

PROJECT TECHNICAL SPECIFICATIONS

**Roof Renewals
Triplex Market Housing**

2090 West 5th Avenue,
Vancouver, BC

FOR

City of Vancouver

Issued for Tender

Project No. 5170000.00

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1.0 PREFACE

1.1 PROJECT LOCATION

- .1 This project comprises the residential building located at 2090 West 5th Street, in Vancouver BC.

1.2 PROJECT DESCRIPTION

- .1 Complete the roof renewals as shown on the drawings and as described in the contract documents. The Work includes but is not limited to:
 - .1 removal and disposal of existing shingle roofing, membrane roofing, flashings, gutters and rainwater leaders, siding and related accessories from all sloped and flat roof areas;
 - .2 removal, storage, modification and reinstallation of south emergency stairs and landing over roof area after new roof installation;
 - .3 installation of new asphalt shingles roof assembly and flashings to sloped roof areas as indicated on the drawings;
 - .4 installation of new two ply SBS waterproofing assembly and flashings at small flat roof sections as indicated on the drawings;
 - .5 installation of new gutters, downspouts and splash pads as indicated on drawings;
 - .6 installation of improved roof ventilation with new soffit and ridge venting;
 - .7 remove and install new wood siding and trims to replace any remove to install roofing.
- .2 Design Intent Statements:
 - .1 The installation of new roofing to flat and sloped roof areas.
 - .2 Retain existing sloped surfaces to direct precipitation from flat and sloped roofs to the drainage system of the building.
 - .3 New wall components installed are to match the heritage architecture of the building.
 - .4 Existing building has no weather resistive barrier and underlays and roofing terminating edges will be sealed to wall surface.
- .3 The Work is to be completed on occupied residential buildings, and every effort shall be made not to disrupt the occupants' use of the building or create unsafe conditions.

1 Description

- .1 Work under this Contract is detailed in the contract documents and includes, but is not restricted to, the supply of all labour, materials, services and incidentals in order to perform the work.
- .2 Except where specified otherwise, all requirements of Section 01001 General Requirements shall apply to the Work of all other sections of the specifications.

2 Documents Required at Job Site

- .1 Maintain at job site, one copy each of following:
 - .1 Contract drawings.
 - .2 Contract Specifications.
 - .3 Addenda.
 - .4 Change Orders.
 - .5 Other modifications to Contract.
 - .6 Field test reports.
 - .7 Copy of approved, up to date, work schedule.
 - .8 Manufacturers' installation and application instructions.
 - .9 Copy of the "Material Safety Data Sheet" (MSDS) for all materials and products on site as required by the "Workplace Hazardous Materials Information System" (WHMIS).
 - .10 A day-to-day record shall be kept of all work performed, and shown to the Owner or the Consultant on request. Record should also include personnel on site each work day.
 - .11 Site Visit Reports.
 - .12 Shop Drawings.
 - .13 City permits required to perform the work.

3 Work Schedule

- .1 Schedules required:
 - .1 Construction progress schedule in Gantt chart format.
 - .2 Schedule of values of the Work
 - .3 Schedule for shop drawings, product data and samples
 - .4 Schedule for mock-up reviews of the key building components
- .2 Provide within ten (10) working days after Contract award, a schedule showing anticipated progress stages and final completion of Work within time period quoted in the Bid Form. Schedule to include dates for the following:

- .1 Submission of shop drawings, material lists and samples.
- .2 Start and completion of all major elements of Work including removals, structural repairs, interior fit-up, by area of Work.
- .3 Substantial completion and total completion.
- .3 Submit an updated and revised schedule with each claim for payment.
- .4 Format:
 - .1 Prepare schedules in form of horizontal bar chart.
 - .2 Provide separate bar for each trade or operation.
 - .3 Provide horizontal time scale identifying first work day of each week.
 - .4 Format for listings: Chronological order of start of each item of work.

4 Work Sequence

- .1 Construct Work in stages to accommodate Owner's use of premises during construction.
- .2 Adhere to approved construction schedule and coordinate with owner occupancy during construction.
- .3 Construct Work in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of work will provide alternate usage.

5 Submittals

- .1 Administrative
 - .1 Submit to the Consultant submittals listed for review with reasonable promptness and in an orderly sequence as to not cause delay in the Work.
 - .2 Work affected by submittal shall not proceed until review is complete.
 - .3 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of the Work and Contract Documents.
 - .4 Verify field measurements and affected adjacent Work are coordinated.
- .2 Shop Drawings and Product Data
 - .1 "Shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of the Work.

- .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connection, explanatory notes and other information necessary for completion of Work.
- .3 Adjustments made on shop drawings by Consultant are not intended to change Contract Price.
- .4 Make changes in shop drawings as consultant may require.
- .5 Submit 2 prints of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.
- .6 Submit 2 copies of product data sheets or brochures for requirements requested in specification Sections and as Consultant may reasonably request where shop drawings will not be prepared due to standardized manufacture of product.
- .3 Samples
 - .1 Submit for review, samples in triplicate as requested in respective specification Sections.
 - .2 Deliver samples prepaid to Consultant's business address.
- .4 Close-out Documentation
 - .1 Three week following Substantial Performance of the Work, submit to Consultant, 2 copies of the warranty and maintenance documentation.
 - .2 Manuals to contain operational information, cleaning and maintenance instructions.
 - .3 Bind contents in a three-ring, hard covered, plastic jacketed binder. Organize contents into applicable categories of work, parallel to specifications Sections as applicable.
- .5 Record Drawings
 - .1 After award of Contract, Consultant will provide a set of drawings for purpose of maintaining record drawings. Accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Consultant.
 - .2 Record locations of concealed components of mechanical and electrical services.
 - .3 Identify drawings as "Project Record Copy". Maintain in new condition and make available for inspection on site by Consultant.
 - .4 On completion of Work and prior to final inspection, submit record documents to Consultant.
 - .5 Record drawings not submitted on completion of Work will be cause for the Consultant to withhold a retainage amount.
- .6 Progress Reports

- .1 Supply for distribution a minimum of every 2 weeks a written description of the project status and specific information about the work that will affect the building occupants. Increase the frequency of the submission as necessary to keep the Owners informed. Liaise with Owner's Representative and Consultant with respect to all issues impacting the building occupants' use of the site and building.

6 Progress Claims

- .1 Refer to City of Vancouver Form of Agreement section.

7 Contractor's Use of Site

- .1 Due to occupancy of the existing buildings and grounds, areas of work, storage, and disposal bin location on site will be designated by the Consultant before commencement of Work. The boundaries established thereby shall be strictly observed. Do not unreasonably encumber site with materials or equipment which interfere with the Owner.
- .2 Obtain and pay for use of additional storage or work areas as needed for operations at no additional expense to the Owner.
- .3 When required, close off access to site by placing barricades or posting guards to prevent access to unauthorized personnel. Unauthorized personnel shall mean the public and anyone not directly concerned with the execution, supervision or inspection of the Work.
- .4 Walls and floors of hallways, stairs, elevators and roofs must be protected with plywood and/or heavy canvas sheets if they are to be used for the transportation of materials or equipment. Co-ordinate use with the Owner.
- .5 There is no provision for parking of private vehicles for the Contractor's work force or any other vehicles. The Contractor's work force will not be permitted to park on site.
- .6 No advertisements or company signs, other than safety or warning signs, are permitted on the building or site.
- .7 The Contractor shall be responsible for care and cleaning of areas within the building that are affected by the Work.
- .8 Site Office (not necessary)
 - .1 Owner will provide a parking spots as noted above to serve as the site office, storage etc. Contractor will be responsible for power connection, and for telephone, heat and security of the site office.

- .2 Office should be in satisfactory condition to be used as a lunch room for employees and Sub-trades.
- .9 Emergency Contact
 - .1 Provide a 24 hour emergency contact telephone number in the event that an emergency arises as a result of the work being undertaken.
 - .2 Ensure that emergency service has a maximum response time of 3 hours and can accommodate all conditions that may arise from the work including water damage, hoarding, security, mechanical failure, electrical failure, gas service interruption, utility interruption, broken glass and any other related failure.
- .10 Access to Units for Interior Repairs
 - .1 Where unit access is required, co-ordinate by providing the Resident with a written notice a minimum of 48 hours prior to commencing work. Maintain a record of all notices for review by the Consultant or Owner. If 48 hours notice has been issued and access is not provided, the Contractor may claim a stand by charge as an extra to the Contract value in the amount of the tendered hourly rates for the affected workmen to a cumulative maximum of 8 man hours per unit for which access is not provided.
 - .2 Do not start any work, which cannot reasonably be completed by the end of the same working day.
 - .3 All effort must be made to complete all interior work as quickly and efficiently as possible with a minimum amount of disruption to the occupants.

10 Construction Facilities
and Temporary Controls

- .1 Provide construction facilities and temporary controls to execute work expeditiously. Remove from site all such work after use.
- .2 Install hoarding to protect public, workers, public and private property from injury or damage.
- .3 Provide sufficient sanitary facilities for workers in accordance with local health authorities. Maintain in clean condition. Existing facilities, if designated for the Contractor's use, are to be maintained throughout the construction period.
- .4 Provide temporary heating required during construction period, including attendance, maintenance and fuel, at no additional cost to the Owner. Ventilate heated areas and keep building free of exhaust or combustion gases.

- .5 The Owner will provide potable water for construction use.
- .6 Contractor is to provide and pay for their own hydro power required during construction for the operating of power tools and is not to use exterior or interior outlets or connect to the building electrical system.
- .7 Provide and pay for temporary telephone necessary for own use at no additional charge to the Owner.
- .8 Prevent overloading of any part of the building. Do not store or stockpile material or equipment on floors or roofs. Do not cut, drill or sleeve any load-bearing structural member.
 - .1 Do not apply undue loads onto slab of underground garage without obtaining written approval from a registered structural engineer.
- .9 Protect existing Work or Work of other trades from damage. Damaged Work shall be made good by appropriate trades at the expense of the Contractor.
- .10 Provide weathertight enclosures to building openings, and all openings in roofs and walls. Take precautions to protect openings made in the building from entry of elements and of persons during the Work and to protect existing structure and finishes from damage as a result of the Work. Work damaged or defaced, due to a failure in providing such protection, is to be removed and replaced, or repaired, as directed by the Consultant at no additional cost to the Owner.
- .11 The Contractor shall provide tarpaulins and/or other coverings for the protection of interior finishes and exterior surfaces.
- .12 Drips or smears of bitumen, adhesives, caulking or sealing compounds on adjacent Work, interior finishes, carpet or furniture, shall be removed completely without damage to the building.
- .13 Suitable platforms, wheeling stages and/or plywood shall be provided to protect the roof system from possible damage caused by material and equipment being moved, mounted or stored on the roof system.
- .14 Where security has been reduced by Work of Contract, provide temporary means to maintain security. Erect 8' high commercial metal wire panel style temporary fencing around work perimeter to separate scaffolded areas from public areas at the exterior perimeter of the building.
- .15 Provide temporary dust screens, barriers and warning signs in locations where renovation and alteration work is adjacent to occupied areas.

- .16 Execution of Work within occupied premises shall cause a minimum interference with the use of the building. Maintain maximum safety to occupants during Work. Take reasonable measures for control of noise and dust. Dust protection measures will be judged by their effectiveness. Any clean-up required is to be completed by the Contractor at no cost to the Owner.
- .17 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .18 Do not operate any equipment or machinery, or undertake any dust generating operations, near or adjacent to air intakes. Provide protection to air intakes as required to prevent the entry of dust or other contaminants into the building or building mechanical systems or those of the surrounding buildings.
- .19 Dispose of rainwater off roofs and away from the buildings until the roof drains, scuppers, eaves troughs and downspouts are installed and connected properly.
- .20 Open fires and burning of rubbish are not permitted on the site.
- .21 Protect existing building, curbs, roads and lanes. If, during work, any portion of the building, curbs, roads or lanes are damaged, the damage shall be repaired at no extra expense to the Owner.
- .22 At commencement of work protect all fences, trees, shrubs, and landscape elements from incidental damage. Contractor is responsible for removing and reinstalling any hard landscaping not identified on the drawings to perform the work. The Owner will make arrangements for removal and reinstatement of plantings in the areas of work identified by the contractor. The Contractor will not be held responsible for replacement of damaged sod in the area of work. This cost should be excluded from the bid price.
 - .1 Every attempt shall be made to preserve the existing mature trees. Identify the trees that will interfere with the timely undertaking of the work. The Owner will make arrangements to trim and/or strap these trees wherever possible.
Contractor is responsible for any damage to trees resulting from construction activities not identified above.
- .23 Interior Unit Protection
 - .1 If access is required, the occupant will be responsible for the removal of all items within the region identified

by the Contractor and a dust screen will be erected. The Contractor will be responsible for moving a reasonable number of furniture and appliance items to an acceptable area outside the dust screen region. The region that the dust screen will enclose must be identified in the notice prepared by the Contractor and issued to each occupant.

- .3 While working inside, all workmen must, at all times, wear either clean footwear used only for interior work or clean footwear guards.
- .4 All traffic paths through the unit outside the dust enclosure shall be protected by canvas drop cloths and protection of the floors must be maintained at all times. Remove the traffic paths at the end of each working day and leave the region of the unit outside the dust enclosure clean and suitable for occupancy.
- .6 All floor regions within the dust enclosure must have canvas drop cloths, or an acceptable alternative, placed over all flooring and secured in a non-destructive manner to ensure service during all work.
- .7 Clean all affected surfaces within the dust screen at the completion of the work.
- .8 Any repairs to interior damage caused by the exterior roof work will be addressed by the Owners unless undue care was evident by the Contractor.

11 Project Meetings

- .1 A start-up meeting will be held prior to commencement of Work and at a suitable time at the building, as approved by Consultant.
- .2 The Contractor will schedule and administer project progress meetings at least every two weeks. The Contractor shall assume responsibility for recording and distributing minutes within 3 working days following the meeting. The minutes shall indicate actions to be taken, and by which party.

12 Codes and Standards

- .1 These specifications are not intended as a detailed description of installation methods, but do indicate particular requirements in the completed Work.
- .2 Conform to the Vancouver Building By-Laws, together with all its related supplements, hereinafter referred to as the "Code" or "code". Where Drawings and Specifications exceed the requirements of the code requirements, provide such additional requirements.

- .3 Where a material is designated on Drawings or in the Specifications for a certain application, unless otherwise specified, that material shall conform to standards designated in the Code. Similarly, unless otherwise specified, installation methods and standards of workmanship shall also conform to standards invoked by the aforementioned code. Where no particular material is specified for a certain use, the bidder shall select from the choice offered in each case.
- .4 Where reference is made to a specification/code/standard, conform to the latest edition of the specification/code/standard, as amended, as of the date of the Contract.

13 Quality Control

- .1 Work will be reviewed by the Consultant to evaluate general conformance with the contract documents. The Contractor is responsible to maintain quality control over all aspects of the Work.
- .2 Review and testing are specified as precautions against oversight or errors in the performance of the Contract. These precautions do not in any way relieve the Contractor of his responsibility to perform the Work in conformance with the Contract Documents.
- .3 The Owner and the Consultant shall have unlimited access to all Work at any time requested. If parts of the Work are in preparation at locations other than the Place of the Work, access shall be given to such Work whenever it is in progress.
- .4 Give forty-eight (48) hours notice requesting review if Work is designated for review or approvals by the Consultant.
- .5 If the Contractor covers or permits to be covered Work that has been designated for special tests, review, or approvals before such is made, the Contractor must, at its own expense, uncover the Work, have the Work reviewed or tests satisfactorily completed and make good all Work.
- .6 The Consultant may order any part of the Work to be examined if such Work is suspected to be not in accordance with the Contract Documents. The Contractor shall be responsible for the cost of examination, replacement or repair.
- .7 Remove defective Work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the Work or not, which has been rejected by the Consultant as failing to conform to the

Contract Documents. Replace or re-execute in accordance with the Contract Documents.

