

THE BOARD OF GOVERNORS OF EXHIBITION PLACE, TORONTO

MARK GRIMES
CHAIR OF THE BOARD
CITY COUNCILLOR

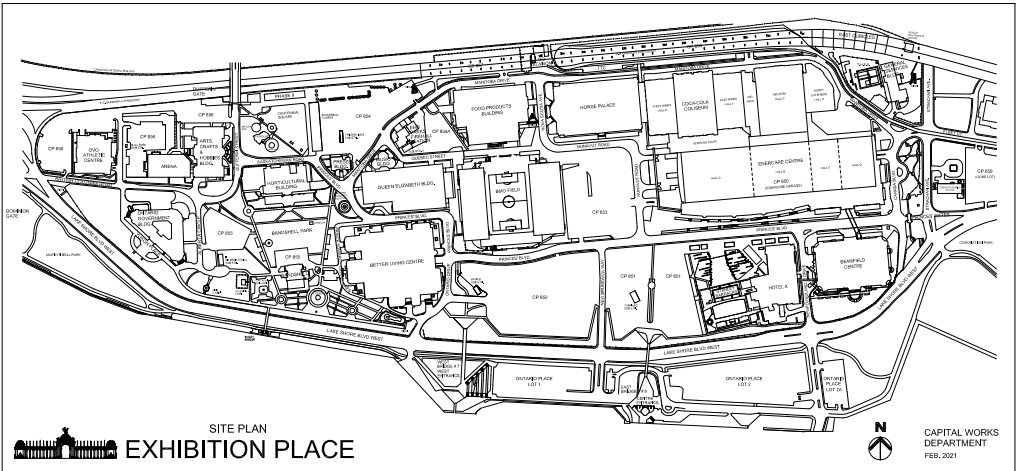
DON BOYLE
CHIEF EXECUTIVE OFFICER

CAPITAL WORKS DIVISION
CONTRACT NO. 21-076-17696

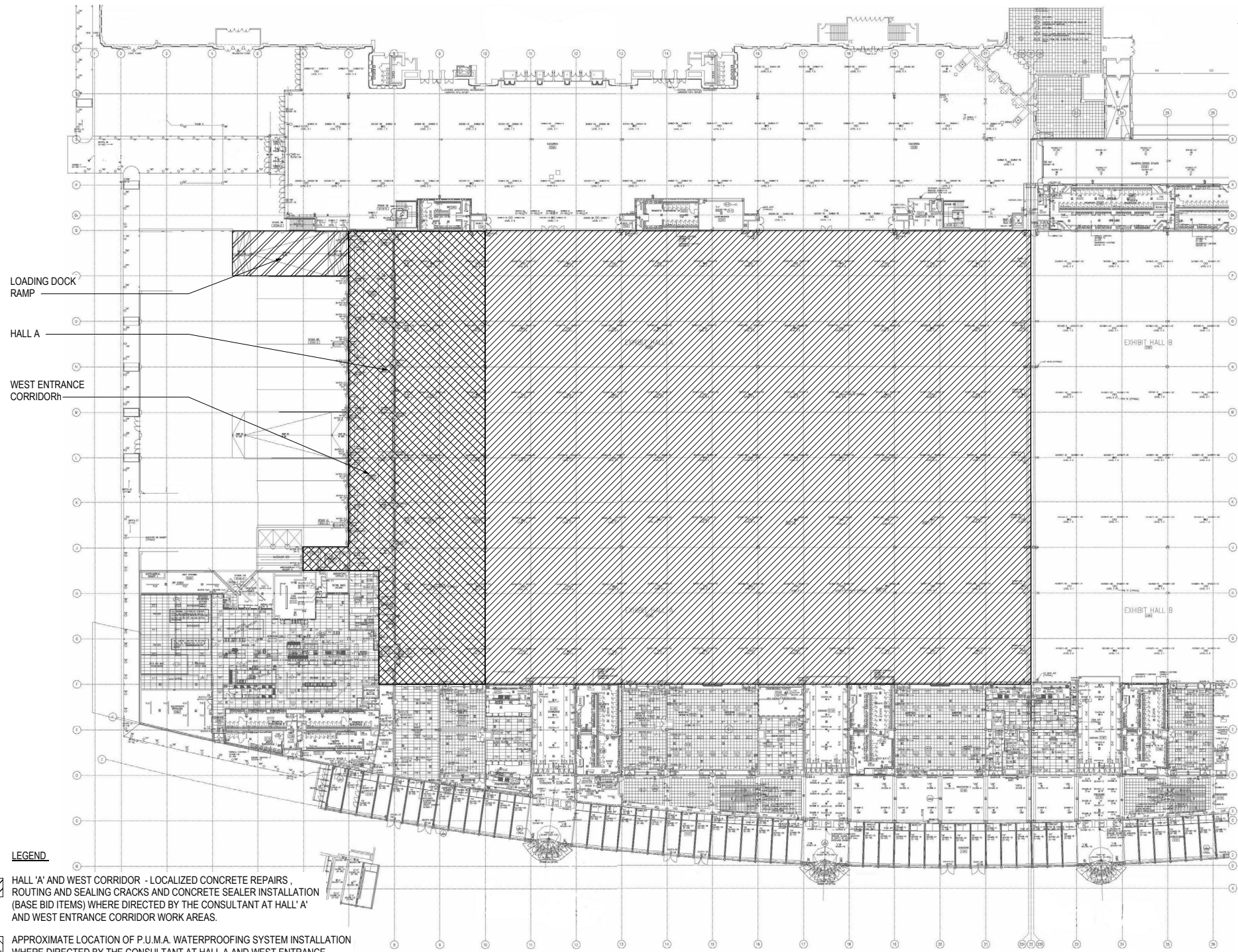
LIST OF DRAWINGS

RESTORATION DRAWING LIST	
Sheet Number	Sheet Name
S0-00	COVER PAGE
S0-01	SCOPE OF WORK PLAN
S1-01	CONCRETE REPAIR DETAILS
S1-02	RAMP AND WATERPROOFING REPAIRS
S1-03	GUARD RAIL DETAILS

SITE PLAN



CONTRACT NO.
21-076-17696



LEGEND

- HALL 'A' AND WEST CORRIDOR - LOCALIZED CONCRETE REPAIRS, ROUTING AND SEALING CRACKS AND CONCRETE SEALER INSTALLATION (BASE BID ITEMS) WHERE DIRECTED BY THE CONSULTANT AT HALL 'A' AND WEST ENTRANCE CORRIDOR WORK AREAS.
- APPROXIMATE LOCATION OF P.U.M.A. WATERPROOFING SYSTEM INSTALLATION WHERE DIRECTED BY THE CONSULTANT AT HALL A AND WEST ENTRANCE CORRIDOR (SEPARATE / ADDITIONAL PRICE ITEM).
- APPROXIMATE LOCATION OF RAMP SLAB REPAIRS, INCLUDING LOCALIZED CONCRETE REPAIRS AS DIRECTED BY THE CONSULTANT, REPLACEMENT OF RAMP SLAB TOPPING, HOT APPLIED WATERPROOFING SYSTEM SNOW MELTING SYSTEM, AND GUARD RAIL REPLACEMENT (BASE BID ITEMS).

GENERAL SCOPE OF WORK:

HALL A AND WEST ENTRANCE CORRIDOR:

1. PERFORM LOCALIZED CONCRETE REPAIRS AT THE HALL A AND WEST ENTRANCE CORRIDOR WHERE DIRECTED BY THE INSTALLATION OF SHORING, BRACING AND HOARDING/ DUST PROTECTION.
2. PERFORM CRACK ROUTING AND SEALING AS DIRECTED BY THE CONSULTANT AND THE MANUFACTURER OF THE WATERPROOFING SYSTEM (SEPARATE PRICE ITEM)
3. PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS, SUPPLY AND INSTALL NEW P.U.M.A WATERPROOFING SYSTEM WHERE SHOWN ON THE DRAWINGS (SEPARATE PRICE ITEM).
4. PREPARE SURFACES, SUPPLY AND INSTALL NEW CLEAR CONCRETE SEALER (SEPARATE PRICE ITEMS).

RAMP REPAIRS:

1. REMOVE AND DISPOSE OF EXISTING RAMP ASPHALT TOPPING, WATERPROOFING SYSTEM AND ELECTRIC SNOW MELTING SYSTEM, AS SHOWN ON THE DRAWINGS.
2. PERFORM LOCALIZED CONCRETE REPAIRS WHERE DIRECTED BY THE CONSULTANT TO THE RAMP SLAB AND VERTICAL CONCRETE SURFACES.
3. SUPPLY AND INSTALL NEW ELECTRIC SNOW MELTING SYSTEM IN ACCORDANCE WITH DESIGN DRAWINGS AND SPECIFICATIONS IN APPENDIX A, INCLUDING CONNECTIONS TO EXISTING POWER SUPPLY SYSTEM.

4. SUPPLY AND INSTALL NEW HOT APPLIED WATERPROOFING SYSTEM AND ASPHALT RAMP TOPPING TO MATCH EXIST. G THICKNESS, INCLUDING INSTALLATION OF NEW TRAFFIC MARKINGS TO MATCH EXISTING, WHERE PRESENT.
5. REPLACE GAURDRAILS AT THE SOUTH SIDE OF THE RAMP, INCLUDING POKETING A 200mm x 200mm POCKET IN THE CURB AT EACH POST LOCATION TO REMOVE EMBEDDED PORTION OF EACH POST. PLACE CONCRETE AT EACH POST LOCATION. SUPPLY AND INSTALL NEW TOP-MOUNTED GALVANIZED GUARDRAIL TO MATCH EXISTING LENGTH, INCLUDING SUBMISSION OF ENGINEER-STAMPED SHOP DRAWINGS.

GENERAL :

1. CONTRACTOR SHALL PROVIDE DETAILED PHASING, HOARDING PLAN AND DUST CONTROL PLAN FOR REVIEW BY THE CONSULTANT AND OWNER PRIOR TO MOBILIZATION TO THE SITE AND MOBILIZATION TO ANY NEW PHASES.
2. CONTRACTOR SHALL PROVIDE ENGINEER-STAMPED SHORING AND BRACING PLAN FOR REVIEW BY THE CONSULTANT PRIOR TO COMMENCEMENT OF CONCRETE REPAIRS.
3. CONTRACTOR SHALL MOBILIZE TO THE SITE ON APRIL 1, 2021 AND SHALL FULLY COMPLETE THE WORK AND BE FULLY DEMOBILIZED FROM THE SITE BY JUNE 14, 2021.

1 PART GROUND FLOOR PLAN
S0-01 N.T.S.

DRAWING NOTES:

1. READ ALL DRAWINGS IN CONJUNCTION WITH EACH OTHER.
2. BASE BUILDING DRAWINGS WERE PROVIDED FOR REFERENCE ONLY AND DO NOT REFLECT THE ACCURACY OF THE ORIGINAL DESIGN AND LAYOUT. REPAIR AREAS SHOWN ARE APPROXIMATE, CONTRACTOR IS RESPONSIBLE FOR VERIFYING WORK LOCATIONS AND QUANTITIES ON-SITE.
3. ALL DIMENSIONS ARE IN mm U/N/O.

NO	DATE	BY	REVISIONS
1	MAR 09, 2021		ISSUED FOR TENDER

CHECK AND VERIFY ALL DIMENSIONS ON THE JOB BEFORE PROCEEDING WITH ANY WORK. DRAWING MUST NOT BE SCALED

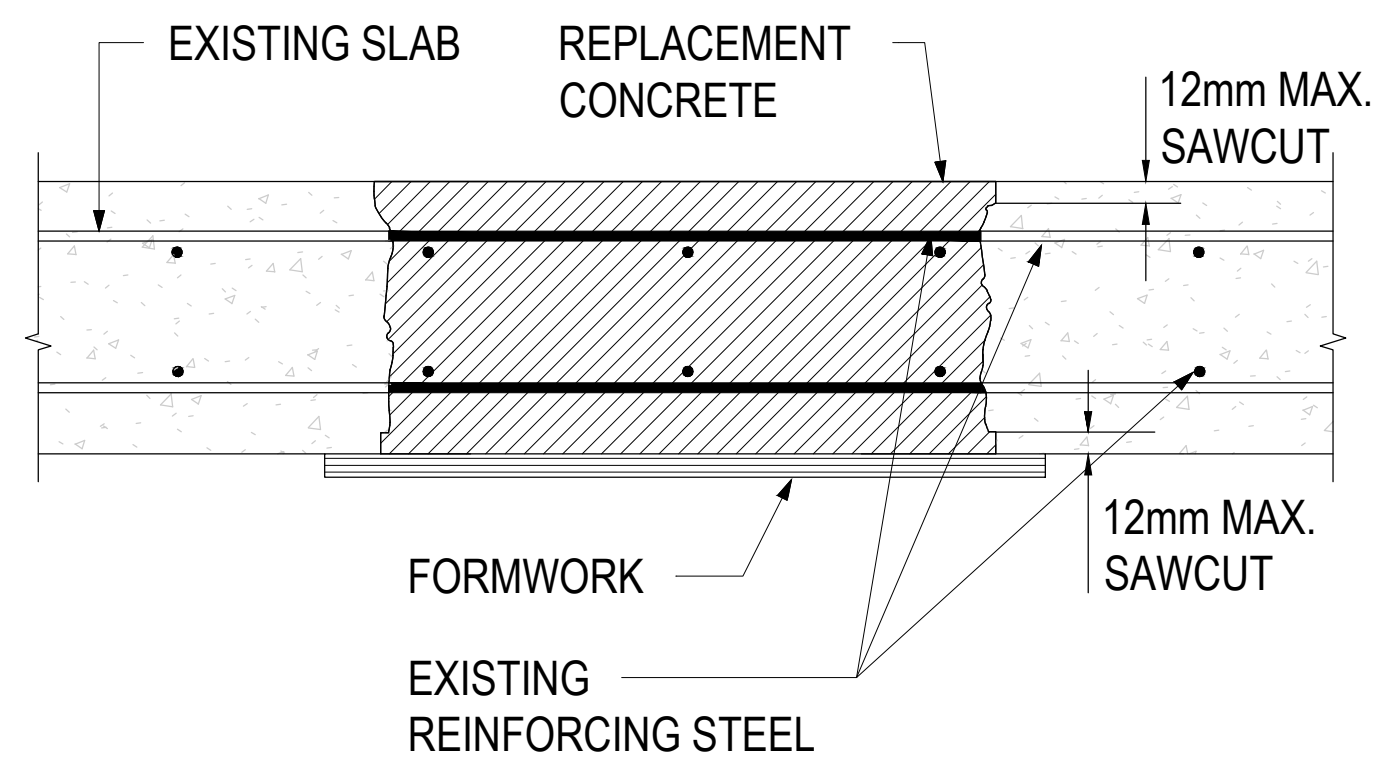


HALL 'A', WEST CORRIDOR AND LOADING DOCK RAMP RETROFITS AT ENERCARE CENTRE, EXHIBITION PLACE

SCOPE OF WORK PLAN

DESIGN BY EK	DATE FEB. 26, 2021	SCALE N.T.S.
DRAWN BY SS	PROJECT NO 21-076-17696	DRAWING NO S0-00
CHECKED BY EK		

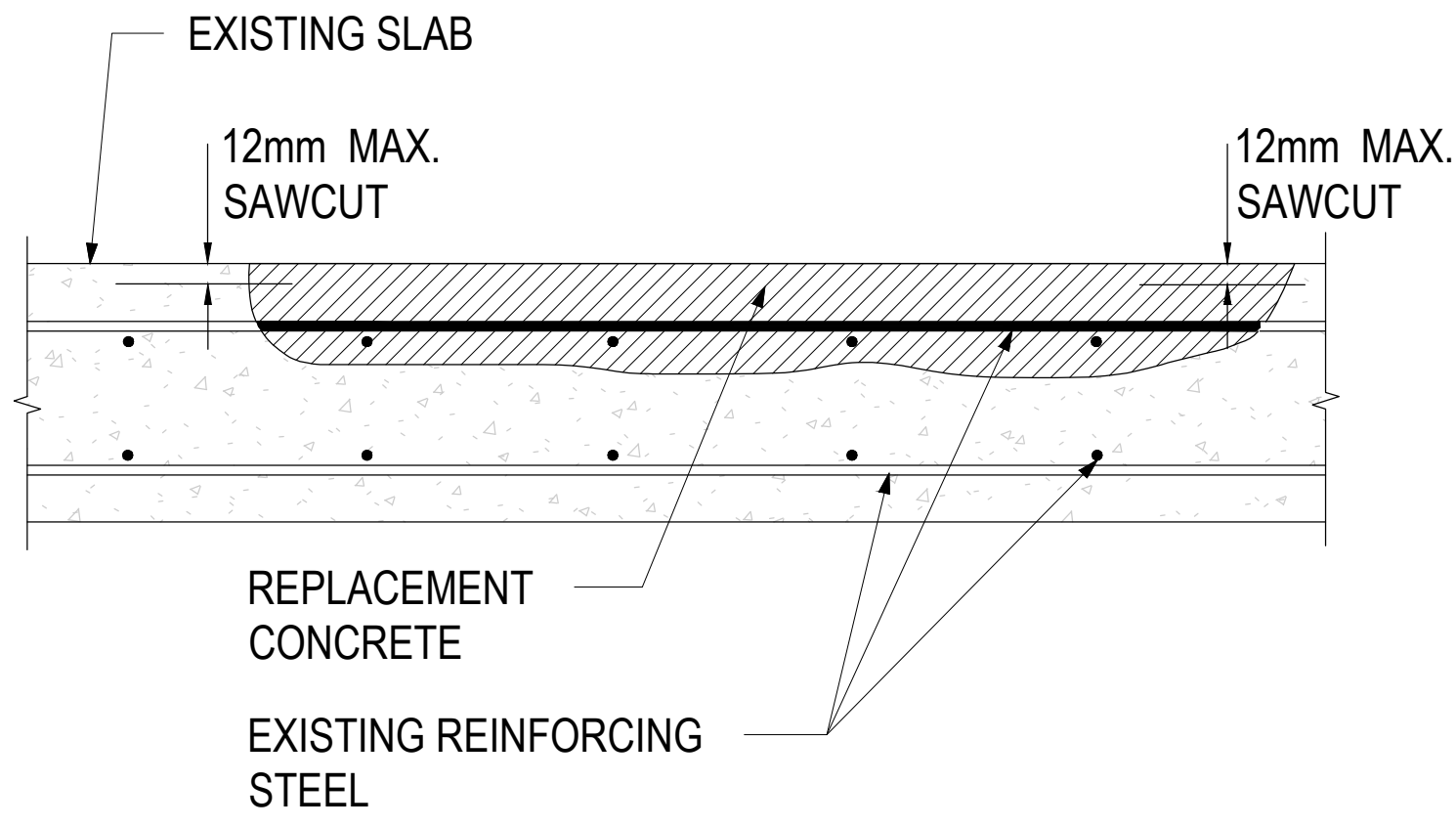
EXHIBITION PLACE



1 THROUGH-SLAB CONCRETE REPAIR
S1-01 NTS

NOTES:

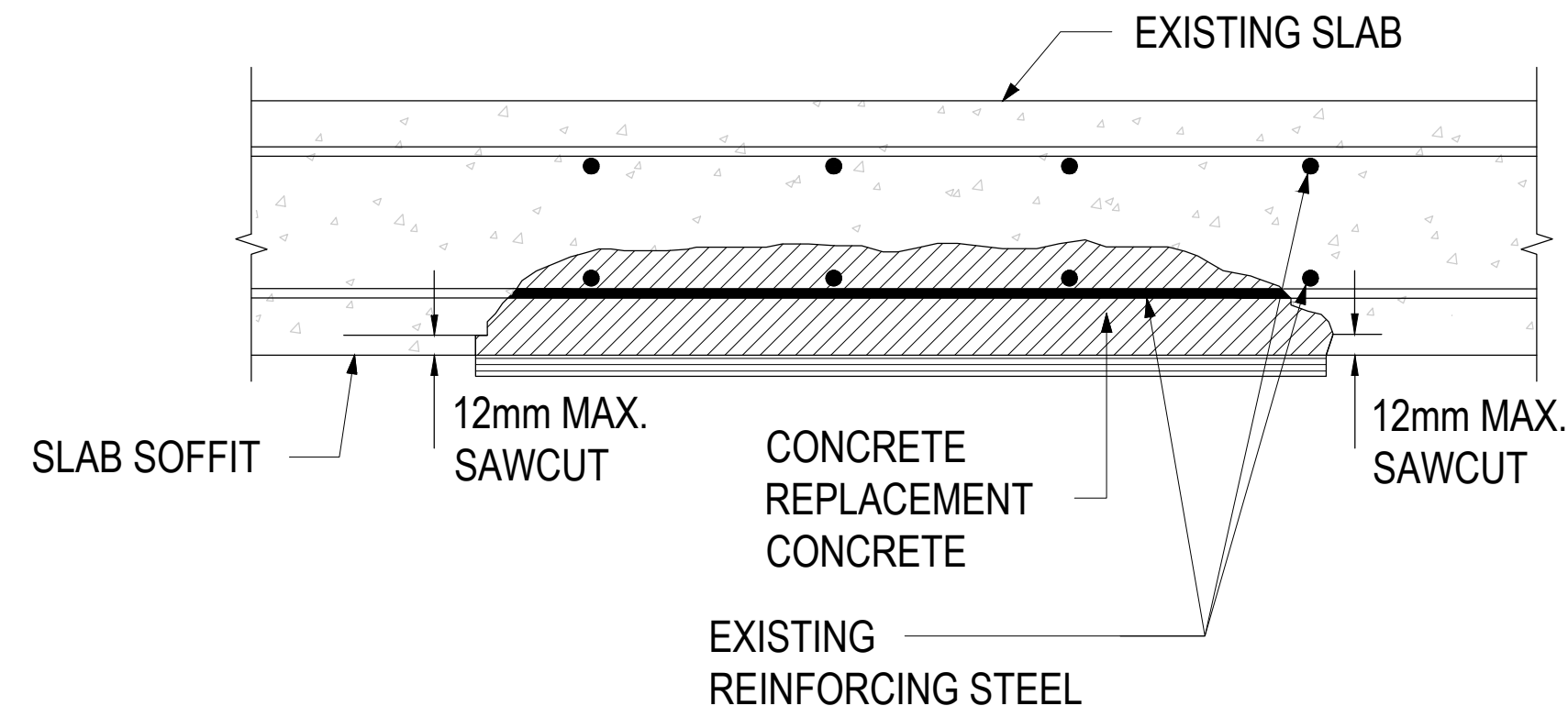
1. PROVIDE TEMPORARY SHORING TO SAFELY SUPPORT SLAB.
2. SAWCUT SURFACE PERIMETER (MAX. 12mm, DO NOT CUT BARS)
3. REMOVE ALL LOOSE AND UNSOUND CONCRETE.
4. SAWCUT SOFFIT PERIMETER AND REMOVE EXCESS CONCRETE.
5. RE-TIE EXPOSED REINFORCING STEEL AS REQUIRED.
6. REINFORCE SEVERELY CORRODED OR DAMAGED REINFORCING STEEL AS DIRECTED BY CONSULTANT
7. CLEAN CONCRETE AND EXPOSED REINFORCING STEEL.
8. PROVIDE FORMWORK TO SAFELY SUPPORT CONCRETE REPAIR.
9. WET DOWN CONCRETE FOR MIN. 12 HOURS PRIOR TO PLACING CONCRETE.
10. COAT CONCRETE WITH CEMENTITIOUS SLURRY.
11. SUPPLY AND PLACE CONCRETE.
12. FINISH AND WET CURE CONCRETE.
13. REMOVE TEMPORARY SHORING AFTER REPLACEMENT CONCRETE HAS ATTAINED 75% OF ITS SPECIFIED 28 DAY STRENGTH OR AFTER 7 DAYS, WHICHEVER OCCURS LATER.
14. REPAINT SLAB SOFFIT, TO MATCH EXISTING.



