COLUMNS, AND WALLS.

STRUCTURAL STEEL

1. DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA-S16 AND THE CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL.
2. STEEL TO BE FABRICATED AND ERECTED BY A SHOP CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA-W47.1, DIVISION 1 OR 2.1 ONLY.
3. SUBMIT SHOP DRAWINGS SHOWING ALL STRUCTURAL STEEL MEMBERS FOR REVIEW PRIOR TO FABRICATION. WELDING TO CONFORM TO CSA-W59.
4. WELDING TO REINFORCEMENT STEEL ONLY BY A SHOP CERTIFIED TO CSA-W186 WITH REINFORCEMENT CONFORMING TO CSA-G30.18, GRADE 400W.
5. SHOP GALVANIZING TO CONFORM TO CAN/CSA-G164 & ASTM A123
6. GRIND ALL WELDS SMOOTH BEFORE GALVANIZING.
7. ALL EXPOSED WELDS TO BE CONTINUOUS. GRIND ALL EXPOSED WELDS SMOOTH, INCLUDING PAINTED STEEL.
8. SUPPLY STEEL WITH PROPERTIES NOTED IN STEEL GRADES TABLE.
9. SHEAR STUD CONNECTORS TO CONFORM TO ASTM-A108 AND SHALL BE APPLIED BY ELECTRICAL RESISTANCE WELDING ONLY.
10. ANY FIELD WELDS OR DAMAGED GALVANIZING SHALL BE MATERIALIZED TO ASTM A780 METHOD A3 ONLY TO 0.2mm THICKNESS.
11. ALL BOLTED CONNECTIONS TO USE SNUG-TIGHTENED HIGH-STRENGTH BOLTS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
12. DO NOT SPICE MATERIAL WITHOUT THE WRITTEN APPROVAL OF THE DEPARTMENTAL REPRESENTATIVE. WHERE GRANTED, A COMPLETE NON-DESTRUCTIVE EXAMINATION WILL BE MANDATORY AND PAID FOR BY THE SUB-CONTRACTOR.
13. SHOP AND FIELD INSPECTION OF STEEL FABRICATION AND ERECTION TO BE COMPLETED BY A THIRD PARTY TESTING AND INSPECTION AGENCY APPROVED BY AND RESPONSIBLE TO THE DEPARTMENTAL REPRESENTATIVE. TESTING AGENCY SHALL BE CERTIFIED TO CSA-W178. TESTING PAID FOR BY CONTRACTOR.

TYPICAL STRUCTURAL ABBREVIATIONS		
Key Name	Comments	
(E)	"EXISTING"	
ALT	"ALTERNATE"	
B.L.L.	"BOTTOM LOWER LAYER"	
B.U.L.	"BOTTOM UPPER LAYER"	
BM	"BEAM"	
BOT	"BOTTOM"	
BS	"BOTH SIDES"	
CW	"COMPLETE WITH"	
CANT	"CANTILEVER"	
CLR	"CLEAR"	
COL	"COLUMN"	
CONC	"CONCRETE"	
CONN	"CONNECTION"	
CONT	"CONTINUOUS"	
CP	"COMPLETE PENETRATION" (WELD)	
DIA	"DIAMETER"	
DWG	"DRAWING"	
DWL	"DOWEL"	
E.F.	"EACH FACE"	
E.S.	"EACH SIDE"	
E.W.	"EACH WAY"	
EL	"ELEVATION"	
ELEV	"ELEVATION"	
FTG	"FOOTING"	
FTS	"FULL TENSION SPLICE"	
H.C.A	"HEADED CONCRETE ANCHOR"	
H1E	"HOOK ONE END"	
H2E	"HOOK TWO ENDS"	
HBE	"HOOK BOTH ENDS"	
HORIZ	"HORIZONTAL"	
HP	"HIGH POINT"	
I.F.	"INSIDE FACE"	
L.W.	"LONG WAY"	
LG	"LONG"	
LLH	"LONG LEG HORIZONTAL"	
LP	"LOW POINT"	
MAX	"MAXIMUM"	
MIN	"MINIMUM"	
NTS	"NOT TO SCALE"	
O.C.	"ON CENTER"	
O.F.	"OUTSIDE FACE"	
OPNG	"OPENING"	
OPP	"OPPOSITE"	
PL	"PLATE"	
REINF	"REINFORCING"	
R/W	"REINFORCE WITH"	
S.F.	"STEP FOOTING"	
S.W.	"SHORT WAY"	
SIM	"SIMILAR"	
STAGG	"STAGGERED"	
STIRR	"STIRRUPS"	
SYMM	"SYMMETRICAL"	
T&B	"TOP & BOTTOM"	
T.L.L.	"TOP LOWER LAYER"	
T.O.	"TOP OF"	
T.O.F.	"TOP OF FOOTING"	
T.O.S.	"TOP OF STEEL"	
T.O.W.	"TOP OF WALL"	
T.U.L.	"TOP UPPER LAYER"	
THK	"THICK"	
TYP	"TYPICAL"	
U.N.O.	"UNLESS NOTED OTHERWISE"	
UIS	"UNDERSIDE"	
VERT	"VERTICAL"	
VIF	"VERIFY IN FIELD"	
W	"WITH"	



6	ISSUED FOR TENDER	17.03.31
5	ISSUED FOR TENDER	17.02.08
4	ISSUED FOR 100% REVIEW	17.01.06
3	90% SUBMISSION	16.11.28
2	90% SUBMISSION	16.11.03
1	60% SUBMISSION (EAST RAMP)	16.06.18
0	60% SUBMISSION (WEST RAMP)	16.09.23
Revision / Révision	Description / Description	Date / Date

Client/client

PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA

Projet title/Titre du projet		
RADIUM HOT SPRINGS		
LIGHTING UPGRADES AND SITE REHABILITATION KOOTENAY NATIONAL PARK		
TENDER PACKAGE 1		
Consultant Signature Box Only		
Designed by/Concept par ML		
Drawn by/Dessiné par KL		
PWGSC Project Manager/Administrateur de Projets TPWGC MOSES YOUNG		
PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architecture et de génie, TPWGC		
Drawing title/Titre du dessin		
DESIGN NOTES & ABBREVIATIONS		
Project No./No. du projet	Sheet / Feuille	Revision no./ La Révision no.
WESTERN PROJECT # R.072512.001	S0.1	6



CLIMATIC INFORMATION	
TO BE READ IN CONJUNCTION WITH DESIGN LOADS DESIGN NOTES	
SNOW LOAD (1/50), Ss	2.7 kPa
SNOW LOAD (1/50), Sr	0.2 kPa
ONE DAY RAIN (1/50)	50 mm
HOURLY WIND PRESSURE (1/10)	0.27 kPa
HOURLY WIND PRESSURE (1/50)	0.35 kPa
SEISMIC RESPONSE, Ss(0.2)	0.258
SEISMIC RESPONSE, Ss(0.5)	0.171
SEISMIC RESPONSE, Ss(1.0)	0.094
SEISMIC RESPONSE, Ss(2.0)	0.046
SEISMIC RESPONSE, PGA	0.118
EFFECTIVE CONSTRUCTION TEMPERATURE	15°C
MAX MEAN DAILY TEMPERATURE	30°C
MIN. MEAN DAILY TEMPERATURE	−32°C
MAXIMUM EFFECTIVE TEMPERATURE	40°C
MINIMUM EFFECTIVE TEMPERATURE	−37°C

SITE INFORMATION	
TO BE READ IN CONJUNCTION WITH DESIGN LOADS DESIGN NOTES	
IMPORTANCE CATEGORY	NORMAL
WIND EXPOSURE TYPE	ROUGH TERRAIN
INTERNAL PRESSURE CATEGORY	1
FOUNDATION SITE CLASS	C

DESIGN LOADS		
TO BE READ IN CONJUNCTION WITH DESIGN LOADS DESIGN NOTES		
STORAGE AREA		
SUPERIMPOSED DEAD LOAD		0.0 kPa
LIVE LOAD		4.8 kPa
RAMPS AND BRIDGES		
SUPERIMPOSED DEAD LOAD		0.0 kPa
SELF WEIGHT OF TOPPING SLAB		24 kN/m <sup>2</sup>
LIVE LOAD		4.8 kPa
CONSTRUCTION LOADS		4.0 kPa
GUARD RAIL LOAD		0.75 kN/m
MAINTENANCE VEHICLE	MAX GROSS VEHICLE WEIGHT RATING (GVWR)	44.5 kN (10 000 lbs)
	MAX GROSS AXLE WEIGHT RATING (GAWR)	28.0 kN (6 300 lbs)
NOTE: CONSTRUCTION LOAD, LIVE LOAD, AND MAINTENANCE VEHICLE LOADS ARE MUTUALLY EXCLUSIVE. LOADS NOT PERMITTED TO OCCUR AT THE SAME TIME. CONSTRUCTION LOADS MAY BE APPLIED AFTER CONCRETE HAS ACHIEVED 70% OF 28 DAYS DESIGN STRENGTH. LIVE LOAD AND MAINTENANCE VEHICLE LOADS MAY BE APPLIED AFTER CONCRETE HAS ACHIEVED 28 DAYS DESIGN STRENGTH.		

BEARING LOAD AND MOVEMENT TABLE																
BEARING SCHEDULE			SERVICEABILITY LIMIT STATE								ULTIMATE LIMIT STATE					
	BEARING PAD SIZE (mm)		VERTICAL LOADS (kN)				MOVEMENT				VERTICAL LOADS (kN)				HORIZONTAL LOADS (kN)	
BEARING DESIGNATION	TRANS	LONG	MAX PERMANENT	MIN. PERMANENT	MAX PERMANENT + TRANSITORY	MIN. PERMANENT + TRANSITORY	LONGITUDINAL (mm)	TRANSVERSE (mm)	PERMANENT ROTATION (mRAD)	PERMANENT + TRANSITORY ROTATION (mRAD)	MAX PERMANENT	MIN. PERMANENT	MAX PERMANENT + TRANSITORY	MIN. PERMANENT + TRANSITORY	LONGITUDINAL	TRANSVERSE
WEST RAMP EXPANSION BEARING	200	130	25	22	61	19	8	2	0.7	1.3	29	20	91	15	FREE	FREE
WEST RAMP SLIDING BEARING	200	200	67	64	103	58	5	2	0.7	1.3	80	57	142	48	FREE	FREE
EAST RAMP SLIDING BEARING	200	200	101	97	139	91	6	3	3.5	5.0	121	87	186	77	FREE	FREE
NOTES:																
– LONGITUDINAL BEARING PAD DIMENSION AND MOVEMENTS ARE MEASURED PARALLEL TO THE CENTERLINE OF THE SUPPORTED CONCRETE BEAM ABOVE THE BEARING.																
– TRANSVERSE BEARING PAD DIMENSION AND MOVEMENTS ARE MEASURED PERPENDICULAR TO THE CENTERLINE OF THE SUPPORTED CONCRETE BEAM ABOVE THE BEARING.																
– BEARING ROTATION PROVIDED IS MEASURED ABOUT THE TRANSVERSE AXIS.																
– ALL BEARING MOVEMENTS PROVIDED ARE BASED ON BEARING INSTALLATION AT +5°C TO +35°C. FOR INSTALLATION OUTSIDE OF THIS TEMPERATURE RANGE, CONTACT DEPARTMENTAL REPRESENTATIVE FOR REVISED MOVEMENTS.																
– BEARING RESTRAINTS LIMIT TRANSVERSE MOVEMENTS.																
– SHIM PLATES INSIDE PADS SHALL MEET ASTM A570 GRADE C.																
– FOR BEARING PAD SPECIFICATIONS REFER TO METAL FABRICATIONS 05 00 00																

CONTROLLED CONCRETE						
TO BE READ IN CONJUNCTION WITH CAST-IN-PLACE REINFORCED CONCRETE DESIGN NOTES						
CONCRETE ELEMENT	CLASS OF EXPOSURE	MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (MPa)	MINIMUM COMPRESSIVE STRENGTH AT 56 DAYS (MPa)	MAXIMUM AGGREGATE SIZE (mm)	AIR CONTENT CATEGORY	CEMENT TYPE
EXTERIOR CONCRETE						
FOOTINGS AND SLAB BEAMS	S-3 AND F-2	35	N/A	20	2	MS OR MSb
COLUMNS AND WALLS	S-3 AND C-1	35	N/A	20	1	MS OR MSb
SLABS ON GRADE AND GRADE BEAMS	S-3 AND C-XL	35	50	20	1	MS OR MSb
ELEVATED CONCRETE BEAMS AND SLABS	C-XL	35	50	20	1	GU
SITE CONCRETE (NON-STRUCTURAL)	C-2	32	N/A	20	2	GU

CLEAR CONCRETE COVER TO REINFORCEMENT					
TO BE READ IN CONJUNCTION WITH CONCRETE REINFORCEMENT DESIGN NOTES					
EXPOSURE CONDITION	EXPOSURE CLASS				
	F-1, F-2, S-1, S-2, S-3		C-XL, C-1, C-2, C-3, A-1, A-2, A-3		
	TOP AND VERTICAL SURFACE COVER	SOFFIT COVER	TOP AND VERTICAL SURFACE COVER	SOFFIT COVER	
SURFACE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	100 mm	100 mm	100 mm	100 mm	
BEAMS, GIRDERS, COLUMNS, AND PILES TO TIES/STIRRUPS (EXCEPT AS NOTED BELOW)	60 mm	50 mm	70 mm	60 mm	
SLABS AND WALLS (EXCEPT AS NOTED BELOW)	60 mm	40 mm	70 mm	50 mm	
SURFACES PERMANENTLY EXPOSED TO EARTH	70 mm	70 mm	70 mm	70 mm	
NOTES –THE LARGEST COVER REQUIRED FOR ANY ONE ELEMENT SHALL GOVERN. –COVER IN ACCORDANCE WITH S6-14 TABLE 8.5.					

REINFORCEMENT SPLICES			
TO BE READ IN CONJUNCTION WITH CONCRETE REINFORCEMENT DESIGN NOTES			
BAR SIZE	COMPRESSION SPLICE (mm)	TENSION SPLICE (mm)	
		VERTICAL OR BOTTOM HORIZONTAL BARS	TOP HORIZONTAL BARS
		UNCOATED BARS	UNCOATED BARS
10M	300	400	500
15M	450	550	750
20M	600	700	900
25M	750	1100	1400
30M	900	1300	1700
35M	1025	1550	2000
NOTE 1:	THIS TABLE IS BASED ON NORMAL WEIGHT CONCRETE f'c = 35 MPa AND ON REINFORCING STEEL fy = 400 MPa.		
NOTE 2:	TOP HORIZONTAL BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 300mm OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.		
NOTE 3:	FOR STANDARD EMBEDMENT DEPTH INTO CONCRETE, DIVIDE BASIC TENSION LAP SPLICE NUMBERS BY 1.3.		

STANDARD END HOOKS								
TO BE READ IN CONJUNCTION WITH CONCRETE REINFORCEMENT DESIGN NOTES								
BAR SIZE	10M	15M	20M	25M	30M	35M	45M	55M
90 HOOK LENGTH	180	260	310	400	510	640	790	1020
180 HOOK LENGTH	140	180	210	280	390	550	670	860

STEEL GRADES	
TO BE READ IN CONJUNCTION WITH STRUCTURAL STEEL DESIGN NOTES	
MEMBER TYPE	GRADE
HOLLOW STRUCTURAL SECTIONS	CSA G40.21 350W CLASS C
OTHER STRUCTURAL SHAPES AND PLATES	CSA G40.21 300W
BOLTS	ASTM A325
HEADED STUD ANCHORS	ASTM A108
THREADED ROD	ASTM A36
ANCHOR ROD	ASTM F1554 GRADE 36



6	ISSUED FOR TENDER	17.03.31
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1	80% SUBMISSION (EAST RAMP)	16.08.18
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Revision/	Description/Description	Date/Date
Revision/		

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet

RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND SITE REHABILITATION  
KOOTENAY NATIONAL PARK

TENDER PACKAGE 1

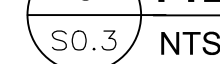
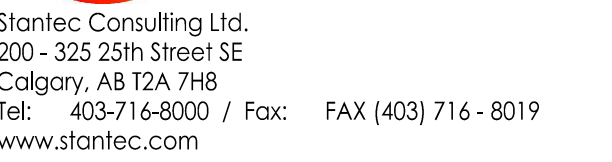
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Designed by/Concept par ML	
Drawn by/Dessiné par KL	
PWGSC Project Manager/Administrateur de Projets TPSGC MOSES YOUNG	
PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architecture et de génie, TPSGC	

Drawing title/Titre du dessin

DESIGN TABLES

Project No./No. du projet WESTERN PROJECT # R.072512.001	Sheet/Feuille S0.2	Revision no./ La Révision no. 6
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20mm SLOPE TO DRAIN

170

333

400

NOT USED

SUBSTRUCTURE

Client/client

**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

## TENDER PACKAGE 1

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Designed by/Concept par  
ML

Drawn by/Dessine par  
KL

PWGSC Project Manager/Administrateur de Projets TPSGC  
MOSES YOUNG

PWGSC, Regional Manager, Architectural and Engineering Services/  
Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin

## TYPICAL DETAILS

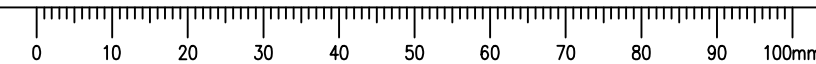
Project No./No. du projet	SI
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**WESTERN  
PROJECT #  
R.072512.001**

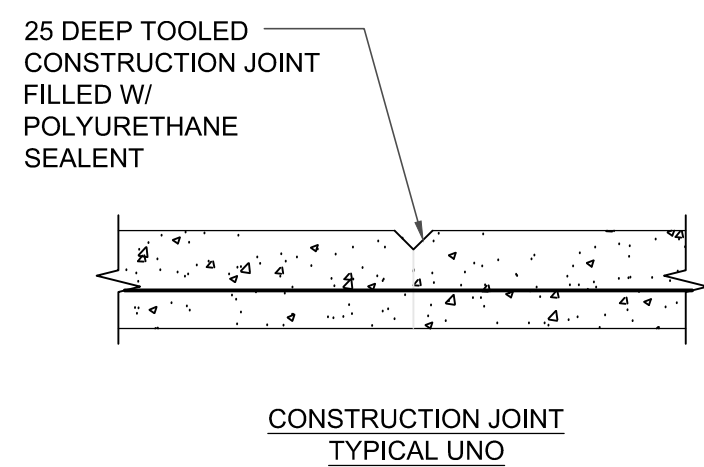
Sheet/Feuille

## S0.3

Version no./

Révision  
**6**



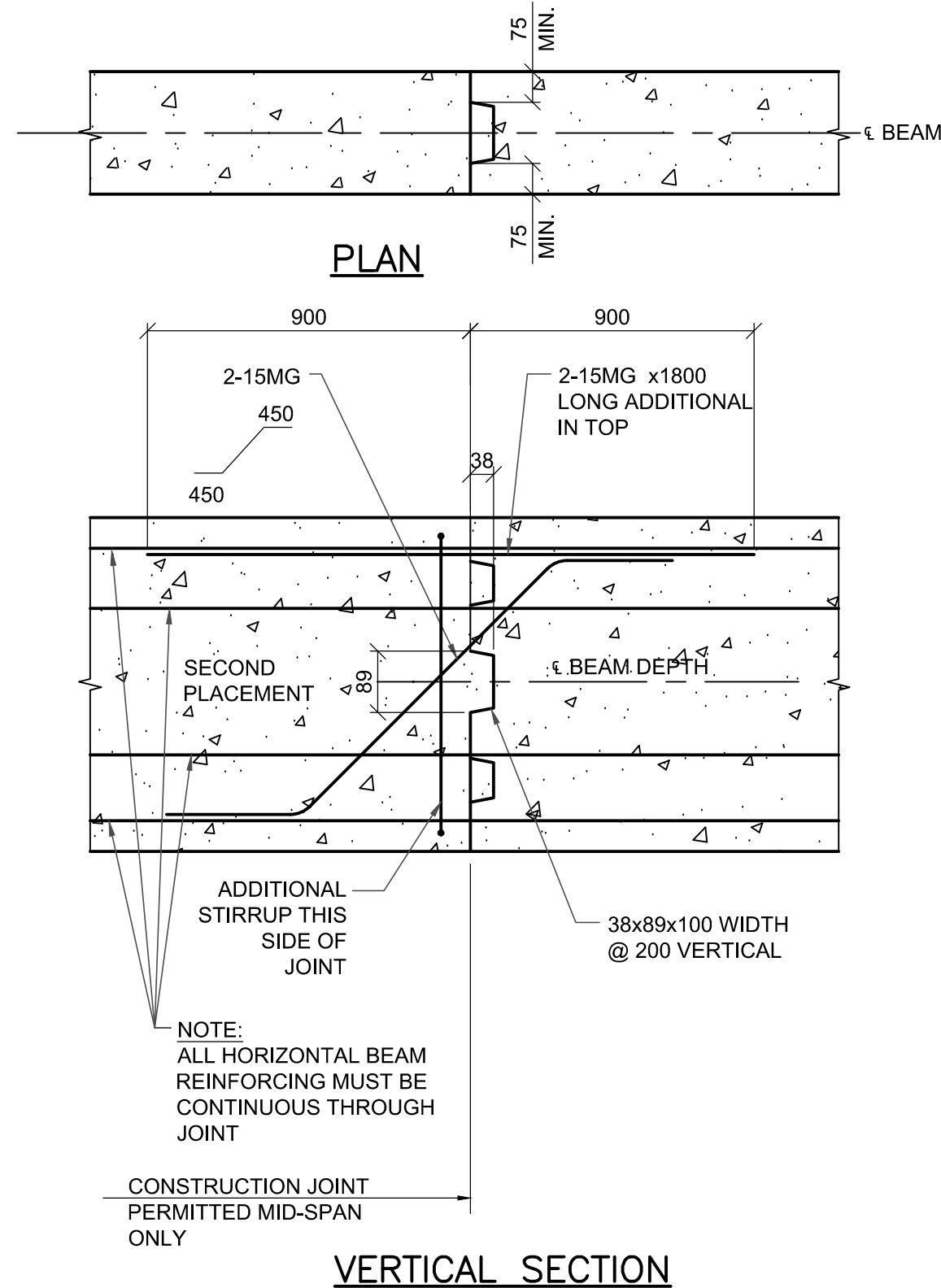


NOTES:

1. PROVIDE CONSTRUCTION JOINT AS SHOWN & AT LOCATIONS SHOWN ON DRAWINGS. DO NOT EXCEED 24 m O/C. SAWCUT JOINTS ARE NOT ACCEPTABLE.
2. TOOL OR FORM ALL CONSTRUCTION JOINTS ON EXPOSED SLAB.
3. JOINT SEALANT REQUIRED FOR ALL EXPOSED SURFACES.

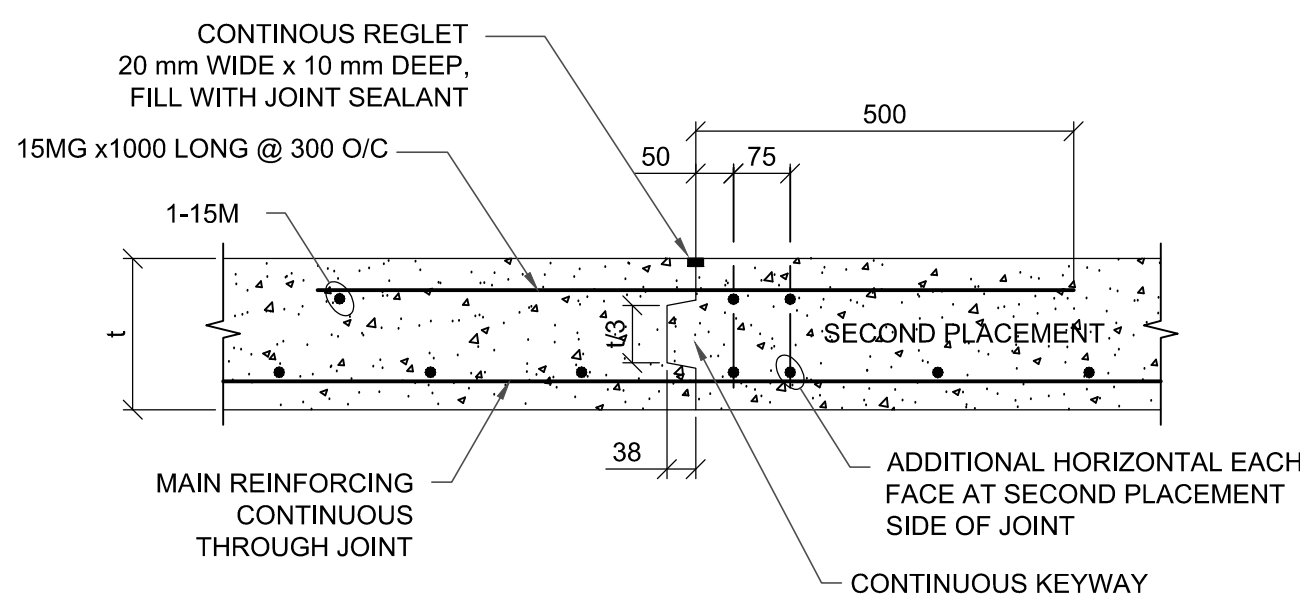
**TYPICAL TOPPING SLAB AND SLAB ON GRADE CONTROL JOINTS**

1  
S0.4  
NTS



**TYPICAL CONSTRUCTION JOINT IN CONCRETE BEAM**

5  
S0.4  
NTS

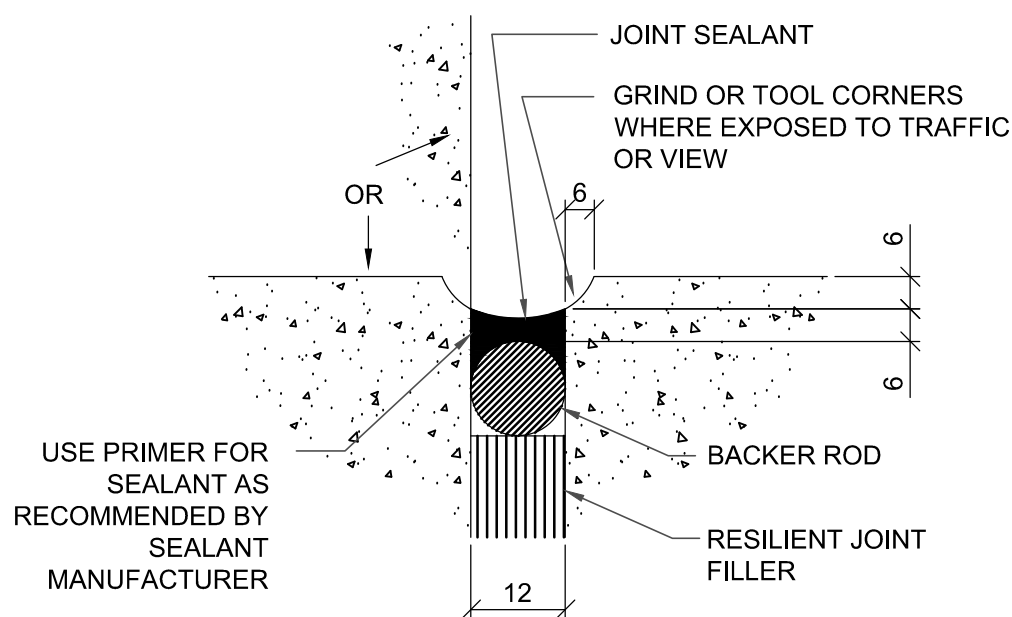


NOTES:

1. DO NOT SPLICE REINFORCING STEEL THROUGH JOINT
2. ALL PROPOSED LOCATIONS TO BE APPROVED BY ENGINEER

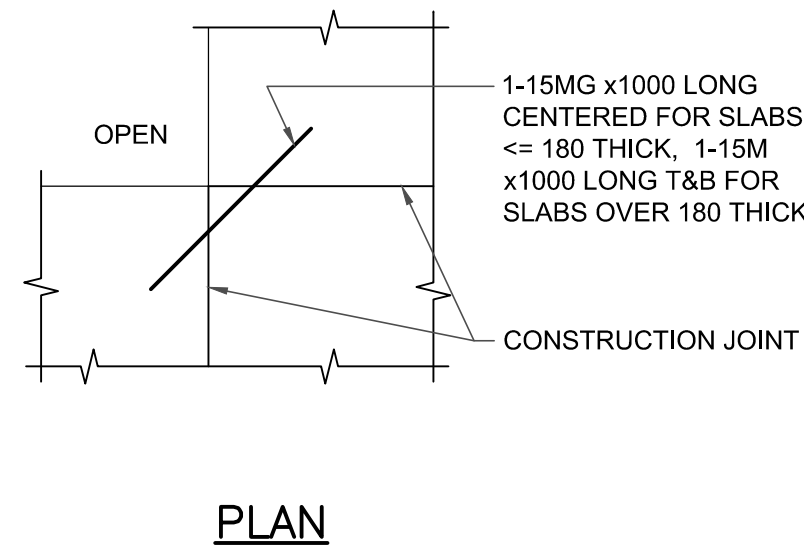
**TYPICAL CONSTRUCTION JOINT IN STRUCTURAL SLAB**

9  
S0.4  
NTS



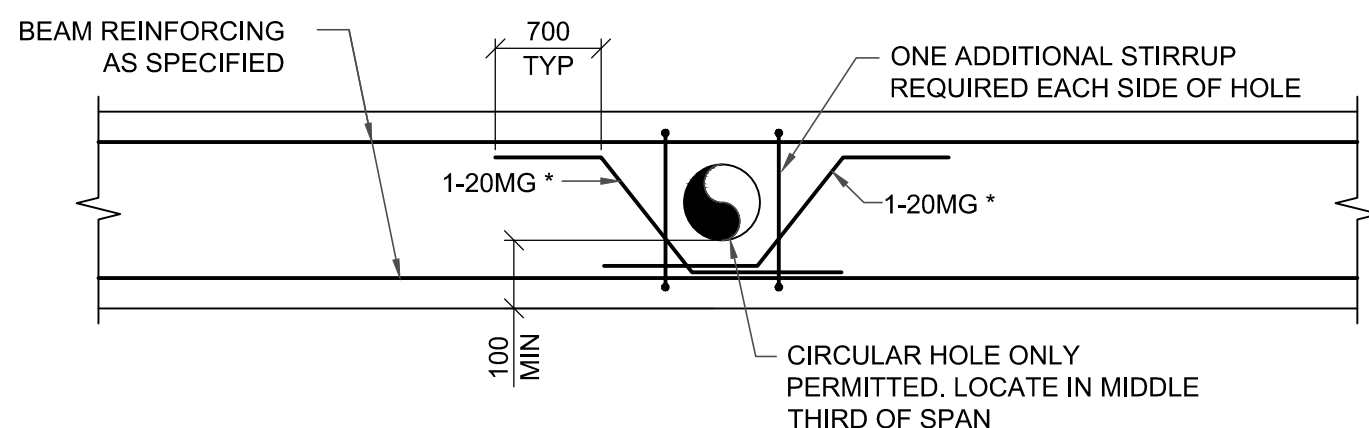
**TYPICAL JOINT AND SEALANT DETAIL FOR ISOLATION JOINTS**

2  
S0.4  
NTS



**TYPICAL SLAB OPEN CORNER ADDITIONAL REINFORCING**

6  
S0.4  
NTS

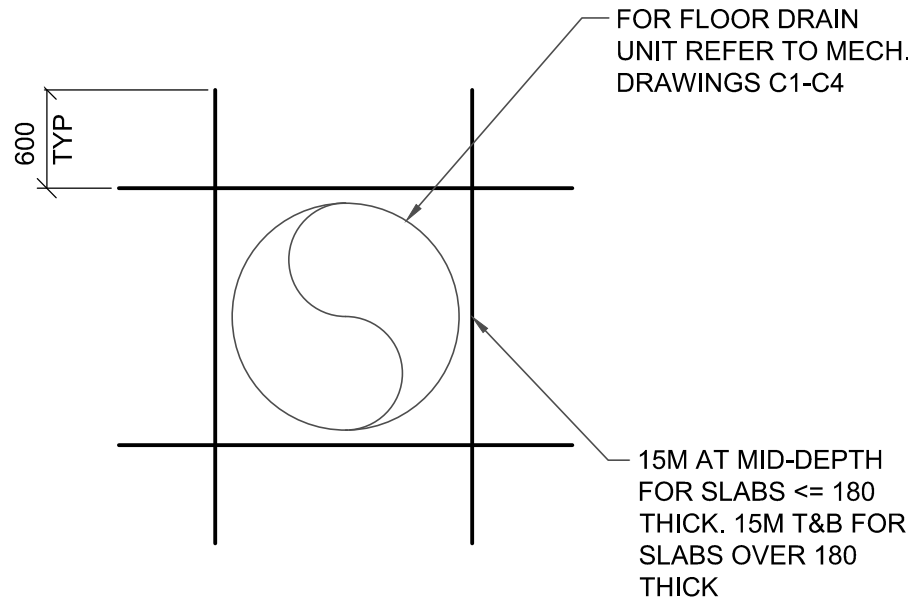


NOTE:

1. CONTACT DEPARTMENTAL REPRESENTATIVE FOR WRITTEN APPROVAL OR SUPPLEMENTARY DETAILS FOR HOLES IN ALTERNATE LOCATIONS.
2. (EACH FACE FOR GRADE BEAMS GREATER THAN 200 WIDE)

**REINFORCEMENT REQUIRED FOR HOLES THROUGH GRADE BEAMS**

10  
S0.4  
NTS

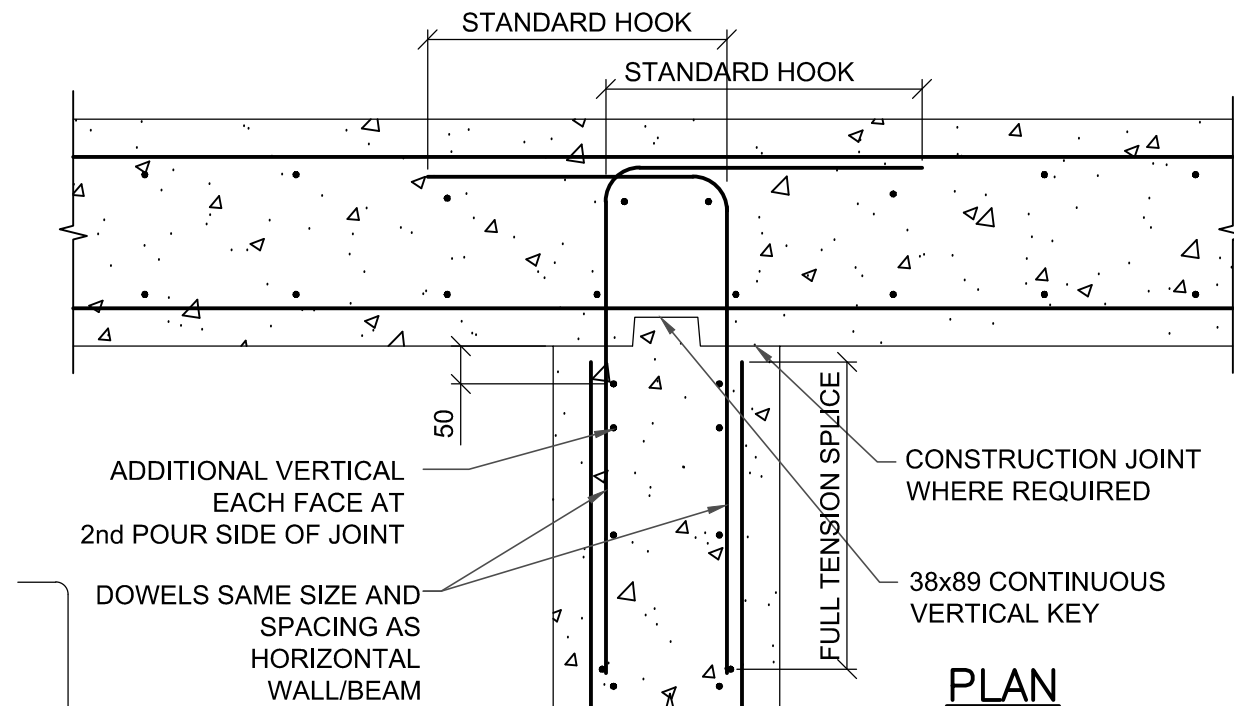


NOTES:

1. NUMBER OF REINFORCING BARS TO BE CUT AT OPENING TO BE KEPT TO A MINIMUM.
2. PROVIDE STANDARD HOOKS ON ADDITIONAL REINFORCING WHERE IT IS NOT POSSIBLE TO INSTALL REINFORCING WITH REQUIRED LENGTH.

