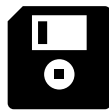


**(INSERT OWNER NAME HERE)**



(Insert Project Logo Here)

## **PROJECT MANUAL**

**(INSERT PROJECT NAME AND ADDRESS)**

**PUBLICATION DATE: (Insert date of publication)**

**Commented [CW1]: DATE OF PUBLICATION**

This will be a contract document, so change this date to the same date you issue your documents for tender. The "date of publication" will be the contractual start of the project process - .if the document is ever revised during the tender or construction process, leave publication date the same but add an R1, R2... revision indicator after the ORIGINAL date of publication.

## ACKNOWLEDGEMENTS

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In 2017, Gwa'sala Nakwaxda'xw Nation commissioned this document to act as part of a comprehensive system of project management developed for the Band, in anticipation of their future growth plans. It has been created in order to give their project stakeholders – both internal and external – more cohesiveness and clarity of the Band's minimum expectations on future building projects. This document is intended to function as a supplementary document to a project's Design Document package.

Gwa'sala Nakwaxda'xw Nation would like to thank AFC Construction and Morrison Hershfield for their technical assistance on this project. Gwa'sala Nakwaxda'xw Nation, AFC Construction, and Morrison Hershfield assume no legal responsibility for the end users' reliance on the information contained within this document.

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**Commented [MP2]:**  
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To update it, simply hover your cursor anywhere in the Table of Contents text, click the right mouse button to open the options list.

Select "Update Fields".

It should ask you if you want to update only the page numbers or the whole table, choose the whole table. Hopefully the edits you have done do not affect the headings.

If you find that the table does not display accurately after you update,

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# 1. INVITATION TO TENDER

## 1.1. PROJECT DESCRIPTION

The Project being undertaken is the construction of two wood-framed two-level side-by-side duplexes, located at (address), (City). Construction is on reservation land, but it is expected to meet (2018 BC Building Code) requirements, current to the date of issuance of this Manual. All construction methods and materials are required to meet the quality standards of the (Homeowner Protection Act **warranty** program) currently in effect at time of construction.

**Commented [CW3]: PROJECT DESCRIPTION**  
Update this section with a paragraph describing the intention of the project. How many buildings total in the project, total number of units, type of building (single family, duplex, etc), intended use of project, intended user group.  
  
Expand this section further if the project or site has any special conditions that the contracts will need to know about in order to accurately price the work – including soil conditions, flood plains, archeological conditions, environmental preservation, cultural sensitivity, etc.

## 1.2. PROJECT TEAM

- 1) OWNER - Legal name and contact information (party to contract, billing, etc.).
- 2) CONSTRUCTION MANAGER/Owners Agent (if applicable) – name and contact information.
- 3) Designer with input into project – name and contact information.
- 4) Other relevant stakeholders - municipal, federal, regional, band liaison, etc.

**Commented [MP4]:** Users should update all items in this section that are bracketed with accurate references applicable to their project and own standards of reference.

## 1.3. CONTRACT DEFINITION

This contract will be a FIXED PRICE commitment, based on the requirements contained in the following key documents:

- [Bid Form](#) immediately following this section is a Form required to be completed by all Contractors pricing this job. Complete only the sections relevant to the scope of work being quoted. This form will be the basis for the Contract, and the Schedule of Values for evaluation of completion of work.
- [General Specifications](#)– general quality standards of performance for all construction projects undertaken by the Band.
- [Project Material Schedules](#) - the minimum standard of finishes expected on this project. Alternates are to be proposed by the Contractor at time of Tender, or by special request. Must be approved by the Owner prior to installation.
- [Typical Construction Details](#) - separate attachment, contains a booklet of detail drawings describing the construction methodologies typically used on Band’s projects, expected to be conformed to on this project. Alternate detailing methods must be approved by the Owner prior to installation.
- [Project Design Drawings](#) for the specific design requirements of this project.

**Commented [CW5]: PROJECT TEAM**  
Update this section to include all important project participants that the Contractor will potentially need to be in contact with over the duration of the work.  
  
Delete any items from this list that are deemed unnecessary, add any additional participants that are deemed relevant.

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#### 1.4. INSTRUCTIONS TO BIDDERS

Tender submittals are due by \_\_\_\_\_ at \_\_\_\_ PM. Late submittals will not be considered.

Tender submittals for this project are to be delivered either via fax to \_\_\_\_\_, via email to \_\_\_\_\_ or via hard copy delivered to \_\_\_\_\_.

Contractors are invited to the public tender closing, which will be held at (LOCATION ADDRESS), (City).

All submitted tenders are to include valid Certificate of Insurance, a current Worksafe BC Clearance Letter, and evidence of the Contractor's registration with the Homeowner Protection Office as a Licenced Builder (if applicable – refer to [Section 1.1 – Invitation to Tender: Project Description](#) and [Section 4.1 -01 01 10 Project Operations](#) of the Manual to confirm project specific standards).

Questions regarding this information package, or the project in general, are to be directed to \_\_\_\_\_ at (insert telephone number) or (insert email address).

Read this Bid and Contract Form, including the "General Conditions of Contract" outlined on page 2, and any supplemental documents included with this form (the "Contract Documents").

Complete Sections 2.1, 2.2, 2.3, and 2.4 of the Bid Form below, and deliver the completed 3-page Bid Form to the bid submission location noted in Section 1 before the bid closing date and time stated in the Project Manual. Type or print legibly. Bids may be hand-delivered, couriered, mailed or faxed to the bid submission location. You are invited to be present at the bid opening.

The Bid Form will become a legally binding contract if and when Part 2.5 of this form is completed by us and a copy is returned to you.

The lowest or any bid may not necessarily be accepted. We reserve the right to reject any and all bids.

***End of Section***

**Commented [MP6]:**  
INSTRUCTIONS TO BIDDERS  
Complete the missing information required for this section as it applies to your project.

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## 2. BID FORM

### 2.1. IDENTIFICATION/LOCATION OF PROJECT

Description of Project	Municipal Address
------------------------	-------------------

### 2.2. SCOPE OF WORK

Check boxes of those sections which apply to the scope of work being priced, and enter amount for each line. Refer to Specifications for more details.

SPECIFICATION SECTION:	PRICE:
<input type="checkbox"/> Div 2 - Below-grade services	\$
<input type="checkbox"/> Div 3 - Concrete forming and finishing	\$
<input type="checkbox"/> Div 6 - Framing and accessories	\$
<input type="checkbox"/> Div 6 - Lumber supply	\$
<input type="checkbox"/> Div 6 - Engineered items supply	\$
<input type="checkbox"/> Div 6 - Timber framing	\$
<input type="checkbox"/> Div 6 - Wood decks, patios, fencing	\$
<input type="checkbox"/> Div 7 - Below-grade barriers and insulation	\$
<input type="checkbox"/> Div 7 - Interior barriers and insulation	\$
<input type="checkbox"/> Div 7 - Roofing	\$
<input type="checkbox"/> Div 7 - Cladding and exterior carpentry	\$
<input type="checkbox"/> Div 7 - Rainwater collection system	\$
<input type="checkbox"/> Div 8 - Door and hardware supply	\$
<input type="checkbox"/> Div 8 - Windows and glazing supply	\$
<input type="checkbox"/> Div 9 - Gypsum wallboard	\$
<input type="checkbox"/> Div 9 - Floor finishes	\$
<input type="checkbox"/> Div 9 - Coatings	\$
<input type="checkbox"/> Div 9 - Cabinetry	\$
<input type="checkbox"/> Div 9 - Finish carpentry	\$
<input type="checkbox"/> Div 10 - Bathroom accessories	\$
<input type="checkbox"/> Div 10 - Window coverings	\$

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<input type="checkbox"/> Div 10 - Fire extinguishers	\$
<input type="checkbox"/> Div 15 – HVAC	\$
<input type="checkbox"/> Div 15 – Plumbing	\$
<input type="checkbox"/> Div 15 – Sprinklers	\$
<input type="checkbox"/> Div 16 – Electrical	\$
<input type="checkbox"/> Div 16 – Low-voltage	\$
<b>TOTAL BID PRICE FOR SELECTED SCOPE OF WORK</b>	<b>\$</b>

2.3. BID COMMITMENT

We, the undersigned, having read the Contract Documents and having visited the site and examined all conditions affecting the Work, hereby bid and agree to carry out the Work, by the specified completion date, for the stipulated price, **excluding GST**, of:

\$ \_\_\_\_\_ (TOTAL PER BREAKDOWN IN SECTION 2.2)

(the "Contract Price")

Bidder's Full Name and Address ("the Contractor") Executed this \_\_\_\_\_ day of \_\_\_\_\_,

Signature \_\_\_\_\_ Witness's Signature \_\_\_\_\_

Name and Title \_\_\_\_\_ Witness Name and Title \_\_\_\_\_

2.4. BID ACCEPTANCE

Bid Accepted and executed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ by an authorized agent of Gwa'sala- Nakwaxda'xw Nation

Signature \_\_\_\_\_ Witness's Signature \_\_\_\_\_

Name and Title \_\_\_\_\_ Witness Name and Title \_\_\_\_\_

2.5. TERMS OF CONTRACT

1. Unless otherwise specified, the Contractor will provide and pay for all materials, labour, tools and equipment necessary for the execution of the outlined Scope of Work. Unless otherwise specified, all materials will be new. The Contractor will not employ any unfit person or anyone not skilled in the work assigned to him/her.



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2. For products specified by proprietary specifications and accompanied by words indicating that substitutions will not be accepted, The Contractor will select only products or manufacturers named. Substitutions must be approved.
3. The performance of this work will establish an independent, arms-length relationship. No employer/employee relationship will be created between the Owner and the Contractor, or between any employees, subcontractors or agents of either party to the contract. No rights, privileges, benefits or compensation, other than those which are expressly set out in the contract, will apply.
4. The Contractor will not assign this contract or sublet this contract as a whole, without the Owner's written consent. Granting consent will be at the Owner's sole discretion.
5. The Owner and the Contractor may, by giving written notice of termination to the other party, terminate this contract as a result of documented failure to perform the contractual responsibilities set out in the Project Manual.
6. The Contract Price excludes GST. The contract scope, and all related purchases, are eligible for tax exemption. The successful Bidder will be given a copy of the Owner's tax exemption certificate.
7. Contractor is to take all reasonable precautions necessary to protect the Work and the Property from damage during performance of this contract and will make good any damage caused by themselves or any of their subcontractors. The Contractor will keep the work site free from accumulations of waste material and will leave the premises "broom clean" or its equivalent.
8. The Contractor will hold the Owner harmless from any and all third party claims, demands, or actions for which the Contractor is legally responsible, including those arising out of negligence or willful acts by the Contractor's employees or agents. This hold harmless will survive the contract.
9. You will, at your own expense and without limiting your liabilities under this contract, insure your operations under a general liability insurance policy, placed with an insurer that complies with the Insurance Act, in the Province of the Work. Coverage shall be in an amount not less than \$2,000,000.00 inclusive per occurrence, insuring against bodily injury, personal injury and property damage, including loss of use. Such insurance shall include blanket written contractual liability.
10. Time is of the essence of the contract. You will perform the Work expeditiously and with adequate forces to complete the Work by the completion time specified.
11. Neither final payment, nor any provision in the contract will relieve the Contractor from responsibility for faulty materials or workmanship which appear within one year from the date of completion of the Work, or such other time as may be specified for parts of the Work. The Contractor will remedy any defects, and pay for any damage to other work resulting from such defects, which appear within such time period(s).
12. We may order changes in the Work by means of a Change Order. The change in Contract Price and Scope of Work will be agreed upon in writing between the Contractor and the Owner, before proceeding with the change in the Work. If the Contractor intends to claim any additional payment in excess of the Contract Price, the Contractor will give notice of their intention to the Owner promptly after becoming aware of the circumstance giving rise to the claim. The Owner will make bona fide efforts to resolve the claim as soon as possible after receipt thereof. When we issue a final written position on the claim, or if we fail to do so within a reasonable time, and the claim remains unresolved, the claim will be considered a dispute.
13. The Contractor will permit the Owner, or anyone acting on the Owner's behalf, to review, inspect and critique the performance of the Work. The Owner may, at the completion of the Work, evaluate the performance of the Work. The results of the performance evaluation will be reviewed with the Contractor.

