REGIONAL DISTRICT OF NANAIMO

REQUEST FOR TENDER No. 26-009

Oceanside Place Arena 2026 Roofing Program

Addendum 2
Issued: February 17, 2026

Closing Date & Time: on or before 3:00 PM Pacific Time on March 5, 2026

This addendum shall be read in conjunction with and considered as an integral part of the Request for Tender. Revisions supersede the information contained in the original Tender or previously issued Addendum. No consideration will be allowed for any extras due to any Vendor not being familiar with the contents of this Addendum. All other terms and conditions remain the same.

Tender Addendum

Please see enclosed tender addendum from the Regional District of Nanaimo's consultant, Alpine Roof Consulting Ltd. consisting of 24 pages.

February 17, 2026

Oceanside Arena – Addendum No.2

The following are changes to the Scope of Work for the above project. All costs related to these changes are to be included in the Bid Price.

1. See attached revised SPECIFICATION SECTION 07 01 50 LIQUID APPLIED MEMBRANE.

2. See attached revised SPECIFICATION SECTION 07 54 19 SINGLE PLY ROOFING

3. See below for additional scopes for Roof Access and Ductwork Supports:

NOTE 1: CHANGE GENERAL REQUIREMENTS SPECIFICATION SECTION 011061 (ITEM 5.7) TO:

5.7 ACCESS TO THE ROOF

.1 General

.1 Provide all labor, materials, equipment, engineering, installation, maintenance, and removal necessary to furnish a **temporary roof access system during construction**, consisting solely of a stair access system and a temporary garbage chute system, as specified herein.

.2 Temporary access provisions shall remain in place for the duration of roofing and related construction activities and shall be removed upon completion of work unless otherwise directed.

.2 Stair Access Only

.1 Temporary access to the roof shall be provided exclusively by a stair system.

.2 Ladders (portable, extension, fixed, ship, or alternating tread), lifts, or hoists shall not be used as the primary means of routine roof access.

.3 Stair access shall provide safe and continuous access from grade or designated floor level to the roof work area.

.3 Stair Design and Performance

.1 Temporary stairs may be modular, framed, or scaffold-type systems specifically designed for construction use.

.1 Stairs shall comply with applicable building codes and occupational safety regulations.

.2 Provide:

.1 Slip-resistant treads.

.2 Uniform riser and tread dimensions.

.3 Handrails on both sides.

.4 Guardrails and mid rails at open sides.

.5 Landings at top and bottom and at required intervals.

.6 Adequate headroom clearance.

.3 Structural and Safety Requirements

.1 Stair system shall be designed to safely support all imposed construction loads.

.2 Anchorage and bracing shall prevent displacement, sway, or overturning.

.3 Maintain safe access at all times; repair or replace damaged components immediately.

.4 Roof Garbage Chute System

.1 General

.1 Provide a temporary garbage/debris chute system serving the roof work area for controlled removal of roofing materials and construction debris.

.2 Engineering Responsibility

.1 The garbage chute system shall be engineered, detailed, and supplied by the Roofing Contractor.

.2 Roofing Contractor shall retain a qualified professional engineer licensed in the project jurisdiction to design and certify the chute system.

.3 Submit sealed shop drawings and structural calculations for review prior to installation.

.3 Design Requirements

.1 Chute system shall be designed to withstand anticipated debris loads; impact loads, wind loads, and construction use conditions.

.2 Materials shall be durable and suitable for temporary exterior exposure.

.3 System shall include:

.1 Secure structural anchorage.

.2 Stabilization and bracing.

.3 Controlled discharge at grade.

.4 Debris containment measures.

.5 Protective covers where required.

.6 Guardrails and fall-protection at roof intake location.

.4 Safety Compliance

.1 Chute system shall comply with applicable occupational health and safety regulations. Provide warning signage and restrict unauthorized access.

.5 Removal

.1 Remove garbage chute system upon completion of roofing work. Repair any damage to structure, finishes, or roofing system resulting from temporary installation.

.2 Upon completion of roofing operations, remove temporary stair system and restore affected areas to original condition.

.6 Roofing Coordination

.1 All roof penetrations, supports, and protection measures shall be coordinated with the roofing system installation.