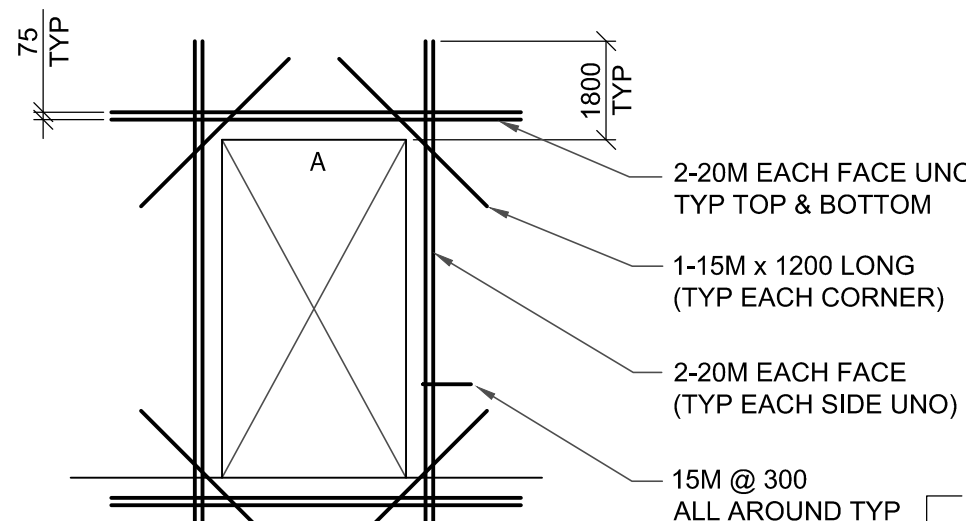
**TYPICAL ADDITIONAL REINFORCING AROUND DRAINS IN CONCRETE SLABS**

3  
S0.4  
NTS



**TYPICAL REINFORCEMENT AT WALL/BEAM INTERSECTION**

7  
S0.4  
NTS

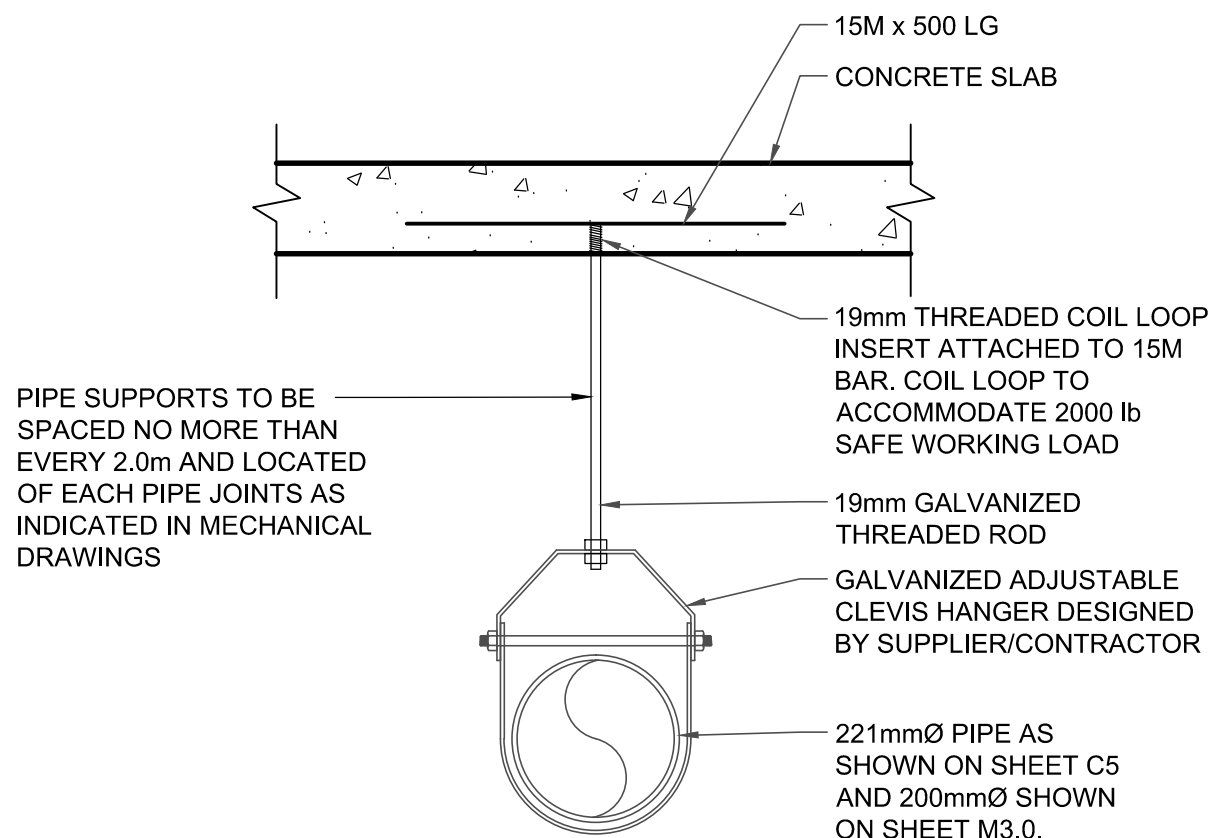


NOTES:

1. THE NUMBER OF REINFORCING BARS TO BE CUT AT OPENING TO BE KEPT AT A MINIMUM
2. PROVIDE STANDARD HOOKS ON ADDITIONAL REINFORCING WHERE IT IS NOT POSSIBLE TO INSTALL REINFORCING WITH REQUIRED LENGTH.

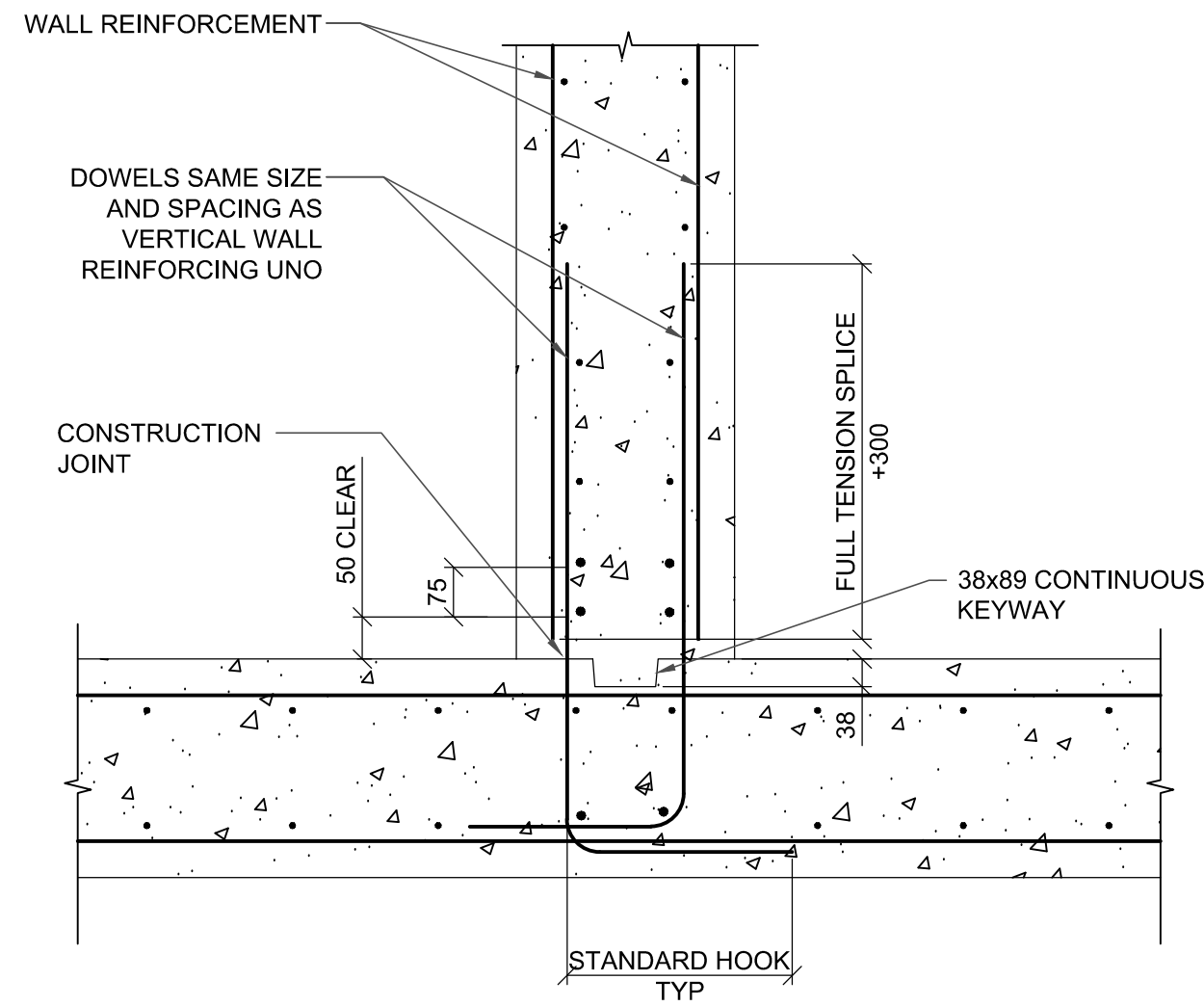
**ADDITIONAL REINFORCING AROUND OPENING AT WALL**

11  
S0.4  
NTS



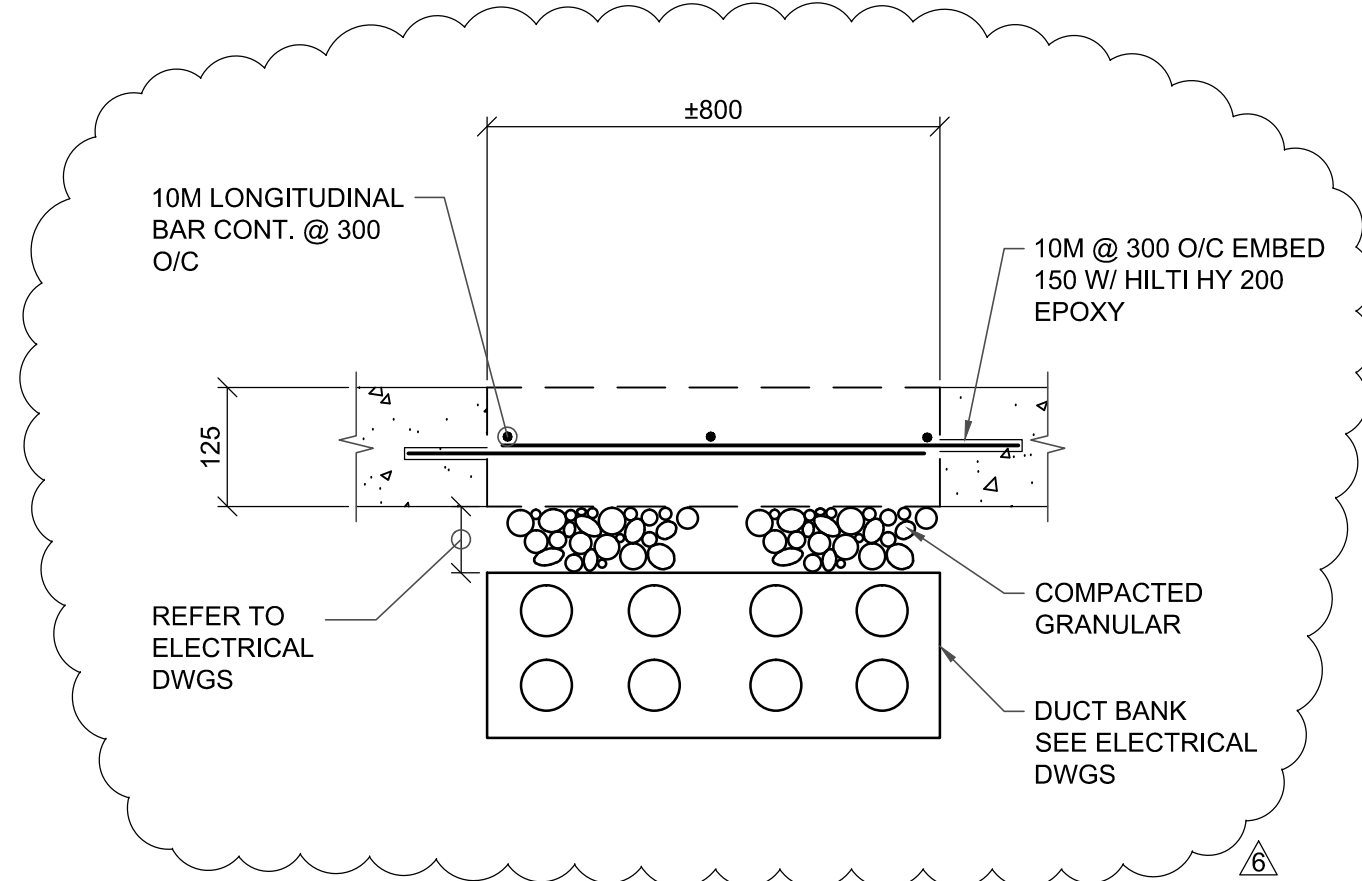
**TYPICAL PIPE HANGER DETAIL**

4  
S0.4  
NTS



**TYPICAL REINFORCEMENT AT FOOTING TO WALL**

8  
S0.4  
NTS



**SLAB REPLACEMENT DETAIL**

12  
S0.4  
NTS

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**PUBLIC WORKS AND GOVERNMENT SERVICES CANADA**

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

Consultant Signature Box Only

Designed by/Concept par  
ML

Drawn by/Dessiné par  
KL

PWGSC Project Manager/Administrateur de Projets TPSGC  
MOSES YOUNG

PWGSC, Regional Manager, Architectural and Engineering Services/  
Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin

**TYPICAL DETAILS (2)**

Project No./No. du projet

**WESTERN  
PROJECT #  
R.072512.001**

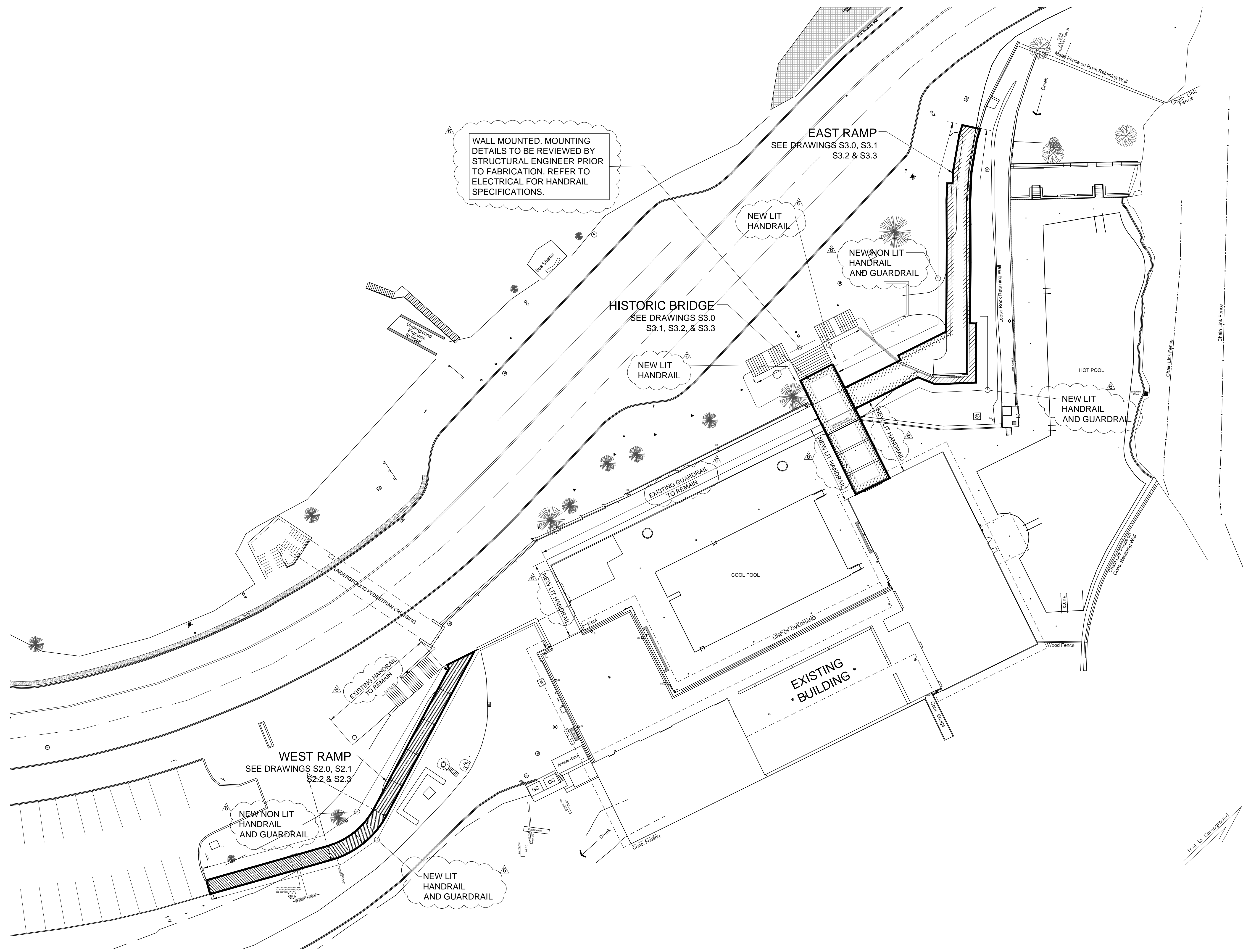
Sheet/Feuille

**S0.4**

Revision no./  
La Révision  
no.


**6**





1 RADIUM HOT SPRINGS SITE PLAN  
S1.0 1:250


SCOPE OF WORK  
PERIMETER




Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

REAL PROPERTY SERVICES  
Pacific Region  
SERVICES IMMOBILIERS  
Région de Pacifique



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PROFESSIONAL  
ENGINEER  
R. A. SMITH  
35891  
March 31, 2017

6	ISSUED FOR TENDER	17.03.31
5	ISSUED FOR TENDER	17.02.08
4	ISSUED FOR 100% REVIEW	17.01.06
3	99% SUBMISSION	16.11.28
2	99% SUBMISSION	16.11.03
1	60% SUBMISSION (EAST RAMP)	16.08.18
0	60% SUBMISSION (WEST RAMP)	16.09.23
Revision / Révision	Description / Description	Date / Date

Client / client

PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA

Project title / Titre du projet

RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK

TENDER PACKAGE 1

Consultant Signature Box Only

Designed by / Concept par  
ML

Drawn by / Dessiné par  
KL

PWGSC Project Manager / Administrateur de Projets TPSGC  
MOSES YOUNG

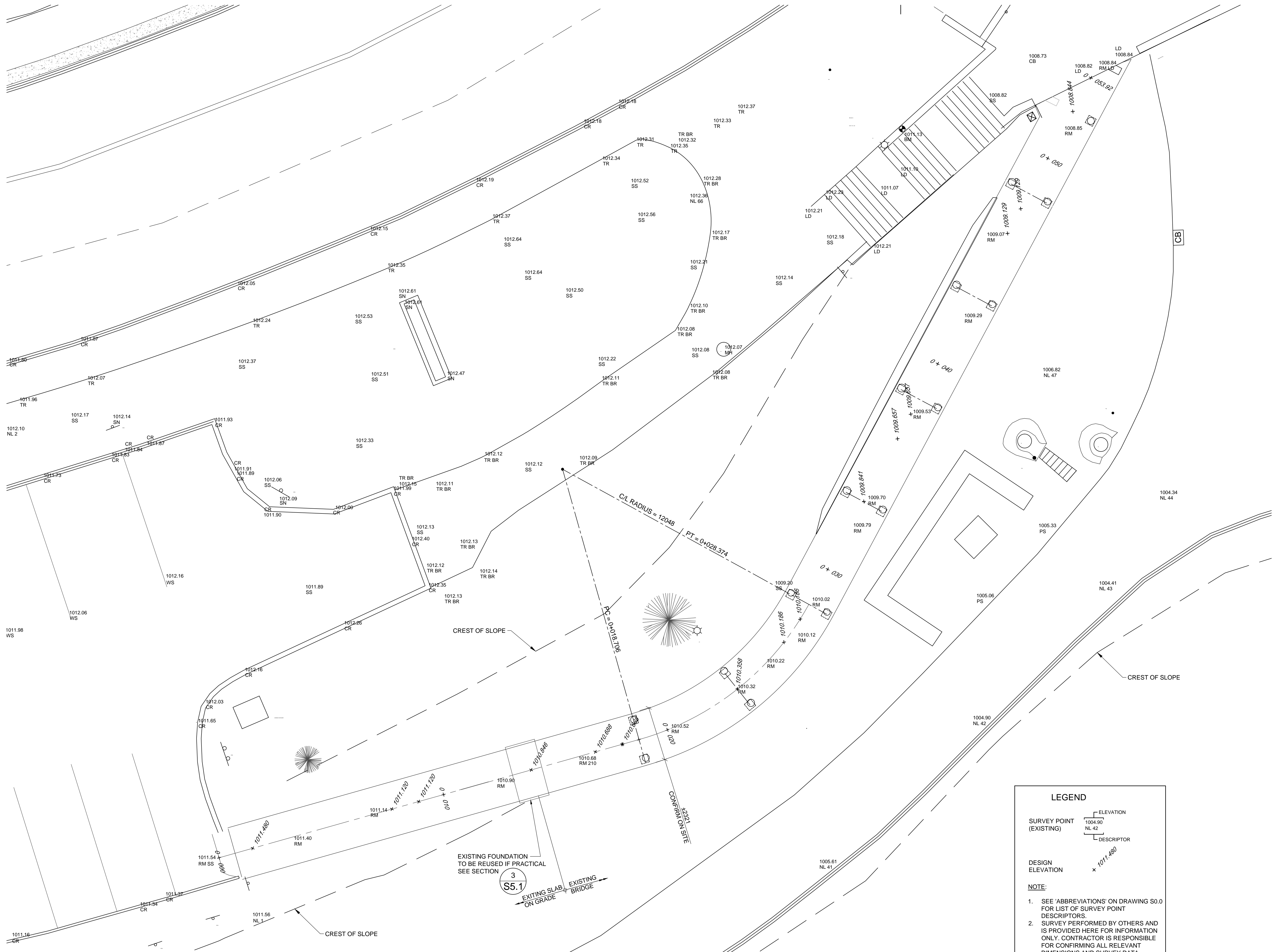
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Drawing title / Titre du dessin

OVERALL SITE PLAN

Project No. / No. du projet WESTERN PROJECT # R.072512.001	Sheet / Feuille S1.0	Revision no. / La Révision no. 6
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1  
S2.0  
1:75  
WEST RAMP SITE/SURVEY PLAN



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**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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ML

Drawn by/Dessiné par  
KL

PWGSC Project Manager/Administrateur de Projets TPSGC  
**MOSES YOUNG**

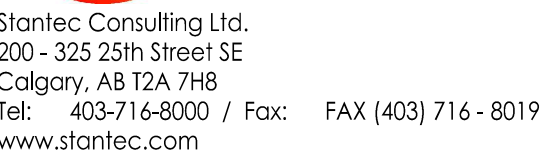
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Drawing title/Titre du dessin

**WEST RAMP  
SITE/SURVEY PLAN**

Project No./No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet/Feuille <b>S2.0</b>	Revision no./ La Révision no. <b>6</b>
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Client/client

**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS**

**LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

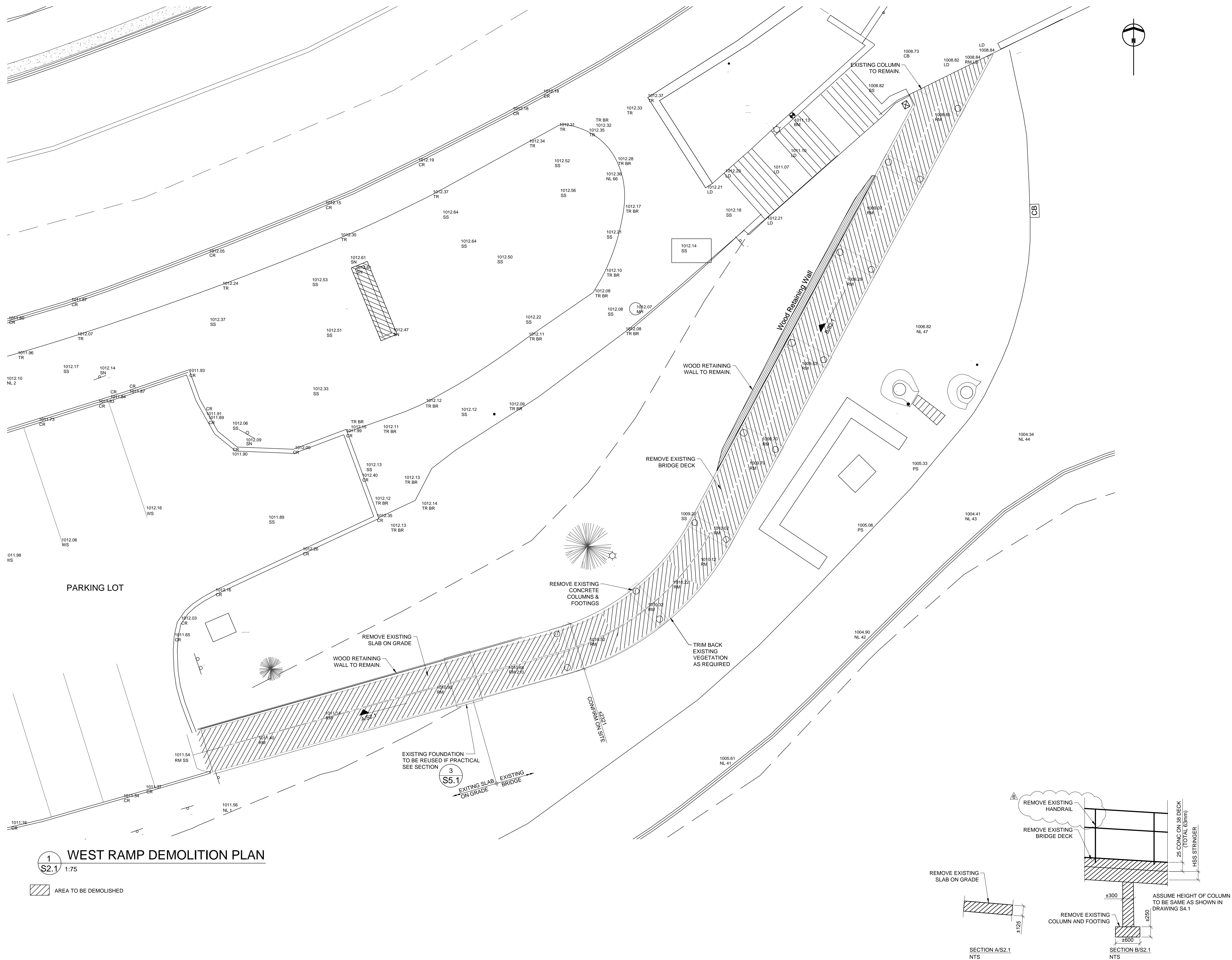
## TENDER PACKAGE 1

Designed by/Concept par ML
Drawn by/Dessine par KL
PWGSC Project Manager/Administrateur de Projets TPSGC MOSES YOUNG
PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architecture et de génie, TPSGC

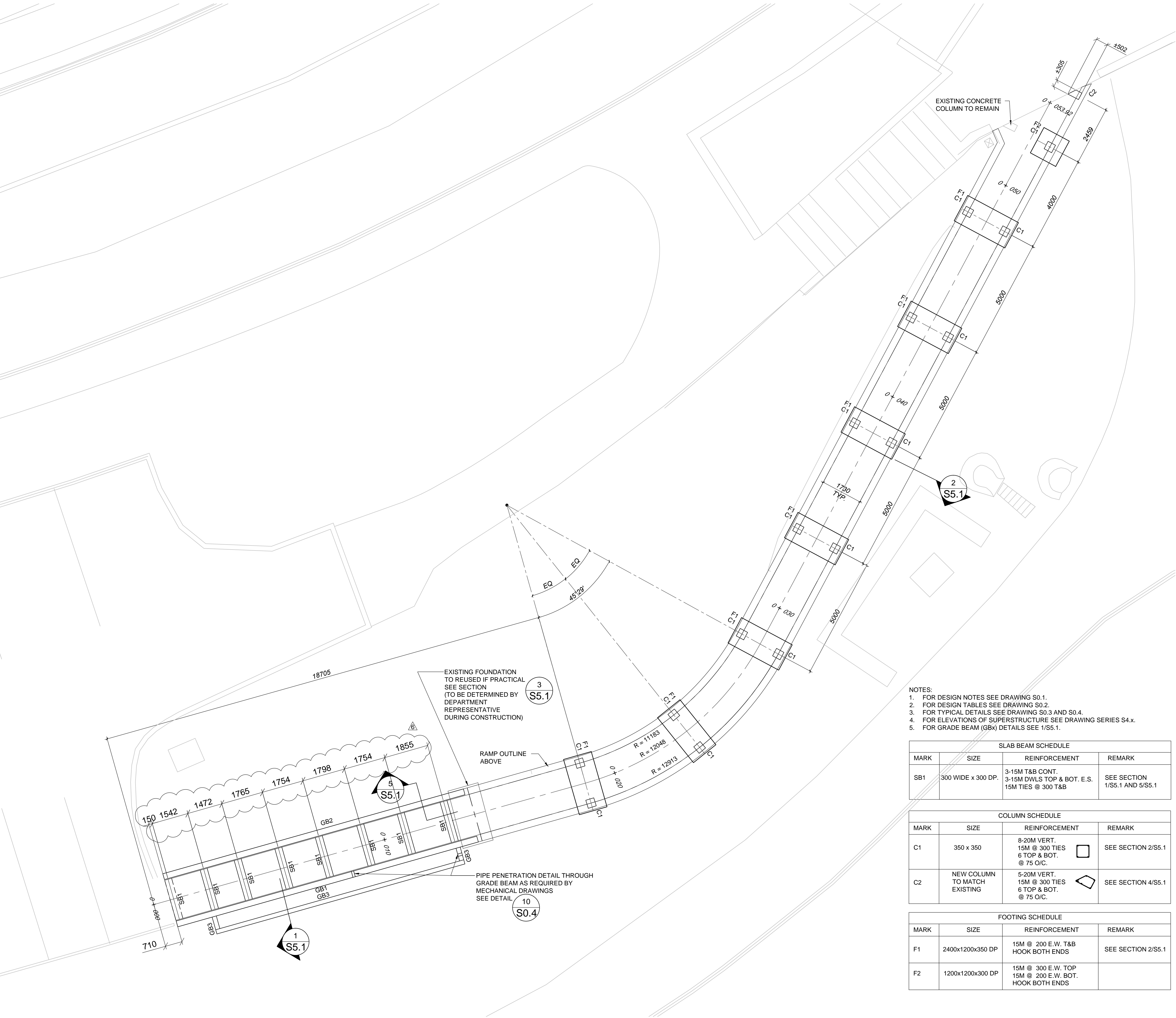
Drawing title/Titre du dessin

**WEST RAMP  
DEMOLITION PLAN**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
WESTERN PROJECT # R.072512.001	S2.1	6







1 WEST RAMP FOUNDATION PLAN  
S2.2 1:75

NOTES:

1. FOR DESIGN NOTES SEE DRAWING S0.1.
2. FOR DESIGN TABLES SEE DRAWING S0.2.
3. FOR TYPICAL DETAILS SEE DRAWING S0.3 AND S0.4.
4. FOR ELEVATIONS OF SUPERSTRUCTURE SEE DRAWING SERIES S4.x.
5. FOR GRADE BEAM (GBx) DETAILS SEE 1/S5.1.

