



Invitation To Tender

INVITATION TO TENDER NO. PS20220548 (the “ITT”)

CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT

ITT No. PS20220548

Issue Date: April 12, 2022

Issued by: City of Vancouver (the “City”)

Tenders are to be emailed to bids@vancouver.ca and must be received at bids@vancouver.ca prior to 3:00pm, Vancouver Time (as defined in Note 3 below), on April 28, 2022 (the “Closing Time”).

Tenders will be not be publicly opened. Tender results can be found within 48 hours of the Closing Time at the following website:

<http://vancouver.ca/doing-business/unverified-tender-results.aspx>

NOTES:

1. Tenders must be received at the email addressed specified above prior to the Closing Time.
2. “Vancouver Time” will be conclusively deemed to be the time indicated in the electronic timestamp the Tender receives upon receipt at the email address specified herein, which is in turn synchronized to Network Time Protocol (NTP) provided by the National Research Council of Canada adjusted to local Pacific Time Zone.
3. The City of Vancouver is open on business days from 8:30 a.m. to 4:30 p.m., Vancouver Time, and is closed Saturdays, Sundays, and holidays.
4. All queries related to this ITT should be submitted in writing to the attention of:

Jason Lo, Contracting Specialist

Email: jason.lo@vancouver.ca

(the “Contact Person”)

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CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
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INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART A - INTRODUCTION

1.0 OVERVIEW OF PROJECT

- 1.1 The City of Vancouver (the “City”) invites Tenders for the Britannia Arena Condenser Replacement.
- 1.2 The Work generally includes, but is not limited to:
- Refrigeration System Decommissioning and Related Equipment & Refrigerant Disposal Service
 - BAC Evaporative Condenser, Remote Water Sump, and Water Pump Installation
 - Glycol Cooling Loop for the Compressor Oil, Head Cover, & Jacket Cooling
 - Provide System Commissioning and Startup Service
- 1.3 The Site is located at Britannia Arena located at 1661 Napier Street, British Columbia. The Site is further described in the Tender Documents.
- 1.4 The purpose of this ITT is to select a Tenderer with the capability and experience to efficiently and cost-effectively perform and complete the Work.
- 1.5 IF A POTENTIAL TENDERER BELIEVES THAT THE CITY MAY BE UNABLE TO SELECT IT DUE TO A CONFLICT OF INTEREST, BUT IS UNCERTAIN ABOUT THIS, THE POTENTIAL TENDERER IS URGED TO CONTACT THE CONTACT PERSON AS SOON AS POSSIBLE WITH THE RELEVANT INFORMATION SO THAT THE CITY MAY ADVISE THE POTENTIAL TENDERER REGARDING THE MATTER. SEE SCHEDULE “L” FOR AN INDICATION OF THE TYPES OF CONFLICTS OF INTEREST THAT OFTEN ARISE.

2.0 SUSTAINABILITY

- 2.1 The City’s Procurement Policy, Ethical Purchasing Policy and related Supplier Code of Conduct found at <http://vancouver.ca/doing-business/selling-to-and-buying-from-the-city.aspx> align the City’s approach to procurement with its corporate social, environmental and economic sustainability values and goals. They evidence the City’s commitment to maximize benefits to the environment through product and service selection, and to ensure safe and healthy workplaces, where human and civil rights are respected. Each Tenderer is expected to adhere to the supplier performance standards set forth in the Supplier Code of Conduct.
- 2.2 A Contractor is to provide environmentally sensitive products or services wherever possible. Where there is a requirement that a Contractor supply materials, and where such materials may cause adverse environmental effects, each Tenderer should indicate the nature of the hazard(s) in its Tender. Furthermore, each Tenderer should advise the City of any known alternatives or substitutes for such materials that would mitigate such adverse effects.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART A - INTRODUCTION

3.0 TENDER DOCUMENTS

3.1 The Tender Documents are:

- (a) Part A - Introduction, and its appendices:
 - (i) Appendix 1 - Information Meeting Attendance Form;
 - (ii) Appendix 2 - Response Notification Form; and
 - (iii) Appendix 3 - Specifications and Drawings;
- (b) Part B - Terms and Conditions of ITT Process;
- (c) Part C - Form of Tender (including all schedules),
- (d) Part D - Form of Agreement (including all schedules);
- (e) the Specifications (provided separately and to be incorporated into the Contract when finalized);
- (f) the Drawings (provided separately and to be incorporated into the Contract when finalized);
- (g) all addenda or amendments to the ITT, and all questions and answers in connection with the ITT, issued in writing by the City prior to the Closing Time, as well as any addenda, amendments or questions and answers issued in writing by the City after the Closing Time and accepted in writing by the Tenderers.

4.0 INFORMATION MEETING

- 4.1 Tenderers are invited to attend the information meeting (the “**Information Meeting**”) on **April 21, 2022** commencing at **9:30 am (PST)**.
- 4.2 The location of the Information Meeting will be: **Britannia Arena, 1661 Napier St, Vancouver, British Columbia.**
- 4.3 Tenderers are asked to pre-register for the Information Meeting by submitting the Information Meeting Attendance Form (Appendix 1) to the Contact Person by email prior to **3:00 pm on April 19, 2022.**

5.0 ADMINISTRATIVE REQUIREMENTS

- 5.1 Tenderers are asked to indicate their intentions to submit Tenders by submitting the Response Notification Form (Appendix 2) to the Contact Person by email on or before **April 25, 2022.**
- 5.2 It is the sole responsibility of each Tenderer to check the City’s website at <http://vancouver.ca/doing-business/open-bids.aspx> regularly for addenda, amendments and questions and answers related to this ITT, which the City may issue at any time during the process, and for any reason, at its discretion.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART A - INTRODUCTION

6.0 CONDUCT OF ITT - INQUIRES AND CLARIFICATIONS

- 6.1 The City will have conduct of this ITT, and all communications are to be directed only to the Contact Person named on the cover page. Any communication from potential Tenderers to City staff other than the Contract Person regarding the content of this ITT may lead to disqualification of the Tenderer from this ITT process, at the City's sole discretion.
- 6.2 It is the responsibility of each Tenderer to thoroughly examine the Tender Documents and satisfy itself as to the full requirements of this ITT and their acceptability to the Tenderer.
- 6.3 The City welcomes inquiries, requests for clarification or comments from registered Tenderers. All inquiries or comments to the City must be in written form only. All inquiries, requests for clarification and comments must be e-mailed to jason.lo@vancouver.ca prior to **April 25, 2022 by 3:00 pm (PST)**, and must in each case be addressed to the attention of the Contact Person. In response to inquiries, requests for clarification or comments, the City, in its sole discretion, may make amendments to this ITT or may issue questions and answers to all Tenderers who have submitted a Response Notification Form and post them on the City's website.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
APPENDIX 1 - INFORMATION MEETING ATTENDANCE FORM



CITY OF VANCOUVER
Purchasing Services

Invitation to Tender No. PS20220548

To acknowledge your intent to attend the Information Meeting and to ensure that you receive the required information, please submit this form to the person identified below in accordance with the ITT:

Jason Lo
City of Vancouver
Email: jason.lo@vancouver.ca

Your details:

Tenderer's Name:

"Tenderer"

Address:

Telephone:

Key Contact Person:

E-mail:

We will attend the Information Meeting for: ITT No. PS20220548, "CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT".

Signature

Name of Authorized Signatory (Please print)

E-mail Address (Please print)

Date

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
APPENDIX 2 - RESPONSE NOTIFICATION FORM



CITY OF VANCOUVER
Purchasing Services

Invitation to Tender No. PS20220548

To acknowledge your intent to submit a Tender and to ensure that you receive the required information, please submit this form to the person identified below in accordance with the ITT:

Jason Lo
City of Vancouver
Email: jason.lo@vancouver.ca

Your details:

Tenderer's Legal

Name:

"Tenderer"

Address:

Telephone:

Key Contact Person:

E-mail:

We **WILL** ☐ / **WILL NOT** ☐ submit a Tender in response to ITT No. **PS20220548**, "CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT" on or before the Closing Time.

Signature

Name of Authorized Signatory (Please print)

E-mail Address (Please print)

Date

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
APPENDIX 3 - SPECIFICATIONS AND DRAWINGS

SPECIFICATIONS AND DRAWINGS

The following is the list of Specifications for Britannia Arena Condenser Replacement:

Specifications for Britannia Condenser Replacement

- Britannia Arena 2022 Condenser Replacement Specifications IFT

Specifications to be read in conjunction with Drawings

The following is the list of Drawings for Britannia Arena Condenser Replacement:

IFT Drawings for Britannia Arena Condenser Replacement

- 2765 R1 - 24X36 Dated March 14, 2022
- 2765 R2 - 24X36 Dated March 14, 2022
- 2765 R3 - 24X36 Dated March 14, 2022
- S01 - Issued For Review Dated January 28, 2022
- S02 - Issued For Review Dated January 28, 2022
- S03 - Issued For Review Dated January 28, 2022
- S04 - Issued For Review Dated January 28, 2022

Reference Documentation

- Britannia Arena - Condenser Replacement - Hazardous Building Materials Report

CITY OF VANCOUVER

BRITANNIA ICE RINK
REFRIGERATION PLANT

2022 CONDENSER REPLACEMENT

SPECIFICATIONS

1661 NAPIER STREET
VANCOUVER, BC

Prepared By: JS Refrigeration Engineering Inc.



Tel: 604 437-3333, Cell: 778 317-9633, Email: jamesshou97@gmail.com
www.jsre.ca

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1. Pre-Ordered Equipment
BAC VC1-185 Evaporative Condenser
Letter of Intent
Approved shop drawing

SECTION 1: INTRODUCTION AND GENERAL DESCRIPTION

Britannia Ice Arena is located at 1661 Napier Street, Vancouver, B.C..

The Britannia Arena 2022 Upgrade project includes the replacement of the existing BAC evaporative condenser, remote water sump and water pump. The related piping, control, and electrical upgrades are included in the work scope as well.

This project is designed by JS Refrigeration Engineering Inc.. This specification documentation covers the conditions, work scope, material and equipment specification, and installation requirements of the project.

This specification documentation shall not be reproduced without the JS Refrigeration Engineering's permission.

Reference to the Engineer in these Specifications refers to the JS Refrigeration Engineering Inc..

Reference to the Owner refers to the City of Vancouver.

Reference to the Contractor refers to the Refrigeration Contractor.

The Contractor shall perform the work at Britannia Arena for the City of Vancouver according to General Work Scope, Work Scope Item List and Conditions set in these specifications and drawings.

A new evaporative condenser has been pre-ordered by the Owner (the City of Vancouver). A letter of intent has been issued to G.R. Hudson Sales as confirmation of the City of Vancouver's intent to proceed with the Supply and Delivery of One (1) BAC evaporative condenser - Model VC1-185. Please refer to Section 8: Appendixes of this Specifications for the unit feature details.

Bidders shall contact G.R. Hudson Sales for the unit selection details and price (G.R. Hudson Sales Quotation #). The successful Refrigeration Contractor shall be responsible for issuing a Purchase Order to G.R. Hudson Sales and paying for the pre-ordered condenser after the contract has been awarded. The successful Refrigeration Contractor shall accept G.R. Hudson Sales standard terms of payment upon approval of credit. The successful Refrigeration Contractor shall submit the certificate of G.R. Hudson Sales' approval of credit before the contract is awarded.

The cost of the pre-ordered condense shall be included in the project price.

SECTION 2: WORK SCOPE

2.1 General Work Scope and Requirement

The work includes but is not necessarily limited to the following:

2.1.1. Supply and install all equipment, material, labor, tools, commissioning, and warranty for the project as per the specifications. All installations shall comply with codes, standards, and regulations listed herein. All installations shall be inspected and approved by the Technical Safety BC (TSBC), the WorkSafeBC (WCB), the Refrigeration Engineer, and the City of Vancouver.

2.1.2. All freight and local cartage costs of the equipment and material for the project to be included in the contract.

2.1.3 All travel and accommodation costs for the project to be included in the contract.

2.1.4. If overtime work is required to meet the completion date, it is to be included in the contract.

2.1.5. Off-loading and rigging costs of all equipment and material for the project to be included in the contract.

2.1.6. Prepare shop drawings and as built drawings as detailed in Section 7 **Submittals**.

2.1.7. Provide system installation and operation manuals as detailed in Section 7 **Submittals**.

2.1.8. Provide refrigeration system decommissioning and related equipment & refrigerant disposal service as detailed in the Work Scope Item List.

2.1.9. Supply and install a new BAC evaporative condenser, a remote water sump, and a water pump as detailed in the Scope of Work Item List.

2.2.10. Re-connect a glycol cooling loop for the two compressor oil, head cover, & jacket cooling as detailed in the Scope of Work Item List.

2.1.11. Supply and install necessary plant safety upgrade.

2.1.12. Provide commissioning and startup service for the upgraded ice plant refrigeration system as detailed in the Scope of Work Item List.

2.1.13. Supply and install related ammonia, glycol, and water piping.

2.1.14. Supply and install supports and hangers for the new installed pipes and conduits if required.

2.1.15. Supply and install secondary supports, anchors, anchor bolts, possible existing concrete pad reinforcement, and seismic restraints for new installed equipment.

2.1.16. Provide cutting, coring and patching service for any duct, pipe or conduit penetrations walls, floor, and ceiling.

2.1.17. Supply and install sleeves, cans, flashing, caulking and sealing for all duct, pipe and conduit penetrations.

2.1.18. Coordination of work with other trades, the TSBC, the WorkSafeBC, the Refrigeration consultant, and the City of Vancouver is included in the scope of work.

2.1.19. The Contractor is responsible for obtaining and paying the fees for refrigeration installation permit, electrical installation permit, and other necessary permits.

2.1.20. The Contractor is responsible for calling the TSBC safety officer, the WorkSafeBC occupational hygiene officer, and the electrical inspector and paying all the fees for the inspections.

2.1.21. Provide pipe welding information to the TSBC and provide X-ray tests for piping welds per any request from the TSBC.

2.1.22. Provide pressure test for the new installed pipes and system. Cooperate and coordinate with the safety officer from the TSBC for testing witness and documentation sign off.

2.1.23. Supply and install a coat of priming and a coat of finish painting for steel pipes, steel supports, and any unfinished steel surfaces installed as part of the upgraded system.

2.1.24. Supply and install valve tags, pipe labels, and equipment identification labels for the whole refrigeration system including the existing and new upgraded equipment, valves, and piping.

The existing valve tags shall be retained and re-installed.

2.1.25. Provide system As Built information and transfer information to a hard copy of the P & I drawing, which will be posted on site during the construction time period.

2.1.26. The Contractor is responsible for calling the Engineer for regular inspections and final inspection.

2.1.27. Provide piping registration for any pressure piping larger than 3" NPS

according to the TSBC regulation.

2.1.28. Provide any required TSBC system design registration and pay the fees.

2.1.29. The structural and seismic design of the new condenser support is provided by Arcus Consulting. Issuing structural and seismic schedule B and C-B is the responsibility of the Arcus Consulting.

2.1.30. Provide a one-day on site instruction and training period to the site operators.

2.1.31. Provide two year onsite labor and material warranty. Warranty starts from the project substantial completion day.

2.1.32. Clean up job site on completion of the work including removal of construction debris.

2.1.33. Check job site and dimensions during a mandatory site meeting and confirm the existing equipment, MCC & electrical panels, motors, controls, field wiring of the refrigeration system, and the available installation space for the new equipment before bidding.

2.1.34. Voltage

1. Power for three phase motors: 575V, 60HZ, 3PH

2. Control power: 120V / 60HZ / 1PH

2.1.35. Bonds

See City of Vancouver's requirement

2.2 Scope of Work Item List

The work includes but is not necessarily limited to the following:

2.2.1. Refrigeration System Decommissioning and Related Equipment & Refrigerant Disposal Service

1. System ammonia charge has been pumped out and stored in the existing ammonia HPR receiver.

The contractor shall confirm the existing refrigeration system and pump out any ammonia residual from the evaporative condenser and the system into the HPR receiver.

2. Withdraw the glycol solution from the condenser auxiliary glycol circuit and compressor oil cooling glycol loop to a storage tank.

3. Remove, demolish, and dispose the existing BAC Evaporative condenser VC1-

135 after ammonia withdrawal and electrical disconnection completed.

4. Remove, demolish, and dispose the existing sleepers & structural steel beams of the existing BAC VC1-135 condenser support.

The existing condenser access platform shall be removed and retained for the new condenser installation.

5. Remove and hand over the existing remote condenser water sump and water pump to the Owner after the electrical disconnection is completed.

The existing makeup water feed and the sump water level control shall be retained for the new water sump and pump installations.

2.2.2. BAC Evaporative Condenser, Remote Water Sump, and Water Pump Installation

Supply and install one new BAC VC1-185 evaporative condenser, related valves, piping, electrical components, field wiring, and controls to replace the existing BAC VC1-135 evaporative condenser as detailed in the Scope of Work Item List.

Supply and install one new condenser remote water sump, water pump, related valves, water piping, electrical components, field wiring, and controls to replace the existing one as detailed in the Scope of Work Item List.

1. Supply and install new steel posts and a new steel support frame for the new condenser support per the details as specified as the structural design drawings S01 to S04.

It is the Contractor's responsibility to confirm the installation location of the new condenser to allow access and service space for the condenser and safety devices.

The new steel posts shall be anchored to the existing roof concrete slab.

Any existing and new anchor penetrations through the roof shall be air tight sealed.

Provide roofing repair service for the new installed steel posts. The new roofing material shall match the existing roofing.

The existing building fall protection /guard rails may be removed to provide access for the existing condenser moving out and the new condenser positioning. They shall be placed back and secured after the new condenser is installed.

2. Install the retained access platform on the new condenser support platform.

It is the Contractor's responsibility to review and confirm that there is no conflict of the reinstalled access platform with the new condenser, new piping, valves, and the access of any safety devices.

Any necessary installation location adjustment and required additional support steel reinforcement for the access platform shall be included in the scope of work.

3. Supply and install a new BAC VC1-185 evaporative condenser as specified in the P & I drawing.

A glycol cooling circuit (circuit B) loop designed for the compressor oil cooling, compressor head cover, and jacket cooling is included in the new condenser as well.

4. Supply and install a cat walk platform for the new condenser at the top of the new condenser w/ladder/safety cage (supplied together with the new BAC condenser).

5. Supply and install necessary extended stainless steel tubing to extend the condenser shaft bearing grease port to the exterior.

6. Supply and install a new condenser remote water sump, a water pump, a water strainer, water pressure gauges, and related isolating & service valves as specified in this specification and the P & I drawing.

The existing concrete housekeeping pad modification for the new condenser remote water sump and water pump is included in the work scope.

Reinstall and reconnect the retained city water makeup and sump water level control for the new remote water sump.

7. Supply and install new ammonia piping lines and pressure relief pipe lines for the new condenser and connect to the existing SSD header, CD header, and pressure relief RV stack as specified in the P & I drawing.

The new installed pipe lines shall not block the condenser access manhole. Enough space in the front of the manhole shall be provided to allow access to the service manhole.

8. Supply and install other necessary ammonia piping as detailed in the P & I drawing.

9. Supply and install ammonia isolating valves, dual pressure relief valves, air purge valve, equalizing pipe valve, pressure gauges, and other necessary valves for the new installed condensers as specified in this specification and the P & I drawing.

10. Supply and install water supply and return piping and isolating valves from the remote water sump to the condenser as specified in the P & I drawing.

11. Supply and install pipe support, hangers, and seismic restrains for the new installed ammonia and water pipes.

12. The existing water treatment system shall be reconnected after the new condenser, new remote sump, new pump, and new water piping system are

installed.

13. Site confirm the existing refrigeration MCC power breaker, starter, and other electrical components for the new condenser fan and water pump motor application. Provide required electrical component upgrade for the new water pump motor application to suit the increased motor horsepower (5HP)

14. Supply and install field wiring for the 110V single phase power feed and control to the fan motor space heater.

15. Retain and provide new field wiring of the existing VFD for the new condenser fan motor.

16. Supply and install remote disconnect power switch for the new installed equipment according to code requirement.

17. Supply and install new three phase power field wiring for the new condenser water pump motor.

18. Retain and reconnect the existing DDC control of the condenser and water pump operation.

The existing DDC system shall be reviewed. Necessary upgrade such as the compressor lead/lag switch over and the compressor safety shut-down shall be included in the work scope.

19. Provide a thermal imaging test and report for the electrical contacts of the new installed refrigeration equipment and components.

2.2.3. Glycol Cooling Loop for the Compressor Oil, Head Cover, & Jacket Cooling

Retain the existing compressor oil cooling glycol cooling system and reconnect to the new condenser glycol cooling circuit (circuit B) as detailed in the Scope of Work Item List.

1. The existing glycol supply and return piping, isolating valves, thermometers, controls from the two compressors to the glycol supply & return mains shall be retained.

2. The existing glycol supply & return mains with the circulating pump, glycol expansion tank, isolating valves, pressure gauges, control valve, purge valves, thermometers and controls shall be retained.

3. The existing power breaker, starter, and other electrical components, controls, field wiring for the glycol pump motor and solenoid valves shall be retained.

4. Supply and install necessary isolating valve, purge valve, and piping with pipe hangers to connect the existing glycol supply & return mains to the new condenser glycol cooling circuit (circuit B) as detailed in this specification and the P & I

drawing.

2.2.4. Provide System Commissioning and Startup Service

1. After the system pressure test is approved by the BCSA inspector, the Refrigeration Contractor shall evacuate the ammonia piping and system by using a vacuum pump and hold for 12 hours without rise in pressure.
2. Break the system vacuum by anhydrous ammonia.
3. Charge the existing ammonia to the refrigeration system.
4. Charge the existing ethylene glycol solution from the storage tank back to the oil cooling glycol loop system and provide necessary treatment to satisfy density, inhibitor level, and other requirement.
5. Provide system start-up and commissioning service for the newly installed equipment and system. Operate all equipment and system for three days continuously after the installation is completed. The system operating parameters and the control procedure shall be set up during the system commissioning period.

The system operating parameter and control procedure initial setup shall be recorded in the manual.

6. Provide test and reports for the glycol solution and ammonia. The test and reports shall be provided by certified labs.

SECTION 3: SCHEDULE

1. Tender Period: See Schedule provided by the City of Vancouver.
2. Mandatory site visit: See Schedule provided the City of Vancouver.
3. Award work: See Schedule provided by the City of Vancouver.
4. Site ready: See Schedule provided by the City of Vancouver.
5. System start-up: See Schedule provided by the City of Vancouver.
6. Substantial completion: See Schedule provided by the City of Vancouver.

SECTION 4: QUALITY ASSURANCE & WORKMANSHIP

4.1 Code Compliance

Refrigeration system and Class T compressor room are required to be installed, constructed, operated and maintained in accordance with all current applicable codes and regulations (Provincial and Local codes, rules, regulations and ordinances, Technical Safety BC regulations, WorkSafeBC regulations, and etc..) including but not necessarily limited to the following:

- CSA B52:18 Mechanical Refrigeration Code
- CSA B51:19 Boiler, Pressure Vessels and Pressure Piping Code
- ASME Boiler and Pressure Vessel Code, Section VIII Pressure Vessels, Div. 1 - 2017
- ASME B31.5 - 2019 Refrigeration Piping and Heat Transfer Components Code
- ASHRAE15 – 2019 Safety Standard for Refrigeration Systems and Designation and Classification of Refrigerants
- CSA C22.1 - 21 Canadian Electrical Code, Part I
- CSA C22.2 No. 0-10, Canadian Electrical Code, Part II
- CSA C22.2 No 14, Industrial Control Equipment
- 2018 BC Building Code
- 2018 BC Fire Code
- OSHA Regulations
- Technical Safety BC Regulations and Safety Orders
- Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation under the Safety Standards Act
- WorkSafe BC Regulations

4.2. All pressure vessels, evaporator units, heat exchangers, valves and other pressure containing components shall be with CRN and registered for use in B.C..

4.3. Provide Schedule B and Schedule C-B for structural & seismic support of major equipment and ammonia piping system (by the structural engineer).

4.4. Provide piping design registration for pressure piping bigger than NPS 3".

4.5. Provide TSBC system design registration.

4.6. All work shall be site inspected and approved by the TSBC safety officer, the WCB occupational hygiene officer, and the City inspectors.

4.7. Only experienced ammonia refrigeration contractors are qualified for bidding this project. The Contractor is required to provide at least three references with the details of similar sized ice arena facility with the evaporative condenser installation

completed in the last five years.

4.8. Only qualified welders with certificate registered to the TSBC will be allowed to do the welding work. Welder's updated log book must be inspected and approved by the TSBC safety officer prior to starting any welding work on site.

4.9. All refrigeration piping welds shall be stamped by the welders. A weld map is to be prepared for the approval of the safety officer from the TSBC.

4.10. Welding procedure applied for the ammonia pressure pipe welds shall be registered to TSBC.

4.11. All tradesmen working on this project shall be qualified under provincial regulations and experienced in ammonia plant installation.

4.12. Workmanship of the refrigeration upgrade installation shall conform to a standard of best industrial practice.

4.13. The refrigeration system shall be commissioned by a qualified refrigeration mechanic with at least 5-year ammonia refrigeration experience.

4.14. Ammonia shall not be charged to the system until all the safety equipment and devices are installed and commissioned. The safety equipment and devices shall be inspected and approved by the TSBC safety officer.

4.15. System shall not be started up until the installation inspected and approved by the Engineer and the TSBC safety officer.

4.16. The Contractor's job site superintendent shall be approved by the Engineer and the Owner. This superintendent shall cooperate and coordinate with the Owner and the Engineer to supervise the whole project.

SECTION 5: MAJOR EQUIPMENT AND MATERIAL

5.1 Standards

5.1.1. All equipment and material shall carry CSA approval and conform to all Federal, Provincial, Municipal regulations and standards.

5.5.2. All equipment and material shall be new, of the best quality, and supplied by specified manufacturer.

5.2 Alternates

Any request to the use of alternate materials and equipment must be submitted to the Engineer in writing for approval, five days prior to the closing date of tender.

5.3 Major Equipment and Devices

5.3.1 Evaporative Condenser

1. One BAC VC1-185 Evaporative Condenser for ammonia application

Operation conditions: 87 degree F S.D.T, 68 degree F wet bulb temperature
Refrigerant: ammonia

2. Condenser piping connection and fan orientation shall be selected to suit for the existing pipe header re-connection.

3. Condenser coil wall thickness to be 14 gauge

4. Provide one glycol cooling circuit for compressor oil cooling
(17.5 USGPM, 40% ethylene glycol from 97.1 degree F to 87.1 degree F at 68 degree F entering air wet bulb)

5. Condenser to be suitable for remote sump operation with oversized bottom drain. Supplied less water pump for remote sump operation.

6. Fan motors to be sized for winter dry operation

7. Provide Inverter duty fan motor for VFD application.

8. Condenser shall have man hole access door.

9. All accessories such as water spray nozzles and eliminators shall be manufacturer supplied and assembled.

10. Provide galvanized steel discharge eliminators.
11. Unit to receive Baltibond anti-corrosion coating before shipped to jobsite.
12. Provide extended lubrication lines.
13. Provide inlet air bird screen.
14. TEFC inverter duty fan motor, 1800rpm, NEMA premium Energy efficient with 1.15 SF.
15. Condenser Unit to have CRN number and approved for B.C. application
16. Design and tested to ASME and CSA Code.
High side design operating pressure: 250 psig
17. Supply and install BAC supplied cat walk platform and safety rails at the top of condenser and cage protected access ladder mounted on condenser.
18. Dual pressure relief valves and three way valve shall be installed for the new installed condenser and piped to the pressure relief stack.
19. Contractor shall conform the condenser operation with District's noise control requirement.

This condenser has been pre-ordered. Bidders shall contact Melissa Sharpe at G.R. Hudson Sales Ltd. for the condenser selection details and price. The successful Refrigeration Contractor shall place a purchase order after the contract awarded.

5.3.2. Condenser Remote Water Sump

1. HDLPE construction, Vertical industrial grade water sump: 500 USG
2. Tank has modeled in heavy duty lifting lugs & available with seismic restraint tie-down system.
3. Tank has welded in pump suction, water drain, water overflow connections.
4. Accepted Manufacturer: BARR or approved equivalent

5.3.3. Condenser Remote Water Pump

1. Capacity: 220 GPM, 21 psig discharge head
2. Close coupled, end suction, horizontal centrifugal pump construction
3. Construction: BF (Bronze Fitted), Bronze Impeller, Cast Iron Casing
4. TEFC pump motor, 1800 rpm, 5 HP, NEMA premium Energy efficient with 1.15

SF.

5. Accepted Manufacturer: Armstrong Model 4280 4x3x8 or approved equivalent

5.3.4. Pressure Controls

1. Accepted Manufacturer: Penn, Honeywell, or approved equivalent

5.3.5. Ammonia Valves

1. Acceptable manufacturer: R/S, Hansen, and Danfoss

2. Isolating valve to be seal cap.

3. Valve shall be constructed with steel body. Valves shall be industrial quality rated for ammonia service and factory tested for 800 psig.

4. All the new installed valves shall be supplied by the same manufacturer.

5. Isolating valves up to and including 4" will be socket weld.

6. Isolating valves 5" and larger will be butt weld.

7. Any screwed valve to be used shall be pre-approved by the Engineer before the installation.

8. Control valve shall be sized based on required refrigeration capacity and operating conditions.

9. Solenoid valve shall be installed together with strainer. Provide blow-down valves for strainers.

10. All solenoids to have encapsulated coil with pilot light (110V).

11. Pressure relief valve shall be supplied by the same manufacturer as for the existing system.

5.3.6. Water Valves

1. Acceptable manufacturer: Grinnell, Keystone, Bray

2. Butterfly valve - lug style with locking handle

3. Ball Valve – PVC ball valve

4. Valve material shall be suitable for water application in the design operating temperature range.

5.3.7. Water pump Suction Strainer

1. Acceptable manufacturer: Colton Industries

2. Y strainers

5.3.8. Glycol Valves

1. Acceptable manufacturer:

Asco brass body solenoid valve

Watts brass ball valve

Armstrong model FTV-TS combination valve for pump discharge

2. Valve material shall be suitable for glycol application in the design operating temperature range.

5.4 Material

5.4.1. Ammonia Pipes and Fittings

1. Ammonia piping shall conform to the latest edition of ASME B31.5, CSA B51, and CSA B52 Code.

2. MTRs for all pipe and fittings shall be provided for TSBC inspection and kept for records.

3. All fitting designs shall be registered for use in B.C..

4. Pipe shall be clean, new, and free of rust, scale, oil, grease, etc.

5. Pipe up to and including 2" NPS:

Pipe: Sch. 80, SA106 grade B seamless

Fitting: Class 3000, S.W. ASTM A105 forged steel,

6. Pipe 2-1/2" NPS and larger:

Pipe: Sch. 40, SA106 grade B seamless

Fitting: Sch.40 B.W. ASTM A234B

7. Ninety (90) degree branch pipe connection with two pipe size difference

Up to 2" NPS (including 2"): Sockolets will be used.

2-1/2" NPS and larger: Weldolets will be used.

7. Forty five (45) degree branch pipe connection

Factory fabricated fittings with CRN

8. Flanges:

Raised face, CL300, ASTM A105

5.4.2. Water Pipes and Fittings

1. Pipe 2" NPS or less:

ASTM A120 standard galvanized steel pipe

2. Pipe 2-1/2" NPS or large:
Schedule 80 PVC pipe

5.4.3. Glycol Pipes and Fittings

1. Pipe 2" NPS or less:
ASTM A120 standard galvanized steel pipe
or
ACR copper tube

5.4.4. Secondary Supports for Major Equipment

1. Secondary supports for the newly installed equipment can be a painted or hot dip galvanized steel frame.
2. Condenser shall be mounted on a customer made structural steel beam supporting frame (designed by Arcus Consulting).
3. A concrete housekeeping pad shall be provided for the new condenser remote water pump.

5.4.5. Pipe Stands and Hangers

1. Floor mounted pipe stands, trapeze type hangers, and Clevis hangers will be used for different applications.
2. Pipe stand and hanger material and finish shall be painted, cadplated or hot dip galvanized steel for all the steel pipes.
3. All the steel pipe hangers for copper tubes shall be cadplated and C/W rubber sleeves.

5.4.6. Electrical

1. Any possible new power breakers, across the line motor starter, and any other necessary electrical components shall be suitable for the upgrade application of the existing MCC.

Acceptable manufacturers: Cutler Hammer or approved equivalent

2. Conduit: steel galvanized EMT or rigid conduit with reamed ends
screw type steel galvanized coupling, connector and other fittings
3. Junction boxes: galvanized pressed sheet metal steel boxes
4. Conductors: unless otherwise specified or required by equipment manufacturer, all wires shall be soft-drawn and annealed, shall be copper of 98% conductivity with XLPE insulation.

5.4.7. Refrigerant

1. Refrigerant: anhydrous ammonia with a minimum purity of 99.95%.

5.4.8. Glycol

Inhibited 40% ethylene glycol

5.4.9. Paint

1. Primer: Rustoleum enamel primer V769402
2. Finish coat: Rustoleum 3600 system Grey or yellow colour multi-purpose epoxy paint

SECTION 6: EXECUTION

6.1 New Equipment & System Installation

6.1.1. Equipment Installation shall satisfy manufacturer's instructions and guidelines.

6.1.2. Provide service access and enough service space to the newly installed equipment, valves, and the service manhole according to manufacturer's requirement, Code and Regulation requirement.

6.1.3. SSD main pipe shall be installed above the hot gas inlet connection of the new condenser.

6.1.4. Condenser condensate drain shall have a 4" (full pipe size) 90 degree elbow and at least 30" high 4" (full pipe size) vertical drain pipe to a full size 4" isolating valve, then reduce condensate drain pipe to 2".

6.1.5. All pipes shall be shipped plugged and stored inside building with plugs in place.

6.1.6. Pipes shall be cleaned up internally and externally before installation.

6.1.7. Pipe ends shall be properly beveled prior to welding. All burrs shall be removed.

6.1.8. Welding procedure applied for pressure pipe welds shall be registered to TSBC. All pressure piping welds shall be stamped by the welders.

6.1.9. Butt-welding will be used for pipe connection size 2-1/2" and up. Socket-welding will be used for pipe connection size up to 2".

6.1.10. Only factory fabricated fittings (elbows, tees, reducers, caps, etc,) are allowed to be used.

6.1.11. T pipe connections with two pipe sizes smaller than the main could be field fabricated by using weldolets or sockolets. The related procedure shall be registered to TSBC.

6.1.12. 1/16" gap is required between the fitting shoulder and pipe end for socket weld fitting welding.

6.1.13. Only eccentric reducers will be used for horizontal pipe runs.

6.1.14. Limit the thread fittings application in ammonia piping system. Thread joint

compound shall be suitable for ammonia application.

6.1.15. All pipe run changes in direction shall be made with long radius 90 degree elbows only.

6.1.16. Pipe and pipe supports shall be installed at slopes in the direction of flow approved by the Engineer for different application.

6.1.17. Isolating valves are to be installed in such a way with manual valve stems in the horizontal position.

6.1.18. Strainers shall be installed together with control valves. Strainers are only allowed installed in horizontal runs of pipe.

6.1.19. Suction strainer shall be installed for the water circulating pump.

6.1.20. Provide blow down valve on the strainer.

6.1.21. Pressure relief header and stack shall be sized based on the capacity of existing equipment, newly installed equipment, and potential future upgrade equipment.

6.1.22. The 6" condenser water return pipe shall be extended all the way down to the bottom of remote water sump. The water pipe inside the water sump shall be slotted.

6.2 Pressure Test of the New Installed Ammonia Piping and System

6.2.1. Pressure test (nitrogen) of the newly installed ammonia piping and system to at least 110% of the design working pressure (shall not exceed 130% of the design working pressure).

6.2.2. Nitrogen shall be used as testing medium.

6.2.3. The testing pressure shall be continuously maintained for time period as required by the Code. It may then be reduced to design working pressure for leak test.

6.2.4. Hold the leak test pressure for 24 hours.

6.2.5. Soap suds leak tests for each joint and valve packing.

6.2.6. Replace defective materials and re-test the system if any leaks found during the test.

6.2.7. The Refrigeration Contractor shall coordinate with the TSBC to provide any required pressure test procedure and other document.

6.2.8. Call the TSBC Safety Officer for pressure test witness and inspection.

6.2.9. Submit pressure test documentation to the TSBC Safety Officer for approval.

6.2.10. After pressure test is satisfactory and approved by the TSBC Safety Officer, blow out system pressure through drain valves.

6.2.11. After the pressure test is completed, the ammonia piping and system shall be evacuated to minimum 29" mercury by a vacuum pump and held for 12 hours without a rise in pressure.

6.2.12. Owner's representative shall witness and sign off related document for the vacuum process.

6.2.13. Break the system vacuum with anhydrous ammonia.

6.3 Water and Glycol Piping System Pressure Test

6.3.1. Pressure test the new installed glycol piping system to 75 psig and hold for 24 hours.

6.4 Painting

6.4.1. Painting will be done after the piping pressure test is completed and approved by the TSBC.

6.4.2. A coat of primer and a coat of epoxy painting are required for all ferrous pipes, supports, and unfinished surfaces.

6.5 Penetrations

6.5.1. All pipe and conduit penetrations shall be sealed and finished in an approved procedure and system.

6.5.2. Tightly seal any pipe and conduit piercing fire rated walls, floor, and ceiling with certified one-hour fire rating material and system. Only CSA certified fire stop material and system are allowed to be used.

6.6 Secondary Supports

6.6.1. Install secondary supports to primary supports by bolts or in a manner approved by the structural engineer.

6.6.2. Equipment and piping support installation needs being approved and inspected by the structural engineer.

6.7. System Ammonia Charge

6.7.1. All safety devices are to be tested and approved by the TSBC Safety Officer before system commissioning.

6.7.2. During the system commissioning, the amount of system ammonia charge shall be confirmed on site based on the plate and frame brine chiller and high pressure receiver operating liquid level.

6.8 Identification of System

6.8.1. All refrigeration valves will be tagged with stainless steel (or match the existing tag material) tags. The tags shall be attached to the valves by stainless steel cable.

Valve tags and identification numbers are to be recorded on the as-built drawing.

The existing valve tags shall be retained and reinstalled after the replaced valves are installed.

The new valve tags shall be made in compliance with the City valve tag requirements.

6.8.2. All restricted used valves shall be tagged with instruction tag. The restricted used valve shall be identified on the system P & I drawing.

6.8.3. Identify major equipment by self stick Lamacoid nameplates.

6.8.3. Apply self stick vinyl pipe marker for all the refrigeration pipes.

6.8.4. Pipe marker system shall be in compliance with IIAR guidelines for Identification of Ammonia Refrigeration Piping and System Components and the TSBC regulations.

6.9 Electrical

6.9.1. Control and power wiring to be enclosed in rigid conduit or steel EMT.

6.9.2. Supply and install fastening and supports for conduits and equipment.

6.9.3. Supply and install junction boxes for new wiring and components.

6.9.4. Tightly seal any conduit piercing fire rated walls, floor, and ceiling with CSA certified one-hour fire rating material and system.

6.9.5. Conduit shall run parallel or perpendicular to building lines.

6.9.6. All wiring terminals shall be labelled. The related information shall be transferred to the wiring diagram.

6.9.7. The electrical panels and junction boxes shall be labelled.

6.9.8. Before energizing the system, thermal Imaging tests on feeders, contacts, motors, and circuits are required. Any problems discovered are to be corrected by the Contractor. The final test report shall be provided to the Engineer.

6.10 Control System

6.10.1. The Contractor shall confirm the details of the existing refrigeration system control before bidding.

6.10.2. The existing control device and system shall be retained and recommissioned.

6.10.3. The existing DDC control system shall be retained and recommissioned.

6.10.4. The operating parameter setup of the existing controls such as condenser fan motor VFD and compressor control panels shall be confirmed on site per the new equipment design requirements.

6.11 System Commissioning

6.11.1. Start up and adjust all newly installed equipment and system for proper operational conditions and procedures after installation completed.

6.11.2. Provide a system commissioning record with control setup parameters, and motor amperage readings.

6.11.3. The Refrigeration Contractor shall provide a safety device (ammonia detector system and compressor room ventilation system) test and report and submit to the TSBC for approval before the refrigeration system commissioning.

6.11.4. It is the Contractor's responsibility to call the TSBC safety officer and the City inspector for the final inspections.

6.11.5. After the system commissioning is completed, take a glycol sample.

6.14.6. The lab test report of the glycol sample shall be submitted to the Engineer and the Owner. The sample shall be tested at certified labs.

6.12 Inspections

6.12.1 Regular Inspection: The Refrigeration Contractor is responsible for calling the Engineer for inspection at key construction phases.

6.12.2 Final inspection: The refrigeration Contractor shall call the Refrigeration Engineer, the TSBC safety officer, the WorkSafeBC occupational hygiene officer and the City inspector for a final inspection after the work is completed. The Refrigeration Engineer will issue a deficiency list after the final inspection.

The Refrigeration Engineer will do an on-site inspection to verify that all deficiencies have been corrected. The Contractor shall pay the cost of subsequent verification and reports if there is any remaining deficiencies at that time.

6.13 Substantial Completion

6.13.1 Substantial completion is defined as the installation is inspected and approved by the TSBC safety officer (A plant operating permit shall be issued after the deficiency items are completed), the WorkSafeBC occupational hygiene officer, the City inspector, and the Refrigeration Engineer.