.2 Temporary supports shall not compromise structural integrity or roofing warranty.

.3 Provide protection boards, pads, or load-distribution measures as required to prevent damage to roof deck or membrane.

.7 Responsibility

.1 The Roofing Contractor shall be fully responsible for the design, safety, installation, maintenance, and removal of the temporary stair access and engineered garbage chute system, and for compliance with all applicable codes and safety regulations.

NOTE 2: ADD TO COMMON WORK RESULTS FOR MECHANICAL SECTION 230500:

Part 1 General

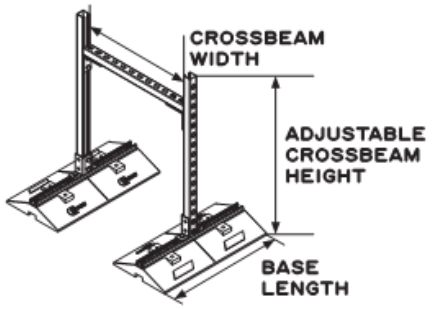
1.1 INTENT

.2 Remove existing duct supports on the east roof section; supply and install new supports beneath the ductwork.

Part 3 Materials

3.1 LINE SUPPORTS (GAS/CONDUIT/ETC.)

.1 C-Port DSW Series adjustable galvanized steel supports, spaced at 10-foot intervals along the length of the ductwork.



MATERIALS

BASE (C-PORT CXW24):
100% RECYCLED RUBBER, UV RESISTANT

STRUT:
14-GAUGE GALVANIZED STEEL STRUT
(13/16" HIGH)

CROSSBEAM AND VERTICAL STRUT:
12-GAUGE GALVANIZED STEEL STRUT
(1 5/8" WIDE X 1 5/8" HIGH)

Regards,

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END OF ADDENDUM NO.2

Part 1 General

1.1 SECTION INCLUDES

.1 Roof re-coating preparation.

.2 Application of fluid-applied roof membrane and flashings over existing modified bituminous membrane roofing.

1.2 REFERENCE STANDARDS

.1 Applicable Provincial Building Code or National Building Code of Canada and CRCA or equivalent regional roofing association standards.

1.3 FIELD CONDITIONS

.1 Weather Limitations: Proceed with rehabilitation work only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.

.1 Store all materials prior to application at temperatures recommended by manufacturer.

.2 Apply coatings within range of ambient and substrate temperatures recommended by manufacturer.

.3 Do not apply roofing in snow, rain, fog, or mist.

.2 Protect building to be rehabilitated, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from rehabilitation operations.

.3 Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

.4 Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

.5 Owner will occupy portions of building immediately below re-coating area. Conduct re-coating so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

1.4 WARRANTY

.1 Manufacturer's Warranty: Roof System Manufacturer's standard form in which Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within warranty period, as follows.

.1 Form of Warranty: Manufacturer's standard warranty form.

.2 Scope of Warranty: Work of this Section and including sheet metal details and termination details installed by the roof system Installer and approved by the Roof System Manufacturer.

.3 Warranty Period: 20 years from date of completion.

.2 Manufacturer Inspection Services: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's inspections is included in the Contract Sum.

.1 Inspections to occur in following years: 2, 5, 10, & 15 following completions.

.3 Installer Warranty: Installer's warranty signed by Installer, as follows.

.1 Form of Warranty: Form included in Project Manual.

.2 Scope of Warranty: Work of this Section.

.3 Warranty Period: 2 years from date of completion.

1.5 QUALITY ASSURANCE

.1 Perform Work to the applicable reference standards, and in accordance with the manufacturer's written instructions.

.2 Installer Qualifications: Installer shall be a company specializing in the work of this section able to demonstrate completion of 3 projects of similar scope and complexity, and capable of meeting the manufacturer's requirements for warranty issuance. Workers to be trained and certified by the manufacturer or able to demonstrate equivalent competency, including a full-time on-site supervisor, able to communicate verbally with Contractor, Owner's Consultant and employees, and qualified by the roofing system manufacturer to install manufacturer's product and furnish warranty of type specified.

