

**SPECIFICATIONS FOR**

**GREENSTONE ROOFING PROJECT: PS-2019-01**

**BEARDMORE EMS FACILITY**

**133 MAIN STREET**  
**BEARDMORE, ONTARIO**

Prepared for:

The Municipality of Greenstone  
P.O. Box 70, 1800 Main Street  
Geraldton, Ontario P0T 1M0

Prepared by



300 – 150 Katimavik Road, Ottawa, Ontario K2L 2N2  
T: 613-831-7293 | F: 613-831-3812 | [www.fsaeng.com](http://www.fsaeng.com)

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**Part 1 General**

**1.1 GENERAL DESCRIPTION OF THE WORK**

- .1 Work to be carried out under this Contract, Roof Replacement sloped roof refinishing at EMS (Ambulance) Base, 133 Main Street, Beardmore, Ontario.
- .2 Provide the necessary labour and materials to complete the work as follows and as specified in the areas indicated on the drawings:
  - .1 Metal roof coating repairs:
    - .1 Remove corroded areas using suitable means down to clean substrate.
    - .2 Apply an epoxy primer to the affected areas as required.
    - .3 Replace corroded screws with new stainless-steel screws with sealing washers.
    - .4 Install hydro line pipe flashing as shown and specified.
    - .5 Apply aliphatic acrylic urethane coat, 2 to 3 mils DFT and tinted to match existing roof colour.
    - .6 The extent of repair includes the entire sloped metal roof areas as shown on the drawings.

**1.2 CONTRACT**

- .1 The Standard Construction Document, CCDC 2, Stipulated Price Contract, 2008, shall form part of the Contract Documents for all projects.
- .2 The Standard Construction Document, CCDC 2, Stipulated Price Contract, 2008, shall form part of the Contract Documents with amendments to definitions as indicated hereafter.

**1.3 DEFINITIONS**

- .1 "CONSULTANT" and "Fishburn Sheridan & Associates Ltd." and "FSA" are synonymous.
- .2 "OWNER" and "The Corporation of the Municipality of Greenstone" and "Municipality of Greenstone" and "Greenstone " are synonymous.
- .3 "CONSTRUCTOR" and "CONTRACTOR" are synonymous.

**1.4 OTHER CONTRACTORS**

- .1 Other Contractors, Sub-Contractors and the Owner's own forces, may be performing work on the site at the same time as the Work is being done under this Contract. The successful bidder shall provide all reasonable co-operation and collaboration with these other forces to ensure a timely completion of the work, taking into consideration and without undermining its own role as the "Constructor".

**1.5 USE OF THE SITE**

- .1 Carry out the Work so as to have the least possible interference and disturbance to the normal use of the premises. The successful bidder is expected to include

in the bid an allowance for the performance of off-hours work should it be required to conform with the above.

- .2 Maintain services to existing building and provide for personnel and vehicle access.
- .3 Restrict construction access to and from site to approved location. Do not allow construction traffic to block entrances or exits for any reason.
- .4 Co-ordinate any interference with Owner's operation in this area and abide by Owner's direction in this regard. In cases of conflicting requirements, Owner's operation takes precedence but all reasonable effort to accommodate Contractor's needs will be made.

## **1.6 EXISTING SERVICES**

- .1 Before commencing work, establish location and extent of service lines in area of Work and notify Consultant of findings.
- .2 Remove abandoned service lines within 2.4 m of structures. Cap or otherwise seal lines at cut-off points as directed by Consultant.
- .3 Services are to be left operational unless otherwise authorized by Owner.
- .4 Unless otherwise specified, the Contractor will be responsible for disconnection, relocation, re-installation and extending all services required to facilitate work under this Contract. Co-ordinate work with the Owner and provide minimum 48 hours notification if services are to be interrupted.

## **1.7 CUTTING AND PATCHING**

- .1 Generally patch and "make good" any and all surfaces cut, damaged, exposed, or disturbed to comply with any appropriate statutory requirements and to the Owner's acceptance.

