



Halifax

Regional Centre for Education

**RFP# 4242 - Addendum #2
Roof Replacement
Ellenvale Junior High School**

To: All Bidders
Date: June 13, 2024
From: Nancy Rideout, Purchasing Manager
Office: (902) 464-2000 ext. 2222
Email: nrideout@hrce.ca

The bid documents shall be amended, and new drawings and clauses added, and shall become part of the contract documents as follows:

SPECIFICATIONS

.1 Reference Section 07 52 00 Two-Ply Modified Bitumen Roofing:

- .1 Delete section and replace with new section, attached herein.

.2 Reference Section 01 52 00 Construction and Temporary Facilities:

- .1 Provide 5'-0" high temporary fencing, installed 10' away from building in the area of work.
- .2 Provide overhead protection at exterior doors, constructed of scaffold with closed sides.
- .3 Provide stair tower and scaffolding as required for roof access, to meet CAN/CSA-S269.2. Provide plywood on stair tower to 8' above grade. Coordinate location of stair tower with HRCE.
- .4 HRCE will complete work of storm water system and rain water leaders to within 3'-0" of roof drain.
- .5 HRCE will lift and reinstate exhaust fans as requires for roofing work.
- .6 Temporary power will be provided by HRCE

DRAWINGS

.3 Reference Detail 6/A-103:

- .1 Provide ladder safety post at top of relocated roof ladder. To be Bilco LU-2 or approved alternate.

End of Addendum #2 – RFP# 4242

PLEASE SIGN BELOW AND RETURN WITH BID DOCUMENTS:

Signature

Company Name

PART 1 - GENERAL

1.1 SUMMARY OF SECTION

- .1 As summarized and described herein, but not restricted to the following:
 - .1 Remove existing roofing down to the existing wood deck.
 - .2 Remove existing 2-ply BUR vapour barrier down to the wood deck in the case of a loosely laid nailed system. Existing hot applied 2-ply BUR vapour barriers may remain, if fully adhered to the wood deck.
 - .3 Provide new two-ply modified bituminous membrane fully adhered roofing system complete with tapered insulation as noted on drawings.
 - .4 Provide built-up parapets, blocking curb extensions as required.
 - .5 Provide tie-ins to all mechanical curbs for roof top equipment.

1.2 APPROVED ROOF ASSEMBLY

- .1 Approved Roof Assembly consists of the following:
 - .1 Existing Flat Wood Deck
 - .2 Existing vapour barrier – see above.
 - .3 SBS Vapour Barrier – self adhered
 - .4 Polyiso Insulation – 4” Base layer plus 1.5 percent tapered from drains, except as noted otherwise on the roof plan.
 - .5 Overlayment Board with Integral Base Sheet – adhered, with additional fastening as noted below.
 - .6 Cap Sheet – torch applied
- .2 Glue pattern: Low-rise foam adhesive beads are to be 12” O.C. for insulation boards and overlayment boards.
- .3 Mechanical fasteners (in addition to glues): One row of screws and plates is to be provided in the overlayment board at 12” O.C at the edge of parapets and curbs as detailed.

1.3 REFERENCES

- .1 American Society for Testing and Materials International (ASTM):
 - .1 ASTM C208-12(2017), Specification for Cellulosic Fiber Insulating Board.
 - .2 ASTM D6164/D6164M-16, Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
 - .2 Canadian Roofing Contractors’ Association (CRCA) – Roofing Specifications Manual.
 - .3 Canadian Standards Association (CSA):
 - .1 CSA A123.21-20, Standard test method for the dynamic wind uplift resistance of membrane-roofing systems.
 - .4 Nova Scotia Construction Safety Association (NSCSA), Occupational Health and Safety
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Act (OHSA)

- .5 Underwriters Laboratories of Canada (ULC):
 - .1 CAN/ULC S704, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced
- .6 National Building Code of Canada (NBC)

1.4 SUBMITTALS

- .1 Provide shop drawings including manufacturer's technical data sheets for each component. Include a summary of the roofing system from top to bottom.
- .2 Provide layout for tapered areas of rigid insulation. Ensure tapered insulation indicate a positive slope to drain.

