ROCKY POINT ENGINEERING LTD.

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ADDENDUM 01

Project Name:	Oceanside Place - Roofing Upgrade - 2017	**Date:**	July 25, 2017
Client:	Regional District of Nanaimo	**Project Number:**	17177-N
Written By:	Mike Warrington	**Addendum Number:**	01
Pages:	1		
Attachments:	18		

GENERAL

CLARIFY: To clarify, the existing roofs are not under warranty.

Refer to SPECIFICATIONS

Refer to SECTION 00020 – Form of Tender (1 Page Attached)

CLARIFY: To clarify, the base bid is to include initial examination of Lower Roof 1 and work associated with roofing over Lower Roof 1.

REVISE: Revise alternative prices.

Add the following Thermal and Moisture Protection Specifications (16 Pages Attached)

ADD: Add section 07520 – Waterproofing Membrane

ADD: Add section 07620 – Metal Flashing, Cladding & Trim

Refer to MECHANICAL DRAWINGS

Refer to Mechanical Drawing 2/M-1

ADD: When the existing Dehumidifier is lifted off the existing sleepers, the sleepers are to be removed as well. Replace sleepers with new 14” high sleepers. Dehumidifier to be seismically mounted.

Refer to BUILDING ENVELOPE DRAWINGS

Refer to Building Envelope Drawing BE101 (1 Page Attached)

REVISE: Revise drawing as shown. Changes are shown in revision clouds.

END OF ADDENDUM 01

Appendix 'B' – ALTERNATIVE PRICES

Project/Contract: Oceanside Place –
Roofing Upgrade - 2017

Project/Contract No.: 17177b-N

From (Bidder): _____
Company name

We, the above named bidder, offer the alternative prices requested below. The amount to be added to, or deducted from, our bid price (as entered in the Bid Form) is entered for each alternative requested. These prices do **NOT** include GST. If there is no change to the bid price for an alternative, we have so indicated. It is understood that:

(a) the *Owner* may accept any of the alternatives and corresponding alternative prices in any order of combination, including all or none,

(b) alternatives and alternative prices are open for acceptance by the *Owner* for the same period of time as the bid price, notwithstanding the award of the Contract.

(c) the Work of the Contract and the Contract Price will reflect the alternatives and alternative prices, if any, accepted by the *Owner* at the time of contract award, and

(d) acceptance of any alternatives will not affect the bid price contract completion time, unless we have specifically indicated an increase or decrease in time, in number of days, on account of a particular alternative.

Description of Alternative		**Effect on Bid Price** **Add**	**Deduct**
Alternate Price No. 1 Initial examination of Lower Roof 2 and work associated with roofing over Lower Roof 2		$_____	$_____
	Time (in Days)	_____	_____
Alternate Price No. 2 Work associated with tear-off and re-roofing Lower Roof 1 instead of roofing over Lower Roof 1		$_____	$_____
	Time (in Days)	_____	_____
Alternate Price No. 3 Work associated with tear-off and re-roofing Lower Roof 2 instead of roofing over Lower Roof 2		$_____	$_____
	Time (in Days)	_____	_____

1 General

1.1 SUMMARY

.1 Work includes labour, materials, equipment and services necessary to provide waterproof membrane as required:

.1 Tie-in to existing SBS membrane on roof decks

.2 All tie-in, penetration, and other misc. waterproofing work

1.2 REFERENCES

.1 CSA A123.3-M1979 Asphalt or Tar Saturated Roofing Felt.

.2 CSA A123.4-M1979 Bitumen for Use in Construction of Built-Up Roof Coverings and damp proofing and Waterproofing Systems.

.3 CSA A123.1-98 for Organic Based Shingles.

.4 CSA A123.5 1998 for Fiberglass Core.

.5 Canadian General Specification Board (CGSB) standards CGSB 37.5-M89, 37-GP-9Ma, 15M, 19M, 29M, 56M and 51.20-M87.

.6 Roofing Contractors' Association of B.C., Roofing Practices Manual.

.7 CGSB-37.50, Standard for "Asphalt, Rubberized, Hot Applied, for Roofing and Waterproofing"

.8 ASTM D412 Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension.

.9 CGSB 37-GP-9 Primer, Asphalt, Unfilled, for Asphalt Roofing, Damp roofing and Waterproofing.

.10 CGSB 37-GP-15 Application of Asphalt Primer for Asphalt Roofing, Damproofing and Waterproofing.

.11 CGSB 37.29 Rubber-Asphalt Sealing Compound.

.12 CGSB 37-GP-56 Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.

1.3 QUALIFICATIONS

.1 Roofing Contractor to be officially recognized as an authorized contractor by the roofing materials manufacturer.

.2 Employ skilled applicators approved by membrane manufacturer.

1.4 LABORATORY TESTING

.1 If required by Consultant, manufacturers of Elastomeric Asphalt materials to provide, at no cost, the results of tests and chemical analysis on the Elastomeric Asphalt materials supplied.

.2 Tests are conducted to verify conformance to CGSB 37-GP-56M.

1.5 JOB MOCK-UP

.1 Fabricate, install and pay for mock-ups as required. Mock-ups will be typically used to confirm details and may remain as part of the finished product if found acceptable by the Consultant.