## **1.8 PROTECTION OF PROPERTY**

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

## **1.9 PRECONSTRUCTION CONDITIONS**

- .1 Prior to commencing mobilization, the Contractor shall record preconstruction conditions by photographing all items that could potentially be claimed by the Owner or Consultant as damaged during the course of the work.
- .2 These items should include adjacent wall areas, landscaping, pavement, windows, paint finishes and any roof top equipment on or adjacent to the subject roof.
- .3 Provide Consultant and Owner with photographic record of preconstruction photographs a minimum of 24 hours prior to commencing mobilization.
- .4 All such damages observed during final or post construction review that cannot be verified as pre-existing, are potentially considered the Contractor's responsibility to rectify.

### **1.10 FIRE PROTECTION**

- .1 Provide and maintain temporary fire protection equipment during the performance of the Work as required by insurance companies and governing codes, regulations and by-laws having jurisdiction.
- .2 Work requiring the generation of open flames (welding, soldering, etc...) cannot be performed until an Owner's Permit has been issued. It is the responsibility of the successful bidder to apply for here said permit.
- .3 Open fires and burning of rubbish are not permitted on site.

### **1.11 OCCUPATIONAL HEALTH AND SAFETY**

- .1 Follow the Ontario Provincial Occupational Health and Safety Act and Regulations for Construction Projects. For the purposes of the act, the person or company contracted to carry out the work shall be deemed the "**Constructor**".
- .2 Hazardous materials, not identified by the Owner, may be encountered at the worksite. Use all necessary precautions when handling such material. It is possible that asbestos may exist in some form and if encountered the Contractor is responsible to notify the Owner and to follow Ontario Ministry of Labour regulations governing the handling of asbestos in the workplace.
- .3 The Owner may cause those who do not comply with the O.H.S.A. and Regulations to be escorted from the site.
- .4 Temporary overhead protection will be required at ground street level sidewalks, where pedestrians are walking. All entrances shall have overhead protection. Additional protection will also be required to prevent material from falling to the street from overhead scaffold platforms.

### **1.12 PROTECTION OF BUILDING FINISHES AND EQUIPMENT**

- .1 Prevent movement, settlement, or other damage to other adjacent structures, utilities, and parts of building to remain in place. Provide bracing and shoring if required.
- .2 Keep noise, dust, and inconvenience to occupants to a minimum.
- .3 Protect building systems, services and equipment. Protect all furnishings within work area with (6 mil) polyethylene film during construction. Remove film during non-construction hours and leave premises in clean, unencumbered and safe manner for normal daytime function.
- .4 Provide temporary dust tight screens, partitions, covers, railings, barricades, supports and/or other protection as required. Protect workers, finished areas of work and public.

### **1.13 PARKING**

- .1 Limited parking is available on site.
- .2 All vehicles must be parked in designated parking areas (except for reasonable loading and unloading of equipment and/or materials to a local entrance). Failure to observe these requirements may result the vehicle being ticketed and/or towed.

**1.14 SIGNS AND ADVERTISEMENTS**

- .1 No signs or advertisements of any description other than notices regarding safety shall be displayed at the Work Site without permission of the Owner.
- .2 Upon completion of the Work, all signs shall be removed except those specifically directed by the Owner to remain.

**1.15 CLEAN-UP**

- .1 Maintain the work area in tidy condition, free from the accumulation of waste products and debris.
- .2 Remove waste and materials regularly so as to maintain a tidy work site. Do not dispose of any waste in the Owner's facilities unless specifically directed to do so by authorised personnel.
- .3 Store materials in areas specially designated by the Owner. Dispose of this debris in a legal manner so as to avoid causing a hazard to occupants and visitors on site.

**1.16 MATCHING**

- .1 Where new work occurs in or adjacent to existing work, it is the intent that colours and textures of visible finishes within these areas shall be matched to the satisfaction of the Owner.

**1.17 DISRUPTION OF SERVICES**

- .1 The Contractor is responsible to provide adequate written notice to the Owner of any interruption of services (i.e., mechanical, electrical etc.) for the connection of new services or the alteration of existing.
- .2 The Contractor is expected to co-operate reasonably with the Owner in the scheduling of service interruptions.