- .8 Make good other Contractor's Work damaged by such removals or replacements promptly.

14 Setting Out of Work

- .1 Line and levels are generally as shown on drawings.
- .2 Verify lines, levels and dimensions and report errors or inconsistencies in the drawings to the Consultant before commencing.
- .3 Examine the Work of others upon which the new Work depends. Report to the Consultant in writing any defects in such Work.
- .4 Assume full responsibility for and execute complete layout of Work to locations, lines and elevations indicated.
- .5 Provide devices and equipment required to lay out and construct Work.
- .6 Drawings are, in part, diagrammatic and are provided to convey the design intent and scope of Work, as well as indicate the general and approximate location, arrangement and size of fixtures and equipment. Obtain more accurate information about locations, arrangements and sizes at the site and become familiar with conditions and spaces affecting these matters before proceeding with Work. Where job conditions require reasonable changes in indicated locations and arrangements, make changes at no additional cost to owner. Similarly, where existing conditions interfere with new installations and require relocation, include such relocation in the Work of this Contract.

15 Mock-ups

- .1 Prepare mock-ups as requested by the Consultant and where mock-ups are required by the specifications herein.
- .2 Construct in locations as directed by the Consultant.
- .3 Prepare mock-ups for Consultant review with reasonable promptness and in an orderly sequence, so as not to cause any delay in the Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

- .5 Remove mock-ups at conclusion of Work or when acceptable to Consultant.
- .6 The approved mock-up may form part of the completed contract Work at the discretion of the Consultant.

16 Location of Equipment and Fixtures

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Consultant of impending installation and obtain his approval for actual location.
- .4 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.
- .5 All electrical work to be completed by a licensed contractor certified to work the voltage ratings. Acquisition of the necessary permits is the responsibility of the electrical contractor.
- .6 All vents and vent terminations for natural gas or propane fire appliances removed during repairs must be replaced by a licensed gas fitter employed by a registered gas contractor. The installation of gas appliance is to be in accordance with Document MA00-188SA "Reinstallation of Gas Appliance Vents - Update" by the Ministry of Municipal Affairs and as amended by any later regulations.

17 Additional Drawings

- .1 Consultant may furnish additional drawings to assist proper execution of Work. These drawings will be issued for clarification only. Such drawings shall have same meaning and intent as if they were included with plans referred to in Contract documents.

18 Cutting and Patching

- .1 Submit written request in advance of cutting or alteration which affects the integrity of structural elements, weather-exposed or moisture resistant elements, visual qualities of

- sight-exposed elements, or Work of the Owner or separate Contractors.
- .2 Inspect existing conditions, including elements subject to damage or movement during cutting and patching. After uncovering, inspect conditions affecting performance of the Work. Beginning of cutting or patching means acceptance of existing conditions.
 - .3 Perform cutting, fitting, and patching as necessary to complete the Work. Provide openings in non-structural elements for penetrations of mechanical and electrical Work. Prepare proper surfaces to receive patching and finishing. Restore Work with new products in accordance with the Contract Documents or to match existing.
 - .4 At penetration of fire-rated wall, ceiling, or floor construction, completely seal voids with fire rated material for full thickness of construction element.
 - .5 Cut rigid materials using power saw or core drill. Pneumatic or impact tools not allowed.
 - .6 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
 - .7 Refinish surfaces to match adjacent finishes; for continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

19 Material and Equipment

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of the best quality for the purpose intended. If requested, supply evidence as to type, source and quality of products provided. Should any dispute arise as to quality or fitness of items incorporated in the Work, decision rests strictly with the Consultant based upon requirements of the Contract Documents.
- .2 Defective products will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

- .3 Provide and maintain, in a clean and orderly condition, lockable weatherproof trailers for storage of tools, equipment and materials.
- .4 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause the least interference with work activities.
- .5 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .6 Notify the Consultant in writing of any conflict between these specifications and the manufacturer's instructions. The Consultant will designate which document is to be followed.
- .7 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact. Store material and equipment in accordance with suppliers instructions.
- .8 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .9 Touch-up damaged factory finished surfaces to the Consultant's satisfaction. Use primer or enamel to match original. Do not paint over name plates.
- .10 Store products subject to damage from weather in dry, off-ground, weatherproof enclosures. Remove only in quantities required for same day use.

20 Removed Materials

- .1 Except as expressly stated otherwise, material indicated for removal becomes the property of the Contractor and shall be taken from the site. Material removed from the site shall be disposed of in accordance with all Federal, Provincial and Municipal regulations.
- .2 Where required by regulations or where facilities exist recycle wastes where possible.

21 Workmanship

- .1 Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required Work is such as to make it impractical to produce required results.

- .2 Do not employ any unfit person or anyone unskilled in their required duties. Each of the Owner and the Consultant, reserves the right to require the dismissal from the site any worker(s) deemed incompetent, careless or insubordinate.
- .3 Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final.
- .4 Furnish all labour, materials and equipment to complete the Work as described. "Work as described" is held to include all incidental items that by implication, good trade practice, or customary usage, are required to complete the Work, even though they may not be specifically mentioned or shown.

22 Public Utilities

- .1 Notify Public Utilities and obtain locations of utilities prior to excavation.

23 Cleaning

- .1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work.
- .2 At least once per day, remove accumulations of waste material and debris. Provide a waste container and remove waste materials and debris from the site at regularly scheduled times or dispose of as directed by the Consultant. Cost for removal and disposal of waste material shall be included in the Contract Price.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Remove dirt and dust and clean exterior surfaces affected by the work including cladding and glazing. Vacuum carpets. Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer. As directed by the Consultant, replace or repair broken, scratched, stained or disfigured building elements.
- .5 Clean roofs, gutters, downspouts, and drainage systems upon completion of the Work.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

- .7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly repaired surfaces nor contaminate building systems.
- .9 Broom clean paved surfaces, rake clean other surfaces of grounds as directed by the Owner or the Consultant.
- .10 Make good any damage to the landscaping, sodding and flower beds outside the area of Work damaged by the Contractor's equipment, materials or his work force.
- .11 Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.
- .12 Clean the inside of all windows affected by or adjacent to work at the completion of interior repairs.
- .13 Clean the outside of all windows immediately after the completion of the exterior work.

24 Documents

- .1 Following the date of Substantial Completion, the Contractor is to provide warranties fully executed and notarized.
- .2 Submit a final statement of accounting, giving total adjusted Contract Price, previous payments, and monies remaining due.
- .3 Provide a statutory declaration that all sub trades and suppliers have been compensated for materials and labour.
- .4 Submit certificate of good standing from the Workers' Compensation Board.
- .5 Comply with the requirements of the Builders Lien Act, British Columbia. The 55 day lien period shall commence upon the date of Substantial Completion as certified by the Consultant.

25 Inspection/Takeover
Procedures

- .1 Prior to an application for a certificate of Substantial Completion, carefully inspect the Work and ensure it is complete, that major and minor construction deficiencies are complete and/or corrected and the building is clean and in

condition for occupancy. Notify the Consultant, in writing, of satisfactory completion of the Work and request an inspection.

- .2 During the inspections by the Consultant and the Owner, a list of deficiencies and defects will be tabulated. Correct same.

END OF SECTION

PART 1 - GENERAL

1.1 Descriptions

- .1 The work in this section includes but is not limited to:
 - .1 Comply with the regulations of the Codes and all applicable safety guidelines.
 - .2 Comply with all Vancouver Building By-laws safety requirements.

1.2 References

- .1 CSA S269.1 "Falsework for Construction Purposes".
- .2 CAN/CSA-S269.2 "Access Scaffolding for Construction Purposes".
- .3 CAN/CSA-Z271 "Safety Code for Suspended Elevating Platforms".
- .4 Occupational Health and Safety Act of British Columbia.
- .5 National Building Code of Canada.
- .6 Vancouver Building By-Laws.

1.3 Construction Safety Measures

- .1 Observe construction safety measures of the Codes, Occupational Health and Safety Act of British Columbia, provincial authorities and municipal authorities. In case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Comply with the requirements of the Occupational Health and Safety Act and Regulations for Construction Projects.
- .3 For the purpose of the Occupational Health and Safety Act, the Contractor will, with respect to the work, be designated the 'constructor' as therein defined, and the Contractor shall assume the responsibilities of the constructor as set out in the Act and its Regulations, including the implementation of such precautions and safeguards as will protect all workers and other persons from any adverse effects caused by designated substances and/or hazardous materials originating at, or brought onto the site.

- .4 If the Contractor encounters any of the designated substances defined in the Occupational Health and Safety Act, he shall stop all work and notify the Consultant prior to undertaking any further work. The Contractor will not be compensated for any work stoppage due to the presence of designated substances.
- .5 The Contractor shall supply and maintain a health and safety plan throughout the duration of the Contract. The Contractor is to train and indoctrinate all personnel who will be involved with the Work. All work is to be performed in a workmanlike manner with due regard for the safety of workers and public.
- .6 The Contractor shall provide full hoarding and enclosures as made necessary by the Work to protect the public, workers, and public and private property from injury or damage. Provide fenced enclosures to all work areas.
- .7 Comply with Part 8 of the British Columbia Building Code safety requirements and retain on site a full-time Construction Safety Office (CSO)
- .8 Comply with the latest requirements of Reinstallation of Gas Appliance Vents issued by the Ministry of Municipal Affairs and FCC No. 301-Standard for Construction Operations issued by Fire Commissioner of Canada.

1.4 Overloading

- .1 Ensure no part of Work is subjected to loading that will endanger its safety or will cause permanent deformation.

1.5 Falsework

- .1 Design and construct falsework in accordance with CSA-S269.1 "Falsework for Construction Purposes".

1.6 Scaffolding

- .1 Design and construct scaffolding in accordance with CAN/CSA-S269.2 "Access Scaffolding for Construction Purposes".

1.7 Suspended Scaffolding

- .1 Suspended scaffolding and their operation shall conform to CAN/CSA-Z271 "Safety Code for Suspended Elevating Platforms".

1.8 WHMIS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets (MSDS) acceptable to Labour Canada and Health and Welfare Canada.
- .2 Deliver copies of WHMIS data sheets to Consultant on delivery of materials.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 - GENERAL

1.1 Description

- .1 The work in this section includes but is not limited to:
 - .1 Installation of new treated plywood roof sheathing to all sloped and flat roof areas, as indicated on the drawings.
 - .2 Replacement of deteriorated framing as directed by Consultant.
 - .3 Installation of new wood siding and trim at roof / wall transitions.

1.2 References

- .1 ANSI-B18.6.4 "Screws, Tapping and Metallic Drive, Inch Series, Thread Forming and Cutting".
- .2 CSA-B111 "Wire Nails, Spikes and Staples".
- .3 CAN/CSA-G164 "Hot Dip Galvanizing of Irregularly Shaped Articles".
- .4 CSA-O86.1 "Engineering Design in Wood".
- .5 CSA-O86.1S1 "Supplement to CSA-O86.1"
- .6 CSA-O121 "Douglas Fir Plywood".
- .7 CAN/CSA-O141 "Softwood Lumber".
- .8 CSA-O151 "Canadian Softwood Plywood".
- .9 CAN/CGSB-71.26 "Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems".
- .10 ASTM-A153 "Zinc Coating (Hot Dip) on Iron and Steel Hardware".
- .11 National Lumber Grades Authority (NLGA) Standard Grading Rules for Canadian Lumber.

1.3 Quality Assurance

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

- .2 Plywood identification: by grade mark in accordance with applicable CSA standards.

PART 2 - PRODUCTS

2.1 Lumber Material

- .1 Lumber and timbers: unless specified otherwise, treated, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CAN/CSA-O141 "Softwood Lumber".
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Lumber size and grade: to match existing size and grade or as specified and in accordance with requirements of applicable codes.
 - .1 D. Fir. or Hem-Fir No. 2 or better grade.
 - .2 Report any discrepancies in type and/or grading of existing lumber to Consultant.
- .3 Strapping, blocking, or other miscellaneous ,:
 - .1 Board sizes: "Standard" or better grade.
 - .2 Dimension sizes: "Standard" light framing or better grade.

2.2 Panel Materials

- .1 Douglas fir plywood (DFP): to CSA-O121 "Douglas Fir Plywood" or Canadian Softwood Plywood (CSP) to CSA-0151 "Canadian Softwood Plywood".
 - .1 Sloped Roof sheathing: 12.5 mm thickness for installation over existing 1x4 spaced sheathing.
Acceptable Material:
Bluwood 1/2" plywood with pre-construction factory applied two-part DOT wood preservative and infusion film wood component coating. All material to be dried to maximum moisture content of 19%.
- .2 Douglas fir plywood (DFP): to CSA-O121 "Douglas Fir Plywood" or Canadian Softwood Plywood (CSP) to CSA-0151 "Canadian Softwood Plywood".
 - .1 Flat roof plywood: 15 mm (5/8") thickness

2.3 Accessories

- .1 Nails, spikes and staples: to CSA-B111 "Wire Nails, Spikes and Staples".

1. Framing and sheathing nails: hot-dipped galvanized common nails to comply with wood frame construction requirements of applicable codes.
- .2 Screws: to ANSI-B18.6.4 "Screws, Tapping and Metallic Drive, Inch Series, Tread Forming and Cutting".
- .3 All fasteners shall be hot dipped galvanized steel to CAN/CSA-G164 "Hot Dip Galvanizing or Irregular Shaped Articles" with a minimum zinc coating thickness of 45 μm (320 g/m²). Fasteners for, or in ACQ treated wood, shall be stainless steel.

PART 3 - EXECUTION

3.1 Preparation

- .1 All preservative treated plywood sheathing are to be treated at an approved facility.
- .2 Where directed by Consultant, treat existing lumber and plywood which is exposed during the course of work but is not replaced with surface-applied wood preservative.
- .3 All new installation to meet current code requirements.

3.2 Replacement of Damaged Framing

- .1 Where directed by Consultant, replace existing damaged lumber framing with new lumber to match size and grade of existing element.
- .2 Comply with wood frame construction requirements of applicable codes.
- .3 Replace entire length of damaged member. No splicing or scabbing to existing elements allowed without prior approval from Consultant. Install replaced sections in longest piece possible.
- .4 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.

3.3 Installation of Roof Sheathing

- .1 Renail existing 1x4 strapping to roof rafters as required.

- .2 Install new plywood sheathing over existing 3/8"plywood.
- .3 Install plywood sheathing so that vertical joints are staggered 4' from subsequent rows.
- .4 Provide a gap of not less than 2 mm between sheets of plywood.
- .5 Install panels in largest pieces possible; do not install many pieces where one piece will suffice.
- .6 Fasten plywood sheathing to each strapping along the butt edges and a 150mm at long edge of the sheet and at 300 mm on centre along intermediate supports.

END OF SECTION

PART 1 - GENERAL

1.1 Description

- .1 The work in this section includes, but is not limited to:
 - .1 Installation of new asphalt shingles at sloped roof areas as indicated on the drawings. Base contract includes for 40 Year Manufacturers Shingle.
 - .2 Installation of vent hoods, ridge venting, plumbing stacks and other related accessories at roof as indicated on the drawings.
 - .3 Provide RCABC 5 Year Warranty.