1.5 ENVIRONMENTAL REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of materials.
- .2 Refer to the Manufacturer's recommendations regarding installation of roofing system at ambient temperatures. Roofing system should be applied when temperatures are acceptable to the manufacturer's requirements.
- .3 Refer to the Manufacturer's recommendations of temperatures required for conditioning the materials prior to application and install and curing after.
- .4 Only 'Dry' materials are to be installed. Materials that are installed wet, or materials that become wet during inclement weather to be removed and replaced.

1.6 SAFETY REQUIREMENTS

- .1 Contractor to abide by NSCSA Occupational Health and Safety Act.
- .2 Roof installers to have taken the NSCSA Fall Protection course and abide by the NSCSA Fall Protection Course Guidelines.
- .3 Verify that construction guards / barriers are erected at the roof edge at openings and changes in roof elevation.

1.7 WASTE MANAGEMENT

- .1 Contractor to remove debris immediately from site to a designated landfill approved by Provincial Regulations to accept existing roofing materials debris.
 - .2 Separate and recycle waste materials in accordance with all municipal guidelines.
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1.8 PERFORMANCE CRITERIA

- .1 Do roofing work in accordance with applicable, standard in Canadian Roofing Contractors Association (CRCA) Roofing Specifications Manual and to prescribed wind uplift requirements.

1.9 DELIVERY, STORAGE AND PROTECTION OF PRODUCT

- .1 Comply with manufacturer's recommendations for handling, storage and protection during installation.
- .2 Protect and store materials off the ground, away from physical damage and from becoming wet, soiled or covered with ice or snow before, during and after installation.
- .3 Label packages to include material name, production date and/or product code.
- .4 Store rolls of membrane in upright position. Store membrane rolls with salvage edge up.
- .5 Place plywood runways over work to enable movement of material and other traffic.
- .6 Store roofing material to meet manufacturer's recommendations.

1.10 QUALITY CONTROL

- .1 Convene pre-installation meeting one week prior to beginning work of this Section.
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordinate with other building subtrades.
 - .4 Review manufacturer's installation instructions and warranty requirements.
 - .5 Record meeting proceedings including corrective measures and other actions required to ensure successful completion of work and distribute to each attendee within one week of meeting.
- .2 Manufacturer's Representative to visit site three (3) times unannounced during construction and once at completion and provide inspection reports to the Owner and Consultant.

1.11 QUALITY ASSURANCE

- .1 Roofing applicator must be a good standing member of the CRCA and approved by the Roof Manufacturing Company selected on this Project, and have completed projects of this magnitude in the last five (5) years.

1.12 FIRE WATCH

- .1 Hot work shall be kept 15m from flammable materials or openings in curbs, wall and roof junctions that could expose flames to combustible materials.
- .2 Provide a self-adhered fire seal membrane over all combustible materials and at all cracks and openings between assemblies prior to hot works.
- .3 A continuous fire watch shall be provided during the hot work and for a period of 60 minutes after its completion. A final inspection of the hot work area shall be completed 4 hours after completion of hot works.
- .4 Fire Extinguishers: maintain one cartridge operated type with hose and shut-off nozzle, ULC labelled for A, B and C class protection, within 3 meters of torch applicator.
- .5 Make sure all workers know the escape route.
- .6 Store combustible materials away from heat and open flames.

1.14 WARRANTIES

- .1 Roofing Contractor to supply the Owner with a CRCA warranty certifying work completed as installed to be free of roof defect for a period of two (2) years from date of substantial performance.
- .2 Provide manufacturer's membrane warranty, ensuring that all components and adhesives within the system are fully compatible, and the roofing system will remain watertight for a period of a full ten (10) years from the date of substantial completion. This warranty is to include both labour and materials necessary to affect water tightness.

PART 2 - PRODUCTS

2.1 VAPOUR BARRIER

- .1 Modified Bitumen membrane, for use on wood decks and curbs, or on 2-ply BUR vapour barrier:
 - .1 SBS modified bitumen, self-adhering membrane, reinforced with skid resistant polyethylene film.
 - .2 Thickness: 1.0mm minimum
 - .3 Self gasketing material with fully adhered system that has split release backing for fast application.
 - .4 Primer as per manufacturer's recommendations.

