



Request for Quotations
For
Island Savings Centre Lobby Washroom Upgrades

Request for Quotations No.: **R18-01**

Issued: **January 2, 2018**

Submission Deadline: **January 24, 2018 @ 4 p.m. local time**

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Architectural Specifications

Complete Set of Drawings

Hazmat Materials Assessment

PART 1 – INVITATION AND SUBMISSION INSTRUCTIONS

1.1 Invitation to Respondents

This Request for Quotations (the “RFQ”) is an invitation by the Cowichan Valley Regional District (the “CVRD”) to prospective respondents to submit non-binding quotations for **Island Savings Centre Lobby Washroom Upgrades**, as further described in Section A of the RFQ Particulars (Appendix D) (the “Deliverables”).

1.2 RFQ Contact

For the purposes of this procurement process, the “RFQ Contact” will be:

Anthony Jeffery
Procurement Officer, Cowichan Valley Regional District
Email: purchasing@cvrd.bc.ca

Respondents and their representatives are not permitted to contact any employees, officers, agents, elected or appointed officials or other representatives of the CVRD, other than the RFQ Contact, concerning matters regarding this RFQ. Failure to adhere to this rule may result in the disqualification of the respondent and the rejection of the respondent’s quotation.

1.3 Type of Contract for Deliverables

The selected respondent will be requested to enter into a contract for the provision of the Deliverables on the terms and conditions set out in the Form of Agreement (Appendix A) (the “Agreement”). It is the CVRD’s intention to enter into a contract with only one (1) legal entity.

1.4 RFQ Timetable

Issue Date of RFQ	January 2, 2018
Site Visit Meeting	January 10, 2018 @ 10:30 a.m. local time
Deadline for Questions	January 17, 2018 @ 4 p.m. local time
Deadline for Issuing Addenda	January 19, 2018 @ 4 p.m. local time
Submission Deadline	January 24, 2018 @ 4 p.m. local time
Anticipated Execution of Agreement	January 26, 2018

The RFQ timetable is tentative only, and may be changed by the CVRD at any time.

The site meeting will be held in the lobby of Island Savings Centre (ISC) at 2687 James St. Duncan BC V9L 2X5.

1.5 Submission of Quotations

1.5.1 Quotations to be Submitted to Prescribed Location

Quotations must be sent by email to the RFQ Contact at the email address set out below or delivered to the following address:

Attention: Anthony Jeffery, Procurement Officer
Email: purchasing@cvrd.bc.ca

Cowichan Valley Regional District
175 Ingram Street
DUNCAN, BC V9L 1N8

1.5.2 Quotations to be Submitted on Time

The complete quotation must be received in the inbox of the RFQ Contact's email address or delivered to the above address by the Submission Deadline. Quotations received after the Submission Deadline will not be considered.

1.5.3 Quotations to be Submitted in Prescribed Format

Respondents submitting via email must submit one electronic copy of their quotation to the email address noted in 1.5.1. The email should indicate the RFQ title and number (see RFQ cover page) in the subject line and the full legal name of the respondent in the body of the email.

Respondents should note that the maximum acceptable email size is 8MB. If greater than 8MB, respondents should email quotations in multiple emails. If sending in multiple emails, each email should indicate the total number of emails that are being sent. All emails must be received prior to the Submission Deadline.

Respondents submitting by hard copy must submit 3 copies of their quotation to the address noted in 1.5.1. It should be in a sealed package indicating the title and number (see RFQ cover page) and the full legal name of the respondent on the cover

1.5.4 Amendment of Quotations

Respondents may amend their quotations prior to the Submission Deadline by submitting the amendment in the same prescribed format as detailed in 1.5.3. Any amendment should clearly indicate which part of the quotation the amendment is intended to amend or replace.

1.5.5 Withdrawal of Quotations

At any time throughout the RFQ process until the execution of a written agreement for provision of the Deliverables, a respondent may withdraw a submitted quotation. To withdraw a quotation, a notice of withdrawal must be in writing to the RFQ Contact in the same prescribed format as detailed in 1.5.3 and must be signed by an authorized representative of the respondent. The CVRD is under no obligation to return withdrawn quotations.

[End of Part 1]

PART 2 – EVALUATION AND AWARD

2.1 Stages of Evaluation

The CVRD will conduct the evaluation of quotations in the following stages:

2.2 Stage I – Mandatory Submission Requirements

Stage I will consist of a review to determine which quotations comply with all of the mandatory submission requirements. Quotations that fail to satisfy the mandatory submission requirements will be rejected. The mandatory submission requirements are listed in Section C of the RFQ Particulars (Appendix D).

2.3 Stage II – Evaluation

Stage II will consist of the following two sub-stages:

2.3.1 Mandatory Technical Requirements

The CVRD will review the quotations to determine whether the mandatory technical requirements as set out in Section D of the RFQ Particulars (Appendix D) have been met. Questions or queries on the part of the CVRD as to whether a quotation has met the mandatory technical requirements will be subject to the verification and clarification process set out in Part 3.

2.3.2 Rated Criteria

The CVRD will evaluate each qualified quotation on the basis of the rated criteria as set out in Section F of the RFQ Particulars (Appendix D).

2.4 Stage III – Pricing

Stage III will consist of a scoring of the submitted pricing in each qualified quotation in accordance with the price evaluation method set out in Pricing (Appendix C). The evaluation of price will be undertaken after the evaluation of mandatory requirements and rated criteria has been completed.

2.5 Selection of Top-Ranked Respondent

After the completion of Stage III, all scores from Stage II and Stage III will be added together and respondents will be ranked based on their total scores. Subject to the process rules contained in the Terms and Conditions of the RFQ Process (Part 3), the top-ranked respondent will be invited to enter into the Agreement in accordance with Part 3. In the event of a tie, the selected respondent will be the respondent selected by way of coin toss. The selected respondent will be notified in writing and will be expected to satisfy any applicable conditions of this RFQ, including the pre-conditions of award listed in Section E of the RFQ Particulars (Appendix D), and enter into the Agreement within the timeframe specified in the selection notice. Failure to do so may result in the disqualification of the respondent and the selection of another respondent or the cancellation of the RFQ.

[End of Part 2]

PART 3 – TERMS AND CONDITIONS OF THE RFQ PROCESS

3.1 General Information and Instructions

3.1.1 Respondents to Follow Instructions

Respondents should structure their quotations in accordance with the instructions in this RFQ. Where information is requested in this RFQ, any response made in a quotation should reference the applicable section numbers of this RFQ.

3.1.2 Quotations in English

All quotations are to be in English only.

3.1.3 No Incorporation by Reference

The entire content of the respondent's quotation should be submitted in a fixed form, and the content of websites or other external documents referred to in the respondent's quotation but not attached will not be considered to form part of its quotation.

3.1.4 Past Performance

In the evaluation process, the CVRD may consider the respondent's past performance or conduct on previous contracts with the CVRD or other institutions.

3.1.5 Information in RFQ Only an Estimate

The CVRD and its advisers make no representation, warranty or guarantee as to the accuracy of the information contained in this RFQ or issued by way of addenda. Any quantities shown or data contained in this RFQ or provided by way of addenda are estimates only, and are for the sole purpose of indicating to respondents the general scale and scope of the Deliverables. It is the respondent's responsibility to obtain all the information necessary to prepare a quotation in response to this RFQ.

3.1.6 Respondents to Bear Their Own Costs

The respondent will bear all costs associated with or incurred in the preparation and presentation of its quotation, including, if applicable, costs incurred for interviews or demonstrations.

3.1.7 Quotation to be Retained by the CVRD

The CVRD will not return the quotation or any accompanying documentation submitted by a respondent.

3.1.8 No Guarantee of Volume of Work or Exclusivity of Contract

The CVRD makes no guarantee of the value or volume of work to be assigned to the successful respondent.

3.2 Communication after Issuance of RFQ

3.2.1 Respondents to Review RFQ

Respondents should promptly examine all of the documents comprising this RFQ, and may direct questions or seek additional information in writing by email to the RFQ Contact on or before the Deadline for Questions. No such communications are to be directed to anyone other than the RFQ Contact. The CVRD is under no obligation to provide additional information, and the CVRD is not responsible for any information provided by or obtained from any source other than the RFQ Contact. It is the responsibility of the respondent to seek clarification from the RFQ Contact on any matter it considers to be unclear. The CVRD is not responsible for any misunderstanding on the part of the respondent concerning this RFQ or its process.

3.2.2 All New Information to Respondents by Way of Addenda

This RFQ may be amended only by addendum in accordance with this section. If the CVRD, for any reason, determines that it is necessary to provide additional information relating to this RFQ, such information will be communicated to all respondents by addendum. Each addendum forms an integral part of this RFQ and may contain important information, including significant changes to this RFQ. Respondents are responsible for obtaining all addenda issued by the CVRD. In the Submission Form (Appendix B), respondents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

3.2.3 Post-Deadline Addenda and Extension of Submission Deadline

If the CVRD determines that it is necessary to issue an addendum after the Deadline for Issuing Addenda, the CVRD may extend the Submission Deadline for a reasonable period of time.

3.2.4 Verify, Clarify and Supplement

When evaluating quotations, the CVRD may request further information from the respondent or third parties in order to verify, clarify or supplement the information provided in the respondent's quotation, including but not limited to clarification with respect to whether a quotation meets the mandatory technical requirements set out in Section C of the RFQ Particulars (Appendix D). The CVRD may revisit, re-evaluate and rescore the respondent's response or ranking on the basis of any such information.

3.3 Notification and Debriefing

3.3.1 Notification to Other Respondents

Once an agreement is executed by the CVRD and a respondent, the other respondents may be notified directly via email and will be notified by public posting in the same manner that this RFQ was originally posted of the outcome of the procurement process.

3.3.2 Debriefing

Respondents may request a debriefing after receipt of a notification of the outcome of the procurement process. All requests must be in writing to the RFQ Contact and must be made within sixty (60) days of such notification.

3.3.3 Procurement Protest Procedure

If a respondent wishes to challenge the RFQ process, it should provide written notice to the RFQ Contact in accordance with the CVRD's procurement protest procedures and any applicable trade agreement or other applicable bid protest procedures. The notice must provide a detailed explanation of the respondent's concerns with the procurement process or its outcome.

3.4 Conflict of Interest and Prohibited Conduct

3.4.1 Conflict of Interest

For the purposes of this RFQ, the term "Conflict of Interest" includes, but is not limited to, any situation or circumstance where:

- (a) in relation to the RFQ process, the respondent has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to (i) having, or having access to, confidential information of the CVRD in the preparation of its quotation that is not available to other respondents, (ii) communicating with any person with a view to influencing preferred treatment in the RFQ process (including but not limited to the lobbying of decision makers involved in the RFQ process), or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the open and competitive RFQ process or render that process non-competitive or unfair; or
- (b) in relation to the performance of its contractual obligations under a contract for the Deliverables, the respondent's other commitments, relationships or financial interests (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement, or (ii) could, or could be seen to, compromise, impair or be incompatible with the effective performance of its contractual obligations.

3.4.2 Disqualification for Conflict of Interest

The CVRD may disqualify a respondent for any conduct, situation or circumstances, determined by the CVRD, in its sole and absolute discretion, to constitute a Conflict of Interest as defined above.

3.4.3 Disqualification for Prohibited Conduct

The CVRD may disqualify a respondent, rescind notice of selection or terminate a contract subsequently entered into if the CVRD determines that the respondent has engaged in any conduct prohibited by this RFQ.

3.4.4 Prohibited Respondent Communications

Respondents must not engage in any communications that could constitute a Conflict of Interest and should take note of the Conflict of Interest declaration set out in the Submission Form (Appendix B).

3.4.5 Respondent Not to Communicate with Media

Respondents must not at any time directly or indirectly communicate with the media in relation to this RFQ or any agreement entered into pursuant to this RFQ without first obtaining the written permission of the RFQ Contact.

3.4.6 No Lobbying

Respondents must not, in relation to this RFQ or the evaluation and selection process, engage directly or indirectly in any form of political or other lobbying whatsoever to influence the selection of the successful respondent(s).

3.4.7 Illegal or Unethical Conduct

Respondents must not engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud, coercion or collusion. Respondents must not engage in any unethical conduct, including lobbying, as described above, or other inappropriate communications; offering gifts to any employees, officers, agents, elected or appointed officials or other representatives of the CVRD; deceitfulness; submitting quotations containing misrepresentations or other misleading or inaccurate information; or any other conduct that compromises or may be seen to compromise the competitive process provided for in this RFQ.

3.4.8 Past Performance or Past Conduct

The CVRD may prohibit a supplier from participating in a procurement process based on past performance or based on inappropriate conduct in a prior procurement process, including but not limited to the following:

- (a) illegal or unethical conduct as described above;
- (b) the refusal of the supplier to honour its submitted pricing or other commitments; or
- (c) any conduct, situation or circumstance determined by the CVRD, in its sole and absolute discretion, to have constituted an undisclosed Conflict of Interest.

3.5 Confidential Information

3.5.1 Confidential Information of the CVRD

All information provided by or obtained from the CVRD in any form in connection with this RFQ either before or after the issuance of this RFQ:

- (a) is the sole property of the CVRD and must be treated as confidential;
- (b) is not to be used for any purpose other than replying to this RFQ and the performance of any subsequent contract for the Deliverables;
- (c) must not be disclosed without prior written authorization from the CVRD; and

- (d) must be returned by the respondent to the CVRD immediately upon the request of the CVRD.

3.5.2 Confidential Information of Respondent

A respondent should identify any information in its quotation or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the CVRD. The confidentiality of such information will be maintained by the CVRD, except as otherwise required by law or by order of a court or tribunal. Respondents are advised that their quotations will, as necessary, be disclosed, on a confidential basis, to advisers retained by the CVRD to advise or assist with the RFQ process, including the evaluation of quotations. If a respondent has any questions about the collection and use of personal information pursuant to this RFQ, questions are to be submitted to the RFQ Contact.

3.6 Procurement Process Non-Binding

3.6.1 No Contract A and No Claims

This procurement process is not intended to create and will not create a formal, legally binding bidding process and will instead be governed by the law applicable to direct commercial negotiations. For greater certainty and without limitation:

- (a) this RFQ will not give rise to any Contract A–based tendering law duties or any other legal obligations arising out of any process contract or collateral contract; and
- (b) neither the respondent nor the CVRD will have the right to make any claims (in contract, tort, or otherwise) against the other with respect to the award of a contract, failure to award a contract or failure to honour a quotation submitted in response to this RFQ.

3.6.2 No Contract until Execution of Written Agreement

This RFQ process is intended to solicit non-binding quotations for consideration by the CVRD and may result in an invitation by the CVRD to a respondent to enter into the Agreement. No legal relationship or obligation regarding the procurement of any good or service will be created between the respondent and the CVRD by this RFQ process until the execution of a written agreement for the acquisition of such goods and/or services.

3.6.3 Non-Binding Price Estimates

While the pricing information provided in quotations will be non-binding prior to the execution of a written agreement, such information will be assessed during the evaluation of the quotations and the ranking of the respondents. Any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact any such evaluation or ranking or the decision of the CVRD to enter into an agreement for the Deliverables.

3.6.4 Cancellation

The CVRD may cancel or amend the RFQ process without liability at any time.

3.7 Governing Law and Interpretation

These Terms and Conditions of the RFQ Process (Part 3):

- (a) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision);
- (b) are non-exhaustive and must not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations; and
- (c) are to be governed by and construed in accordance with the laws of the province of British Columbia and the federal laws of Canada applicable therein.

[End of Part 3]

APPENDIX A – FORM OF AGREEMENT

CCDC 2 - 2008

APPENDIX B – SUBMISSION FORM

1. Respondent Information

Please fill out the following form, naming one person to be the respondent's contact for the RFQ process and for any clarifications or communication that might be necessary.	
Full Legal Name of Respondent:	
Any Other Relevant Name under which Respondent Carries on Business:	
Street Address:	
City, Province/State:	
Postal Code:	
Phone Number:	
Company Website (if any):	
Respondent Contact Name and Title:	
Respondent Contact Phone:	
Respondent Contact Email:	

2. Acknowledgment of Non-Binding Procurement Process

The respondent acknowledges that the RFQ process will be governed by the terms and conditions of the RFQ, and that, among other things, such terms and conditions confirm that this procurement process does not constitute a formal, legally binding bidding process (and for greater certainty, does not give rise to a Contract A bidding process contract), and that no legal relationship or obligation regarding the procurement of any good or service will be created between the CVRD and the respondent unless and until the CVRD and the respondent execute a written agreement for the Deliverables.

3. Ability to Provide Deliverables

The respondent has carefully examined the RFQ documents and has a clear and comprehensive knowledge of the Deliverables required. The respondent represents and warrants its ability to provide the Deliverables in accordance with the requirements of the RFQ for the rates set out in its quotation.

4. Non-Binding Pricing

The respondent has submitted its pricing in accordance with the instructions in the RFQ and in Pricing (Appendix C) in particular. The respondent confirms that the pricing information provided is accurate. The respondent acknowledges that any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact the acceptance of its quotation or its eligibility for future work.

Price to complete the work detailed in this competition document excluding GST:	\$ _____
GST	\$ _____
Total Price	\$ _____

5. Addenda

The respondent is deemed to have read and taken into account all addenda issued by the CVRD prior to the Deadline for Issuing Addenda. The respondent is requested to confirm that it has received all addenda by listing the addenda numbers, or if no addenda were issued by writing the word "None", on the following line: _____. Respondents who fail to complete this section will be deemed to have received all posted addenda.

6. No Prohibited Conduct

The respondent declares that it has not engaged in any conduct prohibited by this RFQ.

7. Conflict of Interest

Respondents must declare all potential Conflicts of Interest, as defined in section 3.4.1 of the RFQ. This includes disclosing the names and all pertinent details of all individuals (employees, advisers, or individuals acting in any other capacity) who (a) participated in the preparation of the quotation; **AND** (b) were employees of the CVRD within twelve (12) months prior to the Submission Deadline.

If the box below is left blank, the respondent will be deemed to declare that (a) there was no Conflict of Interest in preparing its quotation; and (b) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

Otherwise, if the statement below applies, check the box.

- ☐ The respondent declares that there is an actual or potential Conflict of Interest relating to the preparation of its quotation, and/or the respondent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

If the respondent declares an actual or potential Conflict of Interest by marking the box above, the respondent must set out below details of the actual or potential Conflict of Interest:

8. Disclosure of Information

The respondent hereby agrees that any information provided in this quotation, even if it is identified as being supplied in confidence, may be disclosed where required by law or by order of a court or tribunal. The respondent hereby consents to the disclosure, on a confidential basis, of this quotation by the CVRD to the advisers retained by the CVRD to advise or assist with the RFQ process, including with respect to the evaluation this quotation.

Signature of Respondent Representative

Name of Respondent Representative

Title of Respondent Representative

Date

I have the authority to bind the respondent.

APPENDIX C – PRICING

1. Instructions on How to Provide Pricing

- (a) Respondents should provide the information requested under section 3 below (“Required Pricing Information”) by reproducing and completing the table below in their quotations, or, if there is no table below, by completing the attached form and including it in their quotations.
- (b) Pricing must be provided in Canadian funds, inclusive of all applicable duties and taxes except for GST, which should be itemized separately. PST is not to be shown separately in section 4 of Appendix B the submission Form. It should be shown separately for the items listed below.
- (c) Pricing quoted by the respondent must be all-inclusive and must include all labour and material costs, all travel and carriage costs, all insurance costs, all costs of delivery, all costs of installation and set-up, including any pre-delivery inspection charges, and all other overhead, including any fees or other charges required by law.

2. Evaluation of Pricing

Pricing is worth 60 points of the total score.

Pricing will be scored based on a relative pricing formula using the rates set out in the pricing form. Each respondent will receive a percentage of the total possible points allocated to price for the particular category it has submitted a quotation for, which will be calculated in accordance with the following formula:

$$\text{lowest price} \div \text{proponent's price} \times \text{weighting} = \text{proponent's pricing points}$$

3. Required Pricing Information

The following Pricing information should be included with your submission:

- App B list Unit Prices
- App C list of Alternative Prices
- App F list of Cash Allowances
- App G list of Separate Prices
- App H list of Itemized Prices

APPENDIX D – RFQ PARTICULARS

A. THE DELIVERABLES

To upgrade lobby washrooms of the Island Savings Centre as indicated in the attached drawings and specifications. The Island Savings Centre is located at 2687 James Street, Duncan, B.C. V9L 2X5.

B. MATERIAL DISCLOSURES

1. The Owner will apply and pay for the Building Permit (not including plumbing, electrical or any other jurisdiction permits which may apply) from the Municipality of North Cowichan.
2. The site will be available for construction to commence immediately after the award of the Contract and the Work ideally to be Substantially Completed by May 10, 2018.

C. MANDATORY SUBMISSION REQUIREMENTS

1. Submission Form (Appendix B)

Each quotation must include a Submission Form (Appendix B) completed and signed by an authorized representative of the respondent.

2. Pricing (Appendix C)

Each quotation must include pricing information that complies with the instructions contained in Pricing (Appendix C).

3. Other Mandatory Submission Requirements

N/A

D. MANDATORY TECHNICAL REQUIREMENTS

1. Quotations shall be submitted based on the products and execution described in the competition document or on approved alternatives to those products and execution.
2. Requests for approval of products and execution as alternatives to those called for in the competition document shall be submitted in writing to the RFQ Contact at least seven (7) working days before quotations are to be submitted. Submit sufficient samples, product literature, photographs, and specifications to completely describe the products and execution proposed and to enable the CRP-Architect to properly evaluate the proposal.
3. The Owner may approve a product as follows:

“Equal”: considered to meet all requirements of the competition document and can be used to arrive at the project base bid. Approval does not relieve the proponent of the responsibility to ensure that the proposed substitution is equivalent to the specified product or system and meets all requirements of the competition document.

“Alternate”: considered to meet some but not all requirements of the competition document. This product cannot be used to arrive at the project base quotation. If included by proponents, the cost for this item is to be identified in the quotation form as an additional amount or a deduction from the project Base Bid.

Proposed alternatives to materials specified will be considered during the bidding period only if full descriptive data are submitted in writing to the RFQ contact at least seven (7) Working Days before the closing date.

4. Should the substitution of approved products and execution require modifications in the work of different trades, or changes to the Architect's drawings, the bidder is solely responsible for all coordination required, including all costs associated with the modification of Architect's drawings to accommodate the changes.

E. PRE-CONDITIONS OF AWARD

The successful proponent will:

1. Provide a Performance Bond and a Labour and Material Payment Bond each in the amount of fifty percent (50%) of the Contract Price.
2. Provide these bonds within ten (10) Working Days of contract award. Maintain bonds in good standing until Contract fulfillment.
3. Ensure requirements of the CCDC 2 GC 12.3 – WARRANTY are met and payment obligations arising under the Contract are made while bonds are still in place.
4. Ensure the Performance Bond is issued on CCDC-221 Performance Bond form, and Labour and Material Performance Bond is issued on CCDC-222 Labour and Material Performance Bond form or other forms approved by the Surety Association of Canada and issued by a Surety acceptable to the Owner.

5. Ensure bonding costs were included in the quoted price.
6. Ensure the obligee on the bonds is the Owner.
7. Provide a WorkSafeBC Clearance letter.
8. Provide a Certificate of Insurance as per CCDC 2 GC 11.1 – GC 12.1 Indemnification and Supplementary Conditions.

F. RATED CRITERIA

The following sets out the categories, weightings and descriptions of the rated criteria of the RFQ. Respondents who do not meet a minimum threshold score for a category will not proceed to the next stage of the evaluation process.

Rated Criteria Category	Weighting (Points)
i. Experience and Qualifications	20 points
ii. References	10 points
iii. Schedule	10 points
Pricing (See Appendix C for details)	60 points
Total Points	100 points

Suggested Quotation Content for Non-Price Criteria

i. Experience and Qualifications = 20 Points

Each respondent should provide the following in its quotation:

- (a) a brief description of the respondent;
- (b) a description of its knowledge, skills and experience relevant to the Deliverables; and
- (c) the roles and responsibilities of the respondent and any of its agents, employees and sub-contractors who will be involved in providing the Deliverables, together with the identity of those who will be performing those roles and their relevant respective expertise.
- (d) A list of all subcontractors.

ii. References = 10 Points

Each proponent is requested to provide three (3) references from clients who have obtained goods or services similar to those requested in this RFP from the proponent in the last three years.

In your submission please include the following information for each reference:

- Project date, name and location

- Contract Value
- Description of Work
- Contact name, phone number & email

iii. Schedule = 10 Points

The proponent should include a work plan (Gantt chart) and incorporate an organizational chart indicating how the proponent intends to structure its working relationship with the CVRD.

The proponent should state the period of time that is required to achieve Substantial Performance of the Total Work. Our preferred substantial completion date is on or before May 10, 2018.

ISLAND SAVINGS CENTRE WASHROOM UPGRADES

2687 James Street, Duncan, B.C. V9L 2X5

ARCHITECTURAL SPECIFICATIONS

Request for Quotes (RFQ): January 2, 2018

Island Savings Centre Washroom Upgrades**TABLE OF CONTENTS**

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00 10 40	App F List of Cash Allowances	1
00 10 70	App G List of Separate Prices	1
00 10 80	App H List of Itemized Prices	1
00 10 90		1
	Summary of Work	
01 11 00	Workplace Restrictions	1
01 14 00	Project Management and	2
01 31 00	Coordination Construction Progress	3
01 32 18	Documentation Pre-Construction	2
01 33 00	Submittals	2
01 35 30	Health and Safety Requirements	2
01 35 43	Environmental Protection	1
01 41 00	Regulatory Requirements	1
01 45 00	Quality Control	2
01 51 00	Temporary Utilities	2
01 52 00	Construction Facilities	1
01 56 00	Temporary Controls	2
01 60 00	Product Requirements	2
01 62 00	Pre-Acceptable Alternatives	2
01 71 00	Examination and Preparation	2
01 73 03	Execution Requirements	2
01 74 11	Cleaning	1
01 74 19	Waste Management and Disposal	3
01 77 00	Closeout Procedures	2
01 78 00	Closeout Submittals	3
03 53 02	Concrete Topping	1
05 50 00	Metal Fabrications	2
06 10 00	Rough Carpentry – Wood Blocking	1
06 20 00	Finish Carpentry	1
06 40 00	Architectural Millwork	1
07 21 30	Batt Insulation	1
07 46 23	Wood Siding	1
07 84 00	Firestopping and Smoke Seals	1
07 92 00	Joint Sealants	2
08 11 00	Steel Doors	2
08 11 01	Steel Door Frames	2
08 71 10	Door Hardware	1
09 22 16	Steel Stud Framing	2
09 25 00	Gypsum Board Assemblies	2
09 30 00	Tiling	2
09 67 80	High Build Glazed Coatings	2
09 91 01	Painting	2
10 21 14	Toilet Partitions – Metal	2
10 26 00	Wall Protection Rails and Guards	1
10 40 00	Signage	1

10 81 50	Toilet and Washroom Accessories	1
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Structural Specifications: Refer to Drawings

Mechanical Specification: Refer to Drawings

Electrical Specification: Refer to Drawings

END OF TABLE OF CONTENTS

OWNER**Cowichan Valley Regional District**

175 Ingram Street
Duncan, B.C. V9L 1N8

Contact: Jim Wakeham – Manager, Facilities and Transit Management Division
Community Services Department
jwakeham@cprd.bc.ca

Phone: (250) 746-2549

ARCHITECTURAL**Steller Architectural Consulting**

210 – 4252 Commerce Circle
Victoria, B.C. V8Z 4M2

Contact: Eddie Williams
eddie@stellerconsulting.com

Phone: (250) 294-8084

Contact: Ryan King
ryan@stellerconsulting.com

Phone: (250) 294-8076

STRUCTURAL**Skyline Engineering Ltd.**

380 – 4243 Glanford Avenue
Victoria, B.C. V8Z 4B9

Contact: Jonathan Reiter
jreiter@seng.ca

Phone: (250) 590-4133 Ext. 102

MECHANICAL**Integral Group Inc.**

101 – 1019 Wharf Street
Victoria, B.C. V8W 2Y9

Contact: Andy Chong
achong@integralgroup.com

Phone: (250) 418-1288 Ext. 5001

ELECTRICAL**Integral Group Inc.**

101 – 1019 Wharf Street
Victoria, B.C. V8W 2Y9

Contact: Michael Phillips
mphillips@integralgroup.com

Phone: (250) 418-1288 Ext. 503

END OF SECTION

Island Savings Centre Washroom Upgrades**APP B LIST OF UNIT PRICES**

2687 James Street, Duncan, B.C.

Page 1 of 1

FOR:		PROJECT NAME:	
SUBMITTED TO:		CLIENT NAME:	
BIDDER:		Legal Name:	
		Address:	
<p>Unit Prices may be used to vary the Contract Price in accordance with the Owner's Right to make Changes in the Work. Work for which the unit price applies is not included in the Bid Price stated in the Submission Form. These prices do not include GST.</p>			
LIST OF UNIT PRICES:			
	Description of the Work		
.01		INCREASE: \$	
		DECREASE: \$	
.02		INCREASE: \$	
		DECREASE: \$	
.03		INCREASE: \$	
		DECREASE: \$	

END OF SECTION

Island Savings Centre Washroom Upgrades**APP C LIST OF ALTERNATIVE PRICES**

2687 James Street, Duncan, B.C.

Page 1 of 1

FOR:		PROJECT NAME:	
SUBMITTED TO:		CLIENT NAME:	
BIDDER:		Legal Name:	
		Address:	
.01	Alternative prices may be used to vary the Bid Price prior to award of Contract or later to vary the Contract Price in accordance with GC - Owner's Right to Make Changes in the Work. Work for which the alternative price applies is not included in the Bid Price stated in the Submission Form. These prices do not include GST.		
.02	Prices include the cost of any changes or modifications to other aspects of the work. Provide a list of such modifications, if requested.		
.03	Alternative prices remain open for acceptance by the Owner at any time before normal requirements for such work or materials.		
.04	The costs stated that alternative prices are to be added to or deleted from the Bid Price.		
	LIST OF ALTERNATIVE PRICES:		
	Description of the Work		
.01		INCREASE:	\$
		DECREASE:	\$
.02		INCREASE:	\$
		DECREASE:	\$
.03		INCREASE:	\$
		DECREASE:	\$

END OF SECTION

FOR:	PROJECT NAME:	
SUBMITTED TO:	CLIENT NAME:	
BIDDER:	Legal Name:	
	Address:	
The following cash allowances are included in the Bid Price stated in the Submission Form.		
	LIST OF CASH ALLOWANCES:	
.01		\$
.02		\$
.03		\$
.04		\$
.05		\$
.07		\$
.08		\$

END OF SECTION

FOR:		PROJECT NAME:	
SUBMITTED TO:		CLIENT NAME:	
BIDDER:		Legal Name:	
		Address:	
.01	The following alternative prices may be used to vary the Bid Price prior to award of Contract or later to vary the Contract Price in accordance with GC – Owner's Right to Make Changes in the Work. Work for which the separate price applies is not included in the Bid Price stated in the Submission Form. These prices do not include GST.		
.02	Separate Prices include the cost of any changes or modifications to other aspects of the work. Provide a list of such modifications to the CRP-Architect, if requested.		
.03	The costs stated for separate prices are to be added to or deleted from the Bid Price.		
.04	Alternative prices may be used to vary the Bid Price prior to award of Contract or later to vary the Contract Price in accordance with GC – Owner's Right to Make Changes in the Work. Work for which the alternative price applies is not included in the Bid Price stated in the Submission Form. These prices do not include GST.		
LIST OF SEPARATE PRICES:			
.01	To delete wall tile as shown in washrooms	INCREASE:	\$
		DECREASE:	\$
.02		INCREASE:	\$
		DECREASE:	\$
.03		INCREASE:	\$
		DECREASE:	\$
.04		INCREASE:	\$
		DECREASE:	\$
.05		INCREASE:	\$
		DECREASE:	\$
.07		INCREASE:	\$
		DECREASE:	\$
.08		INCREASE:	\$
		DECREASE:	\$

END OF SECTION

FOR:		PROJECT NAME:	
SUBMITTED TO:		CLIENT NAME:	
BIDDER:		Legal Name:	
		Address:	
Provide an Itemized price for all work described. All work is included in the Base Bid Price. The Owner requires this information for accounting purposes.			
	LIST OF ITEMIZED PRICES:		
.01		INCREASE: \$	
		DECREASE: \$	
.02		INCREASE: \$	
		DECREASE: \$	
.03		INCREASE: \$	
		DECREASE: \$	

END OF SECTION

PART 1 GENERAL

1.1 PROJECT DESCRIPTION

- .1 Upgrade of existing lobby washrooms of Island Savings Centre in Duncan, B.C.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with Municipal, Provincial and Federal requirements.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Workplace Restrictions during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 WORK SITE ACCESS AND EGRESS

- .1 Access and egress of personnel and vehicles/equipment of work site shall be restricted to locations for each Component to be agreed with General Contractor prior to commencement of the Work.

1.5 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Protect work temporarily until permanent enclosures are completed, this includes adding secure hoarding to removed windows, doors, parts of the existing building.
- .3 Nothing should be left on ground or unsecured.

1.6 EXISTING BUILDINGS AND PHASED OPERATIONS

- .1 Buildings immediately adjacent and connecting to the Work will be occupied during the Work. As operations progress execute work with least possible interference or disturbance to site operations, building operations and occupants of existing buildings. This includes interferences or disturbances such as:
 - .1 Noise, dust, fumes, vibrations, traffic

1.7 EXISTING EXITING FACILITIES AND PHASED OPERATION

- .1 Existing buildings outside of the Work of this Contract will not be available for the use of the General Contractor.

1.8 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers and hoardings.
- .3 Be responsible for damage incurred due to lack of or improper protection.

1.9 PROTECTION OF WORK IN PROGRESS

- .1 Protect completed and work in progress adequately. Work damaged or defaced due to failure in providing such protection is to be removed and replaced, or repaired, as directed by CRP-Architect/Applicable Consultant, at no increase in Contract Price or Contract Time.
- .2 Prevent overloading of any part of building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated without written approval of CRP-Architect/Applicable Consultant.

1.10 EXISTING SERVICES AND PHASED OPERATIONS

- .1 Notify Owner one week prior to intended interruption of services and obtain required permission.
- .2 Where Work involves terminating, breaking into or connecting to existing services, give Owner one (1) week notice for necessary interruption of mechanical or electrical service throughout

WORKPLACE RESTRICTIONS**Island Savings Centre Washroom Upgrades**

course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.

1.11 SPECIAL REQUIREMENTS

- .1 Carry out noise generating Work between 7:00 a.m. and 10:00 a.m. Monday to Sunday
- .2 Carry out general Work between 7:00 a.m. and 5:00 p.m. Monday to Sunday, (no statutory holidays) hours.
- .3 Any additional work outside these hours to be arranged with Owner.

1.12 NON-SMOKING ENVIRONMENT

- .1 Smoking is not permitted anywhere within the limits of the site.

1.13 PROCEDURES & SAFETY MEETING ATTENDANCE

- .1 A meeting will need to be held prior to the commencement of physical work on the project for which the General Contractor on this Project will review Workplace Procedures and Safety.

PART 2 PRODUCTS**2.1 NOT USED****PART 3 EXECUTION****3.1 NOT USED****END OF SECTION**

PART 1 GENERAL**1.1 SECTION INCLUDES**

- .1 Project Management and Coordination guidelines during the construction phase of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Owner/Contractor Agreement

1.5 PROJECT MEETINGS

- .1 Schedule and administer project meetings throughout progress of Work at intervals of not less than once a month as agreed with CRP-Architect and Owner. Organize and administer specially called meetings when notified by Architect or by Owner.
- .2 Attendance:
 - .1 Owner's Representative
 - .2 Owner's Project Manager
 - .3 CRP-Architect and Engineering Consultant
 - .4 General Contractor's Project Manager and Superintendent
 - .5 Subcontractors and Suppliers as appropriate to Agenda
- .3 Prepare agenda for meetings.
- .4 Distribute written notice to all parties that are required to be in attendance of each meeting, with sufficient notice in advance of each meeting date to permit parties to attend.
- .5 Provide physical space and make arrangements for meetings.
- .6 Preside at meetings.
- .7 Agenda to include following:
 - .1 Review, approval of minutes of previous meeting
 - .2 Review of Work progress since previous meeting
 - .3 Field observations, problems, conflicts
 - .4 Problems which impede schedule
 - .5 Corrective measures and procedures to regain projected schedule.
 - .6 Revision to schedule
 - .7 Progress schedule, during succeeding work period
 - .8 Review submittal schedules: expedite as required
 - .9 Maintenance of quality standards
 - .10 Review proposed changes for affect on construction schedule and on completion date
 - .11 Other Business
- .8 Record minutes. Include significant proceedings and decisions. Identify action by parties.
- .9 Reproduce and distribute copies of minutes within three (3) days after each meeting to each meeting participant, including copies to CRP-Architect and Owner in all cases.

1.6 CONSTRUCTION ORGANIZATION AND START-UP

- .1 Schedule and administer preconstruction meeting within fifteen (15) days after award of Contract to discuss and resolve administrative procedures and responsibilities.
- .2 Attendance:
 - .1 Owner's Representative and General Contractor's representative
 - .2 CRP-Architect and Engineering Consultants
 - .3 Contractor's Project Manager and Superintendent.

- .3 Establish time and location of meeting and notify parties concerned minimum of five (5) days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include following:
 - .1 Appointment of official representative of participants in Work
 - .2 Schedule of Work, provide Progress Schedule in accordance with Section 01 32 18 – Construction Progress Documentation
 - .3 Schedule of submissions in accordance with Section 01 33 00 – Pre-Construction Submittal Procedures
 - .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences, environmental controls, in accordance with Sections 01 51 00, 01 52 00, 01 56 00
 - .5 Delivery schedule of specified equipment in accordance with Section 01 32 18 Construction Progress Documentation
 - .6 Site security in accordance with Section 01 52 00 – Construction Facilities
 - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime and administrative requirements in accordance with General Conditions and Supplementary Conditions
 - .8 Owner-provided Products
 - .9 Record drawings in accordance with Section 01 78 00 – Closeout Submittals
 - .10 Maintenance in accordance with Section 01 78 00 – Closeout Submittals
 - .11 Take-over procedures, acceptance and warranties in accordance with Section 01 77 00 – Closeout Procedures and Section 01 78 00 – Closeout Submittals
 - .12 Monthly progress claims, administrative procedures, photographs and holdbacks
 - .13 Appointment of inspection and testing agencies or firms in accordance with Section 01 45 00 – Quality Control
 - .14 Insurances and transcript of policies
 - .15 Site Review, Mock-Ups, Window Testing
 - .16 Other Business

1.7 ON-SITE DOCUMENTS

- .1 Maintain at job site, one copy each of the following:
 - .1 Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed Shop Drawings/Product Data
 - .5 Change Orders (CO's), Contemplated Change Notices (CCN's), Supplemental Instructions (SI's)
 - .6 Other modifications to Contract
 - .7 Site test reports, Site Review Reports
 - .8 Copy of approved Construction Schedule
 - .9 Manufacturer Installation and Application Instructions
 - .10 Building Permit

1.8 CONSTRUCTION SCHEDULES

- .1 Submit preliminary construction progress schedule in accordance with Section 01 32 18 – Construction Progress Documents to CRP-Architect, Owner and General Contractor
- .2 After review, revise and resubmit schedule to comply with revised project schedule.
- .3 During progress of Work revise and resubmit as directed by CRP-Architect and Owner.

1.9 SUBMITTALS

- .1 Submit shop drawings, product data and samples in accordance with Section 01 33 00 Pre-Construction Submittal Procedures for review in compliance with Contract Documents; for field dimensions and clearances, for relation to available space and for relation to Work of other contracts. After review, revise and resubmit for transmittal to Consultant.
- .2 Submit requests for payment for review and for transmittal to CRP-Architect and General Contractor,

- .3 Submit requests for interpretation of Contract Documents and obtain instructions through Architect.
- .4 Process substitutions through CRP-Architect.
- .5 Process change orders through CRP-Architect.
- .6 Deliver closeout submittals for review and preliminary inspections, for transmittal to CRP-Architect.

1.10 COORDINATION DRAWINGS

- .1 Provide information required by CRP-Architect and/or Owner for preparation of coordination drawings, prior to installation of services.
- .2 Revise drawings as required for re-submission to CRP-Architect and/or Owner.

1.11 CLOSEOUT PROCEDURES

- .1 General Contractor to notify Architect when Work is considered ready for Substantial Performance.
- .2 Follow procedures outlined in Section 01 77 00 – Closeout Procedures.
- .3 Accompany CRP-Architect on preliminary inspection to determine items listed for completion or correction.
- .4 Comply with CRP-Architect's instructions for correction of items noted on date of Substantial Review. Substantial Review may be granted with a list of items noted for correction.
- .5 Notify CRP-Architect when all items are corrected.
- .6 The CRP-Architect will issue certificate of Substantial Performance when all corrections are complete. Subsequent Reviews (if required) over and above the initial follow up review after request for Substantial Review may be billed for.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL**1.1 SECTION INCLUDES**

- .1 Construction Progress Documentation (Scheduling).

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 CONSTRUCTION SCHEDULES REQUIRED

- .1 Submit following Schedules:
 - .1 Construction Progress Schedule
 - .2 Submittal Schedule for Shop Drawings/Product Data
 - .3 Submittal Schedule for Samples
 - .4 Submittal schedule for timeliness of Owner Supplied Products
 - .5 Product Delivery Schedule
 - .6 Schedule for Shutdowns required for Construction Installations

1.6 CONSTRUCTION SCHEDULES FORMAT

- .1 Critical Path Method (CPM) – Construction schedule in horizontal bar chart:
 - .1 Provide separate bar for each major item of work or operation
 - .2 Split horizontally for projected and actual performance
 - .3 Provide horizontal time scale identifying first (1st) workday of each week
 - .4 Format for listings: chronological order of start of each item of work
 - .5 Identification of listings: by systems description
 - .6 Highlight, in colour, the critical path items throughout schedule.

1.7 CONSTRUCTION SCHEDULES SUBMISSION

- .1 Submit initial format of schedules within fifteen (15) working days after award of Contract. Incorporate project-staging requirements described in Section 01 11 00 – Summary of Work.
- .2 Architect, Owner and General Contractor will review schedule. CRP-Architect will return review copy within ten (10) working days after receipt.
- .3 Resubmit finalized schedule within seven (7) working days after return of review copy.
- .4 Submit revised progress schedule with each application for payment.

1.8 CONSTRUCTION CRITICAL PATH SCHEDULE

- .1 Include complete sequence of Work activities. Incorporate Project staging requirements described in Section 01 11 00 – Summary of Work.
- .2 Arrange schedule to show and correspond with schedule of values and by monthly progress claims.
- .3 Include dates for commencement and completion of each major element of Work.
- .4 Show projected percentage of completion of each item as of first (1st) day of month.
- .5 Indicate progress of each activity to date of submission schedule.
- .6 Show changes occurring since previous submission of schedule:
 - .1 Major changes in scope
 - .2 Activities modified since previous submission

- .3 Revised projections of progress and completion
- .4 Other identifiable changes
- .7 Provide a narrative report to define:
 - .1 Problem areas, anticipated delays and impact on schedule
 - .2 Corrective action recommended and its effect
 - .3 Effect of changes on schedules of other prime contractors

1.9 SUBMITTAL SCHEDULE

- .1 Include schedule for submitting Pre-Construction Submittals (shop drawings, product data, samples, etc.).
- .2 Indicate dates for submitting, review time, re-submission time, and last date for meeting fabrication schedule.
- .3 Include dates when delivery will be required for Owner furnished products.
- .4 Include dates when reviewed submittals will be required from Architect/Consultants.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Requirements for Pre-Construction Submittals during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 ADMINISTRATIVE

- .1 General Contractor to Submit to CRP-Architect and Consultants submittals list for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittals until review is complete.
- .3 Review submittals prior to submission to CRP-Architect and Consultants. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and will be considered rejected.
- .4 Notify CRP-Architect and Consultants, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .5 Verify field measurements and affected adjacent Work are coordinated.
- .6 General Contractor's responsibility for errors and omissions in submission is not relieved by CRP-Architect and Consultants review of submittals.
- .7 General Contractor responsibility for deviations in submission from requirements of Contract Documents is not relieved by Architect/Consultants review.
- .8 Keep one reviewed copy of each submission on site.

1.6 SHOP DRAWINGS AND PRODUCT DATA

- .1 The following are requirements in submitting Shop Drawings and Product Data:
 - .1 Submit .pdf or one photocopy of shop drawings (if necessary) for each requirement requested in Specification Sections and as CRP-Architect and Consultants may reasonably request.
 - .2 Submit one (1) copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Architect/Consultants where shop drawings will not be prepared due to standardized manufacture of product.
 - .3 Dimensions on shop drawings and product data to be either in S.I. (metric) and imperial units of measurement.
 - .4 Delete information not applicable to project.
 - .5 Supplement standard information to provide details applicable to project.
 - .6 If upon review by CRP-Architect and Consultants, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and re-submission of corrected shop drawings, through same procedure

indicated above, and must be performed before fabrication and installation of Work may proceed.

- .7 Distribute copies after CRP-Architect and Consultants review.
- .8 Submit Engineering Schedules B, C-B and or Schedules S-B and S-C as requested or required per individual Specification Sections.

