BUILDING TECHNOLOGIES CONSULTING INC.
PROJECT MANUAL FOR ROOFING REPLACEMENT

THE TOWN OF CANMORE – ELK RUN MAINTENANCE FACILITY
103 ELK RUN BLVD.,
CANMORE, ALBERTA

ISSUED FOR CLIENT REVIEW

Prepared For:	The Town of Canmore 1900 8 Avenue, Canmore, Alberta David Hubman
BTC Group Project #:	A24036
Date:	October 2024

Prepared by:
Building Technologies Consulting Inc. (BTC Group)
Suite 205, 110 Country Hills Landing NW,
Calgary, AB T3K 5P3
T: 888-992-4282

VOLUME 1 OF 1

SECTION# **TITLE**

END OF SECTION

Part 1 General

1.1 INVITATION

.1 Bid Call

.1 Ensure offers are signed under seal, executed, and dated and are received before times posted via *BuildingConnected*:

.1 Submissions must be online through the invitation received from *BuildingConnected.*

.2 No other version of submissions will be approved other than *BuildingConnected* online entry.

.2 As online offers submitted will be time stamped as received, any offers received after the above time may be disqualified.

.3 Offers will be reviewed privately, immediately after the submission deadline.

.4 Amendments to submitted offer will be permitted if received in writing prior to Bid closing and if endorsed by same party or parties who signed and sealed offer.

1.2 INTENT

.1 Intent of this Bid call is to obtain an offer to perform Work to complete a **ROOF REPLACEMENT** located at *103 Elk Run Blvd., Canmore, AB,* for Stipulated Price contracts, in accordance with Contract Documents.

.2 Perform Work within time stated in Bid Form.

1.3 CONTRACT DOCUMENTS IDENTIFICATION

.1 Contract Documents are identified by Project Number **A24036** as prepared by Consultant, Building Technologies Consulting Inc. (O/A BTC Group), located at:

.1 Suite 205, 110 Country Hills Landing NW, Calgary, AB

1.4 CONTRACT/BID DOCUMENTS

.1 Agreement Form.

.2 Definitions:

.1 Contract Documents: CCDC-2 2020

.2 Bid Document: Contract Documents supplemented with Instructions to Bidders and Bid Form (including Bid Form Appendices).

.3 Bid, Offer, or Bidding: act of submitting an offer under seal.

.4 Bid Price: monetary sum identified in Bid Form as an offer to perform Work.

.5 BuildingConnected: an online bid management portal for project bid submissions.

.3 Availability

.1 Electronic versions of Bid Documents may be obtained from the *Building Connected* website.

.2 Bid Documents are made available only for purpose of obtaining offers for this project. Their use does not confer licence or grant for other purposes.

.3 A copy of the designated substances report is bound in Bid Documents and identified as Document 00 31 26.

.4 Examination

.1 Upon receipt of Bid Documents verify that documents are complete.

.2 Immediately notify Consultant upon finding discrepancies or omissions in Bid Documents.

.5 Queries/Addenda

.1 Direct questions in writing to Consultant by e-mail at:

.1 *BuildingConnected* web portal

.2 Addenda may be issued during Bidding period. Addenda will become part of Contract Documents. Include costs in Bid Price.

.3 Verbal answers are only binding when confirmed by written addenda.

.4 Clarifications requested by Bidders must be in writing not less than five (5) working days before date set for receipt of Bids. Reply will be in form of an addendum. Copy of addendum will be forwarded to known Bidders no later than two (2) working days before date set for receipt of Bids.

.6 Product/System Options (Substitutions Prior to Receiving Bids)

.1 Where Bid Documents stipulate a particular product, substitutions will not be considered by Consultant.

1.5 SITE ASSESSMENTS

.1 Site Examination and Bidders Briefing

.1 A job showing will be held on the date posted on *BuildingConnected,* local time. Bidders are to plan to arrive 15 minutes early, as the sign-in and subsequent tour will begin at the stated time without delay.

.2 Representatives of Consultant and Owner will be in attendance.

.3 General Contractor, suppliers and major subtrades are invited.

.4 Information relevant to Bid Documents will be recorded in Addendum and issued to known Bidders.

.5 Contractor to confirm all tender documents are included as part of this package as per tender document list provided by Consultant.

.6 It is the Contractor’s responsibility to ensure that all addenda are included and listed in tender submission and that all addenda are included in tender price.

.7 The Contractor is responsible for all general conditions/requirements and shall included for all costs for the same, including all overhead and profit, in tender price.

.8 Contractor to ensure no Work whatsoever is undertaken which is conditional on permits, approvals, guarantees, until certain that all conditions necessary to obtain these are met. No time extension will be allowed by the Owner for obtaining necessary permits.

1.6 QUALIFICATIONS

.1 Prequalification:

.1 Bidder when specifically requested must complete and submit CCDC #11 Contractors Qualification Statement to Consultant. Acceptance or rejection of this submittal will be made within 48 hours.

.2 Bidder must be an accredited member of Alcumus Contractor Check to ensure Owner Health and Safety Compliance before signing of Contract.

.3 Bidder must possess a minimum $10,000,000 Commercial General Liability insurance policy, with no exclusion for hot works.

.4 The Contractor will add as Additional Insured:

.1 The Owner

.2 Building Technologies Consulting Inc.

.5 The Contractor and any of its sub-contractors performing designated trades work on this site shall conform and adhere to all provisions of the collective agreements of the Carpenters Union, and the Laborers' Union of North America

.2 Subcontractors:

.1 Owner reserves right to reject proposed subcontractor for reasonable cause.

1.7 BID SUBMISSION

.1 Bid Ineligibility

.1 Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may be declared informal at Owner's discretion.

.2 Bids with Bid Forms and attachments which are improperly prepared may be declared informal at Owner's discretion.

.3 Bids that fail to include insurance requirements may be declared informal at Owner's discretion.

.4 Bids are by invitation only, from selected Bidders. Bids from unsolicited Bidders will not be accepted.

.2 Submissions

.1 Bidders are solely responsible for delivery of their Bids in manner and time prescribed.

.2 Submit one copy of executed offer on Bid Forms provided, signed and with corporate seal together with required undertaking of Insurance via *BuildingConnected* website.

.3 Bidders must include a declaration on company letterhead noting no conflict of interest.

.4 Improperly completed or missing information, and irregularities in insurance requirements, may be cause for the Owner to declare Bid informal.

1.8 BID ENCLOSURES/REQUIREMENTS

.1 Insurance:

.1 Provide signed "Undertaking of Insurance" on standard form provided by insurance company stating intention to provide insurance to Bidder in accordance with insurance requirements of Contract Documents.

.2 Bid Form Requirements:

.1 State in Bid Form, the date planned to start Work.

.2 State in Bid Form, time required to complete Work. Completion date in Agreement must be completion time added to commencement date.

.3 Fees for Changes in Work

.1 Percentage markup for overhead and profit applicable for changes (both additions and deductions) in Work are stipulated in Section 01 29 00 – Payment procedures.

.4 Bid Signing

.1 Bid Form to be signed under seal by Bidder.

.2 Sole Proprietorship: signature of sole proprietor in presence of witness who shall also sign. Insert words "Sole Proprietor" under signature.

.3 Partnership: signature of all partners in presence of witness who shall also sign. Insert word ‘Partner' under each signature. Affix seal to each signature.

.4 Limited Company: signature of duly authorized signing officer(s) in normal signatures. Insert officer's capacity in which signing officer acts, under each signature. Affix corporate seal. If Bid is signed by officials other than President and Secretary of company, or President-Secretary-Treasurer of company, copy of by-law resolution of Board of Directors authorizing them to do so must also be submitted with Bid in Bid envelope.

.5 Incorporated Company: signature of duly authorized signing officer(s) in normal signatures. Insert officer's capacity in which signing officer acts, under each signature. Affix corporate seal. If Bid is signed by officials other than President and Secretary of company, or President-Secretary-Treasurer of company, copy of by-law resolution of Board of Directors authorizing them to do so must also be submitted with Bid in Bid envelope.

.6 Joint Venture: each party of joint venture must execute Bid under respective seals in manner appropriate to such party as described above, similar to requirements of Partnership.

.5 Appendices to Document 00 41 13 - Bid Form – Stipulated Price:

.1 Appendix A - Contract Documents: complete listing of Contract Documents.

.2 Appendix B – List of Subcontractors: include names of Subcontractors and portions of Work Bidder will perform.

.3 Appendix C - Unit Prices: include listing of unit prices specifically requested in Bid Documents.

.4 Appendix D – Itemized Prices: A cost breakdown. Prices for specific items of work included in the bid price, provided for information only. Itemized Prices are not intended to be used to adjust the scope of the Work and the Bid Price.

1.9 OFFER ACCEPTANCE/REJECTION

.1 Duration of Offer:

.1 Bids to remain open to acceptance, and irrevocable for **60** days after Bid closing date.

.2 Acceptance of Offer:

.1 Owner reserves right to accept or reject any or all offers.

.2 Owner reserves the right to negotiate with the low bidder.

.3 After acceptance by Owner, the Owner will issue to successful Bidder, a “Letter of Bid Acceptance” or “Notice to Proceed Letter”, signed by the Owner, and in the Owner’s letterhead, accepting the Bid as it stands without alterations or qualifications (conditions). If this is not possible, the Project commencement date will be the date that the Agreement between Owner and Contractor is executed.

.4 After Bid has been accepted, unsuccessful Bids will be returned to respective Bidders with submitted Bid securities and other requested enclosures.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Project/Contract: **BTC PROJECT #: A24036**
TOWN OF CANMORE – ELK RUN MAINTENANCE FACILITY, ROOF REPLACEMENT
103 ELK RUN BLVD., CANMORE, AB

From (Bidder):

(business name) _____

(street address or postal box number) _____

(city/town, province, and postal code)_____

To (Owner): **The Town of Canmore**

We, the undersigned, having examined the Bid Documents for the above-named project/contract, including Addendum Number(s)_____, and having visited the Place of the Work, hereby offer to perform the Work in accordance with the Bid Documents, for the stipulated base bid price of:

$_____in Canadian dollars, excluding Value Added Taxes.
(amount in figures)

We, the undersigned, declare that:

1. we are qualified to perform the Work in accordance with the Bid Documents and our bid price covers all our obligations and things necessary for the performance of the Work,
2. we agree to commence work on the site within _____ working days of receiving notice of Contract Award / pending receipt of executed contract.
3. we agree to attain Substantial Performance of the Work within _____days after receiving notice of contract award / mobilization,
4. we have arrived at this bid without collusion with any competitor,
5. any and all bid form supplements called for by the Bid Documents form an integral part of this bid, and
6. this bid is open to acceptance by the Owner for a period of thirty (30) calendar days from the bid closing time.
7. It is understood that The Owner reserves the right to accept or reject any offer.
8. It is understood that all projects will be awarded individually and may be awarded to separate bidders, but also may be combined into one contract with one bidder.

Where Unit Prices are included in schedule of prices, it is understood that:

1. bids will be evaluated, and the lowest bidder will be determined based on the amount entered above,
2. where applicable, the quantities in the Schedule of Unit Prices are estimated and may vary,
3. the unit prices in the Schedule of Unit Prices and actual quantities will form the basis for payment of the unit price component of the Work, and
4. the extensions of unit prices and addition of unit price extensions will be checked by the Consultant and where arithmetical errors are discovered, the unit prices will be considered as representing our intentions, and the unit price extensions and the total amount entered above for the unit price Component of the Work will be corrected accordingly.

Signatures

Signed and submitted by:

_____
(business name)

_____
(name and title of authorized signing representative)

_____
(signature of authorized signing representative)

_____
(name of witness if business is sole proprietorship)

_____
(signature of witness if business is sole proprietorship)

Dated this _____ day of _____ , 20 _____

_____
(company seal)

APPENDICES TO BID FORM

Appendix A - Contract Documents

Appendix B - Schedule of Prices

Appendix C - List of Subcontractors

Appendix D - Unit Prices

The documents listed in Appendix "A" of the Bid Form are an integral part of this Bid.