***End of Section***

### 3. DEFINITIONS

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**Administrative Terms:**

*Construction Manager* – Representative or agent of the Owner, not a party to the contract but a person or organization which is authorized to act on behalf of the Owner’s interests. Contractor will be advised of Construction Manager that has been granted this authority.

*Project Drawings* - The combined Typical Construction Details and Project Drawing set issued to the Contractor for Tender, which become the basis of this Contract.

*Scope of Work* – The Contractor’s list of specific contract inclusions and exclusions, based on the Bid Form in this Manual, and further written negotiations between the Contractor and Owner or *Construction Manager*. If an item of work listed in the related work sections of this *Specification* is not specifically excluded from the *Scope of Work*, it is presumed to be included, and non-performance will result in its addition to the *Deficiency Holdback*.

*Specifications* – The quality standards outlined in Section 4 of this Manual.

*Material Schedules* - The list of finish materials required on this Project. Any alternates from these specifications are to be forwarded as a *Submittal*.

*Submittal* – For any alternates from the Project’s Material Schedules found in this Manual, the Contractor is required to prepare a written request for alternate, which is to be approved in writing by the Owner or *Construction Manager*.

*Substantial Completion* – At approximately 97% complete the Contract, the Contractor is required to formally request inspection of the work for written authorization of *Substantial Completion*. The Owner is required within 10 business days to prepare a formal *Deficiency List* to evaluate the value of incomplete work.

*Deficiency List* – At the Contractor’s *Request for Substantial Completion*, a list of work items that are non-compliant with the *Specifications*, or *Project Drawings*.

*Deficiency Holdback* – The Contractor does not have lien rights on Native land, so no lien holdback will be retained on this contract. However, the Owner will be withholding a percentage of each invoice for deficiency holdback, which will be released to the Contractor upon completion of the *Deficiency List*.

*Change Order* – Approval of additional costs or credits resulting from changes to the contractor’s *Scope of Work*.

*Warranty* – The Contractor is expected to remedy any contractual deficiencies after *Substantial Completion*, for the length of time in keeping with the requirements of the Homeowner Protection Act.

**Technical Terms:**

*Exterior surfacing* – General term referring to all exterior ground finishes, including asphalt paving, pea gravel, concrete sidewalk, drives, or roadways, paver hardscape surfacing, and landscape.

*Embedded items* - - General term referring to any items cast in to the concrete slab, foundations, or exterior surfacing, required for structural, mechanical, or electrical connections. Owner will not be held responsible for the cost of remedial work for any missed or mis-placed embedded items.

*Engineered items* - General term referring to any specialty structural, mechanical, or electrical items that are supplied under this contract, such as heat pumps and trusses. *Engineered items* assume the supplying contractor will evaluate assume legal responsibility for the adequacy of the supplied item to meet the requirements of the project’s intent.

*Membrane* - General term referring to any surface intended to resist 100% of moisture penetration from the structure below it.

*Rainscreen* - A system intended to repel moisture from away from the building structure by preventing it from being trapped anywhere against building materials. The term “rainscreen” refers specifically to the channels/cavities created to drain and vent the space behind the wall cladding, normally using pressure treated strapping or the like, but the channels create a positively-lapped and integrated protection system that is tied in with the wall flashings, exterior building wrap, self-adhered membrane, shims, sealants, etc.

*Firestopping* – The method of preventing airflow through fire-rated separations, such as walls and floors between suites, garages, common utility rooms, etc.

*Emergency systems* – The mechanical and electrical systems designed for life safety, which are normally determined by building code. Includes fire alarms, sprinklers, carbon monoxide detectors, exit door hardware, etc.

***End of Section***

## 4. GENERAL SPECIFICATIONS

### Division 1. General Conditions

#### Section 01 01 10 - Project Operations

1. **PROJECT INSURANCE** – The Owner will provide the project with Insurance coverage during the course of construction, in effect until Substantial Completion.
2. **LIABILITY INSURANCE** – The Contractor is required to provide certificate of current Liability Insurance, naming the Owner as “Additional Insured” in its coverage, in the aggregate amount of no less than \$2 million, and maintain active insurance coverage throughout the course of the project. Include certificate with each progress billing. Non-current coverage will result in delayed payment of draw.
3. **QUALIFICATIONS AND WARRANTY** – The Contractor (is /is not) required to provide HPO warranty coverage, but is required to be qualified/registered as a HPO builder. In lieu of the HPO coverage, if applicable, the Contractor is required to provide warranty as follows:
  - Minimum 1- year warranty on construction workmanship.
  - Minimum 2-year manufacturer’s warranty on mechanical equipment.
  - Minimum 25-year manufacturer’s warranty on roofing and cladding materials.
  - Minimum 10-year manufacturer’s warranty on windows (including sealed glass units)
4. **WORKSAFE** –
  - The Contractor is required to provide Worksafe coverage for all staff and sub-trades employed on site, and provide proof of current account before start of work on site.
  - Non-current account status at any time during the project may result in delayed payment of progress billing.
  - The Contractor is expected to maintain a safe work zone for all workers and sub-contractors.
  - The Contractor is required to conduct regular (monthly, minimum) documented meetings with all available field personnel to discuss mitigating potential workplace hazards.
5. **ENVIRONMENTAL PROTECTION** – The Contractor is required to ensure that debris, washout sediment, fill materials, etc. resulting from project activity does not enter the storm system or any bodies of water. Ensure that a comprehensive erosion control plan is implemented to protect waterways at all times.
6. **WASTE REMOVAL** – The Contractor is responsible for own waste removal from the site, on a weekly basis or as requested to maintain an orderly worksite. The Contractor is required to separate cardboard and metals from the general waste.

**Commented [MP7]:**

REVIEW THE “GENERAL CONDITIONS” SECTION IN ITS ENTIRETY, AND MAKE WHATEVER EDITS YOU LIKE TO MAKE IT ALIGN WITH YOUR OWN POLICIES.

**Commented [MP8]:**

User must determine if the project’s builder is required to be covered by 3<sup>rd</sup> Party warranty or supply corporate warranting of workmanship.

**Commented [MP9]:**

Note that “Worksafe” is the governing body for workplace safety in BC. If this document is being employed outside of BC, please replace the name with the relevant one in your jurisdiction.

- 7. SECURITY** – The Contractor is required to provide own security for uninstalled materials, tools, and equipment brought to site, and provide own insurance for loss. Once materials have been installed, or billed for, they become the property of the Owner, and are covered by the Project Insurance Policy.
- 8. CLEANLINESS** –
- The Contractor is expected to maintain an orderly, presentable and safe site at all times. Material storage is to be organized and allow for easy traffic flow through the project, and waste material is not permitted to accumulate either inside the buildings or scattered around the site.
  - The Contractor is to perform minimum weekly sweeps inside the buildings during framing and finishing.
- 9. SUBMITTALS**
- 9.1.** Supply the Owner with an electronic submittal of all shop drawings, product data, cut sheets, test certificates, etc. listed in the Submittals Schedule below.
- 9.2.** Courier or hand deliver all hard samples required by the Submittals List below. Ensure samples are successfully delivered to Construction Manager, and not left on site.
- 9.3.** Provide all submittals listed under this section within THREE weeks of contract award to ensure that supplied product meets specified performance criteria prior to ordering of materials.
- 9.4.** Any submittal returned to the Contractor for resubmittal must be returned for review to Owner within THREE business days to minimize potential delay to schedule.
- 9.5.** Owner will not accept responsibility for project delay as a result of late submittals. Owner commits to return reviewed submittals with comments within ONE week of receipt.
- 9.6. REQUIRED SUBMITTALS LIST:**
- Cut sheets and samples for any proposed alternates for light fixtures, plumbing fixtures, bath accessories, finish materials if differing from those listed in Section [Project Materials Schedules](#). Submittals are not required if contractor is using the specified products from the [Materials Schedules](#).
  - Cut sheets, drawings, and performance data for any emergency systems required by the project's [Design Drawings](#)
  - Cut sheets and performance specifications for proposed mechanical systems
  - Engineered shop drawings for trusses and other engineered wood items
  - Shop drawings for all cabinetry and countertops, including finish samples
  - Concept drawings for any railings, guards, decks, patios, and fencing (if required by the project's [Design Drawings](#))
- 10. INSPECTIONS AND HOLD POINTS** - The Contractor is required to advise the Owner (or designated Owner's Representative) upon completion of the following list of milestones for each separate building, for code compliance:

- Complete dampproofing and footing/storm drainage, prior to backfilling against concrete;
- Complete framing and plywood installation, before installation of building wrap - includes seismic hardware, shear-walls, and diaphragm, as required by the project's [Design Drawings](#);
- Submittal of test report indicating moisture level readings at every room, taken at the sill plate and each window sill, indicating moisture content of wood is **below 15% at all locations**. Completed, compliant report is to be submitted prior to any exterior side enclosure;
- Completed plumbing (and sprinkler, if required) rough-in and fixture layout;
- Completed electrical rough-in and fixture layout;
- Complete firestopping of all penetrations through framing members at party walls or designated fire separations, prior to start of insulation;
- Complete insulation and vapour barrier installation, prior to sealing of air barrier, ensuring that all penetrations through barrier are fully sealed to poly, rod/caulk/insulate installed in all large gaps.

**11. MOCKUPS** - The Contractor is required to advise the Owner (or designated Owner's Representative) upon completion of the following list on first building in project (one time only) to review quality, aesthetics, and detailing:

- Mockup of first window installation (prior to start of any exterior cladding) - including tie-in to vapour and air barriers, membranes, head and sill flashings, and wood trim;
- Mockup of exterior cladding details – include at least one corner, one base flashing, and a section of all cladding finishes and colors.
- Mockup of finished, painted partition – with example of level 4 drywall finishing, paint finish, and wood trim and base installation.

**12. CHANGES TO CONTRACT**

**12.1.** No deviations from the contract documents, or additional costs related to such changes, will be accepted by the Owner without prior written authorization. Contractor is to make a proposal to the Owner, and advise of potential cost and schedule implications, a minimum of 48 hours prior to requiring approval of said change.

**12.2.** Requested changes to the contract will not be considered approved until the Contractor has received a written Change Order form from the Owner.

**13. PROJECT ACCOUNTING**

**13.1.** Ensure that all Progress Draw Invoices are submitted to The Owner NO LATER THAN the 2<sup>nd</sup> day of the month for previous month of work, for payment by the end of that month.

**13.2.** Ensure that all Progress Draws included a completed Schedule of Values, following the same sectioned format as the Bid Form, with approved change orders listed, in order, after the contract values.

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- 13.3. Progress billing will be reviewed for accurate quantities by the 7<sup>th</sup> of each month by the Owner or Owner's Representative, in the company of the Contractor. Any significant disparity between performed work and billed work will be withheld from payment.
- 13.4. The Owner commits to payment of progress billings within 30 days of the Contractor's submittal for payment.
- 13.5. Contractor to advise Owner within THREE weeks of contract award of any fabrication or delivery items that require a deposit prior to shipment, in conjunction with Submittals.
- 13.6. This contract will be subject to a 10% deficiency holdback, which will be held in a joint account under the names of the Owner and Contractor. Holdback will be paid in full to the Contractor after completion of the

**14. PROJECT CLOSE-OUT (if applicable to the contract):**

**14.1. SUBSTANTIAL PERFORMANCE –**

- 14.1.1. Substantial Performance will be certified by the Owner on a per-building basis, and a copy of the Certificate will be posted on the premises within FIVE business days after being requested.
  - 14.1.2. Substantial Performance will be deemed the equivalent of safe occupancy. The Contract will be deemed substantially complete if, after formal written request from the Contractor, the Owner (or Owner's Representative) agrees that the Contract is at least 97% complete, and safe to occupy.
  - 14.1.3. For scopes of work that do not include completion to Occupancy, Substantial Performance will be certified on a contract-by-contract basis. Contractor must make application to Owner to request review of contractual Substantial Performance.
  - 14.1.4. When the Contractor has reached substantial completion, he should submit written notification to the Owner (or Owner's Representative) a request for certification, along with a list of deficiencies remaining to be completed on the premises, including an estimated value of the work to be completed.
  - 14.1.5. Should the Owner (or Owner's Representative) find, upon inspection, that the premises do not meet the criteria for Substantial Performance, the Contractor will be notified within five days, and provided with a deficiency list of items required to be completed in order to attain certification.
- 14.2. SUBMITTALS –** The Contractor is required to provide the owner with all product literature included in equipment packaging (ie. hot water tank, owner-supplied equipment, emergency systems, ventilation equipment, etc.), including parts warranties, specialty tools, operating instructions, and maintenance requirements. The Contractor is also required to provide the Owner with 2% maintenance stock for all replacement items used on the project (ie. all paint, flooring, tile).
- 14.3. FINAL CLEAN –** The Contractor is required to perform a full top-to-bottom cleaning of all finished surfaces prior to handover of each building to Owner. Final Cleaning is to include

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- Flooring washed
- Baseboards and trim wiped down
- Fingerprints and smudges removed from drywall partitions, ceilings, doors
- Debris and dirt removed from inside window ledges, and manufacturer's stickers removed
- Clean all lighting, inside and outside of fixtures
- Washout of all plumbing fixtures
- Polish door hardware
- Wipedown of appliances and fixtures
- Removal of packaging and labelling from all fixtures and equipment
- Wipedown of cabinetry, inside and outside
- Polish mirrors
- Polish window glass, interior and exterior
- Removal of debris from exterior cladding and roofing
- Removal of waste materials, tools and equipment from building and surrounding property
- Wash and sweep of building sidewalks and drives.