.3 Manufacturer Qualifications: Approved manufacturer with UL listed roofing systems comparable to those specified, with minimum five years' experience. Manufacturer must be willing to provide warranty coverage for any qualified installer meeting the performance requirements.

1.6 REGULATORY REQUIREMENTS

.1 Conform to the applicable Provincial Building Code and local municipal requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

.1 Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

.2 Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

.1 Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

.3 Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

.4 Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

Part 2 PRODUCTS

2.1 MATERIALS, GENERAL

.1 Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

.2 The roof system specified in this Section is based upon products of Tremco Canada, alternative products by other manufacturers will be considered based on objective performance data and provided they meet/exceed the performance/material criteria specified in Articles 2.2, 2.3 & 2.4.

.1 Bidders must provide side-by-side technical comparisons, performance data, and a written confirmation from the alternative manufacturer that they will meet the warranty requirements.

2.2 PERFORMANCE REQUIREMENTS

.1 General Performance: Rehabilitated roofing shall withstand exposure to weather without failure or leaks due to defective manufacture or installation.

.1 Accelerated Weathering: Roofing system shall withstand 5000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.

.2 Material Compatibility: Provide roofing materials that are compatible with one another under the conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

.3 Exterior Fire-Test Exposure: Roofing system exterior fire-test exposure performance following application of rehabilitation coating shall not be less than that of the pre-rehabilitated roof performance when tested in accordance with CAN/ULC-S107, based upon manufacturer's tests of identical applications.

.4 Energy Performance: Provide roof coating with initial solar reflectance index not less than 78 when calculated according to ASTM E1980, based upon testing of identical products by a qualified testing agency.

.5 Energy Performance: Provide rehabilitated roofing according to one of the following when tested according to CRRC-1:

.1 Three-year, aged solar reflectance of not less than 0.55 and emissivity of not less than 0.75.

.6 Three-year, aged solar reflectance index of not less than 64 when calculated according to ASTM E1980.

2.3 LIQUID-APPLIED ROOFING MEMBRANE

.1 AlphaGuard BIO is an odorless, reinforced roofing and waterproofing solution distinguished by its high bio-based content. It is ideal when there is a demand for high-performance roofs, but odor is not allowed.

.1 Basis of design products***, or approved equivalent***:

.1 Tremco, **AlphaGuard Bio Base Coat**.

.1 Min. Thickness on Granular MB: 3 gallons per 100 sq.ft. (48 wet/dry mils).

.2 Tremco, **AlphaGuard Bio Top Coat (2 Coats).**

.1 Initial Top Coat: Min. Thickness: 1 gallon per 100 sq.ft. (16 wet/dry mils) over cured Base Coat with granules rolled into application.

.2 Final Top Coat: Min. Thickness: 1 gallon per 100 sq. ft. (16 wet/dry mils) over cured Initial Top Coat.

.3 Colour: White.

.3 Granules: As approved by Tremco***, or approved equivalent.***

.4 Primers: As required by manufacturer for specified products.

.5 Liquid-Applied Membrane Reinforcing Fabric:

.1 Applied at SBS Membrane Seams and Drains Only.

.2 Polyester Reinforcing and Protection Fabric: 100 percent stitch-bonded mildew-resistant polyester fabric intended for reinforcement of compatible fluid-applied membranes.

.3 Basis of design: Tremco, Permafab***, or approved equivalent.***

2.4 AUXILIARY MATERIALS

.1 General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with existing roofing system and fluid-applied roofing system.

.2 Seam Sealer: Waterproof seam and patching material compatible with applied coating.

.3 Joint Sealant: Elastomeric joint sealant compatible with applied coating, with movement capability appropriate for application.

.1 Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.

.1 Basis of design product:

.1 Tremco, TremSEAL Pro***, or approved equivalent.***

.2 Colour: Closest match to substrate.

.4 Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FM 4470; designed for fastening roofing membrane components to substrate; tested by manufacturer for required pullout strength; and acceptable to roofing system manufacturer.

.5 Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

Part 3 EXECUTION

3.1 EXAMINATION

.1 Examine existing roofing substrates, with Installer present, for compliance with requirements and for other conditions affecting application and performance of roof coatings.

.1 For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance.

