Inter-Provincial Roof Consultants Ltd.

Roof Replacement Guideline for:

Town Centre Firehall

1300 Pinetree Way

Coquitlam, BC

Job #: 06-293-2

January 2021

Inter-Provincial Roof Consultants Ltd. **Job #: 06-293-2**	Roof Replacement Specification	**Town Centre Firehall**, 1300 Pinetree Way, Coquitlam, BC

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General Instructions

Guarantees & Warranty's

1. Provide a minimum **five (5) year corporate guarantee** on company letterhead, covering workmanship, leakage, and materials on 100% of this project. Provide a detailed copy of this warranty with the contract, showing inclusions and exclusions.
2. Provide a **15-year manufacturer's warranty** for the materials specified. Provide a copy of warranty documentation with the Contract.
3. All warranty/guarantee costs are to be included in the base bid price. There are to be no additional charges for any warranties or guarantees. Do not include consulting fees for course of construction roof observations. These will be paid by the owners directly.

Codes

1. This contractor shall comply with the WorkSafe BC Occupational Health and Safety regulation and assumes the responsibility of the "Prime Contractor" as outlined in Part 3, Division 3; Section 118 of the WorkSafe BC Regulation.
2. This contractor shall possess a valid local business license.
3. WHMIS regulations are to be complied with.
4. British Columbia Building Code – latest edition.
5. This contractor is to stop work and advise the owner and consultant immediately if any hazardous materials are encountered on this site.

Examination of Site & Documents

1. Before submitting a bid, the bidder shall:
2. Carefully read & examine the contract documents.
3. Visit the site of work to review the scope of the project.
4. Fully inform him/her of the existing conditions, critical dimensions, and limitations.
5. Rely entirely upon his own/her own judgement in making proposal.
6. Include in the bid a sum sufficient to cover all items required by this contract.

Permits & Regulations

1. The contractor shall apply for and obtain any required permits, pay all fees therefore and comply with all Provincial, Municipal and other legal regulations and By-laws applicable to the work. If no local regulations, comply with the National Building Codes of Canada, latest revision. WorkSafe BC and WHMIS requirements and regulations are to be strictly adhered to.

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Work Areas

1. Provide, maintain, and remove on completion, boarding, barriers, and warning signs for the protection of workmen and of the public as required and approved by the specifying authority. All necessary precautions shall be taken to always protect the public. No hoisting or lowering of roofing materials will be permitted in areas accessible to the public.

Performance

1. Minimum of a **four (4) man crew**, including a minimum of **two (2) ticketed (TQ or Red Seal IP) journeymen** for flat roofing work, must be maintained on-site for the roof installations. Contractor must remain on-site from start to completion without shutdown (except statutory holidays, weekends, and inclement weather).
2. At no time during the new roof application shall there be less than the required number of workers on site. Failure to maintain the required number of workers on site may, at the discretion of IPRC or the owner/owner's representative, result in a stop work order until such time as the journeymen requirements is met. Any financial loss to the roofing contractor as a result of a stop work order will be the responsibility of the roofing contractor.

Language & Literacy

1. Site supervisors/foremen must possess a working fluency in the English language and a solid ability to communicate with IPRC representative(s).
2. Site supervisors/foremen must possess a working ability to read and understand the specifications, product labels, MSDS sheets, etc.

Climate Conditions

1. Always provide waterproof protection against weather to maintain work, materials, equipment and property free from injury or damage and as necessary to ensure work is carried out expeditiously in accordance with agreed time schedule and completion date.
2. All materials must be maintained in a pristine, dry condition prior to application. Use of thin polyethylene coverings, or manufacturer supplied wrappers are not to be considered sufficient cover for materials stored on the roof. Heavy tarpaulins, applied with double coverage and secured with ropes, are to be used whenever possible.
3. All new materials, equipment, flashings, hardware, etc. stored on the roof are to be fully secured to prevent wind blow off.

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Cooperation

1. The contractor shall cooperate with any other trades on-site to coordinate the work and prevent delay.

Subcontractors

1. It is distinctly understood that this contractor will be held responsible for the work of subcontractors and to see that they carry out the provisions of the contract.