1.2 References

- .1 CSA-A123.1 "Asphalt Shingles Made from Organic Felt and Surfaced with Mineral Granules / Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules".
- .2 CSA-A123.2 "Asphalt Coated Roofing Sheets".
- .3 CSA-A123.3 "Asphalt Saturated Organic Roofing Felt".
- .4 CAN3-123.51 "Asphalt Shingle Application on Roof Slopes 1:3 and Steeper".
- .5 CAN3-123.52 "Asphalt Shingle Application on Roof Slopes 1:6 to Less Than 1:3".
- .6 CSA-B111 "Wire Nails, Spikes and Staples".
- .7 CAN/CGSB-37.4 "Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing".
- .8 CAN/CGSB-37.5 "Cutback Asphalt Plastic Cement".
- .9 CAN/CGSB-51.32 "Sheathing, Membrane, Breather Type".
- .10 Roofing Contractors' Association of British Columbia (RCABC), Roofing Practices Manual. Where the word "should" is used, it shall read as "shall".

1.3 Qualifications

- .1 The Contractor shall have successfully completed similar work over a period of not less than five years and when required shall submit supporting documentation.

- .2 The Contractor must be officially recognized as an authorized Contractor by the roofing materials Manufacturer.

1.4 Quality Assurance

- .1 Installer Qualifications: Only competent, qualified tradesmen experienced with asphalt shingles installation shall execute the work of this section.
- .2 For the work, obtain primary materials from a single Manufacturer that has produced that type of product and system successfully for not less than five years. Submit job references at the request of the Owner. All accessory materials shall be only as recommended or accepted by the primary Manufacturer.
- .3 Contractor's Field Supervision and Crew Qualifications: Contractor must maintain full-time supervisor/foreman on the job during times roofing work is in progress. Supervisor must have roofing trade certification and have minimum five years experience in roofing work similar in nature and scope of this project. Roofing crew makeup shall be trade qualified journeyman roofers and register apprentices in the ratio of no more than one to one (at least one journeyman to one apprentice). Qualifications may be reviewed prior to award of contract or on site by the Consultant.
- 4. Confirm that surfaces to which the asphalt shingles are to be applied are in a condition suitable for this application. The commencement of roofing or flashing will imply unconditional acceptance of the surfaces to receive work of this section.
- .5 Unless otherwise specified, comply with Manufacturer's latest printed instructions for materials and installation methods.
- .6 Notify Consultant in writing of any conflict between these specifications and Manufacturer's instructions. Consultant will designate which document is to be followed.

01.5 Job Mock-up

- .1 Provide a sample shingle of the chosen color to the Owner and Consultant for review prior to commencing a mock-up.
- .1 Prepare mock-up in accordance with Section 01001 - General Requirements. The mock-up sample shall be a minimum of 3 meters by 3 meters in size and shall include all associated eaves, ridge, hip, valley and flashing details.

1.6 Environmental Requirements

- .1 No work to be carried out under conditions of rain or snow.
- .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 Install roofing on dry substrates, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into waterproofing system.
- .4 Protect all work at the end of each working day or during any interruption of work.
- .5 Waterproofing must be watertight at end of each work shift.

1.7 Warranty

- .1 Provide the Owners, through the Shingle Manufacturer a material guaranty stating this material shall provide a waterproof surface for 40 years after installation.
- .2 Provide the Owners the five (5) Year RCABC Warranty. Include for all related fees in the bid price (the Administration and Reinspection costs and the construction inspection costs are to be included). The Owners have assigned the construction inspection services to MH.

1.8 Compatibility

- .1 Compatibility between components of the roofing system is essential. When required by Consultant, provide written declaration from Manufacturer to the Consultant stating that materials and components, as assembled in system, meet this requirement.

PART 2 - PRODUCTS

2.1 Roofing Materials

- .1 Asphalt shingles: In accordance with CSA-A123.1-05 / A123.5-05 (R2010) "Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules" Fire resistance, Class A.
 - .1 Type: Architectural self-sealing, fiberglass core laminate shingle.
 - .2 Quality: 40-year type, algae resistant.
 - .3 Colour: Standard colour to be chosen by Owners.
 - .4 Texture; Standard texture.

- .5 Acceptable material:
 - .1 IKO Roofshake HW
 - .2 GAF Timberline ArmorShield II
 - .3 Pabco Premier Elite
 - .4 Certainteed Landmark TL

- .2 Roofing Underlay and Eave Protection: Self-adhesive, modified asphalt sheet membrane. Acceptable product:
 - .1 Soprema Lastobond Shield
 - .2 InterWrap Titanium PSU-30
 - .3 IKO Goldshield Premium Ice and Water Protector
 - .4 Self-adhered shingles manufacturer's equal and approved by consultant.

- .3 Self-Adhesive Membrane at penetrations: High temperature modified bitumen prefabricated sheet, self-adhesive face one side with released paper, reinforced with high density polyethylene surface film. The membrane must meet the following minimum criteria:
 - .1 Thickness: 1.0 mm (40 mils) minimum.
 - .2 Acceptable Products:
 - .1 Soprema Lastobond Shield **HT**
 - .2 InterWrap Titanium PSU-30 **HT**
 - .3 Bakor Blueskin SA **HT**
 - .4 Alternate approved by consultant

 - .3 Primer and sealant: as recommended by Membrane Manufacturer.

- .4 Sheathing boards: New plywood sheathing, refer to Section 6101 "Carpentry".

- .5 Plastic cement: In accordance with CAN/CGSB-37.5 "Cutback Asphalt Plastic Cement".

- .6 Lap cement: In accordance with CAN/CGSB-37.4 "Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing".

- .7 Sheet metal: Minimum 24 gauge galvanized metal, F1S.

- .8 Nails: Hot Dipped Galvanized, large head, corrosion-resistant roofing nails. Length sufficient to penetrate minimum $\frac{3}{4}$ " into substrate.

- .9 Ridge Vent:
 - .1 Gaf Cobra Rigidvent3
 - .2 Lomanco OmniRidge Shingle Over Vent
 - .3 Duraflo WeatherPro Series ProRidge

- .10 Roof top service vents: Roof Cap Stem Vent (RCVS) by

Menzies Metal Products.

- .11 All other sloped roof flashings by Menzies Metal Products

PART 3 - EXECUTION

3.1 Removal of Existing Roofing

- .1 Remove existing wood shingles, flashings and roofing felts to expose the roof framing.
- .2 Notify consultant to review framing prior to re-sheathing.

3.2 Sheathing Installation

- .1 Install new plywood sheathing as per Section 6101 over existing strapping. .

3.3 Underlay Installation

- .1 Install continuous width of self adhesive eave protection across the entire eave area to 24" horizontally beyond the exterior wall face. Install a strip of self-adhesive membrane at valleys, hips, crickets and ridges
- .2 Install one layer of roofing underlay horizontally in successive strips with 150 mm horizontal laps arranged to shed water. Vertical laps shall be made where required and have a minimum 300 mm overlap.
- .3 Install drip flashings along eaves in accordance with the design drawings. Fasten drip flashing to substrate at maximum 300 mm o.c.
- .4 Install metal flashings at valleys.

3.4 Shingle Installation

- .1 Install asphalt shingles in accordance with RCABC Roofing Practice Manual, CAN3-123.51 "Asphalt Shingle Application on Roof Slope 1:3 and Steeper", CAN3-123.52 "Asphalt Shingle Application on Roof Slopes 1:6 to Less Than 1:3" and manufacturers instructions.
- .2 Install number of nails per shingle as per the manufacturer's instructions. Air Nailing will not be permitted, unless consistent proficiency with air nailers is proven. Any reviewed sections with improper nailing will be rejected.
- .3 Stagger joints in succeeding courses. Use minimum two nails per shingle.

- .4 Install shingle caps over hips and ridges.
- .5 Vertical up-stand flashing shall be installed at all vertical intersections.
- .6 Install step flashing at junction between sloped roof and exterior wall. The step flashing shall extend a minimum of 100 mm up the vertical surface, 100 mm between courses of roofing and a 75 mm head-lap. Step flashing shall extend a minimum of 75 mm beyond the downslope corner and be folded, but not cut. The step flashing shall be provided with a kick out (diverter) at roof termination so that draining water is directed away from the wall surface.
- .7 Back-pan flashing shall extend a minimum of 150 mm up vertical surfaces, 450 mm up the slope and 75 mm beyond the corners. The corners shall be folded, not cut.
- .8 Relocate existing exhaust vents at the soffit to exit through the sloped roof surface. Install these vents in Accordance with the RCABC Roofing Practice Manual and as indicated on the drawings.
- .9 Provide roof venting as required by code and as indicated on the drawings.

END OF SECTION

PART 1 - GENERAL

1.1 Description

- .1 The work in this section includes but is not limited to:
 - .1 Installation of 2-ply modified bitumen membrane on the small flat roof areas as indicated on the drawings.

1.2 References

- .1 CSA-A123.4 "Asphalt for Use in Construction of Built-Up Roof Coverings and Waterproofing Systems".
- .2 CGSB-37-GP-56M "Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing".
- .3 CGSB-37-GP-15M "Application of Asphalt Primer for Asphalt Roofing, Damproofing and Waterproofing".
- .4 Roofing Contractors' Association of B.C. (RCABC), Roofing Practices Manual. Where the word "should" is used, it shall read as "shall".

1.3 Qualifications

- .1 The Contractor shall have successfully completed similar work over a period of not less than five years and when required shall submit supporting documentation.
- .2 The Contractor must be officially recognized as an authorized contractor by the roofing materials manufacturer.
- .3 The Contractor is to be a member in good standing of the Roofing Contractors Association of British Columbia (RCABC).

1.4 Quality Assurance

- .1 Installer Qualifications: Only competent, qualified tradesmen experienced with membranes shall execute the work of this section.
- .2 Conform to the latest guarantee standards of the Roofing Contractors Association of British Columbia (RCABC) Roofing Practice Manual for a 5 (five) year guarantee.
- .3 For the work, obtain primary materials from a single manufacturer which has produced that type of product and system successfully for not less than five years. Submit job references at the request of the owner. All accessory materials shall be only as recommended or accepted by the primary manufacturer.

- .3 Contractor's Field Supervision and Crew Qualifications: Contractor must maintain full-time supervisor/foreman on the job during times roofing work is in progress. Supervisor must have roofing trade certification and have minimum five years experience in roofing work similar in nature and scope of specified roofing. Roofing crew makeup shall be trade qualified journeyman roofers and register apprentices in the ratio of no more than one to one (at least one journeyman to one apprentice). Qualifications may be reviewed prior to award of contract or on site by the inspector.
4. Contractor Certification: Provide written certification from the membrane manufacturer certifying that the roofing contractor is approved by the manufacturer for installation of the specified system and supply of the required guarantee documents. Roofing installers shall be experienced in the application of the materials and shall supply job references to show modified bitumen installation experience of similar size and scope of this project.
- .5 Confirm that surfaces to which modified membrane is to be applied are in a condition suitable for this application. The commencement of roofing or flashing will imply unconditional acceptance of the surfaces to receive work of this section.
- .6 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .7 Notify Consultant in writing of any conflict between these specifications and manufacturers instructions. Consultant will designate which document is to be followed.

1.5 Laboratory Testing

- .1 If required by Consultant, Manufacturers is to provide, at no cost, the results of tests and chemical analysis on the materials supplied.
- .2 Tests are conducted to verify conformance to CGSB 37-GP-56M "Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing".

1.6 Job Mock-up

- .1 Prepare mock-up in accordance with Section 01001 - General Requirements. The mock-up sample shall be a minimum of 3 meters by 3 meters in size and shall include all associated metal flashing. Mock-up can be part of roof areas to be replaced and form part of completed work if accepted by the consultant.

1.7 Environmental
Requirements

- .1 No work to be carried out under conditions of rain or snow.
- .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 membrane when temperature remains below +5 °C for torch application, or an equivalent temperature allowing for wind chill factor.
- .4 Minimum temperatures for solvent-based adhesive is -5 °C.
- .5 Install membrane on dry substrates, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into waterproofing system.
- .6 Protect all work at the end of each working day or during any interruption of work.
- .7 If water penetrates through the assembly due to inadequate protection, Contractor to cut and inspect damages, remove, replace and re-install all materials at his own cost, to eliminate water in the assembly.
- .8 Entire roof must be watertight at end of each work shift.

1.8 Protection

- .1 A minimum of one 4A40BC fire extinguisher with current charge tags intact is required for each torch on the roof. The extinguisher at all times, shall be within 6m of the worker using the torch. The worker shall be able to demonstrate verbal competence in the use of the extinguisher upon the request of the consultant. Be advised the project may be delayed or shut down for non-compliance.
- .2 Do not store any roofing or equipment within 100 feet of the building when the roofing crew is not on site.
- .3 Maintain fire watch for one hour after each day's waterproofing operations cease.

1.9 Warranty

- .1 For the Work of this Section, the standard warranty period prescribed in Section 00300 - Supplementary Conditions is to be extended to ten (10) years.
- .2 Provide the Owners, through the Membrane Manufacturer a material guaranty stating this roofing system shall provide a waterproof surface for ten years after installation. The warranty shall cover both material and workmanship and shall not exclude random areas of ponding from coverage.

1.10 Compatibility

- .1 Compatibility between components of the roofing system is essential. When required by Consultant, provide written declaration from Manufacturer to the Consultant stating that materials and components, as assembled in system, meet this requirement.

1.11 Manufacturer's Representative

- .1 At the request of the Consultant, the Manufacturer's representative will visit the site and provide in writing to the Consultant a report of their observations noted.
- .2 Contractor to permit and facilitate access to site, at all times, for the above-mentioned Manufacturer's representative.

PART 2 - PRODUCTS

2.1 Waterproofing Membrane

- .1 Self adhered base sheet and base sheet stripping: Modified bitumen base ply designed for use in homogeneous multi-layer modified bitumen roof membrane systems that consists of a lightweight random fibrous glass mat coated with elastomeric Styrene-Butadiene-Styrene (SBS) modified bitumen and a back surface with factory applied heat-activated adhesive strips. Acceptable products:
 - .1 Soprema – Sopralene Stick Adhesive for field and upturn stripping
- .2 Cap sheet and cap sheet stripping: high performance modified bitumen finish ply designed for use in multi-layer modified bitumen roof membrane systems that consists of fiberglass scrim/polyester mat composite coated with high quality Styrene-Butadiene-Styrene (SBS) modified bitumen and surfaced with ceramic granules. Acceptable product:
 - .1 Soprema – Sopralene Stick HR GR
- .3 Accessories:
 - .1 Primer: Elastocol Stick to suit substrate and application as recommended by manufacturer.
 - .2 Caulking: As recommended by the manufacturer.
 - .3 Adhesive: Soprema Duotack .
 - .4 Mastics: Soprema Sopramastic .
 - .5 High temperature sealant: Silicone, single component, neutral cure. Acceptable material:
 - .1 Tremco Fyre-Sil
 - .6 Fasteners for Soprasmart board: Soprafix screws and plates.

- .4 Coverboard for flat roof and upturn surfaces:
 - .1 ½" Exterior Gypsum roof board to flat

PART 3 - EXECUTION

3.1 Workmanship

- .1 Do waterproofing work in accordance with applicable standard in Roofing Contractors' Association of B.C., Roofing Practices Manual.
- .2 Do priming for asphalt waterproofing in accordance with CGSB-37-GP-15M "Application of Asphalt Primer for Asphalt Roofing, Damproofing and Waterproofing".
- .3 Install waterproofing elements on clean dry substrate in accordance with the Manufacturer's written instructions.
- .4 Waterproofing work shall be scheduled and performed in a sequence such that no component of the assembly is left unprotected when operations are interrupted.

3.2 Plant and Equipment

- .1 Maintain all equipment and tools in good working order.
- .2 Use torch type recommended by the manufacturer of the elastomeric asphalt membranes.

