

PART 1

GENERAL

1.1. DESCRIPTION OF WORK

- .1 The Work is to supply all labour and material necessary for to the completion of the Work as described in the Contract Documents.

1.2. CONTRACT DOCUMENTS

- .1 The Work shall be executed in conformance with the tender drawings and specifications, which are to form a part of the contract documents. The drawings and specifications complement each other; what is called for in either is considered a part of the Contract.
- .2 The arrangement and compilation of drawings and specifications under several sections and divisions is purely arbitrary, and is intended to assist and to clarify the Work and shall be interpreted as a whole. The Bidder is responsible to arrange and coordinate the supply of all necessary materials and labour as described.

END OF SECTION

PART 1 GENERAL

1.1. MEASUREMENT AND PAYMENT:

- .1 All payments in Canadian Currency.
- .2 All payments shall be issued based on completed inspection reports produced by Contract Administrator and Owner's representative, and issuance of payment certificates.
- .3 7.5 % Holdback will be deducted on the issuance of each payment certificate. The final release of holdback funds will be based on a final inspection by all parties showing completion of all deficiencies itemized in the Substantial Performance inspection report.

END OF SECTION

PART 1

GENERAL

1.1.

SECTION INCLUDES

- .1 Shop drawings and product data
- .2 Samples
- .3 Certificates and transcripts (where applicable)

1.2.

RELATED SECTIONS

- .1 Section 01 20 50 Measurement and Payment
- .2 Section 01 78 00 Closeout Submittals

1.3.

PRE-CONSTRUCTION SUBMITTALS

- .1 Submit for approval prior to first application for payment, a contract breakdown indicating amounts for individual portion of the work. See Section 01 20 50 Measurement and Payment. This breakdown shall be detail enough to provide progress claim evaluations and shall total to the amount of the Contract price. Application of payment will not be processed until contract breakdown is approved by Contract Administrator.

1.4.

ADMINISTRATIVE

- .1 Submit to Contract Administrator submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Work affected by submittal shall not proceed until review is complete.
- .3 Present product data, samples and mock-ups in Imperial inch-pound units.
- .4 Review submittals prior to submission to Contract Administrator. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirement of Work and Contract Documents.
- .5 Submittal not stamped, signed, dated, identified as to specific project, and attesting to their being reviewed will be returned without being examined and shall be considered rejected.
- .6 Notify Contract Administrator, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affect adjacent Work are coordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Contract Administrator's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements or Contract Documents is not relieved by Contract Administrator's review.
- .10 Keep one reviewed copy of each submission on site.

1.5.

PRODUCT DATA

- .1 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.

- .2 Allow sufficient time for Contractor Administrator to review each submission.
- .3 Adjustments made on Drawings by Contract Administrator are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Contract Administrator prior to proceeding with Work.
- .4 Make changes in Drawings as Contract Administrator may require consistent with Contract Documents, when resubmitting, notify Contract Administrator in writing of any 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 Drawing, product data and sample
 - .5 Other pertinent data.
- .6 Submissions shall 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 Single line and schematic diagrams
 - .5 Relationship to other parts of the Work.
- .7 After Contract Administrator review, distribute copies.
- .8 Submit two (2) prints of drawings larger than 11" x 17" and two (2) prints for drawings 11"x17" or smaller for each requirement request in specification section.
- .9 Drawings may be submitted electronically to Contract Administrator.
- .10 Delete information not applicable to project.
- .11 Supplement standard information to provide details applicable to project.
- .12 If upon review by Contract Administrator, no errors or omissions are discovered or if only minor revisions are made, fabrication and installation of Work may proceed. If Drawings are rejected, noted copy will be returned and re-submission of corrected drawings, through same procedure indicated above, must be performed before fabrication and installation of work may proceed.

1.6. 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 Contract Administrator's business address office.

- .3 Notify Contract Administrator 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 Contract Administrator are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Contract Administrator prior to proceeding with Work.
- .6 Make changes in samples which Contract Administrator may require, consistent with Contract Documents.
- .7 Reviewed samples will become standard workmanship and material against which installed Work will be verified.

1.7. MOCK-UPS

- .1 Erect mock-ups in accordance with Section 01 45 00.

END OF SECTION

PART 1

GENERAL

1.1.

SECTION INCLUDES

- .1 Waste Goals
- .2 Waste Management Plan
- .3 Third Party Responsibilities
- .4 Waste Management Plan Implementation
- .5 Disposal of Waste
- .6 Forms for Documenting Program

1.2.

DEFINITIONS

- .1 Clean Waste: Untreated and unpainted; not contaminated with oils, solvents, sealants or similar materials.
- .2 Construction and Demolition Waste: Solid wastes typically including but not limited to, building materials, packaging, trash debris, and rubble resulting from construction, re-modelling, repair and demolition operations.
- .3 Hazardous: Exhibiting the characteristics of hazardous substances including, but not limited to, ignitability, corrosiveness, toxicity or reactivity.
- .4 Non-hazardous: Exhibiting none of the characteristics of hazardous substances, including, but not limited to, ignitability, corrosiveness, toxicity or reactivity.
- .5 Non-toxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- .6 Recyclable: The ability of a product or material to be recovered at the end of its life cycle and re-manufactured into a new product for reuse by others.
- .7 Recycle: To remove a waste material from the Project site to another site for re-manufacture into a new product for reuse by others.
- .8 Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .9 Return: To give back reusable items or unused products to vendors for credit.
- .10 Reuse: To reuse a construction waste material in some manner on the Project site.
- .11 Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.
- .12 Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- .13 Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- .14 Toxic: Poisonous to humans either immediately or after a long period of exposure.
- .15 Trash: Any product or material unable to be reused, returned, recycled or salvaged.
- .16 Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products over time through outgassing:
 - .1 Solvents in paints and other coatings,
 - .2 Wood preservatives, paint strippers, thinners and household cleaners,
 - .3 Adhesives in particle board, fibreboard, and some plywood; and foam insulation,

- .4 When released, VOC's can contribute to the formation of smog and can cause respiratory tract problems, headaches, eye irritations, nausea, damage to the liver, kidneys, and central nervous system, and possibly cancer.
- .17 Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.3. WASTE MANAGEMENT GOALS

- .1 Waste produced/generated in the project will be:
 - .1 Roof work: mostly shingles, nails, deteriorated substrate materials to each dormer and south roof slope, bell tower base, and ridge shingles.
 - .2 Wall boards if rotted (unknown) wall substrate in those affected areas, removed sections at the base of the ground floor wall to allow for the installation of a drip trim piece.
- .2 The scope of Work shall produce the least amount of waste possible and that processes to ensure the generation of as little waste as possible due to error, poor planning breakage, mishandling, contamination, of other factors shall be employed.
- .3 Contract Administrator recognizes that waste in any project is unavoidable, but indicates that as much of the waste materials as economically feasible shall be reused, salvaged, or recycled.
- .4 Waste disposal to landfill shall be minimized.

1.4. THIRD PARTY RESPONSIBILITY

- .1 Subcontractors and Trade Contractors shall cooperate fully with Contractor to implement waste reduction.

1.5. STORAGE, HANDLING AND PROTECTION

- .1 Store materials to be reused, recycled and salvaged.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licenced disposal facility.
- .5 Protect surface drainage, storm sewer, sanitary sewers, and utility services from damage and blockage.

1.6. SCHEDULING

- .1 Coordinate work with other activities at site to ensure timely and orderly progress of the work.

PART 2 PRODUCTS

2.2. Not Used

- .1 No products itemized in this Section.

PART 3 EXECUTION

3.1. PREPARATION

- .1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.2. WASTE MANAGEMENT IMPLEMENTATION

- .1 Manager/Designate: Contractor shall designate an on-site party (or parties) responsible for instructing workers. Contractor shall inform Contract Administrator and Museum staff of Manager/Designate.
- .2 Instruction: Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stage of the Project.
- .3 Separation facilities: Contractor shall lay out and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.

3.3. DISPOSAL OF WASTE

- .1 Burying of rubbish and waste materials is prohibited.
- .2 Disposal of waste, volatile materials, mineral spirits, oils, paint thinner into waterways, storm sewers, or sanitary sewers is prohibited.

3.4. CLEANING

- .1 Remove tools and waste materials on completion of work and leave work area in a clean and orderly condition.
- .2 Clean up work area as work progresses.
- .3 Identify separate materials to be reused, recycled into specified sort areas.

END OF SECTION

PART 1

GENERAL

1.1.

COORDINATION

- .1 The Contractor will coordinate work schedules between each Sub-contractor (if applicable), the Contract Administrator, and Museum staff.
- .2 See Section 01 41 00 Regulatory Requirements
- .3 See Section 01 45 00 Quality Control

END OF SECTION

PART 1

GENERAL

1.1.

REFERENCES

- .1 All work to comply with 2022 Manitoba Workplace Safety and Health Act and Regulation. All workers must be covered and operate safely all equipment including all safety equipment such as lifts, fall arresters, safety wear and protective clothing etc. during the course of the work.
- .2 All work to comply with Manitoba Workers Compensation Act. All workers including subcontract workers shall be covered against injury on the job site.
- .3 All work to comply with Winnipeg Building By-Law 4555/87 and amendments.
- .4 All work to comply with Winnipeg Demolition By-Law 4655/87 and amendments.
- .5 All work to comply with the Manitoba Building Code.
- .6 The Contractor should allow sufficient time in obtaining all required permits to ensure no delays to the construction schedule.

1.2.