Access to Work Areas

1. Access to building roofs is to be confirmed by the owners' representative.

Working Periods

1. It is intended that the contractor attends the site during normal weekday, daytime working periods and no restriction will be made on the general continuity of his work. If a major restriction on operation is required due to unforeseen circumstances, it shall be recorded and signed for by the owners' representative and be subject to additional cost.
2. Weekend work must first be authorized by the building owners and IPRC. Work completed on weekends without the permission of IPRC. may be subject to rejection, or cut testing at the sole discretion of Inter-Provincial Roof Consultants Ltd.

Fire

1. The following are recommendations. It is the roofing contractor's exclusive responsibility to monitor and take all safety precautions while installing the roof membrane using an open flame torch.
2. Any unsafe roofing practices or situations, whether created as a result of following this specification or not, are to be avoided at all costs. Safety of the building and its occupants takes precedent over anything written in this specification.
3. The roofing contractor should have one safety officer on site at all times reviewing the practices of the journeyman roofers using an open flame torch.
4. Inter-Provincial Roof Consultants Ltd., and any of its representatives who attend the site, are not responsible for the monitoring of the torching practices of the roofing contractor.
5. Open flame torches should not be left unattended.
6. Unsafe torching practices be should not be employed (torching bare wood, warming propane bottles, etc.).
7. Observed unsafe torching practices may be reported to WorkSafe BC and may result in work stoppage.
8. Any costs incurred as a result of work stoppage are the responsibility of the roofing contractor.

9. All costs, damages, claims, etc., incurred by the owners, the roofing contractor, and Inter-Provincial Roof Consultants Ltd., as a result of fire caused by the actions or inactions of the roofing contractor, will be the responsibility of the roofing contractor.
10. The roofing contractor should abide by, at a very minimum, the Safety Precautions – Torching Section 5.0.1 of the RCABC Roofing Practices Manual.
11. A minimum 4 HOUR fire watch is recommended to be performed after the last torch has been shut off.

Leakage

1. It is the owner/owners' representative's responsibility to notify both the roofing contractor and Inter-Provincial Roof Consultants Ltd. when leakage occurs both during the project timeframe and at any time during the guarantee period. This notification may be by telephone to 604-576-5740, but must be followed by a written (email, fax, or letter) notification.
2. The roofing contractor is responsible for immediately tending to any reported leakage during the project timeframe and guarantee period and reporting both the cause and remedy to the building owner/owners' representative and IPRC.
3. Inter-Provincial Roof Consultants Ltd. may attend leak investigations, either at the request of the owner/owners' representative, or at our discretion, and will invoice our time at a rate of $150.00 per hour (portal to portal) plus Tax to the party deemed responsible for the leak.
4. Invoices for attending leak investigations will be forwarded to the client and are to be deducted from moneys owed to the roofing contractor if the cause of the leak is determined to be the responsibility of the roofing contractor.
5. These conditions include, but are not limited to:
6. Leaks from tie-ins.
7. Leaks from new roofing areas, completed or partially complete.
8. Leaks from old roof areas where contractor traffic/staging/preparation has occurred.
9. Roof areas not touched by the roofing contractor will not be considered the roofing contractors responsibility.
10. The roofing contractor will be deemed responsible for any damages, both interior and exterior, that occur as a result of leakage caused by the contractor.

Documentation of Damage/Progress

1. Site supervisor(s)/foreman are to always retain in their possession, a digital camera to document job progress and any pre-existing or unforeseen damage. Any attic work, or otherwise hidden work completed as part of this specification, or as additional work is to be fully documented with before and after photographs and presented to both the owner's representative and the consultant for review prior to approval of invoicing. Indicate unit number/location where photos were taken.

2. Tips:
    a. Take photos from several angles/viewpoints.
    b. Take photos from a distance to show location.
    c. Take close up photos to show detail.
    d. Take more photos than required.
    e. Hold a small placard in corner of photo showing unit number/location.
    f. Ensure lens is free from debris/moisture.
    g. Check photo before leaving area.