3.3 Removals

- .1 Remove all existing materials required to install new waterproofing as shown on the drawings including all existing metal flashings, membrane flashing and membrane, down to the existing substrate.
- .2 Sweep deck completely clean of loose debris just before commencing waterproofing work.
- .3 Maintain waterproofing in a watertight condition. Ensure membrane is watertight at end of each shift.

3.4 Preparation of Curbs and Parapets

- .1 Remove all existing membrane flashing. Install new blocking as detailed and as indicated on drawings.

3.5 Examination of Waterproofing Elements

- .1 Prior to commencement of work ensure:
 - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris.
 - .2 Curbs have been built and decks have been constructed in accordance with the drawings.

- .3 Plywood and lumber nailer plates have been installed to deck, walls, curbs and parapets as indicated.

3.6 Primer

- .1 Install Primer to all substrates where membrane is to be applied at a rate in accordance with Manufacturer's instructions.

3.7 Membrane

- .1 Installation of base sheet:
 - .1 Base sheet membrane shall be unrolled dry on deck for alignment.
 - .2 Base sheet shall be unrolled starting from the low point of the roof. Base sheet shall be re-rolled from both ends. Care must be taken to ensure good alignment of the first roll (parallel with the edge of the roof).
 - .3 Where the base sheet is being tied into an existing membrane the existing membrane is to be degranulated 16" back from termination.
 - .4 Base sheet shall be adhered in accordance with recommendations of the membrane manufacturer. During this application, under surfaces shall be melted, forming an asphalt bead that shall be pushed out in front of the base sheet.
 - .5 Care must be taken not to burn the membrane.
 - .6 Base sheet shall have side laps of 75 mm and end laps 150 mm.
 - .7 Heat seal all joints and overlaps
 - .8 Application shall provide a smooth surface without air pockets, wrinkles, fish-mouths or tears.
 - .9 After installation of the base sheet, check all lap seams on the base sheet.
- .2 Installation of base sheet stripping:
 - .1 Primer coating must be dry before application of the base sheet stripping.
 - .2 Base sheet stripping shall be laid in strips one meter wide to vertical surfaces, extending on to the flat surface of the roof a minimum of 100mm. Side laps shall be 75mm and shall be staggered a minimum of 100mm with the laps of the base sheet.
 - .3 Base sheet stripping shall be adhered directly on its support from bottom to top. Torch welding shall soften the underside of the base sheet without overheating, resulting in a uniform adhesion over the entire surface. When allowed by the support, the base sheet top edge shall be nailed on 300mm centers.
- .3 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 installed in accordance with the recommendations of the membrane manufacturer, to the base sheet membrane. During this application, both surfaces shall be bonded.
 - .4 Care must be taken not to damage 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 75 mm and end laps of 150 mm.
 - .7 Make sure the two membranes are properly welded where required, without air pockets, wrinkles, fish-mouths or tears.
 - .8 After installation of the cap sheet, check all lap seams on the cap sheet.
 - .9 During installation, care must be taken to avoid asphalt seepage greater than 5 mm at seam.
- .4 Installation of cap sheet stripping:
- .1 Cap sheet stripping shall be laid in strips one meter wide. Side laps shall be 75mm, and shall be staggered a minimum of 100mm 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 roof edge, 200mm inside roof, from base of wall.
 - .3 Cap sheet stripping shall be bonded directly on its base sheet proceeding from bottom to top.
 - .4 Cap sheet stripping shall be applied to extend down outside face of exterior edge, across top of parapet, down interior vertical surface and on to flat roof a distance of 150mm. Cut roll into required lengths and use width of roll (1 meter) down length of roof, maintaining specified 75mm side laps.

3.8 Sealing

- .1 Apply sealant where shown and/or required by common roofing practice.
- .2 Perform sealing in compliance with the workmanship, preparation and application requirements specified.

3.9 Field Quality Control

- .1 The roofing contractor is responsible to notify manufacturer at commencement of roofing.
- .2 Manufacturer will provide periodic inspections during roofing applications, as required.
- .3 Inspection of completed base sheet is mandatory.
- .4 The roofing contractor is required to notify manufacturer at the base sheet stage of application and is not to proceed with application of cap sheet until base sheet application has been approved by manufacturer in writing.
- .5 Manufacturer is to be notified upon completion of the roofing and will provide final inspection before the guarantee is issued.
- .6 Deficiencies apparent upon final inspection must be corrected to the satisfaction of manufacturer prior to the guarantee being issued.

END OF SECTION

PART 1 - GENERAL

1.1 Description

- .1 The work in this section includes but is not limited to the fabrication and installation of:
 - .1 Metal flashing at roof eaves and gable ends.
 - .2 Metal flashing at valleys.
 - .3 Metal flashings at wall transitions including backpans, step flashings and counter-flashings as indicated on drawings.
 - .4 Metal cap flashing over roof edge curbs
 - .5 New gutters and metal downspouts.

1.2 References

- .1 CSSBI-S8 "Quality and Performance Specification for Prefinished Sheet Steel Used for Building Products".
- .2 ASTM-A924/A924M "Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process".
- .3 ASTM-B32 "Standard Specification for Solder Metal".
- .4 ASTM-B69 "Standard Specification for Rolled Zinc".
- .5 ASTM-B370 Standard Specification for Copper Sheet and Strip for Building Construction
- .6 ASTM-D822 "Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings"
- .7 CSA-B111 "Wire Nails, Spikes and Staples".
- .8 CAN/CGSB-93.1M "Sheet Aluminum Alloy, Prefinished, Residential"
- .9 CAN/CGSB-1.171 "Inorganic Zinc Coating".
- .10 ASTM-A653/A653M "Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process".
- .11 Aluminum Association Designation System for Aluminum Finishes.
- .12 Aluminum Association Aluminum Sheet Metal Work in Building Construction.
- .13 CSSBI-20M "Standard for Sheet Steel Cladding for Architectural Industrial and Commercial Building Application".

- .14 Roofing Practices Manual, Roofing Contractors Association of British Columbia (RCABC).

1.3 Submittals

- .1 Submit 200mm length samples of each type of sheet metal flashing, colour, finish and profile specified as well as samples of all related accessories and fasteners in accordance with Section 01001 - General Requirements.

1.4 Mock-ups

- .1 Prepare mock-up of each type of profile specified in accordance with Section 01001 - General Requirements as part of the actual wall. The sample shall contain trim, stops and closures. The mock-up shall be a minimum of 300mm in length.

PART 2 - PRODUCTS

2.1 Sheet Metal Components

- .1 Zinc coated steel sheet: Quality to ASTM-A924/A924M "Standard Specification for General Requirements for Steel Sheet, Metallic Coated by Hot-Dip Process", 24 gauge thickness unless noted otherwise with Z275 designation zinc coating.
- .2 Alum to profiles as indicated on drawings; aluminum sheet: Quality to CAN/CGSB-93.1 "Sheet, Aluminum Alloy, Prefinished, Residential", 24 gauge thickness unless noted otherwise.
- .3 Copper sheet: Quality to ASTM-B370 "Standard Specification for Copper Sheet and Strip for Building Construction", H00 temper designation with minimum mass of 5.4 kg/m².
- .4 Zinc sheet: Quality to ASTM-B69 "Standard Specification for Rolled Zinc", 0.8mm thickness unless noted otherwise.

2.2 Pre-finished Sheet Steel Components

- .1 Pre-finished steel with factory applied flouropolymer coating (Kynar).
- .1 Class F1S.
- .2 Colour to be selected by Consultant from Manufacturer's standard range.
- .3 Specular gloss: 30 units +/- 5 in accordance with ASTM-D523 "Standard Test Method for Specular Gloss".

- .4 Coating thickness: not less than 200 micrometres.
- .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20% to ASTM D822 "Standard Practice for Conducting Tests on Paint and Related Coatings and Materials Using Filtered Open Flame Carbon-Arc Exposure Apparatus" as follows:
 - .1 Outdoor exposure period 5000 hours.
 - .2 Humidity resistance exposure period 5000 hours.

2.3 Accessories

- .1 Isolation coating: Alkali resistant bituminous paint.
- .2 Pop-rivets: Of same material as sheet metal, of length and thickness suitable for metal flashing application.
- .3 Fasteners: Of same material as sheet metal, to CSA-B111 "Wire Nails, Spikes and Staples", ring thread flat head roofing nails of length and thickness suitable for metal flashing application.
- .4 Washers: Of same material as sheet metal, 1mm thick with rubber packings.
- .5 Solder: To ASTM-B32 "Standard Specification for Solder Metal".
- .6 Flux: Rosin, cut hydrochloric acid, or commercial preparation suitable for materials to be soldered.
- .7 Touch-up paint: As recommended by prefinished material Manufacturer.

2.4 General Fabrication

- .1 Fabricate metal flashings and other sheet metal work in accordance with applicable RCABC details and as indicated on drawings.
- .2 Form pieces in 3000mm maximum lengths. Make allowance for expansion at joints.
- .3 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .4 Hem exposed edges on underside 12mm.
- .5 Miter and solder all continuous corner pieces.

- .6 Install saddle flashings for all horizontal (curbs, parapets etc.) to wall locations. Fabricate with mechanically connected flanges with back sealant installation.

2.6 Metal Flashing

- .1 Form all flashing from 24 gauge sheet metal to profiles as indicated on drawings.

2.8 Downspouts & Gutters

- .1 Form drainage components from pre-finished aluminum sheet metal to match existing.
- .2 Downspouts size: rectangular 50mm by 75mm
- .3 Provide goosenecks, elbows, outlets, drop outlets, strainer baskets and all necessary fasteners.
- .4 Supply and install downspouts with cleanout boxes at grade level at all locations.

PART 3 - EXECUTION

3.1 General Installation

- .1 Install sheet metal work in accordance with RCABC details, and Aluminum Sheet Metal Work in Building Construction as detailed.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal. Secure in place and lap joints 100mm.

3.2 Flashing

- .1 Connect flashing joints with S-locks or standing seams forming tight fits over hook strips.
- .2 Install sealant at all joints not installed over a self-adhesive membrane counter flashing.
- .3 Lock end joints and caulk with sealant.
- .4 Provide flashing with soldered or continuously folded end-dams. Folded end-dams must be done in a fashion to eliminate pin hole penetrations after fold.

- .5 Provide folded end-dams at window/door head and sill flashing terminations.

3.4 Downspouts & Gutters

- .1 Remove and reinstall any gutter or RWL affected by the work and replace any damaged due to the Work with new full section piece.

END OF SECTION

ROOF REPLACEMENT TRIPLEX MARKET HOUSING

2090 West 5th Avenue, Vancouver, BC

PROJECT No. 5170000.00

DRAWING LIST:

General Arrangement

G0.000 COVER PAGE AND DRAWINGS LIST
G0.001 GENERAL NOTES, ROOF ASSEMBLIES, LEGEND
AND ABBREVIATIONS

A1.001 SITE PLAN
A1.002 HOUSE LOWER & UPPER ROOF PLAN

Roof Details

A5.401 TYPICAL EAVE DETAIL
A5.402 EAVE DETAIL WITHOUT OVERHANG DETAIL
A5.403 RAKE FLASHING AT GABLE END W/ SOFFIT DETAIL
A5.404 SLOPED ROOF AT WALL TRANSITIONS DETAIL
A5.405 TYPICAL SECTION ROOF TO BRICK CHIMNEY DETAILS
A5.406 TYPICAL VALLEY DETAILS
A5.407 ROOF RIDGE WITH VENTING DETAILS
A5.408 SLOPED ROOF CURB TO FLAT ROOF & FLAT ROOF EAVE DETAIL
A5.409 FLAT ROOF AT SIDE WALL TRANSITION DETAIL
A5.410 STAIRCASE LANDING TO SLOPED ROOF DETAIL
A5.411 B-VENT PENETRATION DETAIL



ISSUED FOR TENDER



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ROOF REPLACEMENT TRIPLEX MARKET HOUSING

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A	ISSUED FOR 90% REVIEW	19/04/17
B	ISSUED FOR TENDER	04/05/17

General Notes:

- 0.01 DRAWINGS ARE TO BE READ IN CONJUNCTION WITH WRITTEN SPECIFICATIONS.
- 0.02 DO NOT SCALE DRAWINGS. CONTRACTOR IS TO VERIFY DIMENSIONS ON SITE.
- 0.03 IF ANY DISCREPANCIES IN THE DOCUMENTS ARE FOUND, REQUEST THE CONSULTANT TO CLARIFY THE DISCREPANCIES PRIOR TO COMMENCING ANY RELATED WORK.
- 0.04 NOTIFY THE CONSULTANT IMMEDIATELY AND REQUEST A REVIEW IF ANY ADDITIONAL DAMAGE OF EXISTING AREAS OUTSIDE THE CONTRACT IS DISCOVERED. DO NOT COMMENCE ANY RELATED OR NEARBY WORK WITHOUT CONSULTANTS' APPROVAL.
- 0.05 ALL SLOPED ROOFS TO BE INCLUDED IN SCOPE OF WORK. THIS INCLUDES UPPER & LOWER ROOFS.
- 0.06 TWO SMALL FLAT ROOFS AT WINDOWS TO BE INCLUDED IN SCOPE OF WORK.
- 0.07 INSTALL NEW GUTTERS AND RAINWATER LEADER TO ALL ROOF EAVES. ALL UPPER ROOFS TO DISCHARGE INTO GUTTERS WITH RAINWATER LEADER EXTENSIONS.

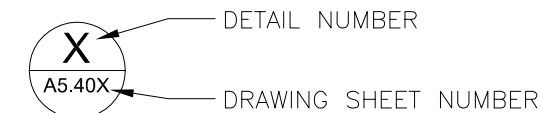
ROOF ASSEMBLY:

- (R0a) EXISTING SLOPED ASPHALT SHINGLE ROOF**
 - EXISTING ASPHALT SHINGLES
 - EXISTING 30# ROOFING FELT (AT EAVE)
 - EXISTING 3/8" PLYWOOD SHEATHING
 - EXISTING 1x STRAPPING (SPACED SHEATHING)
 - EXISTING 2x4 ROOF RAFTERS
 - EXISTING ATTIC SPACE
 - EXISTING 2x4 CEILING RAFTERS W ~3" LOOSE MINERAL WOOD INSULATION
 - EXISTING INTERIOR FINISH, PAINTED LATH AND PLASTER
- (R0b) EXISTING FLAT SBS ROOF ASSEMBLY:**
 - EXISTING MODIFIED BITUMEN ROOFING
 - EXISTING 1x ROOF BOARDS
 - EXISTING 2x ROOF RAFTERS
 - EXISTING ATTIC SPACE
 - EXISTING 2x CEILING RAFTERS (NO INSULATION NOTED)
 - EXISTING INTERIOR FINISH, GYPSUM BOARD
- (R1) NEW SLOPED ASPHALT SHINGLE ROOF**
 - NEW ARCHITECTURAL ASPHALT SHINGLE
 - NEW ROOF UNDERLAY
 - NEW 1/2" PLYWOOD SHEATHING (TREATED)
 - EXISTING PLYWOOD SHEATHING (3/8")
 - EXISTING SPACED SHEATHING (1x)
 - EXISTING WOOD FRAMING (RAFTERS)
 - EXISTING ATTIC WITH CEILING JOISTS/MINERAL WOOL INSULATION
 - EXISTING LATH AND PLASTER CEILING
- (R2) NEW FLAT SBS ROOF ASSEMBLY:**
 - NEW 2 PLY SBS WATERPROOFING MEMBRANE
 - NEW EXTERIOR GYPSUM COVERBOARD
 - NEW 5/8" PLYWOOD SHEATHING (TREATED)
 - EXISTING WOOD DECKING (1x)
 - EXISTING WOOD FRAMING, FIBERGLASS BATT INSULATION IN ATTIC
 - EXISTING LATH AND PLASTER CEILING OR GWB

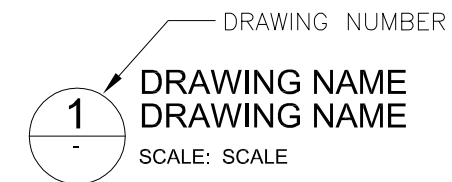
ABBREVIATIONS LIST

A/M	AIR/MOISTURE BARRIER
C/W	COMPLETE WITH
DWG.	DRAWING
EXIST.	EXISTING
GWB	GYPSUM WALL BOARD
MIN.	MINIMUM
N.I.C.	NOT IN CONTRACT
O.C.	ON CENTRE
PT	PRESSURE TREATED
REV.	REVERSED
RE&RE	REMOVE & REINSTALL
R.O.	ROUGH OPENING
R.W.L.	RAINWATER LEADER
S.A.M.	SELF ADHESIVE MEMBRANE
S.M.	SHEATHING MEMBRANE
SIM.	SIMILAR
S.O.G.	SLAB-ON-GRADE
T&G	TONGUE & GROOVE
T.B.C.	TO BE CONFIRMED
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
ADD.	ADDENDUM

SYMBOLS LEGEND



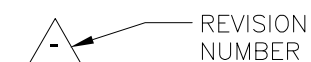
DETAIL REF.