APPENDIX "A" – CONTRACT DOCUMENTS

Project/Contract: **BTC PROJECT #: A24036**
TOWN OF CANMORE – ELK RUN MAINTENANCE FACILITY,
ROOF REPLACEMENT
103 ELK RUN BLVD., CANMORE, AB

From (Bidder): _____

company name

The following is the complete listing of Contract Documents referred to in Document 00 41 13 - Bid Form – Stipulated Sum, submitted by the Bidder, and which is an integral part of the Bid Form:

FRONT END DOCUMENTS

BIDDING REQUIREMENTS

Section 00 21 13	Instruction to Bidders
Section 00 41 13	Bid Form –Stipulated Sum

GENERAL REQUIREMENTS

Section 01 11 00	Summary of Work
Section 01 14 00	Work Restrictions
Section 01 29 00	Payment Procedures
Section 01 33 00	Submittal Procedures
Section 01 35 30	Health, Safety, and Emergency Response Procedures
Section 01 52 00	Construction Facilities
Section 01 56 00	Temporary Barriers and Enclosures
Section 01 77 00	Closeout Procedures

TECHNICAL SPECIFICATIONS

Section 02 41 19	Selective Demolition
Section 06 10 00	Rough Carpentry
Section 04 22 00	Unit Masonry
Section 05 40 00	Cold Formed Steel Framing
Section 07 21 00	Blanket Insulation
Section 07 61 00	Standing Seam Sheet Metal Roofing (SSMR)
Section 07 62 00	Sheet Metal Flashing and Trim
Section 07 92 00	Joint Sealants

APPENDICIES

Appendix E	Photographic Details

DRAWINGS

A1	Roof Plan
A2	Elevation
A3	Section and Details
A4	Section and Details – Gable Roof

APPENDIX "B" – SCHEDULE OF PRICES

Project/Contract: **BTC PROJECT #: A24036**
TOWN OF CANMORE – ELK RUN MAINTENANCE FACILITY, ROOF REPLACEMENT
103 ELK RUN BLVD., CANMORE, AB

From (Bidder): _____
company name

SCHEDULE OF PRICES

The Schedule of Prices forms the basis for determining the Stipulated Contract Price. Quantities for Unit Price Items in the Schedule of Prices are estimated, and all Work to be invoiced under the unit price items must be approved by the Engineer before proceeding with the Work. Final Contact Value and payment amounts will be calculated as per the actual work quantities measured on site upon completion of the work.

The Schedule of Prices includes the specified cost, overhead, profit, and all applicable taxes in force at date of Bid with the exception of Value Added Sales Tax as required in each province, which is to be added on each invoice.

Work	Est. Qty	Unit Price	Item Price
1. A24036 – Town of Canmore – Elk Run Maintenance Facility Roofing Replacement a. Standing Seam Metal Roofing (SSMR) - Roof and Gutter Replacement as per tender package.	Lump Sum	n/a	$_____
		Total Base Bid Price	$_____

(Enter Total Base Bid Price as Stipulated Price on page 1 of the Bid Form)

APPENDIX "C" – LIST OF SUBCONTRACTORS

Project/Contract: **BTC PROJECT #: A24036**
TOWN OF CANMORE – ELK RUN MAINTENANCE FACILITY,
ROOF REPLACEMENT
103 ELK RUN BLVD., CANMORE, AB

From (Bidder): _____
company name

We, the above-named bidder, propose to use for the above-named project, the Subcontractors named below.

(a) State “Own Forces” if a subcontractor will not be required for any of the items of work listed. If additional trades will be required, insert in blank spaces.

(b) Failure to complete this list of Subcontractors may result in the disqualification of this Bid.

(c) Owner reserves right to reject proposed subcontractor for reasonable cause.

Item of work	**Name of Subcontractor**
Selective Demolition	
Carpentry	
Sheet Metal Flashing	
Standing Seam Metal Roofing	
Sealants	
Electrical	
Other _____	

APPENDIX "D" - UNIT PRICES

Project/Contract: **BTC PROJECT #: A24036**
TOWN OF CANMORE – ELK RUN MAINTENANCE FACILITY,
ROOF REPLACEMENT
103 ELK RUN BLVD., CANMORE, AB

From (Bidder): _____

company name

We, the above-named bidder, offer below the requested unit prices for specific portions of the Work as listed, and are applicable to authorized variations from the Contract Documents. Such Additional Work and amounts are **NOT** included in our Stipulated Price and will only be invoiced if additional work is directed by the Consultant to address hidden conditions, through a change order or change directive.

Item of Work	**Unit value and unit quantity**
1. Replacement of deteriorated roof sheathing – ½" Plywood (secured to minimum three joists.)	$_____ /4x8 Sheet
2. Supply and install new 2" x 4" dimensional SPF lumber (Replace deteriorated framing)	$_____ /lnft

END OF SECTION 00 41 13

Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this Contract comprises of a **Roofing Replacement**, located at **103 Elk Run Blvd., Canmore, AB,** and further identified as A24036.

1.2 CONTRACT METHOD

.1 Construct Work under stipulated price contract. The form of Contract will be the CCDC-2 - 2020 Edition.

1.3 TIME OF COMPLETION

.1 Commence Work in accordance with notification of acceptance of your offer.

.2 Complete the Work within the period stated in the bid form, but no later than November 30th, 2024.

1.4 WORK SEQUENCE

.1 Construct Work in stages to accommodate Owner's continued use of premises during construction.

.2 Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.

.3 Construct Work in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of Work will provide alternate usage.

.4 Maintain fire access/control at all times.

1.5 INFORMATION AVAILABLE TO BIDDERS

.1 The following is a summary of the existing roof construction for this Project. Bidders are cautioned that information on these roofs was obtained from visual observation and limited cut testing and applies only to the specific location of the cut tests. This information is provided to Bidders as a guideline only.

.2 Bidders shall not hold **Building Technologies Consulting Inc. (BTC Group)** or the Owner responsible for errors or omissions resulting from the use of this information. Contractors should confirm all roof assemblies.

.1 Existing roof system is as shown on the Roof Plan, based on information obtained through localized cut tests.

1.6 CONTRACTOR USE OF PREMISES

.1 Limited use of premises to allow:

.1 Owner occupancy

.2 Public usage

.2 Co-ordinate use of premises under direction of Consultant.

.3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

.4 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.

.5 Repair or replace portions of existing work which has been altered during construction operations to match existing or adjoining work, as directed by Consultant.

.6 At completion of operations, condition of existing work must be equal to or better than that which existing before new work started.

1.7 OWNER OCCUPANCY

.1 Owner will occupy premises during entire construction period for execution of normal operations.

.2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

.3 Noisy operations such as power cutting of roofs, or drilling are to be coordinated and completed during days and time appointed by the Owner.

.4 Material and debris hoisting, and other non-disruptive work such as placing of insulation and membrane may be completed during normal work hours from 8 A.M. to 5 P.M. or as approved by Owner.

1.8 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

.1 Execute work with least possible interference or disturbance to building operation, occupants, public, and normal use of premises. Arrange with Consultant to facilitate execution or work.

.2 Do not use interior access to access roof area.

1.9 EXISTING SERVICES

.1 Notify Consultant, Owner, and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give Consultant and Owner 48 hours' notice for necessary interruption of mechanical or electrical service throughout course or work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to pedestrian and vehicular traffic and tenant operations.

.3 Provide alternative routes for personnel, pedestrian and vehicular traffic.

.4 Establish location and extent of service lines in area of work before starting Work. Notify Consultant of findings.

.5 Submit schedule to and obtain approval from Consultant for any shut-down or closure of active service or facility including mechanical, power, and communication services. Adhere to approved schedule and provide notice to affected parties.

.6 Provide temporary services when directed by Consultant to maintain critical building and tenant system.

.7 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.

.8 Protect, relocate, or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.

.9 Record locations of maintained, re-routed and abandoned service lines.

.10 Construct barriers to meet provincial Health and Safety requirements.

1.10 DOCUMENTS REQUIRED

.1 Maintain at job site, one copy of each document as follows:

- .1 Contract Drawings
- .2 Specifications
- .3 Addenda
- .4 Reviewed Shop Drawings
- .5 Change Orders
- .6 Other Modifications to Contract
- .7 Field Test Reports
- .8 Copy of Approved Work Schedule
- .9 Health and Safety Plan and Other Safety Related Documents
- .10 Other documents as specified.

Part 2 Products

Not Applicable

Part 3 Execution

Not Applicable

END OF SECTION

Part 1 General

1.1 ACCESS AND EGRESS

.1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial, and other regulations.

1.2 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Consultant to facilitate work as stated.

.2 Maintain existing services to building and provide for personnel and vehicle access.

.3 Where security is reduced by work provide temporary means to maintain security.

.4 Contractor to provide own sanitary facilities.

.5 Closures: protect work temporarily until permanent enclosures are completed.

1.3 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

.1 Execute work with least possible interference or disturbance to building operations] public and occupants and normal use of premises. Arrange with Consultant to facilitate execution of work.

1.4 EXISTING SERVICES

.1 Notify, Consultant and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give Consultant 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.

.3 Provide for pedestrian, personnel, and vehicular traffic.

.4 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.5 SPECIAL REQUIREMENTS

.1 Submit schedule for approval before proceeding with work.

.2 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.

.3 Keep within limits of work and avenues of ingress and egress.

.4 Deliver materials outside of peak traffic hours unless otherwise approved by Consultant.

1.6 SECURITY

.1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.

1.7 BUILDING SMOKING ENVIRONMENT

.1 Comply with smoking restrictions. Smoking is not permitted on site.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 APPLICATIONS FOR PROGRESS PAYMENT

.1 Make applications for payment on account **monthly** as Work progresses.

.2 Date applications for payment last day of agreed **monthly** payment period and ensure amount claimed is for value, proportionate to amount of Contract, of Work performed and Products delivered to Place of Work at that date.

.3 Submit to Consultant, at least **14** days before first application for payment. Schedule of values for parts of Work, aggregating total amount of Contract Price, to facilitate evaluation of applications for payment.

.4 Enclose photographs with application for payment, confirming status of completed work included in application for payment.

1.2 SCHEDULE OF VALUES

.1 Provide schedule of values supported by evidence as Consultant may reasonably direct and when accepted by Consultant, be used as basis for applications for payment.

.2 Include statement based on schedule of values with each application for payment.

.3 Support claims for products delivered to Place of Work but not yet incorporated into Work by such evidence as Consultant may reasonably require to establish value and delivery of products.

1.3 PREPARING SCHEDULE OF UNIT PRICE TABLE ITEMS

.1 Submit separate schedule of unit price items of Work requested in Bid form.

.2 Make form of submittal parallel to Schedule of Values, with each line item identified same as line item in Schedule of Values. Include in unit prices only:

.1 Cost of material.

.2 Delivery and unloading at site.

.3 Sales taxes.

.4 Installation, overhead and profit.

.3 Ensure unit prices multiplied by quantities given equal material cost of that item in Schedule of Values.

1.4 PROGRESS PAYMENT

.1 Consultant will issue to Owner, no later than **10** days after receipt of an application for payment, certificate for payment in amount applied for or in such other amount as Consultant determines to be due. If Consultant amends application, Consultant will give notification in writing giving reasons for amendment.

1.5 SUBSTANTIAL PERFORMANCE OF WORK

.1 Prepare and submit to Consultant comprehensive list of items to be completed or corrected and apply for a review by Consultant to establish Substantial Performance of Work or substantial performance of designated portion of Work. Failure to include items on list does not alter responsibility to complete Contract.