1.6 QUALITY ASSURANCE

.1 Installer Qualifications: Use only competent, qualified tradesmen experienced with membranes to execute the work of this section.

.2 A crew of qualified tradesmen is defined as follows:

.1 The foreman shall hold a three-year Apprenticeship Certificate; at least one other member shall hold a three year Apprenticeship Certificate; the balance of the crew should have completed some portion of the Apprenticeship program, but shall at least have submitted application for the certification as "Roofer". A Journeyman Certificate is acceptable in lieu of an Apprenticeship Certificate.

.2 The Foreman and one other member of the crew must have attended an Application Seminar provided by the membrane manufacturer.

.3 Confirm that surfaces to which modified membrane is to be applied are in a condition suitable for this application. Notify the Consultant in writing if substrate is unacceptable.

.4 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.

.5 Notify Consultant in writing of any conflict between these specifications and manufacturers instructions. Consultant will designate which document is to be followed.

1.7 SUBMITTALS

.1 Submit material samples as requested by the Consultant

.1 Submit available colour range for review.

1.8 STORAGE AND HANDLING

.1 Store materials on the site in a location approved by the Consultant.

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

.3 Deliver and store all materials in their original packaging, bearing the manufacturer's name, related standards and any other specifications or reference standards.

.1 Provide bills of lading to the Consultant as requested

.4 Protect and permanently store all materials in a dry, well-ventilated and weatherproof location. Remove from this location only materials to be used the same day. Maintain storage location at minimum +10 degrees C. Keep materials away from open flame or welding sparks. Prevent water-based materials from freezing.

.5 Store materials delivered in rolls carefully on end, with selvage edges up.

.6 Avoid stockpiling materials on suspended areas, which could at certain places affect the loading of such areas.

.7 Place plywood runways over completed work to enable movement of materials and other traffic.

1.9 ENVIRONMENTAL REQUIREMENTS

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

.2 Before commencing work, Contractor to ensure that forecasted meteorological conditions shall permit work to be carried out without interruption during the course of the day.

.3 Do not install roofing when temperature remains below +5 degrees C for torch, or an equivalent temperature allowing for wind-chill factor.

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

.5 Protect decks, insulation, or any part of the work at the end of each working day or during any interruption of work.

.6 If water penetrates through the assembly due to inadequate protection, Contractor to cut and inspect damages, remove, replace and re-install all materials at their own cost, to eliminate all traces of water in the assembly.

.7 Roofing to be watertight at end of each shift.

1.10 PROTECTION

.1 When working with Torch Applied Materials:

.1 Meet the requirements of the Hot Operations and Open Flame Warranty.

.2 Fire Extinguishers: to be cartridge-operated type with shut-off nozzle, ULC labelled for A, B and C class protection. Size 2.25 kg on roof per torch applicator, within 10 m of torch applicator.

.3 Maintain fire watch as required by warranty.

.2 Protect all adjacent surfaces from any damage that may result from the work of this section. If required, the contractor shall make good any deterioration resulting from his work in progress.

.3 Protect complete perimeter of the roof and any opening in the roof with guards or guardrails to prevent the possibility of accidents.

.4 All damage to interior conduit or equipment caused by waterproofing work shall be repaired at no additional cost to the owner.

1.11 COMPATIBILITY

.1 Compatibility between components of the waterproofing system and adjacent assemblies is essential. Provide written declaration to Consultant stating that materials and components, as assembled in system, meet this requirement.

.2 Site examination

.1 The contractor is to review the site conditions and confirm compatibility of all exposed membrane systems prior to tendering.

1.12 MANUFACTURER'S REPRESENTATIVE

.1 A representative of the roofing materials manufacturer is to be present at the start and periodically during the execution of roofing work. Manufacturer's representative to provide written comments if required by Consultant.

.2 Contractor to permit and facilitate access to site and roof, at all times, by above mentioned manufacturer's representative.

2 Products

2.1 MEMBRANE SYSTEM DESIGNATIONS

.1 SBS Waterproofing Membrane: Two-Ply Protected System (SBS Modified Bitumen Base and Cap Sheet)

.2 Acceptable Systems:

.1 Sopralene Flam 180, Sopralene 180GR, and Sopralene Flam Stick by Soprema. Use primers as recommended by manufacturer.

.2 Approved alternate

2.2 PRE-APPROVED ALTERNATE SBS MODIFIED BITUMEN MEMBRANE MATERIALS

.1 Base sheet conforming to CGSB 37-GP-56M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, non-woven glass fiber reinforcement. The membrane must also meet the following minimum criteria:

.1 Type 2B (partially attached / adhered)

.2 Class C

.3 Grade 1

.4 Top surface: thermofusible film

.5 Thermofusible elastomeric asphalt: mix of selected bitumen and SBS thermoplastic polymer. Minimum 12% polymer content.

.6 Tensile strength (N/5 cm):

.1 Longitudinal: 485

.2 Transversal: 350

.7 Low temperature flexibility: no cracking at -30 ^{o}C.