**1.18 SANITARY FACILITIES**

- .1 Temporary sanitary facilities will be provided by the Constructor in compliance with the Occupational Health and Safety Act and Regulations for Construction Projects.

**1.19 TEMPORARY FACILITIES**

- .1 Any temporary facilities provided at the site by the Contractor must be removed upon completion of the work and the area used must be returned to the original condition.

**1.20 DOCUMENTS REQUIRED**

- .1 Maintain at the job site, one copy each of the following:
  - .1 Original Plans and Specifications and completed Form of Tender.
  - .2 Building Department stamped drawings if required.
  - .3 Any changes to Drawings or Details.
  - .4 Shop Drawings and any changes.
  - .5 Addenda.

- .6 Change Orders.
- .7 Site Instructions.
- .8 Contractor's Safety Policy.
- .9 Safety Data Sheets.

**1.21 WORK SCHEDULE**

- .1 Within 5 working days of intent to award, provide a schedule showing anticipated progress stages and final completion of the Work within the specified time period, indicating each trade and inter-phasing. Allow for expected poor weather days.

**1.22 MAINTAIN WARRANTIES**

- .1 Ensure that work of this Contract does not invalidate warranties on adjacent work. Provide written confirmation and arrange and pay for all services and costs to ensure that warranties on adjacent work are maintained.
- .2 The Contractor accepts full and complete responsibility of maintaining existing warranties.

**1.23 CHANGES IN WORK**

- .1 All changes to the Contract Documents which result in an extra or credit to the Contract amount or time are not to be executed until written instructions have been received and the extra or credit agreed to in writing by all parties.
- .2 Execute variations, alterations and substitutions that do not affect the intent, function, duration, or Contract amount, as instructed by the Consultant.
- .3 Changes to the work that are considered urgent by the Owner shall be acted upon by the Contractor on the basis of a written field instruction to be confirmed by a Change Order. Costs are to be kept and presented along with all appropriate timesheet vouchers and bills of materials, or fixed sum if, work is done by a Sub-Contractor on a lump sum basis.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

**Part 1      General**

**1.1      ACCESS AND EGRESS**

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

**1.2      USE OF SITE AND FACILITIES**

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Consultant to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.

**1.3      ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING**

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

**1.4      EXISTING SERVICES**

- .1 Notify Consultant and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Consultant 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for personnel, pedestrian and vehicular traffic.

**1.5      SPECIAL REQUIREMENTS**

- .1 Carry out noise generating Work Monday to Sunday from 10:00 am to 6:00 pm hours only and on statutory holidays.
- .2 Submit schedule in accordance within 5 days after award of Contract.
- .3 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .4 Keep within limits of work and avenues of ingress and egress.
- .5 Deliver materials outside of peak traffic hours 6:00 am to 7:30 am unless otherwise approved by Consultant.



**1.6 SECURITY**

- .1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.
- .2 Contractor must comply with the College's security policy.
- .3 Security clearances:
  - .1 Personnel employed on this project will be subject to security check.
  - .2 Obtain requisite clearance, as instructed, for each individual required to enter premises.
  - .3 Personnel will be checked daily at start of work shift and provided with pass which must be worn at all times. Pass must be returned at end of work shift and personnel checked out.
  - .4 Contractor's personnel will require security clearance check with Ontario Police Services (OPS).

**1.7 BUILDING SMOKING ENVIRONMENT**

- .1 Comply with smoking restrictions. Smoking is not permitted.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1      General**

**1.1          ADMINISTRATIVE**

- .1      Submit to Consultant submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2      Do not proceed with Work affected by submittal until review is complete.
- .3      Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4      Where items or information is not produced in SI Metric units converted values are acceptable.
- .5      Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6      Notify Consultant, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7      Verify field measurements and affected adjacent Work are co-ordinated.
- .8      Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.
- .9      Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.
- .10     Keep one reviewed copy of each submission on site.

**1.2          SHOP DRAWINGS AND PRODUCT DATA**

- .1      Refer to CCDC 2.
- .2      The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .3      Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario.
- .4      Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work.
- .5      Allow 4 days for Consultant's review of each submission.