.2 No later than **10** days after receipt of list and application, Consultant will review Work to verify validity of application, and no later than **7** days after completing review, will notify Contractor if Work or designated portion of Work is substantially performed.

.3 Consultant: state date of Substantial Performance of Work or designated portion of Work in certificate.

.4 Immediately following issuance of certificate of Substantial Performance of Work, in consultation with Consultant, establish reasonable date for finishing Work.

1.6 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF WORK

.1 After issuance of certificate of Substantial Performance of Work:

.1 Submit application for payment of holdback amount.

.2 Submit sworn statement that accounts for labour, subcontracts, products, construction machinery and equipment, and other indebtedness which may have been incurred in Substantial Performance of Work and for which Owner might in be held responsible have been paid in full, except for amounts properly retained as holdback or as identified amount in dispute.

.2 After receipt of application for payment and sworn statement, Consultant will issue certificate for payment of holdback amount.

.3 Where holdback amount has not been placed in a separate holdback account, Owner shall, **10** days prior to expiry of holdback period stipulated in lien legislation applicable to Place of Work, place holdback amount in bank account in joint names of Owner and Contractor.

.4 Amount authorized by certificate for payment of holdback amount is due and payable on day following expiration of holdback period stipulated in lien legislation applicable to Place of Work. Where lien legislation does not exist or apply, holdback amount is due and payable in accordance with other legislation, industry practice, or provisions which may be agreed to between parties. Owner may retain out of holdback amount sums required by law to satisfy liens against Work or, if permitted by lien legislation applicable to Place of Work, other third party monetary claims against Contractor which are enforceable against Owner.

1.7 PROGRESSIVE RELEASE OF HOLDBACK

.1 Where legislation permits, if Consultant has certified that Work of subcontractor or supplier has been performed prior to Substantial Performance of Work, Owner shall pay holdback amount retained for such subcontract Work, or products supplied by such supplier, on day following expiration of holdback period for such Work stipulated in lien legislation applicable to Place of Work.

.2 In addition to provisions of preceding paragraph, and certificate wording, ensure that such subcontract Work or products is protected pending issuance of final certificate for payment and be responsible for correction of defects or Work not performed regardless of whether or not such was apparent when such certificates were issued.

1.8 FINAL PAYMENT

.1 Submit application for final payment when Work is completed.

.2 Consultant will, no later than **10** days after receipt of application for final payment, review Work to verify validity of application. Consultant will give notification that application is valid or give reasons why it is not valid, no later than **7** days after reviewing Work.

.3 Consultant will issue final certificate for payment when application for final payment is found valid.

1.9 ADDITIONAL WORK

.1 Percentage mark-up for applicable for changes in Work, whether additions to or deductions from Work, executed by Contractor's own forces:

.1 As per Owner's Form of Contract

.2 Markup for subcontract work for changes (both additions and deductions) in Work shall be:

.1 As per Owner's Form of Contract

.3 The Owner has allowed for a fixed level of effort by the Consultant for Quality Assurance and Project Management on this project. If additional site reviews or project management time is required due to deficient workmanship or unusual Contractor delays beyond the estimated completion date, the Owner reserves the right to backcharge the Contractor for additional engineering fees required to oversee the work. These will be processed via change Order to the Contract.

.4 The Contractor is to schedule and complete the Work prior to winter. There shall be no payment for claims for additional costs to adjust for Winter Conditions.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

.1 Submit to Consultant submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Present shop drawings, product data, samples and mock-ups in SI Metric units.

.4 Where items or information is not produced in SI Metric units converted values are acceptable.

.5 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.6 Notify Consultant, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.7 Verify field measurements and affected adjacent Work are co-ordinated.

.8 Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.

.10 Keep one reviewed copy of each submission on site.

1.2 SHOP DRAWINGS AND PRODUCT DATA

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.2 Submit drawings stamped and signed by professional engineer registered or licensed in the Province or Territory of Work.

.3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.4 Allow **10** days for Consultant's review of each submission.

.5 Adjustments made on shop drawings by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.

.6 Make changes in shop drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify Consultant in writing of revisions other than those requested.

.7 Accompany submissions with transmittal letter, in PDF format, containing:

.1 Project title and Consultant project number.

.2 Date.

.3 Consultant’s company name, and name of Consultant to which it is addressed

.4 Contractor's name and address.

.5 Identification of each shop drawing, product data and sample.

.6 Other pertinent data.

.7 Statement that the Contractor reviewed the shop drawings prior to sending them to the Consultant for review and signed by the Contractor.

.8 Submissions include:

.1 Date and revision dates.

.2 Project title and number.

.3 Name and address of:

.1 Subcontractor.

.2 Supplier.

.3 Manufacturer.

.4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.

.5 Details of appropriate portions of Work as applicable:

.1 Fabrication.

.2 Layout, showing dimensions, including identified field dimensions, and clearances.

.3 Setting or erection details.

.4 Capacities.

.5 Performance characteristics.

.6 Standards.

.7 Operating weight.

.8 Wiring diagrams.

.9 Single line and schematic diagrams.

.10 Relationship to adjacent work.

.9 After Consultant's review, distribute copies.

.10 Submit electronic copy if PDF format of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.

.11 Submit electronic copies in PDF format of product data sheets or brochures for requirements requested in specification Sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product.

.12 Submit electronic copies in PDF format of test reports for requirements requested in specification Sections and as requested by Consultant.

.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.

.2 Testing must have been within **3** years of date of contract award for project.

.13 Submit electronic copies in PDF format of certificates for requirements requested in specification Sections and as requested by Consultant.

.1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.

.2 Certificates must be dated after award of project contract complete with project name.

.14 Submit electronic copies in PDF format of manufacturers instructions for requirements requested in specification Sections and as requested by Consultant.

.1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

.15 Submit electronic copies in PDF format of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Consultant.

.16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

.17 Submit electronic copies in PDF format of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Consultant.

.18 Delete information not applicable to project.

.19 Supplement standard information to provide details applicable to project.

.20 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, copies will be returned, and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

.21 The review of shop drawings by the Consultant is for sole purpose of ascertaining conformance with general concept.

.1 This review shall not mean that the Consultant approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.

.2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.3 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Consultant's office, and upon request of the Consultant, one of the two (2) samples to the Owner.

.3 Notify Consultant in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where colour, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.

.6 Make changes in samples which Consultant may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.4 MOCK-UPS

.1 Erect mock-ups in accordance with requests in specific technical sections.

1.5 HEALTH AND SAFETY

.1 Submit site-specific Health and Safety Plan prior to commencement of Work as per Section 01 35 29 Health, Safety, and Emergency Response Procedures.

1.6 PHOTOGRAPHIC DOCUMENTATION

.1 Submit electronic copy of colour digital photography in **jpg** format, fine resolution **monthly with progress statement** or more frequently as directed by Consultant.

.2 Project identification: name and number of project and date of exposure indicated.

.3 Number of viewpoints: 4 locations.

.1 Viewpoints and their location as determined by Consultant.

.2 For work on roofs, the four (4) main corners of the roof may be considered as the default viewpoints

.4 Frequency of photographic documentation: weekly or as directed by Consultant.

.1 Upon completion of: a particular Work result, before concealment, as directed by Consultant.

1.7 CERTIFICATES AND TRANSCRIPTS

.1 Immediately after award of Contract, submit Workers' Compensation Board status.

.2 Submit transcription of insurance immediately after award of Contract, listing Owner, Consultant and Landlord (if applicable) as additional insured.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Canadian Labour Code, Part 2, Canada Occupational Safety and Health Regulations

.2 Provincial Safety Acts (refer to applicable provincial act)

.3 Province of Alberta

.1 Occupational Health and Safety Act, R.S.A. - Updated 2013.

1.2 SUBMITTALS

.1 Make submittals in accordance with Section 01 33 00 – Submittal Procedures.

.2 **Submit site-specific Health and Safety Plan: Within seven (7) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:**

.1 **Results of site-specific safety hazard assessment**

.2 **Results of task specific safety hazard assessment**

.3 Submit a PDF copy of Contractor's authorized representative's work site health and safety inspection reports to the Consultant and/or authority having jurisdiction.

.4 Submit a PDF of reports or directions issued by Federal, Provincial, and Territorial health and safety inspectors.

.5 Submit a PDF copy of incident and accident reports.

.6 Submit a PDF copy of WHMIS SDS – Safety Data Sheets for all specified products.

.7 The Consultant will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within seven (7) days after receipt of plan. Revise plan as appropriate and resubmit plan to Consultant within 7 days after receipt of comments from the Consultant.

.8 The Consultant's review of the Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

.9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to the Consultant.

.10 Emergency Response Plan: submit emergency response procedures in the event of a site emergency.

1.3 SAFETY ASSESSMENT

.1 Perform site specific safety hazard assessment related to project.

1.4 MEETINGS

.1 Schedule and administer Health and Safety meeting with the Consultant prior to commencement of work.

1.5 RESPONSIBILITY

.1 Be responsible for health and safety of persons on site, safety of property on site, and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable Federal, Provincial, Territorial, and local statues, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.6 COMPLIANCE REQUIREMENTS

.1 Comply with **Workers Compensation Act.**

.2 Comply with **Provincial Health and Safety Act**

.3 Comply with **Occupational Health and Safety Regulations, 1996.**

.4 Comply with **Canadian Labour Code, Canada Occupational Safety and Health Regulations.**

1.7 UNFORSEEN HAZARDS

.1 When unforeseen or peculiar safety-related factor(s), hazard(s), or condition(s) occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise the Consultant verbally and in writing.

1.8 HEALTH AND SAFETY CO-ORDINATOR

.1 Employ and assign Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:

.1 Have site-related working experiences specific to activities associated with project outlines in Section 01 11 00 Summary of Work.

.2 Have working knowledge of occupational safety and health regulations.

.3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform work.

.4 Be responsible for implementing, enforcing daily, and monitoring site-specific Contractor's Health and Safety Plan.

1.9 POSTING OF DOCUMENTS

.1 Ensure applicable items, articles, notices, and orders are posted in a conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with the Consultant.

1.10 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by the Consultant

.2 Provide the Consultant with written report of action taken to correct non-compliance of health and safety issues identified.

.3 The Consultant may stop Work if non-compliance of health and safety regulations is not corrected.

1.11 WORK STOPPAGE

.1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

Not Applicable

Part 3 Execution

Not Applicable

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-2020, Stipulated Price Contract.

.2 CAN/CSA-S269.2, Access Scaffolding for Construction Purposes.

.3 CAN/CSA-Z321, Signs and Symbols for the Occupational Environment.

1.2 GENERAL

.1 This Section includes provisions for construction facilities in order to execute work expeditiously including field offices, sheds, first aid facilities and sanitary facilities. Remove from site all such work after use.

.2 This section also contains provisions for Temporary Utilities

1.3 SUBMITALS

.1 Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.

.2 Prepare site plan indicating proposed location(s) and dimensions of area(s) to be fenced and used by Contractor, avenues of ingress/egress to fenced area(s) and details of fence installation. Location(s) of fenced areas to be approved by Owner

1.4 PLANT AND MACHINERY

.1 Provide all form work, scaffolding, equipment, tools and machinery for the proper execution of the work.

.2 Where it is normal practice for the trade to provide its own shoring or scaffolding, it shall be included in the Subcontract.

.3 Scaffolding and other equipment shall be erected in accordance with local by-laws, the Occupational Health and Safety Act and Regulations, without damage to the structure or the finishes, shall be moved to suit the installation of the work of other trades and promptly removed at completion.

.4 Take all necessary precautions to adequately protect the building and landscape materials, including shrubs and trees, from damage. Pruning of trees to facilitate access to the building shall be done in consultation with the Owner and as approved by the Owner.

.5 Make good to the satisfaction of the Consultant, and at no cost to the Owner, the damage resulting from the work of the Contract and related activities.