REGULATORY PERMITS

- .1 Contractor to obtain all necessary building permits for this work. All permit fees to be included in the Lump Sum Price of the Tender Submission.
- .2 Contract Administrator to obtain municipal and provincial heritage permits for the work.
- .3 Contractor shall obtain all municipal permits necessary to run lift equipment on site.

1.3.

RELATED REQUIREMENTS

- .1 Section 06 20 00 – Finish Carpentry
- .2 Section 09 03 61 – Historic Repainting Exterior Surfaces
- .3 Section 09 91 13 – Exterior Painting

1.4.

REFERENCES

- .1 Part C General Conditions and Part D Supplementary Conditions of the tender document shall be included in and made part of this SECTION http://www.winnipeg.ca/matmgt/gen_cond.stm
- .2 Examine all Drawings and all other SECTIONS of the Specification for requirements affecting the work.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - i. Material Safety Data Sheets (MSDS).
- .4 National Fire Code of Canada

1.5.

QUALITY CONTROL

- .1 All notices of safety barriers, building permits, heritage permits, and other required permits shall be located on site and prominently displayed during the course of the work.
- .2 Protective barriers shall be erected on site to protect the general public, museum staff, and consultants against injury, and adjacent buildings from damage during the course of the work.
- .3 Unaffected sections of the building shall be protected against damage during the course of the work.
- .4 Regular inspections by City Inspectors, consultants and/or grant agency officials.

1.6. ACTION AND INFORMATION SUBMITTALS

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

END OF SECTION

PART 1

GENERAL

1.1.

SECTION INCLUDES

- .1 Inspection and testing, administrative and enforcement requirements
- .2 Mock-ups

1.2.

INSPECTION BY AUTHORITY

- .1 Allow Authorities having jurisdiction 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 Provide sufficient notice requesting inspection whenever portions of the Work are designated for special tests, inspections or approvals, either with described in the Contract Documents or when required by law in the Place of the Work.
- .3 If Contractor or permits to be covered, covers 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.

1.3.

REVIEW BY CONTRACT ADMINISTRATOR/CONSULTANT

- .1 Contract Administrator and/or Consultant may order any part of Work to be reviewed if Work is suspected to be not in accordance with Contract Documents.
- .2 If, upon review such work is found not in accordance with Contract Documents, correct such Work and pay cost of additional review and correction.
- .3 If such Work is found in accordance with Contract Documents, cost of review and replacement will be reimbursed.

1.4.

ACCESS TO WORK

- .1 Allow testing and inspection agencies access to Work off site manufacturing and fabrication plants or workshop(s).
- .2 Co-operate to provide reasonable facilities for such access.

1.5.

PROCEDURES

- .1 Notify Contract Administrator in advance of all mock-up samples for review, in order that attendance arrangements can be made.
- .2 Prior to commencing work, Contractor shall supply mock-up samples for cedar shingles, wood replacement pieces, and paint sample(s) for review by Contract Administrator. Submit mock-up samples including all labels for review as required and stipulated in the specifications.
- .3 Provide labour and area to obtain and handle all mock-up samples and materials on site for representational standards. Provide sufficient space to store samples on site during the course of the Work.

1.6. REJECTED WORK

- .1 Remove all 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 Contract Administrator as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor/Subcontractor's work damaged by such removals or replacements promptly.

1.7. REPORTS

- .1 Contract Administrator to provide Contractor with written report after each inspection, reviewing Work completed and advising to correct deficiencies identified as a result of the inspection.
- .2 Contract Administrator to provide a copy of inspection report to Contractor and Owner.
- .3 Contractor to provide copies to Subcontractor of work inspected.
- .4 Contractor shall notify Contract Administrator promptly when any remedial work has been completed and arrange for re-inspection.

END OF SECTION

PART 1

GENERAL

1.1. SECTION INCLUDES

- .1 Product quality, availability, storage, handling, protection, and transportation.
- .2 Manufacturer's instructions
- .3 Quality of Work, coordination and fastenings
- .4 Existing facilities

1.2. TERMINOLOGY

- .1 New: Produced from new materials
- .2 Renewed: Produced or rejuvenated from an existing material to like-new condition to serve a new or existing service.
- .3 Defective: A condition determined exclusively by the Contract Administrator

1.3. PRODUCT QUALITY

- .1 Products, materials, equipment, part or assemblies (referred to as Products) incorporated in Work: New or Renewed, not damaged or defective, of best quality (compatible with specification requirements) for purpose intended. If requested, provide evidence as to type, source and quality of Products provided.
- .2 Defective products will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective Products at own expenses and be responsible for delays and expenses caused by rejection.
- .3 Should any dispute arise as to quality or fitness of Products, decision rests strictly with Contract Administrator.
- .4 Unless otherwise indicated in Specifications, maintain uniformity of manufacture for any particular or like item.

1.4. AVAILABILITY

- .1 Immediately upon signing Contract, review Product delivery requirements and anticipate foreseeably supply delays for any items.
- .2 To prevent delays in the course of Work, notify Contract Administrator of any Product delays and await any instructions for substitute materials or remedial actions.
- .3 In event of failure to notify Contract Administrator of delays in commencement of work due to Project delays, Contract Administrator reserves the right to substitute Products of similar characteristics, at no increase in Contract Price or Contract Time.

1.5. STORAGE AND PROTECTION

- .1 Store and protect Products in accordance with manufacturer's instructions.
- .2 Store with seals and labels intact and legible.
- .3 Store sensitive Products in weather tight, climate controlled, enclosures in an environment favourable to Product.

- .4 For exterior storage of fabricated Products, place on sloped supports above ground.
- .5 Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.
- .6 Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement and damage.
- .7 Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.6. TRANSPORTATION AND HANDLING

- .1 Transport and handle Products in accordance with manufacturer's instructions.
- .2 Promptly inspect all shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- .3 Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.7. MANUFACTURER'S INSTRUCTIONS

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

1.8. QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers/tradesmen experienced and skilled in respective duties for which they are employed. Immediately notify Contract Administrator if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Contract Administrator reserves the right to require dismissal from site of any workers deemed incompetent or careless.
- .3 Monitor quality control over suppliers' manufacturers, products services, site conditions, and workmanship, to produce Work of specified quality.
- .4 Comply with manufacturer's instructions.
- .5 Should manufacturer's instructions conflict with Contract Documents, request clarification from Contract Administrator before proceeding.
- .6 Perform work by persons qualified to produce required and specified quality.
- .7 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Contract Administrator, whose decision is final.

1.9. CODES AND STANDARDS

- .1 Execute Work in accordance with National Building Code of Canada (NBC) and Supplements, Manitoba Building Code including Manitoba Fire Code, and the Fires Prevention Act and the

Winnipeg Building By-Law No. 4555/87 and all codes and standards specified within the text of this specification.

- .2 Conform to the latest issue of codes and standards specified, as amended and revised on date of receipt of tenders.
- .3 For conservation, execute Work in accordance with the Standards and Guidelines for the Conservation of Historic Places in Canada. Design Documents have been produced using this tool, and unless otherwise noted from authorities having jurisdiction, shall be considered in compliance.

1.10. COORDINATION

- .1 Ensure cooperation of Workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination between workers and Products during the course of Work.

1.11. REMEDIAL WORK

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.12. FASTENINGS

- .1 Use non-corrosive hot dip galvanized fasteners unless otherwise specified.

1.13. PROTECTION OF WORK IN PROGRESS

- .1 Prevent any overloading of any part of the Project.
- .2 Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated, without written approval by Contract Administrator.

END OF SECTION

PART 1

GENERAL

1.1. SECTION INCLUDES

- .1 Progressive cleaning.
- .2 Cleaning prior to acceptance.

1.2. PROGRESSIVE CLEANING

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
- .2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Contract Administrator. Do not burn waste materials on site.
- .3 Clear snow and ice from area of construction, if applicable.
- .4 Make arrangements with and obtain all required permits from authorities having jurisdiction for disposal of waste and debris.
 - .1 Provide on-site hinged lid containers as required for collection of waste materials and debris.
 - .2 Provide and use clearly marked, separate bins for recycling.
- .5 Dispose of waste materials and debris.
- .6 Store volatile waste in covered metal containers, and remove from premises/site at the end of each working day.
- .7 Provide adequate ventilation during use of volatile or noxious substances.
- .8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces.

1.3. CLEANING PRIOR TO ACCEPTANCE

- .1 Prior to applying for Substantial Performance of the Work, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Prior to final review, remove waste and products and debris and leave work site clean. Remove surplus products, tools and construction machinery and equipment.
- .3 Remove waste materials from site at regularly scheduled times or dispose of as directed by Contract Administrator.
- .4 Obtain all necessary permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Clean and sweep steps, roof surfaces, rain gutters and sunken window wells.
- .6 Sweep and wash clean asphalt and/or rubber walkways.

1.4. FINAL PRODUCT CLEANING

- .1 Execute final cleaning prior to final project assessment/inspection.
- .2 Clean site and sweep asphalt and/or rubber walkways.
- .3 Remove waste and surplus materials, rubbish, and construction facilities from the site.

END OF SECTION

PART 1

GENERAL

1.1.

SECTION INCLUDES

- .1 Inspections and declarations
- .2 Closeout Submittals
- .3 Recording actual site conditions, including photographic journal.
- .4 Record (as-built) documents and samples
- .5 Record documents

1.2.

RELATED SECTIONS

- .1 Section 01 33 00 Submittal Procedures
- .2 Section 01 45 00 Quality Control
- .3 Section 01 80 00 Maintenance

1.3.