Material Delivery, Storage, & Handling

1. Protect all wood products from weather exposure until such time as they are installed. Wet, frozen, UV degraded, or otherwise weathered wood products are to be removed from site, unless acceptance of these materials is expressly granted by Inter-Provincial Roof Consultants Ltd.
2. All products are to be delivered to site in weather tight containers.
3. Once on site, all products are to be kept dry until immediate usage occurs.
4. Keep all cold or heat sensitive products in a temperature-controlled environment until such time as immediate usage occurs.
5. Keep all roll products stored in an upright position until installed.
6. Damaged products are to be removed from site immediately. Installation of damaged products will result in rejection of work.
7. Place materials overload bearing walls and supports. Do not allow the substrate to flex or otherwise deflect. Spread material weight loads across the roof surface or store on the ground until needed.
8. Do not encumber drainage when storing materials on the roof surface.
9. All materials are to be delivered to site in dry condition.
10. Materials arriving on site wet/moist or existing on roof wet/moist are to be rejected.
11. Insulation materials are to be always kept covered and dry while on roof. Factory coverings are not to be relied upon for weather protection.
12. Board panels are to be kept raised above the roof surface on dunnage or pallets.
13. Board panels are to be tarpaulin always covered until immediate use. If polyethylene tarpaulins are used, there must be two layers covering the insulation.
14. All tarpaulins are to be fully secured around the insulation bundle using ropes or heavy twine. Protect from wind removal of tarpaulin. Weighing down of tarpaulins will not be considered sufficient.

Consultant

Consultant Notification

1. It is the roofing contractor's responsibility to inform Inter-Provincial Roof Consultants Ltd. of each day's planned activity on this project. This includes reporting any inactive days.
2. Inter-Provincial Roof Consultants Ltd. must be **notified before 7:45 AM** on the intended working day.
3. Notifications are to be via email to: **inbox@iprc.ca**
4. If work stoppage occurs due to inclement weather or shortage of materials, etc., it is the contractor's responsibility to immediately inform Inter-Provincial Roof Consultants Ltd. that the crew is leaving the site.

Protection of Specification Content

1. This specification, and all intellectual content within, except for any RCABC content, is the property of Inter-Provincial Roof Consultants Ltd., and is intended for use only by the awarded contractor, the building owner/representative, and a consultant/observer from Inter-Provincial Roof Consultants Ltd. for this project only.
2. Reproduction, or reuse of this specification, in part, or in its entirety, use of terminology, and use of intellectual content within, for purposes other than this project, is not permitted without written consent from Inter-Provincial Roof Consultants Ltd. and will be subject to legal action.

Field Reviews

1. Field Reviews are to be carried out by Inter-Provincial Roof Consultants Ltd.
2. Cost of roof observation service is to be paid directly by the owners and is not to be included in the RFP price.

Interim Site Visits

1. This project will be divided into a predetermined number of interim roof observations with one final roof review once all roofing is completed and a request for final has been submitted to IPRC.

Final & Post-final Site Visits

1. Final roof observations will not be performed unless a written request from the roofing contractor is received by Inter-Provincial Roof Consultants Ltd.
2. The final list of deficiencies found at the final roof observation is not necessarily to be considered "all that there is or could be". Any deficiencies found at post finals that were not found at the final, or any legitimate deficiencies noted in writing by the

owner/owner's representative, are still the responsibility of the roofing contractor to correct.

3. Ultimately, all workmanship deficiencies found at any time during the guarantee period are the responsibility of the roofing contractor to correct at no additional charge to the client.
4. Contractors are to provide safe access to the roof for the purposes of review the work at the final, or at and subsequent post-finals.
5. The need for an on-site post-final will be determined by IPRC, at its own discretion.

Additional Site Visits

1. Payment for any additional roof observations performed by Inter-Provincial Roof Consultants Ltd. prior to or after the final roof observation will be the responsibility of the roofing contractor when such additional roof observations are required:
2. To ensure proper rectification of deficient labour and/or materials.
3. To assess damages as a result of the roofing contractor's failure to perform the contract using reasonable caution.
4. To assess merits of changes to the specification when requested by the roofing contractor.
5. As a result of un-acceptable manpower and subsequent additional days on site.
6. Each additional roof observation will be invoiced to the owners and will be deducted from the deficiency holdback amount owed to the contractor at the end of the project, at a rate of $500.00 plus Tax per site visit.