1.5 SHORING AND SCAFFOLDING

.1 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms and temporary stairs as required.

.2 Provide shoring and scaffolding rigging drawings designed and stamped by a suitably experienced Professional Engineer registered in the province of the work, where required.

.3 Scaffolding in accordance with CAN/CSA-S269.2.

.4 Construct and maintain shoring, scaffolding and swing stages in a secure and safe manner in accordance with local by-laws and Occupational Health and Safety Act and Regulation. Erect shoring and scaffolding independent of walls. Use shoring and scaffolding in such a manner as to interfere as little as possible with other trades, traffic, or with normal usage of the building.

1.6 INSTALLATION AND REMOVAL OF TEMPORARY UTILITIES

.1 Provide and pay for temporary utilities at prevailing rates including potable water, heating, ventilation, power and light for construction use and as required to execute work expeditiously.

.2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.

.3 Give Consultant and Owner 48 hours notice related to each necessary interruption of any utility, mechanical or electrical service throughout the course of the Work. Keep duration of these interruptions to a minimum. Carry out all interruptions after normal working hours of the occupants, preferably on weekends.

.4 Remove from site all such work after use.

1.7 TEMPORARY HEATING

.1 Provide temporary heating as required to maintain temperatures of minimum **10 degrees C** as required to:

.1 Maintain heated enclosures for materials storage

.2 Facilitate progress of Work.

.3 Protect Work and products against dampness and cold.

.4 Prevent moisture condensation on surfaces.

.5 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.

.2 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted.

1.8 TEMPORARY VENTILATION

.1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.

.2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.

.3 Provide adequate ventilation to meet health regulations for safe working environment.

.4 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.

.5 Ventilate storage spaces containing hazardous or volatile materials.

.6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.

1.9 TEMPORARY POWER AND LIGHT

.1 Provide and pay for temporary power during construction for temporary lighting and operating of power tools and equipment.

.2 Connect to existing power supply in accordance with Canadian Electrical Code.

.3 Provide and maintain temporary lighting throughout project for construction operations that occur from dusk until dawn, such as hoisting materials onto roof at night. Ensure level of illumination in area of work is not less than 162 lx.

1.10 HOISTING

.1 Provide, operate, and maintain hoists, cranes required for moving of workers, materials and equipment.

.2 Hoists, cranes to be operated by qualified operator.

1.11 SITE STORAGE/LOADING

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.12 EQUIPMENT, TOOL, AND MATERIAL STORAGE

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.2 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage or tools, equipment, and materials.

.3 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause the least interference with work activities. Location to be approved by Owner

1.13 CONSTRUCTION PARKING

.1 Parking will be permitted on site provided it does not disrupt building operations.

.2 Provide and maintain adequate access to project site.

1.14 TEMPORARY SANITARY FACILITIES

.1 Provide and maintain in a sanitary condition required chemical toilet facilities for workers in accordance with governing regulations.

.2 Post notices and take precautions as required by local health authorities. Location to be approved by Owner

.3 Existing facilities shall not be used.

1.15 CONSTRUCTION SIGNAGE

.1 No signs or advertisements, other than warning signs, are permitted on site.

.2 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, and others as required by authorities having jurisdiction.

.3 Signs and notices for safety and instruction in both official languages, Graphic symbols to CAN/CSA-Z321.

.4 Maintain approved signs and notices in good condition for duration or project and dispose of offsite on completion of project or earlier if directed by Consultant.

1.16 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Provide access and temporarily relocated road(s) as necessary to maintain traffic.

.2 Protect travelling public from damage to person and property.

.3 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.4 Verify adequacy of existing roads and allowable load limit on these roads. Contractor is responsible for repair of damage to roads caused by construction operations.

1.17 CLEAN-UP

.1 Remove construction debris, wastes, and packaging material from work site daily.

.2 Store materials resulting from demolition activities that are salvageable.

.3 Stack stored new or salvaged material not in construction facilities.

Part 2 Products

2.1 Not Applicable

Part 3 Execution

3.1 Not Applicable

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 CAN/CSA-S269.2, Access Scaffolding for Construction Purposes.

.2 CAN/CSA-Z321, Signs and Symbols for the Occupational Environment.

.3 Occupational Health and Safety Act and regulations for Construction Projects, Latest Edition.

.4 Canadian Standards Association (CSA), CSA S350-M, Code of Practice for Safety in Demolition of Structures.

.5 Comply with National Building Code of Canada, Part 8, “Safety Measures at Construction and Demolition Sites”, and Provincial requirements.

1.2 SECTION INCLUDES

.1 This section includes temporary safety barriers, traffic controls, fire routes, fall arrest, environmental requirements.

1.3 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 The Contractor will provide site protection and public safety as required by laws, ordinances, rules, regulations or orders of public authorities.

.3 Remove from site all such work after use.

1.4 WORK AREA HOARDING

.1 Erect temporary site enclosure using modular freestanding galvanized fencing, chain link or welded steel mesh with pipe rails fencing, light duty shed or heavy duty shed, minimum of 1.8 metres (6 feet) high.

.2 Where required, provide a minimum of one lockable truck entrance gate and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys. Access point(s) are to be locked when work is not in progress.

.3 Paint public side of site enclosure in selected colours with one coat primer to CAN/CGSB 1.189M and one coat exterior paint to CAN/CGSB 1.59. Maintain public side of enclosure in clean condition.

.4 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

.5 At the beginning of the project provide Owner’s on-site representative a duplicate key for security and fire reasons. The key will be returned when the project is complete.

1.5 COVERED HOARDING

.1 Covered hoardings will be required when working over exits that serve as fire exits and locations where entrance or exit is required to remain open during work as stipulated by owner.

.2 Erect hoarding, and provide, install and maintain barricades, notice and warning boards, and maintain protection of all kinds for the protection of the workers engaged in the work, for the protection of adjoining property and for protection of the public in accordance with local regulations.

.3 Covered hoardings for Access roads and Safe Areas shall be designed by a Professional Engineer licensed in Alberta under the guidelines of the Occupational Health and Safety Act and with local authorities having jurisdiction.

1.6 FALL ARREST

.1 Provide typical details indicating the construction and anchorage for secure, rigid guard rails and barricades around roof perimeters, and any and all potential fall hazards.

.2 Conform to the requirements of Occupational Health and Safety Act and regulations for Construction Projects.

1.7 WEATHER ENCLOSURES

.1 Weather shall be considered incidental to work and shall not be claimed as additional.

.2 The applicable standard shall be used for materials or building components when enclosures and/or heating is required to complete the work.

.3 Provide weather tight closures for, but not limited to:

.1 unfinished door and window openings.

.2 openings in floors and roofs.

.3 openings through walls.

.4 locations where daily work is not completed in a day’s work and components left exposed are sensitive to weather conditions.

.5 protection of materials used that are sensitive to weather conditions.

.4 Design enclosures to withstand wind pressure, snow loading etc.

1.8 ACCESS TO SITE

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

.2 Provide all appropriate signage directing the public and building occupants away from work area

.3 Emergency exits: Maintain clear and unobstructed use of all existing exit doors and routes. This may include the provision of overhead protection and enclosed exit walkways in the case of overhead work. Provide adequate lighting for 24-hour use.

1.9 PUBLIC TRAFFIC FLOW

.1 Submit approved traffic control plan developed in accordance with instructions from local authorities having jurisdiction.

.2 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform the work and protect the public.

.3 Comply with requirements of acts, Regulations and By-laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out work or haul materials or equipment.

.4 When working on travelled way:

.1 Place equipment in position to present minimum of interference and hazard to travelling public.

.2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.

.3 Do not leave equipment on travelled way overnight.

.5 Do not close any lanes or road without approval of authorities having jurisdiction. Before re-routing traffic, erect suitable signs and devices in accordance with instructions.

.6 Provide and maintain road access and egress to property fronting along work under Contract.

1.10 INFORMATIONAL AND WARNING DEVICES

.1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from project work which requires road user response.

.2 Supply and erect signs, delineators, barricades, signage, and miscellaneous warning devices as specified in Provincial Traffic Control manual.

.3 Continually maintain traffic control devices in use by:

.1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.

.2 Removing or covering signs which do not apply to conditions existing from day to day.

1.11 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Provide access and temporarily relocated road(s) as necessary to maintain traffic.

.2 Protect travelling public from damage to person and property.

.3 Contractor’s traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.4 Verify adequacy of existing roads and allowable load limit on these roads. Contractor is responsible for repair of damage to roads caused by construction operations.

1.12 FIRE ROUTES

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.13 PROTECTION OF OFF-SITE AND PUBLIC PROPERTY

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

1.14 PROTECTION OF BUILDING FINISHES

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

.2 Provide necessary screens, covers, and hoardings.

.3 Be responsible for damage incurred due to lack of improper protection.

.4 Provide protection to protect the building, its contents and occupants to enable existing building to remain in continuous and normal operation and maintain construction schedule. Execute the work with the least possible interference to the building's operations.

.5 Close off area; provide warning signs and safety barricades and/or scaffolding to protect motor vehicle and/or pedestrian traffic. Provide safety inspectors or flag operators using two-way radios to control traffic flow.

.6 Confine apparatus, materials, storage and operations to the work area and designated site storage area. The Contractor must take all precautions to render the site free of hazards. Protect the work, buildings, grounds and property from damage during Contract work.

.7 Locate container bins and equipment in the areas designated. Observe delivery schedule so as not to interfere with building's operations.

.8 Prevent damage to pavement and landscaping by installing minimum two 38 mm thick by 300 mm wide wood planks continuously under disposal bins.

.9 Render doors leading onto construction areas secure for security reasons and keep closed to prevent the entry of dust, weather and fumes.

.10 Protect existing finishes from damage and repair damage caused by the work of this Contract. Make good finishes, consisting of removal of damaged finishes to the next full unit in straight lines and replace with new matching finish at no additional cost.

.11 Remove all tools or equipment overnight that could be used to provide access to the building or used by person's intent on doing damage.

.12 If, in the execution of the Contract, it becomes apparent that proper protection of the building and its occupants is not being provided and scheduled work is disrupting the normal use of the building or site, the Consultant or Owner`s site representative has the right to stop work until the problem or conditions are rectified . Any additional expense due to work stoppage or postponement and cost required to rectify the problems shall be at the Contractor's expense.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE REQUIREMENTS

.1 Acceptance of Work Procedures:

.1 Contractor's Inspection: Contractor to conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Consultant in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.

.2 Request Consultant's inspection.

.2 Consultant's Semi-Final Inspection:

.1 Consultant and Contractor to inspect Work and identify defects and deficiencies.

.2 Contractor to correct Work as directed.

.3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:

.1 Work: completed and inspected for compliance with Contract Documents.

.2 Defects: corrected and deficiencies completed.

.3 Equipment and systems: tested and fully operational.

.4 Certificates required by Utility companies: submitted.

.5 Work: complete and ready for final inspection.

.4 Consultant's Final Inspection:

.1 When completion tasks are done, request final inspection of Work by Consultant, and Contractor.

.2 When Work incomplete according to Consultant, complete outstanding items and request re-inspection.

.1 Where re-inspection is required due to outstanding Work and deficiencies being present at the final inspection, the Consultant's fee for additional inspections may be levied on the Contractor and deducted from the Contract Price via a Change Order.

.5 Declaration of Substantial Performance: when Consultant considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.

.6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

.7 Submit Closeout submittals before requesting Final Payment including but not limited to:

.1 Maintenance Manuals

.2 Manufacturer warranties

.3 Contractor warranties

.8 Final Payment:

.1 When Consultant considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.

.2 Refer to Contract Documents when Work deemed incomplete by Consultant, complete outstanding items and request re-inspection.

.9 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.2 FINAL CLEANING

.1 Clean prior to Consultant's final inspection.

.2 Remove surplus materials, excess materials, rubbish, tools and equipment.