- .6 Adjustments made on shop drawings by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.
- .7 Make changes in shop drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify Consultant in writing of revisions other than those requested.
- .8 Accompany submissions with transmittal letter, in duplicate, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .9 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Fabrication.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 Setting or erection details.
    - .4 Performance characteristics.
    - .5 Standards.
    - .6 Relationship to adjacent work.
- .10 After Consultant's review, distribute copies.
- .11 Submit an electronic copy of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.
- .12 Submit an electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product.
- .13 Submit an electronic copy of certificates for requirements requested in specification Sections and as requested by Consultant.

- .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
- .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit an electronic copy of manufacturer's instructions for requirements requested in specification Sections and as requested by Consultant.
  - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit an electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Consultant.
- .16 Submit an electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Consultant.
- .17 Delete information not applicable to project.
- .18 Supplement standard information to provide details applicable to project.
- .19 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

### **1.3 MOCK-UPS**

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

### **1.4 CERTIFICATES AND TRANSCRIPTS**

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not Used.

**Part 3          Execution**

**3.1                NOT USED**

.1          Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Province of Ontario
  - .1 Occupational Health and Safety Act Projects, R.S.O. 1990, c.0.1, as amended and Regulations for Construction O. Reg. 213/91 as amended - Updated 2014.

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 5 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
  - .1 Results of site specific safety hazard assessment.
  - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
- .3 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS 2015 SDS - Safety Data Sheets.
- .6 Consultant will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 3 days after receipt of plan. Revise plan as appropriate and resubmit plan to Consultant within 5 days after receipt of comments from Consultant.
- .7 Consultant's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

**1.3 FILING OF NOTICE**

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 2 weeks of contract award. Contractor to submit written acknowledgement to WSIB along with Notice of Project.
- .3 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

**1.4 SAFETY ASSESSMENT**

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

## **1.5 GENERAL REQUIREMENTS**

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Consultant may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

## **1.6 RESPONSIBILITY**

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Contractor will be responsible and assume the role Constructor as described in the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.
- .3 Contractor shall be the Principal Contractor as described in the Ontario Health and Safety Act for the Construction for only their scope and areas of work as defined and described in this project specification.
- .4 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

## **1.7 COMPLIANCE REQUIREMENTS**

- .1 Comply with Ontario Occupational Health and Safety Act, R.S.O. 1990, c. 0.1 and Ontario Regulations for Construction Projects, O. Reg. 213/91.
- .2 Comply with Occupational Health and Safety Act, Occupational Health and Safety
- .3 Comply with Occupational Health and Safety Regulations, 1996.
- .4 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

## **1.8 UNFORSEEN HAZARDS**

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

## **1.9 POSTING OF DOCUMENTS**

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

**1.10 CORRECTION OF NON-COMPLIANCE**

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Consultant.
- .2 Provide Consultant with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Consultant may stop Work if non-compliance of health and safety regulations is not corrected.

**1.11 POWDER ACTUATED DEVICES**

- .1 Use powder actuated devices only after receipt of written permission from Consultant.

**1.12 WORK STOPPAGE**

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

**Part 2 Products**

**2.1 NOT USED**

- .1 Not used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not used.

**END OF SECTION**



**Part 1      General**

**1.1          REFERENCES**

- .1 Canadian Construction Documents Committee (CCDC)
  - .1 CCDC 2-2008, Stipulated Price Contract.

**1.2          INSPECTION**

- .1 Refer to CCDC 2.
- .2 Allow Consultant 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.
- .3 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Consultant instructions, or law of Place of Work.
- .4 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .5 Consultant will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents.

**1.3          REJECTED WORK**

- .1 Refer to CCDC.
- .2 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Consultant as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .3 Make good other Contractor's work damaged by such removals or replacements promptly.
- .4 If in opinion of Consultant it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Consultant.

**1.4          MOCK-UPS**

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock-ups.
- .2 Construct in locations acceptable to Consultant.
- .3 Prepare mock-ups for Consultant's review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, Consultant will assist in preparing schedule fixing dates for preparation.
- .6 Mock-ups may remain as part of Work.

**Part 2          Products**

**2.1              NOT USED**

.1          Not Used.