The Refrigeration Contractor is responsible to correct all the deficiency items listed in the deficiency lists, which are issued by the TSBC safety officer, the WorkSafeBC occupational hygiene officer, the City inspector, and the Refrigeration Engineer.

All the repair works listed in the deficiency lists need to be completed before the substantial completion certificate issued.

6.13.2 Substantial completion date: See Schedule provided by the City of Vancouver.

6.14 Training and Instrumentation

6.14.1. Provide both classroom refrigeration knowledge training and compressor room hands on training to the plant operators.

6.14.2. Refrigeration knowledge training includes refrigeration basic, system description of this upgraded refrigeration plant, major equipment controls and procedures, ammonia system safety issues, and emergency response procedures.

6.14.3. Compressor room hands on training includes refrigeration equipment operation parameter setup, system start-up and shut-down, equipment daily maintenance, equipment & system control procedures, manual air purging procedure, restricted used valve operating procedure, etc..

SECTION 7: SUBMITTALS

7.1 Shop Drawings

7.1.1. The Contractor shall submit shop drawings and product data to the Engineer for review before any work commences. Shop drawings include but are not limited to the following: BAC evaporative condenser, remote water sump, water pump, control panel, MCC modification, control valves, wiring diagrams, control procedures, new equipment layout, structural design drawing for the condenser steel support platform, wall and roof penetration and seal details, secondary steel support, etc..

BAC evaporative condenser is pre-ordered by the City. The shop drawing has been approved by the Engineer.

The structural design drawing for the condenser steel support platform has been provided by the structural engineer.

7.1.2. Review of the shop drawing doesn't relieve the Contractor's responsibility for correct equipment selections and installations.

7.2 As-Built Drawings

7.2.1. The Refrigeration Engineer will leave a set of hard copy P & I drawing on site. The Contractor is responsible for marking all the changes of the installation and recording of the valve tagging numbers. This set of drawing shall be submitted to the Engineer after installation completed.

7.2.2. Provide three hard copies and one electronic copy of as-built wiring diagrams to the Engineer.

7.3 Manuals

7.3.1. Provide three hard copies and one electronic copy of system installation, operation and maintenance manuals to the Engineer for approval.

7.3.2. Each manual shall be filed in a three ring binder.

7.3.3. Equipment maintenance instruction and procedures shall be included in the manual.

7.3.4. Shop drawings and product data shall be included in the manual.

7.3.5. A written description of the system, component, and control details shall be included in the manual.

7.3.6. System control description shall be included in the manual.

7.3.7. All construction document, installation permit, TSBC inspection reports, and pressure test reports, equipment and plant operation permit shall be included in the manual.

7.3.8. All the Engineer's review reports and Schedule B letter of structural review shall be included in the report.

7.3.9. MDRs document of pressure vessel shall be included in the manual.

7.3.10. CRN registration information for pressure vessel and pressure piping shall be included in the manual.

7.3.11. System design registration documentation shall be included in the Manual.

7.3.12. Pressure relief pipe and header size code calculation shall be included in the manual.

7.3.13. System operation log sample form shall be included in the manual.

7.3.14. System commissioning records and system original operating set point data shall be included in the manual.

7.3.15. System start-up procedure and system shut-down procedure shall be included in the manual.

7.3.16. Condenser fan motor VFD operation procedure and system air purging procedure shall be included in the manual.

7.3.17. Restricted used valve operating procedures shall be included in the manual.

7.3.18. All shop drawings and system As Built drawing shall be included in the manual.

7.3.19. Electrical thermal imaging test report shall be included in the manual.

7.3.20. Ammonia and glycol test report shall be included in the manual.

SECTION 8:
APPENDIXES

1. Owner Pre-Ordered Equipment
BAC VC1-185 Evaporative Condenser
Letter of Intent
Approved shop drawing

G.R.HUDSON SALES LTD.
114--3950 191 Street, Surrey BC V3Z 0Y6
SALES REPRESENTATIVES FOR.
BALTIMORE AIRCOIL EVAPORATIVE COOLING PRODUCTS
ATTN: Melissa Sharpe

Tel. 1-604-538-2726

NOTICE OF INTENT TO PURCHASE

Issue Date: Jan 25, 2022

Re: CONDENSER FOR CITY OF VANCOUVER

Dear Ms. Sharpe:

Notice is hereby given by the City of Vancouver ("City") of its intent to purchase the equipment below:

One (1) BAC Model VC1-185 Evaporative Condenser having a total capacity to reject 1766.77 MBH at 85.56F condensing temperature with an entering air wet bulb of 68F with ammonia refrigerant, including:

- One (1) 15 HP 575v/3/60cy inverter duty motors
- Remote sump application
- 14-gauge coil construction
- Nitrogen charged coils for shipping
- Galvanized G235 steel construction
- CRN number for British Columbia
- Auxiliar loop
- Galvanized steel eliminators
- Bottom screens c/w extended lubrication lines
- External access, handrails, ladder and safety cage
- Shaft grounding rings

Total price \$ 95,427.00

For the avoidance of doubt, this letter:

Notice of Intent - City of Vancouver - Jan 24 2022

1. does not consist of an offer by the City to enter into any contractual relationship; and
2. is not legally binding on the City.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Andrew Matterson
Category Manager, Construction and Building
Direct Line: +1 604.829.2066
Mobile: +1 604.374.6762
Facsimile: +1 604.873.7057
E-mail: andrew.matterson@vancouver.ca

G.R.HUDSON SALES LTD.
114-3950 191 Street, Surrey BC V3Z 0Y6
SALES REPRESENTATIVES FOR.
BALTIMORE AIRCOIL EVAPORATIVE COOLING PRODUCTS
Tel. 1-604-538-2726

Date: January 14, 2022

TO: The City of Vancouver

Re: Britannia Arena Replacement

One (1) BAC Model VC1-185 Evaporative Condenser having a total capacity to reject 1766.77 MBH at 85.56F condensing temperature with an entering air wet bulb of 68F with ammonia refrigerant

Included

One (1) 15 HP 575v/3/60cy inverter duty motors
Remote sump application
14-gauge coil construction
Nitrogen charged coils for shipping
Galvanized G235 steel construction
CRN number for British Columbia
Auxiliar loop
Galvanized steel eliminators
Bottom screens c/w extended lubrication lines
External access, handrails, ladder and safety cage
Shaft grounding rings

Total price \$ 95,427.00

All taxes extra
Freight included to jobsite
Pricing firm for 30 days
Delivery 20 to 22 weeks

Please notify your BAC representative should delivery exceed six month of quotation date; additional charges may apply. We believe this is the requested information and kindly advise if we can be of additional assistance.

Sincerely yours

Melissa Williams
Baltimore Aircoil Co.

Q887



**BALTIMORE
AIRCOIL COMPANY**

Revision History

Customer: G R HUDSON SALES LTD
Project: Britannia Arena
Purchase Order No:
Engineer:
BAC Order # U220590101

Date	Configuration Version	Reason	Description of Change
2/10/2022	16	Reconfiguration	Changed from right to left hand.
2/17/2022	17	Reconfiguration	Updated capacity and changed coil connection B from 1 ¼" to 1 ½".



**BALTIMORE
AIRCOIL COMPANY**

Submittal Data Form

Sold To : **G R HUDSON SALES LTD**
#114 - 3950 191st Street
SURREY, BC V3S 3M3
Canada

Project: Britannia Arena
Purchase Order No:
Engineer:
BAC Order # U220590101
Configuration Version: 17
Representative: G R HUDSON SALES LTD

All Information is per Unit

Quantity: 1 Model VC1-185P EVAPORATIVE CONDENSER

Certified Capacity: Refrigeration and Auxiliary Cooling

Circuit A: 1606.45 MBH based on 87.10°F condensing temp. with an entering air wet bulb of 68.00°F. Refrigerant: R-717.

Circuit B: To Cool 17.50 USGPM of 40% Ethylene Glycol from 97.10°F to 87.10°F at 68.00°F entering air wet bulb 1.94 psi

Fan Motor(s): One (1) 15 HP fan motor(s): Totally Enclosed, Fan Cooled (TEFC),
1 Speed/1 Winding - Premium Efficiency (Inverter Duty), suitable for 575 volt, 3 phase,
60 hertz electrical service and Space Heater with Shaft Grounding Ring(s).
Drives are based on 0 inches ESP.

NOTE: Inverter Duty fan motors, furnished in accordance with NEMA Standard Mg.1 -- Part 31, are required for applications using variable frequency drives for fan motor control.

NOTE: Spray Water Pump supplied by others must provide a 220.00 USPGM Flow at 2.00 PSIG at Spray Water Inlet

Submittal Information	Equipment Summary
BAC Terms and Conditions of Sale Mechanical Specifications Submittal Drawings/Diagrams BAC-9880AX Unit Print – LH BAC-9917A Unit Support SW-U220590101 Space Heater Wiring	Forced Draft, Counterflow Evaporative Condenser Quality Assurance - ISO 9001 Compliant Steel Panels and Structural Members are Constructed of Galvanized Steel Galvanized Steel Fan Wheel(s) Heavy Duty 14 Gauge, Full Circuit Coil Galvanized Steel Coil, CRN No. 0H7705.5C Coil Connections Capped and Charged with Nitrogen Galvanized Steel Drift Eliminators Standard Unit Anchorage Blank-off Side Connection(s); Pump(s) Omitted for Remote Sump Application PVC Spray Branches Water Level Control and Strainer are Omitted for Remote Sump Application Extended Bearing Lubrication Lines Galvanized Steel Bottom Screens Aluminum Ladder(s) Extending to Base of Unit with Safety Cage Perimeter Handrails

THANK YOU FOR YOUR BUSINESS!

Rigging and Installation Instructions, as well as Operating and Maintenance Instructions are available at www.baltimoreaircoil.com



**BALTIMORE
AIRCOIL COMPANY**

Mechanical Specifications

Customer: G R HUDSON SALES LTD
Project: Britannia Arena
Purchase Order No:
Engineer:
BAC Order # U220590101

All Information is per Unit

Quantity: 1 Model VC1-185P EVAPORATIVE CONDENSER

Unit Type:

Factory fabricated, forced draft, counterflow evaporative condenser with vertical discharge.

Quality Assurance:

Each unit is manufactured under closely-controlled conditions using standardized parts to ensure each unit is built precisely to the same high-quality design and construction standards. The design, manufacture, and business processes of Baltimore Aircoil Company are ISO 9001 compliant.

Materials of Construction:

Water-contacted metal components are constructed of G-235 (Z700 metric) hot-dip galvanized steel. Circular access doors provided for interior inspection, cleaning, and adjustments are constructed of G-235 (Z700 metric) hot-dip galvanized steel and are held in place with phenolic knob screws. The heat transfer casing section(s) is (are) removable from the pan/fan section to facilitate rigging.

The circulating water is distributed over the coil surface via a schedule 40 PVC spray header and removable branches (except 3' box) with 360° large orifice plastic spray nozzles which are held in place with snap-in rubber grommets.

The centrifugal fans and motors are located in the dry entering airstream beneath the sloping side of the pan. G-235 (Z700 metric) hot-dip galvanized steel fan discharge cowls are provided on each fan. They extend within the pan to protect the fans from falling water. G-235 (Z700 metric) hot-dip galvanized steel fan guard screens are provided.

On models VC1-10 through VC1-135 a solid fan shaft of ground and polished steel with exposed surface coated with a rust preventative is utilized. Self-aligning, heavy-duty, grease-packed, ball bearings with eccentric locking collars are provided on each end of the fan shaft. Where split intermediate bearing (Models VC1-100 thru VC1-135) or intermediate bearings are required, self-aligning, oil lubricated, sleeve type bearings with split, cast iron, pillow-block housing are furnished. All other models a hollow steel fan shaft, protected with two part epoxy, with bearing journals at each end is utilized. Solid polished steel journals are coated with a rust preventative. Self-aligning, heavy-duty, grease-packed ball bearings with eccentric locking collars are furnished at each end of the shaft.

V-belt sheaves, selected for 150% motor nameplate horsepower, are mounted and aligned at the factory. The fan(s), fan shaft(s), bearings, mechanical equipment support and fan motors are warranted against defects in materials and workmanship for five (5) years from date of shipment.

Fan Wheels:

Forwardly curved, centrifugal, squirrel cage type fan wheels, constructed from G-235 (Z700 metric) hot-dip galvanized steel, are statically and dynamically balanced. Fan housings have curved inlet rings for efficient air entry.

Coil Type:

The unit is constructed with 14 gauge coil material.

Coil Type:

Coils will be constructed with continuous 1.05" O.D. all prime surface steel tubes encased in steel framework. The entire assembly is hot-dip galvanized after fabrication. Tubes will be sloped for liquid drainage. Coils have a maximum allowable working pressure of 280 psig (1931 kPa) and are tested at 375 psig (2585 kPa) air pressure under water. Canadian Coil Registration Number (CRN) is 0H77055C.

Coil Connection Type:

Coil connections are capped and charged with Nitrogen to 15 psi prior to shipment. A green pressure indicator will signify that the coil has held charge during shipping. Coil connections will be cut and beveled by others in the field.

Drift Eliminators:

Drift eliminators are constructed of G-235 (Z700 metric) hot-dip galvanized steel and are to be removable in easily handled sections. They impart three distinct changes in air direction to effectively strip entrained moisture from the leaving airstream with minimum air resistance.

Unit Anchorage:

When supported as recommended, the unit has anchorage to resist windloads up to 30 psf (146.6 kg/m²) acting on the full vertical projected area with 16 psf (78.1 kg/m²) acting simultaneously on the full horizontal projected area or seismic forces of 112% of the operating weight acting in the horizontal direction, and 14% of the operating weight acting in the vertical direction applied at the center of gravity.

Spray Water Pump Assembly:

A pipe stub connection(s) of a metal compatible with the cold water basin material and appropriately sized for design flow is provided. The connection is beveled for weld and grooved for mechanical connection. Spray water pump(s) are provided by others.

Spray Distribution System:

Spray header with schedule 40 PVC branches. Removable branches and 360° spray pattern plastic spray nozzles are held in place with snap-in rubber grommets.

Basin Water Level Control:

Standard float valve and strainer are omitted for remote sump application.

Extended Lube Line(s):

Bearing lubrication lines are extended to grease fittings located on the face of the unit.

Air Intake Option:

G-235 (Z700 metric) hot-dip galvanized steel bottom screens are provided with a 1" X 1" mesh to prevent debris from entering unit. This option also includes lubrication fittings extended to outside of fan section.

External Ladder to Top of Unit:

An aluminum ladder with a galvanized steel safety cage is provided to access the top of the unit. The ladder and safety cage meet pertinent OSHA standards and ship loose for field assembly and installation by others.

Safety Railings:

Perimeter safety railing constructed of 1-1/4" (32 mm) galvanized steel pipe is provided to facilitate access to the top of the unit. Railings meet pertinent OSHA standards and ship loose for field assembly and installation by others.



**BALTIMORE
AIRCOIL COMPANY**

Terms and Conditions of Sale

Pricing: Prices set forth in Seller's quotation shall remain firm for thirty (30) days. Within such period, the quotation shall convert into an order provided that all of the following have occurred: (1) Buyer submits either a purchase order or a copy of Seller's quotation displaying an authorized signature of Buyer within that thirty (30)-day period; (2) Buyer provides a release for fabrication; and (3) Buyer requests a shipment date that is no later than twelve (12) weeks from the date of Buyer's submission of a purchase order or signed quotation. In the event Buyer's requested shipment date is later than twelve (12) weeks beyond such submission date, Seller's price in effect twelve (12) weeks prior to such shipment date shall apply. In the event that Buyer requests for its convenience that Seller delay delivery of products subject to an order beyond the scheduled shipment date, pricing shall be subject to the same adjustment.

Payments: Terms of payment shall be net cash in thirty (30) days from date of invoice, subject to Seller's prior credit approval. If the Buyer shall fail to make any payments in accordance with the terms and conditions of sale, the Seller, in addition to its other rights and remedies but not in limitation thereof, may, at its option, without prior notice, cancel this order as to any undelivered products or defer shipments or deliveries hereunder, or under any other agreement between Buyer and Seller, except upon Seller's receipt of cash before shipment or such security as Seller considers satisfactory. Seller reserves the right to impose an interest charge (not exceeding the lawful maximum) on the balance of each invoice not paid on its due date for the period from the due date to the date of receipt of payment by Seller. In the event Buyer's failure to make timely payments to Seller results in Seller incurring additional costs, including but not limited to collection expenses and attorneys' fees, said costs shall be added to the amount due Seller from Buyer. Buyer shall have no right to any discount or retainage and shall not withhold payment as a set-off on Seller's invoice in any amount.

Taxes: Unless listed on the front (reverse) side of this document, prices do not include any federal, state or local sales, use or value-added taxes payable in connection with this order. All such taxes shall be paid by Buyer. Buyer shall indemnify Seller from and against such taxes, plus interest and penalties thereon, including, but not limited to, tax, interest and penalties resulting from a failure to collect such taxes because of Seller's reliance upon an invalid exemption certificate provided to Seller.

Allocation of Risk: Deliveries shall be considered made Ex-works BAC Factory. At such time, title to the goods and all risk of loss, or damage shall pass to Buyer.

Force Majeure: Seller shall under no circumstances be liable for any loss or damage resulting from delay or failure in the performance of its obligations under this contract to the extent that such performance is delayed or prevented by: fires, floods, war, terrorist activities, riots, strikes, freight embargoes or transportation delays, shortage of labor, inability to secure fuel, material, supplies or power at current prices, or on account of shortages thereof; acts of God or of the public enemy; any existing or future laws or acts of the federal, state or local government (including specifically, but not exclusively, any orders, rules or regulations issued by any official or agency of any such government) affecting the conduct of Seller's business with which Seller in its judgment and discretion deems it advisable to comply as a legal or patriotic duty, or to any case beyond the Seller's reasonable control.

Warranties: Seller warrants that the equipment sold under this contract shall be free from defects in material and workmanship for a period of twelve (12) months from the date of equipment startup or eighteen (18) months from the date of shipment, whichever occurs first. The following original equipment components only are warranted against defects in materials and workmanship for a period of five (5) years from date of shipment: fans, fan shafts, fan motors, bearings, sheaves, gearboxes, driveshafts, couplings, and mechanical equipment support. Details of option-specific warranties follow:

Original Equipment Fan Motors are warranted against defects in materials and workmanship for a period of seven (7) years from date of shipment when space heaters are field-wired at time of initial installation per the motor nameplate.

Replacement Parts provided by Seller under its original equipment warranty obligations are warranted against defects in materials and workmanship for a period of twelve (12) months from date of shipment or until expiration of their original warranty, whichever occurs first. Parts purchased after expiration of the original equipment warranty are warranted against defects in materials and workmanship for a period of twelve (12) months from date of shipment.

Written notice of any defect shall be given to Seller immediately upon discovery by Buyer, and shall fully describe the claimed defect. Defective parts shall be repaired or replaced F.O.B. point of shipment, provided that inspection by Seller verifies the claimed defect(s). This shall be Buyer's exclusive remedy. **This warranty does not cover the costs of removing, shipping or reinstalling the equipment. Repairs made without the prior written approval of Seller shall void all warranties covering material and workmanship.** Any descriptions of the product(s) in the contract are for the sole purpose of identification and do not constitute a warranty. In the interest of product improvement, Seller reserves the right to change specifications and product design without incurring any liability therefore. The foregoing express warranties or those set forth elsewhere on this document are the only warranties of Seller applicable to the product(s) sold under this contract. **All other warranties, whether verbal or written, and all warranties implied by law, including any warranties of merchantability or fitness for a particular purpose, are hereby excluded.** Failure on the part of Buyer or of other parties to properly maintain the product(s) sold under this contract, or the operation of such product(s), by Buyer and/or other parties under conditions more severe than those for which such product(s) were designed, shall void all warranties covering materials and workmanship. **Seller's warranties do not apply to defects in product(s) for which payment in full has not been received by Seller, and said warranties do not cover normal wear and tear or the erosion, corrosion and/or deterioration of the product(s) from unusual causes. No warranties by Seller shall apply to accessories manufactured by others,** inasmuch as they are warranted separately by their respective manufacturers, except as stated above. Buyer assumes liability for and shall bear the costs of compliance with all laws, regulations, codes standards or ordinances applicable to the location, operation and maintenance of the product(s) sold under this contract, including those requirements pertaining to the distances between such product(s) and air-conditioning system duct intakes. No representative or agent of Seller is authorized to enlarge upon the express warranties of Seller.

Cancellation/Changes/Returns: Cancellation of or changes in any order by Buyer shall not be effective without Buyer's notice thereof received, agreed

Corporate Headquarters: 7600 Dorsey Run Road, Jessup, MD 20794 – Tele: (410) 799-6200 / Fax: (410) 799-6416

to, and confirmed in writing by Seller. If Seller, in its absolute discretion, approves Buyer's cancellation of an order, Buyer agrees to pay a reasonable cancellation charge. Seller's prior written consent must be obtained before Buyer returns any products, and when so returned will be subject to a handling charge and transportation costs payable by Buyer.

Liability/Indemnification: Seller shall not be liable for any damages caused by delay in delivery of the products. Buyer shall hold harmless and indemnify Seller from and against all liability, claims, losses, damages, and expenses (including attorneys' fees) for personal injury and property damage arising out of Buyer's improper unloading, handling, or use of the products subject to this order, and for Buyer's infringement of another's property rights. The Seller's maximum liability from any causes whatsoever, whether in breach of contract, tort (including negligence), strict liability, or otherwise, shall not exceed the contract price. Neither Buyer nor Seller shall in any event be liable to the other, whether such liability arises out of breach of contract, tort (including negligence), strict liability or any other cause or form of action, for any consequential, special, indirect or incidental damages, including but not limited to loss of actual or anticipated profits or loss of use arising out of this contract, other than such damages resulting from the willful misconduct of Buyer or Seller.

Storage: In the event that Buyer is unable to accept delivery of goods and the Seller is required to hold goods beyond two (2) working days from fabrication completion, a storage fee equal to the greater of \$200/day or 0.20% of the total order value/day will be assessed by Seller for every day beyond two (2) working days from fabrication date which it is required to store goods on behalf of Buyer. Storage will be assessed monthly and will need to be paid in full prior to a new shipment date being scheduled.

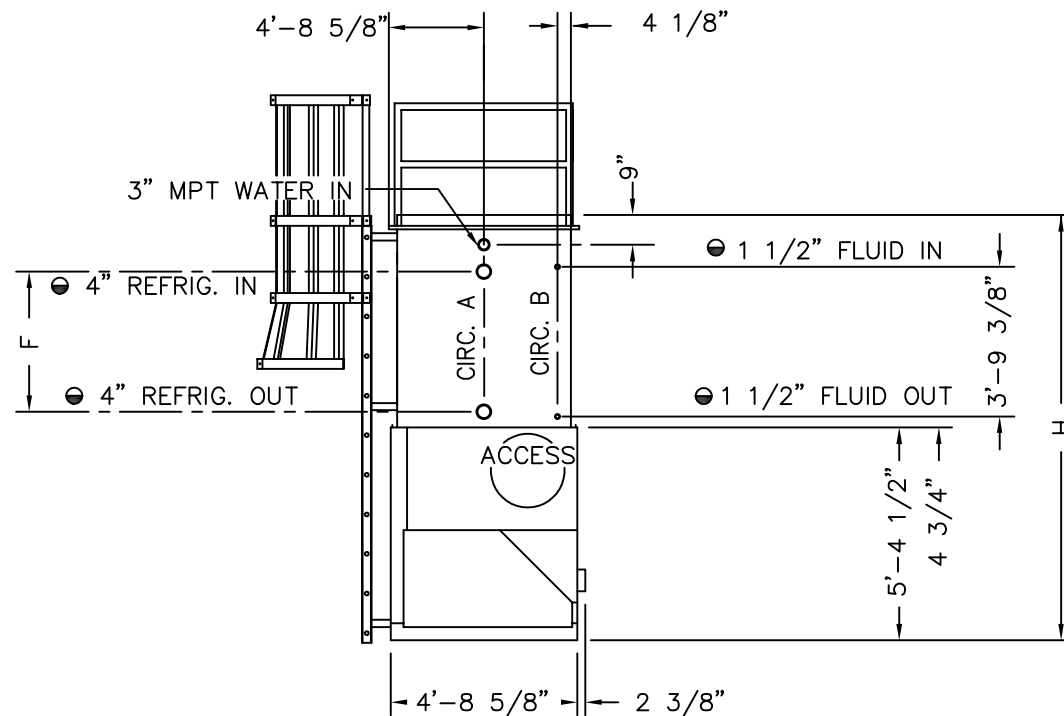
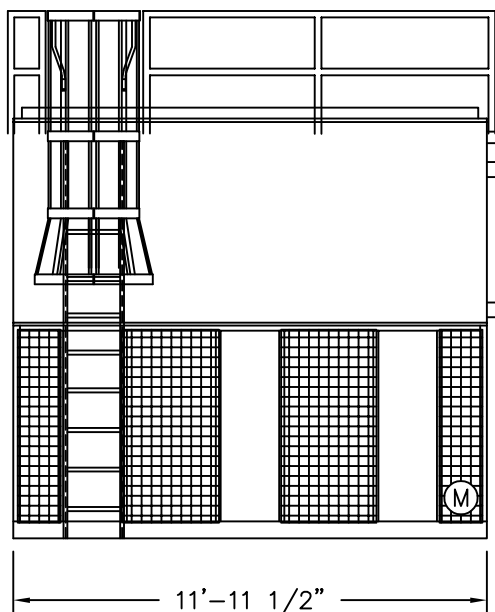
Government Contracts: If Buyer's purchase order is for products to be used in the performance of a U.S. Government contract, those clauses of applicable procurement regulations mandatorily required by federal law to be included in U.S. Government subcontracts shall be incorporated herein by reference.

Export Transactions: Buyer shall comply with all applicable export laws and regulations of the U.S. Government, and shall hold harmless and indemnify Seller from and against all liability, damages, and expenses (including attorneys' fees) incurred by Seller as a result of Buyer's violation of any U.S. Government export and/or international antiboycott laws or regulations. Buyer certifies that it will be the recipient of the products to be delivered by seller. Buyer acknowledges that products are subject to export/import control laws of various countries, including the Export Administration Regulations of the United States. Products sold by seller cannot be transferred, sold or re-exported to any party on the Entity List or Restricted Persons list of the US Department of Commerce Bureau of Industry and Security, any party designated by the US Treasury Department Office of Foreign Asset Control and any party debarred or sanctioned for proliferation or terrorism reasons by the US State Department.

Agreement of Sale: Buyer's order is accepted on the terms and conditions stated herein and Seller's acceptance of Buyer's order is expressly made conditional upon Buyer's assent to such terms and conditions, including any of Seller's terms and conditions which may be additional to or different from those contained in Buyer's purchase order or otherwise. Such assent shall be deemed to have been given unless written notice of objection to any such terms and conditions (including inconsistencies between Buyer's purchase order and this acceptance) is given by Buyer to Seller promptly upon receipt of this acknowledgment. Any agreement or understanding, oral or written, which modifies or waives the terms and conditions herein (whether contained in Buyer's purchase order or other documentation) shall be deemed material and shall be rejected unless hereafter agreed to in writing and signed by Seller's authorized officer. Waiver by Seller of any breach or default hereunder shall not be deemed a waiver by Seller of any other or subsequent breach or default which may thereafter occur. Neither the rights nor the obligations of either Buyer or Seller are assignable without the prior written consent of the other party. This agreement of sale and all rights and obligations of Buyer and Seller shall be governed by and construed in accordance with the laws of the State of Maryland.

Electronic copy of the latest version is available online at <http://baltimoreaircoil.com/english/terms>.

(Revised – 11/05/2021)



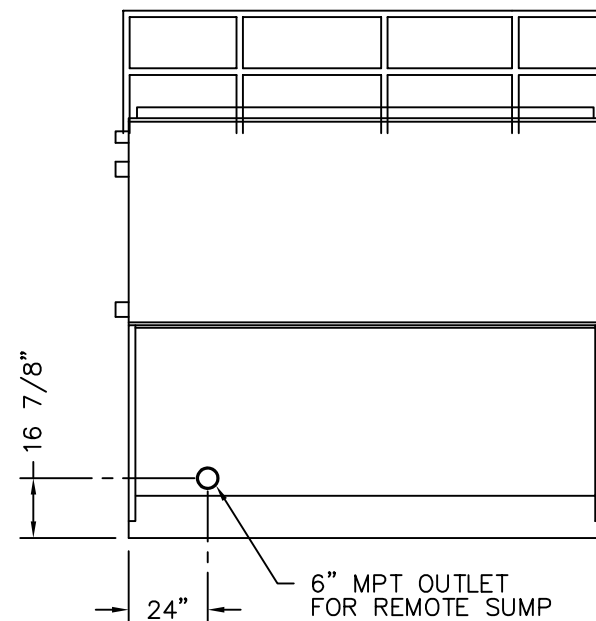
(M) FAN MOTOR LOCATION.

● CAPPED & CHARGED W/ NITROGEN

MODEL NO.	APPROX. SHIPPING WEIGHT	APPROX. OPERATING WEIGHT	HEAVIEST SECTION (COIL)	F	H
VC1-185	8950	9700	6720	42 1/2"	10'-8 7/8"

NOTES:

1. ALL DIMENSIONS ARE IN FEET AND INCHES. WEIGHTS ARE IN POUNDS.
2. UNLESS OTHERWISE INDICATED, ALL CONNECTIONS 6 INCHES AND SMALLER ARE MPT AND CONNECTIONS 8 INCHES AND LARGER ARE BEVELED FOR WELDING AND GROOVED FOR VICTAULIC CONNECTION.
3. DIMENSIONS SHOWING LOCATION OF COIL CONNECTIONS ARE APPROXIMATE AND SHOULD NOT BE USED FOR PREFABRICATION OF CONNECTING PIPING.
4. FOR SUPPORT REQUIREMENTS, REFER TO THE SUGGESTED STEEL SUPPORT DRAWING.



- 14 GA 34/5 SPLIT CIRCUIT COIL -

B.A.C. ORDER NO:	U220590101
DATE:	2/17/2022 ConfigVer=17

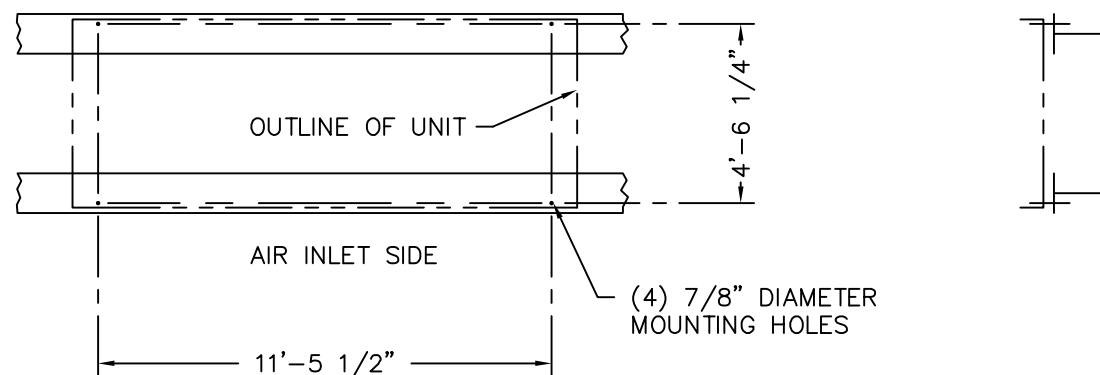


BALTIMORE AIRCOIL
COMPANY

LEFT HAND UNIT
BLANKOFF OUTLET FOR REMOTE SUMP
SPLIT CIRCUIT COIL

DRAWING NUMBER:
BAC-9880AX

B



MODEL NO.
VC1-150
VC1-165
VC1-185
VC1-205

NOTES:

1. THE RECOMMENDED SUPPORT ARRANGEMENT FOR VC1 UNITS CONSISTS OF TWO PARALLEL I-BEAMS EXTENDING THE FULL LENGTH OF THE UNIT. SUPPORTS AND ANCHOR BOLTS ARE TO BE DESIGNED AND FURNISHED BY OTHERS.
2. ALL SUPPORTING BEAMS ARE TO BE FLUSH AND LEVEL AT TOP AND MUST BE ORIENTED RELATIVE TO GAGE LINE AS SHOWN.
3. RECOMMENDED DESIGN LOADS FOR EACH BEAM SHOULD BE 70% OF THE TOTAL UNIT OPERATING WEIGHT APPLIED AS A UNIFORM LOAD TO EACH BEAM. BEAMS SHOULD BE IN ACCORDANCE WITH STANDARD STRUCTURAL PRACTICE. THE MAXIMUM ALLOWABLE DEFLECTION OF BEAMS UNDER THE UNIT SHALL BE 3/8 OF AN INCH.
4. ALL MOUNTING HOLES ARE 7/8 INCH DIAMETER AT THE LOCATIONS SHOWN.
5. IF VIBRATION ISOLATORS ARE USED, A RAIL OR CHANNEL MUST BE PROVIDED BETWEEN THE UNIT AND THE ISOLATORS TO PROVIDE CONTINUOUS UNIT SUPPORT. ADDITIONALLY, THE SUPPORT BEAMS MUST BE DESIGNED TO ACCOMMODATE THE OVERALL LENGTH AND MOUNTING HOLE LOCATION OF THE ISOLATORS WHICH MAY DIFFER FROM THOSE OF THE UNIT. REFER TO VIBRATION ISOLATOR DRAWINGS FOR THIS DATA.

B.A.C.
ORDER NO: U220590101

DATE: 2/17/2022 ConfigVer=17



BALTIMORE AIRCOIL
COMPANY

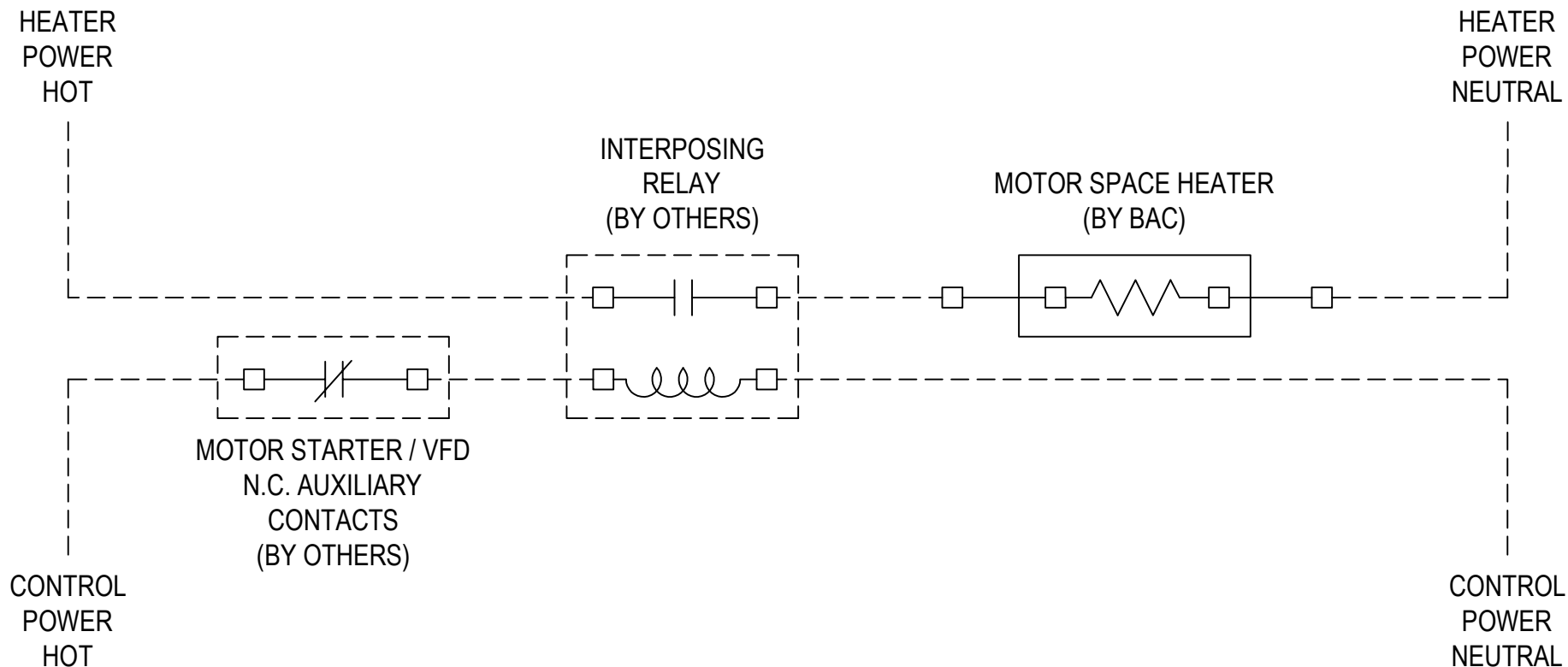
SUGGESTED STEEL SUPPORT
EVAPORATIVE CONDENSER

DRAWING NUMBER:
BAC-9917 A

A

Notes

- 1) Motor Heater should only be energized when the fan is stopped (0% fan speed).
- 2) Interposing relay must be sized per the heater power consumption.
- 3) Heater sizes shown below are maximum values. Refer to the motor nameplate for final power requirements.
- 4) General heater wiring details shown, see diagram on motor for specific details.
- 5) All wiring must comply with all codes and standards applicable for the installed jurisdiction, which may include requirements for additional disconnects, over current protection, and/or other safety devices.
- 6) Dashed lines represent field supplied wiring.
- 7) Space heater wiring leads may be located in either the main outlet box, or an auxiliary box if so equipped.



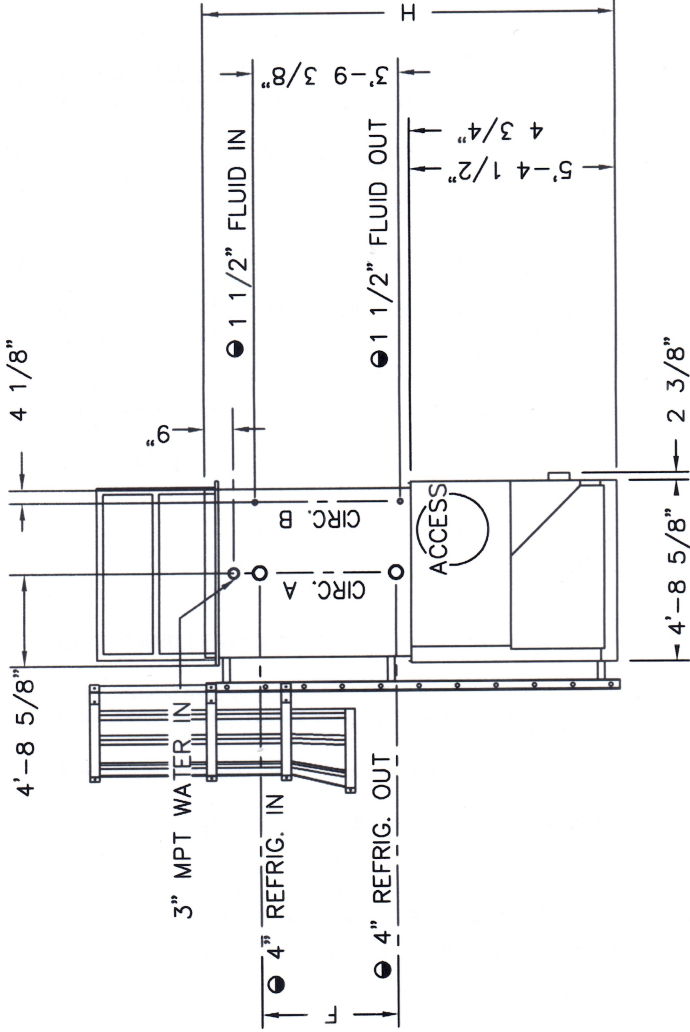
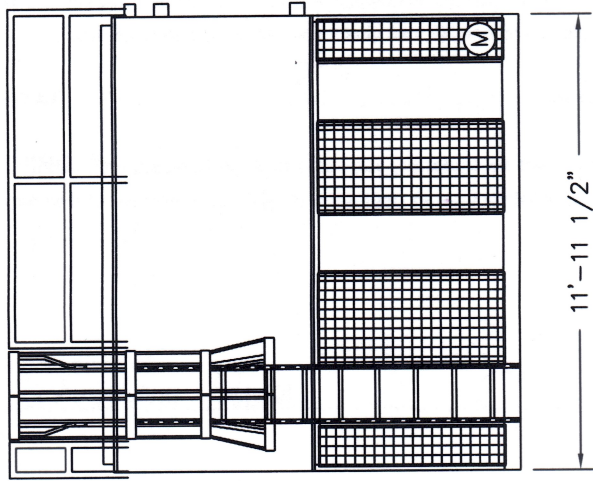
For units that ship from the US, heaters are 110-120 VAC/ 50 or 60 Hz based on motor configuration.
For units that ship from China, heaters are 200-240 VAC/ 50 or 60 Hz based on motor configuration.