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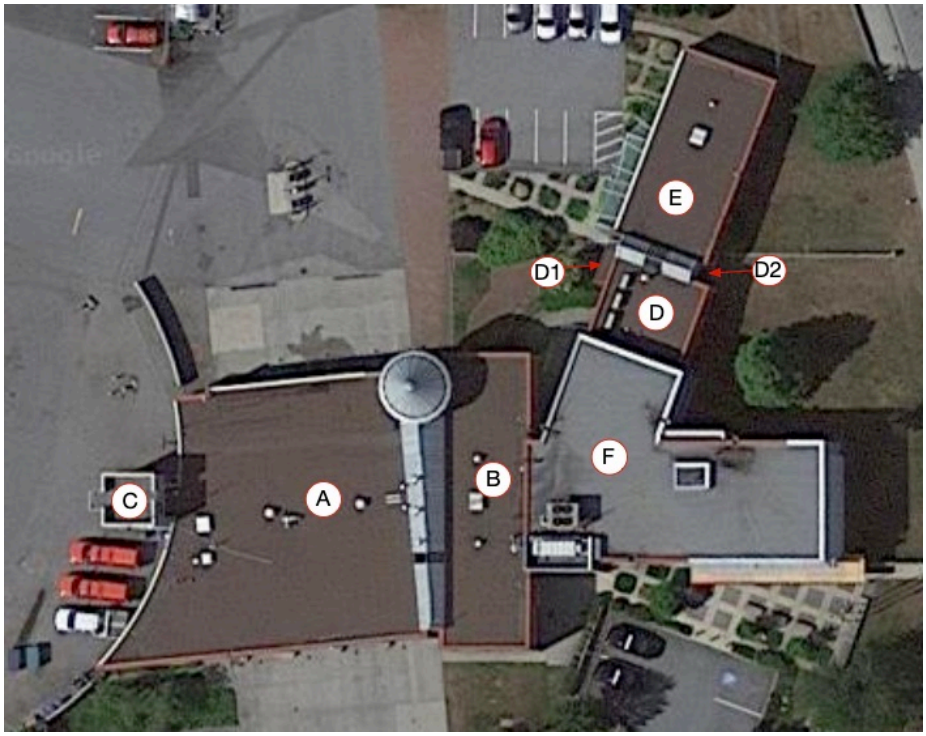
Work Outline

General Scope

1. This specification pertains to the replacement of roofing and flashings on roof areas A, B D, D1, D2, & E.
2. Roof area C, F, and the metal panel roof areas are NOT included.



Procedure

1. All new roof areas are to be made watertight as soon as possible before proceeding to next roof area. No roof area is to be removed which is greater in area than can be made watertight under climatic conditions existing at the time.
2. Roof system terminations at tie-ins are to have a water cut-off to the substrate to prevent moisture ingress into the new roof system, prior to the tie-in seal being applied.

Demolition & Preparation

General Demolition

1. It is intended that only the roof membrane and associated flashings be removed on the roof areas indicated. All underlying insulation and coverboard is to remain in place.
2. Sloped metal panel roofing is not included in this scope of work.
3. All demolished material is to be carefully contained and removed by approved means from roof surfaces in order of procedure listed generally.
    a. Chutes or roof hoists are to be used.
    b. Demolished material to be deposited in dust tight containers and removed from site as soon as possible.
    c. Container locations are to be in pre-approved areas only.
    d. Keep general areas clean of loose debris and sweep clean at frequent intervals.
4. Delete any redundant hardware and sleepers.