SLAB BEAM SCHEDULE			
MARK	SIZE	REINFORCEMENT	REMARK
SB1	300 WIDE x 300 DP.	3-15M T&B CONT. 3-15M DWLS TOP & BOT. E.S. 15M TIES @ 300 T&B	SEE SECTION 1/S5.1 AND 5/S5.1

COLUMN SCHEDULE			
MARK	SIZE	REINFORCEMENT	REMARK
C1	350 x 350	8-20M VERT. 15M @ 300 TIES 6 TOP & BOT. @ 75 O/C.	SEE SECTION 2/S5.1
C2	NEW COLUMN TO MATCH EXISTING	5-20M VERT. 15M @ 300 TIES 6 TOP & BOT. @ 75 O/C.	SEE SECTION 4/S5.1

FOOTING SCHEDULE			
MARK	SIZE	REINFORCEMENT	REMARK
F1	2400x1200x350 DP	15M @ 200 E.W. T&B HOOK BOTH ENDS	SEE SECTION 2/S5.1
F2	1200x1200x300 DP	15M @ 300 E.W. TOP 15M @ 200 E.W. BOT. HOOK BOTH ENDS	



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**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

Consultant Signature Box Only

Designed by/Concept par  
ML

Drawn by/Dessiné par  
KL

PWGSC Project Manager/Administrateur de Projets TPSPGC  
**MOSES YOUNG**

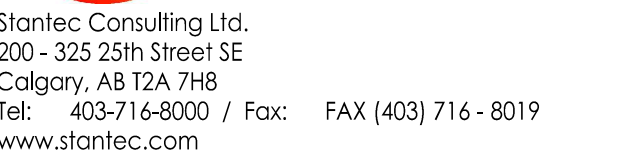
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Drawing title/Titre du dessin

**WEST RAMP  
FOUNDATION PLAN**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>WESTERN PROJECT # R.072512.001</b>	<b>S2.2</b>	<b>6</b>





Project title/Titre du projet
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## TENDER PACKAGE 1

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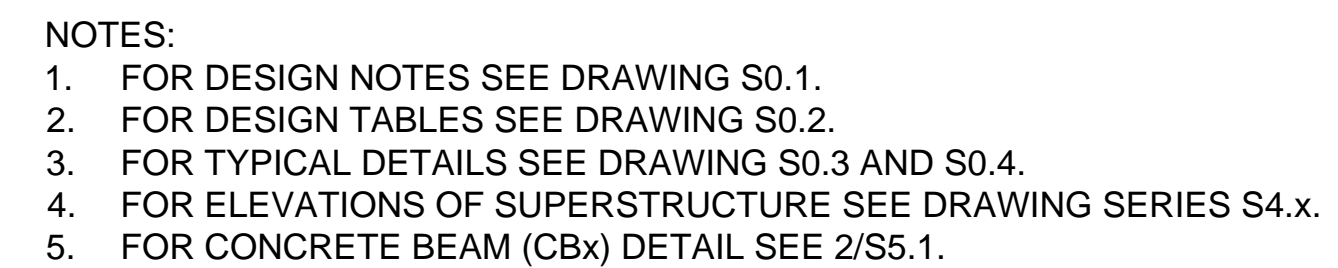
Drawn by/Dessine par  
KL

PWGSC Project Manager/Administrateur de Projets TPSGC <b>MOSES YOUNG</b>
PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architecture et de génie. TPSGC

Drawing title/Titre du dessin

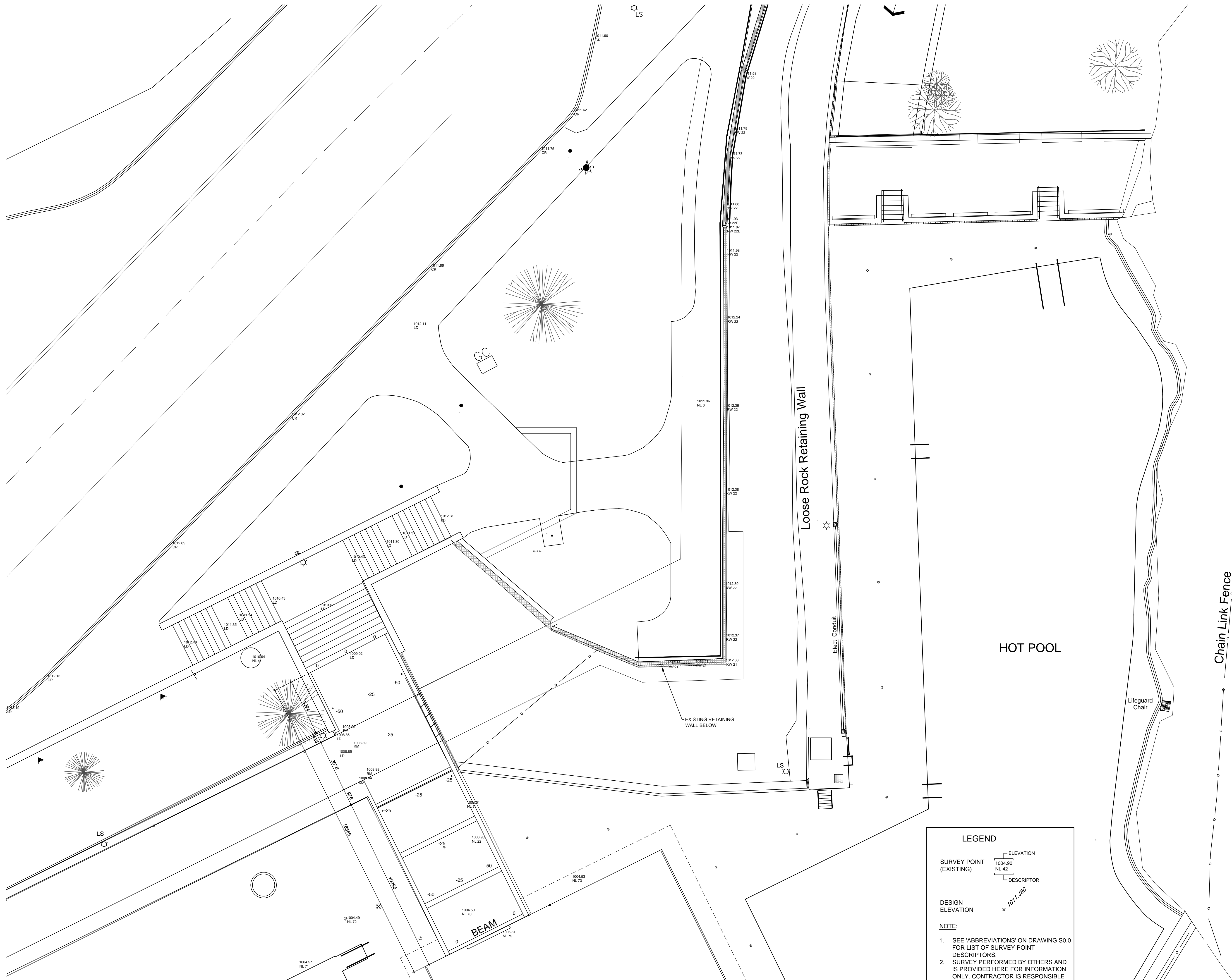
**WEST RAMP  
SUPERSTRUCTURE PLAN**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>WESTERN PROJECT # R.072512.001</b>	<b>S2.3</b>	<b>6</b>



WEST RAMP SUPERSTRUCTURE PLAN





6	ISSUED FOR TENDER	17.03.31
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Revision / Révision	Description / Description	Date / Date

Client/client  
**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet  
**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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Drawn by/Dessiné par  
**KL**

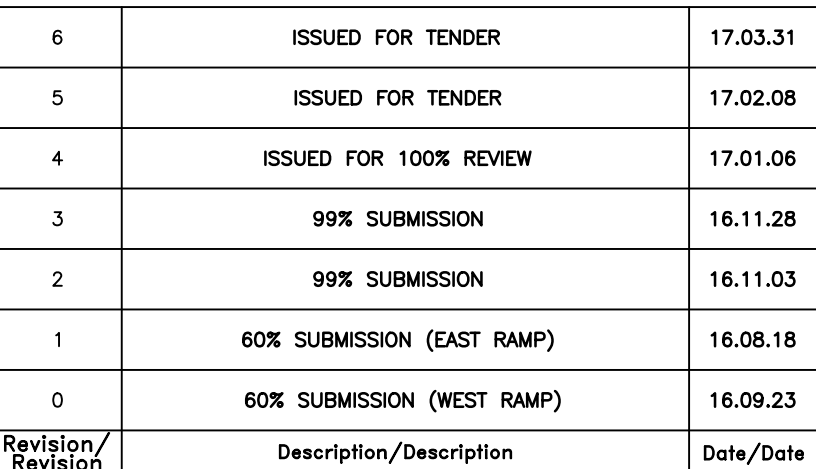
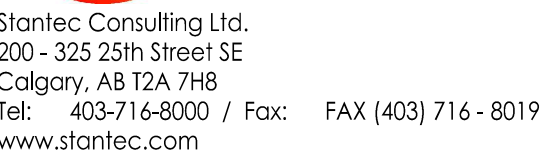
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**MOSES YOUNG**

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Gestionnaire régionale, Services d'architecture et de génie, TPSSGC

Drawing title/Titre du dessin  
**EAST RAMP AND  
HISTORIC BRIDGE  
SITE/SURVEY PLAN**

Project No./No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet/Feuille <b>S3.0</b>	Revision no./ La Révision no. <b>6</b>
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## Project title/Titre du projet

## TENDER PACKAGE 1

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## EAST RAMP AND HISTORIC BRIDGE DEMOLITION PLAN

Project No./No. du projet

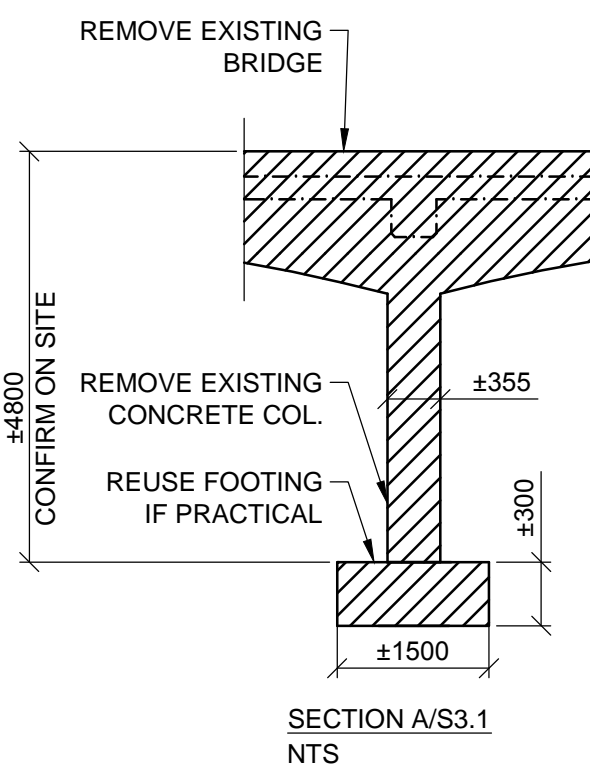
WESTERN  
PROJECT #  
R.072512.001

Sheet/Feuille

## S3.1

Revision no./

6



REMOVE EXISTING -  
CONCRETE  
RETAINING WALL

EXISTING -  
CONCRETE  
RETAINING WALL  
TO REMAIN

EXISTING RETAINING WALL SAWCUT TO  
HEIGHT AS REQUIRED. SEE SECTION 1/5.4  
REFER TO ELEVATIONS ON S4.1 FOR  
RAMP ELEVATION.

NOTES:  
1. 8000 GALLON STEEL FUEL TANK TO BE REMOVED. 9 FEET DIA. x 19 FEET LONG PARTIALLY FILLED WITH SAND ABANDONED UNDER BRIDGE. TANK SIZE AND DESCRIPTION PROVIDED ARE FOR ESTIMATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING ALL RELEVANT INFORMATION TO FACILITATE TANK REMOVAL.

## 1 EAST RAMP AND HISTORIC BRIDGE DEMO PLAN

S3.1 1:100

1:100

 AREA TO BE DEMOLISHED







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Revision/ Revision	Description/Description	Date/Date

Client/client

**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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KL

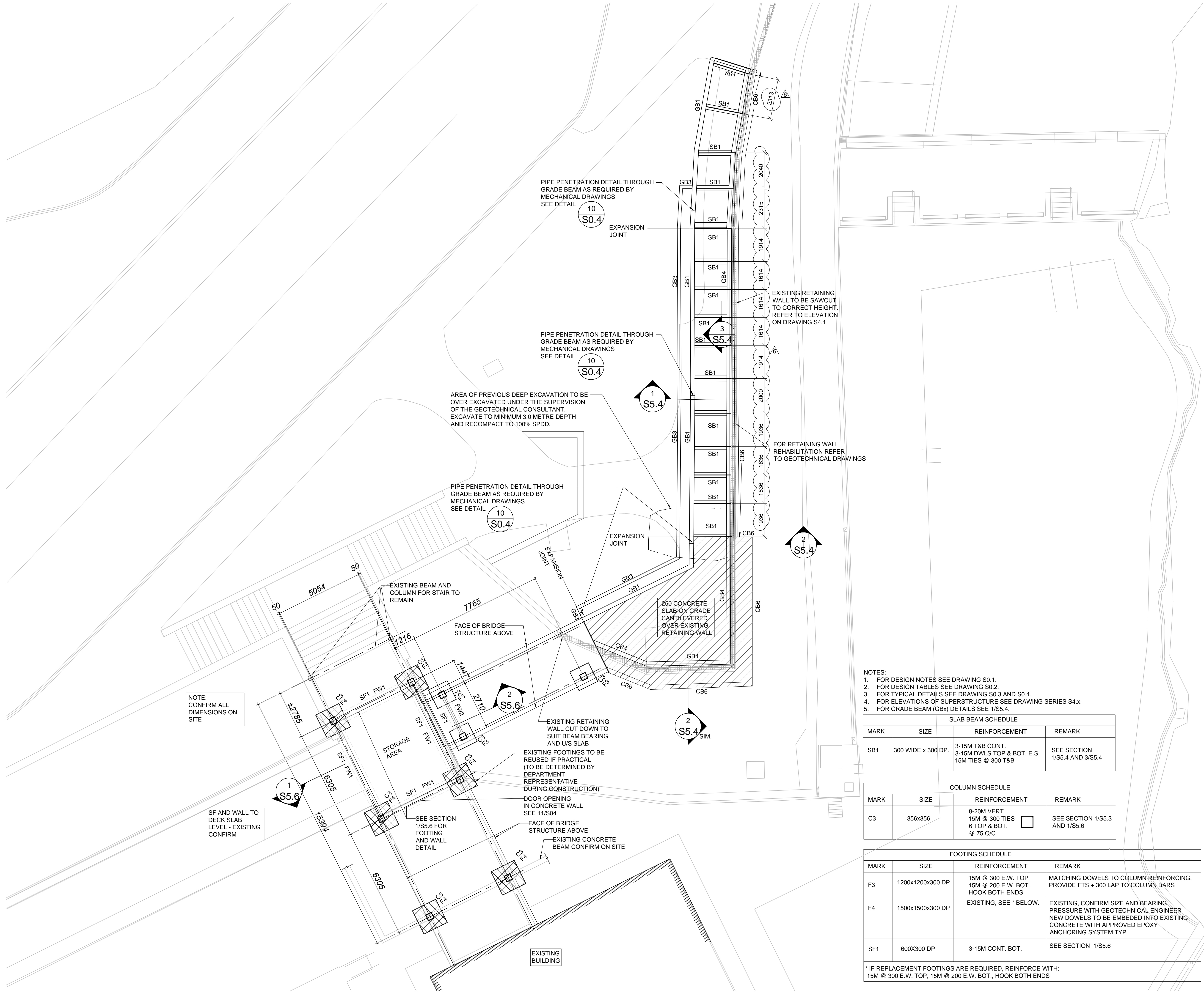
PWGSC Project Manager/Administrateur de Projets TP/SGC  
MOSES YOUNG

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Drawing title/Titre du dessin

**EAST RAMP AND  
HISTORIC BRIDGE  
FOUNDATION PLAN**

Project No./No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet/Feuille <b>S3.2</b>	Revision no./ La Révision no. <b>6</b>
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**1 EAST RAMP AND HISTORIC BRIDGE FOUNDATION PLAN**  
S3.2 1:100





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Revision /  
Description /  
Date / Date

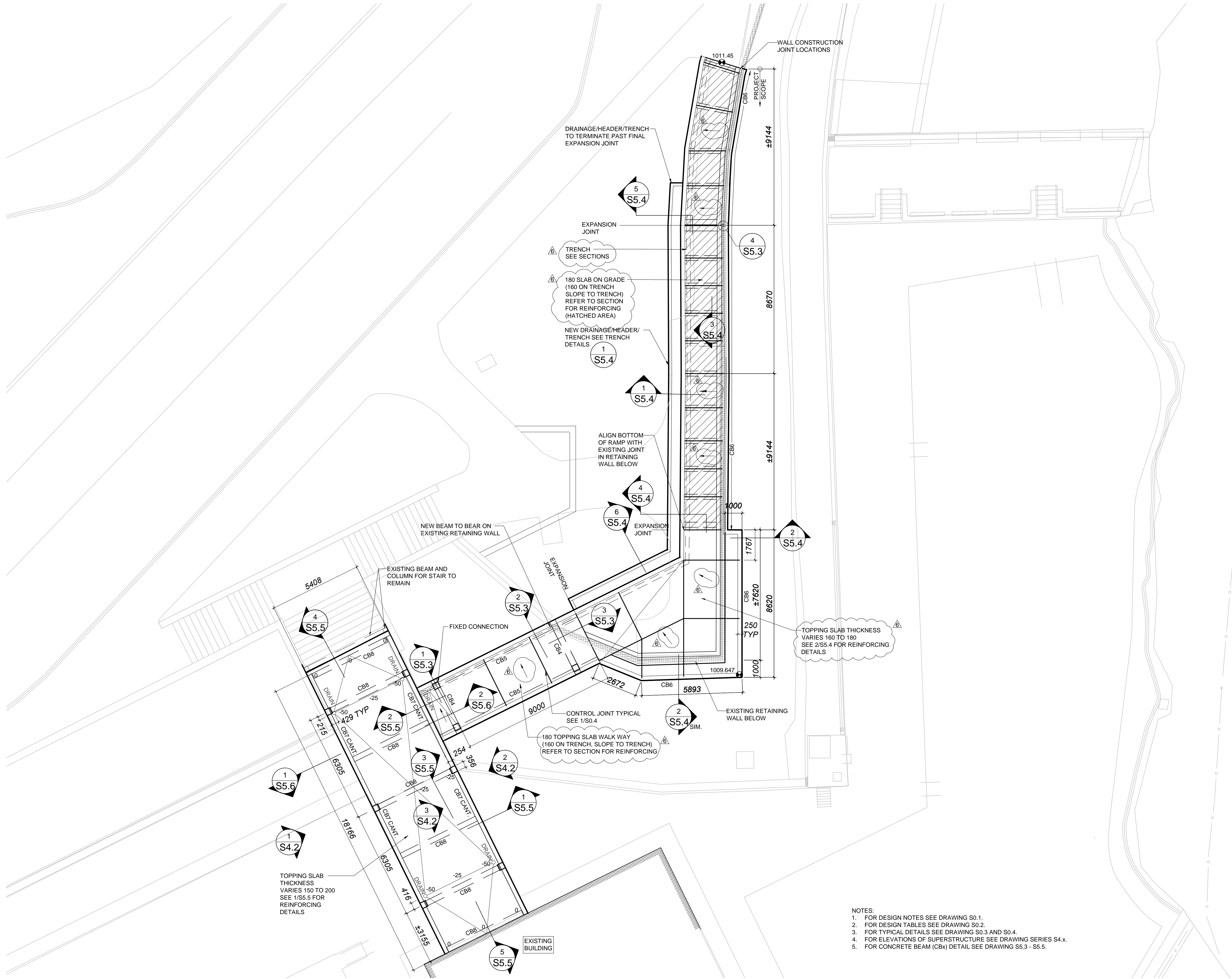
Client / client  
**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title / Titre du projet  
**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK  
TENDER PACKAGE 1**

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Designed by / Concept par  
ML  
Drawn by / Dessiné par  
KL  
PWGSC Project Manager / Administrateur de Projets TPWGC  
MOSES YOUNG  
PWGSC, Regional Manager, Architectural and Engineering Services /  
Gestionnaire régionale, Services d'architecture et de génie, TPWGC

Drawing title / Titre du dessin  
**EAST RAMP AND  
HISTORIC BRIDGE  
SUPERSTRUCTURE PLAN**

Project No. / No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet / Feuille <b>S3.3</b>	Revision no. / La Révision no. <b>6</b>
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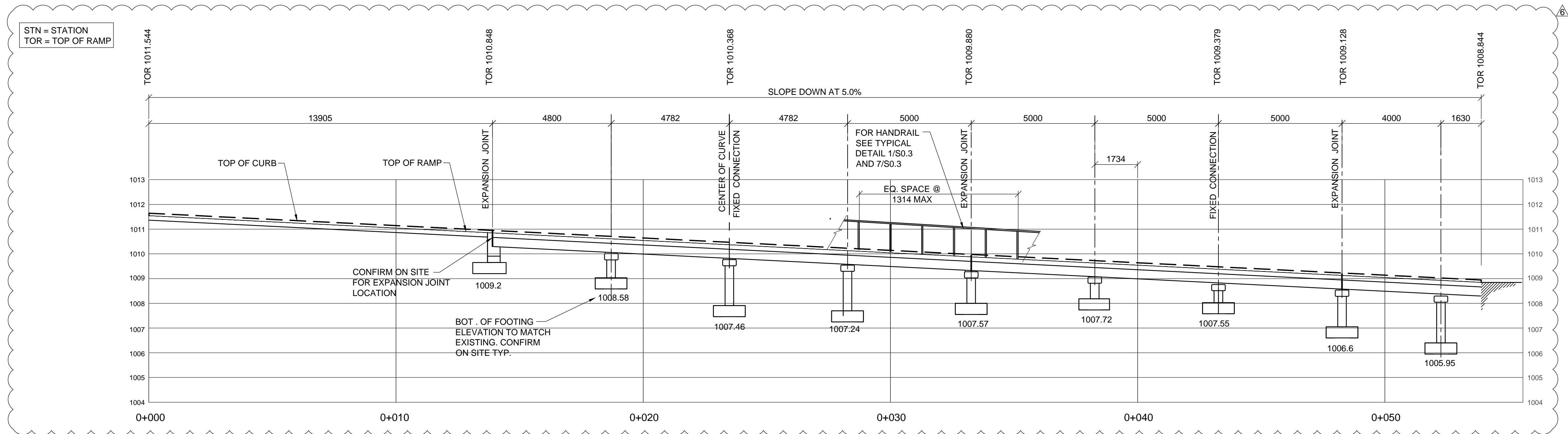
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S3.3 / 1:100  
**EAST RAMP AND HISTORIC BRIDGE SUPERSTRUCTURE PLAN**

- NOTES:
1. FOR DESIGN NOTES SEE DRAWING S0.1.
  2. FOR DESIGN TABLES SEE DRAWING S0.2.
  3. FOR TYPICAL DETAILS SEE DRAWING S0.3 AND S0.4.
  4. FOR ELEVATIONS OF SUPERSTRUCTURE SEE DRAWING SERIES S4.x.
  5. FOR CONCRETE BEAM (CBx) DETAIL SEE DRAWING S5.3 - S5.5.

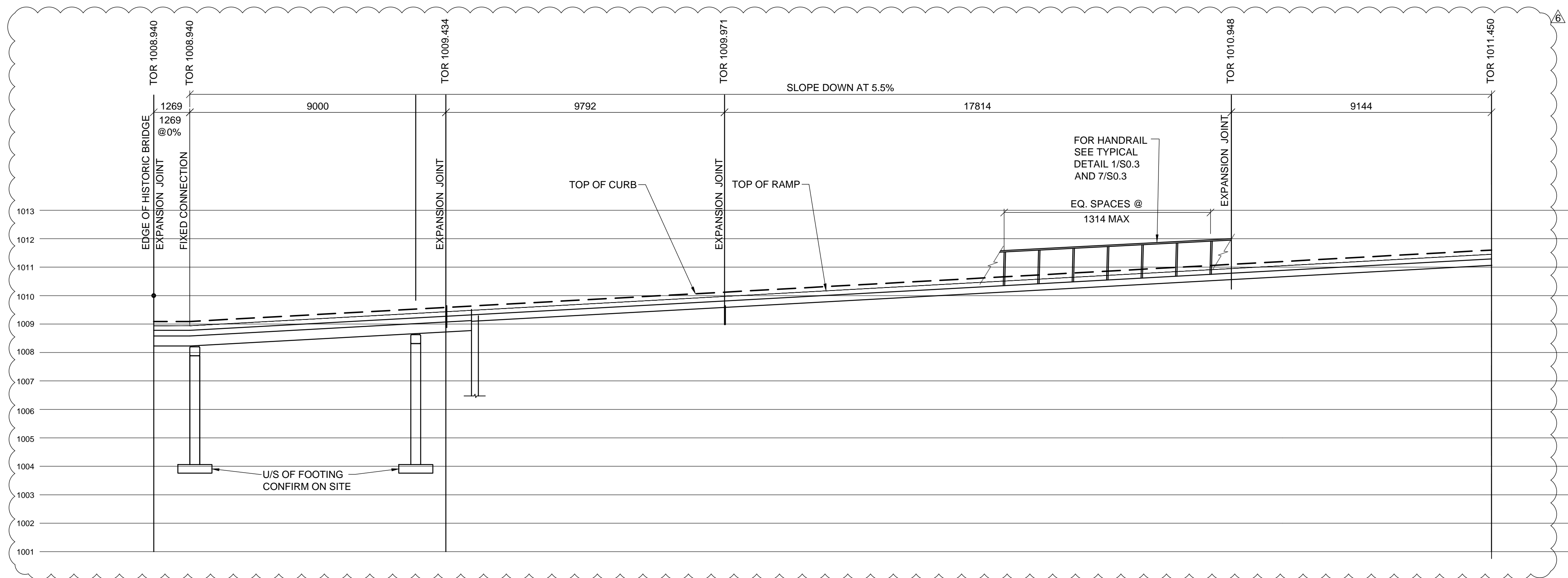




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1 WEST RAMP ELEVATION (AT CENTER OF RAMP)  
S4.1 1:100



2 EAST RAMP ELEVATION (AT CENTER OF RAMP)  
S4.1 1:100



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Revision/ Révision	Description/Description	Date/Date
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Client/client

**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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Designed by/Concept par  
ML

Drawn by/Dessiné par  
KL

PWGSC Project Manager/Administrateur de Projets TPSGC  
MOSES YOUNG

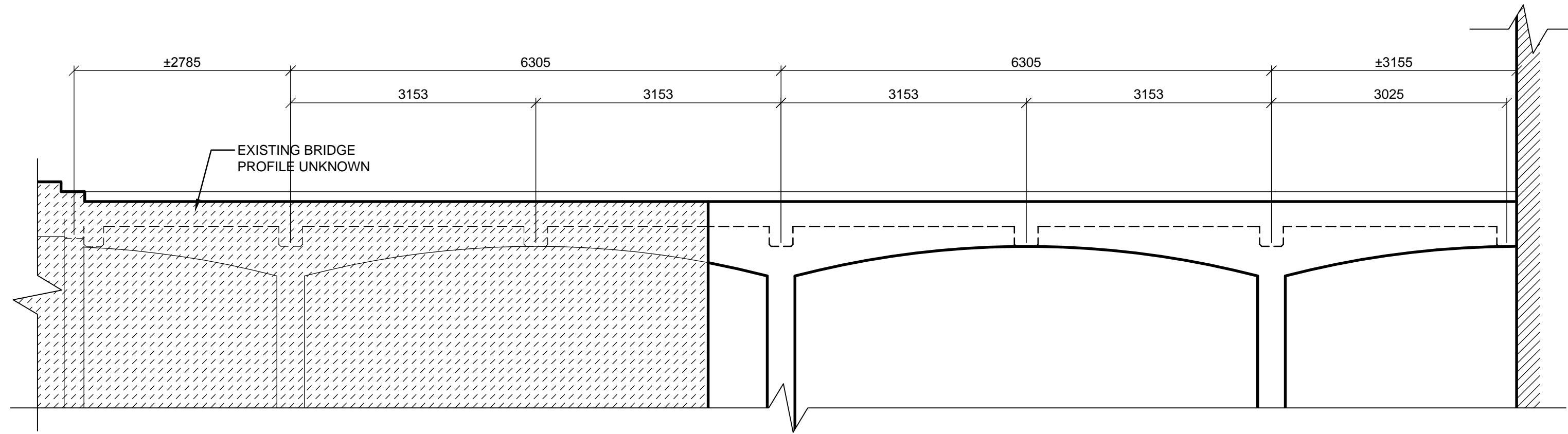
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Drawing title/Titre du dessin

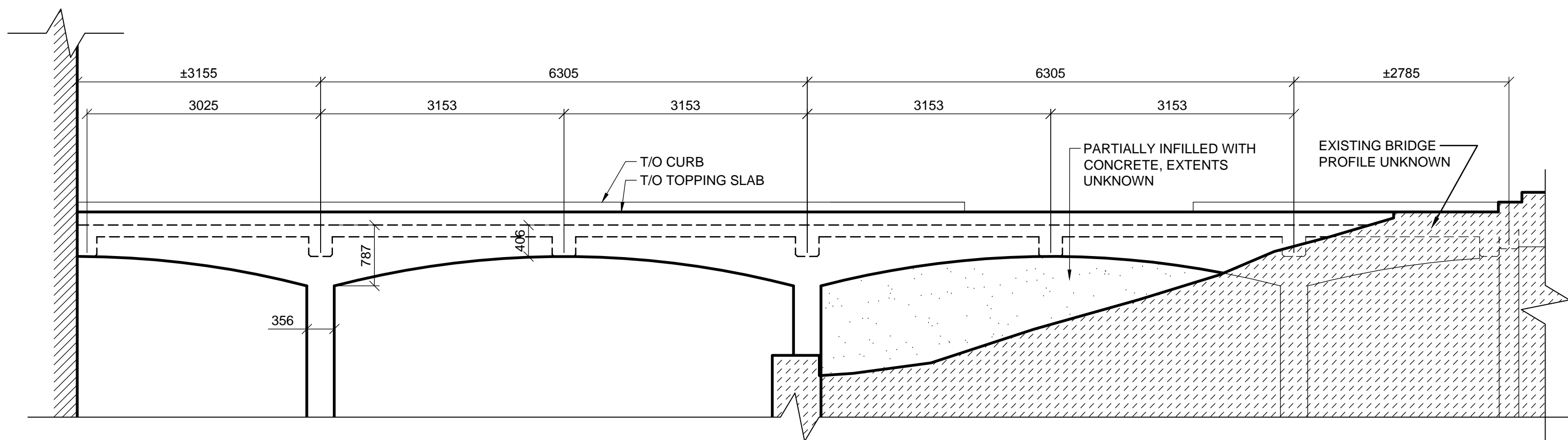
**WEST RAMP AND  
EAST RAMP  
ELEVATIONS**

Project No./No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet/Feuille <b>S4.1</b>	Revision no./ La Révision no. <b>6</b>
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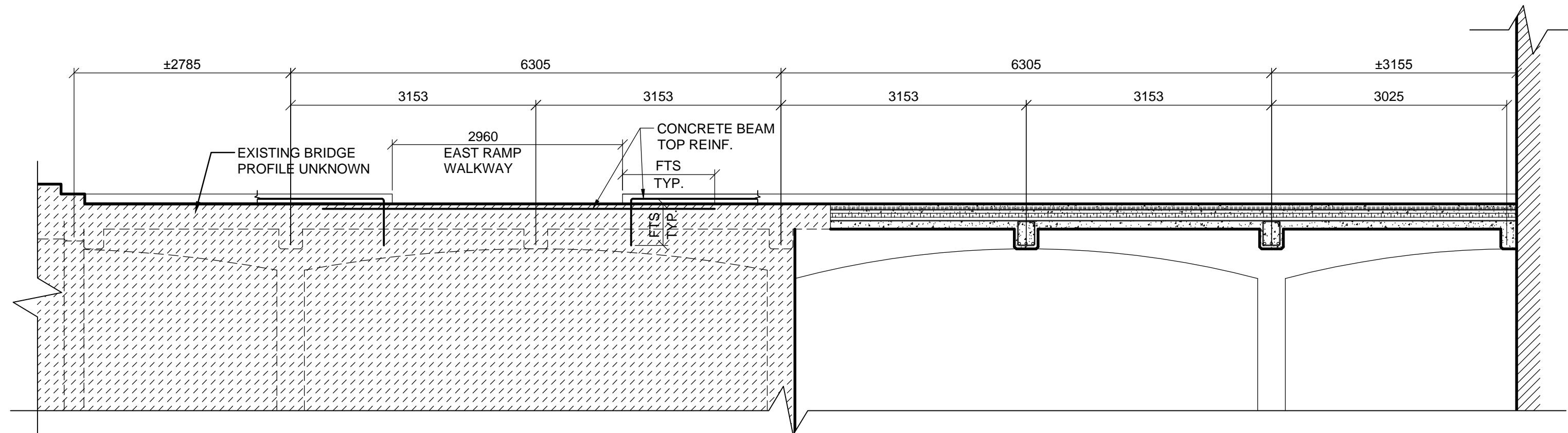




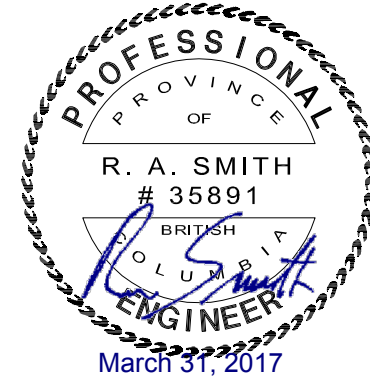
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S4.2  
1:50  
HISTORIC BRIDGE WEST ELEVATION



2  
S4.2  
1:50  
HISTORIC BRIDGE EAST ELEVATION



3  
S4.2  
1:50  
HISTORIC BRIDGE SECTION - LOOKING EAST



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**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
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Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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**MOSES YOUNG**

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Drawing title/Titre du dessin

**HISTORIC BRIDGE  
ELEVATIONS**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>WESTERN PROJECT # R.072512.001</b>	<b>S4.2</b>	<b>6</b>









PROFESSIONAL  
ENGINEER  
OF  
BRITISH COLUMBIA  
R. A. SMITH  
# 35891  
March 31, 2017

Client/client

Project title/Titre du projet

**TENDER PACKAGE 1**

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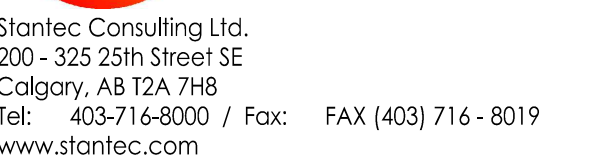
PWGSC, Regional Manager, Architectural and Engineering Services,  
Gestionnaire régionale, Services d'architecture et de génie, TRSCE

Drawing title/Titre du dessin
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## WEST RAMP SECTIONS AND DETAILS (2)

Project No./No. du projet	Sheet/Feuille	Revision no./ Lo Révision no.
<b>WESTERN PROJECT # R-072512.001</b>	<b>S5.2</b>	<b>6</b>





Revision		
Client/client		

Project title/Titre du projet

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Drawn by/Dessine par  
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**MOSES YOUNG**

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Drawing title/Titre du dessin

### FAST RAMP

## EAST RAMP SECTIONS AND DETAILS

## SECTIONS AND DETAILS

Project No./No. du projet	Sheet/Feuille
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— 1 —

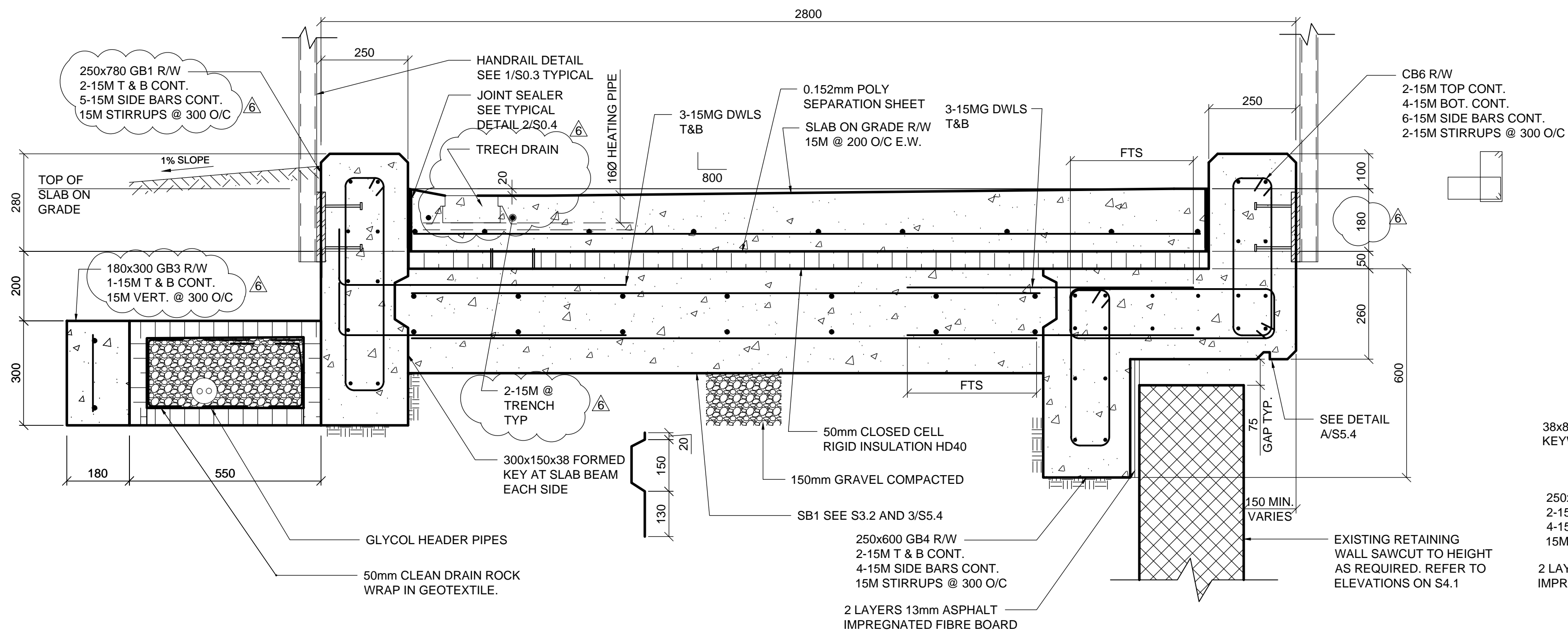
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PROJECT #  
R.072512.001