ORDER NO: **U220590101**DATE: **2/17/2022 ConfigVer=17**

**BALTIMORE
AIRCOIL COMPANY**

**Fan Motor Space Heater
Wiring Schematic - General**

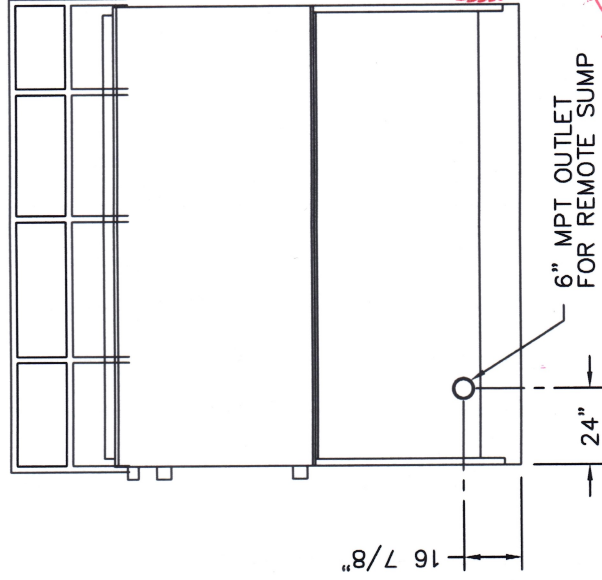
DRAWING NUMBER:
SW-U220590101



- (M) FAN MOTOR LOCATION.
- CAPPED & CHARGED W/ NITROGEN

MODEL NO.	APPROX. SHIPPING WEIGHT	APPROX. OPERATING WEIGHT	HEAVIEST SECTION (COIL)	F	H
VC1-185	8950	9700	6720	42 1/2"	10'-8 7/8"

- NOTES:
- ALL DIMENSIONS ARE IN FEET AND INCHES. WEIGHTS ARE IN POUNDS.
 - UNLESS OTHERWISE INDICATED, ALL CONNECTIONS 6 INCHES AND SMALLER ARE MPT AND CONNECTIONS 8 INCHES AND LARGER ARE BEVELED FOR WELDING AND GROOVED FOR VICTAULIC CONNECTION.
 - DIMENSIONS SHOWING LOCATION OF COIL CONNECTIONS ARE APPROXIMATE AND SHOULD NOT BE USED FOR PREFABRICATION OF CONNECTING PIPING.
 - FOR SUPPORT REQUIREMENTS, REFER TO THE SUGGESTED STEEL SUPPORT DRAWING.



- 14 GA 34/5 SPLIT CIRCUIT COIL -

B.A.C. ORDER NO: U220590101

DATE: 2/17/2022 ConfigVer=17



LEFT HAND UNIT

BLANKOFF OUTLET FOR REMOTE SUMP

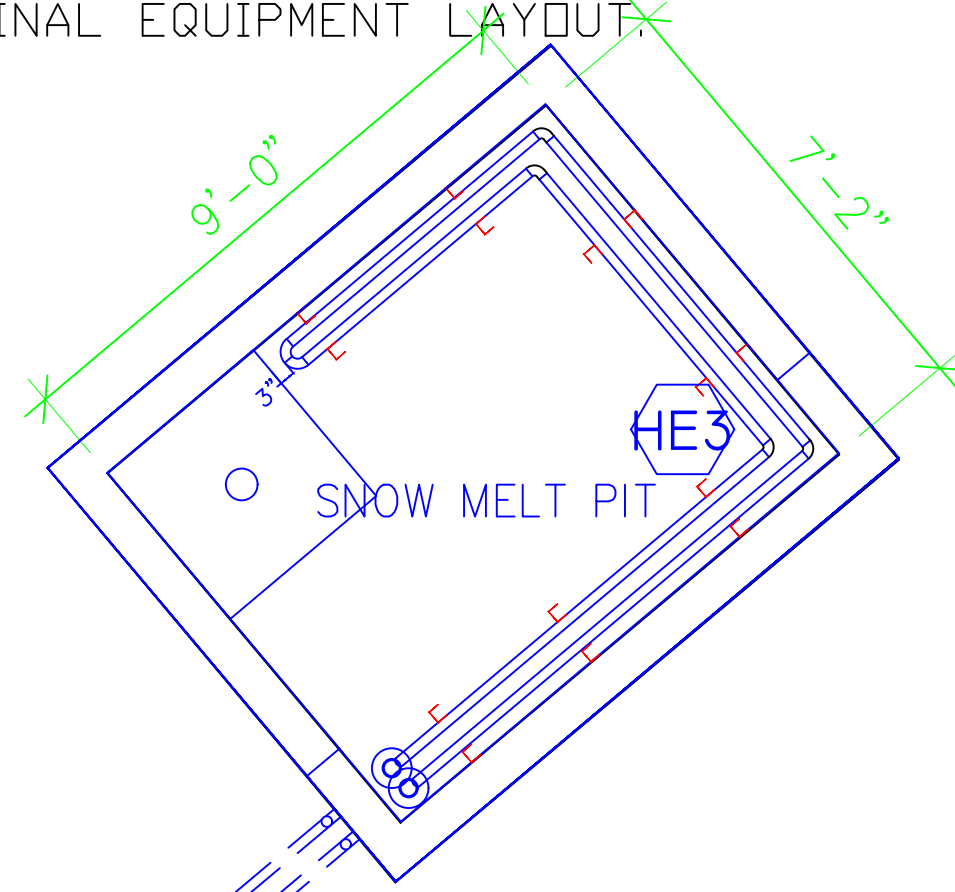
SPLIT CIRCUIT COIL

DRAWING NUMBER: BAC-9880AX

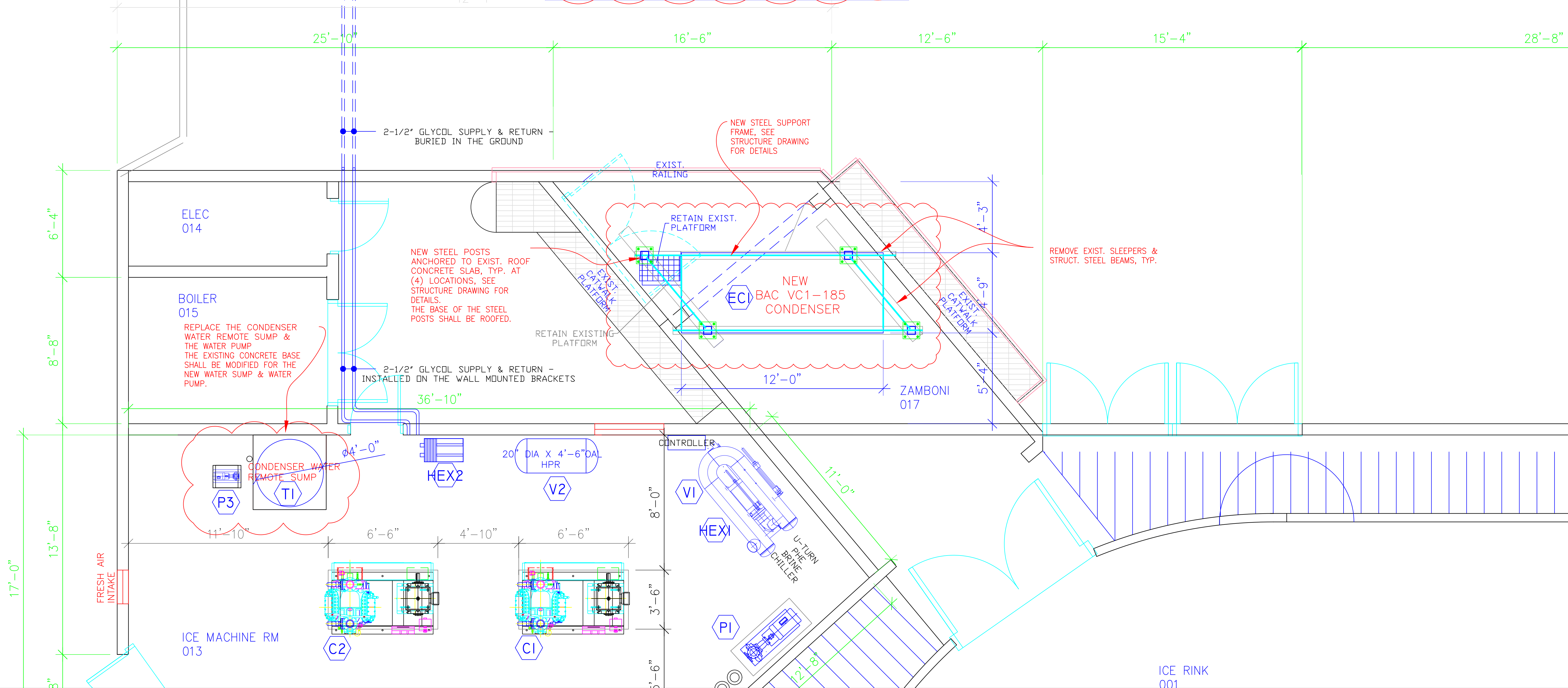
B

2022 UPGRADE

1. CONTRACTOR IS TO CONFIRM ALL PIPING DETAILS AND SITE DIMENSIONS PRIOR TO START OF PROJECT.
2. CONTRACTOR IS TO CONFIRM THE EQUIPMENT LAYOUT BASED ON THE DIMENSIONS OF FINALIZED EQUIPMENT SELECTION.
3. THE DIMENSIONS SHOWN ON THIS DRAWING ARE JUST FOR REFERENCE. CONTRACTOR SHALL CONFIRM DIMENSIONS ON SITE FOR THE FINAL EQUIPMENT LAYOUT.



EQUIPMENT IDENTIFICATION	
C-1	MYCOM N4M COMPRESSOR C/W 75 HP MOTOR, 2019
C-2	MYCOM N4M COMPRESSOR C/W 75 HP MOTOR, 2019
HEX-1	ALFA LAVAL PLATE & FRAME AMMONIA/BRINE CHILLER 120 TR, 12 F SUCTION, 2019
HEX-2	ALFA LAVAL PLATE & FRAME AMMONIA/GLYCOL HEAT EXCHANGER, SNOW MELT APPLICATION, 2019
HEX-3	STAINLESS STEEL TUBE SNOW MELT COIL, 2019
V-1	ALFA LAVAL CHILLER U-TURN SURGE DRUM, 2019
V-2	20" DIA X 4'-6" OAL HORIZONTAL HPR VESSEL, 2019
V-3	CHIL-CON OIL SEPARATOR, 2014
V-4	CHIL-CON OIL SEPARATOR, 2014
V-5	COLD BRINE BALANCE TANK, 2019
V-8	EXTERNAL OIL POT, 2019
T-1	CONDENSER REMOTE WATER SUMP, 500 USGAL, 2022
T-2	COMPRESSOR GLYCOL THERMAL EXPANSION TANK, 2019
T-3	SNOW MELT GLYCOL THERMAL EXPANSION TANK, 2019
P-1	ARMSTRONG COLD BRINE PUMP, 25 HP, 2019
P-2	COMPRESSOR OIL COOLING GLYCOL PUMP, 3/4 HP, 2019
P-3	CONDENSER REMOTE WATER PUMP, 5 HP, 2022
P-4	SNOW MELT GLYCOL PUMP, HP, 2019
EC-1	BAC VC1-185 EVAP. CONDENSER, 2022



3	MAR142022	ISSUED FOR TENDER
2	JAN242022	ISSUED FOR REVIEW
1	DEC082021	ISSUED FOR REVIEW
No.	DATE	DESCRIPTION
ISSUES AND REVISIONS		

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REFRIGERATION ENGINEERING'S
PERMISSION.

ISSUED FOR TENDER



JS REFRIGERATION ENGINEERING INC.

**JS REFRIGERATION
ENGINEERING INC.**

VANCOUVER, B.C.

tel: (604) 437-3333 cel: (778) 317-9633
www.jsre.ca

RITANNIA RINK
1661 NAPIER St
VANCOUVER, BC

CITY OF VANCOUVER
VANCOUVER, BC

PROJECT: CITY OF VANCOUVER
BRITANNIA ARENA
1661 NAPIER ST
VANCOUVER, B.C.

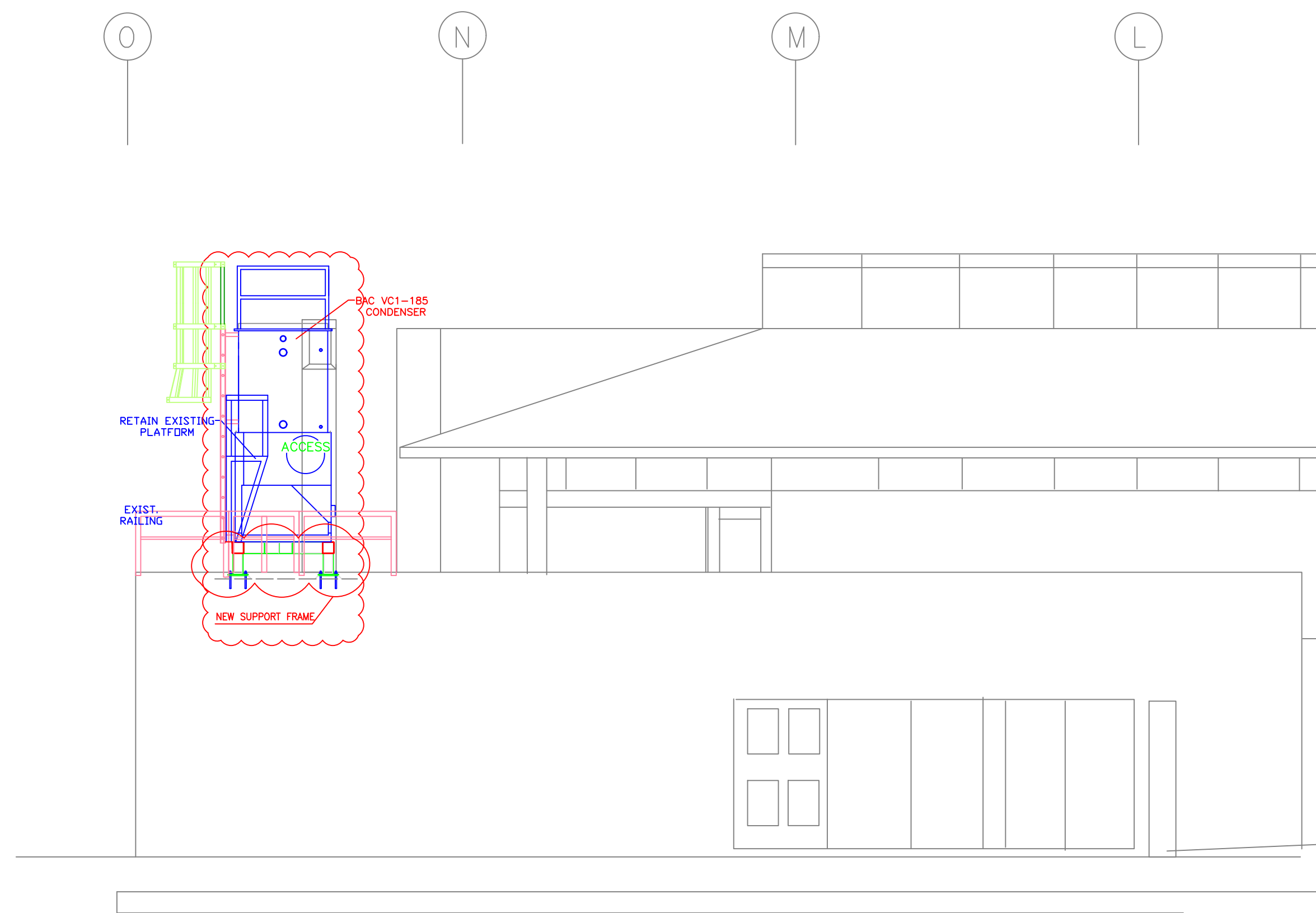
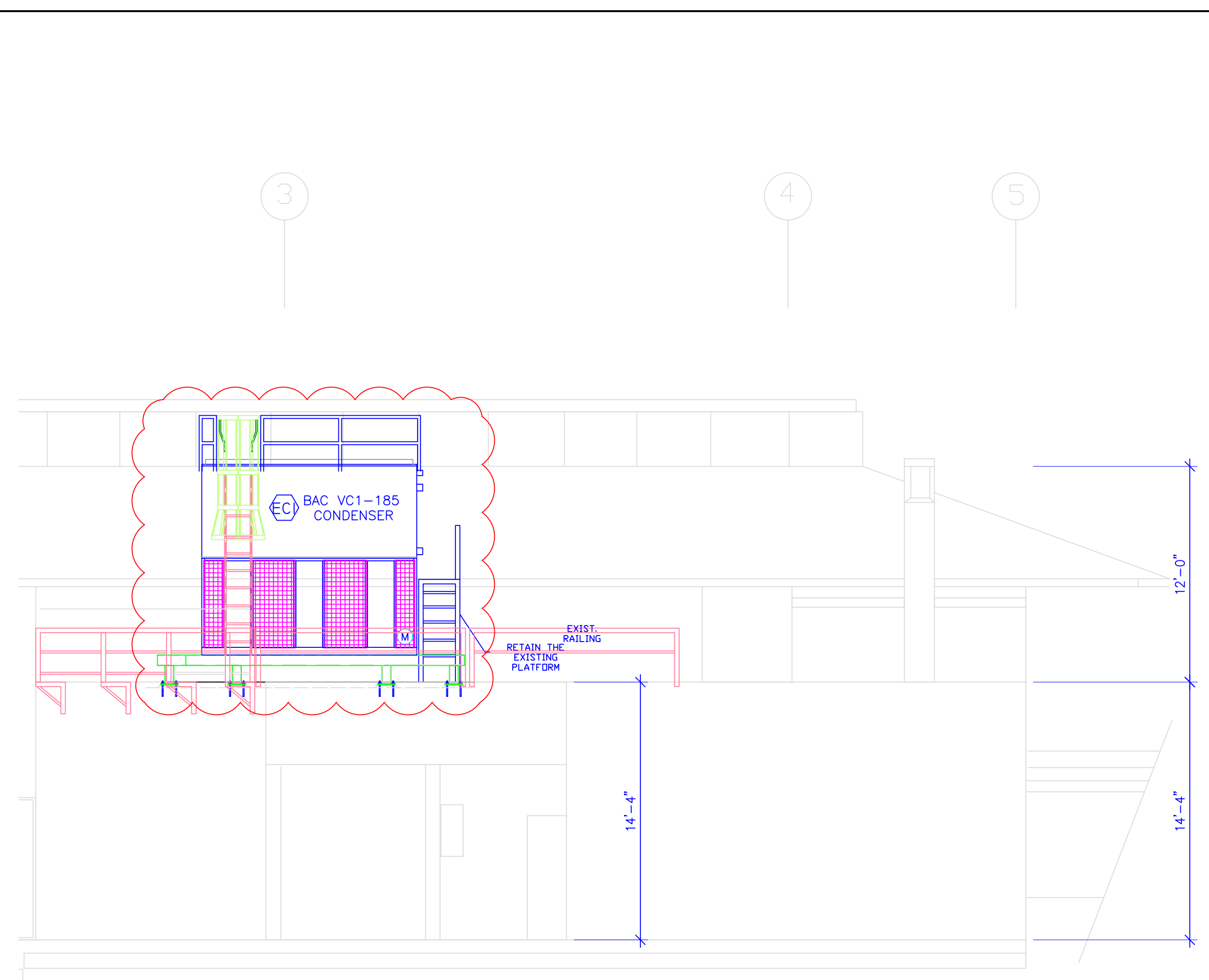
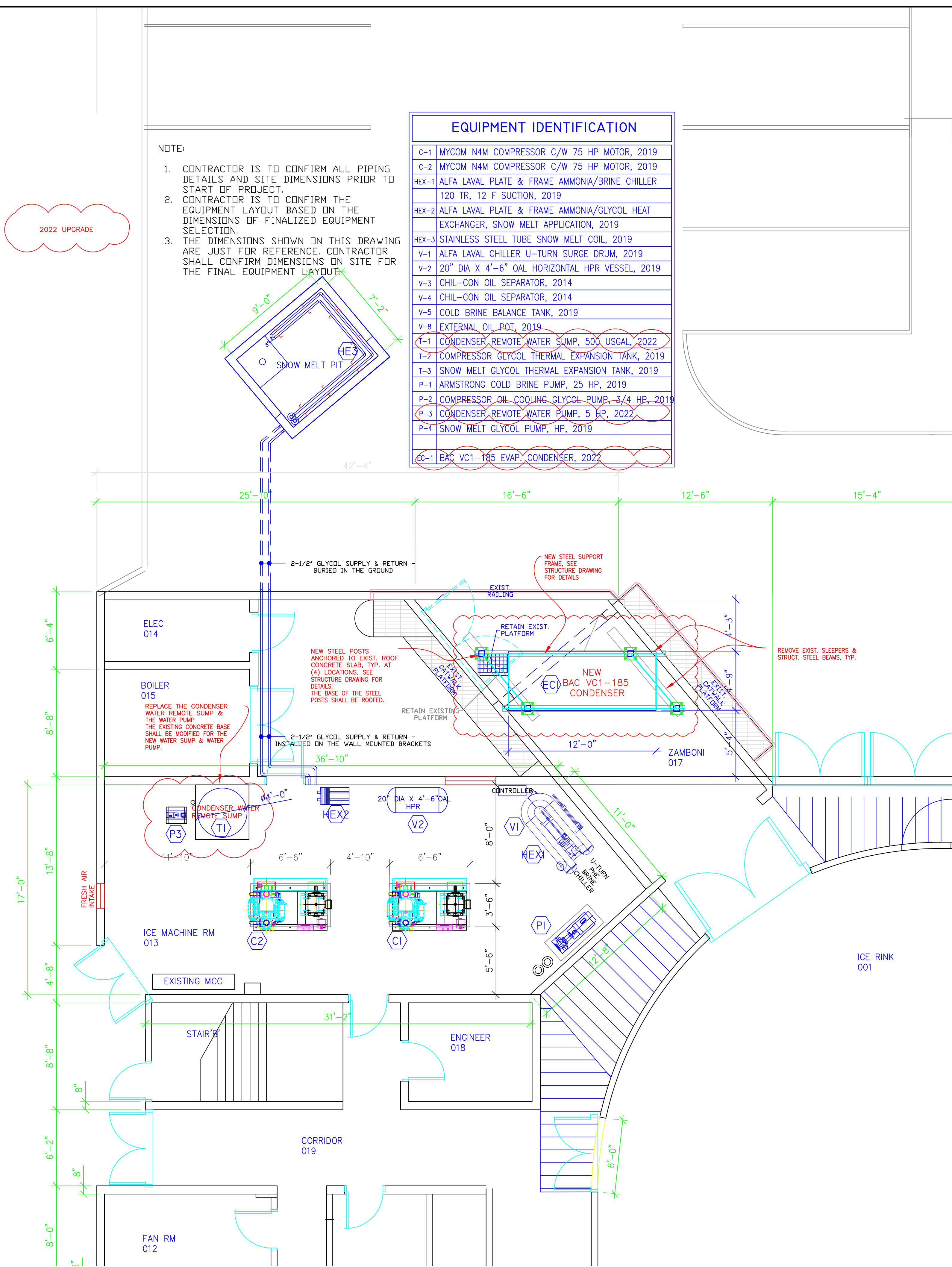
DRAWING TITLE: ICE PLANT REFRIGERATION EQUIPMENT LAYOUT
— 2022 CONDENSER REPLACEMENT

DATE PLOTTED	
SCALE	NTS
DRAWN	YLU
CHECKED	JAMES SHOU

PROJECT No: 2765

REV No.	DWG No.
---------	---------

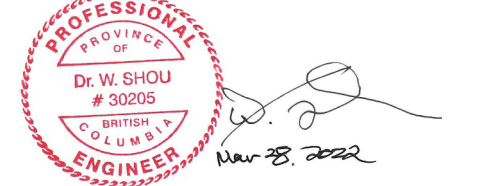
3 | 2765-R1



3	MAR142022	ISSUED FOR TENDER
2	JAN242022	ISSUED FOR REVIEW
1	DEC082021	ISSUED FOR REVIEW
No.	DATE	DESCRIPTION
ISSUES AND REVISIONS		

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JS REFRIGERATION ENGINEERING INC.
VANCOUVER, B.C.
tel: (604) 437-3333 cell: (778) 317-9633
www.jsre.ca

BRITANNIA RINK
1661 NAPIER ST
VANCOUVER, BC

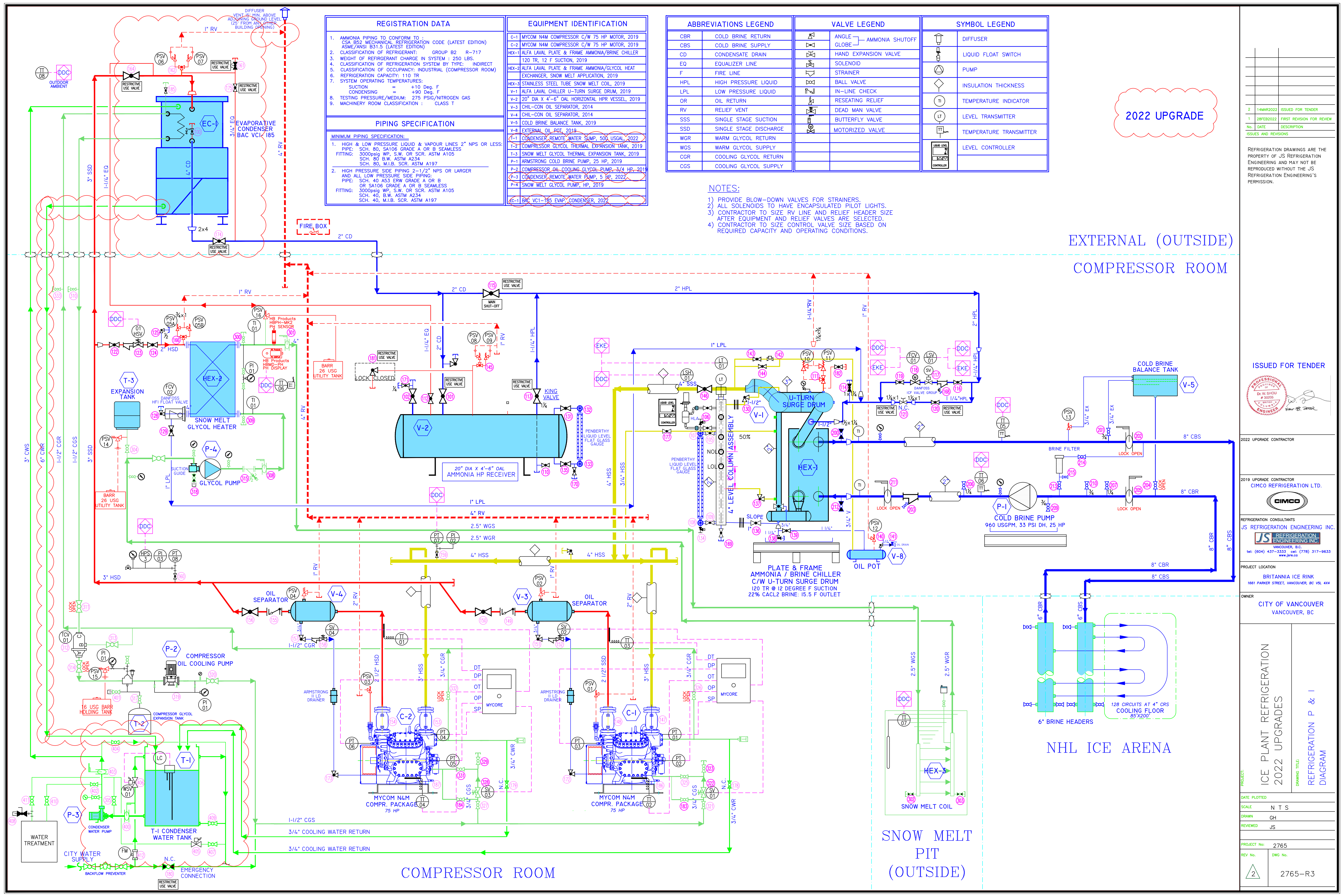
CITY OF VANCOUVER
VANCOUVER, BC

PROJECT: CITY OF VANCOUVER
BRITANNIA ARENA
1661 NAPIER ST
VANCOUVER, B.C.
DRAWING TITLE: ICE PLANT REFRIGERATION EQUIPMENT LAYOUT
- 2022 COMPRESSOR REPLACEMENT

DATE PLOTTED: NTS
SCALE: YLU
DRAWN: JAMES SHOU
CHECKED:

PROJECT No: 2765
REV No. DWG No.

3 2765-R2



REGISTRATION DATA	EQUIPMENT IDENTIFICATION
<ol style="list-style-type: none"> AMMONIA PIPING TO CONFORM TO: CSA B52 MECHANICAL REFRIGERATION CODE (LATEST EDITION) ASME/ANSI B31.5 (LATEST EDITION) CLASSIFICATION OF REFRIGERANT: GROUP B2 R-717 WEIGHT OF REFRIGERANT CHARGE IN SYSTEM: 250 LBS. CLASSIFICATION OF REFRIGERATION SYSTEM BY TYPE: INDIRECT CLASSIFICATION OF OCCUPANCY: INDUSTRIAL (COMPRESSOR ROOM) REFRIGERATION CAPACITY: 110 TR SYSTEM OPERATING TEMPERATURES: <ul style="list-style-type: none"> SUCTION = +10 Deg. F CONDENSING = +90 Deg. F TESTING PRESSURE/MEDIUM: 275 PSIG/NITROGEN GAS MACHINERY ROOM CLASSIFICATION: CLASS T 	<ol style="list-style-type: none"> MYCOM N4M COMPRESSOR C/W 75 HP MOTOR, 2019 MYCOM N4M COMPRESSOR C/W 75 HP MOTOR, 2019 HEX-1 ALFA LAVAL PLATE & FRAME AMMONIA/BRINE CHILLER 120 TR, 12 F SUCTION, 2019 HEX-2 ALFA LAVAL PLATE & FRAME AMMONIA/GLYCOL HEAT EXCHANGER, SNOW MELT APPLICATION, 2019 HEX-3 STAINLESS STEEL TUBE SNOW MELT COIL, 2019 V-1 ALFA LAVAL CHILLER U-TURN SURGE DRUM, 2019 V-2 20" DIA X 4'-6" OAL HORIZONTAL HPR VESSEL, 2019 V-3 CHIL-CON OIL SEPARATOR, 2014 V-4 CHIL-CON OIL SEPARATOR, 2014 V-5 COLD BRINE BALANCE TANK, 2019 V-8 EXTERNAL OIL POT, 2019 C-1 CONDENSER, REMOTE WATER PUMP, 500 USGAL, 2022 T-2 COMPRESSOR GLYCOL THERMAL EXPANSION TANK, 2019 T-3 SNOW MELT GLYCOL THERMAL EXPANSION TANK, 2019 P-1 ARMSTRONG COLD BRINE PUMP, 25 HP, 2019 P-2 COMPRESSOR OIL COOLING GLYCOL PUMP, 3/4 HP, 2019 P-3 CONDENSER, REMOTE WATER PUMP, 5 HP, 2022 P-4 SNOW MELT GLYCOL PUMP, HP, 2019 EC-1 BAC VC1-185 EVAP. CONDENSER, 2022
PIPING SPECIFICATION	
<ol style="list-style-type: none"> HIGH & LOW PRESSURE LIQUID & VAPOUR LINES 2" NPS OR LESS: <ul style="list-style-type: none"> PIPE: SCH. 80, SA106 GRADE A OR B SEAMLESS FITTING: 3000PSIG WP, S.W. OR SCR. ASTM A105 SCH. 80, B.W. ASTM A234 SCH. 80, M.I.B. SCR. ASTM A197 HIGH PRESSURE SIDE PIPING 2-1/2" NPS OR LARGER AND ALL LOW PRESSURE SIDE PIPING: <ul style="list-style-type: none"> PIPE: SCH. 40 A53 ERW GRADE A OR B OR SA106 GRADE A OR B SEAMLESS FITTING: 3000PSIG WP, S.W. OR SCR. ASTM A105 SCH. 40, B.W. ASTM A234 SCH. 40, M.I.B. SCR. ASTM A197 	

ABBREVIATIONS LEGEND	VALVE LEGEND	SYMBOL LEGEND
CBR COLD BRINE RETURN CBS COLD BRINE SUPPLY CD CONDENSATE DRAIN EQ EQUALIZER LINE F FIRE LINE HPL HIGH PRESSURE LIQUID LPL LOW PRESSURE LIQUID OR OIL RETURN RV RELIEF VENT SSS SINGLE STAGE SUCTION SSD SINGLE STAGE DISCHARGE WGR WARM GLYCOL RETURN WGS WARM GLYCOL SUPPLY CGR COOLING GLYCOL RETURN CGS COOLING GLYCOL SUPPLY	ANGLE GLOBE AMMONIA SHUTOFF HAND EXPANSION VALVE SOLENOID STRAINER BALL VALVE IN-LINE CHECK RESEATING RELIEF DEAD MAN VALVE BUTTERFLY VALVE MOTORIZED VALVE	DIFFUSER LIQUID FLOAT SWITCH PUMP INSULATION THICKNESS TEMPERATURE INDICATOR LEVEL TRANSMITTER TEMPERATURE TRANSMITTER LEVEL CONTROLLER

NOTES:

- 1) PROVIDE BLOW-DOWN VALVES FOR STRAINERS.
- 2) ALL SOLENOIDS TO HAVE ENCAPSULATED PILOT LIGHTS.
- 3) CONTRACTOR TO SIZE RV LINE AND RELIEF HEADER SIZE AFTER EQUIPMENT AND RELIEF VALVES ARE SELECTED.
- 4) CONTRACTOR TO SIZE CONTROL VALVE SIZE BASED ON REQUIRED CAPACITY AND OPERATING CONDITIONS.

2022 UPGRADE

EXTERNAL (OUTSIDE)
COMPRESSOR ROOM

ISSUED FOR TENDER

2022 UPGRADE CONTRACTOR

2019 UPGRADE CONTRACTOR
CIMCO REFRIGERATION LTD.

REFRIGERATION CONSULTANTS
JS REFRIGERATION ENGINEERING INC.
VANCOUVER, B.C.
Tel: (604) 437-3333 • Fax: (778) 317-9833
www.jsreco.com

PROJECT LOCATION
BRITANNIA ICE RINK
1661 PARKER STREET, VANCOUVER, BC V5L 4K4

OWNER
CITY OF VANCOUVER
VANCOUVER, BC

PROJECT
ICE PLANT REFRIGERATION
2022 UPGRADES

DRAWING TITLE
REFRIGERATION P & I
DIAGRAM

DATE PLOTTED
SCALE N T S

DRAWN GH

REVIEWED JS

PROJECT No: 2765

REV No. DWG No.

2765-R3

1. DRAWINGS ARE TO READ AS A WHOLE, AND IN CONJUNCTION WITH ALL OTHER DRAWINGS PROVIDED, INCLUDING BUT NOT LIMITED TO: ARCHITECTURAL, MECHANICAL, ELECTRICAL AND SURVEY DRAWINGS.
2. DRAWINGS ARE NOT INTENDED TO BE PICTORIALLY ACCURATE. THEY ARE PROVIDED TO SUPPLY ALL THE RELEVANT SPECIFICATIONS AND DETAILS REQUIRED TO CONVEY THE INTENT OF THE CONSTRUCTION. THE INTENT OF ALL THE DESIGN DRAWINGS SHALL BE UNDERSTOOD AND THE CONSTRUCTION CARRIED OUT TO MEET THAT INTENT.
3. PRIOR TO THE COMMENCEMENT OF WORK THE CONTRACTOR SHALL COMPARE ALL DIMENSIONS AND OUTLINES BETWEEN THE RELEVANT ARCHITECTURAL AND STRUCTURAL DRAWINGS. ANY DISCREPANCIES OR OMISSIONS MUST BE BROUGHT TO THE ATTENTION OF ALL RELEVANT PARTIES. ANY VARIATIONS NOT REPORTED PRIOR TO COMMENCEMENT OF WORK ARE THE CONTRACTOR'S RESPONSIBILITY.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE SITE MEASURING AND CONTROLLING THE PRODUCTION OF ALL WORK ON SITE TO ENSURE THEY MEET THE INTENT OF THE DRAWINGS. ANY DIMENSIONAL DEVIATIONS FROM THE PLAN MUST BE REPORTED TO THE ENGINEER.
5. ANY CONDITIONS ON SITE THAT MAY IMPACT UPON THE FULFILLMENT OF THE DESIGNS INTENT, INCLUDING BUT NOT LIMITED TO: SOIL CONDITIONS, BUILDINGS, BUILDING COMPONENTS, OR PROPERTY LINES, MUST BE RECORDED AND REPORTED.
6. ANY ALTERATIONS THAT MAY RESULT IN EXTRA CHARGES BEING APPLIED TO THE CONTRACT MUST BE BROUGHT TO THE ENGINEER'S ATTENTION WITH ADEQUATE TIME FOR THE CHARGES TO BE REVIEWED AND APPROVAL SOUGHT FROM THE RELEVANT PARTIES BEFORE ANY OF THE WORK IS CARRIED OUT.
7. APPROVAL FROM THE ENGINEER MUST BE OBTAINED BEFORE ANY STRUCTURAL MEMBERS ARE CUT OR DRILLED INTO WHERE IT HAS NOT BEEN SPECIFIED ON THE PLAN.
8. WORK FOUND DEFECTIVE AFTER COMPLETION OF THE PROJECT SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR TO AMEND. THIS REQUIREMENT REMAINS ALIVE BEYOND SUBSTANTIAL COMPLETION OF THE PROJECT REGARDLESS OF PRIOR ACCEPTANCE OR APPROVAL.

2.0 GOVERNING CODE: 2019 VANCOUVER BUILDING BYLAW (V.B.B.L.)

2.1 DESIGN LOADS:

2.1.1 LIVE LOADS:

SNOW LOAD: $S_s = 1.9 \text{ KPa}$, $S_r = 0.3 \text{ KPa}$, $C_b = 0.8$

WIND LOAD: $Q1:10 = 0.35 \text{ KPa}$, $Q1:50 = 0.45 \text{ KPa}$

2.1.2 DEAD LOAD: Operating Weight of New condenser unit= 8920 lbs

2.1.3 SEISMIC DATA:

$S_a(0.2) = 0.848$

$S_a(0.5) = 0.751$

$S_a(1.0) = 0.425$

$S_a(2.0) = 0.257$

$PGA = 0.369$

4.1 ALL STRUCTURAL STEEL TO BE IN ACCORDANCE WITH THE LATEST CSA S16 AND THE C.I.S.C. CODE OF STANDARD PRACTICE.

4.2 ALL WELDING TO BE IN ACCORDANCE WITH CSA W59-03, BY WELDERS CERTIFIED IN ACCORDANCE WITH CSA W47.1-03. ALL WELDS TO BE CONTINUOUS UNLESS NOTED AND GROUND SMOOTH. REMOVE ALL BLEMISHES, WELD SPATTER, SHOP MARKS ETC.

4.3 INTERIOR STEEL WORK, SITUATED IN NORMALLY DRY CONDITIONS OR STEEL ENCASED IN CONCRETE SHALL BE CLEANED TO SP2 WITHOUT PRIMER. STEEL EXPOSED TO A POTENTIALLY MOIST ENVIRONMENT SHALL BE CLEANED TO SP3 AND PRIMED IN ACCORDANCE CISC GUIDELINES. STEEL EXPOSED TO VIEW, OR POTENTIALLY WET CONDITIONS, SHALL BE CLEANED TO SP6, PRIMED IN ACCORDANCE TO CISC GUIDELINES AND COATED AS REQUIRED BY THE ARCHITECT. STEEL THAT IS PERMANENTLY EXPOSED TO THE ELEMENTS, INCLUDING BRICK VENEER OR STONE ANGLE SUPPORTS AND EMBEDS IN EXPOSED CONCRETE, SHALL BE HOT DIPPED GALVANIZED.

4.4 THE CONTRACTOR SHALL SUBMIT DETAILED FABRICATION DRAWINGS OF ALL STEEL MEMBERS TO THE ENGINEER FOR REVIEW AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF ANY FABRICATION PROCESS.

4.5 U.N.O., ALL STEEL MEMBERS TO BE AS FOLLOWS:

WIDE FLANGE SECTIONS:	CSA/CAN3-G40.21, TYPE 350W
HOLLOW STEEL SECTIONS (HSS):	CSA-CAN3-G40.21, TYPE 350W; CLASS C
CHANNEL SECTIONS:	CSA-CAN3-G40.21, TYPE 300W
ANGLE SECTIONS:	CSA-CAN3-G40.21, TYPE 300W
PLATES, RODS & MISCELLANEOUS STEEL MEMBERS:	CSA-CAN3-G40.21, TYPE 300W

4.6 ALL BOLTS USED FOR STEEL-TO-STEEL CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-325, MINIMUM SIZE 3/4" DIAMETER, U.N.O. ALL BOLTS USED FOR ANCHORAGE TO CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-307.

4.7 THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS IN THE FIELD TO SUIT. HE SHALL SITE MEASURE AND CONTROL THE PRODUCTION OF WORK ON SITE AND ELSEWHERE TO FULFILL THE INTENT OF THE DRAWINGS.

4.8 ALL CONNECTORS SHALL BE DESIGNED BY FABRICATOR U.N.O., ALL BEAM CONNECTIONS SHALL BE STANDARD FRAME BEAM CONNECTIONS OR EQUIVALENT. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS SHOWING IN DETAILS AND THEIR CAPACITY. CONNECTIONS AND SPLICES NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUESTED BY FABRICATOR SHALL BE DETAILED ON SHOP DRAWINGS, AND SUBMITTED TO THE ENGINEER FOR REVIEW.

4.9 BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS IN EACH CONNECTED PLATE AND BE DESIGNED AS BEARING CONNECTIONS, U.N.O.