1.7 SAMPLES

- .1 Submit for review samples in as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to CRP-Architect and Consultants business address.
- .3 Notify CRP-Architect and Consultants in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by CRP-Architect and Consultants are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to CRP-Architect and Consultants prior to proceeding with Work.
- .6 Make changes in samples that CRP-Architect/Consultants may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of work quality and material against which installed Work will be verified
- .8 Refer to Structural, Mechanical, Electrical and other Consultant Sections (that may be included at commencement of the Project or added in as required throughout Project Development, for applicable submission requirements.

1.8 MOCK-UPS

- .1 Erect any required mock-ups per individual Specification Sections and Section 01 45 00 Quality Control.
- .2 Mock-up may remain part of work if acceptable by CRP-Architect and Consultants.

1.9 CERTIFICATES AND TRANSCRIPTS

- .1 Submit WorkSafeBC (Workers' Compensation Board of British Columbia) status immediately after award of Contract.
- .2 Submit Statutory Declaration with the second progress draw, and each subsequent progress draw, signed and sealed with corporate seal.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL**1.1 SECTION INCLUDES**

- .1 Guidelines for Health and Safety Procedures during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with WorkSafeBC Requirements.
- .2 Comply with Municipal, Provincial and Federal requirements.
- .3 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 HEALTH AND SAFETY

- .1 The General Contractor shall employ and pay for a First Aid and Safety Personnel for this Project in accordance with requirements as applicable and with WorkSafeBC any Municipal Safety, Health or Noise By-Laws.
- .2 The General Contractor must submit the project to WorkSafeBC before work starts on site and that notice must be posted on site to this effect. The General Contractor and all Subcontractors shall comply with the Workers' Compensation Accident Prevention Regulations of British Columbia (latest edition), and shall provide all necessary safety requirements as prescribed by the WorkSafeBC for the work.
- .3 The Owner will provide a pre-job Hazard Assessment prior to work commencing. All pre-existing hazards of the workplace and procedures for addressing the hazards must be explained to all subcontractors, suppliers, workers, authorized visitors on site.
- .4 A posted site Safety Plan showing area of work/building layout, site boundaries, the name of the Safety Officer, project layout, First Aid Office location, emergency transportation provisions and evacuation marshaling points marked. All contractors to have a copy of the site safety plan and may be randomly asked to provide by visiting Safety Officers. The General Contractor shall maintain clear emergency exit paths for personnel at all times.
- .5 Precautions shall be taken by the General Contractor and Subcontractors to prevent the overloading of any part of the structure, false work, form-work or scaffolding during the progress of the work, and any damage and any claims resulting from such overloading shall be made good at the expense of the General Contractor of the particular Subcontractor concerned. No load bearing members shall be cut, drilled or sleeved without the consent of the Structural Engineer.
- .6 All subcontractors, suppliers and any other affected persons are alerted to any hazard created by overlapping or adjoining work activities of two (2) or more employers. Controls are implemented for situations where the work of one (1) contractor, or a worker of the prime contractor, could cause a hazard to the workers of another contractor.
- .7 All workers to report and investigate all accidents, incidents, injuries and any unsafe practices.
- .8 The General Contractor shall keep records that ensure compliances with OHS Regulation.
- .9 The General Contractor shall take all necessary precautions to eliminate fire hazards and make periodic inspections to ensure proper preventative measures are being complied with.
- .10 The General Contractor shall enforce fire protection methods, good housekeeping, and adherence to local authorities and Underwriters fire regulations and shall provide ULC approved fire extinguishers and other firefighting services and equipment except where more explicit requirements are specified as the responsibility of individual Subcontractors.

- .11 The General Contractor shall store paint and/or oil covered rags in covered metal containers.
- .12 The General Contractor shall comply with Provincial and Municipal Fire Safety Requirements and any other regulations pertaining to fire protection during the period of construction.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL**1.1 SECTION INCLUDES**

- .1 Guidelines for Environmental Protection during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with Municipal, Provincial and Federal requirements.
- .2 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 DISPOSAL OF WASTES

- .1 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm sewers or sanitary sewers.

1.6 POLLUTION CONTROL

- .1 Control emissions from equipment and plant to local authority's emission requirements.
- .2 Prevent contamination of air beyond work area by providing temporary enclosures and negative air to outside.
- .3 Place all waste, debris and lightweight construction materials in enclosed containers before removing from location to transport vehicle. Stockpiling of demolished or new material is not permitted without permission from the Owner. Any stockpiled materials to be covered to against wind or rain impact.

1.7 CONSTRUCTION EQUIPMENT

- .1 Use equipment in good working order, free of all leaks, which would contaminate site (inside or outside the building area). Re-fuel equipment off-site.

1.8 HAZARDOUS MATERIALS

- .1 Report any hazardous materials found on site and report any hazardous spills to CRP-Architect immediately.

PART 2 PRODUCTS**2.1 NOT USED****PART 3 EXECUTION****3.1 NOT USED****END OF SECTION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Regulatory Requirements during construction of the Project. This Section references to laws, by laws, ordinances, rules, regulations, codes, orders of Authority Having Jurisdiction, and other legally enforceable requirements applicable to Work and that are; or become, in force during performance of Work.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Execute the Work in accordance with Municipal, Provincial and Federal Requirements, applicable Bylaws, Building Codes and Standards, including but not limited to:
 - .1 British Columbia Building Code 2012
 - .2 WorkSafeBC Requirements
 - .3 B.C. Plumbing Code
 - .4 Canadian Electrical Code adapted to the Province of B.C and all Bulletins issued by the Province of B.C. Electrical Safety Branch
 - .5 Additional requirements and standards as noted in the Mechanical and Electrical Sections
- .2 Should conflicts arise between one document or authority and another, obtain clarification from the Consultant before proceeding with Work. Generally, the most stringent regulation will govern.
- .3 Submit to the Consultant during construction and upon completion of the Work all certificates of inspection provided by authorities having jurisdiction.
- .4 Apply most current version of all Codes, References, Standards and Specifications, as required for compliance with applicable Authorities Having Jurisdiction.

1.5 CERTIFICATES, INSPECTIONS, LICENSES AND PERMITS

- .1 The Owner will apply for the Building Permit; the Owner will pay for the building permit. The Contractor shall obtain and pay for all other services, connection costs, permits, licenses, deposits, certificates and bonding costs as required by authorities having jurisdiction and for the performance of the Work.

1.6 UTILITIES AND SERVICES CONNECTIONS

- .1 The General Contractor shall be responsible for all utility and service connection costs associates with the Project, regardless of whether the required Work is performed by the Contractor-Construction Manager or its Subcontractors, the Municipality or by a utility.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Quality Control during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 QUALITY OF WORK

- .1 Ensure that quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Notify CRP-Architect immediately if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in his or her required duties. Contractor-Construction Manager reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of quality of Work in cases of dispute rest solely with CRP-Architect, whose decision is final.

1.6 COORDINATION

- .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.7 CONCEALMENT

- .1 In finished areas, conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation, inform CRP-Architect and applicable Consultant, if there is interference. Install as directed.

1.8 FASTENINGS

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.9 FASTENING DEVICES

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.

- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- .3 Bolts may not project more than one (1) bolt diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.10 INSPECTION

- .1 Inspection and testing is required and described under various specification Sections.
- .2 Unless stated otherwise Contractor-Construction Manager is to engage and pay for independent testing and inspections including but not limited to following:
 - .1 Roofing Inspection
 - .2 Painting Inspection
 - .3 Millwork Inspection
- .3 If defects are revealed during inspection and testing, the appointed agency will request additional inspection and/or testing to ascertain full degree of defect(s). Correct defects and irregularities as advised by CRP-Architect at no cost to Owner. Pay all costs for re-testing and re-inspection.
Submit to CRP-Architect and applicable Consultant list(s) of proposed independent inspection/testing agencies for review and approval by Owner and CRP-Architect within fifteen (15) days of Contract award.

1.11 PROCEDURES

- .1 General Contractor to notify the CRP-Architect and applicable Consultant in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.12 REPORTS

- .1 Submit inspection and test reports to CRP-Architect and applicable Consultant.
- .2 Provide copies to Subcontractor of work being inspected or tested and to manufacturer or fabricator of material being inspected or tested.
- .3 Refer to Mechanical and Electrical Sections for Mechanical and Electrical report submission requirements.

PART 2 PRODUCTS**2.1 NOT USED****PART 3 EXECUTION****3.1 NOT USED****END OF SECTION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Temporary Utilities during Construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with WorkSafeBC Requirements.
- .2 Comply with Municipal requirements.
- .3 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services and utilities, execute Work with minimum disturbance to Work, other parts of Owner's site, and pedestrian and vehicular traffic.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by Owner and authority having jurisdiction. Stake and record location of capped service.

1.6 TEMPORARY HEATING AND VENTILATION

- .1 Ventilating:
 - .1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
 - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - .4 Ventilate storage spaces containing hazardous or volatile materials.
 - .5 Ventilate temporary sanitary facilities.
 - .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .2 Permanent heating system of building may not be used unless made available upon Owner's written consent. Be responsible for damage to heating system if use is permitted.
- .3 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - .1 Conform to applicable codes and standards
 - .2 Enforce safe practices
 - .3 Prevent abuse of services
 - .4 Prevent damage to finishes
 - .5 Vent direct-fired combustion units to outside
- .4 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.7 TEMPORARY POWER AND LIGHT

- .1 Contractor may use Building Power and Light for Construction.

1.8 TEMPORARY COMMUNICATION FACILITIES

- .1 Provide telephone and email service for construction communications use during Work.

1.9 FIRE PROTECTION

- .1 Provide temporary fire protection equipment during performance of Work.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL**1.1 SECTION INCLUDES**

- .1 Guidelines for Construction Facilities used during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with WorkSafeBC Requirements.

1.5 SITE OFFICES-MEETING ROOM

- .1 Owner to provide room for Project meetings.

1.6 EQUIPMENT, TOOL AND MATERIAL STORAGE

- .1 Locate equipment, tools and materials to be stored on site in a manner to cause least interference with work activities and existing building use.

1.7 SANITARY FACILITIES

- .1 Portable Sanitary Facilities are permitted on site to accommodate workforce numbers on site at any time.
 - .1 Sanitary Facilities to be located with an enclosed area not accessible to the public.

1.8 CONSTRUCTION SIGNAGE

- .1 Do not post signs, advertisements or notices without Owner's written permission.
- .2 Safety/warning signs are permitted only in locations required by safety Authorities having Jurisdiction.

1.9 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

PART 2 PRODUCTS**2.1 NOT USED****PART 3 EXECUTION****3.1 NOT USED****END OF SECTION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Temporary Controls during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with WorkSafeBC Requirements.
- .2 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.6 ACCESS TO SITE

- .1 Provide and maintain accesses, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.7 INFORMATIONAL AND WARNING DEVICES

- .1 Provide and maintain signs and devices required to indicate construction activities or other temporary and unusual conditions resulting from Construction Work that requires road users attention.

1.8 PUBLIC TRAFFIC FLOW

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and lights, or as required to perform work and protect the Public.

1.9 GUARD RAILS AND BARRICADES

- .1 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.
- .2 Provide as required by governing authorities.

1.10 HOARDING, GUARD RAILS AND BARRICADES

- .1 Provide hoarding to enclose and protect Public from Work and protect Construction from Weather Conditions. Alter as required to accommodate progress of Work. All hoarding Structures are to be Engineered. General Contractor to engage a Structural Engineer to design and site verify built hoarding conditions. General Contractor to seek Structural Engineers input into any required site modifications to hoarding in response to work changes or progress, ahead of changes or progress being carried out.
- .2 Provide secure, rigid guardrails and barricades around deep excavations, open shafts, open stairwells, open edges of floors and roofs in accordance with WorkSafeBC Requirements.

1.11 DUST TIGHT SCREENS

- .1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- .2 Maintain and relocate protection until such work is complete.

1.12 FIRE ROUTES

- .1 Maintain access routes with overhead clearances for use by emergency response vehicles.

1.13 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.14 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Product Requirements for use in the construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with Municipal, Provincial and Federal requirements.
- .2 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 PRODUCT QUALITY

- .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with Specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of Products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Should any dispute arise as to quality or fitness of products, decision rests strictly with CRP-Architect based upon requirements of Contract Documents.
- .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.6 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify CRP-Architect of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2 In event of failure to notify Architect at commencement of Work and should it subsequently appear that Work might be delayed for such reason, CRP-Architect reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.7 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

PRODUCT REQUIREMENTS**Island Savings Centre Washroom Upgrades**

- .6 Store sheet materials, lumber and cladding on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of CRP-Architect.
- .9 Touch-up damaged factory finished surfaces to CRP-Architect/Applicable Consultants satisfaction. Use touch-up materials to match original. Do not paint over nameplates.

1.8 TRANSPORTATION

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Owner will pay for transportation cost of products supplied by Owner. Unload, handle and store such products.

1.9 MANUFACTURER INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify CRP-Architect in writing, of conflicts between specifications and manufacturer's instructions, so that Architect may establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, will require removal and re-installation at no increase in Contract Price or Contract Time.

PART 2 PRODUCTS**2.1 NOT USED****PART 3 EXECUTION****3.1 NOT USED****END OF SECTION**

PART 1 GENERAL**1.1 SECTION INCLUDES**

- .1 Substitution of Pre-Acceptable Alternative Products and/or Systems for those specified by proprietary means.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 PRE-ACCEPTABLE ALTERNATIVES

- .1 For products specified by non-proprietary means:
 - .1 Select a product by any manufacturer, which meets the requirements of the Contract Documents.
- .2 For products specified by proprietary means:
 - .1 Use the product and manufacturer named, or
 - .2 Where pre-approved alternative products are permitted, the CRP-Architect may accept an alternative unnamed product, provided that:
 - .1 Alternative products/manufacturers have capabilities comparable to those of the named products/manufacturers(s).
 - .2 Alternative products shall not require revisions to Contract Documents nor to work of other Contractors.
- .3 Do not order or install alternative products without the CRP-Architect's acceptance.
- .4 If, in the Architect's opinion, an alternative product does not meet the requirements of the Contract Documents: General Contractor shall, at no extra cost to the Owner, provide a product which, in the Architect's opinion, does meet the requirements of the Contract Documents.
- .5 Products and manufacturers accepted by the CRP-Architect for use in performance of the Work shall not be changed without the Architect's written consent.
- .6 In proposing an alternative product, the General Contractor represents that:
 - .1 The General Contractor has investigated the alternate product/manufacturer and has determined that it meets all of the specified criteria, and
 - .2 The General Contractor will make any changes to the work as necessitated by the alternate which may subsequently become apparent, and
 - .3 The General Contractor waives any claim for additional costs and time caused by the alternative product, which may subsequently become apparent.

1.5 REQUEST FOR ALTERNATIVE

- .1 When requesting approval of an alternative by the CRP-Architect, submit complete data substantiating compliance of a product with the requirements of the Contract Documents. Include the following:
 - .1 Product Identification, including manufacturer's name and address.
 - .2 Manufacturer's literature providing product description, applicable reference standards, and performance and test data.
 - .3 Samples, as applicable.
 - .4 Name and address of projects on which product has been used and date of each installation.
 - .5 For alternatives and requests for changes to accepted products, include in addition to the above, the following:
 - .1 Itemized comparison of alternative with named product(s). List significant variations.

- .2 Designation of availability of maintenance services and sources of replacement materials.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Examination of Site and Conditions, including preparation before and during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with WorkSafeBC Requirements.
- .2 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 QUALIFICATIONS OF SURVEYOR

- .1 Qualified registered Surveyor, licensed to practise in British Columbia and acceptable to Owner.

1.6 SURVEY REFERENCE POINTS

- .1 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.

1.7 SURVEY REQUIREMENTS

- .1 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
- .2 Establish lines and levels, locate and lay out, by instrumentation to establish applicable elements (including, excluding but not limited) to the following:
 - .1 Grading, fill and topsoil placement, landscaping features
 - .2 Slopes and berms
 - .3 Pipe invert elevations
 - .4 Batter boards for foundations
 - .5 Foundation and floor elevations
 - .6 Column locations
 - .7 Lines and levels for mechanical and electrical work

1.8 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of service lines in area of Work and notify CRP-Architect of findings.
- .2 Remove abandoned service lines within 2 metres [6'-6"] of structures. Cap or otherwise seal lines at cut-off points as required.

1.9 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Architect of impending installation and obtain approval for actual location.

- .4 Submit field drawings to indicate relative position of various services and equipment when required by CRP-Architect.

1.10 RECORDS

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.
- .3 Record locations of maintained, re-routed and abandoned service lines.

1.11 SUBMITTALS

- .1 Submit name and address of Surveyor to CRP-Architect.
- .2 On request of CRP-Architect, submit documentation in form of certificate signed by Surveyor verifying accuracy of field engineering work. Highlight items that do not conform to Contract Documents.

1.12 SUBSURFACE CONDITIONS

- .1 Notify CRP-Architect in writing promptly if subsurface conditions at Place of Work differ materially from those indicated in the Geotechnical Report (when applicable), or a reasonable assumption of probable conditions based thereon.
- .2 After prompt investigation, should CRP-Architect/Consultant determine that conditions do differ materially, instructions will be issued for changes in Work.

PART 2 PRODUCTS**2.1 NOT USED****PART 3 EXECUTION****3.1 NOT USED****END OF SECTION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Execution of the Work in the construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with WorkSafeBC Requirements.
- .2 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 PREPARATION

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas, which may be exposed by uncovering work; maintain excavations free of water.

1.6 EXECUTION

- .1 Execute cutting, fitting and patching required to complete Work.
- .2 Refer to individual product Sections for cutting and patching incidental to work of respective section. Advance notification to other sections required.
- .3 Fit several parts together, to integrate with other Work.
- .4 Uncover Work to install ill-timed Work.
- .5 Remove and replace defective and non-conforming Work.
- .6 Remove samples of installed Work for testing where requested by CRP-Architect.
- .7 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical work. Coordinate with mechanical and electrical trades for locations of openings required but not indicated/sized on drawings. Make good all such openings after completion and inspection of mechanical and electrical work.
- .8 Execute Work by methods to avoid damage to other Work and which will provide proper surfaces to receive patching and finishing.
- .9 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements and for sight-exposed surfaces.
- .10 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .11 Restore work with new products in accordance with requirements of Contract Documents.
- .12 Fit Work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- .13 At penetration of fire rated wall, ceiling, or floor construction seal voids completely with fire stopping material, to full thickness of respective construction element, to meet the fire-resistant requirements of each assembly.
- .14 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.

- .1 Where new work is a continuation/extension of existing work, take care to meld the two (2) with regard to appearance. Locate joints in concealed or "less obvious" places.
- .2 Paint entire wall wherever part of a wall is altered or affected.
- .3 Paint entire room wherever 2 or more walls are altered or affected.
- .15 Conceal pipes, ducts, conduit and wiring in floor, wall and ceiling construction of finished areas except where detailed/indicated otherwise.
- .16 Wherever more than one (1) way exists for Work to be executed leads to a dispute about which method will be used, the CRP-Architect will select the more expensive method in order to meet requirements of Contract Documents.
- .17 General Contractor-Construction Manager to coordinated the work of other trades to ensure the most effective placement of installed elements to maximize efficiency of space and to maintain design heights of ceilings, bulkheads, and space of millwork, fixtures and other exposed elements, to suit design intent.
- .18 Where one (1) element is installed first without coordinating or making use of available space, and this element compromises the installation of subsequent elements, the Contractor-Construction Manager will remove and reinstall conflicting elements to ensure design ceiling heights and wall spaces are maintained at no cost to the Owner. Where deemed acceptable to the CRP-Architect/Owner, revisions to design dimensions may be considered. Where additional material is required, Contractor-Construction Manager will install at no cost or delay.

1.7 CUTTING / ALTERATIONS

- .1 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of any element of Project
 - .2 Integrity of weather-exposed or moisture-resistant elements
 - .3 Efficiency, maintenance, or safety of any operational element
 - .4 Visual qualities of sight-exposed elements
 - .5 Work of Owner or Separate Contractor
- .2 Include in request:
 - .1 Identification of Project.
 - .2 Location and description of affected Work
 - .3 Statement on necessity for cutting or alteration
 - .4 Description of proposed Work, and Products to be used
 - .5 Alternatives to cutting and patching
 - .6 Effect on Work of Owner or Separate Contractor
 - .7 Written permission of affected Separate Contractor
 - .8 Date and time, work will be executed

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 19 - Waste Management and Disposal.

PART 2 PRODUCTS**2.1 NOT USED****PART 3 EXECUTION****3.1 NOT USED****END OF SECTION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Cleaning during construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Comply with Municipal, Provincial and Federal requirements.
- .2 Environmental Choice Program, Ecologo Certification.

1.5 ONGOING PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Remove waste materials from site at regularly scheduled times.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Provide and use clearly marked separate bins for recycling. Direct as much waste as practical into recycling in order to reduce landfill dependency. Refer to Section 01 74 19 Construction Waste Management and Disposal for additional recycling requirements.
- .5 Remove waste material and debris from site and deposit into waste containers at end of each working day.
- .6 Dispose of waste materials and debris off site.
- .7 Clean interior areas prior to start of finish work, and maintain areas free of dust and other contaminants during finishing operations.
- .8 Use only cleaning materials recommended by manufacturer of surface to be cleaned and as recommended by cleaning material manufacturer. High quality, non-toxic cleaning products are to be used in all areas, the Environmental Choice Program's Ecologo labelling and rating system offers acceptable performance standards for cleaning products.
- .9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.6 FINAL PROJECT CLEANING

Clean and polish glass, mirrors, hardware, wall tile, ceilings, walls and floors.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 19 - Waste Management and Disposal.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Waste Management and Disposal in the construction of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 American Society for Testing and Materials (ASTM):
 - .1 ASTM E 1609 01, Standard Guide for Development and Implementation of a Pollution Prevention Program
- .2 Recycling Certification Institute (RCI):
 - .1 RCI Certification Construction and Demolition Materials Recycling
- .3 Comply with Municipal, Provincial and Federal requirements.
- .4 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 WASTE MANAGEMENT – GOALS

- .1 Employ processes to ensure generation of as little waste as possible including prevention of damage due to mishandling, improper storage, contamination, inadequate protection or other factors as well as minimizing over packaging and poor quantity estimating.

1.6 WASTE MANAGEMENT – DEFINITIONS

- .1 Alternative Daily Cover: is material (other than earthen material) that is placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odours, blowing litter, and scavenging.
- .2 Construction and Demolition Debris: includes waste and recyclables generated from construction and from the renovation, demolition or deconstruction of pre-existing structures. It does not include land-clearing debris, such as soil, vegetation, and rocks.
- .3 Construction Waste Calculation: is used to determine the percentage of waste diverted from landfill and incineration facilities.
- .4 Incineration Facilities: are waste management operations that use combustion as a means of reducing the volume of waste materials and/or producing heat or energy.
- .5 Recycling: is the collection, reprocessing, marketing, and use of materials that were diverted or recovered from the solid waste stream.
- .6 Reuse: returns materials to active use in the same or a related capacity as their original use, thus extending the lifetime of materials that would otherwise be discarded.
- .7 Tipping Fees: are charged by a landfill for disposal of waste, typically quoted per tonne (1000kg).
- .8 Separate Condition: refers to waste sorted into individual types.
- .9 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
- .10 Waste: any material that is no longer used for its original purpose and that is intended for recycling, treatment or disposal.
- .11 Waste Management Coordinator: Contractor's representative responsible for supervising waste management activities as well as coordinating related required submittal and reporting requirements.

- .12 Waste Management – Plan (WM-P): consists of a series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.

1.7 WASTE MANAGEMENT – DOCUMENTS

- .1 Maintain at job site, one (1) copy of following documents:
 - .1 Waste Management – Plan (WM-P)

1.8 WASTE MANAGEMENT – SUBMITTALS

- .1 Make submissions in accordance with Section 01 33 00 Pre-Construction Submittals.
- .2 Submit following:
 - .1 Waste Management – Plan (WM-P)
 - .2 Name of Waste Management Coordinator

1.9 WASTE MANAGEMENT – PLAN (WM-P)

- .1 Post WM-P where workers at site are able to review content.
- .2 Provide and maintain on-site containers for deposit of reusable and/or recyclable materials.
- .3 Place containers in locations acceptable to facilitate deposit of materials, without hindering daily operations.
- .4 Locate separated materials in areas that minimize material damage. Prevent contamination of separated materials in accordance with requirements for acceptance by designated facilities.
- .5 Collect, handle, store on-site and transport off-site recyclable materials in separate containers, transport to approved and authorized recycling facility.

1.10 DELIVERY, STORAGE AND HANDLING

- .1 Storage Requirements: Implement a recycling/reuse program that includes separate collection of waste materials as appropriate to the project waste and the available recycling and reuse programs in the project area.
- .2 Handling Requirements: Clean materials that are contaminated before placing in collection containers and ensure that waste destined for landfill does not get mixed in with recycled materials:
 - .1 Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process.
 - .2 Arrange for collection by or delivery to the appropriate recycling or reuse facility.

1.11 DISPOSAL OF WASTES

- .1 Refer to Section 01 35 43 Environmental Protection.

1.12 DIVERSION OF MATERIALS

- .1 Refer to following list of materials to be separated from general waste stream for recycling, wherever respective recycling facilities exist.
- .2 Demolition waste, including but not limited to following types, as applicable to Project:
 - .1 Concrete
 - .2 Wood
 - .3 Drywall
 - .4 Glass
 - .5 Metal
 - .6 Other Items
- .3 Construction waste, including but not limited to following types, as applicable to Project:
 - .1 Uncontaminated packaging (wood, metal banding, cardboard, paper, plastic wrappings, polystyrene)
 - .2 Wood pallets (recycle or return to shipper)
 - .3 Metals (tee bar, pipe, conduit, ducting, wiring, miscellaneous cuttings)
 - .4 Wood (uncontaminated)
 - .5 Gypsum board (uncontaminated)
 - .6 Concrete

- .4 Administration/worker waste (uncontaminated), including but not limited to following types:
 - .1 Paper, cardboard
 - .2 Plastic containers and lids marked Types 1 through 6
 - .3 Glass and aluminum drink containers (recycle or return to vendor)
- .5 On-site sale and advertising of salvaged/recovered material not permitted.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 IMPLEMENTATION

- .1 Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, composting and return methods being used for the project.
- .2 Lay out and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse, composting and return:
 - .1 Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.
 - .2 Hazardous wastes shall be separated, stored, and disposed of in accordance with local regulations.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Closeout Procedures in completion of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 INSPECTION AND DECLARATION

- .1 General Contractor and all Subcontractors will perform an inspection of Work, identify deficiencies and defects and repair as required to conform to Contract Documents.
 - .1 Notify CRP-Architect in writing of satisfactory completion of the General Contractor Inspection and that corrections have been made.
 - .2 Request CRP-Architect/Consultants **Pre-Substantial Review**.
- .2 CRP-Architect/Consultants **Pre-Substantial Review**: CRP-Architect/Consultants and General Contractor will perform review of Work to identify obvious defects or deficiencies. These deficiencies are to be corrected prior to request for '**Substantial Performance**' of the Contract.
- .3 Prior to requesting Substantial Performance (min forty-five (45) days prior to anticipated date by written request): General Contractor to submit written confirmation that following have been achieved/submitted to the Architect/RPR – Registered Professional of Record.
 - .1 Engage and pay for a company to prepare a Fire Safety Plan in accordance with the British Columbia Fire Code, submit to CRP-Architect for review.
 - .2 Install Fire Safety Plan in a location designated by the Fire Authority Having Jurisdiction, as required by the British Columbia Fire Code.
 - .3 Equipment and systems have been tested, adjusted and balanced and are fully operational. Certificates required by authorities having jurisdiction (Boiler Inspection Branch, Fire Commissioner, utility companies, etc.) have been submitted.
 - .4 Operation of systems has been demonstrated to Owner's personnel.
 - .5 All Inspection Final Reports and Certificates, Bonds, and Guarantees have been received.
 - .6 Survey Certificate Final Compliance, has been received.
 - .7 Schedule S-B and S-C per individual Specification Sections have been received.
 - .8 Operating and Maintenance Manuals have been submitted (including applicable items listed above as well as requirements for O & M Manuals listed in Section 01 78 00 Close out Submittals).
- .4 **Request Substantial Review, ONLY when ALL items listed above have been achieved.**
- .5 CRP-Architect (Coordinating Registered Professional) to request and have in place the following documentation, prior to conducting a Substantial Review:
 - .1 CRP-Architect's Schedule C-B and CRP – Coordinating Registered Professional Schedule C-A (initialed by the CRP)
 - .2 Structural Schedule C-B (initialed by CRP)
 - .3 Mechanical Schedule C-B (initialed by CRP)
 - .4 Electrical Schedule C-B (initialed by CRP)
 - .5 Any other required/requested Schedule C-B (initialed by the CRP)

- .6 Commencement of Lien and Warranty Periods: date of Substantial Performance (if achieved per Terms of the Lien Act) will be date for commencement for Warranty period and commencement of Lien period, unless required otherwise by Lien statute of Place of Work.
- .7 If it is deemed by the Coordinating Registered Professional that '**Substantial Performance**' per terms of the Lien Act has been achieved, the Architect/RP-Registered Professional of shall post on the date of Declaration of Substantial the following:
 - .1 Builders Lien Act (Section 7 (4)) – Notice of Certification of Completion
 - .2 Builders Lien Act (Section 7 (10)) – Certification of Completion

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- .1 Guidelines for Closeout Submittals in completion of the Project.

1.2 BID AND CONTRACT DOCUMENTS

- .1 All Bid Documents (drawings and specifications) prepared by the CRP-Architect and the Consultants form an integral part of this Section and are to be read as one. Any required Clarifications or Changes are to be issued to the General Contractor by the Coordinating Registered Professional (CRP) via Addenda.
- .2 Bid Documents, including any issued Addenda become the Contract Documents, after signing of the Contract between the Owner and the General Contractor.

1.3 RELATED SECTIONS

- .1 All Sections Refer to Table of Contents

1.4 CODES, REFERENCES AND STANDARDS

- .1 Refer to Section 01 41 00 Regulatory Requirements and the specific References, Codes and Standards of each individual Specification Section.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Requirements of Closeout Submittals include the following:
 - .1 Operation and Maintenance Manuals
 - .2 AS-Built/Record Documents
 - .3 Warranties and Bonds
 - .4 Coordination and assistance is collection of all documents, reports, and Letters of Assurance (LOA) – professional Schedules as per Section 01 77 00 Close Out Procedures.

1.6 OPERATING AND MAINTENANCE REQUIREMENTS

- .1 Submit in PDF Format. Acceptance of submitted data is subject to review and approval of CRP-Architect and Consultants.
- .2 Data to contain pertinent care and maintenance of building materials, finishes, components, equipment, and systems. To be included:
- .3 Organization:
 - .1 Section 1.0 – Directory:
 - .1 Provide directory listing the names, addresses, telephone and facsimile numbers of CRP-Architect, Consultants, Contractor-Construction Manager, Subcontractors and Major Equipment/Product Suppliers and Service Contract Providers.
 - .2 Section 2.0 – List of Drawings and Specifications:
 - .1 Provide complete list of drawings, specifications, shop drawings and test reports for the Project.
 - .3 Section 3.0 – Architectural:
 - .1 Provide care, cleaning and recommended maintenance instructions for finishes and materials as specified.
 - .2 Provide operation and maintenance instructions for equipment such as overhead doors, landscape irrigation systems and elevators. Provide descriptive and technical data, maintenance and operating procedures, wiring diagrams, spare parts lists, name of service representative, suppliers for replacement parts, trouble shooting data and preventive maintenance program.
 - .3 Provide copy of finish hardware schedule and paint schedules, complete with manufacturer, supplier and identification names and numbers.
 - .4 Provide inspection and approval certificates from Authorities having Jurisdiction.
 - .5 Provide copies of warranty and guarantee certificates as specified.
 - .6 Provide complete set of reviewed Shop Drawings.
 - .4 Section 4.0 – Mechanical: Refer to Mechanical Drawings
 - .5 Section 6.0 – Electrical: Refer to Electrical Drawings

1.7 WARRANTIES, BONDS, GUARANTEES, AND CONTACT INFORMATION

- .1 Separate each Warranty, Bond and Guarantee with index tab sheets keyed to Section 00 00 00 Table of Contents listing.
- .2 List subcontractor, supplier and manufacturer with name, address and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers and manufacturers, within ten (10) days after completion of the applicable item of work.
- .4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information and are notarized.
- .6 Co-execute submittals when required.
- .7 Submit Warranties and Bonds on or prior to Substantial Completion date of Project.

1.8 AS-BUILT DOCUMENTS AND SAMPLES

- .1 In addition to requirements in General Conditions, maintain at the site one set of:
 - .1 Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Change Orders and other modifications to the Contract
 - .5 Reviewed shop drawings, product data, and samples
 - .6 Field test records
 - .7 Inspection certificates
 - .8 Manufacturer certificates
- .2 Recording Site Conditions 'as-built':
 - .1 Record information on a set of opaque drawings and in specifications.
 - .2 Provide felt tip marking pens for recording information, maintaining separate colours for each major system.
 - .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
 - .4 Drawings:
 - .1 Mark each item legibly to record actual construction including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvement.
 - .5 Specifications:
 - .1 Mark each item legibly to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product ~~actually~~ installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and Change Orders.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Details not on original Contract Drawings. Field changes of dimension and detail.
 - .5 References to related shop drawings and modifications.
 - .6 Other Documents: Maintain manufacturer's certifications, inspection certifications and field test records required by individual specification Sections.
- .3 Store documents and samples in field office apart from documents used for construction. Provide files, racks and secure storage.
- .4 Label documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document page "AS-BUILT" in neat, large, printed letters.
- .5 Maintain documents in clean, dry and legible condition. Do not use documents or samples for construction purposes.
- .6 Keep documents and samples available for review by CRP-Architect/Consultants.
- .7 Deliver documents and samples to the Architect complete with the following Certificate:

Certificate - As-Built Drawings

I/We (name of Contractor-Construction Manager) hereby certify that the set of "as-built" drawings attached hereto, comprised of () sheets, is a complete and total set of the building(s) as constructed.

I/We further certify that the drawings show accurately all structural details, all mechanical and electrical services, exposed or hidden and that the Owner may fully rely on their accuracy in any future contemplated repairs, modifications or additions to this work.

Signed by Contractor-Construction Manager:

per:

Name of Contractor-Construction Manager:

Date:

Witnessed by:

Date:

1.9 RECORD DOCUMENTS

- .1 Owner will engage CRP-Architect and Consultants via a Separate Fee to prepare electronic and paper copy 'Record Documents' from 'As-Built Documents' provided by the General Contractor.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 NOT USED

END OF SECTION

03 53 02 CONCRETE TOPPING

PART 1 PRODUCTS

1.1 CONCRETE TOPPING

- .1 Portland Cement: Conform to CAN3-A5.
- .2 Water and Aggregates: Conform to CSA A23.1-14/A23.2-14.
- .3 Fiber Reinforcement: Poly fibers, round shape
- .4 Course Aggregate: Maximum 8.0 mm [5/16"]

1.2 MIX

- .1 Mix in accordance with the following criteria:
 - .1 Compressive Strength: Unless otherwise specified design concrete mix to produce 25 MPa [3626 psi] minimum compressive strength at twenty-eight (28) days.
 - .2 Slump: 100 mm [4"]

PART 2 EXECUTION

2.1 INSTALLATION

- .1 Place floor topping to thickness indicated. Immediately spread and screed product to a smooth surface.
- .2 Maintain correct environmental conditions to keep the building clean and dry, and protect against infestation of moisture from a variety of potential sources. Supply mechanical ventilation and heat if necessary to remove moisture from the area.
- .3 Allow to cure for a minimum of two (2) days before floor may be walked on or worked on.
- .4 Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface. Do not cover concrete with plastic sheeting.

2.2 FINISHING

- .1 Apply clear sealing compounds according to manufacturer's instructions or finish floors per finishes schedules (on the drawings).

05 50 00 METAL FABRICATION

PART 1 PRODUCTS

1.1 COMPONENTS

- .1 All materials to be new, best quality, to include recycled content, free from scale, rust, grease, distortions and other defects, to full thickness and sizes indicated on drawings, conforming to appropriate material specifications. If sizes of members shown on drawings are unavailable, provide available equivalent member next size (or thickness) larger.
- .2 Components to be supplied include but are not limited to the following:
 - .1 Steel Section plates, angles, brackets
 - .2 Welding Materials
 - .3 Bolts and Anchor Bolts, including expansion shield fastening
 - .4 Screws and Fasteners
 - .5 All steel except stainless steel to have Zinc-rich Primer
 - .6 Non-shrink pre-mixed Grout (compound consisting of fine non-metallic aggregate)
 - .7 Isolation coating (bituminous paint)

1.2 FABRICATION

- .1 Fabricate items in accordance with reviewed shop drawings. Verify dimensions on site prior to shop fabrication.
- .2 Weld in accordance with CSA W59 using qualified welders certified in accordance with CSA W47.1. Full weld all joints and joining sections. Make welds continuous for length of each joint; spot welding is not acceptable. File or grind exposed welds smooth and flush.
- .3 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured. Quality of fabrication of components will be subject to both Architect's and Consultant's approval.
- .4 Supply components and accessories required for proper anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrications, unless detailed/indicated otherwise.
- .5 Provide permanent bracing and stiffening (concealed as required or shown) and/or temporary erection bracing (removable after permanent supports are in place) as required.
- .6 All exposed-to-view, miscellaneous metal to be free of visible imperfections, blemishes, spot welding irregularities, scaling, fabrication/trade markings, and imprints.

PART 2 EXECUTION

2.1 INSTALLATION

- .1 Install work in accordance with reviewed shop drawings and construction schedule.
- .2 Coordinate with other trades as required, ensuring timely installation with adjacent construction.
- .3 Install work square, plumb, straight and true. Fit work accurately with tight joints and intersections.
- .4 Provide suitable means of anchorage acceptable to CRP-Architect and Consultant, such as dowels, anchor clips, bar anchors, expansion bolts/shields and toggles.
- .5 Exposed fastening devices to match finish and be compatible with material through which they pass.
- .6 Use grout to fill uneven surfaces to obtain tight fit and full support of mounting plates.
- .7 Full weld all joints and joining sections. Make exposed welds continuous for length of each joint; spot welding is not acceptable. File or grind exposed welds smooth and flush. Fill as necessary to achieve smooth and flush appearance.
- .8 Perform all necessary bracing, drilling and cutting required to complete and to join work.
- .9 Supply components for building/casting in accordance with shop drawings and construction schedule. Include setting templates. Coordinate with other trades as required ensuring timely delivery for installation with adjacent construction.
- .10 Touch up field welds, bolts and burnt or scratched surfaces after installation using zinc-rich primer to repair damage to galvanized finishes.

- .11 Metal fabrications: Refer to drawing for scheduled list of components, arrangements and details.

2.2 FINISHING

- .1 Remove welding slag and spatter. Grind, fill and sand smooth all sharp edges and welds.
- .2 Remove all rust, scale, oil, and other foreign substances by wire brush.
- .3 Clean metal surfaces prior to application of shop primer and finish.
- .4 Prime painting: all prime painting (excepting members called for pre-galvanizing or hot dip galvanizing) to be done after fabrication.

06 10 00 ROUGH CARPENTRY AND WOOD BLOCKING

PART 1 PRODUCTS

1.1 COMPONENTS AND ACCESSORIES

- .1 Lumber: softwood, S4S. Moisture content: maximum 12% for interior locations. Refer to drawings for member sizes, profiles and lengths.
- .2 Nailers, plates, blocking, and liners: SPF species.
- .3 Shims, tapers: Western Red Cedar species or SPF (Spruce/Pine /Fir) species.
- .4 Interior Plywood: Douglas Fir exterior grade plywood displaying the CANPLY certification mark and employing phenol formaldehyde adhesive only.
- .5 Surface-mounted equipment backboards: DFP material "G1S" grade, CSP material "S1S" grade.
- .6 Screws: self-tapping and self-drilling casehardened cadmium plated or epoxy coated wafer-head type.

PART 2 EXECUTION

2.1 FURRING AND BLOCKING

- .1 Install furring and blocking as required to space-out and support casework, wall and ceiling finishes as required.
- .2 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.

2.2 INSTALLATION

- .1 Install members true to line, levels and elevations, square and plumb.
- .2 Construct continuous members from pieces of longest practical length.
- .3 Align and plumb faces of lumber and panel materials to tolerances of 1:600.
- .4 Install wood and plywood components to other building components rigidly secure in place and well anchored.

06 20 00 FINISH CARPENTRY

PART 1 PRODUCTS

1.1 MATERIALS

- .1 Wood Trim:
 - .1 Select clear Cedar and Fir conforming to AWMAC Custom Grade.
 - .2 MDF: minimum density of 700-720 kg/m³ [1543-1587 lb./ft³] Base and casing trim to profiles selected, pre-primed. Shelving to be 16mm [5/8"] thick minimum, with sanded edges.
 - .3 Lumber Moisture Content: Board and dimension lumber moisture content for interior to be 12% or less.
- .2 Glue: Water based, acceptable products: DAP Weldwood carpenter's glue or approved equal.

PART 2 EXECUTION

2.1 INSTALLATION

- .1 Doors:
 - .1 Hang all doors to open and close smoothly with no binding whatsoever. An even margin shall be kept between door and jamb, sufficient on all sides to allow free action of the door. Readjust and check all doors upon completion of the work, correcting any restrictions to the free action of the door caused by paint, moisture or improper fixing of hardware, etc.
 - .2 Hardware: Install all finish hardware.

06 40 00 ARCHITECTURAL MILLWORK

PART 1 PRODUCTS

1.1 MATERIALS

- .1 Core materials, as well as finishes, to be selected by the CRP-Architect.
 - .1 Clear Birch or Fir plywood for casework with no added urea formaldehyde. Acceptable product Pure Bond by Columbia Forest products or pre-approved alternative.
 - .2 Medium Density Fiberboard (MDF): "Medite Board" with density of 769 kg/cu.m [48 lb./cu. ft] to ANSI A208.2. Phenolic or Soy bonded with no added urea formaldehyde (NAUF).
 - .3 High Pressure Plastic Laminates: to CAN3-A172-M79.
 - .4 Particleboard: prefinished with Melamine coating is not recommended for any millwork construction, including any concealed or internal hidden components.
 - .5 Hardboard is not recommended for any millwork construction, including any concealed or internal hidden components.

1.2 MILLWORK CONSTRUCTION

- .1 General Requirements:
 - .1 QSI Manual "Custom Grade". QSI Manual design details for flush overlay construction and as detailed/indicated.
 - .2 Fabricate with carefully machined joints. Securely glue and screw all joints.
 - .3 Seal edges of cutouts to prevent water penetration and damage.
- .2 Countertops:
 - .1 Countertops, to be 19mm [3/4"] GP-S post formed plastic laminate on MDF board core, with square wrap edge, and integral 100mm high [4"] back splash and separate side splashes. Seal joints between splash and wall and between splash and counter with silicone sealant.
 - .1 Colour/pattern: Formica Midnight Stone 6208-58

PART 2 EXECUTION

2.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for architectural woodwork installation in accordance with manufacturer's instructions.

2.2 FABRICATION – CASEWORK

- .1 Assemble using dowels with bolts construction.
- .2 Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes and other fixtures.
- .3 Work delivered to site to be shop assembled for ease of handling, and to also ensure clear passage through building openings.

2.3 INSTALLATION

- .1 Install architectural woodwork in accordance with QSI Manual requirements.

07 21 30 BATT INSULATION

PART 1 PRODUCTS

1.1 ACOUSTIC BATT INSULATION

- .1 Mineral wool batt insulation: Type 1, zero flame spread and smoke development in accordance with ASTM C553-13, ASTM C665-17, and CAN/ULC-S702.1:2014, friction fit format, min. 20% recycled content.
- .2 Acceptable product: Mineral Wool Acoustic Insulation Roxul ABF™ manufactured by Roxul Inc., or pre-acceptable alternative. Pre-finished, coated **black**.

PART 2 EXECUTION

2.1 INSTALLATION

- .1 Install Insulations per Manufacturer's written directions contained on each package.
- .2 Fit tight around conduit, fixtures, boxes, projections and other obstructions to produce continuous acoustical layer
- .3 Secure vertical insulation in place to prevent shifting or sliding down inside stud space.

2.2 INSPECTION

- .1 Do not permit installations to be concealed or enclosed without required inspections.

07 46 23 WOOD SIDING

PART 1 PRODUCTS

1.1 COMPONENTS

- .1 Wood Siding:
 - .1 Type: Maple.
 - .2 Solid wood 1x6 or 1x8, Tongue-and-Groove.
 - .3 Grade: Knotty or Clear Grade A or B Kiln dried.
 - .4 Texture: Smooth faced.
 - .5 Length: Single lengths as applicable, up to 4876mm [16ft].
 - .6 Trims (Square edged): 1 x 3 or 4 or 6 or 8.
- .2 Finish:
 - .1 Primer plus two finish coats of stain and two coats sealer.
 - .2 Colour: To be selected by CRP-Architect in consultation with Owner's Representative.
- .3 Strapping: Softwood Lumber, kiln dried treated with brush applied wood preservative.
- .4 Nails: No. 304 stainless steel or No. 316 stainless steel or Hot-dipped galvanized, splitless siding nails, spiral shank, textured head 62mm [2-½"] long for siding and 87mm [3-½"] for trims.
- .5 Joint Sealers: Specified in Section 07 92 00.

1.2 FINISHES

- .1 Staining: Specified in Section 09 91 00. Finish materials on all sides and ends.

PART 2 EXECUTION

2.1 PREPARATION

- .1 Prior to installation, condition wood to average humidity that will prevail after installation.