Specific Demolition

1. Remove and dispose of all wall and cap flashings directly related to the roofing work.
2. At metal clad walls below sloped panel roofs, remove and save wall paneling and vent grills for reinstallation.
3. Leave stairs in place and note sleeper location. Clean the lower leg of the stairs to allow for PMMA application.
4. Carefully remove the roof membrane from the existing fibreboard layer.
5. Remove and save all drain components for reuse. Replace any damaged or missing parts.
6. Remove and dispose of any copper drains.
7. Remove and dispose of all plumbing breather flashings.
8. Remove and dispose of square to round flashings.
9. Coordinate with City of Coquitlam forces for any disconnection and reconnection of electrical and gas connections.
    a. Lift and support mechanical units as needed to install roofing components and flashings. Allow for any craning costs in the base bid.
10. At access doors, remove door sill treads and flashings and save for possible reinstallation.
11. On roof area A where metal support beam is resting on the top of the parapet, cut and remove metal flashing and membrane just under the beam.
12. At concrete walls on area B, remove all wall flashings and gum lip flashings.
13. At brick walls on roof area B, remove cap flashing (if possible) that goes up under brick shelf angle, BUT be gentle with this flashing because If not possible to remove, leave in place and gently lift to allow for membrane bonding underneath.
    a. If flashing is not removeable, leave sufficient existing membrane in place to act as a counter flashing to the new roof membrane.

14. On roof area D, carefully remove wall paneling to allow for flashing and membrane removal. This may require the entire wall is disassembled from the top down.
15. On Roof area D1 & D2, remove roofing and flashings. Leave eyelets and chain supports in place.
    a. Leave any underlying gypsum board in place.

Hazardous Material & Abatement

1. The client shall be responsible for providing and paying for testing of potentially hazardous material that may be encountered during the performance of this work.
2. Any hazardous material known or suspected to be on-site must be dealt with in a manner acceptable to WorkSafe BC. Storage, handling, abatement, and/or application of any hazardous material must not jeopardize the health and safety of the public or persons on site, whether employed by this contractor or not.
3. It is of utmost importance that all possible means of protection are utilized during any work with hazardous materials.
4. This roofing contractor is responsible for any subcontracted abatement contractors.
5. Report any suspected or confirmed hazardous material to the client and IPRC immediately upon discovery. A separate price for the abatement of any hazardous material must be presented to the owners and IPRC prior to any related work.

Procedure

1. All new roof areas are to be made watertight as soon as possible before proceeding to next roof area. No roof area is to be removed which is greater in area than can be made watertight under climatic conditions existing at the time.
2. Roof system terminations at tie-ins are to have a water cut-off to the substrate to prevent moisture ingress into the new roof system, prior to the tie-in seal being applied.

Protection

1. This contractor shall provide protection to the property under this contract and the surrounding properties from damage resulting from his work, particularly during the removal of any existing roofs. All damages caused by this contractor shall be made good by the contractor at no cost to the owner.
2. This contractor shall assess the existing roof condition and document by photograph any existing deficiencies that may be misconstrued as re-roofing related deficiencies.

Clean Up

1. This contractor shall maintain the site in as clean a condition as possible daily to the satisfaction of the owner and the roof observer during his work and shall remove from this and the surrounding properties any debris from his work on the completion of the job. Failure to do this will result in this cleaning and removal being instituted by the owner and the cost deducted from the amount owing this contractor.

Utilities & Facilities

1. The contractor shall make provisions for sanitary facilities, telephone, and roof disposal box (if needed). The contractor shall also make provisions for ground areas (in conjunction with the owners) for unloading and hoisting of materials and equipment.
2. Reasonable Expectation of Discoverable Information
3. The information which was used to compile this document was gathered through conventional, non-destructive, visual observation and examination of the existing roof assembly by trained professionals.
4. Inter-Provincial Roof Consultants Ltd. is not responsible for any additional costs associated with rectifying any unforeseen, hidden, covered, buried, or otherwise inaccessible issues that are discovered during the actual repair or replacement of the roof system.
5. Such discoveries must be reported to the building owner/representative and Inter-Provincial Roof Consultants Ltd. immediately upon discovery.