.3 Waste Management: separate waste materials for recycling.

Part 2 Products

2.1 NOT USED

Part 3 Execution

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 CONDITIONS

.1 Read and conform to the requirements details in Division 1, which apply to, and form part of all sections of the work.

.2 All work shall be carried out in strict accordance with the requirements of all relevant sections of the latest edition of the Provincial Building Code and all relevant standards referenced therein, including all amendments up to project date.

.3 Contractor shall be trained and experienced in the removal of existing assemblies and any related demolition work.

.4 Inspect existing conditions, and substrates upon which work of this section is dependent. Report to the Consultant in writing any defects or discrepancies. Commencement of work implies acceptance of existing conditions and assuming full responsibility for the finished condition of the work.

1.2 REGULATORY AGENCIES AND PERMITS

.1 Coordinate and pay for all permits, notices and inspections required for the appropriate execution and completion of demolition work.

.2 Acceptable standards for materials and methods specified in Part 8 of the Ontario Building code are part of this Specification.

.3 Canadian Standards Association – CSA S350-M-1980 (R2003), Code of Practice for Safety in Demolition of Structures.

.4 Provincial Occupational Health & Safety Act & Regulations for Construction Projects.

.5 Comply with all fire safety regulations and procedures required by the provincial Construction Safety

1.3 SCOPE OF WORK

.1 Provide all labour, products, equipment, and services necessary to perform the demolition, removal and disposal work specified in this section and in accordance with Bid Documents.

.2 This section specified the work associated with the removal of the existing assemblies, including the removal and disposal of any areas of damaged or de-bonded membranes fully adhered to wood, coverboard, insulation, metal flashings, and all accessories.

.3 Unless otherwise specified, materials for removal become the Contractor’s property and shall be taken from site.

1.4 DEMOLITION DRAWINGS

.1 Where required by authorities having jurisdiction, submit for approval, drawings, diagrams, or details clearly showing the sequence of disassembly and demolition.

1.5 JOB CONDITIONS

.1 Parts of the structure that are not part of this contract shall be maintained in the condition existing on the date that tender is accepted.

.2 Should material resembling spray or trowel-applied asbestos be encountered work shall stop and the Consultant shall be immediately notified. Do not proceed until written instructions have been received from the Consultant.

1.6 PROTECTION

.1 It is the Contractor's responsibility to prevent movement of the existing building, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, and adjacent grades. The Contractor shall make good for any damages occurred and be liable for any injuries caused by the demolition.

.2 The Contractor shall prevent debris from any building, site, municipal drainage system, or roof drains. All drains and mechanical and electrical systems shall be maintained in operation.

.3 Install barricades, guard rails, overhead protection, and other protection as required, giving full protection to occupants, general public, and workers employed on the demolition, and to adjacent buildings, properties and landscaping.

.4 Provide protection to adjacent building surfaces and properties against damage as a possible result of falling debris or other causes related to the work. Maintain free and safe passage to and from within the buildings.

.5 Where work leaves unprotected openings in exterior walls of building, provide temporary protection against weather.

.6 Store to be notified 48 hours in advance if underside of roof deck hazard controls are required in an area of the store.

Part 2 Products

Not Applicable

Part 3 Execution

3.1 PREPARATION

.1 Post warning signs on electrical lines and equipment that must remain energized to serve other properties during period of demolition.

.2 Disconnect designated mechanical services in accordance with the requirements of the local authority having jurisdiction.

.3 Active or energised utilities designated to remain undisturbed shall not be disrupted.

3.2 DEMOLITION AND DISPOSAL

.1 Disposal of all materials shall be in accordance with the requirements of the authorities having jurisdiction, unless otherwise directed in writing by the Consultant.

.2 Remove and dispose of parts of the existing roofing assembly to permit construction of remedial work as indicated in the Bid Documents that include but is not limited to the following:

.1 Existing metal flashings and trim, ballast, sleeves, membrane, membrane flashings, securement bars, insulations, vapour retarder and all other items that will not be used as part of the new work.

.3 Remove only portions of the existing roofing system that can be replaced with the new specified roofing system, complete with membrane flashings on the same day.

.4 Make certain that the method of roofing removal will not damage the existing roof decking, other substrates, or adjacent components to remain.

.5 Alert Consultant of unusual or deteriorated construction found during roof removal operations. Permit Consultant to review conditions before roof replacement.

.6 At end of each day's work, ensure that new roofing is watertight. Leave work in a safe condition such that objects do not topple or fall. Protect interior of building from damage at all times.

.7 Do not use hoists or other equipment in a manner which would overload the structure.

.8 Provide means to keep dust to a minimum during demolition operations. Keep dusty material wetted.

.9 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces and replace same as work progresses.

.10 Remove contaminated or dangerous materials from site and dispose in a safe manner to minimize danger at site or during disposal.

3.3 DISPOSAL

.1 Remove and dispose of debris continuously. Do not stockpile debris in a manner that could overload the structure. Dispose of demolished materials except where noted otherwise.

.2 Do not sell or burn materials on site. Take measures to control dust during disposal operations.

.3 Implement a waste management program on this project site wherever feasible. Segregate from debris all materials that presently can be recycled or reused. Transport these materials to a reuse or recycling facility.

.4 Materials not for reuse or recycling shall be disposed of at an authorized landfill site. Cost(s) to transport to dump site, and for disposal of materials, etc., shall be included in the Bid Price.

3.4 MECHANICAL EQUIPMENT

.1 Use authorized Mechanical Contractor and/or Electrician to remove and reinstate identified mechanical equipment from rooftop to allow new roofing system installation.

.2 Coordinate all mechanical disconnects with Engineer and Owner's Representative to minimize disruption of services within the building.

.3 Ensure all systems are tested and functional before completion of work.

END OF SECTION

PART 1 GENERAL

1.1 SUMMARY

.1 Metal roof work to include - labour, materials, equipment and services necessary to:
- .1 Fabricate and install new metal roofs complete with interface detailing, penetration flashings, cap flashings, and accessories as required.

1.2 REFERENCES

- .1 ASTM A525M-87 Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process Metric.
- .2 ASTM A526M-85 Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality
- .3 ASTM A792-89 Specification for Steel Sheet, Aluminum-Zinc Alloy- Coated by the Hot-Dip Process.
- .4 ASTM D523-85 Test Method for Specular Gloss.
- .5 CAN/CGSB-37.5-M89 Cutback Asphalt Plastic Cement.
- .6 CAN/CGSB-37.29-M89, Rubber-Asphalt Sealing Compound.
- .7 Aluminum Association Aluminum Sheet Metal Work in Building Construction-1971.
- .8 SMACNA Architectural Sheet Metal Manual.

1.3 SUBMITTALS

.1 Submit under provisions of Section 01 30 00 - Administrative Requirements.

.2 Product Data: Manufacturer's data sheets on each product to be used, including:
- .1 Preparation instructions and recommendations.
- .2 Storage and handling requirements and recommendations.

.3 Installation Procedures: Detailed instructions specifically edited for the project specific metal building applications.

.4 Selection Samples: For each finished product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

.5 Verification Samples: For each finished product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.4 QUALITY ASSURANCE

.1 Manufacturer Qualifications: Minimum 5 years manufacturing similar products.

.2 Installer Qualifications: Minimum 5 years installing similar products.

.3 Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
- .1 Finish areas designated by Architect.
- .2 Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
- .3 Refinish mock-up area as required to produce acceptable work.

1.5 DELIVERY, STORAGE, AND HANDLING

.1 Store products in manufacturer's unopened packaging elevated above ground or slab, preferably on a flat surface, to prevent contact with surface water until ready for installation.

.2 Store products with labeling intact including material name, production date and product code, until ready for installation.

1.6 PROJECT CONDITIONS

.1 Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

.1 Acceptable Manufacturers: Cascadia, VicWest, Agway, or Equivalent.

2.2 PREFINISHED SHEET STEEL

.1 General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.

.2 Base Metal Base Metal to be:
- .1 Aluminum-zinc coated (Galvalume) steel sheet conforming to the requirements of ASTM A792 (or A792M) with a minimum coating of AZ50(AZM150).
- .2 24-gauge thickness.
- .3 Exposed Coil-Coated Finish:
  - .1 Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions. Dry film thickness of not less than 1.0 mil (0.025 mm) for primer and topcoat.
  - .2 Preapproved product:
    - .1 Cascadia Metals Kynar Series PVDF coated.
    - .2 Color: to closely match existing. Both top and underside of flashing exposed to view to be finished with the same colour.

2.3 UNDERLAYMENTS

.1 Ice and Water Protection (Eaves) - Self Adhering membrane:
- .1 Henry – Blueskin PE200HT or equivalent

.2 Synthetic Underlayment (Field of Roof):
- .1 Owens Corning – Titanium UDL50 Premium Underlayment

2.4 METAL ROOFING

.1 Standing seam Interlocking vertical rib system with concealed fastening.
- .1 24ga. Min. Agway AR-50 or equivalent

2.5 ACCESSORIES

.1 Isolation coating: alkali resistant bituminous paint.

.2 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness same as sheet metal being secured.

.3 Fasteners:
- .1 Exposed fasteners (only when permitted by consultant):
  - .1 Atlas Colour Mate screws with 18-8 stainless steel shank complete with armour plated neoprene washers and coloured head to match prefinished metal.
  - .2 ITW Buildex Maxiseal fasteners with coloured head to match prefinished metal.
  - .3 Approved alternate.
- .2 Concealed fasteners:
  - .1 Leland Industries pancake head with DT2000 coating
  - .2 Low profile head in stainless steel.
  - .3 Approved alternate.

.4 Butyl tape: Butyl tape to meet TT-C-1796-A or approved equivalent.

.5 Roof Closures: custom made metal Z closure clips.

.6 Sealants: Colour matched to roof cladding. Refer to Section 07 92 00.

.7 Zinc Rich Primer / Paint:
- .1 Zinc rich, to CGSB 1-GP-181M. To be applied in accordance with manufacturer's recommendations.
- .2 Acceptable Products:
  - .1 ClovaZinc 1 by Cloverdale Paint
  - .2 Aervoe #141 Zinc Rich Galvanize
- .3 Touch up paint: Liquid applied from can using small applicator. Paint to be colour and gloss matched to the roof metal. Refer to Paint specification 09900 paint requirements. Submit sample of touched up sheet metal for review by consultant.

.8 Butyl tape: Tremco MBT-35 Metal Building Tape or butyl tape to meet TT-C-1796-A or approved equivalent.

2.6 FABRICATION

.1 Fabrication shall be in accordance with the applicable requirements of CAN/CSA-S136, Cold Formed Steel Structural Members. Care shall be taken to protect exposed surfaces and other features that are important to the appearance.

.2 Fabricate all components of the system in the factory, ready for field installation. Make allowances for expansion at all joints.

.3 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.

.4 Apply minimum 0.2 mm dry film thickness coat of isolation coating to both faces of dissimilar metals in contact.

.5 Penetrations through the roof planes are to be fabricated and installed to allow for expansion and contraction of the roof sheet without buckling.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Examine the areas and conditions under which work of this section will be installed and verify that adjacent materials are dry and ready to receive insulation.

.2 Do not begin installation until substrates have been properly prepared.

.3 Review substrates to receive new roofing and flashings with Consultant and Owner.

3.2 PREPARATION

.1 Remove existing roofing system to expose existing sheathing. Notify consultant of any deterioration of the substrates.

.2 Clean surfaces thoroughly prior to installation.

.3 Prepare surfaces using the methods recommended by the manufacturers for achieving the best result for the substrate under the project conditions.

.4 Cut existing sheathing at ridge to provide an opening of approximately 3” (75mm) for new ridge vents. Do not cut or score rafters or structural members.