2.2 INSTALLATION

- .1 Siding and trim to be back primed painted or clear sealed prior to installation.
- .2 Set plumb and level and install horizontally or vertically with edges and ends over firm bearing. Install siding for natural watershed.
- .3 Square end or Miter end joints (45 degrees) tight jointed and located over bearing surfaces.
- .4 Cut siding to fit at perimeter and around penetrations with maximum 6mm [1/4"] gaps. Sand and prime paint or seal all cut edges.
- .5 Conceal fasten (nail or screw fastening to be determined with the CRP-Architect prior to bidding and prior to start of installation) at maximum 304mm [12"] on center along edges and at intermediate supports in orderly pattern.
 - .1 If face nailing is allowed, nail max of 25 mm [1"] from bottom of siding board directly into wood strapping, drive nail head just flush with siding surface; do not indent or penetrate wood surface.
- .6 Install screen at bottom of base trim. Install metal flashings at internal and external corners, sills, and heads of wall openings. Fasten at 304mm [12"] on center maximum.
- .7 Cut siding to fit at perimeter and around penetrations with maximum 6mm [1/4"] gaps. Sand and prime – paint (2 coats) or stain – seal (2 coats) cut edges.
- .8 Touch-up blemished siding materials to match siding color at cut outs and fastening locations.

07 84 00 FIRESTOPPING

PART 1 PRODUCTS

1.1 SYSTEMS / MANUFACTURERS

- .1 Tremco
- .2 Hilti

1.2 COMPONENTS

- .1 Asbestos-free/ceramic fibre-free materials and non-sagging systems capable of maintaining an effective barrier against flame, smoke and gases and not to exceed opening sizes for which they are tested.
- .2 Primers, damming and backup materials, supports and anchoring devices: to product manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.
- .3 Firestopping system ratings, not less than fire resistance rating of surrounding assembly and without stress corrosion and/or any weakening effects with any surrounding material.

PART 2 EXECUTION

2.1 PREPARATION

- .1 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials. Ensure that substrates and surfaces are clean, dry and frost free.
- .2 Prepare surfaces in contact with firestopping and smoke seal materials to manufacturer's instructions.
- .3 Maintain insulation around pipes and ducts penetrating fire separation.
- .4 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

2.2 APPLICATION AND INSTALLATION

- .1 Install materials and components in accordance with ULC certification and manufacturer instructions.
- .2 Seal holes or voids made by through penetrations, poke-through termination devices and non-penetrated openings or joints to ensure continuity and integrity of fire separation is maintained.
- .3 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing.
- .4 Tool or trowel exposed surfaces to a neat finish.
- .5 Coordinate with mechanical and electrical trades to avoid duplication or omission of firestopping and smoke seals at mechanical/electrical items penetrating fire separations.
- .6 Allow for installation of resilient back up material at tops of fire-resistance rated walls to fill gaps to underside of structure over, while permitting deflection of structure over. Use resilient material that will maintain seal when structure over springs back from deflection.

07 92 00 JOINT SEALANTS

PART 1 PRODUCTS

1.1 SEALANTS

- .1 Structural Sealant (Colours to be selected by the CRP-Architect):
 - .1 Dow 993 OR pre-acceptable alternatives
- .2 Exposed Exterior Sealants (Colours to be selected by the CRP-Architect):
 - .1 Dymonic 100 by Tremco
 - .2 Pre-acceptable alternatives
- .3 Concealed Sealants (Interior and Exterior):
 - .1 CWS by Dow
- .4 Interior Paintable Sealant (Colours to be selected by the CRP-Architect):
 - .1 Tremsil 200 by Tremco
 - .2 Alex Painters Caulking by DAP
 - .3 Kwik Seal Tub & Tile caulk by DAP
 - .4 Pre-acceptable alternatives
- .5 Spray Foam Sealant:
 - .1 Polyurethane by 3M
 - .2 Pre-acceptable alternatives
- .6 Acoustic Sealant:
 - .1 1-part formulation, non-paintable, non-hardening, non-bleeding compound. Acoustical sealant as manufactured by Tremco.
 - .2 Pre-acceptable alternatives

1.2 ACCESSORIES

- .1 All accessories to be compatible with respective sealants. Joint fillers to be oversized 30% to 50%.
 - .1 1, 2-part and 3-part formulations.
- .2 Pre-formed compressible and non-compressible back-up materials.
 - .1 Polyethylene, urethane, neoprene or vinyl foam material as recommended by respective sealant manufacturer.
 - .2 Extruded closed cell foam backer rod.
 - .3 Neoprene or butyl rubber: round solid rod, Shore A hardness 70.
- .3 High density foam: Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa [20 - 29 psi]; extruded polyolefin foam, 32 kg/m³ [70.5 lb./ft³] density, or neoprene foam backer; size as recommended by manufacturer.
- .4 Bond breaker tapes: polyethylene bond breaker tape that will not bond to sealant.
- .5 Joint cleaners: non-corrosive and non-staining type; compatible with joint forming materials and sealant; as recommended by respective sealant manufacturer.
- .6 Primers: type recommended by respective sealant manufacturer for use with sealant for conditions applicable.
- .7 Apply bond breaker tape where required to manufacturer's instructions.
- .8 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

PART 2 EXECUTION

2.1 PREPARATION

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of back-up materials and sealants.
- .2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease and other matter that may impair work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

- .4 Ensure that joint surfaces are dry.
- .5 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .6 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.
- .7 Prepare surfaces in accordance with manufacturer's directions to ensure permanent and complete adhesion.
- .8 Where sealants are qualified with primers, use only the primers qualified with respective sealants.
- .9 Use sealants in colours selected by CRP-Architect where sealants will remain exposed to view in final construction.

2.2 INSTALLATION

- .1 Interior location at joints between dissimilar construction where mildew-resistant sealant is required: 1-part silicone.
 - .1 Junction of sinks to surrounding finishes.
 - .2 Junction of counter tops, backsplashes and to walls.
 - .3 Between finished resilient flooring and door frames.
 - .4 Resilient floor/wall junction prior to installation of resilient base.
 - .5 Resilient floor to cabinet junctions.
 - .6 Around plumbing heating, ventilation and electrical fixtures.
- .2 Interior locations at joints between dissimilar construction at partition walls minimize appearance of caulked joint: 1-part acrylic latex.
 - .1 Control joints in gypsum board walls, ceilings and bulkheads.
 - .2 Junctions between interior door/window frames and adjacent walls, junctions between standing/running trim and adjacent walls to make junctions filled, smooth and invisible suitable for "painting out" with wall finish.
- .3 Mask edges of joint at irregular surface or sensitive joint border to provide neat joint.
- .4 Apply sealant in continuous beads.
- .5 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, and embedded impurities.
- .6 Tool exposed surfaces before skinning begins to give slightly concave shape.

08 11 00 STEEL DOORS

PART 1 PRODUCTS

1.1 STEEL DOORS

- .1 Sheet steel:
 - .1 Door faces: 1.22mm [18ga] metal thickness.
 - .2 Ratings: Non-rated, 20, 45, 60 and 90 minute ratings, refer to door schedule and wall for applicable door rating. Rated doors to have ULC Labels.
 - .3 Refer to Door Schedule on Architectural Drawings for location of rated walls and doors (45min assembly rating = twenty (20) min rated door/hatch/closure assembly c/w 20min rated hardware. One (1) hour assembly rating = forty-five (45) min door/hatch/closure assembly c/w forty-five (45) min rated hardware. One and a half (1/2) hour assembly rating = sixty (60) min door/hatch/closure assembly c/w 60min rated hardware. Two (2) Hour assembly rating = 90 door/hatch/closure assembly c/w ninety (90) min rated hardware.
 - .4 Finish: ZF75 zinc coat designation (paintable Galvanneal), paint finish per Finishes Schedule.
- .2 Steel shapes, plates and bars: structural quality Type 300W; free of scale, pitting and other surface blemishes.
- .3 Door cores:
 - .1 Insulated doors: 16 to 32 kg/m³ [35 – 70.5 lbs/ft³] density expanded polystyrene slab
- .4 Adhesives:
 - .1 Heat resistant, spray grade, resin reinforced neoprene/rubber based, low viscosity, contact cement compatible with respective core material. Adhesives to meet SCAQMD Rule #1168 for VOC limits.
- .5 Zinc primer:
 - .1 Zinc rich, ready mix. All paints and sealers to meet low VOC requirements, refer to section 09 91 01 Painting and Staining.
- .6 Filler:
 - .1 Polyester type automotive body spot filler compound
- .7 Isolation coating:
 - .1 Bituminous paint
- .8 Kickplates:
 - .1 Provide 20ga stainless steel kick plates (#4 brushed finish to both sides of all doors or as scheduled)
 - .2 Height:
 - .1 305mm [12"] high for Universal Washroom Door & Maintenance Room Door
 - .2 916mm [36"] high for Double Door Assembly
- .9 Door Silencers: Single stud rubber/neoprene
- .10 Removable Glazing Stops: Formed galvanized steel channel, minimum 16mm [1/16"] high, accurately fitted, butted at corners and fastened to frame sections with counter-sunk tamper proof sheet metal screws
- .11 Bituminous Coating: Fibred asphalt emulsion
- .12 Glazing: See Drawings for Lite Sizes and Locations
- .13 Closers: Coordinating Door Closer for Double Door Assembly and Universal Washroom Door

1.2 FABRICATION OF DOORS

- .1 Fabricate doors with flush faces.
- .2 Fabricate doors square and free of distortion and twists. Form and fit components and sections accurately, to close fitting tolerances.
- .3 Form each face sheet for doors from sheet steel with honeycomb or insulation slab cores laminated under pressure to face sheets.
Use one (1) full sheet of sheet steel per door face, formed accurately at longitudinal edges to wrap around and meet at strike and hinge edges. All door seems to be fully seam welded. Fill, sand smooth and flush to produce invisible seams.

- .4 Blank, reinforce, drill and tap for mortised/templated hardware.
- .5 Reinforce where required for surface mounted hardware. Indicate clearly on shop drawings exact location of internal hardware reinforcing within door to ensure proper alignment of surface mounted hardware.
- .6 Install all reinforcing plates using full perimeter spot welding with welds spaced maximum 50mm [2"] o.c. to prevent plates from breaking loose throughout life of door.
- .7 Drill holes 13mm [1/2"] dia. and larger in size for hardware, except mounting and through-bolt holes which will be placed at time of hardware installation.
- .8 Drill holes less than 13mm dia. [1/2"] when required for function of hardware (for knobs, levers, cylinders, thumb pieces or turn pieces) or when these holes overlap function holes.
- .9 Equip doors with permanent installed flush-set top caps.
- .10 Equip following doors with 3.5mm [9/64"] anti-intrusion plate welded to latch side of door, unless directed otherwise or as scheduled.
 - .1 Single leaf doors: length required to conceal/protect latch/lock.
 - .2 Door pairs: full height astragal plate welded to latch side of active leaf.

1.3 FINISHING

- .1 After fabrication, fill and sand all tool marks and surface imperfections and dress smooth exposed faces of all welded joints, to be invisible under semi-gloss painted finish.
- .2 Prime paint steel reinforcements using shop coat primer.
- .3 Touch up welded, grinds and damaged galvanized surfaces using zinc primer.

PART 2 EXECUTION

2.1 DOOR INSTALLATION

- .1 Provide even margins between doors and jambs, between door bottoms and finished floor and between door bottoms and thresholds as follows.
 - .1 Hinge side: 1.0mm [40 mil] [3/64"]
 - .2 Latch side and head: 1.5mm [59 mil] [1/16"]
 - .3 Finished floor and thresholds: 13mm [1/2"]
 - .4 Maximum Diagonal Distortion: 1.5mm [59 mil] [1/16"] measured with straight edges, crossed corner to corner
- .2 Install doors and hardware in accordance with hardware templates and manufacturer's instructions. Install hardware to requirements specified in Section 08 71 10 Door Hardware.
- .3 Adjust operable parts for correct clearances and function.
- .4 Touch up damaged galvanized finish using zinc primer, smooth and ready for site-applied finish painting. Install louvers, glazing and door silencers.

08 11 01 STEEL DOOR FRAMES

PART 1 PRODUCTS

1.1 STEEL DOOR FRAMES

- .1 Sheet steel:
 - .1 Frames: 1.63mm [16 gauge] metal thickness for openings 1220mm [48"] or less in unsupported width, 2.0mm [12 gauge] metal thickness for openings exceeding 1220mm [48"] in unsupported width.
 - .2 Refer to Door Schedule on Architectural Drawings for location of rated walls. (45) min assembly rating = twenty (20) min rated door frame. One hour assembly rating = forty-five (45) min rated doorframe. One (1) and a half hour assembly rating = sixty (60) min rated doorframe. Two (2) Hour assembly rating = ninety (90) min rated doorframe.
 - .3 Finish: ZF75 zinc coat designation (paintable Galvanneal), paint finish per Finishes Schedule.
- .2 Steel shapes, plates and bars: structural quality Type 300W; free of scale, pitting and other surface blemishes.
- .3 Zinc primer:
 - .1 Zinc rich, ready mix. All paints and sealers to meet low VOC requirements, refer to section 09 91 01 Painting and Staining.
- .4 Filler:
 - .1 Polyester type automotive body spot filler compound
- .5 Door silencers:
 - .1 Single stud neoprene/rubber type
- .6 Isolation coating:
 - .1 Bituminous paint

1.2 FABRICATION OF FRAMES

- .1 Fabricate frames using welded construction.
- .2 Fabricate frames square and free of distortion and twists. Form and fit corners and interconnecting sections accurately to close fitting tolerances.
- .3 Mitre or mechanically join sections and securely weld on inside of frame profiles.
- .4 Cope accurately and weld securely butt joints of mullions, centre rails and sills.
- .5 Grind welded joints smooth, to uniform finish, flush with adjacent surfaces. Grind, fill, sand smooth and flush to produce invisible seams.
- .6 Blank, reinforce, drill and tap for mortised, templated hardware. Protect mortised cutouts with leak proof steel mortar boxes. Protect tappings from becoming blocked by grout/mortar fill by applying strips of rigid insulation or sprayed-in place foam to inside of frame.
- .7 Provide steel mortar boxes enclosures for strike, latch and bolt cutouts on all frames. Applicable to grout filled frames to protect cutouts and applicable to non-grout filled frames to provide lined cutout openings free of frame voids.
- .8 Reinforce where required for surface mounted hardware. Indicate clearly on shop drawings exact location of internal hardware reinforcing within frames to ensure proper alignment of surface mounted hardware.
- .9 Install all reinforcing plates using full perimeter spot welding with welds spaced maximum 50mm [2"] o.c. to prevent plates from breaking loose throughout life of frame.
- .10 Frame anchors:
 - .1 Provide for appropriate anchorage to floor and wall construction.
 - .2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.
 - .3 For frame heights, up to and including 1520mm [60"] provide 2 anchors plus an additional anchor for each additional 760mm [30"] of height or fraction thereof.
- .11 Attach floor anchors securely to inside of each jamb profile.
- .12 Prepare each door opening for door silencers, 3 for single door openings and 2 for double door openings.

- .13 Shop install door silencers. Painting trade is to remove silencers prior to painting and handover to installer for re-installation after painting is completed.
- .14 Weld in 2 temporary jamb spreaders at bottom of each doorframe opening, to maintain alignment during shipment and building in place.

1.3 FINISHING

- .1 After fabrication, fill and sand all tool marks and surface imperfections and dress smooth exposed faces of all welded joints, to be invisible under semi-gloss painted finishes.
- .2 Prime paint steel reinforcements using shop coat primer.
- .3 Touch up welded, grinds and damaged galvanized surfaces using zinc primer.
- .4 Apply isolation coating to full interior surfaces of frames scheduled to receive grout fill.

PART 2 EXECUTION

2.1 FRAME INSTALLATION

- .1 Set frames plumb, square, level and at correct elevation. Set in place with maximum diagonal distortion of 2.0mm [79 mil] and maximum 1.0mm [39 mil] out of plumb measured on face of frame.
 - .1 Frames installed in masonry: have frames set and braced by door installer to ensure accurate placement during building-in. Have door installer inspect frames during building-in/grouting operations to ensure maintenance of accurate placement necessary for hanging of doors.
 - .2 Frames installed with visible frame anchors: conceal exposed frame anchor heads and related frame countersinks with filler. Fill flush and sand smooth to be invisible under painted finishes.
- .2 Secure anchorages and connections to adjacent construction.
- .3 Make allowances for deflection to ensure structural loads are not transmitted to frames.
- .4 Accommodate electric strikes and wiring within frames. Confirm final requirements before concealing.
- .5 Fill installed exterior frames with low rise expanding foam insulation to improve thermal performance and to seal airtight to adjacent wall construction.

08 71 10 DOOR HARDWARE

PART 1 PRODUCTS

1.1 MANUFACTURERS

- .1 Products and Finishes to match existing vonDuprin products, allow for coordination with the Owner.

1.2 QUALITY CONTROL

- .1 Hardware to be free from imperfections in manufacture and finish.
- .2 Supply templates as required. Frame manufacturer will allow for maximum swing of doors when templating for closers. On pairs of doors RHR Leaf is to be active unless noted otherwise.
- .3 Use one manufacturer's product only for all similar items.
- .4 Lever handles are required on all lock and latch sets.

PART 2 EXECUTION

2.1 EXAMINATION

- .1 Before supplying materials ensure by a check of drawings, shop drawings and details prepared for the Project that listed hardware is suitable by dimension and function for intended purpose. Inform CRP-Architect and or Hardware Consultant of discrepancies.

2.2 INSTALLATION

- .1 Provide instructions, required for preparation of doors and frames, to the appropriate fabricators.
- .2 Verify under work of this Section that installed door hardware functions properly and adjust accordingly to ensure satisfactory operation.
- .3 Locate hardware accurately and adjust to meet manufacturer's instructions. Use special tools and jigs as recommended.
- .4 Secure hardware into place using companion fasteners in accordance with hardware installation instructions. Use proper fitting screwdrivers. Do not burr screw heads or damage plated screw finishes.
- .5 Install hardware and trim square and plumb to doors and frames.
- .6 Replace wrappings for hardware provided by manufacturer after installation to protect hardware finishes from subsequent building painting operations.
- .7 Adjust hardware so that latches and locks operate smoothly and without binding and so that closers act positively with least possible resistance in use. Lubricate hardware if required by manufacturer instructions.

09 22 16 STEEL STUD FRAMING

PART 1 PRODUCTS

1.1 COMPONENTS

- .1 Steel Studs:
 - .1 Flange 32mm [1-17/64"] Web width 92mm [3-5/8"] 20ga stud, 0.5893mm [1/64"] base-metal thickness at 406mm [16"] o.c., refer to drawings for locations and shop drawings for additional engineered design requirements. Engineer to determine final sizes, gauges and spacing's.
- .2 Hat-Shaped Steel Sections:
 - .1 Minimum Base-Metal Thickness: 0.75mm [1/32"], depth 22mm [55/64"] at 406mm [16"] o. c.
- .3 Carrying Channels:
 - .1 1.37-mm [3/64"] uncoated-steel thickness, depth 38mm [1-1/2"] at 1220mm [48"] o. c.
- .4 Sub-Girths (Z-Shapes): size, profile, cut outs, lengths and gauge engineered to suit construction assemblies, 22 Gauge minimum Galvanized G-90 Grade 33 steel.
- .5 Tie Wire:
 - .1 Class 1 zinc coating, soft temper 1.59-mm [1/16"] diameter wire, or double strand of 1.21-mm [3/64"] diameter wire at 1220mm [48"] o. c.
- .6 Fasteners:
 - .1 Type, material, size, corrosion resistance, holding power, and other properties to comply with Engineering requirements.

PART 2 EXECUTION

2.1 WALL ASSEMBLIES

- .1 Install framing system components according to spacing's indicated, but not greater than spacing's required by referenced installation standards for assembly types, 406mm [16"] o.c. unless otherwise indicated. Framing for all areas with Level 5 drywall finish to be at 304mm [12"] o.c.
- .2 Where studs are installed directly against concrete or masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall. Install continuous double bead of acoustic sealant 12.7mm [1/2"] in from outer edges on all top and bottom tracks framing all spaces and rooms.
- .3 Install studs so flanges within framing system point in same direction.
- .4 Install tracks (runners) at floors and overhead supports.
- .5 Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings.
- .6 Continue framing around ducts penetrating partitions above ceiling.
- .7 Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
- .8 Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
- .9 Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - .1 Install fire-resistance-rated partitions using manufacturer's proprietary dimpled studs.
 - .2 Install fire track to maintain continuity of fire-resistance-rated assembly indicated.
- .10 Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- .11 Do not connect or suspend steel framing from ducts, pipes, or conduit.

2.2 FRAMED ASSEMBLIES – BULKHEADS / DUCT HOUSING

- .1 Install framing system components according to spacing's indicated, but not greater than spacing's required by referenced installation standards for assembly types, 406mm [16"] o.c. unless otherwise indicated. Framing for all areas with Level 5 drywall finish to be at 304mm o.c [12"].
- .2 Install studs so flanges within framing system point in same direction.
- .3 Extend framing to structural supports or substrates above ceilings.
- .4 Continue framing around ducts penetrating partitions above ceiling. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- .5 Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.

2.3 SUSPENDED ASSEMBLIES

- .1 Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
- .2 Install suspension system components according to spacing's indicated, but not greater than spacing's required by referenced installation standards for assembly types.
 - .1 Hangers: 1219mm [48"] o.c.
 - .2 Carrying Channels (Main Runners): 1219mm [48"] o.c.
- .3 Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- .4 Suspend hangers from building structure as follows:
 - .1 Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - .2 Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counters or other equally effective means.
 - .3 Where width of ducts and other construction within ceiling plenum produces hanger spacing's that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - .4 Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or fail.
 - .5 Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger.

09 25 00 GYPSUM BOARD ASSEMBLIES

PART 1 PRODUCTS

1.1 MANUFACTURERS

- .1 CGC
- .2 Pre-acceptable alternatives

1.2 GYPSUM BOARDS AND ASSOCIATED COMPONENTS

- .1 Standard gypsum board: to ASTM C1396/C1396M-14a, thicknesses detailed/indicated on drawings x widths to suit framing centres x maximum practical lengths, wrapped tapered edges, square cut ends; paper facing 100% recycled, gypsum core no less than 10% recycled content. No urea formaldehyde content.
- .2 Moisture-resistant & Mold-resistant Gypsum Board: to CAN/CSA-A82.27-M91, ASTM C1396/C1396M-14a and ASTM D3273-16 for Mold Resistance, gypsum (non-combustible) core with hydrophobic treatment, or fire-resistance performance as required. No urea formaldehyde content.
 - .1 Acceptable product: 'Sheetrock Mold-Tough' or 'Fiberock' manufactured by Canadian Gypsum Company.
- .3 Abuse-resistant gypsum board: proprietary improved gypsum board panels meeting physical properties of ASTM C1278/C1278M-07a(2015), and ASTM C1629/C1629M-15 thicknesses indicated/scheduled x widths to suit framing centres x maximum practical lengths, wrapped tapered edges, square cut ends, bearing ULC label and complying with ULC Guide No. 40 U18.23 when used in assemblies requiring a fire resistance rating. No urea formaldehyde content.
 - .1 Acceptable product: 'Dens-Armour Plus' manufactured by Georgia-Pacific Corp. or CGC Sheetrock Abuse Resistant (AR) Gypsum Board.
- .4 Screws: to ASTM C1002-16: For use on wood framing: coarse self-drilling wood screw thread. For use on resilient furring channels: finer self-drilling metal screw.
- .5 Casing beads/j-beads, corner beads, control joints: to ASTM C1047-14a, all metal construction without paper flanges, zinc-coated by hot-dip process or zinc-coated by electrolytic process 0.5mm [1/64"] base thickness, perforated flanges, one piece length per location.
- .6 Resilient metal channels: 0.5mm [1/64"] base steel thickness galvanized steel profiles (type RC-1) for resilient sound isolation attachment of gypsum board.
- .7 Joint compound: to ASTM C475, asbestos-free.
- .8 Acoustic tape: Pressure-sensitive adhesive, closed cell neoprene foam tape, thickness: 6.0mm [1/4"], width: 12.0mm [1/2"], compression: 2psi to 5psi. Acceptable Manufacturer: Sellotape Series Insil 400; Draftseal DS Series or pre-acceptable alternatives.

PART 2 EXECUTION

2.1 RESILIENT METAL CHANNELS INSTALLATION

- .1 Erect drywall resilient metal channels transversely across supports scheduled, spaced maximum 600mm [24"] o.c. and not more than 150mm [6"] from ceiling/wall juncture.
- .2 Secure to each support using drywall screw.

2.2 GYPSUM BOARD INSTALLATION

- .1 Install gypsum board in accordance with ASTM C840-16 and to requirements established in AWCC Manual. Conform to the most stringent requirements of these standards. Ensure that screw spacing/patterns and support meet requirements of rating authorities for assembly types.
- .2 Coordinate installation of structural plywood (diaphragm) sheathing and plywood back-up under gypsum board, where applicable.
- .3 Install gypsum board in a direction and method most practical and economical, subject to recommendations set out by ASTM C840-16 and AWCC Manual. Minimize number of end-butt joints.
- .4 Locate all gypsum board edges and ends over firm bearing.

- .5 Ensure that screws do not break surface paper of gypsum board sheets. Should this occur, provide additional screws approx. 25mm [1"] away from each defective location.
- .6 Use care when installing gypsum board on resilient furring channels so as not to destroy resilient design of channel. Do not locate screws at studs to prevent screwing through channel into stud. Resilient furring channels to provide acoustical separation of subsequent gypsum board applications from wall framing by allowing gypsum board to "float" against stud framing.
- .7 Install all boards to form surfaces which are plumb, level and straight in all directions, with a maximum allowable tolerance of 1:1000.
- .8 Make all gypsum board surfaces flush where they occur in the same plane, unless detailed/indicated otherwise.
- .9 Cut and fit boards around electrical boxes, conduit, piping and recessed equipment to tolerances required to cover junctions with standard cover plates. Verify depth of recessed electrical boxes to allow flush cover plate installation, with maximum 3mm [1/8"] depression of box from gypsum board surfaces. Allow maximum 3mm [1/8"] clearance around conduit and piping projecting through gypsum board.
- .10 Extend gypsum board from floor to underside of structure over wherever studs extend to structure over. Gypsum board is applicable to both sides of such partitions.

2.3 ACCESSORY INSTALLATION

- .1 Install casing beads, corner beads, control joints and accessories straight and rigid with joints butted tight. Use longest practical length at each location.
 - .1 Install corner beads at all external corners. Crimp in place 300mm [12"] o.c. along entire corner bead length and mechanically fix 300mm [12"] o.c. between crimping points with care not to dislodge or cause crimped edges to lift.
 - .2 Install casing beads/j-beads where gypsum board abuts a dissimilar material or finish, at gypsum board openings not concealed by trim and where detailed.
 - .3 Install control joints in locations required to correspond to building control joints. Locations subject to Consultant's approval.
 - .4 Construct control joints of 2 back-to-back casing beads/j-beads set in gypsum board facing and supported independently on both sides of joint. Provide continuous polyethylene dust barrier behind and across control joints.
- .2 Back all control joints, beads and accessories with adequate support framing.

2.4 GYPSUM BOARD FINISHING

- .1 Fill, tape and sand smooth all joints in gypsum board. Where joints form gaps more than 3mm [1/8"] wide fill and let dry before taping.
- .2 Finish gypsum wallboard surfaces in accordance with Levels of Finish described in Section 9.6 of AWCC Manual and as follows.
 - .1 AWCC Level 1 Finish: use this finish in areas wherever assembly will be completely concealed from view such as in ceiling spaces and behind solid wall/ceiling finishes.
 - .2 AWCC Level 4 Finish: use this finish in all areas that do not have Level 1 or 5.
 - .3 AWCC Level 5 Finish: use this finish on feature walls.
- .3 Finish corner beads, control joints and trim as required with 2 coats of joint compound and one coat of taping compound, feathered out onto panel faces.
- .4 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board to be invisible after surface finish is completed.
- .5 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
- .6 Completed installations to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

09 30 00 TILING

PART 1 PRODUCTS

1.1 FLOOR TILES

- .1 Floor tile: glazed semi-gloss cushion edge tile, complete with matching trim and cove base, colours selected by CRP-Architect.
 - .1 Acceptable products distributed by Ames Brothers, Daltile, Olympia or other pre-acceptable Distributors.
 - .2 Based on Multitude by Daltile
 - .1 Size: 12"x24"
 - .2 Colours to be selected by CRP-Architect.
 - .3 Tile Pattern: Stack Bond
- .2 Latex-Portland cement (thin set) mortar: pre-packaged.
- .3 Latex-Portland cement grout: pre-packaged mix to ANSI A118.6, integral colour, resistant to fungus, staining and washout; colours selected by Architect.
- .4 Latex additive: TTMAC-recommended factory-prepared mixture.
- .5 Use new and uncontaminated materials all from same source or manufacturer, uncut, mixed and applied in strict accordance with manufacturer's written instructions.
- .6 Mix pre-packaged proprietary materials in accordance with respective manufacturer's directions.
- .7 Mortars: proportion and mix in accordance with TTMAC requirements. Do not use re-tempered mortar.

1.2 COMPONENTS

- .1 Wall tile: glazed semi-gloss cushion edge tile, complete with matching trim and cove base, colours selected by CRP-Architect.
 - .1 Acceptable products distributed by Ames Brothers, Daltile, Olympia or other pre-acceptable Distributors.
 - .2 Main Tile: Based on Multitude by Daltile
 - .1 Size: 12"x24"
 - .2 Colours to be selected by CRP-Architect.
 - .3 Tile Pattern: Stack Bond
 - .3 Accent Tile: Based on Elevare by Daltile
 - .1 Size: 4"x16"
 - .2 Colours to be selected by CRP-Architect.
 - .3 Tile Pattern: Running Bond
- .2 Latex-Portland cement (thin set) mortar.
- .3 Latex-Portland cement grout: pre-packaged integral colour, resistant to fungus, staining and washout; colours selected by CRP-Architect.
- .4 Latex additive: TTMAC-recommended factory-prepared mixture.

1.3 MORTARS AND GROUTS

- .1 Latex-Portland cement mortar: pre-packaged mix to ANSI A118.1.
- .2 Latex-Portland epoxy grout by Mapei or pre-acceptable alternative: pre-packaged mix to ANSI A118.6, integral colour, resistant to fungus, staining and washout; colours selected by CRP-Architect.
- .3 Latex additive: TTMAC-recommended factory-prepared mixture.

PART 2 EXECUTION

2.1 TILE INSTALLATION

- .1 Install in strict accordance with TTMAC Manual and ANSI A108 detail/specification requirements and best trade practices.
- .2 Make joints uniform in width, subject to normal variance in tolerance allowed in respective tile sizes.

- .3 Apply tile and backing coats to clean and sound surfaces.
- .4 Install tile to achieve contact with mortar bond coat required under each TTMAC detail listed for Project. Remove random tile or sound tile after setting to ensure that recommended contact is being achieved. Remove and replace improperly set tile.
- .5 Maintain uniform joint appearance. Cut edges smooth and even. Grind cut edges to remove sharpness of cut edges.
- .6 Maximum surface tolerance 1:800.
- .7 Lay out tile so perimeter tiles are minimum 1/2 size.
- .8 Allow minimum twenty-four (24) hours after installation of tile before grouting, unless required otherwise by mortar and adhesive mix manufacturers.
- .9 Grout tile installations to produce smooth, uniform, dense, solid filled and consistent joints sealed to adjacent tile, free of void and loose material. Grout colour to be consistent across entire application. Wash grout residue from tile surfaces completely without damaging grout joints.
- .10 Damp cure grout joints for minimum seventy-two (72) hours, unless required otherwise by grout manufacturer.
- .11 Upon completion of installations, clean tile surfaces in accordance with TTMAC Manual directions for types of tile installed.
- .12 Completed installations are to be free of broken, damaged or faulty tile and grout.

09 67 80 HIGH BUILD GLAZED COATINGS

PART 1 PRODUCTS

1.1 SYSTEMS

- .1 Epoxy flooring: purpose-made proprietary liquid/trowel applied seamless system consisting of following parts, with all components from one manufacturer
 - .1 Primer: 2-component penetrating epoxy
 - .2 Base: 3-component troweled mortar base consisting of epoxy resin, curing agent and finely graded silica aggregate.
 - .3 Undercoat: 3-component free flowing epoxy formulation consisting of resin, curing agent and fine aggregate
 - .4 Aggregate: broadcasted crushed dry quartz with coloured inorganic ceramic coating, clean and free of dust or other impurities, less than 1.6 mm [1/16"] size, colours selected by Architect
 - .5 Sealer (topcoat): 2-component UV-resistant clear epoxy
 - .6 Cured quartz flooring properties:
 - .1 Compressive strength: minimum 10,000psi
 - .2 Tensile strength: minimum 2,000psi
 - .3 Flexural strength: minimum 4,300psi
 - .4 Hardness: 85 - 90
 - .5 Impact resistance: >160 in. lbs.
 - .6 Acceptable products or pre-acceptable alternatives:
 - .1 Sikafloor Quartzite 1100.
 - .2 Stonehard Stonshield HRI.
 - .7 Colours: To be selected by CRP-Architect.
 - .8 Mixes:
 - .1 Mix quartz flooring broadcast aggregates to obtain colour blends selected by CRP-Architect.
 - .9 Accessories:
 - .1 Divider/edge strips: zinc, 1.6mm [1/16"] metal thickness x depth of quartz flooring.
 - .2 Cap strips: zinc, 1.6mm [1/16"] metal thickness x shapes required to finish tops of coves.
 - .3 Joint fillers, leveling and filling compounds, sealants, etc. all as recommended by flooring manufacturer.
 - .4 Provide epoxy reducer strip at locations indicated on requirements drawings by cutting concrete substrate as detailed and where epoxy flooring is to finish flush with other finish flooring. Install metal angle trim where epoxy butts sheet flooring.

PART 2 EXECUTION

2.1 PREPARATION

- .1 Prepare floor substrate using shot blasting method prior to commencement of epoxy flooring installation.
- .2 Correct defective substrates until they are acceptable to receive flooring system.
- .3 Provide supplemental ventilating and dry heating equipment if building ventilation/heating system is not operating or if operating system is closed off to exclude water barrier membrane and epoxy flooring product fumes from entering occupied parts of building.
- .4 Comply with respective flooring treatment manufacturer's requirements and NFCA Manual whichever more stringent, regarding temperature and ventilation during and after sub-floor treatment.
- .5 Do not commence with installation until lighting is at a level adequate for proper installation of flooring.
- .6 Mask adjacent surfaces to prevent damage.

2.2 APPLICATION AND INSTALLATION

- .1 Install in accordance with product manufacturer's directions and NFCA Manual.
- .2 Form uniform radius self-coved bases to match accepted mock-ups.
- .3 Install with care to ensure that no laps, voids, skips or other visible irregularities occur and that finished flooring will be of consistent and uniform appearance, colour, texture and sheen.
 - .1 Final colours and surface textures to match accepted samples.
 - .2 Final total cured uniform thickness: minimum 5mm [13/64"].
 - .3 Texture: medium (0.7 coefficient of friction).
 - .4 Divider strips:
 - .1 Install in accordance with epoxy flooring manufacturer's directions set at correct depth to be flush with finished flooring surface.
 - .2 Install divider strips at doorways and other locations required. Install using longest practical lengths. Use single sections for doorways. Do not splice.
 - .3 Locate divider strips to correspond with floor control joints and changes in floor colours, unless otherwise requested.
- .5 Cap strips:
 - .1 Install in accordance with flooring manufacturer's directions set at correct heights to finish tops of flooring self-cove bases. Install using longest practical lengths.

09 91 00 PAINTING

PART 1 PRODUCTS

1.1 PAINTS

- .1 Use only materials listed in current 'MPI Approved Products List'.
- .2 Use paint materials of single manufacturer and series for each paint system. Paints to have less than the quantities of VOC's grams/Liter.
 - .1 Transparent Wood Finishes, Varnishes, Lacquers: 275g/L. [36.7oz/liq. gallon]
 - .2 Stains: 100 g/L. [13.4oz/liq. gallon]
 - .3 Sealers, Concrete Curing Compounds: 100 g/L. [13.4oz/liq. gallon]
 - .4 Flat Paints and Coatings: 50 g/L. [6.7oz/liq. gallon]
 - .5 Non-Flat Paints and Coatings: 100 g/L. [13.4oz/liq. gallon]
 - .6 Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metal: 250 g/L. [33.3oz/liq. gallon]

1.2 SEALERS

- .1 Use only MPI Approved Clear water based Sealers for exposed and or stained wood surfaces. Sealer based on Heritage Sealer or pre-acceptable alternative.

1.3 COLOUR, GLOSS AND SHEEN REQUIREMENTS

- .1 Architect will select paint colours where colours have not been listed on drawings. Do not commence painting until receipt of colour selections.
- .2 Architect will provide colour schedule after Contract award. In general, colours are to match existing.
- .3 Selection of colours will be from manufacturers full range of colours.
- .4 Where specific products are available in a restricted range of colours, selection will be based on the limited range.
- .5 Second coat in a three-coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.
- .6 Colour selection will be based on up to three (3) base colours and up to two (2) accents. No more than five (5) colours will be selected for entire project. Note that this does not include pre-finished items by others (e.g. flashings, windows, etc.).
- .7 MPI Gloss and Sheen Standards are as follows: Gloss@60° Sheen@85°
- .8 Confirm Gloss Level with Architect, for each area and product, prior to application.
 - .1 Gloss Level 1 - matte finish - flat max. 5 units, and max. 10 units.
 - .2 Gloss Level 2 - high side sheen flat - 'velvet-like' max. 10 units, and 10-35 units.
 - .3 Gloss Level 3 - eggshell 10-25 units, and 10-35 units
 - .4 Gloss Level 4 - satin 20-35 units, and min. 35 units
 - .5 Gloss Level 5 - semi-gloss 35-70 units
 - .6 Gloss Level 6 - gloss 70-85 units
 - .7 Gloss Level 7 - high gloss more than 85 units.

1.4 MATERIALS

- .1 Paint, varnish, stain, enamel, lacquer and fillers of type specified for specific uses and as listed in the "Approved Products List – latest edition" and indicated by code numbers referred to in the Master Painter Institute Architectural Specification Manual, latest edition.
- .2 Paint materials for each coating formula to be products manufactured by approved manufacturers.
- .3 Paint materials without manufacturer's label will not be allowed.
- .4 Apply paint materials in accordance with manufacturer's directions.
- .5 Paint materials to have good flowing and brushing properties and dry free from blemishes.
- .6 Use ready-mixed and pre-tinted paint. Re-mix all paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment and colour and gloss uniformity. Do not exceed paint manufacturer's recommendations for thinner use.
- .7 All painting work to be in accordance with MPI Premium Grade finish requirements.

1.5 MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Consultant's written permission.
- .2 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.
- .3 Where thinner is used, addition shall not exceed paint manufacturer's recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.
- .4 Thin paint for spraying according in strict accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Consultant.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

PART 2 EXECUTION**2.1 PREPARATION**

- .1 Protect adjacent surfaces in area of painting operations. Provide, cloths, shields, masking, templates, and other suitable protections.
- .2 Prepare surfaces to receive paint in accordance with requirements and procedures described in MPI Manual.
- .3 General Contractor to correct defects and clean surfaces which affect work of this Section. Applicator shall review all corrected defects, ahead of proceeding with the work of this section.
- .4 Remove and securely store electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing, using installers skilled in the trades involved. When removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
- .5 Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - .1 Gypsum Wallboard: 12 percent
 - .2 Masonry, Concrete, and Concrete Unit Masonry: 12 percent
 - .3 Concrete Floors: 8 percent

2.2 APPLICATION

- .1 Apply paint and stain in accordance with the MPI Manual.
- .2 Spray, roll and brush apply as required.
- .3 Apply seal coat/primer.
- .4 Apply first coat two shades lighter than finish coat first coat applications to be reviewed and accepted by the General Contractor and CRP-Architect, prior to proceeding with finish coat.
- .5 Sand and dust between each coat to remove defects visible from 1525 mm [60"] distance.

10 21 14 TOILET PARTITIONS – METAL

PART 1 PRODUCTS

1.1 SYSTEMS

- .1 Metal Toilet Partitions based on Products by Hadrian Inc. or pre-acceptable alternative. Toilet Partitions distributed by Allmar International or pre-acceptable alternate Supplier.

1.2 COMPONENTS

- .1 Floor Mounted: Compartment Depth and Width: As indicated on drawings
 - .1 Door Width: 610 mm [23"], minimum; at wheelchair accessible compartments, 915 mm [36"], minimum
 - .2 Door Height: 1473 mm [58"] high doors and panels
 - .3 Doors and Panels Top at 1765 mm [69-1/2"] above finished floor
 - .4 Bottom of panels and doors at 305 mm [12"] above finished floor
- .2 Urinal Screens: Wall mounted
 - .1 Depth: 457mm [18"]
 - .2 Height: 1219mm [48"]
 - .3 Mounting: Stirrup brackets

1.3 FINISHES

- .1 Powder Coated Steel Panels, Pilasters, and Doors: Hollow steel sheet construction with formed edges welded and ground smooth.
 - .1 Steel Face Sheet: Panel flatness zinc coated galvalume steel.
 - .2 Edges: Interlocked under tension, welded, with roll-formed oval crown locking bar; corners mitered, welded, and ground smooth.
 - .3 Core: Honeycomb with maximum cell size of 25mm [1"], laminated under pressure to face sheets.
 - .4 Doors: 25mm [1"] thick, with 22ga (0.8mm [1/32"]) thick face sheets.
 - .5 Panels: 25mm [1"] thick, with 22ga (0.8mm [1/32"]) thick face sheets.
 - .6 Pilasters:
 - .1 Floor to Ceiling Pilasters: shall be 32mm [1 1/4"] thick, with 20ga (0.9 mm [1/32"]) thick face sheets. Top of headrail braced pilasters to be reinforced with 20ga (0.9mm [1/32"]) channel for strength and rigidity.
 - .7 Other: Anti-Graffiti Finish
 - .8 Colour: 828 Dovetail
- .2 Attachments: Stirrup and U-Type Brackets:
 - .1 For panel-to-wall and pilaster-to-wall connections provide a minimum of 2— stirrup brackets per panel, 38mm [1 1/2"] deep screwed to panels and walls.
 - .2 For panel-to-pilaster connections provide U-type brackets: 35mm [1 3/8"] deep.
 - .3 Stamped stainless steel, No.4 brushed finish.
- .3 Fasteners:
 - .1 Stainless steel, No.4 brushed finish.
- .4 Door Hinges:
 - .1 Standard Concealed Door Hinges:
 - .1 Top: Concealed hinge bracket with a high strength threaded metal hinge pin with a self-lubricating nylon sleeve.
 - .2 Bottom: Concealed gravity hinge, adjustable to set the door to rest at any position when not latched.
 - .3 Material: Cast stainless steel, No.4 brushed finish.
- .5 Hinge Side Gap Filler:
 - .1 Extruded aluminum channel fills the sightline gap between the door and pilaster; finished to match door and pilaster finish.
- .6 Stop and Keepers:
 - .1 Combined stop and keeper with 19mm [3/4"] diameter bumper locked into place.

- .7 Door Latches: Concealed, mortised turn latch with faceplate flush with edge face of door; exterior turn slot for emergency access. On wheelchair access doors provide turn lever that does not require fingertip grip.
 - .1 Cast stainless steel, No.4 brushed finish.
- .8 Hooks: Combination hook and bumper; rubber tip; one on each door.
 - .1 Cast stainless steel, No.4 brushed finish.
- .9 Door Pulls for out swinging Doors: Pulls mounted on outside.
 - .1 Cast stainless steel, No.4 brushed finish.
- .10 Fasteners:
 - .1 Provide fasteners of type appropriate to members being fastened and substrate to which they are being fastened.

PART 2 EXECUTION

2.1 INSTALLATION

- .1 Partition erection in general.
 - .1 Install partitions secure, plumb and square.
 - .2 Leave 12mm [1/2"] space between wall and panel or end pilaster.
 - .3 Anchor mounting brackets to masonry/concrete surfaces using screws and shields: to hollow walls using bolts and toggle type anchors, [to steel supports with bolts in threaded holes].
 - .4 Attach panel and pilaster to brackets with through type sleeve bolt and nut.
 - .5 Provide for adjustment of fixings with stainless steel shoes.
 - .6 Provide templates for locating threaded studs through finished ceilings.
 - .7 Equip each door with hinges, latch set, and each stall with coat hook. Adjust and align hardware for easy, proper function. Set door open position at 30° to front.
 - .8 Equip out swinging doors with door pulls.
 - .9 Install grab bars.

10 26 00 WALL PROTECTION

PART 1 PRODUCTS

1.1 COMPONENTS

- .1 Corner Guards:
 - .1 Description: 51 x 51mm [2" x 2"] 90° angle, continuous guard.
 - .2 Material:
 - .1 Powder Coated 18ga Steel
 - .3 Colours: To be selected by CRP-Architect
 - .4 Fasteners: Concealed clip and screw

PART 2 EXECUTION

2.1 EXAMINATION

- .1 Review the site, identifying any conditions that may negatively impact the performance of the work and submit to the Architect in writing prior to commencement of the work.

2.2 INSTALLATION

- .1 Corner Guards:
 - .1 Install in accordance with reviewed shop drawings.
 - .2 Fix to stud framing using screws of sufficient length to hold units secure through wall finish into framing/blocking behind. Coordinate wall framing to include intermediate backing/blocking as required for attachment of components wherever attachment will miss studs. Direct fastening to gypsum board alone not acceptable.
 - .3 Install corner guards straight and true to lengths detailed, from top of base.
 - .4 Do not remove protective coating until guards are installed and after final clean up.