*End of Section*



## **Division 2. Site Works**

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### **Section 02 01 01 – Site Preparation**

#### **1. Scope of Work**

- 1.1. The preparation of the building site, ready for footings, is the responsibility of the Owner.
- 1.2. The removal of waste fill, and supply and placement of import fill, is the responsibility of the Owner.

#### **2. Performance Requirements**

- 2.1. Not applicable.
- 

### **Section 02 02 30 - Below-grade Services**

#### **1. Scope of Work**

- 1.1. Trenching and cover for under-slab electrical and mechanical services, if required by project's [Design Drawings](#). Refer to Section [15 01 10 Piping and Drainage](#), and [16 01 10 Panels, Wiring and Devices](#).
- 1.2. Owner will supply and place import fill. Per Section 02 01 10 above; however; it is the Contractor's responsibility to adequately level, compact, and test for structural stability of base prior to any concrete being installed.
- 1.3. Supply and installation of perimeter storm and footing drainage, filter cloth, and backfill after completion of foundation damp-proofing - Refer to Section [07 01 10 Below-grade Barriers and Insulation](#) for more information.

#### **2. Performance Requirements**

- 2.1. **Do not install any piping or backfill until the foundation concrete has been inspected and damp-proofing / sub-grade insulation has been installed. Refer to Section [01 01 10 Project Operations - Inspections and Hold Points](#).**
  - 2.2. Coordinate rainwater leader locations with downpipe locations.
  - 2.3. Coordinate trenching layout with mechanical and electrical trades.
  - 2.4. After completion of damp-proofing and insulation, backfill against the insulation with free draining, compactible fill containing less than 5% fines. Leave the grade around the buildings low enough to receive 4" concrete sidewalk, plus 8" of exposed concrete foundation wall. Compact a 4' perimeter border, sloped away from the foundation at a minimum of 2%, around each building for placement of sidewalk.
-

**Section 02 02 40 - Site Services and Public Utilities**

**1. Scope of Work**

- 1.1. All site servicing piping and conduit for water supply, drainage, electrical and CATV to the building footings will be the responsibility of the Owner.

**2. Performance Requirements**

- 2.1. Not applicable.

**Section 02 03 10 - Exterior Surfacing**

**1. Scope of Work**

- 1.1. Municipal sidewalks and roadways will be the responsibility of the Owner.
- 1.2. All other sidewalks and pathways are as described in [Section 03 01 10 Concrete Forming and Finishing](#).

**2. Performance Requirements**

- 2.1. Not applicable.

*End of Section*

### **Division 3. Concrete Works**

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#### **Section 03 01 10 - Concrete Forming and Finishing**

##### **1. Scope of Work**

- 1.1. Forming and placement of building foundations, including all required formwork materials, fasteners, and equipment.
- 1.2. Prep work and placement of any interior slabs, if required.
- 1.3. Prep work and placement of concrete topping, if required.
- 1.4. Forming and placement of exterior patios, and perimeter pads and walkways, if required per project's [Design Drawings](#).
- 1.5. Supply of all concrete materials required for this section, including admixtures appropriate to the conditions of placement, as well as any required treatments, special finishes, bonding agents, waterstops, sealants, etc. Contractor is to use own judgement of Best Practices for use of admixtures and accessories.
- 1.6. Supply and installation of embedded concrete anchor bolts for bottom plate attachment.
- 1.7. Supply and installation of any required landscape retaining wall structures. Refer to project's [Design Drawings](#) to confirm.
- 1.8. Supply and installation of all steel reinforcement required in the above. Install bar sizing in keeping with the project's [Design Drawings](#). Where reinforcement has not been specifically detailed on the [Design Drawings](#), the Contractor is to use Best Practices to minimize potential for future failure of the concrete.

##### **2. Performance Requirements**

- 2.1. Ensure that the base below concrete forms and slabs has been prepared and compacted adequately. Hand trim sides and bottoms of forming trenches and remove loose earth prior to placing concrete.
- 2.2. Ensure that the below-grade insulation and vapour barrier has been completed and approved before starting on slab reinforcing placement.
- 2.3. Any exposed concrete vertical walls higher than 2' above grade are to be formed with paper-faced form-ply or multi-pour HDO plywood. For architectural concrete, use form ties with removable cones, and plug holes after removal.
- 2.4. Ensure that any anchor bolts placed in concrete are sufficiently long and set high enough to accommodate full-contact nut placement above a double bottom plate.
- 2.5. Coordinate reinforcement placing and block-outs around locations of embedded items required for other trades.
- 2.6. Reinforcement laps are to be a minimum of 24".

- 2.7. Use non-metallic chairs or suspension wire to support reinforcing bars. Ensure minimum 1.5" of concrete cover of all reinforcing steel.
- 2.8. Do not place shores and mudsills on frozen ground.
- 2.9. Leave formwork in place a minimum of 1 day for footings, 2 days for vertical structures, and 28 days for horizontal structures.
- 2.10. Placing shall be carried out at such a rate that the placed concrete which is being integrated with fresh concrete is still plastic.
- 2.11. Ensure that all cold-joints in below-grade walls have been properly bonded and water-stopped.
- 2.12. Use ¾" chamfer strips at exterior corners.
- 2.13. Fill and sack any voids in concrete larger than 1".
- 2.14. Retain accurate records of conditions of each pour, including quantity, location used, mix criteria, temperature, and admixtures.
- 2.15. Exterior concrete flatwork to be broom-finished with trowelled edges, and with a control joint every 8' maximum.
- 2.16. Interior slabs and topping are to be floated or trowel finished smooth enough to accept floor finishes. Any voids are to be filled and floated, and any sharp edges are to be ground down to 3mm radius.
- 2.17. Ensure that slab placement is finished flat within 3mm tolerance. Exterior and garage slabs are to be placed in such a manner that any water will flow away from the structure, and towards a drainage point where possible.
- 2.18. Installation of bottom plate bolts at maximum 6' intervals, unless specified otherwise on the project's [Design Drawings](#).

***End of Section***

## **Division 6. Carpentry**

(Includes rough carpentry only– for finish carpentry, refer to Division 9)

### **Section 06 01 10 - Framing**

#### **1. Scope of Work**

- 1.1. Framing to lockup – includes the installation of windows, exterior doors, air barrier, and air barrier detailing at window and exterior door penetrations.
- 1.2. . Supply and installation of all carpentry materials and accessories related to structural framing, trusses, building enclosure, sub-floor, wood stairs and ramps, and required support for architectural items.
- 1.3. Supply and installation of plate poly at interfaces between exterior and interior walls, where the insulator will be unable to install a complete integral vapour barrier.
- 1.4. Installation of trusses and all other pre-fabricated items, taking care to follow the installation instructions and fabrication drawings supplied by their manufacturer. Refer to Section [06 01 30 Pre-Fabricated Items](#).
- 1.5. Installation of all seismic requirements related to structural framing to meet applicable regional building code requirements - refer to project's [Design Drawings](#) to determine if necessary.

#### **2. Performance Requirements**

- 2.1. **Do not install any roofing, rainscreen, electrical, mechanical, insulation, windows or doors until framing is inspected by Owner. Refer to Section [01 01 10 Project Operations – Inspections and Hold Points](#).**
- 2.2. Contractor is to complete the installation of one window for mockup purposes, to review with the Owner (or Owner's Representative). Refer to Sections [06 01 10 Framing](#), [08 02 10 Windows](#), [08 01 10 Doors and Hardware](#), as well as [Typical Construction Details](#). No further window or door installation is to proceed until the detailing of the mockup has been accepted.
- 2.3. Install a continuous polyethylene sill gasket at all interfaces between wood and concrete, and all party wall plates at floor levels.
- 2.4. All windows and doors MUST be framed and installed to be level and plumb.
- 2.5. Ensure that all window, door, duct, and equipment rough openings are measured from the shop drawing information, and not the architectural drawings. Rough openings should be framed to allow for a maximum ¼" gap after installation of specified component.
- 2.6. When unloading or moving pre-fabricated items, Contractor is to exercise care to prevent out-of-plane bending. Follow manufacturer's written instructions for lifting and handling.
- 2.7. **Do not cut or modify any pre-fabricated item without prior written consent from the manufacturer.**

- 2.8. Contractor is to provide a written report to the Owner indicating the measured moisture level at sill plates, window sills prior to enclosure behind vapour barrier or drywall – refer to [Section 01 01 10 – Project Operations](#) for specific requirements.**
- 2.9.** Ensure that secure backing is in place for cabinetry, washroom accessories, wall-mounted door stops and closers, handrails, gutters and downspouts, wall-fixed electrical and mechanical equipment, as well as all drywall board edges, cladding and soffit edges, fascia, etc.
- 2.10.** Install security blocking at all exterior swing door framing at the latch, rigid enough to ensure that the door jamb cannot be pried apart to release the door latch.
- 2.11.** All wall studs longer than 9’ should be fire-blocked at mid-span.
- 2.12.** Frame one attic access hatch (with insulated plywood lid) in each master bedroom ceiling between trusses.
- 2.13.** Install rigidity bracing where appropriate.
- 2.14.** Frame any required sloped surfaces to ensure a minimum of 2% positively sloped away from the building perimeter.
- 2.15.** Sub-fascia framing member sizing should be at least  $\frac{3}{4}$  the width of the specified fascia dimension, to prevent fascia from cupping after exposure to the elements.
- 2.16.** Secure attachment of framed walls to concrete foundations, bolted at intervals no greater than 4’, unless noted otherwise on the project’s [Design Drawings](#).
- 2.17.** All fasteners used in an exterior application are to be hot-dip galvanized.
- 2.18.** Floor, roof and wall sheathing is to be fastened at maximum 12” intervals mid-span at each framing member, and 6” intervals at panel edges, unless noted otherwise on the project’s [Design Drawings](#).
- 2.19.** Prior to installation of wall sheathing, ensure that any inaccessible gap between framing members has been filled with gap-seal foam or rigid insulation.
- 2.20.** Contractor is to ensure that all framing is installed true, square, and plumb. The Owner will not be responsible for extra costs related to correction of line.
- 2.21.** Construct continuous members from pieces of longest practical length, and minimize off-cut waste wherever possible.
- 2.22.** All wood components exposed to significant moisture during construction shall be treated in situ with surface applied wood preservative prior to the installation of any barriers.