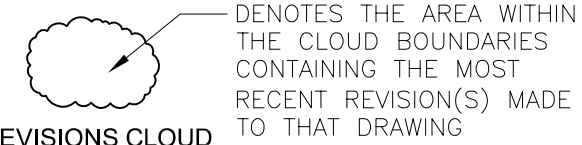
DRAWING REFERENCE



ASSEMBLY TYPE REFERENCE




REVISION TAG



REVISIONS CLOUD

DETAIL LINETYPE LEGEND

- NEW SELF ADHESIVE MEMBRANE OR EAVE PROTECTION
- NEW ROOFING UNDERLAY
- SBS MEMBRANE
- EXISTING MEMBRANE
- EXISTING COMPONENT
- EXISTING PROPERTY LINE



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2090 WEST 5th AVENUE, VANCOUVER, BC

**GENERAL NOTES, ROOF ASSEMBLIES,
LEGEND AND ABBREVIATIONS**

DATE: APR. 17	DRAWING No:
SCALE: N.T.S.	G0.001
DESIGN: ALM	
DRAWN: DML	PROJECT No:
REVIEWED: ALM	5170000.00

W 5th Avenue



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ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR 90% REVIEW	19/04/17
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LEGAL DESCRIPTION:

LOT 1 BLOCK 265 PLAN VAP590
DISTRICT LOT 526 LAND DISTRICT 36

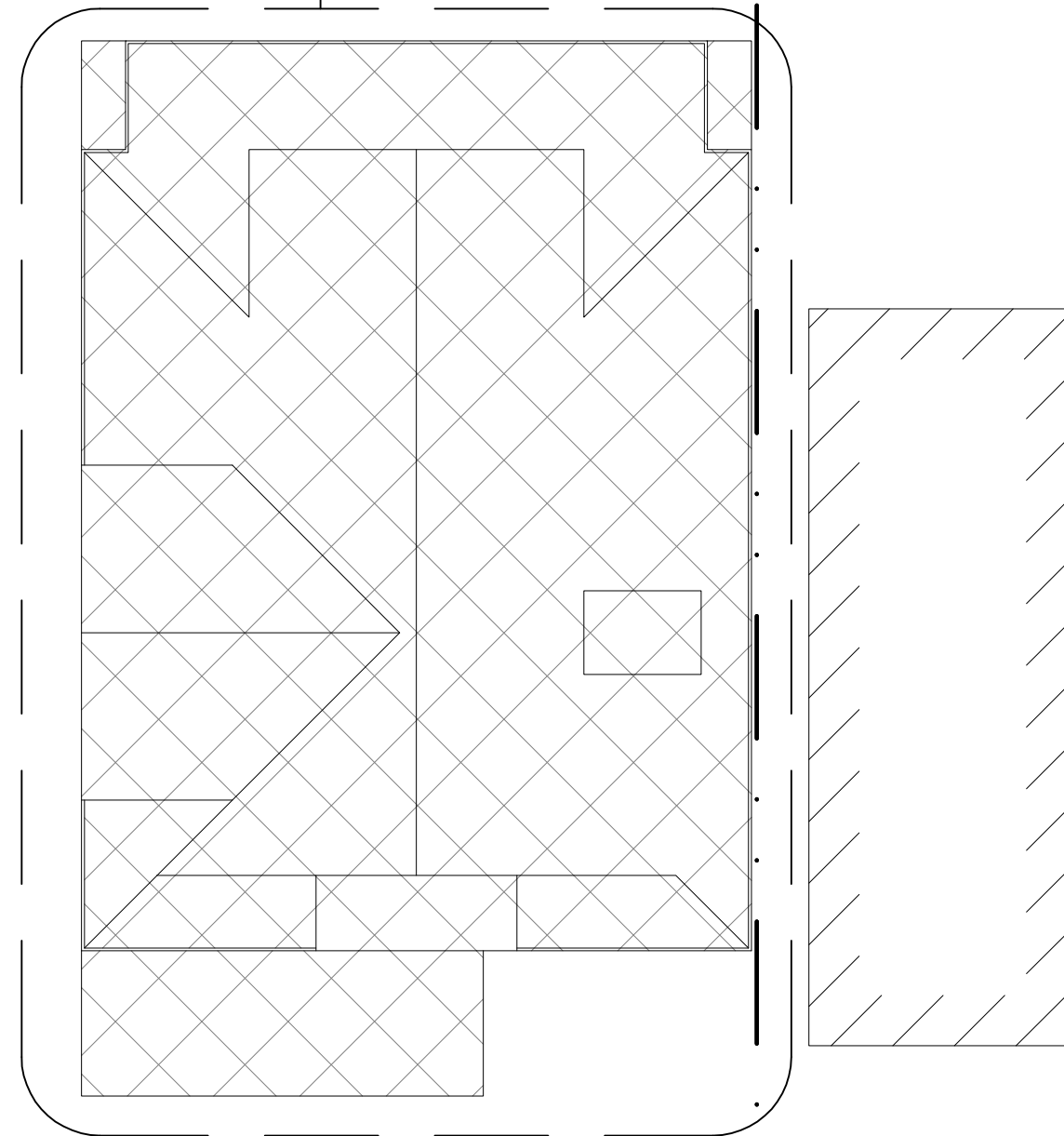
LEGEND:

 DENOTES EXISTING RESIDENTIAL BUILDING

 DENOTES SCOPE OF WORK

Arbutus Street

1
A1.002



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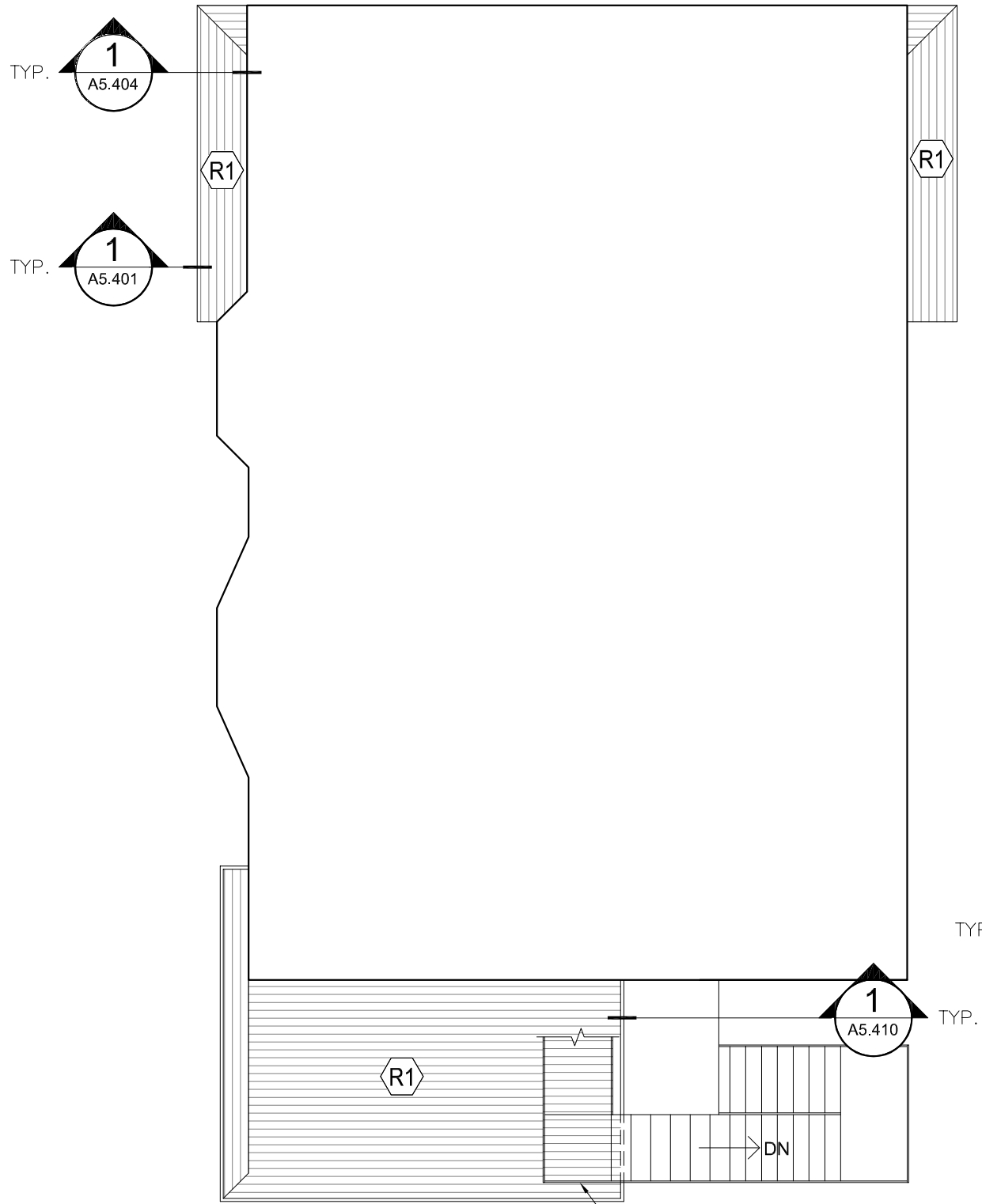
SITE PLAN

DATE: APR. 17	DRAWING No:
SCALE: AS SHOWN	A1.001
DESIGN: ALM	
DRAWN: DML	PROJECT No:
REVIEWED: ALM	5170000.00

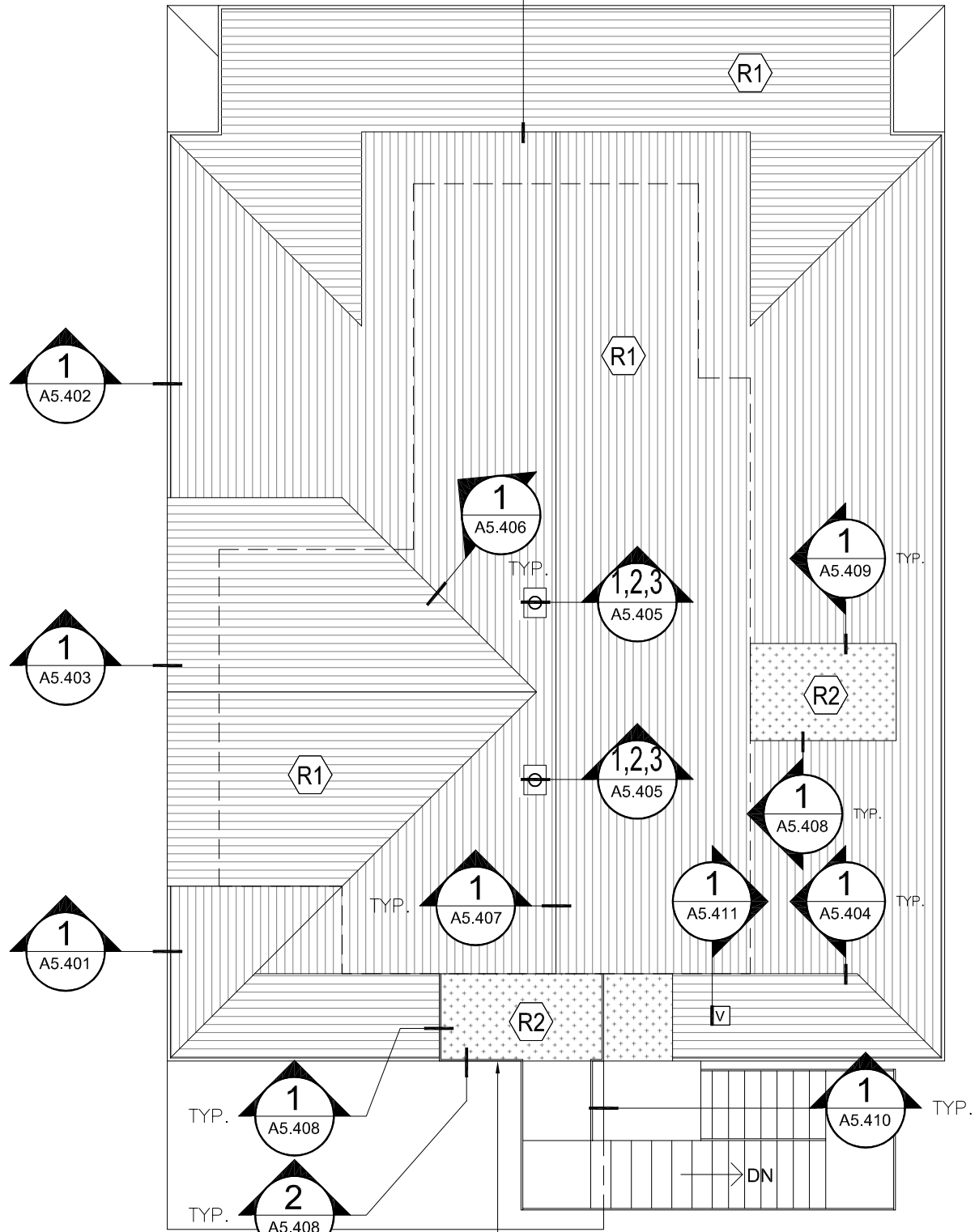
1 SITE PLAN
SCALE: 3/32"=1'-0"

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ISSUE	DESCRIPTION	DATE (DD/MM/YY)
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




1 HOUSE - LOWER ROOF PLAN
SCALE: 1/8"=1'-0"



2 HOUSE - UPPER ROOF PLAN
SCALE: 1/8"=1'-0"

LEGEND:

-  NEW SLOPED ASPHALT SHINGLES
-  NEW SBS MEMBRAN
-  DENOTES EXISTING ROOF VENT
-  EXISTING CHIMNEY
-  INDICATES WALL BELOW