10 40 00 SIGNAGE

PART 1 PRODUCTS

1.1 SIGNS

- .1 Washroom/Hallway Signage: To be selected by the CRP-Architect in consultation with the Owner.

PART 2 EXECUTION

2.1 INSTALLATION

- .1 Install items per Manufacturer's instructions.

10 81 50 TOILET AND WASHROOM ACCESSORIES

PART 1 PRODUCTS

1.1 COMPONENTS

- .1 Refer to drawings for quantity and location. Owner to supply and install Soap Dispensers and Paper Towel Dispensers. Remaining Products based on and selected from the following or pre-acceptable alternatives:
 - .1 Coat-Hat Hook: Bobrick B-682
 - .2 Grab Bar 120 deg: Bobrick 816723
 - .3 Grab Bar: Bobrick B-5806 x 36
 - .4 Waste Receptacle: Bobrick B-2280
 - .5 Sanitary Napkin Disposal: Bobrick B-5270
 - .6 Baby Change Table: Koala Kare KB101-00
 - .7 Surface-Mounted Door Bumper: Bobrick B-687
 - .8 Channel Frame Mirror: Bobrick B-1658 2436
 - .9 Fixed Position Tilt Mirror: Bobrick B-293 1836

PART 2 EXECUTION

2.1 INSTALLATION

- .1 Install and fix accessories rigidly in place, plumb and level, and as follows:
 - .1 Fix to stud framing using screws of sufficient length to hold units secure through wall finish into framing/blocking behind.
 - .2 Coordinate wall framing to include intermediate backing/blocking as required for attachment of components.
 - .3 Direct fastening to gypsum board alone not acceptable.
- .2 Fix grab bars and towel bars to withstand 1.3 kN vertical and horizontal force. Include or coordinate structural backing at all grab bar and towel bar locations.
- .3 Coat hooks to be installed mid-partition door as opposed to near the top.
- .4 Do not install accessories until wall finishes have been applied. Any accessories that exhibit paint markings of any kind must be removed, cleaned and re-installed.

2.2 ACCESSORY SCHEDULE

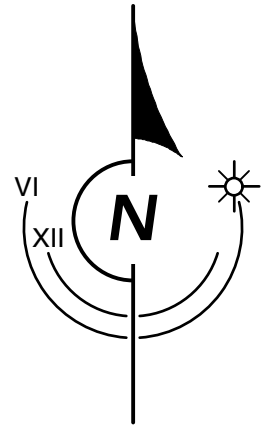
- .1 Refer to drawings



1 Site Plan
A-1 Scale: 1/16" = 1'-0"



2 Location Plan
A-1 Scale: 1/8" = 1'-0"



BUILDING CODE REVIEW	
BUILDING CODE:	2012 BRITISH COLUMBIA BUILDING CODE
MAJOR OCCUPANCY:	GROUP A-3 - ARENA-TYPE BUILDING
SUBSIDIARY OCCUPANCY:	GROUP A-1, GROUP A-2
ZONING:	DISTRICT OF NORTH COWICHAN - PUBLIC USE (PU)
LOT AREA:	10,500 SQUARE METRES
BUILDING HEIGHT:	2 STOREYS
FIRE ALARM:	YES
STREETS FACED:	3
CONSTRUCTION ARTICLE:	3.2.2.29 - GROUP A-3, UP TO 2 STOREYS, SPRINKLERED
ALLOWABLE BUILDING HEIGHT:	UP TO 2 STOREYS
ALLOWABLE BUILDING AREA:	6000 SQUARE METERS IF 2 STOREYS
ALLOWABLE CONSTRUCTION:	NON-COMBUSTIBLE
SPRINKLERED:	YES
FLOOR ASSEMBLIES FRR:	NOT LESS THAN 1 HOUR
MEZZANINE FRR:	NOT LESS THAN 1 HOUR
LOADBEARING WALLS, COLUMNS & ARCHES FRR:	NOT LESS THAN THAT REQUIRED FOR THE SUPPORTED ASSEMBLY
TRAVEL DISTANCE (BCBC 3.4.2.5):	45 METRES

PROJECT:
ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES

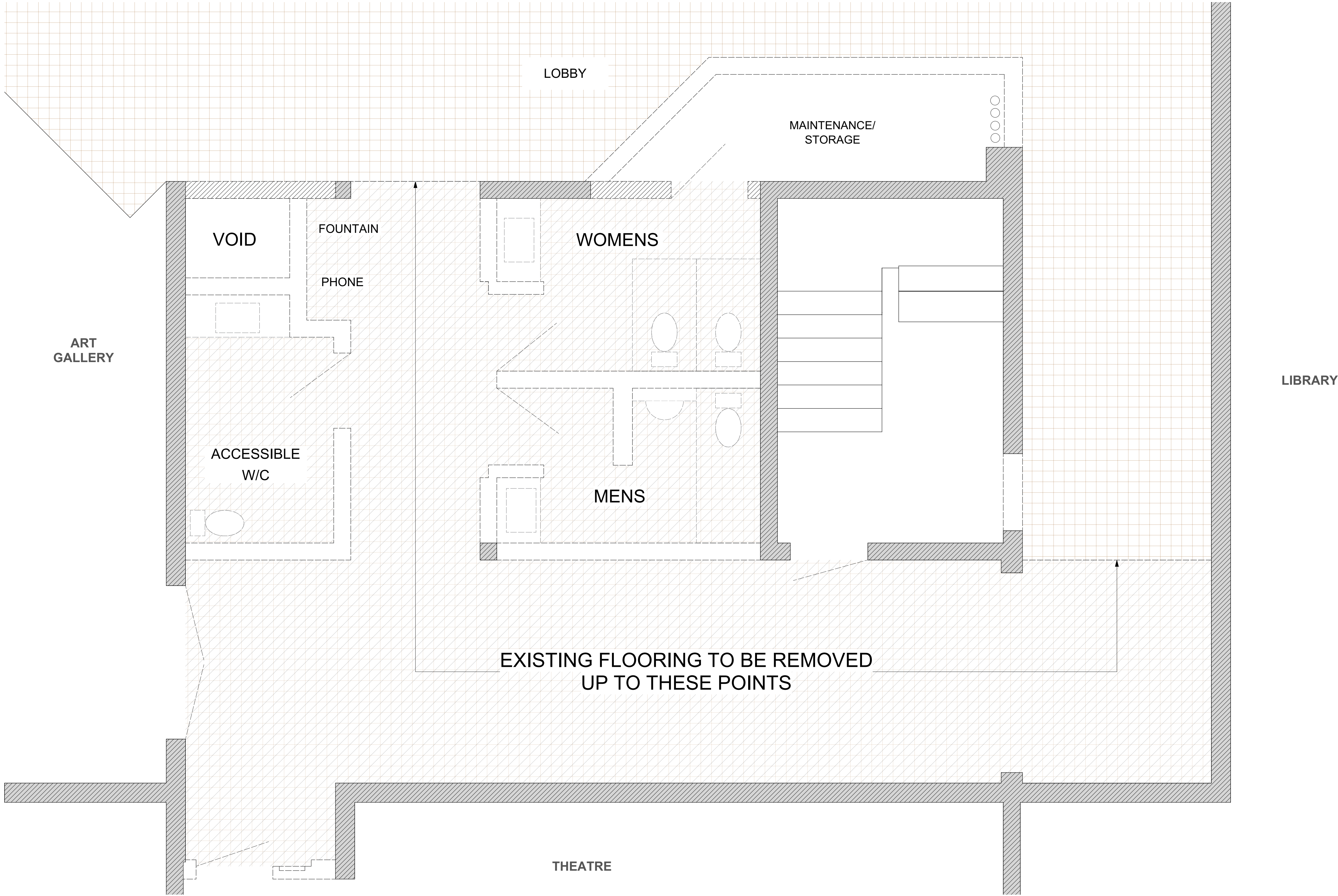
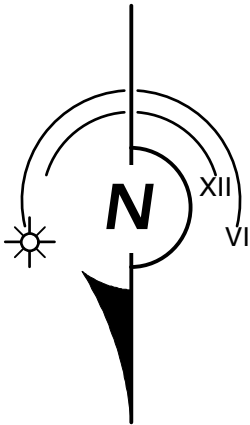
CLIENT:
COWICHAN
VALLEY
REGIONAL
DISTRICT

STELLER
ARCHITECTURAL CONSULTING
UNIT 201 - 4252 COMMERCIAL CIRCLE
VICTORIA, BC V8C 4M2
250.294.8076

ISSUED FOR:	DATE:
REQUEST FOR QUOTATION	DEC 15 2017

DRAWN BY:	RK
SAC PROJECT NO.:	CVRD-01-17
SCALE:	1/4" = 1'-0"
DRAWING TITLE:	LOCATION AND SITE PLANS
DRAWING NUMBER:	A-1

- Structural Wall - Existing
-
-
- Structural Wall - To Be Removed

Finishes - Horizontal Maple Veneer

1 Demolition Plan
A-2 Scale: 1/2" = 1'-0"

PROJECT:

ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES

CLIENT:

COWICHAN
VALLEY
REGIONAL
DISTRICT

STELLER

ARCHITECTURAL CONSULTING

UNIT 201 - 4252 COMMERCIAL CIRCLE
VICTORIA, BC V8S 4M2
250.294.8076

ISSUED FOR:	DATE:
REQUEST FOR QUOTATION	DEC 15 2017

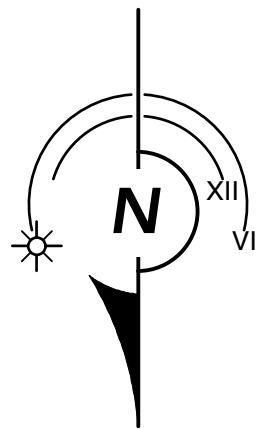
DRAWN BY:	RK
SAC PROJECT NO.:	CVRD-01-17
SCALE:	1/4" = 1'-0"

DRAWING TITLE:
**DEMOLITION
AND
PROPOSED**

DRAWINGS NUMBER:

A-2

- Structural Wall - Existing
- Structural Wall - To Be Removed
- Existing Interior Wall - To Be Removed
- New Structural Concrete Block Wall
- New 6" Steel Stud Wall
- Wall Finish - Horizontal Maple Siding
- Wall Finish - Porcelain Tile (Size, Colour and Pattern TBD)
- Wall Finish - Painted GWB
- Structural Column



ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES

COWICHAN
VALLEY
REGIONAL
DISTRICT

STELLER
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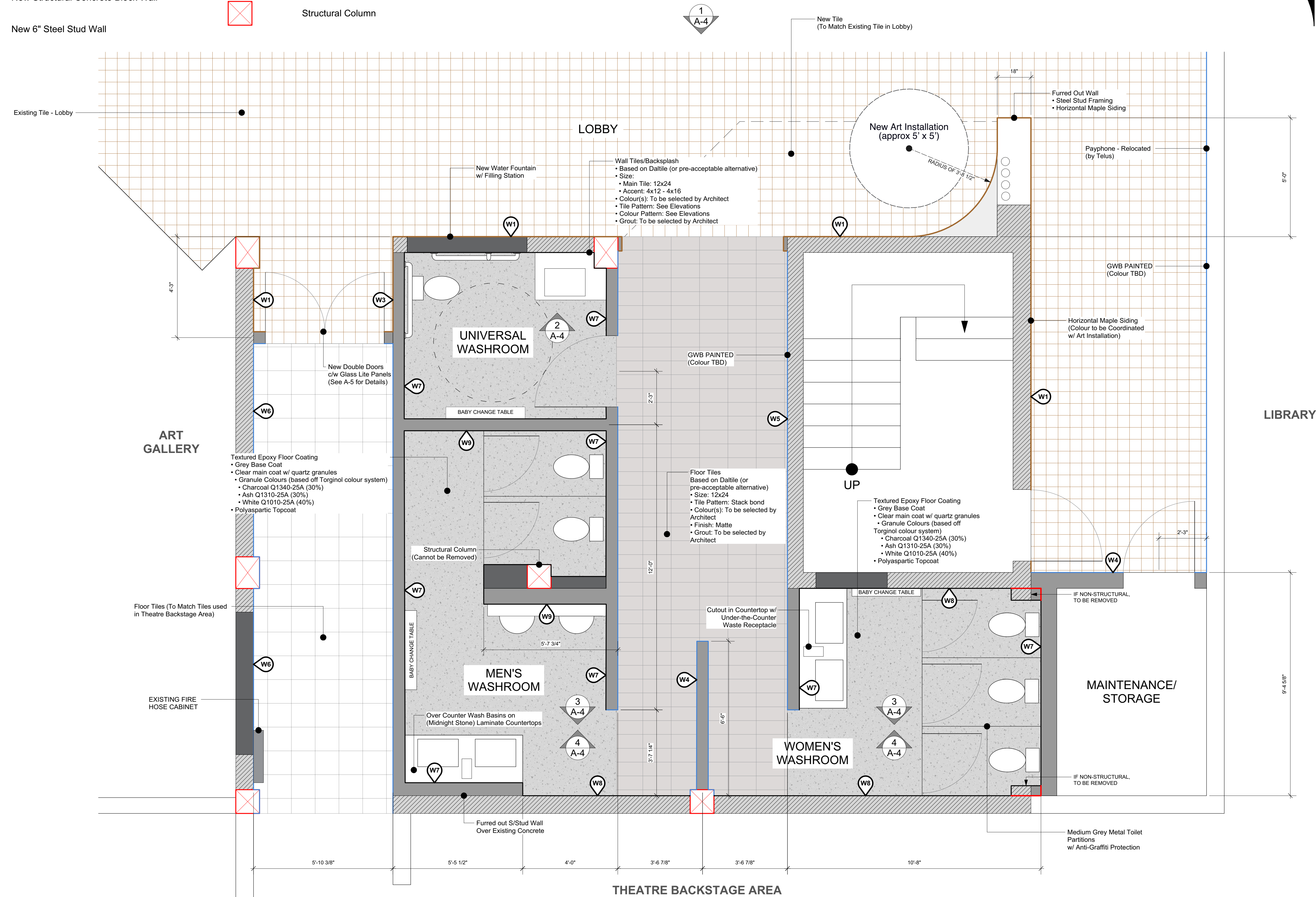
ISSUED FOR:	DATE:
REQUEST FOR QUOTATION	DEC 15 2017

DRAWN BY:	RK
SAC PROJECT NO.:	CVRD-01-17
SCALE:	1/2" = 1'-0"
DRAWING TITLE:	

PROPOSED
NEW LAYOUT

DRAWINGS NUMBER:

A-3



1
A-3 Proposed New Washrooms
Scale: 1/2" = 1'-0"

PROJECT:
**ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES**

CLIENT:
**COWICHAN
VALLEY
REGIONAL
DISTRICT**

STELLER
ARCHITECTURAL CONSULTING
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VICTORIA, BC V8S 4M2
250.294.8076

ISSUED FOR:	DATE:
REQUEST FOR QUOTATION	DEC 15 2017

DRAWN BY:
RK

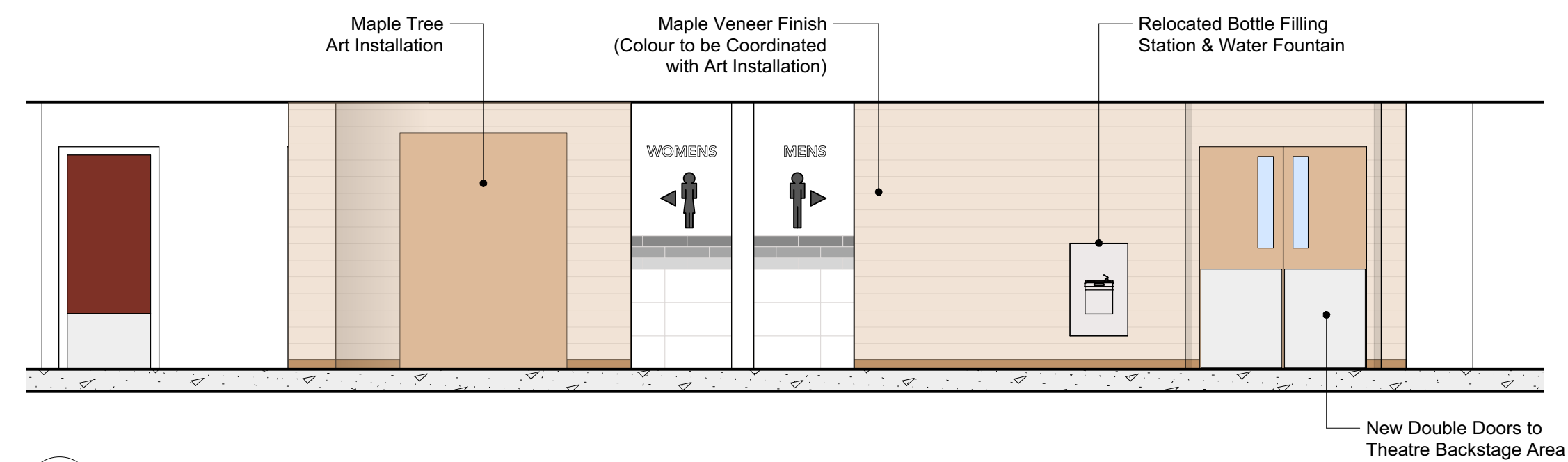
SAC PROJECT NO.:
CVRD-01-17

SCALE:
1/4" = 1'-0"

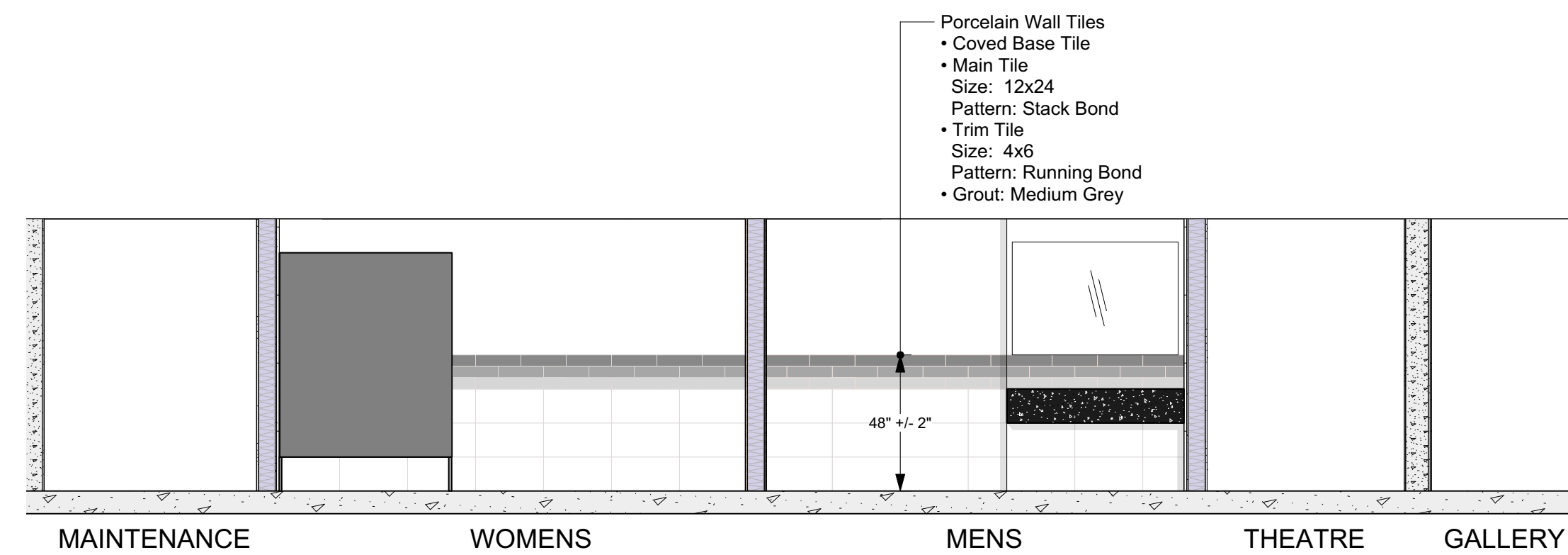
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ELEVATIONS

DRAWING NUMBER:

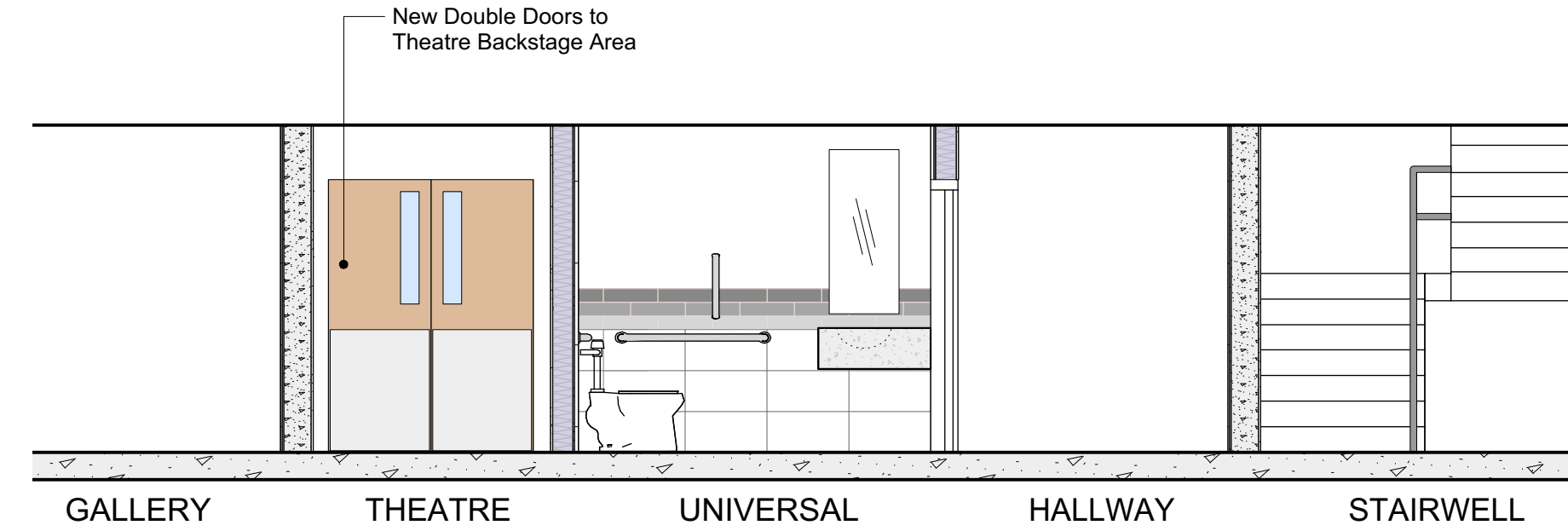
A-4



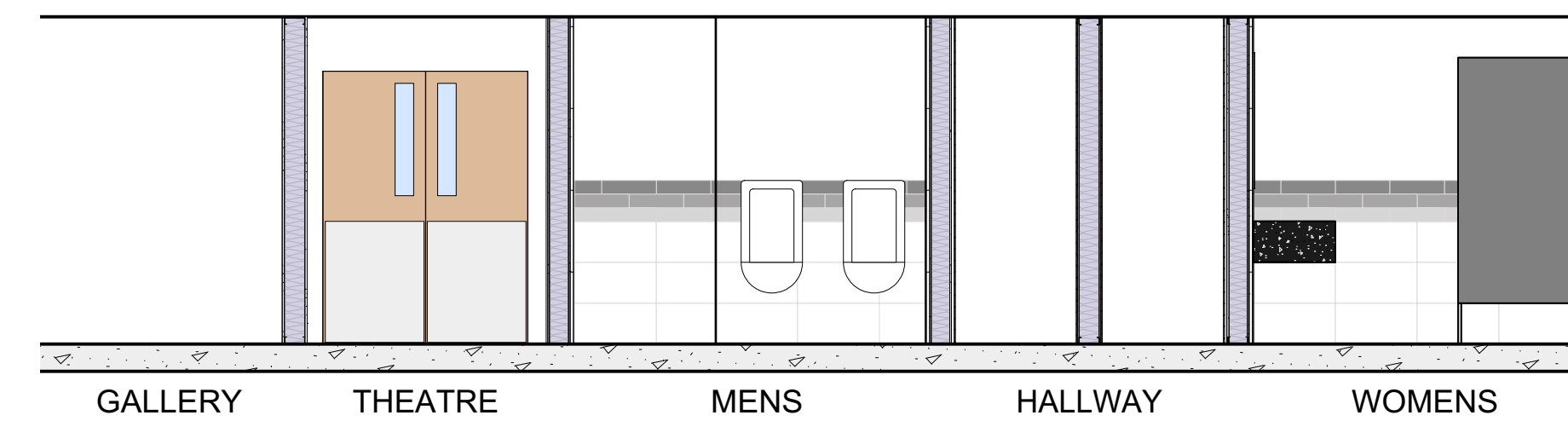
1
A-4
ELEVATION FROM LOBBY (SOUTH)
Scale: 1/4" = 1'-0"



3
A-4
ELEVATION - WR (SOUTH)
Scale: 1/4" = 1'-0"



2
A-4
ELEVATION - UTR (NORTH)
Scale: 1/4" = 1'-0"



4
A-4
ELEVATION - WR (NORTH)
Scale: 1/4" = 1'-0"

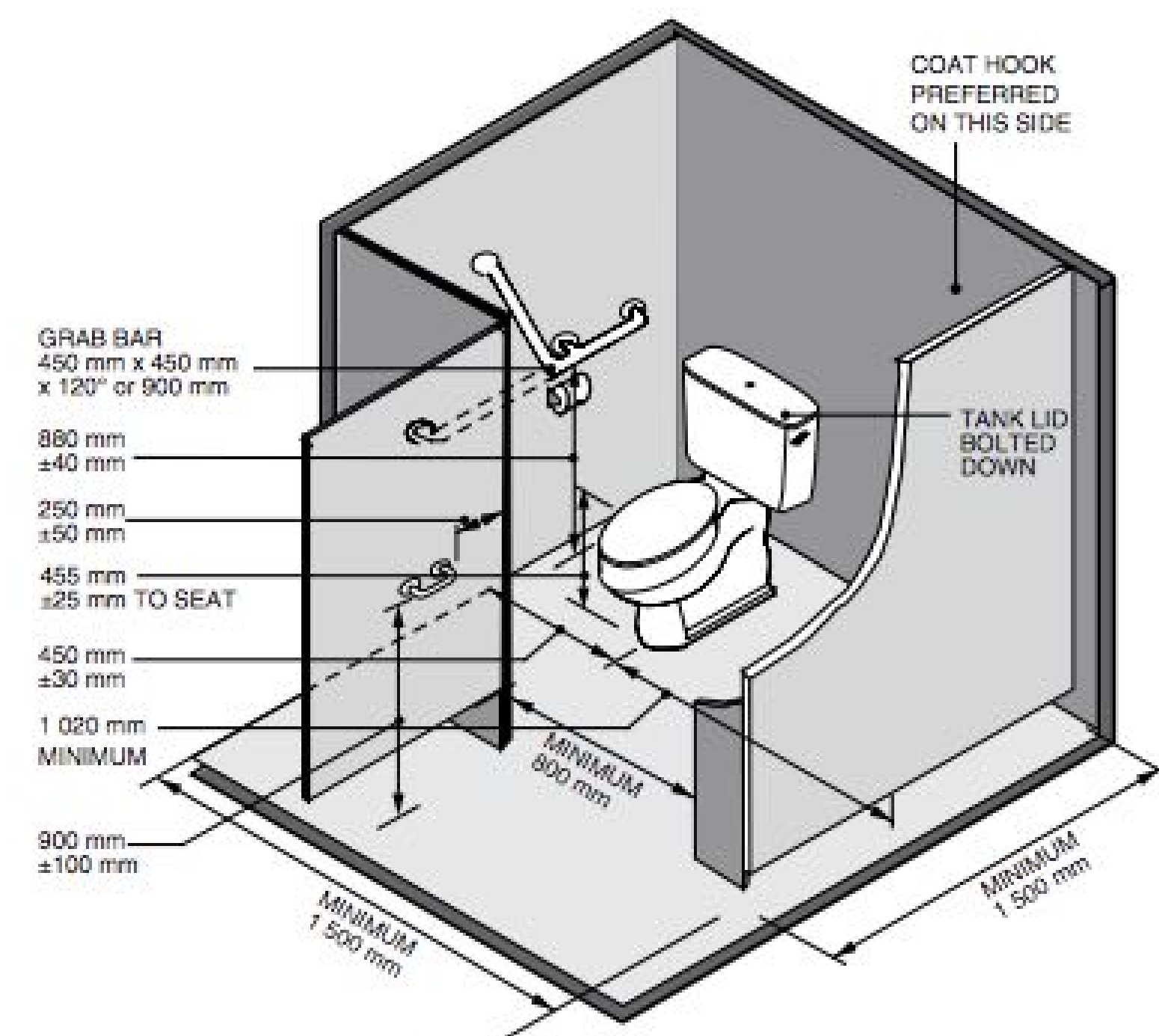


FIGURE 3.8.48. – Toilet Compartment

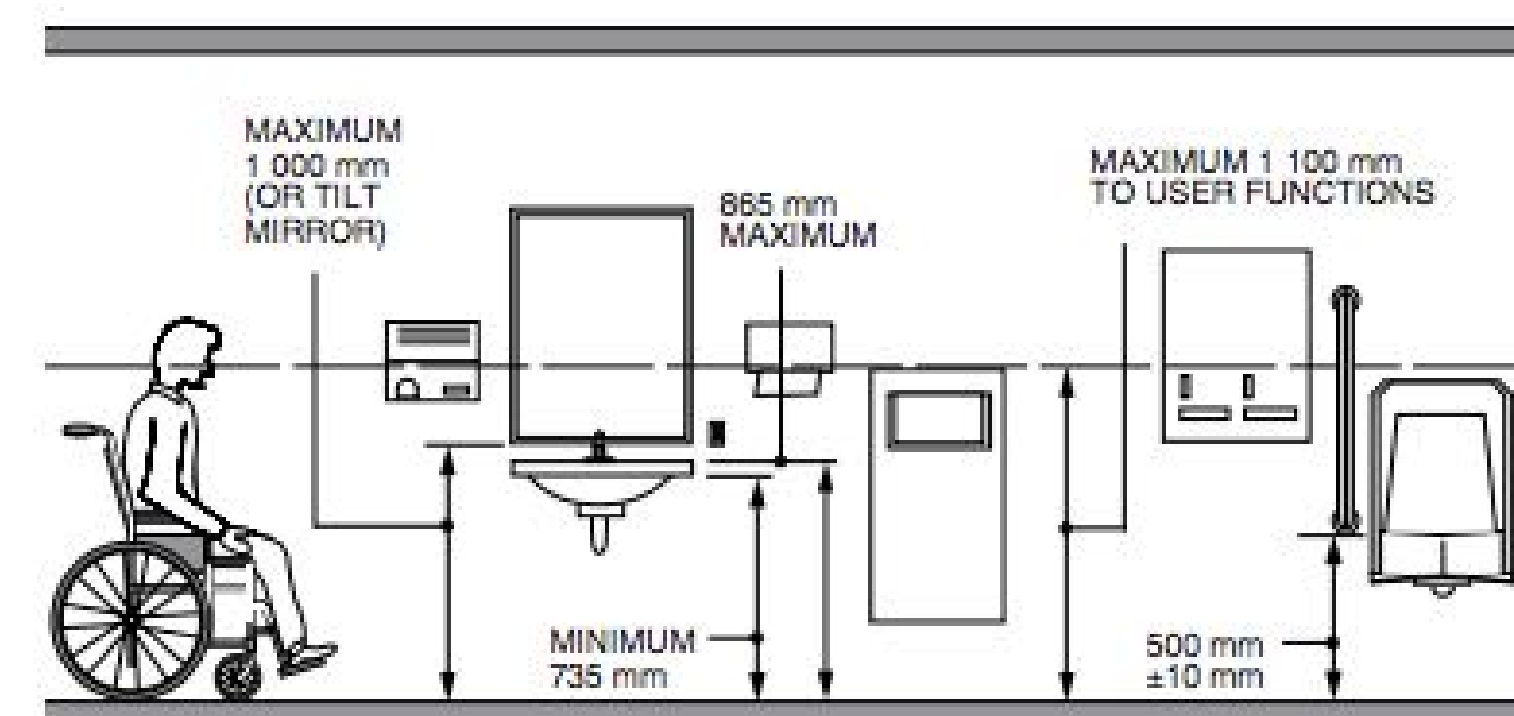


FIGURE 3.8.51. – Washroom Accessories

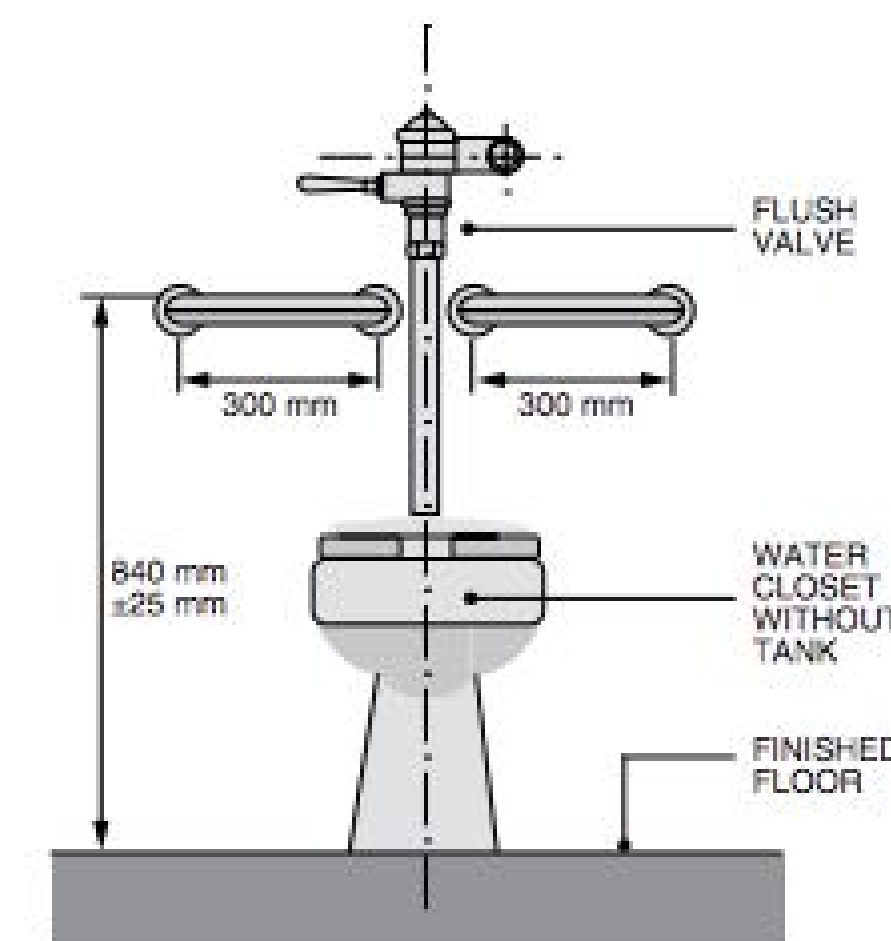


FIGURE 3.8.47. – Grab Bars (Alternative)

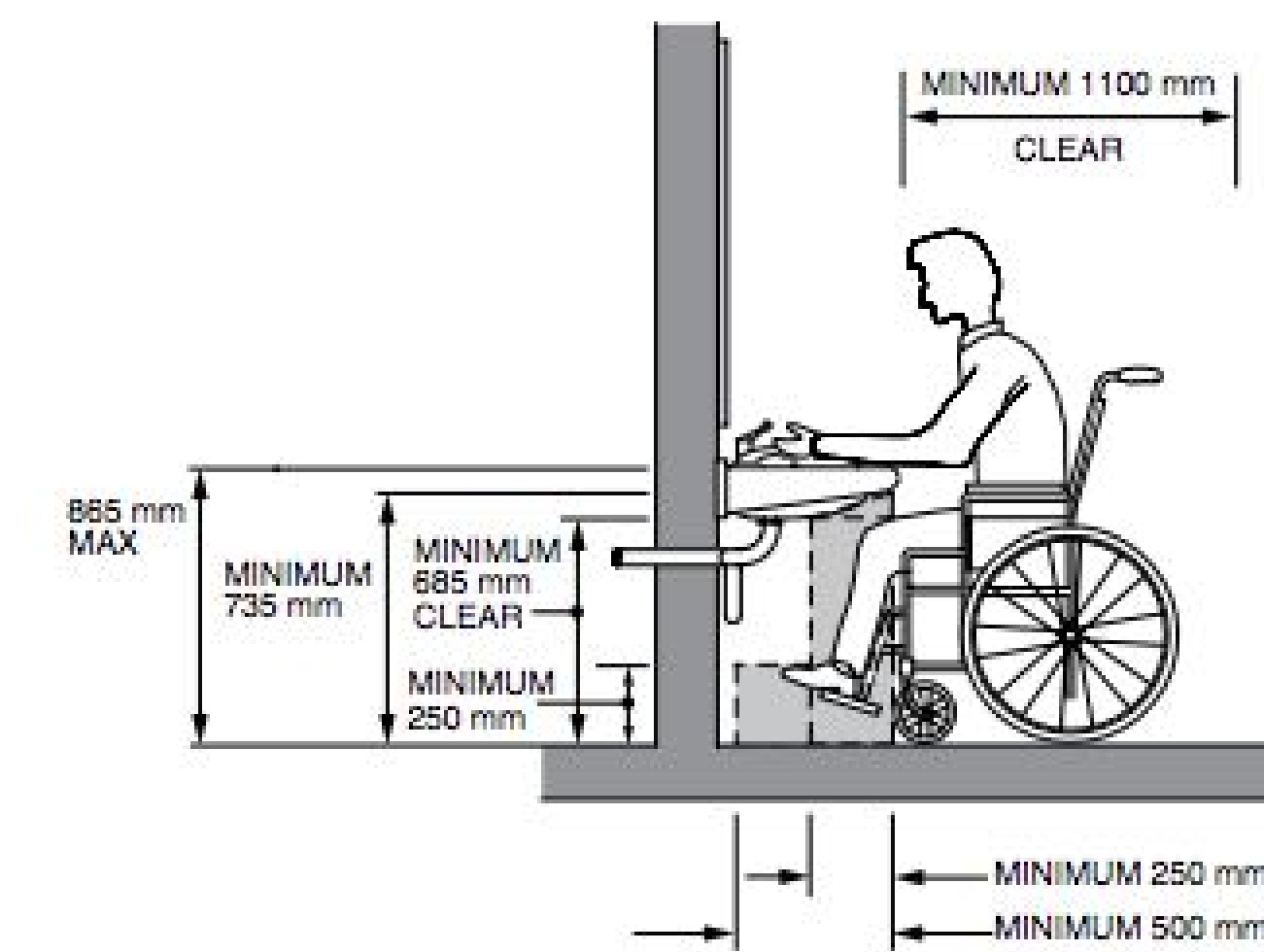
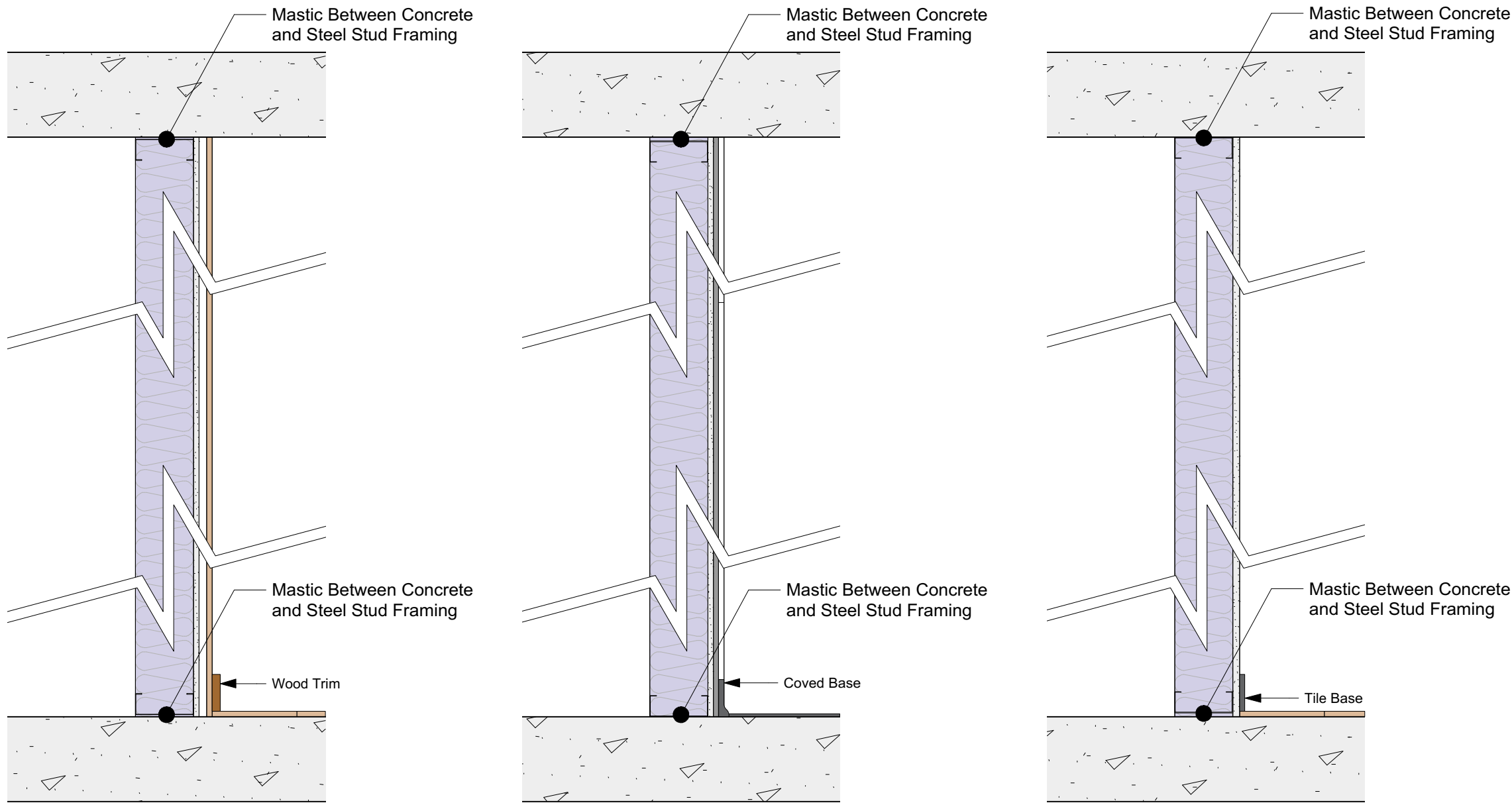


FIGURE 3.8.49. – Clearance Under Wash Basin



Wall Finish A (Wood Siding)
5/8" GWB
1x4" Vertical Strapping
1/2" Horizontal T&G Maple Siding
(Finish to be selected by Architect)

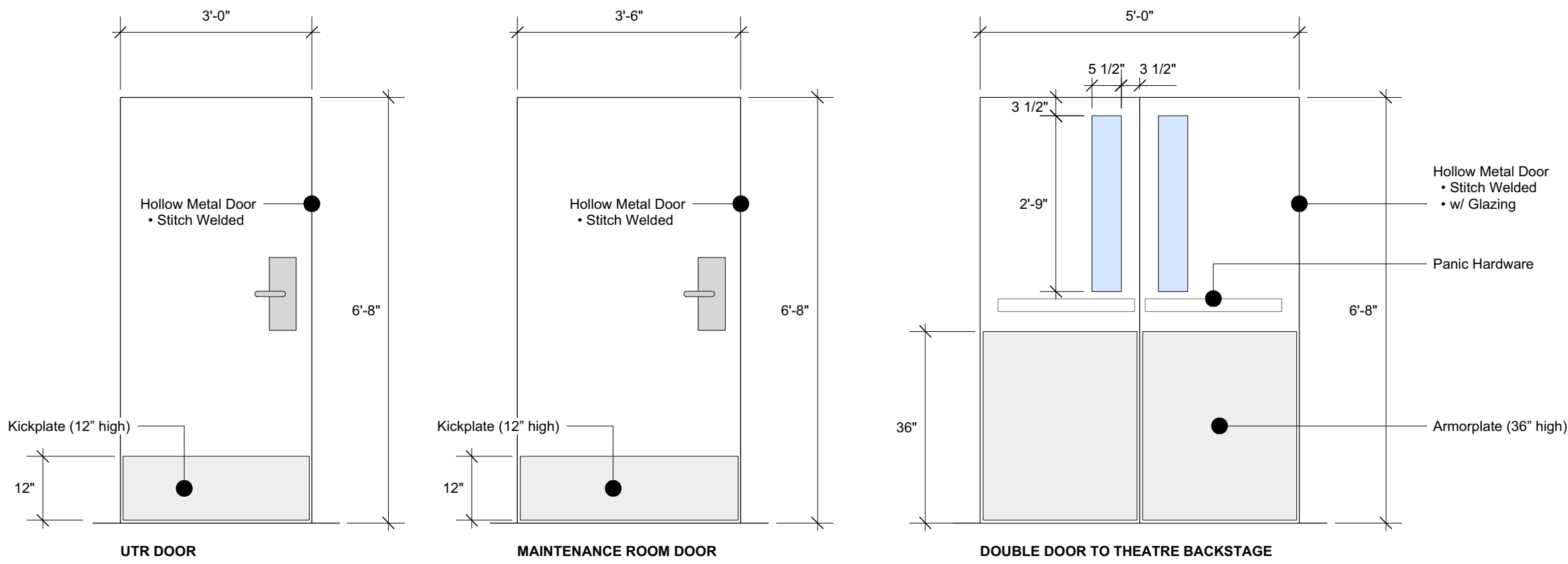
Wall Finish B (Tile)
5/8" GWB
1/2" Mortar Base
1/2" Ceramic Wall Tile (up to 48")
(Tile to be selected by Architect)

Wall Finish C (GWB)
5/8" GWB Painted
(Colour to be selected by Architect)

1 Wall Finishes
A-5

WALL SCHEDULE

- Wall Type 1 (W1)**
Wall Finish A (Wood Siding)
CIP Concrete/Concrete Block
- Wall Type 2 (W2)**
Wall Finish A (Wood Siding)
CIP Concrete/Concrete Block
Wall Finish C (GWB)
- Wall Type 3 (W3)**
Wall Finish A (Wood Siding)
5 1/2" Steel Stud Framing w/Acoustic Batt Insulation
Wall Finish C (GWB)
- Wall Type 4 (W4)**
Wall Finish C (GWB)
5 1/2" Steel Stud Framing w/Acoustic Batt Insulation
Wall Finish C (GWB)
- Wall Type 5 (W5)**
Wall Finish C (GWB)
CIP Concrete/Concrete Block
- Wall Type 6 (W6)**
Wall Finish C (GWB)
CIP Concrete/Concrete Block
Wall Finish C (GWB)
- Wall Type 7 (W7)**
Wall Finish B (Tile)
5 1/2" Steel Stud Framing w/Acoustic Batt Insulation
Wall Finish C (GWB)
- Wall Type 8 (W8)**
Wall Finish B (Tile)
CIP Concrete/Concrete Block
Wall Finish C (GWB)
- Wall Type 9 (W9)**
Wall Finish B (Tile)
5 1/2" Steel Stud Framing w/Acoustic Batt Insulation
Wall Finish B (Tile)



2 Door Schedule
A-5 Scale: 1/2" = 1'-0"

ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES

COWICHAN
VALLEY
REGIONAL
DISTRICT

STELLER
ARCHITECTURAL CONSULTING
UNIT 201 - 4252 COMMERCIAL CIRCLE
VICTORIA, BC V8S 4M2
250.294.8076

ISSUED FOR:	DATE:
REQUEST FOR QUOTATION	DEC 15 2017

DRAWN BY:	RK
SAC PROJECT NO.:	CVRD-01-17
SCALE:	AS NOTED
DRAWING TITLE:	

WALL & DOOR
SCHEDULES

DRAWINGS NUMBER:

A-5

GENERAL NOTES

DRAWINGS
S-1.0 - GENERAL NOTES / EXISTING FOUNDATIONS / PROPOSED PLAN
S-2.0 - DETAILS

GENERAL
ALL WORK TO CONFORM TO PART 4 OF THE BRITISH COLUMBIA BUILDING CODE (BCBC) 2012 AS A MINIMUM.