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Application Guideline

Carpentry

1. Curbs
    a. Add dimensional lumber to curbs as needed to raise the final height of the curb to 200mm above the new roof assembly. Blocking may be added to the top of existing wood curbs, or under metal curbs.
2. Perimeters
    a. Add sloped blocking to perimeters to create slope to the interior. Beveled siding may only be used if topped by minimum 18mm plywood (except on areas D1 & D2 where clearance for chain mounts may be an issue).
    b. Top surface of blocking is to have a minimum 2% sloped to the interior.
3. Sleepers
    a. At the stairs and mechanical fan on roof area A, construct deck mounted sleepers to replace the existing surface mounted units.
    b. Top of sleeper is to be a minimum of 150mm above the roof surface.

Sloped Insulation

1. Material
    a. Sloped Polyisocyanurate insulation – slope percentage to be double existing roof slope pitch, except on D1 & D2.
2. Install sloped insulation as follows:
    a. Behind all curbs to shed water.
    b. Along all eave edges to direct water to drains.
    c. In front of doorway on roof area 1 where water is ponding.
    d. Over entire roof surface on D1 & D2 (2% only is required)
3. Insulation is to be installed in 120cm x 120cm pieces maximum.
    a. Set insulation into adhesive immediately and apply weight to insulation to hold it in place until insulation sets up.
    b. All insulation is to be tightly fitted together. Fill gaps with compatible spray polyurethane foam insulation (not Duotack).

Cover Board

1. Materials
    a. 12.5mm Sopraiso HD
    b. 4.8mm Sopraboard
    c. Duotack Adhesive
2. Fibreboard Repair
    a. Repair any damaged existing fibreboard by first removing any damaged material.
    b. Square off damaged areas to allow for tight fitting of new material.

   c. Adhere Sopraiso into damaged areas with Duotack. Weigh down material until adhesive sets up.
   d. Keep track of all found damage and replacement work with photos and measurements of areas repaired.
3. Cover Board Application
   a. Over cleaned and repaired existing fibreboard and installed sloped insulation, install 1 layer of Sopraiso HD.
   b. All end joints are to be staggered a minimum of 300mm.
   c. Cover board is to be adhered over the fibreboad with Duotack adhesive.
   d. Install asphaltic board to contaminated wall areas where membrane is to be installed.
   e. All heat sensitive areas are to be taped with compatible self-adhesive SBS seam tape.

Adhesive application

1. Keep all adhesive tubes warm as per manufacturers application temperature range.
2. Apply adhesives in 12.5mm - 18mm ribbons spaced 150mm apart and ensure all board corners are set in adhesive.
3. keep onsite a minimum of 10 (ten) five-gallon pails filled at least halfway with concrete, sand, gravel, etc. for use as weights centered over corners of insulation and cover boards and mid-board. Leave weights in place until adhesives cure to ensure material is well bonded.
4. Alternate weighting methods of the contractors' design may be used (i.e., Heavy metal plates with handles, Dumbbell weights) and that they do not damage the materials being weighed down.

Base Ply

1. Field Application
   a. Apply an even covering of primer over fastened cover board.
   b. Ensure primer's installed dry time does not exceed the manufacturer's written recommendations.
   c. Over primed cover board install Colvent base ply membrane.
   d. Apply pressure to membrane to ensure 100% adhesion to the substrate.
   e. All side laps are to be minimum 100mm and all end laps 25mm.
   f. All seams in this ply are to be offset a minimum of 300mm from seams in the underlying substrate board.
   g. Once rolls are set in place, roll the top surface of the seam to firmly bond the inner portion of the selvedge.
   h. Lift and heat the remaining portion of the selvedge lap and trowel down to create a firm bond. Achieve a minimum 2mm bleed out at seam edge.
2. Stripping Application

a. At perimeters and curbs, Install Sopralene Stick HR40 perimeter membrane.
b. Install stripping onto field membrane 150mm.
c. Extend up and over exterior parapets, extending down the outside face to 75mm below perimeter blocking.
d. Extend up and over curb tops.
e. Fully encase sleepers.
f. Extend up walls to lap under existing cladding and paneling wall sheathing membranes 100mm.
g. At the brick wall on roof area B, extend up as high as possible onto the wall surface below the steel shelf angle. If the existing transition flashing was not removable, tie this membrane into the existing left-in-place membrane on the top of the wall.
h. At building walls on D1 & D2 roofs, extend up the wall to 50mm below the existing metal flashing upper termination height.
i. At metal beam on roof area A, bond membrane onto the side of the beam and trowel tight.
j. At stair footings, terminate membrane onto stair leg 50mm.
k. At overflow spillways, ensure membrane is fully sealed in the spillway.