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### **Section 06 01 20 - Lumber Supply**

#### **1. Scope of Work**

- 1.1.** Supply of all wood products for framing, backing, blocking, bracing, shear walls, roof and wall sheathing, subfloor, wood stairs, wood decks and patios,

**2. Performance Requirements**

- 2.1. Use minimum ½” sheathing for roof substrate, 5/8” T&G plywood for flooring substrate, and ½” exterior sheathing for cladding substrate. No OSB or pressed-fiber products are to be used on this project for any purpose.
  - 2.2. If any engineered wood products, such as LVL or PSL beams, are to be used on this project, Contractor is to make sure that these products are protected from water saturation. Any components that become water-saturated are to be removed from use and replaced at no cost to the Owner.
  - 2.3. Ensure all lumber materials used in exterior locations are pressure-treated, using water-borne CCA, 2% copper naphthalate solution. Refrain from using any ACQ treated lumber.
  - 2.4. Ensure all wood products are dried to below 19% moisture content before being installed, and below 13% before being concealed behind any air-tight barriers that would prevent further drying.
- 

**Section 06 01 30 - Engineered Items**

**1. Scope of Work**

- 1.1. Supply of light-metal plate connected wood truss package.
- 1.2. Supply of TGI package, if applicable – refer to project’s [Design Drawings](#) to determine if necessary.
- 1.3. Supply of pre-engineered timber items such as LVL and PSL support beams, if applicable – refer to project’s [Design Drawings](#) to determine if necessary.
- 1.4. Supply of all specific structural hardware and accessories necessary for installation of any pre-fabricated items required under this scope.
- 1.5. Supply of engineered shop fabrication drawings and technical data related to the pre-fabricated item construction. Drawings should include the wood species, sizes, and stress grades of lumber, metal connector part numbers, design load, as well as all requirements for fasteners, hangers, bracing, blocking, and any other structural components related to the specified pre-fabricated item.
- 1.6. Include for shipping, handling, and placement at site in designated location for ease of Contractor’s installation.

**2. Performance Requirements**

- 2.1. Pre-fabricated items to be designed to meet CSA-086-14, Engineering Design in Wood.
- 2.2. Deliveries of all pre-fabricated items are to include manufacturer’s installation instructions.
- 2.3. If any engineered wood products, such as LVL or PSL beams, are to be used on this project, Contractor is to make sure that these products are protected from water saturation. Any

components that become water-saturated are to be removed from use and replaced at no cost to the Owner.

- 2.4. Framer is not to cut or modify any pre-fabricated item without prior written consent from the manufacturer.**
- 

**Section 06 01 40 - Timber framing**

**1. Scope of Work**

- 1.1.** Supply and installation of exposed structure timbers at building exterior. If cedar timber is not specified by [Design Drawings](#), use Pressure Treated fir, and clad over rainscreen layer with clear cedar trim.
- 1.2.** Supply and installation of post bases, saddles, knife plates, fasteners, and any other necessary accessories to integrate the timber framing into the structure and envelope.

**2. Performance Requirements**

- 2.1.** All timbers are to be pre-stained with urethane sealer. Refer to Section [09 03 10 Coatings](#) and [Project Material Schedules](#). Treat all cut ends of timbers with urethane sealer prior to erection.
- 2.2.** Embed steel structural accessories into concrete pours if at all possible.
- 2.3.** Bolt diameter to be minimum 1/10<sup>th</sup> of the width of the timber, with at least 2" of additional length to provide room for nut and washers.
- 

**Section 06 02 10 - Wood Decks, Patios, Fencing**

**1. Scope of Work**

- 1.1.** Supply and installation of all exterior wood decks, patios, railings, and fencing, if applicable to design. Refer to [Project Design Drawings](#) to confirm if required.

**2. Performance Requirements**

- 2.1.** All wood materials used in this scope are to be moisture resistant. Wood used on decks and patios should marry architecturally with the project Design (ie, if cedar trim used, wood decks etc. to match).
- 2.2. If not specified by the Design Drawings, the proposed detailing for railings, deck slats, and fencing should be presented by the Contractor to the Owner as a design sketch prior to ordering of any materials.**
- 2.3.** Material selection will be specified on the design drawings. Refer to Section and [09 03 10 Coatings](#) for information on treatment, if applicable.
- 2.3.1.** Deck/patio framing is to be fastened to main structure by bolts at max 2' intervals. Bolts are to be sized at minimum 1/10<sup>th</sup> of the width of the ledger.



- 2.3.2. Ensure continuous moisture barrier is present between deck framing and main structure framing. Refer to [Typical Construction Details](#).
- 2.3.3. Posts for fencing, if applicable to design, should be on concrete footings with embedded steel post bases to support posts. Fence posts shall not be directly embedded in concrete.
- 2.3.4. Posts are to be installed plumb within 1/4" tolerance, and set in line to within 1" of each other.
- 2.3.5. Fence panels shall be installed within two weeks of post setting to mitigate warping.
- 2.3.6. Panels should be installed at such a height and spacing so that the maximum gap below any point on the panel is 6".

***End of Section***

## **Division 7. Building Envelope**

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### **Section 07 01 10 – Below-grade Barriers and Insulation**

#### **1. Scope of Work**

- 1.1. Supply and installation of expanded polystyrene rigid insulation and sealed 6mil vapour barrier, or sprayfoam below slabs, and at below-grade concrete foundation walls, at heated spaces only. Refer to project's [Design Drawings](#) for specific R-value.
- 1.1. Supply and installation of damp-proofing course at all below-grade vertical concrete surfaces.

#### **2. Performance Requirements**

- 2.1. Refer to design drawings for specific locations and [Typical Construction Details](#) for installation methodology and details.
- 2.2. Seal all vapour barrier joints with tape, and lap seams by a minimum of 6".
- 2.3. Acceptable damp-proofing suppliers include Tremco 260, Henry 700-01, OR W.R. Meadows Sealmastic Emulsion.
- 2.4. Ensure that damp-proofing course is installed to consistent thickness over entire surface, and that all notches, cracks, and reveals in the concrete have received adequate coating. Ensure damp-proofing membranes achieve a minimum dry thickness of 60 mils.
- 2.5. Apply Damp-proofing to clean substrates, when relative humidity is less than 85% and when surface temperatures are 3 degrees above dew point temperatures.
- 2.6. Ensure that perimeter insulation and barriers, where required, are properly interfaced with other building envelope systems to avoid thermal bridging. Refer to [Typical Construction Details](#) and project's [Design Drawings](#) for specific detailing.
- 2.7. Attach XPS insulation to vertical surfaces, with either pins or glue, ensuring that the method of attachment does not interfere with the function or chemistry of the underlying substrate.
- 2.8. Cut and trim XPS insulation neatly to fit spaces, leaving no gap larger than 1/8", offset joints, and do not use broken, severely dented or damaged insulation pieces. If gaps over 1/8' occur, fill with spray foam.

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### **Section 07 02 10 - Interior Vapour Barriers and Insulation**

#### **1. Scope of Work**

- 1.1. Supply and installation of friction-fit fiber batt insulation in wall cavities.
- 1.2. Supply and installation of either blown-in insulation or friction-fit fiber batt insulation in ceiling rafters, unless noted otherwise.
- 1.3. Supply and installation of insulation baffles at each truss space for venting of roof eaves.

- 1.4. Supply and installation of acoustic mineral wool insulation between party walls, shared floors, plumbing walls, and at other interior partitions where noted on the design drawings as required.
- 1.5. Supply and installation of spray-applied polyurethane foam insulation to the inside surface of the exterior rim joist between floor joists at every floor level.
- 1.6. Supply and installation of 6mm polyethelene vapour barrier to interior side of insulated spaces. Vapour barrier is NOT acting as air-tightness barrier, unless noted otherwise on the project's Design Drawings.

## 2. Performance Requirements

- 2.1. Refer to design drawings for specific locations and [Typical Construction Details](#) for further installation methodology and details.
  - 2.2. Do not install any insulation or vapour barrier prior to inspection by the Owner of all firestopping, rough-in layout, and plumbing and electrical inspections. Refer to Section [01 01 10 Project Operations – Inspections and Hold Points](#).**
  - 2.3. Ensure that all sprinkler lines, IF REQUIRED by the design, are insulated from the cold side only, and covered by a minimum of 6" fiber batt. Ensure that all plumbing pipes, venting, and other obstacles within wall cavities have a minimum of R20 of insulation coverage behind them, including within interior partitions and bulkheads.
  - 2.4. Ensure that all locations of spray-applied polyurethane foam have completely cured before permitting any other trades to work in area. If any surfaces of polyurethane spray have been damaged during construction, surface must be re-touched.**
  - 2.5. Poly vapour barrier should only be installed after the moisture content of the wood framing members has been reduced to **below 15%**. Provide Inspection Report to the Owner confirming the tested moisture levels in a minimum of TEN locations in plates and sills in each suite.
  - 2.6. Vapour barrier is to be applied to the warm side of all surfaces that abut with unheated space. If any cavities have been insulated with spray-foamed poly-eurethane foam, an additional layer of poly barrier is not required.
  - 2.7. Vapour barrier is to wrap into window, door, and vent penetrations, and be fully sealed at all interfacing framing members at sills, jambs, plates, party walls, etc., and all joints lapped a minimum 6" and taped at stud edges. Please note, do not use a router to remove Gypsum Wall Board from window opening perimeters as doing so will damage the integrity of the vapour barrier.
  - 2.8. Do not permit any insulation to be exposed to the elements (water, UV, etc.).
  - 2.9. Clean up any sealant drips from the building site using solvent.
-

**Section 07 03 10 - Roofing Systems****1. Scope of Work**

- 1.1. OPTIONAL: Supply and installation of asphalt-impregnated fiberglass shingle roofing assembly, if applicable. Refer to project's [Design Drawings](#) for specific assemblies required on project.
- 1.2. OPTIONAL: Supply and installation of metal sheet roofing assemblies, if applicable. Refer to project's [Design Drawings](#) for specific assemblies required on project.
- 1.3. This scope of work should include all interfacing flashings, roof jacks, rubber boots, ice dams, self adhered membranes, anti-moss strips, vents, drains, and any other roofing-related components necessary and appropriate for the design to make a complete and effective water barrier system.

**2. Performance Requirements**

- 2.1. This section excludes any soffit, gutter, or fascia installation – refer to Section [07 04 20 Cladding and Exterior Carpentry](#) and [07 04 40 Rainwater Collection System](#).
- 2.2. Keep stored and transported materials protected from damage until time of installation, and stored flat without other items stored on top. Components damaged during shipping or storage should not be installed.
- 2.3. Before starting work, ensure the environmental and site conditions are suitable for installation and warranty requirements of the product manufacturers.
  - 2.3.1. Ensure that forecasted weather conditions will allow work to be carried out without interruption during the course of a day and that the roofing materials are installed on dry substrate, free of ice and snow.
  - 2.3.2. Ensure the roofing substrates are free from debris and potential penetrants that may impact the performance of the roof assemblies.
  - 2.3.3. Use only dry materials and apply when weather will not trap moisture in the system.
- 2.4. Full felt underlayment required under all roofing systems, and self-adhered membrane application at all valleys and perimeter.
- 2.5. Asphalt shingles, if required by design, should be IKO Cambridge, or approved equivalent.
- 2.6. Metal roofing, if required by design, should be standing seam design, Westform Pro-Lok 16", or approved equivalent, in 24ga thickness.
- 2.7. Roof vents should be either ridge vent style or mechanical whirly-bird style, fitted with bug-screen mesh. Frequency of venting is as required by BC Building Code for roof area. Refer to [Design Drawings](#) and [Typical Construction Details](#) for further information.
- 2.8. All shingled ridge locations should receive zinc anti-moss strips, with minimum 2" exposed to weather.
- 2.9. All fasteners used in roofing systems should be hot-dipped galvanized.

- 2.10. All penetrations through roofing materials should be completely and properly sealed with mastic, self-adhesive membrane, or appropriate water-tight material. Ensure no gaps or folds are present.
- 2.11. Flashings should extend up any vertical surface a minimum of 4", and have a minimum of 3". Install water diverting flashings where required to direct rainwater away from vertical surfaces towards gutters.
- 2.12. Any exposed flashing edge that is accessible by the building occupants must be folded, ground, and/or sealed adequately to avoid injury.
- 2.13. Provide splash pans where rainwater leaders discharge directly on to roofing surfaces.
- 2.14. Clean all roof surfaces, drains, gutters of roofing material and debris after completion of this scope of work. Protect all work at the end of each working day or during any interruption of work. The roof area must be watertight at the end of each work shift.