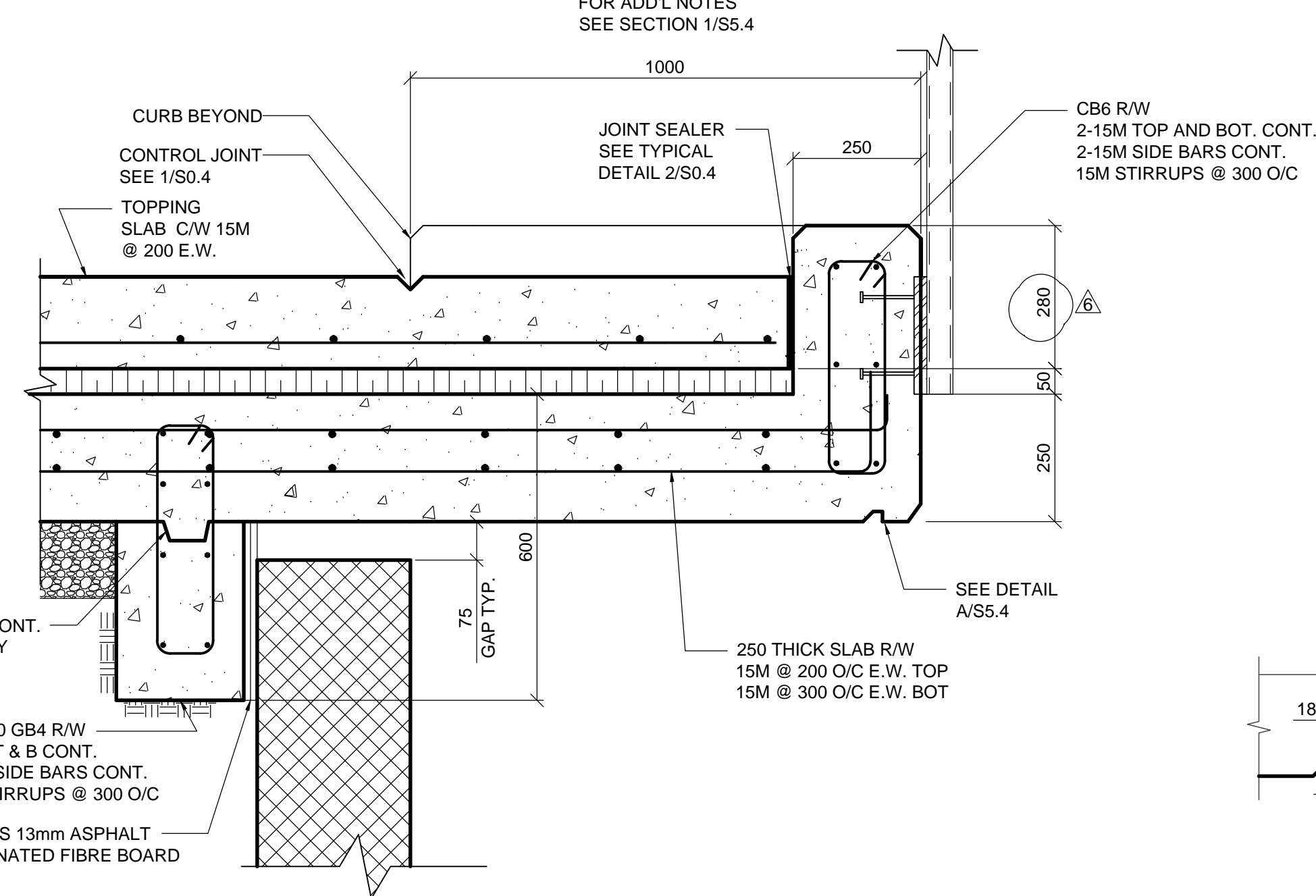
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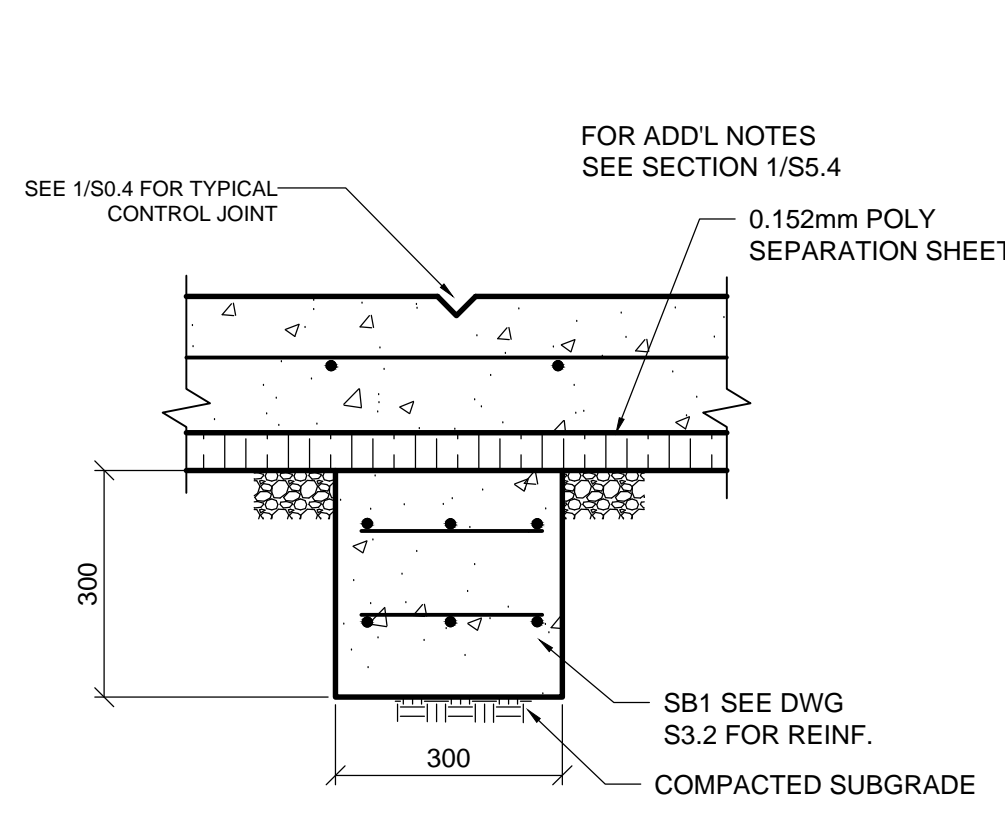


1 EAST RAMP SLAB ON GRADE  
S5.4 1:10

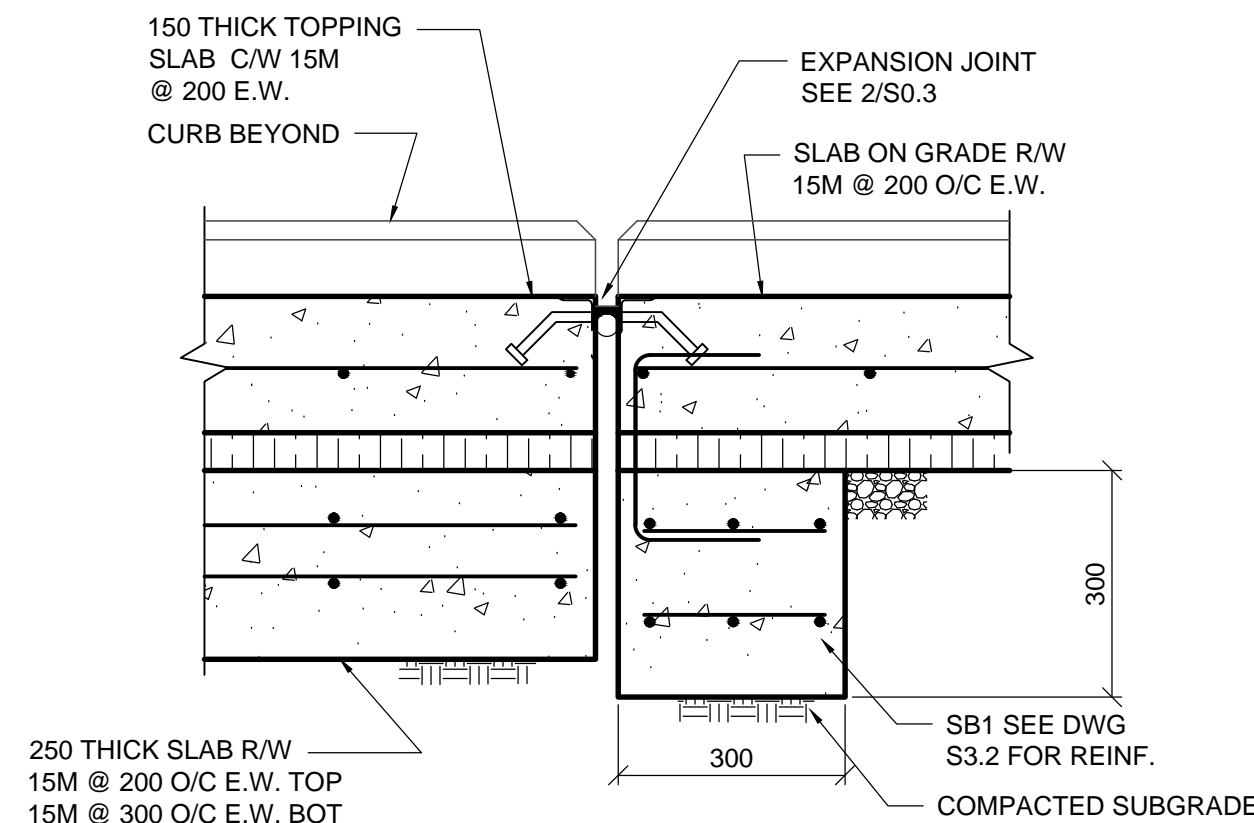


2 EAST RAMP SLAB ON GRADE OVERHANG  
S5.4 1:10

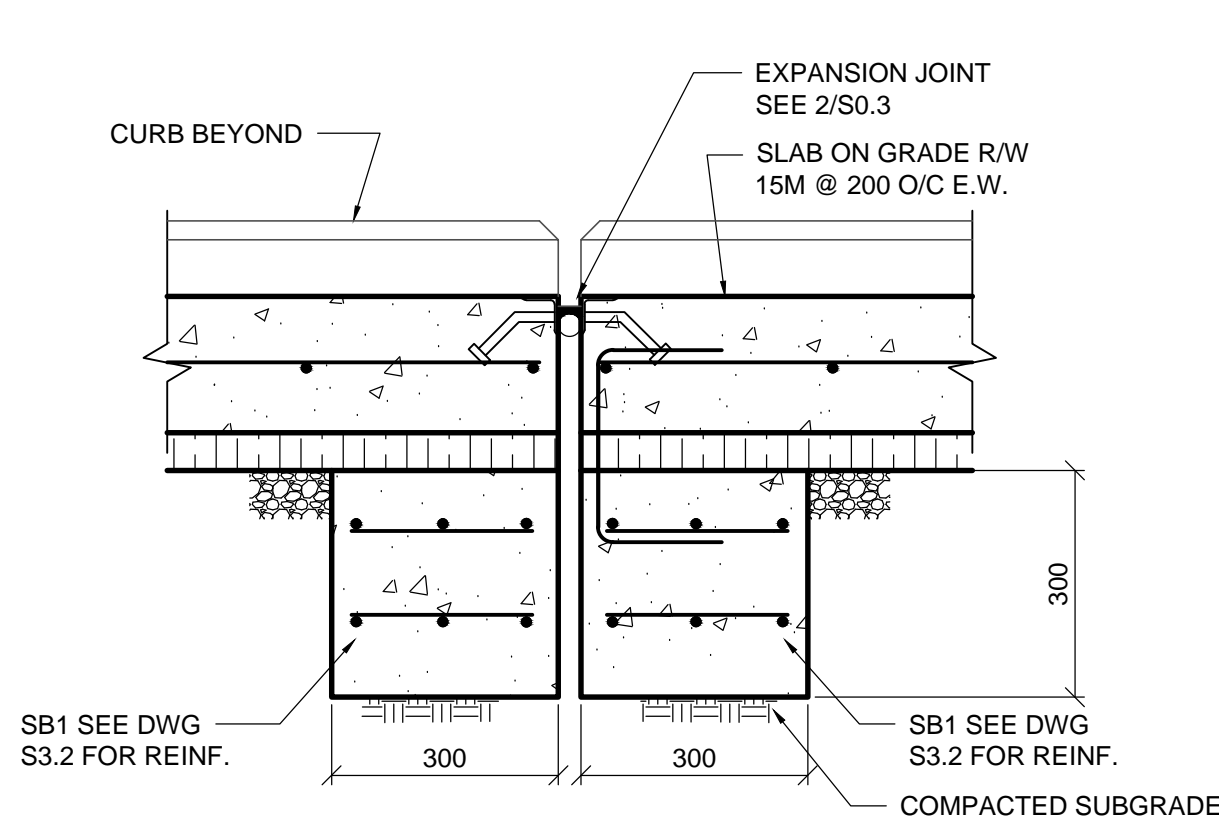
A DRIP GROOVE DETAIL  
S5.4 NTS



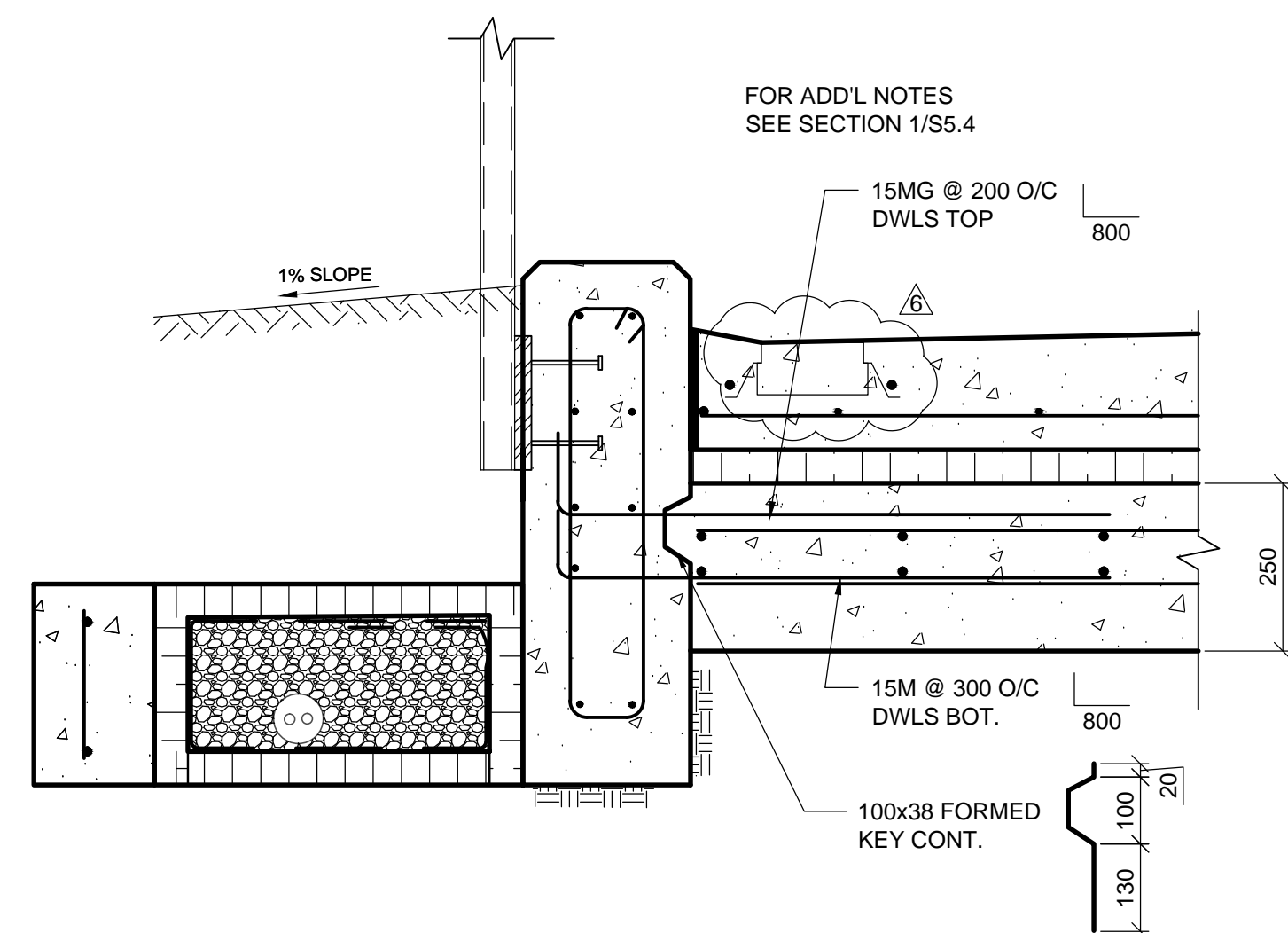
3 SLAB BEAM DETAIL  
S5.4 1:10



4 SECTION  
S5.4 1:10



5 SECTION  
S5.4 1:10



6 SECTION  
S5.4 1:10



6	ISSUED FOR TENDER	17.03.31
5	ISSUED FOR TENDER	17.02.08
4	ISSUED FOR 100% REVIEW	17.01.06
3	99% SUBMISSION	16.11.28
2	99% SUBMISSION	16.11.03
1	60% SUBMISSION (EAST RAMP)	16.08.18
0	60% SUBMISSION (WEST RAMP)	16.09.23
Revision/	Description/Description	Date/Date

Client/client

**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

Consultant Signature Box Only

Designed by/Concept par  
ML

Drawn by/Dessiné par  
KL

PWGSC Project Manager/Administrateur de Projets TPSGC  
**MOSES YOUNG**

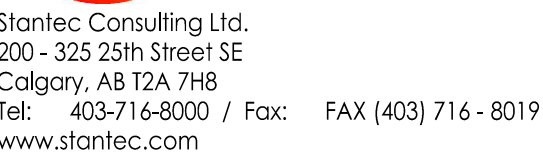
PWGSC, Regional Manager, Architectural and Engineering Services/  
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Drawing title/Titre du dessin

**EAST RAMP  
SECTIONS AND DETAILS (2)**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>WESTERN PROJECT # R.072512.001</b>	<b>S5.4</b>	<b>6</b>





	Client/client
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**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

## TENDER PACKAGE 1

Consultant Signature Box Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC  
MOSES YOUNG

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Drawing title/Titre du dessin

## HISTORIC BRIDGE SECTIONS AND DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>WESTERN PROJECT # R.072512.001</b>	<b>S5.5</b>	<b>6</b>







6	ISSUED FOR TENDER	17.03.31
5	ISSUED FOR TENDER	17.02.08
4	ISSUED FOR 100% REVIEW	17.01.06
3	99% SUBMISSION	16.11.28
2	99% SUBMISSION	16.11.03
1	60% SUBMISSION (EAST RAMP)	16.08.18
0	60% SUBMISSION (WEST RAMP)	16.09.23
Revision/ Revision	Description/Description	Date/Date

Client/client

**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

Consultant Signature Box Only

Designed by/Concept par  
**ML**

Drawn by/Dessiné par  
**KL**

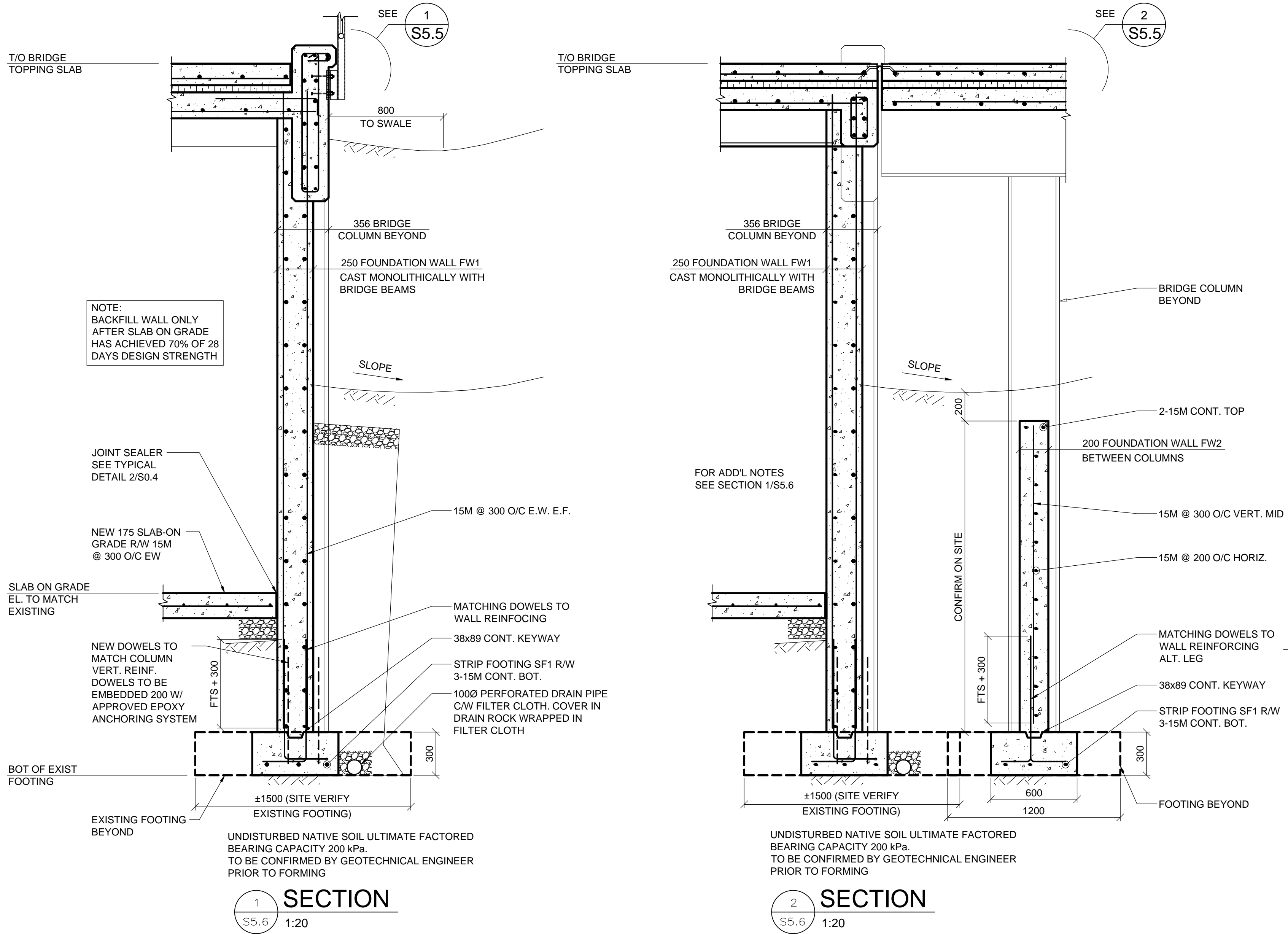
PWGSC Project Manager/Administrateur de Projets TPSGC  
**MOSES YOUNG**

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Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin

**HISTORIC BRIDGE  
SECTIONS AND DETAILS (2)**

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>WESTERN PROJECT # R.072512.001</b>	<b>S5.6</b>	<b>6</b>





POWER PLAN SYMBOLS	
	DUPLEX 5-20R RECEPTACLE C/W INTEGRAL GFCI PROTECTION AND WEATHER PROOF COVER
	DUPLEX 5-15R RECEPTACLE C/W INTEGRAL GFCI PROTECTION AND WEATHER PROOF COVER
	LIGHTING PANELBOARD
	PANEL (TYPE AS INDICATED - SECURITY, LIGHTING RELAY, ETC.)
	NEW JUNCTION BOX (REFER TO JUNCTION BOX SCHEDULE)
	EXISTING JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	CONDUIT STUB
	CONDUIT DOWN
	CONDUIT UP
	CONTINUATION BREAK
	LIGHTING CONTROL AND POWER CONDUIT
	POWER CONDUIT
	DATA OUTLET

LIGHTING PLAN SYMBOLS	
	SURFACE MOUNTED LUMINAIRE
	POLE MOUNTED LUMINAIRE
	WALL MOUNTED LUMINAIRE
	ILLUMINATED HAND RAIL
	NON ILLUMINATED HAND RAIL
	DISCONNECT SWITCH
	TIME CLOCK
	CONTACTOR
	SURFACE MOUNT TWO HEAD FLOOD LIGHT STYLE LUMINAIRE
	LINE VOLTAGE SWITCH (120V)
	PHOTOCCELL EXTERIOR

ABBREVIATIONS	
RP	REPLACE EXISTING DEVICE WITH NEW
EX	EXISTING DEVICE TO REMAIN
RE	REMOVE EXISTING DEVICE
RL	RELOCATE EXISTING DEVICE
ER	EXISTING DEVICE IN RELOCATED POSITION
WP	WEATHERPROOF
GFCI	GROUND FAULT RECEPTACLE
HR	HOME RUN

LIGHTING CONTROL SCHEDULE - REFER TO LIGHTING CONTROL SINGLE LINE 1/E901	
LIGHTING CONTROL ZONE	LOCATION
1	RADIUM SIGN. DRAWING E200
2	POLE LIGHTS NEAR RADIUM SIGN. DRAWING E200.
3	TYPE "C1" ON WEST RAMP. DRAWING E202
4	TYPE "C1" ON WEST RAMP. DRAWING E202.
5*	TYPE "W1" COOL POOL AREA (TP-2, DRAWING E202).
6*	BOLLARD TYPE "Q1" ON PATHWAY, COOL POOL AREA (TP-2, DRAWING E202).
7	TYPE "C1" RAIL LIGHT ON WEST BRIDGE. DRAWING E202.
8**	PICNIC AREA.
9**	PICNIC AREA.
10*	BOLLARD "Q1" ABOVE COOL POOL (TP-2, DRAWING E202).
11*	TYPE "X1" AND "X2" COOL POOL FLOOD LIGHTS. SOUTH SIDE (TP-2, DRAWING E201).
12*	TYPE "Y" OUTSIDE RESTAURANT ON 2ND LEVEL. (TP-2, DRAWING E203).
13*	TYPE "W2A" (TP-2, DRAWING E203).
14*	TYPE "W2" (TP-2, DRAWING E203).
15*	TYPE "W2" MAIN LEVEL CANOPY. (TP-2, DRAWING E202).
16*	TYPE "W2". MAIN LEVEL CANOPY. (TP-2, DRAWING E202).
17*	TYPE "W2" MAIN LEVEL CANOPY. (TP-2, DRAWING E202).
18*	HOT POOL CANOPY. (TP-2, DRAWING E202).
19*	TYPE "X1" AND "X2" COOL POOL FLOOD LIGHTS. NORTH SIDE. (TP-2, DRAWING E201).
20	TYPE "C1" - ENTRANCE TO BUILDING ON EAST BRIDGE. DRAWING E202.
21	TYPE "Q" COOL POOL UNDER BRIDGE LIGHT EAST AND WEST WALKWAY
22*	TYPE "W3". (TP-2, DRAWING E203).
23*	TYPE "W1". COOL POOL AREA (TP-2, DRAWING E202).
24	TYPE "C1" ON EAST RAMP. DRAWING E201.
25	TYPE "C1" ON EAST RAMP. DRAWING E201.
26*	BOLLARDS TYPE "Q" FED FROM JB-12. (TP-2, DRAWING E201).
27	TYPE "B" ON EAST STAIRS. DRAWING E201.
28	TYPE "C1" HANDRAIL LIGHT ON EAST STAIRS. DRAWING E202.
29*	PANEL 96A - CCT #24 POOL LIGHTS
30*	PANEL 96A - CCT #23 POOL LIGHTS
31*	PANEL 96A - CCT #22 POOL LIGHTS
32*	PANEL 96A - CCT #21 POOL LIGHTS
33*	PANEL 96A - CCT #20 POOL LIGHTS
34*	TYPE "X1" & "X2" COOL POOL LIGHTS. SOUTH SIDE (TP-2, DRAWING E-201)
35*	TYPE "X1" & "X2" COOL POOL LIGHTS. NORTH SIDE (TP-2, DRAWING E-201)

\*LIGHTING CONTROL DIMMING PANEL PURCHASED AND INSTALLED IN TP-1 TO HAVE CAPACITY TO ACCOMMODATE LIGHTING CONTROL ZONES IN TP-2 PACKAGE.

\*\*SEPARATE CONTRACT (PICNIC AREA) ZONE.

JB SCHEDULE - INCLUDE KILLARK BREATHER DRAIN ON TOP AND BOTTOM OF ALL JB'S LOCATED OUTDOORS	
JB-1	300mm X 300mm X 200mm LOCATED IN RADIUM ENTRY SIGN. SHOWN ON E200 & 5/E900
JB-2	PEDESTAL JB BY AC DANDY #6A-DPP 914mm HIGH X 355mm WIDE X 279mm LONG COMES WITH PEDESTAL AND 20A GFCI. FACTORY PAINTED BROWN. LOCATED IN WEST RAMP LANDSCAPING. SHOWN ON E200. LIGHTING CONTROL #4 IN THIS BOX
JB-3	600mm X 600mm X 250mm. LOCATED ON CEMENT WALL UNDER WEST RAMP. SHOWN ON E200. REQUIRES KILLARK BREATHER DRAIN MOUNTED IN BOTTOM. LIGHTING CONTROL #3 IN THIS BOX
JB-4	600mm X 600mm X 250mm. LOCATED UNDER WALKWAY. SHOWN ON E200 AND 3/E900. REQUIRES KILLARK BREATHER DRAIN MOUNTED IN BOTTOM.
JB-5	498mm X 447mm X 224mm. LOCATED UNDER WALKWAY. FOR MOUNTING PICNIC AREA DRIVERS. SHOWN ON E200 AND 3/E900. INSTALLATION OF THIS JB IN SEPARATE CONTRACT.
JB-6	600mm X 600mm X 250mm. LOCATED ON CEILING OF ROOM B-14 WORKSHOP. DRAWING E200 AND E204.
JB-7	50mm X 50mm X 25mm LOCATED ON PLYWOOD ABOVE OUTDOOR LIGHTING PANEL IN BASEMENT CORRIDOR. DRAWING E204 AND 4/E900.
JB-8	600mm X 600mm X 250mm. LOCATED ON CEILING OF ROOM B-09 STORAGE. SHOWN ON DRAWING E201 AND E204.
JB-9	300mm X 300mm PVC JB LOCATED ON CONCRETE WALL IN COOL POOL AREA. SHOWN ON DRAWING E201. REQUIRES KILLARK BREATHER DRAIN.
JB-10	PEDESTAL JB BY AC DANDY. 914mm HIGH X 355mm WIDE X 279mm. LONG COMES WITH PEDESTAL AND 20A GFCI. FACTORY PAINTED BROWN. LOCATED IN EAST RAMP LANDSCAPING. SHOWN ON DRAWING E201. LIGHTING CONTROL #1 IN THIS JB
JB-11	PEDESTAL JB BY AC DANDY. 914mm HIGH X 355mm WIDE X 279mm. LONG COMES WITH PEDESTAL AND 20A GFCI. FACTORY PAINTED BROWN. LOCATED UNDER BRIDGE IN EAST RAMP. SHOWN ON DRAWING E201. LIGHTING CONTROL #2 IN THIS JB.
JB-12	PEDESTAL JB BY AC DANDY. 914mm HIGH X 355mm WIDE X 279mm. LONG COMES WITH PEDESTAL AND 20A GFCI. FACTORY PAINTED BROWN. LOCATED IN EAST RAMP LANDSCAPING. SHOWN ON DRAWING E201.
JB-13	PEDESTAL JB BY AC DANDY. 914mm HIGH X 355mm WIDE X 279mm. LONG COMES WITH PEDESTAL AND 20A GFCI. FACTORY PAINTED BROWN. LOCATED IN EAST RAMP LANDSCAPING. SHOWN ON DRAWING E201.
JB-14	EXISTING JUNCTION BOX CONTAINS PICNIC AREA DRIVERS.
JB-15	HEAT TRACE JB FOR THE WEST RAMP. MOUNTED ON WALL UNDER RAMP. SHOWN ON E200.
JB-16	HEAT TRACE JB FOR EAST RAMP. MOUNTED ON WALL UNDER BRIDGE . SHOWN ON E201.
JB-17	JB TO BE MOUNTED HIGH ON WALL UNDER WALKWAY. USE SAME TYPE AS JB-5. SHOWN ON E200, E201
JB-18	304mm X 304mm X 150mm INDOOR RATED STEEL JB LOCATED IN ROOM 102. SHOWN ON E203.

NOTES:

1. ALL JB SIZES ARE MINIMUM ACCEPTABLE SIZE. CONTRACTOR SHALL REVIEW AGAINST ALL EQUIPMENT.
2. ALL JUNCTION BOXES AND WIRING FROM LIGHTING PANEL TO THE JUNCTION BOXES SHALL BE SUPPLIED AND INSTALLED IN TENDER PACKAGE #1.
3. SEE NOTE 3 ON E901 FOR EXTENT OF WIRING TO BE PULLED TO JUNCTION BOXES.

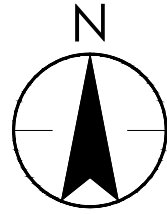
LUMINAIRE SCHEDULE			
SERIES	QTY	REMARKS	CATALOGUE DETAILS
(B)	1	BETA CALCO BIVIO. MOUNTED ON STONE WALL, 26W LED, 120V, 66" FLOOD DOWN	830-8130-30-BL-DB
(C1)	NOTES 5 & 6	HAND RAIL WITH INTEGRAL LUMINAIRE, 4.6WATTS/FT. 24V, STAINLESS STEEL SATIN FINISH FIXTURE. LIGHT AND REMOTE 96W, 120V INPUT/24V OUTPUT DIMMABLE DRIVER SHALL BE RATED FOR -20°C OR LOWER. HAND RAIL TO BE MOUNTED TO NEW GUARDRAIL. REFER TO STRUCTURAL DRAWING SO.3 FOR MOUNTING DETAILS.	LEVITON INTENSE IVR15-C-HO-30K-30AS CONFIRM MOUNTING HEIGHT PER STRUCTURAL DRAWING SO.3 DRIVER-IB-0796-DIM
(C2)	NOTE 7	HAND RAIL WITH INTEGRAL LUMINAIRE, 4.6WATTS/FT. 24V, STAINLESS STEEL SATIN FINISH FIXTURE. LIGHT AND REMOTE 96W, 120V INPUT/24V OUTPUT DIMMABLE DRIVER SHALL BE RATED FOR -20°C OR LOWER. HAND RAIL TO BE MOUNTED ON THE EXISTING WALLS ALONG STAIRS. LENGTH BY CONTRACTOR.	LEVITON INTENSE IVR15-C-W-HO-30K-30AS DRIVER-IB-0796-DIM
(G)	1	McGRAW-EDISON TT TOP TIER, 28WATTS 120V, LED MOUNTED TO THE UNDERSIDE OF THE EAST BRIDGE.	TT-C1-LED-E1-MQ-BK
(P1)	1	POLE MOUNTED AREA LUMINAIRE C/W BACKLIGHT SHIELD, 25WATTS, 120V, CORROSION RESISTANT FINISH. FIXTURE SHALL BE RATED FOR -20°C OR LOWER. POLE: 4m HIGH STEEL POLE WITH BACK POWDER COATING.	EDGE SERIES LED ARE-EDG-3MB-DA-02-E-UL-350mA-DIM-4000K
(P2)	2	POLE MOUNTED AREA LUMINAIRE C/W BACKLIGHT SHIELD, 25WATTS, 120V, CORROSION RESISTANT FINISH. FIXTURE SHALL BE RATED FOR -20°C OR LOWER. POLE: 4m HIGH STEEL POLE WITH BACK POWDER COATING.	EDGE SERIES LED ARE-EDG-2MB-DA-02-E-UL-350mA-DIM-4000K
(S)		SIGN, WET RATED LOW PROFILE 24V LED LUMINAIRE, 9.6WATTS/M WITH 96W REMOTE DIMMING DRIVER RATED TO -20°C. LUMINAIRES SHALL BE SUPPLIED WITH ALL MOUNTING ACCESSORIES, END CAPS AND CUSTOM LENGTH LEAD CABLES AND JUMPER CABLES BETWEEN SECTIONS. LENGTH AND MOUNTING DETAILS TO BE CONFIRMED PER LANDSCAPE DRAWING L100.	SENSO LIGHTING-OUTLASS 455-915-500-580-551-060-70

LUMINAIRE SCHEDULE NOTES:

1. THE LUMINAIRE SCHEDULE IS INTENDED TO BE A PERFORMANCE SPECIFICATION.
2. ALL DRIVERS TO BE COMPATIBLE WITH THE LIGHTING CONTROL SYSTEM. REFER TO SPECIFICATION SECTIONS 26.50.10 TO 26.50.13 FOR LIGHTING CONTROL SPECIFICATION.
3. ALL LUMINAIRES SHALL BE RATED FOR -20°C OR LOWER, CSA OR CUL APPROVED.
4. ALL LUMINAIRES LISTED ARE MINIMUM ACCEPTABLE STANDARDS. ALL MANUFACTURES MEETING OR EXCEEDING THE SPECIFICATIONS FOR MINIMUM ACCEPTABLE STANDARDS ARE ALLOWED TO BID ON THIS PROJECT. AT THE SHOP DRAWING STAGE, THE DETAILS MUST BE SUBMITTED TO PROVE THAT THE PROPOSED LUMINAIRE MEETS OR EXCEEDS THE DATA SPECIFIED FOR THE MINIMUM ACCEPTABLE STANDARDS. THE CONTRACTOR SHALL PROVIDE PHOTOMETRIC ANALYSIS TO ENSURE ALL MINIMUM REQUIREMENTS ARE MET IN ADVANCE OF TENDER CLOSE.
5. STRUCTURAL DRAWINGS SHOW RAILING INSTALLED BY OR UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR, RAIL INSTALLER TO CONFIRM SITE MEASUREMENTS. ELECTRICAL CONTRACTOR TO CO-ORDINATE WITH RAIL SUPPLIER AND INSTALLER FOR FINAL FEEDS TO RAILS AND NUMBER OF DRIVERS.
6. REFER TO DRAWINGS E200 & E201 FOR NON ILLUMINATED PORTION OF THE HAND RAIL.. NON ILLUMINATED PORTION OF HAND RAIL SHALL BE PROCURED FROM THE SAME MANUFACTURER AS OF TYPE "C1".
7. HANDRAIL MOUNTING DETAILS ON WALLS TO BE APPROVED BY STRUCTURAL ENGINEER.

DRAWING NUMBER	TITLE
E001	SYMBOL LEGEND, GENERAL NOTES, SCHEDULES AND DRAWING LIST
E100	DEMOLITION PLAN- WEST RAMP
E102	BASEMENT LEVEL- EXISTING PANEL LOCATIONS
E200	WEST RAMP- NEW LIGHTING, CONDUIT AND JUNCTION BOXES
E201	EAST RAMP- NEW LIGHTING, CONDUIT AND JUNCTION BOXES
E202	SECOND LEVEL LIGHTING- EAST AND WEST BRIDGES
E203	MAIN FLOOR PLAN- JUNCTION BOXES AND CONDUITS
E204	BASEMENT- NEW ELECTRICAL JUNCTION BOXES, CONDUITS AND PANEL
E900	DETAILS
E901	LIGHTING CONTROL AND SINGLE LINE DIAGRAM

ELECTRICAL CONTRACTOR TO OBTAIN FULL DRAWING PACKAGE AND RETAIN THIS ON SITE FOR COORDINATION PURPOSES.