CODES
THE STRUCTURAL DESIGN INDICATED ON THE ATTACHED DRAWINGS HAS BEEN DESIGNED IN SUBSTANTIAL ACCORDANCE WITH THE FOLLOWING CODES.
BRITISH COLUMBIA BUILDING CODE 2012 (BCBC 2012)
CSA 086-09
CSA A23.3-04

LOADS
MODIFICATIONS TO THIS STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADS.
FLOORS LL = 100 PSF

CONCRETE
CONCRETE SHALL CONFORM TO CSA A23. AND SHALL BE 25MPA MIN COMPRESSIVE RESISTANCE AT 28 DAYS. SLABS ON GRADE SHALL NOT HAVE A WATER-CEMENT RATIO GREATER THAN 0.45 AND SHALL HAVE CONTROL JOINTS AT 16' O.C. U.N.O.

REINFORCING STEEL
REINFORCING STEEL SHALL CONFORM TO CSA G30, GRADE 400MPa.

FOUNDATIONS
FOUNDATIONS FOR THIS PROJECT HAVE BEEN REVIEWED FOR A MINIMUM BEARING CAPACITY OF 2000PSF. SUB BASE SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING ANY CONCRETE.

RENOVATION

THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING ALL DIMENSIONS ON SITE. FABRICATION OR ORDERING OF MATERIALS SHALL NOT BE DONE FROM DIMENSIONING OFF OF PLANS.

THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY SHORING OR SCAFFOLDING REQUIRED FOR THE RENOVATION PROJECT.

DO NOT REMOVE ANY LOAD BEARING ELEMENTS WITHOUT PRIOR CONSENT OF THE STRUCTURAL ENGINEER OF RECORD.

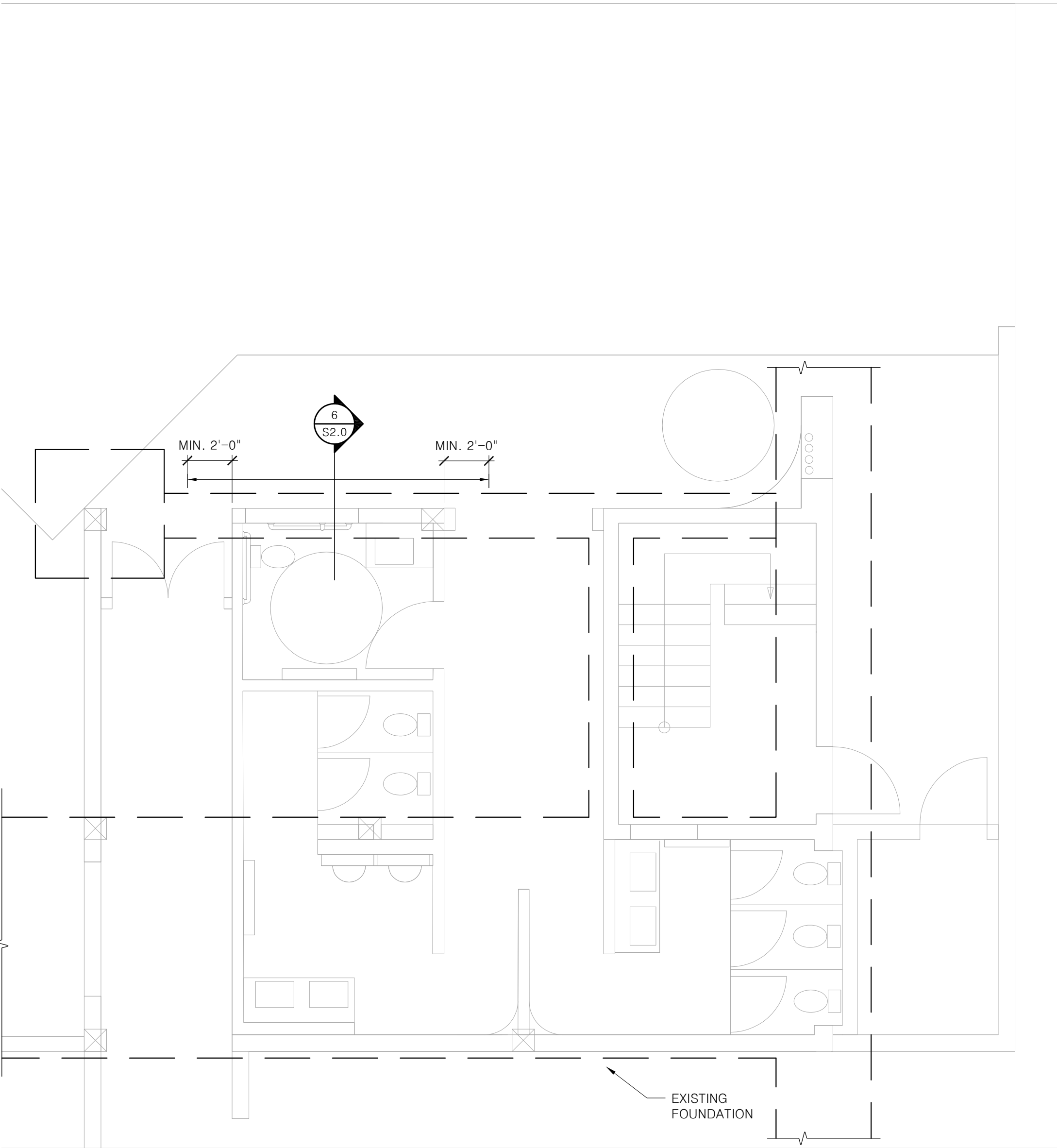
INFORM THE ENGINEER OF RECORD OF ANY DISCREPANCIES FOUND WITH THE ONSITE FRAMING COMPARED TO THE EXISTING AND RENOVATION STRUCTURAL DRAWINGS IMMEDIATELY.

ON SITE SAFETY RELATED TO HAZARDOUS MATERIALS, MOLD, ELECTRICAL SHOCKS, OR FALLING DEBRIS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

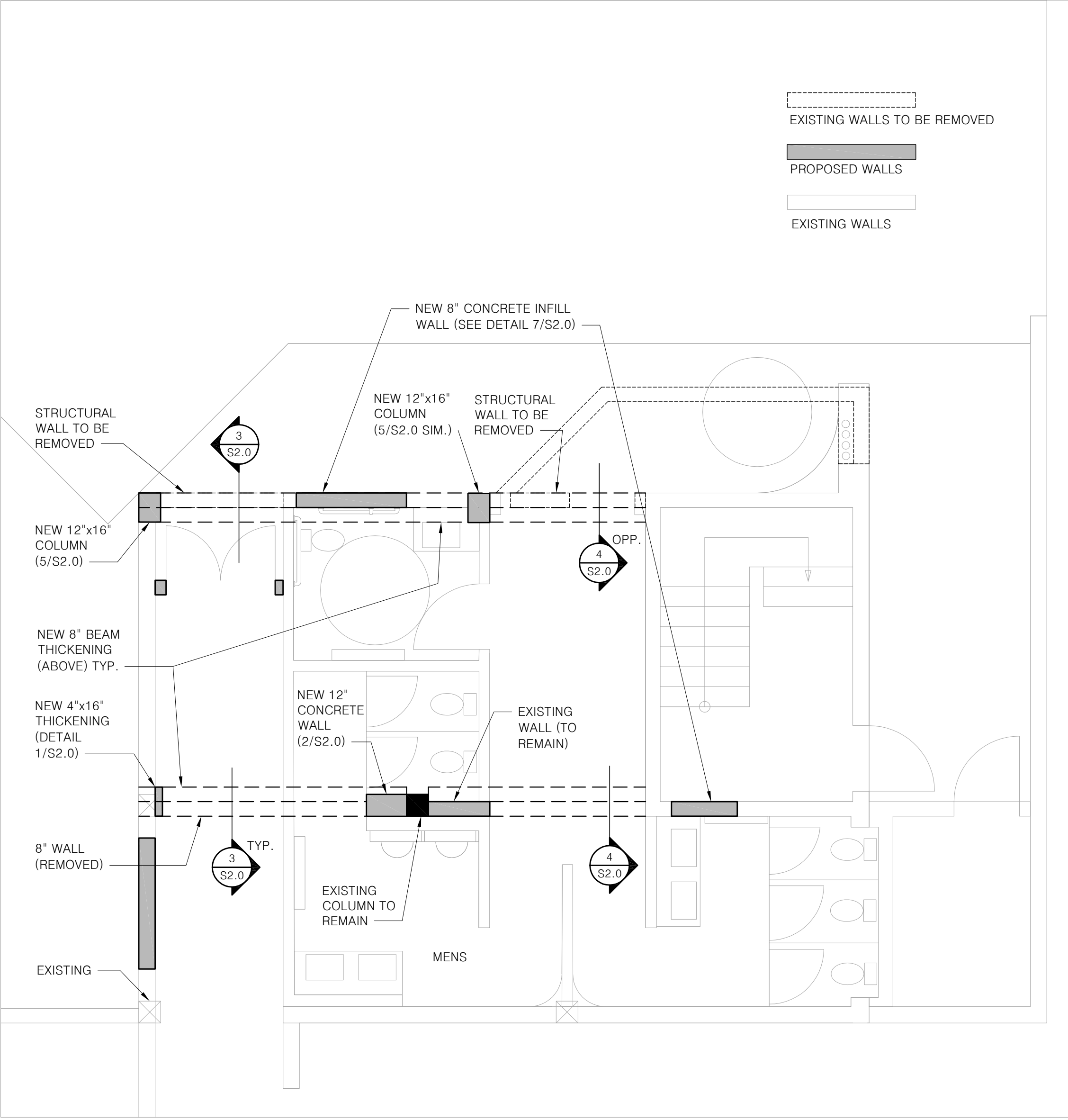
REPORT ANY AREAS OF CONCERN WHEN FRAMING IS EXPOSED. AREAS OF CONCERN INCLUDE ROT, OVER CUT HOLES THROUGH STUDS AND BEAMS, MISSING BLOCKING OR MISSING BUILT-UP-POSTS TO THE ENGINEER OF RECORD.

NON STRUCTURAL
THIS DESIGN IS FOR THE BASE BUILDING STRUCTURE ONLY AND DOES NOT INCLUDE THE DESIGN OR ATTACHMENT OF NON STRUCTURAL ITEMS. EXAMPLES OF NON STRUCTURAL ITEMS ARE GUARD RAILING, STAIRS, WINDOWS, CLADDING, CLADDING ATTACHMENT, MECHANICAL AND ELECTRICAL EQUIPMENT, FIXTURES, AND OTHER ELEMENTS NOT CONSIDERED PART OF THE BASE BUILDING STRUCTURE. NON STRUCTURAL ELEMENTS ARE THE RESPONSIBILITY OF THE INSTALLER TO ENSURE THEY ARE ENGINEERED IN ACCORDANCE WITH THE BCBC 2012 CODE.

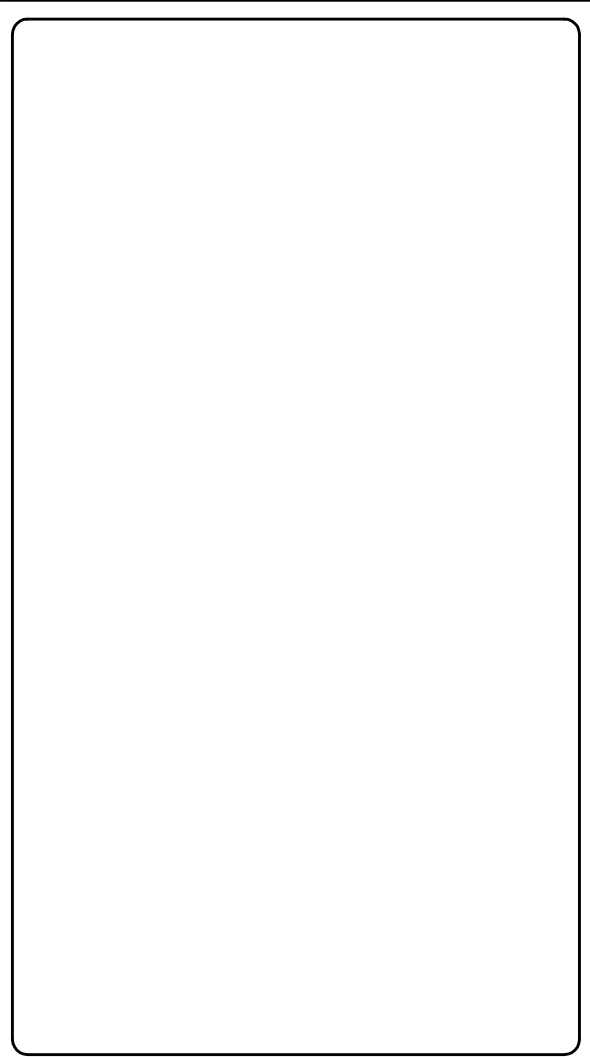
FIELD REVIEW
SKYLINE ENGINEERING REQUIRES PERIODIC FIELD REVIEW OF THE WORK FOR GENERAL CONFORMITY WITH THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL NOTIFY SKYLINE ENGINEERING AND REQUEST A REVIEW WITH 24 HOURS ADVANCE NOTICE PRIOR TO PLACING CONCRETE OR ENCLOSING THE STRUCTURE FRAMING.



1 EXISTING PLAN (FOUNDATIONS)
S1.0 SCALE = 1:50



2 PROPOSED PLAN
S1.0 SCALE = 1:50



2	2018-01-02	ISSUED FOR RFQ
1	2017-09-19	ISSUED FOR BUILDING PERMIT
NO.	DATE	REVISION

SEAL:

SKYLINE
ENGINEERING LTD
www.skylineengineering.ca
380 - 4243 Glanford Avenue
Victoria, BC V8Z 4B9
250-590-4133

PROJECT NAME:
CVRD ISLAND SAVINGS CENTRE WC RENO

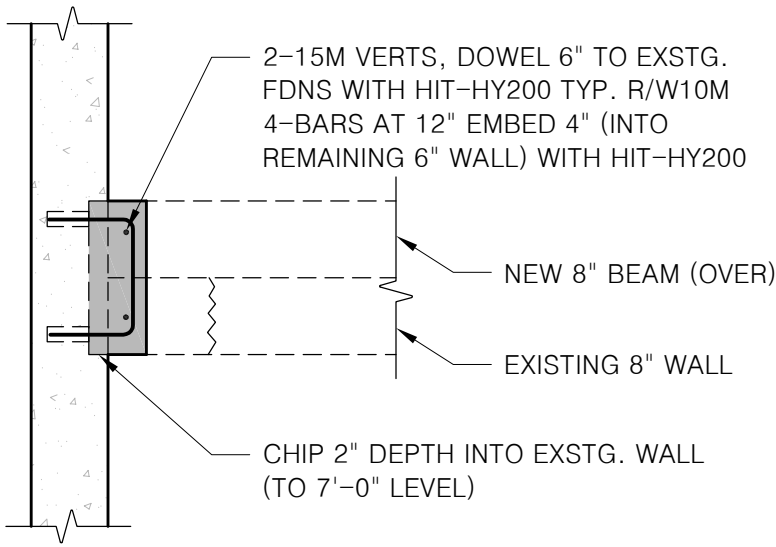
SHEET TITLE:
GENERAL NOTES, EXISTING FOUNDATIONS, PROPOSED PLAN

PROJECT NO:
#10683.01

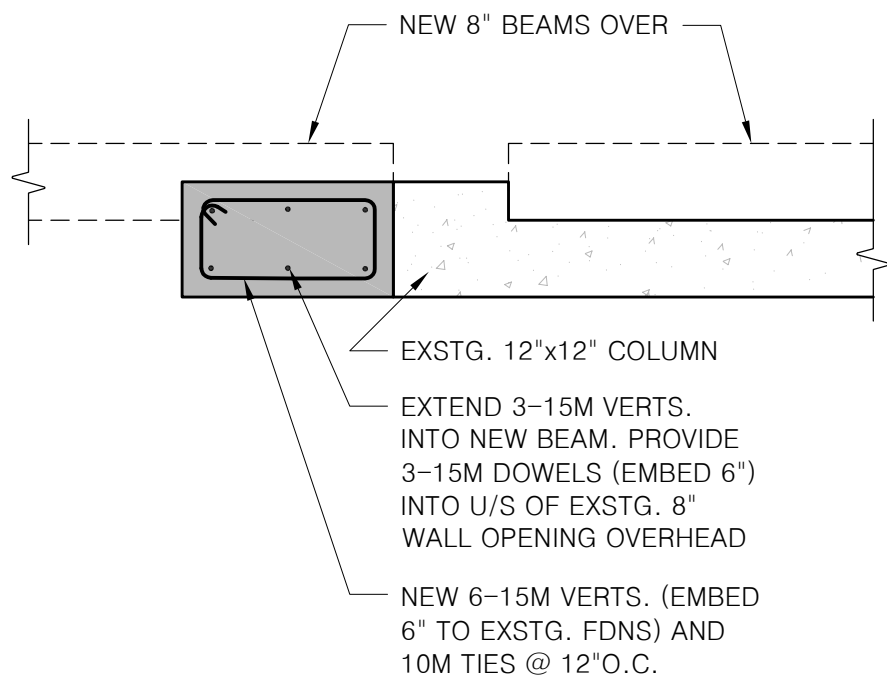
SCALE:
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DATE:
2017/08/21

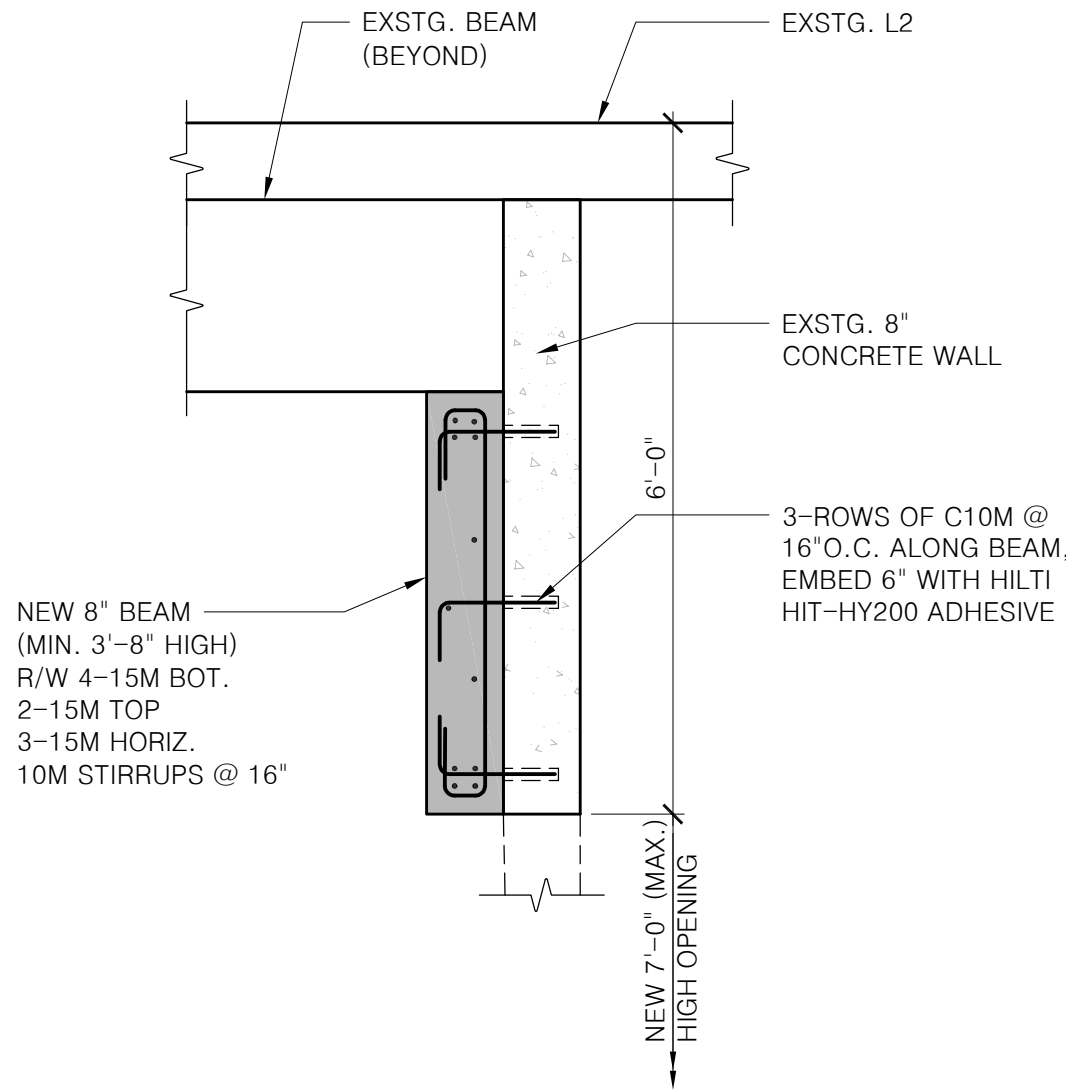
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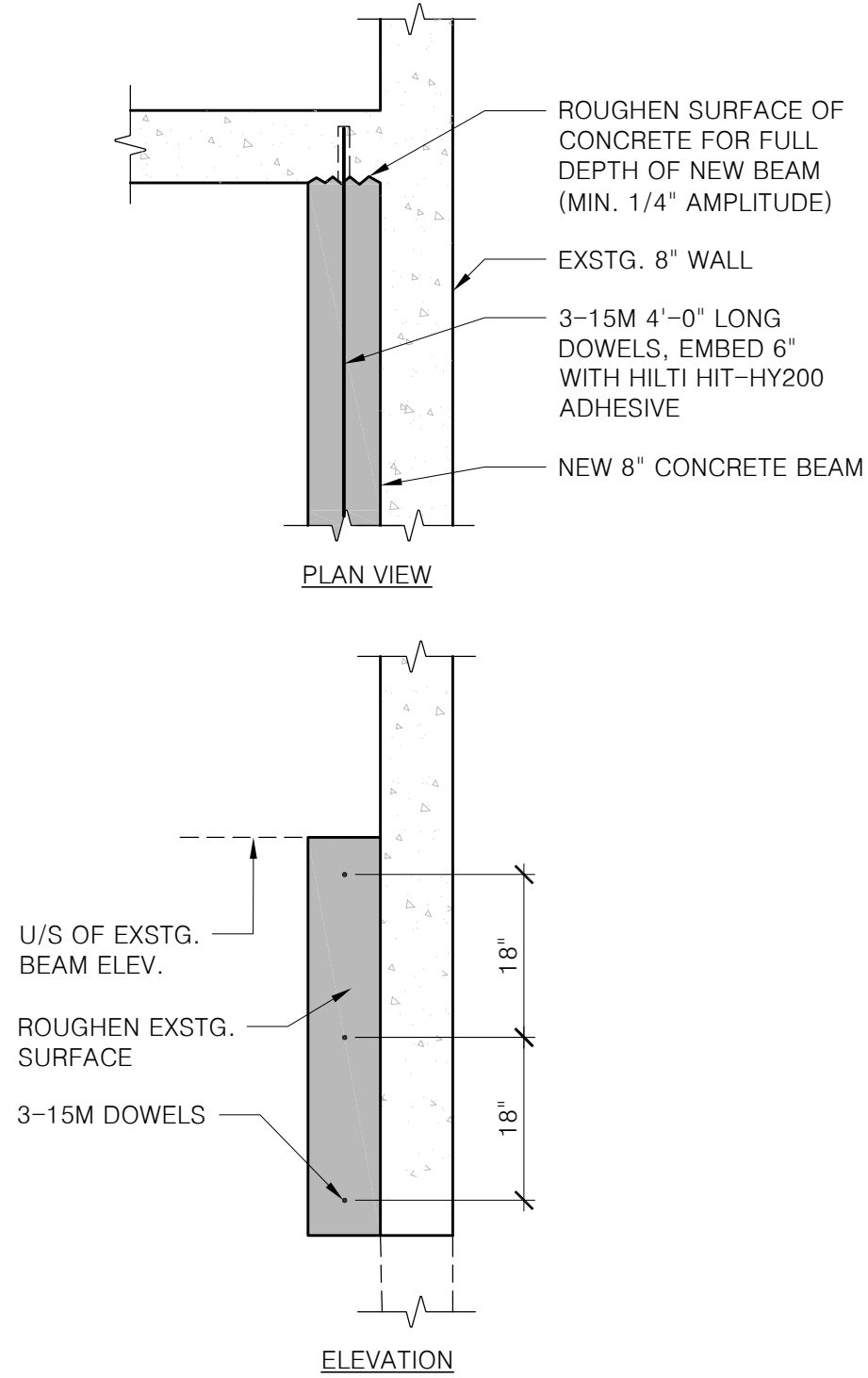
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S2.0
DETAIL
SCALE = 1:20



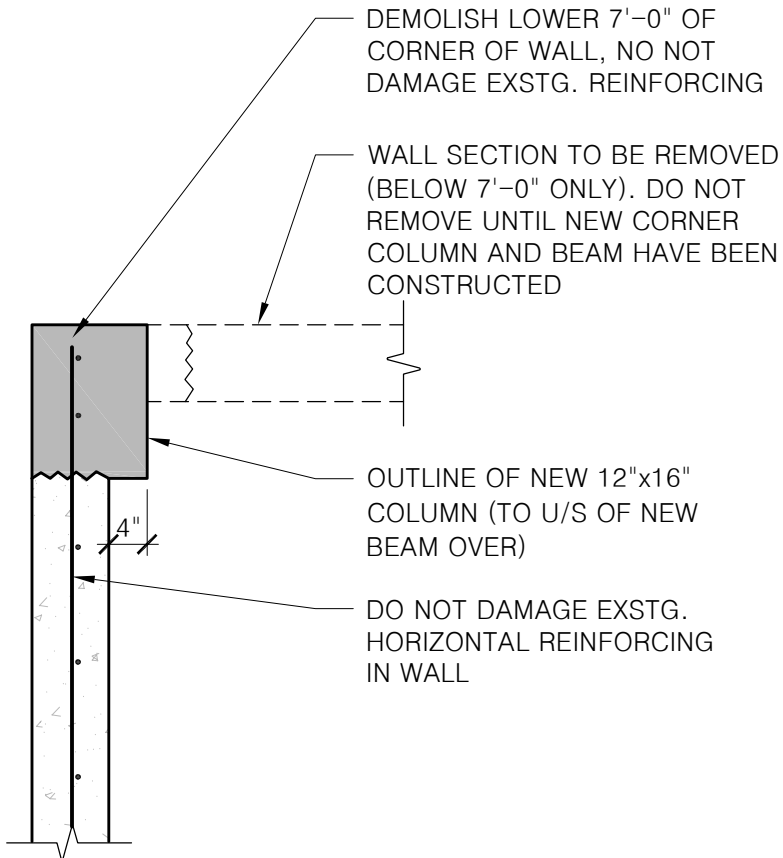
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S2.0
DETAIL
SCALE = 1:20



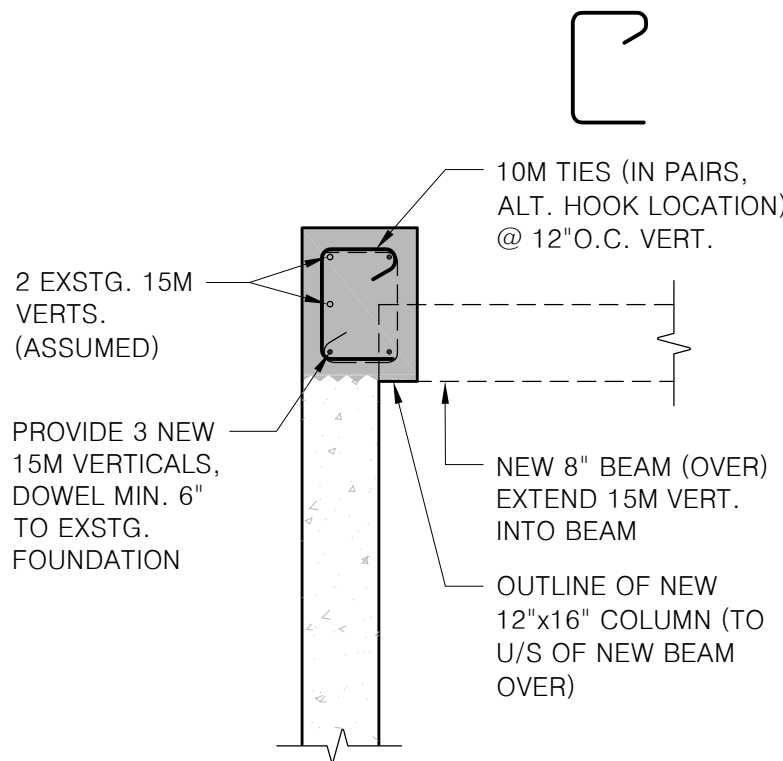
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S2.0
SECTION
SCALE = 1:20



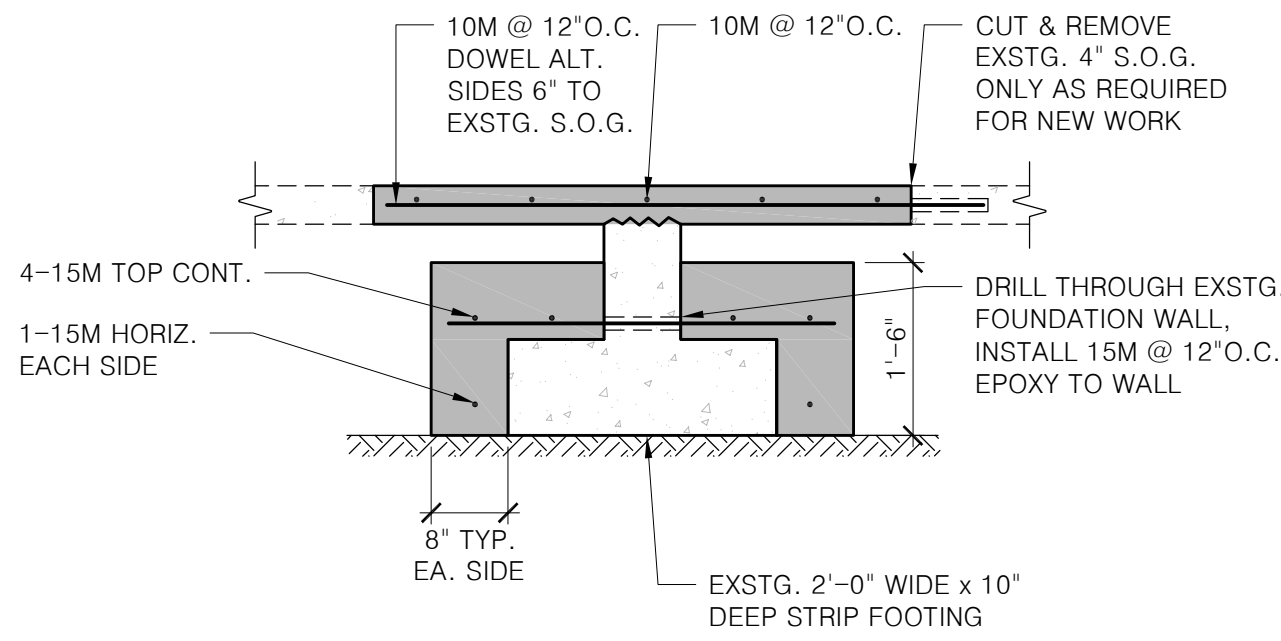
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S2.0
SECTION
SCALE = 1:20



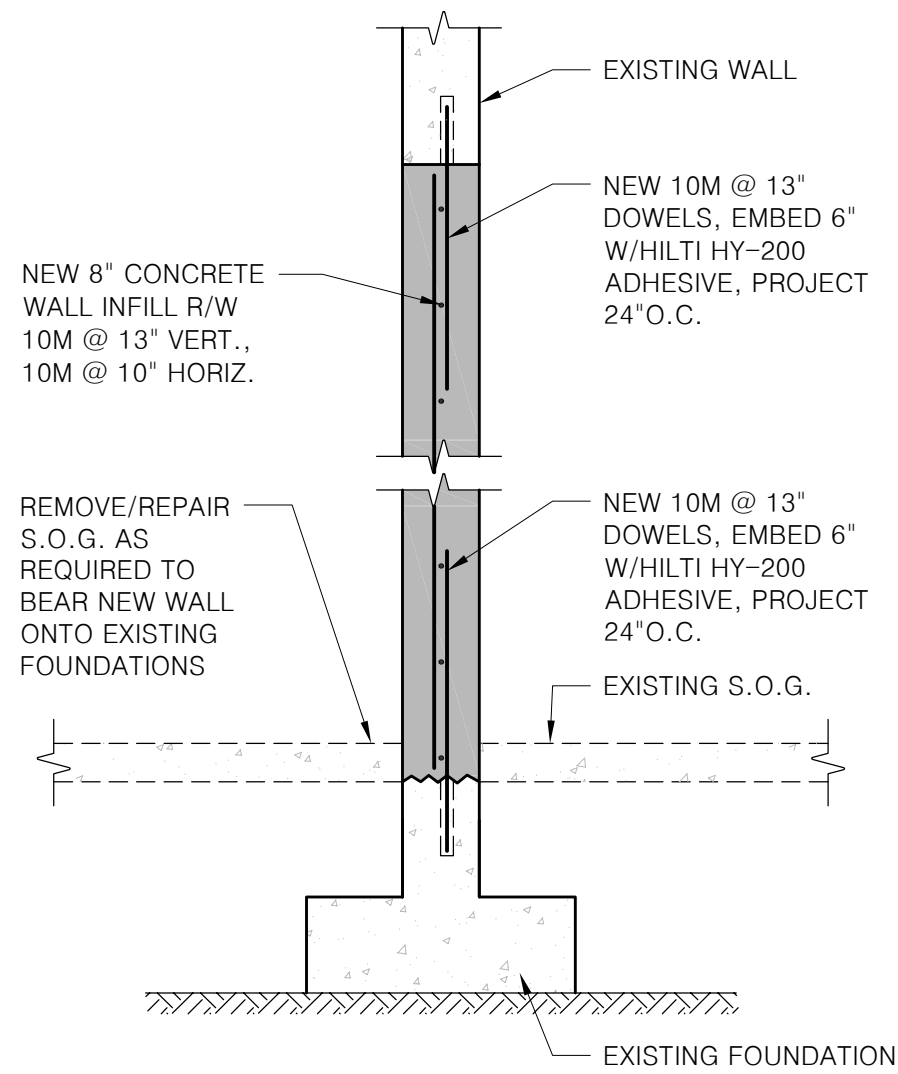
5a
S2.0
DEMOLITION
SCALE = 1:20



5b
S2.0
NEW
SCALE = 1:20



6
S2.0
SECTION
SCALE = 1:20



7
S2.0
SECTION
SCALE = 1:20

2	2018-01-02	ISSUED FOR RFQ
1	2017-09-19	ISSUED FOR BUILDING PERMIT
NO.	DATE	REVISION

SEAL:


SKYLINE
ENGINEERING LTD
www.skylineengineering.ca
380 - 4243 Glanford Avenue
Victoria, BC V8Z 4B9
250-590-4133

PROJECT NAME:
CVRD ISLAND
SAVINGS CENTRE
WC RENO

SHEET TITLE:

DETAILS

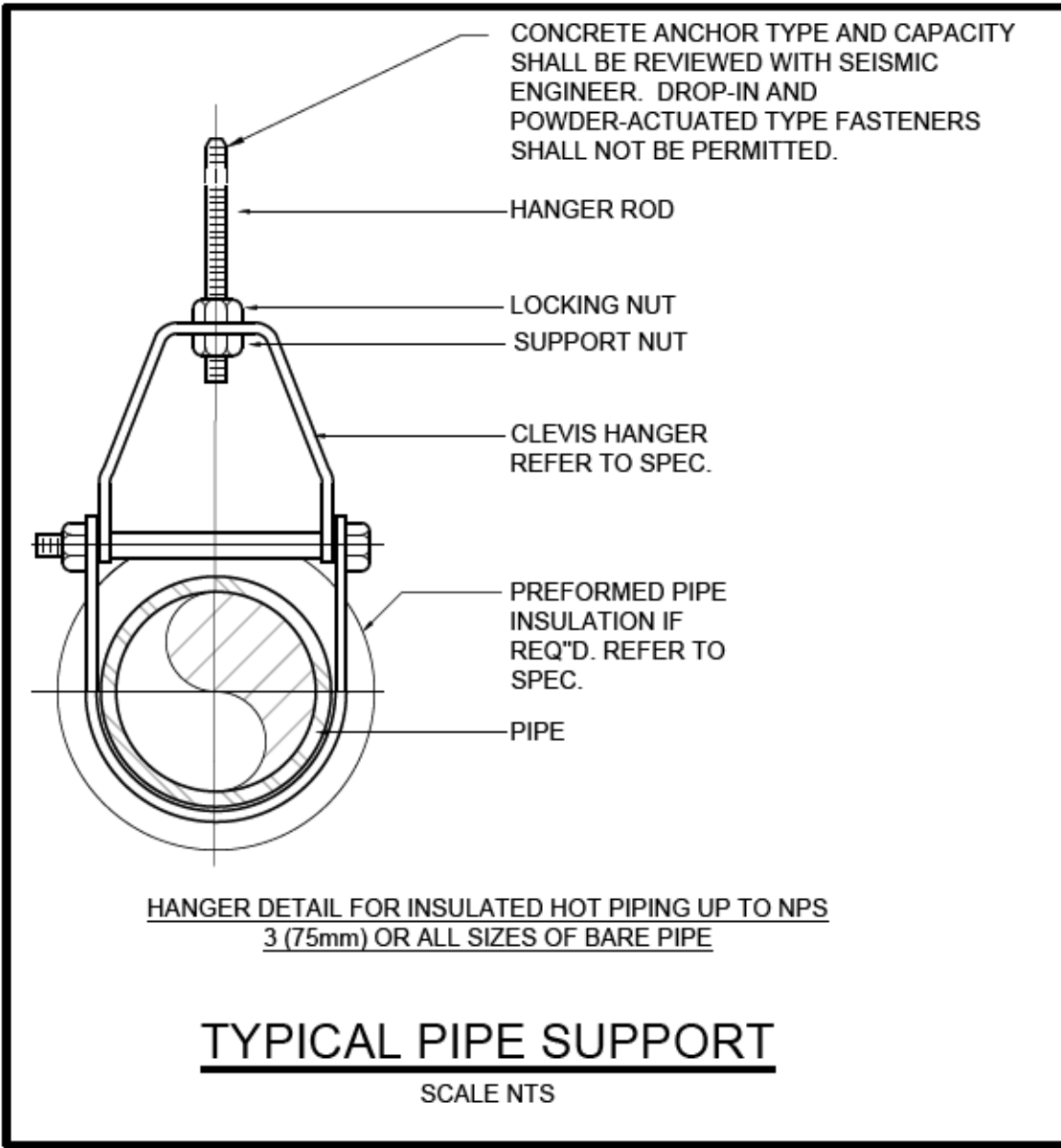
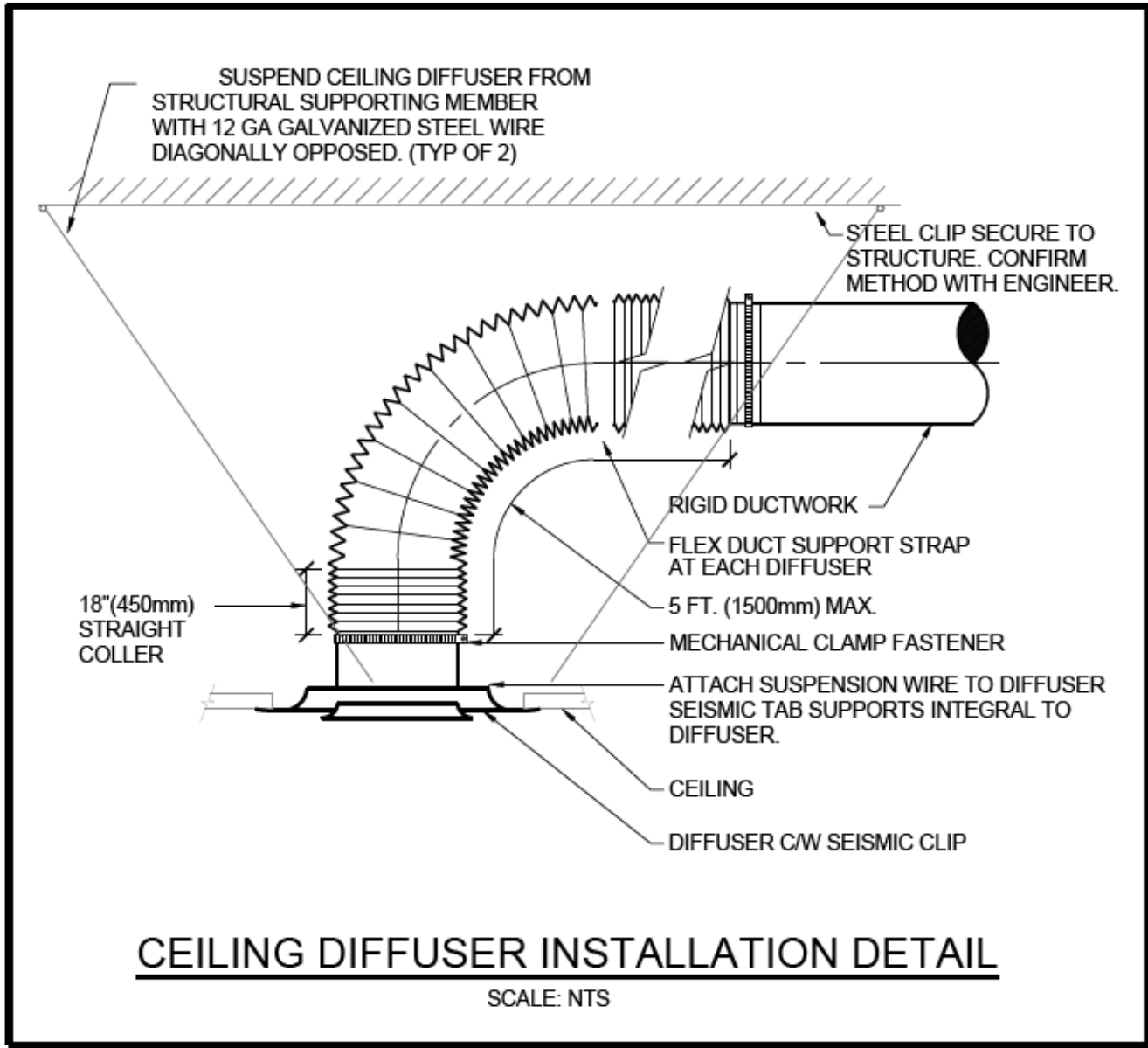
PROJECT NO:
#10683.01

SCALE:
AS NOTED

DATE:
2017/08/21

DRAWING NO:

S2.0



GENERAL MECHANICAL SCOPE NOTES:

THIS PROJECT INVOLVES MECHANICAL WORK TO SUPPORT THE RENOVATION OF EXISTING WASHROOM AREAS OF THE LOBBY AREAS OF THE ISLAND SAVING CENTRE (ISC). THE MECHANICAL CONTRACT SHALL GENERALLY INCLUDE ALL MATERIALS AND LABOUR NECESSARY PROVIDE COMPLETE AND FULLY FUNCTIONAL HVAC, PLUMBING, AND FIRE SUPPRESSION SYSTEMS ON COMPLETION OF THE RENOVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION WORK BOTH WHERE SPECIFICALLY NOTED ON THE PLANS, AND GENERALLY AS REQUIRED TO SUPPORT THE OVERALL RENOVATION. WHERE EXISTING SITE CONDITIONS VARY SUBSTANTIALLY FROM THE DRAWINGS, OR WHERE NEW WORK MAY MUST DEVIATE FROM THE PROPOSED DESIGN, THE CONTRACTOR SHALL REVIEW WITH THE CONSULTANT IMMEDIATELY AND BEFORE PROCEEDING WITH WORK.