.8 Acceptable products:

.1 Sopralene Flam 180 by Soprema

.2 Approved alternate

.2 Base sheet flashing conforming to CGSB 37-GP-56M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, woven glass reinforcement. The membrane must also meet the following criteria:

.1 Type 2A (fully adhered)

.2 Class C

.3 Grade 2

.4 Surfaces:

.1 Top and bottom surfaces: thermofusible film

.5 Elastomeric bitumen asphalt: mix of selected bitumen and SBS thermoplastic polymer. Minimum 12% polymer content.

.6 Tensile strength (N/5 cm):

.1 Longitudinal: 1110

.2 Transversal: 935

.7 Low temperature flexibility: no cracking at -30 ^{o}C.

.8 Acceptable material:

.1 Sopralene Flam Stick by Soprema

.3 Cap sheet and cap sheet flashing for exposed membrane systems conforming to CGSB 37-GP-56M, Styrene-Butadiene-Styrene (SBS) elastomeric polymer, prefabricated sheet, heavy polyester/glass fibre scrim reinforcement, weighing 180 g/m^2. The membrane must also meet the following minimum criteria:

.1 Type 2B (partially attached / adhered) at single ply system and Type 2A, (fully adhered) at two ply systems.

.2 Class A

.3 Grade 2

.4 Top side to be protected with colored granules (standard colour to be selected by the Consultant).

.5 Bottom surfaces to be lightly sanded (2B) or polypropylene film (2A).

.6 Thermofusible elastomeric asphalt: mix of selected bitumen and SBS thermoplastic polymer. Minimum 12% polymer content.

.7 Tensile strength (N/5 cm):

.1 Longitudinal: 1110;

.2 Transversal: 935.

.8 Low temperature flexibility: no cracking at -30 ^{o}C.

.9 Acceptable material:

.1 Sopralene 180GR by Soprema

.2 Approved alternate

2.3 ACCESSORIES:

.1 Overflows, and Scuppers: 16oz. Copper, manufactured by Menzies or pre-approved equivalent. All seams in scuppers to be hot welded (brazed) and capable of resisting 425 degrees C.

.2 Membrane adhesive as supplied by membrane manufacturer, compatible with membrane.

.3 Primer: Asphaltic elastomeric cutback primer, to CGSB 37-GP-9M, as supplied by the manufacturer.

.4 Mastic: as supplied by membrane manufacturer, compatible with membrane.

.5 Flashing Cement as supplied by membrane manufacturer, compatible with membrane.

3 Execution

3.1 WORKMANSHIP

.1 General

.1 Do roofing work in accordance with applicable standard in R.C.A.B.C. Roofing Practices Manual, manufacturer's recommendations and this specification.

.2 Do priming for asphalt roofing in accordance with CGSB 37-GP-15M.

.1 Install roofing elements on clean dry substrate in accordance with the manufacturer's written instructions.

.2 Schedule and perform roofing work in a sequence such that no component of the assembly is left unprotected when operations are interrupted.

3.2 EXAMINATION OF ELEMENTS

.1 Examine work areas and inform Consultant in writing of any defects.

.2 Prior to commencement of work ensure:

.1 Substrates are firm, straight, smooth, dry, free of snow, ice or frost, and clean of dust and debris.

.2 Adequate positive slope at all locations so that no ponding will occur after work completed. Confirm drains are at low points.

.3 Plywood and lumber nailer plates are installed as required.

.4 Membrane tie-in locations with existing membrane: All debris and loose material is removed, ensure existing surfaces are clean, dry and prepared to accept the membrane tie-in material.

.5 All vent strips are installed as required.

.3 Inspect and approve substrate condition before starting work. Commencement of work implies acceptance of surface condition.

3.3 MODIFIED BITUMINOUS MEMBRANE SYSTEMS

.1 Details of waterproof membrane are for schematic purposes. Membrane systems to be installed in accordance with intent of details, along with manufacturer's recommendations and RCABC guidelines.

.2 Use materials in accordance with manufacturer's recommendations.

.3 Prime all metal to receive direct membrane application. All metal surfaces to receive membrane must be buffed or etched prior to asphalt primer application.

.4 Remove only as much roofing as can be stripped in with base stripping ply in the same day with roofing membrane. At the conclusion of each day's work, tie in the membrane to wood deck to prevent exterior contamination. This tie shall be cut and lifted upon continuation of the work.

.5 Installation of base sheet:

.1 Starting at low point of roof, perpendicular to slope, unroll base sheet dry on deck, align, and re-roll from both ends. Care must be taken to ensure good alignment of the first roll (parallel with the edge of the deck).

.2 Install the base sheet by peeling back the silicone release paper on the underside and pressing the membrane into primed surface Fully bond each 90mm side seam and 150mm end joint in the base sheet with a heated roller.

.3 Terminate the base sheet 150mm above wood deck elevations where applicable.

.4 Extend base sheet a minimum of 1000mm up sloped roof locations.

.5 Application shall provide a smooth surface without air pockets, wrinkles, fishmouths, or tears.

.6 After installation of the base sheet, check all lap seams on the base sheet.