Stantec Consulting Ltd.  
200 - 325 25th Street SE  
Calgary, AB T2A 7H8  
Tel: 403-716-8000 / Fax: 403-716-8019  
www.stantec.com

PANEL : OUTDOOR LIGHTING									
Mounting : Surface		VOLTAGE	120/208	V	BUS RAT. :		225		
Panel Loc: BASEMENT CORRIDOR		PHASES	3		MAIN BRKR: (70A 3 POLE BREAKER IN CDP-2)				
		WIRE CIRCUITS	4		INTERRUPT.				
			42		CAPACITY :		10		
CCT		LOAD		KVA	BRK SIZE	P H	BRK SIZE	KVA	CCT
No	Type	Description							No
1	REC.	RADIUM SIGN GFCI RECEPTACLE		0.20	20A	A	15A	0.70	2
		JB# 14 (TYPE "W3" ON SECOND LEVEL OUTSIDE GIFT SHOP) (ZONE 22)							*
3	LTG.	RADIUM SIGN LIGHTING (ZONE 1)		0.12	15A	B	15A	0.80	4
		JB# 14 (TYPE "W2" AND "W2A" ON SECOND LEVEL SOFFIT ABOVE COOL AND HOT POOLS) (ZONE 13 AND 14)							*
5	LTG.	TYPE "P" POLE LIGHTING (ZONE 2)		0.08	15A	C	15A	0.27	6
		TYPE "Y", RECESSED LED. (ZONE 12)							
7	LTG.	WEST RAMP TYPE "C1", RAIL LIGHTS, (ZONE 3 & ZONE 4)		1.00	15A	A	15A	0.54	8
		JB# 18 (TYPE "W2", ALL LIGHTS ON MAIN LEVEL) (ZONE 17)							*
9	REC.	WEST RAMP JB-2 GFCI RECEPTACLE		0.20	20A	B	15A	0.03	10
		JB#8 (TYPE "Q" UNDER EAST OVERPASS, (ZONE 21)							*
11	LTG.	JB# 5 (TYPE "C1", WEST BRIDGE) (ZONE 7)		0.40	20A	C	15A		12
		CONTROL FOR SINCLAIR LIGHTS							**
13	LTG.	JB# 14 (TYPE "W" PICNIC AREA LIGHTS.) (ZONE 8)		0.41	20A	A	15A	0.34	14
		JB#17 (TYPE "W1" AROUND COOL POOL (ZONE 5)							*
15	LTG.	JB# 14 (TYPE "W" PICNIC AREA LIGHTS.) (ZONE 9)		0.65	20A	B	15A	0.12	16
		JB#18 (TYPE "Z", HOT POOL CANOPY ,(ZONE 18)							*
* 17	LTG.	JB# 9 (TYPE "W1" AROUND COOL POOL. (ZONE 23)		0.34	15A	C	20A	0.45	18
		JB#9 (TYPE "X1" AND "X2", LED FLOODS, NORTH SIDE OF COOL POOL) (ZONE 19)							*
* 19	LTG.	JB# 17 (TYPE "Q1" BOLLARDS) (ZONE 6)		0.09	15A	A	20A	0.45	20
		JB# 18 IN ROOM 102. (TYPE "X1" AND "X2", LED FLOODS, SOUTH SIDE OF COOL POOL) (ZONE 11)							*
* 21		SPARE			20A	B	15A	1.00	22
		JB#18 (TYPE "W2", MAIN LEVEL COOL POOL AREA, (ZONE 15, 16)							*
23	REC.	JB#10 GFCI RECEPTACLE		0.20	20A	C	15A	0.09	24
		JB# 10, TYPE "Q1" BOLLARDS, (ZONE 10)							*
* 25	LTG.	TYPE "Q" (ZONE 26)		0.36	15A	A	20A	0.30	26
		JB#8 (TYPE "C1" EAST BRIDGE) (ZONE 20)							
27	REC.	JB#13 GFCI RECEPTACLE		0.20	20A	B	20A		28
		SPARE							
29	REC.	JB#12 GFCI RECEPTACLE		0.20	20A	C	20A	0.42	30
		JB#10 (TYPE "C1" ,HANDRAIL LIGHTS ON STAIRS) (ZONE 28)							
31	REC.	JB#11 GFCI RECEPTACLE		0.20	20A	A	15A	0.20	32
		DIMMING PANEL							
33		SPARE			20A	B	20A	0.45	34
		JB#9 (TYPE "X1" AND "X2", LED FLOODS, NORTH SIDE OF COOL POOL) (ZONE 34)							*
35	LTG.	JB#11 ( TYPE "C1" EAST RAMP) (ZONE 24,25)		1.00	20A	C	20A	0.45	36
		JB# 18 IN ROOM 102. (TYPE "X1" AND "X2", LED FLOODS, SOUTH SIDE OF COOL POOL) (ZONE 35)							*
37		SPARE			20A	A			38
39	LTG.	JB#13 STAIR LIGHTING (ZONE 27)		0.03	20A	B			40
41					C				42

CONNECTED LOAD		LOAD TYPE		DIVERSITY FACTOR		DEMAND	
Phase A:	4.8	KVA	LIGHTING	10.88	KVA	1.0	10.9
Phase B:	3.6	KVA	RECEPTS	1.20	KVA	1.0	1.2
Phase C:	3.9	KVA	MOTORS		KVA	1.0	
TOTAL:	12.3	KVA	HEATERS		KVA	1.0	
Summer Load:	12.3	KVA	OTHERS	0.20	KVA	1.0	0.2
Winter Load:	12.3	KVA					
MAXIMUM:	12.3	KVA	TOTAL	12.3	KVA	5.0	12.3
NOTE:						Summer	
						Winter	
						TOTAL DEMAND:	
						12.3	
						12.3	
						12.3	

- 1) THIS OUTDOOR LIGHTING PANEL SHALL BE SUPPLIED AND INSTALLED IN TENDER PACKAGE #1.  
THE CONTRACTOR FOR TENDER PACKAGE #1 SHALL BE RESPONSIBLE FOR ALL CONDUITS AND WIRING FOR POWER AND CONTROL FROM PANEL "OUTDOOR LIGHTING" TO THE FIELD INSTALLED JUNCTION BOXES.
- 2) DIMMING PANEL IS SUPPLIED, INSTALLED AND PROGRAMMED IN TENDER PACKAGE #1. REFER TO DRAWING E901 FOR DIMMING CONTROL SCHEMATIC.
- 3) \* - INDICATES CIRCUITS TO BE USED FOR LUMINAIRES IN TENDER PACKAGE #2.
- 4) \*\* LOCATE EXISTING 120V POWER TO SINCLAIR CANYON SITE AND ROUTE TO NEW PANEL.

## PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project Title/Titre du projet

## RADIUM HOT SPRINGS LIGHTING UPGRADES AND SITE REHABILITATION KOOTENAY NATIONAL PARK

### TENDER PACKAGE 1

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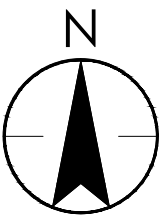
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Drawing Title/Titre du dessin

## SYMBOL LEGEND, GENERAL NOTES, SCHEDULES AND DRAWING LIST





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**RADIUM HOT SPRINGS  
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KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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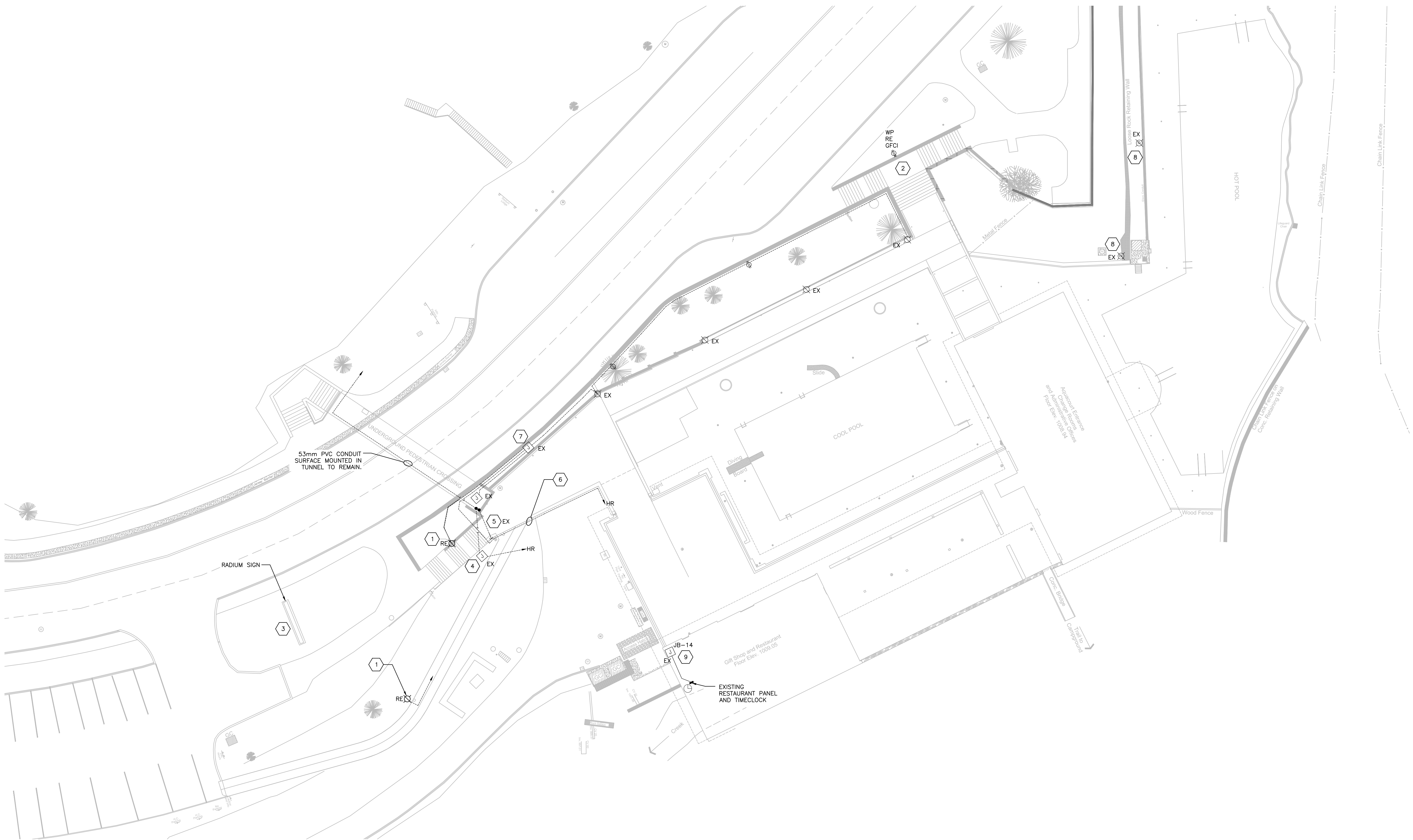
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**DEMOLITION PLAN - WEST RAMP**

Project No./No. du projet  
**WESTERN  
PROJECT #  
R.072512.001**

Sheet/Feuille  
**E100**

Revision no./  
La Révision  
no.  
**6**



1 DEMOLITION PLAN — WEST RAMP  
E100 1:250

**LIGHTING DEMOLITION NOTES:**

- THESE DEMOLITION DRAWINGS ARE INTENDED TO ASSIST THE ELECTRICAL CONTRACTOR IN ESTABLISHING AREAS REQUIRING DISCONNECTION, REMOVAL, OR RELOCATION OF ELECTRICAL EQUIPMENT, OUTLETS, WIRING, DEVICES, FIXTURES, ETC. AND DO NOT INDICATE ALL OUTLETS, EXACT QUANTITIES OR EXTENT OF DEMOLITION AND RECONNECTION WHICH MAY BE REQUIRED. THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOBSITE AND THOROUGHLY EXAMINE ALL REQUIRED DEMOLITION WORK AND INCLUDE ALL LABOR AND INCIDENTALS WHICH MAY BE NECESSARY TO PERFORM DEMOLITION RECONNECTION AND TEMPORARY POWER CONNECTIONS IN THE BID.
- COORDINATE THE ELECTRICAL DEMOLITION WORK WITH THE GENERAL CONTRACTOR AND ALL OTHER TRADES AT THE JOBSITE. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARLY IDENTIFYING ALL CONDUITS, WIRING AND EQUIPMENT WHICH MUST BE MAINTAINED TO PREVENT DAMAGE TO ELECTRICAL CIRCUITS AND EQUIPMENT BY THE DEMOLITION WORK OF OTHER TRADES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR REPAIR OR REPLACEMENT OF ELECTRICAL CIRCUITS AND/OR EQUIPMENT DAMAGED BY THE DEMOLITION WORK OF OTHERS RESULTING FROM THE FAILURE OF THE ELECTRICAL CONTRACTOR TO CLEARLY IDENTIFY SAID CIRCUITS OR EQUIPMENT.
- THE ELECTRICAL CONTRACTOR SHALL REMOVE FROM THE PREMISES AND DISPOSE OF ALL DEMOLISHED ELECTRICAL EQUIPMENT, LUMINAIRES, LAMP, BALLASTS, TRANSFORMERS, PANELBOARDS, ETC. VERIFY LOCAL AGENCY REQUIREMENTS PRIOR TO BIDDING.
- THE ELECTRICAL CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEMOLITION PLAN LIGHTING INCLUDING CABLES, CONDUIT, WIRE, BOXES, FITTINGS, AND HANGING MATERIALS FOR ELECTRICAL EQUIPMENT. REMOVAL SHALL CONTINUE THROUGHOUT CONSTRUCTION AS EQUIPMENT AND CIRCUITS ARE DISCONNECTED. REMOVE ALL WIRES TO PANEL AND MAKE THEM SAFE.
- ELECTRICAL CONTRACTOR TO VISIT THE SITE DURING BIDDING PROCESS, INSPECT AREAS BEING RENOVATED OR DEMOLISHED AND ACQUAINT THEMSELVES FULLY WITH THE EXISTING EQUIPMENT. DISCREPANCIES TO BE REPORTED TO THE ENGINEER 7 DAYS PRIOR TO SUBMISSION OF BID FOR INCLUSION IN ADDENDA IF REQUIRED. IN THE ABSENCE OF NOTIFICATION, IT WILL BE ASSUMED THAT THE CONTRACTOR HAS INCLUDED THE MORE EXPENSIVE ALTERNATIVE IN THE TENDERED PRICE.
- EXISTING EXTERIOR WIRING SHALL BE ABANDONED BELOW ORIGINAL GRADE WITH SURFACE REHABILITATION COMPLETED TO EXISTING CONDITIONS OR BETTER. INTERIOR WIRING & RACEWAYS SHALL BE REMOVED AND DISPOSED OF FROM BUILDING WALL TO SOURCE. REHABILITATE AND SEAL ALL PENETRATIONS WHERE NO LONGER IN USE.

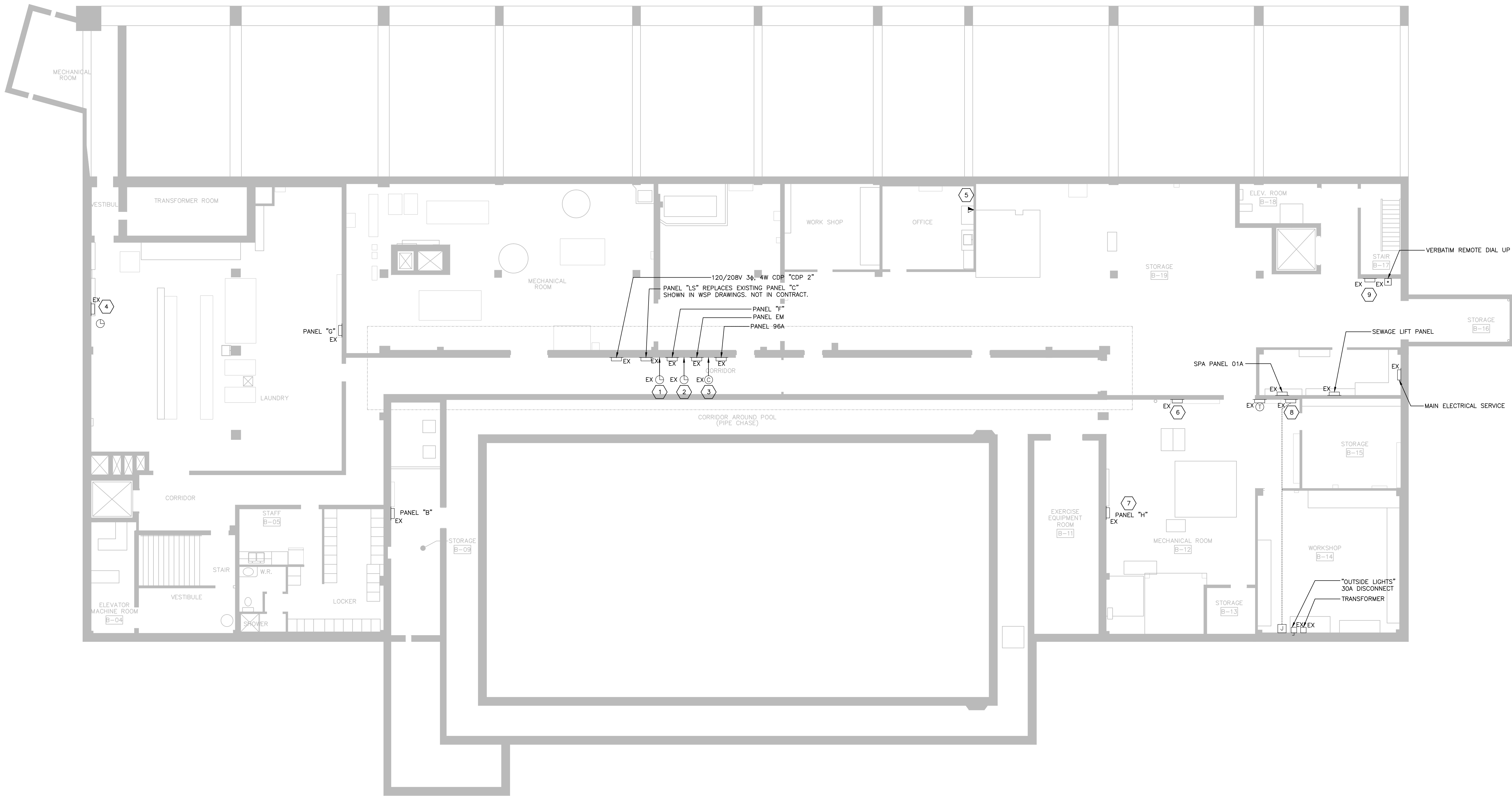
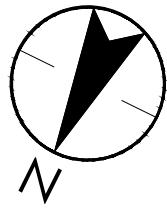
**KEY NOTES**

- REMOVE EXISTING POLE AND LIGHT. ABANDON EXISTING WIRING BELOW GRADE.
- REMOVE EXISTING SURFACE MOUNTED LIGHT FIXTURE AND GFCI ON NORTH SIDE OF WALL. GENERAL CONTRACTOR TO PATCH JB. FED FROM LAUNDRY ROOM UNNAMED PANEL. E102 KEYNOTE 6
- REMOVE EXISTING 4 LIGHTS FROM AROUND SIGN.
- EXISTING 304mm X 304mm X 101mm JB CONNECTS TO 53mm CONDUIT IN TUNNEL. JB AND FEED TO REMAIN.
- EXISTING 53mm TUNNEL CONDUIT AND 53mm SPARE TO UNDER WALKWAY TO REMAIN. TUNNEL TO REMAIN LIT THROUGHOUT DEMO AND NEW CONSTRUCTION.
- EXISTING TECK CABLE FEEDS TO TUNNEL LIGHTS AND DUAL HEAD POLE LIGHTS. FED FROM ROOM. 8-12 UNNAMED PANEL. E102 KEYNOTE 10. FEED TO TUNNEL LIGHTS TO REMAIN. FEED TO DUAL HEAD POLE LIGHTS TO BE REMAIN.
- EXISTING CONDUIT STUBUP ON CAP OF RETAINING WALL. 3 TECK CABLES CONNECTED HERE. ONE CABLE IS A FEED TO THE TUNNEL LIGHTS. ONE CABLE FEEDS THE DUAL HEAD POLE LIGHTS.
- EXISTING HOT POOL POLE MOUNTED FLOODLIGHTS ARE TO REMAIN FED FROM PANEL EM C#7# 1+3.
- EXISTING JUNCTION BOX JB-14 CONTAINS DRIVERS FOR PICNIC AREA LIGHTS. SEE E202 KEYNOTE 5.





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1 BASEMENT LEVEL — EXISTING PANEL LOCATIONS  
E102 1:100



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GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet  
**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK  
TENDER PACKAGE 1**

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**MOSES YOUNG**  
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Drawing title/Titre du dessin  
**BASEMENT LEVEL - EXISTING PANEL  
LOCATIONS**

Project No./No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet/Feuille <b>E102</b>	Revision no./ La Révision no. <b>6</b>
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KEY NOTES	
1	TIME CLOCK — HOT POOL FLOODS, POLE LIGHTS NEAR LIFEGUARD STATION, FED FROM CCT #1+3 IN PANEL EM. EXISTING TO REMAIN.
2	TIME CLOCK — HOT POOL CANOPY, FED FROM CCT#1 IN PANEL EM. FEEDS HOT POOL ENTRANCE CANOPY DOME LIGHTS. TYPE 103.
3	CONTACTOR FOR COOL POOL DRY NICHE LIGHTS, FED FROM PANEL 96A THIS PANEL FEEDS THE COOL POOL LIGHTS ONLY. EXISTING TO REMAIN.
4	EXISTING TIME CLOCK, SWITCH AND PANEL, NOT NAMED. THIS PANEL WILL BE REFERRED TO AS LAUNDRY ROOM UNNAMED PANEL. THIS PANEL IS FED FROM 70A BREAKER IN PANEL "G" CCT 2+4. CCT #1 FEEDS THE TIME CLOCK WHICH FEEDS THE GFCI RECEPTACLE AND WALL MOUNTED LIGHT ON THE EAST PLAZA STAIRS. THE SWITCH CONTROLS 5 COLOR CHANGING LEDS, TYPE 108. SHOWN ON E202. CIRCUITS TO REMOVED FROM LIGHT PANEL — UPDATE PANEL DIRECTORY.
5	BMS COMPUTER INTERFACE
6	BMS HEAD END
7	PANEL "H", CCT 4 "ENTRANCE & RETAINING WALL LIGHTS", CIRCUITS TO REMOVED FROM LIGHT PANEL — UPDATE PANEL DIRECTORY.
8	EXISTING TIME CLOCK AND PANEL, NOT NAMED. FED FROM 2POLE 60A BREAKER CCTS 24,25 IN PANEL F. THIS PANEL WILL BE REFERRED TO AS ROOM B-12 UNNAMED PANEL. CCTS 4+5 FEED TRANSFORMER IN WORKSHOP B-14. CCT 12,14 FEED IN TUNNEL UNDER HIGHWAY AND SIDEWALK LIGHTS. EXISTING TO REMAIN.
9	EXISTING PANEL, NOT NAMED. THIS PANEL WILL BE REFERRED TO AS ROOM B-19 UNNAMED PANEL.





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**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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Drawing Title/Titre du dessin

**WEST RAMP - NEW LIGHTING,  
CONDUIT AND JUNCTION BOXES**

Project No./No. du projet

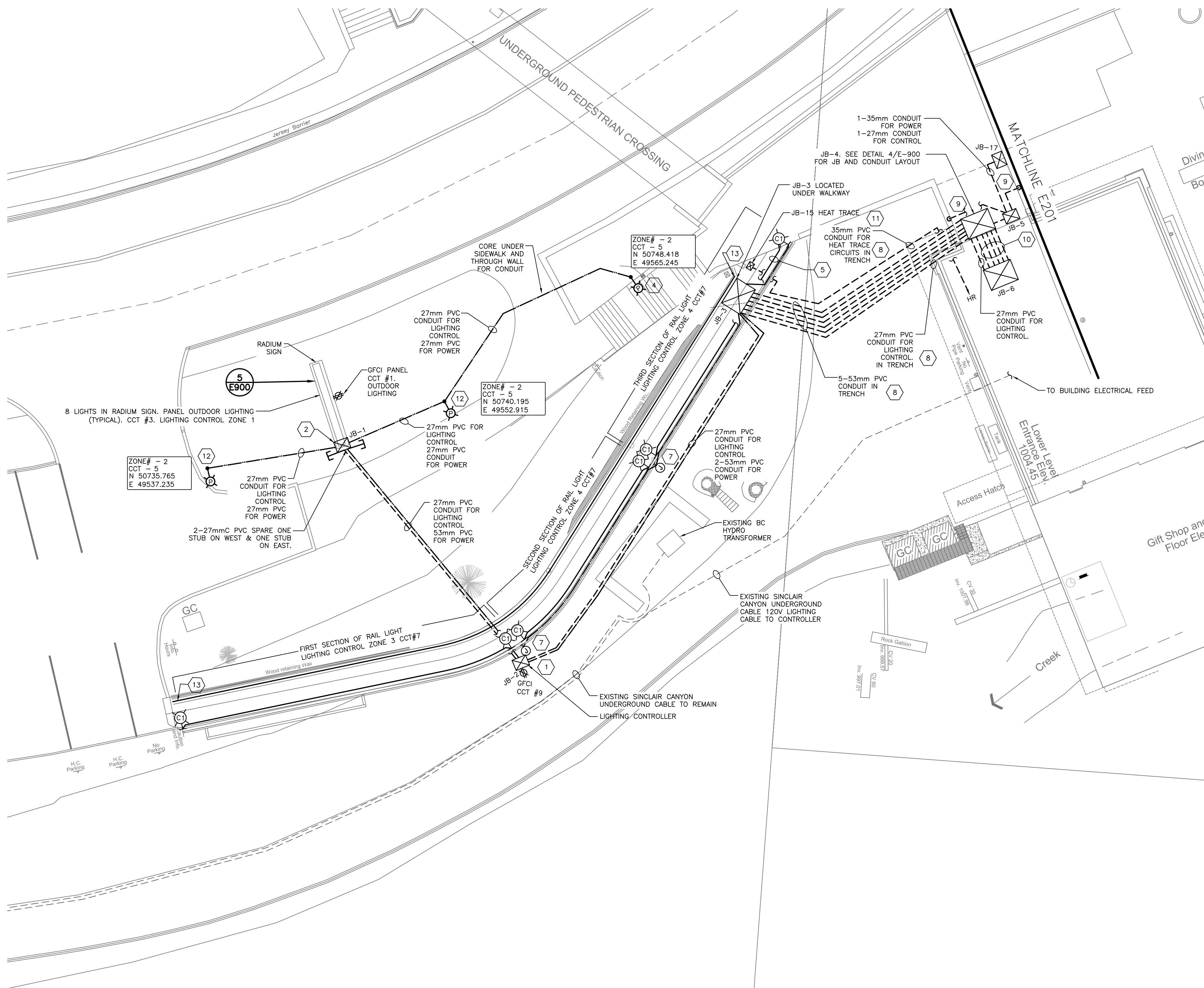
**WESTERN  
PROJECT #  
R.072512.001**

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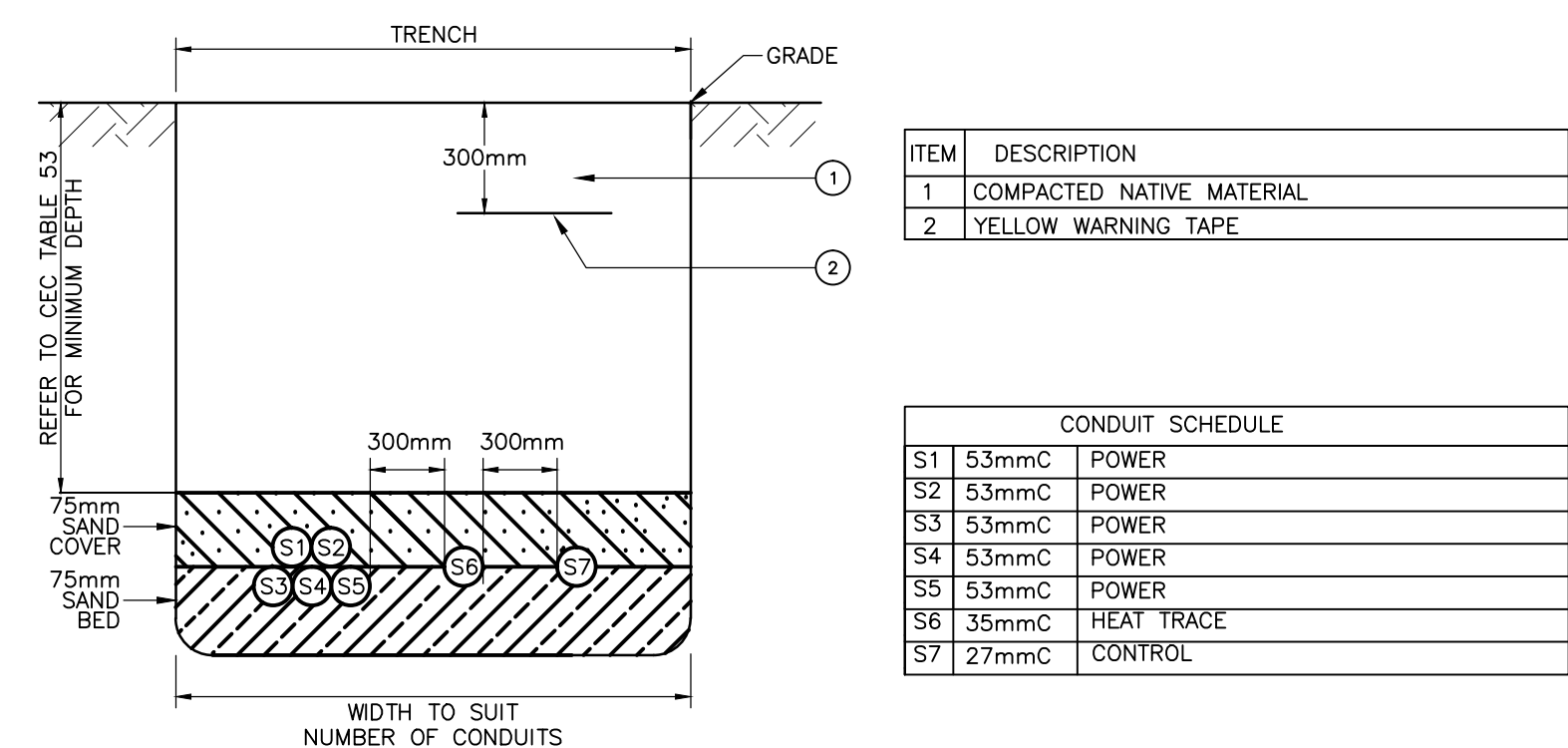
**E200**

Revision no./  
La Révision no.

**6**

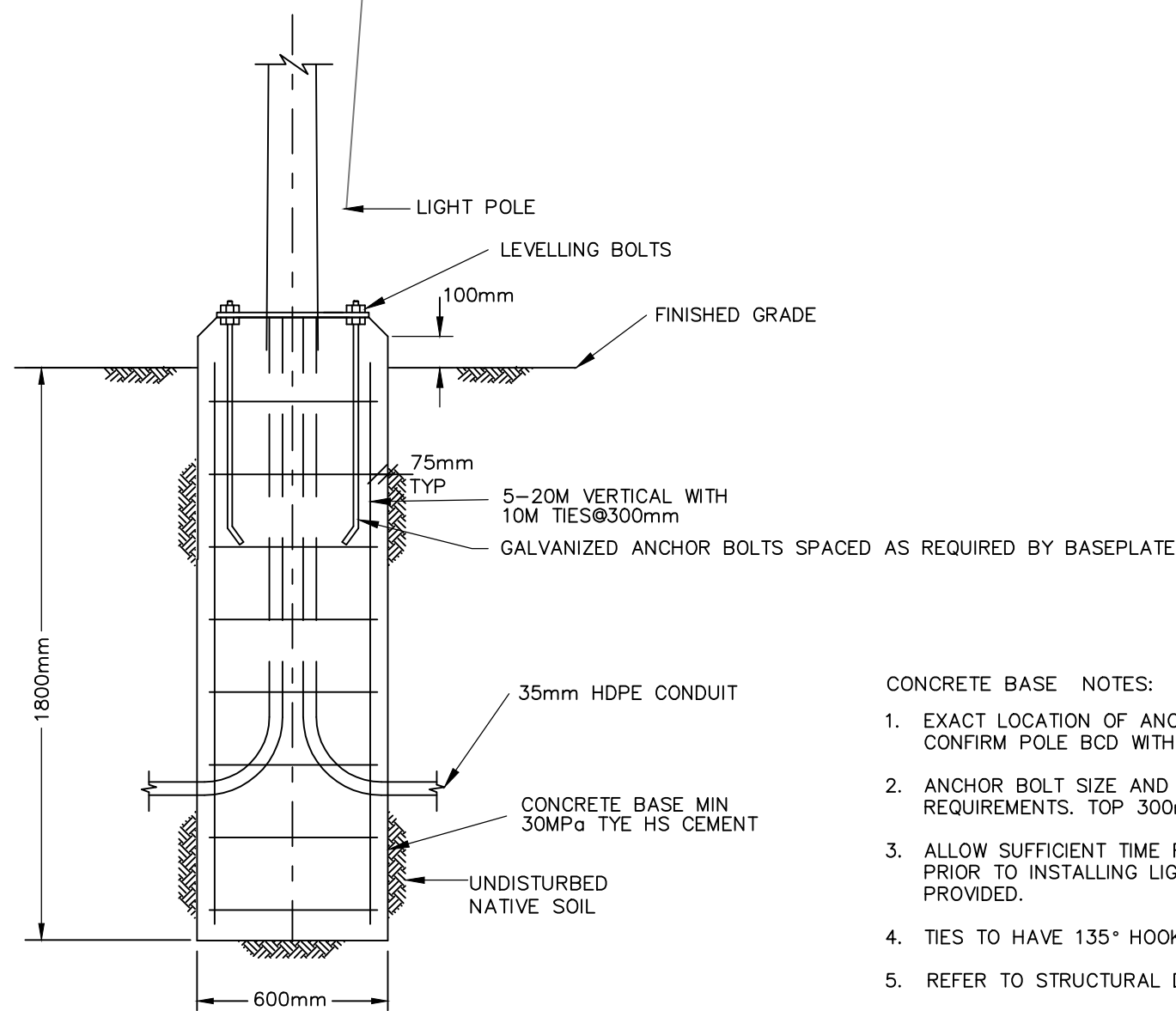


**1 WEST RAMP — NEW LIGHTING, CONDUIT AND JUNCTION BOXES**  
E200  
1:150



**2 DUCT BANK DETAIL**  
E200  
N.T.S.

NOTE:  
1. ALL CONDUITS C/W NYLON PULLWIRE.



**3 CAST-IN-PLACE CONCRETE BASE FOR POLE TYPE "P"**  
E200  
N.T.S.

- CONCRETE BASE NOTES:
1. EXACT LOCATION OF ANCHOR BOLTS TO BE CONFIRMED WITH POLE SUPPLIER. CONFIRM POLE BCD WITH POLE MANUFACTURER.
  2. ANCHOR BOLT SIZE AND QUANTITY TO BE AS PER POLE SUPPLIER REQUIREMENTS. TOP 300mm OF BOLT TO BE HOT DIPPED GALVANIZED.
  3. ALLOW SUFFICIENT TIME FOR CONCRETE TO ACHIEVE A STRENGTH OF 20 MPa PRIOR TO INSTALLING LIGHT ON FOUNDATION UNLESS ADEQUATE BRACES ARE PROVIDED.
  4. TIES TO HAVE 135° HOOKS AROUND 2 VERT. MIN.
  5. REFER TO STRUCTURAL DRAWINGS FOR GENERAL NOTES

**KEY NOTES**

- 1 PEDESTAL JB. SEE E001 TABLE "JB SCHEDULE".
- 2 PROVIDE 300mm X 300mm PVC CONDUIT FOR JB CAST INTO CONCRETE BASE OF NEW RADIUM SIGN. SEE DETAIL 5/E900.
- 3 2-27mm NON METALLIC CONDUITS TO BE RUN IN NEW RAMP CONCRETE SLABS.
- 4 INSTALL NEW POLE IN PLACE OF EXISTING.
- 5 PROVIDE 2-27mm PVC CONDUIT FROM JB TO RAMP TO FEED RAIL LIGHT. TRANSITION TO NON-METALLIC CONDUIT TO RUN WITHIN RAMP.
- 6 PROVIDE 53mm PVC CONDUIT UNDERGROUND.
- 7 SEE DETAIL 1/E900 FOR JUNCTION BOX & CONDUIT DETAIL.
- 8 SEE 2/E200.
- 9 FOR RAILING LIGHTS ABOVE SEE E202 AND DETAIL 4/E900 CCT #7.
- 10 5-53mm PVC CONDUIT AND JB-6 IN BASEMENT ROOM B-14 SHOWN ON E204.
- 11 HEAT TRACE CIRCUITS TO BE INSTALLED IN CONDUIT FROM PANEL SW (CIRCUITS 13, 15). INSTALL HEAT TRACE CONTROLLER IN JB-15. SEE WSP DRAWING E1 AND MELHANNY DRAWING C6
- 12 REFER TO DETAIL 3 FOR POLE BASE DETAIL.
- 13 NON ILLUMINATED HAND RAIL TO MATCH SPECIFICATION OF UTILITIES FOR PARK FACILITIES REMAINING IN OPERATION. HYDROVAC ALL CONFLICT POINTS.