.2 Verify compatibility of approved re-coating system with and suitability of substrates.

.3 Verify that substrates are visibly dry and free of moisture.

.4 Verify that roofing membrane surfaces have adequately aged to enable proper bond with re-coating system base coat.

.5 Verify that existing roofing membrane is free of blisters, splits, open laps, indications of shrinkage, and puncture damage or other indications of impending roof system failure.

.6 Commencing application of fluid-applied re-coating membrane indicates acceptance of surfaces and conditions.

3.2 SITE CONDITIONS

.1 Ambient Conditions:

.1 Do not apply roofing membrane during inclement weather or when ambient temperatures are below manufacturer's indicated minimum application temperature.

.2 Do not apply roofing membrane to damp or frozen deck surface.

.3 Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

3.3 CLEANING

.1 In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their instructions.

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

3.4 PROTECTION OF FINISHED WORK

.1 Protect building surfaces against damage from roofing work.

.2 Where traffic must continue over finished roof membrane, protect surfaces.

3.5 SELECTIVE DEMOLITION

.1 Refer to Section 02 41 19 Selective Demolition.

3.6 ROUGH CARPENTRY

.1 Refer to Section 06 10 00 Rough Carpentry.

3.7 PREPARATION

.1 Protect existing roofing system that is indicated not to be rehabilitated, and adjacent portions of building and building equipment.

.1 Mask surfaces to be protected. Seal joints subject to infiltration by coating materials.

.2 Limit traffic and material storage to areas of existing roofing membrane that have been protected.

.3 Maintain temporary protection and leave in place until replacement roofing has been completed.

.2 Pollution Control: Comply with environmental regulations of authorities having jurisdiction. Limit the spread of dust and debris.

.1 Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

.2 Remove debris from building roof by chute, hoist, or other device that will convey debris to grade.

.3 Shut down air intake equipment in the vicinity of the Work in coordination with the Owner. Cover air intake louvers before proceeding with re-coating work that could affect indoor air quality or activate smoke detectors in the ductwork.

.1 Verify that rooftop utilities and service piping affected by the Work have been shut off before commencing Work.

.4 Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

.1 Do not permit water to enter into or under existing membrane roofing system components that are to remain.

3.8 ROOFING COATING PREPARATION

.1 Removal of Wet Insulation: Remove portions of roofing membrane with underlying wet insulation. Remove wet insulation, fill in tear-off areas to match existing insulation and membrane, and prepare patched membrane for roof coating application specified below.

.2 Repair of Ponding Areas: Repair areas indicated as ponding areas or areas of inadequate drainage by removing roof membrane, adding additional insulation as required to provide minimum slopes to drain required by roofing rehabilitation coating manufacturer, and replace membrane with material matching existing. Submit photographic report indicating compliance.

.3 Membrane Surface Preparation:

.1 Remove pavers and walkway pads from roofing membrane. Salvage pavers and accessories for reuse.

.2 Remove loose granular aggregate from granular aggregate-surfaced built-up bituminous roofing with a power broom.

.3 Remove blisters, ridges, buckles, roofing membrane fastener buttons projecting above the membrane, and other substrate irregularities from existing roofing membrane that would inhibit application of uniform, waterproof coating.

.4 Substrate Cleaning: Clean substrate of contaminants such as dirt, debris, oil, and grease that can affect adhesion of coating by power washing at maximum 13,800 kPa (2,000 psi.).

.1 Dispose of wastewater in accordance with requirements of authorities having jurisdiction.

.4 Verify that existing substrate is dry before proceeding with application of coating. Spot check substrates with an electrical capacitance moisture-detection meter.

.1 Verify adhesion of new products.

.5 Existing Flashing and Detail Preparation: Repair flashings, gravel stops, copings, and other roof-related sheet metal and trim elements. Reseal joints, replace loose or missing fasteners, and replace components where required to leave in a watertight condition.

.1 Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings specified in Division 07 Section "Sheet Metal Flashing and Trim."

.2 Roof Drains: Remove drain strainer and clamping ring. Grind metal surfaces down to clean, bare, metal.

.6 Membrane Repair: Repair membrane at locations with irregularities using seam sealer mastic and reinforcing fabric.