.6 Installation of base sheet stripping (flashing):

.1 Upon the completion of the first ply of the deck membrane, but before application of the second ply, provide membrane flashings at the intersection of the deck membrane and walls, curbs, and where a vertical member passes through the roof.

.2 Ensure that substrates are dry, smooth, even, and primed where indicated.

.3 Primer coating must be dry before application of the base sheet stripping.

.4 Ensure that provision is made for attachment of membrane flashings as per the details and manufacturer's recommendations.

.5 Install base sheet stripping at all drains, vents, and other protrusions as required.

.6 Base sheet stripping to be applied by removing the protective paper on the underside and allowing the sheet to self adhere to the surface to provide a uniform adhesion over the entire surface.

.7 Lap side joints 62mm and end joints 150mm. Stagger end joints a minimum of 300mm. Remove the protective strip on side joints and allow the joints to adhere. Seal end joints by heat welding and surface torch and roll all side joints.

.8 Install base sheet stripping at all drains and protrusions as required.

.9 Ensure no sags, blisters, fishmouths, or wrinkles exist.

.7 Installation of cap sheet:

.1 Once the base sheet and stripping has been applied and does not show any defects, the cap sheet can then be laid.

.2 Cap sheet shall be unrolled starting from the low point on the roof. Cap sheet shall be re-rolled from both ends prior to torching. Care must be taken to ensure alignment of the first roll (parallel with the edge of the roof).

.3 Cap sheet shall be torch welded in accordance with the recommendations of the membrane manufacturer, to the base sheet membrane. During this application, both surfaces shall be simultaneously melted, forming an asphalt bead that shall be pushed out in front of the cap sheet.

.4 Care must be taken not to burn the membranes, and their respective reinforcements.

.5 Base and cap sheet seams shall be staggered a minimum of 300 mm.

.6 Cap sheet shall have side laps of 90 mm and end laps of 150 mm. Surface granules on end laps shall be embedded prior to installation of following sheet. Touch up seams with loose granules.

.7 Terminate cap sheet above finished deck elevation.

.8 Make sure the 2 membranes are properly welded, without air pockets, wrinkles, fishmouths, or tears.

.9 After installation of the cap sheet, check all lap seams on the cap sheet.

.10 During installation, care must be taken to avoid asphalt seepage greater than 5mm at seams. Touch up seams with granules as required.

.8 Installation of cap sheet stripping (flashing):

.1 Cap sheet stripping shall be laid in strips one metre wide. Side laps shall be 90 mm, and shall be staggered a minimum of 300 mm from cap sheet laps in order to avoid excessive thickness.

.2 Using a chalk line, lay out a straight line on the cap sheet surface, parallel to deck edge, 150 mm inside roof from the base of the deck corner.

.3 Using a torch and round-nosed roofing trowel, embed the surface granules into the heated and soft bitumen, from the chalk line to edge of the cap sheet.

.4 Cap sheet stripping shall be torch welded directly on its base sheet proceeding from bottom to top. Torching shall soften the two membranes and ensure a uniform weld.

.5 Cap sheet stripping shall be applied from the exterior face to extend across top of curb, down interior vertical surface and on to flat deck a distance of 300 mm, to the extent of area of embedded granules. Cut roll into required lengths and use width of roll (l metre) down length of roof, maintaining specified 90 mm side laps.

.6 Ensure application is free of air pockets, wrinkles, fish mouths, or tears.

.7 After installation, check all lap seams on the cap sheet.

.8 Nail through the top of the completed flashings where indicated, using large-head galvanized nails at 150mm o/c. Locate nails not closer that 25mm from top edge of membrane flashings.

3.4 FIELD QUALITY CONTROL

.1 Notify the Consultant and membrane manufacturer 48 hours prior to the commencement of the work.

.2 Membrane manufacturer to provide periodic review during the roofing applications as required.

.3 Notify membrane manufacturer upon the completion of the roofing.

.4 Correct all deficiencies.

3.5 CLEANING

.1 At completion of work, remove all refuse resulting from the work of this Section from site.

.2 Clean all adjacent surfaces affected by roofing work.

END OF SECTION

1 General

1.1 SUMMARY

.1 Work includes: labour, materials, equipment and services necessary to provide: Wall cladding, cross-cavity, cap, base, window and door head and sill, saddle, drip edge, counter flashings, gutters and downpipes.

1.2 REFERENCES

.1 Canadian Sheet Steel Building Institute (CSSBI) S8-2001: Quality and Performance Specification for Prefinished Sheet Steel Used for Building Products.

.2 ASTM A792 /A792M Specification for Steel Sheet, Aluminium-Zinc Alloy-Coated by the Hot-Dip Process with a minimum zinc coating designation Z150.

.3 ASTM A653/653M Specification for Sheet Steel, Zinc-Coated or Zinc-Iron Alloy Coated by the hot dip process, with a minimum zinc coating designation Z275

.4 ASTM D523 Test Method for Specular Gloss.

.5 ASTM B32 Specification for Solder Metal.

.6 Aluminium Association Designation System for Aluminium Finishes.

.7 Aluminium Association Aluminium Sheet Metal Work in Building Construction.

.8 CSA B111 Wire Nails, Spikes and Staples.