INSPECTIONS AND DECLARATIONS

- .1 Contractor Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects and repair as required to conform to Contract Documents.
 - .1 Notify Contract Administrator in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .2 Request Contract Administrator Inspection
- .2 Contract Administrator's Inspection: Contract Administrator and Contractor will perform inspection of Work to identify defects or deficiencies. Contractor to correct defective and deficient Work accordingly.
- .3 Completion: Submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Equipment and systems have been tested, adjusted and balanced are fully operational.
 - .4 Certificates required by authorities having jurisdiction have been submitted.
 - .5 Operation of systems have been demonstrated to Owner's personnel.
 - .6 Work is complete and ready for Final Inspection.
- .4 Final Inspection: when items noted above are completed, request final inspection of Work to Contract Administrator. If Work is deemed incomplete by Contract Administrator, complete outstanding items and request reinspection.
- .5 Declaration of Substantial Performance: When Contract Administrator considers deficiencies and defects have been corrected and Contract requirements of have been substantially performed, make application for Substantial Performance of the Work.
- .6 Commencement of Warranty Periods: the date of Substantial Performance of the Work shall be the date for commencement of the warranty period.
- .7 Final Payment: When Contract Administrator considers final deficiencies and defects have been corrected and requirements of Contract have been competed, Contractor to make application for final payment.
- .8 Payment of Hold Back: After issuance of certificate of Substantial Performance of the Work, Contractor to apply for payment of hold back amount.

1.4. CLOSEOUT SUBMITTALS

- .1 Prepare instructions and data using personnel experienced in maintenance and operation of described products.
- .2 Provide digital photos and descriptions of work performed.
- .3 Provide above to Contract Administrator and Owner's personnel two (2) weeks prior to Substantial Performance of the Work, submit to Contract Administrator.
- .4 If requested, furnish evidence as to type, source and quality of products provided.
- .5 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .6 Pay costs of transportation.

1.5. CLOSEOUT MAINTENANCE MANUAL FORMAT

- .1 Organize data in the form of an instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 179mm with spine and face pockets.
- .3 Alternative to .1 information provided in PDF.
- .4 Cover: Identify binder(s) with type or printed title 'Project Record Documents', list title of project and identify subject matter of contents.
- .5 Internally subdivide the binder contents with page dividers, logically organized as described below in 1.6 Contents; with tab titling clearly printed under reinforced laminated plastic tabs.
- .6 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.6. CONTENT

- .1 Table of Contents: provide title of project;
 - .1 Date of submission
 - .2 Names, addresses, and telephone numbers of Contract Administrator and Contractor with name of responsible parties; and
 - .3 Schedule of products and systems, indexed to content of volume
 - .4 Certificate of Acceptance: Relevant certificates issued by authorities having jurisdiction, including code compliance certificate(s).

1.7. RECORDING ACTUAL CONDITIONS

- .1 Record information on set of blackline opaque drawings and electronic photographs.
- .2 Annotate with coloured felt tip marking pens (multi coloured) for recording changed information.
- .3 Record information concurrently with construction progress. Do not conceal Work of the Project until required information is accurately recorded.
- .4 Contract Drawings: Legibly mark each item to record actual construction including:
 - .1 Field changes of dimensions and detail.
 - .2 Changes made by change orders.
 - .3 Details not on Contract Drawings.

- .4 References to related drawings and modifications.
- .5 Specifications: Legibly mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

1.8. RECORD DOCUMENTS AND SAMPLES

- .1 In addition to requirements in this Section and the City's General Conditions, maintain at the site one record copy of:
 - .1 Contract Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Change Orders and other modifications to the Contract.
 - .5 Reviewed Drawings, product data and samples.
 - .6 Inspection Certificates
 - .7 Manufacturer's Certificates.
- .2 Store record documents in Museum Building office apart from documents used for construction. Provide files for storage.
- .3 Label record documents and file in accordance with section number listings in List of Contents of the Project Manual. Label each document "RECORD DOCUMENT" in neat, large, printed or typed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Contract Administrator.

1.9. FINAL RECORD DOCUMENTS

- .1 Prior to Substantial Performance of Work, electronically transfer the marked-up information from the record documents to Contract Administrator, to be added to the master (original) set of drawings and specification provided by the Contract Administrator.
- .2 Mark revised documents as "RECORD DOCUMENTS". Include all revisions.
- .3 Submit completed record documents to Contract Administrator.

END OF SECTION

PART 1

GENERAL

1.1.

MAINTENANCE

- .1 The Contractor shall provide the “Owner” (Museum) with a binder containing all labels, paint colour swashes and other pertinent materials used in the Scope of Work to be used as a future reference for construction planning purposes.
- .2 The Contractor shall maintain a guarantee of workmanship for a period of 1 year after completion of the Scope of Work, per the General Conditions in tender document.

END OF SECTION

PART 1

GENERAL

1.1. SUBSURFACE INVESTIGATION AND DISCOVERY

- .1 On Site Discoveries: The Contractor shall notify the Contract Administrator immediately of such conditions and await instructions before proceeding.
- .2 See related Tender, Part E- E3 Cash Allowances.

END OF SECTION

PART 1

GENERAL

1.1.

SELECTIVE DEMOLITION

- .1 Related Materials: Selected demoed areas are outlined in the Design Drawings Sheets 1 through to 3.
- .2 Selective Demolition:
 - .1 Refer to Roofing Drawings for demolition work in those areas.
 - .2 Review tools and removal techniques with the Contract Administrator concerning material to be temporarily removed and reinstated. The Contractor shall conduct a test of removal techniques being employed. All tests to be approved by the Contract Administrator before proceeding with the Work.
- .3 General Demolition:
 - .1 The Contractor shall protect all adjacent buildings from any damage in the course of removing existing shingles and deteriorated substrate materials from the roof deck during the course of the Work.
 - .2 The Contractor shall protect all adjacent building components of the Museum against damage during the course of the Work.

END OF SECTION

PART 1

GENERAL

1.1.

SITE PREPARATION

- .1 Prior to commencing with the Work, the Contractor shall protect all adjacent buildings, landscaping features against damage.
- .2 The Contractor shall erect construction barriers to protect museum staff and the public against accidents and injury during the course of the Work.

END OF SECTION

PART 1 GENERAL

1.1. PAVING AND SURFACING

- .1 The Contractor shall protect all rubber paved sidewalks and grassed areas during the course of the Work.
- .2 If such damage occurs, the Contractor shall make good to pre-damaged condition at his/her own expense.

END OF SECTION

PART 1

GENERAL

1.1. **POWER AND COMMUNICATIONS**

- .1 The Contractor to site verify building electrical capacity to ensure the exterior power outlet source for charging tools and air powered equipment will be feasible for all on site work. If insufficient, Contractor shall be responsible for providing.
- .2 The Contractor shall be responsible for extra extension cables with proper current ratings to use for all on site work.
- .3 The Contractor is responsible for all recharging devices for tools and all communication devices.

END OF SECTION

PART 1

GENERAL

1.1.

LANDSCAPING

- .1 The Contractor shall protect all site furniture including planting beds, statues and plaques from damage during the course of the Work.
- .2 If such damage occurs, the Contractor shall make right at his/her own expense.
- .3 The Site shall be inspected prior to commencement of Work to ensure no current anomalies are present such as lawn damage, broken windows. etc. All anomalies shall be reported to the Contract Administrator. They shall then be recorded and photographed by both parties at that time. Should no anomalies be reported prior to Work commencing it shall be assumed that none existed prior to commencement.

END OF SECTION

PART 1

GENERAL

1.1.

SECTION INCLUDES

- .1 Exterior Siding Boards and Trim
- .2 Dormer window framing and stops
- .3 Exterior wood trim, mouldings and casings

1.2.

RELATED SECTIONS

- .1 Section 01 41 00 – Regulatory Requirements
- .2 Section 09 03 61 – Historic Repainting Exterior Surfaces
- .3 Section 09 91 13 – Exterior Painting
- .4 Examine all Design Drawings for requirements affecting the work of this trade.

1.3.

REFERENCES

- .1 CAN/CSA O141-91 (R1999), Softwood Lumber
- .2 NLGA (National Lumber Grades Authority) – Standard Grading Rules for Canadian Lumber
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
- .4 Material Safety Data Sheets (MSDS).
- .5 National/Manitoba Building Code
- .6 National Fire Code of Canada

1.4.

SCOPE OF WORK

- .1 The work applies to replacement of rotted crown mouldings, wall sheathing, and decorative wood trim work as identified in each of the ten dormer windows.
- .2 The Scope of Work as indicated on the Drawings. Contract Administrator makes no representation of the exact quantities of work required. It shall be the responsibility of the Contractor to do all work within the designated areas to the complete fulfillment of the requirements of these Specifications.

1.5.

QUALITY CONTROL

- .1 Lumber Grading Agency: NLGA
- .2 Qualifications of Contractors and his/her employees, and subtrades:
 - .1 Contractor: to have a minimum of five (5) years proven satisfactory experience. When requested, provide list of last three comparable jobs (i.e., heritage buildings or, alternatively, wooden structures built before 1930) including, job name and location, specifying authority, and project manager or owner. Refer to Part D, Form M in Tender to submit information.
 - .2 Qualified journeyman carpenters as defined by local municipal jurisdiction to be engaged in the wood repair work.
 - .3 Apprentices: may be employed provided they work under direct supervision of a qualified journeyman carpenter in accordance with trade regulations.