NOTES FOR SPRINKLER DESIGN:

- THE PROJECT SHALL BE ENTIRELY SPRINKLERED IN ACCORDANCE WITH NFPA 13 (AS ADOPTED BY THE APPLICABLE BUILDING CODE AND AS APPROVED BY THE AUTHORITIES HAVING JURISDICTION).
- THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY DESIGNED TO ENSURE THE FOLLOWING PERFORMANCE CRITERIA ARE MET:

AREA	SYSTEM	HARZARD GROUP	DENSITY (L/S-M2)	DENSITY (GPM/SQFT)	DESIGN AREA (M2)	DESIGN AREA (SQFT)	MAX AREA PERHEAD (M2)	MAX AREA PERHEAD (SQFT)
WASHROOMS	WET	LIGHT	0.07	0.10	139	1500	20.9	225

NOTE: THE CRITERIA ABOVE HIGHLIGHT THE PRIMARY SPACE TYPES OF THE PROJECT BUT ARE NOT EXHAUSTIVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILED SPRINKLER DESIGN, PREPARATION OF SPRINKLER SHOP DRAWINGS, LETTERS OF ASSURANCE SCHEDULE B AND SCHEDULE C-B (FOR DETAILED DESIGN), AND FIELD REVIEWS DURING CONSTRUCTION, PRIOR TO OCCUPANCY PERMIT. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CONSULTANT FOR ACCEPTANCE PRIOR TO START OF WORK. INCLUDE HYDRAULIC CALCULATIONS FOR WORK AFFECTING 20 OR MORE SPRINKLER HEADS, OR WHERE OCCUPANCY/HAZARD CLASSIFICATION REQUIRES HIGHER FLOW DENSITY. (IF NECESSARY, THE CONTRACTOR SHALL VERIFY AND OBTAIN EXISTING SYSTEM HYDRAULIC DESIGN DATA AND RECORD THIS INFORMATION IN THE MAINTENANCE MANUAL.) PRIOR TO OCCUPANCY OF THE RENOVATION, SUBMIT LETTERS OF ASSURANCE FOR MODIFIED SPRINKLER SYSTEM DESIGN.

- THE FIRE PROTECTION CONTRACTOR SHALL ENGAGE A FIRE PROTECTION DESIGN ENGINEER REGISTERED IN BRITISH COLUMBIA TO BE RESPONSIBLE FOR DETAILED SPRINKLER DESIGN, PREPARATION OF SPRINKLER SHOP DRAWINGS, LETTERS OF ASSURANCE SCHEDULE B AND SCHEDULE C-B (FOR DETAILED DESIGN), AND FIELD REVIEWS DURING CONSTRUCTION, PRIOR TO OCCUPANCY PERMIT. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CONSULTANT FOR ACCEPTANCE PRIOR TO START OF WORK. INCLUDE HYDRAULIC CALCULATIONS FOR WORK AFFECTING 20 OR MORE SPRINKLER HEADS, OR WHERE OCCUPANCY/HAZARD CLASSIFICATION REQUIRES HIGHER FLOW DENSITY. (IF NECESSARY, THE CONTRACTOR SHALL VERIFY AND OBTAIN EXISTING SYSTEM HYDRAULIC DESIGN DATA AND RECORD THIS INFORMATION IN THE MAINTENANCE MANUAL.) PRIOR TO OCCUPANCY OF THE RENOVATION, SUBMIT LETTERS OF ASSURANCE FOR MODIFIED SPRINKLER SYSTEM DESIGN.
- REVIEW MECHANICAL, ELECTRICAL, STRUCTURAL, INTERIOR DESIGN AND ARCHITECTURAL DRAWINGS FOR DETAILS AND COORDINATE FINAL PIPE ROUTES WITH OTHER SUB-TRADES AND GENERAL CONTRACTOR BEFORE START OF SHOP DRAWINGS. COORDINATE LOCATIONS OF LOW POINT DRAINS WITH INTERIOR FINISHES.
- MODIFY EXISTING SPRINKLER SYSTEM TO SUIT RENOVATIONS TO INTERIOR LAYOUT AND TO ENSURE COMPLIANCE WITH CODES.
- PROVIDE NEW SEISMIC SWAY BRACING IN ACCORDANCE WITH NFPA 13 AND B.C. BUILDING CODE, WHERE REQUIRED FOR THE ALTERATIONS.
- COORDINATE SHUT DOWN OF EXISTING SYSTEM AND INSTALLATION OF NEW HEADS WITH THE OWNER'S OPERATIONS MANAGER AND PROCEED ONLY WITH THEIR PERMISSION. INCLUDE PROVISIONS FOR FIRE WATCH OR OTHER TEMPORARY SAFETY MEASURES REQUIRED BY THE LOCAL AUTHORITY AND FIRE DEPARTMENT.
- PROVIDE NEW PORTABLE-TYPE ABC FIRE EXTINGUISHERS WHERE REQUIRED TO MAINTAIN COMPLIANCE WITH NFPA 10 AND/OR THE LOCAL AUTHORITIES HAVING JURISDICTION AND FIRE DEPARTMENT. WHERE REQUIRED TO BE PLACED CONSPICUOUSLY, FIRE EXTINGUISHERS SHALL BE COMPLETE WITH METAL SEMI-RECESSED, VANDAL-RESISTANT, WALL-MOUNTED CABINETS. SPRINKLER HEAD FINISHES SHALL BE CHROME, SEMI-RECESSED TYPE.

PLUMBING ROUGH-IN SCHEDULE

TYPE	FIXTURE	SANITARY	CW	HW	VENT	REMARKS
FD	FLOOR DRAIN	75 (3")	-	-	-	C/W TRAP PRIMER
L	LAVATORY	40 (1½")	15 (½")	15 (½")	32 (1¼")	-
DF	DRINKING FOUNTAIN	40 (1½")	15 (½")	-	32 (1¼")	-
JS	JANITOR SINK	40 (1½")	15 (½")	15 (½")	40 (1½")	-
UR	URINAL	TBC	TBC	-	40 (1½")	FLUSH VALVE
WC	WATER CLOSET	75 (3")	38 (1 ½")	-	40 (1½")	FLUSH VALVE

* MINIMUM SIZE, REFER TO MANUFACTURER'S RECOMMENDATIONS.

PLUMBING EQUIPMENT SCHEDULE

TAG NO.	TYPE	MODEL	DESCRIPTION	TRIM / ACCESSORIES
WC-1	WATER CLOSET	AMERICAN STANDARD MADERA FLOWISE 3461.001.020	RIGHT HEIGHT ELONGATED TOILET. CENTOCO 500 SERIES HEAVY-DUTY OPEN FRONT, LESS COVER, WITH STAINLESS STEEL HARDWARE.	TOTO ECO-POWER TET1LA32#CP SELF-POWERED FLUSH VALVE WITH OVER-RIDE, 1.28 GPF, 1 1/2" TOP SPUD INLET, POLISHED CHROME FINISH & SOLID BRASS BODY, ADA COMPLIANT.
WC-2	ACCESSIBLE WATER CLOSET	AMERICAN STANDARD MADERA FLOWISE 3461.001.020	RIGHT HEIGHT ELONGATED TOILET. CENTOCO 820STS.001 EXTRA HEAVY DUTY ELONGATED TOILET SEAT, WITH SS HARDWARE.	TOTO ECO-POWER TET6LA32#CP SELF-POWERED FLUSH VALVE WITH OVER-RIDE, 1.28 GPF, 1 1/2" TOP SPUD INLET, 24" V.B. TUBE POLISHED CHROME FINISH & SOLID BRASS BODY, ADA COMPLIANT.
UR-1	WALL-MOUNTED URINAL	AMERICAN STANDARD WASHBROOK FLOWISE 6590	WASHDOWN ACTION, ELONGATED RIM, WALL MOUNTED WATTS CA-321 CARRIER.	TOTO ECO-POWER TEU1LA12#CP SELF-POWERED FLUSH VALVE WITH OVER-RIDE, 0.5 GPF, 3/4" TOP SPUD INLET, POLISHED CHROME FINISH & SOLID BRASS BODY, MAINTENANCE FLUSH.
LAV-1	LAV, COUNTERTOP MOUNTED	AMERICAN STANDARD AQUALYN 9482.000	UNIVERSAL ACCESS, CENTRE HOLE ONLY, SELF RIMMING/DROP-IN	TOTO TEL5LI15R ECO-POWER FAUCET WITH THERMOSTATIC MIXER, POLISHED CHROME FINISH. HEAVY DUTY ANGLE STOPS, HEAVY CAST CHROME PLATED P-TRAP, FLEXIBLE BRAIDED STAINLESS STEEL HOSES.
LAV-2	ACCESSIBLE LAV, COUNTERTOP MOUNTED	AMERICAN STANDARD AQUALYN 9482.000	UNIVERSAL ACCESS, CENTRE HOLE ONLY, SELF RIMMING/DROP-IN	TOTO TEL5LI15R ECO-POWER FAUCET WITH THERMOSTATIC MIXER, POLISHED CHROME FINISH. HEAVY DUTY ANGLE STOPS, HEAVY CAST CHROME PLATED OFFSET P-TRAP, FLEXIBLE BRAIDED STAINLESS STEEL HOSES.
FD-1	GENERAL PURPOSE FLOOR DRAIN	ZURN Z535	CAST-IRON EPOXY-COATED FLOOR DRAIN WITH BOTTOM OUTLET, INVERTIBLE MEMBRANE CLAMP, AND ADJUSTABLE COLLAR	FLASHING CLAMP, TRAP PRIMER CONNECTION.
JS-1	SERVICE / FLOOR MOP JANITOR SINK	STERN WILLIAMS HL-1800	MARBLE/PORTLAND CEMENT TERAZZO MOP SINK WITH CAST BRASS DRAIN, STAINLESS STEEL STRAINER AND 75ø OUTLET. 150mm (6") STAINLESS STEEL THRESHOLD CAP. STAINLESS BACKSLASH. OVERALL DIMENSIONS 900mm (24") W x 900mm (24") D x 300mm (12") H	T-15VB MOP-SERVICE SINK FITTING WITH VACUUM BRAKER, ADJUSTABLE TOP BRACE. 20ø (3/4ø) HOSE THREAD ON SPOUT WITH BUCKET HOOK INLETS. POLISHED CHROME FINISH. "T-35" 900mm (36") HOSE WITH CHROME COUPLINGS AND STAINLESS STEEL WALL BRACKET. COORDINATE WITH BACKSLASH FINISH BUILT ON-SITE (REFER TO ARCH).

DIFFUSER, GRILLE, & LOUVRE SCHEDULE

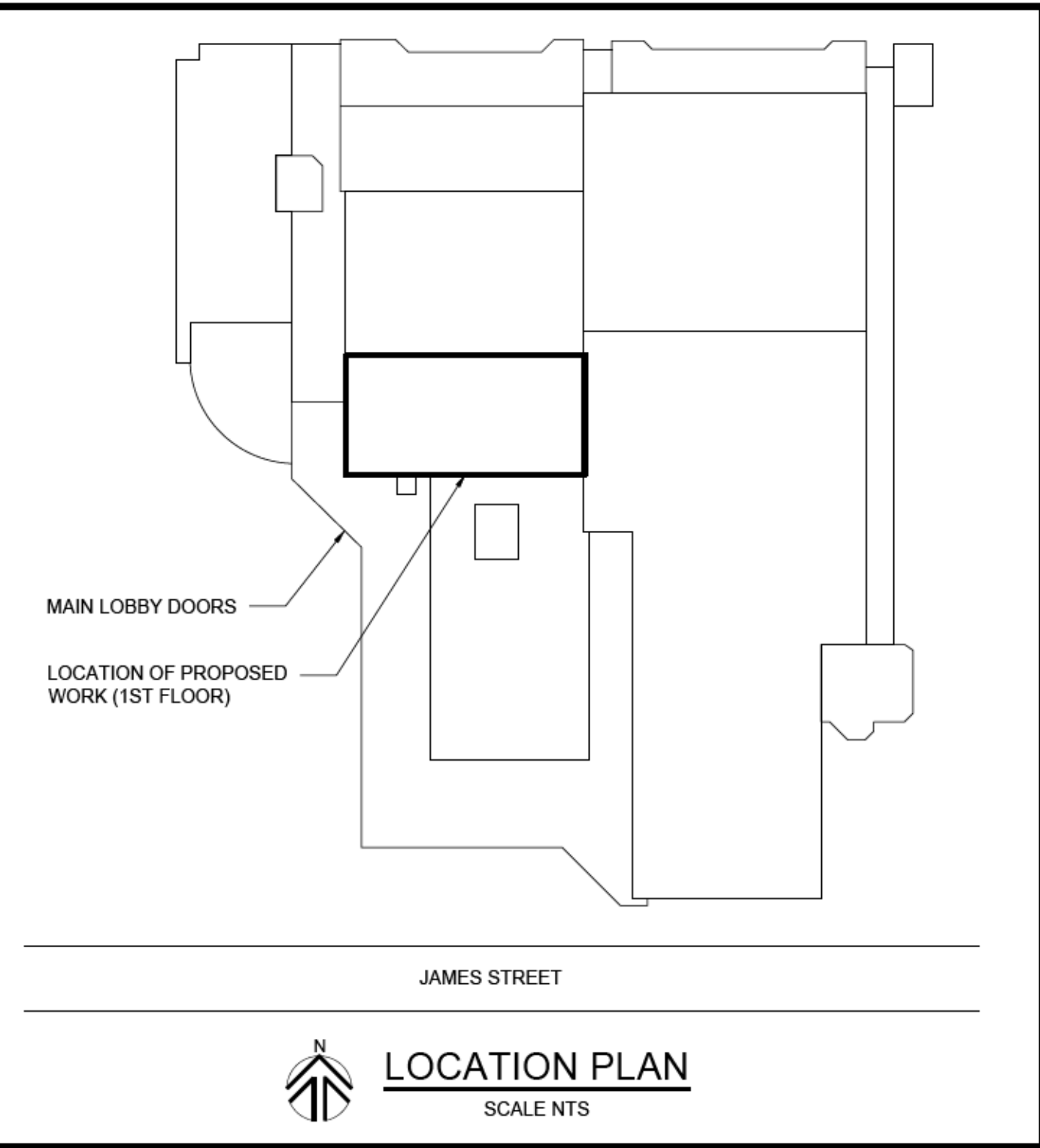
TAG NO.	DG-1	E-1
MANUFACTURER	PRICE	PRICE
MODEL	STG1	80
DESCRIPTION	STEEL DOOR GRILLE	EGGCRATE GRILLE
FINISH	POWDER COAT COLOUR AS PER ARCHITECTURAL	POWDER COAT COLOUR AS PER ARCHITECTURAL
FRAME / MOUNTING		
DIMENSIONS (mm)	AS SPECIFIED	300 x 300
NOTES	SIGHTPROOF CORE	C/W FACE BALANCING DAMPER

DOMESTIC WATER LOAD

SERVICE	LOAD	
	(WSFU)	(L/s)
DEMO'D FIXTURE UNITS	134.0	
RENOVATION FIXTURE UNITS	248.0	

SANITARY LOAD

SERVICE	LOAD
	(FU)
DEMO'D FIXTURE UNITS	95.0
RENOVATION FIXTURE UNITS	53.5



PRELIMINARY
NOT FOR CONSTRUCTION

MECHANICAL LEGEND

LIST OF ABBREVIATIONS AND CONTROLS			
AFF	ABOVE FINISHED FLOOR	DIGITAL SENSOR	7
C/W	COMPLETE WITH	LOCAL CONTROLS	T
RWL	RAIN WATER LEADER	CARBON MONOXIDE	CO
F/A, T/A	FROM ABOVE, TO ABOVE	CARBON DIOXIDE	C2
F/B, T/B	FROM BELOW, TO BELOW	SMOKE DETECTOR	SD
NTS	NOT TO SCALE	TEMPERATURE	T
CTE	CONNECT TO EXISTING		
LIST OF SYMBOLS AND SERVICES			
EXISTING SERVICE	---	RELOCATED ITEM	
SUPPLY LINE	----- XXXS -----	REMOVE ITEM	
RETURN LINE	----- XXXR -----	REMOVED SERVICE	+++++////////
SANITARY DRAIN	----- SAN -----	CLEAN OUT	CO
STORM DRAIN	----- STW -----	FLOOR/ ROOF/ HUB/ AREA DRAIN	
VENT PIPE	----- V -----	PLUMBING FIXTURE TAG	
DRAIN TILE	----- X -----	HOSE BIBB	HB
DOMESTIC COLD WATER	----- -----	P-TRAP	
DOMESTIC HOT WATER	----- -- -- -----	VENT UP	
DOMESTIC HOT WATER RECIRC	----- - - - -----	VENT THROUGH ROOF	
SPRINKLER - WET	----- SPR -----	SPRINKLER - UPRIGHT	
FIRE PROTECTION (STANDPIPE)	----- F -----	SPRINKLER - PENDENT	
SPRINKLER - DRY	----- DRY -----	SPRINKLER - RECESSED PENDENT	
SPRINKLER - GLYCOL	----- GLY -----	SPRINKLER - WINDOW	WS
FIRE HOSE CABINET WITH FIRE EXTINGUISHER		SPRINKLER - WATER CURTAIN	WC
RECESSED FIRE EXTINGUISHER	FEX	SPRINKLER - SIDEWALL	
FIRE HYDRANT	FH	HEAT DETECTOR	HD
		SIAMESE CONNECTIONS	
		ZONE CONTROL VALVE	
PIPE ELBOW RISER / DROP		P & T RELIEF VALVE	
PIPE TEE DOWN		BALANCING VALVE	
STACK UP/ DOWN		GLOBE VALVE	
SHUT OFF VALVE		SUPERVISED VALVE	
2-WAY CONTROL VALVE		PLUG VALVE	
3-WAY CONTROL VALVE		PRESSURE REDUCING VALVE	
CHECK VALVE		FLEXIBLE CONNECTION	
UNION OR FLANGE		PIPE ANCHOR	
STRAINER - Y OR BASKET		PIPE GUIDE	
AUTOMATIC AIR VENT	AAV	PUMP	
DOUBLE CHECK VALVE ASSEMBLY	DCVA	REDUCED PRESSURE BACKFLOW ASSEMBLY	RPBA
CAP OR PLUG			
DUCTWORK		FLEXIBLE DUCT	
ROUND DUCT RISER		DUCT SILENCER	SIL
ROUND DUCT DROP			SIL-?
S/A OR O/A DUCT TO OR FROM ABOVE		STANDARD BRANCH	
S/A OR O/A DUCT TO OR FROM BELOW		SINGLE LINE BRANCH	
R/A OR E/A DUCT TO OR FROM ABOVE		VAV BOX	
R/A OR E/A DUCT TO OR FROM BELOW		HEATING/COOLING COIL	
BALANCING DAMPER	BD	SUPPLY DIFFUSER	
MOTORIZED DAMPER (MODULATING)		RETURN GRILLE	
BACK DRAFT DAMPER	B.D.D.	EXHAUST GRILLE	
TURNING VANES		SUPPLY OUTLET	
		RETURN OR EXHAUST INLET	
AIR OUTLET OR INLET TAG	# @ TYPE SIZE CAPACITY	DOOR - UNDERCUT	U/C
EQUIPMENT TAG		DOOR GRILLE	DG
		FIRE, SMOKE OR COMBINATION FIRE-SMOKE DAMPER	
		FIRE DAMPER	
		SMOKE DAMPER	
		COMBINATION FIRE SMOKE	

DRAWING LIST:

DWG. No.	DESCRIPTION (TITLE)
M-0	MECHANICAL COVER SHEET
M-1	PLUMBING & HVAC PLANS
M-2	MECHANICAL SPECIFICATION

CIVIC ADDRESS:

2687 JAMES STREET, DUNCAN BC V9L 2X5

PROJECT:

ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES

CLIENT:

COWICHAN
VALLEY
REGIONAL
DISTRICT

STELLER
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Project Reference No: 140010.000



ISSUED FOR:	DATE:
CLIENT REVIEW	24AUG2017
CLIENT REVIEW	19SEPT2017
ISSUED FOR RFQ	30OCT2017
RE-ISSUED FOR RFQ	02JAN2018

DRAWN BY:

BM

SAC PROJECT NO:

CVRD-01-17

SCALE:

NTS

DRAWING TITLE:

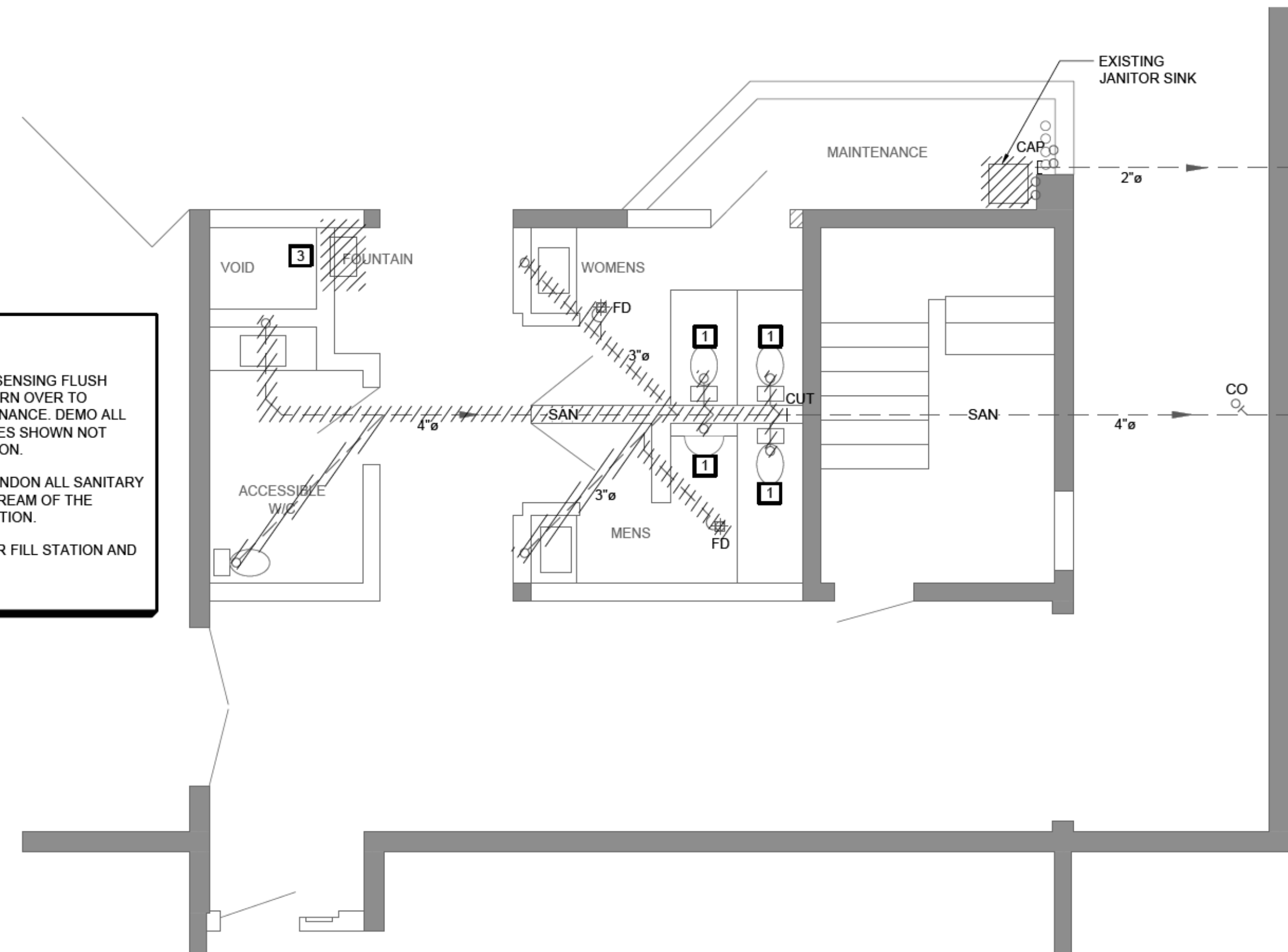
LEVEL 1
MECHANICAL
AND PLUMBING

DRAWING NUMBER:

M-0

DRAWING NOTES

- 1 FIXTURES TAGGED HAVE SENSING FLUSH VALVES. REMOVE AND TURN OVER TO OPERATIONS AND MAINTENANCE. DEMO ALL OTHER PLUMBING FIXTURES SHOWN NOT INDICATED FOR RELOCATION.
- 2 REMOVE OR CAP AND ABANDON ALL SANITARY AND FLOOR DRAINS UPSTREAM OF THE INDICATED CUTTING LOCATION.
- 3 REMOVE FOUNTAIN/WATER FILL STATION AND RETAIN FOR RELOCATION.

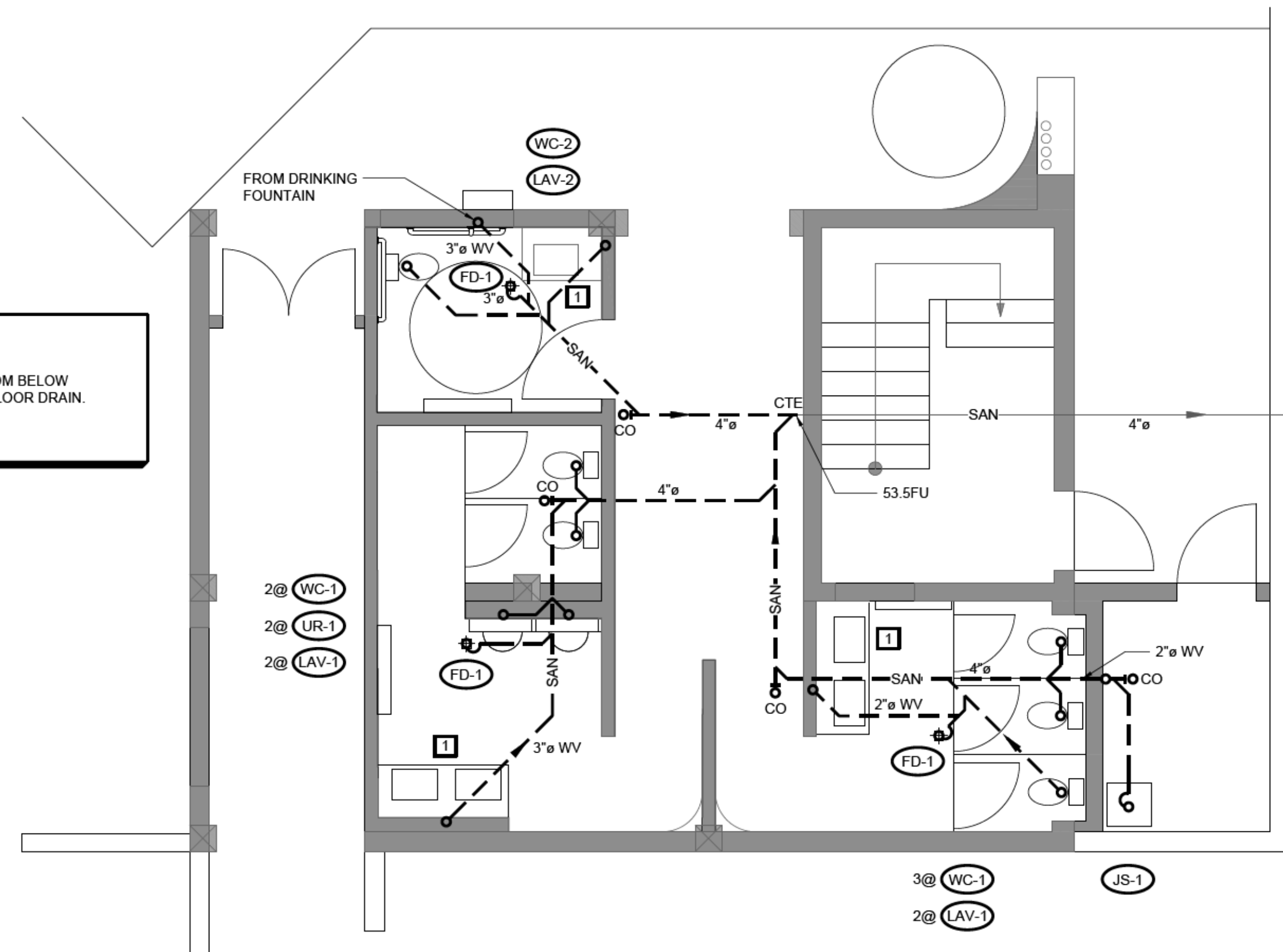


LEVEL 1 PLUMBING - DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

DRAWING NOTES

- 1 PROVIDE TRAP PRIMER FROM BELOW LAVATORY TO ADJACENT FLOOR DRAIN.

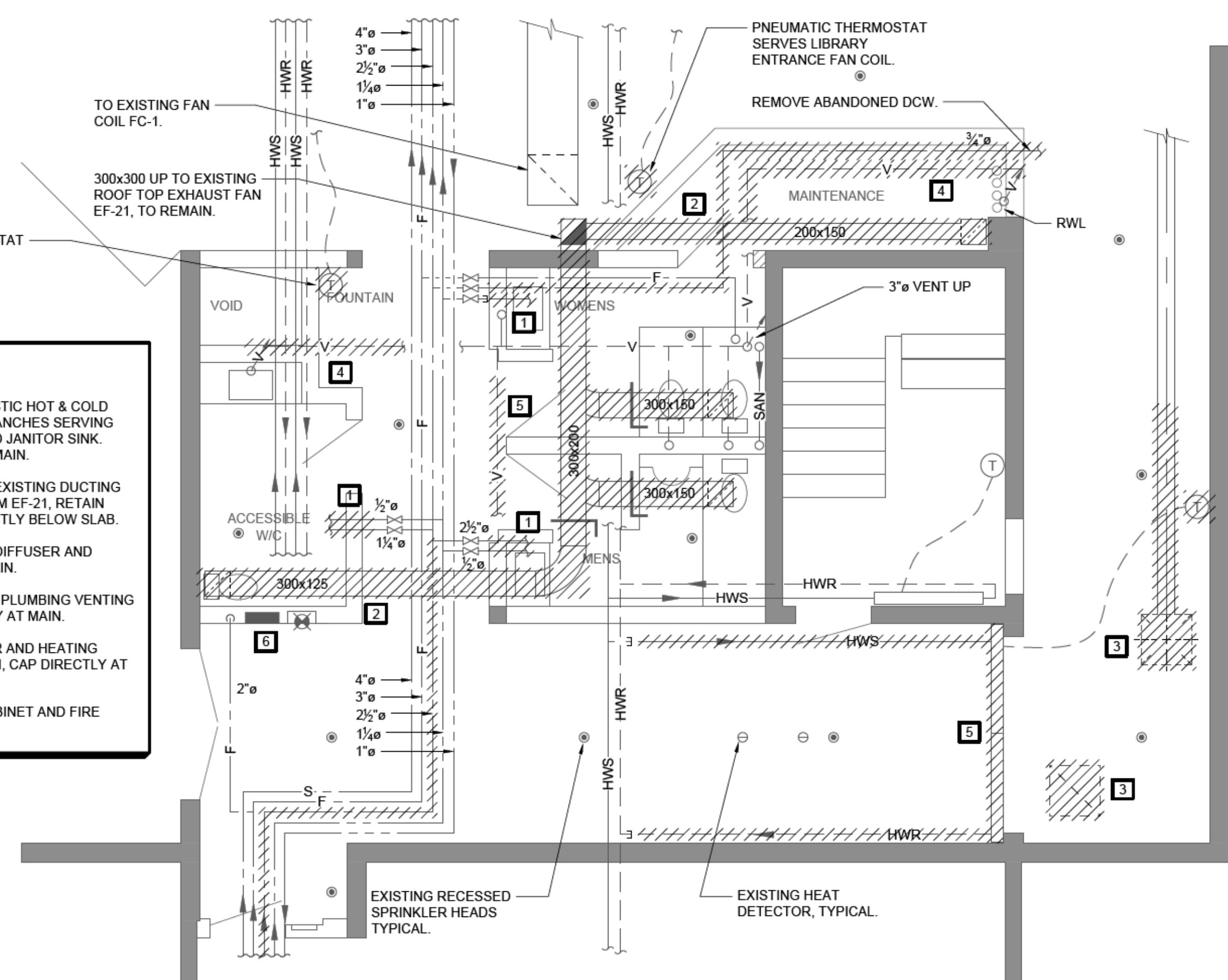


LEVEL 1 PLUMBING - RENOVATION PLAN

SCALE: 1/4" = 1'-0"

DRAWING NOTES

- 1 REMOVE EXISTING DOMESTIC HOT & COLD WATER DISTRIBUTION BRANCHES SERVING DEMO'D WASHROOMS AND JANITOR SINK. SHUT-OFF VALVES TO REMAIN.
- 2 REMOVE ENTIRE RUN OF EXISTING DUCTING WITHIN FIRST FLOOR FROM EF-21, RETAIN VERTICAL PORTION DIRECTLY BELOW SLAB.
- 3 REMOVE AND RELOCATE DIFFUSER AND RETURN AIR GRILLE, RETAIN.
- 4 REMOVE ALL REDUNDANT PLUMBING VENTING BRANCHES, CAP DIRECTLY AT MAIN.
- 5 REMOVE RADIANT HEATER AND HEATING WATER SUPPLY & RETURN, CAP DIRECTLY AT MAIN.
- 6 RELOCATE FIRE HOSE CABINET AND FIRE EXTINGUISHER.

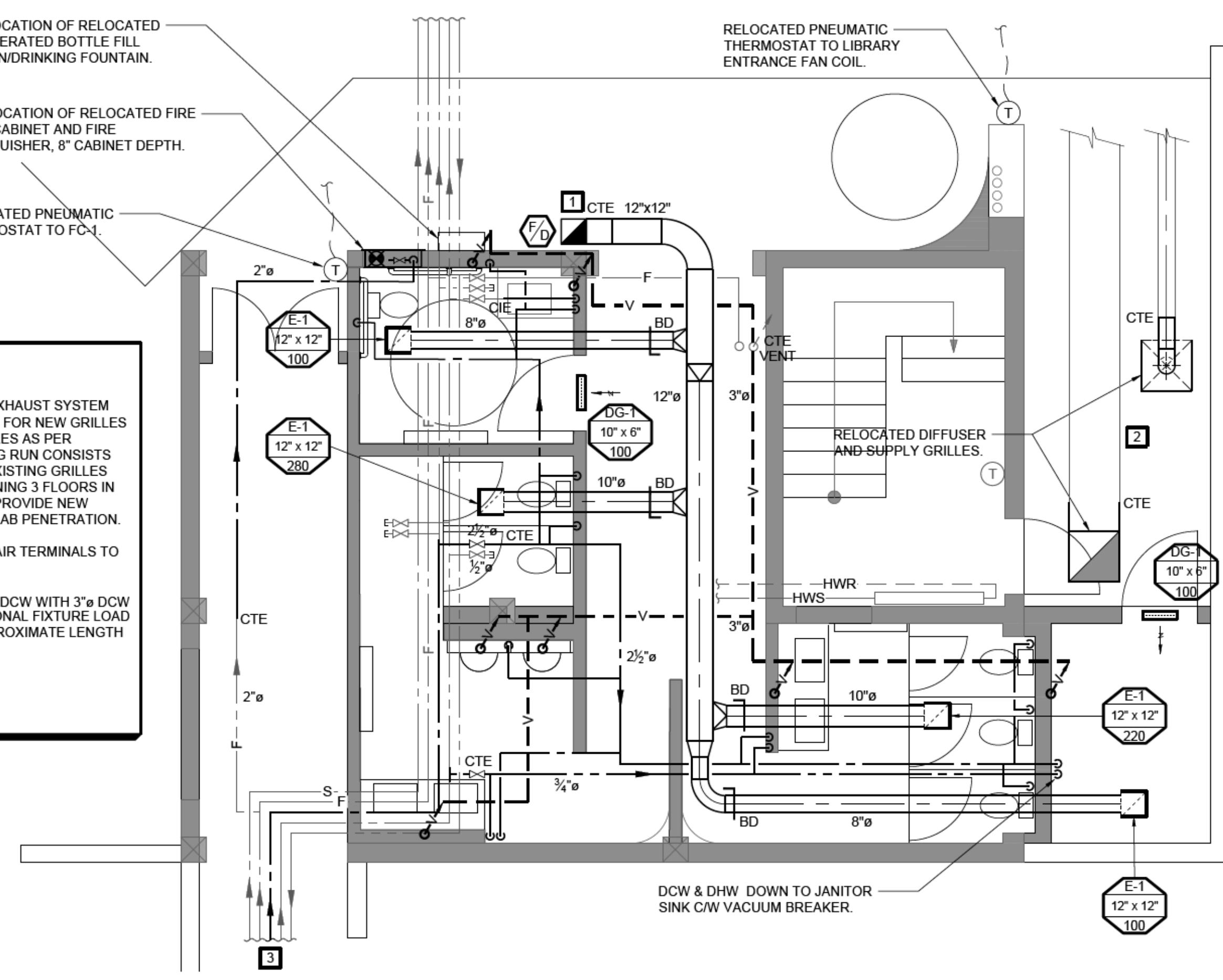


LEVEL 1 RCP - DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

DRAWING NOTES

- 1 RE-BALANCE THE ENTIRE EXHAUST SYSTEM SERVING EF-1. QUANTITIES FOR NEW GRILLES AS SHOWN, EXISTING GRILLES AS PER ORIGINAL DESIGN. DUCTING RUN CONSISTS OF 3750 CFM BETWEEN 7 EXISTING GRILLES AND 4 NEW GRILLES, SPANNING 3 FLOORS IN MULTIPLE OCCUPANCIES. PROVIDE NEW TYPE-B FIRE-DAMPER AT SLAB PENETRATION.
- 2 RE-BALANCE RE-LOCATED AIR TERMINALS TO ORIGINAL DESIGN.
- 3 REPLACE SECTION OF 2 1/2" DCW WITH 3" DCW TO ACCOMMODATE ADDITIONAL FIXTURE LOAD WITHIN WASHROOMS. APPROXIMATE LENGTH OF RUN IS 30'.



LEVEL 1 RCP - RENOVATION PLAN

SCALE: 1/4" = 1'-0"

ISLAND SAVINGS CENTRE WASHROOM UPGRADES

COWICHAN VALLEY REGIONAL DISTRICT

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DRAWN BY: BM

SAC PROJECT NO: CVRD-01-17

SCALE: 1/4" = 1'-0"

DRAWING TITLE: LEVEL 1 MECHANICAL AND PLUMBING

DRAWING NUMBER:

M-1

MECHANICAL SPECIFICATIONS

1. GENERAL

1.1. INTENT: THIS SPECIFICATION SHALL SERVE TO PROVIDE DIRECTION AND STANDARDS TO ENABLE THE CONTRACTOR TO SUPPLY AND INSTALL A FINISHED, FULLY FUNCTIONAL MECHANICAL SYSTEM FOR THE PROJECT, IN COMPLETE ACCORDANCE WITH CURRENT BUILDING CODE AND LOCAL BYLAWS. THE MECHANICAL CONTRACTOR SHALL INCLUDE ALL LABOUR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE MECHANICAL WORK.

1.2. LIABILITY: ASSUME RESPONSIBILITY FOR LAYING OUT WORK AND FOR DAMAGE CAUSED TO THE OWNER OR OTHERS BY IMPROPER EXECUTION OF WORK. PROTECT FINISHED AND UNFINISHED WORK FROM DAMAGE. TAKE RESPONSIBILITY FOR CONDITION OF MATERIALS AND EQUIPMENT SUPPLIED, AND PROTECT UNTIL WORK IS COMPLETED AND ACCEPTED.

1.3. CERTIFICATES: GIVE NOTICES, OBTAIN PERMITS, AND PAY PERMIT AND INSPECTION FEES SO WORK SPECIFIED AND SHOWN MAY BE CARRIED OUT. FURNISH CERTIFICATES, IF REQUESTED, AS EVIDENCE THAT WORK CONFORMS TO LAWS AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION.

1.4. CUTTING AND PATCHING: MEASURE OUT AND PROVIDE LOCATIONS FOR HOLES FOR MECHANICAL EQUIPMENT AND PROVIDE SLEEVES REQUIRED FOR THE MECHANICAL INSTALLATIONS. BE RESPONSIBLE FOR CUTTING AND PATCHING OF BUILDING STRUCTURE REQUIRED BY WORK UNLESS OTHERWISE INDICATED.

1.5. TESTING: TEST EQUIPMENT AND MATERIALS WHERE INDICATED HERE AND REQUIRED BY AUTHORITIES HAVING JURISDICTION, TO DEMONSTRATE PROPER OPERATION.

1.6. GUARANTEE: PROVIDE THE OWNER WITH A WRITTEN GUARANTEE FOR LABOUR AND MATERIAL WARRANTING SYSTEMS AND EQUIPMENT FURNISHED TO REMAIN IN SERVICEABLE CONDITION FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER.

1.7. STANDARD OF MATERIALS AND WORKMANSHIP: MAKE AND QUALITY OF MATERIALS USED ARE SUBJECT TO ACCEPTANCE BY THE CONSULTANT. REMOVE CONDEMNED MATERIALS AND INSTALL SUITABLE MATERIALS IN THEIR PLACE. MATERIALS SHALL BE NEW AND OF UNIFORM PATTERN THROUGHOUT, WHERE SPECIFICALLY IDENTIFIED IN THIS SPECIFICATION. WORKMANSHIP SHALL FOLLOW THE BEST TRADITION AND TRADESMANSHIP. EMPLOY ONLY TRADESMEN PROPERLY LICENSED FOR WORK REQUIRING TRADESMEN WITH SPECIAL SKILL.

1.8. ACCESS: ENSURE ADEQUATE MAINTENANCE ACCESS IS PROVIDED/MAINTAINED TO MANUAL BALANCING DAMPERS, FIRE DAMPERS, VALVES, METERS, EQUIPMENT, INCLUDING THOSE EXISTING. PROVIDE ADEQUATELY-SIZED AND FIRE-RATED (WHERE REQUIRED) ACCESS DOORS WHERE A SOLID FINISHED CEILING/WALL EXISTS. COORDINATE TYPE, COLOUR, AND INSTALLATION WITH THE GENERAL CONTRACTOR AND ARCHITECT/INTERIOR DESIGNER. FOR EXISTING BASE BUILDING EQUIPMENT, MARK PROPOSED ACCESS PANEL LOCATIONS ON FLOOR FOR REVIEW AND COORDINATION WITH THE LANDLORD'S TENANT COORDINATOR PRIOR TO INSTALLATION OF CEILING FRAMING AND PANELING.

1.9. SHOP DRAWINGS: SUBMIT THREE COPIES OF SHOP DRAWINGS (FOR APPLICABLE ITEMS) FOR HVAC EQUIPMENT, BMS/DDC SYSTEM, FANS, AIR OUTLETS, FIRESTOP ASSEMBLIES, FIRE DAMPERS, WATER HEATER AND PLUMBING FIXTURES TO THE CONSULTANT FOR REVIEW INCLUDING ALL PERFORMANCE DATA, PHYSICAL DIMENSIONS, ELECTRICAL DATA, OPERATING WEIGHTS, AND APPLICABLE LISTINGS.

1.10. RECORD DRAWINGS: ENSURE ONE SET OF WHITE PRINT PLANS AND SPECIFICATIONS ARE KEPT ON SITE AT ALL TIMES FOR CONSULTANT INSPECTION. INDICATE ANY CHANGES AND DEVIATIONS FROM THE CONTRACT DOCUMENTS, INCLUDING WORK BY CHANGE ORDERS AND JOB INSTRUCTIONS. THE CONTRACTOR SHALL INCLUDE A CASH ALLOWANCE OF \$300 PER PLAN SHEET FOR THE CONSULTANT TO TRANSFER MARKED UP CHANGES TO CAD FILES, AND FOR PROVIDING TWO SETS OF RECORD DRAWINGS AND ELECTRONIC CAD FILES TO THE OWNER.