.9 CAN/CGSB-93.1 Sheet, Aluminium Alloy, Prefinished, Residential.

.10 Canadian Roofing Contractors Association (CRCA).

.11 SMACNA Architectural Sheet Metal Manual.

.12 CGSB 1-GP-171M, Type 1 Inorganic Zinc Rich Primer

.13 SSPC Paint 20, Type 1-B Inorganic Zinc Rich Primer

.14 Roofing Contractors Association of British Columbia (RCABC).

1.3 SAMPLES

.1 Submit duplicate 150 x 150 mm samples of each type of sheet metal material, colours and finish.

.2 Submit documentation identifying sheet metal source, testing results to specified standards and finishes.

1.4 MOCK-UPS

.1 Provide for approval prior to use on mock-ups a sample of each flashing assembly detailed for the project, including cap and cross cavity flashing, window/door head and sill flashing, base and drip edge flashing and custom flashing fabrications.

2 Products

2.1 PREFINISHED SHEET STEEL

.1 Form all exposed flashing (that are not custom soldered), of 24 Ga. prefinished sheet steel according to the following:

.1 Prefinished steel with factory-applied silicone modified polyester.

.1 Base Metal to be:

.1 Zinc coated sheet steel conforming to the requirements of ASTM A653 (or A653M as applicable) with a minimum zinc coating of G90 (Z275).

.2 Aluminium-zinc coated (Galvalume) steel sheet conforming to the requirements of ASTM A792 / A792M with a minimum coating of AZ150.

.2 Colours

Canadian SMP Standard Colour, to match existing, submit colour sample for owner review.

.3 Colour match: all material to be ordered from one production lot.

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

.5 Paint film thickness: not less than 25 micrometres tested by ASTM D1005.

.6 Film Cure: baked film to withstand one hundred (100) double MEK rubs in accordance with ASTM D5402

.7 Film Hardness: Paint film to exhibit a minimum hardness of “F” to ASTM D3363 test method

.8 Resistance to accelerated weathering

.1 Film Integrity: for 25 years no cracking, flaking, or checking to an extent that is apparent on ordinary outdoor visual observations.

.2 Chalk resistance: for 20 years, vertical installations will not fade more than a #8 rating, non-vertical surfaces will not chalk more than a #6 rating when measured per ASTM D4214 method D659

.3 Fade resistance: for 20 years, vertical installations will not fade more than 5 colour units, non-vertical surfaces will not fade more that 8 colour units when measured per ASTM D2244 and only on clean surfaces after removing surface deposits and chalk per ASTM D3964.

.4 Humidity resistance exposure period of 1000 hours show a few scattered blisters no larger that No. 8 per per ASTM D714, Test method: ASTM D2247.

.5 Acceptable Product:

.1 Dofasco Series 8000+ pre-finished steel

.9 Prefinished galvanized steel with factory applied polyvinyl chloride.

.1 Base Metal to be:

.1 Zinc coated sheet steel conforming to the requirements of ASTM A653 (or A653M as applicable) with a minimum zinc coating of G90 (Z275).

.2 Aluminium-zinc coated (Galvalume) steel sheet conforming to the requirements of ASTM A792 / A792M with a minimum coating of AZ150.

2.2 UNFINISHED STEEL

.1 Form all customized flashings and other unfinished steel flashing products including vents, saddles, etc.of 26 Ga. sheet steel according to the following:

.1 Base Metal to be:

.1 Aluminium-zinc coated (Galvalume) steel sheet conforming to the requirements of ASTM A792 / A792M with a minimum coating of AZ150

2.3 WALL CLADDING

.1 Preformed parapet cladding profile including all accessories including closure flashings and corner flashings etc.:

.1 AD300 Vic west metals.

.2 Approved alternate

2.4 ACCESSORIES

.1 Isolation coating: alkali resistant bituminous paint.

.2 Washers: of same material as sheet metal, 1 mm thick with rubber packings.

.3 Touch-up paint as required by prefinished material manufacturer.

.4 Cleats, clips, and splice plates: of same material, coating, and temper as sheet metal, minimum 50mm wide. Thickness same as sheet metal being secured.

.1 All cap flashing starter strips/clips to be continuous unless approved otherwise by the Consultant

.5 Fasteners:

.1 Into wood of same material as sheet metal, to CSA B111, ring thread flat head hot dipped galvanized roofing nails of length and thickness suitable for metal flashing application.

.2 Exposed, into plywood: hex-head screws, cadmium plated, with rubber washer, hex heads coloured to match flashing.

.3 Into steel: Self drilling self tapping screws, corrosion resistant capable of salt spray testing per ASTM B117 providing 2000 hours red rust and 30 cycles Kesternich SO_2.

.1 Leland Industries Inc DT2000 Long Life Coated Plating System - #10 x ¾" complete with washers as required.

.2 ITW Buildex Climaseal or Ruspert #3 screws or approved equivalent.

.4 Into masonry, concrete, stone: Zamac nail-in fasteners, mushroom head.

.6 Solder: to ASTM B32 Standard Specifications for Metal Solders

.7 Overflows and Scuppers:

.1 16oz. Copper, manufactured by Menzies or pre-approved equivalent. Sizes and profiles as indicated.