2.2 POLYISOCYANURATE RIGID INSULATION

- .1 Polyisocyanurate roof insulation Type II, manufactured to CAN/ULC S704.
 - .1 Size Board: 1220 mm x 1220 mm or 1220 mm x 2440 mm
 - .2 Compressive strength: 170 kPa minimum
 - .3 Water absorption: 3.5% max (by volume)
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- .4 Tapered crickets: where noted on the drawings.
- .5 Insulation applied in two layers with staggered joints. Bottom layer 4" thickness. Upper layer 1.5% tapered insulation, starting at 0" at roof drains.

2.5 ROOFING ADHESIVES

- .1 Insulation and Overlayment Board Adhesive:
 - .1 Must be compatible with roofing system components, and meet roofing warranty requirements.
 - .2 Meets testing requirements of CSA A123.21-14.
 - .3 Low rise, low odor, foam adhesive.
 - .4 Approved manufacturers: Soprema, IKO, or approved alternate.

2.6 OVERLAYMENT BOARD WITH INTEGRAL BASE SHEET

- .1 180 g/m² non-woven polyester reinforced SBS membrane with thermofusible surface laminated on a 1/2" High Density Polyisocyanurate Insulation panel.
 - .1 Meets CAN/ULC-S706 and ASTM C208
 - .2 Cold adhered installation, to meet CSA A123.21 requirements.
 - .3 Membrane edges: self-adhesive and torched edges.

2.7 BASE FLASHING

- .1 Base Sheet Flashing 180 g/m:
 - .1 Non-woven reinforcing matt, polyester coated and permeated with SBS bitumen, thermo fusible plastic film over both sides.
 - .2 Thickness: 2.5 mm (98mils)
 - .3 Manufactured to ASTM D6164.
 - .4 Primer as per manufacturer's recommendations.
 - .5 Acceptable Manufacturers: IKO, Soprema

2.8 CAP SHEET AND CAP FLASHING

- .1 Cap Sheet and Cap Flashing 250g/m:
 - .1 Non-woven reinforced polyester reinforcing mat, coated and permeated with SBS modified bitumen. The underside to be protected by thermofusible plastic film. Membrane to be applied by torching only.
 - .2 Thickness: 5.0mm
 - .3 Coloured ceramic mineral granules embedded into top surface to provide protection against ultraviolet radiation; colour as selected by Consultant from full colour range.
 - .4 Manufactured to ASTM D6164 or ASTM D6162.
 - .5 Acceptable Manufacturers: IKO, Soprema

2.10 ACCESSORIES

- .1 Stack Jack Flashings:
 - .1 Spun aluminum flashing sleeve with integral flange and matching removable cap.
 - .2 Urethane insulation pre-moulded to inner side of sleeve.
 - .3 Standard of Acceptance: based on Thaler SJ-26 or SJ-27, or approved alternate.

PART 3 - EXECUTION

3.1 REMOVAL OF EXISTING ROOFING SYSTEM

- .1 Contractor to remove existing roofing system down to existing asphalt vapour barrier, on wood deck. Clean debris from vapour barrier to provide solid surface for adhesion of new roofing. Repair any cracks in existing vapour barrier with adhered vapour barrier or heat resealing. Remove all loosely adhered or nailed vapour barrier and dispose.
- .2 Only remove sufficient roofing to the deck that can be covered in a day, or the Contractor to temporarily protect. All temporary tie-ins are to be fully watertight.
- .3 Remove and dispose of roofing materials immediately; no stockpiling of the removed roofing materials.
- .4 Coordinate with mechanical and electrical contractor for timing of removal of existing roof top equipment and inclusions of new/reinstalled systems.
- .5 Report any deteriorated wood deck immediately to HRCE Project Manager.
- .6 Prior to installation of roof system verify:
 - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust, debris and ready for primer.
 - .2 Parapets, curb upstands have been installed for mechanical services requiring curbs, supports etc.
 - .3 Roof drains have been installed at proper elevations relative to finished roof surface.