1.11. CLOSE-OUT DOCUMENTATION/OPERATION AND MAINTENANCE MANUALS: WITHIN TWO WEEKS OF SUBSTANTIAL COMPLETION, PROVIDE THREE COPIES OF THE FOLLOWING (WHERE APPLICABLE) IN 8-1/2" X 11" PLASTIC COATED CATALOGUE BINDERS:

- PROJECT INFORMATION
 - PROJECT NAME, ADDRESS, AND DATE OF SUBSTANTIAL COMPLETION
 - CONTACT INFORMATION FOR GENERAL CONTRACTOR AND ALL MECHANICAL CONTRACTORS AND SUBTRADES
- LETTERS OF ASSURANCE AND WARRANTY DOCUMENTS
 - COPIES OF ALL APPLICABLE WORK PERMITS
 - COPY OF CONTRACTOR'S (AND MECHANICAL SUB-CONTRACTOR'S IF APPLICABLE) 1-YEAR WARRANTY LETTER
 - WARRANTY FORMS FOR ALL APPLICABLE MECHANICAL EQUIPMENT
 - LETTERS OF ASSURANCE FOR SEISMIC BRACING
 - LETTER FROM FIRESTOP CONTRACTOR CERTIFYING FIRESTOP IS COMPLETE AND INSTALLED ACCORDING TO MANUFACTURER'S LISTINGS.
 - PLUMBING FINAL INSPECTION CERTIFICATE. (IF REQUIRED)
 - NATURAL GAS INSPECTION REPORT. (IF REQUIRED)
 - BACKFLOW PREVENTER TEST CERTIFICATES
- TESTING, ADJUSTING, AND BALANCING (TAB) DOCUMENTATION
 - WATER AND AIR BALANCING REPORT
 - PIPING TEST FORMS
 - CHEMICAL TREATMENT REPORT
 - BOILER START-UP FORM
 - REFRIGERATION STARTUP CHECKLISTS
- HVAC SYSTEM
 - BRIEF DESCRIPTION OF HVAC SYSTEM COMPONENTS AND OPERATION
 - OPERATING AND MAINTENANCE MANUALS FOR NEW EQUIPMENT
 - SEQUENCES OF OPERATION (CONTROLS SHOP DRAWINGS)
- FINAL SHOP DRAWINGS

1.1. ADDITIONAL DOCUMENTATION: CONTRACTOR SHALL SUPPLY ALL DOCUMENTATION AND INFORMATION WHICH IS REQUIRED FOR APPLICATION TO INCENTIVE AND REBATE PROGRAMS (SUCH AS FORTIS BC EFFICIENT BOILER PROGRAM).

1.2. FIELD REVIEW: THE MECHANICAL CONTRACTOR SHALL NOTIFY THE CONSULTANT, IN WRITING AND WITHIN 48 HOURS, OF START-UP OF WORK, FOR 50% COMPLETION AND 100% COMPLETION FOR FIELD REVIEW SCHEDULING PURPOSES.

2. IDENTIFICATION

2.1. PROVIDE IDENTIFICATION SYSTEMS FOR MATERIALS USED IN MECHANICAL SYSTEMS WHICH REQUIRE CONTROL BY WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) ISSUED BY OCCUPATIONAL SAFETY AND HEALTH DIVISION OF WORKSAFEBC.

2.2. TAG AUTOMATIC CONTROLS, ELECTRIC SWITCHES, INSTRUMENTS AND RELAYS WITH LAMICOID LABELS WITH 1" LETTERS AND KEY WITH CONTROL SCHEMATICS. PROVIDE LAMICOID LABELS WITH 1" LETTERS ON EQUIPMENT AND MOTOR STARTERS.

2.3. ON SERVICES THAT ARE EXPOSED, WITHIN MECHANICAL/SERVICE ROOMS, OR LOCATED ABOVE REMOVABLE CEILING PANELS, PROVIDE PIPE/DUCTWORK IDENTIFICATION AND FLOW DIRECTION ARROW FOR EVERY 20 FEET OF STRAIGHT RUN AND AT EVERY CHANGE OF DIRECTION.

2.4. ALL PIPE, DUCT AND OTHER SYSTEMS (DOC) IDENTIFICATION SHALL ALSO BE COORDINATED WITH THE EXISTING IDENTIFICATION SCHEME AND LANDLORD'S REQUIREMENTS.

3. BALANCING

- QUALITY ASSURANCE
- ACCEPTABLE BALANCING FIRMS: FLOTECH, WESTERN MECHANICAL SERVICES LTD., KD ENGINEERING, HONEY TECHNICAL SERVICES.
- PROCEDURES SHALL BE IN ACCORDANCE WITH CURRENT EDITION OF AABC'S NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, TOTAL SYSTEM BALANCE.
- INSTRUMENTS FOR TESTING AND BALANCING OF AIR SYSTEMS SHALL HAVE BEEN CALIBRATED WITHIN SIX MONTHS AND VERIFIED FOR ACCURACY BEFORE START OF WORK.
- PROCEDURES
- DATA SHEETS REQUIRED ARE AS FOLLOWS: AIR MOVING EQUIPMENT TEST SHEET, EXHAUST FAN TEST SHEET, CIRCULATION WATER PUMP DATA SHEET, HYDRONIC DISTRIBUTION / TERMINAL TEST SHEET
- BALANCE TO MAXIMUM FLOW DEVIATION FROM SPECIFIED VALUES OF 10% AT TERMINAL DEVICE AND 5% AT EQUIPMENT OR MEAN SOUND LEVEL DEVIATION OF 20 DB.
- PERMANENTLY MARK SETTING ON VALVES, SPLITTERS, DAMPERS AND OTHER ADJUSTMENT DEVICES. TAKE MEASUREMENTS TO VERIFY BALANCE HAS NOT BEEN DISRUPTED OR SUCH DISRUPTION HAS BEEN RECTIFIED.
- AT FINAL FIELD REVIEW, RE-CHECK RANDOM SELECTIONS OF DATA RECORDED IN REPORT. RECHECK POINTS OR AREAS AS SELECTED AND WITNESSED BY CONSULTANT AND/OR LANDLORD.
- ACCEPTANCE
- MECHANICAL SYSTEMS SHALL NOT BE CONSIDERED READY FOR FINAL FIELD REVIEW UNTIL BALANCING RESULTS ARE ACCEPTABLE TO CONSULTANT. IF FOUND THAT SPECIFIED FLOWS CANNOT BE ACHIEVED ON PORTIONS OF SYSTEM, ACTUAL CONDITIONS SHALL BE REPORTED TO CONSULTANT FOR CONSIDERATION OF CORRECTIVE ACTION BEFORE CONTINUING BALANCING PROCEDURE. IF REPORT REJECTED, SYSTEMS SHALL BE RE-BALANCED AND NEW CERTIFIED REPORT SUBMITTED AT NO ADDITIONAL COST TO THE CONTRACT.
- BALANCING REPORT
- SUBMIT DRAFT COPIES OF REPORTS, COMPLETE WITH FIELD NOTES, BEFORE FINAL ACCEPTANCE OF PROJECT. PROVIDE THREE COPIES OF FINAL REPORT FOR INCLUSION IN OPERATING AND MAINTENANCE MANUALS.
- REPORT SHALL BE INDEXED AS FOLLOWS:
 - SECTION 1 SYSTEM DATA (DESIGNED, INSTALLED AND RECORDED)
 - AIR MOVING EQUIPMENT (FANS)
 - AIR INLETS/OUTLETS
 - SECTION 2 DRAWINGS
 - BALANCING DRAWINGS
- AIR SYSTEM PROCEDURES
- MAKE TESTS WITH SUPPLY, RETURN AND EXHAUST SYSTEMS OPERATING AND DOORS AND WINDOWS CLOSED OR IN NORMAL OPERATION CONDITION. TEST AND ADJUST BLOWER RPM TO DESIGN REQUIREMENTS. TEST AND RECORD MOTOR FULL LOAD AMPS.
- MAKE AIR QUANTITY MEASUREMENTS IN DUCTS BY PITOT TUBE TRAVERSE OF ENTIRE CROSS-SECTIONAL AREA. TAKE

MINIMUM OF 16 READINGS.

- ADJUST MAIN SUPPLY AND RETURN DUCTS TO DESIGN FLOW RATES. ADJUST ZONES TO DESIGN, SUPPLY AND RETURN FLOW RATES. TEST AND ADJUST EACH DIFFUSER, GRILLE AND REGISTER TO WITHIN 10% OF DESIGN REQUIREMENTS. ADJUST DIFFUSERS, GRILLES AND REGISTERS TO MINIMIZE DRAFTS.
- USE VOLUME CONTROL DEVICES TO REGULATE AIR QUANTITIES ONLY TO EXTENT THAT ADJUSTMENTS DO NOT CREATE OBJECTIBLE AIR MOTION OR SOUND LEVELS. EFFECT VOLUME CONTROL BY DUCT INTERNAL DEVICES SUCH AS DAMPERS AND SPLITTERS.
- PROVIDE SYSTEM SCHEMATIC WITH REQUIRED AND ACTUAL AIR FLOW RATES AT EACH OUTLET OR INLET. IDENTIFY EACH DIFFUSER, GRILLE AND REGISTER AS TO LOCATION AND AREA.
- RECORD INSTALLED FAN DRIVE ASSEMBLIES, FAN SHEAVES, MOTOR SHEAVES AND BELTS. RECORD EACH INSTALLED MOTOR MANUFACTURER AND FINAL MOTOR AMPERAGE.
- COMPLETE BALANCING TO ACHIEVE POSITIVE BUILDING PRESSURE UNLESS OTHERWISE INSTRUCTED. POSITIVE PRESSURE RELATIVE TO OUTSIDE PRESSURE OF 0.04"W.G. MINIMUM, AND 0.07"W.G. MAXIMUM SHALL BE ACHIEVED, MEASURED WITH NEGLIGIBLE OUTSIDE WIND VELOCITY.
- INCLUDE RE-VERIFICATION OF AIRFLOW, STATIC PRESSURES, AND MOTOR CURRENT FOR ANY BASE BUILDING EQUIPMENT CONNECTED TO DISTRIBUTION MODIFIED UNDER THIS SCOPE OF WORK. THIS SHALL INCLUDE HEAT RECOVERY VENTILATORS, EXHAUST FANS, MAKE UP AIR FANS, ETC. ALLOW FOR RE-BALANCING, INCLUDING PROVISION OF ADDITIONAL SHEAVES AND BELTS IF REQUIRED.

4. TESTING

- TEST EQUIPMENT AND MATERIAL WHERE SPECIFIED OR REQUIRED BY AUTHORITY HAVING JURISDICTION. TEST IN ACCORDANCE WITH APPLICABLE PORTIONS OF ASME, ASHRAE, SMACNA, NFPA, CSA AND OTHER RECOGNIZED TEST STANDARDS/CODES.
- PROVIDE NOTICE OF TESTS TO CONSULTANT. ON COMPLETION OF INSTALLATION, PROVIDE CERTIFICATION OF TESTS WITH REQUIRED DETAIL. ITEMIZE TESTS AS TO TIME PERFORMED AND PERSONNEL RESPONSIBLE. INCLUDE COPY OF FIELD DATA IN OPERATING AND MAINTENANCE MANUALS.
- PRESSURE TESTS
- PIPING, FIXTURES OR EQUIPMENT SHALL NOT BE CONCEALED UNTIL INSPECTED AND APPROVED BY CONSULTANT. CARRY OUT HYDRAULIC TESTS FOR 8 HOURS. MAINTAIN PRESSURE. WHERE LEAKAGE OCCURS, REPAIR AND RE-TEST.
- DOMESTIC WATER PIPING: TEST TO 1-1/2 TIMES MAXIMUM WORKING PRESSURE OR 150 PSI WATER PRESSURE MEASURED AT SYSTEM LOW POINT.
- DRAINAGE SYSTEM: TEST BY FILLING WITH WATER TO PRODUCE WATER PRESSURE OF 5 FEET WATER COLUMN MINIMUM AND 25 FEET WATER COLUMN MAXIMUM. CHECK FOR PROPER GRADE AND OBSTRUCTION BY BALL TEST.
- LOW PRESSURE DUCTS: TEST FOR TIGHTNESS SUCH THAT LEAKAGE IS INAUDIBLE AND NOT DETECTABLE BY FEEL.
- SHOULD TESTS INDICATE DEFECTIVE WORK OR VARIANCE WITH SPECIFIED REQUIREMENTS, CORRECT DEFECTS. CORRECT LEAKS BY RE-MAKING JOINTS IN SCREWED FITTINGS, CUTTING OUT AND RE-WELDING WELDED JOINTS AND RE-MAKING JOINTS IN COPPER LINES. DO NOT CAULK.
- PERFORMANCE TESTS
- LUBRICATE BEARINGS, ADJUST AND/OR REPLACE AND SET DIRECT AND "V"-BELT DRIVES FOR PROPER ALIGNMENT AND TENSION.
- CALIBRATE AND ADJUST THERMOSTATS, LINKAGES AND DAMPERS. OPERATE AND TEST MOTORS FOR CORRECT WIRING AND SEQUENCES. CHECK OVERLOAD HEATERS IN MOTOR STARTERS. FASTEN LOOSE AND RATTLING PIECES OF EQUIPMENT TO ENSURE QUIET OPERATION.

5. VIBRATION ISOLATION AND SEISMIC RESTRAINT

- PROVIDE VIBRATION ISOLATORS AND SEISMIC RESTRAINT SYSTEMS MEETING REQUIREMENTS OF AUTHORITY HAVING JURISDICTION AND COMMENTARY J, EFFECTS OF EARTHQUAKES, IN SUPPLEMENT TO NATIONAL BUILDING CODE OF CANADA WITH REGARD TO SEISMIC FORCES TRANSMITTED TO PIPING/EQUIPMENT FROM BUILDING STRUCTURE DURING AN EARTHQUAKE AT PROJECT LOCATION. PROVIDE SEALED AND SIGNED ENGINEERED DETAILS BY SEISMIC ENGINEER LICENSED IN BRITISH COLUMBIA. FINAL SEISMIC INSPECTION AND SCHEDULE CB TO BE COMPLETED PRIOR TO SUBSTANTIAL PERFORMANCE, AND COPIED TO THE CONSULTANT.
- RESILIENTLY FASTEN ALL MECHANICAL EQUIPMENT TO STRUCTURE INCLUDING (BUT NOT LIMITED TO) HEAT RECOVERY VENTILATORS, FANS, AIR HANDLING UNITS, SPLIT SYSTEM OUTDOOR UNITS, DOMESTIC HOT WATER TANKS.
- STRAPS, ANCHOR BOLTS AND STRAPS SHALL BE CAPABLE OF WITHSTANDING SEISMIC FORCES IN ALL DIRECTIONS. AIRCRAFT CABLE AND FASTENING MATERIALS SHALL BE CAPABLE OF RESTRAINING 1.5 TIMES CALCULATED SEISMIC FORCES TRANSMITTED THROUGH EQUIPMENT OR PIPING RESTRAINED. WHERE TOP OF INDIVIDUALLY SUSPENDED PIPE OR DUCT IS LESS THAN 12" BELOW SUPPORTING STRUCTURE, TRANSVERSE AND LONGITUDINAL BRACING SHALL NOT BE REQUIRED.
- FOR SUSPENDED EQUIPMENT WHERE SWAY WILL EXCEED 4", SLACK CABLE RESTRAINTS SHALL BE CONNECTED FROM EACH SUPPORT POINT (MINIMUM FOUR) TO STRUCTURE AT ANGLE OF 45° IN ELEVATION AND AT 90° TO EACH OTHER IN PLAN VIEW.
- PROVIDE MINIMUM TWO STEEL BAND STRAPS ABOVE CENTRE OF GRAVITY ON VERTICAL TANKS ANCHORED TO STRUCTURE.
- BRANCH LINES SHALL NOT BE USED TO RESTRAIN MAIN PIPING.
- WHERE NOMINALLY HORIZONTAL LENGTH OF PIPE OR DUCT EXCEEDS THE MAXIMUM ALLOWABLE TRANSVERSE RESTRAINT SPACING LISTED IN THE RESTRAINT INSTALLATION SCHEDULE, A MINIMUM OF ONE LONGITUDINAL AND ONE TRANSVERSE RESTRAINT SHALL BE PROVIDED.
- WHERE HORIZONTAL PIPE OR DUCT PASSES THROUGH VERTICAL CONCRETE OR CONCRETE BLOCK WALL WITHIN SLEEVE, WALL WILL BE CONSIDERED TRANSVERSE RESTRAINT POINT. CABLES SHALL BE TIGHTENED TO REMOVE SLACK (1" DEFLECTION UNDER THUMB PRESSURE), BUT SHALL NOT SUPPORT ANY WEIGHT UNDER NORMAL OPERATING CONDITIONS. ALLOWANCES SHALL BE MADE FOR NORMAL EXPANSION AND CONTRACTION OF PIPING SYSTEMS WHERE APPLICABLE.
- PROVIDE TRANSVERSE AND LONGITUDINAL SEISMIC RESTRAINT ON NOMINALLY HORIZONTAL PIPING AS FOLLOWS:

- NATURAL GAS PIPING:
 - 1"ø AND LARGER: LONGITUDINAL RESTRAINT 40' O.C., TRANSVERSE RESTRAINT 20' O.C.
- ALL OTHER PIPE SERVICES:
 - 2-1/2"ø AND LARGER: LONGITUDINAL RESTRAINT 80' O.C., TRANSVERSE RESTRAINT 40' O.C.

6. FIRESTOPPING

- WORK INCLUDED: FURNISH LABOUR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY TO PROVIDE FIRESTOPPING AND SMOKE SEALS AROUND MECHANICAL SERVICE PIPING AND DUCT PENETRATIONS THROUGH FIRE RATED WALL AND FLOOR ASSEMBLIES TO CSA STANDARD CAN4-S115-M85 AND AUTHORITIES HAVING JURISDICTION.
- ACCEPTABLE FIRESTOPPING SYSTEMS FOR VERTICAL PENETRATIONS: 3M FIRE BARRIER PENETRATION SEALING SYSTEM, BIO-FIRE PROTECTION LTD. FIRESTOPPING AND SMOKE SEALS.
- LOCATION AND EXTENT OF FIRE SEPARATIONS SHALL BE CONFIRMED WITH ARCHITECTURAL DRAWINGS.

7. INSULATION

- MATERIALS AND APPLICATION TEMPERATURES SHALL BE AS RECOMMENDED BY ADHESIVE, COATING OR SEALER MANUFACTURER. MAKE GOOD SEPARATIONS OF JOINTS OR CRACKING OR INSULATION DUE TO THERMAL MOVEMENT OR POOR WORKMANSHIP. COMPOSITE FIRE AND SMOKE HAZARD RATINGS FOR ADHESIVES, INSULATION, COATINGS AND JACKETS SHALL NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED OR OTHERWISE AS REQUIRED BY CODE. USE ONLY ULC LISTED OR TESTED COVERING MATERIALS.
- PIPING INSULATION THICKNESS:
 - DOMESTIC COLD WATER, ALL SIZES = 1" THICK
 - DOMESTIC HOT WATER AND RECIRC, PIPE SIZE < 1-1/2"ø = 1/2" THICK
 - DOMESTIC HOT WATER AND RECIRC, PIPE SIZE 1-1/2"ø AND UP = 1/2" THICK
 - CHILLED WATER > 40øF, PIPE SIZE < 1-1/2"ø = 1/2" THICK
 - CHILLED WATER > 40øF, PIPE SIZE 1-1/2"ø TO 8"ø = 1" THICK
 - HEATING WATER < 140øF, PIPE SIZE < 1-1/2"ø = 1/2" THICK
 - ALL OTHER HEATING WATER < 200øF, UP TO 4"ø = 1" THICK
- PIPING INSULATION FINISHES:

- EXPOSED: BICCA STANDARD "PF2 PREMIUM 2" OR 15 MIL PVC JACKET WITH SOLVENT WELDS (INCLUDES WITHIN MECHANICAL ROOMS AND ABOVE CLOUD CEILINGS)
- CONCEALED: BICCA STANDARD "PF3 ECONOMY" ALL SERVICE JACKET WITH INTEGRAL VAPOUR BARRIER.
- DUCTWORK AND PLENUMS INSULATION THICKNESS:
 - SUPPLY AIR DUCTS AND PLENUMS ABOVE FINISHED CEILINGS = 1" THICK (UP TO FLEXIBLE DUCT CONNECTION OR 5' FROM DIFFUSER)
 - ACOUSTIC DUCT LINERS AS INDICATED BY HATCHING = 1" THICK
 - PLENUMS BELOW ROOF MOUNTED FANS (ACOUSTICAL LINING) = 1" THICK
 - OUTDOOR AIR DUCT IN HEATED SPACE = 2" THICK

- DUCTWORK AND PLENUMS INSULATION FINISHES:
 - FACTORY FINISHED WITH NO FURTHER FINISH REQUIRED. RAW EDGE OF INSULATION SHALL NOT BE ALLOWED TO BE EXPOSED IN CEILING PLENUM/SPACE.
 - FOR ANY SERVICES, TEMPERATURES, OR SIZES NOT REFERENCED ABOVE, INSULATION THICKNESS SHALL BE PROVIDED ACCORDING TO ASHRAE/IES STANDARD 90.1-2010 (TABLE 6.8.2 MINIMUM DUCT INSULATION, TABLE 6.8.3 MINIMUM PIPE INSULATION THICKNESS).
 - VAPOUR BARRIER SHALL BE CONTINUOUS FOR ALL "COLD" SERVICES INCLUDING DOMESTIC COLD WATER AND CHILLED WATER. PROVIDE RIGID BLOCKING AND OVERSIZED PIPE HANGERS/SUPPORTS FOR THESE SERVICES. PENETRATIONS THROUGH WALLS SHALL HAVE CONTINUOUS INSULATION.
- REFRIGERATION PIPING: REFER TO REFRIGERATION SECTION.

8. PLUMBING

- PROVIDE ALL NECESSARY PIPING MATERIAL AND LABOUR FOR THE SYSTEMS AS SHOWN ON THE DRAWINGS. PIPING AND FITTINGS SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE CODES OR GOVERNING REGULATIONS.
- PIPE AND FITTINGS
- SANITARY DRAINAGE WASTE VENT (DWV) BELOW GRADE
 - ABS OR DWV PVC

- SANITARY DRAINAGE WASTE VENT (DWV) ABOVE GRADE
 - UP TO 2-1/2"ø: DWV COPPER WITH WROUGHT OR CAST BRASS FITTINGS AND 50-50 SOLDER
 - ALL SIZES: CAST IRON WITH S.S. MECHANICAL JOINT COUPLINGS
- DOMESTIC WATER ABOVE GRADE
 - ALL SIZES: CERTIFIED TYPE "L" OR "K" HARD COPPER WITH SILVABRITE 100 LEAD-FREE SOLDER
 - ALL SIZES: VIEGA PRO-PRESS (CONTRACTOR MUST CONFIRM CERTIFICATION BY MANUFACTURER AND MINIMUM 5 YEARS OF EXPERIENCE)
- NATURAL GAS PIPING ABOVE GRADE
 - UP TO 2": SCH 40 BLACK STEEL WITH MALLEABLE SCREWED OR BUTT-WELDED JOINTS
 - PIPING OVER 2"ø SHALL BE WELDED.
- NATURAL GAS PIPING BELOW GRADE SHALL BE "YELLOW JACKET" WITH CATHODIC PROTECTION AND TRACER WIRE.
- CONDENSATE DRAINS
 - FROM COOLING COILS / HRV / ERV: DWV COPPER, IPEX SYSTEM 15 DWV PVC, (COMBUSTIBLE BUILDINGS ONLY: PVC PIPE OR PE TUBE)
 - FROM CONDENSING GAS-FIRED APPLIANCES: SYSTEM 15 DWV PVC, (COMBUSTIBLE BUILDINGS ONLY: PVC PIPE OR PE TUBE)

- PIPE SUPPORTS: ALL "COLD" SERVICES INCLUDING DOMESTIC COLD WATER, IRRIGATION, AND CHILLED WATER PIPING SHALL USE OVERSIZED PIPE HANGERS TO PERMIT CONTINUOUS INSULATION AND VAPOUR BARRIER TO BE MAINTAINED. PROVIDE RIGID INSULATION BLOCKING AND METAL INSULATION SHIELDS BETWEEN PIPE AND HANGER OR RISER CLAMPS.
- VALVES
- PROVIDE VALVES OF SAME MANUFACTURER THROUGHOUT WHERE POSSIBLE. VALVES ON DOMESTIC COLD, HOT AND RECIRCULATION WATER SERVICE SHALL BE RATED AT 125 PSI.
- BACK FLOW PREVENTER ASSEMBLIES: PROVIDE ULC LISTED BACKFLOW PREVENTERS AS SHOWN ON DRAWINGS AND/OR AS REQUIRED BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
- PROVIDE VACUUM BREAKER ON DOMESTIC WATER SUPPLY TO COMMERCIAL DISHWASHERS, JANITOR SINKS AND OTHER REQUIRED FIXTURES AS NOTED IN THE FIXTURE SCHEDULE.
- PROVIDE AIR GAP FITTING ON DRAIN FROM REQUIRED FIXTURES. EQUAL TO WATTS 900 AG.
- TRAP SEAL PRIMERS: PROVIDE PRIMING DEVICE AND PIPING TO NEAREST ACCEPTABLE FIXTURE SO THAT DEVICE WILL INTRODUCE REGULATED AMOUNT OF WATER INTO TRAP. EQUAL TO WATTS 200.
- CLEAN-OUTS AND ACCESS COVERS: INSTALL ACCESSIBLE CLEAN-OUTS AT TRAPS, WHERE REQUIRED BY CODE AND AS INDICATED ON DRAWINGS. CLEAN-OUT COVERS SHALL HAVE DEPRESSED CENTRE TO ACCEPT FLOOR FINISH OR BE SELECTED TO SUIT TRAFFIC LOADING REQUIREMENTS, WHERE APPLICABLE. EQUAL TO ZURN ZN-1508. CLEAN-OUTS ON SUB-SURFACE DRAINAGE SYSTEM EXTENSIONS SHALL BE ZURN Z-1500 (OR EQUAL) IN UNFINISHED CONCRETE, ZURN Z-1440 (OR EQUAL) ENCASED IN 16" X 16" X 4" THICK CONCRETE PAD IN SOFT LANDSCAPING AND ZURN Z-1502 (OR EQUAL) IN FINISHED CONCRETE OR PAVES.
- DRAINS: PROVIDE DRAINS AS SHOWN ON DRAWINGS. DRAINS SHALL BE 3" UNLESS NOTED OTHERWISE. REVIEW LOCATION OF DRAINS ON ARCHITECTURAL DRAWINGS AND CONFIRM WITH CONSULTANT THAT DRAINS WILL BE AT LOW POINTS ON FLOOR. IMPROPERLY LOCATED DRAINS SHALL BE RELOCATED AT NO COST TO OWNER.
- PLUMBING FIXTURES AND TRIM

- PROVIDE NEW FIXTURES OF ONE MANUFACTURER AND OF SAME COLOUR, CSA APPROVED, FREE FROM DEFECTS WITH CLEAR, SMOOTH AND BRIGHT FINISH. PROVIDE CSA APPROVED PLUMBING BRASS WITH METAL WORK HEAVY CHROMIUM PLATED AND PRODUCT OF ONE MANUFACTURER.
- PROVIDE FLEXIBLE ANGLE TYPE HOT AND COLD WATER SUPPLIES WITH SCREWDRIVER STOP, HEXAGONAL REDUCER AND ESCUTCHEON. PROVIDE HEAVY CHROMIUM PLATING WHERE EXPOSED.
- REVIEW MILLWORK DRAWINGS AND ADVISE CONSULTANT OF DISCREPANCIES BEFORE ORDERING FIXTURES. REVIEW ARCHITECTURAL DRAWING TO CHECK PLUMBING FIXTURE SPECIFICATION PRIOR TO PREPARING SHOP DRAWINGS.
- INSTALL EACH FIXTURE WITH ITS OWN TRAP, EASILY REMOVABLE FOR SERVICING AND CLEANING. AT COMPLETION, THOROUGHLY CLEAN PLUMBING FIXTURES AND EQUIPMENT.
- INSTALL WALL MOUNTED FIXTURES WITH APPROVED WALL CARRIERS, MODEL TO SUIT INSTALLATION. WHERE FIXTURES OR TRIM COME IN CONTACT WITH WALL AND/OR FLOOR, MAKE JOINT WATERTIGHT WITH WHITE SILICONE BASE NON-HARDENING CAULKING COMPOUND, FINISHED IN NEAT MANNER. ATTACH FLOOR MOUNTED WATER CLOSETS TO FLOOR WITH LAG SCREWS. LEAD FLASHING SHALL NOT HOLD CLOSET IN PLACE. PROVIDE FIXED COVER ON HANDICAPPED WATER CLOSET TANK.

8.1. EXECUTION

- NO PIPE SHALL BE INSTALLED IN ANY PART OF WALL WHERE TEMPERATURE IS LESS THAN 5°C UNDER WINTER DESIGN CONDITIONS.
- UPON COMPLETION, WATER PIPING SYSTEMS SHALL BE FLUSHED WITH WATER BEFORE INSTALLATION OF FIXTURES IN ORDER TO REMOVE ANY FOREIGN MATERIAL IN PIPING. PLUMBING FIXTURES AND EQUIPMENT SHALL BE THOROUGHLY CLEANED AND LEFT IN GOOD OPERATING CONDITION.
- GRADE DRAINAGE LINES MINIMUM 2%, PIPING 4" AND LARGER MAY BE GRADED AT 1% SLOPE. PLUG OR CAP PIPE AND FITTINGS TO KEEP OUT DEBRIS DURING CONSTRUCTION. LAY PIPE IN PROPER COMPACTED BEDDING MATERIAL (SAND INSIDE BUILDING, CLEAN GRAVEL OUTSIDE OF BUILDING). DO NOT LAY PIPE WHEN WATER IS PRESENT IN TRENCH. PROVIDE 1,500 PSI CONCRETE FOR BURIED LINES WITHIN 45 DEG. OF FOOTING.
- GRADE VENTS SO CONDENSATION WILL NOT FORM TRAP.
- WHEREVER DISSIMILAR METALS ARE JOINED OR SUPPORTED, PIPING SHALL HAVE NON-CONDUCTING TYPE CONNECTIONS OR HANGERS TO PREVENT GALVANIC CORROSION. BRASS ADAPTERS AND VALVES ARE ACCEPTABLE FOR PIPE CONNECTIONS.
- DOMESTIC HOT WATER HEATERS: PROVIDE AS SPECIFIED COMPLETE WITH SHEET METAL DRAIN PAN; ENSURE GOOD ACCESS TO HEATERS FOR SERVICING. PIPE RELIEF OUTLET TO DRAIN.
- WATER SPECIALTIES: PROVIDE BACK FLOW PREVENTERS AS SPECIFIED AND AS REQUIRED BY AUTHORITIES. PROVIDE TRAP PRIMERS TO ALL FLOOR DRAINS.

9. VENTILATION

- DUCTWORK
- DUCTWORK SHALL BE GALVANIZED STEEL. FABRICATED IN ACCORDANCE WITH RECENT SMACNA DUCT MANUALS AND ASHRAE HANDBOOKS. DUCTWORK SHALL MEET THE REQUIREMENTS OF NFPA 90A AND 91 AND CONFORM TO ALL APPLICABLE CODES.
- PRIOR TO FABRICATION OF DUCTWORK, CHECK ALL CEILING SPACE AND HEIGHTS FOR CONFLICTS WITH OTHER TRADES.
- THE MINIMUM SHEET METAL THICKNESS FOR LOW PRESSURE DUCTS, INCLUDING FITTINGS, ACCESS DOORS AND OTHER ACCESSORIES, SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".
- DUCT SIZES ON DRAWINGS INDICATE INSIDE CLEAR DIMENSIONS. ADJUST ACTUAL SHEET METAL DIMENSIONS TO ACCOMMODATE ACOUSTICALLY LINED OR INTERNALLY INSULATED DUCTS.
- ALL TRANSVERSE DUCT JOINTS SHALL BE SEALED (CLASS C SMACNA) WITH DUCT SEALANT. FLEXIBLE DUCTWORK SHALL BE EQUAL TO THERMAFLEX TYPE ST OR E.H. PRICE MK-10.
- CONNECT DIFFUSERS TO DUCTS WITH 5'-0" MAXIMUM LENGTH OF FLEXIBLE DUCT. HOLD IN PLACE WITH CAULKING COMPOUND AND STRAP OR CLAMP. FLEXIBLE DUCTWORK SHALL NOT FORM ANY DIPS, KINKS OR LOOPS.
- PROVIDE RETURN AIR OPENINGS AND/OR INSULATED SOUND TRAPS WHERE INDICATED.
- BALANCE DAMPERS SHALL BE LOCKING QUADRANT TYPE ONLY - PIN-TYPE BALANCING DAMPERS ARE NOT ACCEPTABLE.
- AIR OUTLETS: PROVIDE AIR OUTLETS AS SPECIFIED ON THE DRAWINGS.
- THE AIR HVAC SYSTEM SHALL OPERATE FOR A MINIMUM OF 48 CONSECUTIVE HOURS PRIOR TO TURNOVER OF THE EQUIPMENT.
- ON COMPLETION OF CONSTRUCTION, INCLUDE REPLACEMENT OF FILTERS FOR ALL HVAC SERVING THE SPACE, INCLUDING THOSE EXISTING (MATCH EXISTING TYPE AND SIZE).
- DUCT CLEANING: THE CONTRACTOR SHALL PROTECT ALL EQUIPMENT AND OPEN ENDED DUCTS THROUGHOUT CONSTRUCTION. UPON COMPLETION, DUCT CLEANLINESS WILL BE REVIEWED BY CONSULTANT ON SITE. IF DUCTWORK CLEANLINESS IS NOT TO THE CONSULTANT'S SATISFACTION, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ENGAGING A PROFESSIONAL DUCT CLEANING CONTRACTOR TO POWER CLEAN ALL DUCTWORK WITHIN THE SPACE, AT NO ADDITIONAL COST TO THE OWNER.

10. HYDRONIC SYSTEMS

- PROVIDE ALL NECESSARY PIPING MATERIAL AND LABOUR FOR COMPLETE HYDRONIC SYSTEMS SHOWN ON THE DRAWINGS. INSTALLATION SHALL COMPLY WITH ASME/ANSI B31.9 ASME CODE FOR PRESSURE PIPING. FOLLOW ASHRAE STANDARDS FOR PIPE, FITTINGS, BALANCING AND ADJUSTMENT.
- PIPE AND FITTINGS
- SCHEDULE 40 STEEL PIPE TO ASTM A53, GRADE A, CSA B63. VICTAULIC GROOVED MECHANICAL COUPLINGS OR THREADED FITTINGS. VICTAULIC GASKETS SHALL BE EPDM RATED FOR MAXIMUM 110°C ON HEATING SYSTEMS.
- TYPE "M" HARD COPPER TO ASTM B42, CSA HC 7.5. WROUGHT COPPER OR CAST BRONZE, 95-5 SOLDER OR BRAZED FITTINGS.
- HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT: PROVIDE TO SECURE EQUIPMENT IN PLACE, PREVENT VIBRATION, PROTECT AGAINST DAMAGE FROM EARTHQUAKE, MAINTAIN GRADE, PROVIDE FOR EXPANSION AND CONTRACTION AND ACCOMMODATE INSULATION. WHERE STRUCTURAL BEARINGS DO NOT EXIST OR INSERTS ARE NOT IN SUITABLE LOCATIONS, SUSPEND HANGERS FROM STEEL CHANNELS OR ANGLES. PROVIDE SUPPLEMENTARY STRUCTURAL MEMBERS, AS NECESSARY, DO NOT SUSPEND FROM EXISTING SUPPORTS OR EQUIPMENT. HANGERS FOR COPPER PIPE SHALL BE COPPER PLATED OR PLASTIC DIPPED UNLESS PIPE HANGERS BEAR ON PIPING INSULATION (COLD SERVICES).

10.2. VALVES

- ACCEPTABLE EQUIPMENT: VICTAULIC, TOUR & ANDERSON, RED & WHITE/TOYO
- VALVES SHALL BE BY ONE MANUFACTURER AND HAVE NAME AND PRESSURE RATING MARKED ON BODY.
- CIRCUIT BALANCING VALVES PROVIDE FLOW MEASUREMENT BY DIFFERENTIAL PRESSURE PORTS, FLOW BALANCING, POSITIVE SHUTOFF WITH TEFLON SEAT AND DRAIN CONNECTION WITH CAP. VALVE HANDLE SHALL PROVIDE DIGITAL READOUT VISIBLE FROM FLOOR AND TEST PORTS SHALL BE EASILY ACCESSIBLE.
- HOT WATER SPECIALTIES
- AUTOMATIC AIR VENT: FLOAT OPERATED TYPE WITH ISOLATING VALVE, BRASS OR SEMI-STEEL BODY, COPPER FLOAT, STAINLESS STEEL VALVE AND VALVE SEAT FOR SYSTEM OPERATING TEMPERATURE AND PRESSURE. AUTOMATIC WASHER TYPE SHALL BE BRASS WITH HYDROSCOPIC FIBRE DISCS, VENT PORTS AND ADJUSTABLE CAP FOR MANUAL SHUTOFF AND INTEGRAL SPRING LOADED BALL CHECK VALVE TO PREVENT WATER LEAKAGE.
- AIR SEPARATORS: CENTRIFUGAL TYPE WITH GALVANIZED STEEL 4.8 MM PERFORATED STRAINER, PERFORATED STAINLESS

- STEEL AIR COLLECTOR AND DRAIN CONNECTIONS. ACCEPTABLE MANUFACTURERS: CALEFFI, TACO, WATTS
- RELIEF VALVES: ASME RATED DIRECT SPRING LOADED, LEVER-OPERATED TYPE, NON-ADJUSTABLE WITH FACTORY SET PRESSURE AS REQUIRED.
 - EXPANSION TANKS: ACCEPTABLE MANUFACTURERS: AMTROL, ARMSTRONG, WATTS. CARBON STEEL RATED FOR WORKING PRESSURE OF 860 KPA (125 PSI), PRIME COATED WITH HEAVY-DUTY REPLACEABLE RUBBER BLADDER AND LIFTING RING. 40 MM SYSTEM CONNECTION, 20 MM DRAIN VALVE, AUTOMOTIVE TYPE CHARGING VALVE
 - CONTROLS
 - 11.1. ACCEPTABLE CONTROLS SUBCONTRACTORS:
 - 11.2. THERMOSTATS: MOUNT THERMOSTATS AND TEMPERATURE SENSORS AS INDICATED ON DRAWINGS. ALL TEMPERATURE SENSORS AND THERMOSTATS SHALL BE WALL OR COLUMN MOUNTED AT 40" ABOVE FLOOR UNLESS SPECIFICALLY NOTED OTHERWISE. COORDINATE FINAL MOUNTING LOCATIONS WITH INTERIOR DESIGNER/ARCHITECT AND CONSULTANT ON SITE BEFORE ROUGH-IN.
 - 11.3. REFER TO CONTROL SEQUENCES ON PLANS.

END OF SPECIFICATION

PROJECT:

ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES

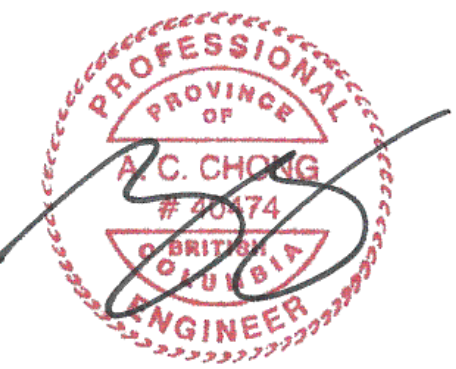
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BM

SAC PROJECT NO:

CVRD-01-17

SCALE:

NTS

DRAWING TITLE:

SPECIFICATIONS

DRAWING NUMBER:

M-2

ELECTRICAL SPECIFICATIONS

PART 1: GENERAL

- 1.1 GENERAL CONDITIONS
1. ELECTRICAL SPECIFICATIONS AND DRAWINGS FORM PART OF THE COMPREHENSIVE PROJECT MANUAL AND ARE TO BE READ IN CONJUNCTION WITH THE REST OF THE CONTRACT DOCUMENTS. THE RESPONSIBILITY AS TO WHICH SUB-TRADE PROVIDES REQUIRED LABOUR OR MATERIALS RESTS SOLELY WITH THE CONTRACTOR.

2. PROVIDE ALL ITEMS, MATERIAL, EQUIPMENT AND LABOUR REQUIRED TO COMPLETE THE WORK INDICATED OR INFERRED HEREIN. SHOULD ANY SPECIAL OR MATERIAL BE REQUIRED WHICH IS NOT SPECIFICALLY SPECIFIED OR INDICATED ON THE DRAWINGS BUT IS NEVERTHELESS REQUIRED TO PROVIDE A FULLY OPERATIONAL SYSTEM, PROVIDE SUCH WORK OR MATERIALS WITHOUT ADDITIONAL COST.

3. UNLESS DIMENSIONAL INFORMATION IS SPECIFICALLY INDICATED, DRAWINGS INDICATE APPROXIMATE LOCATIONS OF ELECTRICAL DEVICES. THE RIGHT IS RESERVED TO MAKE CHANGES IN LOCATION AS MAY BE NECESSARY TO CENTRE LIGHTS OR MEET THE EXIGENCIES OF CONSTRUCTION IN ANY WAY. NO EXTRA WILL BE ALLOWED FOR SUCH CHANGES UNLESS THE DISTANCE MOVED EXCEEDS 3000mm.

4. SHOULD ANY DISCREPANCY BETWEEN THE SPECIFICATIONS AND DRAWINGS LEAVE THE CONTRACTOR IN DOUBT AS TO THE TRUE INTENT AND MEANING, OBTAIN A RULING FROM THE CONSULTANT.

5. CHECK FOR ANY ADDENDA TO THE ORIGINAL DRAWINGS AND SPECIFICATIONS AND ALLOW FOR RESULTING ADJUSTMENTS IN TENDER QUOTATIONS.

6. THE CONSULTANT OR THEIR AUTHORIZED REPRESENTATIVE HAVE THE RIGHT TO REJECT ANY ITEM THAT, IN THEIR OPINION, DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. RECTIFY ALL UNACCEPTABLE INSTALLATIONS TO THE APPROVAL OF THE CONSULTANT.
- 1.2 EXISTING CONDITIONS
1. PRIOR TO SUBMITTING A QUOTE, BECOME FAMILIAR WITH ALL EXISTING SITE CONDITIONS THAT WILL AFFECT THE WORK. INSPECT ALL EXISTING BUILDING ELEMENTS AND STRUCTURES FOR CONSIDERATION OF NECESSARY STRUCTURAL CHANGES TO FACILITATE INSTALLATIONS COVERED BY THE CONTRACT.

2. CONFIRM ALL LOCATIONS AND ROUTING OF ANY EXISTING SERVICES, ABOVE AND BELOW GRADE, WHICH MIGHT BE AFFECTED BY THIS INSTALLATION.

3. WHERE BUILDINGS, STRUCTURES OR INSTALLATIONS HAVE TO BE DEMOLISHED, REMOVED, RELOCATED OR RE-ROUTED, ENSURE THAT EXISTING BUILDINGS OR REMAINING STRUCTURES WILL NOT BE CUT OFF FROM ELECTRICAL AND COMMUNICATION SERVICES WHICH THEY MAY RECEIVE FROM THE BUILDING OR STRUCTURE TO BE ELIMINATED. RE-ROUTE SUCH SERVICES FOR TEMPORARY OR PERMANENT CONNECTION, WHATEVER THE NECESSITY MAY BE, AND ALLOW COSTS IN TENDER FOR SUCH ADDITIONAL WORK.

4. WHERE IT IS NECESSARY TO RELOCATE TEMPORARILY ANY ELECTRICAL EQUIPMENT OR TO RE-ROUTE AND DISTRIBUTION LINES, ALLOW FOR ALL COSTS INCURRED FOR SUCH WORK IN TENDER.
- 1.3 GENERAL MATERIALS
1. PROVIDE ALL NEW MATERIALS UNLESS NOTED OTHERWISE. PROVIDE ONLY MATERIALS LISTED FOR USE IN CANADA AND BEARING SUITABLE MARK INDICATING SUCH.

2. SHOULD ANY OF THE MATERIALS SPECIFIED/REQUESTED BE DISCONTINUED OR NOT AVAILABLE, NOTIFY CONSULTANT PRIOR TO TENDER SUBMISSION AND OBTAIN CLARIFICATION OF ALTERNATE PRODUCTS.

3. THE DRAWINGS AND SPECIFICATIONS CALL FOR SPECIFIC EQUIPMENT. OTHER MATERIALS OR EQUIPMENT MAY BE SUBSTITUTED, PROVIDED SUCH PROPOSED SUBSTITUTIONS HAVE BEEN APPROVED VIA A FORMAL ADDENDUM ISSUED BY THE CONSULTANT. ALLOW A MINIMUM OF TEN (10) WORKING DAYS FOR REVIEW OF ALTERNATES BY THE CONSULTANT. IF CIRCUMSTANCES ARISE AFTER THE WORK HAS BEEN UNDER CONSTRUCTION FOR SOME TIME, SUCH THAT THE SPECIFIED MATERIALS OR EQUIPMENT CANNOT OR SHOULD NOT BE INSTALLED, OBTAIN APPROVAL FROM THE CONSULTANT BEFORE SUBSTITUTIONS ARE MADE. CONTRACTOR IS RESPONSIBLE FOR ANY REDESIGN OF ALL ASSOCIATED SERVICES/MATERIAL TO ACCOMMODATE ANY PROPOSED ALTERNATES.