- .4 Carpenters who repair existing woodwork must be capable of very fine joinery and must be capable of performing a variety of wood repair techniques including scarf joints, dutchmen, plugs, wood consolidation, the making up of small pieces of missing mouldings and undertaking wood epoxy repairs.
- .3 All primary commercial products specified in this Section shall be supplied by a single manufacturer with a minimum of ten (10) years' experience.
- .4 Wood preservative materials such as linseed oil, shellac, and turpentine to be highest quality product and to be compatible with other coating materials as required.
- .5 Retain purchase orders, invoices, and documents to prove conformance as stipulated in 1.8 of this SECTION when requested by Contract Administrator.

1.6. PERFORMANCE REQUIREMENTS

- .1 Completed dormer work shall include the side wall repairs, new flashings, cedar ridge boards, the installation of new crown mouldings, new dormer roof edge boards, adjacent roof substrate repairs and the sealing of open mitre joints in existing crown mouldings being retained.

1.7. SCHEDULING

- .1 Submit work schedule for various stages of exterior wood repairs to Contract Administrator for approval. Submit schedule minimum of 48 hours in advance of proposed operations.
- .2 Obtain written authorization from Contract Administrator for changes in work schedule.
- .3 Schedule operations to prevent disruption of occupants, in and about building.

1.8. ACTION AND INFORMATION SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.
- .2 Product Data:
 - .1 Submit WHMIS MSDS Material Safety Data Sheets for epoxy and boiled linseed oil materials
 - .2 Upon completion, submit records of products used including the following: List products in relation to finish system and include the following:
 - 1. Product name, type and use.
 - 2. Manufacturer's product number.
 - 3. Manufacturer's Material Safety Data Sheets (MSDS).

1.9. MAINTENANCE

- .1 Extra Materials:
 - .1 Submit maintenance materials in according with Section 01 78 00 Closeout Submittals.
 - .2 At project closeout, submit one mock-up sample to Contract Administrator for future reference and planning purposes.

1.10. DELIVERY STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 – Common Product. Requirements supplemented as follows:
 - .1 Deliver and store materials in original containers, sealed, with labels intact.
 - .2 Labels to indicate:
 1. Manufacturer's name and address
 2. Type of paint or coating
 3. Compliance with applicable standard.
 4. Colour number in accordance with established colour schedule.
 - .2 Remove damaged, opened and rejected materials from site.
 - .3 Provide and maintain dry, temperature controlled, secure storage.
 - .4 Observe manufacturer's recommendations for storage and handling.
 - .5 Store materials and supplies away from heat generating devices.
 - .6 Store materials and equipment in well ventilated area with a constant minimum temperature of 16 degrees C and a maximum relative humidity of 55%. All wood shall be covered by tarpaulins for protection against rain.
 - .7 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
 - .8 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Contract Administrator. After completion of operations, return areas to clean condition to approval of the Contract Administrator.
 - .9 Remove materials from storage only in quantities required for same day use.
 - .10 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
 - .11 Fire Safety Requirements:
 - .1 Provide one 9 kg Type ABC dry chemical fire extinguisher adjacent to storage area.
 - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
 - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.
 - .12 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 35 41- Construction/Demolition Waste Management and Disposal.
 - .2 Linseed oil, putty, epoxy resins and wood preservatives and related materials (thinners, solvents, etc.) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from City of Winnipeg Water and Waste Department.
 - .3 Material which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.
 - .4 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
 - .5 To reduce the number of contaminants entering waterways, sanitary/storm drain systems or into the ground the following procedures shall be strictly adhered to:
 1. Retain cleaning water for water-based materials to allow sediments to be filtered out.

2. Retain materials, and place in designated containers and ensure proper disposal.
 3. Return oil-soaked rags used during wood preservation operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.
 4. Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.
- .6 Close and seal tightly all partly used sealant and adhesive containers and store protected in a well-ventilated fire-safe area at moderate temperature.

PART 2 **PRODUCTS**
2.2. **MATERIALS**

- .1 Protect all wood on site from the elements and inclement weather. Ensure all end grain is sealed.
- .2 Deliver materials to site in original unbroken containers and wood bundles bearing brand, wood stamps, and maker's name. The presence of any unauthorized material or containers for such, on site shall be of sufficient cause for rejection of ALL new wood materials on site at that time.
- .3 Unless a change in writing is issued by the Contract Administrator, all materials shall strictly conform to the following:
 - .1 Wood: All new wood species used for repaired or replacement shall be:
For replacement bell tower base crown mouldings, dormer roof board edging to be Douglas Fir No. 1 free of knots, stains, rot, insects, or other imperfections affecting its appearance when exposed to view, and exact matching in wood profile for all exterior trim, casings, window trim, mouldings, dormer roof boards.
 - .2 For dormer wall repair boards, bell tower wall boards: Red pine tight knot and free of stains, rot, insects, or other imperfections affecting its appearance when exposed to view, moisture content of 10% - 12%, and exact matching in wood profile.
 - .3 Roof Substrate Furring Boards: White Spruce tight knot free of stains, rot, insects, or other imperfections affecting its appearance when exposed to view, and exact matching in wood profile.
 - .4 Roof Substrate sheets – to be determined in on site discovery. Coordinate site inspection with Contract Administrator and await instructions before proceeding.
- .4 Linseed Oil – Allbäck Purified Raw Linseed Oil
- .5 Putty – Allbäck Linseed Oil Putty
- .6 Back priming paint: Benjamin Moorwhite Primer or approved substitute.
- .7 Titebond III Exterior Grade Glue
- .8 Turpentine – Solvable Professional Grade Linseed Oil, or approved substitute.
- .9 Nails and Fasteners:
 - .1 ½" to 3" hot dipped galvanized finishing nails, free of rust.
 - .2 ½" to 3" hot dipped galvanized finishing cut/square nails, free of rust.
 - .3 Appropriate lengths to be site determined upon discovery in roof substrate.
- .10 Wood Preservative/Insecticide: Borocol 10-2D (Sansin Corporation) or on-site discovery.
- .11 Epoxy and Wood Consolidates:
 - .1 Wood Epoxy and Wood Restorer:
 - .1 Abatron Liquid Wood

- .2 Abatron Wood Epox
- .2 Or an approved substitute(s)

PART 3 EXECUTION

3.1. MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage, and installation instructions, and MSDS data sheets.

3.2. EXAMINATION

- .1 Before commencing the work, Contractor to thoroughly familiarize himself/herself with the existing conditions.
- .2 Before commencing the work, all areas of repair work to crown mouldings, trim work and siding to be confirmed on site between Contractor and Contract Administrator.

3.3. PROTECTION

- .1 Protect existing building components and adjacent surfaces from markings and other damage. If damaged, notify the Contract Administrator immediately. Restore and make good such surfaces as directed by Contract Administrator.
- .2 Protect passing pedestrians and general public in and about the building.
- .3 Move and cover exterior furniture and portable equipment as necessary to carry out scope of work.
- .4 Work with Museum staff to ensure artifacts are protected against damage during the course of the work.

3.4. EXISTING CONDITIONS

- .1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be repaired. Report damages, defects, unsatisfactory or unfavourable conditions to Contract Administrator and await instructions before proceeding with work.
- .2 Contact Contract Administrator immediately upon discovery of any unforeseen or hidden rot and decay and await instructions for repairs or other remedial action.
- .3 Conduct moisture testing of surfaces to be repaired using a properly calibrated electronic moisture meter.

3.5. SIDING REPAIRS

- .1 All repaired wood shall be done on site and for those boards not being removed, in situ.
- .2 One (1) type of repair joint will make up the basis of most repairs to the existing dormer siding window woodwork: Dutchmen with matched grain and finish to deteriorated wood being repaired.
- .3 All repair joints will be well glued and clamped under pressure.

- .4 Moulding profiles for crown mouldings, dormer roof board edges, casings and siding's tongue and grooved joints on repaired wood will match and blend into the original moulding profile.
- .5 Maximum moisture content for new replacement wood is 10%-12% at time of on-site installation.

3.6. PREPARATION

Selective Demolition

- .1 Dormer Side Walls: Remove decayed shingles and exterior siding boards in need of repair or replacement. Pry off the wall substrate using the gentlest means.
 - .1 Bell Tower Base: Remove decayed shingles.
 - .2 Remove shingles and counter slope flashing at two (2) chimney locations.
 - .3 Refer to Design Drawings with this Specification.
- .2 Areas of Insect Infestation:
 - .1 Note areas of insect infestation and document with digital photographs before removal of frass material to substrate area exposed by removal of siding boards. See Existing Conditions Report for identified general areas. Submit photographs to Contract Administrator for future reference.
 - .2 Thoroughly vacuum and clean all insect frass from identified affected areas.
 - .3 Apply Borocol product as per manufacturer's instructions.

3.7. APPLICATION

.1 Moisture Proofing

- .1 Ensure substrate in exposed areas, is clean, dry and free of rot, dust, and frass. Replace all rotted substrate material with matching material to provide a sound base for moisture membrane.
- .2 Treat all insect affected areas with Boracol insecticide/fungicide product specified following manufacturer's instructions.
- .3 Apply moisture membrane to sound substrate. Seal each end and at existing flashing with mastic seal compliant with manufacturer's instructions for the membrane.
- .4 Refer to Design Drawings with this Specification.

.2 Wood Restoration

- .1 Consolidate all large cracks with linseed oil putty. Clean excess with a putty knife to wood surface.
- .2 All protruding and shrunken knots shall be gently tapped back into and be even with the surrounding wood surface and glued into place. Seal with shellac.
- .3 Treat all exposed knots with shellac to seal the exposed end grain.
- .4 Fill all open knotholes with wood epoxy.
- .5 Install wood Dutchmen repairs in situ.
- .6 Back prime all removed siding boards including edge grain before re-installing.