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### **Section 07 04 10 - Rainscreen and Water/Air Barrier**

#### **1. Scope of Work**

- 1.1. Supply and installation of building wrap and rainscreen exterior system, including vertical strapping and flashings. NOTE: Unless indicated otherwise on the project's [Design Drawings](#), the building wrap is intended to act as an integral air barrier.
- 1.2. OPTIONAL: Supply and installation of exterior-applied rigid insulation ("outsulation") if required by the project [Design Drawings](#).
- 1.3. As the window and exterior door detailing are integrated closely with the building envelope performance, include the installation of both under this scope. Refer to Sections [08 01 10 Doors and Hardware](#), [08 01 30 Windows](#), and [Project Material Schedules](#) for more information. This scope includes the supply of any materials related to the installation methodology of both the doors and windows (ie. shims, self-adhered membrane, sill angle, foam backer rod, caulk, etc.), and integration with building wrap/air barrier as detailed in [Typical Construction Details](#), and manufacturer's shop drawings and installation instructions.

#### **2. Performance Requirements**

- 2.1. **Do not install building wrap or rainscreen materials prior to inspection by the Owner of framing and window installation mock-up. Refer to Section [01 01 10 Project Operations – Inspections and Hold Points](#). After window installation method is approved, proceed to mock-up of interfacing details of one window and one exterior door, including water/air barrier, rainscreen, flashings, and trim.**
- 2.2. Product specifications –
  - Vapour-permeable water barrier: synthetic building wrap such as Tyvek or Typar.
  - Impregnated tar paper not permitted.
  - Waterproof sheathing tape: Tuck Tape or approved equivalent.

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Nails: Galvanized nails with plastic washer heads.

Staples: Wide staples with a minimum 25mm crown.

SAM: Sopraseal Stick, Vaproshield, Resisto Redzone 25, or approved equivalent.

- 2.3. Depending on cladding detailing shown on project's [Design Drawings](#), use either cedar strapping (if exposed in reverse board & batten design) or pressure treated strapping, minimum thickness  $\frac{3}{4}$ ". Pressure treated strapping, if used, must be treated with either factory-applied CCA or Borate. ACQ treated strapping is not permitted. Width of straps to be determined by cladding design. Pressure-treated wood strapping, minimum 2" strips, to be installed continuously behind all cladding materials, including trim.
- 2.4. All penetrations through sheathing are to have self-adhesive membrane installed, and joints and laps in the water/air barrier into an system.
- 2.5. Install sheathing membrane horizontally in successive strips beginning 50mm below the lowest point of the wood framing and progressing upwards with each succeeding sheet. Horizontal laps should be a minimum of 6" and arranged to always shed water away from the wood surface, i.e., upper sheet overlapping the lower sheet. Vertical laps shall be made where required and have a minimum 12" overlap. Lap away from penetrations and transitions. Seal all laps (except at base flashing) with waterproof sheathing tape.
- 2.6. Exterior ducting, grilles, louvers, fixtures, switches, plugs, cover plates, etc. are to be properly sealed into the water/air barrier. All exterior penetrations are to be detailed assuming they will be trimmed out. Refer to [Typical Construction Details](#).
- 2.7. Install concealed perforated aluminum bug screen at bottom edge of rainscreen for all cladding types. Fasten to sheathing, and ensure corners and intersections are fully closed to meet intent.
- 2.8. Flashing gauge to be minimum 26ga. Wall flashings are to be coordinated as closely as possible with the cladding color. Submit color selections to Owner prior to installation. Refer to Section [01 01 10 Project Operations – Submittals](#).
- 2.9. Foam backer rod to be installed to fill uninsulated gaps between window frame and studs. Any gap larger than  $\frac{1}{4}$ " should be filled with foam rod using a product approximately  $\frac{1}{8}$ " larger than the gap. Gaps smaller than  $\frac{1}{4}$ " should be filled with caulking, and exposed joints tooled smooth.

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### **Section 07 04 20 - Cladding and Exterior Carpentry**

#### **1. Scope of Work**

- 1.1. Supply and installation of factory-coated fiber-cement board, plank, and shingle as detailed on the project [Design Drawings](#).
- 1.2. Supply and installation of cedar shakes, if required by the project's [Design Drawings](#).
- 1.3. Supply and installation milled cedar trim at all building penetrations, horizontal banding, fascia, exposed timber structure cladding. Refer to [Typical Construction Details](#).

1.4. Supply and installation milled cedar slats at all soffit locations. Refer to Section [09 03 10 Coatings](#).

1.5. Supply and installation of perforated aluminum bug-screen mesh behind all soffit materials.

## 2. Performance Requirements

2.1. Maintain materials during transportation and storage in such a manner as to avoid damage. Any materials damaged on site are not to be installed.

2.2. Trim components are to be installed over top of rainscreen strapping. Rabbet trim pieces at corner details and interface details. Refer to [Typical Construction Details](#) and [Design Drawings](#) for more information.

2.3. All wood items are to be sealed or painted on all sides, including cut edges, refer to [Project Materials Schedules](#) for required finish.

2.4. Field cut cladding edges, nicks, etc. are to be touched up with product from same supplier as cladding.

2.5. Install drip-edge flashing over top edge of all penetrations.

2.6. Nails and fasteners used in this scope are to be hot-dipped galvanized or factory-coated to match cladding system. If project is located in immediate proximity to sea air, exposed fasteners to be stainless steel.

2.7. Caulk all cladding/trim joints, as well as all exterior material interfaces where water or insects can feasibly gather, using a weather-repellent sealant. Sealants should not be relied on as a primary building envelope component – it is intended to be used solely as a secondary barrier.

2.8. Seal critical barrier joints (ie. window frames, etc.) with silicon-based caulking only.

2.9. All service conduits, piping, outlets, and media boxes are to be mounted on solid wood to match trim. Caulk all edges.

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### **Section 07 04 40 - Rainwater Collection System**

#### 1. Scope of Work

1.1. Supply and installation of “K-5” style continuous aluminum gutter at all sloped roof ends, and 4” aluminum downpipes. Color of gutters and downspouts to match cladding - present color options to Owner for selection prior to purchasing material.

1.2. Supply and installation of interface connections between the roof drains installed by mechanical, if required, and the perimeter and gutter collection systems. Refer to Section [07 03 10 Roofing and Horizontal Membrane](#).

#### 2. Performance Requirements

2.1. Coordinate locating of perimeter drainage, rainwater leaders at all building footings, including separate non-residential structures, if required. Refer to Section [02 02 30 Below-Grade Services](#).

- 2.2. Ensure that all gutters slope towards proposed downspouts, and that all splices are welded and caulked. Flood test and repair any leaks if necessary.
  - 2.3. Downpipes to be installed at sufficient intervals to collect the volume of rainfall from the roof area. Provide downspout configuration sketch and color selections to Owner for review prior to Contract Award. Refer to Section [01 10 10 Project Operations – Submittals](#).
  - 2.4. Fasten gutters and downpipes with matching brackets, placed at maximum 6' intervals, into solid wood backing. Install only after cladding, soffit and painted fascia are complete.
  - 2.5. Ensure that downpipes are installed in such a manner and location so as to not be easily damaged by routine entry and exit into the building.
- 

**Section 07 05 10 - Fire-Stopping System**

**1. Scope of Work**

- 1.1. Mechanical and electrical disciplines should be responsible for firestopping of their own penetrations through framing members. Additional firestopping through drywall or cladding may also be required to complete the fire separation's integrity.

**2. Performance Requirements**

- 2.1. Firestopping should be installed by a certified applicator.
- 2.2. Ensure that all penetrations in fire separations have been fire-stopped sufficiently to meet ULC requirements for the applicable penetrations. All firestopping assemblies used must conform to the "listed" assemblies provided by the most current BC Building Code.
- 2.3. Fire caulk all penetrations through all top and bottom plates.
- 2.4. **Do not install any insulation or vapour barrier prior to inspection by the Owner of all firestopping. Refer to Section [01 01 10 Project Operations – Inspections and Hold Points](#) .**

*End of Section*



## **Division 8. Openings**

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### **Section 08 01 10 - Doors and Hardware**

#### **1. Scope of Work**

- 1.1. Supply of all exterior swing doors, frames, and related hardware, for installation under the Framing scope. Supply of all interior doors, frames, and related hardware, for installation under the Finish Carpentry scope. Exterior doors are to meet NAFS-08 and BCBC 2018.

#### **2. Performance Requirements**

- 2.1. Refer to [Project Material Schedules](#) for door schedule.
- 2.2. Provide technical submittal to the Owner, prior to placement of order. Refer to Section [01 01 10 Project Operations – Submittals](#) for more information.
- 2.3. Minimum product standard for hardware is Schlage or Weiser, or approved equivalent. All door hardware should be supplied in satin nickel, stainless steel, or chrome finish, and using a consistent product line and finish throughout each unit.
- 2.4. Door handles in all swing door instances to be lever-style, Weiser’s “Halifax” line or approved equivalent.
- 2.5. Front entry doors are to have a separate deadbolt in addition to a locking lever set.
- 2.6. Supply appropriate door stops suitable for individual door conditions. Where door handle will make contact with any vertical surface, ensure a rigid stop is properly installed to prevent damage to wall or hardware, installed into rigid backing. Coordinate with framer for hardware installations to ensure that solid backing is installed for wall-mounted stops. Refer to Section [06 01 10 Framing](#) and [09 04 20 Finish Carpentry](#) for more information on installation.

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### **Section 08 01 30 - Windows and Glazing**

#### **1. Scope of Work**

- 1.1. Supply of vinyl framed, double-pane, argon filled windows and patio sliding doors, to be installed in conjunction with the Framing scope. Refer to Section [06 01 10 Framing](#), and [09 04 20 Finish Carpentry](#) for more information on installation. Windows are to conform to NAFS-08 and BCBC 2018 requirements, and have a U-value of 1.8 w / M3k.
- 1.2. Include screens for all operable windows, included with supply package from window supplier.

#### **2. Performance Requirements**

- 2.1. Refer to the project’s [Design Drawings](#) for additional information. Review [Typical Construction Details](#) for specific requirements.
- 2.2. Minimum standard for windows is Starline 6000 series, with white frames both inside and out.

***End of Section***

## **Division 9. Finishes**

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### **Section 09 01 10 - Gypsum Wallboard**

#### **1. Scope of Work**

- 1.1. Supply and installation of all materials related to gypsum wallboard and its accessories, including bulkheads, ceiling drops, control joints, fire-rated separations, shafts, and smoke separations.
- 1.2. Supply and installation of metal framing and supports as needed to properly install the items noted in 2.1;
- 1.3. Supply and installation of acoustic rated materials, including correctly-installed acoustic sealants and resilient channels, as required to meet BCBC version currently in force at date of publication of this Manual.
- 1.4. Installation only of all pressed steel door and window frames, if applicable. Refer to Section [08 01 40 Door and Window Schedule](#) to confirm locations.
- 1.5. No drywall returns required at windows. Refer to Section [09 04 20 Finish Carpentry](#) for further information.
- 1.6. Supply and installation of spray-applied ceiling texture to all living areas defined as “textured” in Section [09 01 01 Finishes Schedule](#).

#### **2. Performance Requirements**

- 2.1. Ensure current BCWCA standards are followed for all component installation under this scope of work.
  - 2.2. Provide “aquaboard” type drywall in all routinely wet areas.
  - 2.3. Install drywall upon all acoustic-rated party wall and ceiling separations using acoustic resilient channels. Install resilient channels on both sides of a party wall.
  - 2.4. All wall and ceiling surfaces shall be finished to level 4 finish where receiving paint, unless in long corridors or large wall areas, in which case finish to level 5. Cross reference with current MPI standards for surface finish quality for specified materials and finishes.
  - 2.5. All wallboard cuts at penetrations shall be cut squarely and cleanly, using suitable tools for the trade. Gap between wallboard cuts and penetrations (receptacles, windows, pipes, etc.) shall be no larger than 1/2”, and all gaps in sound-rated partitions shall be filled with acoustic sealant or acoustic fiber insulation.
  - 2.6. Ensure that the wall cavity firestopping, barriers, and insulation have been inspected and approved formally before enclosing behind wall board.
-

**Section 09 02 10 - Floor Finishes**

**1. Scope of Work**

- 1.1. Supply and installation of sheet vinyl to floors to all bathrooms, powder rooms, utility rooms, and laundry rooms. Refer to the project's [Design Drawings](#) and [Project Materials Schedules](#).
- 1.2. Supply and installation of interlocking plank laminate or vinyl to all other floors and stairs. Refer to the project's [Design Drawings](#) and [Project Materials Schedules](#).
- 1.3. Supply and installation of suitable sub-floor for all selected floor finish materials.
- 1.4. If a fireplace is included in the project's [Design Drawings](#), supply and install a tile or stone hearth to minimum dimensions required by BC Building Code and fireplace manufacturer's instructions. Submit samples to Owner to review prior to installation.