**LIGHTING NOTES:**

1. ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHOWN AND/OR SPECIFIED SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY IN STRICT ACCORDANCE WITH THE LATEST EDITION OF C.S.A. STANDARDS (OR APPROVED EQUIVALENT) AND THE C.E.C.
2. EXISTING ELECTRICAL EQUIPMENT NOT SHOWN ON DRAWINGS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
3. ALL CIRCUITS TO HAVE DEDICATED NEUTRAL.
4. MINIMUM WIRE SIZE #6 AWG Cu.
5. TO AVOID SAGGING, STRAP ALL EXTERIOR PVC CONDUIT AT AN INTERVAL NOT MORE THAN 750mm.
6. SEE NOTE 3 ON E301 FOR EXTENT OF WIRING TO BE PULLED TO THE JUNCTION BOXES.

**POWER NOTES:**

1. IT IS RECOMMENDED THAT THE ELECTRICAL CONTRACTOR VISITS THE SITE PRIOR TO TENDER SUBMISSION TO DETERMINE EXISTING SITE CONDITIONS.
2. ELECTRICAL EQUIPMENT SHOWN IS NEW UNLESS OTHERWISE NOTED.
3. IF EXISTING ELECTRICAL EQUIPMENT MUST BE DISCONNECTED DURING DEMOLITION AND/OR CONSTRUCTION IT SHALL BE RECONNECTED AND MADE FULLY OPERATIONAL ASAP. RADIUM MAINTENANCE STAFF MUST BE INFORMED AND CONSULTED WHEN THIS OCCURS.
4. ELECTRICAL CONTRACTOR TO INSTALL NEWLY TYPE-WRITTEN DIRECTORIES IN ALL PANELS TO CLEARLY IDENTIFY ALL NEW AND EXISTING CIRCUITS.
5. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL A LAMACOID LABEL ON ALL JUNCTION BOXES TO IDENTIFY PANEL AND ALL CIRCUIT NUMBERS WITHIN JUNCTION BOX. LABEL SHALL BE 19mm BLACK LETTERING ON CLEAR TAPE.

**GENERAL NOTES**

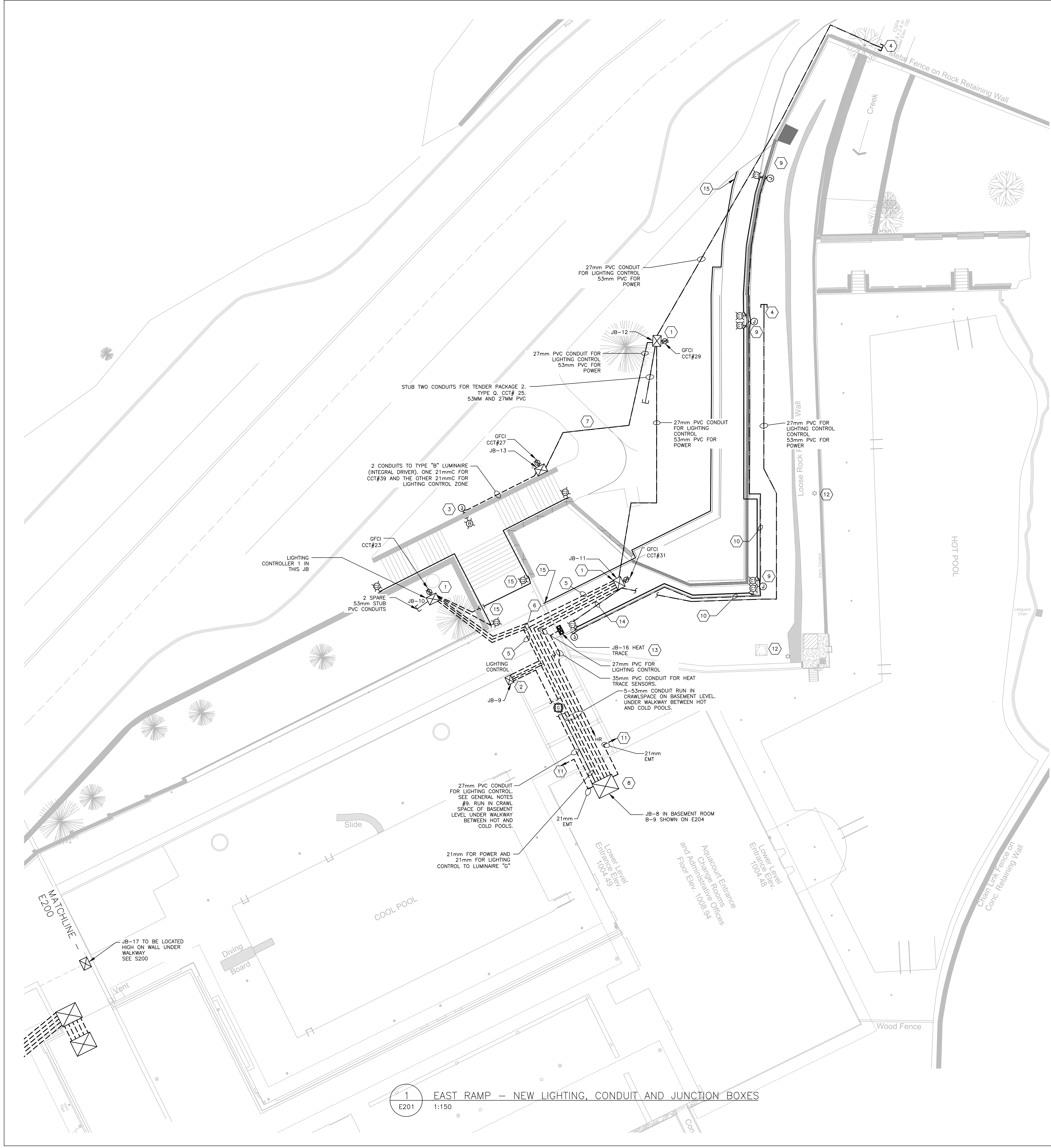
1. ALL CIRCUITS SHOWN ARE FROM NEW PANEL "OUTDOOR LIGHTING" LOCATED IN THE BASEMENT.
2. DIGGING OF TRENCHES, BACKFILL, ASPHALT CUTTING, PATCHING, SURFACE REMEDIATION DONE BY THE GENERAL CONTRACTOR. ELECTRICAL TO CO-ORDINATE WITH GENERAL CONTRACTOR.
3. ALL CONDUIT SHOWN AS UNDERGROUND. TO BE BURIED AS PER TABLE 53 OF THE CANADIAN ELECTRICAL CODE.
4. REFER TO E001 TABLE "JB SCHEDULE" FOR JUNCTION BOX DETAILS
5. ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHOWN AND/OR SPECIFIED SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY IN STRICT ACCORDANCE WITH THE LATEST EDITION OF C.S.A. STANDARDS AND THE C.E.C.
6. ALL CONDUIT WORK AND JUNCTION BOXES AS MAY BE REQUIRED, DUE TO SITE CONDITIONS, SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
7. ELECTRICAL CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS AT PROJECT COMPLETION.
8. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES FOR PARK FACILITIES REMAINING IN OPERATION. HYDROVAC ALL CONFLICT POINTS.

**HORIZONTAL UTILITY  
CLEARANCES**

UTILITY	HORIZONTAL CLEARANCE (m)
OVERHEAD ELECTRICAL (25kv OR LESS)	5
UNDERGROUND ELECTRICAL	1
COMMUNICATIONS (TELEPHONE AND CABLE)	1
UNDERGROUND FIBER OPTIC	5
NATURAL GAS LOW PRESSURE (690 kPa OR LESS)	1
HIGH PRESSURE LINES (GAS OR OTHER)(> 690 kPa)	5
SEWER LINES (STORM OR SANITARY)	3
WATER MAINS	3
PRIVATE IRRIGATION	0.3

NOTE:  
1. CLEARANCES SHOWN ARE SUGGESTED GUIDELINES. CONTRACTOR TO CONTACT RESPECTIVE UTILITIES CONFIRM.  
2. ALL DISTANCES ARE TO CENTERLINE OF NEAREST UTILITY.





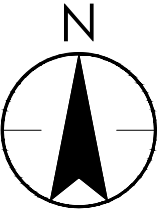
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UTILITY	HORIZONTAL CLEARANCE (m)
OVERHEAD ELECTRICAL (25kV OR LESS)	5
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SEWER LINES (STORM OR SANITARY)	3
WATER MAINS	3
PRIVATE IRRIGATION	0.3

- NOTE:
- CLEARANCES SHOWN ARE SUGGESTED GUIDELINES. CONTRACTOR TO CONTACT RESPECTIVE UTILITIES FOR CONFIRM.
  - ALL DISTANCES ARE TO CENTERLINE OF NEAREST UTILITY.
- LIGHTING NOTES:
- ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHOWN AND/OR SPECIFIED SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY IN STRICT ACCORDANCE WITH THE LATEST EDITION OF C.S.A. STANDARDS (OR APPROVED EQUIVALENT) AND THE C.E.C.
  - EXISTING ELECTRICAL EQUIPMENT NOT SHOWN ON DRAWINGS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
  - ALL CIRCUITS TO HAVE DEDICATED NEUTRAL.
  - MINIMUM WIRE SIZE #6 AWG Cu.
  - TO AVOID SAGGING, STRAP ALL EXTERIOR PVC CONDUIT AT AN INTERVAL IN ACCORDANCE WITH CEC.
  - SEE NOTE 3 ON E901 FOR EXTENT OF WIRING TO BE PULLED TO THE JUNCTION BOXES.

- POWER NOTES:
- IT IS RECOMMENDED THAT THE ELECTRICAL CONTRACTOR VISITS THE SITE PRIOR TO TENDER SUBMISSION TO DETERMINE EXISTING SITE CONDITIONS.
  - ELECTRICAL EQUIPMENT SHOWN IS NEW UNLESS OTHERWISE NOTED.
  - IF EXISTING ELECTRICAL EQUIPMENT MUST BE DISCONNECTED DURING DEMOLITION AND/OR CONSTRUCTION IT SHALL BE RECONNECTED AND MADE FULLY OPERATIONAL ASAP. RADIUM MAINTENANCE STAFF MUST BE INFORMED AND CONSULTED WHEN THIS OCCURS.
  - ELECTRICAL CONTRACTOR TO INSTALL NEWLY TYPE-WRITTEN DIRECTORIES IN ALL PANELS TO CLEARLY IDENTIFY ALL NEW CIRCUITS.
  - ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL LAMACOID LABEL ON ALL JUNCTION BOXES TO IDENTIFY PANEL AND ALL CIRCUIT NUMBERS WITHIN JUNCTION BOX. LABEL SHALL BE 19mm BLACK LETTERING ON CLEAR TAPE.

- GENERAL NOTES
- ALL CIRCUITS SHOWN ARE FROM NEW PANEL "OUTDOOR LIGHTING" LOCATED IN THE BASEMENT.
  - DIGGING OF TRENCHES, BACKFILL, ASPHALT CUTTING, PATCHING, SURFACE REMEDIATION DONE BY THE GENERAL CONTRACTOR. ELECTRICAL TO CO-ORDINATE WITH GENERAL CONTRACTOR.
  - ALL CONDUIT SHOWN AS UNDERGROUND TO BE BURIED AS PER TABLE 53 OF THE CANADIAN ELECTRICAL CODE.
  - REFER TO E001 TABLE "JB SCHEDULE" FOR JUNCTION BOX DETAILS.
  - ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHOWN AND/OR SPECIFIED SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY IN STRICT ACCORDANCE WITH THE LATEST EDITION OF C.S.A. STANDARDS AND THE C.E.C.
  - ALL CONDUIT WORK AND JUNCTION BOXES AS MAY BE REQUIRED, DUE TO SITE CONDITIONS, SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
  - ELECTRICAL CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS AT PROJECT COMPLETION.
  - THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES FOR PARK FACILITIES REMAINING IN OPERATION. HYDROVAC ALL CONFLICT POINTS.

- KEY NOTES
- PEDESTAL JB. SEE E001, TABLE "JB SCHEDULE".
  - PROVIDE 300mm X 300mm PVC CONDUIT FOR JB INSTALLED ON CONCRETE WALL 400mm TO TOP OF BOX ABOVE FINISHED GRADE.
  - PROVIDE 27mm PVC CONDUIT TO TERMINATE IN NEMA 4 BOX ON STREET SIDE OF WALL. DRILL THROUGH WALL TO FEED LIGHT BACK BOX WITH 21mm EMT CONDUIT. 21mm EMT CONDUIT PRIMED WITH PRIMER AND PAINTED MATTE GRAY TO MATCH BACKGROUND AS CLOSELY AS POSSIBLE.
  - STUB UP & CAP PVC CONDUIT. INSTALL PULL STRINGS FROM JB THROUGH CONDUIT TO CAP LOCATION. TAPE PULL STRING ONTO OUTSIDE OF CONDUIT AND INSTALL CAP OVER TOP OF CONDUIT.
  - PROVIDE 27mm PVC CONDUIT UNDERGROUND.
  - PROVIDE 53mm PVC CONDUIT UNDERGROUND.
  - CORE CONDUITS UNDER WALKWAY.
  - CONDUITS TO JB#8 ARE SHOWN ON E204 BASEMENT LEVEL DRAWING.
  - SEE DETAIL 1/E900 FOR JUNCTION BOX AND CONDUIT DETAIL.
  - PROVIDE 2-27mm NON METALLIC CONDUIT RUN IN NEW RAMP CONCRETE SLAB.
  - SEE DRAWING E202 FOR LOCATION OF RAIL LIGHTING. CONDUIT AND WIRE FOR POWER FROM JB-8. DRIVERS FOR RAIL LIGHT TO BE LOCATED IN JB-8.
  - EXISTING POLE LIGHTS AND CONTROL TO REMAIN.
  - HEAT TRACE CIRCUITS TO BE INSTALLED IN CONDUIT FROM PANEL SM (CIRCUITS 9, 11). INSTALL HEAT TRACE CONTROLLER IN JB-18. SEE WSP DRAWING E1 AND MELHANNY DRAWING C7.
  - PROVIDE 2-27mm PVC CONDUIT FROM JB TO RAMP TO FEED RAIL LIGHT. TRANSITION TO NMD CONDUIT TO RUN WITHIN RAMP.
  - TYPE "C1" HAND RAIL WILL BE BOLTED DOWN TO STAIR AND WALKWAY. PROVIDE A 21mm CONDUIT FROM JB-10 TO STUB UP INTO VERTICAL RAIL SECTION TO FEED HAND RAIL LIGHT.



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KOOTENAY NATIONAL PARK

TENDER PACKAGE 1

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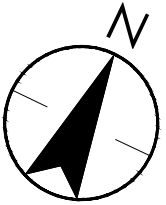
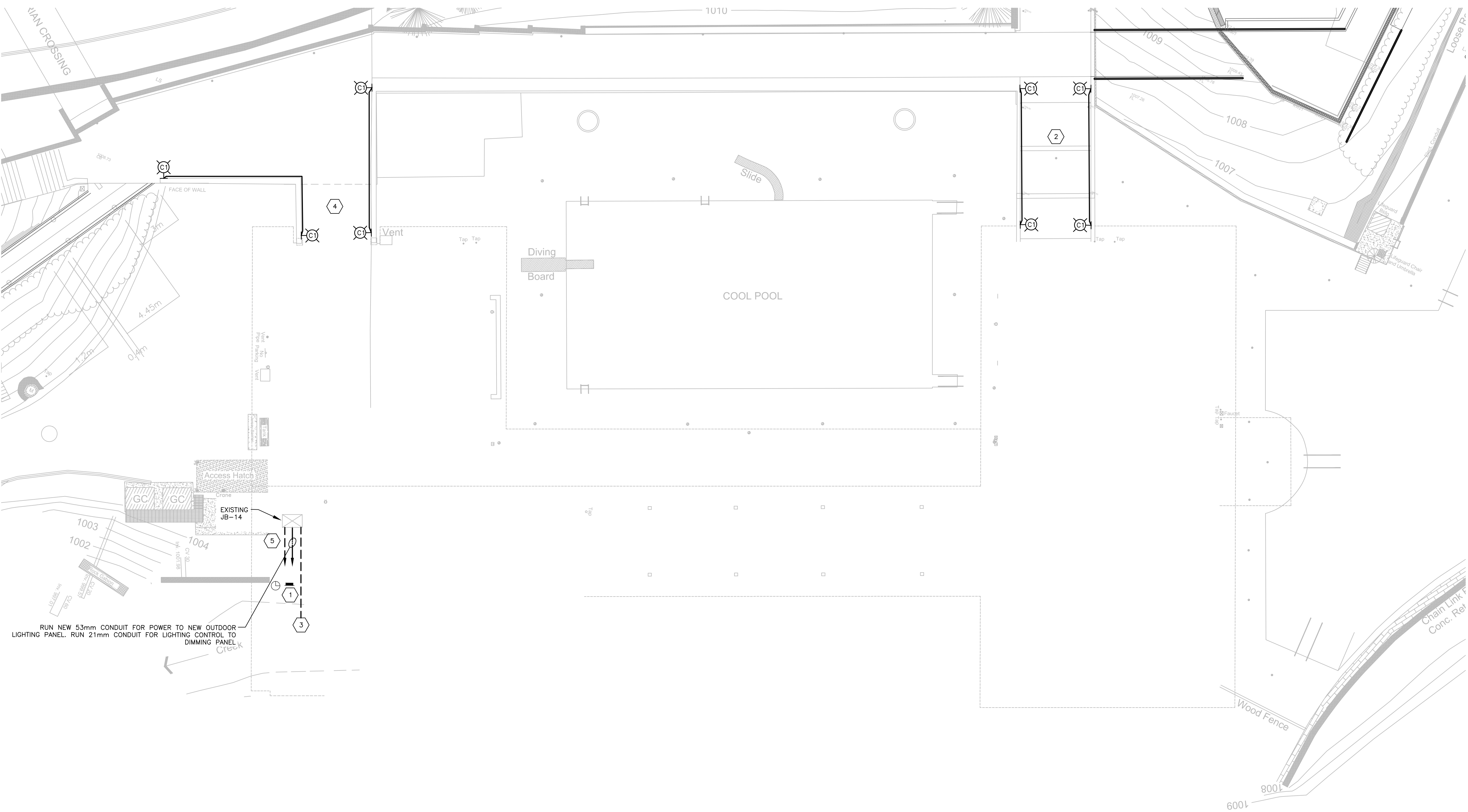
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NP  
PWGSC Project Manager/Administrateur de Projets TPSGC  
MOSES YOUNG  
PWGSC Regional Manager, Architectural and Engineering Services/  
Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin

EAST RAMP - NEW LIGHTING,  
CONDUIT AND JUNCTION BOXES

Project No./No. du projet WESTERN PROJECT # R.072512.001	Sheet/Feuille E201	Revision no./ La Révision no. 6
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2017-MAR-31

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Revision/ Revision	Description/Description	Date/Date

Client/client

**PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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Drawing title/Titre du dessin

**SECOND LEVEL LIGHTING - EAST AND  
WEST BRIDGES**

Project No./No. du projet  
**WESTERN  
PROJECT #  
R.072512.001**

Sheet/Feuille  
**E202**

Revision no./  
La Révision  
no.  
**6**

**GENERAL NOTES**

- ALL CIRCUITS SHOWN ARE FROM NEW PANEL "OUTDOOR LIGHTING" LOCATED IN THE BASEMENT.
- REFER TO E001 TABLE "JB SCHEDULE" FOR JUNCTION BOX DETAILS
- ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHOWN AND/OR SPECIFIED SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY IN STRICT ACCORDANCE WITH THE LATEST EDITION OF C.S.A. STANDARDS AND THE C.E.C.
- ALL CONDUIT WORK AND JUNCTION BOXES AS MAY BE REQUIRED, DUE TO SITE CONDITIONS, SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS AT PROJECT COMPLETION.
- THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES FOR PARK FACILITIES REMAINING IN OPERATION. HYDROVAC ALL CONFLICT POINTS.

**POWER NOTES:**

- IT IS RECOMMENDED THAT THE ELECTRICAL CONTRACTOR VISITS THE SITE PRIOR TO TENDER SUBMISSION TO DETERMINE EXISTING SITE CONDITIONS.
- ELECTRICAL EQUIPMENT SHOWN IS NEW UNLESS OTHERWISE NOTED.
- IF EXISTING ELECTRICAL EQUIPMENT MUST BE DISCONNECTED DURING DEMOLITION AND/OR CONSTRUCTION IT SHALL BE RECONNECTED AND MADE FULLY OPERATIONAL ASAP. RADIUM MAINTENANCE STAFF MUST BE INFORMED AND CONSULTED WHEN THIS OCCURS.
- ELECTRICAL CONTRACTOR TO INSTALL NEWLY TYPE-WRITTEN DIRECTORIES IN ALL PANELS TO CLEARLY IDENTIFY ALL NEW CIRCUITS.
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL A LAMACOID LABEL ON ALL JUNCTION BOXES TO IDENTIFY PANEL AND ALL CIRCUIT NUMBERS WITHIN JUNCTION BOX. LABEL SHALL BE 19mm BLACK LETTERING ON CLEAR TAPE.

**LIGHTING NOTES:**

- ALL CIRCUITS TO HAVE DEDICATED NEUTRAL.
- MINIMUM WIRE SIZE #6 AWG Cu.
- ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHOWN AND/OR SPECIFIED SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY IN STRICT ACCORDANCE WITH THE LATEST EDITION OF C.S.A. STANDARDS (OR APPROVED EQUIVALENT) AND THE C.E.C.
- ALL CONDUIT WORK AND JUNCTION BOXES AS MAY BE REQUIRED SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO CONFIRM THAT LIGHTING CIRCUITS DO NOT EXCEED BOX OF EXISTING BREAKER RATING. ELECTRICAL CONTRACTOR SHALL REPLACE EXISTING 15AMP BREAKER WITH 20AMP BREAKERS WHERE APPLICABLE.
- ELECTRICAL CONTRACTOR TO INSTALL NEWLY TYPE WRITTEN DIRECTORIES IN ALL PANELS TO CLEARLY IDENTIFY ALL NEW AND EXISTING CIRCUITS.
- PROVIDE LAMACOID LABELS FOR ANY SPECIAL PURPOSE SWITCHES OR RECEPTACLES C/W PANEL FEED, VOLTAGE AND CIRCUITS.
- CONTRACTOR TO RUN CONDUIT CONCEALED WHERE POSSIBLE, ON EXISTING CEILING SYSTEMS. CONTRACTOR TO SURFACE MOUNT CONDUIT AND PAINT TO MATCH CEILING.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN ON DRAWINGS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
- TO AVOID SAGGING, STRAP ALL EXTERIOR PVC CONDUIT AT AN INTERVAL NOT MORE THAN 750mm.
- SEE NOTE 3 ON E901 FOR EXTENT OF WIRING TO BE PULLED TO THE JUNCTION BOXES.

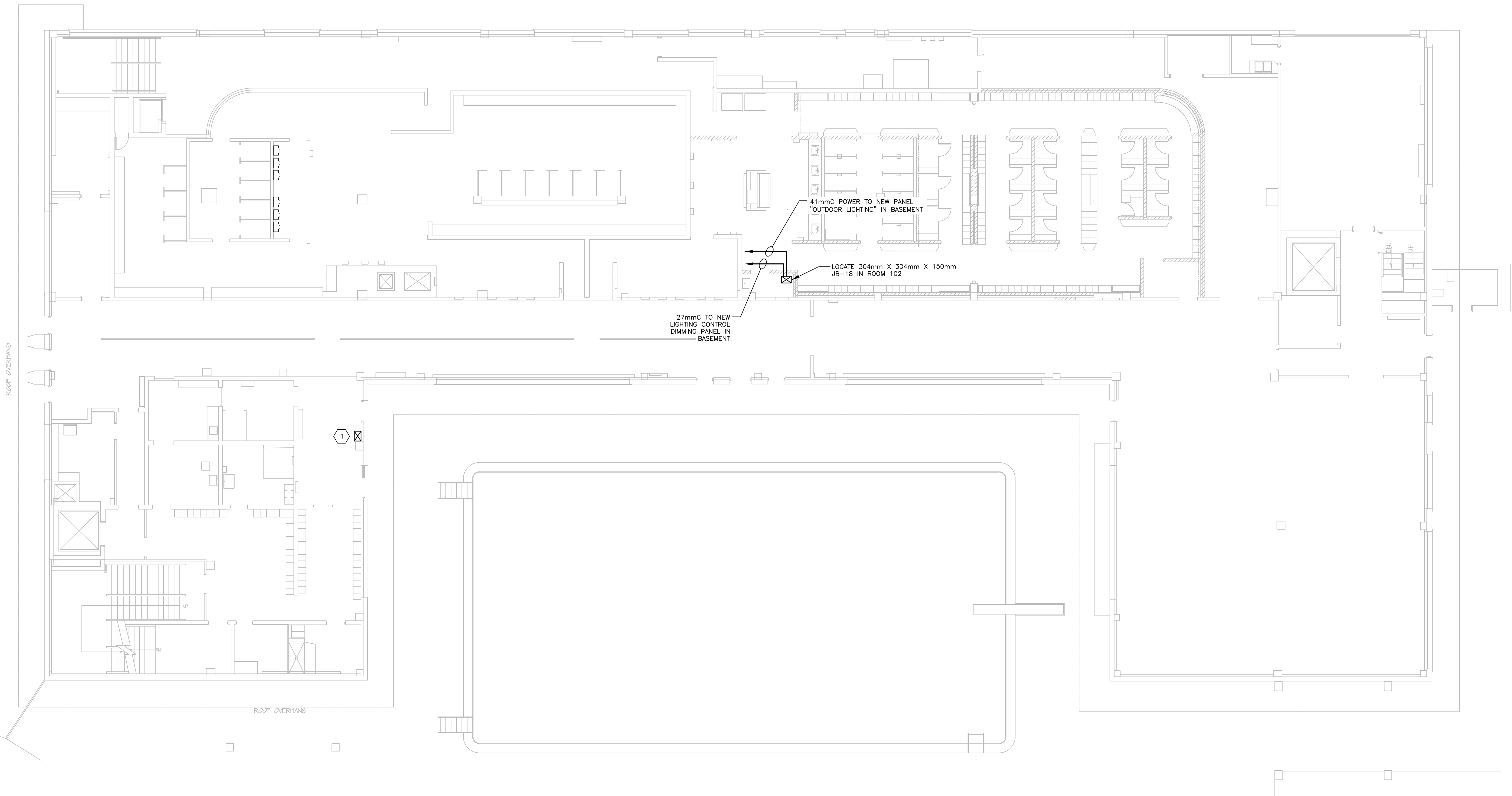
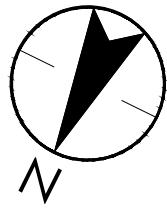
**KEYNOTES:**

- EXISTING RESTAURANT PANEL AND TIME CLOCK.
- RAILING LIGHTS FED FROM JB# 8.
- INSTALL NEW PHOTOCELL ON ROOF OF RESTAURANT CONDUIT AND WIRE TO JB-14. WIRE BACK TO NEW DIMMING PANEL.
- RAILING LIGHTS TO BE FED FROM JB-5. SEE E200 AND DETAIL 4/E900.
- FEED EXISTING PAVIC AREA DRIVERS WITH DIMMING CIRCUITS 13 AND 15 FROM PANEL "OUTDOOR LIGHTING". REMOVE EXISTING CIRCUITS FEEDING DRIVERS BACK TO RESTAURANT PANEL AND UPDATE PANEL SCHEDULE.





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1  
E203  
1:100  
MAIN FLOOR PLAN – JUNCTION BOXES AND CONDUITS



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GOVERNMENT SERVICES  
CANADA**

Project title/Titre du projet

**RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK**

**TENDER PACKAGE 1**

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**MOSES YOUNG**

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Drawing title/Titre du dessin

**MAIN FLOOR PLAN - JUNCTION  
BOXES AND CONDUITS**

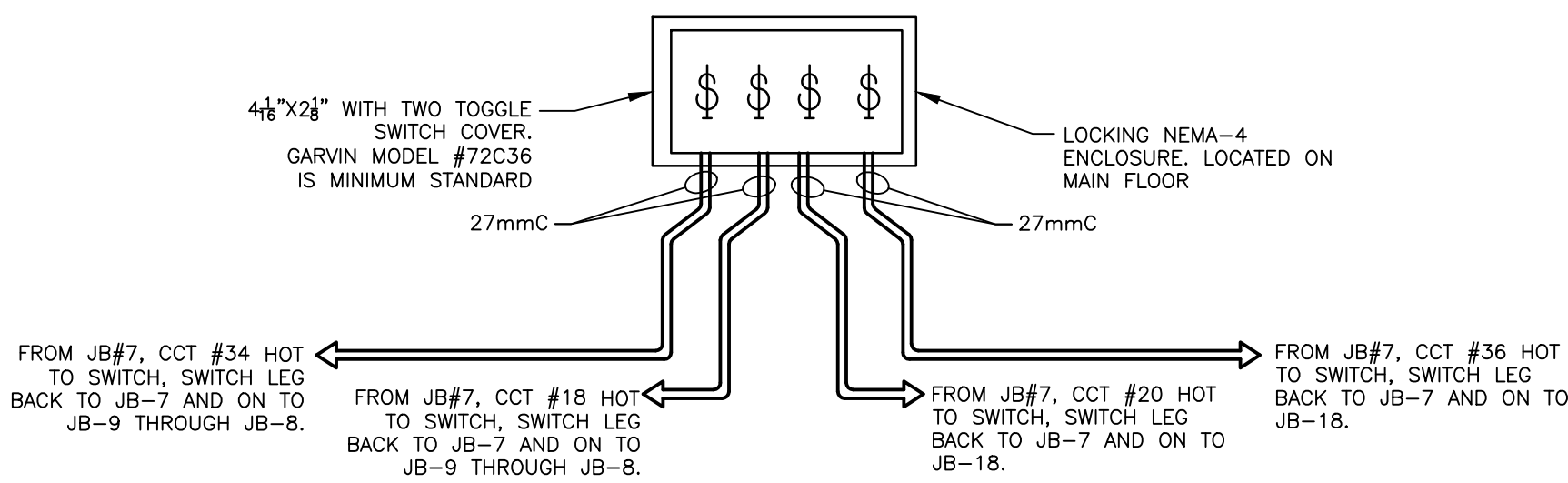
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**WESTERN  
PROJECT #  
R.072512.001**

Sheet/Feuille

**E203**

Revision no./  
La Révision  
no.

**6**



2  
E203  
NTS  
COOL POOL FLOOD LIGHTS WIRING

**POWER NOTES:**

- IT IS RECOMMENDED THAT THE ELECTRICAL CONTRACTOR VISITS THE SITE PRIOR TO TENDER SUBMISSION TO DETERMINE EXISTING SITE CONDITIONS.
- ELECTRICAL EQUIPMENT SHOWN IS NEW UNLESS OTHERWISE NOTED.
- IF EXISTING ELECTRICAL EQUIPMENT MUST BE DISCONNECTED DURING DEMOLITION AND/OR CONSTRUCTION IT SHALL BE RECONNECTED AND MADE FULLY OPERATIONAL ASAP. RADIUM MAINTENANCE STAFF MUST BE INFORMED AND CONSULTED WHEN THIS OCCURS.
- ELECTRICAL CONTRACTOR TO INSTALL NEWLY TYPE-WRITTEN DIRECTORIES IN ALL PANELS TO CLEARLY IDENTIFY ALL NEW CIRCUITS.
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL A LAMACOID LABEL ON ALL JUNCTION BOXES TO IDENTIFY PANEL AND ALL CIRCUIT NUMBERS WITHIN JUNCTION BOX. LABEL SHALL BE 19mm BLACK LETTERING ON CLEAR TAPE.
- MINIMUM WIRE SIZE #6 AWG Cu.
- ALL CCTS TO HAVE DEDICATED NEUTRAL.
- SEE NOTE 3 ON E901 FOR EXTENT OF WIRING TO BE PULLED TO THE JUNCTION BOXES.

**KEY NOTES**

- LOCKING NEMA-4 BOX 8"x8"x4" FOR 41"x41"x21" BOX TO HOUSE TWO 20A/120V SINGLE POLE SWITCHES FOR CONTROL OF POOL FLOOD LIGHTS. SEE 2/E203. FLOOD LIGHTS WILL BE INSTALLED IN TENDER PACKAGE 2.

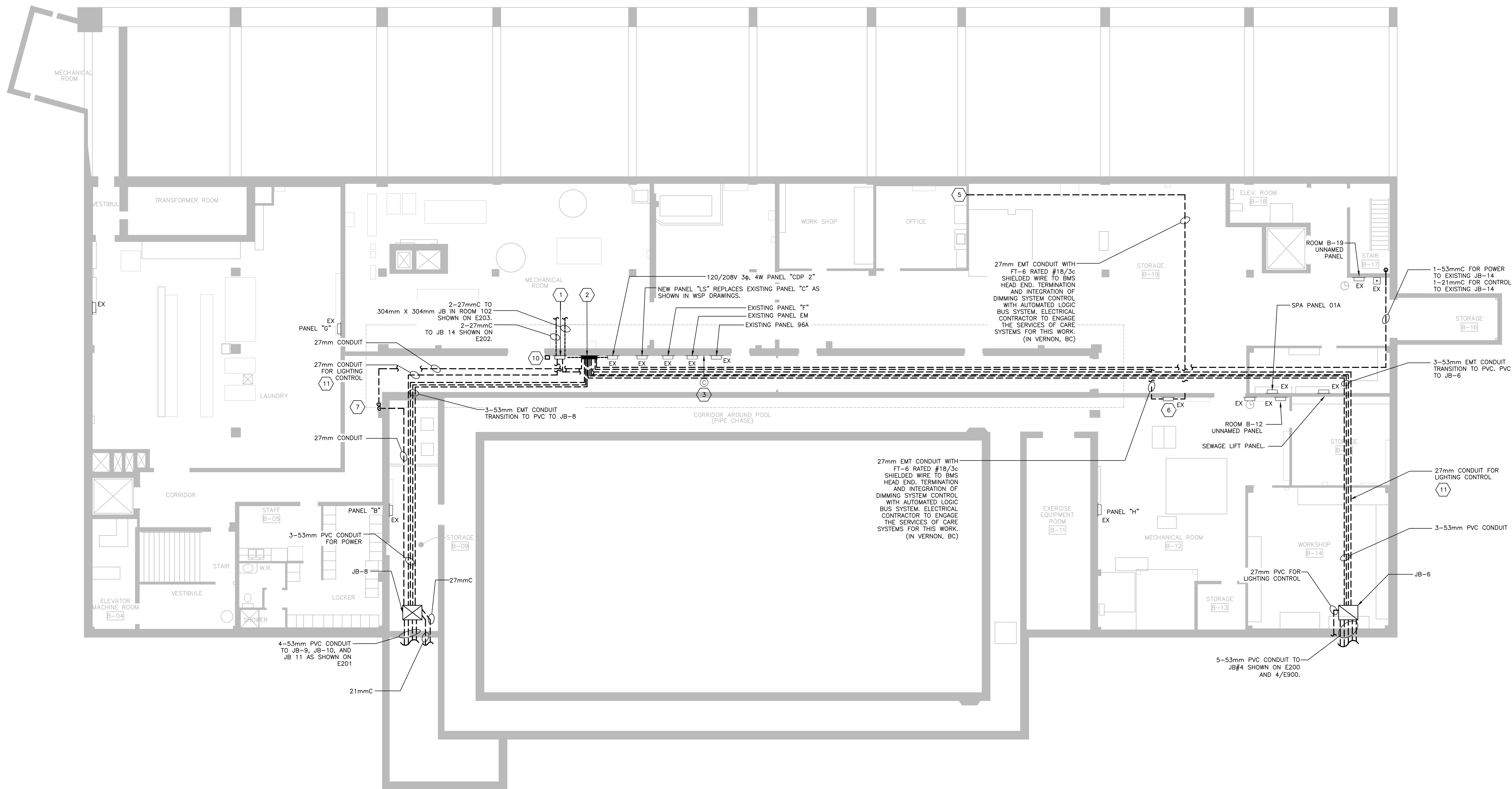
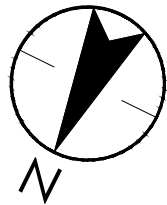
**GENERAL NOTES**

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- ALL CONDUIT WORK AND JUNCTION BOXES AS MAY BE REQUIRED, DUE TO SITE CONDITIONS, SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS AT PROJECT COMPLETION.
- CONTRACTOR SHALL REMOVE AND SALVAGE ALL SIGNAGE AS REQUIRED TO FACILITATE THE WORK. RE-ESTABLISH ALL SIGNAGE TO ORIGINAL SPEC TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.