.7 Membrane Seam Reinforcement: Reinforce membrane seams using seam sealer mastic and reinforcing fabric overlapping onto field of existing membrane not less than width required by roof coating manufacturer.

3.9 FLUID-APPLIED FLASHING APPLICATION

.1 Fluid-Applied Flashing and Detail Base Coat Application: Complete base coat and fabric reinforcement at parapets, curbs, penetrations, and drains prior to application of field of fluid-applied membrane. Apply base coat in accordance with manufacturer's written instructions.

.1 Apply base coat on prepared and primed surfaces and spread coating evenly. Extend coating minimum of 200 mm (8 inches) up vertical surfaces and 100 mm (4 inches) onto horizontal surfaces.

.2 Back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing, unless greater thickness is recommended by manufacturer. Verify thickness as work progresses.

.3 Fabric Reinforcement: Embed fabric reinforcement into wet base coat at membrane seams. Lap adjacent flashing pieces of fabric minimum 75 mm (3 inches) along edges and 150 mm (6 inches) at end laps. Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.

.4 Roof Drains: Install base coat onto surrounding membrane surface and metal drain bowl flange. Install target piece of fabric reinforcement immediately into wet base coat and roll to fully embed and saturate fabric. Reinstall clamping ring and strainer following application of topcoat.

.5 Allow base coat to cure prior to application of topcoat.

3.10 SBS MEMBRANE SEAMS – REINFORCED LIQUID APPLIED APPLICATION

.1 SBS Seams Application: Complete base coat and fabric reinforcement at SBS Seams prior to application of field fluid-applied membrane. Apply base coat in accordance with manufacturer's written instructions.

.1 Apply base coat on prepared surfaces and spread coating evenly. Extend coating minimum of 75 mm (3 inches) onto horizontal surfaces on either side of the SBS seam.

.2 Back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing unless greater thickness is recommended by manufacturer. Verify thickness as work progresses.

.3 Fabric Reinforcement: Embed minimum 100mm (4 inch) wide fabric reinforcement strip into wet base coat along all the seams.

.1 Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.

.2 Following curing of base coat and prior to application of top coats, sand raised or exposed edges of fabric reinforcement.

3.11 LIQUID-APPLIED MEMBRANE APPLICATION

.1 Base Coat: Apply base coat to field of membrane in accordance with manufacturer's written instructions.

.1 Apply base coat on properly prepared surfaces and spread coating evenly.

.2 Back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing unless greater thickness is recommended by manufacturer. Verify thickness as work progresses.

.3 The final dry film thickness of the base coat should be a minimum of 48 mils of dry mils.

.2 Topcoat (2 Coat) Application: Apply 2 top coats to the field of membrane and flashings uniformly in a complete, continuous installation, and in accordance with manufacturer's written instructions.

.1 Allow base coat to cure prior to application of topcoat.

.2 Following curing of base coat and prior to application of topcoat, sand raised or exposed edges of fabric reinforcement.

.3 Prime base coat prior to application of topcoat if topcoat is not applied within 72 hours of the base coat application, using manufacturer's recommended primer.

.4 Apply first top coat at a rate 1 gallon per 100 sq.ft. (16 wet/dry mils) over cured Base Coat. Roll manufacturer approved granules into the first topcoat at manufacturer’s recommended application rate.

.5 Allow to dry and repair any deficiencies.

.6 Once cured, use a blower to remove any loose granules or debris from the roofing surface.

.7 Apply second top coat at a rate 1 gallon per 100 sq.ft. (16 wet/dry mils) over the dry first coat.

.8 Apply topcoats extending coating up vertical surfaces and out onto horizontal surfaces. Install topcoat over field base coat and spread coating evenly.

.9 Back roll to achieve not less than minimum coating thickness indicated in Part 2 product listing, unless greater thickness is recommended by manufacturer. Verify thickness as work progresses.

.10 The final dry film thickness of the top coat(s) should be a minimum of 32 mils of dry mils.

.11 Avoid foot traffic on new fluid-applied membrane for a minimum of 24 hours.

.12 Once cured, use a blower to remove any loose granules from the roofing surface.