3.3 INSTALLATION

.1 Install high-temperature self-adhering AVB membrane at gutters and extend up and over parapets on exterior side, and up roof sheathing a minimum of 36” past the interior walls. Apply primers and adhesives as per manufacturer’s instructions.

.2 Install synthetic underlayment over the field of the roof and secure using approved fasteners.

.3 Install high-temperature self-adhering membrane at vertical transitions, and penetrations. Apply primers and adhesives as per manufacturers instructions.

.4 Install new 24-gauge sheet metal gutter. Ensure joints and transitions are sealed.

.5 Install new continuous manufactured ridge vent along roof ridge. Maintain clearance from rake edges a minimum of 24” on each end.

.6 Roof Installation: Place panels in a continuous run from eave to ridge. Secure seam clips using approved fasteners. Mechanically attach only one end of the panels to allow for expansion and contraction.

.7 Apply sheet metal flashings and trim as per Section 07 62 00 – Sheet Metal Flashing and Trim and details.

3.4 PROTECTION

.1 Protect installed products until completion of project.

.2 Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 02 41 19 Selective Demolition

.2 Section 07 61 00 Standing Seam Metal Roofing and Cladding

.3 Section 07 92 00 Joint Sealants

1.2 REFERENCE STANDARDS

.1 American National Standards Institute (ANSI)

.1 ANSI/SPRI/FM 4435/ES-1, Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems 2017.

.2 ASTM International

.1 ASTM A606/A606M-[15], Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.

.2 ASTM A 653/A 653M-17, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.3 ASTM A755/A755M-16e1 Standard Specification for Steel Sheet, Metallic coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.

.4 ASTM D 523-14, Standard Test Method for Specular Gloss.

.5 ASTM D1970/D1970M-17a Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.

.6 ASTM F1667-17, Standard Specification for Driven Fasteners: Nails, Spikes, and Staples

.3 Canadian Roofing Contractors Association (CRCA)

.1 Roofing Specifications Manual 2012.

.4 Canadian Sheet Steel Building Institute (CSSBI)

.1 CSSBI S8-2008 Quality and Performance Specification for Prefinished Sheet Steel Used for Building Products.

.2 CSSBI B17-2002 Barrier Series Prefinished Steel Sheet: Product Performance & Applications.

.3 CSSBI Sheet Steel Facts #12 [2003] Fastener Guide for Sheet Steel Building Products.

.5 Health Canada/Workplace Hazardous Materials Information System (WHMIS 2015)

.1 Safety Data Sheets (SDS).

.6 Sheet Metal and Air-Conditioning Contractors National Association (SMACNA) (SMACNA)

.1 Architectural Sheet Metal Manual (2012)

.2 Residential Sheet Metal Guidelines (2001)

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit a PDF copy of manufacturer's product literature including product specifications and technical data sheets for sheet metal flashing fasteners and accessory materials. Include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit a PDF copy of WHMIS 2015 SDS - Safety Data Sheets in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.3 Shop Drawings:

.1 Submit shop drawings only for sheet metal flashing and trim items that differ from those indicated in Contract Documents.

.2 Indicate sheet thickness, flashing dimensions and fastenings. Include anchorage, expansion joints and other provisions for thermal movement.

.3 Submit manufacturer’s catalogue cut sheets for manufactured items.

.4 Samples:

.1 Submit two (2) 50 x 50 mm samples of each type of sheet metal material, finishes and colour to Consultant for approval prior to purchase.

1.4 PRE-INSTALLATION MEETING

.1 Include sheet metal flashing and trim on agenda of pre-installation meetings of affected sections.

1.5 MOCK-UPS

.1 Include flashings in mock-ups as specified for work of other affected sections.

.2 Prepare mock-ups for copings at an inside and outside corner, with starter strips extending past the cap flashing (coping) for easy review of starter strip (hook strip) securement.

.3 Prepare a mock-up of any sheet metal flashing or trim detail not indicated in Drawings upon request of Consultant.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Handle and store flashing materials to prevent creasing, buckling, scratching, or other damage.

Part 2 Products

2.1 BASE SHEET METAL MATERIALS

.1 Provide sheet metal in base metal thickness specified. Where no thickness specified, provide base sheet metal in thickness recommended in SMACNA Architectural Sheet Metal Manual for type of item being fabricated, but not less than the thickness required by the authority having jurisdiction.

.2 Zinc coated steel sheet: 0.70 mm nominal thickness (24 Ga.), commercial quality to ASTM A653/A653M, with Z275 designation zinc coating.

2.2 PREFINISHED STEEL SHEET

.1 Prefinished steel sheet with coating system consisting of base metal pre-treatment, primer, silicone modified polyester (SMP) or polyester topcoat meeting requirements of CSSBI S8.

.1 Finished one side with wash coat on back with finish system:

.1 Perspectra Plus Series, or

.2 WeatherXL coating system, by Valspar Corporation.

.2 Colour selected by Owner from manufacturer's standard range.

.3 Specular gloss: 30 units +/- 5 gloss units in accordance with ASTM D 523.

.4 Exposed coating thickness: dry film coating system thickness not less than 22 micrometres.

2.3 ACCESSORIES

.1 Isolation coating:

.1 Description: Alkali resistant bituminous paint.

.2 Specified Products:

.1 Sopralastic 120, by Soprema,

.2 810-07 Non-fibrated Asphalt Roof and Foundation Coating by Henry Bakor

.3 Or approved alternate

.2 Self-adhesive membrane underlay and tie-in membrane for metal flashings, beyond roofing system membrane flashings: To CSA A123.22 or ASTM D1970, minimum 1.0 mm thickness.

.1 Specified Product: Lastobond Shield HT, by Soprema, or approved equivalent

.3 Sealants: in accordance with Section 07 92 00, exposed sealants to match flashing finish colour.

.4 Starter strip (hook strips): of same base material, and temper as prefinished sheet metal, continuous. Nominal thickness 0.85 mm (22 Ga).

.1 Provide continuous hook strip at outside face of parapets.

.5 Nails: of same material as sheet metal, ring shank flat head roofing nails of minimum length of 50 mm (2”) and minimum thickness of 0.155”.

.6 Exposed screws:

.1 Description: Hex-head, sharp point carbon steel screws with corrosion resistant coating, with pre-mounted Neoprene bonded washer. Colour to match surrounding prefinished metal colour.

.2 Specified Products:

.1 #10 X 2” Master Drillers, by Leeland Industries Inc.

.7 Concealed screws for continuous starter strip (hook strip):

.1 Description: #10 x 1-1/2” corrosion resistant carbon steel screws with type A point style and pancake head.

.8 Touch-up paint: as recommended by prefinished material manufacturer.

2.4 FABRICATION

.1 Fabricate sheet steel flashings and other sheet steel work as indicated in Drawings.

.2 Maximum Joint Spacing:

.1 Cap Flashing 600 mm and Greater in Width: 1200 mm.

.2 All Other Flashings: 3000 mm.

.3 Form pieces in 3 m (10') maximum lengths.

.1 Make allowance for expansion at joints.

.4 Hem exposed edges on underside 12 mm.

.5 At inside and outside corners, mitre the joint, and use upstanding seams, 25 mm minimum height and 22 mm minimum lap.

.6 Slope horizontal surfaces of flashings a minimum of 4% toward the roof.

.7 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.

.8 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

2.5 METAL FLASHINGS

.1 Form flashings, copings and fascias to profiles indicated of 0.70 mm nominal thickness (24 Ga.) prefinished steel.

.2 Construct flashing joints to allow for flashing movement, using flat "S" lock seams.

2.6 REGLETS AND TERMINATION FLASHINGS

.1 Form recessed reglet terminations and surface mounted reglets of 0.70 mm nominal thickness (26 Ga.) prefinished steel sheet metal as per Drawings.

.1 Provide slotted fixing holes and steel screws with coloured head with integral neoprene washers.

2.7 SCUPPERS AND DOWNSPOUTS

.1 Fabricate roof scuppers, downspouts and downspout securement strapping from 0.50 mm, prepainted galvanized sheet steel. Fabricate scuppers with one piece deck flange, minimum 150 mm. Contour scuppers to cant strips as required.

.2 Fabricate downspouts utilizing an open face for bottom 1800mm.

.3 Secure downspout strapping using fasteners in predrilled holes.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

.1 Install sheet metal work as detailed.

.2 Use concealed fastenings on front (exposed) faces, and exposed fasteners in areas hidden from view.

.3 Provide underlay under sheet metal.

.1 Secure in place and lap joints 100 mm.

.2 Provide self-adhesive membrane under sheet metal flashing, over wood blocking or concrete blocking not covered by roofing system SBS Membrane flashings.

.4 Counterflash membrane flashings at intersections of roof with vertical surfaces and curbs.

.1 Flash joints using S-lock seams and standing seams in corners, forming tight fit over hook strips, as detailed.

.5 Lock end joints and caulk with sealant.

.6 Terminations: Install aluminum termination bar in accordance with Section 07 52 00 SBS Modified Bituminous Roofing.

.7 Reglet terminations: Turn top edge of flashing into recessed reglet or mortar joint minimum of 25 mm. Lead wedge flashing securely into joint and caulk flashing at reglet with compatible sealant.

.8 Where flashing installed with mechanical fasteners, install fasteners in slotted or oversize holes to allow expansion and contraction of flashings.

.9 Provide isolation coating or impervious self-adhesive membrane to separate aluminum items from concrete and masonry.

3.3 CLEANING

.1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION

Part 1 General

1.1 SECTIONS INCLUDES

.1 Preparation of surface to be sealed and application of various types of joint sealants.

.2 Provisions to complete other various sections containing sealant or caulking specifications, including related requirements.

1.2 RELATED REQUIREMENTS

.1 Section 07 61 00 Standing Seam Metal Roofing and Cladding

.2 Section 07 62 00 Sheet Metal Flashing and Trim

1.3 REFERENCE STANDARDS

.1 ASTM International

.1 ASTM C920-14a – Standard Specification for Elastomeric Joint Sealants

.2 ASTM C1311 – 14 Standard Specification for Solvent Release Sealants

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-19.13-M87, Sealing Compound, One-Component, Elastomeric, Chemical Curing.

.2 CGSB 19-GP-14M-1984, Sealing Compound, One-Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS and WHMIS 2015)

.1 Material Safety Data Sheets (MSDS)

.2 Safety Data Sheets (SDS).

.3 Sealant, Waterproofing and Restoration Institute (SWRI)

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for joint cleaners, sealant primers, backer rods, tapes, fillers and joint sealants. Include product characteristics, performance criteria, physical size, finish and limitations.

.2 For each type of sealing compound, manufacturer's product data to include:

.1 Caulking compound material type and standard for which it complies

.2 Compatible primers for applicable surfaces

.3 Compatibility when different sealants are in contact with each other.

.4 Available colours

.3 Submit a pdf copy of WHMIS MSDS or WHMIS 2015 SDS in accordance with Section 01 35 29 - Health and Safety Requirements.

.3 Samples:

.1 Submit samples of each type of material and colour

.2 Cured samples of exposed sealants for each colour where required to match adjacent material.

.4 Manufacturer's Instructions:

.1 Submit instructions to include installation instructions for each product used.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Replace defective or damaged materials with new.

1.6 SITE CONDITIONS

.1 Ambient Conditions:

.1 Proceed with installation of joint sealants only when:

.1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 5 degrees C.

.2 Joint substrates are dry.

.3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

.2 Joint-Substrate Conditions:

.1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

1.7 ENVIRONMENTAL REQUIREMENTS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS 2015) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Safety Data Sheets (SDS) acceptable to Health Canada.

1.8 QUALITY ASSURANCE/MOCK-UP

.1 Construct mock-up in location directed by Consultant.

.2 Construct mock-up to show location, size, shape, and depth of joints complete with back-up material, primer, caulking, and sealant.

.3 Mock-up will be used to judge workmanship, substrate preparations, operation of equipment and material application.