**Part 3          Execution**

**3.1              NOT USED**

.1          Not Used.

**END OF SECTION**

**Part 1      General**

**1.1          REFERENCES**

- .1 Canadian Construction Documents Committee (CCDC)
  - .1 CCDC 2-2008, Stipulated Price Contract.
- .2 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-S269.2-M1987(R2003), Access Scaffolding for Construction Purposes.
  - .2 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.
- .3 U.S. Environmental Protection Agency (EPA) / Office of Water
  - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

**1.2          SUBMITTALS**

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

**1.3          INSTALLATION AND REMOVAL**

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2 Indicate use of supplemental or other staging area.
- .3 Provide construction facilities in order to execute work expeditiously.
- .4 Remove from site all such work after use.

**1.4          SCAFFOLDING**

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

**1.5          SITE STORAGE/LOADING**

- .1 Refer to CCDC 2.
- .2 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .3 Do not load or permit to load any part of Work with weight or force that will endanger Work.

**1.6          CONSTRUCTION PARKING**

- .1 Parking permits will NOT be required for all vehicles. All vehicles must be parked in a designated parking area (except for reasonable loading and unloading of equipment and/or materials to a local entrance). Failure to observe these requirements may result the vehicle being ticketed and/or towed.

**1.7 EQUIPMENT, TOOL AND MATERIALS STORAGE**

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

**1.8 SANITARY FACILITIES**

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

**1.9 PROTECTION AND MAINTENANCE OF TRAFFIC**

- .1 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Consultant.
- .2 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .3 Protect travelling public from damage to person and property.
- .4 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .5 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

**1.10 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCE STANDARDS**

- .1 Canadian Construction Documents Committee (CCDC)
  - .1 CCDC 2-2008, Stipulated Price Contract.

**1.2 PROJECT CLEANLINESS**

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Consultant. Do not burn waste materials on site, unless approved by Consultant.
- .3 Provide and use marked separate bins for recycling.
- .4 Dispose of waste materials and debris at designated dumping areas on Crown property, off site.
- .5 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

**1.3 FINAL CLEANING**

- .1 Refer to CCDC 2, GC 3.14.
- .2 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .3 Remove waste products and debris other than that caused by others and leave Work clean and suitable for occupancy.
- .4 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .5 Remove waste products and debris other than that caused by Owner or other Contractors.
- .6 Remove waste materials from site at regularly scheduled times or dispose of as directed by Consultant. Do not burn waste materials on site, unless approved by Consultant.
- .7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

- .8 Clean and polish glass, hardware, walls, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .9 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, and floors.
- .10 Clean lighting reflectors, lenses, and other lighting surfaces.
- .11 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .12 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .13 Remove dirt and other disfiguration from exterior surfaces.
- .14 Clean and sweep roofs, areaways, and sunken wells.
- .15 Sweep and wash clean paved areas.
- .16 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

**1.4 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for recycling.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1      General**

**1.1          REFERENCES**

- .1 Canadian Construction Documents Committee (CCDC)
  - .1 CCDC 2-2008, Stipulated Price Contract.

**1.2          ADMINISTRATIVE REQUIREMENTS**

- .1 Acceptance of Work Procedures:
  - .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
    - .1 Notify Consultant in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
    - .2 Request Consultant's inspection.
  - .2 Consultant's Inspection:
    - .1 Consultant and Contractor to inspect Work and identify defects and deficiencies.
    - .2 Contractor to correct Work as directed.
  - .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
    - .1 Work: completed and inspected for compliance with Contract Documents.
    - .2 Defects: corrected and deficiencies completed.
    - .3 Work: complete and ready for final inspection.
  - .4 Final Inspection:
    - .1 When completion tasks are done, request final inspection of Work by Consultant, and Contractor.
    - .2 When Work incomplete according to Owner and Consultant, complete outstanding items and request re-inspection.
  - .5 Declaration of Substantial Performance: when Consultant considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
  - .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
  - .7 Final Payment:
    - .1 When Consultant considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
    - .2 Refer to CCDC 2: when Work deemed incomplete by Consultant, complete outstanding items and request re-inspection.
  - .8 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount

in accordance with contractual agreement. Provide proof of publication of the Certificate of Substantial Performance.