2 TOPSIDE CONCRETE REPAIR
S1-01 NTS

NOTES:

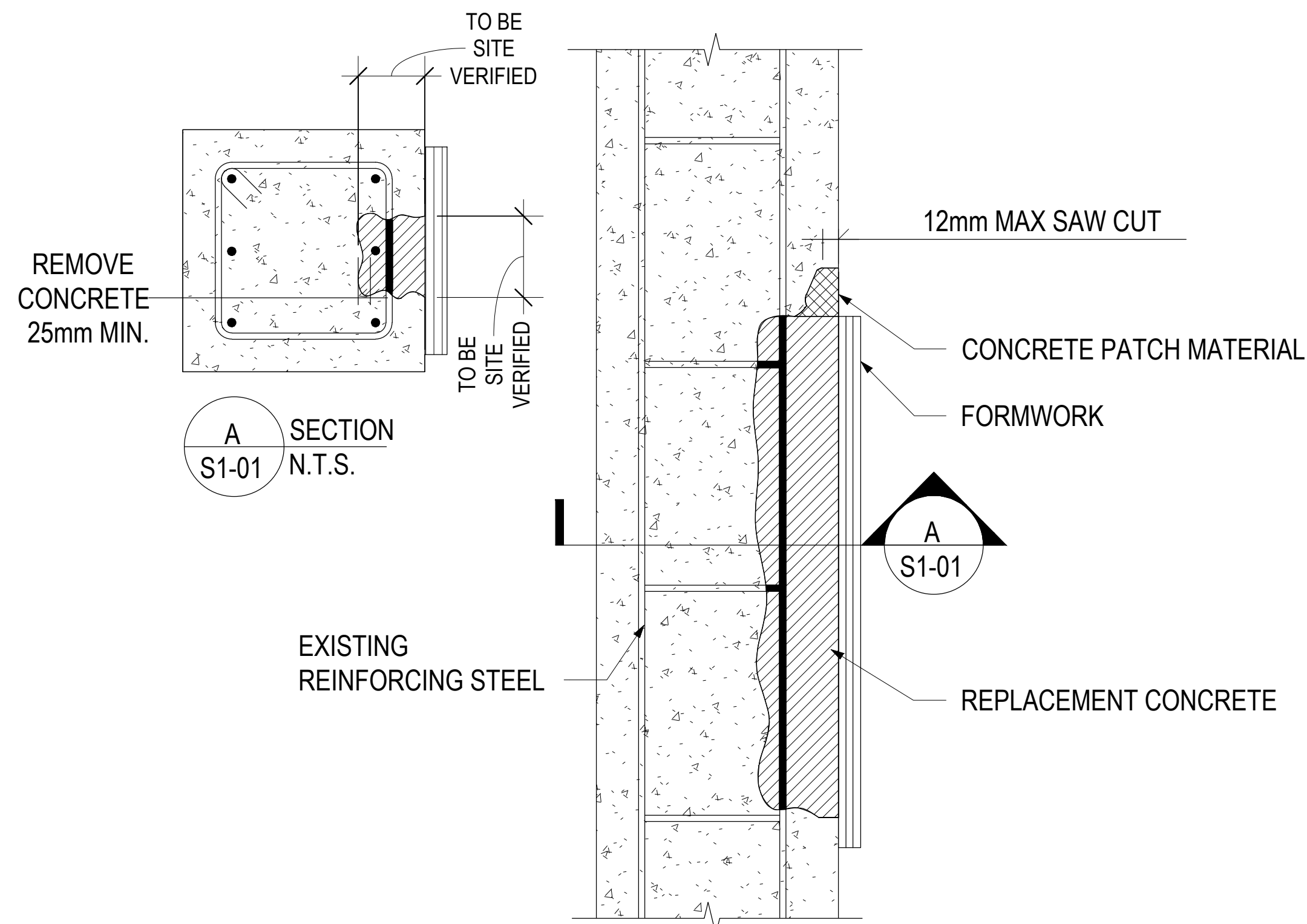
1. PROVIDE TEMPORARY SHORING TO SAFELY SUPPORT SLAB.
2. SAWCUT SURFACE PERIMETER. (MAX. 12mm, DO NOT CUT BARS)
3. REMOVE ALL LOOSE AND UNSOUND CONCRETE.
4. RE-TIE EXPOSED REINFORCING STEEL AS REQUIRED. PROVIDE 25mm CLEARANCE AROUND ALL EXPOSED REINFORCING STEEL.
5. REINFORCE SEVERELY CORRODED OR DAMAGED REINFORCING STEEL, AS DIRECTED BY THE CONSULTANT.
6. CLEAN CONCRETE AND EXPOSED REINFORCING STEEL.
7. WET DOWN CONCRETE FOR MIN. 12 HOURS PRIOR TO PLACING CONCRETE.
8. COAT CONCRETE WITH CEMENTITIOUS SLURRY.
9. SUPPLY AND PLACE CONCRETE.
10. FINISH AND WET CURE.
11. REMOVE TEMPORARY SHORING AFTER REPLACEMENT CONCRETE HAS ATTAINED 75% OF ITS SPECIFIED 28 DAY STRENGTH OR AFTER 7 DAYS, WHICHEVER OCCURS LATER.



3 SOFFIT CONCRETE REPAIR
S1-01 NTS

NOTES:

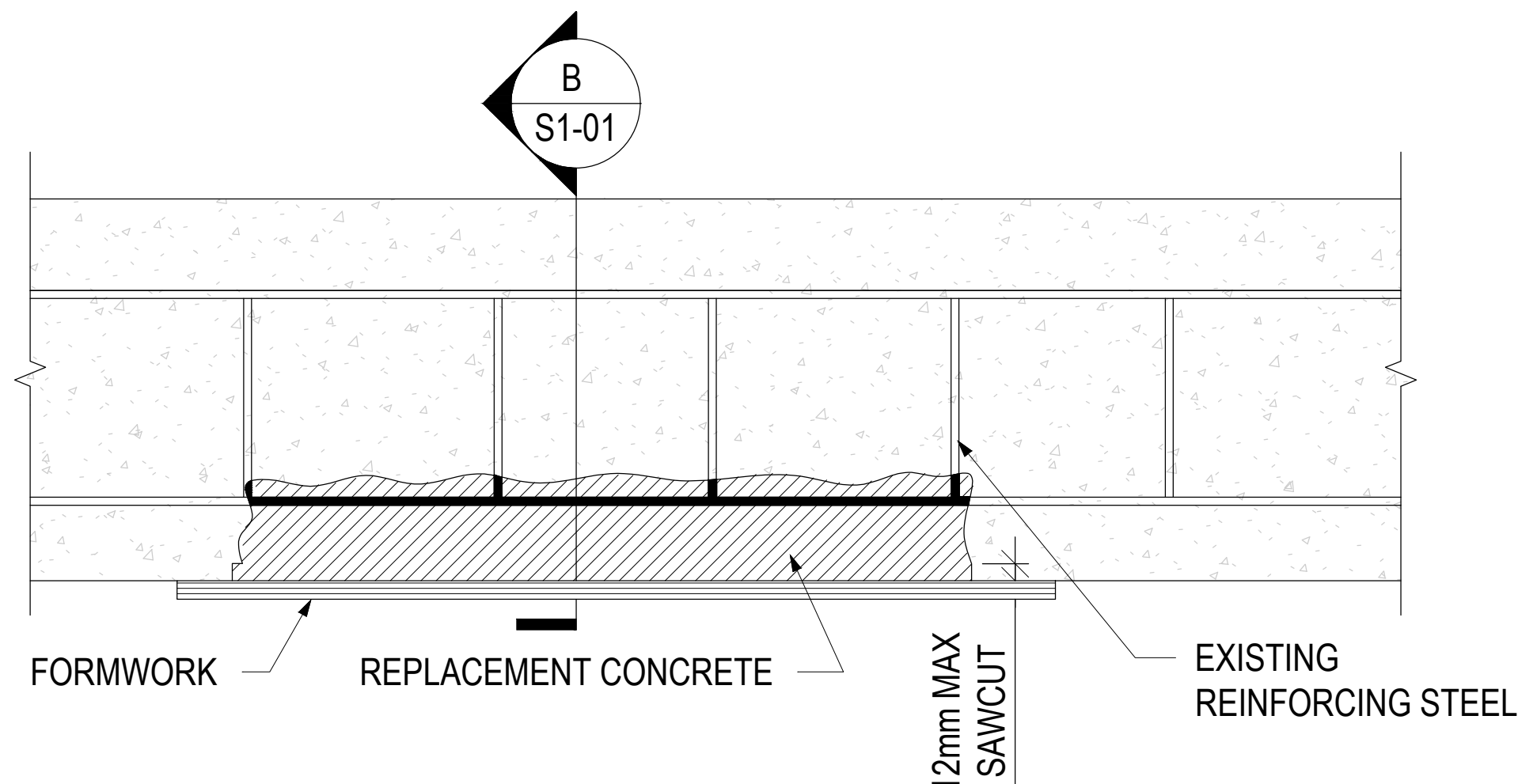
1. PROVIDE TEMPORARY SHORING TO SAFELY SUPPORT SLAB.
2. SAWCUT SOFFIT PERIMETER (MAX. 12mm, DO NOT CUT BARS).
3. REMOVE ALL LOOSE AND UNSOUND CONCRETE.
4. RE-TIE EXPOSED REINFORCING STEEL AS REQUIRED. PROVIDE 25mm CLEARANCE AROUND ALL EXPOSED REINFORCING STEEL
5. REINFORCE SEVERELY CORRODED OR DAMAGED REINFORCING STEEL, AS DIRECTED BY CONSULTANT.
6. CLEAN CONCRETE AND EXPOSED REINFORCING STEEL.
7. WET DOWN CONCRETE FOR MINIMUM 12 HOURS PRIOR TO POLY MODIFIED MORTAR PLACEMENT.
8. SUPPLY, PLACE, FINISH AND CURE POLYMER MODIFIED MORTAR AS DIRECTED.
9. REMOVE TEMPORARY SHORING AFTER REPLACEMENT CONCRETE HAS ATTAINED 75% OF ITS SPECIFIED 28 DAY STRENGTH OR AFTER 7 DAYS, WHICHEVER OCCURS LATER.
10. REPAINT SLAB SOFFIT, TO MATCH EXISTING.



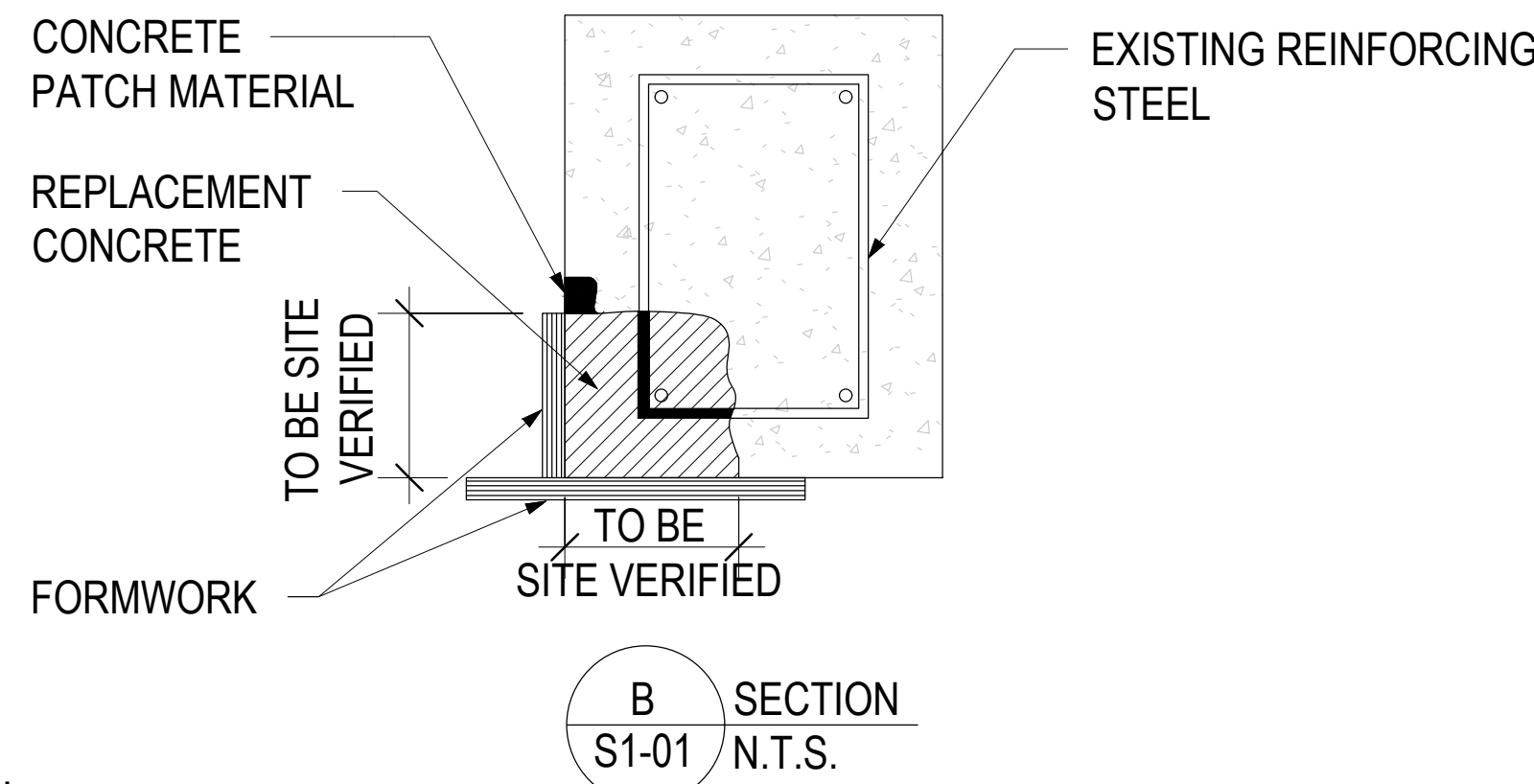
4 VERTICAL CONCRETE REPAIR
S1-01 NTS

NOTES:

1. ALL VERTICAL REPAIRS REQUIRE SHORING. PROVIDE SHORING DRAWINGS FOR ALL VERTICAL CONCRETE REMOVALS AND MAINTAIN SHORING UNTIL REPAIR MATERIAL HAS ATTAINED 75% OF ITS SPECIFIED 28-DAY STRENGTH. THE SHORING ENGINEER IS TO REVIEW THE STRUCTURAL DRAWINGS PRIOR TO DESIGNING THE SHORING (NOTE THAT MANY VERTICAL ELEMENTS CONTAIN MINIMAL OR UNIQUE REINFORCING). IN LOCATIONS WHERE SHORING IS NOT REQUIRED, PROVIDE A LETTER FROM THE SHORING ENGINEER TO THIS EFFECT.
2. DO NOT REMOVE CONCRETE DEEPER OR IN WIDTH GREATER THAN THE ALLOWABLE LIMITS INDICATED ON THE SHORING DRAWINGS.
3. DO NOT REMOVE MORE OF THE CROSS-SECTIONAL AREA OF COLUMNS AND SHEAR WALLS THAN ALLOWED BY THE SHORING ENGINEER.
4. REMOVE AND REPLACE ALL CONCRETE WITHIN AREAS SHOWN HATCHED.
5. PROVIDE 25mm CLEARANCE AROUND ALL EXPOSED REINFORCING STEEL.
6. REINFORCING STEEL WHICH IS BADLY CORRODED SHALL BE REINFORCED AS DIRECTED BY CONSULTANT.
7. FIELD CONDITIONS MAY DIFFER FROM THE INFORMATION SHOWN ON THIS DETAIL (NUMBER AND LOCATION OF COLUMN AND WALL REINFORCING).
8. REMOVE TEMPORARY SHORING AFTER REPLACEMENT CONCRETE HAS ATTAINED 75% OF ITS SPECIFIED 28 DAY STRENGTH OR AFTER 7 DAYS, WHICHEVER OCCURS LATER.
9. REPAINT VERTICAL SURFACE, TO MATCH EXISTING.



5 BEAM EDGE CONCRETE REPAIR
S1-01 NTS

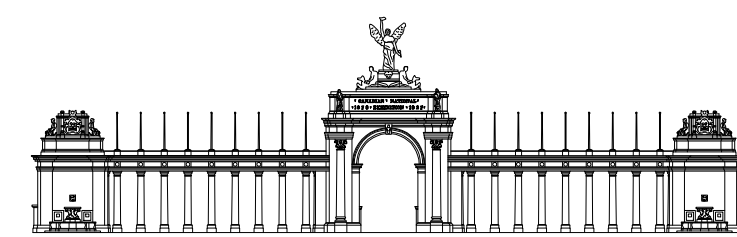


NOTES:

1. PROVIDE TEMPORARY SHORING TO SAFELY SUPPORT SLAB.
2. SAWCUT SURFACE PERIMETER (MAX. 12mm, DO NOT CUT BARS)
3. REMOVE ALL LOOSE AND UNSOUND CONCRETE.
4. SAWCUT SOFFIT PERIMETER AND REMOVE EXCESS CONCRETE.
5. RE-TIE EXPOSED REINFORCING STEEL AS REQUIRED.
6. REINFORCE SEVERELY CORRODED OR DAMAGED REINFORCING STEEL AS DIRECTED BY CONSULTANT
7. CLEAN CONCRETE AND EXPOSED REINFORCING STEEL.
8. PROVIDE FORMWORK TO SAFELY SUPPORT CONCRETE REPAIR.
9. WET DOWN CONCRETE FOR MIN. 12 HOURS PRIOR TO PLACING CONCRETE.
10. COAT CONCRETE WITH CEMENTITIOUS SLURRY.
11. SUPPLY AND PLACE CONCRETE.
12. FINISH AND WET CURE CONCRETE.
13. REMOVE TEMPORARY SHORING AFTER REPLACEMENT CONCRETE HAS ATTAINED 75% OF ITS SPECIFIED 28 DAY STRENGTH OR AFTER 7 DAYS, WHICHEVER OCCURS LATER.
14. REPAINT SLAB SOFFIT, TO MATCH EXISTING.