END OF SECTION

Part 1 GENERAL

1.1 SECTION INCLUDES

.1 Loose Laid and Ballasted Single-Ply Roof Membrane.

1.2 REFERENCE STANDARDS

.1 Applicable Provincial Building Code or National Building Code of Canada and CRCA or equivalent regional roofing association standards.

1.3 SYSTEM DESCRIPTION

.1 <u>Roof Section 5</u>

.1 Re-Use Gravel Ballast (Provide Option for New)

.2 New TREMCO Single-Ply KEE Membrane ***or approved equivalent***, Loose Laid.

.3 Optional Tapered Polyisocyanurate Insulation Crickets, Loose Laid.

.4 Allowance for Maximum 5% Replacement Polyisocyanurate Insulation, Loose Laid.

.5 Existing Polyisocyanurate Insulation, Loose Laid.

.6 Existing Poly Vapour Retarder.

.7 Existing Metal Q-Decking.

1.4 SUBMITTALS FOR REVIEW

.1 Tapered Insulation Layout Drawings.

1.5 QUALITY ASSURANCE

.1 Perform Work to the applicable reference standards, and in accordance with the manufacturer's written instructions.

.2 Installer Qualifications: Installer shall be a company specializing in the work of this section able to demonstrate completion of 3 projects of similar scope and complexity, and capable of meeting the manufacturer's requirements for warranty issuance. Workers to be trained and certified by the manufacturer or able to demonstrate equivalent competency, including a full-time on-site supervisor, able to communicate verbally with Contractor, Owner's Consultant and employees, and qualified by the roofing system manufacturer to install manufacturer's product and furnish warranty of type specified.

.3 Manufacturer Qualifications: Approved manufacturer with UL listed roofing systems comparable to those specified, with minimum five years' experience. Manufacturer must be willing to provide warranty coverage for any qualified installer meeting the performance requirements.

.4 Manufacturer's Installation Instructions: Obtain and maintain on-site access to manufacturer's written recommendations and instructions for installation of products.

1.6 REGULATORY REQUIREMENTS

.1 Conform to the applicable Provincial Building Code and local municipal requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

.1 Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

.2 Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

.1 Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

.3 Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

.4 Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT / FIELD CONDITIONS

.1 Protect building, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from roofing operations.

.2 Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

.3 Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

.4 Store all materials prior to application at temperatures between 5 and 32 deg. C (40 and 90 deg. F).

.5 Apply materials within range of ambient and substrate temperatures recommended by manufacturer. Do not apply materials when air temperature is below 5 or above 43 deg. C (40 and 110 deg. F).

.6 Do not apply roofing in snow, rain, fog, or mist.

.7 Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

.8 Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

.1 Provide tie-offs at end of each day's work to cover exposed roofing and insulation with a course of roofing sheet securely in place with joints and edges sealed.

.2 Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.

.3 Remove temporary plugs from roof drains at end of each day.

.4 Remove and discard temporary seals before beginning work on adjoining roofing.

1.9 WARRANTY

.1 Manufacturer's Warranty: Roof System Manufacturer's standard form in which Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within warranty period, as follows.

.1 Form of Warranty: Manufacturer's standard warranty form.

.2 Scope of Warranty: The warranty covers material and workmanship.

.3 Warranty inspection and maintenance program provided with warranty at a minimum of 5-year intervals. (Provided and included by the manufacturer)

.4 Warranty Extension: Warranty extension program available at the end of the warranty period.

.5 Transfers: No limitation on a number of warranty transfers.

.6 Scope of Warranty: Work of this Section and including sheet metal details and termination details installed by the roof system Installer and approved by the Roof System Manufacturer.

.7 Warranty Period: **30 years from date of completion.**

.8 **All of the above is included in the material costs.**

.2 Manufacturer Inspection and Preventive Maintenance Service: To report maintenance responsibilities necessary for preservation of Owner's warranty rights and to perform periodic routine maintenance required, as described in Manufacturer's standard form. Cost of manufacturer's inspections & preventive maintenance is included in the material costs.

.1 Scope of Service: Manufacturer's standard form.

.2 Inspections to occur in following years: 2, 5, 10,15, 20 and 25 following completion.