.4 Allow 24 hours for inspection of mock-up by Consultant before proceeding with sealant work.

.5 When accepted, mock-up will demonstrate minimum standard of quality required for this Work. Approved mock-up may remain as part of finished work.

1.9 WARRANTY

.1 Installers Warranty:

.1 Original statement on installer's letterhead in which installer agrees to repair or replace joint sealants that demonstrate deterioration or failure within two (2) years warranty period.

.2 Include coverage for installed sealants and accessories which fail to achieve air tight seal, water tight seal, and exhibit loss of adhesion or cohesion, or do not cure.

.2 Defective joint sealant installation covered under the warranty shall include but not be limited to: joint leakage, hardening, craze cracking, crumbling, melting, bubbling, shrinkage, runs, sags, change of colour, loss of adhesion, and staining of adjoining or adjacent material surfaces.

.3 Provide replacement of defective work prior to the end of the warranty period according to the Engineer's recommendations at no additional cost to the Owner.

Part 2 Products

2.1 COMPATIBILITY WITH ROOFING SYSTEM

.1 All sealants to be incorporated into the roofing system must be compatible and qualify to be included with total system manufacturer warranties.

.2 At the request of the Consultant, provide written declaration from the manufacturer that components/materials to be installed as part of the roofing system are compatible and will not reduce the performance of the roofing system, or void the Warranty.

2.2 SEALANT MATERIALS

.1 Where sealants are qualified with primers use only primers as recommended by sealant manufacturer.

2.3 DESIGNATIONS

.1 Butyl Sealant: single component, solvent release butyl rubber sealant, polyisobutylene plasticized; non-skinning, non-sagging, black colour:

.1 In conformance with: ASTM C1311 or CGSB 19-GP-14M

.2 Elongation Capability 7 to 10 percent

.3 Service Temperature Range 25 to 82degrees C

.4 Shore A Hardness Range 10 to 30

.5 Acceptable Products:

.1 Tremco Butyl, by Tremco Ltd., a division of RPM Company.

.2 or approved equivalent.

.2 High Temperature Silicone, single component:

.1 Dow Corning Hi-Temp Silicone Sealant by Dow Corning

.2 SikaSil-GP manufactured by Sika Canada Inc.

.3 or approved equivalent.

.3 Urethanes one-part, Non-Sag, Low Modulus:

.1 In conformance with:

.1 CGSB-19.13, Type 2, MCG-2-40, MCG-2-25, colour to match adjacent materials.

.2 Type S, Grade NS

.2 Elongation Capability: 50 percent

.3 Specified Products:

.1 Dymonic 100 (+/-50% movement capability), by Tremco Ltd., a division of RPM Company

.2 Sikaflex 15LM, by Sika Canada Inc.

.3 or approved equivalent.

.4 Air/Weather barrier Sealant: Caulking to polyethylene face membranes

.1 Dow Corning® 758 Weather barrier Sealant or Dow Corning® 756 SMS Silicone Building Sealant

.2 Spectrem 1 by Tremco

.5 SikaSil WS-305 CN by Sika Canada Inc. Pre-formed Silicone Seal: Preformed, ultra-low modulus silicone extrusion for bonding to substrates with silicone sealant:

.1 Dow Corning 123 Silicone Seal, by Dow Corning Corporation

.2 Dow Corning STS, by Dow Corning Corporation

.3 Tremco Simple Seal

.4 Sika Silbridge-300 by Sika Canada Inc.

2.4 JOINT CLEANER:

.1 Description: Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.

2.5 MASKING TAPE

.1 Non-staining, non-absorbent material compatible with joint sealant and surface adjacent to joints.

2.6 SEALANT PRIMERS:

.1 Description: Non-staining type recommended by sealant manufacturer, where deemed necessary.

Part 3 Execution

3.1 EXAMINATION

.1 Before commencing work, verify that joint configuration and surfaces have been provided as specified under the work of other sections to meet intent of sealant specification, that joint conditions will not adversely affect execution, performance, or quality of completed work, and that they can be put into acceptable condition by means of preparation specified in this section.

.2 Inspect existing conditions and substrates upon which work of this section is dependent. Report to the Consultant in writing any defects or discrepancies. Commencement of work implies acceptance of existing conditions and assuming full responsibility for the finished condition of the work.

.3 Ascertain that sealers applied to sealant substrates are compatible with the sealant used and that full bond between sealant and substrate is attained. Request samples of the sealed or coated substrate from their fabricators for testing of compatibility and bond if necessary.

.4 Inspect sealant configuration for width and depth. Depth of joint should be 1/2 joint width with a minimum depth of 6 mm (1/4") and a maximum depth of 13 mm (1/2") unless specified otherwise. For fillet joints, a minimum of 6 mm (1/4") adhesion between sealant and substrate must be achieved on both sides of the joint unless specified otherwise.

.5 Defective work resulting from application to unsatisfactory joint conditions will be considered the responsibility of those performing the work of this section.

.6 Install sealant mock-up on all substrates to be caulked to determine sealant and primer requirements and surface prep/removal of any existing failed sealants.

3.2 SURFACE PREPARATION

.1 Clean with specified Joint Cleaner, bonding joint surface of harmful substances including dust, rust, oil grease, and other matter which may impair Work.

.2 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings; unless tests have been performed to ensure compatibility of material. Remove coatings as required.

.3 Ensure joint surfaces are dry and frost free.

.4 Ensure drain / weep holes are unobstructed.

.5 Prepare surfaces in accordance with manufacturer's directions.

.6 Removal and replacement of sealants:

.1 Remove existing sealants, dust, oil, grease, oxidation, mill scale, coatings and all other loose material by cutting, brushing, scrubbing, scraping and/or grinding. In no case, however, shall components be damaged during surface preparation.

3.3 MASKING TAPE

.1 Where necessary to prevent staining or for neat appearance, mask adjacent surfaces prior to priming and caulking.

3.4 APPLICATION

.1 Sealant:

.1 Apply sealant in accordance with manufacturer's written instructions.

.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.

.3 Apply sealant in continuous beads.

.4 Apply sealant using gun with proper size nozzle.

.5 Use sufficient pressure to fill voids and joints solid

.6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.

.7 Tool exposed surface before skinning begins to give concave shape.

.1 Tooling to be performed by proper tool or "spatula". Dry tooling is preferred, although compatible wetting agents can be used in limited amounts after an initial pass.

.8 Remove excess compound promptly as work progresses and upon completion.

.2 Curing:

.1 Cure sealants in accordance with sealant manufacturer's instructions.

.2 Do not cover up sealants until proper curing has taken place.

3.5 CLEANING:

.1 Progress Cleaning:

.1 Leave Work area clean at end of each day.

.2 Clean adjacent surfaces immediately.

.3 Remove excess and droppings, using recommended cleaners as work progresses.

.4 Remove masking tape after initial set of sealant.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

3.6 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by joint sealants installation.

END OF SECTION

APPENDIX G: PHOTOGRAPHS

BTC Group Project – A24036

103 Elk Run Blvd., Canmore, AB

1) Overview of the shingle roof.

2) Overview facing West.

3) Overview of existing penetrations.

4) Lead flashings at plumbing vents to be removed and disposed of.

5) Overview of inlay gutter.

6) Remove all flashings, gutter metal, and drip edge flashing and replace with new.

7) Overview of the south gutter and flashing

8) South gutter overview

9) Vented soffit overhang.

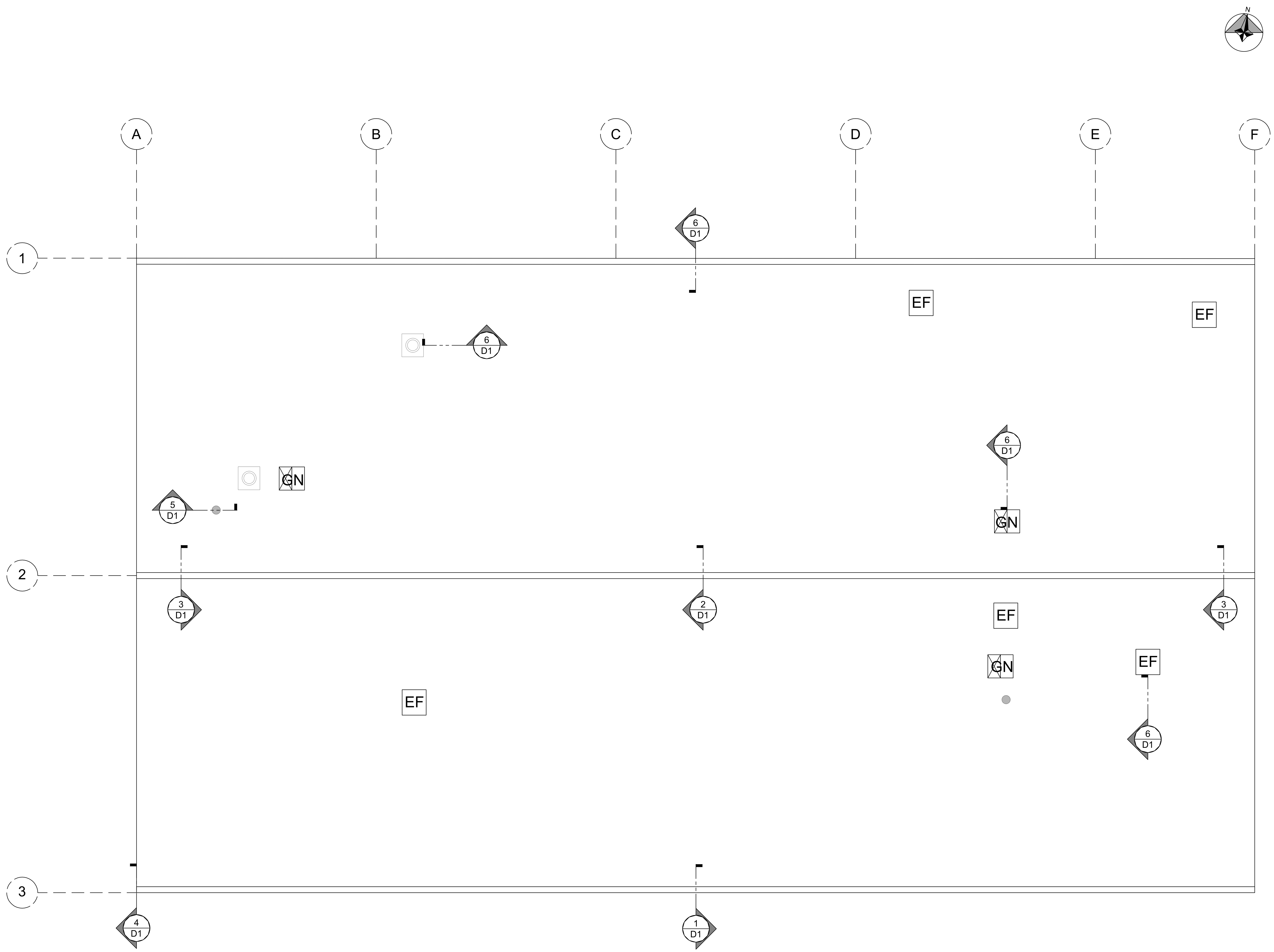
10) Mechanical penetrations to be reflashed with new membrane and metal flashings. Confirm usage with Consultant and Owner.

11) Sheathing to be cut at ridge to provide ventilation through ridge vent.

12) Existing ridge vent to be removed and replaced with new sheet metal vent.

13) Confirm functionality of louvre vents with Consultant. Attic space is split over office and warehouse areas.

14) Exterior louvre vent. Confirm functionality with Consultant and Owner.



1 / R1 ROOF PLAN
NOT TO SCALE

EXISTING ROOF SYSTEM 1.1

- 3-TAB ASPHALT SHINGLES
- ASPHALTIC PAPER
- REMOVE EXISTING ROOFING TO SHEATHING
- REPAIR EXISTING SHEATHING AS REQUIRED
- $\frac{1}{2}$" WOOD SHEATHING

ROOF OPTION 1: 1.1

- SHEET METAL FLASHING AND TRIM
- SSMR METAL PANELS
- NEW SYNTHETIC UNDERLAYMENT
- SELF ADHERING AVB AT GUTTERS
- SELF ADHERING AVB INSTALLED A MINIMUM OF 3' PAST INTERIOR WALLS
- EXISTING WOOD DECK

GENERAL NOTES

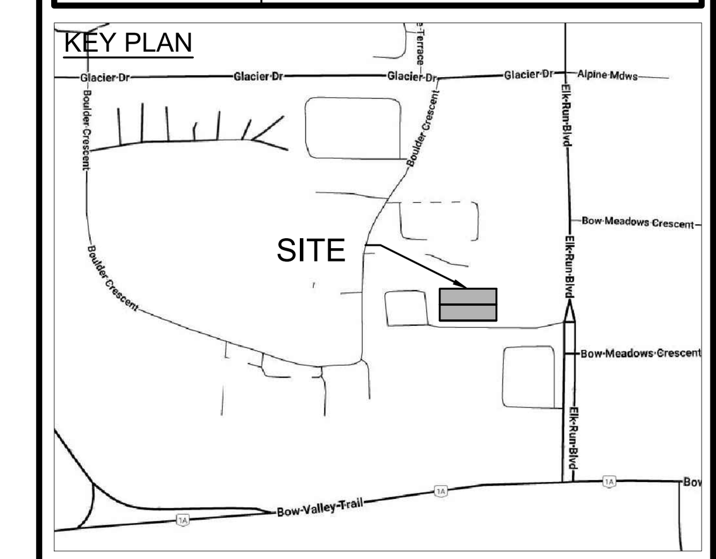
1. DRAWING IS NOT TO BE SCALED.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP THE BUILDING WATERTIGHT AND SECURE AT ALL TIMES.
3. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING ALL SITE MEASUREMENTS & EXISTING CONDITIONS FOR ESTIMATING & MATERIAL ORDERING.
4. ROOF TOP UNITS, VENTS, EXISTING DRAINS,ROOF EQUIPMENTS AND FLUES SHOWN ON THIS ROOF PLAN ARE FOR INFORMATION ONLY. CONFIRM EXACT LOCATIONS OF RTUS, VENTS AND FLUES ONSITE.
5. IF HVAC EQUIPMENT IS MOVED OR DISCONNECTED, CONTRACTOR IS TO PROVIDED CONFIRMATION UPON COMPLETION OF WORK THAT ALL WORK WAS COMPLETED IN CONFORMANCE WITH GAS CODE AND ALL APPLICABLE CODES AND BY-LAWS.
6. REMOVE ALL ABANDONED PLUMBING VENTS, RTU CURBS, SLEEPERS, EXHAUST FANS AND FLUES. REINSTATE DECK EXTENDING TO SUPPORT JOINTS AND INSTALL NEW ROOF ASSEMBLY.
7. AT THE START AND UPON COMPLETION OF THE PROJECT, REMOVE ALL DEBRIS, GARBAGE, CONSTRUCTION MATERIAL, BROKEN PATIO STONES, AND CAULKING / ADHESIVE FROM ALL AFFECTED SURFACES. REMOVE DEBRIS OF CURRENT/PREVIOUS RENOVATIONS AND OBJECTS/MATERIALS THAT ARE NOT REQUIRED.
8. CLEAR OUT EAVESTROUGHS, DOWN SPOUTS AND ENSURE ROOF IS FREE DRAINING THROUGHOUT THE PROJECT.
9. REMOVE AND REPLACE ALL SHEET METAL FLASHING AND TRIM INCLUDING HOOK STRIPS WHERE PRESENT ON ALL ROOF SECTIONS IN CONTRACT WITH NEW SPECIFIED SHEET METAL.

DATE	REV	ISSUE

ROOF WIND LOADS	
ROOF AREA	WIND LOAD
ROOF TYPE 1:	
End Zone Width, Z	10.5 FT
Corner, C	-20 PSF
Edge, S	-20 PSF
Field, R	-17 PSF

ROOF REPLACEMENT AREA	
ROOF AREA	

KEY PLAN



LEGEND:

- PLUMBING STACK
- GOOSENECK SQUARE (GN)
- EXHAUST FAN (EF)
- ROOF CHIMNEY

Contractor shall confirm and be responsible for all dimensions and existing conditions that may affect the scope of work.

A [detail no.]
B [location no.]
C [drawing no.]

Client:	TOWN OF CANMORE
Project Name:	ROOF REPLACEMENT
Address:	103 ELK RUN BLVD, CANMORE, ALBERTA
Project No.:	A24036-RR24
Drawing Title:	ROOF PLAN
Scale:	N.T.S.

Designed By: D.D	Date:
Drawn By: D.A	Date: 2024/09/09
Approved By: D.D	Date:

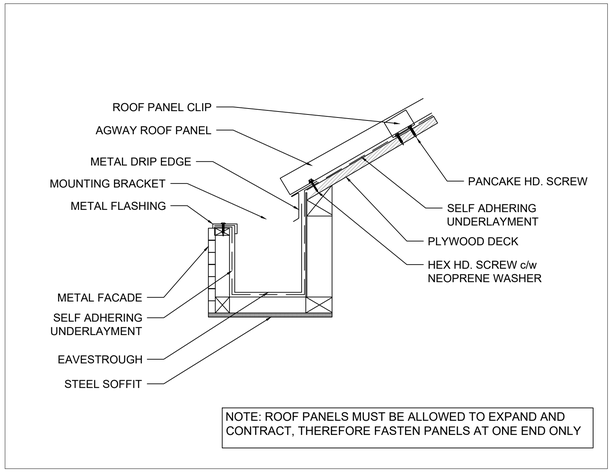
OTTAWA OFFICE:
2285 SAINT-LAURENT BOULEVARD, BUILDING A, UNIT 4, OTTAWA, ON K1G 4Z4
TEL: 613-232-1922

TORONTO OFFICE:
51 ROYSUN ROAD, SUITE 6, VAUGHAN, ON L4L 8P9
TEL: 905-264-0222

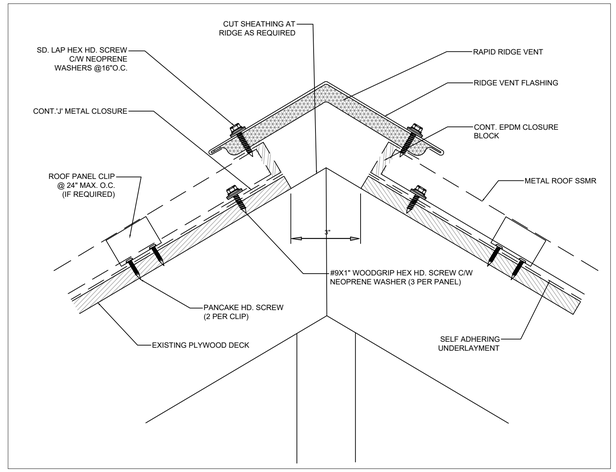
CALGARY OFFICE:
110 COUNTRY HILLS LANDING NORTH WEST SUITE 205 CALGARY, ALBERTA T3 5P3
TEL: 403-476-8985

www.btcgroup.ca

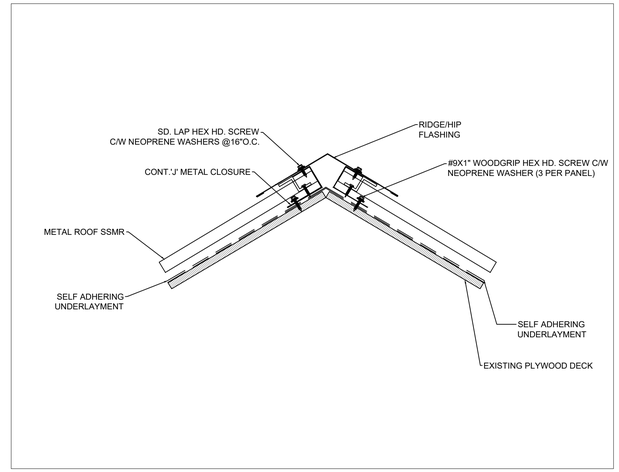
Page No.: R1



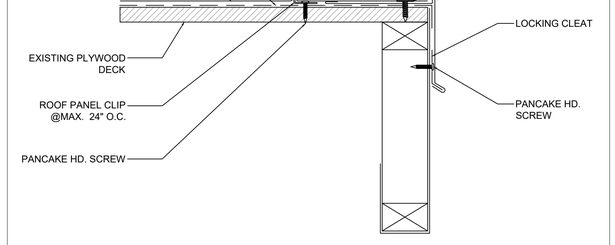
1 D1 EAVE END WITH GUTTER
NOT TO SCALE



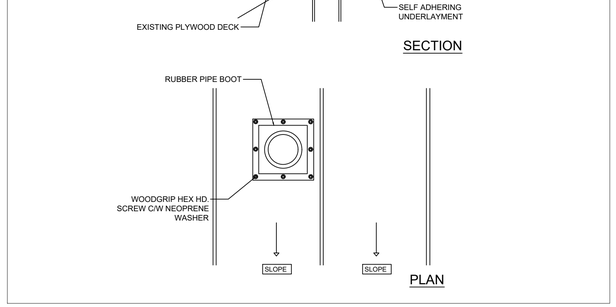
2 D1 VENTED RIDGE
NOT TO SCALE



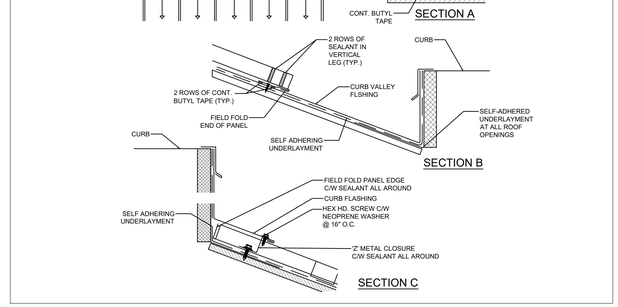
3 D1 RIDGE CAP/HIP DETAIL
NOT TO SCALE



4 D1 GABLE END WITH FASCIA
NOT TO SCALE



5 D1 PIPE FLASHING
NOT TO SCALE



6 D1 CURB DETAIL
NOT TO SCALE

DATE	REV	ISSUE

ROOF WIND LOADS	
ROOF AREA	WIND LOAD
ROOF TYPE 1:	
End Zone Width, Z	
Corner, C	
Edge, S	
Field, R	

ROOF REPLACEMENT AREA	
ROOF AREA	

Contractor shall confirm and be responsible for all dimensions and existing conditions that may affect the scope of work.

A [detail no.]
B [location no.]
C [drawing no.]

Client:	TOWN OF CANMORE
Project Name:	ROOF REPLACEMENT
Address:	103 ELK RUN BLVD, CANMORE, AB
Project No.:	A24036-RR24
Drawing Title:	DETAILS
Scale:	N.T.S.

Designed By: D.D.	Date:
Drawn By: D.A.	Date: 2024-10-04
Approved By: D.D.	Date:

OTTAWA OFFICE:
2285 SAINT-LAURENT BOULEVARD, BUILDING A, UNIT 4, OTTAWA, ON K1G 4Z4
TEL: 613-232-1922

TORONTO OFFICE:
51 ROYSUN ROAD, SUITE 6, VAUGHAN, ON L4L 8P9
TEL: 905-264-0222

CALGARY OFFICE:
110 COUNTRY HILLS LANDING NORTH WEST SUITE 205 CALGARY, ALBERTA T3 5P3
TEL: 403-476-8985

www.btcgroup.ca

Page No.: D1