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THE BOARD OF GOVERNORS OF EXHIBITION PLACE
TORONTO, M6K 3C3

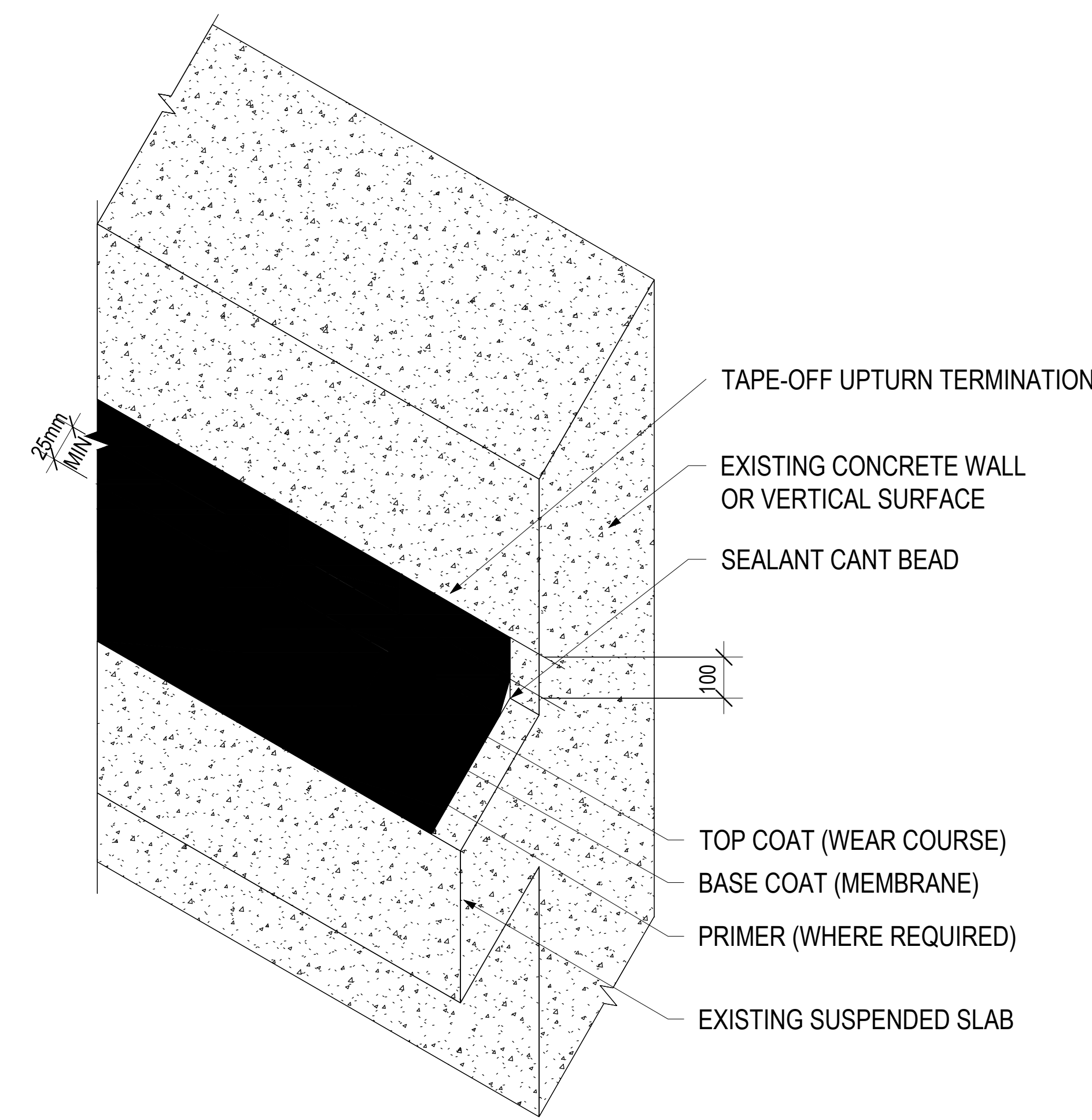


HALL 'A', WEST CORRIDOR AND LOADING
DOCK RAMP RETROFITS AT ENERCARE CENTRE,
EXHIBITION PLACE

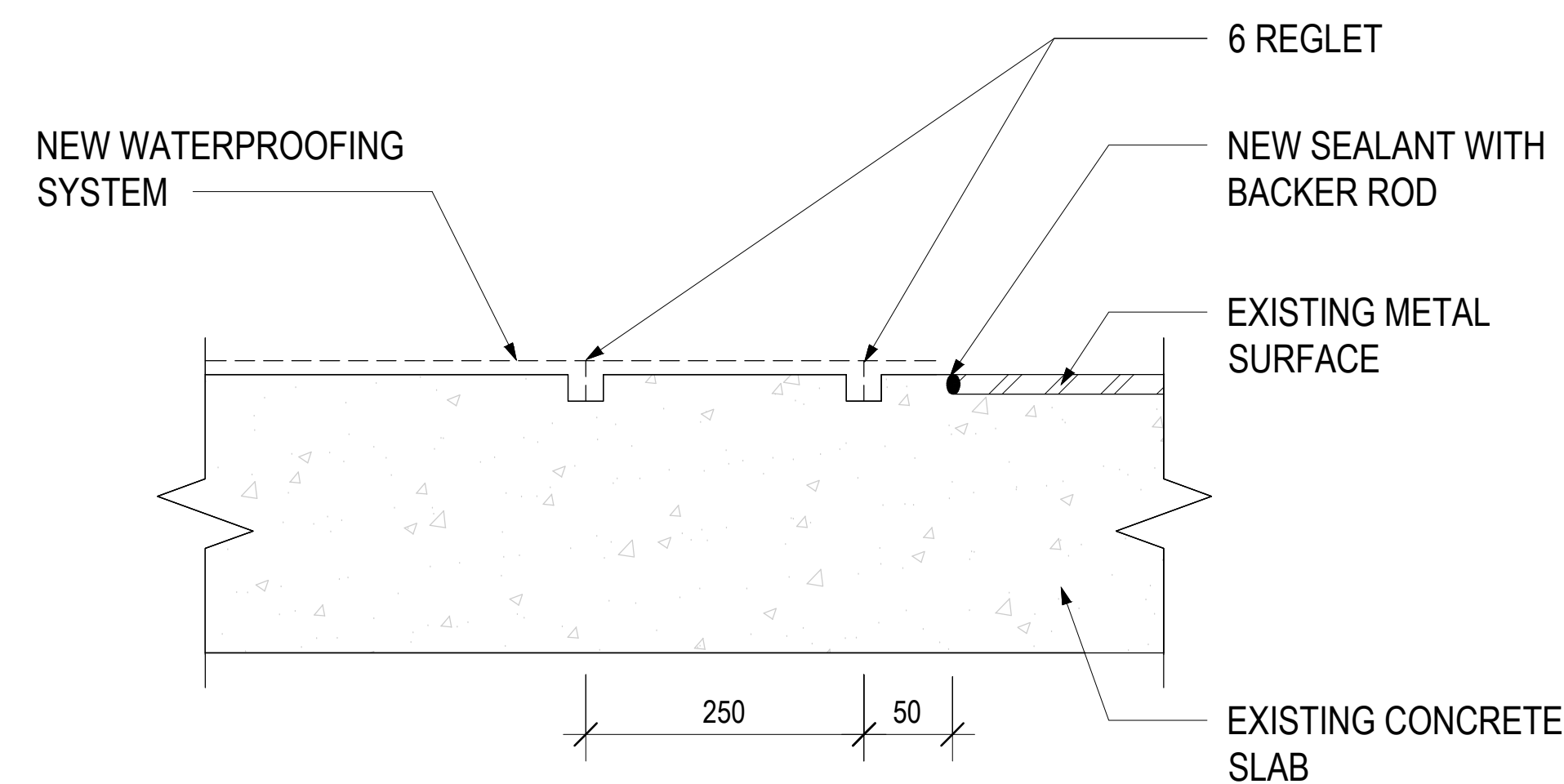
CONCRETE REPAIR DETAILS

DESIGN BY EK	DATE FEB. 26, 2021	SCALE N.T.S.
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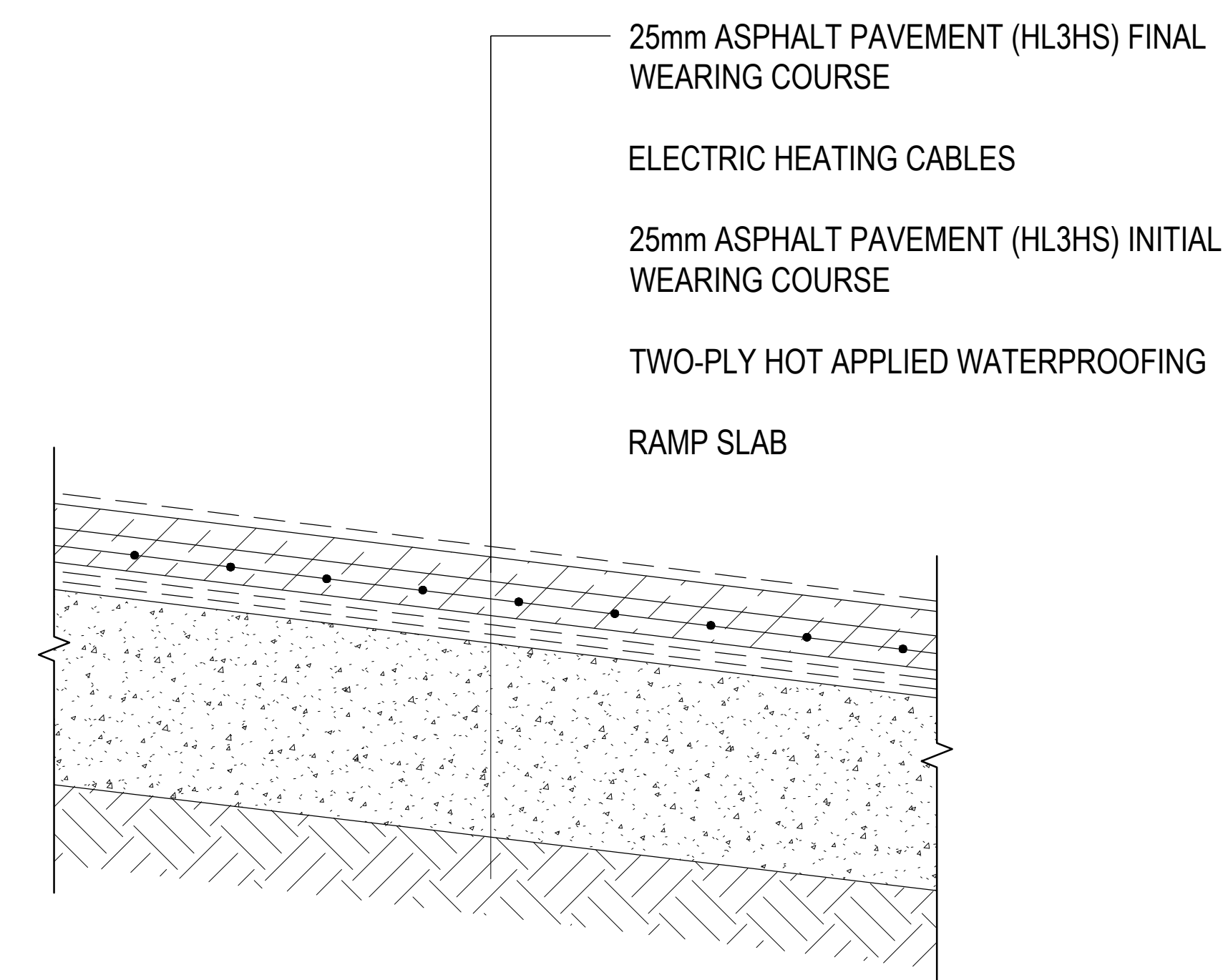
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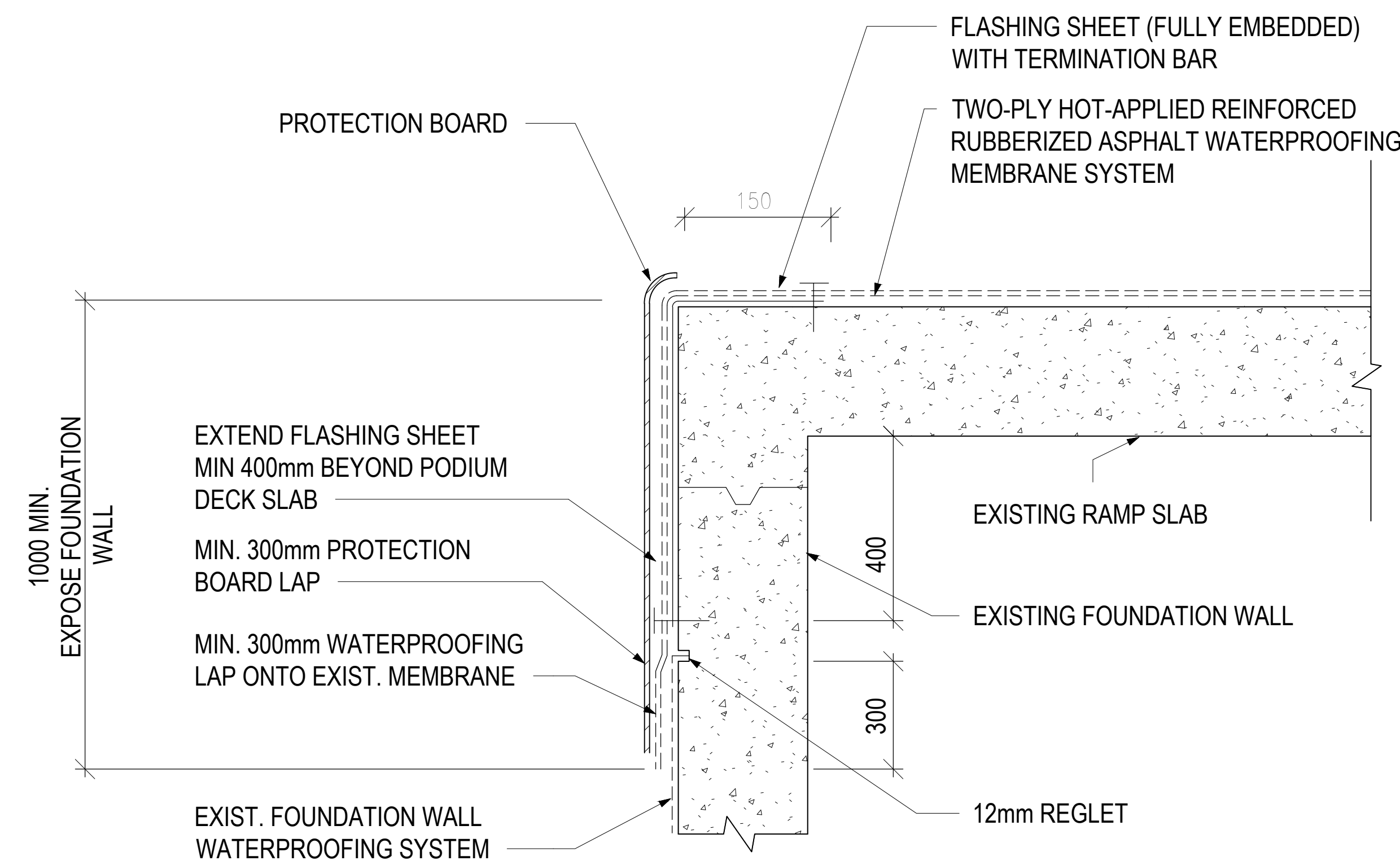
1 P.U.M.A. WATERPROOFING SYSTEM UPTURN AT VERTICAL SURFACES
S1-02 N.T.S.



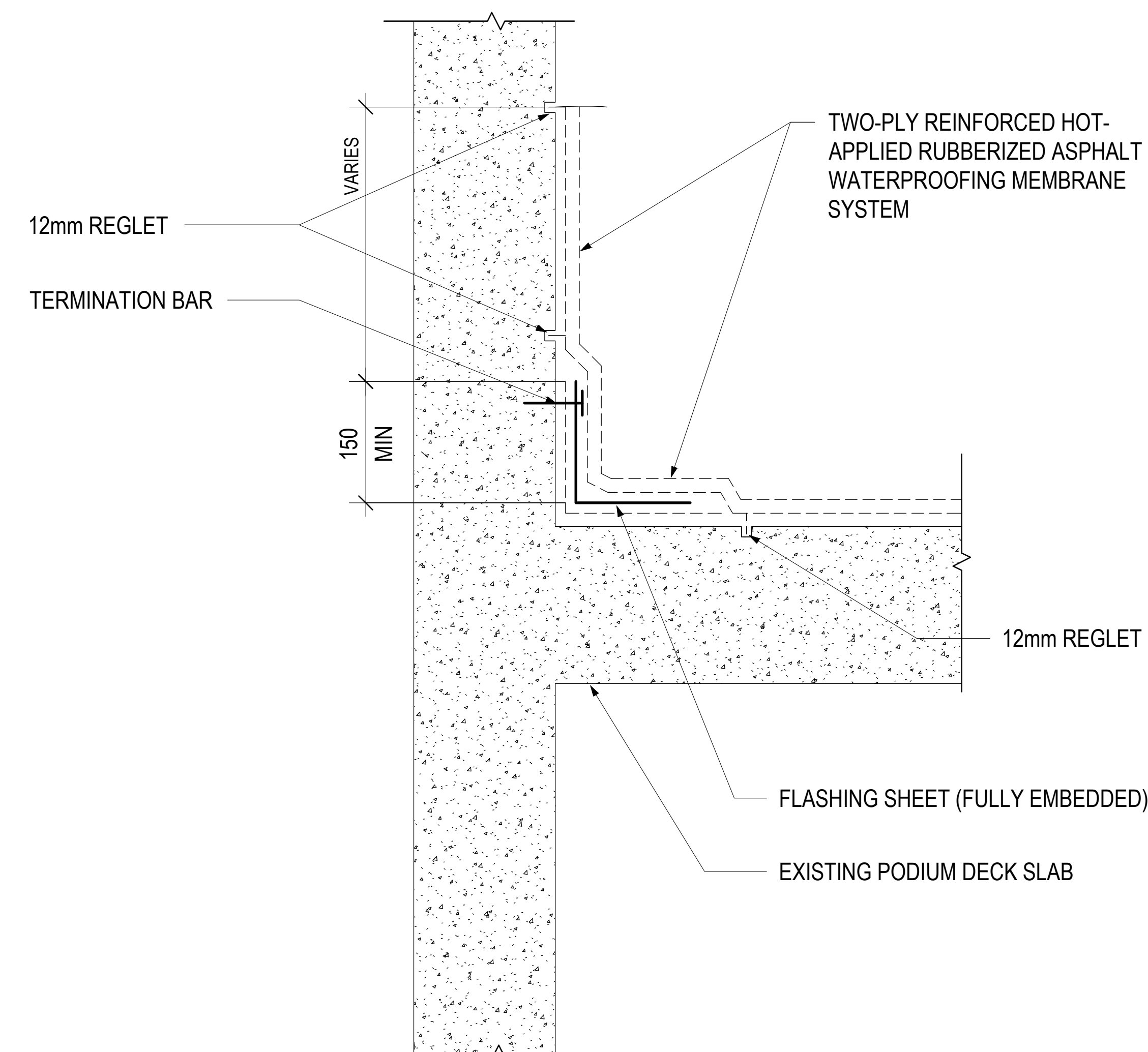
2 TERMINATION DETAIL OF NEW P.U.M.A. WATERPROOFING
S1-02 NTS



3 RAMP SLAB ASPHALT PAVING WITH HEATING CABLES
S1-02 N.T.S.



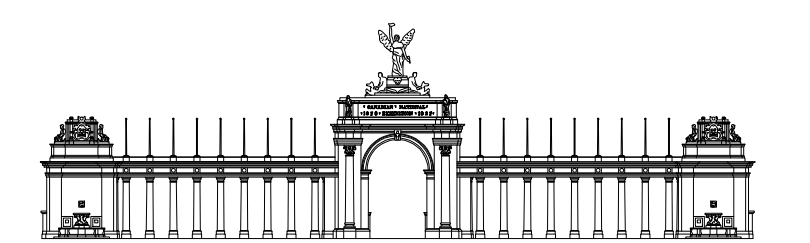
4 DOWNTURN WATERPROOFING AT RAMP SLAB FOUNDATION WALL
S1-02 N.T.S.



5 WATERPROOFING UPTURN - TYPICAL AT RAMP
S1-02 N.T.S.

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THE BOARD OF GOVERNORS OF EXHIBITION PLACE
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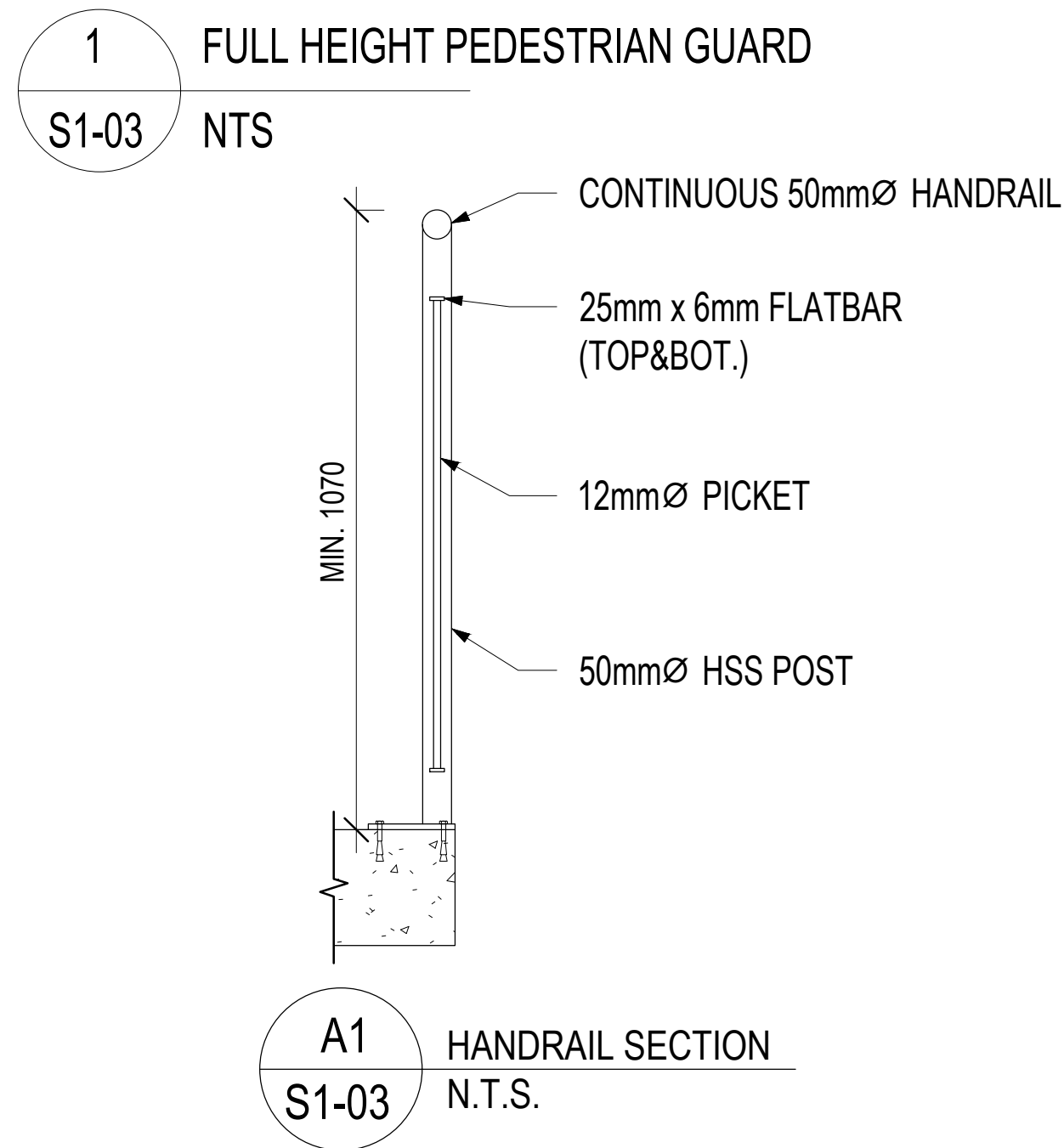
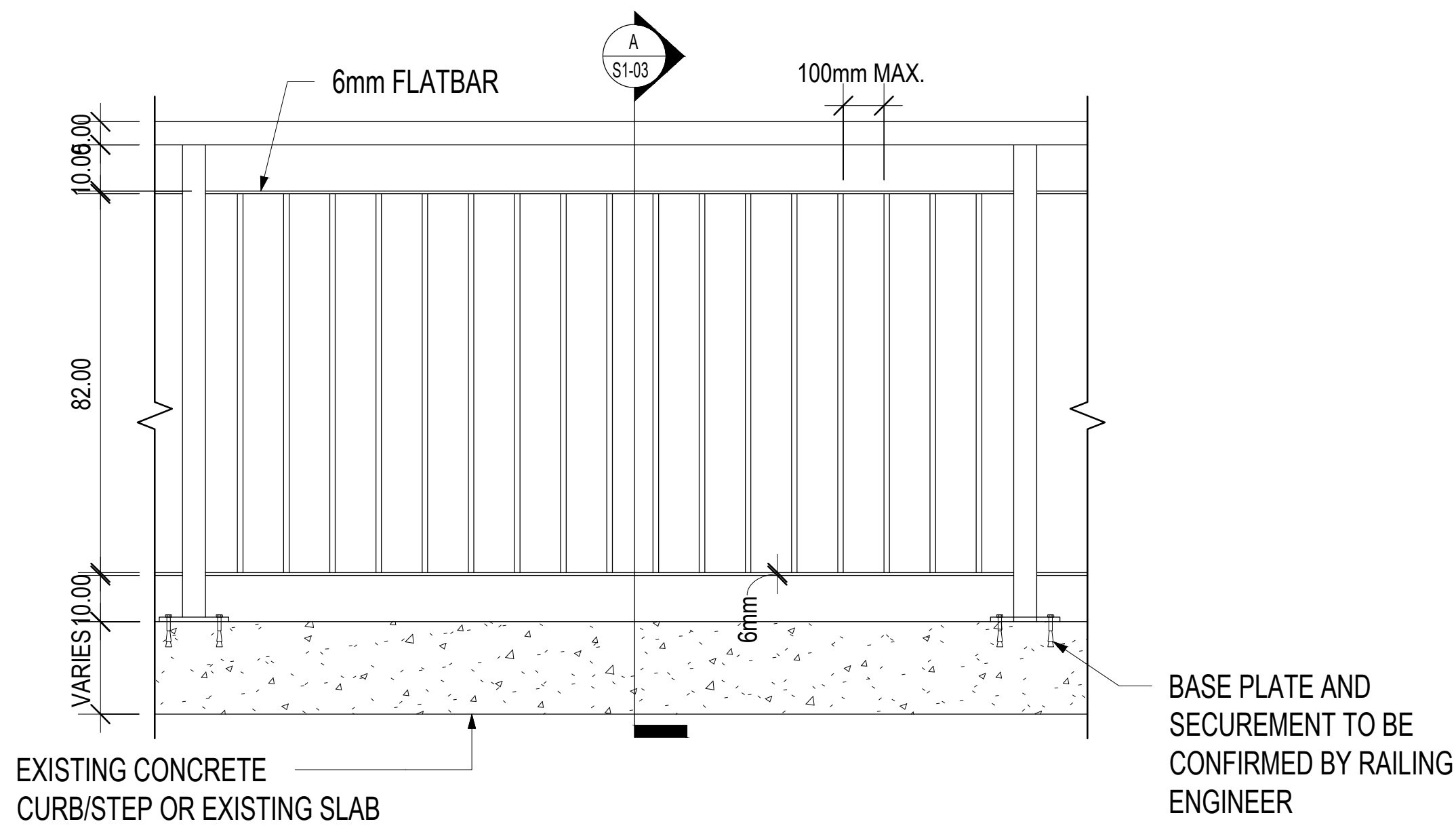
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HALL 'A', WEST CORRIDOR AND LOADING
DOCK RAMP RETROFITS AT ENERCARE CENTRE,
EXHIBITION PLACE