.3 Installer Warranty: Installer's warranty signed by Installer, as follows.

.1 Scope of Warranty: Work of this Section.

.2 Warranty Period: 2 years from date of completion.

Part 2 PRODUCTS

2.1 MATERIALS, GENERAL

.1 Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

.2 The following noted system is based on a Ketone Ethylene Ester (KEE) Membrane system. Basis of Design is Tremco KEE; alternative products by other manufacturers will be considered based on objective performance data and provided they meet/exceed the performance criteria specified in Articles 2.2, 2.3, & 2.4.

.1 ***Bidders must provide side-by-side technical comparisons, performance data, and a written confirmation from the alternative manufacturer that they will meet the warranty requirements.***

2.2 PERFORMANCE REQUIREMENTS

.1 General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.

.1 Dynamic Impact/Puncture Resistance, ASTM D5635: >35.

.2 Static Puncture Resistance ASTM D 5602 (99 lbf): >150.

2.3 TPA ROOF MEMBRANE:

.1 Thermoplastic Ketone Ethylene Ester (KEE) coated polyester fabric-reinforced sheet, ASTM D6754.

.1 Basis of design product, ***or approved equivalent***:

.1 Tremco, TremPly KEE Single Ply Roof Membrane

.2 Breaking Strength, minimum, ASTM D751: Machine direction, 87 kN/m (500 lbf); Cross machine direction, 70 kN/m (400 lbf).

.3 Tear Strength, minimum, ASTM D751: Machine direction, 21 kN/m (125 lbf); Cross machine direction, 25 kN/m (145 lbf).

.4 Elongation at Break, ASTM D751: 20 percent.

.5 Dynamic Impact/Puncture Resistance, ASTM D5635: 35.

.6 Minimum Membrane Thickness, nominal, less backing, ASTM D751: 1.5 mm **(60 mils)**

.7 Thickness over fiber, optical method: 0.016 inches.

.8 Accelerated Weathering, ASTM G155 and ASTM G154: 15,000 hr., no cracking or crazing.

.9 Abrasion Resistance, ASTM D3389: Not greater than 2,000 cycles, H-18 wheel, 1,000 g load.

.10 Colour: **White**

.2 Membrane Flashing: Manufacturer's standard, smooth-backed, sheet flashing of same material, type, reinforcement, thickness, and colour as PVC sheet membrane.

.1 Basis of design: TremPly KEE 60mil (Same as Above), ***or approved equivalent***.

2.4 AUXILIARY ROOFING MATERIALS

.1 Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. Single-Ply Roof Membrane Sealants: 450 g/L.

b. Nonmembrane Roof Sealants: 300 g/L.

c. Sealant Primers for Nonporous Substrates: 250 g/L.

d. Sealant Primers for Porous Substrates: 775 g/L.

.2 Flashing Membrane Adhesive:

.1 Bonding adhesive, solvent based fast drying, VOC-compliant, for bonding KEE smooth-backed single ply membranes and flashings to substrates.

.1 Basis of design product: Tremco, TremPly KEE LV Bonding Adhesive, ***or approved equivalent***.

.3 Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 25 mm by 3 mm (1 by 1/8 inch) thick; with anchors.

.4 Ballast Retaining Bar: Perimeter securement system consisting of a slotted extruded-aluminum retention bar with an integrated compression fastening strip.

.1 Fasteners: 38-mm (1-1/2-inch) stainless steel fasteners with neoprene washers.

.5 Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to membrane roofing system manufacturer.

.6 Joint Sealant: Elastomeric joint sealant compatible with roofing materials, with movement capability appropriate for application.

.1 Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.

.1 Basis of design product: Tremco, TremSEAL Pro, ***or approved equivalent***.

.2 Colour: Closest match to substrate.

.7 Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.

.8 Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.5 ROOF INSULATION

.1 Tapered Insulation Crickets **(Optional – See Bid Form)**

.1 Accepted Product:

.1 Any CRCA Accepted Organic ***or Inorganic*** PolyISO Insulation.

.2 Slope: 4%.