4.10 ALL WELDED HEADED STUDS AND WELDED DEFORMED BAR ANCHORS SHALL BE INSTALLED AS PER MANUFACTURERS' SPECIFICATIONS AND RECOMMENDATIONS. FILLET WELDED STUDS AND DEFORMED BARS ARE CONSIDERED UNACCEPTABLE.

4.11 THE SHOP DRAWINGS SHALL BE SEALED BY A B.C. REGISTERED PROFESSIONAL STRUCTURAL ENGINEER, WHO WILL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF CONNECTIONS AND ASSOCIATED COMPONENTS SHOWN IN THE SHOP DRAWINGS.

4.12 BEAM CONNECTIONS TO EMBEDDED PLATES SHALL BE DOUBLE ANGLE FRAMING CONNECTIONS, U.N.O.

4.13 WHERE BEAMS SIT OVER COLUMNS, PROVIDE FULL HEIGHT WEB STIFFENER PLATES AT EACH SIDE OF BEAM WEB EXTENDING OUTWARD TO FLANGE EDGES, CENTERED ON COLUMN AND WITH MINIMUM THICKNESS OF 3/8 INCH, U.N.O.

4.14 EBF BRACING ELEMENTS ARE TO BE FABRICATED IN STRICT CONFORMANCE WITH STRUCTURAL DRAWING DETAILS.

4.15 REFER TO ARCHITECTURAL DRAWINGS FOR MISCELLANEOUS STEEL AND SIZE VERIFICATION OF ALL MEMBERS.

4.16 HSS MEMBERS SHALL BE SEAL WELDED IN DRY CONDITIONS SHOP. FOR ANY HSS MEMBER IN EXTERIOR CONDITIONS, OR POTENTIALLY SUBJECTED TO FREEZING, A WEEP HOLE SHALL BE PROVIDED AT THE LOWER END OF THE MEMBER.

4.17 PROVIDE GUYING OF INCOMPLETE STRUCTURE TO PLUMB AND MAINTAIN SAFETY STANDARDS UNTIL COMPLETION.

4.18 IF MASONRY WALLS ARE EXPECTED TO ALIGN WITH STEEL COLUMNS THE STEEL CONTRACTOR SHALL PROVIDE MASONRY ANCHOR STRAPS WITH DIMENSIONS OF 1 1/2" WIDE X 6" LONG AND 1/8" THICK, WITH A 1" LEG, @ 32" O.C VERTICALLY.

4.19 THE CONTRACTOR SHALL PROVIDE FRAMING FOR MECHANICAL WEIGHTS, AND IN ADDITION, FRAME ANY OPENINGS THROUGH ROOFS OR FLOORS IN EXCESS OF 18" IN ANY DIMENSION.

THE MINIMUM FRAMING AROUND OPENINGS SHALL BE AS FOLLOWS, U.N.O.:

3x3x 1/4" ANGLES FOR ROOFS IN AREAS WITHOUT SNOW BUILD-UP.

4x4x 1/4" ANGLES FOR ROOFS IN AREAS WITH SNOW BUILD-UP.

PROVIDE CLIPS TO BEAMS AND JOISTS TO SUIT

FOR OPENINGS OVER 2'-0" IN ANY DIMENSION, OR FOR OPENINGS WHICH CARRY MECHANICAL DEVICES IN EXCESS OF 500LBS, THAT ARE NOT SHOWN ON STRUCTURAL DRAWINGS SHOULD BE REPORTED TO THE STRUCTURAL ENGINEER WITH A MARKED LOCATION FOR AN ASSESSMENT.

4.20 GROUT UNDER BASE PLATES OF COLUMNS WITH A NON-SHRINK FLOWABLE GROUT, TARGET MACHINE BASE OR SIMILAR CAST UNDER HYDRAULIC HEAD. PROVIDE MIN OF 1" U.N.O.

4.21 PROVIDE SUPPORT FOR STEEL DECK EDGES ALL AROUND AS REQUIRED. PROVIDE STEEL ANGLES OF SIZE TO SUIT (MIN 3 X 3 X 1/4) AROUND THE PERIMETER OF THE STEEL DECK, IF STEEL DECK EDGES ARE NOT ALREADY SUPPORTED, INCLUDING PARALLEL TO EDGES OF DECK SPAN. WELD DECK ANGLE TO ADJACENT STEEL SUPPORTS OR BOLT TO ADJACENT CONCRETE AS REQUIRED SUITABLE TO THE TRIBUTARY DESIGN FLOOR LOADING.

5.1 ALL TEMPORARY WORKS REQUIRED FOR COMPLETION OF THE CONSTRUCTION IS NOT THE RESPONSIBILITY OF ARCUS CONSULTING LTD.

5.2 ALL METHODS OF CONSTRUCTION SHALL BE CONSTRUCTED IN A PROPER AND SAFE MANNER, AND SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THESE METHODS INCLUDE BUT ARE NOT LIMITED TO: SHORING, RESHORING, FORMWORK, SCAFFOLDING, BARRIERS, WALKWAYS AND GUARD RAILS.

5.3 THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL REQUIREMENTS RELATED TO THE JURISDICTION OF THE WORKERS COMPENSATION BOARD, AND WHERE NECESSARY, PROVIDE ENGINEERING EXPERTISE TO CONFIRM SUCH COMPLIANCE.

6. CONTRACTOR REQUESTED CHANGES

6.1 ALL ALTERATIONS MADE AS A RESULT OF UNFORESEEN SITE CONDITIONS OR DIFFERING CONSTRUCTION PROCEDURES SHALL BE MARKED UPON A SET OF STRUCTURAL DRAWINGS, INCLUDING ALL APPLICABLE DIMENSIONS.

6.2 IF A CONTRACTOR PERCEIVES THAT A CHANGE IN THE PLANS WILL RESULT IN A BETTER, OR MORE EFFICIENT CONSTRUCTION THEY CAN SUBMIT THESE REQUESTS. IT IS PREFERABLE THAT EACH SUBMISSION BE CLEARLY DETAILED AND ACCOMPANIED BY A SKETCH OF THE CHANGES. ACCEPTANCE, REJECTION OR MODIFICATION OF THE SUBMISSION IS ENTIRELY AT THE DISCRETION OF THE STRUCTURAL ENGINEER.

7. CONDITIONS OF FIELD REVIEW

7.1 A MINIMUM OF 48 HRS NOTICE SHALL BE GIVEN TO THE ENGINEER PRIOR TO ANY FIELD REVIEW THAT NEED BE CONDUCTED.

7.2 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE FIELD REVIEWS WITH THE COMPLETION OF APPROPRIATE LEVELS OF WORK TO BE INSPECTED.

7.3 AT THE DISCRETION OF THE ENGINEER, WORK THAT HAS BEEN COVERED BY FINISHES PRIOR TO THE FIELD REVIEW MAY NEED TO BE REMOVED; THE CONTRACTOR SHALL INCUR THE COST OF THIS WORK.

8.1 ALL DRILLED HOLES INTENDED FOR PREDRILLED ANCHORS SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS FOR THE REQUIRED ANCHOR UNLESS INDICATED ON THE STRUCTURAL PLANS.

8.2 ALL DRILLED HOLES SHALL BE CLEANED AND DRIED BEFORE ANCHORS ARE SET.

8.3 ALL ANCHORS INDICATED ON THE DRAWINGS ARE TO BE HILTI HAS-E WITH HY-200 U.N.O.



1 SITE MAP
S01 NOT TO SCALE

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[illegible]

	ISSUED	DATE

CONSULTANT

PERMIT TO PRACTICE NO. 1000366



PROJECT:

BRITANNIA ARENA ICE PLANT 2022 CONDENSER REPLACEMENT

1661 PARKER ST., VANCOUVER

DRAWING TITLE:

GENERAL NOTES

DRAWN BY: RG	SHEET No. S01
CHECKED BY: DT	
DATE: JAN. 2022	
SCALE: N.A.	
PROJECT No: 221-289	

REVISION	SUBJECT	DATE
-	ISSUED FOR REVIEW	2022.01.28

ISSUED	DATE

CONSULTANT

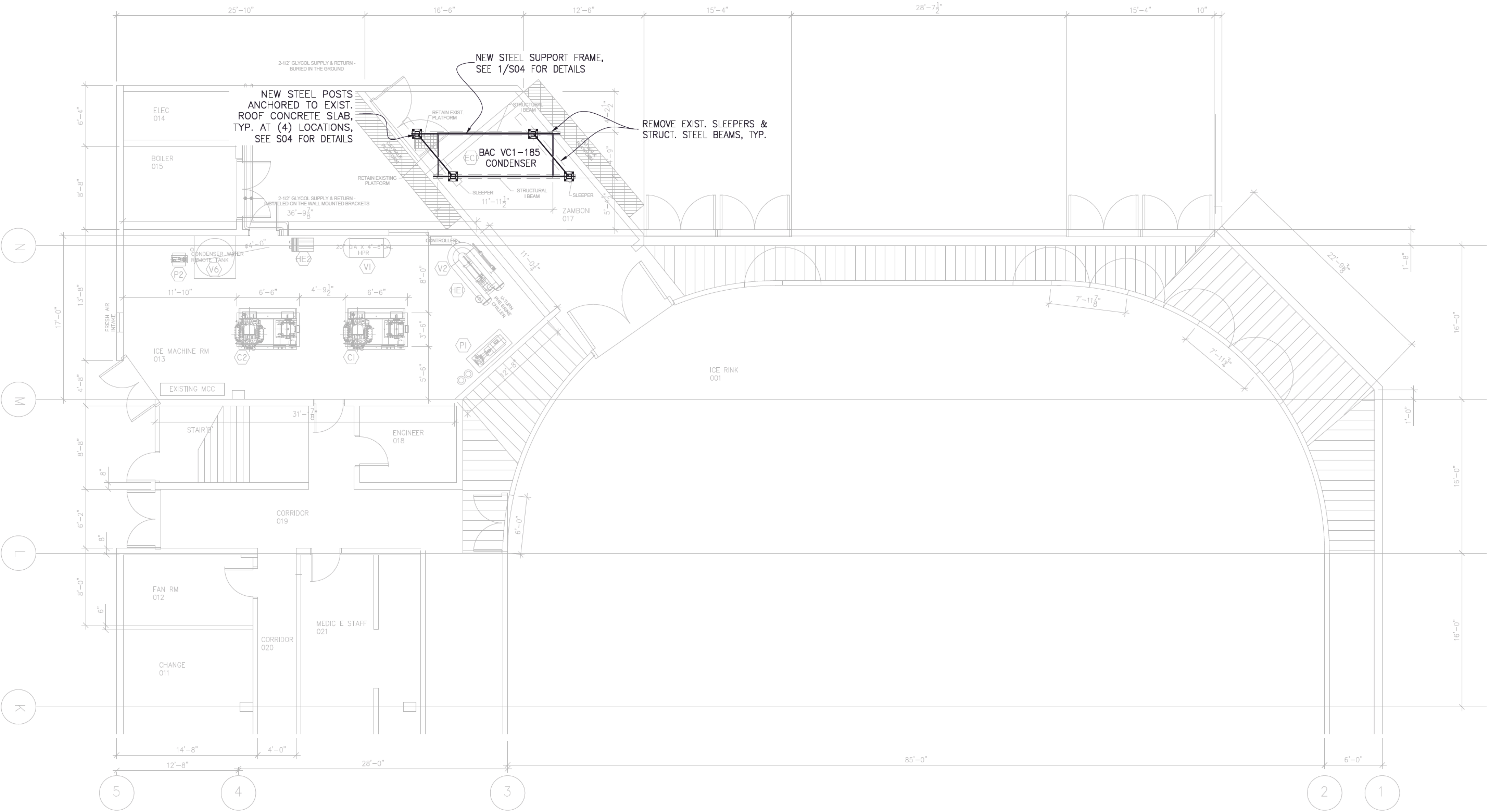
PERMIT TO PRACTICE NO. 1000366



PROJECT:
BRITANNIA ARENA ICE
PLANT 2022 CONDENSER
REPLACEMENT
1661 PARKER ST., VANCOUVER

DRAWING TITLE:
ROOF PLAN SHOWING NEW
CONDENSER UNIT ON NEW
SUPPORT FRAME

DRAWN BY: RG	SHEET No. S02
CHECKED BY: DT	
DATE: JAN. 2022	
SCALE: AS SHOWN	
PROJECT No: 221-289	



1
S02

ROOF PLAN SHOWING NEW CONDENSER
UNIT ON NEW SUPPORT FRAME

NOT TO SCALE



1
S03

BUILDING SECTION AT NEW
CONDENSER UNIT LOCATION

NOT TO SCALE

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REVISION	SUBJECT	DATE
-	ISSUED FOR REVIEW	2022.01.28

ISSUED	DATE

CONSULTANT

PERMIT TO PRACTICE NO. 1000366



PROJECT:

**BRITANNIA ARENA ICE
PLANT 2022 CONDENSER
REPLACEMENT**

1661 PARKER ST., VANCOUVER

DRAWING TITLE:

**BUILDING SECTION AT
NEW CONDENSER UNIT
LOCATION**

DRAWN BY: RG	SHEET No. S03
CHECKED BY: DT	
DATE: JAN. 2022	
SCALE: AS SHOWN	
PROJECT No: 221-289	

REVISION	SUBJECT	DATE
-	ISSUED FOR REVIEW	2022.01.28

ISSUED	DATE

CONSULTANT

LARGE FORMAT



PERMIT TO PRACTICE NO. 1000366



PROJECT:

**BRITANNIA ARENA ICE
PLANT 2022 CONDENSER
REPLACEMENT**

1661 PARKER ST., VANCOUVER

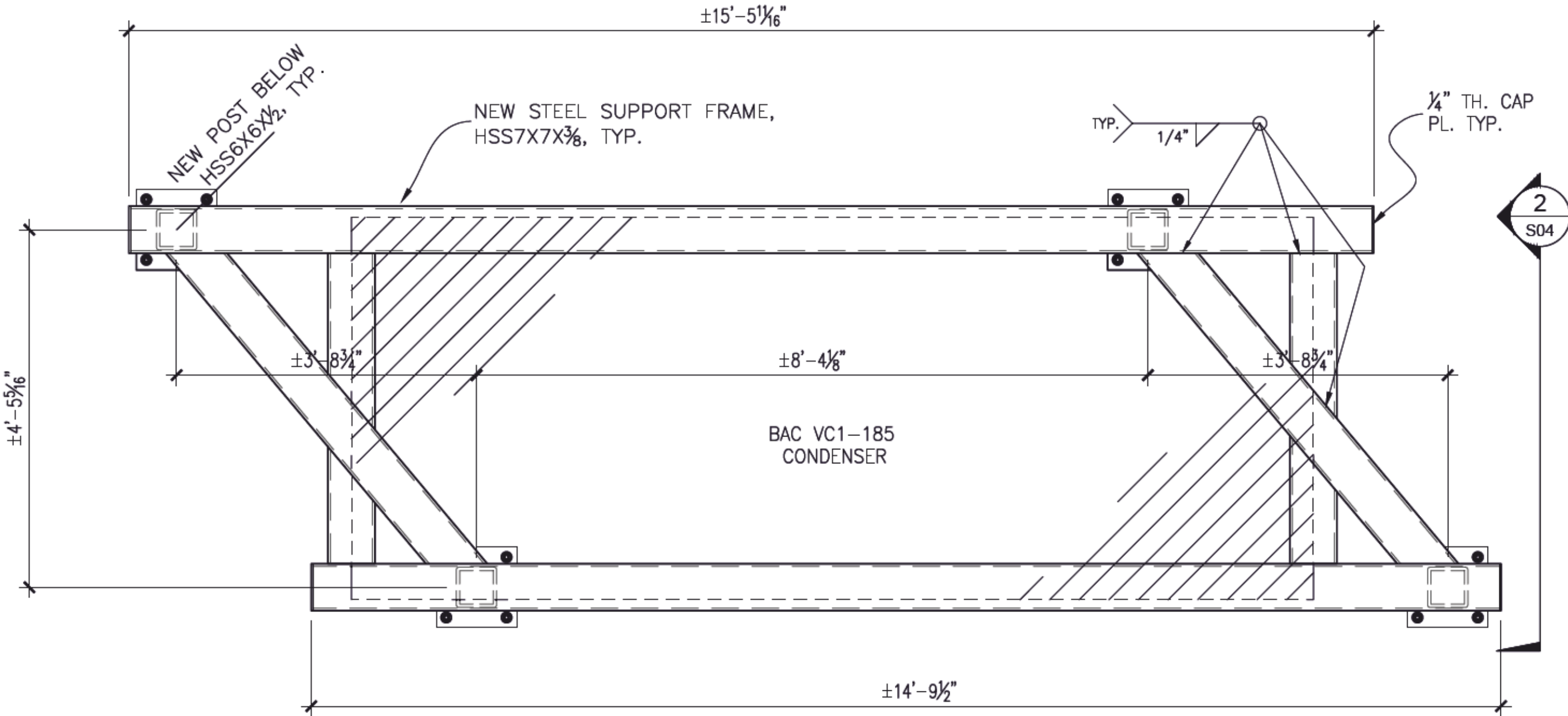
DRAWING TITLE:

**NEW SUPPORT FRAME
LAYOUT & DETAILS**

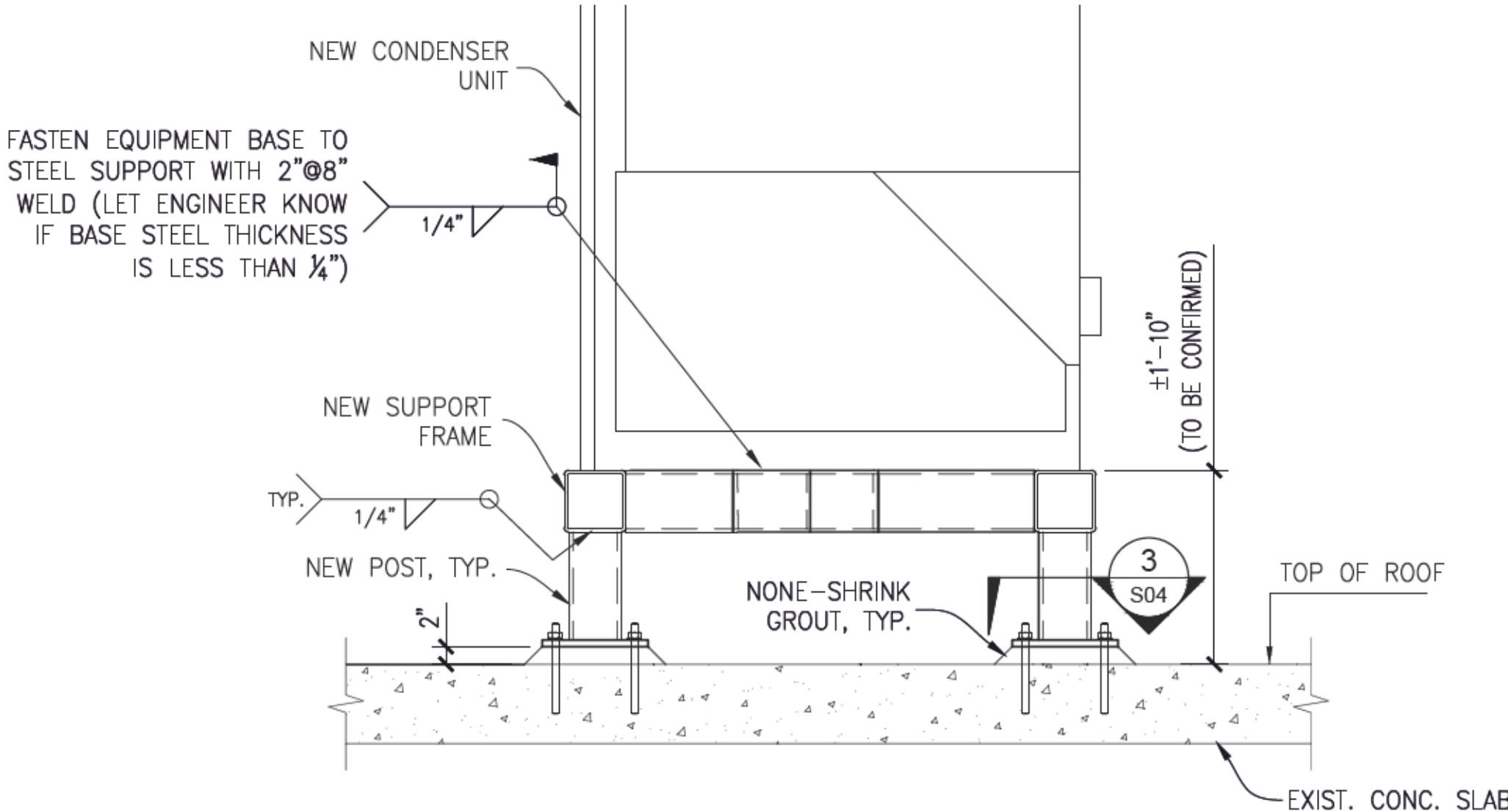
DRAWN BY: RG	SHEET No. S04
CHECKED BY: DT	
DATE: JAN. 2022	
SCALE: AS SHOWN	
PROJECT No: 221-289	

NOTE:

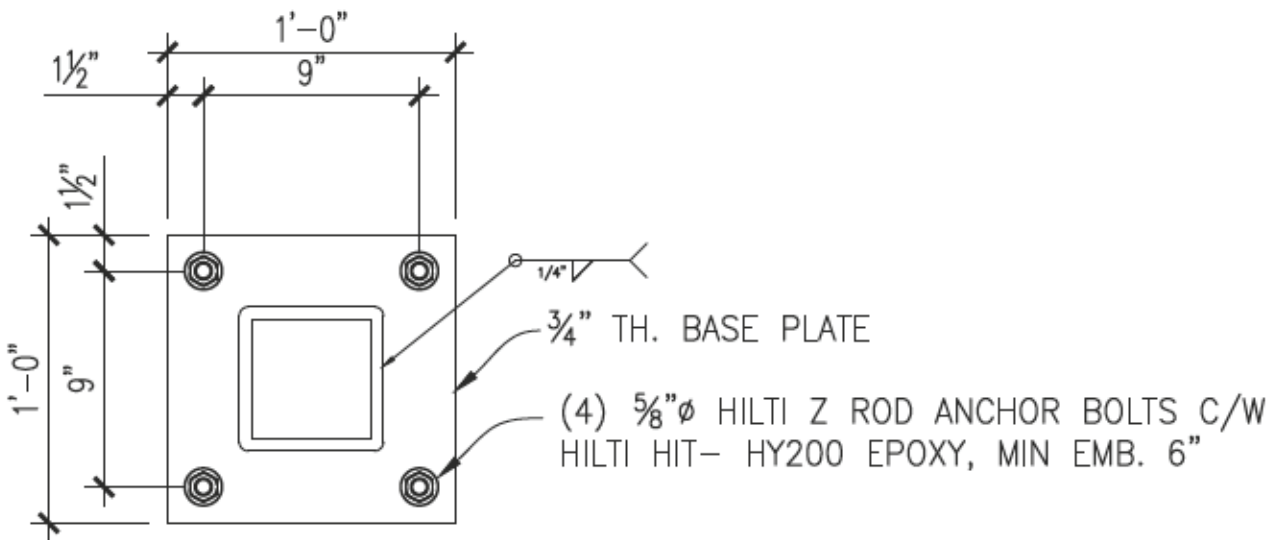
FIELD CONFIRM ALL DIMENSIONS PRIOR TO CONSTRUCTION.



1 NEW STEEL SUPPORT FRAME LAYOUT
S04 NOT TO SCALE



2 NEW STEEL SUPPORT FRAME SECTION
S04 NOT TO SCALE



3 BASE PLATE DETAIL
S04 NOT TO SCALE

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART B - TERMS AND CONDITIONS OF ITT PROCESS

1.0 DEFINITIONS AND INTERPRETATION

1.1 Definitions

The following capitalized terms have the meanings set out below when used in the Tender Documents, unless the context requires otherwise:

- (a) **“City”** means the City of Vancouver;
- (b) **“Closing Time”** has the meaning set out on the cover page of this ITT;
- (c) **“Contract”** means a contract substantially in the form of Part D - Form Agreement, to be entered into between the City and a successful Tenderer;
- (d) **“Contractor”** means a Tenderer, the Tender of which (or at least one offer contained within which) the City has accepted, and which Tenderer has consequently entered into a Contract;
- (e) **“Consultant”** means the architect, engineer or other professional consultant who will act as the City’s agent for the purpose of managing and administering a Contract, who may be an employee of the City or an independent consultant engaged by the City on its behalf;
- (f) **“Drawings”** means the portion of the Tender Documents consisting of the graphic and pictorial representations of the Work or Work requirements;
- (g) **“Form of Tender”** means the form of tender in Part C - Form of Tender to this ITT on which Tenderers are to complete their Tenders;
- (h) **“GST”** means the tax payable and imposed pursuant to Part IX of the *Excise Tax Act* (Canada), as amended or replaced from time to time;
- (i) **“Information and Privacy Legislation”** includes the *Freedom of Information and Protection of Privacy Act* (British Columbia) and the regulations thereunder;
- (j) **“Losses”** means, in respect of any matter, all:
 - (i) direct and indirect; and
 - (ii) consequential,

claims, demands, proceedings, losses, damages, liabilities, deficiencies, costs and expenses (including without limitation, all legal and other professional fees and disbursements, interest, penalties and amounts paid in settlement, whether from a third person or otherwise);
- (k) **“Notice of Award”** has the meaning set out in Part C - Form of Tender;
- (l) **“Notice to Proceed”** has the meaning set out in Part C - Form of Tender;

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART B - TERMS AND CONDITIONS OF ITT PROCESS

- (m) **"PST"** means the provincial sales tax payable and imposed pursuant to the *Provincial Sales Tax Act* (British Columbia), as amended or replaced from time to time;
- (n) **"Site"** has the same meaning as "Place of the Work," as defined in the Form of Agreement;
- (o) **"Specifications"** means the portion of the Tender Documents consisting of the written requirements and standards for products, systems, workmanship, quality, and the services necessary for the performance of the Work;
- (p) **"Tender"** means a tender submitted to the City in response to this ITT;
- (q) **"Tender Contract"** means the contract between the City and each Tenderer governing the ITT process;
- (r) **"Tender Documents"** means the documents identified as such in Part A - Introduction;
- (s) **"Tenderer"** means an entity eligible to participate in this ITT process, or as used in Part C - Form of Tender, a particular such entity;
- (t) **"Tender Price"** means the amount stipulated by the Tenderer in the space provided therefor in the Form of Tender, including all applicable taxes, which price, for greater certainty, is the Tenderer's proposed Contract Price to complete all of the Work; and
- (u) **"Work"** means the total construction and related services required by the Tender Documents;

All other capitalized terms used in this ITT have the meanings given to them elsewhere in the ITT.

1.2 Interpretation

- (a) In the Tender Documents, any reference to the masculine, the feminine or the neuter includes the others unless the context requires otherwise. Also, any reference to the singular includes the plural where appropriate.
- (b) If there is a conflict between or among (i) the Specifications and Drawings and (ii) the other Tender Documents, the other Tender Documents shall prevail over the Specifications and Drawings.
- (c) In these Tender Documents, the word "should" and the terms "is asked to" and "are asked to" are used to denote actions or Tender inclusions that, while not mandatory, are strongly recommended. In contrast, the terms "will", "shall", "must", "is to", "are to", "is required to" and "are required to" are used to denote mandatory requirements of the ITT. If a Tenderer is uncertain as to whether or not a particular action or Tender inclusion is mandatory, the Tenderer should submit an inquiry to the Contact Person.

2.0 SUBMISSION INSTRUCTIONS

- 2.1 Each Tenderer must complete its Tender on the Form of Tender and submit its Tender in accordance with the instructions set forth on the cover page of the ITT and elsewhere herein.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART B - TERMS AND CONDITIONS OF ITT PROCESS

- 2.2 Any Tender received after the Closing Time may be returned unopened to the Tenderer.
- 2.3 Faxed Tenders and/or other documents will not be accepted.
- 2.4 Each Tender must be signed by an authorized signatory or authorized signatories of the Tenderer (as necessary for due execution on behalf of the Tenderer). Each Tender by a company or partnership should specify the full legal name of the legal entity submitting the Tender.
- 2.5 All blank spaces in the Form of Tender should be filled in and all schedules completed. Any failure by a Tenderer to complete the Form of Tender may result in preference being given to competing Tenderers. All prices and notations should be legibly written in a non-erasable medium. Erasures, interlineations or other corrections should be initialled by an authorized signatory of the Tenderer.
- 2.6 Subject to any alternatives or options in respect of which the City requests pricing or other information in a Schedule to the Form of Tender, Tenders are to be all inclusive and without qualification or condition.
- 2.7 The City may, at any time and for any reason, extend the Closing Time by means of a written amendment published on the City's website, as set out in Part A - Introduction.
- 2.8 A Tenderer that has already submitted a Tender may amend its Tender prior to the Closing Time: a) by submitting an amendment identifying a plus or minus variance to the Tenderer's Tender Price or the Tenderer's price for a subset of the Work (if, in the latter case, Section 1.0 of the Form of Tender requests that, in addition to offering a Tender Price for all of the Work, the Tenderer offer prices for subsets of the Work); or b) by sending in a completely new Tender, clearly indicating it replaces the previously submitted Tender. Any such revision must clearly identify the ITT number and the Closing Time. A Tender revision submitted as aforesaid shall effectively amend the Tender and the City shall only review and evaluate the Tender as amended.
- 2.9 The City will not be responsible for any cost incurred by any Tenderer in preparing a Tender.

3.0 BONDS

- 3.1 Tenders will be irrevocable and each offer made therein shall remain open for acceptance by the City for a period of ninety (90) calendar days after the Closing Time. Each Tender must be accompanied by a bid bond valid for a period of ninety (90) calendar days commencing on the Closing Time, payable to the "City of Vancouver, in the amount of ten percent (10%) of the Tender Price, and not a dollar amount, as a guarantee of the due execution of a Contract and the delivery of the performance bond and labour and material payment bond required by the Form of Tender. The forms of these bonds are to be those issued by the Canadian Construction Documents Committee as follows:

Bid Bond:	CCDC 220 (latest)
Performance Bond:	CCDC 221 (latest)
Labour and Material Payment Bond:	CCDC 222 (latest)

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- 3.2 A bid bond must be submitted in an electronic or digital format and must meet the following criteria:
- (a) The version submitted by the Tenderer must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures; all digital seals; with the surety company, or an approved verification service provider of the surety company.
 - (b) The version submitted must be viewable, printable and storable in standard electronic file formats acceptable to the City, and in a single file. Allowable formats include pdf.
 - (c) The verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
 - (d) The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding Section 3.2(a).]
- 3.3 Bonds failing the verification process will NOT be considered to be valid. Bonds passing the verification process will be treated as original and authentic.
- 3.4 Each Tender must be accompanied by a “Consent of Surety”, substantially in the form provided as a schedule to the Form of Tender, duly completed by a surety company authorized and licensed to carry on business in British Columbia.
- 3.5 The bid bonds of unsuccessful Tenderers will be returned to them upon request at any time after the Contract is awarded. The bid bond of the Tenderer to whom the award is made will be returned upon request of the Tenderer following: execution of the Contract; delivery of a performance bond for 50% of the Tender Price (or the aggregate tendered price for the subset(s) of the Work in respect of which a Notice of Award has been given) and a labour and material payment bond for 50% of such price; commencement of the Work; and compliance with any other conditions set out in the Form of Tender. The cost of all bond premiums must be included in the Tender Price.
- 3.6 All bonds must be issued by a surety company authorized and licensed to carry on business in British Columbia.

4.0 TENDER PRICE

- 4.1 Subject to any adjustment for changes to the Work, which is approved by the City in accordance with the Tender Documents or Contract Documents, the Tender Price shall be the maximum compensation owing to the Contractor for the Work (and each tendered price for any subset of the Work referred to in Section 1.0 of the Form of Tender (if applicable) shall be the maximum compensation owing to the Contractor for such subset of the Work) and the Contractor’s compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing and all other costs and expenses whatsoever incurred in performing the Work (or the relevant subset of the Work).

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- 4.2 If unit prices or other price breakdowns are requested in a schedule to the Form of Tender, such information **must** be included in the Tender. Furthermore, if such unit prices or other price breakdowns are requested in a schedule to the Form of Tender, such amounts may be used to compute interim progress payments and will be reviewed by the City in its evaluation of Tenders; therefore Tenderers should ensure that such amounts accurately reflect their costs for each item. A Tenderer may be required to justify any submitted unit price or other price breakdown.
- 4.3 If an itemized breakdown of the Tender Price (or of the tendered price for any subset of the Work) is requested in a schedule to the Form of Tender, the City may delete any items in order to meet any budget limitation and award a Contract for only the remaining items to a Tenderer who is agreeable thereto.
- 4.4 If Section 1.0 of the Form of Tender requests that, in addition to offering a Tender Price for all of the Work, each Tenderer offer prices for subsets of the Work, then, each such offer made in respect of a subset of the Work by a Tenderer shall be irrevocable to the same extent as, and otherwise subject to all of the same terms and conditions as, the Tenderer's offer to complete all of the Work for the Tender Price. If Tenders are made in respect of subsets of the Work, the City may award a Contract for all of the Work to one Tenderer or it may award multiple Contracts to different Tenderers in respect of particular subsets of the Work. The City may also determine, in order to meet any budget limitation, to award Contract(s) only in respect of one or more, but not all, of the subsets of Work described in Section 1.0 of the Form of Tender. Tenderers are advised that the City is not bound to award any Contract to the Tenderer offering to complete the Work, or offering to complete any subset of the Work, for the lowest price. Without limiting the foregoing, the City may split the award of Contracts even though the aggregate Contract price is higher than any particular Tenderer's Tender Price.

5.0 ACCEPTANCE OF TENDERS

- 5.1 Despite anything to the contrary contained in the Tender Documents:
- (a) Tenderers are notified that the lowest or any Tender (or the lowest price offered for any particular subset of the Work, if applicable) need not necessarily be accepted and the City reserves the right to reject any and all Tenders at any time, or cancel the ITT process, without further explanation or to accept any Tender (or any offer made within a Tender) that is considered advantageous to the City.
 - (b) Acceptance of any offer made within a Tender is contingent on funds being approved and a contract award being made by, or pursuant to authority delegated by, Vancouver City Council and the compliance of the Tenderer with the conditions required to be satisfied upon receipt of a Notice of Award.
 - (c) Tenders which fail to conform to the Tender Documents may or may not be disqualified or rejected. The City may or may not waive any non-compliance with the Tender Documents, including any material non-compliance, irregularity or anomaly, and including any non-compliance as to the timing of delivery of anything required by the Tender Documents, and may at its sole discretion elect to retain for consideration Tenders which are non-conforming because they do not contain the content or form required by the Tender Documents or because they have not complied with the process for submission set out in this ITT.

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- (d) Where the City is of the view, in its sole discretion, that there is an ambiguity or other discrepancy which cannot be discerned or resolved from examining the contents of a Tender, then whether or not such an ambiguity or discrepancy actually exists on the face of the Tender, the City may, prior to any Contract award, solicit clarification from the Tenderer or accept clarification from the Tenderer on any aspect of the Tender. Such clarification may include the acceptance of any further documents or information which will then form part of the Tender. The soliciting or accepting of such clarification (whether or not solicited) by the City will be without any duty or obligation of the City to advise any other Tenderers or to allow them to vary their tendered price(s) as a result of the acceptance of clarification from any one or more Tenderers and the City will have no liability to any Tenderer as a result of such acceptance of clarification.
- (e) The award of any Contract will be based on an evaluation of the Tenders by the City to determine which, in the City's opinion, offer the best overall value to the City. The City expects to place the greatest emphasis on price; however, the City may take into account other factors affecting value, including those concerning quality, service or sustainability, or Tenderers' past work, reputations or experience. The City may also focus, where relevant, on the overall net impact of a Tender (or an offer therein) on the finances of the City (including both capital and operating costs). Therefore, the City may accept a Tender other than the lowest Tender.
- (f) If the City determines that all Tender Prices are too high, all Tenders may be rejected.
- (g) The City may, prior to any Contract award, agree, with the Tenderer considered to provide best value or any one or more Tenderers, to certain changes to the scope of the Work or certain changes to Contract conditions, in each case without having any duty or obligation to advise any other Tenderers or to allow them to vary any tendered prices as a result of such changes, and the City will have no liability to any other Tenderer as a result of such changes. However, each Tender must be a tender in respect of the Work set forth herein, to complete that Work (or to complete subsets of that Work, if so specified in Section 1.0 of the Form of Tender) under an agreement in the form of the Form of Agreement included as Part D of the ITT, and not propose variations thereto.
- (h) Each Tenderer acknowledges and agrees that the City will not be responsible for Losses incurred by the Tenderer as a result of or arising out of submitting a Tender, or due to the City's acceptance or non-acceptance of its Tender, or any part thereof, or any breach by the City of the Tender Contract between the City and the Tenderer, or arising out of any Contract award not being made in accordance with the express or implied terms of the Tender Documents.
- (i) The City may award a Contract on the basis of policies and preferences not stated in the Tender Documents or otherwise than as stated in the Tender Documents.
- (j) Prior to any Contract award, a Tenderer may be required to demonstrate financial stability. Should the City so request, a Tenderer may be required to provide annual financial reports or a set of financial statements prepared by an accountant.
- (k) City guidelines or policies that may be applicable to the ITT will not give rise to legal rights on the part of any Tenderer, Contractor, subcontractor, supplier, or other person as against the City and will in no case create any liability on the part of the City. For

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certainty, the City's Procurement Policy, as amended or replaced from time to time, is now agreed to be an internal guideline document and creates no legal rights or obligations with respect to this ITT.

- (l) The City may reject any Tender by a Tenderer that has engaged in collusion with another Tenderer or otherwise attempted to influence the outcome of the ITT other than through the submission of its Tender.
- (m) The City may elect, in its sole discretion, to accept for consideration Tenders that contain conditions or qualifications that are in the nature of corrections of typos or resolutions of internal inconsistencies in this ITT or the Form of Agreement in Part D, or that represent immaterial changes to the Form of Agreement in Part D and do not consist of changes of substance or changes to allocations of risk, or with respect to the scope of any Work, that are for the avoidance of doubt only and do not suggest any deviation from the requirements of the ITT. This Section 5.1(m) is a reservation of rights for the benefit of the City and no Tenderer may rely on this paragraph to qualify its Tender.

6.0 AWARD OF CONTRACT

- 6.1 Award of a Contract will be subject to approval by, or pursuant to authority delegated by, Vancouver City Council and the Tenderer's compliance with the conditions required to be met upon receipt of the Notice of Award.
- 6.2 Any successful Tenderer will become a Contractor and will be required to sign a Contract with the City, subject to any amendments approved by the City in writing.

7.0 EXAMINATION OF TENDER DOCUMENTS

- 7.1 Each Tenderer should examine the Tender Documents and must also satisfy itself of the extent of the Work. Each Tenderer must make its own estimate of the facilities and difficulties attending the performance and the completion of Work.
- 7.2 No allowance will be made on behalf of a Contractor for any error, omission or negligence on the Contractor's part or for non-compliance with the requirements of the foregoing clause 7.1.

8.0 SITE EXAMINATION/PRE-SUBMISSION DUE DILIGENCE BY TENDERER

- 8.1 Tenderers should make a careful examination of the Site and investigate and satisfy themselves at their own risk and expense as to all matters relating to the nature and extent of Work, the means of access to the Site, the extent of required coordination with public use of adjacent areas, and any and all matters which are referred to in the Specifications and Drawings and other Tender Documents, or which are necessary for the full and proper completion of any Work or are required by the conditions under which it must be performed. No allowance will be made subsequently for any error, negligence, interpretation, or misinterpretation on a Contractor's part.
- 8.2 The City and the Consultant do not make any representations or warranties concerning the completeness or accuracy of Site and geotechnical information (if any) provided in or with the Tender Documents, and each Tenderer must evaluate such information as part of its overall assessment of actual Site conditions.

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- 8.3 If any Tenderer wishes to evaluate any Site conditions, and, for that purpose, requires access or documents from the City beyond the access and documents already provided for in this ITT, the City encourages the Tenderer to submit a written request to the City as far in advance of the Closing Time as is possible. The City will then consider whether or not to facilitate the request. In response to such a request, the City may elect to, itself, undertake a particular study and distribute the results to all Tenderers.

9.0 INTERPRETATION AND CLARIFICATIONS

- 9.1 If any Tenderer is in doubt as to the correct interpretation of any part of the Specifications, Drawings, or other Tender Documents, the Tenderer should request an interpretation of the same from the City by the time stated in Part A - Introduction, Section 6.3. In the absence of such a request, the Tenderer's Tender will be presumed to be based upon the interpretation that may be subsequently given in accordance with the Contract Documents, after award of a Contract.
- 9.2 Prior to the Closing Time, requests for clarification of the Specifications, Drawings, or other Tender Documents may be answered in writing by the City and sent to all prospective Tenderers who have submitted a Response Notification Form on or before the indicated deadline. The City is not responsible for any other explanations or interpretations of the Specifications, Drawings or other Tender Documents.