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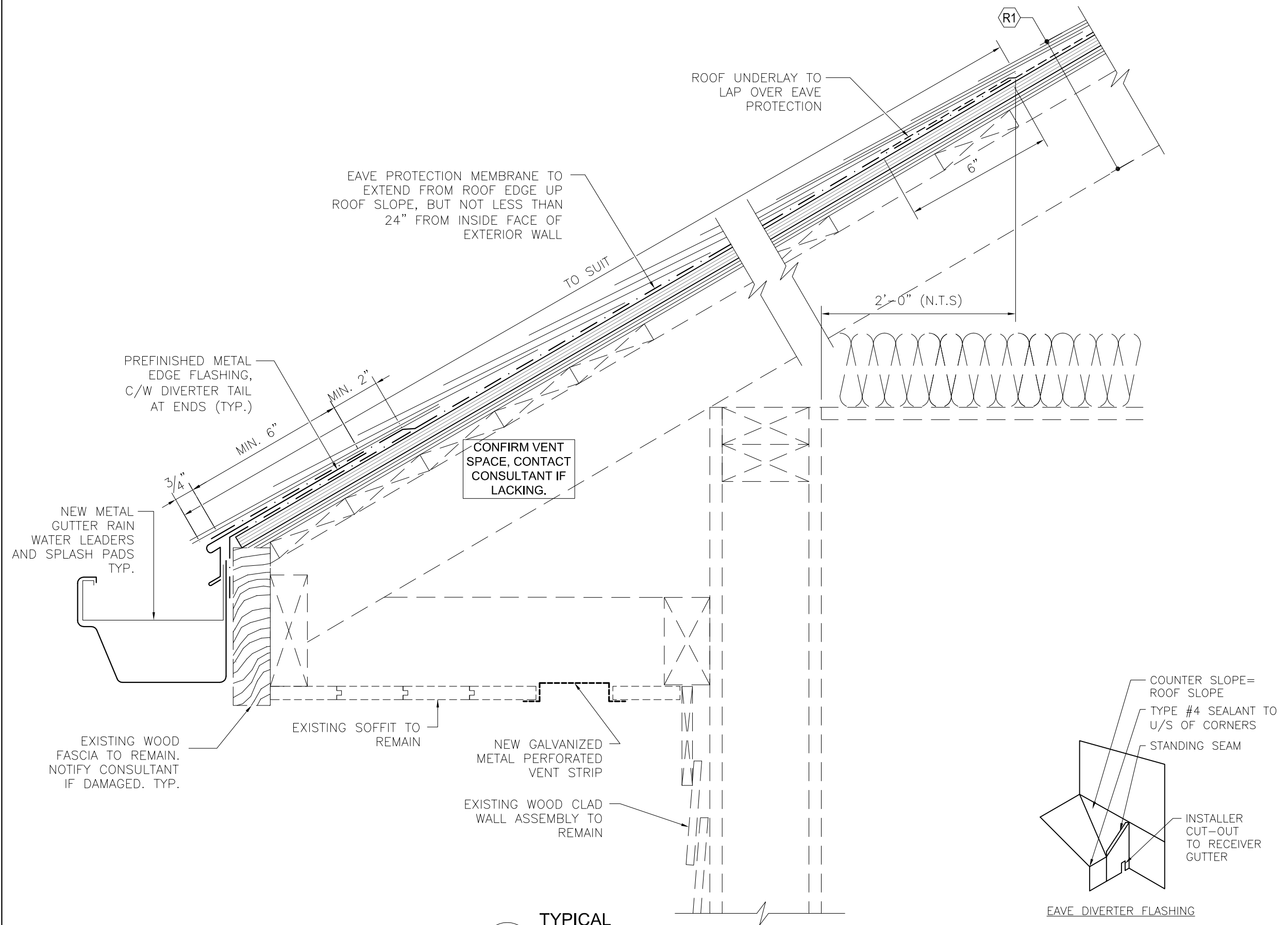
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HOUSE LOWER & UPPER ROOF PLAN

DATE: APR. 17	DRAWING No: A1.002
SCALE: AS SHOWN	
DESIGN: ALM	
DRAWN: DML	PROJECT No: 5170000.00
REVIEWED: ALM	

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ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1
TYPICAL EAVE DETAIL
SCALE: 3"=1'-0"

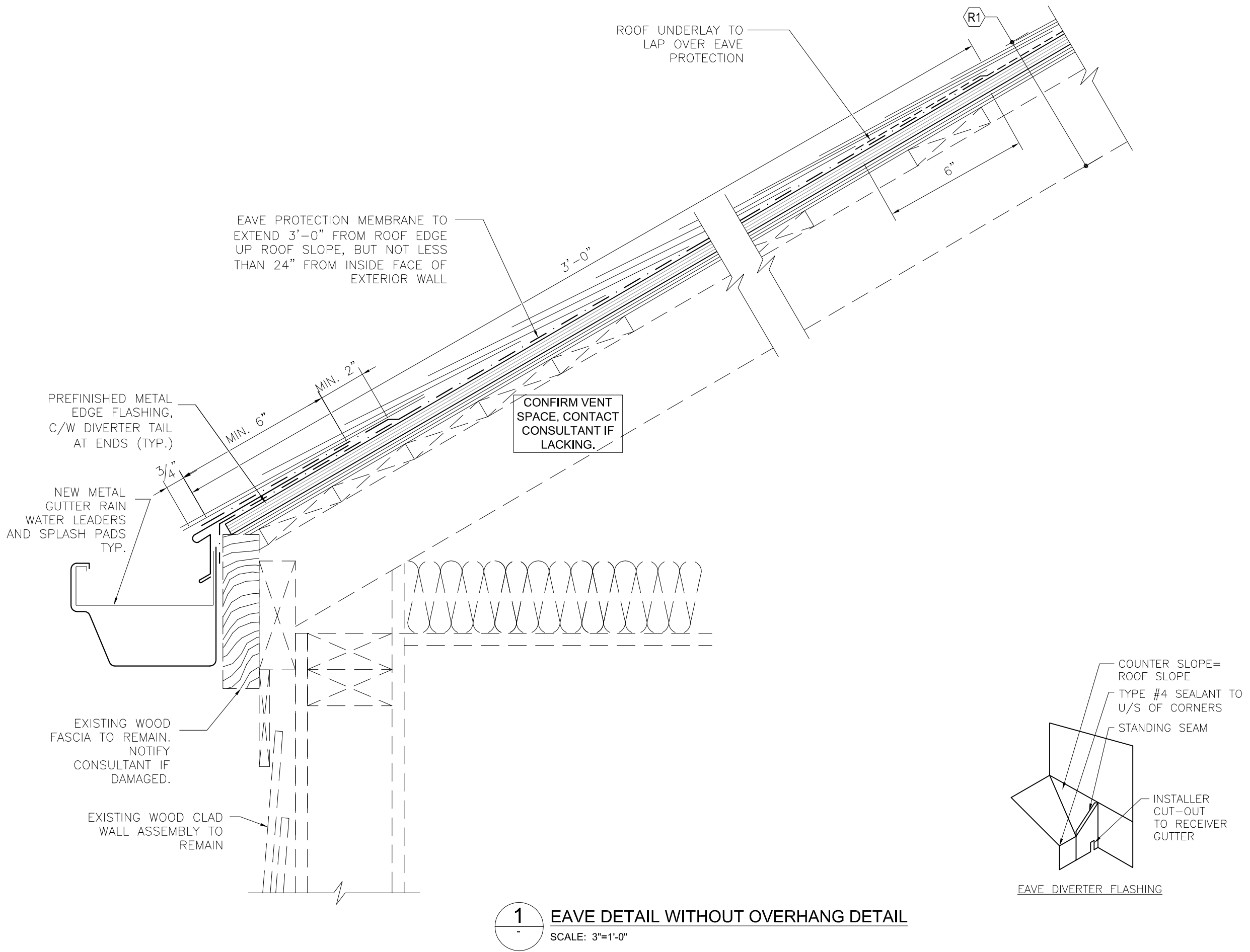
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TYPICAL EAVE DETAIL	
DATE: APR. 17	DRAWING No: A5.401
SCALE: 3"=1'-0"	
DESIGN: ALM	
DRAWN: DML	PROJECT No: 5170000.00
REVIEWED: ALM	

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ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1 EAVE DETAIL WITHOUT OVERHANG DETAIL
SCALE: 3"=1'-0"

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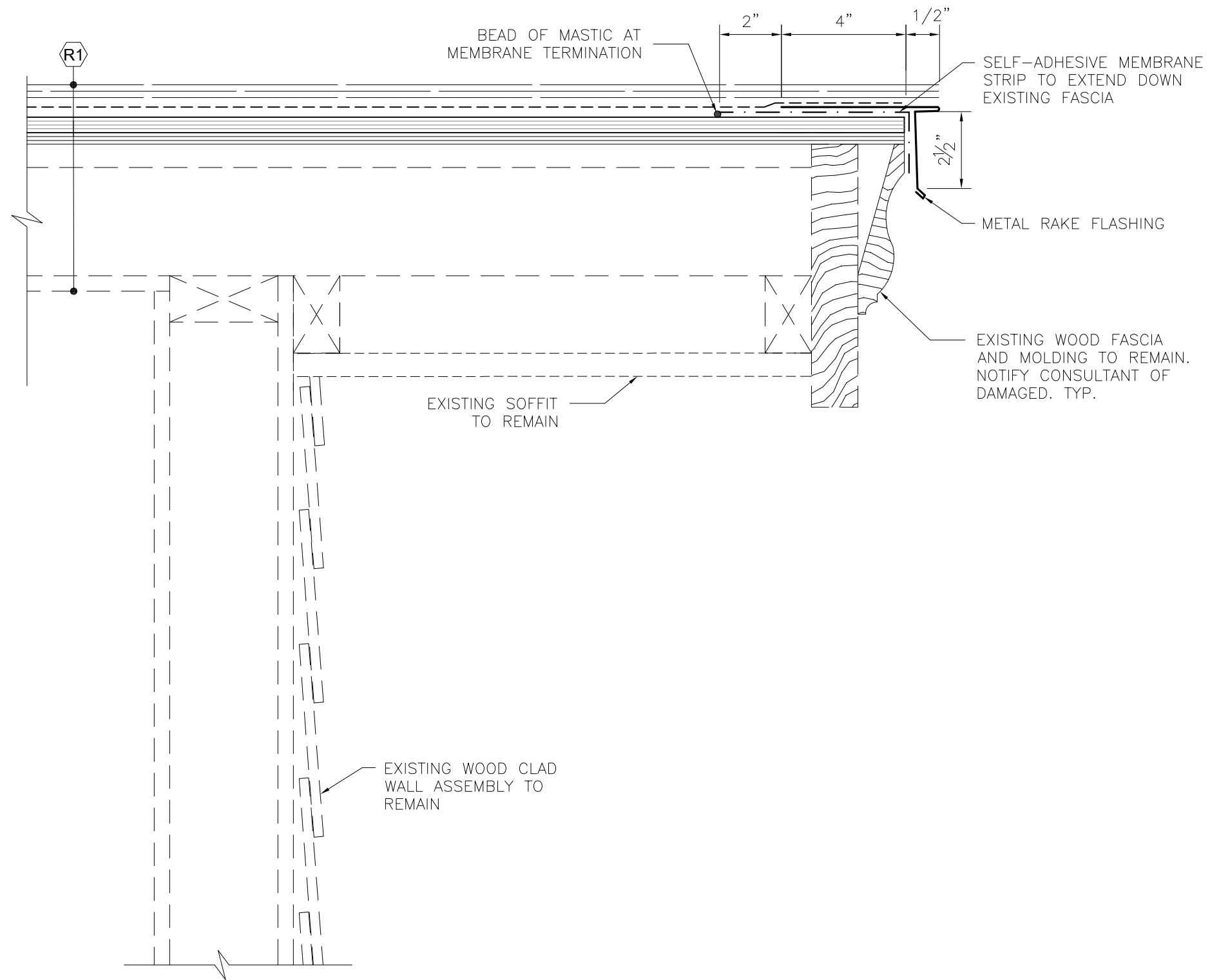
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EAVE DETAIL WITHOUT OVERHANG DETAIL

DATE: APR. 17	DRAWING No:
SCALE: 3"=1'-0"	A5.402
DESIGN: ALM	PROJECT No:
DRAWN: DML	5170000.00
REVIEWED: ALM	

Do not scale drawing. Dimensions to be verified on site. Drawing to be read in conjunction with written specification.

ISSUE	DESCRIPTION	DATE (DD/MM/YY)
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1 RAKE FLASHING AT GABLE END W/ SOFFIT DETAIL
SCALE: 3"=1'-0"



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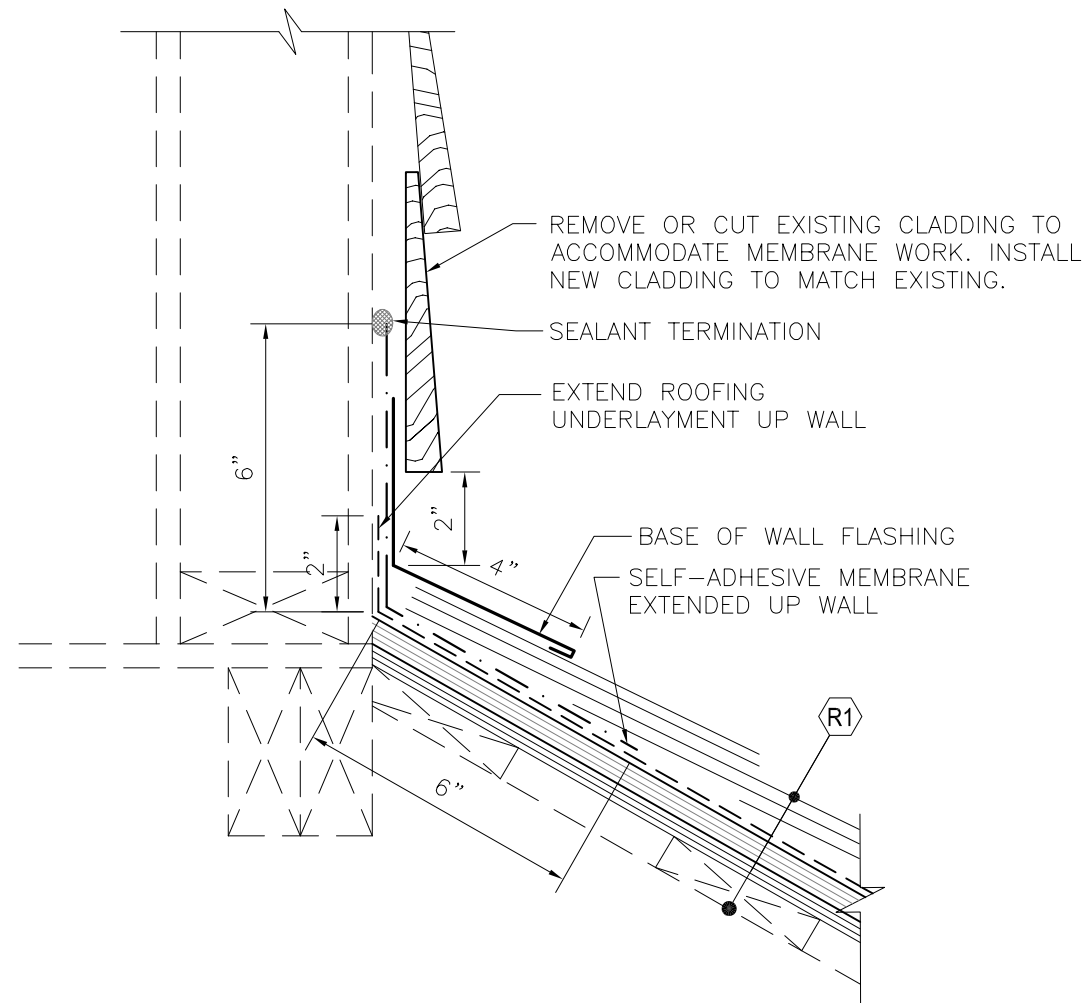
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**RAKE FLASHING AT GABLE
END W/ SOFFIT DETAIL**

DATE: APR. 17	DRAWING No:
SCALE: 3"=1'-0"	A5.403
DESIGN: ALM	PROJECT No:
DRAWN: DML	5170000.00
REVIEWED: ALM	

Do not scale drawing. Dimensions to be verified on site. Drawing to be read in conjunction with written specification.

ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1 SLOPED ROOF AT WALL TRANSITION DETAIL
SCALE: 3"=1'-0"

VERTICAL TRIMS:
CONTRACTOR TO CUT THE VERTICAL CORNER TRIMS TO ALLOW INSTALLATION OF ROOFING MEMBRANE.
CONTRACTOR TO INSTALL NEW CORNER TRIMS AS REQUIRED TO ACCOMMODATE THE NEW WORK. NEW TRIMS TO BE CAULKED AND PAINTED TO MATCH THE EXISTING. TYP.

HORIZONTAL SIDING:
CONTRACTOR TO REMOVE THE HORIZONTAL SIDING TO ACCOMMODATE INSTALLATION OF ROOFING MEMBRANE.
CONTRACTOR TO MODIFY AND REPLACE WITH NEW MATCHING SIDING. SIDING TO BE CAULKED AND PAINTED TO MATCH THE EXISTING. TYP.



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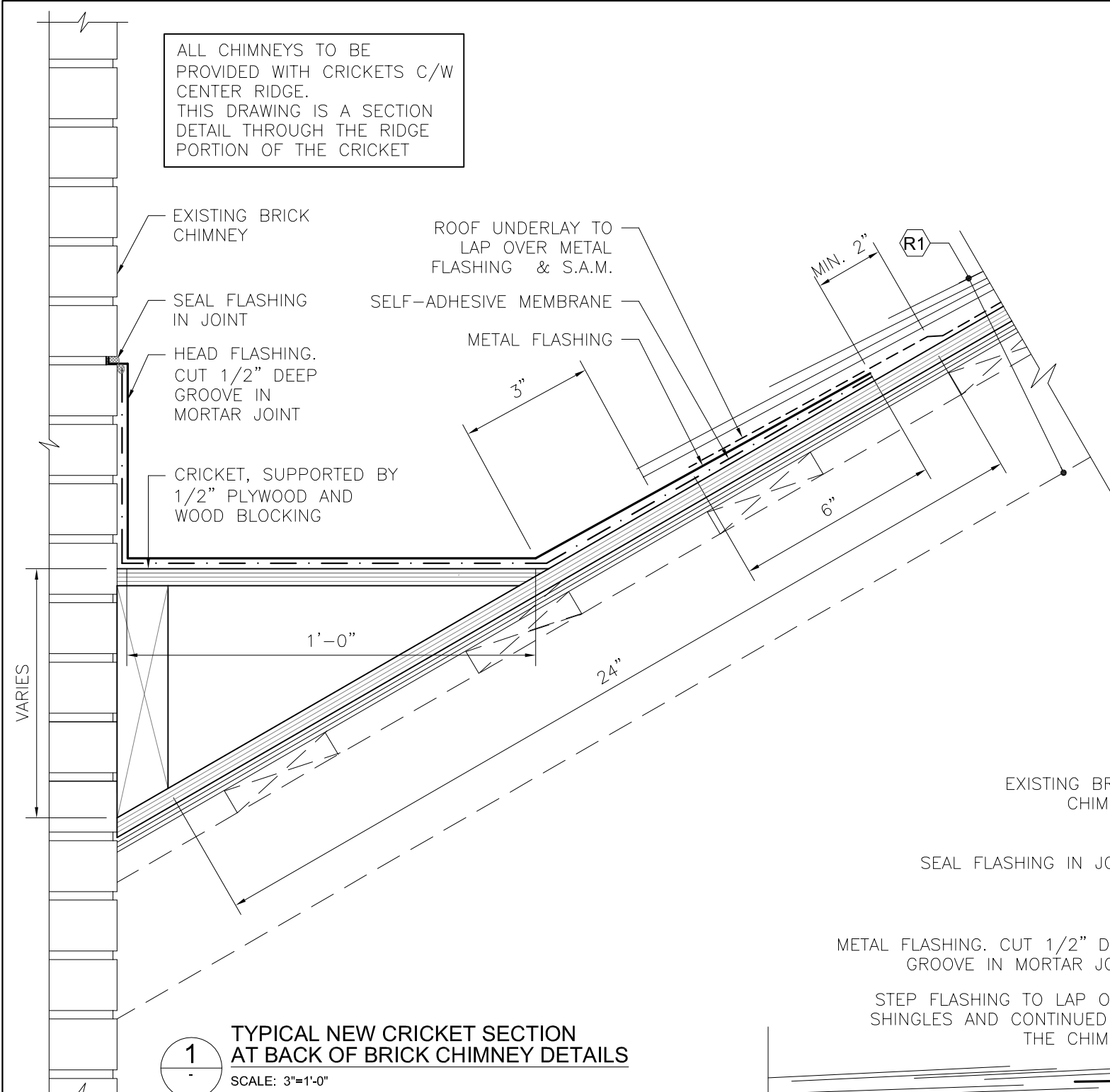
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SLOPED ROOF AT WALL TRANSITIONS DETAIL

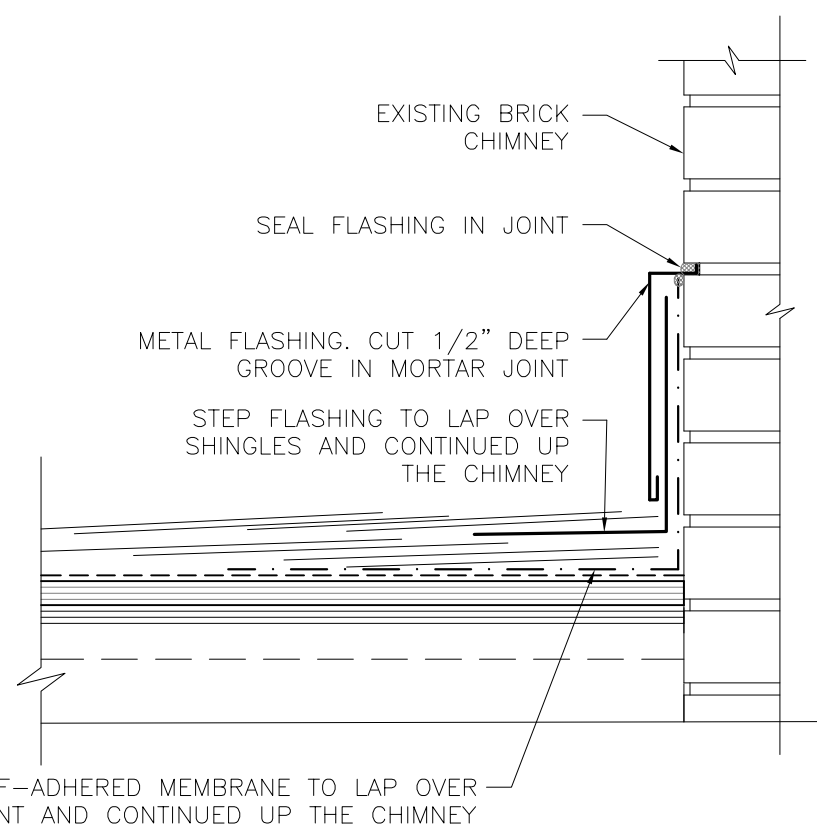
DATE: APR. 17	DRAWING No:
SCALE: 3"=1'-0"	A5.404
DESIGN: ALM	PROJECT No:
DRAWN: DML	5170000.00
REVIEWED: ALM	

Do not scale drawing. Dimensions to be verified on site. Drawing to be read in conjunction with written specification.

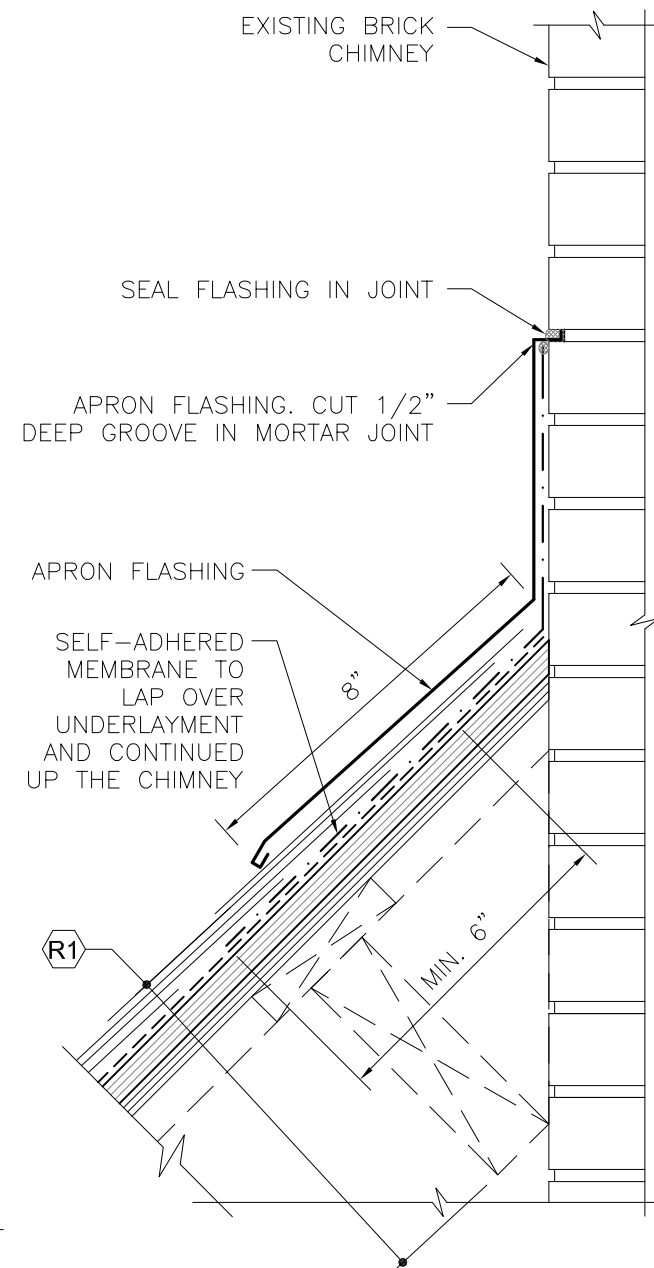
ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1 TYPICAL NEW CRICKET SECTION AT BACK OF BRICK CHIMNEY DETAILS
SCALE: 3"=1'-0"



2 TYPICAL SECTION ROOF TO SIDE OF BRICK CHIMNEY DETAILS
SCALE: 3"=1'-0"



3 TYPICAL SECTION ROOF TO FRONT OF BRICK CHIMNEY DETAILS
SCALE: 3"=1'-0"

NOTE:
SEAL ALL SAM EDGE TERMINATIONS WITH SEALANT

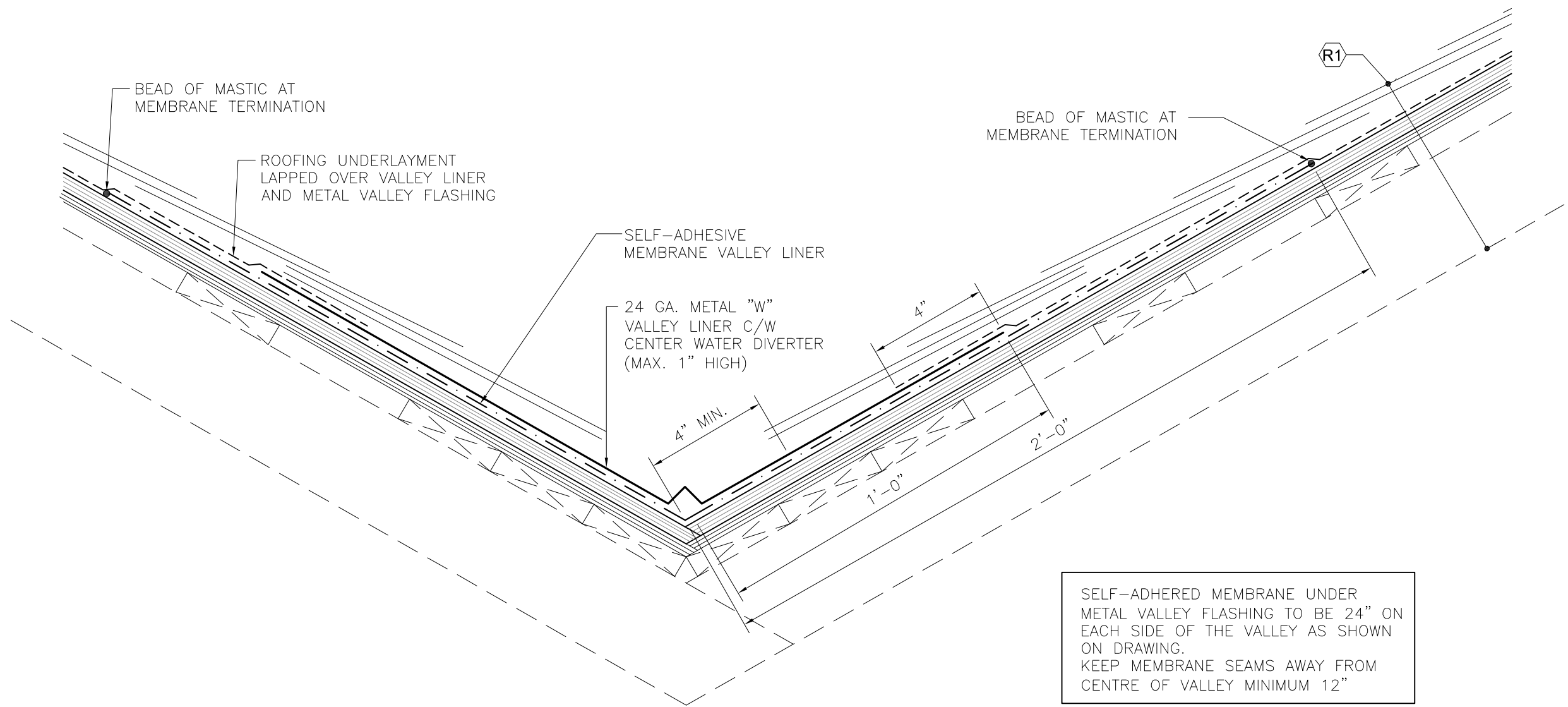
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TYPICAL SECTION ROOF TO BRICK CHIMNEY DETAILS	
DATE: APR. 17	DRAWING No: A5.405
SCALE: 3"=1'-0"	
DESIGN: ALM	
DRAWN: DML	PROJECT No: 5170000.00
REVIEWED: ALM	

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SELF-ADHERED MEMBRANE UNDER METAL VALLEY FLASHING TO BE 24" ON EACH SIDE OF THE VALLEY AS SHOWN ON DRAWING. KEEP MEMBRANE SEAMS AWAY FROM CENTRE OF VALLEY MINIMUM 12"