3.8. FIELD QUALITY CONTROL

.1 Inspection:

- .1 See Section 01 41 00 Regulatory Requirements

- .2 Notify Contract Administrator when repaired wood areas and mock-ups are ready for inspection. Do not proceed with subsequent repairs until repaired areas have been approved by the Contract Administrator.

3.9. CLEANING

- .1 Proceed in accordance with Section 01 74 00 Cleaning
- .2 Remove all dust and any residue as work progresses using means and materials that are not detrimental to affected surfaces. Ensure proper cleaning of wall and roof substrates before initiating repairs.

3.10. RESTORATION

- .1 Clean and re-install hardware items which were removed before undertaking wood repairs.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Restore areas used for on-site storage to clean condition as approved by Contract Administrator.

END OF SECTION

PART 1 GENERAL

1.1. WORK INCLUDED

- .1 Self-adhering elastomeric sheet membrane waterproofing
- .2 Roof underlayment membrane

1.2. SYSTEM DESCRIPTION

- .1 Waterproofing System: Prevent moisture migration to interior repaired section of walls and roof.

1.3. ENVIRONMENTAL REQUIREMENTS

- .1 Refer to Manufacturer's instructions regarding application during cold weather.
- .2 See Section 01 35 41 Waste Management and Disposal

1.4. WARRANTY

- .1 Provide a five (5) year manufacturer's warranty against failure of installation to resist penetration of moisture.

PART 2 PRODUCTS

2.1. PRODUCTS:

MAIN MUSEUM SECTION ROOF:

- .1 Membrane: GCP Grace Ice and Water Shield, or approved equal.
- .2 Underlayment: GCP Tri-Flex XT Synthetic Underlayment, or approved equal.

2.2. ACCESSORIES:

- .1 Mastic: of type recommended by manufacturer. Apply to all horizontal and vertical terminations as well as sheet laps.

PART 3 EXECUTION

3.1. INSPECTION

- .1 Verify and confirm soundness of roof substrate before installation.
- .2 Verify substrate is free of cracks, depressions waves, or projections which may hinder a successful installation.
- .3 Do not apply waterproofing to damp, frozen, dirty, dusty, or deck surfaces unacceptable to manufacturer's instructions.
- .4 Beginning of installation means acceptance of substrate.

3.2. PREPARATION

- .1 Protect all adjacent surfaces not designated to receive waterproofing.
- .2 Seal cracks and joints with recommended material and sealant. Use proper depth-width ratio as recommended by sealant manufacturer.

- .3 Clean all surfaces of foreign matter detrimental to installation of waterproofing products.

3.3. APPLICATION

- .1 Install membrane products in accordance with manufacturer's instructions.
- .2 Install wall sheet wrap product in accordance with manufacturer's instructions.
- .3 Ice and Water Shield:
 - .1 Remove backing layer and roll out on surface with mechanical roller to ensure a full contact and non-wrinkled bond.
 - .2 Overlap all seam joints by 3" minimum and seal to adjoining surfaces.
 - .3 Continue membrane 6" up vertical surfaces unless otherwise specified.
 - .4 Seal all features which penetrate membrane with counterflashing membrane material.
 - .5 Install flashings and seal watertight to membrane.
 - .6 Reinforce membrane with multiple thickness membrane material over joints, whether joints are static or moving.
 - .7 Extend membrane 5'-0" up from edge of eave and 3'-0" wide in all exposed valleys.
- .4 Synthetic Roof Underlayment:
 - .1 Roll out underlayment and ensure a non-wrinkle finish.
 - .2 Overlaps to be 3" minimum on vertical seams and 4" minimum at each course (horizontal seams).
 - .3 Lap 4" to 6" at main and hip ridges for dormers and main roof slopes.

END OF SECTION

PART 1 GENERAL

1.1. SCOPE OF WORK

- .1 Install cedar shingles to south roof slope of main museum building section, replace decayed shingles to side walls of ten (10) dormers and to main roof slopes adjacent, and replace decayed shingles at two (2) brick chimneys.
- .2 Related work: repair roof substrate, dormers' wall sheathing, and waterproofing.

1.2. RELATED REQUIREMENTS

- .1 Sheet Membrane Waterproofing: Section 07 11 50
- .2 Metal Flashings: Section 07 62 00

PART 2 PRODUCTS

2.1.

- .1 All new shingles including cap shingles shall be Western Red Cedar No. 1 Blue Label shingles, 100% edge grain 100% clear and 100% heartwood.
- .2 All new corner boards and ridge boards shall be Western Red Cedar tight knot: sizes 1" x 4" and 1" x 6", planed smooth surfaces non-rounded edges, moisture content of 10-12% - refer to Drawings for locations of sizes of material.
- .3 Metal Ridge Roll shall be 24-gauge galvanized steel metal formed to match profile as shown in Drawings for ridge roll at chapel's two (2) bay roofs. Or approved substitute.
- .4 Metal drip edge at eaves: IKO Type D, or approved substitute.
- .5 Synthetic Roofing Underlayment and Ice and Water Shields - See Section 07 11 50.
- .6 Nails/Fasteners:
 - .1 Shingles and Cap Shingles: Power driven galvanized shingle nails – 1.9 mm thick with minimum head diameter of 5 mm and of sufficient length to penetrate roof substrate, but not completely through the original roof boards. Nailing not to be visible from the interior.
 - .2 Ridge Boards, Metal Ridge Roll: Hot Dip Galvanized Cut or Square Nails available through Tremont Nail Company, or approved equal alternative source of supply.
- .7 Substrate Material for Repairs:
 - .1 ¼" thick 4'-0" x 8'- 0" fiberboard sheets, or approved substitute/or to existing in substrate.
 - .2 Owens Corning Thermafiber Ultra Batt mineral wool insulation – 2" thick or approved substitute.
 - .3 Furring Strips: 2" x 2" White spruce, complete with sealed end grain.
 - .4 Original roof board replacement: 1" x 8" tongue and grooved roof boards, red pine – for quality, see Section 06 20 00
- .8 Wood Preservatives:
 - .1 Boiled Linseed Oil – Solvable Professional Grade Linseed Oil, or approved substitute.
Note: Different linseed oil is specified for other work identified in painting sections.
 - .2 Turpentine – Solvable Professional Grade Turpentine, or approved substitute.

PART 3

EXECUTION

3.1.

APPLICATION

- .1 Selective Stripping – Roof: Refer to Drawings for specific areas of roof work.
 - .1 Remove down to original roof boards, all decayed cedar shingles, ridge cap shingles, decayed roof substrate (including existing fiberboard layers, tar paper and batt insulation), existing lichen and moss growth, and rusted and well punctured metal flashings.
 - .2 Substrate layer does not include the original roof boards, located immediately above the timber roof rafters. Should extensive rot exist in the original roof boards in the areas exposed, notify Contract Administrator and await instructions before proceeding with repairs.
 - .3 Verify extent of decayed or rotted material in need of replacement and notify Contract Administrator and await instructions. See Tender, Part E – E3 Cash Allowances.

- .2 Roof Substrate
 - .1 Upon approval for repairs, install new matching materials in the substrate layer.
 1. Install Synthetic Roof Underlayment and Ice and Water Shield installation as per Section 07 11 50.
 2. Install metal drip edge over Ice and Water Shield at roof edges.

- .3 Shingles – Application
 - .1 Install shingles over dry, clean, and repaired and sound substrate.
 - .2 Install shingles as per current edition of National Building Code, except where specified otherwise.
 - .3 Space shingles $\frac{1}{4}$ " to $\frac{1}{2}$ " apart, or as per Blue Label recommended instructions.
 - .4 Stagger joints a minimum of 2" is succeeding courses. Ensure that in any 3 courses no two (2) joints are in alignment. All courses to be in straight horizontal courses.
 - .5 Use two (2) nails per shingle. Space nails $\frac{3}{4}$ " in from edge and 1 $\frac{1}{2}$ " above butt line of following course.
 - .6 Drive nails flush and do not crush shingles.
 - .7 Finish with galvanized flashing and cedar ridge boards as per Design Drawings.

- .4 Shingle Roofing
 - .1 Install shingles with 6" weather exposure and having triple thickness of shingle at any given point.
 - .2 Double shingle starting course at eaves. First course shingles project 1 $\frac{1}{2}$ " from starting/edge roof board.
 - .3 Lay shingles with grain perpendicular to eaves.
 - .4 Saw joints parallel to valley centre line. Do not break joints into valley.
 - .5 Apply strip of synthetic roof underlayment over all roof ridges including hip ridges beneath all ridge boards, metal ridge rolls and shingle cap shingles. Cap shingles to be 6" in uniform width. For the sloping ridges located at the chapel's east end, apply cap shingles at same weather exposure as the main roof slopes shingles.
 - .6 Install flashings around all dormers as per Drawings.

.7 Install bottom step flashing interleaved between shingles at vertical junctions.

3.2.

INSPECTIONS

- .1 Contractor to notify Contract Administrator and conduct inspections of roof substrate repairs and proceed upon approval.

END OF SECTION

PART 1 GENERAL

1.1. SCOPE OF WORK

- .1 Installation of Ridge Roll caps to Chapel's two (2) bay roofs.
- .2 Flashing work required at:
 - .1 Bell tower bases
 - .2 Drip edge of south roof slope
 - .3 Wall to roof slope junctions at each dormer
 - .4 Base of two (2) brick chimneys.