10.0 PRODUCT APPROVAL

- 10.1 Wherever any material, machinery, equipment or fixture (any "**Product**") is specified or shown in the Tender Documents by reference to a proprietary item, product or model number, catalogue number, manufacturer or trade name or similar reference, each Tenderer obligates itself to submit its Tender and, if applicable, accept award of a Contract based upon the use of such Product. Use of any such reference in the Tender Documents is intended to establish the measure of quality which the City (or its Consultant) has determined to be requisite and necessary for the Work. Where two or more Products are shown or specified, the Contractor has the option of which to use.
- 10.2 For approval of Products other than those specified, a Tenderer should submit a request in writing to the City at least five business days prior to the Closing Time. Requests must clearly define and describe the Product for which approval is requested. Requests should be accompanied by manufacturer's literature, specifications, drawings, cuts, performance data or other information necessary to completely describe the items. Approval by the City will only be in the form of an addendum to the Specifications issued by the City.
- 10.3 Approvals of Products, as noted in clause 10.2 above, shall only be deemed effective insofar as the Products conform to the Specifications.

11.0 INSURANCE

- 11.1 Each Tenderer should ensure that it can maintain the insurance described in the Form of Agreement (Part D).
- 11.2 The Tenderer should complete and submit the "Certificate of Existing Insurance" attached as a Schedule to the Form of Tender, together with the "Undertaking of Insurance" attached as a Schedule to the Form of Tender.

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- 11.3 Following Contract award, a successful Tenderer will be required to complete a certificates of insurance for the Work (or the particular subset of the Work in respect of which the Contract is made), in the forms attached as a schedule to the Form of Tender.

12.0 WORKSAFEBC

- 12.1 The Tenderer should ensure that it can comply with all WorkSafeBC requirements, as described in the Form of Agreement (Part D).

13.0 LABOUR RATES AND EQUIPMENT

- 13.1 Tenderers must provide, if requested in a schedule to the Form of Tender, the force account labour and equipment rates setting out the all-inclusive hourly rates for all applicable types of equipment as well as the all-inclusive hourly rates for all applicable categories of labour, which rates will then apply pursuant to any Contract.

14.0 LISTS OF SUBCONTRACTORS AND SUPPLIERS

- 14.1 Tenderers should provide, if requested in a schedule to the Form of Tender, lists of proposed subcontractors and suppliers, specifying the name and address of, and the portion of the Work to be completed by, or the equipment or materials to be supplied by, each proposed subcontractor or supplier.
- 14.2 The City reserves the right to object to any of the proposed subcontractors or suppliers listed in a Tender. If the City objects to a listed subcontractor or supplier, then the City will permit a Tenderer to propose a substitute subcontractor or supplier acceptable to the City. A Tenderer will not be required to make such a substitution and, if the City objects to a listed subcontractor or supplier, the Tenderer may, rather than propose a substitute subcontractor or supplier, consider its Tender rejected by the City and, by written notice, withdraw its tender. The City shall, in that event, return the Tenderer's bid security.

15.0 TAXES AND FEES

- 15.1 The successful Tenderer will be required to obtain and pay for any applicable municipal, provincial and federal permits and licences necessary for the proper completion of the Work. The City will not be liable in any manner for the same, and the successful Tenderer agrees to indemnify and save the City harmless from and against all claims and Losses in relation to obtaining and paying for any applicable municipal, provincial and federal permits and licences necessary for the proper completion of the Work.
- 15.2 Each Tenderer's Tender Price (and each other price offered by the Tenderer in its Tender, if applicable) must, unless otherwise expressly stated, be inclusive of all applicable municipal, provincial, federal and other taxes, and all customs and excise duties and other assessments and charges, including sales taxes assessed upon the sale of goods and services to the City under the Contract, and the successful Tenderer agrees to indemnify and save the City harmless from and against all claims which shall be made with respect thereto.

16.0 NON-RESIDENT WITHHOLDING TAX

- 16.1 Tenderers are advised that, if the Contractor is not a resident of Canada, federal tax legislation may require that a certain percentage of any Contract Price otherwise payable to the

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Contractor be withheld by the City and remitted to the Receiver-General for Canada. The percentage required to be withheld and remitted varies depending on, among other things, the country of residence, the provisions of any applicable tax treaties and the nature of the payment. Non-resident Tenderers may contact the Vancouver office of the Canada Revenue Agency for further details. Under any Contract, any and all money so withheld and remitted shall be treated as a payment to the Contractor against the Contract Price.

17.0 NO CLAIM AGAINST THE CITY

- 17.1 The Tenderer acknowledges and agrees that the City will not be responsible for any Losses incurred by the Tenderer, including, without limiting the generality of the foregoing, any Losses incurred by the Tenderer directly or indirectly caused by any act or omission of the City or breach of any agreement or duty by the City, express or implied, and by submitting a Tender each Tenderer shall be deemed to have agreed that it has no claim whatsoever.
- 17.2 The Tenderer now indemnifies and will protect and save the City and any of its employees, advisors or representatives (including the Consultant) harmless from and against all Losses, in respect of any claim or threatened claim by any of its subcontractors, or materials or equipment suppliers alleging or pleading:
- (a) a breach of the Tender Contract by the City or any of its employees, advisors or representatives (including the Consultant);
 - (b) an unintentional tort, of the City or any of its employees, advisors or representatives (including the Consultant), occurring in the course of conducting this ITT; or
 - (c) liability on any other basis related to the ITT or the Tender Contract.

18.0 DISPUTE RESOLUTION

- 18.1 Any dispute relating in any manner to this ITT, except only disputes arising between the City and any Tenderer to whom the City has made an award of a Contract, which arise under such Contract, will be resolved by arbitration in accordance with the *Commercial Arbitration Act* (British Columbia), amended as follows:
- (a) The arbitrator will be selected by the City's Director - Supply Chain Management;
 - (b) Sections 17.1 and 17.2 above will:
 - (i) bind the arbitrator, the Tenderer and the City; and
 - (ii) survive any and all awards made by the arbitrator; and
 - (c) The Tenderer will bear all costs of the arbitration.

19.0 CONFIDENTIALITY AND PRIVACY

- 19.1 Each Tender, once submitted to the City, will be held in accordance with the City's role as a public body required under Information and Privacy Legislation to protect or disclose certain types of records according to certain statutory rules. Each Tender, upon submission to the City, will be received and held in confidence by the City, unless and to the extent that it is or must be disclosed pursuant to Information and Privacy Legislation or other applicable legal

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requirements, and except that the City may publicly disclose information about or from Tenders, including without limitation names and prices, in the course of publicly reporting to the Vancouver City Council about the ITT.

- 19.2 If unsuccessful, a Tenderer, at the City's request, shall destroy or return all copies and originals (in any format or medium) of the Tender Documents.

20.0 RELEASE OF INFORMATION RESTRICTED

- 20.1 The release of information about Tenders is restricted. Tenderers can obtain information concerning the names of the other Tenderers who have submitted a Tender and the Tender Price shown on each Form of Tender at the following website within 48 hours of the Closing Time. However, no other information is anticipated to be disclosed by the City.

<http://vancouver.ca/doing-business/unverified-tender-results.aspx>

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PART C - FORM OF TENDER

Tender of:			
	Legal Name of Person, Partnership or Corporation (the “ Tenderer ”)		
Business Address:			
Postal or Zip Code:			
Cheques Payable to/Remit to Address:			
Postal or Zip Code:			
Key Contact Person:			
Telephone No.:			
E-mail:			
Tax registration numbers (as applicable):			
Dun & Bradstreet Number (if available):		WorkSafeBC Account Number:	
City of Vancouver Business License Number (or, if available, Metro West Inter-municipal Business License Number):		Date, Jurisdiction and Form of Organization (as applicable):	

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1.0 TENDER PRICE AND SCHEDULE

Having carefully read and examined the Tender Documents, and having agreed to the terms and conditions set out in Parts A and B of the ITT, the undersigned Tenderer (for purposes of this Tender, the "Tenderer") offers to complete the Work and to furnish all plant, tools, equipment, labour, products, material and supervision necessary therefor, and to enter into an agreement in the form of the Form of Agreement set forth as Part D of the ITT to execute the Work, for the Tender Price specified below.

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The Tender Price (including all costs, taxes and fees)(as per Schedule A), is
_____ dollars
and _____ cents (\$_____)

The Tender Price **includes all PST and GST.**

The Tenderer's offer to complete all of the Work is an offer made according to the following schedule:

- (a) Work will begin by **July 2, 2022**, subject to the City issuing a Notice to Proceed.
- (b) Substantial performance of the Work will occur by **August 31, 2022**.
- (c) Total performance of the Work will occur by **September 30, 2022**.

2.0 ELECTRONIC PAYMENTS ACKNOWLEDGEMENT

If awarded a contract, the Tenderer agrees that all payments to be made by the City will be by electronic funds transfer, and the Tenderer will provide the City with the necessary banking information to facilitate this process.

3.0 IRREVOCABILITY; NOTICE OF AWARD

The Tenderer agrees that each offer made by the Tenderer herein will be irrevocable and open for acceptance by the City for a period of ninety (90) calendar days commencing on the Closing Time, even if an offer of another Tenderer is accepted by the City. If within this period the City delivers a written notice by which the City accepts an offer of the Tenderer (a "**Notice of Award**"), the Tenderer will, within ten (10) Working Days (as defined in CCDC 2) of the receipt of the Notice of Award, deliver to the City:

- (a) a performance bond and a labour and material payment bond, each in the amount of fifty percent (50%) of the Tender Price [or the aggregate tendered price for the subset[(s)] of the Work in respect of which the Notice of Award is given, as referred to in Section 1.0 above, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the City;

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- (b) a detailed construction schedule consistent with the preliminary construction schedule included in this Tender, which indicates the timing of the major activities of the relevant Work and provides sufficient detail of the critical events and their inter-relationship to demonstrate such Work will be performed by the relevant completion date stated in this Tender;
- (c) a detailed traffic management plan addressing vehicular and pedestrian movement, safety and access with specific details of the methods, signage and materials used to maintain Site operations and access to staff and public users of the Site;
- (d) a detailed Site-specific safety and health plan addressing as a high-level overview the health and safety issues including, but not limited to hazards, mitigation measures, site orientations, safety meetings, first aid attendant requirements, and training requirements and record keeping;
- (e) a WorkSafeBC number and a “clearance letter” confirming that the Tenderer is in WorkSafeBC compliance;
- (f) a valid City of Vancouver business licence;
- (g) a completed Contractor's Pre-Contract Hazard Assessment Form (in the form of Schedule 9 to the Form of Agreement);
- (h) banking details to support payments by Electronic Funds Transfer (EFT); and
- (i) a completed and signed certificate of insurance (in the form attached as a schedule to this Form of Tender) indicating that all of the insurance coverage required by the Contract is in place.

4.0 NOTICE TO PROCEED

The Tenderer agrees that upon the City's receipt and acceptance (in the City's discretion) of the required submissions listed above, the Tenderer will, within two (2) Working Days, execute and return to the City the Contract and the other Contract Documents requiring execution (in each case, as prepared by the City for execution) and, upon the City's receipt and acceptance thereof, the City may deliver to the Tenderer a “Notice to Proceed”, and the Tenderer will:

- (a) commence the relevant Work within two (2) Working Days of the receipt of the Notice to Proceed or such longer time as may be otherwise specified in the Notice to Proceed; and
- (b) issue, post, and copy the City on the “Notice of Project” as and when required under section 20.2 of the *Occupational Health & Safety Regulation* (BC Regulation 296/97).

5.0 CONDITIONS

- (a) The Tenderer agrees that if the Tenderer receives a Notice of Award or a Notice to Proceed and fails or refuses to comply with the requirements stated in the foregoing clause 3.0 or clause 4.0, as the case may be, then such failure or refusal will be deemed to be a repudiation of the Tender Contract and refusal to enter into the

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relevant Contract and the City may, on written notice to the Tenderer, award the Contract to another party. It is further agreed that, as full compensation on account of damages suffered by the City because of such failure or refusal, the bid security shall be forfeited to the City in the amount equal to the lesser of:

- (i) the face value of the bid security; and
 - (ii) the amount by which the Tender Price is less than the amount for which the City contracts with another party to perform the Work.
- (b) The lowest or any submitted tender will not necessarily be accepted in relation to all or any of the Work. The City reserves the right to reject this Tender at any time without further explanation or to accept any Tender considered advantageous to the City.
- (c) The schedules attached to this Form of Tender form an integral part of the same.

6.0 ADDENDA, AMENDMENTS AND QUESTIONS AND ANSWERS

The Tenderer acknowledges receipt of the following addenda, amendments and questions and answers to the Tender Documents:

Addendum No.
Amendment No.
Questions and Answers No.

The Tenderer agrees that it thoroughly understands and accepts the terms and conditions contained therein.

7.0 CITY PRE-CONTRACT HAZARD ASSESSMENT

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The Tenderer acknowledges receipt of the completed City Pre-Contract Hazard Assessment (Schedule 8 of Part D - Form of Agreement), subject to GC 9.4.12, Schedule 1 of Part D - Form of Agreement.

8.0 CERTIFICATION

The Tenderer represents and warrants that this Tender complies in all respects with the Tender Documents.

9.0 LABOUR

The above stated price is based on the Work under the Contract being performed by union/non-union labour. (Delete "union" or "non-union" as applicable).

10.0 CONTRACT TERMS IN THE ITT

Without limitation, the Tenderer expressly agrees with the City to all of the terms and conditions set forth in Part A and Part B of the ITT and is bound thereby.

SIGNED on behalf of the Tenderer this _____ day of _____ 20____ by _____ the _____ duly authorized signatory or signatories of the Tenderer:

Per: _____

Name and Title: _____

Per: _____

Name and Title: _____

If the Tenderer has a corporate seal, the corporate seal should be applied in the space below:

If the Tenderer is an individual, a proprietorship or a partnership, the above signature(s) should be witnessed:

Witness signature

Witness name

Witness address

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SCHEDULE "A" (PART C - FORM OF TENDER)

SCHEDULE "A"

SCHEDULE OF QUANTITIES AND PRICES

EACH TENDER MUST COMPLETE THIS SCHEDULE A, AS AMENDED, IN FULL. EACH PAGE OF THIS SCHEDULE A MUST BE INITIALLED BY THE SIGNATORIES OF THE FORM OF TENDER. TENDERS MUST NOT BE SUBMITTED WITHOUT A COMPLETED, DULY EXECUTED SCHEDULE A.

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CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "A" (PART C - FORM OF TENDER)

The Tender Price to complete all of the Work is apportioned in accordance with the following table. The prices shown in each of the numbered rows of the table shall include (i) all labour, material and other costs, (ii) overhead and profit, (iii) PST, and (iv) all other taxes, duties, assessments, charges and fees, *except for GST*. GST shall be shown separately on the row provided therefor.

NOTE: Prices must be PST-inclusive. Only GST is to be shown as a separate line item.

The sum of the amounts shown in the table below **MUST** equal the Tender Price stipulated in the space provided in the Form of Tender which, for greater certainty, is the Tenderer's proposed Contract Price for a Contract to complete all of the Work.

EVERY ROW OF THE BELOW TABLE MUST BE COMPLETED WITH A DOLLAR AMOUNT, EVEN IF THAT DOLLAR AMOUNT IS \$0.

Base Price

Bid Breakdown	Total Amount (Including PST)
Replacement of Condenser and Related Works at the Britannia Arena as per Drawings and Specifications.	\$
Others (contingency, allowances and any other work or costs not reflected in the items above but required to complete the work).	\$
Total	\$

**INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "B" (PART C - FORM OF TENDER)**

SCHEDULE "B"

PRELIMINARY CONSTRUCTION SCHEDULE

The Work is expected to begin by **July 2, 2022** and substantial performance is targeted for **August 31, 2022**. Please clearly define time requirements for project milestones identified in the table below. If necessary, please add an attachment to this Schedule.

TABLE 1 - PROJECT MILESTONES	
Milestone	Date of Completion

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT No. PS20220548, FORM OF TENDER - SCHEDULE B", and is to be signed by the Tenderer.

**INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "C" (PART C - FORM OF TENDER)**

SCHEDULE "C"

SUBCONTRACTORS AND SUPPLIERS

1.0 SUBCONTRACTORS

The Tenderer intends to use the following subcontractors for the portions of the Work identified below. (The City of Vancouver supports supplier diversity and intends to create economic opportunities to businesses that are majority owned/controlled/certified by under-represented populations including but not limited to Women, Indigenous Peoples, Ethno-cultural People of Color, persons with disabilities or LGBTQ+ people. List all subcontractors who are proposed to perform any portion of the Work and whether they are social/diverse businesses.)

Subcontractor	Address	Type of Work	Type of Social/Diverse Business (Women, indigenous, etc.)

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT No. PS20220548, FORM OF TENDER - SCHEDULE C", and is to be signed by the Tenderer.

**INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "C" (PART C - FORM OF TENDER)**

2.0 SUPPLIERS

The Tenderer intends to use the following suppliers and manufacturers for [describe relevant portions of the Work].

Supplier	Manufacturer	Supplier Address	Item

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT No. PS20220548, FORM OF TENDER - SCHEDULE C", and is to be signed by the Tenderer.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "D" (PART C - FORM OF TENDER)

SCHEDULE "D"

TENDERER'S EXPERIENCE WITH RELATED WORK

Tenderers should confirm that they and their proposed subcontractors have the required experience to perform the Work. Each Tenderer should submit information concerning a minimum of **three (3)** completed projects (similar in scope and size to the Work or to any particular subset of the Work in respect of which separate offers are requested in Section 1.0 of the Form of Tender, if applicable), for each of itself and its proposed subcontractors, including the following information:

Reference #1

Description of Project:

Location of Project:

Contract Value:

\$

(Cdn. Dollars)

Start and Completion Dates:

Completed on Schedule?

Yes

No

(Circle Correct Response)

Name of Contract City:

Name of Project Reference:

Current Telephone Number and E-mail of Project Reference:

Names of Key Personnel and Subcontractors:

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "D" (PART C - FORM OF TENDER)

Reference #2

Description of Project:

Location of Project:

Contract Value:

\$

(Cdn. Dollars)

Start and Completion Dates:

Completed on Schedule?

Yes

No

(Circle Correct Response)

Name of Contract City:

Name of Project Reference:

Current Telephone Number and E-mail of Project Reference:

Names of Key Personnel and Subcontractors:

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Name of Tenderer

Initials of Signing Officer

**INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "D" (PART C - FORM OF TENDER)**

Reference #3

Description of Project:

Location of Project:

Contract Value:

\$

(Cdn. Dollars)

Start and Completion Dates:

Completed on Schedule?

Yes

No

(Circle Correct Response)

Name of Contract City:

Name of Project Reference:

Current Telephone Number and E-mail of Project Reference:

Names of Key Personnel and Subcontractors:

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT No. PS20220548, FORM OF TENDER - SCHEDULE D", and is to be signed by the Tenderer.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "E" (PART C - FORM OF TENDER)

SCHEDULE "E"

FORCE ACCOUNT LABOUR & EQUIPMENT RATES

Tenderers should complete the following tables setting out the all-inclusive hourly rates for all applicable types of equipment as well as the all-inclusive hourly rates for all applicable categories of labour, which rates will then apply pursuant to any Contract.

TABLE 1 - SCHEDULE OF LABOUR RATES

Job Classification	Regular Rate	Overtime Rate
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$

TABLE 2 - SCHEDULE OF EQUIPMENT RATES

No.	Equipment Description	Hourly Rate	No. of Hours	Overhead And Profit	Total Price
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$

Labour and equipment rates must be inclusive of all taxes except for GST, and all assessments, benefits, small tools, overhead and profits.

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT No. PS20220548, FORM OF TENDER - SCHEDULE E", and is to be signed by the Tenderer.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "F" (PART C - FORM OF TENDER)

SCHEDULE "F"

FORM OF CONSENT OF SURETY

PROJECT: _____

Should it be required, we the undersigned Surety Company do hereby undertake to become bound as a surety in an approved Contract Performance Bond and Labour and Material Payment Bond, each in the amount of fifty percent (50%) of the awarded Contract Price for the fulfillment of a Contract, which may be awarded to _____ at the Tender Price (or another offered price) set forth in the attached Tender, which Performance Bond and Labour and Material Payment Bond we understand are to conform to the applicable CCDC forms and be filed with the City within 10 Working Days of receipt of Notice of Award of a Contract, unless otherwise directed by the City.

We hereby further declare that the undersigned Surety Company is legally entitled to do business in the Province of British Columbia and that it has a net worth over and above its present liabilities and the amounts herein set forth.

The Common Seal of _____
was hereto affixed in the presence of:

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "G" (PART C - FORM OF TENDER)

SCHEDULE "G"

SUSTAINABILITY

Social Sustainability

1. Describe your hiring practice of industry/sector/trade Apprenticeships and/or Skill Training

--

2. Please describe if/how your improving diversity by hiring or employing under-represented populations in trades (such as Indigenous persons, Women , youth, Minorities, People with Disabilities including mental health)

--

Environmental Sustainability

1. Toxicity (water/air)

Please list any products or services contemplated in the Tender that are toxic or hazardous to the environment or humans and complete the following table in relation thereto.

Item	Description of Toxin/Hazard	Substantiation for Use	Mitigation strategy to reduce or dispose the Toxin/Hazard

2. Waste

Please identify the Tenderer's standard practices for reduction, diversion or disposal of obsolete or expired materials, products or equipment.

Item	Type of Product/Equipment	Reduction, Diversion or Disposal Method

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "G" (PART C - FORM OF TENDER)

3. Emissions and Energy Use

Please identify the Tenderer's current or proposed solutions to reduce energy usage carbon emissions.

Item	Carbon Emissions/Energy Use	Solution to Reduce Energy and/or Emissions

4. Innovation/Alternative

Please identify any new or innovative sustainability practices that could replace any existing products or services

Item	Type of Product/Equipment/Service	Innovative/New Alternative	Cost implications

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "G" (PART C - FORM OF TENDER)

5. Please indicate if you are a member of or report to any sustainability groups

- ☐ Government(s)/Agencies
- ☐ Industry Association(s) ie. "industry-wide [environmental product declaration](#)"
- ☐ [CDP](#)
- ☐ Global certification system ie. [World Business Council for Sustainable Development](#)
- ☐ Other(s) ie. Concrete Sustainability Council

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "H" (PART C - FORM OF TENDER)

SCHEDULE "H"

CERTIFICATES OF INSURANCE

(TO BE COMPLETED IF AWARDED THE CONTRACT)

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "I" (PART C - FORM OF TENDER)

SCHEDULE "I"

CERTIFICATE OF EXISTING INSURANCE

(TO BE COMPLETED AND SUBMITTED WITH TENDER)



**CERTIFICATE OF EXISTING INSURANCE
TO BE COMPLETED AND APPENDED TO THE PROPOSAL/TENDER**

Section 2 through 8 – to be completed and executed by the Insurer or its Authorized Representative

1. **THIS CERTIFICATE IS ISSUED TO:** City of Vancouver, 453 W 12th Avenue, Vancouver, BC, V5Y 1V4
and certifies that the insurance policy (policies) as listed herein has/have been issued to the Named Insured and is/are in full force and effect.
2. **NAMED INSURED** (must be the same name as the proponent/bidder and is either an individual or a legally incorporated company)

BUSINESS TRADE NAME or DOING BUSINESS AS

BUSINESS ADDRESS

DESCRIPTION OF OPERATION

3. **PROPERTY INSURANCE (All Risks Coverage including Earthquake and Flood)**

INSURER _____	Insured Values (Replacement Cost) -
TYPE OF COVERAGE _____	Building and Tenants' Improvements \$ _____
POLICY NUMBER _____	Contents and Equipment \$ _____
POLICY PERIOD From _____ to _____	Deductible Per Loss \$ _____

4. **COMMERCIAL GENERAL LIABILITY INSURANCE (Occurrence Form)**

Including the following extensions:	INSURER _____
✓ Personal Injury	POLICY NUMBER _____
✓ Property Damage including Loss of Use	POLICY PERIOD From _____ to _____
✓ Products and Completed Operations	Limits of Liability (Bodily Injury and Property Damage Inclusive) -
✓ Cross Liability or Severability of Interest	Per Occurrence \$ _____
✓ Employees as Additional Insureds	Aggregate \$ _____
✓ Blanket Contractual Liability	All Risk Tenants' Legal Liability \$ _____
✓ Non-Owned Auto Liability	Deductible Per Occurrence \$ _____

5. **AUTOMOBILE LIABILITY INSURANCE** for operation of owned and/or leased vehicles

INSURER _____	Limits of Liability -
POLICY NUMBER _____	Combined Single Limit \$ _____
POLICY PERIOD From _____ to _____	<i>If vehicles are insured by ICBC, complete and provide Form APV-47.</i>

6. ☐ **UMBRELLA OR** ☐ **EXCESS LIABILITY INSURANCE** **Limits of Liability (Bodily Injury and Property Damage Inclusive) -**

INSURER _____	Per Occurrence \$ _____
POLICY NUMBER _____	Aggregate \$ _____
POLICY PERIOD From _____ to _____	Self-Insured Retention \$ _____

7. **PROFESSIONAL LIABILITY INSURANCE**

INSURER _____	Limits of Liability
POLICY NUMBER _____	Per Occurrence/Claim \$ _____
POLICY PERIOD From _____ to _____	Aggregate \$ _____
	Deductible Per Occurrence/Claim \$ _____

If the policy is in a "CLAIMS MADE" form, please specify the applicable Retroactive Date: _____

8. **OTHER INSURANCE**

TYPE OF INSURANCE _____	Limits of Liability
INSURER _____	Per Occurrence \$ _____
POLICY NUMBER _____	Aggregate \$ _____
POLICY PERIOD From _____ to _____	Deductible Per Loss \$ _____
TYPE OF INSURANCE _____	Limits of Liability
INSURER _____	Per Occurrence \$ _____
POLICY NUMBER _____	Aggregate \$ _____
POLICY PERIOD From _____ to _____	Deductible Per Loss \$ _____

SIGNED BY THE INSURER OR ITS AUTHORIZED REPRESENTATIVE

PRINT NAME OF INSURER OR ITS AUTHORIZED REPRESENTATIVE, ADDRESS AND PHONE NUMBER

Dated _____

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "J" (PART C - FORM OF TENDER)

SCHEDULE "J"

UNDERTAKING OF INSURANCE

To: City of Vancouver

Re: CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT

Dear Sirs:

We, the undersigned have completed, signed and attached the "Certificate of Existing Insurance" enclosed with this undertaking and now also do hereby undertake and agree that if _____ (the "Tenderer") is awarded a Contract, we will insure the Contractor in accordance with the requirements of the Contract, the form of which is included in the Tender Documents and will form part of the Contract Documents.

Dated at _____, British Columbia, this _____ day of _____ 20_____.

By: _____

Title: _____

Full Corporate Name of Insurer:

The "Certificate of Existing Insurance" provided with the ITT should be completed and signed and enclosed with this schedule, both of which are to be signed by the Insurance Company or an authorized broker on behalf of the Insurance Company. A SEPARATE FORM (AND CERTIFICATE OF EXISTING INSURANCE) SHOULD BE SIGNED FOR EACH POLICY IF THE TENDERER HAS MORE THAN ONE INSURER OR BROKER FOR ITS POLICIES.

**INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "K" (PART C - FORM OF TENDER)**

Schedule "K"
DECLARATION OF SUPPLIER CODE OF CONDUCT COMPLIANCE

Purpose: All proposed suppliers are to complete and submit this form to certify compliance with the supplier performance standards set out in the Supplier Code of Conduct.

The City of Vancouver expects each supplier of goods and services to the City to comply with the supplier performance standards set out in the City's Supplier Code of Conduct (SCC) <http://vancouver.ca/policy_pdf/AF01401P1.pdf>. The SCC defines minimum labour and environmental standards for City suppliers and their subcontractors.

Suppliers are expected to comply with the aforementioned standards upon submitting a tender, proposal, application, expression of interest or quotation to the City, or have a plan in place to comply within a specific period of time. The City reserves the right to determine an appropriate timeframe in which suppliers must come into compliance with these standards. To give effect to these requirements, an authorised signatory of each proposed vendor must complete the following declaration and include this declaration with its submission:

As an authorised signatory of _____(vendor name), I declare that I have reviewed the SCC and to the best of my knowledge, _____(vendor name) and its proposed subcontractors have not been and are not currently in violation of the SCC or convicted of an offence under national and other applicable laws referred to in the SCC, other than as noted in the table below (include all violations/convictions that have occurred in the past three years as well as plans for corrective action).

Section of SCC / title of law	Date of violation / conviction	Description of violation / conviction	Regulatory / adjudication body and document file number	Corrective action plan

I understand that a false declaration and/or lack of a corrective action plan may result in no further consideration being given to the submission of _____(vendor name).

Signature: _____

Name and Title: _____

**INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "L" (PART C - FORM OF TENDER)**

SCHEDULE "L"

CONFLICT OF INTEREST DECLARATION

NO CONFLICT OF INTEREST / NO COLLUSION / NO LOBBYING

Declaration as to no Conflict of Interest in ITT

- (a) The Tenderer confirms and warrants that there is no officer, director, shareholder, partner, employee or contractor of the Tenderer or of any of its proposed subcontractors, or any other person related to the Tenderer's or any proposed subcontractor's organization (a "person having an interest") or any spouse, business associate, friend or relative of a person having an interest who is:
- a. an official or employee of the City; or
 - b. related to or has any business or family relationship with an elected official or employee of the City,
- in each case, such that there could be any conflict of interest or any appearance of conflict of interest in the evaluation or consideration of the Tender by the City, and, in each case, except as set out, in all material detail in the section titled "Disclosure" in this Schedule "L".
- (b) The Tenderer confirms and warrants that there is no person having an interest (as defined above) who is a former official, former employee or former contractor of the City and who has non-public information relevant to the ITT obtained during his or her employment or engagement by the City, except as set out, in all material detail, in the section titled "Disclosure" in this Schedule "L".

Declaration as to No Conflict of Interest Respecting Proposed Supply

The Tenderer confirms and warrants that neither the Tenderer nor any of its proposed subcontractors is currently engaged in supplying (or is proposing to supply) goods or services to a third party such that entering into an agreement with the City in relation to the subject matter of the ITT would create a conflict of interest or the appearance of a conflict of interest between the Tenderer's duties to the City and the Tenderer's or its subcontractors' duties to such third party, except as set out, in all material detail, in the section titled "Disclosure" in this Schedule "L".

Declaration as to No Collusion

The Tenderer confirms and warrants that:

- (a) the Tenderer is not competing within the ITT with any entity with which it is legally or financially associated or affiliated; and
- (b) the Tenderer is not cooperating in any manner in relation to the ITT with any other tenderer responding to the ITT,

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE "L" (PART C - FORM OF TENDER)

in each case, except as set out, in all material detail, in the section titled "Disclosure" in this Schedule "L".

Declaration as to Lobbying

The Tenderer confirms and warrants that:

- (a) neither it nor any officer, director, shareholder, partner, employee or agent of the Tenderer or any of its proposed subcontractors is registered as a lobbyist under any lobbyist legislation in any jurisdiction in Canada or in the United States of America; and
- (b) neither it nor any officer, director, shareholder, partner, employee or agent of the Tenderer or any of its proposed subcontractors has engaged in any form of political or other lobbying whatsoever with respect to the Tender or sought, other than through the submission of the Tender, to influence the outcome of the ITT,

in each case, except as set out, in all material detail, in the section titled "Disclosure" in this Schedule "L".

Disclosure [Add disclosure here.]

(NOTE: The City will evaluate each matter disclosed to determine whether and to what extent the Tenderer can be given consideration in the ITT in light of the particular matter.)

THE TENDERER HAS EXECUTED AND DELIVERED THIS DECLARATION AS AN INTEGRAL PART OF ITS TENDER IN THE MANNER AND SPACE SET OUT BELOW:

Signature of Authorized Signatory for the Tenderer

Date

Name and Title

Signature of Authorized Signatory for the Tenderer

Date

Name and Title

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SAMPLE (PART D --FORM OF AGREEMENT)



INVITATION TO TENDER ("ITT") NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT

SAMPLE CONSTRUCTION AGREEMENT

between

[CONTRACTOR NAME]

and

CITY OF VANCOUVER

[DATE]

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
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INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART D - FORM OF AGREEMENT

CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT (the “**Agreement**”) dated for reference [\[insert date\]](#) is entered into

BETWEEN:

CITY OF VANCOUVER
453 West 12th Avenue
Vancouver, British Columbia V5Y 1V4

(the “**City**”)

OF THE FIRST PART

AND:

[\[INSERT NAME OF CONTRACTOR\]](#)
[\[insert address\]](#)

(the “**Contractor**”)

OF THE SECOND PART

BACKGROUND

- A. By way of an Invitation to Tender for Britannia Arena Condenser Replacement, the City requested tenders from general contractors to perform the Work.
- B. In response to the Invitation to Tender, the Contractor submitted a tender dated [\[insert date\]](#).
- C. After evaluating the tenders and obtaining necessary approvals, the City issued a Notice of Award to the Contractor, thereby creating this Contract with the Contractor for the Work based on the Contractor’s tender.

THE CITY AND THE CONTRACTOR NOW AGREE AS FOLLOWS:

ARTICLE A-1 THE WORK

The Contractor shall:

- 1.1 perform the Work required by the Contract Documents for Condenser Replacement at Britannia Arena, 1661 Napier Street in Vancouver, British Columbia (which is the Place of the Work), in respect of which Work JS Refrigeration Engineering Inc. is acting as, and is, the Consultant;
- 1.2 do and fulfill everything indicated by the Contract Documents; and

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART D - FORM OF AGREEMENT

- 1.3 commence the Work by the 2nd day of July, 2022 and, subject to adjustment to the Contract Time as provided for in the Contract Documents, attain Substantial Completion of the Project, as certified by the Consultant, by the 31st day of August, 2022, in accordance with the Project Schedule, included as a schedule to this Agreement.

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

- 2.1 The Contract supersedes all prior negotiations, representations, or agreements, either written or oral, relating in any manner to the Work, including the tender documents that are not expressly listed in Article A-3 of this Agreement.
- 2.2 The Contract may be amended only as provided in the Contract Documents.

ARTICLE A-3 CONTRACT DOCUMENTS

- 3.1 The following are the Contract Documents referred to in Article A-1 of this Agreement, whether or not attached to this Agreement:
- (a) this Agreement:
 - (b) the “Definitions” and “General Conditions of Stipulated Price Contract” contained within standard construction document CCDC 2 - Stipulated Price Contract, 2008 edition, not attached but incorporated by reference;
 - (c) the following schedules to this Agreement:
 - (i) Schedule 1 - Supplementary General Conditions (the “Supplementary General Conditions”)
 - (ii) Schedule 2 - List of Specifications and Drawings (the listed Specifications and Drawings are incorporated by reference);
 - (iii) Schedule 3 - Schedule of Prices (the “Schedule of Prices”);
 - (iv) Schedule 4 - Subcontractors and Suppliers;
 - (v) Schedule 5 - Project Schedule (the “Project Schedule”);
 - (vi) Schedule 6 - Performance and Labour and Material Payments Bonds;
 - (vii) Schedule 7 - Insurance Certificate;
 - (viii) Schedule 8 - City Pre-Contract Hazard Assessment Form
 - (ix) Schedule 9 - Contractor Pre-Contract Hazard Assessment Form
 - (x) Schedule 10 - Force Account Labour and Construction Equipment Rates (the “Schedule of Force Account Labour and Construction Equipment Rates”);

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART D - FORM OF AGREEMENT

- (d) the Form of Tender submitted by the Contractor, dated [insert], titled [insert] (incorporated by reference) (the “Form of Tender”);
- (e) the traffic management plan provided by the Contractor to the City (incorporated by reference);
- (f) the Place of the Work-specific safety and health plan provided by the Contractor to the City (incorporated by reference)
- (g) insert any other relevant documents to be incorporated by reference.

3.2 Capitalized terms used in the Contract Documents will have the meanings ascribed to such terms in the Contract Documents.

ARTICLE A-4 CONTRACT PRICE

- 4.1 The Contract Price to do, perform and supply all the Work in accordance with, and perform all the obligations specified by, the Contract Documents is [insert price without GST], plus GST of [insert amount], for a total Contract Price of [insert total amount, including GST].
- 4.2 The Contract Price is inclusive of GST, PST and all other taxes, and all duties assessments, charges and fees, permit and inspection costs, and WorkSafeBC assessments relating to the Work. For the avoidance of doubt, the Contract Price includes, without limitation, all PST on materials, other Products and Construction Equipment.
- 4.3 The PST, GST and other taxes, duties, assessments, charges and fees included in the Contract Price will be remitted by the Contractor to the applicable authorities as and when the City pays the Contract Price to the Contractor or as earlier required by applicable law.
- 4.4 All amounts are in Canadian dollars.
- 4.5 The Contract Price shall be subject to adjustments as provided for in the Contract Documents.
- 4.6 For purposes of the Contract Documents, “GST” means the tax payable and imposed pursuant to Part IX of the *Excise Tax Act* (Canada), as amended or replaced from time to time, and “PST” means the provincial sales tax payable and imposed pursuant to the *Provincial Sales Tax Act* (British Columbia), as amended or replaced from time to time.

ARTICLE A-5 PAYMENT

- 5.1 Subject to the terms and conditions of the Contract Documents, the City will pay the Contract Price to the Contractor in consideration of the performance of the Work.
- 5.2 The payment for any Work under this Contract made to the Contractor by the City will not be construed as an acceptance of any Work being in accordance with the Contract Documents.
- 5.3 Should either party fail to make payments as they become due under the terms of the Contract Documents, interest at the Bank Rate plus two percent (2%) per annum on such unpaid amounts will also become due and payable until payment. Such interest will be compounded on a monthly basis. The “Bank Rate” for these purposes is the rate established by the Bank of Canada from time to time as the minimum rate at which the Bank of Canada makes short term advances to Canadian chartered banks.

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
PART D - FORM OF AGREEMENT

ARTICLE A-6 RECEIPT OF AND ADDRESSES FOR NOTICES

6.1 Except as otherwise expressly provided in the Contract Documents, communications between the parties hereto or between them and the Consultant will be in writing and may be delivered by hand or sent by electronic transmission or by courier or registered mail:

(i) to the City at:

City of Vancouver
453 West 12th Avenue
Vancouver, British Columbia V5Y 1V4

Attention: **[insert name]**
[insert title]

Email: **[insert];**

(ii) to the Contractor at:

[insert name and address]; or

(iii) to the Consultant at:

[insert name and address]

or to such other person or address of which one party may advise the others in writing from time to time or at any time, and each such communication will be deemed to be received by the recipient:

- (A) on the date of delivery, if delivered by hand: to the individual, if the recipient is an individual; to a partner, if the recipient is a partnership; or to an officer of the corporation, if the recipient is a corporation; or
- (B) on the day following transmission, if sent by electronic transmission and confirmed by documentation of successful transmission or receipt of an email reply effectively acknowledging delivery; or
- (C) one Working Day after the date of confirmed delivery, if sent by courier or registered mail.

ARTICLE A-7 LAW OF CONTRACT

The laws of British Columbia will apply to and govern the Contract Documents and the courts of British Columbia will have jurisdiction over all disputes not resolved by mediation or arbitration.

ARTICLE A-8 SUCCESSORS AND ASSIGNS

The Contract shall enure to the benefit of and be binding upon the City and Contractor and their respective successors and permitted assigns.

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ARTICLE A-9 TIME OF THE ESSENCE

All time limits stated in this Contract are of the essence of the Contract.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the date first herein above written.

CITY OF VANCOUVER

by its authorized signatories:

Signature: _____

Name: _____

Title: _____

Signature: _____

Name: _____

Title: _____

[INSERT NAME OF CONTRACTOR]

by its authorized signatories:

Signature: _____

Name: _____

Title: _____

Signature: _____

Name: _____

Title: _____

Proof of authority in the form of a certified copy of a resolution naming the person or persons in question as authorized to sign the Agreement for and on behalf of the corporation or partnership, who are parties to this Agreement, shall be attached.

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SCHEDULE 1
SUPPLEMENTARY GENERAL CONDITIONS

(SUPPLEMENTARY GENERAL CONDITIONS ARE MODIFICATIONS TO CCDC 2 -2008)

INTRODUCTION

- 1.1.1 These Supplementary General Conditions amend the “Definitions” and the “General Conditions of the Stipulated Price Contract” contained within standard construction document CCDC 2 - Stipulated Price Contract, 2008 edition (“CCDC 2”), available for download at <http://www.ccdc.org/downloads/index.html>. Any reference in the Contract Documents to “General Conditions” or “GC” means the General Conditions contained in CCDC 2 as amended by these Supplementary General Conditions. Whenever there is a conflict between these Supplementary General Conditions and the other Contract Documents or wherever the Contract Documents are silent and these Supplementary General Conditions speak to a particular issue or matter, the provisions of these Supplementary General Conditions shall take precedence.
- 1.1.2 Unless the context dictates otherwise and to the extent not otherwise defined in the Contract Documents, capitalized terms used in these Supplementary General Conditions have the meanings given thereto in CCDC 2.
- 1.1.3 To the extent that the *Lien Act* (as defined below) expressly forbids parties from contracting out of all or some of the provisions of the *Lien Act* then, to the extent that those provisions of the *Lien Act* apply, such provisions of the *Lien Act* shall take precedence over any provision of the Contract Documents that is determined to contradict or contravene such provisions of the *Lien Act*, but only to the extent of such contradiction or contravention.

AMENDMENTS TO THE DEFINITIONS

The following amendments are made to the “Definitions” in CCDC 2:

Add the following at the end of paragraph 5 (the definition of “Contract”):

The Contract supersedes all prior negotiations, representations or agreements, either written or oral, except to the extent included in the Contract Documents or expressly incorporated by reference into the Contract by an actual reference to the same in Article A-3 of the Agreement - CONTRACT DOCUMENTS.