.2 2mm thick aluminium complete with 75mm (minimum) welded flange and 38mm (minimum) diameter scupper pipe (unless noted otherwise). Scupper pipe is to be painted.

.3 Isolate from dissimilar materials included concrete.

.8 Touch-up paint: as recommended by prefinished material Manufacturer.

.9 Form downpipes and hoppers from minimum 24 gauge prefinished aluminium sheet metal.

2.5 GUTTERS AND DOWN SPOUTS

.1 Form downpipes and hoppers from minimum 24 gauge prefinished aluminium sheet metal.

.2 Size and Profile: Size gutters in accordance with Charts 1-1, 1-2, and Table 1-4, and 1-5, SMACNA Architectural Sheet Metal Manual. Minimum size 5" x 4-3/4" OGEE

.3 Slope, Location of Expansion Joints, fastening system: Design gutters and down spouts to conform to Chapter 1 - "Roof drainage Systems" SMACNA Architectural Sheet Metal Manual.

.1 Provide all goosenecks, outlets, strainer baskets, connectors to existing storm drainage system, and necessary fastenings.

3 Execution

3.1 FABRICATION

.1 Fabricate metal flashings and sheet metal work other than aluminium in accordance with applicable CRCA 'FL' series details and SMACNA Architectural Sheet Metal Manual.

.2 Fabricate aluminium flashings and other sheet aluminium work in accordance with Aluminium Association Aluminium Sheet Metal Work in Building Construction.

.3 Form pieces in 2400 mm maximum lengths. Make allowance for expansion at joints. Use maximum length sections possible to minimize joints.

.4 Hem exposed edges on underside 12 mm. Mitre and seal corners with sealant.

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

.6 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

.7 Form joints between lengths of flashing sections with standing seams. S-locks can only be used if approved by the Consultant.

.8 All exposed or visible metal flashing and trim to be finished as indicated including exposed rear faces of end dams, joints, etc. No exposed or visible steel or aluminium flashing work to be unfinished.

.9 Install sealant at flashing joints.

.10 Custom flashing to be designed to minimize solder joints.

.11 Form curved profile cap flashings with Pittsburgh seams.

.12 Metal Flashings including window / door head and sill flashing, through wall flashing, drip edge flashing, base flashing, etc.

.1 It is the intent that the through wall flashing run continuously around the building. If windows and doors at balconies are at different elevations, the flashing will be interrupted and separate head flashing installed. Alternatively the flashing can stepped or exposed front leg length modified at such locations.

.2 Form all flashing surfaces as shown on drawings. Minimum slope of 1 in 4 to the exterior to be used where not shown.

.3 Form flashings, copings and fascias to profiles indicated.

.13 Roof Flashings

.1 Pre-finished sheet metal as detailed and in accordance with RCABC Roofing Practices Manual and SMACNA Architectural Sheet Metal Manual details. Provide slotted fixing holes and hot dipped galvanized steel/plastic washer fasteners.

.14 Scuppers & Diverters

.1 Install scuppers and diverters as indicated with necessary fastenings.

.2 Paint exposed portions of overflow scuppers to match wall finish.

.15 Metal Vents

.1 Form all metal vents to profiles indicated.

.2 Paint unfinished steel in accordance with Section 09900 – Paint.

.16 Custom flashing fabrications

.1 Shop fabricate custom flashing as indicated.

.2 Form custom flashing fabrications to minimize the number of metal seams and joints. Whenever possible form flashing with standing or bread pan seams.

.3 Painting of custom flashing fabrications to be in accordance with Section 09900 - Paint

3.2 INSTALLATION

.1 Install sheet metal work in accordance with RCABC details, SMACNA Architectural Sheet Metal Manual and Aluminium Sheet Metal Work in Building Construction as shown.

.2 Use concealed fastenings except where approved before installation.

.3 Provide underlay under sheet metal. Secure in place and lap under lay joints 100 mm.

.4 Counter flash bituminous flashings at intersections of roof with vertical surfaces and curbs. Flash joints using S-lock and standing seams forming tight fit over hook strips.

.5 A metal flashing as indicated at all intersections of roofing with strapped stucco walls to facilitate future roof replacement.

.6 Lock end joints and caulk with sealant.

.7 Install surface mounted reglets true and level, and caulk top of reglet with sealant.

.8 Install head and sill flashings at windows and doors in one continuous piece.

.9 Align through wall flashings with window head/sill flashing were indicated on drawings.

.10 Install flashings lapped “shingle” style with sheathing papers and membrane flashing to divert water to the exterior.

.11 Install cap/coping flashings to slope toward roof and roof drains. Run off from the flashings shall not discharge on the face of the building.

.12 Cross Cavity Flashings

.1 Fit flashings together so that one end of each section is free to move in the joint.

.2 Provide end dams and diverters where flashings terminate. Caulk end dam to flashing and adjacent material to make watertight.

.3 Cross cavity flashings typically act as head flashings at windows. Separate flashings required at doors and some window locations.

.13 Down Spouts

.1 Connect and install hoppers and down spouts to drain pipes as required.