Cap Ply

1. Field Application
    a. Over completed base membrane and stripping plies, install 1 ply of torchable membrane cap sheet.
    b. All cap sheet membrane is to be 100% adhered using the torch-on method of application.
    c. All seams in cap sheet are to be offset a minimum of 300mm from seams in underlying base membrane.
    d. All end seams are to be overlapped a minimum of 150mm and granules in underlying membrane are to be heated and depressed to provide for secure bonding.
    e. All end joints are to be staggered a minimum of 1 metre.
    f. Maintain a consistent 3mm to 6mm bleed out of bitumen at all seams and end laps.
    g. All field cap sheet membrane is to terminate at base of slopes/walls.
    h. Upon completion of all cap sheet applications, this contractor shall provide a close inspection of all seams, laps, “T” joints, etc., to ensure that proper bonding has been attained throughout.
    i. Short runs of cap sheet at high points in roof are to be covered by a minimum half width run of cap sheet centred over the shortfall area.
    j. Liquid flashing and granules will not be acceptable as a repair for blemishes, footprints, over torching, etc.

k. All repairs are to be completed with cap sheet membrane installed in metre wide pieces (i.e. cut off the selvedge and install the sheet in between seams to cover the damaged area).
l. Excessive bleedout is to be corrected as the roll is being installed by adding granules to the bleed out while hot and embedding.

2. Cap Stripping
   a. At all vertical surfaces, i.e. parapets, building walls, curbs, etc., install 1 ply of torchable cap sheet membrane.
   b. All cap sheet stripping is to be fully adhered using the torch-on method of application.
   c. Granules on underlying cap sheet are to be heated and depressed to provide for secure bonding.
   d. This cap sheet stripping is to be applied in maximum 1-meter (1m or 1 roll width) lengths and all side laps shall be a minimum 75mm and staggered a minimum of 100mm from laps in the field and underlying stripping membrane.
   e. Chalk lines are to be used to ensure continuity of stripping plies on the roof surface.
   f. Maintain a consistent 3mm to 6mm bleed out of bitumen at all seams and end laps.
   g. Upon completion of all cap sheet and cap sheet stripping applications, this contractor shall provide a close inspection of all seams, laps, “T” joints, etc., to ensure that proper bonding has been attained throughout.
   h. Stripping terminations:
      i. Terminate 25mm from top of base ply membrane at vertical surface.
      ii. Terminate 200mm onto completed field membrane.

Hardware

1. Mechanical Drains
   a. Ensure the drain bowl clamping area is fully cleaned of old roofing debris.
   b. Carry both membrane plies into the drain bowl to 25mm past the drain clamp studs.
   c. Apply mastic under the base ply membrane where over the clamping ring and where cut out for studs.
   d. Install clamping ring with the required number of clamping bolts. Replace any damaged studs or bolts as required.
   e. Install the existing drain strainer or provide a new strainer. Ensure strainer is properly seated and locked into the clamping ring.
2. Copper Drains
   a. At D1 & D2 drains, install new spun copper drains into existing plumbing.
   b. Due to existing location of drains, a custom drain may be required. Drain MUST have provisions for mechanically attaching a basket strainer.

c. Secure drain to plumbing pipe using mechanical connectors.
d. Install new 75mm flat flanged copper drains to overflow locations.
e. Ensure drains sit flat and secure to the substrate with screws every 75mm around the perimeter of the flange.
f. Drain is to be installed over field base membrane and stripped in. Provide a minimum of 150mm of membrane bond onto field on sides of drain flange.
g. Bond membrane fully to cover the entire drain flange.
h. Seal the edge of the drain membrane with Alsan liquid.
i. Seal the exterior exit point of overflow drains with colour matching polyurethane sealant.