.2 Wet Insulation Replacement If Found **(See Bid Form for Breakout)**

.1 Accepted Product:

.1 Any CRCA Accepted Organic ***or Inorganic*** PolyISO Insulation.

.2 Thickness: 2.5”

2.6 BALLAST (OPTIONAL REPLACEMENT – SEE BID FORM)

.1 Stone Ballast: Smooth, washed, riverbed gravel or other acceptable smooth-faced stone that withstands weather exposure without significant deterioration and does not contribute to membrane degradation.

.1 Basis of design product: Double washed round river rock.

.2 Size, ASTM D448: No. 4, 3/4 to 1-1/2 inches (19 to 38 mm), and No. 2, 1-1/2 to 2-1/2 inches (38 to 63 mm).

2.7 WALKWAY PAVERS

.1 Provide new 24” x 24” Smooth Concrete Pavers where shown on drawings.

.1 Accessories: 1” Extruded Polystyrene Insulation Strips ***w/poly slip sheets.***

Part 3 EXECUTION

3.1 EXAMINATION

.1 Examine substrates, areas, and conditions, with contractor present, for compliance with the following requirements and other conditions affecting performance of roofing system:

.1 Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.

.2 Retain paragraph below if project will be let with wood cants, blocking, and nailers installed under another trade subcontract.

.3 Verify that blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

.4 Existing Prepared Roof Substrate: Verify that existing insulation and substrate is sound and dry. Refer to requirements of Division 07 Section "Preparation for Re-Roofing."

.2 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

.1 Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

.2 Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

.3 Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSTALLATION, GENERAL

.1 Install roofing system in accordance with manufacturer's written instructions and approved details.

.2 Install blocking, curbs, and nailers in accordance with requirements of Division 06 Section "Miscellaneous Rough Carpentry."

3.4 LOOSE LAID INSULATION INSTALLATION

.1 Coordinate installing membrane roofing system components, so insulation is not exposed to precipitation or left exposed at the end of the workday.

.2 Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.

3.5 LOOSE-LAID AND BALLASTED MEMBRANE INSTALLATION

.1 Loosely lay roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.

.2 Unroll and Relax the sheet before hot-air welding.

.3 Comply with requirements in ANSI/SPRI RP-4 for applicable system.

.4 Start installation of roofing in presence of roofing system manufacturer's technical personnel and Owner's testing and inspection agency.

.5 Accurately align roof membrane, without stretching, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

.6 Perimeter Adhere roof membrane at corners, perimeters, and transitions according to requirements in ANSI/SPRI RP-4.

.7 Apply roof membrane with side laps shingled with slope of deck where possible.

.8 Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.

.1 Test lap edges with probe to verify seam weld continuity.

.2 Apply lap sealant to seal cut edges of roof membrane and sheet flashings.

.3 Verify field strength of seams a minimum of twice daily, and repair seam sample areas.

.4 Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.

.9 Spread sealant bed over deck-drain flange at roof drains and securely seal roof membrane in place with clamping ring.

.10 Aggregate Ballast: Apply uniformly over roof membrane at the rate required by roofing system manufacturer, but not less than the following, spreading with care to minimize possibility of damage to roofing system. Lay ballast as roof membrane is installed, leaving roofing ballasted at the end of the workday.

.1 Ballast Wt., ANSI/SPRI RP-4 System 1: Size 4 aggregate, 50 kg/sq. m (12 lb/sq. ft).

3.6 WALKWAYS

.1 Provide new concrete paver walkway where shown on roof plan.

.2 Install 1” Extruded Polystyrene Insulation Strips beneath pavers to allow surface drainage.

3.7 PERIMETER FLASHING INSTALLATION

.1 Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

.2 Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.

.3 Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

.4 Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

.5 Seal top termination of base flashing with a metal termination bar and a continuous bead of joint sealant.

3.8 FIELD QUALITY CONTROL

.1 Retain this article if field inspecting and testing are required. Revise to suit local practices and requirements of authorities having jurisdiction, if applicable.

.2 Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation at commencement and upon completion.

.1 Notify Owner's Consultant and Owner 48 hours in advance of date and time of inspection.

.3 Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.9 PROTECTING AND CLEANING

.1 Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Owner's Consultant and Owner.

.2 Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

.3 Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION