Johnston Canyon Campground

Roofs Replacement

Banff, Alberta

Tender Issue Specifications

Prepared

16/04/2020

Table of Contents

Part 1 General

1.1 NOT USED

1.2 WORK COVERED BY CONTRACT DOCUMENTS

Objectives

1.3 Parks Canada requires a qualified contractor to remove worn fascia, roofing material, inspect and report on condition and rafter tails, and install new roofing material, flashing and fascia as required on nine (9) buildings at Johnston Canyon Campground in Banff National Park.

Contractor to confirm exact measurements prior to construction. All measurements supplied are approximate only.

Scope of work

1.4 On Cottage (Approximate Dimension: 1,014 square foot), and Shed (Approximate Dimension: 430 square foot)

.1 Remove and dispose of all old roofing materials, decking and fascia
.2 Assess the existing roof structure and identify any problem areas or deficiencies and report these to the Project Authority.
.3 Obtain approval by the Project Authority prior to performing any additional work or incurring any associated costs for the same prior to commencement.
.4 Install all new material including: sheathing, ice and water shield, roof metal, flashings, fascia boards, fascia flashing heat rated pipe/vent boots, roof venting and ridge caps as per code and manufacturer's instructions
.5 All roof metal, flashings, fascia and ridge caps to be Dark Green, all roof vents to be black
.6 It shall be the responsibility of the Contractor to take all measurements that will be related to estimating these jobs.

1.5 On 6 Shelters (Approximate Dimension: 980 square foot for each shed)

.1 Remove and dispose of all old roofing materials, roof decking, concrete chimneys, and flashings off site.
.2 Assess the existing roof structure and identify any problem areas or deficiencies and report these to the Project Authority.
.3 Obtain approval by the Project Authority prior to performing any additional work or incurring any associated costs for the same prior to commencement.
.4 Install all new material including: strapping, roof metal, polycarbonate skylights (2 full sheets per side, roughly 3ft away from each side of the chimney), flashings, fascia, heat rated pipe/vent boots, roof venting and ridge caps as per code and manufacturer's instructions
.5 All roof metal, flashings, fascia and ridge caps to be Dark Green, all roof vents to be black
.6 It shall be the responsibility of the Contractor to take all measurements that will be related to estimating these jobs.
.7 Any penetrations made throughout the work, must be properly covered and sealed.

1.6 On Theatre (Approximate Dimension: 3,960 suqre foot)

.1 Remove and dispose of all old roofing materials and fascia boards
.2 Assess the existing roof structure and identify any problem areas or deficiencies and report these to the Project Authority.
.3 Obtain approval by the Project Authority prior to performing any additional work or incurring any associated costs for the same prior to commencement.
.4 Install all new material including: strapping, fascia boards, ice and water shield, roof metal, flashings, fascia, heat rated pipe/vent boots, roof venting and ridge caps as per code and manufacturer's instructions
.5 All roof metal, flashings, fascia and ridge caps to be Dark Green, all roof vents to be black
.6 It shall be the responsibility of the Contractor to take all measurements that will be related to estimating these jobs.

1.7 CONTRACTOR USE OF PREMISES

.1 Contractor must prepare and submit a proposed schedule and sequence of the work with consideration to minimizing weather exposure. The schedule will be reviewed and approved by the Departmental Representative

.2 Limit use of premises for Work to allow:

.1 Owner occupancy of the facility and daily activities surrounding the site.

.3 Co-ordinate use of premises under direction of Departmental Representative

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

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

.7 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.

.8 At completion of operations condition of existing work: to be equal to or better than that which existed before new work started.

1.8 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.

1.9 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

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

1.10 EXISTING SERVICES

.1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours' notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions.

.3 Submit schedule to and obtain approval from Departmental Representative for any shut- down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.4 Provide temporary services when directed by Departmental Representative to maintain critical building and tenant systems.

.5 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

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

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

1.11 DOCUMENTS REQUIRED

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

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

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 ACCESS AND EGRESS

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

1.3 USE OF SITE AND FACILITIES

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

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

.3 The Contractor will need to supply sanitary facilities for use by Contractor's personnel.
Keep facilities clean.

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

.1 Daily Site Entry Protocol:

.1 The contractor must provide a list of the names of all personnel who will be working onsite. The list is to be updated weekly and attendance recorded daily by each employee initialing the sign-in sheet.

.2 Any passenger vehicle coming to site is to park in a designated area adjacent to the swine facility as identified by the Departmental Representative.

.3 Entrance into the existing buildings is not permitted unless prior arrangements are made with the Departmental Representative and approved by the barn Manager.

.4 The site-entry sign-in sheets and signed Declaration sheets shall be securely stored on site, maintained daily, and available for review by the Departmental Representative at any time.

.2 Construction Tool and Equipment Protocol:

.1 All tools brought to site by the contractor must have been cleaned and wiped down with disinfectant towels or spray prior to coming on site.

.2 All equipment brought onto the site is to have been pressure-washed and dried prior to arrival at the site.

.3 All tools and equipment are to remain on site until the construction is completed. Any tools or equipment that leaves site is to be cleaned prior to re-entry.

.3 Material Delivery Protocol:

.1 The contractor is responsible for trans-loading and un-loading the material at site.

1.4 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

.1 Execute work with least possible interference or disturbance to normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.5 EXISTING SERVICES

.1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 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.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 1 General

1.1 NOT USED

1.2 NOT USED

1.3 ADMINISTRATIVE

.1 Submit to Departmental Representative 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 Departmental Representative. 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 Departmental Representative, 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 Departmental Representative's review of submittals.

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

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

1.4 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 Contractor

.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 coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

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

.5 Accompany submissions with transmittal letter, containing:

.1 Date.

.2 Project title and number.

.3 Contractor's name and address.

.4 Identification and quantity of each shop drawing, product data and sample.

.5 Other pertinent data.

.6 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.

.7 After Departmental Representative's review, distribute copies.

.8 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.

.9 Delete information not applicable to project.

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

.11 If upon review by Departmental Representative, 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.

.12 The review of shop drawings by the Technical Authority (TA) is for sole purpose of ascertaining conformance with general concept.

.1 This review shall not mean that the TA 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.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 REFERENCES

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

.2 Province of Alberta

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

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Submit site-specific Health and Safety Plan: Within 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 Sample **Plan** for **COVID**-**19**. Exposure Prevention, Preparedness, and Response.

.3 Results of safety and health risk or hazard analysis for site tasks and operation

.4 Submit 3 copies of Contractor's authorized representative's work site health and safety inspection reports to authority having jurisdiction, weekly Departmental Representative

.5 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

.6 Submit copies of incident and accident reports.

.7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 3 days after receipt of comments from Departmental Representative

.8 Departmental Representative's review of 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 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.4 SAFETY ASSESSMENT

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

1.5 MEETINGS

.1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.6 PROJECT/SITE CONDITIONS

.1 Work on site will involve:

.1 Working from heights

.1 Workers must comply with Alberta Fall Protection Regulations when working at a height above 2 meters

1.7 GENERAL REQUIREMENTS

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.8 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 statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.9 COMPLIANCE REQUIREMENTS

.1 Comply with Occupational Health and Safety Act, General Safety Regulation, Alberta Reg.2013

.2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.10 UNFORSEEN HAZARDS

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

.2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Health and Safety co-ordinator and follow procedures in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.11 HEALTH AND SAFETY CO-ORDINATOR

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

Have site-related working experience specific to activities associated with the work working knowledge of occupational safety and health regulations.

.1 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.

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

1.13 POSTING OF DOCUMENTS

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

1.14 CORRECTION OF NON-COMPLIANCE

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

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

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

1.15 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

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 NOT USED

1.3 INSPECTION

.1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

.2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.

.3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.4 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.4 INDEPENDENT INSPECTION AGENCIES

.1 Independent Inspection/Testing Agencies may be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative

.2 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and reinsertion.

1.5 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access.

1.6 PROCEDURES

.1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.7 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re- execute in accordance with Contract Documents.

.2 Make good other Contractor's work damaged by such removals or replacements promptly.

.3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 NOT USED

1.3 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or visitors.