Delete paragraph 6 and replace with the following:

6. Contract Documents

The Contract Documents consist of those documents listed in Article A-3 of the Agreement - CONTRACT DOCUMENTS, those documents expressly incorporated by reference into the Contract by an actual reference to the same in Article A-3 of the Agreement - CONTRACT DOCUMENTS, and amendments agreed upon in writing between the parties together with all other documents, schedules and additions mutually agreed to or settled by the parties from time to time in respect of the Contract.

Delete the definition of Owner at paragraph 12 and replace with the following:

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“Owner” or “City”

“Owner” and “City” each mean the entity identified as the “City” in the Agreement (represented as stated therein or otherwise) or the City’s authorized agent or representative, as designated to the Contractor in writing. However, “Owner” and “City” each expressly do not include the Consultant and expressly do not include the City of Vancouver acting in its capacity as a municipal regulatory authority.

Delete the definition of Substantial Performance of the Work at paragraph 20 and replace with the following:

20. Substantial Performance of the Work

Substantial Performance of the Work shall have the same meaning as “substantial performance” of the Agreement, as determined under Section 1(2) of the *Lien Act*.

Delete the definition of Work at paragraph 25 and replace it with the following:

25. Work

Work means the total construction and related services required by the Contract Documents or properly inferable therefrom.

Add the following definitions:

27. Applicable Laws

Applicable Laws means all applicable federal, provincial and municipal laws, bylaws, codes, rules, regulations, policies and requirements applicable to the Work and the Project.

28. Certificate of Completion

Certificate of Completion means the certificate under section 7 of the *Lien Act* stating that work under a contract or subcontract has been completed and includes an order made under section 7(5) of the *Lien Act*.

29. Cost Plus Work

Cost Plus Work means Work that is described or designated as cost-plus work in the Contract Documents.

30. Environmental Law

Environmental Law means any applicable law relating to the protection of the environment or occupational health and safety including those pertaining to (a) reporting, licensing, permitting, investigating, remediating and cleaning up in connection with any presence or release, or the threat of the same, of Hazardous Substances, and (b) the generation, manufacture, processing, distribution, use, re-use, treatment, storage, disposal, transport, labelling, handling and the like of Hazardous Substances.

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31. Final Certificate for Payment

Final Certificate for Payment means the certificate issued on Total Performance of the Work.

32. Hazardous Substance

Hazardous Substance means any contaminant, waste, hazardous substance, hazardous waste, or dangerous goods in such quantities and concentrations as contravene applicable limitations under Environmental Law and that may impair the environment, injure or damage property or plant or animal life or harm or impair the health of any individual.

33. Holdback

Holdback means a holdback required by the *Lien Act*.

34. Lien or Liens

Lien or Liens means a lien under the *Lien Act*.

35. Lien Act

Lien Act means the *Builders Lien Act* (British Columbia) and any additional successor or replacement legislation which may be passed that is applicable to the Place of the Work.

36. Lump Sum Work

Lump Sum Work means Work that is described or designated as lump sum work in the Contract Documents or Work that is not so described or designated but is also not Unit Price Work or Cost Plus Work.

37. Site Labour Disturbance

Site Labour Disturbance means any strike, lock-out or labour disturbance, including those resulting from any jurisdictional or non-affiliation issues, involving employees, whether or not members of a trade union, of the Contractor, any Subcontractor, any Supplier, or any of their respective subcontractors of any tier, which delays or in any way adversely affects the performance and completion of Work at the Place of the Work.

38. Total Performance of the Work

Total Performance of the Work means the entire Work has been satisfactorily performed and is so certified by the Consultant.

39. Trade Union Council

Trade Union Council means a council or association of trade unions of which employees of the Contractor or a Subcontractor are members

40. Unit Price Work

Unit Price Work means Work that is described or designated as unit price work in the Contract Documents.

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41. WorkSafeBC Rules

WorkSafeBC Rules means the *Workers Compensation Act* (British Columbia) and the regulations thereunder, including without limitation the *WorkSafeBC Occupational Health and Safety Regulation* (British Columbia), and all amendments made to such act and regulations and in force from time to time, and any statute or regulation that may be passed which supplements or supersedes such regulations.

ALTERATION OF GENERAL CONDITIONS AND ADDITIONAL CONDITIONS

The following amendments are made to the “General Conditions of the Stipulated Price Contract” in CCDC 2:

GC1.1 CONTRACT DOCUMENTS

GC1.1.7.1 is deleted in its entirety and replaced as follows:

- .1 The order of priority of documents, from highest to lowest, shall be:
- the Agreement between the City and the Contractor (excluding its schedules);
 - these Supplementary General Conditions;
 - the Definitions from CCDC 2;
 - the General Conditions from CCDC 2;
 - the Specifications;
 - the Drawings;
 - the other schedules to the Agreement between the City and the Contractor;
 - the other Contract Documents (except for the below document); and
 - the Form of Tender.

GC1.5 ADVERTISING

GC1.5 is added as follows:

GC1.5 ADVERTISING

- 1.5.1 The Contractor will obtain the City’s prior written approval for any public advertising, press release or other general publicity matter, in which the name, logo, official marks or trademarks of the City or any related person are mentioned or used or in which words are used from which any connection with the City may be inferred. The Contractor will not allow or permit any public ceremony in connection with the Work without the permission of the City provided in writing. The Contractor will not erect or permit the erection of any sign or advertising without the prior written approval of the City.

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GC2.2 ROLE OF THE CONSULTANT

GC2.2.5 is deleted in its entirety and replaced with the following:

- 2.2.5 The Consultant will be the “payment certifier” pursuant to the *Lien Act*. Based on the Consultant’s observations and evaluation of the Contractor’s applications for payment for Work and the Consultant’s review of the status of the Work, including as against the Project Schedule, the Consultant will issue certificates of payment and will issue each Certificate of Completion and the Final Certificate for Payment.

GC2.2.19 is added as follows:

- 2.2.19 Notwithstanding GC2.2.13, the Contractor shall be responsible for requesting any required instructions or clarifications from the Consultant which are needed for the performance of the Work and shall request such instructions or clarifications in time to avoid any delay of the Work.

GC2.2.20 is added as follows:

- 2.2.20 Nothing in GC2.2 shall derogate from or affect the terms and provisions of any contractual or other legal relations between the City and the Consultant, and such contractual and other legal relations shall in all cases take precedence over GC2.2 in the event of a conflict.

GC2.3 REVIEW AND INSPECTION OF THE WORK

GC2.3.1 is amended by deleting the first sentence of the paragraph and replacing it with the following:

The City and the Consultant and their authorized representatives shall have access to the Work at all times.

GC2.3.2 is amended by deleting the first sentence of the paragraph and replacing it with the following:

If work is designated for review, tests, inspections or approvals in the Contract Documents, or by the Consultant’s instructions, or by the laws or ordinances of the Place of the Work, the Contractor shall give the Consultant reasonable notification of when the work will be ready for review and inspection.

GC2.3.4 is deleted in its entirety and replaced with the following:

- 2.3.4 If the Contractor covers, or permits to be covered, work that has been designated for review, tests, inspections or approvals before such review, tests, inspections or approvals are made, given or completed, the Contractor shall, if so directed, uncover such work, have the reviews, tests, inspections or approvals satisfactorily completed, and make good covering work at the Contractor’s expense.

GC2.3.8 is added as follows:

- 2.3.8 The Consultant may:

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- .1 review and monitor the Contractor's performance of any aspects of the Work for conformance with the requirements of the Contract, including review and monitor the following:
 - (a) the Contractor's submittals; and
 - (b) any and all construction activities; and
- .2 perform or arrange for the performance of any tests, checks, and inspections of the Work as the City may reasonably request whether or not specifically required by the Contract Documents.

Should the Consultant be required to make more than one review of rejected work or should the Consultant perform additional reviews due to failure of the Work to comply with the status of completion asserted by the Contractor in an application, the Contractor is required to compensate the City for such additional Consultant services including expenses incurred. Adjustment for such compensation should be made as outlined under PART 6 - CHANGES IN THE WORK.

GC2.3.9 is added as follows:

- 2.3.9 Review, monitoring and/or approval by the Consultant or City of the Contractor's performance of the Contract shall not relieve the Contractor of its sole responsibility and liability for the proper performance of the Contract strictly in accordance with its terms.

GC2.3.10 is added as follows:

- 2.3.10 Acceptance of the Work by the City does not free the Contractor from its obligation to correct deficiencies as provided in GC2.4 - DEFECTIVE WORK, which are not identified at the time of drawing up the deficiency list or are hidden deficiencies.

GC2.4 DEFECTIVE WORK

GC2.4.1 is amended by adding the following to the end of the paragraph:

In the event that work or materials are found to be condemned, then if the Contractor does not remove such condemned materials or work within the time fixed by written notice, the City may remove them and may store such materials at the expense of the Contractor. If the Contractor does not pay the expense of such removal within five (5) calendar days thereafter, the City may, upon ten (10) days written notice sell such materials with the proceeds thereof, if any, after deducting all the costs and expenses that should have been borne by the Contractor, being returned to the Contractor.

GC2.4.3 is deleted in its entirety and replaced with the following:

- 2.4.3. If in the opinion of the Consultant it is not expedient to correct defective work or work not performed as provided in the Contract Documents, the City may deduct from the amount otherwise due to the Contractor the difference in value between the work as performed and that called for by the Contract Documents or, at the option of the City, the cost or value of such work as would have been necessary to correct such non-

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compliance with the Contract Documents. If the City and the Contractor do not agree on the difference in value, they shall refer the matter to the Consultant for a determination.

GC3.1 CONTROL OF THE WORK

GC3.1.3 is added as follows:

- 3.1.3 The Contractor shall, and shall ensure that each Subcontractor shall, employ competent and skilled workmen and apprentices and employ proper equipment in good condition. The Contractor shall have complete control over its employees and Subcontractors and shall enforce discipline and order among its employees and assure discipline and order by its Subcontractors including, in all cases, without limiting the foregoing, compliance with and enforcement of WorkSafeBC Rules.

GC3.1.4 is added as follows:

- 3.1.4 The Contractor shall be familiar with, and its performance of this Contract shall be governed by and comply with, all Applicable Laws and applicable permits which exist at present or which may be respectively enacted or obtained after the date hereof by or from bodies or tribunals having jurisdiction or authority over the Work.

GC3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

GC3.2.2 is amended by deleting the first sentence and replacing it with the following:

When separate contracts are awarded for other parts of the Project, or when work is performed by the City's own forces, the Contractor shall:

GC3.2.2.3 is deleted in its entirety.

GC3.2.2.4 is deleted in its entirety.

GC3.2.3.3 is amended by adding the following to the end of the paragraph:

Failure by the Contractor to so report shall invalidate any claims against the City by reason of the deficiencies of the other contractors' or the City's own forces' work, except those of which the Contractor was not reasonably aware.

GC3.2.7 is added as follows:

- 3.2.7 The Contractor acknowledges that the Place of the Work generally and portions of the Project will continue to be used by the City and others as described in the Contract Documents. The Contractor will work simultaneously and harmoniously with others using the Place of the Work and use all efforts not to interfere with or delay others.

GC3.5 CONSTRUCTION SCHEDULE

GC3.5.1.1 is deleted in its entirety and replaced with the following:

- .1 if the City states in writing that the Contractor has not yet done so to the City's satisfaction, prepare and submit to the City and the Consultant a construction schedule

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that indicates the timing of the major activities of the Work and provides sufficient detail of the critical events and their inter-relationship to demonstrate the Work will be performed in conformity with the Contract Time, which such construction schedule will, if agreed to by the City, thereafter be deemed to supersede the schedule included in Schedule 5 of the Agreement as the “Project Schedule”;

GC3.5.1.3 is amended by adding the following to the end:

... indicating the results expected from the resulting change in schedule.

GC3.5.2 is added as follows:

3.5.2 The Contractor will regularly monitor the progress of the Work and advise the City and the Consultant of any revisions to, or any slippage in, the construction schedule.

GC3.5.3 is added as follows:

3.5.3 The Contractor will submit to the Consultant and the City monthly updates and provide comments on adherence to the construction schedule and details of any remedial actions being undertaken to improve schedule slippages.

GC3.5.4 is added as follows:

3.5.4 If the construction schedule is not adhered to, the Contractor will use all reasonable means to accelerate the Work, without additional compensation, to comply with the construction schedule. For the avoidance of doubt, references in the Contract Documents to the “construction schedule” will be deemed to be references to the “Project Schedule” unless the context requires otherwise.

GC3.6 SUPERVISION

GC3.6.3 is added as follows:

3.6.3 Any superintendent or foreman whose work is unsatisfactory to the Consultant, or to whom the Consultant may have any reasonable objection, shall be dismissed from the Work upon written notice of the Consultant. No superintendents or foremen will be substituted or replaced, except at the request or with the written consent of the City, or as a result of any such employee’s voluntary termination of employment or incapacity and any replacement will have comparable or superior qualifications and experience.

GC3.7 SUBCONTRACTORS AND SUPPLIERS

GC3.7.2 is deleted in its entirety and replaced as follows:

3.7.2 No Subcontractor or Supplier listed in Schedule 4 (if any) shall be replaced without the written consent of the City, which consent shall not be unreasonably withheld.

GC3.7.7 is added as follows:

3.7.7 In every subcontract the Contractor shall specify that the Consultant shall be the person responsible for payment certification under that subcontract for the purposes of the

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Lien Act. With every request to the Consultant for a determination whether a subcontract has been completed, the Contractor shall furnish a detailed description of the scope of work covered by the subcontract and a complete reconciliation of the subcontract account. In this GC3.7.7, the word “subcontract” shall have the meaning it has when used in the *Lien Act*.

GC3.8 LABOUR AND PRODUCTS

GC3.8 is deleted in its entirety and replaced with the following:

GC 3.8 LABOUR AND PRODUCTS

3.8.1 *Unions and Wages*

(a) *Open Site*

The Place of the Work and adjacent work areas associated with the Project are, or are part of, an “open site” and the Work will be performed on a “no strike/no lockout” basis. Accordingly, the Contractor and its Subcontractors, as well as the City and other contractors, may employ labourers at the Place of the Work who are members of a trade union, including a trade union affiliated with a Trade Union Council or who are members of another trade union, or who are not members of a trade union.

(b) *Labour Disruptions*

The Contractor will use its best commercial efforts to ensure that no Site Labour Disturbance shall occur and the Contractor:

- (i) will only retain Subcontractors for the Work whose employees are either:
 - (1) certified in British Columbia to be represented by a trade union and subject to a collective agreement which does not expire until after the expected date of Total Performance of the Work; or
 - (2) not certified to be represented by a trade union; andwill require such Subcontractors to only retain subcontractors and suppliers whose employees are either certified in British Columbia to be represented by a trade union and subject to a collective agreement which does not expire until after the expected date of Total Performance of the Work or not certified to be represented by a trade union; and
- (ii) represents and warrants that, with respect to any employees of the Contractor who may work at or near the Place of the Work and who are certified in British Columbia to be represented by a trade union and subject to a collective agreement, such collective agreement to which such employees are subject does not expire until after the expected date of Total Performance of the Work;

but if any Site Labour Disturbance occurs and does or may adversely impact the City, the Work or the Contract Time, the Contractor will use its best commercial efforts to

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ensure that the length and extent of such impact is minimized (including without limitation by cooperating with the City in any measures it may take to ameliorate such impact) and the Contractor will be liable to the City for any such impact.

(c) *Required for Union Contractors*

Without limiting the generality of Section (b) above, if the Contractor, or any Subcontractor, proposes to employ labourers at the Place of the Work who are members of a trade union, including a trade union that is affiliated with a Trade Union Council authorized to bind its member trade unions, then the Contractor must first submit to the Consultant:

- (i) a waiver of all non-affiliation or reservations rights under applicable collective agreements, including renewals or replacements thereof, effective for the duration of the Contract and executed by the Trade Union Council on behalf of all trades, or executed by the particular trade unions whose members will be so employed; and
- (ii) an agreement that there will be no Site Labour Disturbance at or affecting the Place of the Work and/or the progress of the Work, effective for the duration of the Contract, and executed by the Trade Union Council on behalf of all trades, or executed by the particular trade unions whose members will be so employed.

(d) *Fair Wages*

The Contractor shall pay or cause to be paid to every person employed on the Work not less than the wages or remuneration generally accepted as current at that time.

- 3.8.2 The Contractor shall provide and pay for labour, Products, tools, Construction Equipment, water, heat, light, power, transportation, and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 3.8.3 Unless otherwise specified in the Contract Documents, Products provided shall be new. Products which are not specified shall be of a quality consistent with those specified and their use acceptable to the Consultant. All Products supplied by the Contractor must at all times contain 0.00% asbestos. Should any Product be found to contain more than 0.00% asbestos, the Contractor will promptly abate and remove all Products containing asbestos at its sole cost.
- 3.8.4 The Contractor shall maintain good order and discipline among the Contractor's employees engaged on the Work and shall not employ on the Work anyone not skilled in the tasks assigned. The City shall have the right, by written notification to the Contractor, to require the removal from the Project of any employee of the Contractor or a Subcontractor or employee of a Subcontractor of the Contractor who is incompetent, untrained, acts in an unsafe manner, is disorderly or is otherwise unsatisfactory, or who causes a breach of the terms of this Contract. Any such employee or Subcontractor shall be immediately removed from the Place of the Work by the Contractor and shall not be employed again on the Project without the prior written approval of the City.

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- 3.8.5 All materials shall be delivered, stored, handled and applied in strict accordance with the manufacturer's instructions, and shall be delivered with type, grade and brand name clearly identifiable and with seals intact.

GC3.9 DOCUMENTS AT THE SITE/DAILY RECORD

GC3.9.1 is deleted in its entirety and replaced with the following:

- 3.9.1 The Contractor shall keep one copy (as opposed to the originally executed set) of all Contract Documents, Shop Drawings, Change Orders, Change Directives, the diary record required by GC3.9.2 below, submittals, reports, and records of meetings at the Place of the Work, in good order, properly indexed, and available at all regular working hours on Working Days to the City and the Consultant.

GC3.9.2 is added as follows:

- 3.9.2 The Contractor shall, from the date of commencement of the Work, maintain a careful diary record of the progress of the Work. This record shall be open to the Consultant's inspection at all reasonable times and delivered to the Consultant on completion of the Work. The diary shall detail:
- .1 daily weather conditions;
 - .2 the commencement, progress and completion of various portions of the work;
 - .3 the dates of all meetings and their purposes; and
 - .4 the dates of visits or inspections by government authorities, inspectors, utility companies, etc.

GC3.10 SHOP DRAWINGS

GC3.10.2 is amended by adding the following to the end:

... or as the Consultant may reasonably request.

GC3.10.13 is added as follows:

- 3.10.13 The Contractor represents and warrants that it has reviewed all Contract Documents and inspected and examined the Place of the Work and the Project to the extent it considers necessary and in accordance with prudent practice and satisfied itself as to the nature and extent of the conditions, including the physical and climatic conditions which may be encountered in the performance of the Work and to the extent possible to establish the state and quality of the existing construction. The Contractor further acknowledges that it will be required to share the Place of the Work with the City and others, all as described in the Contract Documents.

GC3.12 CUTTING AND REMEDIAL WORK

GC3.12.3 is amended by adding the following to the end:

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... unless the City elects to do the work or retain other contractors, after having given the Contractor written notice of the work to be performed. Such work shall be performed in accordance with GC3.2.

GC4.1 CASH ALLOWANCES

GC4.1.1 is deleted in its entirety and replaced as follows:

4.1.1 The Contract Price includes the cash allowances, if any, stated in the Contract Documents. Except to the extent specifically described in the Contract Documents, such cash allowances:

- (a) will cover the net out-of-pocket cost of the Contractor for services, products, construction machinery and equipment, freight, unloading, handling, storage, installation and other authorized expenses incurred in performing the work stipulated under the cash allowances, but
- (b) will not cover labour or installation, unless (and then only to the extent):
 - (i) specifically stated in the Contract Documents as being included in the cash allowance, or
 - (ii) specifically designated as an itemized or separate price for purposes of the cash allowance,

and otherwise will be deemed to be included in the Contract Price (ex-cash allowances).

GC4.1.2 is deleted in its entirety and replaced as follows:

4.1.2 The Contract Price (ex-cash allowances), and not the cash allowances, includes the Contractor's and Subcontractors' overhead and profit in respect of such cash allowances. Unless noted otherwise in the Contract Documents, none of the work included in the Drawings and Specifications is intended to be paid for by the cash allowances. The cash allowances are for the City's use, at the City's sole discretion.

GC4.1.3 is amended by adding the following to the end of the paragraph:

The Consultant may require that cash allowance Work proceed only after competitive tenders or proposals are sought and received by the Contractor for all or any part of such Work. The Contractor shall provide full disclosure to the Consultant of all such tenders or proposals. The Contractor shall not accept any such tenders or proposals without the prior consent of the Consultant. The Contractor shall maintain at the Place of the Work, or such other location as the Consultant may approve, accurate and complete records and accounts documenting all costs incurred under cash allowances. These records and accounts shall be available for inspection by the Consultant and the City at all reasonable times, and the Consultant and the City may take copies thereof.

GC5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

GC5.1 is deleted in its entirety and replaced with the following:

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GC5.1 GENERAL FINANCIAL/PAYMENT PROVISIONS

- 5.1.1 The City shall, at the request of the Contractor, before signing the Contract, and promptly from time to time thereafter, furnish to the Contractor reasonable evidence that financial arrangements have been made to fulfill the City's obligations under the Contract. The Contractor now acknowledges that the City's financial statements as published pursuant to the *Financial Information Act* (British Columbia) constitute full satisfaction of this requirement and satisfactory evidence of the City's ability to fulfill its obligations under this Contract.
- 5.1.2 The City shall give the Contractor Notice in Writing of any material change in the City's financial arrangements to fulfill the City's obligations under the Contract during the performance of the Contract.
- 5.1.3 The City shall pay to the Contractor for the proper and timely performance and completion of the Work the Contract Price, consisting of:
- (i) if all or part of the Work is described or designated as Unit Price Work in the Schedule of Prices, the product of each unit price stated in the Schedule of Prices, multiplied by the quantity of each corresponding item of Work necessary for the proper performance and completion of the Work (and if such quantity differs from the quantity expressed in the Contract Documents and such difference is approved in writing by the City, the Contract Price expressed in ARTICLE A-4 of the Agreement shall be deemed to be adjusted to coincide with the approved quantity);
 - (ii) if all or part of the Work is Lump Sum Work, the aggregate of lump sum prices stated in the Schedule of Prices;
 - (iii) the aggregate of all cash allowances, if any, specified in Schedule 3 of the Agreement; and
 - (iv) if all or part of the Work is described or designated as Cost Plus Work, the cost reasonably and necessarily incurred by the Contractor in performing and completing such Work, such cost to be determined in accordance with GC5.1A.3, plus a percentage or fixed fee, as stated in GC5.1A.3.
- 5.1.4 The Contract Price is subject to adjustment only in accordance with the Contract Documents.
- 5.1.5 The Contract Price is expressed and payable in Canadian dollars.
- 5.1.6 Subject to the provisions of the Contract Documents and in accordance with the *Lien Act* in respect of Holdbacks, the City shall:
- .1 make progress payments to the Contractor on account of the Contract Price monthly when due, based on:
 - (i) the value of the Work completed and Products and materials incorporated into the Work as certified by the Consultant, and

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- (ii) Products and materials delivered to the Place of the Work but not yet incorporated into the Work, as agreed to by the City;
 - .2 upon issuance of a Certificate of Completion in respect of a subcontract to which the Contractor is a party, and where fifty-five (55) calendar days have elapsed since the issuance of the Certificate of Completion without any Liens having been filed which arose under the subcontract, pay the Holdback to the Contractor in respect of the subcontract;
 - .3 upon issuance of the Certificate of Completion (in respect of Substantial Performance of the Work), and where fifty-five (55) calendar days have elapsed since the issuance of the Certificate of Completion without any Liens or other liens having arisen with respect to this Contract, pay the balance of the Holdback to the Contractor in respect of this Contract;
 - .4 upon issuance of the Final Certificate for Payment (in respect of Total Performance of the Work), and provided no Liens or other liens have arisen in respect of this Contract, pay the balance of the Contract Price to the Contractor.
- 5.1.7 If either party fails to pay when due an amount owing to the other under this Contract, that amount will bear interest at the Bank Rate plus two percent (2%), calculated daily from the due date to the date of payment. For this purpose, the "Bank Rate" means the rate of interest established from time to time by the Bank of Canada as the minimum rate at which the Bank of Canada advances short term loans to Canadian chartered banks.
- 5.1.8 If the Work suffers any loss or damage, as a result of which an amount is paid under any policy of insurance provided by the City under the Contract, then such amount shall be paid to the City and advanced to the Contractor in monthly progress payments as the Contractor performs and completes repair or restoration Work in respect of such loss or damage.

GC5.1A BASIS OF PAYMENT:

5.1A.1 Basis of Payment for Unit Price Work

- .1 *Unit Price Work:* Payment for Unit Price Work, if any, shall be based on the unit prices set out in the Schedule of Prices.
- .2 *Measurement:* The Contractor shall measure the Work and the Consultant will verify such measurements to determine payment to the Contractor in accordance with the measurement provisions of the Contract Documents.

5.1A.2 Basis of Payment for Lump Sum Work

- .1 *Lump Sum Work:* Payment for Lump Sum Work, if any, shall be based on the lump sum prices set out in the Schedule of Prices.

5.1A.3 Basis of Payment for Cost Plus Work

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- .1 *Cost Plus Work:* Payment for Cost Plus Work, if any, shall be based on the cost of such Work, as provided in GC5.1A.3.2, plus a fixed fee or percentage fee calculated as a percentage of the cost of such Work, for the Contractor's overhead and profit, except as stated in GC5.1A.4 or GC6.3.6. The fixed fee or percentage fee shall be as provided in the Schedule of Prices (or, if not so specified, as agreed between the City and the Contractor in writing), except as stated in GC5.1A.4.
- .2 *Cost of the Work:* The cost of Cost Plus Work, except as otherwise specified in the Contract Documents or agreed in writing between the City and the Contractor, shall be at rates prevailing in the locality of the Place of the Work and shall include the following cost elements as applicable to such Work:
- (i) wages and benefits paid for labour in the direct employ of the Contractor under applicable collective bargaining agreements, or under a salary or wage schedule agreed upon by the Consultant and the Contractor;
 - (ii) salaries, wages, and benefits of the Contractor's personnel, when stationed at the field office, in whatever capacity employed; or personnel at shops or on the road, engaged in expediting the production or transportation of materials or equipment;
 - (iii) contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada Pension Plan, insofar as such cost is based on wages, salaries, or other remuneration paid to employees of the Contractor and included in the cost of the Work as provided in paragraphs (i) and (ii);
 - (iv) travel and subsistence expenses of the Contractor's personnel described in paragraphs (i) and (ii), to be included only with the prior approval of the City;
 - (v) the cost of all Products, including the cost of transportation thereof;
 - (vi) the cost of Construction Equipment, Temporary Work, and hand tools not owned by the workers, including transportation, and maintenance thereof, which are consumed in the performance of the Work, at cost less salvage value on such items used but not consumed, which remain the property of the Contractor;
 - (vii) the cost of all tools and Construction Equipment, exclusive of hand tools used in the performance of the Work, whether rented from or provided by the Contractor or others, including installation, minor repairs and replacements, dismantling, removal, transportation and delivery cost thereof;
 - (viii) deposits lost;
 - (ix) the amounts of all subcontracts;

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- (x) the cost of quality assurance such as independent inspection and testing services;
 - (xi) charges levied by authorities having jurisdiction at the Place of the Work;
 - (xii) any adjustment in premiums for all bonds and insurance which the Contractor is required by the Contract Documents to purchase and maintain;
 - (xiii) any adjustment in value-added taxes (not including taxes on income or capital), for which the Contractor is liable;
 - (xiv) charges for long distance telephone and facsimile communications, courier services, expressage, and petty items incurred in relation to the performance of the Work;
 - (xv) the cost of removal and disposal of waste products and debris; and
 - (xvi) cost incurred due to emergencies affecting the safety of persons or property.
- .3 *Approval Required:* The Contractor shall obtain the Consultant's approval prior to subcontracting or entering into other agreements for Cost Plus Work.
- .4 *Rejection of Costs:* The Consultant may refuse to certify payment for all or part of the cost of any item under any cost element, where the item in question was unsuitable or unnecessary, or the cost was otherwise improperly incurred in the performance of the Work.
- .5 *Records:* The Contractor shall keep full and detailed accounts and records necessary for the documentation of the cost of Cost Plus Work and shall provide the Consultant with copies thereof when requested.
- .6 *Access to Records:* the City and the Consultant shall be afforded reasonable access to all of the Contractor's books, records, correspondence, instructions, drawings, receipts, vouchers, and memoranda related to the cost of Cost Plus Work and for this purpose the Contractor shall preserve such records for a period of one (1) year after the date of Substantial Performance of the Work.

5.1A.4 *Cost Plus Contract Rates and Mark Ups*

Notwithstanding any other provision hereof, when Cost Plus Work is performed then:

- (i) the costs of labour will be determined by the labour rates specified in the schedules to the Agreement, including the Schedule of Force Account Labour and Construction Equipment Rates, if any, in each case without any mark-up unless otherwise specified therein; and
- (ii) the costs of Construction Equipment will be determined by the construction equipment rates specified in the schedules to the Agreement, including the

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Schedule of Force Account Labour and Construction Equipment Rates, if any, in each case without mark-up unless otherwise specified therein.

GC5.2 APPLICATIONS FOR PROGRESS PAYMENT

GC5.2 is deleted in its entirety and replaced with the following:

GC5.2 APPLICATIONS FOR PROGRESS PAYMENT

- 5.2.1 Applications for payment shall be submitted to the Consultant on or before the last day of each calendar month, dated as of the last day of the month, and be in respect of the Work completed prior to the application being signed (the “**payment period**”).
- 5.2.2 The amount claimed shall be the value, proportionate to the amount of the Contract, of Work performed and Products delivered to the Place of the Work as of the last day of the payment period.
- 5.2.3 The Contractor shall submit to the Consultant at least fifteen (15) calendar days before the first application for payment, a schedule of values for the parts of the Work, aggregating the total amount of the Contract Price, so as to facilitate evaluation of applications for payment. A second schedule, stating the anticipated monthly progress payments, is to be submitted upon request.
- 5.2.4 The schedule of values shall be made out in such form and supported by such evidence as the Consultant may reasonably direct and when accepted by the Consultant, shall be used as the basis for applications for payment, unless it is found to be in error.
- 5.2.5 When making an application for payment, the Contractor shall submit a statement based upon the schedule of values. Claims for Products delivered to the Place of the Work but not yet incorporated into the Work shall be supported by such evidence as the Consultant may reasonably require to establish the ownership, value and delivery of the Products. The City has the right to refuse payment for Products delivered to the Place of the Work but not incorporated in the Work. The Contractor shall obtain the City's permission prior to invoicing for such Products.
- 5.2.6 Each application for payment shall:
 - .1 be in such form and detail as the Consultant shall require and submitted consistently in such form and detail unless otherwise advised by the Consultant and clearly show:
 - (D) the Contractor's full name, address and telephone number;
 - (E) the City's purchase order number;
 - (F) the name of the City's project manager;
 - (G) the application for payment number and date; and
 - (H) the Contractor's PST and GST registration number(s);

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- .2 be attached to a statement or statutory declaration sworn by an officer of the Contractor, which attests to the accuracy and completeness of the information contained therein, and for each application following the first application also include in addition to the foregoing and not in lieu of the same, a current CCDC 9A Statutory Declaration of Progress Payment Distribution by Contractor, which shall be completed and sworn before a Notary Public or Commissioner for Oaths for the Province of British Columbia;
 - .3 relate the Work for which payment is claimed to the Project Schedule and the schedule of values provided and provide such back-up invoices and other materials as may be reasonably necessary for the Consultant to review such application;
 - .4 be accompanied by a sworn declaration that there are no Liens or other liens relating to the Contractor, the Work or the Products registered against the City, the Project or the Place of the Work or the City's interest therein or against the Holdback;
 - .5 attach the documents required under GC9.4 demonstrating compliance by the Contractor and each Subcontractor with WorkSafeBC Rules;
 - .6 attach the monthly update contemplated by GC3.5.3; and
 - .7 provide a comprehensive list of items which remain to be completed and any defective items which remain to be corrected and the Contractor's estimate of the costs and time to complete or correct such items.
- 5.2.7 The Contractor shall deliver a complete application as provided in GC5.2.6 and if such application is not complete, the Consultant may reject all or the applicable portions of the same by promptly (and in any event within five (5) calendar days of its receipt) notifying the Contractor of the deficiencies in the application. The Contractor will promptly supply to the Consultant such further certification or information as may be necessary to remedy the deficiencies in the application.
- 5.2.8 An application for payment shall be deemed to be received by the Consultant only if and when submitted in full conformity with GC5.2.6.

GC5.3 PROGRESS PAYMENT

GC5.3.1.2 is amended by adding the following before the last sentence of the paragraph:

If, after a certificate for payment has been issued to the City (and prior to payment by the City), the Consultant determines on the basis of new information that the amount certified for payment is incorrectly high or low relative to the Work being certified, then the Consultant shall issue a revised certificate.

GC5.3.1.3 is amended by deleting the words "Article A-5 of the Agreement - PAYMENT" and replacing with "this GC5 and the *Lien Act*".

GC5.3.2 is added as follows:

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- 5.3.2 Subject to the provisions of the *Lien Act*, the City may retain a deficiency holdback from progress payments prior to Substantial Performance of the Work to ensure that sufficient money is withheld to fund any agreed deficiency holdback at Substantial Performance of the Work

GC5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

GC5.4 is deleted in its entirety and replaced with the following:

GC5.4 SUBSTANTIAL PERFORMANCE OF THE WORK/CERTIFICATE OF COMPLETION

- 5.4.1 When the Contractor considers that Substantial Performance of the Work has been achieved, or if permitted by the *Lien Act* the Contractor wishes to apply for a Certificate of Completion with respect to a subcontract with a Subcontractor, the Contractor shall, within one Working Day, deliver to the Consultant and to the City an application for a Certificate of Completion (a “**Completion Certificate Application**”) in conformity with GC5.4.4.
- 5.4.2 The Consultant will review the Work to verify the validity of the application and shall promptly, and in any event, no later than ten (10) calendar days after receipt of the Contractor's application:
- .1 advise the Contractor in writing that the Work or the designated portion of the Work is not “completed” (as that term is used in the *Lien Act*) and give reasons why, or
 - .2 prepare a Certificate of Completion in respect of the Work or subcontract stating on the certificate the date of issuance in accordance with the *Lien Act* and issue a copy of that certificate to each of the City and the Contractor.
- 5.4.3 Immediately following the issuance of the Certificate of Completion for all of the Work, the Contractor, in consultation with the Consultant, shall establish a reasonable date for Total Performance of the Work (which date will be deemed to be the date for the same set out in the Project Schedule if such date is specified).
- 5.4.4 Each Completion Certificate Application referred to in GC5.4.1 shall also contain an application for payment and shall consist of the following:
- .1 a cover letter stating that the submittal is an application for a Certificate of Completion as well as an application for payment, and clearly identifying the Work or subcontract for which the Certificate of Completion is being sought;
 - .2 all of the certifications and information required on an application for payment, as set out in GC5.2.6;
 - .3 with respect to the Work or subcontract, as applicable, all deliverables, including copies of all manufacturer's warranties, called for in the Contract Documents which are or should be available at the time of the Completion Certificate Application, including, without limitation and by way of example only, all operation manuals, service manuals, warranty certificates, maintenance contracts, service contracts, software licences, inspection

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reports, and other applicable manuals, contracts, certificates, guarantees and warranties.

- 5.4.5 Failure to specify an incomplete or defective item on a Completion Certificate Application or the Consultant's issuance of a Certificate of Completion or certificate of payment in respect of the same does not alter the responsibility of the Contractor to complete the Contract.
- 5.4.6 Subject to the requirements of the *Lien Act* relative to the date of issuance by the Consultant of the Certificate of Completion of the Work pursuant to GC5.4.2.2:
- .1 the Consultant shall issue to the City and copy to the Contractor a certificate of payment for an amount equal to the Contract Price less:
 - (i) three times the value of any deficiencies shown on the comprehensive list of items to be completed or corrected, as determined by the Consultant,
 - (ii) the value of incomplete work as determined by the Consultant, and
 - (iii) the amounts of all previous certificates of payment;
 - .2 the City shall then make payment to the Contractor in accordance with the provisions of GC5.3.1.3 provided always that a Completion Certificate Application shall be deemed received only if and when submitted in accordance with GC5.2.6 as well as GC5.4.4; and
 - .3 for the avoidance of doubt, this GC5.4.6 does not create an obligation to avoid retaining, or to release, any Holdback.

GC5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

GC5.5 is deleted in its entirety and replaced with the following:

GC5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

- 5.5.1 After the issuance of the Certificate of Completion evidencing Substantial Performance of the Work, the Contractor shall:
- .1 submit an application for payment of the Holdback,
 - .2 submit a current CCDC 9A Statutory Declaration of Progress Distribution by Contractor, as well as a current CCDC 9B Statutory Declaration of Progress Distribution by Subcontractor from each of the Subcontractors, which in every case shall be fully and properly completed and sworn before a Notary Public or Commissioner for Oaths for the Province of British Columbia;
 - .3 verify that there are no Liens or other liens relating to the Contractor, the Work or the Products registered against the City, the Project or the Place of the Work or the City's interest therein or against the Holdback, and swear and

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- submit to the Consultant a written declaration that there are no such Liens or other liens;
- .4 attach the documents required under GC9.4 demonstrating compliance by the Contractor and each Subcontractor with WorkSafeBC Rules; and
- .5 attach copies of a current title search of the Place of the Work confirming that no Liens have been registered prior to the time the release of the Holdback is due.
- 5.5.2 After the receipt of and approval of the application documents described in GC5.5.1, the Consultant will issue a certificate for payment of the Holdback (less any previous releases of the Holdback on account of subcontract Certificates of Completion).
- 5.5.3 The Contractor now acknowledges that the City is exempt under the regulations of the *Lien Act* from the requirement to keep the Holdback in a separate holdback account.
- 5.5.4 The Holdback is due and payable as set out in GC5.1.6.3. The City may retain out of the Holdback any sums required by law to satisfy any Liens arising under the Contract or any subcontract or, if permitted by the *Lien Act*, claims against the Contractor.

GC5.6 PROGRESSIVE RELEASE OF HOLDBACK

GC5.6.1 is deleted in its entirety and replaced with the following:

- 5.6.1 Any portion of the Holdback in respect of a Subcontractor or Supplier subcontract is due and payable as set out in GC5.1.6.3. The City may retain out of the subcontract portion of the Holdback any sums required by law to satisfy any Liens arising in connection therewith or, if permitted by the *Lien Act*, other claims.

GC5.6.2 is deleted in its entirety.

GC5.6.3 is amended by deleting the words “final certificate for payment” and replacing with “Final Certificate for Payment”.

GC5.7 FINAL PAYMENT

GC5.7.1 is deleted in its entirety and replaced as follows:

- 5.7.1 When the Contractor considers that Total Performance of the Work has been achieved, the Contractor shall submit its final application for payment. The application for payment on attaining Total Performance of the Work shall consist of the following:
- .1 all of the certifications and information required on an application for payment as set out in GC5.2.6, all appropriately amended to clearly confirm that the Work is fully completed, all Products have been delivered, and all Lien periods have expired with no Liens or other liens having been filed;
- .2 a current CCDC 9A Statutory Declaration of Progress Distribution by Contractor, as well as a current CCDC 9B Statutory Declaration of Progress Distribution by Subcontractor from each of the Subcontractors, which in every case shall be

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fully and properly completed and sworn before a Notary Public or Commissioner for Oaths for the Province of British Columbia;

- .3 copies of a current title search of the Place of the Work confirming that no Liens have been registered as at the date of application for Final Certificate for Payment; and
- .4 all deliverables called for in the Contract Documents which were not delivered at the time of Substantial Performance of the Work.

GC5.7.3 is amended by deleting the words “final certificate for payment” and replacing with “Final Certificate for Payment”.

GC5.7.4 is deleted in its entirety and replaced as follows:

- 5.7.4 Subject to paragraph 9.4.1 of GC9.4 - CONSTRUCTION SAFETY & WORKPLACEBC RULES, and the *Lien Act*, the City shall, no later than twenty-one (21) calendar days after the issuance of a Final Certificate for Payment, pay the Contractor as provided in GC5.1.6.4

GC6.1 OWNER’S RIGHT TO MAKE CHANGES

GC6.1.3 is added as follows:

- 6.1.3 Change Orders, contemplated Change Orders, and Change Directives shall be on printed forms supplied by the City or Consultant and may include:
 - .1 job site instructions or site memo forms, for immediate authorization at the Place of the Work in order not to delay the performance of the Work and for changes of a minor nature with no price variation, which shall be issued on site on the signature of the Consultant only;
 - .2 contemplated Change Orders issued by the Consultant for purposes of the Contractor’s response to a proposed method of adjustment and extent of adjustment to the Contract Price or Contract Time, which shall be signed by the Consultant only;
 - .3 Change Orders authorizing the Contractor to proceed with the Work as set out by the Consultant and Contractor in a contemplated Change Order, which shall be signed by the City and the Contractor.

GC6.1.4 is added as follows:

6.1.4 *Basis of Payment for Changes on Cost Plus Basis*

- .1 ***Work Done on Cost Plus Basis:*** The cost of Work done under a Change Directive or Change Order on a cost-plus basis, except as otherwise specified in the Contract Documents or agreed in writing between the City and the Contractor, shall be at rates prevailing in the locality of the Place of the Work and, subject to GC6.1.6, shall include the cost elements set out in GC5.1A.3(i) through (xvi) as applicable to such Work.