**1.3 FINAL CLEANING**

.1 Clean in accordance with Section 01 74 00 - Cleaning.

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

**Part 2 Products**

**2.1 NOT USED**

.1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

.1 Not Used.

**END OF SECTION**



**Part 1        General**

**1.1            ADMINISTRATIVE REQUIREMENTS**

**1.2            ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2        One week prior to Substantial Performance of the Work, submit to the Consultant, two final copies of operating and maintenance manuals in English.
- .3        Provide evidence, if requested, for type, source and quality of products supplied.

**1.3            FORMAT**

- .1        Organize data as instructional manual.
- .2        Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3        When multiple binders are used correlate data into related consistent groupings.
  - .1        Identify contents of each binder on spine.
- .4        Cover: identify binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5        Arrange content by Section numbers and sequence of Table of Contents.

**1.4            AS-BUILT DOCUMENTS AND SAMPLES**

- .1        Maintain, in addition to requirements in General Conditions, at site, one record copy of:
  - .1        Contract Drawings.
  - .2        Specifications.
  - .3        Addenda.
  - .4        Change Orders and other modifications to Contract.
  - .5        Reviewed shop drawings, product data, and samples.
  - .6        Manufacturer's certificates.
- .2        Maintain record documents in clean, dry and legible condition.
  - .1        Do not use record documents for construction purposes.
- .3        Keep record documents and samples available for inspection by Consultant.

**1.5            RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS**

- .1        Record as-built information on set of opaque drawings, provided by Consultant, and return drawings to Consultant at Substantial Performance of the Work.
- .2        Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Consultant.

- .3 Use felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .4 Record information concurrently with construction progress.
  - .1 Do not conceal Work until required information is recorded.
- .5 Contract Drawings and shop drawings: mark each item to record actual construction, including:
  - .1 Field changes of dimension and detail.
  - .2 Changes made by change orders.
  - .3 Details not on original Contract Drawings.
  - .4 References to related shop drawings and modifications.
- .6 Specifications: 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.
- .7 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.
- .8 Provide digital photos, if requested, for site records.

## **1.6 WARRANTIES AND BONDS**

- .1 Submit 24-month labour warranty for materials workmanship, dated from the date of Substantial Performance.
- .2 Submit 20-year coating material warranty.
- .3 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
  - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
  - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .4 Respond in timely manner to oral or written notification of required construction warranty repair work.
- .5 Written verification to follow oral instructions.
  - .1 Failure to respond will be cause for the Consultant to proceed with action against Contractor.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not Used.

**Part 3          Execution**

**3.1                NOT USED**

.1          Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 GENERAL**

- .1 Work includes removal of surface corrosion and re-finishing the entire metal roof using high-performance roof coating system.

**1.2 SUMMARY**

- .1 Furnish and install high performance roof coating system, including:
  - .1 Roofing manufacturer's requirements for the specified warranty (if any).
  - .2 Preparation of roofing substrates.
  - .3 Installation of an epoxy primer
  - .4 Installation of roof coating to refinish existing metal roof.
  - .5 Other roofing-related items specified or indicated on drawings or otherwise necessary to provide a complete weatherproof roofing system.
- .2 Comply with the published recommendations and instructions of the roof coating manufacturer.

**1.3 SUBMITTALS**

- .1 Product data:
  - .1 Provide coating manufacturer's printed data sufficient to show that all components of coating system, including accessories, comply with the specified requirements and with the coating manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with coating system.
  - .2 Where UL requirements are specified, provide documentation that shows that the roof coating system to be installed is UL-Classified, as applicable; include data itemizing the components of the classified or approved system.
  - .3 Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.

**1.4 QUALITY ASSURANCE**

- .1 Applicator qualifications: Installer shall have the following:
  - .1 At least 5-year experience in installing roof coating system.
- .2 Pre-installation conference: Before start of metal roof coating application, Contractor shall hold a conference meeting to discuss the proper installation of materials and requirements to achieve the intended result.
  - .1 Require attendance with all parties directly influencing the quality of the work or affected by the performance of the Work.