.2 Install down spouts and provide goosenecks back to wall. Secure down spouts to wall with straps at 1800 mm oc; minimum two straps per down spout. Seal all connections and anchors. Connect down spouts to drainage system and seal joint with covers set in plastic cement.

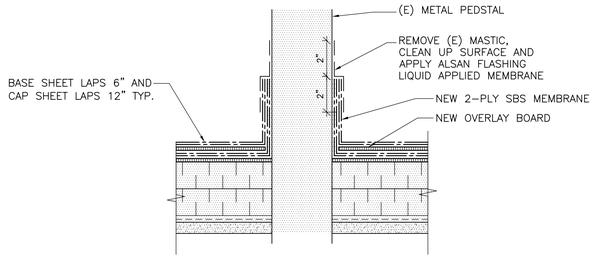
.14 Metal vents

.1 Install metal vents as indicated.

.15 Scuppers

.1 Install scuppers as indicated with all necessary fastenings.

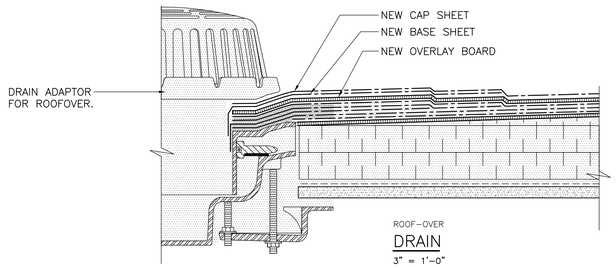
END OF SECTION



ROOF-OVER

PEDSTAL

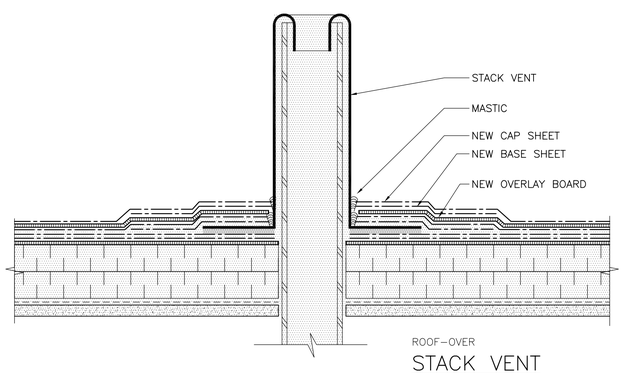
3" = 1'-0"



ROOF-OVER

DRAIN

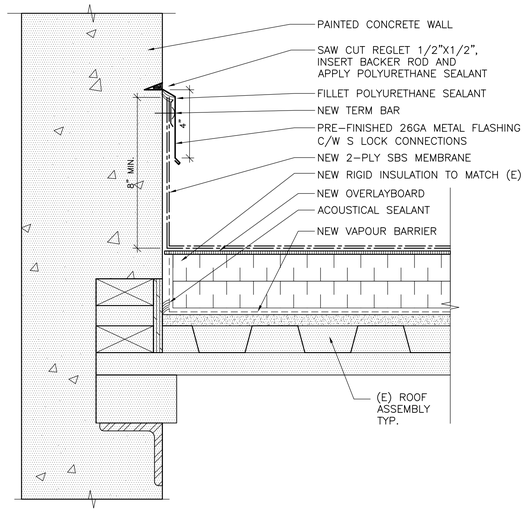
3" = 1'-0"



ROOF-OVER

STACK VENT

3" = 1'-0"

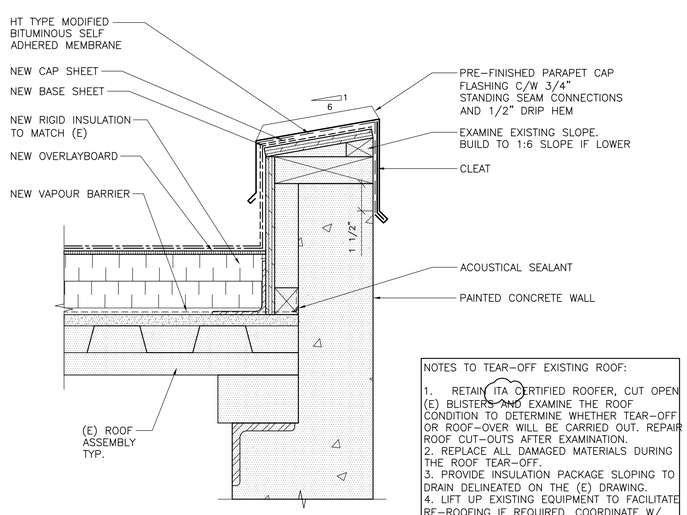


TEAR-OFF

WALL TO ROOF

3" = 1'-0"