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- .2 *Approval Required:* The Contractor shall obtain the Consultant's approval prior to subcontracting or entering into other agreements for Work done under a Change Directive or Change Order on a cost-plus basis.
- .3 *Rejection of Costs:* The Consultant may refuse to certify payment for all or part of the cost of any item under any cost element, where the item in question was unsuitable or unnecessary, or the cost was otherwise improperly incurred in the performance of the Work.
- .4 *Records:* The Contractor shall keep full and detailed accounts and records necessary for the documentation of the cost of Work done under a Change Directive or Change Order on a cost-plus basis, and shall provide the Consultant with copies thereof when requested.
- .5 *Access to Records:* the City and the Consultant shall be afforded reasonable access to all of the Contractor's books, records, correspondence, instructions, drawings, receipts, vouchers, and memoranda related to the cost of Work done under a Change Directive or Change Order on a cost-plus basis, and for this purpose the Contractor shall preserve such records for a period of one (1) year after the date of Substantial Performance of the Work.
- .6 Notwithstanding any other provision hereof, when a change in the Work is valued on a cost-plus basis, then:
 - (i) the costs of labour will be determined by the labour rates specified in the schedules to the Agreement, including the Schedule of Force Account Labour and Construction Equipment Rates, if any, in each case without any mark up unless otherwise specified therein;
 - (ii) the costs of Construction Equipment will be determined by the construction equipment rates specified in the schedules to the Agreement, including the Schedule of Force Account Labour and Construction Equipment Rates, if any, in each case without mark up unless otherwise specified therein; and
 - (iii) for further certainty, to the extent that any changes involve changes in the quantities of Unit Price Work such changes will be determined solely by the unit prices, without mark-up, unless otherwise specified in the schedules to the Agreement.

GC6.1.5 is added as follows:

6.1.5 Valuation and Marks ups for all Change Orders and Change Directives

The following terms and conditions will apply to any quotation for a Change Order prepared by the Contractor pursuant to GC 6.2 - *CHANGE ORDER*, and will also apply to any Change Directive issued pursuant to GC 6.3 - *CHANGE DIRECTIVE*:

- .1 The valuation for all (except previously agreed separate prices and unit prices) Work done under a Change Directive or Change Order which result in an increase in the Contract Price, whether valued as a lump sum or on a cost-plus

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basis, will be based on the actual direct unavoidable costs incurred by the Contractor and will be deemed to include all amounts on account of overhead, profit, administrative, and any other indirect expenses or allowances except as follows:

- .1 The Contractor will receive combined overhead and profit equal to ten percent (10%) of the direct unavoidable costs incurred by the Contractor's use of his own forces;
 - .2 The Contractor will receive five percent (5%) combined overhead and profit on the amounts paid by the Contractor to any Subcontractor or Suppliers as a direct result of the Change Order or Change Directive (provided always that the Subcontract contains the same limitations on Change Orders and Change Directives as this Contract).
 - .3 The Subcontractor will receive combined overhead and profit of ten percent (10%) on account of the direct unavoidable costs incurred by the Subcontractor as direct result of the Change Order or Change Directive, and
 - .4 The Supplier will receive no overhead, profit or other markup on account of the Change Order or Change Directive.
-
- .2 The valuation for all (except previously agreed separate price and unit rates) changes in the Work which result in a decrease in the Contract Price will be based on the actual savings in all costs to the Contractor, Subcontractor and Suppliers, exclusive of markups or deductions for overhead, profit, administrative or any other indirect costs not causally related to the Change Order or Change Directive.
 - .3 If a change in the Work results in both expenditures and savings, any overhead or profit that is otherwise payable by the City shall be payable only on the net increase in expenditures, if any, with respect to that change in the Work.
 - .4 The Contractor will only enter into Subcontracts with Subcontractors and Suppliers which obligate each Subcontractor and Supplier to comply with the provisions of this Part 6 - CHANGES IN THE WORK.
 - .5 Upon the request of the Consultant, the Contractor will promptly deliver all supporting documentation including labour, Products, services, Subcontract breakdowns and all other documentation in order to substantiate any Change Order quotation or change in the Contract Price pursuant to a Change Directive.
 - .6 The Contractor will be responsible for having time sheets covering all personnel respecting any Change Order or Change Directive checked and approved daily by the Consultant, and claims for reimbursement of any extra wages, salaries or other expenses relating to such personnel will only be accepted when properly supported by such signed time sheets.
 - .7 All costs and expenses incurred by the Contractor and any Subcontractor or Suppliers in preparing any requested Change Order quotation or submitting,

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substantiating or otherwise administering a claim pursuant to a Change Order or Change Directive will be the responsibility of the Contractor and may not be included in any adjustment to the Contract Price.

GC6.1.6 is added as follows:

6.1.6 *Cost Plus Maximum under Change Order*

When a change in Work is valued on a cost-plus basis, the City may require that the aggregate amount incurred under the corresponding Change Directive shall not exceed a maximum amount acceptable to the City, acting reasonably, and specified in the Change Directive, as such amount may be revised from time to time by subsequent written authorization of the City. The Contractor shall not be entitled to payment in excess of such applicable maximum amount in respect of any such Change Directive.

GC6.3 CHANGE DIRECTIVE

GC6.3.3 is deleted in its entirety.

GC6.3.5 is deleted in its entirety.

GC6.3.6 is deleted in its entirety.

GC6.3.7 is deleted in its entirety.

GC6.3.8 is deleted in its entirety.

GC6.3.9 is deleted in its entirety.

GC6.3.10 is deleted in its entirety.

GC6.4 CONCEALED OR UNKNOWN CONDITIONS

GC6.4.1 is deleted in its entirety and replaced as follows:

6.4.1 If the Contractor discovers conditions at the Place of the Work which: (i) are subsurface or otherwise concealed physical conditions which existed before the commencement of the Work; (ii) could not reasonably have been discovered by proper investigation by the Contractor under GC3.10.13; and (iii) differ materially from those disclosed in the Contract Documents, including any geotechnical report, environmental assessment, or other report included or referenced in the Contract Documents or provided or made known to the Contractor before the commencement of the Work, then the Contractor shall give Notice in Writing to the Consultant of such conditions before they are disturbed and in no event later than five (5) Working Days after first observance of the conditions.

GC6.4.1A is added as follows:

6.4.1A The Contractor must give notice under GC6.4.1 within five (5) Working Days after discovery of the conditions or the time when the Contractor by reasonable diligence could have discovered the conditions, failing which the Contractor may not make or

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enforce any claim against the City, whether for a change in the Contract Price or other compensation or for an extension of the Contract Time arising from those conditions.

GC6.4.2 is amended by deleting the words “If the finding is that the conditions differ materially and this would cause” and replacing with “If the requirements of GC6.4.1 and GC6.4.1A are satisfied and the relevant conditions would cause”.

GC6.4.3 is amended by deleting the words “the conditions at the Place of Work are not materially different” and replacing with “the requirements of GC6.4.1 and GC6.4.1A are not satisfied”.

GC6.4.4 is deleted in its entirety and replaced as follows:

- 6.4.4 If such concealed or unknown conditions relate to Hazardous Substances, artefacts and fossils, or mould, the parties will be governed by the provisions of GC9.2 - TOXIC AND HAZARDOUS SUBSTANCES, GC9.3 - ARTIFACTS AND FOSSILS and GC9.5 - MOULD.

GC7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT

GC7.1.5.2 is amended by deleting the words “final certificate for payment” and replacing with “Final Certificate for Payment”.

GC7.1.7 is added as follows:

- 7.1.7 The City may terminate the Contract at any time for the convenience of the City by notice given to the Contractor. If the Contract is terminated under this GC7.1.7, then:
- (a) the Contractor shall suspend performance of the Work and shall not incur further cost or expense in relation to the Work, except (i) as necessary to protect the Work and the safety of persons, or (ii) as authorized or directed in writing by the City;
 - (b) the Contractor shall remove from the Place of the Work its personnel and all Construction Equipment and other material that is owned or leased by the Contractor, except as otherwise required to comply with GC7.1.7(a)(i) and (ii); and
 - (c) the City shall pay the Contractor for all Work performed, including the cost of complying with GC7.1.7(a)(i) and (ii), in accordance with the terms and conditions of payment set out in the Contract, together with the documented and reasonable cost of terminating subcontracts with Subcontractors and Suppliers and demobilizing the Contractor's personnel and Construction Equipment, all as certified by the Consultant, and upon such payment being made, the Contractor shall have no further or other claim against the City for, or in connection with, termination of the Contract.

GC7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE CONTRACT

GC7.2.2 is amended by replacing the number “20” where it appears in the first sentence with the number “30”.

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GC7.2.3 is amended by adding the following to the beginning of the first sentence:

If the default cannot be corrected in five (5) Working Days or in such other time as may be subsequently agreed in writing by the parties,

GC7.2.3.1 is deleted in its entirety.

GC7.2.3.4 is deleted in its entirety and replaced with the following:

- .4 the City violates the requirements of the Contract to a substantial degree and the Consultant, except for GC5.1- GENERAL FINANCIAL/PAYMENT PROVISIONS, confirms by written statement to the Contractor that sufficient cause exists.

GC7.2.4 is amended by revising the second line to read:

...corrected within fourteen (14) Working Days following the receipt of the Notice in Writing, the Contractor may, without prejudice to any ...

GC 8.2 NEGOTIATION, MEDIATION AND ARBITRATION

GC8.2.1.1 is deleted in its entirety and replaced as follows:

- .1 within thirty (30) Working Days after the Contract was awarded, or

GC8.2.1.2 is deleted in its entirety and replaced as follows:

- .2 if the parties neglected to make an appointment within the thirty (30) Working Days, within twenty (20) Working Days after either party by Notice in Writing requests that the Project Mediator be appointed.

GC8.2.3 is amended by adding the following to the end:

However, the City and the Contractor nonetheless irrevocably and unconditionally attorn to the jurisdiction of the courts of British Columbia, and courts to which appeals therefrom may be taken, in respect of any dispute or claim arising under or relating to the Contract. The City and the Contractor acknowledge and agree that such courts have jurisdiction, but not necessarily exclusive jurisdiction in respect of any such dispute or claim. If a dispute arises under or in relation to this Contract, and the dispute cannot be resolved by the City's project manager and the Contractor's principal representative at the Place of the Work within three (3) Working Days after the dispute arises, or the City's project manager is not authorized to resolve the dispute, then:

- (a) the dispute will be referred to the City's Director of Facilities and the Contractor's project manager for resolution, and if they cannot resolve the dispute within three (3) Working Days after referral to them, then
- (b) the dispute will be referred to a senior executive of the City designated by it and a senior executive of the Contractor designated by it, for resolution, and if they cannot resolve the dispute within three (3) Working Days after referral to them, then

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- (c) either party may take such further legal proceedings as they consider necessary for the resolution of the dispute either concurrently with or in lieu of the process outlined in GC8.2.4 to GC8.2.9.

GC8.2.4 is amended by revising the second line to read:

...the parties may request the Project Mediator...

GC8.2.6 is amended by revising the second line to read:

...either party may request referral of the dispute...

GC8.2.7 is deleted in its entirety and replaced as follows:

- 8.2.7 If a Notice in Writing is not given under paragraph 8.2.6 within the required time or the other party does not reply and agree to binding arbitration, the parties may refer the unresolved dispute to the courts or to any other form of dispute resolution, including arbitration, which they have agreed to use.

GC8.2.9 is added as follows:

- 8.2.9 Where references are made in the Contract Documents to “the time of bid closing”, it is intended by the parties that this shall mean the effective date of the contract.

GC9.1 PROTECTION OF WORK AND PROPERTY

GC9.1.1 is deleted in its entirety and replaced with the following:

- 9.1.1 The Contractor shall protect the Work, Products delivered to the Place of the Work, the City’s property and property on or adjacent to the Place of the Work from theft and damage which may arise as the result of the Contractor’s operations under the Contract, and shall be responsible for such theft and damage, except theft and damage which occurs as the result of:

- .1 errors in the Contract Documents;
- .2 acts or omissions by the City, other contractors, or their agents and employees.

GC9.1.4 is amended by revising the first line to read:

Should damage occur to the Work, Products delivered to the Place of the Work, the City’s property or property on or adjacent to the Place of the Work, for which the Contractor is not responsible, as provided in paragraph...

GC9.1.5 is added as follows:

- 9.1.5 The Contractor is responsible for protection of the Work during shutdown, including shutdowns caused by strikes.

GC9.2 TOXIC AND HAZARDOUS SUBSTANCES

GC9.2.1 is deleted in its entirety and replaced with the following:

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- 9.2.1 For the purposes of the Contract, the City shall be deemed to have control and management of the Place of the Work with respect to the condition of the Place of the Work prior to the commencement of the Work in relation to applicable Environmental Law and the presence of any Hazardous Substances.

GC9.2.2 is deleted in its entirety and replaced with the following:

- 9.2.2 Prior to the Contractor commencing the Work, the City shall:
- .1 take reasonable steps to determine whether the Place of the Work contains any Hazardous Substances and, if so, whether the condition of the Place of the Work is in compliance with applicable Environmental Law; and
 - .2 provide the Consultant and the Contractor with a written list of any such Hazardous Substances that the City knows to exist on, and their locations within, the Place of the Work.

GC9.2.3 is deleted in its entirety and replaced with the following:

- 9.2.3 Unless the Contract expressly provides otherwise, the City shall be responsible for taking such steps as may be necessary, in accordance with applicable Environmental Law to dispose of, store or otherwise deal with Hazardous Substances so as to cause the Place of the Work to comply with the requirements of applicable Environmental Law before the Contractor commences the Work.

GC9.2.4 is deleted in its entirety and replaced with the following:

- 9.2.4 Except as previously disclosed in writing by the City or as otherwise known by the Contractor, if the Contractor:
- .1 encounters Hazardous Substances at the Place of the Work; or
 - .2 has reasonable grounds to believe that Hazardous Substances are present at the Place of the Work which were not brought to the Place of the Work by the Contractor or anyone for whom the Contractor is responsible or which were disclosed but have not been dealt with as required under paragraph 9.2.3,
- the Contractor shall:
- (a) take reasonable steps, including stopping the Work, to ensure that no person's exposure to any Hazardous Substance at the Place of the Work exceeds any levels contrary to the requirements of applicable Environmental Law, and
 - (b) immediately report the circumstances to the Consultant and the City by Notice in Writing.

GC9.2.5 is deleted in its entirety and replaced with the following:

- 9.2.5 If the City and the Contractor, acting reasonably, fail to agree on whether the condition of the Place of the Work is in compliance with applicable Environmental Law prior to the commencement of the Work or whether Hazardous Substances were brought onto the Place of the Work by the Contractor or anyone for whom the Contractor is

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responsible, or whether the Contractor or anyone for whom the Contractor is responsible caused the release of Hazardous Substances at the Place of the Work, the City shall retain an independent qualified expert to investigate and report on the subject of the dispute. Subject to paragraph 9.2.6, the City shall pay for the cost of the expert's investigation and report. The City will provide a copy of the expert's report to the Contractor.

GC9.2.6 is deleted in its entirety and replaced with the following:

- 9.2.6 If the expert's report under paragraph 9.2.5 determines that the Place of the Work was in compliance with applicable Environmental Law prior to the commencement of the Work or that Hazardous Substances were brought onto the Place of the Work by the Contractor or any for whom the Contractor is responsible, or that the Contractor or anyone for whom the Contractor is responsible caused the release of a Hazardous Substance at the Place of the Work, the Contractor shall pay for the cost of the expert's investigation and report.

GC9.2.7 is deleted in its entirety and replaced with the following:

- 9.2.7 If the City and the Contractor agree, or if the expert's report under paragraph 9.2.5 concludes, that the Contractor or anyone for whom the Contractor is responsible brought a Hazardous Substance onto, or caused the release of a Hazardous Substance on, the Place of the Work, the Contractor shall promptly at the Contractor's expense:
- .1 take such steps as are necessary to safely and in compliance with Environmental Law remove, transport and dispose of such Hazardous Substance and to remediate the Place of the Work to such extent as is required to cause the Place of the Work to comply with all applicable Environmental Law;
 - .2 make good any damage to the Work, the City's property and any property affected by any migration of the Hazardous Substance as provided in paragraph 9.1.3 of GC9.1 - PROTECTION OF WORK AND PROPERTY;
 - .3 reimburse the City for all resultant costs and expenses reasonably incurred by the City; and
 - .4 indemnify the City as required by GC12.1 - INDEMNIFICATION

GC9.2.8 is deleted in its entirety and replaced with the following:

- 9.2.8 If the City and the Contractor agree, or if the expert's report under paragraph 9.2.5 concludes, that neither the Contractor nor anyone for whom the Contractor is responsible is responsible for bringing a Hazardous Substance onto, or for causing the release of a Hazardous Substance on, the Place of the Work, the City shall promptly at the City's expense:
- .1 take such steps as are necessary to safely and in compliance with Environmental Law remove, transport and dispose of such Hazardous Substance and to remediate the Place of the Work to such extent as is required to cause the Place of the Work to comply with all applicable Environmental Law;

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- .2 reimburse the Contractor for all resultant costs and expenses reasonably incurred by the Contractor;
- .3 extend the Contract time for such reasonable time as the Consultant may recommend in consultation with the Contractor and the expert referred to in paragraph 9.2.5 and reimburse the Contractor for costs reasonably incurred as a result of the delay, and
- .4 indemnify the Contractor as required by GC12.1 - INDEMNIFICATION.

GC9.2.9 is amended by deleting the words “Part 8 of the General Conditions - Dispute Resolution” from the second line and replacing with “Part 8 - DISPUTE RESOLUTION”.

GC9.2.10 is added as follows:

- 9.2.10 The Contractor shall, and shall ensure that anyone for whom the Contractor is responsible shall, at all times comply with all applicable Environmental Law and ensure that all Work is conducted in compliance with all applicable Environmental Law.

GC 9.3 ARTIFACTS AND FOSSILS

GC9.3.1 is deleted in its entirety and replaced with the following:

- 9.3.1 If the Contractor or anyone for whom the Contractor is responsible discovers fossils coins, articles of value or antiquity, structures and other remains or things of scientific, cultural or historical interest at the Place of the Work (in GC9.3 called, “**Historical Items**”), the Contractor shall immediately give Notice in Writing thereof to the City and the Consultant. As between the City and the Contractor, all Historical Items shall be, and shall be deemed to be, the absolute property of the City, and the Contractor hereby irrevocably waives and disclaims any right, title or interest therein.

GC9.3.2 is deleted in its entirety and replaced with the following:

- 9.3.2 The Contractor shall take all reasonable precautions, and shall comply with all reasonable directions from the Consultant, to prevent removal or damage to Historical Items as identified in paragraph 9.3.1 or as otherwise known to be present at the Place of the Work.

GC9.3.3 is deleted in its entirety and replaced with the following:

- 9.3.3 The Consultant will investigate the impact on the Work of the discovery of any Historical Item identified in paragraph 9.3.1. If conditions are found that would cause an increase or decrease in the Contractor’s cost or time to perform the Work, the Consultant, with the City’s approval, will issue appropriate instructions for a change in the Work as provided in GC6.2 -CHANGE ORDER or GC6.3 - CHANGE DIRECTIVE.

GC9.4 CONSTRUCTION SAFETY

The above heading for GC9.4 is amended by adding “&WORKSAFEBC RULES” to the end.

GC9.4.2 is added as follows:

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- 9.4.2 Unless otherwise specified in the Contract Documents or notified to the contrary by the Consultant, the Contractor is the “prime contractor” for the purpose of the WorkSafeBC Rules, notwithstanding that the City, the Consultant or another contractor may provide from time to time some of the services normally provided by such a “prime contractor”.

GC9.4.3 is added as follows

- 9.4.3 If the Contractor is the “prime contractor”, the Contractor shall:

- .1 *Compliance with Law:* comply with all Applicable Laws, and all reasonable rules established by the City of which the Contractor is given timely notice through the Consultant, relative to occupational health and safety;
- .2 *Safety Programs:* initiate, maintain and supervise all safety programs and measures in connection with the performance of the Work, which program shall respond fully to the requirements of all Applicable Laws relative to occupational health and safety, all to the satisfaction of the Consultant;
- .3 *Site Meetings:* conduct regular safety meetings at the Place of the Work, no less frequently than weekly, record minutes of such meetings and give copies of such minutes to the Consultant on a weekly basis;
- .4 *Safety Equipment:* supply and maintain at the Place of the Work all safety equipment necessary to protect workers and others from accident or injury; and
- .5 *First Aid:* supply and maintain at the Place of the Work all personnel, equipment and supplies necessary for the provision of appropriate first-aid to any worker or person suffering an accident or injury at or about the Place of the Work, and establish an emergency procedure for prompt removal of any such person from the Place of the Work to a hospital, clinic or medical office for further treatment.
- .6 *Notice of Project:* prior to commencement of construction:
 - (a) complete and file a “Notice of Project” with the WorkSafeBC in compliance with Section 20.2 of the *Occupational Health and Safety Regulation*;
 - (b) post the Notice of Project at the Place of the Work, and
 - (c) provide a copy of the Notice of Project to the City and confirm in writing that the Notice of Project has been posted at the Place of the Work.

GC9.4.4 is added as follows

- 9.4.4 If, or for so long as the Contractor is not the “prime contractor”, the Contractor shall:

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- .1 *Compliance with Law:* comply with all Applicable Laws, and all reasonable rules established by the City of which the Contractor is given timely notice through the Consultant, relative to occupational health and safety;
- .2 *Compliance with Directions:* comply with all reasonable directions issued by the “prime contractor” regarding compliance with Applicable Laws, and rules established by the City, relative to occupational health and safety; and
- .3 *Site Safety Meetings:* attend all Place of the Work safety meetings convened by the “prime contractor”.

GC9.4.5 is added as follows

9.4.5 Whether or not the Contractor is the “prime contractor”, it shall:

- .1 *Reporting:* report immediately to the “prime contractor” (if not the Contractor) and the Consultant all accidents and injuries of any kind or severity occurring on or about the Place of the Work and involving employees of the Contractor or any Subcontractor, or any other person of which the Contractor is aware, and arising out of or in connection with the Work;
- .2 *Written Confirmation:* confirm in writing each report made under subparagraph (a); and
- .3 *City Policy:* respect and adhere to City’s safety and training policies relative to the Place of the Work and the Work.

GC9.4.6 is added as follows

9.4.6 If the Consultant determines that the Contractor is not in compliance with its obligations as “prime contractor”, if applicable, the City may, but is not obliged to, provide some or all of the services required to discharge those obligations. All costs incurred by the City in providing such services shall be paid by the Contractor to the City, and may be deducted from any amount then or thereafter becoming due to the Contractor under the Contract.

GC9.4.7 is added as follows:

9.4.7 The Contractor shall indemnify and save harmless the City from any and all damages, liabilities, cost, fines, penalties, fees and expenses whatsoever including, without limitation, legal fees, charges and disbursements as between a solicitor and his own client, related to or arising out of the assignment to the Contractor, and the Contractor’s assumption, of the responsibilities, obligations and liabilities of the “prime contractor” under the WorkSafeBC Rules with respect to the Place of the Work.

GC9.4.8 is added as follows:

9.4.8 The Contractor agrees that it shall at its own expense procure and carry or cause to be procured and carried and paid for, full WorkSafeBC coverage for itself and all workers, employees, servants and others engaged in or upon any work or service which is the subject of this Contract.

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GC9.4.9 is added as follows:

- 9.4.9 The Contractor agrees that the City has the unfettered right to set off the amount of the unpaid premiums and assessments for such WorkSafeBC coverage against any monies owing by the City to the Contractor. The City shall have the right to withhold payment under this Contract until the WorkSafeBC premiums, assessments or penalties in respect of work done or service performed in fulfilling this Contract had been paid in full.

GC9.4.10 is added as follows:

- 9.4.10 Promptly upon execution of this Agreement, the Contractor will provide the City with the Contractor's and all Subcontractors' WorkSafeBC registration numbers.

GC9.4.11 is added as follows:

- 9.4.11 Promptly upon execution of this Agreement, and concurrently with making any application for payment under this Contract, the Contractor will provide the City with written confirmation that the Contractor and all Subcontractors are registered in good standing with WorkSafeBC and that all assessments have been paid to the then current date.

GC9.4.12 is added as follows:

- 9.4.12 The Contractor may or may not have received, as part of the Contract Documents, a "Pre-Contract Hazard Assessment" prepared by or for the City pursuant to the City's statutory obligations under the WorkSafeBC Rules (Section 119 of the *Workers' Compensation Act*) as an "owner of a workplace". Despite the City's statutory obligations, the Contractor now acknowledges and agrees that the Contractor may not rely on the "Pre-Contract Hazard Assessment" and now agrees to assume by the terms of this Contract full responsibility for carrying out the City's obligations under Section 119 of the *Workers' Compensation Act*, including without limitation and by way of example only, conducting all due diligence inquiries of all applicable City staff and departments in order to ascertain what, if any, information is known or has been recorded by City staff about the Place of the Work that is necessary to identify and eliminate or control hazards to the health or safety of persons at the Place of the Work. The City now agrees to make all reasonable efforts to assist the Contractor in obtaining timely access to City staff and City records for this purpose.

GC9.4.13 is added as follows:

- 9.4.13 The Contractor will indemnify the City and hold harmless the City from all manner of claims, demands, costs, losses, penalties and proceedings arising out of or in any way related to:
- .1 unpaid WorkSafeBC assessments of the Contractor or any other employer for whom the Contractor is responsible under this Contract;
 - .2 the acts or omissions of any person engaged directly or indirectly by the Contractor in the performance of this Contract, or for whom the Contractor is liable pursuant to the Contractor's obligations as the "prime contractor", and

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which acts or omissions are or are alleged by WorkSafeBC to constitute a breach of the WorkSafeBC Rules or other failure to observe safety rules, regulations and practices of WorkSafeBC, including any and all fines and penalties levied by WorkSafeBC; or

- .3 any breach of the Contractor's obligations under Clause GC9.1.

GC9.4.14 is added as follows:

- 9.4.14 The Contractor agrees to retain a full-time construction safety officer whenever required by the then-current Vancouver Building By-law. The construction safety officer shall bear written proof of qualification satisfactory to the City of Vancouver's Director of Permits and Licenses.

GC9.5 MOULD

GC9.5.1 is deleted in its entirety and replaced with the following:

- 9.5.1 If the Contractor or the City observes or reasonably suspects the presence of mould at the Place of the Work of the nature and quantity such that special handling and precautions are required under Environmental Law or that otherwise may reasonably present a hazard to the health and safety of persons, the remediation of which has not been separately arranged by the City or is not expressly part of the Work,
- .1 the observing party shall promptly report the circumstances to the other party by Notice in Writing;
- .2 the Contractor shall promptly take all reasonable steps, including stopping all or such portions of the Work as may be necessary to ensure that no person suffers injury, sickness or death and that no property is damaged as a result of exposure to or the presence of the mould; and
- .3 if the City and the Contractor do not agree on whether any mould discovered is of the nature and quantity such that special handling and precautions are required under Environmental Law, or whether such mould may otherwise reasonably present a hazard to the health and safety of persons, or with respect to what steps are appropriate to be taken to deal with the mould, or as to the cause of the presence of the mould, the City shall retain an independent qualified expert to investigate and report on the subject of the dispute. Subject to paragraph 9.5.2, the City shall pay for the cost of the expert's investigation and report. The City will provide a copy of the expert's report to the Contractor.

GC9.5.2 is deleted in its entirety and replaced with the following:

- 9.5.2 If the expert's report under paragraph 9.5.1.3 determines that the mould does not require special handling and precautions in compliance with Environmental Law or does not otherwise reasonably present a hazard to the health and safety of persons, the Contractor will pay for the cost of the expert's investigation and report. If the expert's report under paragraph 9.5.1.3 determines that the mould was caused as the result of

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the acts or omissions of the Contractor or anyone for whom the Contractor is responsible, the Contractor shall promptly, at the Contractor's expense:

- .1 take such steps as are necessary to safely and in compliance with Environmental Law remove, transport and dispose of such mould and to remediate the Place of the Work to such extent as is required to cause the Place of the Work to comply with all applicable Environmental Law;
- .2 make good any damage to the Work, the City's property and any property affected by the mould as provided in paragraph 9.1.3 of GC9.1 - PROTECTION OF WORK AND PROPERTY;
- .3 reimburse the City for all resultant costs and expenses reasonably incurred by the City; and
- .4 indemnify the City as required by GC12.1 - INDEMNIFICATION.

GC9.5.3 is deleted in its entirety and replaced with the following:

- 9.5.3 If the City and the Contractor agree, or if the expert's report under paragraph 9.5.1.3 concludes, that the presence of mould at the Place of the Work requires special handling or precautions under Environmental Law or otherwise presents a hazard to the health or safety of persons, and that the Contractor or anyone for whom the Contractor is responsible is not responsible for the presence of such mould, the City shall promptly at the City's expense:
- .1 take such steps as are necessary to safely and in compliance with Environmental Law remove, transport and dispose of such mould and to remediate the Place of the Work to such extent as is required to cause the Place of the Work to comply with all applicable Environmental Law;
 - .2 reimburse the Contractor for the cost of taking the steps under paragraph 9.5.1.2 and making good any damage to the Work as provided in paragraph 9.1.4 of GC9.1 - PROTECTION OF WORK AND PROPERTY; and
 - .3 extend the Contract Time for such reasonable time as the Consultant may recommend in consultation with the Contractor and the expert referred to in paragraph 9.5.1.3 and reimburse the Contractor for reasonable costs incurred as a result of the delay.

GC10.1 TAXES AND DUTIES

GC10.1.1 is deleted in its entirety and replaced as follows:

- 10.1.1 The Contractor shall allow for the payment by the Contractor out of the Contract Price of all PST, GST and other federal, provincial and municipal taxes, rates, levies, assessments and duties, both refundable and non-refundable, and all deposits, (temporary crossings, excavations, etc.). The Contractor agrees to indemnify and save harmless at all times the City from and against all claims which may be made with respect thereto.

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GC10.1.2 is amended by revising the first line to read:

...due to changes in such included taxes, duties and rebates after the time...

GC10.1.3 is added as follows:

10.1.3 Where an exemption or recovery of government sales taxes, customs duties or excise taxes is applicable to the Contract, the Contractor shall submit for the City's review the exemption or recovery application and the supporting invoices of the actual quantities of materials incorporated in the Work prior to applying for the rebate. The City will then issue a certificate verifying the application.

GC10.1.4 is added as follows:

10.1.4 Notwithstanding any other provision to the contrary, if the City determines that it is necessary to satisfy its obligations under any Applicable Law relating to taxes, the City may:

.1 withhold an amount from a payment made to the Contractor hereunder; and

.2 pay the withheld amount directly to the competent government authority,

in which case the amount so withheld and paid by the City to the relevant competent government authority shall be deemed to have been paid to the Contractor on the date on which the remainder of the payment to which it relates was paid to the Contractor, and the Contractor agrees and acknowledges that it shall have no claim against the City for such amount withheld and paid to the competent government authority.

GC10.2 LAWS, NOTICES, PERMITS AND FEES

GC10.2.2 is deleted in its entirety and replaced as follows:

10.2.2 The Contractor shall, except as set out below in this GC10.2.2 and unless otherwise specified in the Contract Documents, obtain and maintain all permits, licences, and certificates and pay all fees required for the performance of the Work, and obtain all necessary access and storage rights for areas outside of the Place of the Work (including without limitation and by way of example only, parking for its workers, the swing arc of any construction crane required for the Work, or storage space for materials) but this shall not include any development permit (if applicable) or building permit, which have been obtained by the Consultant, paid for by the City, and issued to the City; nor shall it include the obligation to obtain easements or other access rights over the actual Place of the Work.

GC10.2.3 deleted in its entirety and replaced as follows:

10.2.3 The Contractor shall be responsible for the procurement of permits, licences, inspections, and certificates, which are necessary for the performance of the Work and customarily obtained by contractors in the jurisdiction of the Place of the Work after the issuance of the building permit. The Contract Price includes the cost of all permits (except building and development permits but including occupancy permits), licences, inspections and certificates and their procurement. The Contractor will arrange for all

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inspections and testing required by such permits. The Contractor shall provide to the Consultant copies of all permits and inspection reports from the various authorities as soon as they are received.

GC10.2.5 is amended by revising the first sentence to read:

10.2.5 The Contractor shall be responsible to provide reasonable verification that the Contract Documents are in compliance...

GC10.4 WORKERS' COMPENSATION

GC10.4 is deleted in its entirety.

GC10.5 LIVING WAGE

GC10.5 is added as follows:

GC10.5 LIVING WAGE

10.5.1 For the purposes of this GC10.5, the following terms shall have the following meanings:

- (a) **"Living Wage"** means the hourly wage established by the Living Wage Certifier from time to time during the Term, which includes: (i) direct wages; and (ii) the value of any non-mandatory benefits such as paid sick leave, employer-paid Medical Services Plan premiums and extended health benefits;
- (b) **"Living Wage Certifier"** means the Living Wage for Families Campaign, any successor entity, or, in the event the Living Wage for Families Campaign ceases to carry on operations, such other living wage certification entity designated by the City to the Contractor in writing;
- (c) **"Living Wage Employee"** means any and all employees of the Contractor and all Subcontractors of the Contractor that perform any part of the Work on a property owned by or leased to the City, including all streets, sidewalks and other public rights of way, for at least one consecutive hour, but excluding Students, volunteers and employees of Social Enterprises;
- (d) **"Social Enterprise"** means a business that: (i) is owned by a non-profit organization or community services co-operative; (ii) is directly involved in the production and/or selling of goods and services for the combined purpose of generating income and achieving social, cultural, and/or environmental aims; and (iii) has a defined social and/or environmental mandate.
- (e) **"Student"** means an individual who is enrolled in a school, college, university or other educational institution and is employed by the Contractor or a Subcontractor, as the case may be, to obtain practical workplace experience as a requirement of or credit for their education;

10.5.2 Notwithstanding any other provision of any Contract Document but subject to GC 10.5.3, the Contractor shall pay all Living Wage Employees not less than the Living Wage.

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- 10.5.3 Notwithstanding GC 10.5.2, the Contractor has up to 6 months from the date on which any increase in the Living Wage is published by the Living Wage Certifier to increase wages for all Living Wage Employees such that all Living Wage Employees continue to be paid not less than the Living Wage.
- 10.5.4 The Contractor shall ensure that the requirements of GC 10.5.2 apply to all Subcontractors.
- 10.5.5 A breach by the Contractor of its obligations pursuant to GC 10.5.2 and 10.5.4 shall be deemed to constitute a failure by the Contractor to comply with the requirements of the Contract to a substantial degree and shall entitle the City to terminate the Contract in accordance with GC 7.1.2.
- 10.5.6 The Contractor shall maintain up-to-date records and accounts which clearly document its satisfaction of the requirements of this GC 10.5 and shall make the same available to the City upon request. The City may request copies of all such records and accounts which shall be provided to the City by the Contractor (subject to reimbursement of the Contractor's reasonable copying costs and any other direct costs and expenses, if any) at any time prior to the expiry of 365 days after Total Completion of the Work or earlier termination of this Agreement. Any records and accounts provided by the Contractor in accordance with this Section 10.5.5 shall be treated by the City as confidential information.
- 10.5.7 The Contractor shall, at the direction of the City, post signs at Places of Work that are owned by or leased to the City, including all streets, sidewalks and other public rights of way, informing Living Wage Employees of the obligations of the Contractor and Subcontractor pursuant to this GC 10.5 and providing contact information to report any breaches thereof. The City shall supply the Contractor with all such signs and the Contractor shall return all such signs upon completion of the Work or otherwise at the request of the City.
- 10.5.8 The Contractor shall prepare and submit to the City in a format reasonably acceptable to the City before January 31 of each calendar year of the term or, for each partial calendar year of the term, within 30 days of the expiry of the term a living wage report setting out:
- (a) the number of Living Wage Employees of the Contractor and each Subcontractor who were paid a Living Wage pursuant to this Section 3.12 during the previous calendar year or portion thereof that would not have received a Living Wage for substantially similar work but for the obligations of the Contractor pursuant to this GC10.5; and
 - (b) the total incremental costs incurred by the Contractor, including any amounts paid to Subcontractors, in order to fulfill its obligations pursuant to this GC10.5 to pay a Living Wage to the Living Wage Employees described in GC10.5.8(a).

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GC11.1 INSURANCE

GC11.1 is deleted in its entirety and replaced as follows:

GC11.1 GENERAL INSURANCE REQUIREMENTS

- 11.1.1 The Contractor and Subcontractors shall be required to file with the City on or prior to the date of this Agreement (or at such later time as they become Subcontractors), "Certificates of Insurance" in the form required by the City, and where required by the City's Director of Risk Management, certified copies of all insurance policies and endorsements evidencing the placement and endorsement of insurance in accordance with this GC11.1 and GC11.2.
- 11.1.2 The Contractor and Subcontractors shall be required to file evidence of renewal of the insurance policies required under this GC11.1 and GC11.2 with the City at least fifteen (15) calendar days prior to their expiry.
- 11.1.3 In addition to the specific requirements set out below, all policies of insurance shall:
- .1 be endorsed so as to provide for thirty (30) calendar days' prior notice to the City of cancellation, lapse or material change;
 - .2 if they are for property insurance (as opposed to liability) insurance, contain a waiver of subrogation in favour of the City Insurance Group (as defined below) and all employees and agents of the City Insurance Group;
 - .3 specifically name the City of Vancouver, the Consultant and their officials, officers, employees, agents and consultants engaged on the Project as additional insureds (collectively referred to as the "City Insurance Group");
 - .4 be issued by a company or companies authorized to issue insurance policies in British Columbia; and
 - .5 be issued on a policy form acceptable to the City's Director of Risk Management.
- 11.1.4 Unless otherwise specified, insurance shall be continuously maintained from a date not later than the date hereof, through to the date on which both the Certificate of Completion has been issued for the Work and an occupancy permit, if required, has been issued for the Place of the Work.

GC11.2 CONTRACT SECURITY

GC11.2 is deleted in its entirety and replaced with the following:

GC 11.2 SPECIFIC INSURANCE COVERAGE

- 11.2.1 Without restricting the generality of GC12.1 - INDEMNIFICATION, and despite the limits of liability set out in GC12.1 - INDEMNIFICATION, the Contractor and Subcontractors, at their expense, shall retain the following types of insurance:

- (a) *Wrap-up Liability Insurance:*

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Wrap-up liability insurance protecting the City Insurance Group, the Contractor, and their respective subcontractors, agents and employees against damages arising from personal injury (including death) and claims for property damage which may arise out of the operations of the Contractor, its Subcontractors, or their respective agents or employees in connection with the Work.

The policy shall be placed prior to commencement of the Work and shall specifically cover liability arising out of the performance of this Contract and shall cover all liability assumed by the Contractor under any contract or agreement, including the indemnity provisions of this Contract. The policy shall be maintained continuously throughout the entire term of the contract through to the date on which both the Certificate of Completion has been issued for the Work and an occupancy permit, if required, has been issued for the Place of the Work, and thereafter, in the case of completed operations coverage for a further period of twenty-four (24) months, and the policy shall provide:

1. broad-form property damage and completed operations coverage;
2. personal injury coverage;
3. blanket contractual liability coverage;
5. contingent employer's liability coverage; and
6. non-owned automobile liability coverage,

and where such further risk exists, the following extensions of coverage shall be included:

1. coverage for shoring, blasting, excavating, underpinning, demolition, removal, pile-driving and grading, as applicable;
2. coverage for hoist liability;
3. coverage for operation of attached machinery; and
4. contractor's pollution liability coverage, including coverage for asbestos, mould or other hazardous substances.

This insurance shall be for an amount of not less than five million dollars (\$5,000,000) per occurrence, and shall include a standard form of severability of interests and cross-liability clause. The deductible per occurrence shall not exceed ten thousand dollars (\$10,000) and the Contractor shall be liable for all deductible amounts.

(b) *Property & Mechanical and Electrical Breakdown Insurance:*

- (1) All-risks course-of-construction property insurance in the joint names of the Contractor and the City Insurance Group, covering the Work and all

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property of every description to be used in the performance of the Work. This insurance shall be primary, and be of an amount of not less than the Contract Price. The deductible per occurrence shall not exceed ten thousand dollars (\$10,000); and

- (2) Mechanical and electrical breakdown insurance insuring the interests of the Contractor and the City Insurance Group for not less than the Contract Price.

The following conditions will apply to the property and mechanical and electrical breakdown insurance:

- (A) Where the City wishes to use or occupy part or all of the Work prior to Total Performance of the Work, it shall give written notice to the Contractor pursuant to GC13 - Occupancy and if requested the Contractor shall promptly notify the City in writing of the additional premium cost, if any, to maintain property and boiler insurance, which shall be at the City's expense.
- (B) If, because of such use or occupancy, the Contractor is not requested to or is requested to but is unable to provide coverage, the City upon written notice from the Contractor and prior to such use or occupancy shall provide, maintain and pay for property and mechanical and electrical breakdown insurance insuring the full value of the Work, as in subparagraphs (1) and (2), including coverage for such use or occupancy and shall provide the Contractor with proof of such insurance. The Contractor shall refund to the City the unearned premiums applicable to the Contractor's policies upon termination of coverage.
- (C) The policy shall provide that, in the event of loss or damage, payment shall be made to the City. Loss or damage shall not affect the rights and obligations of either party under the Contract.
- (D) The Contractor shall be entitled to receive from the City, in addition to the amount due under the Contract, the amount at which the City's interest in restoration of the Work has been appraised, such amount to be paid as the restoration of the Work proceeds and in accordance with the requirements of GC5.3 - APPLICATIONS FOR PAYMENT and GC5.4 - PROGRESS PAYMENTS. In addition the Contractor shall be entitled to receive from the payments made by the insurer the amount of the Contractor's interest in the restoration of the Work.
- (E) The Contractor shall be responsible for payment of all deductible amounts.
- (F) In the event of loss or damage to the Work arising from the work or act of the City or another Contractor, then the City shall pay the Contractor the cost of restoring the Work as the restoration of the Work proceeds and in accordance with the requirements of GC5.3 - APPLICATIONS FOR PAYMENT and GC5.4 - PROGRESS PAYMENTS.