**2. Performance Requirements**

- 2.1. Plank flooring to be a minimum of AC4 grade durability.
  - 2.2. Sheet flooring to have a minimum clear wear thickness of
  - 2.3. Inspect all substrates and environmental conditions prior to start of work. Advise the Owner if any unacceptable conditions are present that will be detrimental to the quality and performance of the finished surface.
  - 2.4. Install ¼" plywood sub-floor below all vinyl plank and sheet areas.
  - 2.5. Ensure that the sub-floor surface is perfectly clean of debris, dust, penetrants, and discoloration before placing finish materials.
  - 2.6. Maintain a consistent temperature in the suites after start of flooring installation. Follow adhesive manufacturer's directions explicitly for humidity and temperature exposure, and air exposure time after opening and placement.
  - 2.7. Lay plank flooring in the direction of the longest uninterrupted distance between rooms.
  - 2.8. Provide flush metal transitions at interfaces between dissimilar materials. Locate all flooring transitions and terminations at the centerline of doors, or at thresholds if applicable.
  - 2.9. Avoid seams in vinyl surfaces in washrooms if at all possible.
  - 2.10. Flooring is to extend under vanities, cabinets, and appliances.
  - 2.11. Prevent traffic from finished floors for 48 hours after installation.
  - 2.12. Clean completely all installed floor surfaces.
  - 2.13. Protect all floor finishes after installation until final clean.
-

**Section 09 03 10 - Coatings****1. Scope of Work**

- 1.1. Supply and installation of interior wall and ceiling paint. Refer to [Project Materials Schedules](#).
- 1.2. Supply and installation of paint to doors and trim. Color coat of exterior doors may be different on interior and exterior faces. Refer to [Project Materials Schedules](#).
- 1.3. Supply and installation of pre-painting to all exterior cedar trim, shake, and soffit material, if any required in the project's [Design Drawings](#) or the [Project Materials Schedules](#).
- 1.4. Supply and installation of concrete sealer to interior and exterior slabs, if any required by the project's [Design Drawings](#) or the [Project Materials Schedules](#).
- 1.5. Supply and installation of stain or clear sealer to all fencing, decks, and railings, if any required on the project's [Design Drawings](#) or the [Project Materials Schedules](#).

**2. Performance Requirements**

- 2.1. Paint quality to be Dulux or better.
- 2.2. Inspect all substrates for conditions that will be detrimental to the quality and performance of the finished surface. Sand and prime as required to produce smooth bondable finish for permanent coating adhesion. Inspect, repair, sand, and touch up primer coat as necessary prior to application of finish coat(s).
- 2.3. Remove or loosen screws on components such as door hardware, cover plates, blinds, etc. prior to application of any coatings. Keep removed parts safe until reinstallation. Re-install and tighten any removed/loosened off items upon completion of work.
- 2.4. Tape or paper off any fixed surfaces. Protect adjacent areas while working from overspray and spillage.
- 2.5. All trim to drywall interfaces are to be caulked with white or translucent interior caulk after being painted.
- 2.6. Follow coating manufacturer's directions explicitly for surface preparation, humidity and temperature exposure, and air exposure time after opening and placement.
- 2.7. All exterior cedar to be pre-treated on all sides prior to installation, including cut edge, using **Sikkens Cetol SRD 077 or approved equivalent**. Refer to Section [07 04 20 Cladding and Exterior Carpentry](#).
- 2.8. Cedar trim and soffit to be pre-treated on all sides. Acceptable product: Sikkens Cetol or approved equivalent.
- 2.9. After all trades have completed deficiencies, complete a touch-up paint on any damages. Where any part of a surface is made good to match existing adjacent surface, the entire surface up to the nearest edge is to be re-coated.
- 2.10. Tool washout is permitted in designated areas, but do not dispose of excess paint or stain anywhere on this project. Contractor is to clean all overspray immediately after tool washout is completed.

**Section 09 04 10 - Cabinetry**

**1. Scope of Work**

- 1.1. Supply and installation of upper and lower cabinets in kitchens, and sink vanity cabinets in each bathroom.
- 1.2. Supply and installation of laminate countertop surfaces in baths and kitchens. Finishes in baths and kitchens may differ. Refer to [Finishes Schedule](#) for specific color scheme information.

**2. Performance Requirements**

- 2.1. Door and drawer faces to be constructed of natural finished maple or birch plywood, with finished edges.
- 2.2. Cabinetry bases and interior shelves are to be constructed of 3/4" white melamine.
- 2.3. Laminate for countertops to be post form grade, adhered to solid wood substrate. No MDF is to be used in countertop construction. Wilsonart, Nevamar, Formica or approved equal. Refer to [Finishes Schedule](#) for specific color scheme information.
- 2.4. Countertops in baths and kitchens are to include integral 4" backsplash, and have full bullnose edge detail.
- 2.5. Verify site measurements prior to fabrication of countertops.
- 2.6. Do not hang cabinet bases until the supporting walls have at minimum received a primer coat of paint.
- 2.7. Filler panels may be used where standard cabinet sizing leaves extra space, provided filler section is no larger than 3".
- 2.8. All laminate joints are to be tight hairline joints, filled with color-matched waterproof filler. Caulk intersection between backsplash and wall using translucent silicone-based caulk.
- 2.9. Upper kitchen cabinets are to be installed a minimum of 18" above the countertop, and are to be full-height to ceiling.
- 2.10. Cabinets over range to be suitable to receive range hood and venting. HVAC trade to confirm the details of the product being supplied.
- 2.11. Sink cutouts are to be completed on site at time of countertop installation, after plumber confirms the details for the products being supplied.
- 2.12. Cabinetry knobs are to be smooth finish, 4" brushed chrome D-pull style. Drawer slides and doors to include soft-closing features.
- 2.13. Finished height of all vanities and lower kitchen cabinets is to be 36".
- 2.14. Intermediate shelving to be adjustable.
- 2.15. Bath and kitchen lowers are to be installed with a matching toe kick.

- 2.16. Interiors of all cabinetry boxes and drawers to be lined with MacTac sticky-backed protector film, or equivalent.
  - 2.17. Protect cabinetry and countertops from scratching and moisture damage before and after installation.
- 

### **Section 09 04 20 - Finish Carpentry**

#### **1. Scope of Work**

- 1.1. Installation only of interior doors ([Section 08 01 10](#)). Exterior doors will be installed under the Cladding scope. Installation only of all door hardware to both interior and exterior doors. Refer to [Project Material Schedules](#) for specific requirements.
- 1.2. Supply and installation of all interior-side window and door casings, returns and liners, baseboards.
- 1.3. Supply and installation of closet and pantry shelving.
- 1.4. Supply and installation of bathroom accessory set ([Section 10 01 10](#)). Solid backing for accessories is required under [Section 06 01 10 Framing](#).

#### **2. Performance Requirements**

- 2.1. Ensure each location where accessories are to be installed have been provided with adequate solid backing prior to drywall cover, and fastened solidly enough to withstand 150 lb of weight. Use suitable screws to mount, which may not necessarily be the screws which accompany the accessory installation kit. If no backing exists where mounting is required, notify Owner for immediate resolution.
- 2.2. Follow door and hardware shop drawings for installation, rather than architectural drawings.
- 2.3. Hang adjacent doors so that the head heights are consistent with each other.
- 2.4. Install 3" long wood screws at hinges (1 per) and deadbolt strike.
- 2.5. Check that doors are installed plumb, level, and true prior to installation of any trim details. Ensure latch closes in strike plates. Owner will not take responsibility for correction of line, or doors that do not close properly.
- 2.6. After completion of painting (by [Section 09 03 10](#)), check all doors and hardware installations to ensure they are installed and functioning according to specified standards and manufacturer's instructions.
- 2.7. Window liners are to be finished in pre-primed FJP, no drywall returns. All other interior finishing trim is to be supplied in pre-primed Ultralite MDF, except bathrooms in FJ Pine:
  - Baseboards - 5/8" x 4.5" flat stock, with miter joints at corners
  - Window and door casings – 5/8" x 3.5" flat stock to sides and bottom, with miter joints at bottom corners, and 5.5" flat stock to top with ½" overhang

- Half-wall cap trim – 5/8" x 5.5" flat stock, with miter joints at corners if applicable, and routed butt ends
- 2.8. Ensure that all nail holes, dents, and miter joints have been filled with drywall mud or sandable "Drydex"-type caulking, and sanded smooth prior to being painted (by [Section 09 30 01](#)).
- 2.9. Caulk edges between floor and baseboards at potentially wet areas only – laundry, adjacent to kitchen cabinetry, and all bathrooms.
- 2.10. All closets to receive either pre-finished MDF shelving or epoxy-coated wire system shelving, braced to walls along three sides; storage and linen closets to receive minimum 4 shelves evenly spaced; bedroom closets to receive single shelf and clothes rod; pantries to receive 5 shelves of at least 12" depth, with storage heights to be varied between 12" and 24".
- 2.11. Clothes rods to be installed with mid-span support if span is longer than 4'.
- 2.12. Mount towel bar and ring at 42" above finished floor. Mount toilet paper holder within a 24" reach from toilet. Holder may be mounted on side of vanity if no suitable wall surface is nearby. Robe hook may be mounted on back of door if no suitable wall surface is available, provided door to washroom is solid-core.
- 2.13. Ensure that each mounted accessory is installed level.
- 2.14. Retain and deliver to Owner all spare parts and instruction manuals that accompany all packaged items installed under this scope of work.

***End of Section***

## **Division 10. Specialties**

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### **Section 10 01 10 - Bathroom Accessories**

#### **1. Scope of Work**

- 1.1. Supply of wall mounted bathroom accessories.

#### **2. Performance Requirements**

- 2.1. Minimum acceptable product standard for bathroom accessories is Moen or Taymor.
  - 2.2. Provide a four-piece matching set, to include: 24" min towel bar, towel ring, toilet paper holder, and robe hook. Accessory set is to be supplied in polished chrome or stainless steel finish.
- 

### **Section 10 01 30 - Window Coverings**

#### **1. Scope of Work**

- 1.1. Supply and installation of 2" wood-look vinyl horizontal blinds to all windows, and 4" vinyl vertical blinds to all patio doors.

#### **2. Performance Requirements**

- 2.1. Hunter Douglas, or approved equivalent.
  - 2.2. Inset window coverings into window recess – avoid hanging coverings from face of window trim, if at all possible. Ensure window coverings are hung level and at a consistent depth in window recess. Install window coverings using appropriate length of wood screw to solidly mount window coverings.
  - 2.3. Ensure blinds have been cleaned and are tested for operability before building occupancy.
- 

### **Section 10 01 40 - Fire Extinguishers**

#### **1. Scope of Work**

- 1.1. Supply and installation of a minimum of ONE 5-lb fire extinguisher in each suite.

#### **2. Performance Requirements**

- 2.1. Ensure mounting bracket is attached soundly to solid wood backing.
- 2.2. Install extinguisher in laundry room.