RAMP AND WATERPROOFING REPAIRS

DESIGN BY EK	DATE FEB. 26, 2021	SCALE N.T.S.
DRAWN BY SS	PROJECT NO 21-076-17696	DRAWING NO S1-02
CHECKED BY EK		

EXHIBITION PLACE

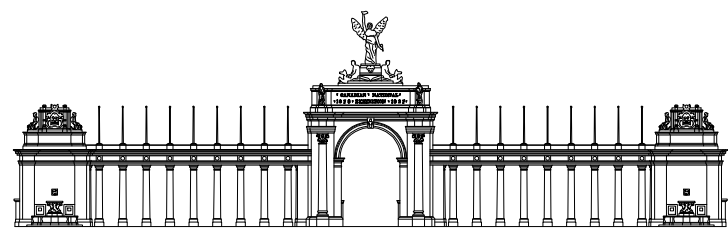


NOTES:

1. CONTRACTOR TO PERFORM ALL FIELD MEASURE PRIOR TO FABRICATION.
2. CONFIRM RAILING MATERIAL.

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TORONTO, M6K 3C3



HALL 'A', WEST CORRIDOR AND LOADING
DOCK RAMP RETROFITS AT ENERCARE CENTRE,
EXHIBITION PLACE

GUARD RAIL DETAILS

DESIGN BY EK	DATE FEB. 26, 2021	SCALE N.T.S.
DRAWN BY SS	PROJECT NO 21-076-17696	DRAWING NO S1-03
CHECKED BY EK		

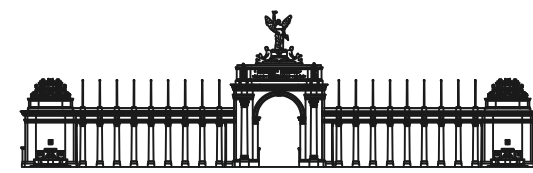
EXHIBITION PLACE

APPENDIX A

ELECTRICAL NOTES	ELECTRICAL GENERAL NOTES	DESCRIPTION OF SCOPE OF WORK
<p>GENERAL:</p> <p>1. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO THEIR SUBMISSION IN ORDER TO ASCERTAIN THE EXACT AMOUNT OF LABOUR AND MATERIALS REQUIRED TO COMPLETE THE SYSTEMS.</p> <p>2. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE O.B.C., ONTARIO ELECTRICAL SAFETY CODE AND THE LOCAL AUTHORITIES.</p> <p>3. ALL WORK SHALL BE INSTALLED IN A NEAT MANNER.</p> <p>4. UPON ACCEPTANCE OF THE BUILDING THIS CONTRACTOR SHALL WARRANTY THE ENTIRE INSTALLATION FOR A PERIOD OF FIVE YEARS.</p> <p>5. THIS CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS, INSPECTIONS, EXAMINATIONS AND FEES.</p> <p>6. AT THE COMPLETION OF THE PROJECT PROVIDE THE OWNER WITH A NEATLY MARKED UP SET OF PRINTS SHOWING THE AS-BUILT CONDITIONS, OPERATION AND MAINTENANCE MANUALS.</p> <p>7. COORDINATE WITH OTHER TRADES ON THE PROJECT TO ENSURE THE ENTIRE INSTALLATION COMES WITHIN PRESCRIBED FINISH LINES OF FLOORS, WALLS AND CEILINGS AS WELL AS THE LOCATION OF FUTURE CONDUIT RUNS, JUNCTION BOXES, AND ALL CHANGES IN CIRCUITING, LOCATION OF EQUIPMENT, RUNS OF CONDUITS, WIRING, ETC.</p> <p>8. IDENTIFY ALL EQUIPMENT.</p> <p>9. ALL BREAKERS IN ELECTRICAL PANELS SHALL BE 15 AMP SINGLE POLE UNLESS OTHERWISE NOTED.</p> <p>10. PROVIDE GROUNDING IN ACCORDANCE WITH THE ELECTRICAL SAFETY CODE.</p> <p>11. COORDINATE AND SCHEDULE ALL WORK WITH THE OWNER, PROPERTY MANAGER AND OTHER CONTRACTORS INVOLVED WITH THE PROJECT.</p> <p>12. THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL EQUIPMENT AS INDICATED ON THE DRAWINGS OR REQUIRED TO COMPLETE THE SYSTEM.</p> <p>13. ALL CUTTING AND PATCHING SHALL BE DONE BY THIS CONTRACTOR.</p> <p>14. ALL EXISTING ELECTRICAL EQUIPMENT AND WIRING SHALL BE REMOVED AND REPLACED WITH NEW UNLESS OTHERWISE NOTED.</p> <p>MATERIALS:</p> <p>1. ALL MATERIAL SHALL BE NEW AND CSA APPROVED, UNLESS OTHERWISE NOTED.</p> <p>2. ALL CONDUITS, WIRING DEVICES SHALL BE WEATHER-PROOF BMT.</p> <p>3. ALL HEATING CABLES TO BE PROTODINAX BY PENTAIR, NO ALTERNATIVE ACCEPTED.</p>	<p>1. COMPLETE EXTENT OF DEMOLITION IS NOT SHOWN. BIDDERS SHALL REVIEW THE SITE TOGETHER WITH THE DOCUMENTS OF OTHER TRADES TO DETERMINE THE COMPLETE EXTENT OF THE DEMOLITION. ALLOW FOR ALL COSTS. OBTAIN A SET OF ARCHITECT'S DRAWINGS TO COORDINATE WITH ENGINEER'S DRAWINGS.</p> <p>2. AS PART OF DEMOLITION, THE ELECTRICAL CONTRACTOR SHALL VISIT SITE TO DETERMINE EXACT REQUIREMENT.</p> <p>3. REMOVE ALL EXISTING PANEL, BOXES WHICH ARE NOT REQUIRED FOR THE NEW LAYOUT. REMOVE REDUNDANT CABLE AND WIRING BACK TO SOURCE AND MAKE SAFE.</p> <p>4. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECT'S DRAWINGS FOR DIMENSIONS, HEIGHTS, CONSTRUCTION DETAILING, FINISHES AND COLOURS.</p> <p>5. ANY PROPOSED CHANGES AND/OR MODIFICATIONS DUE TO SITE CONDITIONS MUST RECEIVE APPROVAL FROM ARCHITECT/ENGINEER AND CONSULTANTS.</p> <p>6. CONTRACTOR RESPONSIBLE FOR THE SUPPLY AND INSTALLATION AND TERMINATION OF ALL CABLEING INCLUDING ELECTRICAL, DATA CABLES AND GROUND WIRE AS REQUIRED.</p> <p>7. ALL NEW OR RELOCATED CABLES TO BE TESTED AND CERTIFIED. CERTIFICATE TO BE INCLUDED WITH ALL OTHER WARRANTIES AND GUARANTEES IN THE OPERATIONS MANUAL.</p> <p>8. DISCONNECT AND REMOVE ALL REDUNDANT WIRING BACK TO SOURCE AND MAKE SAFE.</p> <p>9. THE NEW LOADING BAY SNOWMELT SYSTEM TO BE RECONNECT BACK TO THE EXISTING BAS SYSTEM.</p>	<p>1. THE OBJECTIVE OF THE PROJECT IS TO PROVIDE REPLACE NEW SNOW/ICE MELTING SYSTEM FOR THE LOADING BAY DOOR 40 RAMP AT WEST SIDE OF THE BUILDING, DRIVING RAMP THE TRENCH DRAIN GUTTER AT THE LOADING BAY RAMP.</p> <p>2. CONTRACTOR TO EVALUATE THE EXISTING ELECTRICAL SERVICES FOR SUSTAINABILITY OF REUSE AND TO PROVIDE NEW AS PER DRAWINGS.</p> <p>3. ALL NEW CONDUITS, WIRING DEVICES AND METHODS TO BE WEATHERPROOF, SURFACE MOUNTED TO THE DEMOLITION POINT WITH THE HEATING CABLES.</p> <p>4. THE HEATING CABLES TO BE UNCOVERED WITHIN THE NEW ASPHALT TAPPING LAYER OF THE CONCRETE STRUCTURES. MATERIAL OF TOPPING TO BE COORDINATED WITH THE OTHER TRADES AND TO BE CONSIDERED FOR SELECTING THE CABLES.</p> <p>5. ALL HEATING CABLES TO BE RAYCHEM SUB14, NO ALTERNATE ACCEPTED.</p> <p>6. REPLACE EXISTING TEMPERATURE AND SNOW SENSOR, AS WELL AS CONTROL PANEL AND CONTROL WIRING WITH NEW.</p>

PART 1 – GENERAL	2. CONTRACTOR SHALL SUBMIT TO OWNER THE RESULTS OF ALL INSTALLATION TESTS REQUIRED BY THE MANUFACTURER.	TYPE OFT – AERIAL AND/OR TYPE SIT-6E SLAB MOUNTED TEMPERATURE AND MOISTURE SENSORS.
<p>1. SUMMARY</p> <p>A. THIS SECTION INCLUDES A UL LISTED AND CSA CERTIFIED SNOW MELTING HEAT TRACING SYSTEM CONSISTING OF MINERAL INSULATED HEATING CABLE, CONNECTION KITS AND ELECTRONIC CONTROLLER.</p> <p>1.2. RELATED SECTIONS</p> <p>A. SECTION 03 06 00 – SCHEDULES FOR CONCRETE</p> <p>B. SECTION 03 10 00 – CONCRETE FORMING AND ACCESSORIES</p> <p>C. SECTION 03 30 00 – CAST-IN-PLACE CONCRETE</p> <p>D. SECTION 25 12 16 – DIRECT-PROTOCOL, INTEGRATION NETWORK GATEWAYS</p> <p>E. SECTION 25 51 00 – INTEGRATED AUTOMATION CONTROL OF FACILITY EQUIPMENT</p> <p>1.3. SYSTEM DESCRIPTION</p> <p>A. SYSTEM FOR SNOW MELTING WITH TEMPERATURE AND MOISTURE SENSING CONTROL, MONITORING, INTEGRATED GROUND-FAULT CIRCUIT PROTECTION AND BUILDING MANAGEMENT SYSTEM (BMS) COMMUNICATION CAPABILITIES.</p> <p>1.4. SUBMITTALS</p> <p>A. PRODUCT DATA</p> <p>1. HEATING CABLE DATA SHEET</p> <p>2. UL, CSA APPROVAL, CERTIFICATES FOR SNOW MELTING</p> <p>3. SNOW MELTING DESIGN GUIDE</p> <p>4. SYSTEM INSTALLATION AND OPERATION MANUAL</p> <p>5. SYSTEM INSTALLATION DETAILS</p> <p>6. CONNECTION KITS AND ACCESSORIES DATA SHEET</p> <p>7. CONTROLLER/POWER PANEL DATA SHEET</p> <p>8. CONTROLLER/POWER PANEL WIRING DIAGRAM</p> <p>1.5. QUALITY ASSURANCE</p> <p>A. MANUFACTURERS QUALIFICATIONS</p> <p>1. MANUFACTURER TO SHOW MINIMUM OF THIRTY (30) YEARS EXPERIENCE IN MANUFACTURING MINERAL INSULATED (MI) HEATING CABLES.</p> <p>2. MANUFACTURER WILL BE ISO-9001 REGISTERED.</p> <p>3. MANUFACTURER TO PROVIDE PRODUCTS CONSISTENT WITH UL 515, CSA 22.2 NO 130-03 AND IEEE 515.1 REQUIREMENTS.</p> <p>B. INSTALLER QUALIFICATIONS</p> <p>1. SYSTEM INSTALLER SHALL HAVE A COMPLETE UNDERSTANDING OF PRODUCT AND PRODUCT LITERATURE FROM MANUFACTURER OR AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION. ELECTRICAL CONNECTIONS SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.</p> <p>C. REGULATORY REQUIREMENTS AND APPROVALS</p> <p>1. THE SYSTEM (HEATING CABLE, CONNECTION KITS AND CONTROLLER) SHALL BE UL LISTED AND CSA CERTIFIED FOR SNOW MELTING.</p> <p>D. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) AND MARKED FOR INTENDED USE.</p> <p>1.6. DELIVERY, STORAGE AND HANDLING</p> <p>A. GENERAL REQUIREMENTS: DELIVER, STORE AND HANDLE PRODUCTS TO PREVENT THEIR DEGRADATION OR DAMAGE DUE TO MOISTURE, TEMPERATURE CHANGES, CONTAMINATES OR OTHER CAUSES.</p> <p>B. DELIVERY AND ACCEPTANCE REQUIREMENTS: DELIVER PRODUCTS TO SITE IN ORIGINAL, UNOPENED CONTAINERS OR PACKAGES WITH INTACT AND LEGIBLE MANUFACTURER'S LABELS IDENTIFYING THE FOLLOWING:</p> <p>1. PRODUCT AND MANUFACTURER</p> <p>2. LENGTH/QUANTITY</p> <p>3. LOT NUMBER</p> <p>4. INSTALLATION AND OPERATION MANUAL</p> <p>5. MSDS (IF APPLICABLE)</p> <p>C. STORAGE AND HANDLING REQUIREMENTS</p> <p>1. STORE THE HEATING CABLE IN A CLEAN, DRY LOCATION WITH A TEMPERATURE RANGE OF (-10°C) TO 140°F (50°F)</p> <p>2. PROTECT THE HEATING CABLE FROM MECHANICAL DAMAGE.</p> <p>1.7. WARRANTY</p> <p>A. EXTENDED WARRANTY</p> <p>1. MANUFACTURER SHALL MAKE AVAILABLE A TEN (10) YEAR LIMITED WARRANTY FOR MI HEATING CABLES AND COMPONENTS. PROVIDE ONE (1) YEAR WARRANTY FOR ALL HEAT TRACE CONTROLLERS.</p>	<p>2.1. MANUFACTURERS AND PRODUCTS</p> <p>A. CONTRACT DOCUMENTS ARE BASED ON MANUFACTURER AND PRODUCTS NAMED BELOW TO ESTABLISH A STANDARD OF QUALITY.</p> <p>B. BASIS OF DESIGN</p> <p>1. BASIS OF DESIGN PRODUCT SELECTIONS</p> <p>a. MANUFACTURER</p> <p>1. MANUFACTURERS SHALL HAVE MORE THAN THIRTY (30) YEARS EXPERIENCE WITH MANUFACTURE & INSTALLATION MI HEATING CABLES.</p> <p>2. MANUFACTURER SHALL BE INVENT THERMAL MANAGEMENT, LOCATED AT 250 WEST ST. TRENTON, ONTARIO K1V 5S2 CANADA TEL: (800) 545-4258</p> <p>b. SNOW MELTING SYSTEM</p> <p>1. PROTODINAX MI HEATING CABLE</p> <p>2. APS-4C SNOW/ICE MELTING CONTROLLER C/M 50-40C SATELLITE CONTACTORS (F REQ)</p> <p>2.2. PRODUCTS, GENERAL</p> <p>A. SINGLE SOURCE RESPONSIBILITY: FURNISH HEAT TRACING SYSTEM FOR SNOW MELTING FROM A SINGLE MANUFACTURER.</p> <p>B. THE SYSTEM (HEATING CABLE, CONNECTION KITS, AND CONTROLLER) SHALL BE UL LISTED AND CSA CERTIFIED FOR SNOW MELTING. NO PARTS OF THE SYSTEM MAY BE SUBSTITUTED.</p> <p>2.3. PRODUCTS</p> <p>A. HOPE JACKETED COPPER SHEATHED MINERAL INSULATED HEATING CABLE</p> <p>1. HEATING CABLE SHALL BE PROTODINAX MI HEATING CABLE MANUFACTURED BY INVENT THERMAL MANAGEMENT.</p> <p>2. THE HEATING CABLE SHALL CONSIST OF A SINGLE CONDUCTOR SURROUNDED BY MAGNESIUM OXIDE INSULATION WITH A SOLID, SEAMLESS COPPER SHEATH.</p> <p>3. THE HEATING CABLE SHALL HAVE AN EXTRUDED HIGH DENSITY POLYETHYLENE (HDPE) JACKET TO PROTECT THE CABLE FROM CORROSIVE ELEMENTS THAT CAN EXIST IN THE CONCRETE.</p> <p>4. THE HEATING CABLE SHALL BE FACTORY TERMINATED WITH A MINIMUM 7 FOOT COLD LEAD (UNHEATED)</p> <p>5. THE HEATING CABLE SHALL OPERATE ON LINE VOLTAGES OF 80V WITHOUT THE USE OF TRANSFORMERS</p> <p>6. THE HEATING CABLE SHALL BE PART OF A UL LISTED AND CSA CERTIFIED SYSTEM.</p> <p>7. THE MI HEATING CABLE SET SHALL HAVE THE FOLLOWING MARKINGS:</p> <p>a. COMPLETE HEATING CABLE MODEL NUMBER</p> <p>b. AGENCY LISTINGS</p> <p>c. SERIAL NUMBER</p> <p>d. DISTRIBUTION ID</p> <p>B. HEATING CABLE INSTALLATION ACCESSORIES</p> <p>1. PREPARED STRAPPING – USED TO MAINTAIN PROPER SPACING OF THE MI HEATING CABLE DURING INSTALLATION. (CATALOG NUMBER: “SPACER-GALV”)</p> <p>2. SNOW MELTING CAUTION SIGN – THE SNOW MELTING CAUTION SIGN IS REQUIRED BY NATIONAL ELECTRICAL CODES TO INDICATE THAT AN ELECTRICAL SNOW MELTING SYSTEM IS INSTALLED IN THE SLAB. (CATALOG NUMBER: “SACS”)</p> <p>C. CONTROL METHODOLOGY</p> <p>1. SINGLE CIRCUIT CONTROL</p> <p>a. SINGLE CIRCUIT SNOW/ICE MELTING CONTROLLER SHALL BE APS-4C C/M 50-40C SATELLITE CONTACTORS WHERE REQUIRED</p> <p>b. HEATING CABLE MANUFACTURER SHALL PROVIDE A SINGLE CIRCUIT SNOW/ICE MELTING CONTROLLER WITH BUILT-IN OPD0 COMPATIBLE WITH SELECTED HEATING CABLE</p> <p>c. ELECTRONIC SNOW/ICE MELTING CONTROLLER SHALL HAVE A OPD0 WITH ADJUSTABLE TRIP LEVELS OF 30, 60, AND 120 MA</p> <p>d. ELECTRONIC SNOW/ICE MELTING CONTROLLER SHALL HAVE 50-A (APS-4C) SWITCHING CAPACITY RATING.</p> <p>e. ELECTRONIC SNOW/ICE MELTING CONTROLLER SHALL BE CAPABLE OF SUPPORTING UP TO SIX (6)</p>	<p>1. DISCLOSED TYPE SHALL BE NEMA 3P POLYCARBONATE.</p> <p>9. ELECTRONIC SNOW/ICE MELTING CONTROLLER SHALL HAVE AN ADJUSTABLE HOLD-ON TIMER (0 – 10 HOURS)</p> <p>h. ELECTRONIC SNOW/ICE MELTING CONTROLLER SHALL HAVE AN INTEGRATED HIGH-LIMIT TEMPERATURE SENSOR</p> <p>l. ELECTRONIC SNOW/ICE MELTING CONTROLLER SHALL HAVE CONTACTS (10-MA DRY SWITCH CONTACT) TO INTERFACE WITH AN ENERGY MANAGEMENT COMPUTER (EMC)</p> <p>1. INPUTS: OVERHEAT OR OVERHEAT OFF</p> <p>2. OUTPUTS: SUPPLY, SNOW HEAT, HIGH TEMP, ALARM</p> <p>J. DIGITAL CONTROLLER SHALL HAVE C-14-L-VIS APPROVALS</p> <p>2.4. SYSTEM LISTING</p> <p>A. THE SYSTEM (HEATING CABLE, CONNECTION KITS, AND CONTROLLER) SHALL BE UL LISTED AND CSA CERTIFIED FOR SNOW MELTING.</p> <p>B. THE SNOW MELTING SYSTEM SHALL HAVE DESIGN AND INSTALLATION & OPERATING MANUALS.</p>
PART 2 – PRODUCTS		
3.1. ACCEPTABLE INSTALLERS		
3.2. INSTALLATION		
3.3. FIELD QUALITY CONTROL		
3.4. MAINTENANCE		
3.5. MAINTENANCE SERVICE		
3.6. MAINTENANCE MANUAL		