.2 Remove waste materials from site at daily scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative

.3 Clear snow and ice from access to building

.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.5 Provide and use marked separate bins for recycling.

.6 Dispose of waste materials and debris off site.

.7 Store food and volatile waste in separate covered metal containers, and remove from premises at end of each working day.

.8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.4 FINAL CLEANING

.1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.3 Prior to final review remove surplus products, tools, construction machinery and equipment.

.4 Remove waste products and debris other than that caused by Owner or tenants.

.5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative

.6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 NOT USED

1.3 ADMINISTRATIVE REQUIREMENTS

.1 Acceptance of Work Procedures:

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

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

.2 Request Departmental Representative's inspection.

.2 Departmental Representative Inspection:

.1 Departmental Representative and Contractor to inspect Work and identify defects and deficiencies.

.2 Contractor to correct Work as directed.

.3 Work: complete and ready for final inspection.

.3 Final Inspection:

.1 When completion tasks are done, request final inspection of Work by Departmental Representative

.2 When Work incomplete according to Departmental Representative complete outstanding items and request re-inspection.

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

.5 Commencement of Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period.

.6 Final Payment:

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

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

1.4 FINAL CLEANING

.1 Clean in accordance with Section 01 74 11 - Cleaning.

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

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 REFERENCES

.1 ASTM International

.1 ASTM A123/A123M-09, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

.2 ASTM A653/A653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 CSA International

.1 CSA B111-1974 (R2003), Wire Nails, Spikes and Staples.

.2 CSA O141-05(R2009), Softwood Lumber.

.3 CSA O325-07, Construction Sheathing.

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

.1 Material Safety Data Sheets

.4 (MSDS). National Lumber Grades Authority (NLGA)

.1 Standard Grading Rules for Canadian Lumber 2010.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

1.4 QUALITY ASSURANCE

.1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

.2 Plywood, OSB and wood based composite panel construction sheathing identification: by grademark in accordance with applicable CSA standards.

Part 2 Products

2.1 LUMBER MATERIAL

.1 Lumber: #2 SPF (38mm x 89 mm, 38mm x 140 mm), moisture content 19% or less in accordance with the following standards:

.1 CSA O141.

.2 NLGA Standard Grading Rules for Canadian Lumber.

.3 CAN/CSA-Z 809 or FSC or CFI certified

2.2 PANEL MATERIALS

.1 Sheathing: 12.5mm Plywood, OSB and wood based composite panels: to CSA O325. 1R24/2F16

.1 Urea-formaldehyde free.

.2 CAN/CSA-Z809 or FSC or SFI certified.

2.3 ACCESSORIES

.1 Nails, spikes and staples: to CSA B111.

.2 H Clips

Part 3 Execution

3.1 INSTALLATION

.1 Comply with requirements of National Building Code (NBC), supplemented by the following paragraphs.

.2 Install strapping, fascia and OSB sheathing using plated steel fasteners

3.2 ERECTION

.1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity with # SPF

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 REFERENCE STANDARDS

.1 ASTM International Inc.

.1 ASTM C1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Material

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Provide two copies of most recent technical roofing components data sheets describing materials' physical properties and include product characteristics, performance criteria, physical size, finish and limitations.

1.4 DELIVERY, STORAGE, AND HANDLING

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

.2 Storage and Handling Requirements:

.1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of asphalt, sealing compounds, primers and caulking materials.

.2 Provide and maintain dry, off-ground weatherproof storage.

.3 Store rolls of felt and membrane in upright position. Store membrane rolls with salvage edge up.

.4 Remove only in quantities required for same day use.

.5 Place plywood runways over completed Work to enable movement of material and other traffic.

.6 Store sealants at +5 degrees C minimum.

.7 Store insulation protected from daylight, weather and deleterious materials.

1.5 SITE CONDITIONS

.1 Ambient Conditions

.1 Minimum temperature for solvent-based adhesive is -5 degrees C.