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1 BASEMENT DETAIL  
E204 1:100

POWER NOTES:

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- IF EXISTING ELECTRICAL EQUIPMENT MUST BE DISCONNECTED DURING DEMOLITION AND/OR CONSTRUCTION IT SHALL BE RECONNECTED AND MADE FULLY OPERATIONAL ASAP. RADIUM MAINTENANCE STAFF MUST BE INFORMED AND CONSULTED WHEN THIS OCCURS.
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GENERAL NOTES

- REFER TO E001 TABLE "JB SCHEDULE" FOR JUNCTION BOX DETAILS
- ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHOWN AND/OR SPECIFIED SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY IN STRICT ACCORDANCE WITH THE LATEST EDITION OF C.S.A. STANDARDS AND THE C.E.C.
- ALL CONDUIT WORK AND JUNCTION BOXES AS MAY BE REQUIRED, DUE TO SITE CONDITIONS, SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS AT PROJECT COMPLETION.

KEY NOTES

- LOCATION OF NEW LIGHTING CONTROL DIMMING PANEL EXTEND 21mm PLYWOOD BACK BOARD TO EDGE OF DOUBLE DOORS AND PAINT GRAY TO MATCH EXISTING. SEE 3/E900. NEW PHOTOCELL FOR THIS PANEL SHOWN ON E202 KEYNOTE 3.
- LOCATION OF NEW ELECTRICAL PANEL "OUTDOOR LIGHTING" FED FROM 70A SPARE IN 120/208 3 $\phi$  4W 600A CDP "CDP-2" & JB-7
- CONTACTOR FOR COOL POOL DRY NICHE LIGHTS. FED FROM PANEL 96A THIS PANEL FEEDS THE COOL POOL LIGHTS ONLY.
- NOT USED.
- BMS COMPUTER INTERFACE.
- BMS HEAD END.
- SEE 2/E203. CONDUITS FEED SWITCHES FOR COOL POOL FLOOD LIGHT CONTROL.
- NOT USED.
- NOT USED.
- TOUCH PANEL CONTROLLER FOR LIGHTING CONTROL.
- 27mm LIGHTING CONTROL CONDUITS ARE TO BE USED IF SEPARATE CONTROL WIRING IS REQUIRED FOR DIMMING SIGNALS.



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PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA

Project title/Titre du projet

RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION  
KOOTENAY NATIONAL PARK

TENDER PACKAGE 1

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Drawing title/Titre du dessin

BASEMENT - NEW ELECTRICAL  
JUNCTION BOXES, CONDUITS AND  
PANEL

Project No./No. du projet

WESTERN  
PROJECT #  
R.072512.001

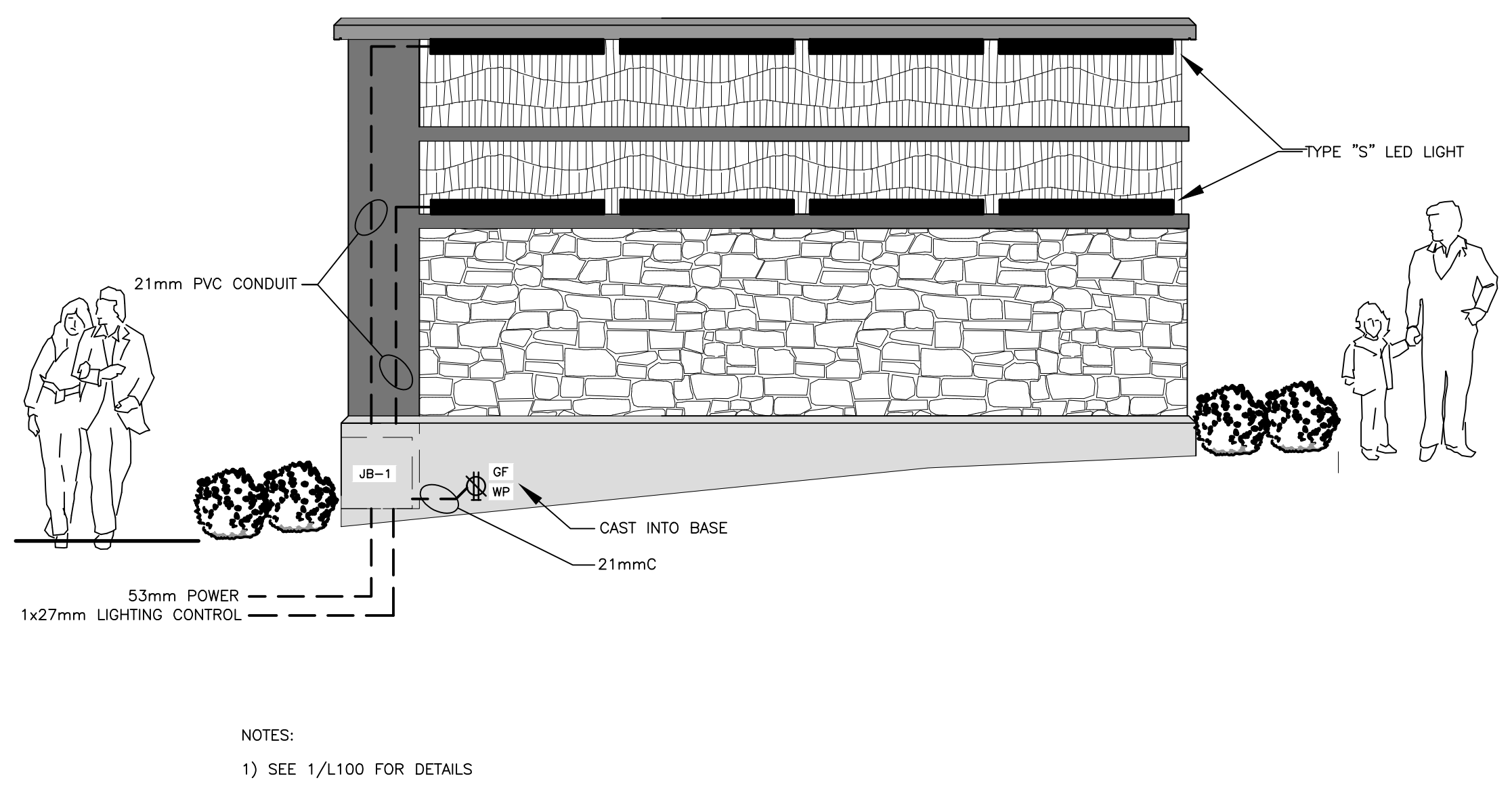
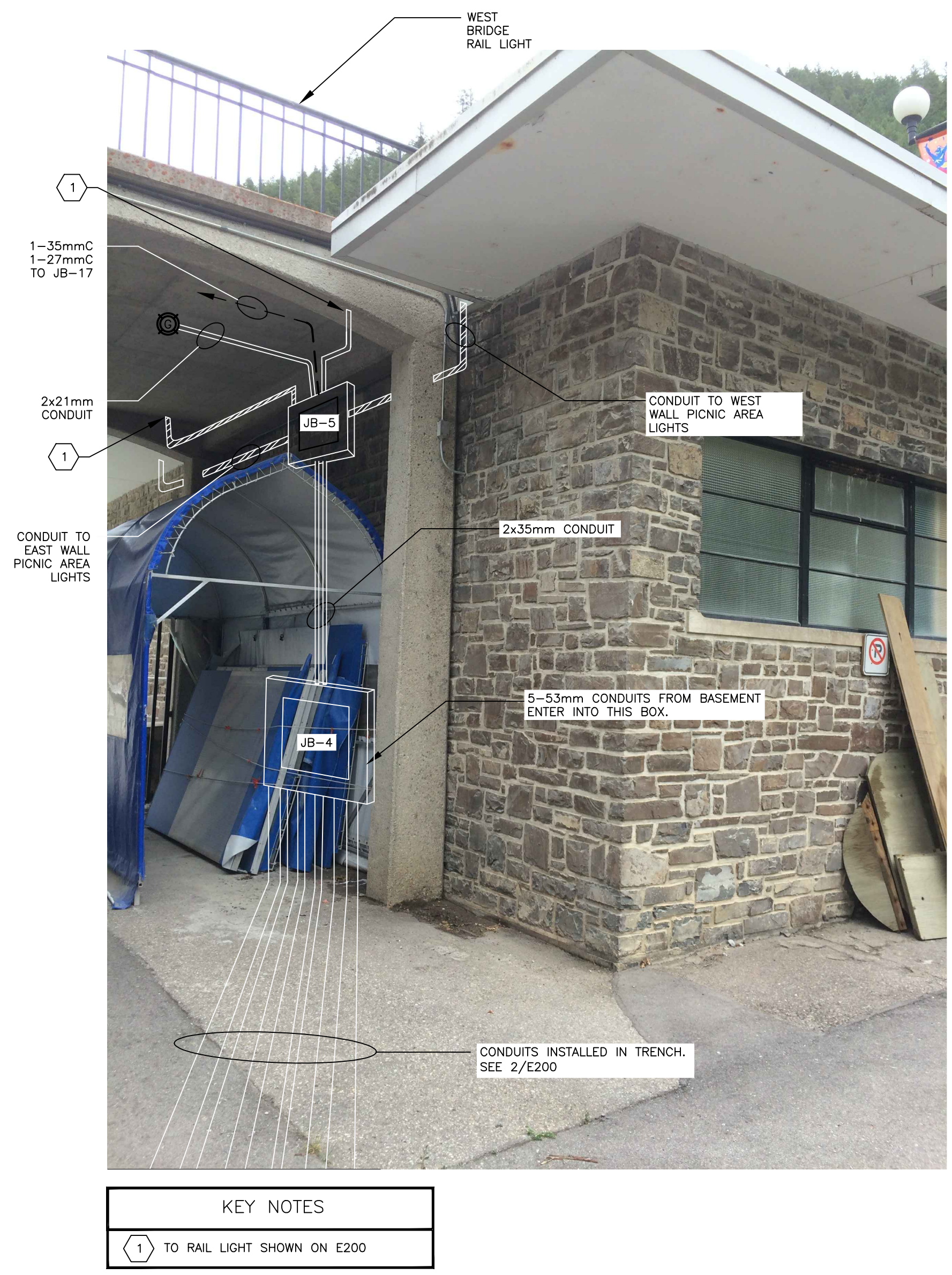
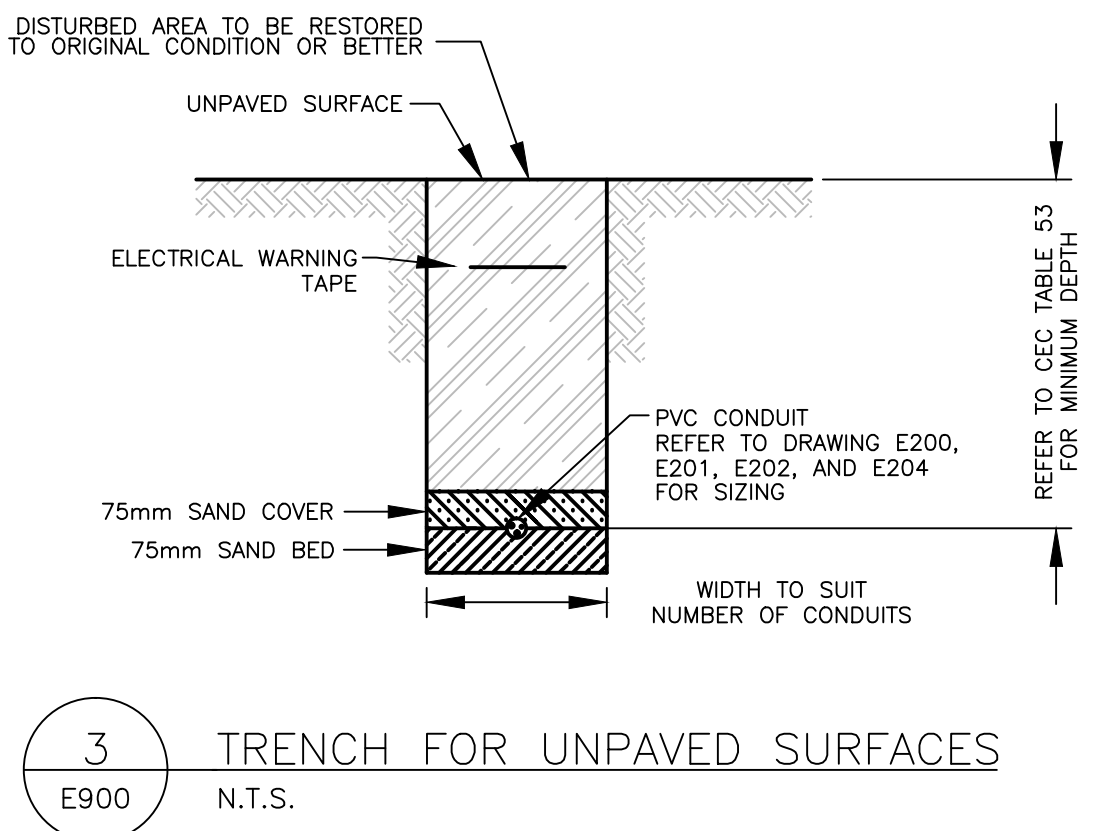
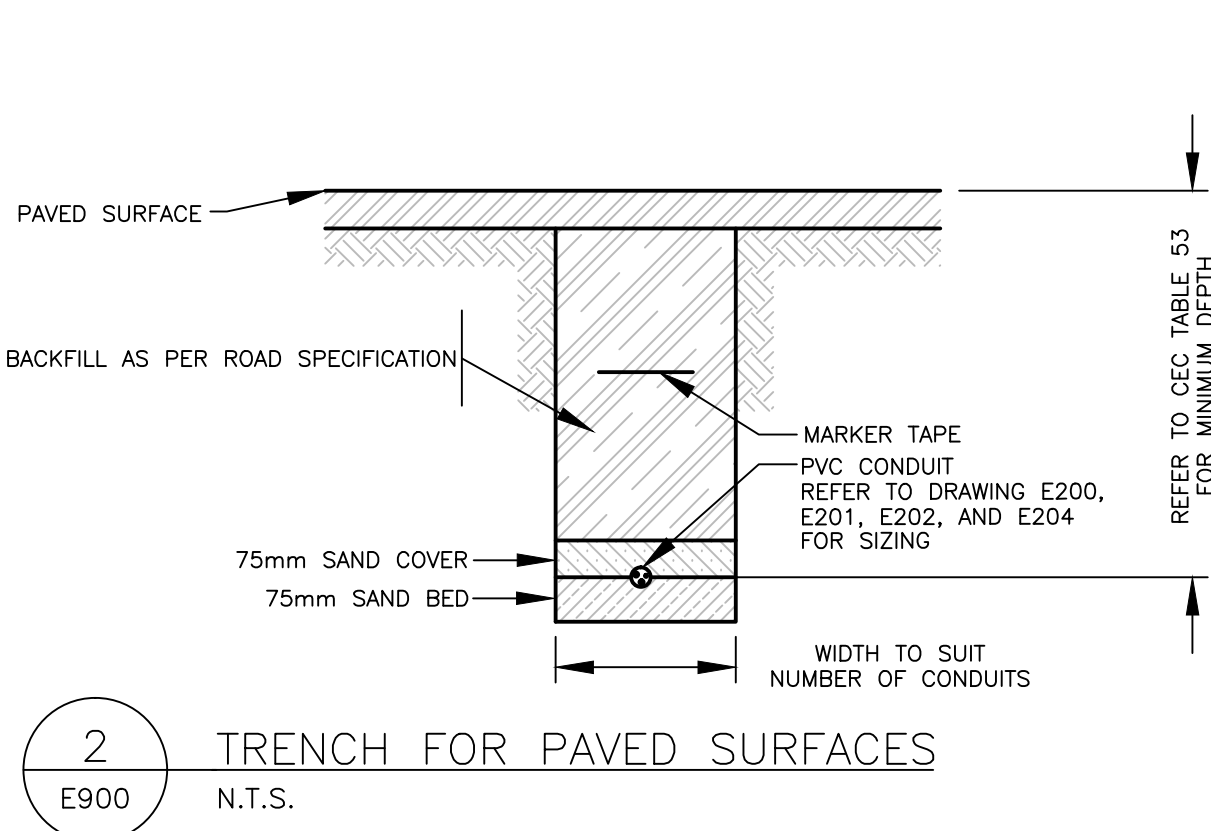
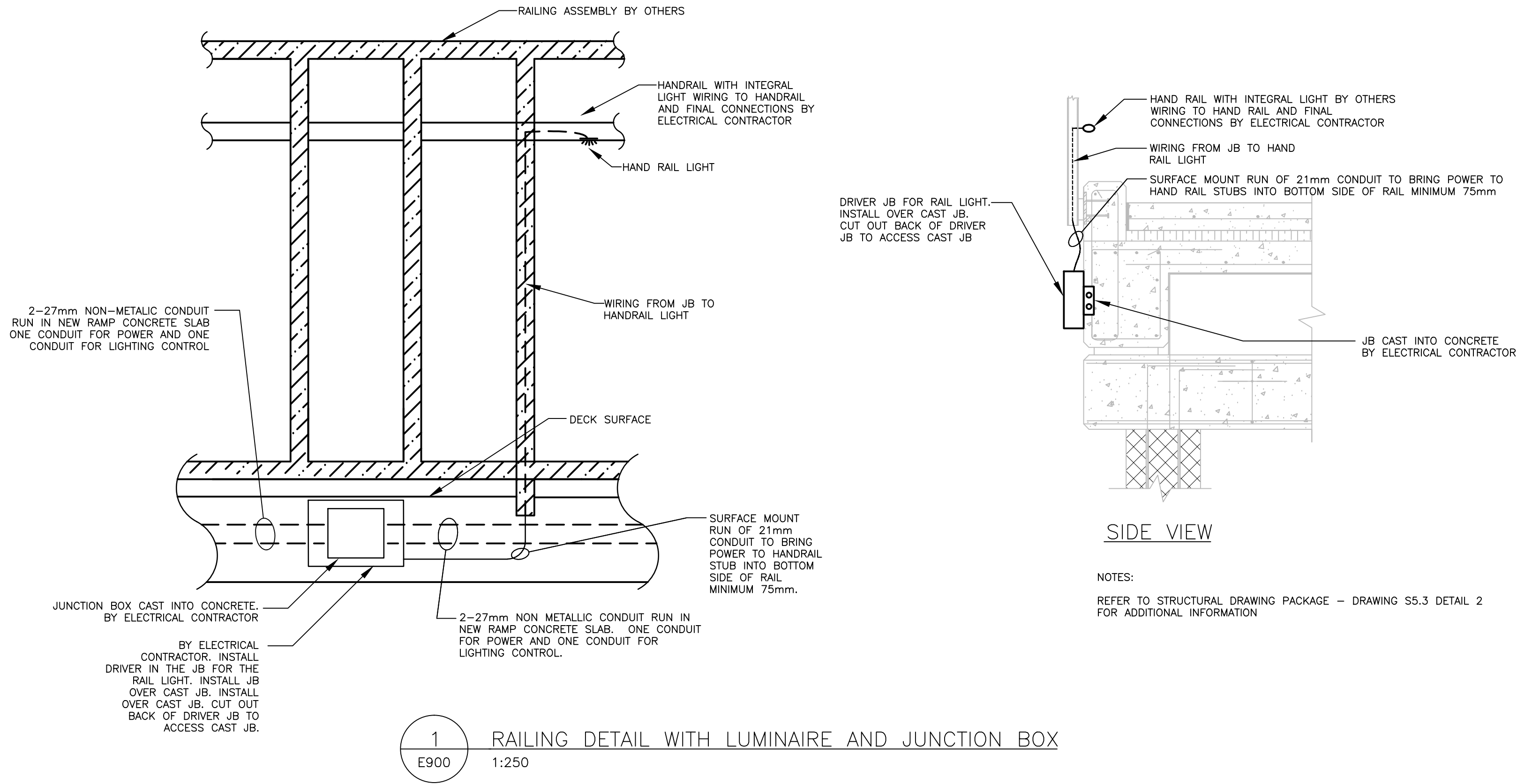
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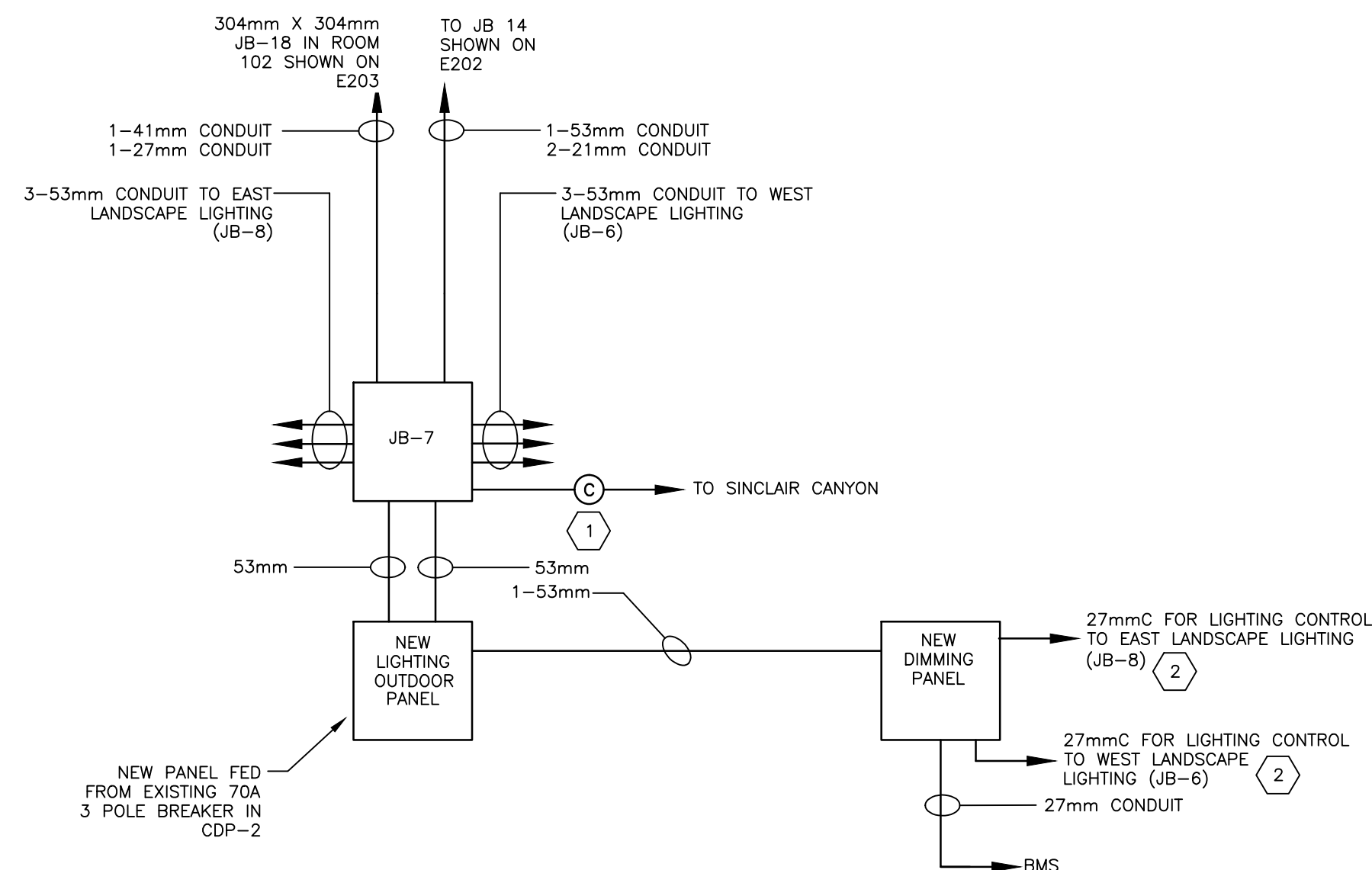
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<b>DETAILS</b>	<b>WESTERN PROJECT # R.072512.001</b>	<b>E900</b>	<b>6</b>





- | KEY NOTES |  |
|-----------|--|
| 1         | CONTACTOR FOR SINCLAIR CANYON. DIMMING CONTROL TO SWITCH ON CONTACTOR. CIRCUIT #12 FROM PANEL "OUTDOOR LIGHTING" TO BE CONNECTED TO LINE SIDE OF CONTACTOR. CONTACTOR WIRING FROM DIMMING SYSTEM TO BE CONNECTED TO COIL LOAD SIDE OF CONTACTOR TO CONNECT TO EXISTING SINCLAIR CANYON LIGHTING CONTROL CONDUIT. |
| 2         | 27mm LIGHTING CONTROL CONDUITS ARE TO BE USED IF SEPARATE CONTROL WIRING IS REQUIRED FOR DIMMING SIGNALS.  |

1 LIGHTING CONTROL SINGLE LINE DIAGRAM  
E901 N.T.S.

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PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC Project Manager/Administrateur de Projets TPSGC

**PWGSC, Regional Manager, Architectural and Engineering Services**

**PWGSC, Regional Manager, Architectural and Engineering Services**

Drawing title/Titre du dessin

## LIGHTING CONTROL SCHEMATIC

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
<b>WESTERN PROJECT # R.072512.001</b>	<b>E901</b>	<b>6</b>



GENERAL NOTES

CONTRACTOR IS RESPONSIBLE TO CONFIRM THE LOCATION OF ALL UTILITIES ON SITE PRIOR TO CONSTRUCTION.

CONFIRM ALL CONDITIONS AND DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK.

ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

LAYOUT NOTES

STAKE LAYOUT (E.G. PATHS, WALLS, FORM WORK, ROCK WORK, FURNITURE AND PLANTING) FOR APPROVAL BY STANTEC BEFORE CONSTRUCTION. STANTEC REQUIRES 24 HOURS NOTIFICATION PRIOR TO INSPECTION.

REQUEST FOR ALTERNATES MUST BE SUBMITTED TO STANTEC PRIOR TO BID SUBMISSION. REQUESTED ALTERNATES MUST CONFORM TO SPECIFIED MATERIALS AND REQUIRES APPROVAL BY STANTEC AND THE OWNER FOR ACCEPTANCE.

CHANGES TO PLANTING LOCATIONS ARE TO BE NOTED ON A RECORD DRAWING AND SUBMITTED TO OWNER WITHIN 30 DAYS OF ISSUANCE OF CCC.

ALL ROCKS/BOULDERS TO BE HAND SELECTED AND FREE OF ANY SPALLING, CRACKS, CREVICES, OR SPLINTERS.

GRADING NOTES

ESTABLISH POSITIVE DRAINAGE THROUGHOUT THE SITE.

SOFT LANDSCAPE AREAS SHALL HAVE A GRADIENT NO LESS THAN 2.0% AND NO MORE THAN 33%.

PATHWAYS AND HARD SURFACE AREA GRADIENTS SHALL NOT EXCEED 8%, UNLESS APPROVED IN WRITING BY STANTEC.

IF GRADES WITHIN THE DRIPLINE OF AN EXISTING TREE ARE TO BE CHANGED, THE CONTRACTOR SHALL BE REQUIRED TO CONTACT STANTEC PRIOR TO GRADING WITHIN THE DRIPLINE SO THAT PRECAUTIONS TO PRESERVE THE TREE CAN BE DETERMINED. CHANGE TO GRADES WITHIN THE DRIPLINE REQUIRES APPROVAL PRIOR TO THE START OF THE WORK.

PLANTING NOTES

ALL PLANT MATERIAL MUST MEET THE SPECIFICATIONS SET OUT IN THE LATEST GUIDE SPECIFICATIONS FOR NURSERY STOCK PREPARED BY THE CNFA AND ISA.

DECIDUOUS TREE SETBACKS (MINIMUM DIMENSIONS):

- 2.5m FROM HYDRANTS
- 4.0m FROM STREET LIGHTING
- 3.5m FROM TRANSFORMERS
- 4.0m FROM BUS STOPS
- 4.5m FROM ISLAND BULLNOSES
- 2.5m FROM CURB STOPS

CONIFEROUS TREE SETBACKS (MINIMUM DIMENSIONS):

- 3.0m FROM HYDRANTS
- 4.0m FROM STREET LIGHTING
- 3.5m FROM TRANSFORMERS
- 4.0m FROM BUS STOPS
- 4.5m FROM ISLAND BULLNOSES
- 3.0m FROM CURB STOPS

THE EXACT LOCATION OF TREES SHALL BE DETERMINED ON SITE/FIELD FIT AND SHALL BE SUBJECT TO DRIVEWAY LOCATIONS, SERVICING, STREET LIGHTING AND OTHER FURNISHINGS WHERE APPLICABLE.

CHANGES TO PLANTING LOCATIONS: SEE LAYOUT NOTES.

DEMOLITION NOTES

ALL ACCUMULATED SEDIMENT AND DEBRIS SHOULD BE REMOVED AS REQUIRED. ONCE CONSTRUCTION ACTIVITIES ARE COMPLETE, ALL RELATED MATERIALS AND TEMPORARY STRUCTURES SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

ALL EXCAVATED MATERIALS TO BE DISPOSED OF OFF SITE. ASPHALT AND CONCRETE MATERIALS TO BE DISPOSED OF AT AN APPROVED RECYCLE FACILITY. CONTAMINATED FILL MATERIALS TO BE DISPOSED OF AT AN APPROVED FACILITY.

IF DURING DEMOLITION/ EXCAVATION ANY OBJECTS, NON-NATIVE, ARTIFACT ETC. ARE UNCOVERED, STOP WORK AND NOTIFY THE CLIENT SO THAT A HUMAN RESOURCE CONSULTANT CAN INVESTIGATE.

PRESERVE AND PROTECT ITEMS IDENTIFIED "TO REMAIN".

REMOVE PLANT MATERIAL INSIDE "LIMITS OF GRADING" UNLESS OTHERWISE NOTED.

REQUIRED CONSTRUCTION THAT IS OUTSIDE OF THE LIMITS OF GRADING IS TO BE REVIEWED AND APPROVED BY STANTEC PRIOR TO CONSTRUCTION. CONTRACTOR IS TO REHABILITATE ALL AREAS DAMAGED DURING CONSTRUCTION.

GOOD HOUSEKEEPING PRACTICES

GOOD HOUSE KEEPING PRACTICES, AS OUTLINED IN THE PARKS CANADA GUIDELINES FOR EROSION AND SEDIMENT CONTROL, WILL BE IMPLEMENTED DURING CONSTRUCTION AND RESTORATION OF THE SITE.

GOOD HOUSE KEEPING PRACTICES WILL HELP MINIMIZE EROSION AND SEDIMENT CONCERNS. GOOD HOUSE KEEPING PRACTICES THAT WILL BE IMPLEMENTED ON SITE ARE AS FOLLOWS:

STOCKPILES SHOULD BE LOCATED AWAY FROM WATERCOURSES, ENVIRONMENTALLY SENSITIVE AREAS, DRAINAGE COURSES, RAVINES, AND EXISTING ADJACENT DEVELOPMENTS. THE STOCKPILES SHOULD BE STABILIZED AGAINST EROSION IMMEDIATELY FOLLOWING STRIPPING OPERATIONS. STABILIZATION CAN INCLUDE, BUT IS NOT LIMITED TO, ESTABLISHMENT OF A COVER CROP OR A HYDROSEED MATRIX, CONSISTING OF SEED, FIBER BOND, AND TACKIFIER.

ALL CONSTRUCTION VEHICLES SHOULD LEAVE THE SITE AT A DESIGNATED POINT OR POINTS. GRAVELLING OR PAVING (WHERE PRACTICAL) OF FREQUENTLY USED ACCESS ROADS WILL HELP ENSURE THAT MINIMAL MATERIAL SUCH AS MUD IS TRACKED OFF-SITE. THE ACCESS ROAD SHOULD CONSIST OF A BED OF NON-ERODABLE MATERIAL (I.E. GRAVEL) OF SUFFICIENT LENGTH TO ENSURE THAT A MINIMUM OF MATERIAL (MUD) IS TRACKED OFFSITE ONTO ADJACENT STREETS. INTERNAL HAUL ROADS AND/OR TRACK PACKS CAN ALSO BE DESIGNATED AND MAINTAINED TO HELP REDUCE OFFSITE TRACKING. IN SITUATIONS WHERE MUD TRACKING BECOMES A MAJOR PROBLEM, A HIGH-PRESSURE PUMP AND HOSE INSTALLATION MAY BE USED TO PROVIDE A WASHDOWN FACILITY FOR TRUCK WHEELS.

WHEN SEWERS HAVE BEEN INSTALLED OR ARE EXISTING, MEASURES SHOULD BE UNDERTAKEN TO ENSURE SEDIMENT AND DEBRIS DOES NOT GET INTO THE MUNICIPAL SEWER SYSTEM. BOTH CATCH BASINS AND MANHOLES SHOULD BE PROTECTED. THIS MAY BE ACCOMPLISHED BY SEALING OPENINGS, SETTING UP SUMPS OR WEIRS INSIDE THE STRUCTURES OR BY PROVIDING APPROPRIATE INLET PROTECTION (FILTER FENCES, SEDIMENT TRAPS, ETC.). A TEMPORARY DRAINAGE SYSTEM SHOULD BE USED WITH APPROPRIATE VELOCITY CONTROLS AND TEMPORARY STORAGE AREAS FOR SEDIMENT CONTROL. THIS WILL ENSURE THAT SEDIMENT AND DEBRIS DO NOT GET INTO THE MUNICIPAL SEWER SYSTEM AND INTO THE DOWNSTREAM WATERWAYS. DILIGENT EFFORTS MUST BE UNDERTAKEN TO ENSURE THAT THE TEMPORARY DRAINAGE SYSTEM DOES NOT FLOOD ADJACENT PROPERTIES.

WHERE ON-SITE OR DOWNSTREAM DETENTION FACILITIES ARE PROVIDED, USE CAN BE MADE OF A QUANTITY CONTROL FACILITY (THROUGH THE PLACING OF TEMPORARY WEIRS OR CHECK DAMS) FOR SEDIMENT CONTROL DURING CONSTRUCTION.

DUST CONTROL MEASURES SHOULD BE IMPLEMENTED TO PREVENT WIND TRANSPORTATION OF DUST FROM DISTURBED SOIL SURFACES. THIS MAY BE ACCOMPLISHED SEVERAL WAYS. VEGETATE, HYDROSEED, OR MULCH AREAS THAT WON'T RECEIVE VEHICLE TRAFFIC. OTHERWISE CONSTRUCT WIND BREAKS OR SCREENS. THE SITE MAY ALSO BE SPRINKLED WITH WATER OR A CHEMICAL DUST SUPPRESSANT TO CONTROL DUST; HOWEVER, CARE MUST BE TAKEN TO PREVENT THE TRACKING OF MUD AS A RESULT. OTHERWISE, ANOTHER EFFECTIVE TOOL IS TO REDUCE VEHICLE SPEEDS TO DECREASE THE AMOUNT OF DUST STIRRED UP.

WEED MANAGEMENT PLAN

**PREVENTION:**

SEED CERTIFICATES WILL BE PROVIDED FOR REVIEW PRIOR TO PURCHASE OF THE SEED.

ALL CONSTRUCTION VEHICLES SHOULD LEAVE THE SITE AT A DESIGNATED POINT OR POINTS. GRAVELLING OR PAVING (WHERE PRACTICAL) OF FREQUENTLY USED ACCESS ROADS WILL HELP ENSURE THAT MINIMAL MATERIAL SUCH AS MUD IS TRACKED OFF-SITE. ALL CONSTRUCTION EQUIPMENT, VEHICLES AND MATERIALS MUST BE CLEAN AND WEED FREE PRIOR TO ENTERING THE SITE. A HIGH-PRESSURE PUMP AND HOSE INSTALLATION MAY BE USED TO PROVIDE A WASHDOWN FACILITY FOR CONSTRUCTION EQUIPMENT AND VEHICLES.