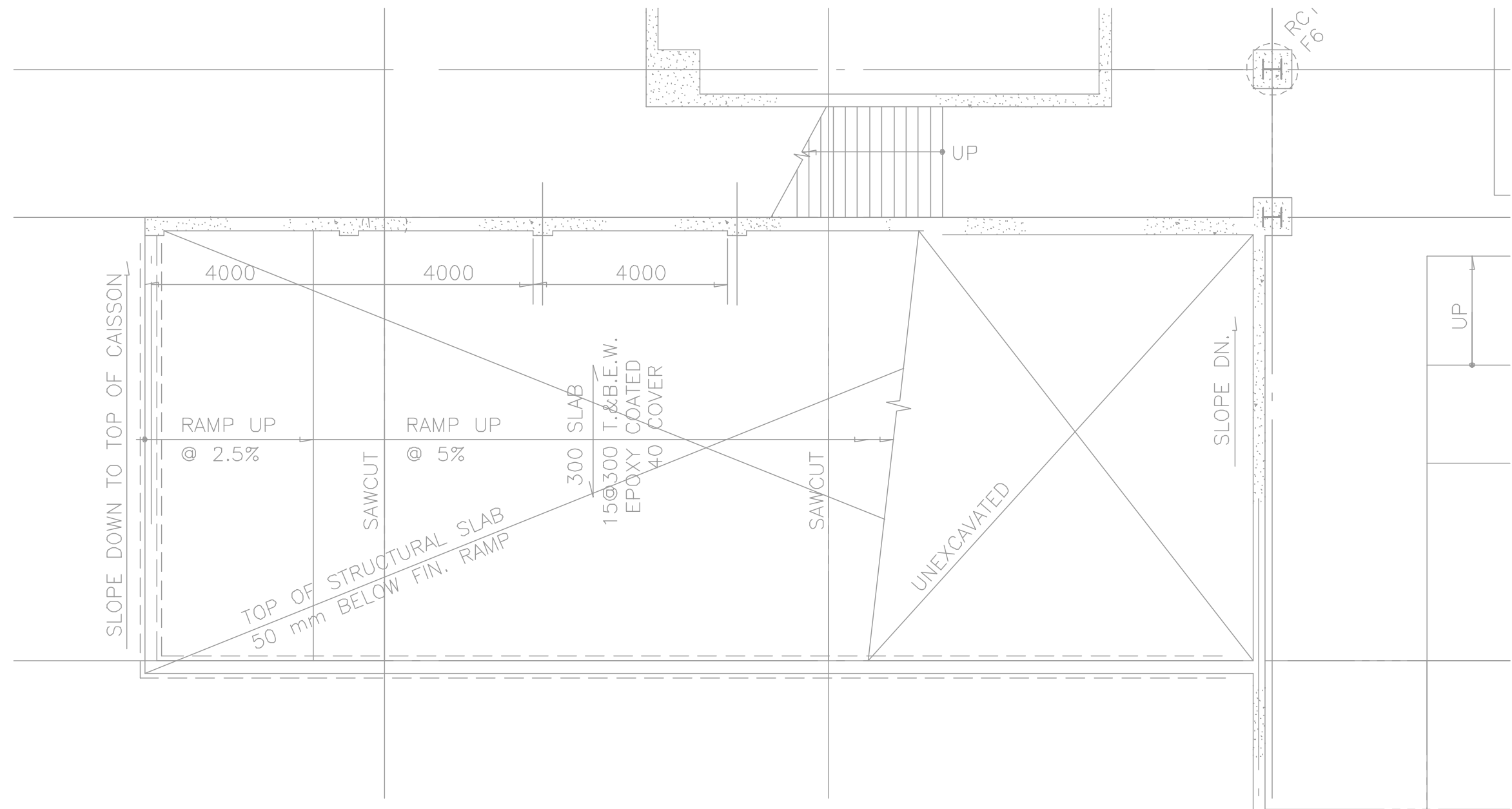
ELECTRICAL SPECIFICATIONS			
SECTION 16A – GENERAL ELECTRICAL CONDITIONS			
1. COMPLY WITH GENERAL CONDITIONS OF THE CONTRACT AND DIVISION 1.			
2. THIS SECTION APPLIES TO ALL SECTIONS OF DIVISION 16.			
3. PROVIDE EACH ITEM MENTIONED OR INDICATED OF QUALITY AND SUBJECT TO QUALIFICATIONS NOTED; PERFORM ACCORDING TO CONDITIONS STATED EACH OPERATION PRESCRIBED, AND PROVIDE THEREFORE ALL LABOUR, MATERIAL, EQUIPMENT, ACCESSORIES AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION.			
4. WORK BY OTHER DIVISIONS			
– PAINTING OF EXPOSED CONDUITS, DUCTS AND UNFINISHED ELECTRICAL EQUIPMENT: UNDER DIVISION 9.			
– CONCRETE WORK – UNDER DIVISION 16.			
– CUTTING AND PATCHING SHALL BE BY DIVISION 16. PATCHING SHALL BE OF SAME MATERIAL AS SURROUNDING AREA AND SHALL BE PAINTED OR FINISHED TO MATCH EXISTING.			
5. MAKE A SET OF WHITE PRINTS AND AS THE JOB PROGRESSES, MARK ON CHANGES MADE THROUGH ANY APPROVED CHANGE ORDER AS WELL AS THE LOCATION OF FUTURE CONDUIT RUNS, JUNCTION BOXES, AND ALL CHANGES IN CIRCUITING, LOCATION OF EQUIPMENT, RUNS OF CONDUITS, WIRING, ETC.			
FROM THAT ORIGINALLY SHOWN, SO THAT ON THE COMPLETION OF THE JOB THE RECORD DRAWINGS WILL SHOW THE EXACT LOCATION AS ACTUALLY INSTALLED EQUIPMENT AND BUREAU OF STANDARDS DRAWINGS. DRAWINGS AND CABLES SHALL BE DIMENSIONED FROM FIXED REFERENCE POINTS. RECORD DRAWINGS SHALL BE KEPT AT THE SITE AND SHALL BE BROUGHT UP TO DATE AS THE WORK PROGRESSES. SUBMIT COMPLETED RECORD DRAWINGS BEFORE FINAL CERTIFICATE OF JOB ACCEPTANCE IS ISSUED.			
6. THE FOLLOWING DOCUMENTS SHALL BE SUBMITTED TO THE ARCHITECT ON THE COMPLETION OF THE PROJECT AS DESCRIBED ABOVE:			
– ELECTRICAL INSPECTION CERTIFICATE			
– FIRE ALARM VERIFICATION CERTIFICATE			
– FIRE DEPARTMENT CERTIFICATE			
– AS-BUILT DRAWINGS			
– DATA BOOKS			
– GUARANTEE			
– OTHER CERTIFICATES SPECIFIED.			
7. PROVIDE TEMPORARY FACILITIES FOR FIELD OFFICE, WORKSHOP, TOOLS AND MATERIAL STORAGE AS MAY BE REQUIRED FOR OWN USE AND BE RESPONSIBLE FOR ANY LOSS OR DAMAGE THEREOF.			
8. ALL MATERIAL SHALL BE STORED NEARBY AND OUT OF THE WAY, CLEAN UP DAILY ALL REFUSE CAUSED BY WORK.			
9. BIND WITHIN A HARD-COVERED, LOOSE-LEAF BINDER, A COMPLETE SET OF MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS SHOWING ALL MAJOR ELECTRICAL EQUIPMENT AND SYSTEMS, INCLUDING SHOP DRAWINGS AND DETAIL DRAWINGS. INSTRUCTIONS SHALL BE COMPLETE FOR INSTALLATION, OPERATION AND MAINTENANCE. PROVIDE PART SUPPLIERS, LISTS AND ADDRESS INCLUDED. MAKE ANY ADDITIONS AND/OR CORRECTIONS REQUIRED BY THE ARCHITECT AND SUBMIT TWO CORRECT COPIES TO THE ARCHITECT. INSTRUCTIONS SHALL BE REVIEWED WITH THE OPERATING PERSONNEL TO ENSURE A THOROUGH UNDERSTANDING OF THE EQUIPMENT AND ITS OPERATION.			
10. EXAMINE THE SITE, EXISTING EQUIPMENT AND THE LOCAL CONDITIONS AFFECTING THE WORK UNDER THIS CONTRACT. NO ALLOWANCES WILL BE MADE SUBSEQUENTLY FOR ANY OBVIOUS CONSIDERATIONS OVERLOOKED.			
11. AFTER THE WORK IS COMPLETE BUT BEFORE FINAL PAYMENT, GIVE THE OWNER A WRITTEN GUARANTEE THAT YOU WILL, AT NO CHARGE TO THE OWNER, REPLACE OR REPAIR ANY DEFECTS IN WORKMANSHIP AND MATERIALS NOT DONE, IN THE OPINION OF THE ARCHITECT TO NEGLECT OR NEGLECT GUARANTEE SHALL COVER A PERIOD OF 12 MONTHS FROM THE DATE OF ACCEPTANCE OF THE WORK BY THE ARCHITECT. THIS GUARANTEE SHALL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OR GUARANTEES OF LONGER PERIOD, BUT SHALL BE BINDING ON ALL OTHER WORK NOT OTHERWISE COVERED.			
12. ALL WORK SHALL COMPLY STRICTLY TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE CANADIAN ELECTRICAL, CSA CODE AS ADOPTED AND AMENDED BY PROVINCIAL REGULATIONS AND THE BUILDING CODE. THESE CODES AND ANY ADDITIONAL REQUIREMENTS OF THE POWER UTILITY SHALL FORM AN INTEGRAL PART OF THIS SPECIFICATION. WHERE DRAWINGS CALL FOR EQUIPMENT, WIRING OR OTHER REQUIREMENTS EXCEEDING THE MINIMUM REQUIREMENTS OF THE CODE, THE DRAWINGS SHALL BE FOLLOWED.			
13. BEFORE STARTING ANY WORK, SUBMIT THE REQUIRED NUMBER OF COPIES OF THE ELECTRICAL DRAWINGS TO THE POWER AUTHORITY AND ELECTRICAL INSPECTION DEPARTMENT REGIONAL OFFICE, FOR THEIR APPROVAL AND COMMENTS.			
14. PAY ALL FEES FOR EXAMINATION OF DRAWINGS AND OBTAIN ALL PERMITS REQUIRED AND PAY ALL PERMIT AND INSPECTION FEES.			
15. ARRANGE FOR INSPECTION OF ALL WORK BY THE POWER AUTHORITY AND INSPECTION DEPARTMENT. ON COMPLETION OF THE WORK, PRESENT TO THE OWNER THE FINAL UNCONDITIONAL CERTIFICATE OF APPROVAL.			
16. ON AWARD OF CONTRACT, SUBMIT FOR REVIEW LIST OF DELIVERY DATES AND 3 COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT.			
17. ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS, NOISE AND VIBRATION. ALL EQUIPMENT SHALL BE CSA APPROVED.			
18. SCHEDULE AND COORDINATE ALL WORK WITH OTHER TRADES. RELOCATE OR REPLACE CONDUIT OR EQUIPMENT WHICH INTERFERES WITH OTHER TRADES DUE TO LACK OF COORDINATION WITH OTHER TRADES.			
19. THE OWNER SHALL HAVE TEMPORARY USE OF INSTALLATION PRIOR TO FINAL ACCEPTANCE.			
20. ALL CLAIMS FOR EXTRAS SHALL BE SUPPORTED BY WRITTEN AUTHORIZATION AND SHALL BE SUBMITTED WITH TIMED MATERIAL AND LABOUR COSTS BREAKDOWN. THE FORMAT OF THE BREAKDOWN SHALL FOLLOW THAT OF THE CHANGE DOCUMENT (I.E. THAT OF THE NOTICE OF CHANGE, SEE INSTRUCTION CHANGE DIRECTIVE, ETC.). MATERIALS SHALL BE PRICED AT COST INCLUDING ANY DISCOUNT. LABOUR UNITS SHALL BE BASED ON CECA AND RECA LABOUR UNIT TABLES SHALL BE THE TYPE OF WORK INVOLVED. THERE SHALL BE NO EXTRA CHARGE FOR RELOCATION OF ANY EQUIPMENT WITHIN 10 FEET (3M) FROM THE ORIGINAL LOCATION, PROVIDED THAT THE CHANGE IS MADE BEFORE INSTALLATION.			
21. ALL ELECTRICAL EQUIPMENT MOUNTED AND CONNECTED BY THIS CONTRACTOR, WHETHER SUPPLIED BY HM OR NOT, SHALL BE IDENTIFIED BY MEANS OF PLASTIC LABELS.			
22. WIRING			
1. ALL WIRING SHALL BE CONCEALED EXCEPT IN UNFINISHED AREAS AND IN AREAS NOTED WHERE WIRING MAY BE INSTALLED IN SURFACE CONDUITS.			
– RIGID STEEL CONDUITS SHALL BE USED IN:			
– ALL EXPOSED WIRING SUBJECT TO MECHANICAL DAMAGE,			
– ALL AREAS REQUIRED BY CODE.			
2. EMT CONDUITS MAY BE USED WHERE PERMITTED BY CODE:			
– EXPOSED WIRING,			
– IN FURRED WALLS.			
3. ARMoured FLEXIBLE CABLE TYPE AC90 (BX CABLE) MAY BE USED AS DROP CABLE FROM JUNCTION BOX TO LIGHT FIXTURES, RECEPTACLES AND MOTORS IN OR IN HOLLOW PARTITIONS OR IN DRY ACCESSIBLE CEILING SPACES.			
4. FLEXIBLE CONDUIT SHALL BE USED FOR FINAL SHORT CONNECTIONS BETWEEN OUTLET AND ELECTRICAL EQUIPMENT SUCH AS RECESSED FIXTURES, MOTORS, TRANSFORMERS, MOTORIZED EQUIPMENT AND FIXED APPLIANCES. FLEXIBLE CONDUIT IN MECHANICAL ROOMS AND ON THE EXTERIOR WALL SHALL BE PVC JACKETED, LIQUID TIGHT.			
5. HOSE RUNS OF WIRING TO PANELS SHALL BE IN CONDUITS.			
23. ALL LOW VOLTAGE AND MULTI CONDUCTOR CABLES SHALL BE INSTALLED IN CONDUIT.			
24. ALL CONDUCTORS SHALL BE COPPER 80 VOLT GRADE WITH INSULATION TYPE RM90. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG AND COLOUR CODED. MINIMUM WIRING FOR EMERGENCY BATTERY SYSTEM SHALL BE #10 AWG AND SIZED TO LIMIT VOLTAGE DROP TO BELOW 5% WIRE CONNECTIONS SHALL BE MADE WITH PRESSURE TIE. SOLID BARE CONDUCTORS WITHIN 18 INCHES OF THE TERMINAL SHALL BE INSULATED.			
1. MAXIMUM LENGTH FOR 15 AMP, 120/208 VOLT BRANCH CIRCUIT HOME RUNS SHALL BE AS FOLLOWS:			
LOAD #12 AWG #10 AWG			
RECEPTABLE 65 FT (20M) OVER 65 FT (20M)			
LIGHTING 90 FT (27M) OVER 90 FT (27M)			
25. UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL AND ELECTRICAL DRAWINGS, MOUNTING HEIGHTS OF EQUIPMENT ABOVE FINISHED FLOOR FROM CENTRE LINE OF THE MOUNTING BOB SHALL BE AS FOLLOWS:			
1. TOP OF PANEL BOARD – 78" (1980MM)			
2. LIGHT SWITCH – 47" (1200MM)			
3. MOTOR STARTER/THERMOSTAT – SAME AS LIGHT SWITCH			
4. RECEPTABLE, TELEPHONE, DATA, ETC. – 16" (400MM)			
5. RECEPTABLES IN MECHANICAL ROOMS AND OTHER UNFINISHED AREAS – 47" (1200MM)			
6. END-OF-LINE RESISTOR FOR SIGNAL AND ALARM CIRCUITS – 72" (1830MM)			
7. ALARM SIGNAL DEVICE – 16" (2400MM) OR 8" (200MM) BELOW CEILING WHERE CEILING HEIGHT IS LOWER THAN 105" (2670MM)			
26. IF NUMBER OF CONDUCTORS IN ANY ONE CONDUIT EXCEEDS 6 LINE CONDUCTORS, CONDUIT SIZE SHALL BE INCREASED TO ALLOW FOR DRAINING AS REQUIRED BY CODE.			
27. MECHANICAL TRADE WILL SUPPLY ALL STARTERS, CONTROL TRANSFORMERS AND CONTROLS FOR EQUIPMENT SUPPLIED BY THEM AND WILL MOUNT ALL THESE EXCEPT FOR WALL MOUNTED STARTERS AND WALL MOUNTED LINE VOLTAGE CONTROLS, WHICH SHALL BE MOUNTED BY ELECTRICAL TRADE. ELECTRICAL TRADE SHALL DO ALL POWER WIRING, WHICH IS WIRING THAT CARRIES THE LOAD CURRENT OF THE MOTOR, HEATER, HOT WATER TANK OR OTHER EQUIPMENT SUPPLIED BY MECHANICAL TRADE. MECHANICAL TRADE WILL DO ALL OTHER RELATED WIRING.			
28. EMPTY CONDUITS PROVIDED BY DIVISION 16 FOR USE BY OTHERS SHALL BE COMPLETE WITH PULL ROPES.			
29. ALL CONDUITS AND OUTLET BOXES SHALL BE SUPPORTED FROM THE BUILDING SURFACES AND SHALL NOT BE SUPPORTED FROM OTHER CONDUITS, DUCTS OR PIPES.			
30. GROUNDING AND BONDING			
1. PROVIDE GROUNDING OF SERVICES, EQUIPMENT, LIGHT STANDARDS, FEEDERS, CONDUITS, ETC. GROUNDING SHALL BE DONE IN ACCORDANCE WITH THE ELECTRICAL CODE AND ALL REQUIREMENTS OF THE LOCAL UTILITY AUTHORITIES.			
2. THE FOLLOWING REQUIREMENTS ARE SUPPLEMENTARY AND ADDITIONAL TO THE ABOVE:			
1. PROVIDE A GREEN INSULATED BONDING CONDUCTOR IN ALL NON-METALLIC CONDUITS. SIZE OF BONDING CONDUCTOR SHALL BE AS SHOWN ON THE DRAWINGS. IF SIZE IS NOT SHOWN, FOLLOW ELECTRICAL CODE. BONDING CONDUCTORS SHALL BE INSTALLED INSIDE CONDUIT OR TUBING CONTAINING THE PHASE CONDUCTORS.			
2. GROUNDING AND BONDING CONDUCTORS RUN INSIDE THE BUILDINGS BEYOND THE ELECTRICAL ROOM SHALL BE IN CONDUIT OF SUFFICIENT DIAMETER.			
3. ALL FEEDER AND SUB-FEEDER CONDUITS FOR PANELS, TRANSFORMERS, SHALL HAVE A GREEN BONDING CONDUCTOR RUN PARALLEL TO THE LINE CONDUCTOR IN THE CONDUIT. IF SIZE IS NOT SHOWN, FOLLOW ELECTRICAL CODE.			
4. WHERE ISOLATED GROUND RECEPTABLES ARE SPECIFIED, PROVIDE A SEPARATE GROUND AND SEPARATE NEUTRAL CONDUCTOR FROM PANEL FOR EACH DUPLEX OR QUADPLEX RECEPTACLE.			
5. TRANSFORMER NEUTRALS SHALL BE CONNECTED DIRECTLY TO AN APPROVED GROUNDING ELECTRODE TO THE FULL SATISFACTION OF THE INSPECTION AUTHORITY.			
6. WHERE GROUND CONDUIT THROUGH CONDUITS IS NOT MAINTAINED, A GREEN INSULATED GROUND WIRE SHALL BE INSTALLED INSIDE THE CONDUITS.			
7. ALL COMPLEX CABLES SHALL HAVE A BARE COPPER GROUND WIRE RUNNING PARALLEL TO THE CONDUCTORS FROM POWER SOURCE TO THE LOAD.			
8. TO CONTINUOUS ROW OF FLUORESCENT FIXTURES AND FUTURE WIRING CHANNELS WHERE SUCH ARE USED SHALL HAVE A GREEN GROUND WIRE OF SAME SIZE AS PHASE CONDUCTORS. THE FIXTURES OR CHANNEL BOXES SHALL NOT BE RELIED UPON TO PROVIDE GROUND CONTINUITY.			
31. OBTAIN LANDLORD'S APPROVAL PRIOR TO CUTTING AND DRILLING ON EXISTING FLOOR.			
32. INCLUDE TESTING AND VERIFICATION OF THE NEW AND EXISTING FIRE ALARM DEVICES ACCORDING TO BUILDING CODE/LOCAL REQUIREMENTS.			
SECTION 16B – RACKWAYS, ELECTRICAL DEVICES AND CONTROLS			
1. PROVIDE ALL MATERIAL, EQUIPMENT AND LABOUR REQUIRED FOR A COMPLETE AND ADEQUATE INSTALLATION OF ELECTRICAL MATERIALS AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN.			
2. SWITCHES SHALL BE UNLESS OTHERWISE INDICATED, PASS & SENOUR, WHITE, DECORA TYPE AS FOLLOWS:			
1. SPECIFICATION GRADE 15A 20A			
SINGLE POLE 120V 2001-W 2001-W 2001-W			
3-WAY 120V 2003-W 2003-W 2003-W			
4-WAY 120V 2004-W 2004-W 2004-W			
3-WAY 347V 2003A-W 2003A-W 2003A-W			
4-WAY 347V 2004A-W 2004A-W 2004A-W			
2. SWITCHES OF EQUAL QUALITY AS MANUFACTURED BY BRYANT, ARROW, HART, LEVITON AND HUBBELL SHALL BE CONSIDERED AS ACCEPTABLE AS SPECIFIED ALTERNATES.			
3. RECEPTABLES SHALL BE, UNLESS OTHERWISE INDICATED, PASS & SENOUR, WHITE, DECORA U GROUND, SCREW TERMINAL TYPE.			
1. SPECIFICATION GRADE –			
15A 125V DUPLEX 2002-W 2002-W			
20A 125V DUPLEX 2003A-W 2003A-W 2003A-W			
15A 125V DUPLEX ISOLATED GROUND (RANGE) #206262			
15A 125V DUPLEX GROUND FAULT 1591-WCN			
2. RECEPTABLES OF EQUAL QUALITY AND TYPE AS MANUFACTURED BY BRYANT, ARROW, HART, LEVITON AND HUBBELL SHALL BE CONSIDERED AS SPECIFIED ALTERNATES.			
3. CORRELATES FOR RECEPTABLES, LIGHT SWITCHES, TELEPHONE, DATA AND TV OUTLETS SHALL BE PASS & SENOUR STAINLESS STEEL TRADE MASTER LAMPO PLATE TYPE 302 TO MATCH WIRING DEVICE TYPE FROM THE SAME MANUFACTURER AS FOR WIRING DEVICES COLOUR SHALL MATCH COLOUR OF WIRING DEVICES.			
4. OUTLET BOXES SHALL BE ELECTRO GALVANIZED AND MADE OF COOL CALVE STEEL, WHERE MORE THAN ONE DEVICE IS SHOWN ON PLAN, A MULTI-GANG BOX SHALL BE USED. OFFSET OUTLET BOXES, SHOWN BACK TO BACK IN PARTITIONS, HORIZONTALLY TO MINIMIZE NOISE TRANSMISSION BETWEEN ADJACENT AREAS. OUTLET BOX FOR DEVICES MOUNTED SIDE BY SIDE OR ONE ABOVE THE OTHER SHALL BE SEPARATED BY A MINIMUM OF ONE INCH (25MM).			
5. PROVIDE ALL FIRE STOP SYSTEM FOR ALL WALL/FLOOR PENETRATION TO SUIT FIRE RATED WALL/FLOOR.			
SECTION 16C – SERVICE AND DISTRIBUTION			
1. PROVIDE ALL MATERIAL, EQUIPMENT AND LABOUR REQUIRED FOR A COMPLETE AND ADEQUATE DISTRIBUTION SYSTEM AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN.			
2. POWER PANELS SHALL CONTAIN CIRCUIT BREAKERS OR FUSIBLE UNITS AS SHOWN ON DRAWINGS. FUSIBLE UNITS WILL NOT BE ACCEPTED IN LEVY OF BREAKERS AND VICE VERSA. PANELS SHALL BE AS MANUFACTURED BY SCHNEIDER, CUTLER-HAMMER OR SIEMENS.			
3. FUSIBLE UNITS SHALL HAVE QUICK-MAKE, QUICK-BREAK MECHANISM AND SHALL BE FRONT OPERATED. UNIT SHALL BE INDIVIDUALLY ENCLOSED WITH INSULATED END BARRIERS. FUSE CLIPS SHALL BE HIGH PRESSURE TYPE. SUITABLE FOR FIRE AND COMPLETE FIRE PROOF.			
4. CIRCUIT BREAKERS SHALL HAVE IMPACT AND FRAME SIZE SHOWN ON THE DRAWINGS. BREAKERS SHALL HAVE DEFINITE OFF AND TRIP POSITIONS WITH PROVISIONS FOR RALLOQUING. BREAKERS SHALL BE BOLTED TO THE BUS. TWO AND THREE POLE BREAKERS SHALL HAVE COMMON TRIPS.			
5. UNLESS OTHERWISE NOTED, TWO AND THREE POLE MOLDED CASE CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING CAPACITY OF 22KA RMS SYMMETRICAL, AND 10KA RMS SYMMETRICAL FOR SINGLE POLE.			
6. UNITS OR BREAKERS DESIGNATED AS "SPACE" SHALL HAVE ALL REQUIRED BUS WORK AND MOUNTING. BRACKETS INSTALLED AT THIS TIME EXCEPT FOR HANDINGS AND BUS UNITS WHICH NORMALLY ARE SUPPLIED AS PART OF THE UNITS OR BREAKERS. UNITS DESIGNATED AS "SPACE" SHALL BE COMPLETE WITH FUSIBLE UNITS OR CIRCUIT BREAKERS.			
7. EACH FUSIBLE UNIT OR BREAKER SHALL HAVE A LAMINATED NAMEPLATE ATTACHED WITH CONTACT OR SCREWS. NAMEPLATE SHALL CARRY NAME OF EQUIPMENT OR PANEL SERVED BY THE UNIT OR BREAKER.			
8. LIGHTING PANELS SHALL BE OF THE TYPE AND SIZE INDICATED WITH THE NUMBER OF BRANCH CIRCUITS AS SHOWN ON THE DRAWINGS.			
1. PANELS SHALL BE PANELBOARD TYPE WITH COPPER BUS BARS, BOLT-ON TOGGLE TYPE BREAKERS, AS MANUFACTURED BY SCHNEIDER, CUTLER-HAMMER OR SIEMENS.			
2. TWO POLE AND THREE POLE BREAKERS SHALL HAVE COMMON TRIPS. EACH LIGHTING PANEL SHALL HAVE TIME-TRIPPER DIRECTORY WITH TRANSPARENT PLASTIC COVER.			
3. CIRCUIT LOADS SHALL BE BALANCED ACROSS PHASES AS CLOSELY AS POSSIBLE.			
4. A BREAKER LOCATED BEHIND A PANEL SHALL BE PROVIDED WITH FIRE ALARM CONTROL PANEL, EMERGENCY LIGHTS AND LIGHT LIGHTS, TIME SWITCHES, MECHANICAL CONTROLS, ETC.			
9. DISCONNECT SWITCHES SHALL BE TYPE A, HORSEPOWER RATED, "SWITCHMATIC" BY FEDERAL, PIONEER OR EQUAL BY SQUARE D, CUTLER-HAMMER, SIEMENS.			
10. FUSES SHALL BE HRC FORM 1. FUSES PROTECTING MOTORS OR TRANSFORMERS SHALL BE TIME DELAY TYPE.			
11. DRY TYPE TRANSFORMERS SHALL BE AS MANUFACTURED BY SCHNEIDER, GE, Eaton, SIEMENS, POLYCON OR EQUAL.			
1. THE TRANSFORMER SHALL BE INDOOR AIR COOLED TYPE, RATED SINGLE OR THREE PHASE AS NOTED ON DRAWINGS, 60 CYCLES, OF KVA RATING SHOWN ON THE PLANS. BODY – 208Y/120V, 1.2KV CLASS, AND CAPABLE OF WITHSTANDING A 100% KVA.			
2. THE TRANSFORMER SHALL HAVE STANDARD PRIMARY TAPS, SHALL BE DESIGNED WITH A CLASS H INSULATION SYSTEM, AND SHALL BE CSA TYPE ANN.			
3. FLOOR MOUNTED TRANSFORMERS SHALL HAVE VIBRO-ACOUSTIC VIBRATION ISOLATORS INSTALLED BETWEEN THE CASE AND THE FLOOR.			
4. WALL MOUNTED TRANSFORMERS SHALL HAVE WALL MOUNTING ANGLE IRON PLATFORMS WITH APPROPRIATE VIBRATION ISOLATING HANGERS AND/OR BRACKETS.			
5. TRANSFORMERS SHALL BE WIRED WITH 3 FEET (3M) OF FLEXIBLE CABLE ON SECONDARY AND PRIMARY SIZES FOR SOUND DRAINAGE.			
12. PANEL BOARD AND TRANSFORMERS LOCATED IN SPRINKLERED AREAS SHALL BE PROVIDED WITH OVERHEADS, DRIP PANS, ETC., AS REQUIRED TO PROTECT AGAINST FIRE PROTECTION SPRINKLER WATER FLOW WITH OVERHEADS.			
13. INTEGRATED EQUIPMENT RATING (SERIES RATING) FOR ELECTRICAL EQUIPMENT			
1. AS A MINIMUM, ALL DOWNSTREAM PANEL BOARDS MUST BE INTEGRATED EQUIPMENT RATED WITH THE UPSTREAM PROTECTIVE DEVICE AND SHALL BE CSA APPROVED FOR SERIES RATING.			
2. EACH PANEL BOARD SHALL BE LABELLED TO INDICATE:			
1. TESTED KVA RATING			
2. SPECIFIC UPSTREAM PROTECTIVE DEVICE.			
3. PERMISSIBLE BRANCH DEVICES.			
4. PANEL DESIGNATION.			
14. SUBMIT SHOP DRAWINGS FOR SWITCHBOARD, PANELS, TRANSFORMERS.			
SECTION 16D – LIGHTING			
1. SUPPLY AND INSTALL ALL LIGHTING FIXTURES, LAMPS, AND ALL REQUIRED ACCESSORIES AS INDICATED ON THE DRAWINGS BY LETTER TYPE AND AS HEREINAFTER SPECIFIED.			
2. SUBMIT SHOP DRAWINGS FOR EACH LIGHTING FIXTURE TYPE.			
3. REPLACE AND INSTALL WITHOUT EXTRA COST TO THE OWNER:			
– ALL DEFECTIVE OR LOW QUALITY FIXTURES FOR A PERIOD OF ONE YEAR			
– ANY LED OR LOW VOLTAGE LAMP WHICH FAILS WITHIN 30 DAYS OF TAKEOVER			
– ANY FLUORESCENT OR LED LAMP WHICH FAILS WITHIN 90 DAYS OF TAKEOVER.			
4. COMPACT FLUORESCENT LAMPS SHALL BE 4100K TYPE WITH CN OF 82 AS MANUFACTURED BY E.C.E., PHILIPS OR SYLVANIA. BALLASTS FOR COMPACT FLUORESCENT LAMPS SHALL BE HIGH POWER FACTOR, ELECTRONIC.			
5. ALL LIGHTING FIXTURES, INCLUDING THOSE MOUNTED IN SUSPENDED CEILING, TO BE SUPPORTED FROM BUILDING STRUCTURE.			
6. COORDINATE THE INSTALLATION OF LIGHTING FIXTURE WITH ALL TRADES TO PROVIDE SPACING INTENDED.			
7. FIXTURES SHALL BE PROPERLY CLEANED AND LEFT CLEAN AND DUST-FREE. ANY FIXTURE SHOWING MARKS OR SCRATCHES DUE TO HANDLING OR TOOL MARKS SHALL BE REPLACED.			
SECTION 16E – WORK IN EXISTING BUILDINGS AND CONTINUITY OF SERVICES			
1. ARCHITECTURAL, STRUCTURAL AND ELECTRICAL ALTERATIONS AND ADDITIONS ARE BEING MADE IN THE EXISTING AREAS AS NOTED ON ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.			
2. VISIT THE SITE AND EXAMINE THE EXISTING CONDITIONS AND ALL TENDERING DOCUMENTS, DRAWINGS AND SPECIFICATIONS. MAKE ALL NECESSARY ALLOWANCES IN TENDER PRICE FOR REMOVAL, RELOCATION, REPAIRING, RECONNECTION OF EXISTING ELECTRICAL EQUIPMENT AND WIRING AS MAY BE NECESSARY FOR THE EXECUTION AND COMPLETION OF THIS PROJECT. NO ALLOWANCES WILL BE MADE LATER FOR ANY EXPENSE INCURRED BY THIS TRADE THROUGH FAILURE TO MAKE THIS EXAMINATION.			
3. REMOVE AND/OR RELOCATE AND REINSTALL ALL WIRING, FIXTURES AND EQUIPMENT AS NECESSARY TO ACCOMMODATE ARCHITECTURAL AND STRUCTURAL ALTERATIONS AND ADDITIONS INDICATED ON THE DRAWINGS. WIRING LOCATED IN AREAS BEING ALTERED OR DEMOLISHED, BUT FEEDING OUTLETS OR EQUIPMENT REQUIRED TO REMAIN IN SERVICE SHALL BE REROUTED AS REQUIRED TO MAINTAIN THE CONTINUITY OF THESE SERVICES.			
4. EXISTING ELECTRICAL EQUIPMENT REMOVED AND INDICATED FOR REUSE SHALL BE CLEANED BEFORE INSTALLATION. ALL UNUSED CONDUIT ENTRANCE OPENINGS SHALL BE SEALED. ALL DEFECTIVE COMPONENTS SHALL BE REPLACED BEFORE REINSTALLATION.			
5. REUSED LIGHTING FIXTURES SHALL BE CLEANED THOROUGHLY AND DEFECTIVE COMPONENTS SHALL BE REPLACED AND REARMED WITH NEW LAMPS. EXISTING LIGHTING FIXTURES INDICATED FOR REUSE SHALL BE STORED SAFELY ON THE SITE UNTIL READY FOR INSTALLATION. ALL FIXTURES SHALL BE IN GOOD WORKING CONDITIONS AND THE APPEARANCE OF THE SUBSTATION OF THE CONSULTANT UPON COMPLETION OF THE PROJECT. ALL EXISTING LAMPS AND EXISTING FIXTURES NOT BEING REUSED SHALL BE HANDLED OVER TO THE OWNER ON COMPLETION OF THE PROJECT OR DISPOSED OF AS INSTRUCTED BY THE OWNER.			
6. ALL WIRING SHALL BE RUN CONCEALED WHERE POSSIBLE EXCEPT THAT CONDUITS IN UNFINISHED AREAS AND ON EXISTING WALLS AND CEILING MAY BE INSTALLED ON SURFACE.			
7. REWORK EXISTING POWER SERVICE AND DISTRIBUTION AS INDICATED ON THE DRAWINGS. PROVIDE NEW POWER PANEL, SPLITTER AND FUSIBLE UNIT AS REQUIRED OR OF SIZE AS SHOWN ON THE DRAWINGS.			
8. SUPPLY, INSTALL AND MAINTAIN ALL REQUIRED TEMPORARY WIRING AT ALL TIMES. PROVIDE ADEQUATE PROTECTION TO EXISTING WIRING AND EQUIPMENT SERVING THE EXISTING AND NEW AREAS AND PARTICULARLY WHERE WIRING AND EQUIPMENT ARE EXPOSED TO MECHANICAL INJURY OR MOISTURE IN THE COURSE OF ALTERATION OR NEW CONSTRUCTION.			
9. POWER SHUTDOWN, IF REQUIRED, MUST BE COORDINATED WITH CLIENT'S REPRESENTATIVE.			
10. CERTAIN ITEMS ARE IDENTIFIED ON THE DRAWINGS AS EXISTING EQUIPMENT TO BE "REMOVED". DISCONNECT SAID EQUIPMENT AND MAKE SAFE. DISCONNECT CONDUITS AND CABLES SHALL BE DISCONNECTED FROM THEIR SOURCE OF SUPPLY, CUT BACK TO A SUITABLE POINT, AND LEFT IN PLACE UNLESS THEY INTERFERE WITH THE NEW WORK, IN WHICH CASE THEY SHALL BE REMOVED.			
11. ALL UNUSED FUSED SWITCHES AND CIRCUIT BREAKERS SHALL BECOME SPARE. PROVIDE NEW, UP-DATED DIRECTIONS FOR PANELS.			
12. CERTAIN ITEMS ARE IDENTIFIED ON THE DRAWINGS AS EXISTING EQUIPMENT "RELOCATED". DISCONNECT SAID EQUIPMENT FROM ITS PRESENT SOURCE AND AFTER RELOCATION, RECONNECT AND REINSTALL ALL ELECTRICAL COMPONENTS.			
13. ALL EXISTING EQUIPMENT AND MATERIAL, INCLUDING CONDUIT, WIRING, BACK BOXES ETC., NOT REQUIRED IN THE FINAL INSTALLATION SHALL BE CAREFULLY REMOVED AT THE APPROPRIATE TIME AND SHALL BE DISPOSED OF.			
14. WHERE DRAWINGS INDICATE EXISTING FLUORESCENT LIGHTING FIXTURES ARE TO BE RELOCATED OR REMOVED, THE CONTRACTOR SHALL INSPECT ALL SUCH FIXTURES TO ASCERTAIN WHETHER EXISTING BALLASTS CONTAIN PCPS. EXTRACT THOSE BALLASTS THAT CONTAIN PCPS AND STORE THEM IN CONTAINERS) APPROVED BY LOCAL AUTHORITIES HAVING JURISDICTION. PLACE THESE CONTAINERS ON SITE AT LOCATION DESIGNATED BY THE OWNER.			
15. DURING REMOVED WORK EXISTING EQUIPMENT WILL COVER A FIVE HOUR TO NEIGHBOURING PROPERTIES OR PARTIALLY OCCUPIED SPACES. A FIVE MATCH SHALL BE PROVIDED ACCORDING TO BUILDING CODE TO THE SATISFACTION OF THE AUTHORITIES. COST SHALL BE INCLUDED IN THE CONTRACT.			
16. SEISMIC RESTRAINTS			
PROVIDE ALL SEISMIC RESTRAINTS AS REQUIRED BY CODE AND BY LOCAL AUTHORITY. PROVIDE INDEPENDENT CERTIFICATION BY A P.E. ENGINEER AT THE END OF THE PROJECT TO CONFIRM SUSTAINABILITY AND COMPLIANCE.			