3. Aluminum Flashings
   a. Install aluminum flashings to all mechanical lines & plumbing pipes.
   b. Install weather head tops at mechanical lines and ensure there is sufficient droop in the lines to prevent water following the lines into the weather head.
   c. Install settlement caps at plumbing pipes. Ensure settlement cap fits into the plumbing pipe. Extend plumbing pipes if needed.
   d. Secure all flashings to the deck through factory holes.
   e. Install flashings over field base membrane and strip in with a target patch.
   f. Extend target patch 150mm minimum beyond the flange of the flashing.

Sheet Metal Flashings

1. General Application
   a. All flashing is to be installed to RCABC minimum standards or better.
   b. All exposed edges are to be hemmed to form a drip edge.
   c. All metal is to have proper allowance for expansion and contraction.
   d. All fastenings are to be concealed (except where cladding screws are used).
   e. All inside and outside corners are to be standing seam regardless of size.
   f. All standing seam corners and any other openings are to be caulk sealed with polyurethane sealant. Sealant colour is to compliment flashing colour.
   g. Top surface of flashings are to slope to the interior, regardless of girth.
   h. Colour of flashing is to be as provided by the manufacturer and colour is to be pre-approved by the owners.
2. Base Wall flashings
   a. Install base wall flashings to all walls, curbs and perimeters.
   b. Wall flashing is not required at sleepers.
   c. Keep the lower edge of the flashing 25mm off the surface of the roof membrane.
   d. Extend up parapets to the top of the parapet.
   e. Secure the top edge of all base wall flashings every 400mm.
   f. On any wall flashing larger than 200mm tall, add cladding screws midway up the flashing spaced every 450mm.
   g. Provide hemmed cut-outs at overflows.

h. Where terminating flashings on CMU walls, cut a Reglet into the nearest mortar joint.
i. Install Reglet flashings to cover base wall flashings 75mm and secure every 400mm.
j. If a Reglet flashing is not suitable, install a double gum lip flashing. Each course of gum lip flashing is to be fully sealed with polyurethane sealant and secured every 400mm. offset joints in each course 300mm.

3. Cap Flashing
    a. Install new cap flashing to all parapets and sleepers.
    b. Cap flashing on parapets is to extend down to 75mm below perimeter blocking on the outside edge and 75mm down the inside face. Extend further down the outside face as required to match original flashing extension if more than 75mm.
    c. Fully clip the outside edge of flashings.
    d. Clips are to be fastened every 300mm minimum.
    e. Ensure the drip edge is fully closed over the clip.
    f. Secure the inside face with cladding screws, spaced every 450mm o.c.
    g. Seal around chain support mounts on D1 & D2 with polyurethane sealant once cap flashing has been installed.
    h. At brick wall on roof area B, if old flashing has been left in place, resecure flashing and seal all joints. If old flashing was removed, install a new flashing that tucks up under shelf angle as much as possible.
4. Square to Round Flashings
    a. Install new square to round flashings to replace existing.
    b. New square to round flashings are to be made out of 24-gauge galvanized metal and are to be fully soldered at all joints.
    c. Vertical uprights are to be minimum 150mm in height.
    d. Sides of flashings are to extend 75mm down the curb sides and are to have a hemmed drip edge.
    e. Secure only through sides with cladding screws every 450mm or a minimum of two per side for smaller curbs.
    f. Provide two sealed storm collars to each exhaust pipe.

Mechanical Units

1. Reinstall all mechanical units, fans, etc. back to their original curbs.
    a. Reinstall isolators back to existing positions over new cap flashing.
    b. Set isolator bolts in sealant when inserting into sleeper.
2. Coordinate all work with the owner's mechanical forces.
3. Secure all smaller curb top units to curbs with cladding screws – minimum two per side.

Paneling

1. Reinstall all removed paneling to as close to original position as possible.
    a. Any notching of panels that is required to clear new flashings is to be done professionally with proper tools. Keep all cuts neat and as minimal as possible.
    b. Reinstall all other associated flashings that may have been removed during paneling removal.
    c. If any paneling becomes damaged during removal, replace with matching type, style and colour paneling.

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