**MONITORING:**

TO PREVENT WEED INFESTATION FIELD MONITORING WILL BE CONDUCTED ON A BI-WEEKLY BASIS THROUGHOUT THE CONSTRUCTION PERIOD AND ON A MONTHLY BASIS DURING THE ESTABLISHMENT AND MAINTENANCE PERIOD. VEGETATION MANAGEMENT WILL BE CONDUCTED THROUGHOUT THE PROJECT, UNTIL THE MAINTENANCE PERIOD IS COMPLETED, TO CONTROL UNDESIRED VEGETATION. SHOULD ANY NOXIOUS OR PROHIBITED NOXIOUS WEEDS OCCUR WITHIN THE AREA, THEY ARE TO BE REMOVED AS PER THE ALBERTA WEED CONTROL ACT.

**CONTROL:**

MECHANICAL VEGETATION CONTROL, SUCH AS MOWING OR HAND PULLING, WILL BE USED WHERE POSSIBLE, AND/OR WHEN APPLICATION OF CHEMICAL CONTROLS IS NOT APPROPRIATE.

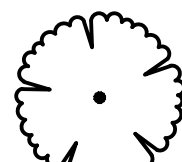




SPOT APPLICATION OF A NON-SELECTIVE HERBICIDE WILL BE USED, WHERE APPROPRIATE, WITHIN THE SITE. THE USE OF HERBICIDES WILL BE AVOIDED ADJACENT TO WETLANDS AND OTHER WATER BODIES. HERBICIDE WILL BE APPLIED TO INTRODUCED WEED SPECIES USING SPOT APPLICATION SPRAY TECHNIQUES TO MINIMIZE THE DAMAGE TO DESIRED PLANT SPECIES. ALL HERBICIDES WILL BE APPLIED IN ACCORDANCE WITH PROVINCIAL LEGISLATION BY A CERTIFIED PESTICIDE APPLICATOR. NOTICE SIGNS WILL BE POSTED 24 HOURS PRIOR TO APPLICATION OF CHEMICAL OR HERBICIDE, IN ACCORDANCE WITH CITY OF CALGARY RIGHT TO KNOW BYLAW. ONLY COMPANIES HOLDING A PESTICIDE SERVICE REGISTRATION WILL BE CONTACTED FOR THE APPLICATION OF ANY CHEMICAL CONTROLS.

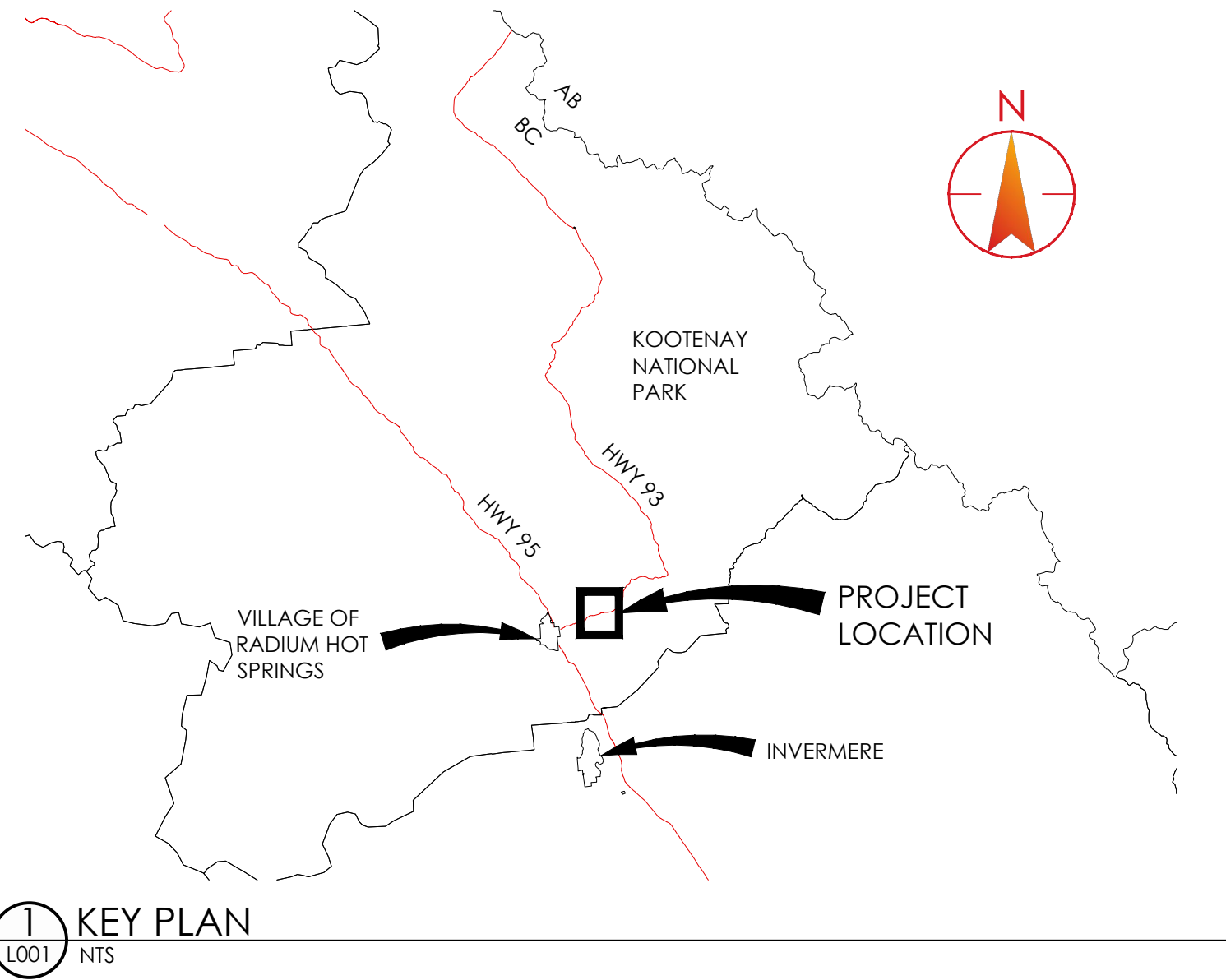
**THRESHOLD:**

A THRESHOLD OF 5 WEEDS PER SQUARE METER IS TO BE ATTAINED ON ALL CLASSES OF PARKS AND DEVELOPMENT LANDS PRIOR TO FAC.

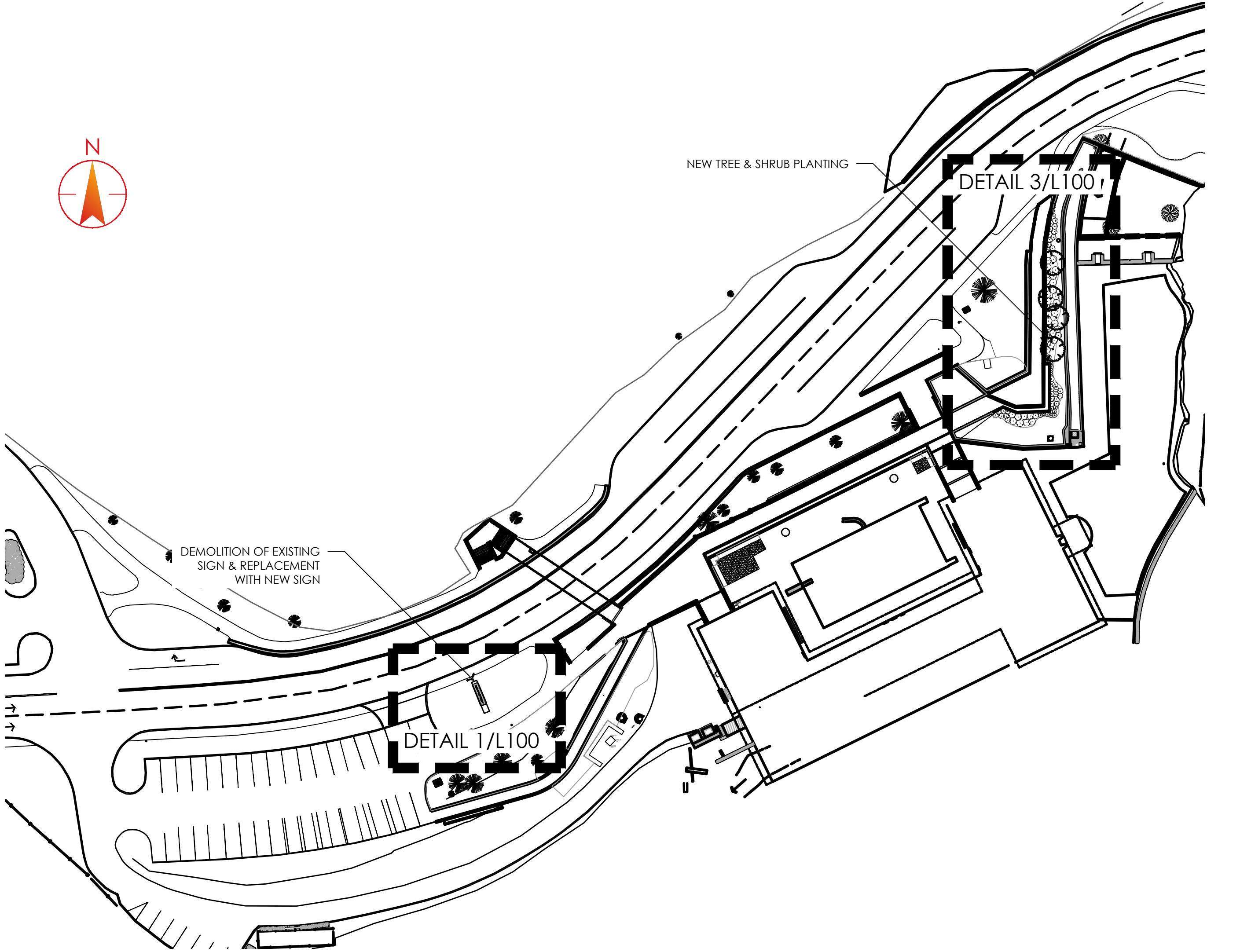
SITE SHALL BE RESTORED TO 80% VEGETATIVE COVER. IF NECESSARY A QUANTITATIVE ESTIMATE WILL BE DETERMINED BY FOUR 1m x 1m PLOTS RANDOMLY LOCATED ON SITE. SPECIES COMPOSITION IN THESE PLOTS SHOULD REFLECT THE EXPECTED PLANT COMMUNITY COMPOSITION PRESCRIBED BY THE SEED MIX ON THE APPROVED DRAWINGS. NO MORE THAN 10% COVER OF SMOOTH BROME WILL BE ACCEPTABLE IN THE ASSESSMENT PLOTS PRIOR TO FAC.


PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CAL
	BP	4	Betula papyrifera / Paper Birch	65mm CAL.
SHRUBS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT
	MA	39	Mahonia aquifolium / Oregon Grape	#2 pot
	RW	20	Rosa woodsii / Mountain Rose	#2 pot
	SR	19	Spiraea betulifolia / Birch Leaf Spiraea	#5 pot
	SY	14	Symphoricarpos albus / Common White Snowberry	#2 pot



LANDSCAPE DRAWING INDEX  
L001 - MATERIALS SCHEDULES AND NOTES  
L100 - LANDSCAPE DETAILS







Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

REAL PROPERTY SERVICES  
Pacific Region  
SERVICES IMMOBILIERS  
Région de Pacifique



Stantec Consulting Ltd.  
200 - 325 25th Street SE  
Calgary, AB T2A 7H8  
Tel: 403-716-8000 / Fax: 403-716-8019  
www.stantec.com



5		
4		
3		
2		
1	ISSUED FOR TENDER	17.03.31
0	ISSUED FOR 100% REVIEW	17.01.06
Revision/ Revision	Description/Description	Date/Date

Client/client

PUBLIC WORKS AND  
GOVERNMENT SERVICES  
CANADA

Project title/Titre du projet

RADIUM HOT SPRINGS  
LIGHTING UPGRADES AND  
SITE REHABILITATION

TENDER PACKAGE 1

Consultant Signature Box Only

Designed by/Concept par  
DS 2016.07.15

Drawn by/Dessiné par  
LM 2016.07.15

PWGSC Project Manager/Administrateur de Projets TPSGC  
MOSES YOUNG

PWGSC Regional Manager, Architectural and Engineering Services/  
Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin

LANDSCAPE  
MATERIALS SCHEDULES & NOTES

Project No./No. du projet <b>WESTERN PROJECT # R.072512.001</b>	Sheet/Fauille <b>L001</b>	Revision no./ La Révision no. <b>1</b>
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2017/03/31 2:53 PM By: MCGregor, Liana

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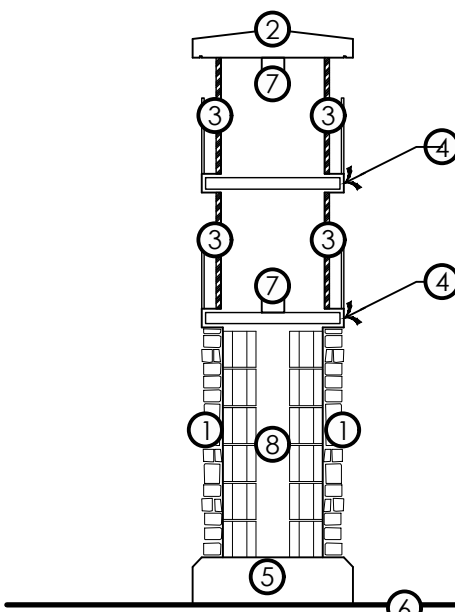
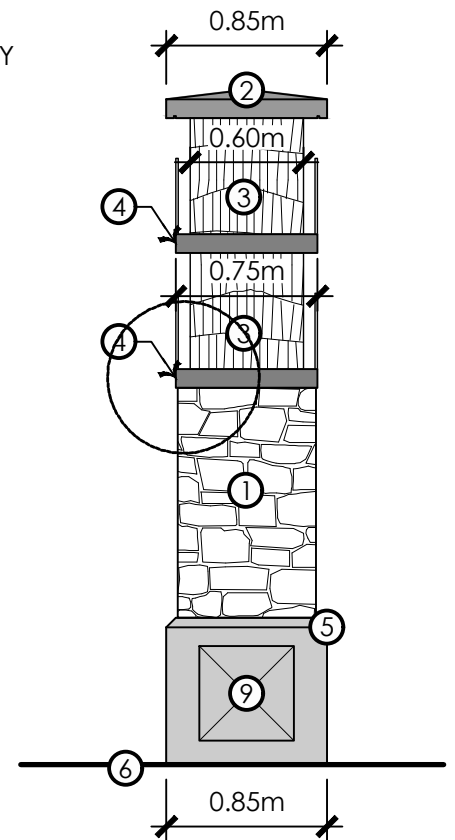
1 EXISTING WALLS, STONE VENEER TO MATCH

#### ENTRY SIGN MATERIALS

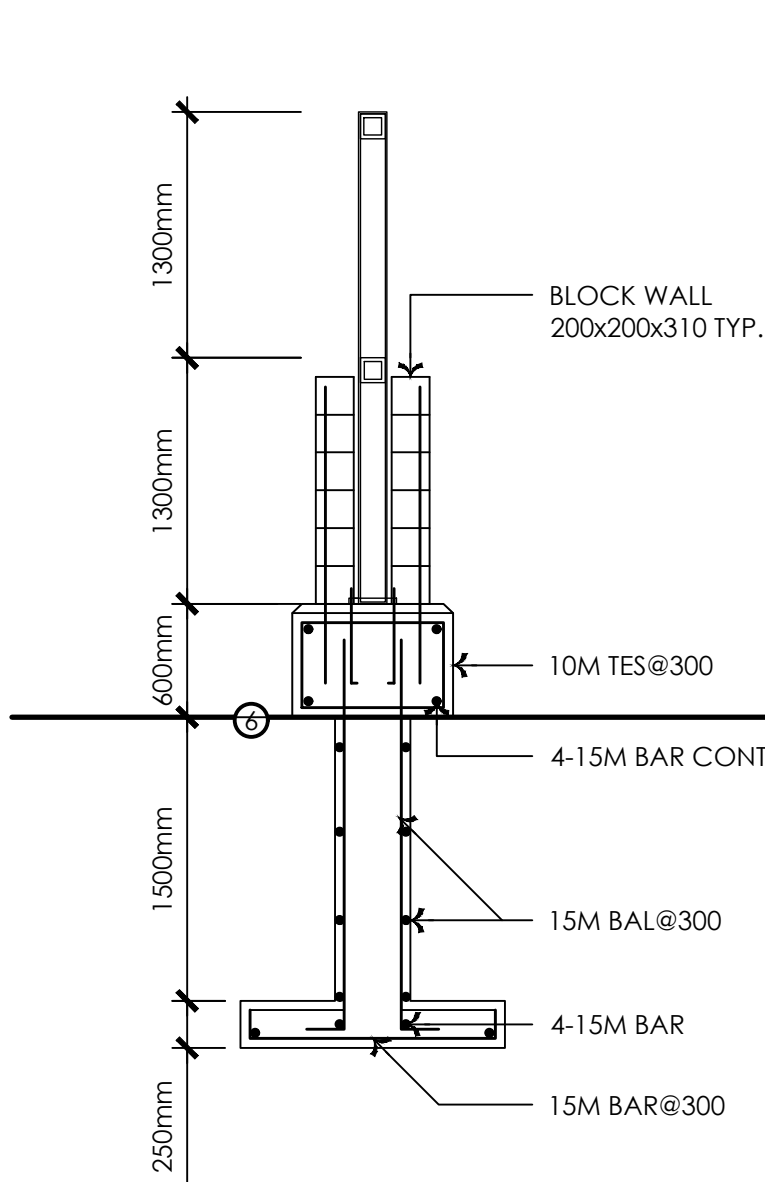
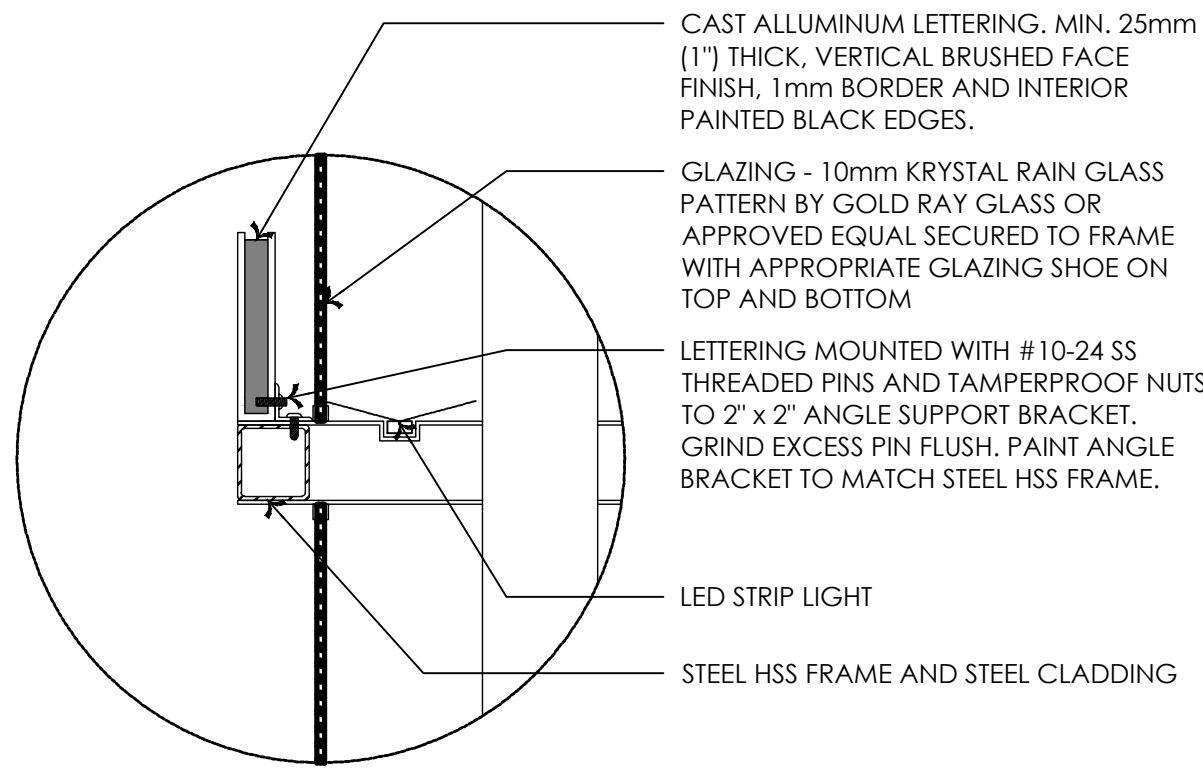
1. STONE VENEER TO MATCH EXISTING WALLS
2. STAINLESS STEEL WALL CAP
3. 12.5mm THICK ALUMINUM PIN MOUNTED LETTERING, STAND OFF FROM WATER PATTERNED LAMINATED GLASS
4. STAINLESS STEEL CLADDING OVER STRUCTURE (TBD)
5. CONCRETE GRADE BEAM AND PILE CAP
6. FINISHED GRADE - ELEVATION VARIES
7. LED STRIP LIGHTING
8. MASONRY BLOCK WALL
9. CAST IN PVC ELECTRICAL BOX 300mm x 300mm x 200mm JB-1
10. CAST IN BOX FOR ELECTRICAL RECEPTACLE SEE S/E900

#### DETAIL NOTES:

1. MANUFACTURER OF GLASS TO PROVIDE SAMPLE TO EVALUATE TRANSPARENCY AND TRANSLUCENCY PRIOR TO CONSTRUCTION.
2. STONE PRODUCTS TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS CONTRACTOR TO PROVIDE SAMPLES OF STONE, GROUT, AND METAL COMPONENTS PRIOR TO CONSTRUCTION
3. ALL MATERIAL SUBSTITUTIONS TO BE APPROVED BY STANTEC CONSULTING LTD. PRIOR TO CONSTRUCTION
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION CONTRACTOR TO PROVIDE STAMPED ENGINEERED STRUCTURAL DRAWINGS FOR ALL APPLICABLE COMPONENTS INCLUDING FOOTING AND SIGN DESIGN. A COPY OF THESE DRAWINGS SHALL BE FORWARDED TO STANTEC CONSULTING LTD. FOR REVIEW AND APPROVAL
5. STANTEC TO PROVIDE ARTWORK FOR LOGO/LETTERING, CONTRACTOR TO FORWARD SHOP DRAWINGS OF LOGO/LETTERING TO STANTEC FOR REVIEW & APPROVAL PRIOR TO MANUFACTURING
6. ALL INTERIOR SURFACES TO BE PAINTED FLAT WHITE.
7. DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE



N.T.S

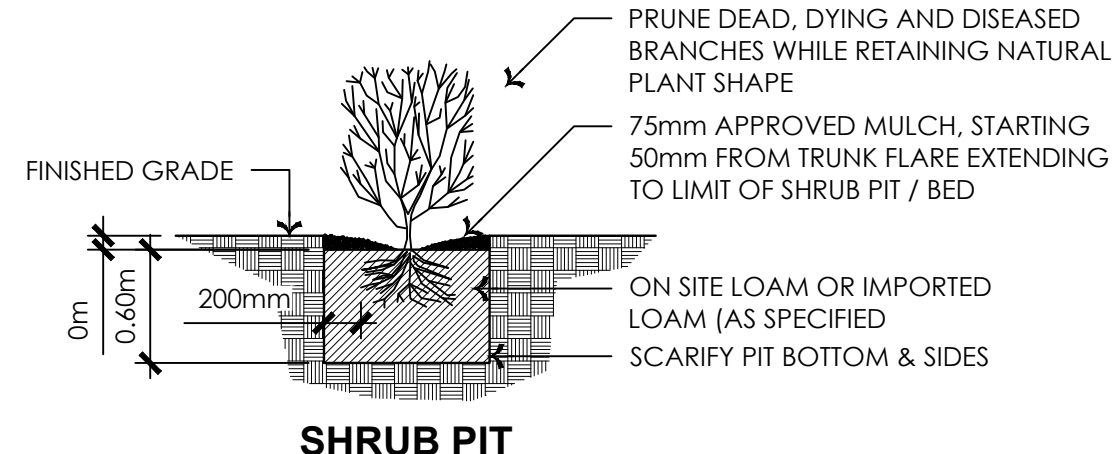


#### 2 SIGN STRUCTURAL

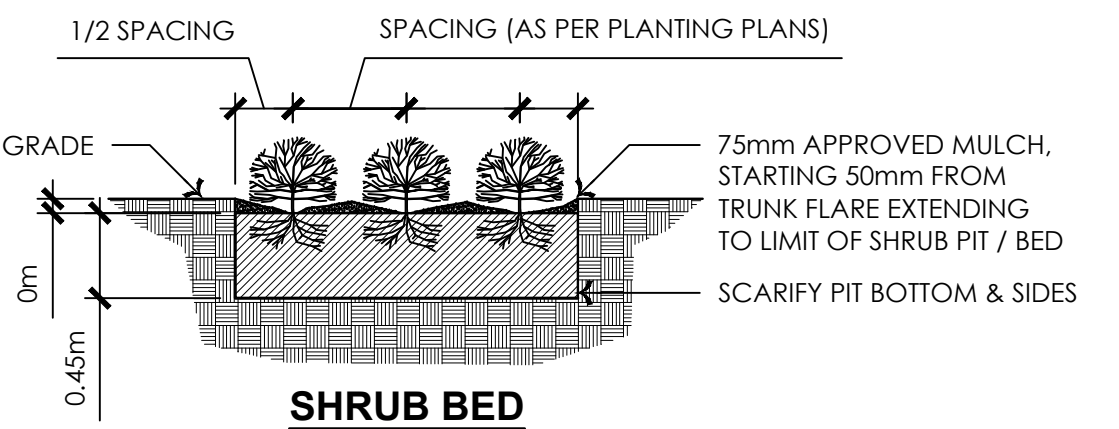
N.T.S

#### NOTES:

1. LOOSEN ROOTBALL FROM POT/CONTAINER
2. CHECK FOR GIRDLING ROOTS. ANY GIRDLING ROOTS SHOULD BE PRUNED TO PREVENT FUTURE GIRDLING
3. THIS DETAIL WILL BE USED FOR ALL CONTAINERIZED DECIDUOUS OR CONIFEROUS SHRUBS PLANT SHRUB AT ORIGINAL DEPTH AS GROWN IN NURSERY. ROOT FLARE SHOULD BE VISIBLE AT GRADE
4. ALL DIMENSIONS IN mm.



#### SHRUB PIT



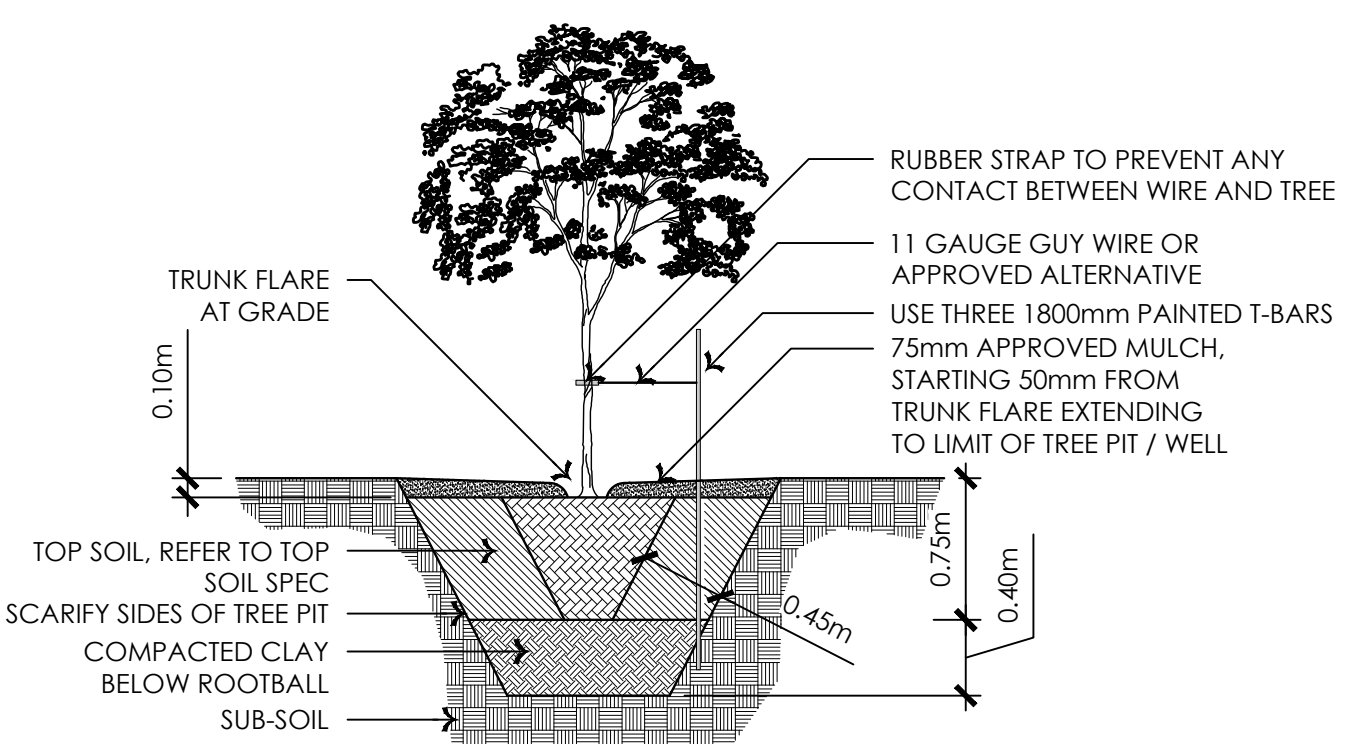
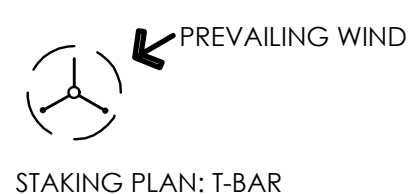
#### SHRUB BED

#### 4 SHRUB PLANTING

N.T.S

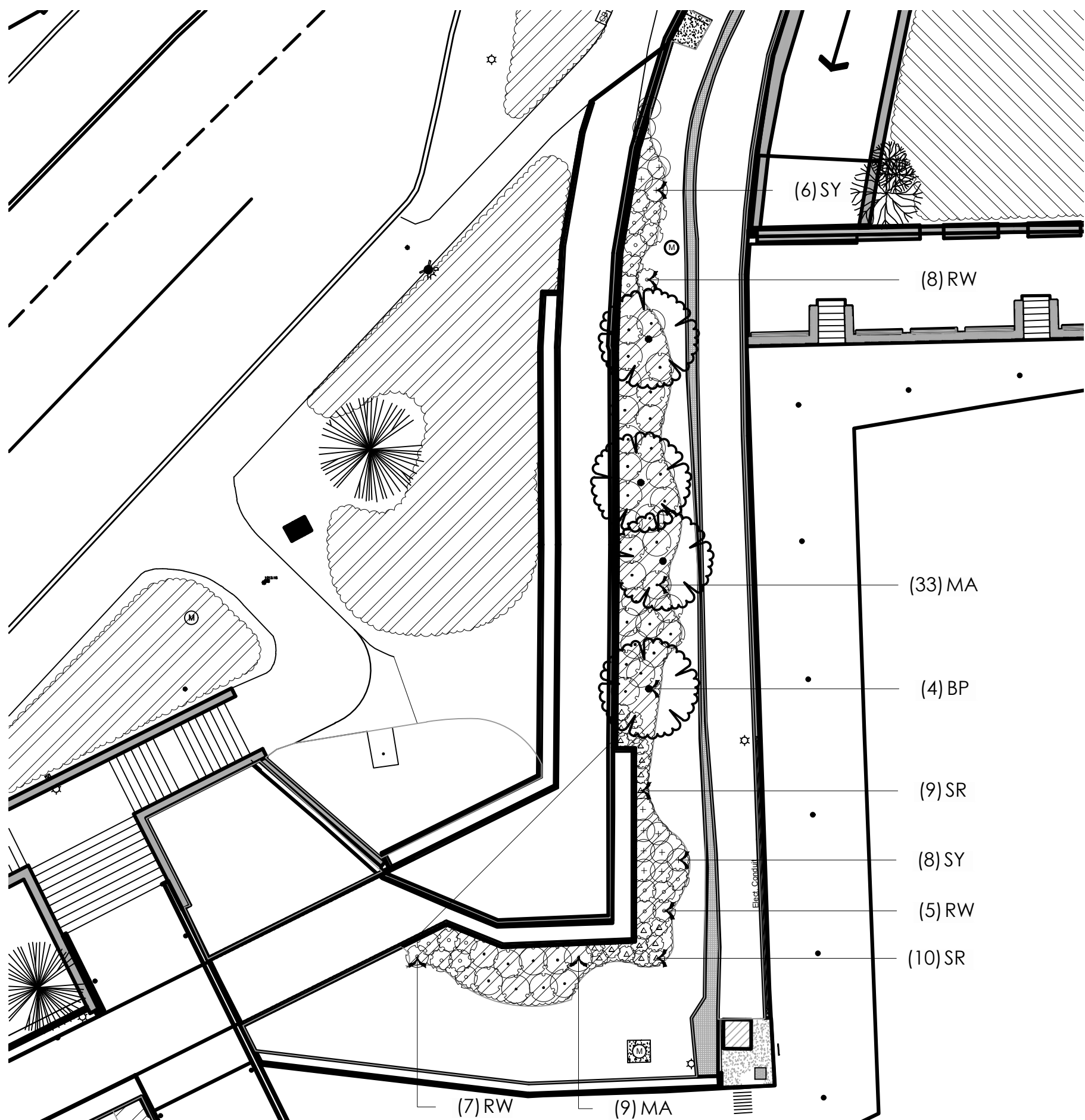
#### NOTES:

1. PRUNE AWAY ANY GIRDLING ROOTS.
2. PRUNE BROKEN AND FRAYED ROOT ENDS WITH SECATEURS.
3. HOLD TRUNK VERTICAL. BACKFILL AROUND ROOTS WITH TOPSOIL. CONTINUOUSLY PACKING THE SOIL UNTIL FIRM.
4. TREE SHOULD BE PLANTED THE SAME ORIGINAL GROWING DEPTH AS IN NURSERY. TRUNK FLARE SHOULD BE VISIBLE AT GRADE.
5. IF TREE IS IN A WIRE BASKET, CUT AND REMOVE STRAPPING; AND THE HORIZONTAL/VERTICAL WIRES OF THE UPPER 1/3 AS A MINIMUM. PULL BACK BURLAP TO THE SAME MINIMUM.
6. T-BARS SHOULD BE HAMMERED DOWN INTO SOLID FOOTING (MINIMUM 400mm INTO SUBSOIL).
7. STAKING TO BE IN PLACE FOR A MAXIMUM OF ONE YEAR, WHEN REQUIRED.
8. USE RUBBER STRAPS (TO PROTECT THE TREE) AT POINT OF CONTACT WITH TRUNK.
9. PRUNE DEAD / DYING / DISEASED BRANCHES TO MAINTAIN NATURAL FORM OF TREE
10. ALL DIMENSIONS IN mm.



#### 5 DECIDUOUS TREE PLANTING

N.T.S



#### 3 PLANTING PLAN

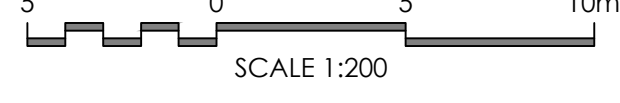
L100

#### PLANT SCHEDULE

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SY	14	14	Symphoricarpos albus / Common White Snowberry	#2 pot

#### PLANTING LEGEND

SYMBOL	DESCRIPTION
	EXISTING TREE TO REMAIN
	EXISTING SHRUBS TO REMAIN



5		
4		
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2		
1	ISSUED FOR TENDER	17.03.31
0	ISSUED FOR 100% REVIEW	17.01.06
Revision/Revision	Description/Description	Date/Date

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#### PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet

#### RADIUM HOT SPRINGS LIGHTING UPGRADES AND SITE REHABILITATION

#### TENDER PACKAGE 1

Consultant Signature Box Only

Designed by/Concept par  
DS 2016.07.15

Drawn by/Dessiné par  
LM 2016.07.15

PWGSC Project Manager/Administrateur de Projets TPSGC

MOSES YOUNG

PWGSC Regional Manager, Architectural and Engineering Services /  
Gestionnaire régionale, Services d'architecture et de génie, TPSGC

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#### LANDSCAPE DETAILS

Project No./No. du projet  
**WESTERN  
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Sheet/Fauille  
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Revision no./  
La Révision  
no.  
**1**