.2 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

1.6 WARRANTY

.1 For Work of this Section 07 52 00 - Modified Bituminous Membrane Roofing, 12 months warranty period

Part 2 Products

2.1 MEMBRANE

.1 Synthetic Roofing Underlayment:

.1 to CAN/CSA A220.1

.2 non-woven polyolefin surface over woven polymer base

.3 0.3 mm thickness

.2 Standard Ice/Water Protector Membrane

.1 To ASTM D1970

.2 Resilient, non-woven glass fibre mat which is permeated and coated with SBS modified bitumen

.3 1.5 mm thickness

Part 3 Execution

3.1 EXAMINATION OF ROOF DECKS

.1 Verification of Conditions:

.1 Inspect with Departmental Representative deck conditions including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed.

.2 Evaluation and Assessment:

.1 Prior to beginning of work ensure:

.1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.

.3 Do not install roofing materials during rain or snowfall.

3.2 PROTECTED MEMBRANE ROOFING APPLICATION

.1 On all roofs but the shelters install Synthetic Roofing Underlayment:

.1 Apply underlayment on installed plywood on entire roof system

.2 Minimum 100mm overlap

.2 Standard Ice/Water Protector Membrane

.1 Apply membrane on installed plywood at all hip, valley and eave locations of the roof

.2 Minimum 100mm overlap

3.3 FIELD QUALITY CONTROL

.1 Inspections:

.1 Inspection and testing of roofing application will be carried out by testing laboratory designated by Departmental Representative

3.4 CLEANING

.1 Remove bituminous markings from finished surfaces.

.2 In areas where finished surfaces are soiled caused by work of this section, consult manufacturer of surfaces for cleaning advice and complying with their [documented] instructions.

.3 Repair or replace defaced or disfigured finishes caused by work of this section.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 REFERENCES

.1 ASTM International

.1 ASTM A653/A653M, Standard Specification for Steel Sheet

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.32- M77, Sheathing, Membrane, Breather Type.

.3 CSA International

.1 CSA A220.1

.4 Department of Justice Canada (Jus)

.1 Canadian Environmental Protection Act (CEPA), 1999.

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

.1 Material Safety Data Sheets (MSDS).

1.3 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 sheet metal roofing and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Proof of manufacturer's CCMC listing and listing number.

1.4 DELIVERY, STORAGE AND HANDLING

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

.2 Storage and Handling Requirements:

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

.2 Store and protect sheet metal roofing from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 SHEET METAL MATERIALS

.1 Zinc coated steel sheet: to ASTM A653/A653M, commercial quality, with Z275 coating prefinished as specified in 2.2

2.2 PREFINISHED STEEL SHEET

.1 Prefinished steel with factory applied 8000 series silicone modified polyester paint system

- .1 29 gauge, high tensile grade E preformed steel sheet with 19mm ribs at 228 mm o/c
- .2 Colour selected by Departmental Representative from standard range
- .3 Specular gloss: 30 units +/- 5 in accordance with ASTM D523.
- .4 Coating thickness: not less than 22 micrometres.
- .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5units or less and erosion rate less than 20 % to ASTM D822 as follows:
  - .1 Outdoor exposure period 1000 hours.
  - .2 Humidity resistance exposure period 1000 hours.

2.3 ACCESSORIES

.1 Sealants: Butyl Sealant or tape provided by or recommended by sheet steel manufacturer

.2 Flashing: of same material, colour, and gloss as sheet metal. Thickness same as sheet metal being secured

.3 Fasteners: screws to ANSI B18.6.4, purpose made, cadmium plated steel HWH complete with domed metal washer & neoprene washer and pre-painted head to match cladding

- .1 Zinc plated finish
- .2 Ensure screws are compatible with cladding and all accessories
- .3 Roof cladding to OSB Roof Deck: No.10 x 38 mm
- .4 Stitch Screws: No 12 x 19 mm

.4 Synthetic Roofing Underlayment:

- .1 to CAN/CSA A220.1
- .2 non-woven polyolefin surface over woven polymer base
- .3 0.3 mm thickness

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

2.4 FABRICATION

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

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sheet metal roofing installation in accordance with manufacturer's written instructions.

- .1 Visually inspect substrate in presence of Departmental Representative
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative

3.2 INSTALLATION

.1 Install sheet metal work in accordance with manufacturers recommendations

.2 Provide synthetic roofing underlayment under sheet metal.