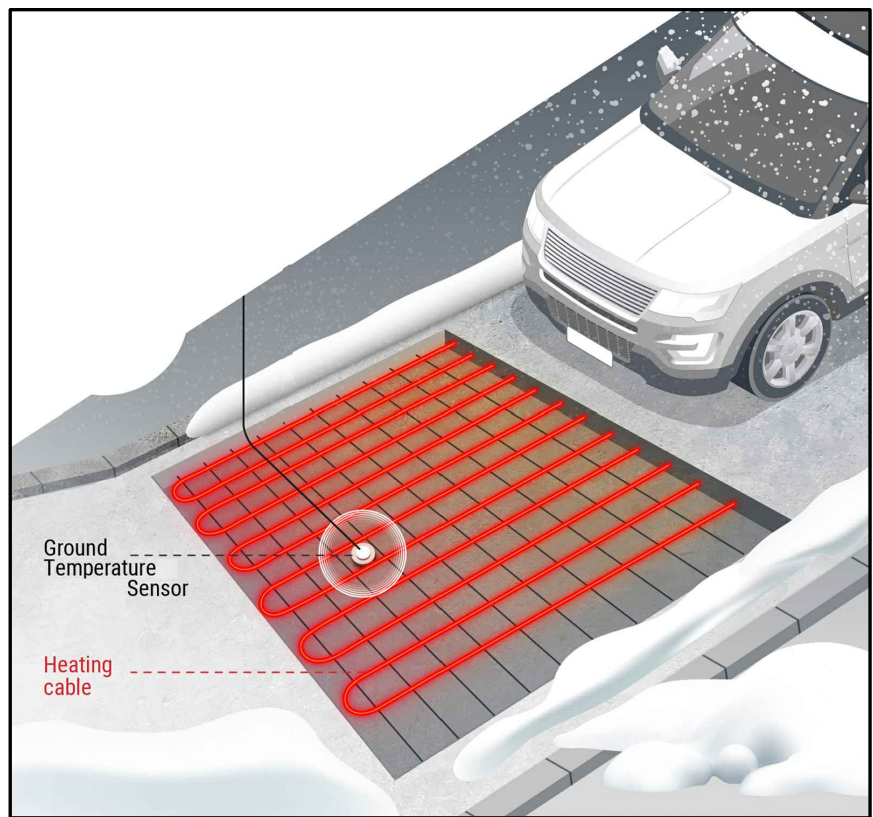
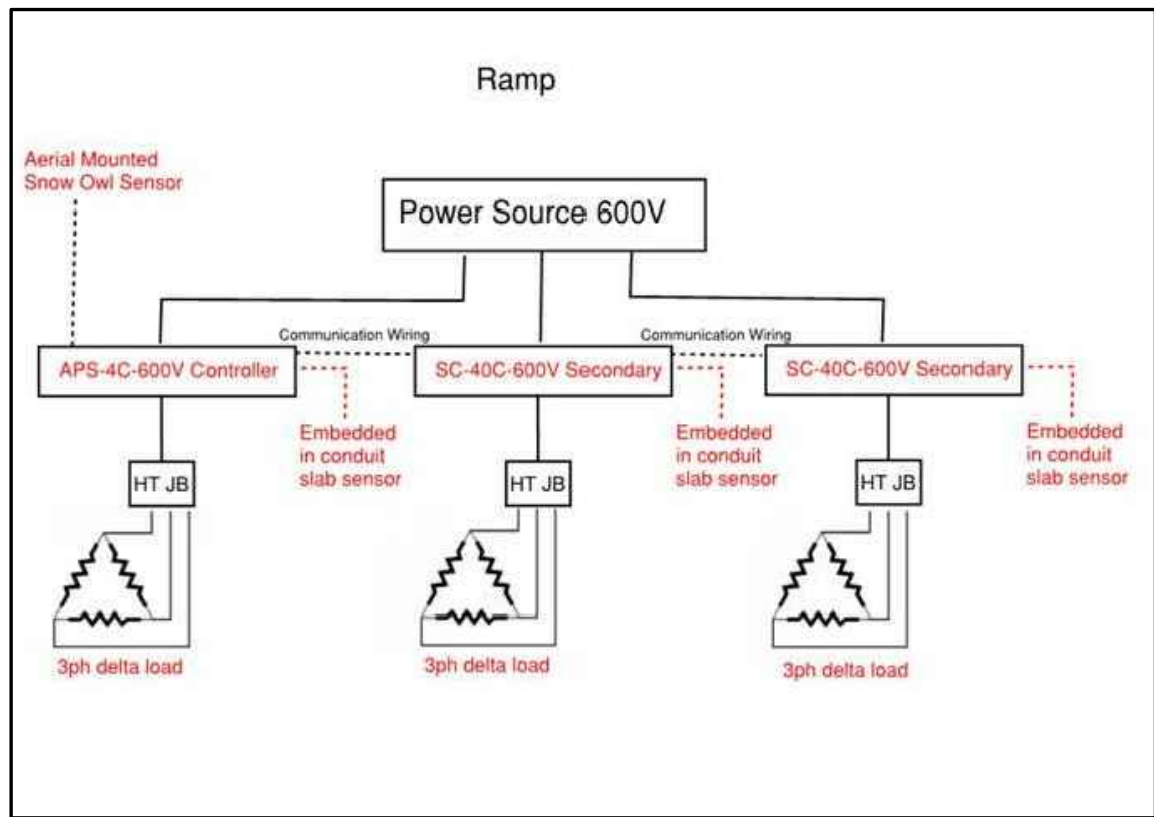
THE BOARD OF GOVERNORS OF EXHIBITION PLACE
TORONTO, M6K 3C3

CONSULTANT
TRACE CONSULTING GROUP LTD.
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1 SNOWMELT SYSTEM - WEST RAMP LAYOUT
E-2
Scale: 1:100



ELECTRICAL PREPARATION DESIGN NOTES:

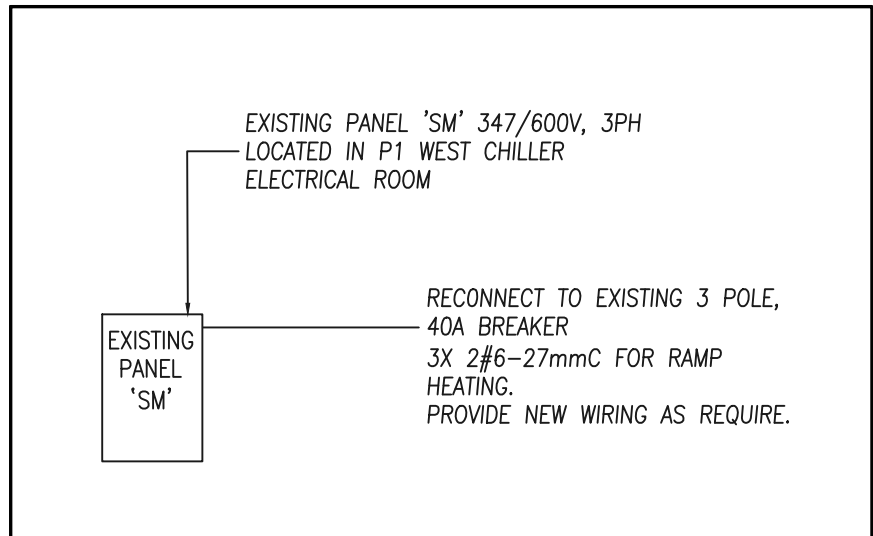
Area (asphalt): 2166.0 ft² (600 V 3 Phase)
Number of expansion joints Even areas for number of cables or zones (if applicable)
Heating Cable Catalog Number SUB14
Number of Cables 9
Heating Cable Length 548 ft
Total Heater Length 4932 ft
Calculated Cable Spacing 5 in
Design Watt Density 48 W/ft²
Individual Three-Phase Circuit Current 31.8 A
Number of Circuits {600V} 3 x 3ph 40A breakers

Recommend 1 x APS-4C-600V snow controller with 2 x SC-40C-600V satellite contactors along with a SnowOwl snow sensor
Controllers also includes a high limit thermistor that should be placed in the slab area in a small conduit

If there is a trench at base of ramp:
Trench – recommend feeding from a local 208V source
Cable – GM-2XT
Control – ECW-GF controller c/w ground fault protection
Load – ~1700W (recommend 15A 2p 208V breaker)

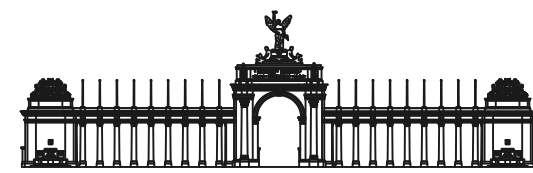
NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING DETAIL IS INTENDED FOR USE BY CONTRACTORS FOR PLANNING PURPOSES ONLY.
4. ALL INFORMATION CONTAINED HEREIN BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.