PART 2 PRODUCTS

2.1. PRODUCTS

- .1 Fasteners:
 - .1 Galvanized hex bolts complete with rubber gaskets to ensure against leakage.
 - .1 Flashings in other locations: galvanized tack nails/screws hidden beneath layers.
 - .2 Caulking at edge seams: DAP coloured grey or silver – or approved substitute.
- .2 Flashings and counterflashing shall be 24-gauge galvanized steel for all locations.
- .3 Ridge Roll to be formed to match profile in Drawings. Provide mock-up for approval by Contract Administrator before proceeding with fabrication.
- .4 Caulking: DAP or approved substitute

PART 3 EXECUTION

3.1. PREPARATION

- .1 Demolition:
 - .1 As per shingle demolition work – See Section 07 31 30 Wood Shingles
 - .2 Reuse of any existing metal subject to approval by Contract Administrator prior to reusing.
 - .3 Remove hip ridge shingles in two (2) chapel bays.
- .2 Chapel Bay Roofs:
 - .1 Lay in a new roof underlayment strip along all ridges over shingles. To be hidden beneath metal ridge roll.
 - .2 Install new metal ridge roll over roof underlayment.
 - .3 Scribe/overlap fit the rolled portion of the metal with adjoining ridge roll sections where they meet.
 - .4 Secure with hex bolts at 6" – 8" spacings aligned on both sides of the metal flanges.
- .3 Dormers:
 - .1 Install flashings as part of new repairs to dormer walls and shall include stepped flashing at each shingle course and finished with a continuous metal counterflash to seal/waterproof the joint.
 - .2 Bend counterflashing at wall corners 4" minimum and seal with caulking and tack screws. Caulking finish should be neat and uniform. Caulk all exposed tack screws in these areas.

.4 Chimneys:

- .1 Counter slopes: Remove existing shingles and counter slope flashing at the two (2) chimneys. Caulk seal any nail/screw holes in roof substrate and at chimney/roof junction.
- .2 Install new counter slope metal flashings cut to fit and over a layer of roof underlayment over the existing roof substrate in the specific area.
- .3 Ensure counter slope flashings extend 6" minimum horizontally and vertically beneath the adjacent shingles.
- .4 Caulk seal existing step and counterflashing on the remain three (3) sides of the chimneys. Caulking finish should be neat and uniform.
- .5 Stitch in new cedar shingles where necessary near the chimney edge.

END OF SECTION

PART 1 GENERAL

1.1. SCOPE OF WORK

- .1 All painting work includes: all wood preservative treatments and paint applied to the bell tower's spire, bell's louvred walls, the bell tower base's cap metal sheeting, wooden corner boards and crown mouldings and restored dormer casings, sills and trim.
- .2 All wood preservative treatments to include new ridge boards, preparatory work to accept new paint to bare wood surfaces.
- .3 Preparation of bare wood and scraped wood surfaces to accept new paint coatings.

1.2. RELATED REQUIREMENTS

- .1 Section 01 41 00 – Regulatory Requirements
- .2 Section 06 20 00 – Finish Carpentry
- .3 Section 07 46 23 – Wood Siding

1.3. REFERENCES

- .1 CGSB 1-GP-2M-80 Oil, Linseed, Boiled
- .2 CGSB 1-GP-16M-79 Shellac Varnish
- .3 CGSB 1-GP-28M-77 Paint, Exterior, Alkyd Type
- .4 CGSB 1-GP-55M-82 Primer, Wood Exterior
- .5 CGSB 1-GP-59M-78 Enamel, Exterior, Gloss, Alkyd Type
- .6 CGSB 1-GP-138M-78 Paint, Exterior, Latex Type
- .7 CGSB 1-GP-189M-78 Primer, Alkyd, Wood, Exterior
- .8 CGSB 1-GP-199M-Exterior and Marine, Phenolic Resin, Varnish
- .9 Standards and Guidelines for the Conservation of Historic Places in Canada
 - I. 4.3 Guideline for Buildings:
 - .1 Exterior Walls
 - .2 Windows, Doors and Storefronts
 - II. 4.5 Guidelines for Materials
 - .1 Wood and Wood Products

1.4. QUALITY CONTROL

- .1 Qualifications:
 - .1 Contractor: to have a minimum of five (5) years proven satisfactory experience. When requested, provide list of last three comparable jobs (i.e., wooden structures built before 1930) including, job name and location, specifying authority, and project manager or owner.
 - .2 Qualified journeypersons as defined by local municipal jurisdiction to be engaged in painting work.
 - .3 Apprentices: may be employed provided they work under direct supervision of qualified journeyperson in accordance with trade regulations.

- .4 Conform to latest MPI requirements for exterior painting work including preparation and priming.
- .5 Materials: in accordance with MPI Painting Specification Manual “Approved Product” listing and from a single manufacturer for each system used.
- .6 All primary products specified in this section shall be supplied by single manufacturer with a minimum of ten (10) years’ experience.
- .7 Paint materials such as linseed oil, shellac, and turpentine to be highest quality project of an approved manufacturer as list in Reference Standard and to be compatible with other coating materials as required.
- .8 Retain purchase orders, invoices and documents to prove conformance with Reference Standard when requested by Project Administrator.
- .9 Standard of Acceptance:
 - .1 Walls, Shutters and Downspouts:
No defects visible from a distance of 1000mm at 90 degrees to surface.
 - .2 Soffits, Fascia Boards and Eavestroughs:
No defects visible from floor at 45 degrees to surface when viewed using final lighting source.

1.5. SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Provide Contract Administrator with one (1) litre samples of each paint delivered to site, one sample from Manufacturer’s containers and one sample from painter’s pot.

1.6. DELIVERY AND STORAGE

- .1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 – Common Product.
- .2 Deliver and store materials in manufacturer’s original container with labels intact.
- .3 Ensure dry delivery and storage of materials and equipment at site. Coordinate with Museum staff for a secure location.
- .4 Store materials and equipment in a well-ventilated place with temperature range 20 – 30 degrees Celsius.

1.7. EXISTING CONDITIONS

- .1 Investigate structural problems related to safe execution of preparation of structure’s components to be painted and report unsatisfactory conditions to Contract Administrator before beginning work.
- .2 Report to Contract Administrator conditions of deteriorated materials found during preparation, not previously disclosed.

1.8. ENVIRONMENTAL CONDITIONS

- .1 Substrate and ambient temperature and humidity must be within limits prescribed in paint standard and as per manufacturer’s recommendations.

1.9. PROTECTION

- .1 Protect paint and painting equipment before use and during length of Contract from climatic elements.
- .2 Protect exterior of structure from markings and other damage. Protect completed work from paint droppings. Use non-staining coverings.
- .3 Provide for protection of passing pedestrians and the general public, especially at points of entry and emergency exits.

1.10. SCHEDULING OF WORK

- .1 Submit work schedule starting and final completed dates for approval by Contract Administrator.
- .2 Take measures necessary to complete work within approved scheduled time. Change in schedule must be approved by Contract Administrator.
- .3 Co-ordinate execution with other work at site including sub trades and museum staff.

1.11. ALTERNATES

- .1 Products conforming with this specification must be identified in writing by Contractor for approval by Contract Administrator.
- .2 Changing manufacturers' brands, sources of supply of painting materials from those previously approve must be approved by Contract Administrator.
- .3 Request for alternative approval must be submitted in writing and be accompanied by full literature and recommendations from manufacturers concerned prior to bid submission.

1.12. PROPORTIONS

- .1 Obtain approval of Contract Administrator concerning paint substitution.

PART 3 EXECUTION

3.1. PREPARATION FOR TASKS

- .1 Ensure that workers are informed of safety rules.
- .2 Ensure that safety measures have been taken each day before any job is started.
- .3 Verify that equipment meets safety standards.
- .4 Encourage workers to report hazards in their work.
- .5 Place safety devices and signs near work area as indicated or directed.

3.2. SURFACE PREPARATION

- .1 Prepare wood surface exposed to normally dry atmosphere to CGSB 85-GP-2M.
- .2 Paint removal of all blistered, peeling, crazing and scaling paint layers down to a sound, firm substrate.

- .3 DO NOT use high powered washers which can drive moisture into the wall logs and promote wood rot, or abrasive blasting which will permanently damage wood surfaces, especially molded wood trim work.
- .4 High ceiling deposits – Clean with tri-sodium phosphate (TSP) and bleach. Rinse and allow to dry for 72 hours.
- .5 Remove all loose and split caulking.
- .6 Use linseed oil putty for filling cracks and nail holes.
- .7 Mildewed surfaces to be scrubbed thoroughly with a solution of 1 cup tri-sodium phosphate (TSP) in three (3) litres of warm water. Allow solution to dwell on the painted surface for 5 minutes, then rinse with clean water. If using a garden hose, use the “mist” setting on the spray nozzle. Do not substitute with a detergent containing ammonia. Never mix ammonia with bleach.
- .8 Crystalline deposits under eaves, sand smooth all surfaces using 60 grit sandpaper. Remove deposits by washing with a strong tri-sodium phosphate solution. Rinse with clean water. Use “mist” setting on the spray nozzle.

3.3. SAMPLES

- .1 Method of application and uniform coats of specified film thickness agree with Manufacturer’s recommendation.

3.4. FINISHES

- .1 Wood Primers:
 - .1 CGSB 1-GP-55.
 - .2 CGSB 1-GP-189.
 - .3 A related approved proprietary primer of known performance.
- .2 Wood Topcoats:
 - .1 CGSB 1GP-28, Type 1
 - .2 CGSB 1GP-28, Type 2
 - .3 CGSB 1GP-41.
 - .4 CGSB 1GP-138.
 - .5 A related approved proprietary primer of known performance.
 - .6 Apply pretreatment or primers and top coating to previously painted galvanized steel and other metal surfaces to CGSB 85-GP-16M.