OPTION A



TEAR-OFF

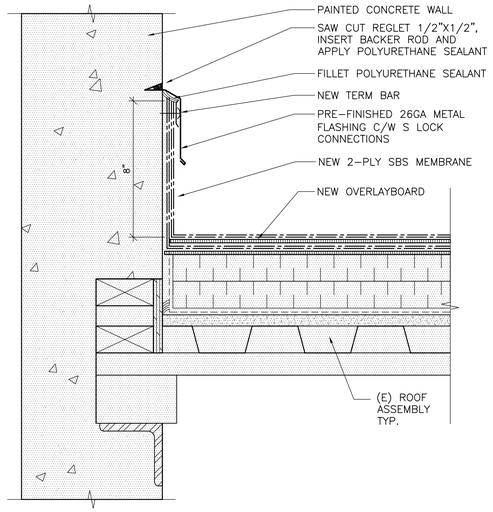
PARAPET

3" = 1'-0"

NOTES TO TEAR-OFF EXISTING ROOF:

1. RETAIN ITA CERTIFIED ROOFER, CUT OPEN (E) BLISTERS AND EXAMINE THE ROOF CONDITION TO DETERMINE WHETHER TEAR-OFF OR ROOF-OVER WILL BE CARRIED OUT. REPAIR ROOF CUT-OUTS AFTER EXAMINATION.
2. REPLACE ALL DAMAGED MATERIALS DURING THE ROOF TEAR-OFF.
3. PROVIDE INSULATION PACKAGE SLOPING TO DRAIN DELINEATED ON THE (E) DRAWING.
4. LIFT UP EXISTING EQUIPMENT TO FACILITATE RE-ROOFING IF REQUIRED. COORDINATE W/ OWNER AND MECH RE DISCONNECTING OF SERVICE.
5. ROOFING WORK IS TO BE COMPLETED IN ACCORDANCE WITH APPLICABLE STANDARD IN RCABC ROOFING PRACTICES MANUAL, MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

1

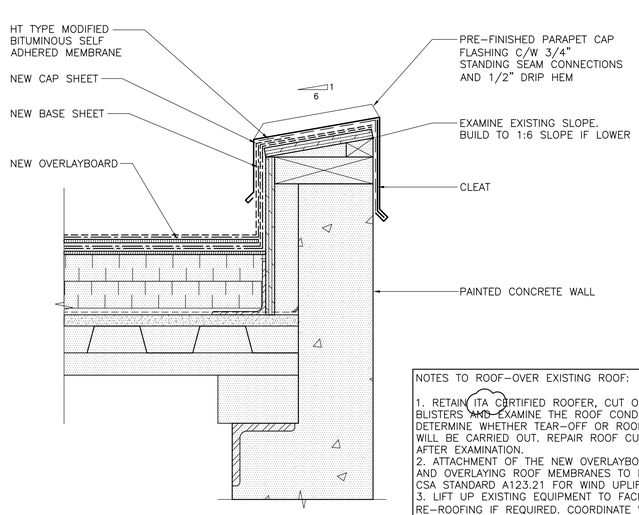


ROOF-OVER

WALL TO ROOF

3" = 1'-0"

OPTION B



ROOF-OVER

PARAPET

3" = 1'-0"

NOTES TO ROOF-OVER EXISTING ROOF:

1. RETAIN ITA CERTIFIED ROOFER, CUT OPEN (E) BLISTERS AND EXAMINE THE ROOF CONDITION TO DETERMINE WHETHER TEAR-OFF OR ROOF-OVER WILL BE CARRIED OUT. REPAIR ROOF CUT-OUTS AFTER EXAMINATION.
2. ATTACHMENT OF THE NEW OVERLAYBOARD AND OVERLAYING ROOF MEMBRANES TO MEET CSA STANDARD A123.21 FOR WIND UPLIFT.
3. LIFT UP EXISTING EQUIPMENT TO FACILITATE RE-ROOFING IF REQUIRED. COORDINATE W/ OWNER AND MECH RE DISCONNECTING OF SERVICE.
4. TORCH TO EMBED GRANULES (DEGRANULATE) OF CAP SHEET RECEIVING NEW MEMBRANE.
5. ROOFING WORK IS TO BE COMPLETED IN ACCORDANCE WITH APPLICABLE STANDARD IN RCABC ROOFING PRACTICES MANUAL, MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

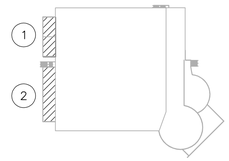
1

ISSUES

No.	DATE YYYY.MM.DD	ISSUED FOR
1	2017.06.27	REVIEW
2	2017.07.06	CLIENT REVIEW
3	2017.07.21	TENDER REV

SUB CONSULTANT

KEY PLAN



OCEANSIDE ARENA ROOFING REPLACEMENT

830 ISLAND HWY W PARKSVILLE, BC

HEROLD ENGINEERING
3701 Shenton Rd, Nanaimo, BC V9T 2H1
Tel: 250-751-8558 Fax: 250-751-8559
Email: mail@heroldengineering.com

DETAILS NOTES

DESIGNED JK	ENGINEER'S SEAL
DESIGN REVIEW	
DRAFTED VW	
DRAFTING REVIEW GB	
PROJECT No. 0417-059	CLIENT DRAWING No. n/a
SCALE AS SHOWN	PERMIT No. n/a
HEL DRAWING No. BE101	REVISION 1

DESTROY ALL DRAWINGS SHOWING PREVIOUS REVISION