3.2 ROOFING INSTALLATION

- .1 Vapour Barrier / Fire Seal Membrane Installation (Parapets and Upstands):
 - .1 Prime all surfaces to manufacturers recommendations
 - .2 Self adhere the base sheet flashing after primer application is fully dried.
 - .3 Application to provide a smooth surface, free of air pockets, wrinkles, fishmouths or tears.
 - .4 Ensure vapour barrier flashings are completed, and openings, crevices and all wood surfaces are covered for a fully watertight system.
 - .2 Insulation Panel Installation:
 - .1 Ensure the insulation panels are tightly fitted together.
 - .2 Discard broken insulation boards.
 - .3 Voids are to be completely filled with insulation.
 - .4 Install insulation to fit tightly next to curbs, parapets and roof protrusions.
 - .5 Fully adhere insulation panels to the vapour barrier to requirements of Part 1.
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- .5 Overlayment Board and Integral Base Sheet Installation:
 - .1 Install boards with flush butt joint and wrap overlap membrane onto adjacent board.
 - .2 Lap membrane at joint is self-adhesive and sealed to manufacturer's recommendations.
 - .3 Stagger board/membrane joints per manufacturer's recommendations.
 - .4 Cold adhered overlayment board to substrate, to requirements of Part 1.
 - .5 Provide additional mechanical fastening as indicated.

- .6 Base Flashing Installation:
 - .1 Flashing membrane to be torch applied, over end joints of overlayment boards, and to seal overlayment board membrane to parapets and upstands. Each strip to have 75 mm side laps and end laps.
 - .2 Application to provide a smooth surface, free of air pockets, wrinkles, fishmouths or tears.

- .7 Cap Sheet Installation:
 - .1 Once the base sheet and base flashing has been applied, and does not show defects, the cap sheet can be laid.
 - .2 Cap sheet to be unrolled starting from the low point of the roof. Cap sheet to be rerolled from both ends prior to torching. Care must be taken for good alignment of the first roll (parallel with the edge of the roof).
 - .3 Cap sheet to be torch welded on to the base sheet membrane, in accordance with recommendations of the membrane manufacturer. During this application, both surfaces to be simultaneously melted, forming an asphalt bead, pushed out in front of the cap sheet. While the membrane is still hot, apply enough pressure with a steel roller onto the side lap so as to have bitumen seep out to create a continuous bead of bitumen on the side lap. Care should be taken not to embed the granules into the bitumen.
 - .4 Care must be taken not to burn the membranes, and their respective reinforcements.
 - .5 Base sheet and cap sheet seams to be staggered a minimum of 300 mm.
 - .6 Cap sheet to have side laps of 75 mm and end laps of 150 mm. Surface granules on end laps to be embedded prior to installation of following sheet.
 - .7 Make sure the two membranes are properly welded, without air pockets, wrinkles, fishmouths or tears.
 - .8 After installation of the cap sheet, check lap seams on the cap sheet.
 - .9 During installation, care must be taken to avoid asphalt seepage greater than 5 mm at seams.

3.5 PROTECTION DURING WORK

- .1 Cover walls and adjacent work where materials hoisted or used.
 - .2 Use warning signs and barriers. Maintain in good order until completion of work.
 - .3 Clean off drips and smears of bituminous material immediately.
 - .4 Dispose of rain water off roof and away from face of building until roof drains are
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installed and connected.

- .5 Protect roof from traffic and damage. Comply with precautions deemed necessary by Consultant.
- .6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed work and materials out of storage.
- .7 Place plywood runways over work to enable movement of materials and other traffic.

3.6 PROTECTION AFTER WORK COMPLETED

- .1 Contractor to repair damage caused by work of this contract - to adjacent roof and wall areas, and also to site areas such as lawns or paved areas that have damage caused by this contract.

3.7 CLEANING

- .1 Contractor to provide clean-up for this roofing area. Debris and excess roofing items to be removed from the site.

END OF SECTION