## **1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- .2 Store materials clear of ground and moisture with weather protective covering.
- .3 Keep combustible materials away from ignition sources.

## **1.6 WARRANTY**

- .1 Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- .2 Warranty:
  - .1 Coating system products, 20-year limited warranty covering material and accessories.
  - .2 Workmanship: 2-year warranty.
  - .3 Warranty effective the date of substantial completion.

## **Part 2 Products**

### **2.1 METAL COATING**

- .1 Aliphatic acrylic urethane gloss:
  - .1 Two-component aliphatic acrylic polyurethane that provides excellent gloss and colour retention, as well as excellent abrasion, chemical, and solvent resistance.
  - .2 Meets performance requirements of Mil-C-85285/85286/83445
  - .3 Meets performance requirements of USPS-C-64
  - .4 VOC: Maximum of 250 grams per litre VOC / VOS (2.09 lbs/gal.) excluding water & exempt solvents
  - .5 Viscosity @ 77°F (mixed as recommended) 65-75KU
  - .6 Flash point: 98° F (TT-P-141, Method 4293)
  - .7 Recommended film thickness:
    - .1 Wet: 3.5 - 5.0 mils
    - .2 Dry: 2.5 - 3.6 mils
  - .8 Induction time @ 70°F (21 °C): 15 minutes
  - .9 Colour: To match existing from a standard range.

### **2.2 ACCESSORY MATERIALS**

- .1 Rust inhibitive metal primer, polyamine epoxy as recommended by the coating manufacturer.

- .2 Hydro Pole Pipe flashing: EPDM metal roof pipe flashing with flexible aluminum base and 20-year manufacturer's warranty.
  - .1 Size to suit existing pipe.
- .3 Stainless steel clamp: Mechanical clamp to be worm gear clamp, stainless steel, 13 mm band width, size to suit exhaust pipe
- .4 Screws: #12 Teks Stainless Steel Cap with Bonded Sealing Washer.
- .5 Sealant Type "F": to be compatible with EPDM. Acceptable Product:
  - .1 DOWSIL 756 SMS by Dow Corning or approved equal

### **Part 3 Execution**

#### **3.1 INSTALLATION**

- .1 All work associated with the installation of the specified roof coating system to be performed in accordance with the Roof Coating Manufacturer's Application Guide.
- .2 Replace corroded screws with new stainless-steel screws with sealing washers.
- .3 Install hydro line pipe flashing as shown and as per manufacturer's written instructions.
- .4 Commencement of work by the Contractor shall constitute acknowledgement by the Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roof coating manufacturer.
- .5 Application Limitations:
  - .1 Do not apply if material, substrate or ambient temperature is below 8°C. Relative humidity should be below 85%.
  - .2 Do not apply if within 5 degrees of dew point or if rain is expected within 12 hours of application.
  - .3 Log of dates, time of work, temperatures, dew point, and relative humidity (12 hours before and after project), to be maintained for duration of project and to be submitted upon completion.

#### **3.2 ROOF COATING APPLICATION**

- .1 Remove corrosion from all affected areas to a Brush Off Blast cleaning SSPC-SP 7
- .2 Apply one prime coat of polyamine epoxy at 5 mils DFT (may be ½ tinted to finish colour).
- .3 Apply one topcoat of acrylic urethane at 2 to 3 mils DFT (tinted as required for finish colour).

- .4 Allow base coat to dry a minimum of 24 hours before applying top coat.
- .5 Inspect base coat prior to application of top coat. Confirm proper adhesion and that surface is clean.
- .6 Provide finish coat in accordance with manufacturer's application guide relative to current condition.
- .7 All work to secure/maintain the manufacturer's warranty must be completed using materials from that manufacturer
- .8 Correct any defects to the satisfaction of the Consultant.

### **3.3 PROTECTION**

- .1 Cover completed and partially completed work not enclosed or sheltered with waterproof covering at end of each work day.

### **3.4 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
- .2 Leave Work area clean at end of each day.
- .3 Remove droppings and splashings using approved method by the manufacturer.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .5 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**