1	Mar 9, 21	SS	ISSUED FOR TENDER
NO	DATE	BY	REVISIONS

CHECK AND VERIFY ALL DIMENSIONS ON THE JOB BEFORE PROCEEDING WITH ANY WORK. DRAWING MUST NOT BE SCALED



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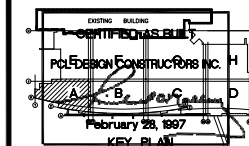


PROJECT TITLE
HALL ' A', WEST CORRIDOR AND
LOADING DOCK RAMP RETROFITS
AT ENERCARE CENTRE
EXHIBITION PLACE

DRAWING TITLE
NEW LAYOUT & DETAILS

DESIGN BY SB	DATE MAR 08, 2021	SCALE AS NOTED
DRAWN BY SB	PROJECT NO 21-076-17696	DRAWING NO EP101-2021
CHECKED BY SS		E2 OF 2

APPENDIX B



NOTES
INCLUDES UP TO FIS106

43	ISSUED FOR AS BUILT	FEB. 19/97
42	GENERAL REVISIONS	NOV. 15/96
41	ISSUED FOR AS BUILT	NOV. 6/96
40	ISSUED FOR SIGN BASES	SEPT. 5/96
39	MID ARCH AS BUILT	JULY 9/96
38	GENERAL REVISIONS	JULY 9/96
37	ISSUED FOR AUTOMOTIVE BUILDING CONSTRUCTION	MAY 31/96
36	ISSUED FOR FIELD INSTRUCTION NO. 5085	MAY 15/96
35	ISSUED FOR CONSTRUCTION	APRIL 29/96
34	ISSUED FOR BLOCKS G & H CONSTRUCTION	APRIL 9/96
33	ISSUED FOR PARTIAL AUTOMOTIVE BUILDING CONSTRUCTION	MAR. 27/96
32	ISSUED FOR BUILDING PERMIT	FEB. 26/96
31	ISSUED FOR CAISSON CONSTRUCTION BLOCK H	FEB. 21/96
30	ISSUED FOR CONSTRUCTION BLOCKS F & G - WEST OF LINE 34	FEB. 19/96
29	ISSUED FOR CONSTRUCTION BLOCK E	JAN. 31/96
28	ISSUED FOR CAISSON CONSTRUCTION BLOCKS E, F & G	DEC. 21, 95
27	ISSUED FOR PROGRESS REVIEW	DEC. 21, 95
26	ISSUED FOR FIELD INSTRUCTION NO. 5008	NOV. 28/95
25	ISSUED FOR CONSTRUCTION BLOCK A - WEST OF LINE 7	NOV. 22/95
24	ISSUED FOR CONSTRUCTION BLOCK D	NOV. 15/95
23	ISSUED FOR PROGRESS REVIEW	NOV. 6/95
22	ISSUED FOR CONSTRUCTION BLOCK C	NOV. 1/95
21	ISSUED FOR CAISSON CONSTRUCTION BLOCK D	OCT. 25/95
20	ISSUED FOR CONSTRUCTION BLOCK B	OCT. 25/95
19	ISSUED FOR CONSTRUCTION BLOCK A - EAST OF LINE 7	OCT. 18/95
18	ISSUED FOR R.A.W.F. POST-TENDER ADDENDUM NO. S-4	OCT. 16/95
17	ISSUED FOR CAISSON CONSTRUCTION BLOCK C	OCT. 13/95
16	ISSUED FOR CAISSON CONSTRUCTION BLOCKS A AND B	OCT. 6/95
15	ISSUED FOR R.A.W.F. POST-TENDER ADDENDUM NO. S-3	SEPT. 19/95
14	ADDENDUM NO. S-2	SEPT. 18/95
13	ISSUED FOR R.A.W.F. CONSTRUCTION	SEPT. 1/95
12	ISSUED FOR TUNNEL CONSTRUCTION	SEPT. 1/95
11	ISSUED FOR PROGRESS REVIEW	SEPT. 8/95
10	ISSUED FOR CAISSON TENDER	AUG. 30/95
9	ISSUED FOR EXCAVATION PERMIT	AUG. 21/95
8	ISSUED FOR STRUCTURAL PERMIT	AUG. 21/95
7	ISSUED FOR BUILDING PERMIT (R.A.W.F.)	AUG. 21/95
6	ISSUED FOR BUILDING PERMIT (TUNNEL)	AUG. 21/95
5	ISSUED FOR FORMWORK TENDER	AUG. 18/95
4	ISSUED FOR TENDER (R.A.W.F.)	AUG. 14/95
3	ADDENDUM NO. S-1	AUG. 11/95
2	ISSUED FOR REINFORCING STEEL TENDER	JULY 31/95
1	ISSUED FOR SCHEMATIC DESIGN	JULY 5/95
No.	Revisions	Date By

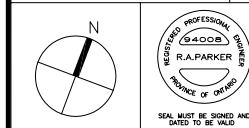
CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB. DIMENSIONS MUST BE PLACED.



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Associated Consultant

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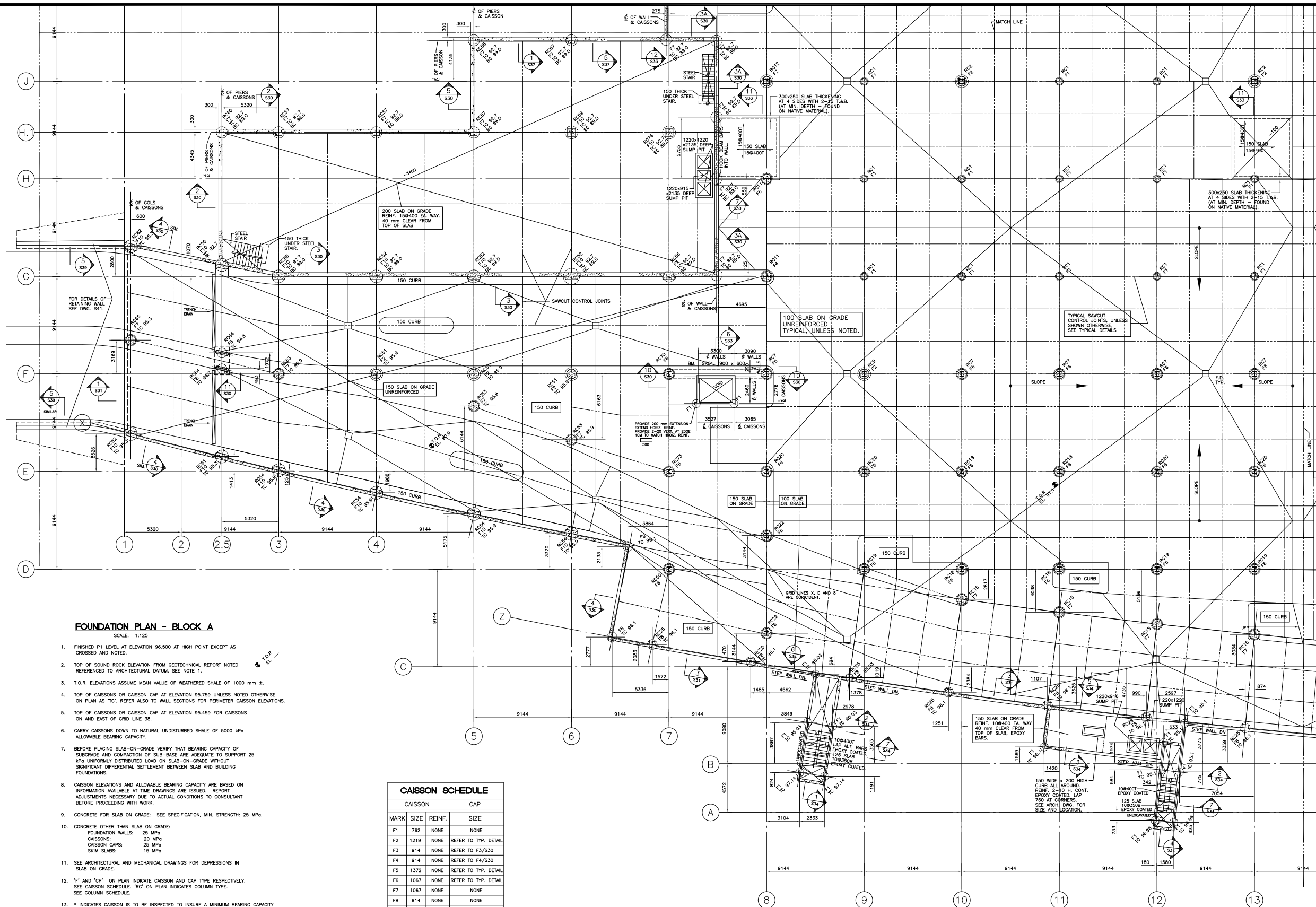
NATIONAL TRADE CENTRE
AT
EXHIBITION PLACE



Drawn: H.W.
Checked: A.D.
Scale: 1:125
Date: APRIL 29, 1996

This
**FOUNDATION PLAN
- BLOCK A**

Project No. NTC-C-201 Drawing No. S10

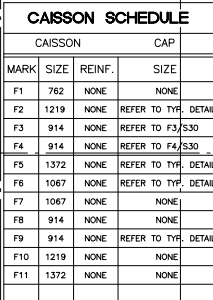


FOUNDATION PLAN - BLOCK A
SCALE: 1:125

- FINISHED P1 LEVEL AT ELEVATION 96.500 AT HIGH POINT EXCEPT AS CROSSED AND NOTED.
- TOP OF SOUND ROCK ELEVATION FROM GEOTECHNICAL REPORT NOTED REFERENCED TO ARCHITECTURAL DATUM. SEE NOTE 1.
- T.O.R. ELEVATIONS ASSUME MEAN VALUE OF WEATHERED SHALE OF 1000 mm ±.
- TOP OF CAISSONS OR CAISSON CAP AT ELEVATION 95.759 UNLESS NOTED OTHERWISE ON PLAN AS "TC". REFER ALSO TO WALL SECTIONS FOR PERIMETER CAISSON ELEVATIONS.
- TOP OF CAISSONS OR CAISSON CAP AT ELEVATION 95.459 FOR CAISSONS ON AND EAST OF GRID LINE 3B.
- CARRY CAISSONS DOWN TO NATURAL UNDISTURBED SHALE OF 5000 kPa ALLOWABLE BEARING CAPACITY.
- BEFORE PLACING SLAB-ON-GRADE VERIFY THAT BEARING CAPACITY OF SUBGRADE AND COMPACTION OF SUB-BASE ARE ADEQUATE TO SUPPORT 25 kPa UNIFORMLY DISTRIBUTED LOAD ON SLAB-ON-GRADE WITHOUT SIGNIFICANT DIFFERENTIAL SETTLEMENT BETWEEN SLAB AND BUILDING FOUNDATIONS.
- CAISSON ELEVATIONS AND ALLOWABLE BEARING CAPACITY ARE BASED ON INFORMATION AVAILABLE AT TIME DRAWINGS ARE ISSUED. REPORT ADJUSTMENTS NECESSARY DUE TO ACTUAL CONDITIONS TO CONSULTANT BEFORE PROCEEDING WITH WORK.
- CONCRETE FOR SLAB ON GRADE: SEE SPECIFICATION, MIN. STRENGTH: 25 MPa.
- CONCRETE OTHER THAN SLAB ON GRADE:
FOUNDATION WALLS: 25 MPa
CAISSONS: 20 MPa
CAISSON CAPS: 25 MPa
SKIM SLABS: 15 MPa
- SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR DEPRESSIONS IN SLAB ON GRADE.
- "F" AND "CP" ON PLAN INDICATE CAISSON AND CAP TYPE RESPECTIVELY. SEE CAISSON SCHEDULE. "RC" ON PLAN INDICATES COLUMN TYPE. SEE COLUMN SCHEDULE.
- * INDICATES CAISSON IS TO BE INSPECTED TO INSURE A MINIMUM BEARING CAPACITY OF 5000 kPa. AND CAISSON IS TO BE REINFORCED WITH 5-15 VERTICALS + 100,000 TIES FOR THE ENTIRE CAISSON LENGTH. FIRST TIE TO BE PLACED 150 mm FROM BASE OF CAISSON.
- SEE GENERAL NOTES AND TYPICAL DETAILS ON DRAWINGS S01 TO S03.

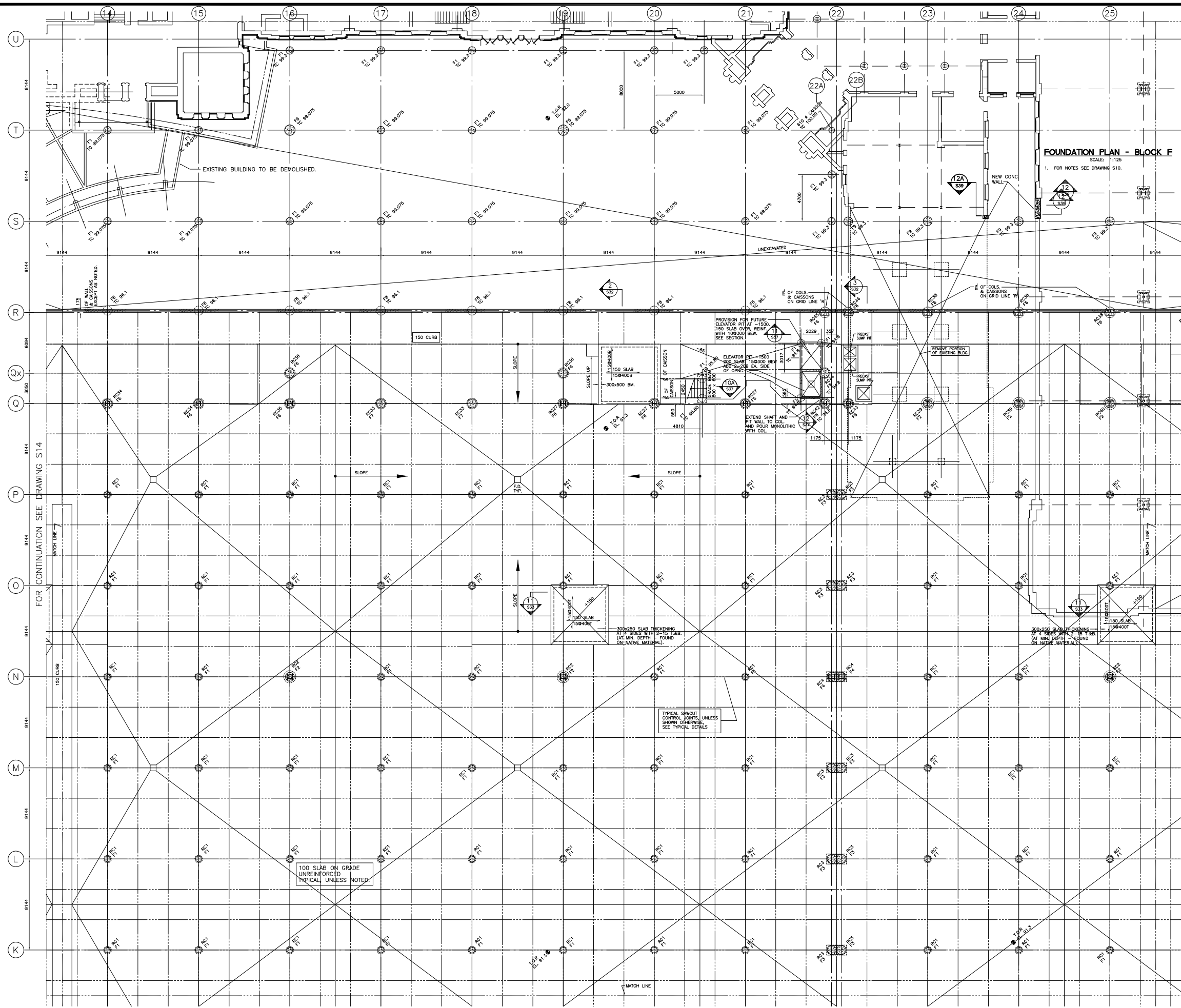
CAISSON SCHEDULE			
CAISSON		CAP	
MARK	SIZE	REINF.	SIZE
F1	762	NONE	NONE
F2	1219	NONE	REFER TO TYP. DETAIL
F3	914	NONE	REFER TO F3/S30
F4	914	NONE	REFER TO F4/S30
F5	1372	NONE	REFER TO TYP. DETAIL
F6	1067	NONE	REFER TO TYP. DETAIL
F7	1067	NONE	NONE
F8	914	NONE	NONE
F9	914	NONE	REFER TO TYP. DETAIL
F10	1219	NONE	NONE
F11	1372	NONE	NONE

FOR CONTINUATION SEE DRAWING S11



FOR CONTINUATION SEE DRAWING S10

Project No. NTC-C-201	Drawing No. S14
--------------------------	--------------------



The **PCL TEAM**

EXISTING BUILDING
PCL DESIGN & CONSTRUCTION INC. H
February 28, 1997
KEY PLAN

NOTES

1. FOR NOTES SEE DRAWING S10.

2. FOR NOTES SEE DRAWING S10.

CAISSON		CAP	
MARK	SIZE	REINF.	SIZE
F1	752	NONE	NONE
F2	1219	NONE	REFER TO TYP. DETAIL
F3	914	NONE	REFER TO F3/S30
F4	914	NONE	REFER TO F4/S30
F5	1372	NONE	REFER TO TYP. DETAIL
F6	1057	NONE	REFER TO TYP. DETAIL
F7	1057	NONE	REFER TO TYP. DETAIL
F8	1057	NONE	REFER TO TYP. DETAIL
F9	1057	NONE	REFER TO TYP. DETAIL
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F90	1057	NONE	REFER TO TYP. DETAIL
F91	1057	NONE	REFER TO TYP. DETAIL
F92	1057	NONE	REFER TO TYP. DETAIL
F93	1057	NONE	REFER TO TYP. DETAIL
F94	1057	NONE	REFER TO TYP. DETAIL
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F97	1057	NONE	REFER TO TYP. DETAIL
F98	1057	NONE	REFER TO TYP. DETAIL
F99	1057	NONE	REFER TO TYP. DETAIL
F100	1057	NONE	REFER TO TYP. DETAIL

CONTRACTOR MUST OBTAIN AND VERIFY ALL DIMENSIONS ON THE JOB. DIMENSIONS MAY BE SLIGHTLY DIFFERENT.

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EXHIBITION PLACE TORONTO
M6K 3C3

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Associated Consultant:
R. A. PARKER
Consulting Engineer
1000 Bloor St. West, Suite 200
Toronto, Ontario M6H 1L5

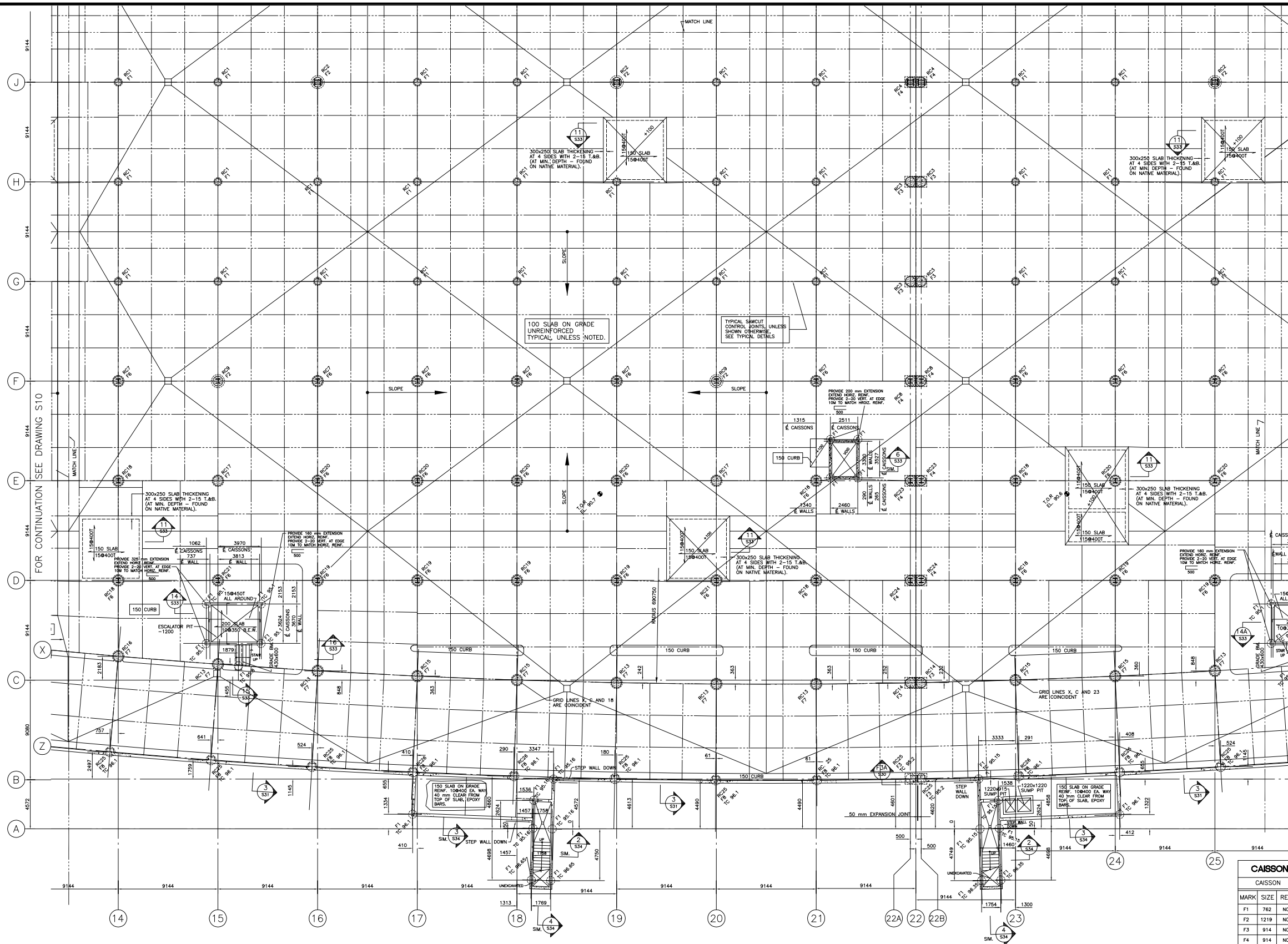
NATIONAL TRADE CENTRE
AT
EXHIBITION PLACE