3.5. WORKMANSHIP

- .1 All painting work to be carried out by qualified personnel and to job specifications.
- .2 See Section 09 91 13 – Exterior Painting for paint application.

3.6. FIELD QUALITY CONTROL

- .1 Examine surface for adequate preparation.
- .2 Check all materials for correctness.

- .3 Inspect during application for correct procedures.

3.7. CLEANING

- .1 Avoid paint on exposed surfaces not to be painted – mask/tape off as required. Smears and spatter be removed immediately, using compatible solvent.
- .2 Avoid scuffing newly applied paint.

3.8. PROTECTION OF COMPLETED WORK

- .1 Protect area where paint has been applied.
- .2 On completion of specified work remove surplus materials, tools and equipment and debris on work area; leave clean and tidy to complete satisfaction of Contract Administrator

END OF SECTION

PART 1

GENERAL

1.13. SCOPE OF WORK

- .1 See Section 09 03 61 HISTORIC REPAINTING OF HISTORIC SURFACES
- .2 Apply paint coatings to the bell tower structure including spire, louvres, metal decking, and base's corner boards.

1.14. RELATED REQUIREMENTS

- .1 Section 01 41 00 – Regulatory Requirements
- .2 Section 06 20 00 – Finish Carpentry
- .3 Section 07 46 23 – Wood Siding
- .4 Section 09 03 61 – Historic Repainting Exterior Surfaces

1.15. REFERENCES

- .1 Environmental Protection Agency (EPA)
 - .1 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Projects, Method 24 for Surface Coatings.
 - .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
 - .3 The Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual – February 2004.
 - .2 Standard GPS-1-05, MPI Green Performance Standard for Painting and Coatings.
 - .4 National Fire Code of Canada
 - .5 Society for Protective Coatings (SSPC)
 - .1 Systems and Specifications, SSPC Painting Manual 2005.

1.16. QUALITY CONTROL

- .1 Qualifications:
 - .1 Contractor: to have a minimum of five (5) years proven satisfactory experience. When requested, provide list of last three comparable jobs (i.e., wooden structures built before 1930) including, job name and location, specifying authority, and project manager or owner.
 - .2 Qualified journeypersons as defined by local municipal jurisdiction to be engaged in painting work.
 - .3 Apprentices: may be employed provided they work under direct supervision of qualified journeyperson in accordance with trade regulations.
 - .4 Conform to latest MPI requirements for exterior painting work including preparation and priming.
 - .5 Materials: in accordance with MPI Painting Specification Manual "Approved Product" listing and from a single manufacturer for each system used.
 - .6 All primary products specified in this section shall be supplied by single manufacturer with a minimum of ten (10) years' experience.

- .7 Paint materials such as linseed oil, shellac, and turpentine to be highest quality project of an approved manufacturer as list in Reference Standard and to be compatible with other coating materials as required.
- .8 Retain purchase orders, invoices and documents to prove conformance with Reference Standard when requested by Project Administrator.
- .9 Standard of Acceptance:
 - .1 Walls, and Downspouts:
No defects visible from a distance of 1000mm at 90 degrees to surface.
 - .2 Soffits, Fascia Boards and Eavestroughs:
No defects visible from floor at 45 degrees to surface when viewed using final lighting source.

1.17. PERFORMANCE REQUIREMENTS

- .1 Environmental Performance Requirements:
 - .1 Provide paint products meeting MPPI
“Environmentally Friendly”: E2 ratings based on VOC (EPA Method 24) content levels.

1.18. SCHEDULING

- .1 Submit work schedule for various stages of painting to Contract Administrator for approval. Submit schedule minimum of 48 hours in advance of proposed operations.
- .2 Obtain written authorization from Contract Administrator for changes in work schedule.
- .3 Schedule painting operations to prevent disruption of occupants and public, in and about building.

1.19. ACTION AND INFORMATION SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer’s printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit WHMIS MSDS Material Safety Data Sheets.
 - .3 Upon completion, submit records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use.
 - .2 Manufacturer’s product number.
 - .3 Colour numbers.
 - .4 MPI Environmentally Friendly classification system rating, or local municipal acceptance standard.
 - .5 Manufacturer’s Material Safety Data Sheets (MSDS).
- .3 Provide samples in accordance with Section 01 33 00 – Submittal Procedures.
 - .1 Submit 10 sq ft sample panels of each paint with specified paint or coating in colour, gloss/sheen and texture required to MPI Painting Specification Manual standards or local municipal acceptance standard, submitted on the following substrate materials:

- .1 ½” siding plywood for finishes over wood surfaces.
- .2 3mm plate steel for finishes over metal surfaces, or approved substitute.
- .4 When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site.
- .5 Submit full range of available colours where colour availability is restricted.

1.20. QUALITY CONTROL

- .1 Provide mock-up in accordance with Section 01 45 00 – Quality Control.

1.21. MAINTENANCE

- .1 See Section 00 61 00 Common Product
- .2 Submit maintenance materials in accordance with Section 01 78 00 Closeout Submittals.
- .3 Submit one (1) litre can of each type and colour of primer and finish coating identify colour and paint type in relation to established colour schedule and finish system.
- .4 At project closeout, provide to Contract Administrator an executed copy of the manufacturer’s standard limited warranty against manufacturing defect, outlining its terms, conditions and exclusions from coverage.
 - .1 Duration: twenty (25) years.

1.22. STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 – Common Product. Requirements supplemented as follows:
 - .1 Deliver and store materials in original containers, sealed, with labels intact.
 - .2 Labels to indicate:
 - .1 Manufacturer’s name and address
 - .2 Type of paint or coating
 - .3 Compliance with applicable standard.
 - .4 Colour number in accordance with established colour schedule.
 - .5 Remove damaged, opened and rejected materials from site.
 - .6 Provide and maintain dry, temperature controlled, secure storage.
 - .7 Observe manufacturer's recommendations for storage and handling.
 - .8 Store materials and supplies away from heat generating devices.
 - .9 Store materials and equipment in well ventilated area with temperature range 7 degrees C to 30 degrees C.
 - .10 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
 - .11 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Departmental Representative. After completion of operations, return areas to clean condition to approval of Contract Administrator.
 - .12 Remove paint materials from storage only in quantities required for same day use.
 - .13 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.

- .14 Fire Safety Requirements:
 - .1 Provide one 9 kg Type ABC dry chemical fire extinguisher adjacent to storage area.
 - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
 - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 35 41 - Waste Management and Disposal.
 - .2 Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc.) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from Provincial Ministries of Environment and Regional levels of Government.
 - .3 Material which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.
 - .4 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
 - .5 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into the ground the following procedures shall be strictly adhered to:
 - .1 Retain cleaning water for water-based materials to allow sediments to be filtered out.
 - .2 Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.
 - .3 Return solvent and oil-soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.
 - .4 Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.
 - .5 Empty paint cans are to be dry prior to disposal or recycling (where available).
 - .6 Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility.
 - .7 Close and seal tightly partly used sealant and adhesive containers and store protected in a well-ventilated fire-safe area at moderate temperature.
- .3 Paint Removal –
 - .1 Contractor shall ensure that:
 - .1 Contractor and all workmen to follow all safe work procedures for lead paint.
 - .2 Contractor and all workmen shall ensure appropriate protection during paint removal process; review of removal process prior to work taking place with Contract Administrator.
 - .3 Contractor and all workmen shall be equipped with ventilation masks and disposable clothing during this process subject to the Contract Administrator's approval.

1.23. AMBIENT CONDITIONS

- .1 Temperature, Humidity and Substrate Moisture Content Levels:
 - .1 Unless specifically pre-approved by specifying body Paint Inspection Agency and applied product manufacturer, perform no painting when:
 - .1 Ambient air and substrate temperatures are below 10 degrees Celsius
 - .2 Substrate temperature is over 32 degrees Celsius unless paint is specifically formulated for application at high temperatures.
 - .3 Substrate and ambient air temperatures are expected to fall outside paint manufacturers prescribed limits.
 - .4 Relative humidity is above 85% or when dew point is less than 3 degrees Celsius variance between air/surface temperature.
 - .5 Rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.
 - .2 Perform no painting work when maximum moisture content of substrate exceeds:
 - .1 15% for wood
 - .2 Conduct moisture tests using a properly calibrated electronic Moisture Meter.
- .2 Surface and Environmental Conditions:
 - .1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
 - .2 Apply paint to adequately prepared surfaces and to surfaces within moisture limits noted herein.
 - .3 Apply paint when previous coat of paint is dry or adequately cured.
 - .4 Apply paint finishes when conditions forecast for entire period of application fall within manufacturer's recommendations.
 - .5 Do not apply paint when:
 - .1 Temperature is expected to drop below 10 degrees Celsius before paint has thoroughly cured.
 - .2 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's limits.
 - .3 Surface to be painted is wet, damp or frosted.
- .3 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.
- .4 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
- .5 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow, or condensation. Prepare surface again and repaint.
- .6 Paint occupied facilities in accordance with approved schedule only. Schedule operations to approval of Contract Administrator such that painted surfaces will have dried and cured sufficiently before occupants are affected.