*End of Section*



**Division 15. Mechanical Systems**

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**Section 15 01 10 - Piping and Drainage****1. Scope of Work**

- 1.1. Supply, installation, and commissioning of complete, BC Plumbing Code-compliant water distribution system, including drainage waste and vent system.
- 1.2. Layout, supply and installation of underground pipework, including setting of cast-in floor drains and thrust blocking as needed. Refer to architectural drawings for locations and dimensions. This scope does not include for trenching, refer to Sections [02 02 30 Below Grade Services](#).
- 1.3. This scope does not include perimeter footing drains or rainwater collection system outside the building footprint. Refer to Section [07 04 40 Rainwater Collection System](#).
- 1.4. Supply and installation of PRVs, backflow preventers, and double-check valves, as required by Plumbing Code. Products and locations must be approved by the Owner (or Owner's Representative).
- 1.5. Supply of valve boxes for owner-supplied laundry, and connection of water supply to owner-supplied appliances, if applicable. Refer to [Project Material Schedules](#).
- 1.6. Supply and installation of appropriate fire-stopping methods to any pipe penetration in the framing members located within fire separations, being sure to adhere to the directions in the ULC-rated systems applicable to individual pipe penetrations. Refer to Section [07 05 10 Firestopping](#).
- 1.7. Supply and install at least one frost-free hose-bibb to serve each residential unit, and two to serve any common building (if applicable to design). Hose bibbs are required to have a dedicated shutoff valve, located in a heated, insulated indoor location, for seasonal shut-down.
- 1.8. **SERVICE CONTRACT – provide the Owner with a separate price for a 2-year service contract for the project.**

**2. Performance Requirements**

- 2.1. Do not install any plumbing items until submittals have been accepted. Refer to Section [Project Material Schedules](#).
- 2.2. Ensure that the piping supplied is suitable for the plumbing fixtures supplied under this contract. Refer to Section [Project Material Schedules](#) and [15 01 20 Plumbing Fixtures](#) for details on products.
- 2.3. PEX piping may be used for interior potable water supply lines between water entry point and fixtures. Ensure that all components in the supply system are from the same manufacturer. If PEX piping is embedded in concrete, encase within a sleeve to mitigate possible damage during the concrete pour.

- 2.4. Install cleanouts at all piping direction changes for sanitary and storm drainage lines, as required by Code. Provide aesthetically suitable, fixed cover plates or access panels at all cleanout locations.
- 2.5. Ensure that each residential unit has one easily accessible main water shut-off valve. Locate shutoff in close proximity to hot water tank if practicable.
- 2.6. Ensure that every plumbed appliance or fixture has an accessible shut-off valve nearby for future servicing.
- 2.7. Include for properly weathertight roof and wall penetrations, at roof jacks, hose bibbs, etc. Refer to Sections [07 04 10 Rainscreen System](#) and [07 03 10 Roofing Systems, Typical Construction Details](#), and project's [Design Drawings](#).
- 2.8. Glue all drainage pipe fittings and allow to cure completely before pressure testing or running water through. Any drips and leaks found after water supply is operational must be cut out and re-installed correctly. DO NOT apply glue to outer rim of pipe joint to correct leaks.
- 2.9. Water supply piping is not permitted in exterior walls without Owner's prior approval. Avoid installing drainage piping in exterior walls if at all possible. Where unavoidable, ensure that the minimum permissible insulation R-value exists behind all pipes. Refer to Section [07 02 10 Wall Cavity Insulation and Barriers](#).
- 2.10. Locate piping in conjunction with ventilation, emergency systems, and lighting layout. Emergency systems always take precedence, followed by plumbing, then exhaust ducting, then lighting.

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### **Section 15 01 20 - Plumbing Fixtures**

#### **1. Scope of Work**

- 1.1. Supply and installation of 40 gallon hot water tank in each residential unit.
- 1.2. Supply and installation of all plumbing fixtures listed in the Plumbing Fixture legend. See Section [Project Material Schedules](#)

#### **Performance Requirements**

- 1.3. Do not install any plumbing items until submittals have been accepted. Refer to Section [Project Material Schedules](#)
- 1.4. Ensure that the hot water tank is installed with a drain pan, and piped to floor drain.
- 1.5. All in-suite plumbing fixtures to be Moen or approved equivalent.
- 1.6. The Contractor is to ensure that all plumbing fixtures are caulked to finish surfaces after installation, using translucent silicone-based caulking or approved alternate.
- 1.7. All fixtures are to be tightly bolted to finish surfaces. No rocking or movement is permitted after installation.

- 1.8. Provide minimum one exterior hose bibb to each suite, with separate interior shut-off for winterizing.
  - 1.9. Coordinate location of piping in conjunction with ventilation, emergency systems, and lighting layout. Emergency systems always take precedence, followed by plumbing, then exhaust ducting, then lighting.
- 

### **Section 15 02 10 - Ventilation System**

#### **1. Scope of Work**

- 1.1. Supply and install CRV system ventilation throughout, mounted in attic. Refer to Section [06 01 10 Framing](#) for access hatch.
- 1.2. Supply and installation of ducting for bathroom and kitchen ventilation.
- 1.3. Supply and installation of mechanical heating and ventilation systems, if required. Refer to project's [Design Drawings](#) to determine if required by this project.
- 1.1. Supply and installation of ceiling-recessed low-sones (1.0 sones or below), 2-speed exhaust fans in each bathroom and kitchen location. At least one fan must be continuous-intake.
- 1.4. Supply and installation of air intake, air transfer between rooms, and timer on at least one bath fan per floor to provide regular cycling of fresh air. Bath exhaust to be installed with an automating timer set to run for 4 hours per day, and to be wired to turn on with light (by electrical).

#### **2. Performance Requirements**

- 2.1. Ventilation system must meet the requirements of the regional Building Code, current to date of Contract.
- 2.2. Exhaust and intake ducting penetrations should be run vertically where practical, rather than wall vented.
- 2.3. Ensure that all exterior building penetrations for ducting, grilles, louvers, etc. are weatherproof. Refer to Section [07 04 10 Rainscreen System](#), [07 03 10 Roofing Systems](#), and [Typical Construction Details](#).
- 2.4. Ensure that all penetrations through fire separations are supplied with a fire damper and firestopping. Refer to Section [07 05 10 Fire-stopping System](#).
- 2.5. Ensure that duct sizing is appropriate for the draw of the equipment and room size that it serves. Duct shape may be dictated by space restrictions in the cavities it is installed in.
- 2.6. All attic ducting should be insulated over its full length.
- 2.7. Supply polyethylene sleeves around all devices mounted on exterior/unheated spaces.
- 2.8. Locate ductwork pathways and fan locations in conjunction with plumbing, emergency systems, and lighting layout. Emergency systems always take precedence, followed by plumbing, then exhaust ducting, then lighting.

**Section 15 02 20 - Appliances and Equipment**

**1. Scope of Work**

- 1.1. Owner will supply all kitchen appliances, with the exception of the kitchen exhaust fans. Refer to Section [15 02 10 Ventilation System](#) and [Appliance Schedule](#) for more information.
- 1.2. Supply and install any water and drain connections for owner-supplied appliances. Refer to Section [Project Material Schedules](#).
- 1.3. Supply and install all wood-burning fireplaces, if required by the [project's design drawings](#).

**2. Performance Requirements**

- 2.1. Fireplace is to be Blaze King "Sirocco 20", or approved equivalent. Confirm product installation is suitable with the mechanical and building envelope systems prior to purchase.
  - 2.2. Provide WETT report upon completion of each completed wood-burning fireplace installation.
  - 2.3. Ensure that vent penetrations for fireplaces are installed flush to roof sheathing and weather tight. Refer to [07 03 10 Roofing Systems](#).
- 

**Section 15 03 10 - Emergency Systems**

**1. Scope of Work**

- 1.1. Design, supply, installation, commissioning, and testing of sprinkler system, if required by BC Building Code for this occupancy classification. Refer to project's [Design Drawings](#).

**2. Performance Requirements**

- 2.1. If sprinklers are required for the occupancy of this project, provide engineered design drawings and hydraulic calculations. Drawings should outline any interface points with electrical and plumbing systems. Coordinate with these trade disciplines as needed to commission system.
  - 2.2. Locate piping and heads in conjunction with plumbing, electrical, and ventilation layout. Emergency systems always take precedence, followed by plumbing, then exhaust ducting, then electrical.
  - 2.3. Ensure that all core holes drilled through structural framing members are as close to the middle of the member as possible, but no more than 1/3 of the distance of the member. Location of penetrations is to consider any other services that may occupy the same cavity.
  - 2.4. Ensure that all holes drilled through framing members in fire separations are fire-stopped. Supply and installation of appropriate fire-stopping methods to any pipe penetration in the framing members located within fire separations, being sure to adhere to the directions in the ULC-rated systems applicable to individual pipe penetrations. Refer to Section [07 05 10 Firestopping](#).
-

**Section 15 04 10 - Low-Voltage**

**1. Scope of Work**

- 1.1. Supply and installation of all controls related to mechanical systems, if required by design.
- 1.2. Supply and installation of heat-tracing if required by the emergency systems, if required by design.

**2. Performance Requirements**

- 2.1. Ensure all controls and heat trace systems are fully commissioned, and provide test reports at substantial completion.
  - 2.2. Supply and installation of appropriate fire-stopping methods to any wire penetration in the framing members located within fire separations, being sure to adhere to the directions in the ULC-rated systems applicable to individual pipe penetrations. Refer to Section [07 05 10 Firestopping](#).
- 

**Section 15 05 10 - Exterior and Site Works**

**1. Scope of Work**

- 1.1. Exterior and site works for water, storm, and sewer are not included in this section. Refer to Section [02 02 40 Site Services and Public Utilities](#).
- 1.2. Perimeter footing drainage and connection of rain water leaders is not included in this section. Refer to Section [02 02 30 Below-grade Services](#) and [07 04 40 Rainwater Collection System](#).

*End of Section*

**Division 16. Electrical Systems**

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**Section 16 01 10 – Panels, Wiring, and Devices****1. Scope of Work**

- 1.1. Supply and installation of adequate conduit, power supply, central distribution, receptacles, back-boxes, wiring, and connections for all baseboard heating, lighting, mechanical equipment, appliances, emergency systems, power outlets, and switching. Owner's design concept drawings will not provide this information, it will be the Contractor's responsibility to determine quantities, technical requirements, and locations. Refer to the [Project Material Schedules](#) and [Project Design Drawings](#).
- 1.2. Supply and installation of underground conduit placement, for main building, accessory structures, landscape, and general site lighting (if required by the project's Design Drawings). Refer to Section [02 02 30 Below-Grade Services](#), and [16 05 10 Exterior and Site Works](#). This scope does not include trenching.
- 1.3. Supply, installation, and commissioning of low-voltage wiring for all items outlined in Section [16 04 10 Low Voltage](#).

**2. Performance Requirements**

- 2.1. Comply to requirements of BC Electrical Safety Branch and BC Building Code, current to date of Contract. Coordinate inspections with Safety Branch as required.
- 2.2. Use all copper wiring throughout, unless specified otherwise by component manufacturers.
- 2.3. Electrical panels are to be located in the unit so as to ensure a maximum voltage drop of 3% to all terminal locations.
- 2.4. Locate devices in conjunction with plumbing, emergency systems, and ventilation layout. Emergency systems always take precedence, followed by plumbing, then exhaust ducting, then electrical.
- 2.5. Ensure that all electrical devices are connected to ground wire, unless otherwise specified by the manufacturer.
- 2.6. Any exposed wiring not embedded within the structure must be shielded, either by rigid conduit, or BX.
- 2.7. Ensure the gauge of wiring used is suitable for the power draw for the required components. Refer to equipment cut sheets and technical data supplied for these items. See Section [01 01 10 Project Operations – Submittals](#).
- 2.8. Interior fixture switches, plugs, cover plates are to be Decora style, in White. Cover plates on any switch or receptacle in an exterior wall are to be fitted with a gasket.
- 2.9. Supply polyethylene sleeves around all devices mounted on exterior/unheated spaces.
- 2.10. Division 15 to supply bath fan and timer, to be wired to turn on with light.

- 2.11. Exterior fixture switches, plugs, cover plates are to be weatherproof, and integrated into the building's exterior weather barrier. Refer to section [07 04 10 Rainscreen System](#) and [Typical Construction Details](#).
- 2.12. Ensure all boxes and other items embedded within the exterior wall or attic framing are suitable to be installed in an insulated wall, and are fitted with an air tight boot that can be incorporated into the building's vapour barrier. Refer to Section [07 01 10 Wall Cavity Barriers and Insulation](#).
- 2.13. Utilize fire-rated and weather-rated conduit and boxes for all electrical systems where required.
- 2.14. Label all electrical panels clearly, legibly, and logically for the ease of operation by the Owner and eventual occupants.
- 2.15. Supply GFCI receptacles in all wet areas, on a separate circuit, and installed according to the requirements of the Electrical Safety regulations. Each bathroom is to be fitted with one GFCI receptacle.
- 2.16. Supply and installation of appropriate fire-stopping methods to any wire penetration in the framing members located within fire separations, being sure to adhere to the directions in the ULC-rated systems applicable to individual pipe penetrations. Refer to Section [07 05 10 Firestopping](#).