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- (c) *All-Risk Contractor's Equipment Insurance* covering all equipment owned or rented by the Contractor and its agents or employees against all risks of loss or damage with coverage sufficient to allow for immediate replacement.
- (d) *Automobile Liability Insurance* to be carried at all times on all licensed vehicles owned by or leased to the Contractor, protecting against damages arising from bodily injury (including death), and from claims for property damage arising from the operations of the Contractor, its agents or employees. This insurance shall be for a minimum amount of five million dollars (\$5,000,000) inclusive per accident.

Where, in the City's opinion, pertinent risk exists, the Contractor is also required to carry the following coverage:

- (e) *Hull & Machinery Insurance* in the amount not less than the full value of the vessel, barge or equipment with a deductible of no more than ten thousand dollars (\$10,000) protecting the Contractor and its Subcontractors from all claims for loss or damage to any vessel, barge or equipment arising out of ownership or operation of the Contractor or its Subcontractors.
- (f) *Protection & Indemnity Insurance* including City's legal liability insurance to cover all claims for bodily injury including death, property damage or loss arising out of the activities conducted by the Contractor, any Subcontractor, or their respective employees or agents in an amount no less than five million dollars (\$5,000,000) per occurrence and a deductible of not more than ten thousand dollars (\$10,000).

11.2.2 If the Contractor or a Subcontractor fails to provide evidence of the required insurance under this GC11 as and when required by the Contract Documents, then the City shall have the right to obtain the insurance and then give evidence of the same to the Contractor and Consultant, and the cost of doing so will then be payable by the Contractor to the City or at the City's option may be deducted from the Contract Price by Change Directive.

GC11.3 CONTRACT SECURITY

GC11.3 is added as follows:

GC11.3 CONTRACT SECURITY

11.3.1 The Contractor shall pay for and deliver to the City, on or prior to the date of this Agreement, a performance bond and a labour and material payment bond, which shall each be for fifty percent (50%) of the Contract Price and shall include provision for, without limitation:

1. payment of any Consultant's and legal expenses incurred by the City in determining the extent of the Work executed and Work still to be executed, and any additional Work required as a result of the interruption of the Work,
2. payment of additional expenses caused to the City for watchmen's services, light, heat, power, etc. incurred by the City during the period between the

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Contractor's default under the Contract and the commencement of a new contract,

3. extended guarantee periods, corrections after final payment, and warranty obligations, and
4. coverage of the faithful performance of all terms and conditions of the Contract Documents including all additions and revisions thereto permitted under the Contract.

11.3.2 Such bonds shall be issued by a duly licensed surety company authorized to transact the business of a surety in British Columbia and the bonds shall be maintained in good standing until the issuance of the Final Certificate for Payment and the expiry of the warranty. Subject to the requirements of this GC11.3, the bonds shall be in accordance with the latest edition of the CCDC approved bond forms.

11.3.3 The Contractor will give the City Notice in Writing of any material change in the surety within five (5) calendar days of the occurrence.

GC12.1 INDEMNIFICATION

GC12.1.1 is deleted in its entirety and replaced as follows:

12.1.1 The Contractor now indemnifies and shall defend, indemnify and hold harmless the City, the Consultant, the project manager and their respective directors, officers, employees, agents, consultants or advisors (collectively, the "Indemnitees") from and against all claims, demands, losses, costs, damages, actions, suits or proceedings ("Liability"), whether founded in equity or at law including contract, tort or statute and howsoever caused, arising from or in any way connected with (A) any wrongful or negligent act, error or omission of, or defective goods supplied by, the Contractor, Subcontractors, Suppliers or their respective employees or agents when attending the Place of the Work or in the performance of the Work, in each case whether or not any one or more of the Indemnitees are contributorily negligent, and (B) any claim made under the Lien Act by a Subcontractor, or a "subcontractor" as defined in the Lien Act. Expressly excluded from this indemnity is any Liability caused solely and directly by the wrongful act or negligence of an Indemnitee.

GC12.1.2 is deleted in its entirety and replaced as follows:

12.1.2 The obligation of the Contractor to indemnify the Indemnitees shall be limited to the greater of the Contract Price or five million dollars (\$5,000,000) but in no event shall the sum be greater than twenty million dollars (\$20,000,000). However, despite any other term of this Contract, in no event will this limitation apply in any way to reduce or limit the indemnity or recovery by either party under any insurance policy or bond required by the Contract Documents and in no event will this limit apply to the Contractor's or the City's obligations to indemnify under GC9.2 - TOXIC AND HAZARDOUS SUBSTANCES, GC9.4 CONSTRUCTION SAFETY & WORKSAFE BC RULES, GC9.5 -MOULD and GC10.3 - PATENT FEES.

GC12.1.3 is deleted in its entirety and replaced as follows:

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12.1.3 The obligation of the Contractor to indemnify the Indemnitees hereunder shall be inclusive of interest and all legal costs.

GC12.1.4 is deleted in its entirety and replaced as follows:

12.1.4 The City and the Contractor shall indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of their obligations described in GC9.2 - TOXIC AND HAZARDOUS SUBSTANCES, GC9.4 CONSTRUCTION SAFETY & WORKSAFE BC RULES, GC9.5 -MOULD and GC10.3 - PATENT FEES

GC12.1.5 is deleted in its entirety.

GC12.1.6 is deleted in its entirety and replaced as follows:

12.1.6 In respect of any claim for indemnity or to be held harmless by the City or the Contractor, Notice in Writing of such claim shall be given within a reasonable time after the facts upon which such claim is based became known;

GC12.1.7 is added as follows:

12.1.7 In the event of any Liability being alleged against or claimed from an Indemnatee in respect of which an indemnity is required to be provided by the Contractor pursuant to GC12.1.1, the following provisions shall apply:

- (a) subject to GC12.1.7(b), GC12.1.7(c) and GC12.1.7(d), where it appears that the Indemnatee is or may be entitled to indemnification from the Contractor in respect of all (but not part only) of the liability arising out of a claim, such person entitled to indemnification may at its sole election and subject to:
 - (i) approval by any relevant insurers (without prejudice to GC12.1.7(e); and
 - (ii) the Contractor providing the Indemnatee with a secured indemnity to its reasonable satisfaction against all costs and expenses (including legal expenses) that it may incur by reason of such action,permit or require the Contractor to dispute the claim on behalf of the Indemnatee at the Contractor's own expense and take conduct of any defence, dispute, compromise, or appeal of the claim and of any incidental negotiations; provided that the Indemnatee shall give the Contractor (provided at the Contractor's cost) all reasonable cooperation, access and assistance for the purposes of considering and resisting such claim;
- (b) with respect to any claim conducted by the Contractor pursuant to GC12.1.7(a)
 - (i) the Contractor shall keep the Indemnatee fully informed and consult with it about material elements of the conduct of the claim;
 - (ii) the Contractor shall not bring the name of the Indemnatee into disrepute; and

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- (iii) the Contractor shall not pay or settle such claims without the prior consent of the Indemnatee, such consent not to be unreasonably withheld or delayed;
- (c) a Indemnatee shall be free to pay or settle any claim on such terms as it thinks fit (and without prejudice to its rights and remedies under the Contract Documents) if:
 - (i) the Contractor is not entitled to, or is not permitted or instructed, take conduct of the claim in accordance with GC12.1.7(a); or
 - (ii) the Contractor fails to comply in any material respect with the provisions of GC12.1.7(e) or GC12.1.7(b);
- (d) the Indemnatee entitled to indemnification pursuant to GC12.1.1 shall be free at any time to give notice to the Contractor that it is retaining or taking over (as the case may be) the conduct of any defence, dispute, compromise or appeal of any claim (or of any incidental negotiations) to which GC12.1.7(a) applies. On receipt of such notice the Contractor shall promptly take all steps necessary to transfer the conduct of such claim to the Indemnatee, and shall provide to the Indemnatee all reasonable co-operation, access and assistance for the purposes of considering and resisting such claim; and
- (e) the Contractor shall inform the Indemnatee of the requirements of any insurer who may have an obligation to provide an indemnity in respect of any liability arising under this Agreement and in relation to such the Indemnatee shall issue instructions accordingly.

GC12.2 WAIVER OF CLAIMS

GC12.2.1 is deleted in its entirety and replaced as follows:

12.2.1. *Waiver of Claims by City:* As of the date of the Final Certificate for Payment, the City expressly waives and releases the Contractor from all claims against the Contractor including without limitation those that might arise from the negligence or breach of Contract by the Contractor except one or more of the following:

- .1 those made in writing prior to the date of the Final Certificate for Payment and still unsettled;
- .2 those arising from the provisions of GC12.1 - INDEMNIFICATION or GC12.3 - WARRANTY;
- .3 those arising from the provisions of GC9.2 - TOXIC AND HAZARDOUS SUBSTANCES, GC9.4 CONSTRUCTION SAFETY & WORKSAFE BC RULES, GC9.5 - MOULD and GC10.3 - PATENT FEES and those arising from the Contractor bringing or introducing any toxic or hazardous substances and materials to the Place of the Work after the Contractor commences the Work; and
- .4 those arising from the Contractor's actions, errors, omissions or negligence which result in delays or substantial defects or deficiencies in the Work.

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“Substantial defects or deficiencies” means those defects or deficiencies in the Work which affect the Work to such an extent or in such a manner that all or any part of the Work is unfit for the purpose intended by the Contract Documents.

GC12.2.2 is deleted in its entirety and replaced as follows:

12.2.2 *Waiver of Claims by Contractor:* As of the date of the Final Certificate for Payment, the Contractor expressly waives and releases the City from all claims against the City including without limitation those that might arise from the negligence or breach of Contract by the City except:

- .1 those made in writing prior to the Contractor’s application for Final Payment and still unsettled; and
- .2 those arising from the provisions of GC9.2 - TOXIC AND HAZARDOUS SUBSTANCES or GC10.3 - PATENT FEES.

GC12.2.3 is deleted in its entirety and replaced as follows:

12.2.3 GC12.2 - WAIVER OF CLAIMS shall take precedence over the provisions of paragraph 1.3.1 of GC1.3 - RIGHTS AND REMEDIES.

GC 12.2.4 is deleted in its entirety and replaced as follows:

12.2.4 The City waives and releases the Contractor from all claims referred to in paragraph 12.2.1.4 except claims for which Notice in Writing of claim has been received by the Contractor from the City within a period of six (6) years from the date of Substantial Performance of the Work.

GC12.2.5 is deleted in its entirety.

GC12.2.6 is deleted in its entirety.

GC12.2.7 is deleted in its entirety.

GC12.2.8 is deleted in its entirety.

GC12.2.9 is deleted in its entirety.

GC12.2.10 is deleted in its entirety.

GC12.3 WARRANTY

GC12.3.1 is deleted in its entirety and replaced as follows:

12.3.1 The Contractor shall perform the Work in a good and workmanlike manner.

GC12.3.2 is deleted in its entirety and replaced as follows:

12.3.2 The Contractor now warrants that the Work (and all Products) will be free from all defects arising from faulty construction, manufacturing, installation, materials,

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equipment or workmanship in any part of the Work (or Products) for a period of one (1) year commencing on the issuance of the Certificate of Completion for the Work, and with respect to any Work or Products warranted by a Subcontractor or Supplier for a period of longer than one (1) year after the issuance of the Certificate of Completion, the Contractor now warrants that it has fully and effectively assigned such warranty to the City and that the City may enforce the same to the same extent and in the same manner as if the warranty had been issued directly to the City by that Subcontractor or Supplier.

GC12.3.3 is deleted in its entirety and replaced as follows:

12.3.3 For the purposes of this GC12.3, the phrase, “defects arising from faulty construction, manufacturing, installation, materials, equipment or workmanship in any part of the Work (or Products)”

- (a) expressly excludes any and all defects arising from or contributed to by the acts or omissions of the Consultant in the design and specification of the Work as set out in the Drawings, Specifications, or other written instructions or directives issued by the Consultant under this Contract, but only to the extent of the Consultant’s defective design or specification, and
- (b) expressly includes all defects or deficiencies that arise even if the Work is carried out in a good and workmanlike manner.

GC12.3.4 is deleted in its entirety and replaced as follows:

12.3.4 During the warranty period, the Contractor will promptly repair and correct all defects at no cost to the City. If the Contractor fails to repair or correct any defect during the warranty period within ten (10) calendar days of written notice of its existence, the City may but is not obligated to make the repairs or corrections itself and the actual out-of-pocket costs of such repairs or corrections made by the City will be payable by the Contractor to the City within seven (7) calendar days of receiving an invoice from the City for same. In the event of an emergency where, in the opinion of the City, delay could cause serious loss or damage, or inconvenience to the public, the repairs or corrections may be made without prior notice being sent to the Contractor.

GC12.3.5 is deleted in its entirety and replaced as follows:

12.3.5 Where, pursuant to GC13.1 - Occupancy, the City commences the use of the Work and Products for their intended purposes prior to the issuance of the Certificate of Completion for the Work, the warranty period will be deemed to commence from the issuance date despite such prior use.

GC12.3.6 is deleted in its entirety and replaced as follows:

12.3.6 Issuance of the Certificate of Total Performance of the Work will not extinguish any of the Contractor’s obligations under this Contract and the Contractor will remain liable to perform and complete all Work and carry out all obligations required under this Contract

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SCHEDULE 1 (PART D - FORM OF AGREEMENT)**

GC13.1 OCCUPANCY

GC13.1 is added as follows:

GC13.1 OCCUPANCY

- 13.1.1 The City reserves the right to take possession of and use any completed or partially completed portion of the Work, regardless of the time of completion of the Work, providing it does not interfere with the Contractor's Work, as determined by the Consultant.
- 13.1.2 Such taking possession or use of such Work or part thereof as described in GC13.1.1 shall not be construed as final acceptance of the Work or any part thereof, or an acknowledgement of fulfillment of the Contract.

END OF SUPPLEMENTARY GENERAL CONDITIONS

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SCHEDULE 2 (PART D - FORM OF AGREEMENT)

SCHEDULE 2
LIST OF SPECIFICATIONS AND DRAWINGS

The following is the list of Specifications and Drawings referred to in Article A-3:

[To be added.]

All are incorporated by reference in the form made available by the City during the ITT.

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SCHEDULE 3 (PART D - FORM OF AGREEMENT)

SCHEDULE 3
SCHEDULE OF PRICES

[When the Contract is finalized, this Schedule will be based on the breakdown of the tendered price in relation to the particular Work for which the Contract is awarded, as provided in the successful Tenderer's Form of Tender.]

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SCHEDULE 4 (PART D - FORM OF AGREEMENT)

**SCHEDULE 4
SUBCONTRACTORS AND SUPPLIERS**

The following are Subcontractors that the Contractor will use for the Work:

Subcontractor	Address	Division/Section Of Work
[To be completed, based on Tender]		

The following are Suppliers that the Contractor will use for the Work:

Supplier	Manufacturer	Address	Item
[To be completed, based on Tender]			

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SCHEDULE 5 (PART D - FORM OF AGREEMENT)

SCHEDULE 5
PROJECT SCHEDULE

[Insert the construction schedule provided in response to the Notice of Award, as accepted by the City.]

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SCHEDULE 6 (PART D - FORM OF AGREEMENT)

SCHEDULE 6
PERFORMANCE AND LABOUR AND MATERIAL PAYMENT BONDS

[Attach copies of performance bond and labour and material payment bond
provided after contract award.]

(see attached)

INVITATION TO TENDER NO. PS20220548
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SCHEDULE 7 (PART D - FORM OF AGREEMENT)

SCHEDULE 7
INSURANCE CERTIFICATES

[Attach copies of insurance certificates for the project provided after Contract award.]

(see attached)

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SCHEDULE 8 (PART D - FORM OF AGREEMENT)

SCHEDULE 8
CITY PRE-CONTRACT HAZARD ASSESSMENT FORM

See attached.

Owners List of Known Workplace Hazards

CONTRACT TITLE Britannia Ice Rink - Condenser Replacement

PROJECT MANAGER (CITY EMPLOYEE) Desh Jehman

CONTRACT NAME & # (IF KNOWN) _____

Purpose

This document shall be completed by the project manager, who shall list all the known worksite hazards and all the existing work process hazards that will be associated with the upcoming contract. The completed document shall then be provided to all potential contractors, as part of the tender package, so the project can be bid appropriately based on the known worksite hazards.

Definitions

Project Manager - the City employee designated to be the liaison with the contractor for the purpose of managing, overseeing, coordinating or in any other way administering the contract.

Instructions for Completion

The document must be completed in full. Choices for each entry are:

Y - Yes - the known worksite hazard or existing work process hazard does exist

N - No - the known worksite hazard or existing work process hazard does not exist*, or, a third party (environmental consultant) will address the issue (usually for a hazardous materials assessment)

*based on reasonable estimation from all input by persons with expertise or relevant knowledge and understanding

NA - Not Applicable - the worksite hazard or existing work process is not applicable for this contract type

Information from Hazardous Materials Assessments Provided by a Third Party

A hazardous materials assessment may be completed prior to the Project Manager completing the Owners List of Known Workplace Hazards. Any such assessment should be referenced by the Project Manager in this document and provided with the tender package. Hazardous materials may include asbestos, lead, crystalline silica, ammonia, PCB's, CFC's, moulds, mercury, ozone depleting substances (ODS), radioactive substances.

Assistance in Completing this Document

If you have questions while completing this document, or are unsure if the listed hazards apply, please seek assistance from Health and Safety (604.871.6078 or healthandsafety@vancouver.ca).

HAZARD OR ISSUE	Project Manager
1. ASBESTOS-CONTAINING MATERIALS - disturbance or penetrations of flooring, walls, ceiling tiles, pipe lagging, ac pipe, transite siding, particularly in older facilities; e.g., furniture/fixture installation, carpeting/flooring services, and boiler repair/tune-up services.	Yes No N/A
a) Asbestos containing materials (ACM) will be encountered	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
b) A hazardous materials assessment for asbestos is provided in the tender package	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
c) A hazardous materials assessment for asbestos is the responsibility of the contractor	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

2. LEAD-CONTAINING MATERIALS - disturbance of lead-based paint, particularly in older facilities. Also present in certain electrical circuitry and metal alloys; .e.g., overhead bridge crane maintenance/repair, high-voltage cable splicing services, boiler repair/tune-up services, fixture installation services, and chiller maintenance/repair services.	Yes No N/A
a) Inorganic lead-containing materials may be encountered	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
b) A hazardous materials assessment for lead is provided in the tender package	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
c) A hazardous materials assessment for lead is the responsibility of the contractor	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

3. OTHER HAZARDOUS MATERIALS - may include ammonia, pcb's, cfc's, moulds, mercury, ozone depleting substances (ods), radioactive substances, sewage, unknown contaminated materials, other: (list other here)_____	Yes No N/A
a) A hazardous materials assessment for ammonia is provided in the tender package	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
b) A hazardous materials assessment for (list the specific hazardous material) will be provided in the tender package	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
c) A hazardous materials assessment for (list the specific hazardous materials) will be the contractors responsibility	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

4. CONFINED SPACES - working in vaults, chambers, pits, tanks, etc.; e.g., construction, inspection and testing services, water/fuel storage tank clean-out services, and utility corrosion inspection services.	Yes No N/A
a) A hazard assessment (for entry and inspection only) from the City of Vancouver is provided in the tender package	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
b) The City of Vancouver shall provide procedures to isolate adjacent piping, or to lock out equipment (complicated systems only)	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
c) The contractor shall be responsible for isolation and lockout procedures	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>

5. LOCK OUT - industrial equipment maintenance, power machinery repair services, pump maintenance/repair services, mechanical refrigeration systems, elevator repair, overhead bridge crane maintenance/repair services, cathodic protection services, hydraulic test systems repair/service, and air compressor rebuilding services.	Yes No N/A
a) Lockout will be required to isolate or prevent the unexpected release of energy (electrical, mechanical, hydraulic, chemical, thermal, kinetic, gravitational, pneumatic)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
b) Work will be performed on or near energized equipment, lines, or circuits	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

If yes to a) or b) describe:

Consultants are to lock out their own tools and equipment.

6. FALL PROTECTION - tree pruning, window and ledge cleaning, window replacement, overhead bridge crane maintenance/repair services, roll-up door replacement, tent installation, awning/canopy installation, overhead air exchange installation, construction inspection and testing services.	Yes No N/A
a) Workers will be exposed to a potential fall in excess of 3 m (10 feet), or to a fall of less than 3 m which would likely result in a serious injury (ex. impalement on rebar)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
b) Scaffolding or ladders will be required to be secured to a building or structure	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

7. OVERHEAD AND UNDERGROUND UTILITIES - tree pruning services, tree removal, utility relocation or replacement, underground utility identification (digging with powered equipment), concrete sawing services, pole painting	Yes No N/A
a) There will be electrical hazards associated with overhead power lines such as limits of approach and contact	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
b) Necessary assurances (in writing) have (or will be) obtained by the City, through the utility company, for any work where minimum limits of approach cannot be maintained (provide documentation and review at pre job meeting with the successful contractor candidate)	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
c) Necessary assurances must be obtained (in writing) by the successful contractor, through the utility company, for any work where minimum limits of approach will not be able to be maintained	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
d) Underground or hidden utilities are located on the job site and any excavation or drilling work in proximity to an underground utility service must be undertaken in conformity with the requirements of the owner of that utility service	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

If yes to c), and the specific physical locations where minimum limits of approach will not be able to be maintained are known, how will this information be provided to the contractor?

8. CONSTRUCTION, EXCAVATION, SHORING AND DEMOLITION	Yes No N/A
a) As Prime Contractor, the City of Vancouver project manager will submit the Notice of Project	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
b) Workers will be required to enter an excavation over 1.2m (4 ft) in depth	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>


9. CHEMICALS, SOLVENTS, FUMES, VAPORS, AND/OR DUSTS (existing work processes or known worksite hazard only) - ice rinks, swimming pools, cleaning solvents, adhesives, paints, coatings, binders; e.g., storage tank clean-out services, countertop installation (epoxies), and flooring	Yes No N/A
a) The worksite has chemicals solvents, fumes, vapors or dusts that may affect the contractor	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
b) Material Safety Data Sheets for chemicals currently in use at the worksite will be available, on request, to the contractor	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

If yes to a), list the work processes and/or chemicals in use:

Cleaning supplies will have chemical solvents, fumes, vapors, and dust

10. NOISE - (existing work processes only)	Yes No N/A
a) Employees will be exposed to noise levels above 85dbA	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

OTHER HAZARDS (NOT IDENTIFIED ABOVE)
a)
b)
c)

KNOWN WORKPLACE HAZARDS LIST COMPLETED BY	
Project Manager Name (print): Desh Jehman	
Project Manager Signature: 	Date: November 30, 2021
Title: Project Manager	Phone: 604-619-9272

INVITATION TO TENDER NO. PS20220548
CONTRACTOR FOR BRITANNIA ARENA CONDENSER REPLACEMENT
SCHEDULE 9 (PART D - FORM OF AGREEMENT)

SCHEDULE 9
CONTRACTOR PRE-CONTRACT HAZARD ASSESSMENT FORM

CONTRACT TITLE _____

PROJECT MANAGER (CITY EMPLOYEE) _____

CONTRACTOR REPRESENTATIVE _____

CONTRACT NAME & # _____

Purpose

This document shall be completed by the contractor awarded the contract, who shall identify all the **known and potential work process hazards** associated with the contract. The contractor, who is responsible for all identified actions, shall provide a completed Contractors Pre-Work Hazard Identification (CHI) document to the Project Manager (City employee) for review and consultation before the contract work begins.

Reference Material

In order to complete this document, the contractor should reference a completed copy of the **List of Known Workplace Hazards**, initially provided with the tender package. The contractor is also responsible to reference any **Hazardous Materials Assessments**, provided by the City with the tender package, and possibly referenced in the List of Known Workplace Hazards document.

Instructions for Completion

The document must be completed in full. Choices for each entry are:

Y - Yes - this work process or worksite hazard will exist for this contract and are the responsibility of the contractor

N - No - Even though the work process or worksite hazard will exist, it will not be the responsibility of the contractor

NA - Not Applicable - the work process or worksite hazard is not applicable for this contract

TBD - a third party (environmental consultant) will address the issue (primarily for a hazardous materials assessment)

Each grouping of safety hazards or issues in this document (bold text, capitalized) may list some examples of work tasks where this hazard may be encountered. These examples are not conclusive; there may be other examples of work tasks that create this hazard or issue.

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Documentation and Training Requirements

During the contract term, the contractor may be requested by the City of Vancouver, and shall provide documented evidence for items identified with a **(D)** in this document.

The summary table at the end of the document provides all potentially required documentation, and if applicable, the WCB OHS Regulation reference.

For any identified hazard marked with a **(T)**, the contractor is responsible to train their employees.

HAZARDOUS MATERIALS

The contractor is responsible for providing additional information on hazardous materials which may be encountered as part of the work process, yet not identified in the List of Known Workplace Hazards.

HAZARD OR ISSUE	Contractor Confirmation
1. ASBESTOS-CONTAINING MATERIALS - disturbance or penetrations of flooring, walls, ceiling tiles, pipe lagging, ac pipe, transite siding, particularly in older facilities; e.g., furniture/fixture installation, carpeting/flooring services, and boiler repair/tune-up services.	Yes (Y) No (N) Not Applicable (NA) or To Be Determined (TBD)
a) We have reviewed the hazardous materials assessment for asbestos provided by the City of Vancouver (or third party) in the tender package	Y N NA TBD
b) We will provide a written hazardous materials assessment for asbestos	Y N NA TBD
c) We have a written Asbestos Program (D)	Y N NA
d) As Prime Contractor, we will submit a Notice of Project Asbestos(NOP-A) to WorksafeBC at least 24 hours in advance of the project startup	Y N NA

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2. LEAD-CONTAINING MATERIALS - disturbance of lead-based paint, particularly in older facilities. Also present in certain electrical circuitry and metal alloys; .e.g., overhead bridge crane maintenance/repair, high-voltage cable splicing services, boiler repair/tune-up services, fixture installation services, and chiller maintenance/repair services.	Yes (Y) No (N) or Not Applicable (NA)
a) We have reviewed the hazardous materials assessment for lead provided by the City of Vancouver (or third party) in the tender package	Y N NA TBD
b) We will provide a written hazardous materials assessment for lead	Y N NA TBD
c) We have a written exposure control program for Lead (D)	Y N NA

3. OTHER HAZARDOUS MATERIALS - may include PCBs, CFCs, molds, mercury, ozone depleting substances (ODS), radioactive substances, sewage and unidentified contaminated hazardous materials, other: (list other here) _____	Yes (Y) No (N) or Not Applicable (NA)
a) We have reviewed the hazardous materials assessment for (insert hazardous material type here) provided by the City of Vancouver, or a third party, in the tender package	Y N NA TBD
b) We have reviewed the hazardous materials assessment for (insert hazardous material type here) provided by the City of Vancouver, or a third party, in the tender package	Y N NA TBD
c) We will provide a hazardous materials assessment for (insert hazardous material type here)	Y N NA TBD
d) We will provide a hazardous materials assessment for (insert hazardous material type here)	Y N NA TBD

4. CONFINED SPACES - working in vaults, chambers, pits, tanks, etc.; e.g., construction, inspection and testing services, water/fuel storage tank clean-out services, and utility corrosion inspection services.	Yes (Y) No (N) or Not Applicable (NA)
a) We have reviewed the confined space hazard assessment provided by the City of Vancouver in the tender package	Y N NA TBD
b) We have a written confined space entry program (D)	Y N NA
c) Our employees have received confined space training (T)	Y N NA
d) We shall complete a confined space hazard assessment specific to the work to be performed (D)	Y N NA
e) We shall develop site specific written safe operating procedures (including evacuation and rescue components) prior to starting work (D)	Y N NA

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f) We shall identify and record isolation points (D)	Y N NA
g) We will develop alternate procedures (as per WCB OHS Regulation # 9.22) to be used to isolate adjacent piping containing harmful substances (D)	Y N NA
h) We will provide for the services of rescue persons	Y N NA

If yes to g), provide brief description:

5. LOCK OUT - industrial equipment maintenance, power machinery repair services, pump maintenance/repair services, mechanical refrigeration systems, elevator repair, overhead bridge crane maintenance/repair services, cathodic protection services, hydraulic test systems repair/service, and air compressor rebuilding services.	Yes (Y) No (N) or Not Applicable (NA)
a) We will be required to lock out in order to isolate or prevent the unexpected release of energy (electrical, mechanical, hydraulic, chemical, thermal, kinetic, gravitational, pneumatic)	Y N NA
b) We will perform work on, or near, energized equipment, lines or circuits	Y N NA

Note: If yes to a) or b) above, no work may be performed until reviewed by City of Vancouver project manager or project manager designate.

If yes to a) or b) describe:

6A. FALL PROTECTION - tree pruning, window and ledge cleaning, window replacement, overhead bridge crane maintenance/repair services, roll-up door replacement, tent installation, awning/canopy installation, overhead air exchange installation, construction inspection and testing services.	Yes (Y) No (N) or Not Applicable (NA)
a) Our employees will be exposed to a potential fall in excess of 3 m (10 feet), or to a fall of less than 3 m which would likely result in a serious injury (ex. impalement on rebar)	Y N NA
b) We will produce a written Fall Protection Plan for work that will occur more than 25 feet above grade, or, if written procedures (control zone) are to be used as the means of fall protection (D)	Y N NA
c) Our employees who will be required to use fall protection have received training (T)	Y N NA

If yes to a), describe:

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SCHEDULE 9 (PART D - FORM OF AGREEMENT)

6B. SCAFFOLDING AND LADDERS - window replacement or cleaning, tree pruning, roll-up door replacement, tent installation, and awning/canopy installation.	Yes (Y) No (N) or Not Applicable (NA)
a) Our employees will use scaffolding or ladders for access to the work	Y N NA
b) The scaffolding or ladders will be exposed to wet and/or slippery conditions	Y N NA
c) We will ensure scaffolding or ladders are secured before accessing the worksite	Y N NA
d) Scaffolding will be erected and dismantled only by qualified workers	Y N NA

7. OVERHEAD POWER LINES AND UNDERGROUND UTILITIES - tree pruning services, tree removal, utility relocation or replacement, underground utility identification services, concrete sawing services, pole painting	Yes (Y) No (N) or Not Applicable (NA)
a) There are electrical hazards associated with overhead power lines such as limits of approach and contact	Y N NA
b) We will obtain necessary assurances, in writing, through the utility company, for any work where minimum limits of approach cannot be maintained	Y N NA
c) Underground or hidden utilities may be on the job site and we shall contact the Project Manager and BC OneCall at least four business days prior to the start of any excavation work	Y N NA
d) In the event of an inadvertent utility strike, we will have a written procedure for immediate notification of both the utility company and WorkSafeBC (D)	Y N NA

8. CONSTRUCTION, EXCAVATION, SHORING AND DEMOLITION	Yes (Y) No (N) or Not Applicable (NA)
a) As Prime Contractor, we will submit a Notice of Project (NOP) to WorksafeBC at least 24 hours in advance of the project startup date	Y N NA
b) Workers may be required to enter an excavation over 1.2m (4 ft) in depth	Y N NA
c) We will develop site specific written safe operating procedures, including evacuation and rescue components, prior to starting any excavation work (D)	Y N NA
d) Shoring will be installed in accordance with Part 20 of the WorkSafeBC OH&S Regulation	Y N NA
e) We will provide safe means of entry and exit for excavations	Y N NA
f) We will provide for the services of rescue persons and equipment (excavation rescue)	Y N NA

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g) We will develop a demolition/salvage plan (D)	Y N NA
h) We will evaluate the demolition materials for reuse or recycling	Y N NA
i) We will protect passers-by from potential hazards	Y N NA

9. CHEMICALS, SOLVENTS, FUMES, VAPORS, AND DUSTS - cleaning solvents, adhesives, paints, coatings, binders; e.g., storage tank clean-out services, countertop installation (epoxies), and flooring	Yes (Y) No (N) or Not Applicable (NA)
a) We will complete a hazard assessment for chemicals we will use in our work, and if chemicals already exist at the workplace, our assessment will identify possible results of any reactions between our chemicals and those of the City's operations	Y N NA

10. NOISE AND VIBRATION - includes installations and heavy equipment operation. Noise examples for 85 - 90 dbA (at noise source) include forklift, smoke alarm, table saw. Whole body vibration examples include truck or equipment operator and jackhammer operation	Yes (Y) No (N) or Not Applicable (NA)
a) Our employees will be exposed to noise levels above 85dbA	Y N NA
b) We have a written hearing conservation program (D)	Y N NA
c) Our employees will be exposed to excessive levels of whole body vibration (WBV)	Y N NA

11. OCCUPATIONAL HEALTH AND SAFETY PROGRAM	Yes (Y) No (N) or Not Applicable (NA)
a) We have a written Safety Program (D)	Y N NA
b) We will make regular inspections of all workplaces	Y N NA
c) We will immediately investigate any reported unsafe conditions and correct as required	Y N NA
d) We will investigate all incidents and provide written incident reports to the Project Manager	Y N NA
e) We will develop a written plan (D) identifying how risk to the public and workers will be minimized (may include the use of barriers and safe entry/exit points from the worksite)	Y N NA

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12. FIRST AID	Yes (Y) No (N) or Not Applicable (NA)
a) First aid equipment, supplies, facilities and services will be readily accessible during working hours	Y N NA
b) We will complete a first aid assessment (D)	Y N NA
c) We will post site drawings and signs indicating the location of, and how to summon, first aid	Y N NA
d) We will develop an effective means of communication between the first aid attendant and the work areas	Y N NA

13. FIRE PROTECTION - solvents, fuels, soldering, torch cutting, or heating devices; e.g., gasoline and diesel fuel delivery services, flooring services, fire suppression service, and water pipe repair services	Yes (Y) No (N) or Not Applicable (NA)
a) We will weld, solder, or cut with a torch	Y N NA
b) We will use or store flammable/combustible liquids	Y N NA
c) We will use temporary heating devices	Y N NA
d) We will provide water and/or fire extinguishers on the job site	Y N NA

14. PERSONAL PROTECTIVE EQUIPMENT (PPE)	Yes (Y) No (N) or Not Applicable (NA)
a) We will ensure our workers have appropriate personal protective clothing and equipment (e.g., safety footwear, hi-vis vests, hardhats, eye protection, face protection, hearing protection, chemical gloves/clothing)	Y N NA
b) We have a written PPE program (D)	Y N NA

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15. RESPIRATORY PROTECTION	Yes (Y) No (N) or Not Applicable (NA)
a) The work will involve materials or processes requiring respiratory protection	Y N NA
b) We have a written respiratory protection program (D)	Y N NA

16. TOOLS MACHINERY AND EQUIPMENT	Yes (Y) No (N) or Not Applicable (NA)
a) We will use powder-actuated tools.	Y N NA
b) Our employees who operate equipment have been trained and are qualified in use of that equipment. (T)	Y N NA

If yes to a), describe:

17. CRANES, FORKLIFTS, AND MANLIFTS - heavy or oversized goods delivery, tree pruning, overhead bridge crane maintenance/repair, and roll-up door replacement.	Yes (Y) No (N) or Not Applicable (NA)
a) We will use a crane, forklift, manlift or other lifting equipment	Y N NA
b) Our lifting and rigging equipment is certified where applicable, and inspected on a regular basis	Y N NA
c) Our operators shall have a valid operators certificate (mobile crane or tower crane) or have received training (boom lift, scissor lift or forklift) (T)	Y N NA
d) Only lifting attachments approved for use by the forklift manufacturer will be used	Y N NA

18. RIGGING	Yes (Y) No (N) or Not Applicable (NA)
a) We will lift or sling loads overhead	Y N NA
b) We will inspect ropes, hooks and slings before use on each shift	Y N NA

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 SCHEDULE 9 (PART D - FORM OF AGREEMENT)

19. MOTOR VEHICLES AND HEAVY EQUIPMENT - goods delivery, personnel transportation services, trailer relocation services, oil/water pumpout and recycling services, asphalt grinding and asphalt sealing services, weed/brush abatement and mowing services, landscape hydroseed services, tree stump grinding, and concrete sawing and removal	Yes (Y) No (N) or Not Applicable (NA)
a) We will use motor vehicles or heavy equipment at the work location	Y N NA
b) All operators have a valid provincial driver's license	Y N NA
c) We will inspect vehicles, including safety features (e.g., ROPS)	Y N NA

20. TRAFFIC CONTROL	Yes (Y) No (N) or Not Applicable (NA)
a) There will be uncontrolled movement of vehicular traffic at the worksite	Y N NA
b) We will develop a written traffic control plan (D)	Y N NA
c) We will put in place any required traffic control devices	Y N NA
d) The traffic control devices conform to the Ministry of Transportation and Infrastructure (MoTI) " <i>Traffic Control Manual for Work on Roadways</i> "	Y N NA
e) We will provide Traffic Control Persons (TCP's) as required by law	Y N NA

21. CRYSTALLINE SILICA DUST	Yes (Y) No (N) or Not Applicable (NA)
a) Our work will involve jackhammering, rotohammering, drilling, grinding or other disturbance of concrete or stone, creating potential exposure to silica dust	Y N NA

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22. Additional Concerns	Yes (Y) No (N) or Not Applicable (NA)
We foresee additional health and safety concerns associated with the work	Y N NA

If yes, describe:

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____
- f) _____

Describe the control measures each of the concerns listed above:

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____
- f) _____

PRE CONTRACT HAZARD ASSESSMENT COMPLETED BY	
Contractor's Representative Name (print):	
Contractor's Representative Signature:	Date:
Title:	Phone:

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SCHEDULE 9 (PART D - FORM OF AGREEMENT)

CONTRACTOR'S DESIGNATE RESPONSIBLE FOR ONSITE SAFETY	
Name (print):	
Title:	Phone:

SUMMARY OF DOCUMENTATION (D) TO BE PROVIDED BY THE CONTRACTOR upon request by the City of Vancouver (documentation required as per Workers Compensation Board Occupational Health and Safety (WCB OHS) Regulation, the Workers' Compensation Act (WCA) or the City of Vancouver)	Yes (Y) or Not Applicable (NA)
a) Safety Program (WCB OHS Regulation Parts 3.1-3.3)	
b) Asbestos Exposure Control Plan (WCB OHS Regulation Part 6.3)	
c) Lead (Pb) Exposure Control Plan (WCB OHS Regulation Part 6.60)	
d) Respiratory Protection Program (WCB OHS Regulation Part 8.5)	
e) Confined Space Entry Program (WCB OHS Regulation Parts 9.5 and 9.6)	
f) Plan for minimizing risk to public and to workers (City of Vancouver)	
g) Personal Protective Equipment (PPE) Program (WCB OHS Regulation Part 8.5)	
h) Hearing Conservation Program (WCB OHS Regulation Part 7.5)	
i) Confined Space Hazard Assessment (WCB OHS Regulation Part 9.9)	
j) Work Procedure, including evacuation and rescue, for confined space (WCB OHS Regulation Part 9.10 and 9.11)	
k) Identification of Isolation Points (confined space) (WCB OHS Regulation Part 9.19)	
l) Alternate procedures to isolate adjacent piping (confined space) (WCB OHS Regulation Part 9.22)	
m) Fall Protection Plan (WCB OHS Regulation Part 11.3)	
n) Traffic Control Plan (Ministry of Transportation and Infrastructure (MOTI) manual, as referenced in WCB OHS Regulation Part 18.3)	
o) In the event of a utility strike, a written procedure for notification of Utility Provider (WCB OHS Regulation Part 4.18) and WorksafeBC (Workers' Compensation Act Part 3, Division 10, Sec. 172 (1)(c))	
p) Work Procedure (including evacuation and rescue) for excavations (City of Vancouver)	

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q) Demolition/Salvage Plan (City of Vancouver in reference to WCB OHS Regulation Part 20.112)	
r) First Aid Assessment (WCB OHS Regulation Part 3.16 (2))	

SUMMARY OF TRAINING REQUIREMENTS (T) OF CONTRACTOR EMPLOYEES (for any persons completing this type of work throughout the duration of the contract)	Yes (Y) or Not Applicable (NA)
a) Confined Space Entry (WCB OHS Regulation Part 9.8)	
b) Fall Protection (WCB OHS Regulation Part 11.2 (6))	
c) Equipment Operation (WCB OHS Regulation Part 4.3 (1) (b)(i) (ii))	
d) Mobile Equipment (ex. boom lift, scissor lift, forklift) (WCB OHS Regulation Part 16.4)	

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SCHEDULE 10 (PART D - FORM OF AGREEMENT)

SCHEDULE 10
FORCE ACCOUNT LABOUR AND CONSTRUCTION EQUIPMENT RATES

[When Contract is finalized, insert table of labour and equipment rates provided with successful Tenderer's Form of Tender]