- .1 Secure in place and lap joints 100 mm.

.3 Attach components in manner not restricting thermal movement

.4 Pre drill 3 mm holes in sheet steel prior to fastening to OSB deck

.5 Counter flash bituminous flashings at intersections of roof with vertical surfaces and curbs.

.6 Lock end joints and caulk with sealant.

.7 Insert metal flashing under cap flashing to form weather tight junction.

.8 Caulk flashing at cap flashing with sealant.

.9 Flash roof penetrations with material matching roof panels, and make watertight.

.10 Form seams in direction of water-flow and make watertight.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

3.4 PROTECTION

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

.2 Repair damage to adjacent materials caused by sheet metal roofing installation.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 REFERENCES

.1 ASTM International
.2 ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position.
.3 ASTM D638 – Standard Test Method for Tensile Strength of Plastics
.4 ASTM D 648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load.
.5 ASTM D 696 - Standard Test Method for Coefficient of Linear Thermal Expansion.
.6 ASTM D 790/ASTM D 790M - Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
.7 ASTM D 1003 - Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics.
.8 ASTM D 1929 - Standard Test Method for Ignition Properties of Plastics.
.9 ASTM D 2843 - Standard Test Method for Density of Smoke from the Burning and Decomposition of Plastics.
.10 ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials
.11 ASTM G 155 - Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non Metallic Materials
.12 Underwriters Laboratories (UL) 2218 – Impact of Prepared Roof Covering Materials
.13 QUV 313B - Accelerated Weathering Test of Non-Metallic Materials.
.14 ISO-9002 - International Standards Organization.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.4 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for sheet metal roofing and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Proof of manufacturer's CCMC listing and listing number.

1.4 DELIVERY, STORAGE AND HANDLING

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

.4 Storage and Handling Requirements:

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

.2 Store and protect sheet metal roofing from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 POLYCARBONATE CORRUGATED SHEET MATERIALS

1. Coefficient of expansion, when tested in accordance with ASTM D 696: .000036 inch per inch per degree F (0.000065 ratio per degree C).
2. Modulus of elasticity, when tested in accordance with ASTM D 4065: 345,000 pounds per square inch (2378 MPa).
3. Flexural strength, when tested in accordance with ASTM D 790: 13,500 pounds per square inch (93 MPa).
4. Deflection temperature, when tested in accordance with ASTM D 648: 270 degrees F (132.2 degrees C) under 264 pounds per square inch (1.82 MPa) load.
5. Self-ignition temperature, when tested in accordance with ASTM D 1929: Minimum 1000 degrees F (537.7 degrees C).
6. Smoke density rating, when tested in accordance with ASTM D 2843: Maximum 75.
7. Maximum allowable continuous service temperature: 212 degrees F (100 degrees C).
8. No penetration of a 1.75” steel ball weighing 358g when dropped from 17ft in accordance to UL 2218.

2.2 POLYCARBONATE CORRUGATED SHEET COLOR

.1 1.5mm +/- 5% corrugated sheet with 19mm ribs at 229 mm o/c

.2 Colour to be Transparent, 90% Light Transmission

2.3 ACCESSORIES

.6 Sealants: Butyl Sealant or tape provided by or recommended by manufacturer

.7 Flashing: of same material, colour, and gloss as sheet metal. Thickness same as sheet metal being secured

.8 Fasteners: screws to ANSI B18.6.4, purpose made, cadmium plated steel HWH complete with domed metal washer & neoprene washer and pre-painted head to match cladding

.1 Zinc plated finish

.2 Ensure screws are compatible with cladding and all accessories

.3 Roof cladding to OSB Roof Deck: No.10 x 38 mm

.4 Stitch Screws: No 12 x 19 mm

2.4 FABRICATION

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

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sheet metal roofing installation in accordance with manufacturer's written instructions.

- .1 Visually inspect substrate in presence of Departmental Representative
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative

3.2 INSTALLATION

.1 Install sheet metal work in accordance with manufacturers recommendations

.2 Provide synthetic roofing underlayment under sheet metal.

- .1 Secure in place and lap joints 100 mm.