4. ANY SUBSTITUTIONS MADE WITHOUT APPROVAL MAY BE REJECTED AT THE SOLE DISCRETION OF THE CONSULTANT.

5. PROVIDE MATERIAL FROM A SINGLE MANUFACTURER FOR ALL MATERIAL OF A SIMILAR NATURE.
- 1.4 DRAWINGS
1. ELECTRICAL DRAWINGS DO NOT INDICATE ALL BUILDING ELEMENTS. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL SITE CONDITIONS. DIMENSIONAL DATA FOR THE BUILDING IS INDICATED ON ARCHITECTURAL DRAWINGS.

2. THE ELECTRICAL DRAWINGS SHOW THE APPROXIMATE LOCATIONS OF PRINCIPAL APPARATUS, EQUIPMENT, DUCTS AND WIRING. THE ARRANGEMENT SHOWN ON THE DRAWINGS IS MORE OR LESS DIAGRAMMATIC AND AS SUCH IS APPROXIMATE ONLY. THE ACTUAL LOCATION OF APPARATUS, EQUIPMENT AND WIRING SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE CONSULTANT BEFORE INSTALLATION.

3. THIS CONTRACTOR IS RESPONSIBLE FOR ALL MEASUREMENTS FOR THE ELECTRICAL WORK THROUGHOUT. ARRANGE THE WIRING AND APPARATUS TO CONFORM TO THE ARCHITECTURAL AND STRUCTURAL DETAILS IN AN APPROVED MANNER.

4. ALTERATIONS NECESSARY TO THE ARRANGEMENT OF APPARATUS, FIXTURES, CONDUITS AND WIRING THAT HAVE BEEN INSTALLED WITHOUT PROPER CONSIDERATION AND APPROVAL, EVEN IF IN ACCORDANCE WITH THE ELECTRICAL DRAWINGS, AND ALL ALTERATIONS NECESSARY TO MAKE THE APPARATUS, FIXTURES, CONDUIT AND WIRING COME WITHIN THE FINISHED LINES OF THE ROOMS, SHALL BE UNDERTAKEN WITHOUT COST TO THE OWNER.
- 1.5 GUARANTEE
1. PROVIDE WRITTEN GUARANTEE FOR ALL WORK COVERED BY THIS SECTION. REPLACE OR REPAIR ANY DEFECT IN WORK THAT APPEARS WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION, INCLUDING ANY DEFICIENCIES OR OMISSIONS IN RESPECT TO THE CONTRACT DOCUMENTS WHICH MAY APPEAR. WARRANTY DOES NOT COVER DAMAGE ATTRIBUTED TO MISUSE OF EQUIPMENT.

2. ADDITIONAL EXTENDED WARRANTY PERIODS MAY APPLY TO SPECIFIC MATERIALS.

3. WHERE, IN THE OPINION OF THE CONSULTANT, AN UNREASONABLE DELAY IN REPLACEMENT OR ACCEPTABLE REPAIR OCCURS ON THE PART OF THE CONTRACTOR, REPAIRS OR REPLACEMENT WILL BE MADE BY THE OWNER, AND THE COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR.
- 1.6 FEES AND PERMITS
1. PAY ALL FEES AND OBTAIN ALL PERMITS AND LICENSES IN CONNECTION WITH WORK. SUBMIT ALL DOCUMENTATION REQUIRED BY THE INSPECTION AUTHORITY, FOR APPROVAL PRIOR TO START OF CONSTRUCTION, AND PROMPTLY REPORT ANY COMMENTS TO THE CONSULTANT.
- 1.7 CODES AND BY-LAWS
1. PERFORM ALL WORK IN ACCORDANCE WITH THE REGULATIONS OF THE PROVINCE OF BRITISH COLUMBIA, INCLUDING, BUT NOT LIMITED TO THE BC BUILDING ACT, THE BC SAFETY ACT, AND WORKSAFE BC STANDARDS.

2. AT THE CONCLUSION OF THE WORK, SUBMIT TO THE CONSULTANT A CERTIFICATE OF APPROVAL FROM THE INSPECTION AUTHORITY SHOWING THAT ALL WORK HAS BEEN PROPERLY INSTALLED AND ACCEPTED.
- 1.8 SHOP DRAWINGS
1. REFER TO GENERAL SPECIFICATION FOR SHOP DRAWING REQUIREMENTS.

2. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING:

2.1. LUMINAIRES

2.2. EXIT SIGNS

2.3. LIGHTING CONTROL DEVICES

3. THE REVIEW OF SHOP DRAWINGS BY THE CONSULTANT IS FOR SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. APPROVAL OF SHOP DRAWINGS DOES NOT IMPLY THAT CONSULTANT APPROVES OF ALL DETAIL INHERENT IN THE SHOP DRAWINGS. CONTRACTOR REMAINS RESPONSIBLE FOR ENSURING ALL MATERIAL PROVIDED COMPLIES IN ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING ALL DIMENSIONS ON SITE, FOR INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES OR TO TECHNIQUES OF CONSTRUCTION AND INSTALLATION, AND FOR COORDINATION OF WORK OF TRADES.
- 1.9 RECORD DRAWINGS
1. REFER TO GENERAL CONDITION FOR REQUIREMENTS OF RECORD (AS-BUILT) DOCUMENTATION.

2. INDICATE THE FOLLOWING ITEMS ON RECORD DRAWINGS.

2.1. BRANCH CIRCUIT RACEWAYS, INCLUDING FLEXIBLE CONDUIT DROPS AND JUNCTION BOXES, INDICATING THE CIRCUITRY CONTAINED THEREIN.

2.2. RACEWAY RUNS IN OR UNDER THE SLAB WITH ROUTING CLEARLY IDENTIFIED.

2.3. LOCATION OF ALL DEVICES INCLUDING, BUT NOT LIMITED TO LIGHTING, OUTLETS, SWITCHES, DISCONNECTS, AND PANELBOARDS.

3. AT THE COMPLETION OF THE WORK, TRANSFER THE ABOVE INFORMATION TO A NEW CLEAN SET OF DRAWINGS. EMPLOY A COMPETENT DRAFTING SERVICE TO TRANSFER INFORMATION TO AUTOCAD FILES AND CERTIFY THE ABOVE-MENTIONED FILES AS BEING ACCURATE AND CORRECT. DELIVER COMPLETED AUTOCAD FILES TO CONSULTANT AS PART OF OPERATION AND MAINTENANCE MANUALS.

4. PROVIDE MAINTENANCE MANUALS FOR ALL SYSTEMS PROVIDED, INCLUDING ALL ITEMS COVERED UNDER "SHOP DRAWINGS" SECTION
- 1.10 IDENTIFICATION OF EQUIPMENT
1. PROVIDE IDENTIFICATION FOR ALL ELECTRICAL MATERIAL INSTALLED. IDENTIFICATION SHALL BE IN ENGLISH.

2. IDENTIFY ALL WIRING THROUGH THE USE OF SELF-LAMINATING LABELS (FLAG TYPE).

3. IDENTIFY ALL JUNCTION BOXES WITH BRANCH CIRCUITING WIRING (PANEL AND CIRCUIT NUMBERS). WRITE INFORMATION ON THE INSIDE OF THE JUNCTION BOX AND ON THE COVER PLATE USING A BLACK INDELEIBLE MARKER.

4. COLOUR-CODE ALL ELECTRICAL JUNCTION, PULL BOXES, SPLITTERS AND OUTLET BOXES WITH APPROPRIATELY COLOURED PAINT AS INDICATED BELOW:

DESCRIPTION	PRIMARY	AUXILIARY
51 VOLTS UP TO 240 VOLTS	YELLOW	
241 VOLTS UP TO 600 VOLTS	ORANGE	-
TELEPHONE	BLACK	
OTHER COMMUNICATION SYSTEMS	BLUE	
FIRE ALARM	RED	
SECURITY	BROWN	
GROUND	GREEN	
OTHERS	AS NOTED	AS NOTED

5. WHERE JUNCTION BOXES OR PULL BOXES ARE LOCATED ABOVE A GRID CEILING SYSTEM, PROVIDE A MINIMUM 19MM SELF-ADHERING COLOUR-CODED CIRCULAR DISC LOCATED ON THE ROOM SIDE OF THE GRID, AFFIXED DIRECTLY TO CEILING SPLINE IN CLOSE PROXIMITY TO WHERE CONCEALED BOX IS LOCATED. MATCH COLOUR TO THE COLOUR OF ASSOCIATED JUNCTION BOX AS INDICATED ABOVE.
6. IDENTIFY GROUPED LIGHT SWITCHES TO INDICATE LOADS/AREAS CONTROLLED. PROVIDE CUSTOM ENGRAVED BUTTONS WHERE INDICATED ON DRAWINGS.
7. PROVIDE TYPE WRITTEN LABEL ON ALL RECEPTACLE COVER PLATES INDICATING CIRCUIT BEING USED
8. PROVIDE TYPEWRITTEN, REMOVABLE CIRCUIT DIRECTORY CLEARLY INDICATING USAGE OF EACH BREAKER INSIDE PANEL OF ALL PANEL BOARDS. CONFIRM ROOM NUMBERS AND NAMES WITH CONSULTANT PRIOR TO COMPLETING DIRECTORY AS NUMBERS INDICATED ON DRAWINGS MAY NOT MATCH OWNER'S ASSIGNED ROOM NAMES AND NUMBERS.
9. PROVIDE ARC FLASH PROTECTION IDENTIFICATION AND WIRING LABELS ON ALL NEW ELECTRICAL DISTRIBUTION IN COMPLIANCE WITH CEC 2-306, NFPA 70E-2004, AND ANSI Z335-4-2006.

- 1.1.2 OPERATING AND MAINTENANCE MANUALS
1. REFER TO GENERAL SPECIFICATION FOR OPERATING AND MAINTENANCE MANUAL REQUIREMENTS.

2. INCLUDE MANUFACTURER'S MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT NOTED BELOW:

2.1. LUMINAIRES

2.2. EXIT SIGNS

2.3. LIGHTING CONTROL DEVICES

- 1.1.3 SUBSTANTIAL COMPLETION
1. PROVIDE THE FOLLOWING DOCUMENTATION PRIOR TO REQUESTING SUBSTANTIAL COMPLETION REVIEW:

1.1. FINAL ELECTRICAL INSPECTION REPORT.

1.2. FIRE ALARM VERIFICATION CERTIFICATE/REPORT.

1.3. SCHEDULE S-C FROM STRUCTURAL ENGINEER FOR SEISMIC BRACING OF ALL ELECTRICAL EQUIPMENT.

1.4. RECORD DRAWINGS AND MAINTENANCE MANUALS.

1.5. CERTIFICATION THAT ALL DEFICIENCIES NOTED DURING FIELD REVIEWS HAVE BEEN COMPLETED.

1.6. WARRANTY CERTIFICATES.

1.7. WRITTEN VERIFICATION THAT ALL SYSTEMS, SPECIFICALLY ALL LIGHTING CONTROL SYSTEMS, ACCESS CONTROL SYSTEMS AND INTRUSION DETECTION SYSTEMS, HAVE BEEN TESTED AND ARE FULLY OPERATIONAL.

1.8. CERTIFICATION THAT THE OWNER'S PERSONNEL HAVE BEEN INSTRUCTED IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS.

1.9. WRITTEN VERIFICATION THAT ALL EQUIPMENT IDENTIFICATION HAS BEEN COMPLETED.

1.10. WRITTEN VERIFICATION THAT ALL SPARE PARTS AND REPLACEMENT PARTS SPECIFIED HAVE BEEN PROVIDED.

PART 2: PRODUCTS

- 2.1 WIRE AND CABLES
1. UNLESS OTHERWISE INDICATED, DO NOT USE WIRE SMALLER THAN NO. 12 AWG FOR BRANCH CIRCUIT WIRING.

2. PROVIDE STRANDED COPPER WIRE FOR ALL CONDUCTIONS NO. 10 AWG OR LARGER. PROVIDE SOLID COPPER CONDUCTORS FOR ALL CONDUCTORS NO. 12 AWG OR SMALLER.

3. SIZE ALL CONDUCTORS TO MAINTAIN VOLTAGE DROP OF 2% OR LESS FOR FEEDERS AND 2% OR LESS FOR BRANCH CIRCUIT WIRING.

4. COMFLEX CABLE IS NOT PERMITTED.

5. PROVIDE COPPER CONDUCTORS WITH RW-90 WITH CROSSLINKED POLYETHYLENE (XLPE) INSULATION UNLESS NOTED OTHERWISE.

6. USE COLOUR CODED CONDUCTORS THROUGHOUT. PROVIDE A DIFFERENT COLOURED CONDUCTOR FOR EACH PHASE AND A WHITE CONDUCTOR FOR NEUTRAL.

7. IDENTIFY ALL CONDUCTORS AS FOLLOWS:

7.1. PHASE A RED

7.2. PHASE B BLACK

7.3. PHASE C BLUE

7.4. NEUTRAL WHITE

7.5. GROUND GREEN OR BARE

7.6. SWITCH LEGS YELLOW, ORANGE, BROWN

2.2 RACEWAYS

1. PROVIDE RIGID STEEL, RIGID ALUMINIUM OR ELECTRIC METALLIC TUBING (EMT) RACEWAY COMPLAINT WITH BC ELECTRICAL CODE.

2. PROVIDE SET SCREW TYPE COUPLERS FOR ALL CONDUITS.

3. USE OF EMT CONDUIT IS NOT PERMITTED.

4. ACCEPTABLE MANUFACTURERS: THOMAS & BETTS OR APPROVED ALTERNATE.

2.5 OUTLETS AND SWITCHBOXES:

1. PROVIDE NON-METALLIC OUTLET BOXES THROUGHOUT. PROVIDE OUTLET/JUNCTION BOXES AS REQUIRED TO COMPLY WITH REQUIREMENTS OF THE BC ELECTRICAL CODE.

2. WHERE CONDUIT IS EXPOSED, PROVIDE SURFACE MOUNTED BOXES.

3. PROVIDE EXTENSIONS RINGS AS REQUIRED TO ENSURE COVER PLATE IS INSTALLED FLUSH WITH FACE OF SURFACE.

4. UNLESS OTHERWISE NOTED, SECTIONAL BOXES ARE NOT PERMITTED.

5. ACCEPTABLE MANUFACTURERS: THOMAS & BETTS / IBERVILLE 52151 SERIES OR APPROVED ALTERNATE.

2.6 FIRE STOPPING

1. PROVIDE LISTED FIRE STOPPING SYSTEM AT ELECTRICAL PENETRATIONS INTO OR THROUGH ANY RATED ASSEMBLY.

2. ACCEPTABLE MANUFACTURERS: REFER TO GENERAL SPECIFICATION.

2.7 RECEPTACLES

1. PROVIDE SPECIFICATION GRADE, CSA TYPE 5-15R, WHITE SINGLE, DUPLEX OR QUAD RECEPTACLE AS INDICATED ON DRAWINGS. PROVIDE SPECIAL PURPOSE RECEPTACLES WHERE INDICATED.

2. PROVIDE WHITE NYLON COVER PLATES UNLESS NOTED OTHERWISE.

3. PROVIDE WEATHERPROOF DURABLE LEFT SPRING-LOADED CAST ALUMINIUM RECEPTACLE, COMPLETE WITH GASKETS WHERE INSTALLED OUTDOORS OR IN WET LOCATIONS.

4. ACCEPTABLE MANUFACTURERS: HUBBELL 5262-1 OR APPROVED ALTERNATE.

2.9 PROTECTIVE DEVICES

1. CIRCUIT BREAKERS: CIRCUIT-BROKEN CASE, BOLT-ON, THERMAL MAGNETIC TYPE, 40 DEGREES C AMBIENT TEMPERATURE COMPENSATED, FIXED MOUNTING, WITH QUICK-MAKE AND QUICK-BREAK SWITCHING MECHANISM MECHANICALLY TRIP-FREE FROM THE OPERATING HANDLE.

2. PROVIDE COMMON HANDLE BASE FOR ALL MULTI-POLE BREAKERS. SINGLE POLE BREAKERS WITH BREAKER TIE ARE NOT PERMITTED.

3. HALF SIZE BREAKERS ARE NOT PERMITTED.

4. RATINGS: REFER TO DRAWINGS AND PANEL SCHEDULES FOR TRIP FRAME AND POLES REQUIRED. MINIMUM SHORT CIRCUIT RATING FOR 120 TO 240 VOLT BREAKERS IS 10,000A, IF NOT INDICATED OTHERWISE.

5. ACCEPTABLE MANUFACTURERS: MATCH BASE BUILDING STANDARD.

2.10 LUMINAIRES

1. PROVIDE ALL LUMINAIRES AS INDICATED ON DRAWINGS AND WITHIN LUMINAIRE SCHEDULE.

2. ACCEPTABLE MANUFACTURERS: AS INDICATED IN LUMINAIRE SCHEDULE.

2.11 LIGHTING CONTROL

1. PROVIDE COMPLETE LIGHTING CONTROL SYSTEM AS NOTED ON DRAWINGS.

2. LIGHTING CONTROL SYSTEM SHALL MEET ALL REQUIREMENTS OF ASHRAE/IES/ANSI 90.1-2010

2.12 FIRE ALARM SYSTEM

1. PROVIDE NEW COMPONENTS AND INSTALLATION PROCEDURES WHICH MEET THE REQUIREMENTS OF:

1.1. BC ELECTRICAL CODE - CURRENT ENFORCED EDITION

1.2. BC BUILDING CODE - CURRENT ENFORCED EDITION

1.3. BC FIRE CODE - CURRENT ENFORCED EDITION

1.4. UNDERWRITERS LABORATORIES OF CANADA - ULC S524 (CURRENT EDITION).

2. PROVIDE ALL ISOLATION MODULES IN ACCORDANCE WITH ULC S524 REQUIREMENTS.

3. ANNUNCIATION DEVICES: 100 MM SQUARE, SEMI-FLUSH HOHN TYPE SIGNALING DEVICES, WITH VISUAL ALARM SIGNALLING DEVICE BUILT IN (STROBE LIGHT), MULTIPLE, ADJUSTABLE FROM 1 TO 15 W, FREQUENCY RESPONSE FROM 400 TO 4000 HZ AND OUTPUT SOUND LEVEL: 95 DB AT 3M WITH 1 W TAP.

4. ACCEPTABLE MANUFACTURERS: MATCH EXISTING BASE BUILDING SYSTEM (SIMPLEX 4100ES SERIES).

PART 3: EXECUTION

- 3.1 GENERAL REQUIREMENTS
1. INSTALL ALL ELECTRICAL EQUIPMENT FLUSH, PLUMB AND LEVEL UNLESS OTHERWISE NOTED.
- 3.2 VIBRATION AND SEISMIC RESTRAINT
1. PROVIDE VIBRATION, SEISMIC RESTRAINT AND ANCHORAGE FOR ALL EQUIPMENT (INCLUDING NEW AND EXISTING LUMINAIRES, EXIT SIGNS, BACK BOXES AND SPEAKERS).

2. ENGAGE A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER TO DESIGN AND REVIEW VIBRATION AND SEISMIC RESTRAINTS FOR ALL WORK ASSOCIATED WITH ELECTRICAL. SUBMIT SUPPLEMENTAL LETTERS OF ASSURANCE (SCHEDULES S-B) FROM THE STRUCTURAL ENGINEER AT THE COMMENCEMENT OF THE PROJECT. SUBMIT SUPPLEMENTAL LETTER OF ASSURANCE (SCHEDULE S-C), INDICATING THAT STRUCTURAL ENGINEER HAS PERFORMED REQUIRED FIELD REVIEWS AND THAT WORK SUBSTANTIALLY COMPLIES WITH REQUIREMENTS OF THE BC BUILDING CODE AT THE COMPLETION OF THE PROJECT.
- 3.3 HANGERS AND FASTENERS
1. PROVIDE HANGERS AND FASTENERS REQUIRED TO SUPPORT ALL ELECTRICAL EQUIPMENT. ATTACH HANGERS AND FASTENERS TO STRUCTURAL BUILDING MATERIAL ONLY.

2. WHERE POSSIBLE, CAST IN CONCRETE INSERTS DURING POURING, OTHERWISE DRILLED METAL INSERTS MAY BE USED.

3. WHERE WOOD SCREWS ARE USED, THEY SHALL PENETRATE WOOD AT LEAST 25MM.

4. EXPLOSIVE SET INSERTS MAY BE USED ONLY WITH SPECIFIC PERMISSION FROM THE CONSULTANT. THEY MAY NOT BE USED IN ANY AREA WITH HIGH VOLTAGE EQUIPMENT.

5. PERFORATED PIPE HANGER IRONS ARE PROHIBITED.

6. SUPPORT ALL RACEWAY RUNNING VERTICALLY WITHIN BUILDING AT EACH FLOOR.

7. ENSURE ALL LIGHTING FIXTURES ARE ADEQUATELY SUPPORTED.

8. SUPPORT RECESSED FLUORESCENT FIXTURES INDEPENDENT FROM T-BAR CEILING BY WIRE TO BUILDING STRUCTURE FROM TWO DIAGONAL ENDS.

9. POWER WIRING FOR RECEPTACLES SHOULD NOT BE STRAPPED TO DATA RACEWAYS. MAINTAIN A 150MM CLEARANCE BETWEEN TELEPHONE/DATA OUTLETS AND POWER RECEPTACLES.
- 3.4 LIGHTING FIXTURES
1. PROVIDE ALL REQUIRED HANDLING AND STORAGE.

2. INSTALL FIXTURES PLUMB, LEVEL, AND IN STRAIGHT LINES WITHOUT DISTORTION.

3. INSTALL EACH FIXTURE IN A MANNER RECOMMENDED BY THE FIXTURE MANUFACTURER.

4. SUSPEND ALL FIXTURES IN AREAS OF EXPOSED DUCT AND PIPE WORK TO AVOID CONFLICTS.

5. PROVIDE BALL ALIGNERS AND SWAY ADAPTORS ON ALL PENDANT MOUNTED FIXTURES WITH RIGID SUPPORT SYSTEM.

6. PROTECT ALL FIXTURES FROM DUST, DEBRIS, AND DAMAGE DURING CONSTRUCTION.
- 3.5 FIRE ALARM SYSTEM
1. MODIFY EXISTING FIRE ALARM SYSTEM TO SUIT RENOVATIONS AS DESCRIBED HEREAFTER AND AS SHOWN ON PLANS. ALL MODIFICATIONS TO BASE BUILDING FIRE ALARM SYSTEM SHALL BE DONE BY THOMAS ELECTRIC (BASE BUILDING ELECTRICAL CONTRACTOR)

2. CONFIRM EXISTING FIRE ALARM SYSTEM IS FULLY OPERATIONAL PRIOR TO ANY WORK DONE. NOTIFY CONSULTANT OF ANY PRE-EXISTING DEFICIENCY ITEMS PRIOR TO STARTING WORK. THE SYSTEM IS ASSUMED TO BE FULLY OPERATIONAL WITH NO DEFICIENCY IF NO NOTIFICATION FROM THE CONTRACTOR IS RECEIVED, AND CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SYSTEM IS FREE OF ALL DEFICIENCIES AT COMPLETION OF PROJECT.

3. PROVIDE ALL DEVICE AND EQUIPMENT AS INDICATED ON THE DRAWINGS AS SPECIFIED HEREIN AND AS REQUIRED TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.

4. PRIOR TO SUBSTANTIAL COMPLETION, PROVIDE A COMPLETE FIRE ALARM VERIFICATION REPORT IN ACCORDANCE WITH ULC STANDARDS INDICATING COMPLETE OPERATION OF FIRE ALARM SYSTEM FREE OF ANY DEFICIENCIES.
- 3.7 EMERGENCY LIGHTING BATTERY SYSTEM
1. CONNECT TO DEDICATE LIGHTING CIRCUIT AND INTERLOCKED WITH LOCAL LIGHTING CIRCUIT.
- 3.8 EXIT SIGNS
1. SUPPORT CEILING MOUNTED EXIT SIGNS DIRECTLY FROM THE CEILING SUPPORT SYSTEM. DO NOT SUPPORT EXIT SIGNS FROM T-BAR LITES OR DRYWALL CEILINGS. PROVIDE HORIZONTAL BACKING SUPPORT SYSTEM TO SUPPORT EXIT SIGNS OFF CEILING SUPPORT SYSTEM.
- 3.9 WIRE, CABLES AND RACEWAYS
1. INSTALL ALL CONDUCTORS IN RACEWAY (RIGID GALVANIZED STEEL, RIGID ALUMINIUM OR EMT) UNLESS OTHERWISE NOTED BELOW.

2. ARMoured CABLE (TYPES, BK AND AQ) MAY BE USED IN THE FOLLOWING LOCATIONS. ARMoured CABLE IS NOT PERMITTED TO BE USED TO EXTEND BRANCH CIRCUITS TO PANEL BOARDS.

3. FINAL DROPS TO LUMINAIRES WITH A MAXIMUM LENGTH OF 1500MM. DAISSY CHAINING OF LUMINAIRES IS NOT PERMITTED.

4. FINAL CONNECTIONS TO MOTORS/TRANSFORMERS OR VIBRATING EQUIPMENT.

5. CONNECTIONS BETWEEN 15 AMPERE, 120 VOLT SINGLE OR DUPLEX RECEPTACLES WITHIN A COMMON LENGTH OF STRAIGHT WALL OF STUD AND DRYWALL CONSTRUCTION IN ONE AND THE SAME ROOM. HORIZONTAL LENGTH NOT TO EXCEED 7000 MM. CEILING JUNCTION BOX TO BE LOCATED NO FURTHER THAN 900MM FROM THE PARTITION WALL.

6. PROVIDE RIGID GALVANIZED STEEL RACEWAY FOR ALL CONDUCTORS ROUTED IN CONCRETE OR SUBJECT TO MECHANICAL INJURY.

7. INSTALL ALL CONDUIT AND RACEWAY PARALLEL TO BUILDING GRID LINES.

8. CONCEAL ALL CONDUCTORS/RACEWAY UNLESS NOTED OTHERWISE.

9. PROVIDE A NYLON PULL CORD IN ALL EMPTY CONDUITS.
- 3.10 EQUIPMENT CONNECTIONS
1. PROVIDE CONNECTION TO ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO MOTORS, HVAC EQUIPMENT, ELECTRICAL WATER HEATERS OR OWNER SUPPLIED EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS.

2. CONFIRM EXACT LOCATION OF ALL EQUIPMENT ON SITE AND COORDINATED WITH EQUIPMENT INSTALLER.

3. UNLESS OTHERWISE SHOWN, CONNECT MOTORS AND OTHER VIBRATING EQUIPMENT WITH A SUITABLE LENGTH OF WATERTIGHT FLEXIBLE CONDUIT WITH WATER TIGHT CONNECTORS.

4. GROUND MOTORS TO THE RIGID CONDUIT SYSTEM USING EITHER A SEPARATE GROUNDING CONDUCTOR IN THE FLEXIBLE CONDUIT OR WITH THE BONDING CONDUCTOR IN THE FLEXIBLE CONDUIT USING THE SPECIAL BRASS GLANDS SUPPLIED FOR THE PURPOSE.
- 3.11 GROUNDING
1. EXTEND THE BASE BUILDING GROUNDING SYSTEM TO SUIT THE BRANCH DISTRIBUTION ARRANGEMENT OUTLINED ON THE DRAWING AND AS CALLED FOR HEREIN.


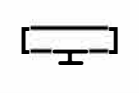
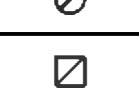







2. THE GROUNDING SYSTEM IS TO CONFORM TO THE LATEST EDITION OF THE BC ELECTRICAL CODE AND IS TO MEET THE REQUIREMENTS OF THE LOCAL INSPECTION AUTHORITY.




3. GROUNDING SYSTEM FOR COMMUNICATION ROOM SHALL COMPLY WITH EIA/ITA 607.

4. GROUND CONDUCTORS SHALL BE INSTALLED FROM A NEW COPPER GROUND BUS TO BE LOCATED IN ELECTRICAL ROOM AT NEW PANEL TUBS, GROUND BUSES, EQUIPMENT ETC. THEY SHALL TERMINATE WITH BUNDDY TYPE CONNECTORS INSTALLED TO MANUFACTURER'S INSTRUCTIONS.
- 3.13 RECEPTACLES
1. INSTALL ALL RECEPTACLES IN THE VERTICAL PLANE UNLESS OTHERWISE NOTED.

2. INSTALL RECEPTACLES VERTICALLY IN GANG TYPE OUTLET BOX WHEN MORE THAN ONE DEVICE IS INDICATED IN A SINGLE LOCATION.

3. INSTALL RECEPTACLES WITH GROUND PIN DOWN.

LIGHTING SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
 A	RECESSED LUMINAIRE TYPE 'A' ON CIRCUIT B-7 SWITCHED BY LOCAL SWITCH 'a' (TYPICAL CIRCUITING DESIGNATION FOR ALL LIGHTS AND RECEPTACLES)
 B	WALL MOUNTED LUMINAIRE
 C	RECESSED DOWN LIGHT - ROUND SHAPE
 D	RECESSED DOWN LIGHT - SQUARE SHAPE
 E	EMERGENCY BATTERY PACK WITH 30MINUTES LIGHTING WITH INTEGRAL LIGHTING HEADS
 F	CEILING MOUNTED EXIT LIGHT FIXTURE
 G	WALL MOUNTED EXIT LIGHT FIXTURE (ARROW DENOTES EGRESS DIRECTION)
 H	SINGLE POLE LINE VOLTAGE SWITCH
 I	OCCUPANCY SENSOR CEILING MOUNTED
 J	VACANCY SENSOR WALL MOUNTED

POWER SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
 K	15 AMP 125 VOLT DUPLEX RECEPTACLE
 L	15 AMP 125 VOLT QUAD RECEPTACLE
 M	JUNCTION BOX

DRAWING LIST:

DWG. No.	DESCRIPTION (TITLE)
E-0	ELECTRICAL COVER SHEET
E-1	POWER AND LIGHTING PLANS

CIVIC ADDRESS:

2687 JAMES ST, DUNCAN, BC

FIXTURE TAG	SOURCE												ELECTRICAL			MOUNTING			REMARKS
	DESCRIPTION	FINISH	MANUFACTURER	PRODUCT LINE	AGENT	TYPE	OUTPUT	COLOR TEMP (K)	MIN CRI	COLOR CONSISTENCY (SDMC)	L70 RATING (HRS)	QTY OF LAMPS	DIMMING	CONTROL SIGNAL	VOLTAGE	STYLE	MATERIAL	LOCATION	
L1	RECESSED 2" LED	WHITE	DAY-BRITE	CLEAR APPEAL	SLS	LED	3000	3000	80	<4	>70,000	N/A	N/A	N/A	120VAC	RECESSED	DRYWALL	CORRIDORS, WASHROOMS	PROVIDE LUMINAIRE C/W DRYWALL KIT
R1	RECESSED 4" DOWNLIGHT	WHITE	LIGHTOLIER	LYTECASTER	SLS	LED	650	3000	80	<4	>50,000	N/A	N/A	N/A	120VAC	RECESSED	DRYWALL	SINKS AND WASHROOM STALLS	PROVIDE LUMINAIRE C/W DRYWALL KIT
R2	RECESSED 6" DOWNLIGHT	WHITE	LIGHTOLIER	LYTECASTER	SLS	LED	1500	3000	80	<4	>50,000	N/A	N/A	N/A	120VAC	RECESSED	DRYWALL	LOBBY, ART INSTALLATION	PROVIDE LUMINAIRE C/W DRYWALL KIT
EXIT	ALUMINIUM LOW PROFILE EDGE LITE LED PICTOGRAM EXIT SIGN	ALUM	EMERGH-LITE	EAE SERIES	SLS	LED	N/A	N/A	N/A	N/A	N/A	N/A	NONE	N/A	120VAC	SURFACE	DRYWALL	AS NOTED	OR APPROVED ALTERNATE

GENERAL NOTES

- A. ALL LUMINAIRE FINISHES TO BE APPROVED PRIOR TO ORDERING.
- B. TYPE OF CONSTRUCTION FOR MOUNTING ARE INDICATED FOR REFERENCE ONLY. CONFIRM ALL ASSEMBLY DETAILS WITH ARCHITECTURAL DRAWINGS PRIOR TO ORDERING. NO EXTRAS WILL BE ALLOWED FOR RE-ORDERING OF LUMINAIRES OR MOUNTING KITS TO MATCH ASSEMBLY TYPES SHOWN ON ARCHITECTURAL PLANS. MOUNTING HEIGHT OF ALL SUSPENDED LUMINAIRES TO BE CONFIRMED ON SITE

PROJECT:

ISLAND SAVINGS
CENTRE
WASHROOM
UPGRADES

CLIENT:

COWICHAN
VALLEY
REGIONAL
DISTRICT

STELLER
ARCHITECTURAL CONSULTING
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Project Reference No: 140010.000



2017-12-21

ISSUED FOR:	DATE:
CLIENT REVIEW	24AUG2017
CLIENT REVIEW	19SEP2017
ISSUED FOR RFQ	30OCT2017
RE-ISSUED FOR RFQ	02JAN2018

DRAWN BY:

PK

SAC PROJECT NO:

CVRD-01-17

SCALE:

AS NOTED

DRAWING TITLE:

ELECTRICAL
COVER SHEET

DRAWING NUMBER:

E-0

GENERAL NOTES

A. REUSE EXISTING CIRCUITS FOR NEW RECEPTACLES AND LIGHTS

DRAWING NOTES

1

REMOVE ALL ELECTRICAL DEVICES INCLUDING LIGHTING, RECEPTACLES, EMERGENCY LIGHTS ETC. UNLESS OTHERWISE NOTED. REFER TO RENOVATION PLANS FOR NEW POWER AND LIGHTING SCOPE

2

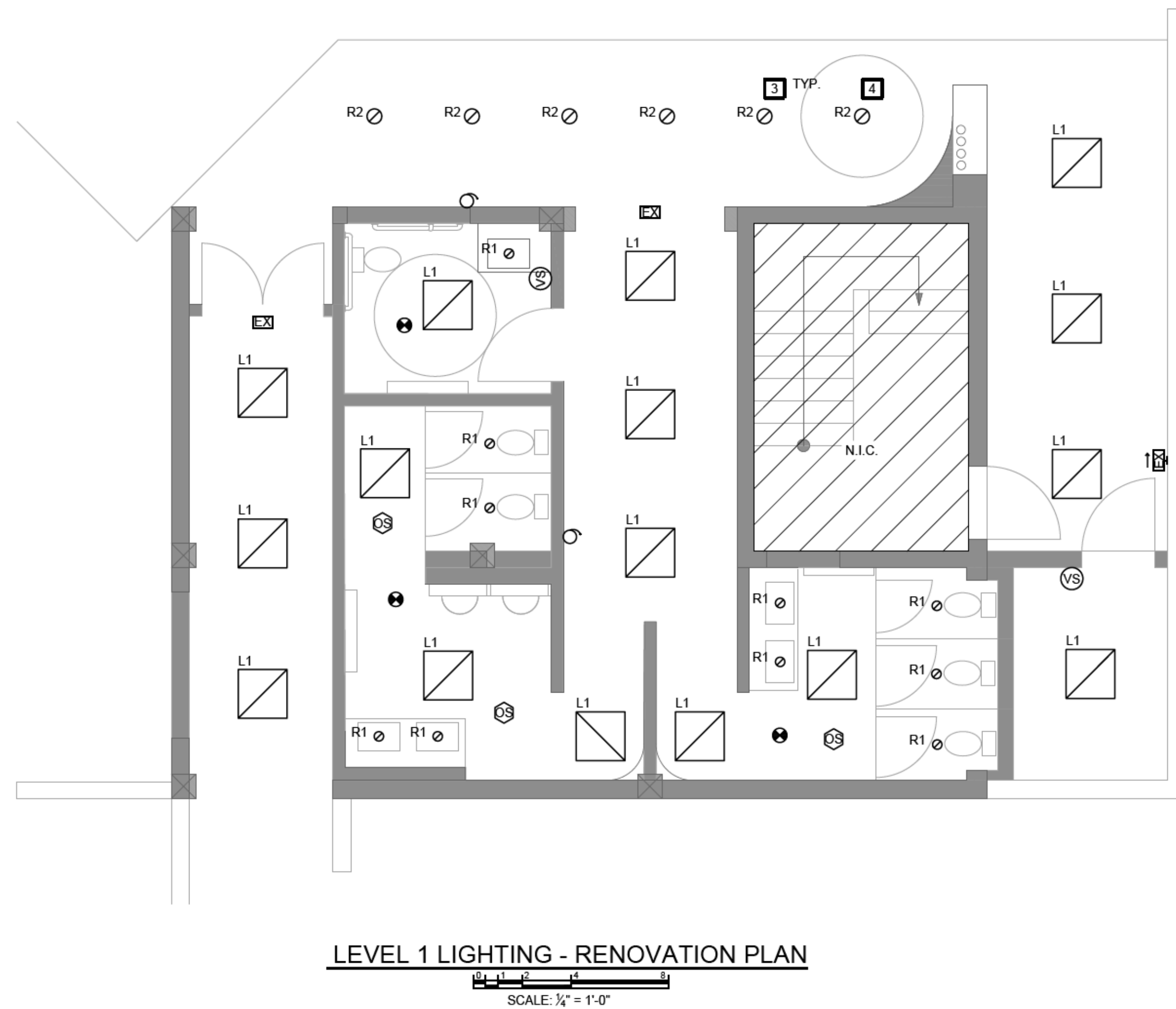
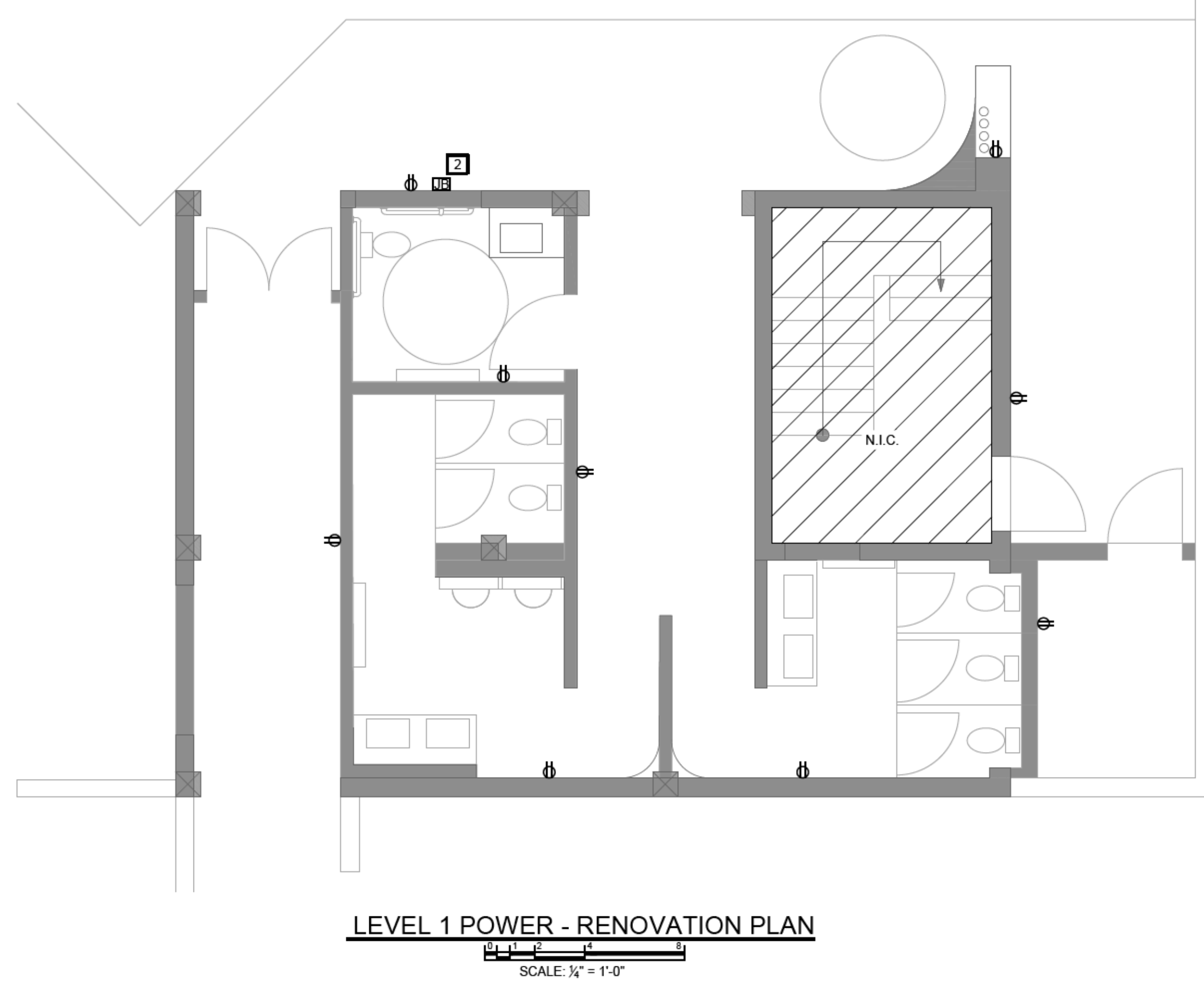
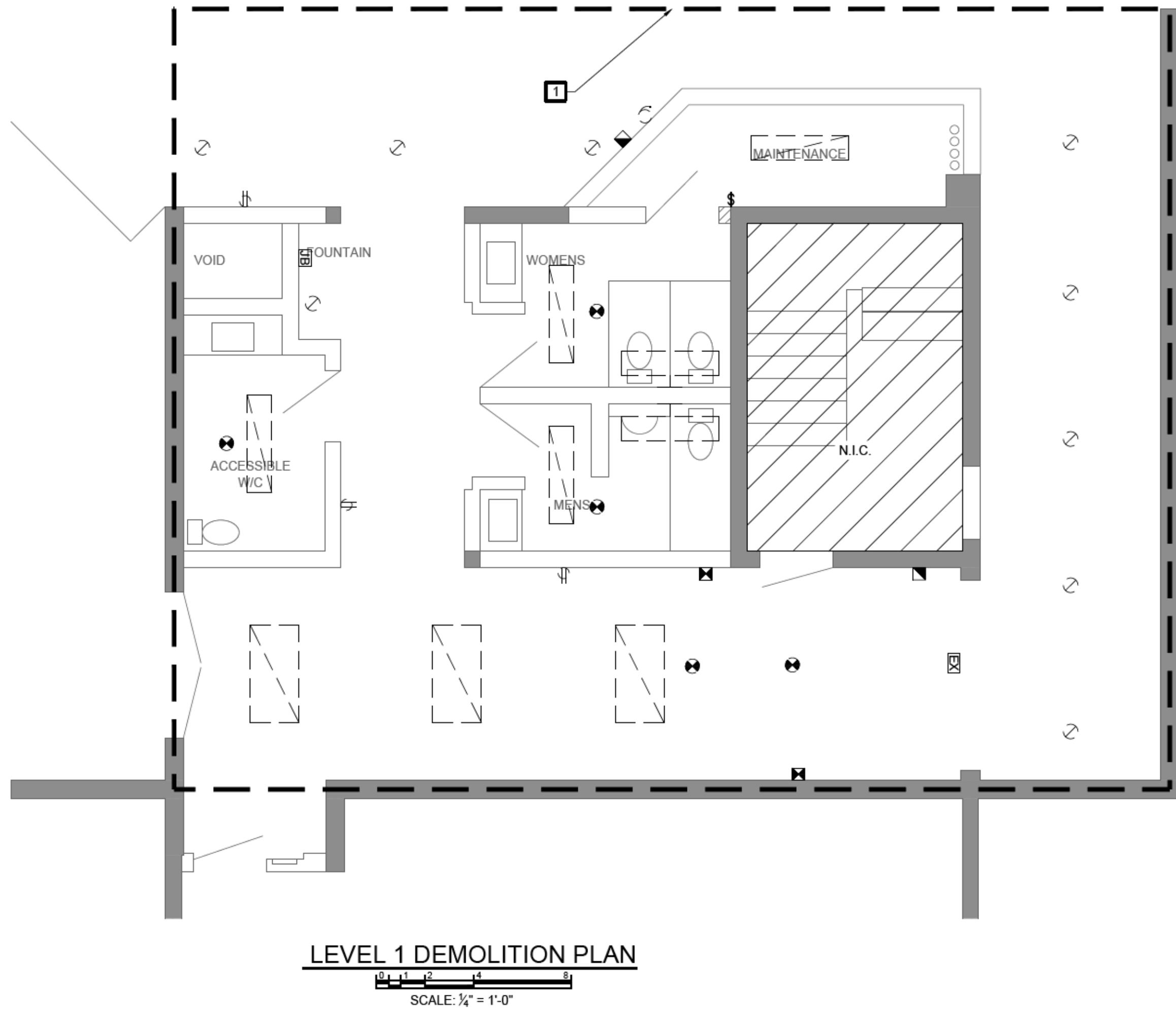
RELOCATE 120V 1ø CIRCUIT FOR CHILLED WATER FOUNTAIN

3

MATCH FIXTURE STYLE TO EXISTING LOBBY LIGHTING

4

PROVIDE DOWN LIGHT FOR ART INSTALLATION. CONFIRM EXACT LOCATION WITH ARCHITECTURAL DRAWINGS



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DRAWN BY:	PK
SAC PROJECT NO:	CVRD-01-17
SCALE:	AS NOTED
DRAWING TITLE:	LEVEL 1 POWER AND LIGHTING

DRAWING NUMBER:

E-1