Scale: 1:125
Date: APRIL 29, 1996

Project No. NTC-C-201
Drawing No. S15

FOR CONTINUATION SEE DRAWING S11

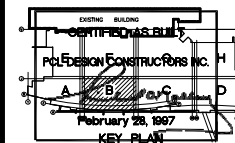
FOR CONTINUATION SEE DRAWING S16



FOUNDATION PLAN - BLOCK B

SCALE: 1:125

1. FOR NOTES SEE DRAWING S10.



NOTES
INCLUDES UP TO FIS106

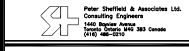
43	ISSUED FOR AS BUILT	FEB. 19/97
42	GENERAL REVISIONS	NOV. 15/96
41	ISSUED FOR AS BUILT	NOV. 6/96
40	ISSUED FOR SIGN BASES	SEPT. 5/96
39	MID ARCH AS BUILT	JULY 9/96
38	GENERAL REVISIONS	JULY 9/96
37	ISSUED FOR AUTOMOTIVE BUILDING CONSTRUCTION	MAY 31/96
36	ISSUED FOR FIELD INSTRUCTION NO. 5008	MAY 15/96
35	ISSUED FOR CONSTRUCTION	APRIL 29/96
34	ISSUED FOR BLOCKS G & H CONSTRUCTION	APRIL 2/96
33	ISSUED FOR PARTIAL AUTOMOTIVE BUILDING CONSTRUCTION	MAR. 27/96
32	ISSUED FOR BUILDING PERMIT	FEB. 26/96
31	ISSUED FOR CAISSON CONSTRUCTION BLOCK H	FEB. 21/96
30	ISSUED FOR CONSTRUCTION BLOCKS F & G - WEST OF LINE 34	FEB. 19/96
29	ISSUED FOR CONSTRUCTION BLOCK C	JAN. 31/96
28	ISSUED FOR CAISSON CONSTRUCTION BLOCKS E, F & G	DEC. 21, 95
27	ISSUED FOR PROGRESS REVIEW	DEC. 21, 95
26	ISSUED FOR FIELD INSTRUCTION NO. 5008	NOV. 26/95
25	ISSUED FOR CONSTRUCTION BLOCK D	NOV. 22/95
24	ISSUED FOR CONSTRUCTION BLOCK C	NOV. 15/95
23	ISSUED FOR PROGRESS REVIEW	NOV. 6/95
22	ISSUED FOR CONSTRUCTION BLOCK D	NOV. 1/95
21	ISSUED FOR CAISSON CONSTRUCTION BLOCK D	OCT. 25/95
20	ISSUED FOR CONSTRUCTION BLOCK B	OCT. 25/95
19	ISSUED FOR CONSTRUCTION BLOCK A - EAST OF LINE 7	OCT. 18/95
18	ISSUED FOR R.A.W.F. POST-TENDER ADDENDUM NO. 5-4	OCT. 16/95
17	ISSUED FOR CAISSON CONSTRUCTION BLOCKS A AND B	OCT. 13/95
16	ISSUED FOR CAISSON CONSTRUCTION BLOCKS A AND B	OCT. 6/95
15	ISSUED FOR R.A.W.F. POST-TENDER ADDENDUM NO. 5-3	SEPT. 19/95
14	ADDENDUM NO. 5-2	SEPT. 18/95
13	ISSUED FOR R.A.W.F. CONSTRUCTION	SEPT. 1/95
12	ISSUED FOR PROGRESS REVIEW	SEPT. 8/95
11	ISSUED FOR TUNNEL CONSTRUCTION	SEPT. 1/95
10	ISSUED FOR CAISSON TENDER	AUG. 30/95
9	ISSUED FOR EXCAVATION PERMIT	AUG. 27/95
8	ISSUED FOR STRUCTURAL PERMIT	AUG. 27/95
7	ISSUED FOR BUILDING PERMIT (R.A.W.F.)	AUG. 27/95
6	ISSUED FOR FORMWORK TENDER	AUG. 18/95
5	ISSUED FOR TENDER (R.A.W.F.)	AUG. 14/95
4	ADDENDUM NO. 5-1	AUG. 11/95
3	ISSUED FOR REINFORCING STEEL TENDER	JULY 31/95
2	ISSUED FOR SCHEMATIC DESIGN	JULY 5/95
1	ISSUED FOR SCHEMATIC DESIGN	JULY 5/95

REVISIONS MUST BE MADE AND VERIFIED ALL DIMENSIONS ON THE JOB. DRAWING MUST NOT BE SCALE.

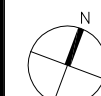


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Toronto, Ontario M4R 2E4
Associated Consultant



NATIONAL TRADE CENTRE
AT
EXHIBITION PLACE



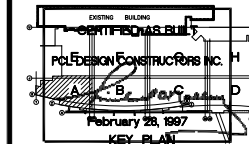
Drawn: H.W.
Checked: A.D.
Date: APRIL 29, 1996

FOUNDATION PLAN
- BLOCK B

Project No. NTC-C-201

Drawing No. S11

EXHIBITION PLACE



NOTES
INCLUDES UP TO F1S106

43	ISSUED FOR AS BUILT	FEB. 19/97
42	GENERAL REVISIONS	NOV. 15/96
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38	GENERAL REVISIONS	JULY 9/96
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36	ISSUED FOR FIELD INSTRUCTION NO. 5085	MAY 15/96
35	ISSUED FOR CONSTRUCTION	APRIL 29/96
34	ISSUED FOR BLOCKS G & H CONSTRUCTION	APRIL 9/96
33	ISSUED FOR PARTIAL AUTOMOTIVE BUILDING CONSTRUCTION	MAR. 27/96
32	ISSUED FOR BUILDING PERMIT	FEB. 26/96
31	ISSUED FOR CAISSON CONSTRUCTION BLOCK H	FEB. 21/96
30	ISSUED FOR CONSTRUCTION BLOCKS F & G - WEST OF LINE 34	FEB. 19/96
29	ISSUED FOR CONSTRUCTION BLOCK E	JAN. 31/96
28	ISSUED FOR CAISSON CONSTRUCTION BLOCKS E, F & G	DEC. 21, 95
27	ISSUED FOR PROGRESS REVIEW	DEC. 21, 95
26	ISSUED FOR FIELD INSTRUCTION NO. 5088	NOV. 28/95
25	ISSUED FOR CONSTRUCTION BLOCK A - WEST OF LINE 7	NOV. 22/95
24	ISSUED FOR CONSTRUCTION BLOCK D	NOV. 15/95
23	ISSUED FOR PROGRESS REVIEW	NOV. 6/95
22	ISSUED FOR CONSTRUCTION BLOCK C	NOV. 1/95
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16	ISSUED FOR CAISSON CONSTRUCTION BLOCKS A AND B	OCT. 6/95
15	ISSUED FOR R.A.W.F. POST-TENDER ADDENDUM NO. 5-3	SEPT. 19/95
14	ADDENDUM NO. 5-2	SEPT. 18/95
13	ISSUED FOR R.A.W.F. CONSTRUCTION	SEPT. 1/95
12	ISSUED FOR TUNNEL CONSTRUCTION	SEPT. 1/95
11	ISSUED FOR PROGRESS REVIEW	SEPT. 6/95
10	ISSUED FOR CAISSON TENDER	AUG. 30/95
9	ISSUED FOR EXCAVATION PERMIT	AUG. 21/95
8	ISSUED FOR STRUCTURAL PERMIT	AUG. 21/95
7	ISSUED FOR BUILDING PERMIT (TUNNEL)	AUG. 21/95
6	ISSUED FOR FORMWORK TENDER	AUG. 18/95
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4	ADDENDUM NO. 5-1	AUG. 11/95
3	ISSUED FOR REINFORCING STEEL TENDER	JULY 31/95
2	ISSUED FOR SCHEMATIC DESIGN	JULY 5/95
1	Revisions	Date By

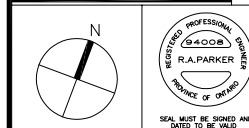
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NATIONAL TRADE CENTRE
AT
EXHIBITION PLACE



Drawn H.W.
Checked A.D.
Scale 1:125
Date APRIL 29, 1996

EXHIBITION LEVEL
FRAMING PLAN
- BLOCK A

Project No. NTC-C-201 Drawing No. S20

FOR CONTINUATION SEE DRAWING S21

EXHIBITION LEVEL FRAMING PLAN - BLOCK A

SCALE: 1:125

- TOP OF STRUCTURAL SLAB (T.O.S.) 0 mm BELOW FINISHED EXHIBITION LEVEL AT ELEVATION 100.000, EXCEPT AS NOTED.
- LIVE LOAD IS 16.8 kPa, EXCEPT AS NOTED ON PLAN.
- EXHIBITION HALL AND SWING SPACE ALSO DESIGNED FOR 180 kN CONCENTRATED LIVE LOAD.
- FOR DEPRESSION SUSPENDED SLAB SOUTH OF LINE F WHERE 65 mm CONCRETE TOPPING IS TO BE POURED MONOLITHICALLY WITH SLAB, PROVIDE 25 mm MAX. COVER TO TOP BARS.
- SUPERIMPOSED DEAD LOAD IS 1.2 kPa (INCLUDING 1.0 kPa PARTITION ALLOWANCE) IN MEETING ROOM BAND AND 0.2 kPa ELSEWHERE, PLUS ALLOWANCE FOR TOPPING AS INDICATED BY DEPRESSION AREAS ON PLAN.
- CONCRETE STRENGTH: 30 MPa MINIMUM AT 28 DAYS. SEE COLUMN SCHEDULES FOR COLUMN CONCRETE STRENGTHS.
- ALL REINFORCING STEEL IN EXHIBITION LEVEL SLABS AND BEAMS TO BE GRADE 500R. (EXCEPT BEAM STIRRUPS)
- GENERAL NOTES AND TYPICAL DETAILS ON DRAWINGS S01 TO S03.
- FOR SLAB AREAS NORTH OF GRID LINE R AND EAST OF GRID LINE B: SLAB REINFORCEMENT SHOWN ON DRAWING IS GRADE 500 MPa. SITE INSTALLATION WAS EQUIVALENT AREA OF GRADE 400 MPa, i.e. PLAN SPECIFIES 20-20T, SITE INSTALLATION WAS 25-20T.

DENOTE MECHANICAL AND ELECTRICAL FLOOR PORTS. SEE TYPICAL DETAIL.

TOP LOWER LAYER
 BOTTOM UPPER LAYER
 ORDER OF BAR PLACING

TYPICAL ALONG LINE Z
25 mm DEPRESSION
FOR BASE PLATE
SEE SECTION 3/S31.

WALL PLATE (W.P.L.)
300x16x400 + 4-20R
HILTI HSL BOLTS (OR
EQUIVALENT) @ 200 c/c HOR.
300 c/c VERT. WITH MIN.
130 mm EMBEDMENT TYP.

ADD 2-15 T&B
EX. SIDE
+ 2000 LG.

ADD 2-15 T&B
EX. SIDE
+ 2000 LG.

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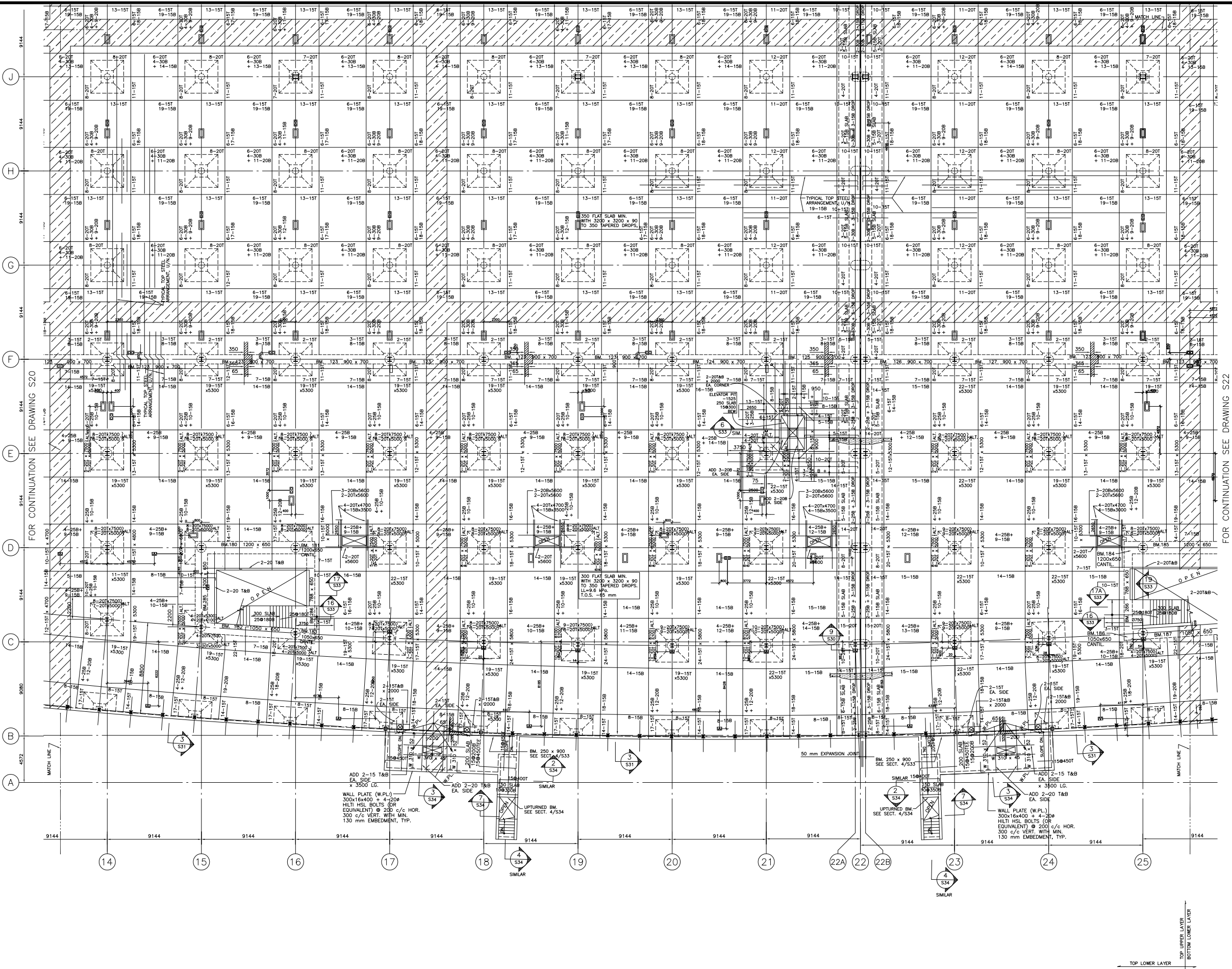
ADD 2-15 T&B
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+ 2000 LG.

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+ 2000 LG.

ADD 2-15 T&B
EX. SIDE
+ 2000 LG.



EXHIBITION LEVEL FRAMING PLAN - BLOCK B

SCALE: 1:125

1. FOR NOTES SEE DRAWING S20.

The **PCL TEAM**

REGISTERED AS BUILT

PCL DESIGN CONSTRUCTION INC.

February 28, 1997

KEY PLAN

NOTES

INCLUDES UP TO FIS106

43	ISSUED FOR AS BUILT	FEB. 19/97
42	GENERAL REVISIONS	NOV. 15/96
41	ISSUED FOR AS BUILT	NOV. 6/96
40	ISSUED FOR SIGN BASES	SEPT. 5/96
39	MID ARCH AS BUILT	JULY 9/96
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36	ISSUED FOR FIELD INSTRUCTION NO. 5085	MAY 15/96
35	ISSUED FOR CONSTRUCTION	APRIL 29/96
34	ISSUED FOR BLOCKS G & H CONSTRUCTION	APRIL 9/96
33	ISSUED FOR PARTIAL AUTOMOTIVE BUILDING CONSTRUCTION	MAR. 27/96
32	ISSUED FOR BUILDING PERMIT	FEB. 26/96
31	ISSUED FOR CAISSON CONSTRUCTION BLOCK H	FEB. 21/96
30	ISSUED FOR CONSTRUCTION BLOCKS F & G - WEST OF LINE 34	FEB. 19/96
29	ISSUED FOR CONSTRUCTION BLOCK E - WEST OF LINE 7	JAN. 31/96
28	ISSUED FOR CAISSON CONSTRUCTION BLOCKS E, F & G	DEC. 21, 95
27	ISSUED FOR PROGRESS REVIEW	DEC. 21, 95
26	ISSUED FOR FIELD INSTRUCTION NO. 5086	NOV. 26/95
25	ISSUED FOR CONSTRUCTION BLOCK A - WEST OF LINE 7	NOV. 22/95
24	ISSUED FOR CONSTRUCTION BLOCK D	NOV. 15/95
23	ISSUED FOR PROGRESS REVIEW	NOV. 6/95
22	ISSUED FOR CONSTRUCTION BLOCK C	NOV. 1/95
21	ISSUED FOR CAISSON CONSTRUCTION BLOCK D	OCT. 25/95
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18	ISSUED FOR R.A.W.F. POST-TENDER ADDENDUM NO. S-4	OCT. 16/95
17	ISSUED FOR CAISSON CONSTRUCTION BLOCK C	OCT. 13/95
16	ISSUED FOR CAISSON CONSTRUCTION BLOCKS A AND B	OCT. 6/95
15	ISSUED FOR R.A.W.F. POST-TENDER ADDENDUM NO. S-3	SEPT. 19/95
14	ADDENDUM NO. S-2	SEPT. 16/95
13	ISSUED FOR R.A.W.F. CONSTRUCTION	SEPT. 1/95
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5	ISSUED FOR FORMWORK TENDER	AUG. 16/95
4	ISSUED FOR TENDER (R.A.W.F.)	AUG. 14/95
3	ADDENDUM NO. S-1	AUG. 11/95
2	ISSUED FOR REINFORCING STEEL TENDER	JULY 31/95
1	ISSUED FOR SCHEMATIC DESIGN	JULY 5/95

No. Revisions Date By

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EXHIBITION PLACE TORONTO
MEK. 3C3

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NATIONAL TRADE CENTRE
AT
EXHIBITION PLACE

EXHIBITION PLACE

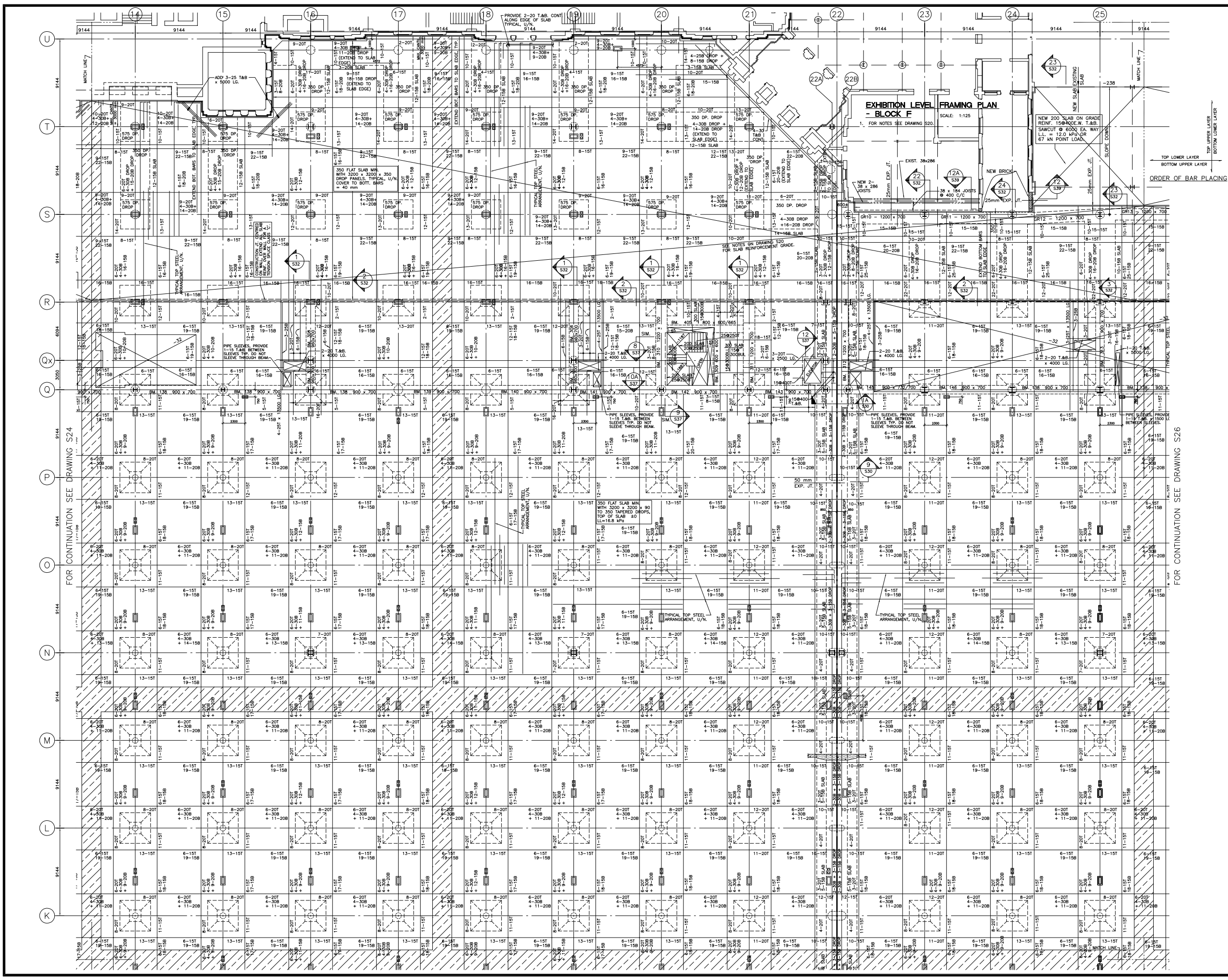
REGISTERED PROFESSIONAL ENGINEER
R.A. PARKER
PROVINCE OF ONTARIO

Drawn H.W.
Checked A.D.
Title EXHIBITION LEVEL FRAMING PLAN - BLOCK B
Project No. NTC-C-201
Drawing No. S21

Scale 1:125
Date APRIL 29, 1996

TOP UPPER LAYER
BOTTOM UPPER LAYER
TOP LOWER LAYER
BOTTOM LOWER LAYER

ORDER OF BAR PLACING



The PCL TEAM

February 28, 1997

KEY PLAN

NOTES

INCLUDES UP TO FIS106

ORDER OF BAR PLACING

TOP LOWER LAYER

BOTTOM LOWER LAYER

TOP UPPER LAYER

BOTTOM UPPER LAYER

FOR CONTINUATION SEE DRAWING S24

FOR CONTINUATION SEE DRAWING S26

43	ISSUED FOR AS BUILT	FEB. 19/97
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Rev. Revisions Date By

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**NATIONAL TRADE CENTRE
AT
EXHIBITION PLACE**

EXHIBITION PLACE

R.A. PARKER
PROFESSIONAL ENGINEER
REGISTERED PROFESSIONAL ENGINEER
P.E. 94008

Drawn: H.W. Scale: 1:125
Checked: A.D. Date: APRIL 29, 1996

EXHIBITION LEVEL
FRAMING PLAN
- BLOCK F

Project No. NTC-C-201 Drawing No. S25

94008525.DWG 1:1

FOR CONTINUATION SEE DRAWING S21

Feb 17, 1998 - 12:11:58