.3 Attach components in manner not restricting thermal movement

.4 Pre drill 3 mm holes in steel prior to fastening to strapping

.5 Lock end joints and caulk with sealant.

.6 Insert metal flashing under cap flashing to form weather tight junction.

.7 Caulk flashing at cap flashing with sealant.

.8 Flash roof penetrations with material matching roof panels, and make watertight.

.9 Form seams in direction of water-flow and make watertight.

3.3 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.

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

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

3.4 PROTECTION

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

.4 Repair damage to adjacent materials caused by sheet metal roofing installation.

END OF SECTION

Part 1 General

1.1 NOT USED

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM A653, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 Canadian Roofing Contractors Association (CRCA)

.1 Roofing Specifications Manual 1997.

.3 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.

.2 CAN/CGSB-93.1-M85, Sheet Aluminum Alloy, Prefinished, Residential.

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

.1 Material Safety Data Sheets (MSDS).

1.3 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:

.1 Submit manufacturer's printed product literature for sheet metal flashing systems materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

Part 2 Products

2.1 SHEET METAL MATERIALS

.1 Zinc coated steel sheet: .33 mm thickness, commercial quality to ASTM A653/A653M, with Z275 designation zinc coating.

2.2 PREFINISHED STEEL SHEET

.1 Prefinished steel with factory applied silicone modified polyester.

.1 Class F1S

.2 Colour selected by Departmental Representative from standard range

.3 Specular gloss: 30 units +/- 5 in accordance with ASTM D523.

.4 Coating thickness: not less than 22 micrometres.

.5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5units or less and erosion rate less than 20 % to ASTM D822 as follows:

.1 Outdoor exposure period 1000 hours.

.2 Humidity resistance exposure period 1000 hours.

2.3 ACCESSORIES

.1 Sealants: Butyl Sealant

.2 Fasteners: of same material as sheet metal, to CSA B111, flathead galvanized roofing nails or self-drilling screws of length and thickness suitable for metal flashing application

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

2.4 FABRICATION

.1 Fabricate metal flashings and other sheet metal work as indicated.

.2 Form pieces in 3050 mm maximum lengths.

.1 Make allowance for expansion at joints.

.3 Hem exposed edges on underside 12 mm.

.1 Mitre and seal corners with sealant.

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

2.5 METAL FLASHINGS

.1 Form flashings, copings and fascias to profiles indicated of .33 mm thick prefinished steel

.2 Roof Ridge Cap Vent

.3 Snow/Ice Guard

2.6 EAVES TROUGHS AND DOWNPIPES

.1 Form eaves troughs and downpipes from prefinished steel sheet metal

.2 Sizes and profiles as indicated.

.3 Provide goosenecks, outlets, strainer baskets and necessary fastenings.

.4 Precast Concrete Splash Pads - 600mm x 2400 mm.

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 in accordance with manufacturers recommendations

.2 Provide synthetic roofing underlayment under sheet metal.

.1 Secure in place and lap joints 100 mm.

.3 Counter flash bituminous flashings at intersections of roof with vertical surfaces and curbs.

.4 Lock end joints and caulk with sealant.

.5 Insert metal flashing under cap flashing to form weather tight junction.

.6 Caulk flashing at cap flashing with sealant.

3.3 EAVES TROUGHS AND DOWNPIPES

.1 Install eaves troughs (where indicated) and secure to building at 750 mm on centre with eaves trough spikes through spacer ferrules.

.1 Slope eaves troughs to downpipes as indicated.

.2 Seal joints watertight.

.2 Install downpipes and provide goosenecks back to wall.

.1 Secure downpipes to wall with straps at 1800 mm on centre; minimum two straps per downpipe.

.3 Install splash pans as indicated sloping away from the building

3.4 FIELD QUALITY CONTROL

.1 Manufacturer's Field Services:

.1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.5 CLEANING

.1 Proceed in accordance with Section 01 74 11 - Cleaning.

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

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

END OF SECTION

Johnston Canyon Campground
Roof Replacement


B1


B2


B3


B4


B5


B6


B7


B8


B9

Johnston Canyon Campground
Roof Replacement