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**Section 16 01 20 – Heating System**

- 1. **Scope of Work**
  - 1.1. Supply and installation of baseboard heat and thermostats.
  - 1.2. Coordination and integration of power requirements for mechanical systems, as required. Refer to Section [15 02 10 Ventilation Systems](#).
- 2. **Performance Requirements**
  - 2.1. If electric baseboard heating is required on this project, provide in all bedrooms, laundry rooms, enclosed kitchens, and central living areas. No unit is required in bathrooms, or non-living spaces such as garages, storage, or utility rooms.
  - 2.2. Select baseboard dimension suitable to supply sufficient heating for the size of each room.
  - 2.3. Ensure baseboard heating is wired to a separate breaker in each unit's panel.

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**Section 16 02 10 - Lighting Supply**

- 1. **Scope of Work**

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1.1. Supply and installation of all fixtures, finish trim kits, accessories, and lamping, both interior and exterior, required to provide all complete operational luminaires listed in the Light Fixture Schedule in Section [Project Material Schedules](#).

1.2. Integration and commissioning of all related wiring and devices required to operate the light fixtures specified in the Light Fixture Schedule. Refer to Section [Project Material Schedules](#).

**2. Performance Requirements**

2.1. Ensure all proposed light fixtures are dimmable and LED-compatible. If any specified items listed in the [Project Material Schedules](#) are unavailable or unsuitable, advise Owner and provide comparable alternate fixture that otherwise meets specifications during Submittals phase.

2.2. Coordinate with mechanical trade for practical layout of fixtures. Life safety and code compliance takes first precedence. Refer to Sections [15 03 10 Emergency Systems](#) and [16 03 10 Emergency Systems](#).

2.3. Fixture layout is to be mocked up in one unit, and approved in writing by Owner prior to covering.

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**Section 16 02 20 - Appliances and Equipment**

**1. Scope of Work**

1.1. All appliances will be supplied and by the Owner.

**2. Performance Requirements**

2.1. Coordinate with Owner regarding Appliance and Equipment requirements, to ensure that adequate power, wiring, and receptacles are supplied. Refer to [Appliance Schedule](#) and [Project Material Schedules](#) for more information.

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**Section 16 03 10 - Emergency Systems**

**1. Scope of Work**

1.1. Contractor is responsible for supplying and installing any life safety features (alarms, detectors, bells, panels, emergency packs, generators) that are required for the building to meet BC Building Code (current at time of contract award) and Electrical Safety Branch requirements for the relevant occupancy.

1.2. Coordination with mechanical discipline for integrated scopes of work related to life safety.

1.3. Testing, commissioning, and verification of all life safety systems and devices, and provision of all test reports to the Owner prior to substantial performance.

**2. Performance Requirements**



- 2.1. All smoke and heat alarms, exit lighting, and emergency light packs (if applicable) required under this section are to be hard-wired to the unit’s electrical panel, on a dedicated circuit, and connected together so that if one item on the circuit is activated, all items will be.
- 2.2. All emergency features are required to have a battery backup.
- 2.3. Smoke alarms are to be equipped with CO/NO2 monitoring.
- 2.4. Ensure a smoke/CO heat detector are placed in proximity to the wood-burning fireplace, if a fireplace is required by the design. Refer to Section [15 02 20 Appliances and Equipment](#).

**Section 16 04 10 - Low-Voltage**

- 1. **Scope of Work**
  - 1.1. Supply and installation of CATV systems (data/tel and cable outlets) and interior centrally located media box. Coordinate requirements with service providers, and include all necessary service entrance boxes as directed by them.
  - 1.2. Supply and installation of doorbell at front entrance (1 only per unit).
- 2. **Performance Requirements**
  - 2.1. Include interior central media box in each suite, where all media services will be routed to from exterior service boxes. Locate media box inside a suitable closet or utility room.
  - 2.2. Media box at each unit is to be equipped to accept 2x coaxial, 1x cat5 and 1x fiber outlets. Leviton SMC 280 or approved equivalent.
  - 2.3. Wire each suite with four locations each of data/tel and cable outlets, exact locations to be determined in conjunction with Owner.
  - 2.4. Ensure each item included in the Scope of Work section above includes all necessary components to provide a complete, functional, operational and fully commissioned system.

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 LOW VOLTAGE SCOPE OF WORK

The items listed in this section are project-dependent.

Review the list before tendering the job, and determine which of these listed items you require. Any not required can either be simply deleted from the scope of work section, or struck through.

To mark the text as struck through, select the entire line in question by left-mouse clicking on the line you want to mark, until the entire text is greyed out. Then, while still selected, right-mouse click to open the options menu, and choose "Font". In the font window, select "Strikethrough".

**Section 16 05 10 - Exterior and Site Works**

- 1. **Scope of Work**
  - 1.1. Supply and installation of meter bases for BC Hydro to install meters.
  - 1.2. Supply and installation of galvanized steel conduit piping for Utilities wiring.
  - 1.3. Supply and installation of media boxes at building exterior.
  - 1.4. All exterior site servicing between the street and the meter bases and media boxes will be the responsibility of the Owner.
- 2. **Performance Requirements**

- 2.1. Follow Hydro design, if provided.
- 2.2. Coordinate site works activities with Division 2 contractor and Utilities Providers. Refer to Section [02 02 40 Site Services and Public Utilities](#).
  
- 2.3. Meters, conduits, and boxes are to always be mounted on either finished wood trim to match exterior finishing scheme.
- 2.4. Caulk all penetrations fully, and caulk around perimeter of all surface-mounted items.

***End of Section***

## 5. PROJECT MATERIAL SCHEDULES

### 1. FINISHES SCHEDULE

Treatment	Location	Finish	Material Selection / Color
Paint	Kitchen, baths, utility, laundry	Semi-gloss	Dulux or better, to match "Beauti-Tone WB028-0 Whipped Cream"
Paint	Living, dining, bedrooms, closets, pantry	Eggshell	Dulux or better, to match "Beauti-Tone WB028-0 Whipped Cream"
Paint	Ceilings - all	Flat	White
Paint	Interior doors	Semi-gloss	Dulux or better, to match "Beauti-Tone B26-7-0985-0 Whiskers"
Paint	Interior trim	Semi-gloss	Dulux or better, to match "Beauti-Tone B26-7-0985-0 Whiskers"
Flooring	Kitchen, pantry	AC4 laminate	Taiga – Contractors Choice Queen Series, "Abbey Road" or approved equivalent
Flooring	Flooring - Living, dining, Bedrooms	AC4 laminate	Taiga – Contractors Choice Queen Series, "Abbey Road" or approved equivalent
Flooring	Bathrooms Laundry, utility	Resilient sheet minimum 12mil wear layer	To match laminate flooring, Owner to choose from samples provided by Contractor
Flooring	Fireplace hearth (if applicable)	Tile	TO BE DETERMINED – submit samples to Owner to review
Cabinetry	Kitchen and bath casework	Maple or birch ply	Clear coated
Cabinetry	Kitchen and bath countertops	Plastic Laminate	Pionite MV300-V StoneX "Manolin", or Formica 3465-RD Radiance "Golden Mascarello"
	Window coverings	Wood-look vinyl slat 2" Vertical 4" on patio door	Closely match the color of interior trim

Exteriors	Wall cladding	Hardi-plank and/or Hardi-panel	Mountain Sage (panel areas with w/ stained cedar battens)
	Feature finish – if applicable	Cedar shingles	Stain – SRD 077, all sides and edges, including back

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#### SCHEDULES

These charts are project-specific.

Each item listed in all Schedules is to be reviewed and adjusted for each project, depending on the design/quality intention of the client.

Add lines in to the table as needed, but if an item on this list is deemed not applicable to the project, simply write in "not applicable", rather than deleting the line.

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	Roofing	Pre-finished metal	To match: Cascadia QC8326 Coffee Brown Kaycan 38 Bronze OR Gentek 562 Commercial Brown
	Exterior door face	Painted	
	Exterior Trim	Cedar plank	Stain – SRD 077, all sides and edges
	Soffit	Cedar slats	Stain – SRD 077, all sides and edges
	Exposed structure	Cedar clad	Stain – SRD 077, all sides and edges
	Deck/patio	Concrete slab	Clear sealer

**2. PLUMBING FIXTURE SCHEDULE**

Item	Color	Model (or approved equal)
Tub / shower	White apron-front	American Standard or better
Bath sink	White	American Standard or better
Bath faucet	Stainless/chrome	Moen single lever
Shower mixer	Stainless/chrome	Moen pressure balancing single lever
Toilet	White extra height	American Standard “Cadet Right Height” or better
Kitchen sink	Stainless/chrome double basin	
Kitchen faucet	Stainless/ chrome	Moen single lever gooseneck with spray nozzle

**3. LIGHT FIXTURE SCHEDULE**

Room	Fixture Type	Fixture Count (per room)	Accessories, Devices, Notes
Bedroom(s)	LED ceiling mounted	1 each	Frosted lens, brushed chrome trim
Kitchen	LED recessed pots	Maximum 5’ apart	3-way switching. Brushed chrome trim
Dining	LED ceiling mounted	1 each	Dimmer. Frosted lens, brushed chrome trim
Living	LED ceiling mounted	1 each	Dimmer. Frosted lens, brushed chrome trim
Bathroom(s)	LED ceiling mounted	1 each	Wired to turn on with bath fan (separate fan by HVAC trade)
Laundry	LED ceiling mounted	1 each	

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Hall(s)	LED recessed pots	Maximum 5' apart	Brushed chrome trim
Porch	LED recessed pot (outdoor)	1 each	Brushed chrome trim
Patio/deck	LED wall-mounted downlight (outdoor)	1 each	Black or stainless

4. **APPLIANCE SCHEDULE (FOR REFERENCE, SUPPLIED BY OWNER)**

Item	Color/finish	Model (or approved equal)
Fridge	Whirlpool 18.5 Cuft white	WRB119WFBW
Stove	Whirlpool 4.8 cuft self clean white	YWFC310S0EW
Dishwasher	Not applicable	
Hood fan	White	By Mechanical
Washer	Whirlpool Front Load white	WFW75HEFW
Dryer	Whirlpool white	YWED75HEFW

5. **DOOR AND HARDWARE SCHEDULE**

Room	Door	Door requirement	Hardware requirement
Exterior	Front entrance	Fiberglass insulated swing door, 2-panel craftsman-or two-panel style, no glass * <i>Confirm fire rating requirement*</i>	Non-removable pin hinges, deadbolt, lever style lockset, hinge stop, weatherstripping, thermally-broken threshold, appropriate sweep
Exterior	Back entrance	Sliding glass – refer to window spec	Handle lock, floor bolt
Bedroom(s)	Entrance	Solid core swing door, 2-panel, paint-grade wood	Lever-style passage set, appropriate stop for location
Bedroom(s)	Closet	Hollow-core swing door, 2-panel, paint-grade wood	Lever style passage set, hinge stop
Bathroom(s)	Entrance	Solid core swing door, 2-panel, paint-grade wood	Lever style privacy set, appropriate stop for location
Laundry (if applicable)	Entrance	Hollow core swing door, 2-panel, paint-grade wood	Lever style passage set, appropriate stop for location
Pantry (if applicable)	Entrance	Hollow core swing door, 2-panel, paint-grade wood	Lever style passage set, hinge stop
Living (if applicable)	Closet	Hollow core swing door, 2-panel, paint-grade wood	Lever style passage set, hinge stop

**End of Section**

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## 6. TYPICAL CONSTRUCTION DETAILS

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(SEE ATTACHMENT)

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“TYPICAL CONSTRUCTION DETAILS” – Book of details from  
Morrison Hershfield

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## 7. PROJECT DESIGN DRAWINGS

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(SEE ATTACHMENT)

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insert PDF attachment here to complete this Tender Package  
–  
“Project Design Drawings” – series of working drawings  
issued for “tender” or “construction by project designer

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