PART 2 PRODUCTS

2.1. MATERIALS

- .1 Paint and finishing materials – highest grade, first line quality provided by manufacturer who agrees to provide supervision service during painting operations. The manufacturer shall be Benjamin-Moore Co., or approved substitute.
- .2 Paints, enamels, fillers, primers, varnishes and stains, shellacs – ready mixed products of one of the manufacturers listed herein. Substitutes will not be allowed.
- .3 Thinners, cleaners – type and brand recommended by the paint manufacturer.
- .4 Only products manufactured by paint manufacturer stated at time of submission of samples will be allowed on site unless other materials specifically specified herein. No painting to be performed until paint manufacturer identified and acceptance received from the Contract Administrator.
- .5 Deliver materials to site in original unbroken containers bearing brand and maker's name. The presence of any unauthorized material or containers for such, on site shall be of sufficient cause for rejection of ALL paint materials on site at that time.
- .6 Paint:
 - .1 Primer: Benjamin-Moore Fresh Start Moorwhite Exterior Wood Primer
 - .2 Finishing coats: Benjamin-Moore Aura Exterior Paint Low Luster (F634), or Regal Select Exterior High Build Paint.

2.2. COLOURS

- .1 Wood siding, Windows possibly changed from white to green, Doors and associated trim work:
 - .1 Benjamin Moore Snow White OC-118 or
 - .2 Benjamin Moore Cloud White OC-130 or
 - .3 Benjamin Moore Dune White CC-70.
 - .4 Review and finalize colour chips with Contract Administer before proceeding.
- .2 Selection of paint colours shall be from the manufacturer's full range of colours.
- .3 Where specific products are available in restricted range of colours, selection will be based on limited range and subject to approval by Contract Administrator.

2.3. MIXING AND TINTING

- .1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Contract Administrator's-written approval.
- .2 Mix paste, powder, or catalyzed paint mixes in accordance with manufacturer's written instructions.
- .3 Add thinner to paint manufacturer's recommendations. If directions are not on container, obtain instructions in writing from manufacturer and provide a copy of instructions to Contract Administrator.
- .4 Do not use kerosene or organic solvents to thin/cut paints.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4. EXTERIOR PAINTING SYSTEMS

- .1 Exterior painting system in accordance with specific conditions of the building to be provided by Contractor and approved by Contract Administrator.

PART 3 EXECUTION

3.1. MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

3.2. EXAMINATION

- .1 Exterior repainting work: Project may be inspected by MPI accredited Paint Inspection Agency (inspector) acceptable to Contract Administrator and local Painting Contractor's Association. Painting contractor to notify Contract Administrator minimum of one (1) week prior to commencement of work and provide copy of project repainting specification and Finish Schedule.
- .2 Exterior surfaces requiring repainting: inspected by both painting contractor and Paint Inspection Agency who will notify Contract Administrator in writing of defects or problems, prior to commencing repainting work or after surface preparation if unseen substrate damage is discovered.
- .3 Where assessed degree of surface degradation (DSD) ranging from DSD 1 (general deterioration) to DSD 3 (severe deterioration) before preparation of surfaces to repainting is revealed to be DSD-4 (areas in need of replacement wood) after preparation, repair or replacement of such unforeseen defects discovered are to be corrected, as mutually agreed, before repainting is started. Refer to condition report in Attachments showing areas of substrate deterioration.

3.3. PREPARATION

- .1 Perform preparation and operations for exterior painting in accordance with MPI Maintenance Repainting Manual except where specified otherwise.
- .2 Apply paint materials in accordance with paint manufacturer's instructions.
- .3 Clean and prepare exterior surfaces to be repainted in accordance with MPI Maintenance Repainting Manual requirements. Refer to the MPI Manual in regard to specific requirements and as follows:
 - .1 Remove dust, dirt, and surface debris by vacuuming, wiping with dry, clean clothes or compressed air.
 - .2 Wash surfaces with biodegradable detergent and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.
 - .3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface. DO NOT POWER WASH THE WOOD SURFACES. This will introduce moisture into the wall and roof substrates creating the conditions for wood rot.
 - .4 Allow surface to drain completely and allow to dry thoroughly. Allow sufficient drying time and test surfaces using electronic moisture meter before commencing work.

- .5 Use water-based cleaners in place of organic solvents where surfaces will be repainted using water-based paints.
- .6 Many water-based paints cannot be removed with water once dried. Minimize use of kerosene or such organic solvents to clean up water-based paints.
- .4 Clean metal surfaces to be repainted by removing rust, dirt, oil, grease, and foreign substances in accordance with MPI requirements. Remove such contaminants from surfaces, pockets, and corners to be repainted by brushing with clean brushes, blowing with clean dry compressed air, or brushing/vacuum cleaning as required.
- .5 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil, and solvents before priming and between applications of remaining coats. Touch-up, spot prime, and apply primer, paint or pretreatment as soon as possible after cleaning and before deterioration occurs.
- .6 Do not apply paint until prepared surfaces have been accepted by Contract Administrator.
- .7 All painted surfaces shall be brushed on, or rolled and then brushed finish.
- .8 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000mm.

3.4. EXISTING CONDITIONS

- .1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Contract Administrator damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.
- .2 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter.
- .3 Maximum moisture content as follows:
 - .1 Wood: 15%.

3.5. PROTECTION

- .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Contract Administrator.
- .2 Protect items that are permanently attached such as Fire Labels, signs, etc. on doors and frames and walls.
- .3 Protect factory finished products and equipment.
- .4 Protect passing pedestrians and general public in and about building.
- .5 Remove surface hardware on doors, windows and other surface mounted equipment, fittings, and fastenings prior to undertaking painting operations. Label each hardware item for each window and door opening being removed and maintain and schedule an inventory of each hardware item for each window and door opening being affected. Store items and re-install after painting is completed. This is mandatory for any materials being transported for work off site at a shop.
- .6 Move and cover exterior furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress. Work with Museum staff to ensure artifacts are protected against damage during the course of work.

- .7 As painting operations progress, place “WET PAINT” signs in pedestrian areas and immediate surrounding areas to the approval of the Project Administrator.

3.6. APPLICATION

- .1 Method of application to be approved by Contract Administrator. Apply paint by brush and/or roller and brush smooth. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Brush and Roller Application:
 - .1 Apply paint in a uniform layer using brush and or roller of types suitable for application.
 - .2 Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.
 - .3 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces shall be free of roller tracking and heavy stipple. Back brush rolled paint for a completed finish.
 - .4 Remove runs, sags, and brush marks from finished work and repaint.
- .3 Use dipping, sheepskins, or daubers when no other method is practical in places of difficult access and when specifically authorized by the Contract Administrator.
- .4 Apply coats of paint as continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .5 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .6 Sand and dust between coats to remove visible defects.
- .7 Finish surfaces both about and below sight lines as specified for surrounding surfaces, including such surfaces as projecting edges.
- .8 Finish top, bottom, edges and cutouts of doors and windows after fitting.

3.7. FIELD QUALITY CONTROL

- .1 Inspection:
 - .1 Field inspection of exterior painting operations to be carried out by independent inspection firm as designated by Contract Administrator.
 - .2 Advise Contract Administrator when each surface and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.
 - .3 Co-operate and provide access to areas of work.
- .2 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.

3.8. CLEANING

- .1 Proceed in accordance with Section 01 74 10 Cleaning

- .1 Remove paint where spilled, splashed, splattered, or sprayed as work progresses using means and materials that are not detrimental to affected surfaces.

3.9. RESTORATION

- .1 Clean and re-install newly painted hardware items removed before undertaking painting operations.
- .2 Remove protective coverings and warning signs as soon as practical after operations cease.
- .3 Remove paint splashing on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.
- .4 Protect freshly completed surfaces from paint droppings and dust to approval of Contract Administrator. Avoid scuffing newly applied paint.
- .5 Restore areas used for on-site storage, cleaning, mixing and handling of paint to clean condition as approved by Contract Administrator.

END OF SECTION

PART 1 **GENERAL**
1.1. LIFTS

- .1 All motorized lifts, if applicable shall be operated by a trained and certified operator.
- .2 All landscaping both soft and hard features, shall be protected from damage from operating lifts.
- .3 Damages to landscaping shall be Contractor responsibility to repair and or replace.
- .4 All lifts shall comply with Manitoba's Health and Safety Regulations.

END OF SECTION

PART 1

GENERAL

1.1.

MATERIAL HANDLING SYSTEMS

- .1 All materials, new and salvaged, shall be protected from inclement weather and vandalism during the course of the Work.
- .2 Contractor to establish with Museum staff for an on-site storage area for new and salvaged materials. If necessary, Contractor shall erect a temporary and locked fencing to protect and secure all materials.
- .3 Contractor shall sticker and tarp all new and salvaged wood to be used in the Work.
- .4 Contractor is responsible for the safe storage of tools and construction materials during the course of the work. The Museum has no storage area for tools.

END OF SECTION

PART 1

GENERAL

1.1.

SCAFFOLDING

- .1 Contractor shall erect and maintain all scaffolding required for the work.
- .2 Contractor shall safeguard the adjacent building south of the museum against damage during the course of the Work. Contractor shall review scaffolding, ladders and lift solutions for this tight space with the Contract Administrator before proceeding with the Work.
- .3 All scaffolding shall comply with Manitoba's Health and Safety regulations. All fastener holes created in the siding to strengthen scaffolding shall be repaired with linseed oil putty.
- .4 Contractor to safeguard scaffolding by providing minimum 8'-0" solid cladding with lockable door for access around perimeter base of scaffolding for security and safety.

END OF SECTION

PART 1

GENERAL

1.1.

TRANSPORTATION SYSTEMS

- .1 The Contractor shall be responsible for all site deliveries and disposal of all waste materials from site.
- .2 The Contractor shall comply with all City of Winnipeg and Province of Manitoba's traffic laws, and waste disposal By-Laws in the transport of building materials to and from the site, and the disposal of all waste created during the scope of work from the property.

END OF SECTION