1 TYPICAL VALLEY FLASHING DETAIL
SCALE: 3"=1'-0"

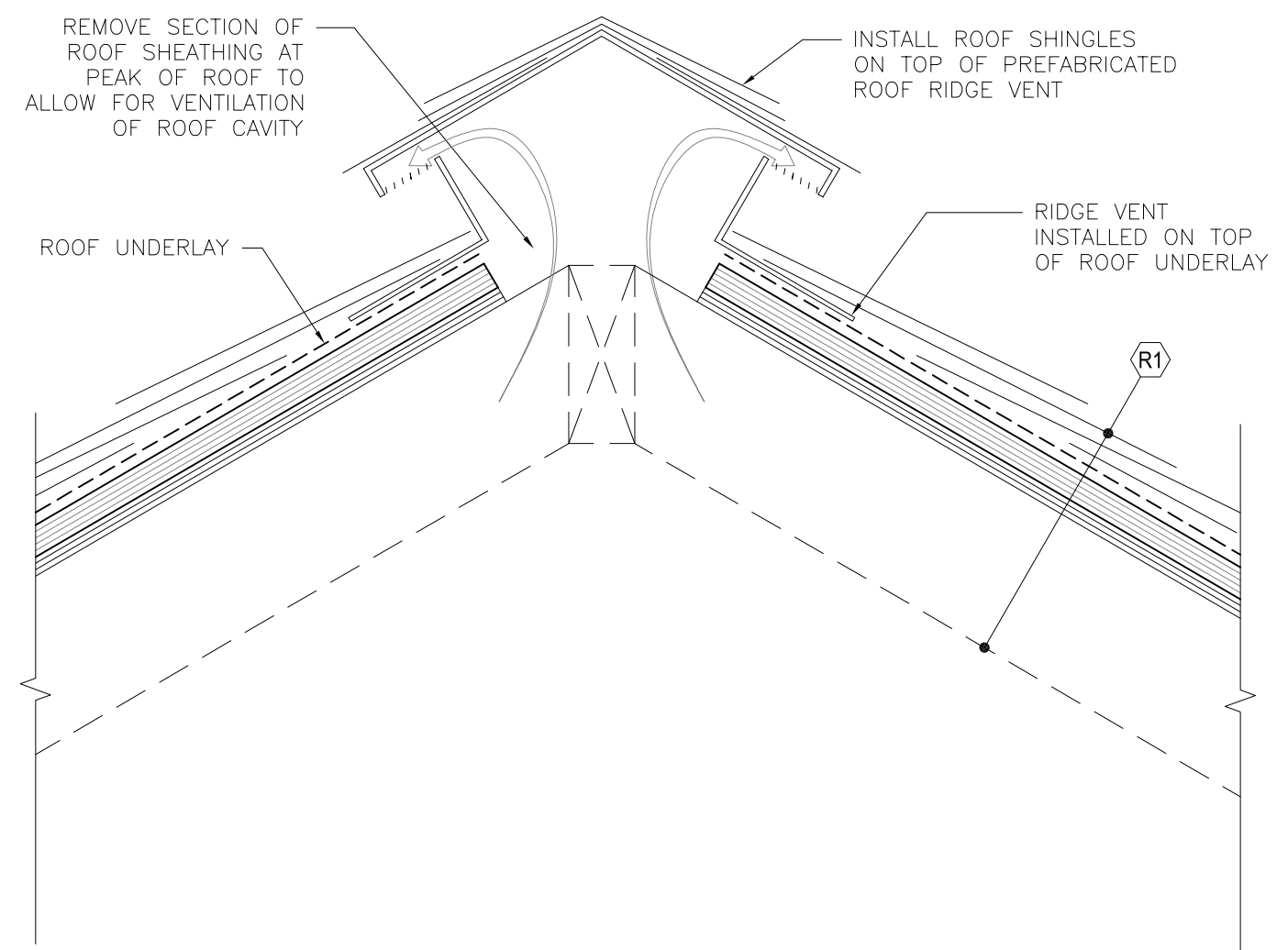
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TYPICAL VALLEY DETAILS	
DATE: APR. 17	DRAWING No: A5.406
SCALE: 3"=1'-0"	PROJECT No: 5170000.00
DESIGN: ALM	
DRAWN: DML	
REVIEWED: ALM	

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ISSUE	DESCRIPTION	DATE (DD/MM/YY)
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1 ROOF RIDGE WITH VENTING DETAILS
SCALE: 3"=1'-0"

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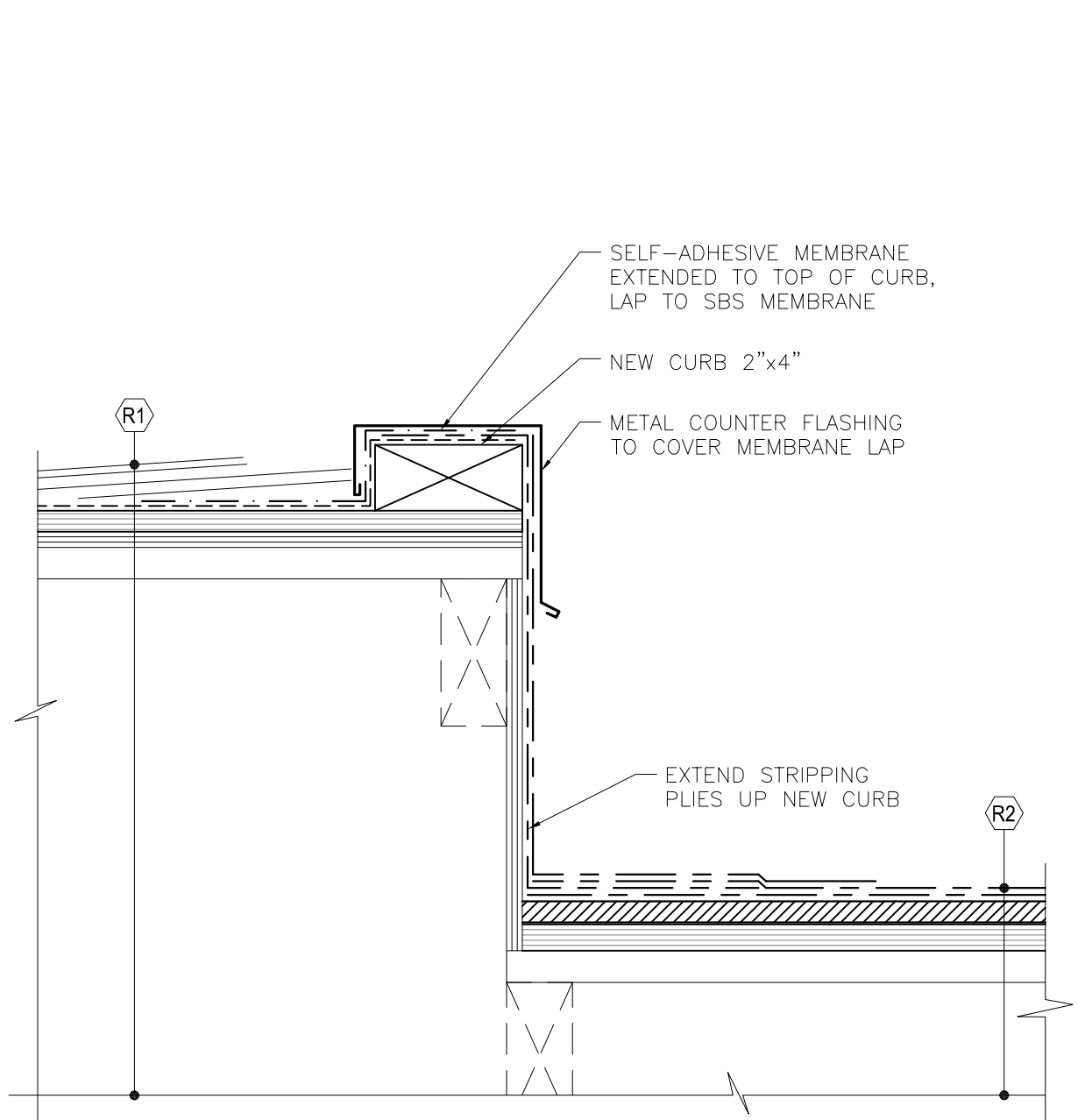
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ROOF RIDGE WITH VENTING DETAILS

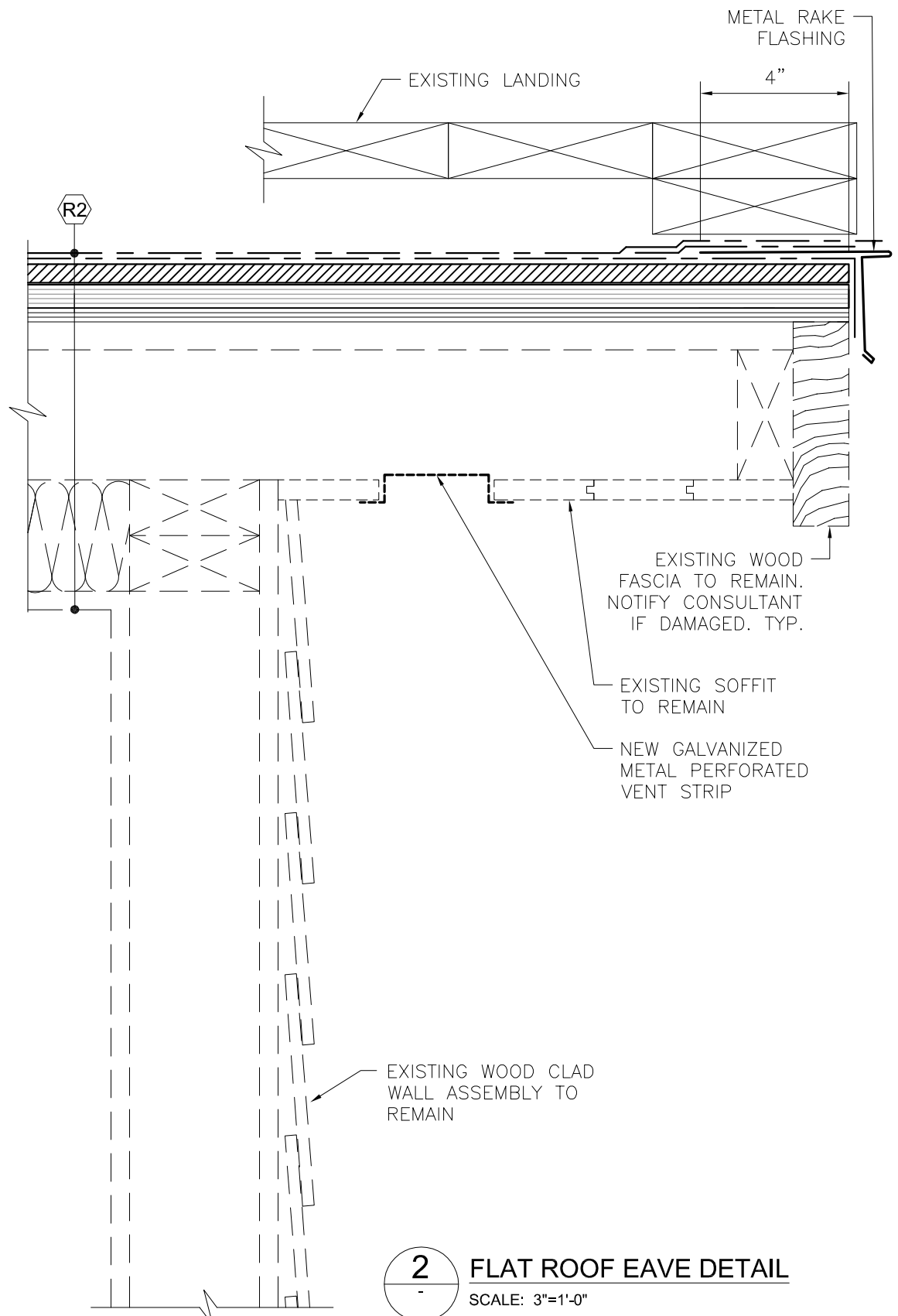
DATE: APR. 17	DRAWING No:
SCALE: 3"=1'-0"	A5.407
DESIGN: ALM	PROJECT No:
DRAWN: DML	5170000.00
REVIEWED: ALM	

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ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1
SLOPED ROOF CURB TO FLAT ROOF DETAIL
SCALE: 3"=1'-0"



2
FLAT ROOF EAVE DETAIL
SCALE: 3"=1'-0"

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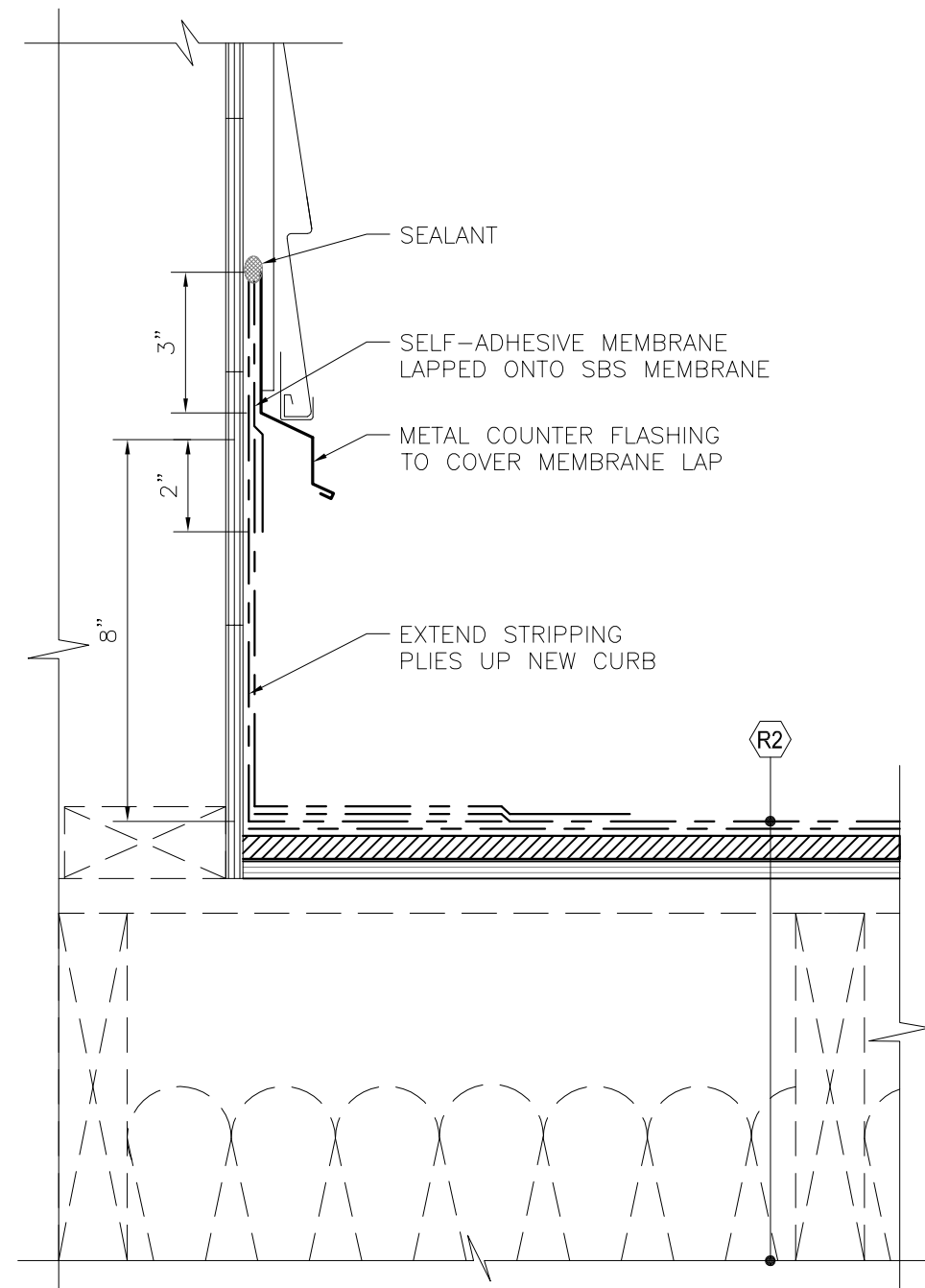
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SLOPED ROOF CURB TO FLAT ROOF & FLAT ROOF EAVE DETAIL

DATE: APR. 17	DRAWING No:
SCALE: 3"=1'-0"	A5.408
DESIGN: ALM	PROJECT No:
DRAWN: DML	5170000.00
REVIEWED: ALM	

Do not scale drawing. Dimensions to be verified on site. Drawing to be read in conjunction with written specification.

ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1 FLAT ROOF AT SIDE WALL TRANSITION DETAIL
SCALE: 3"=1'-0"



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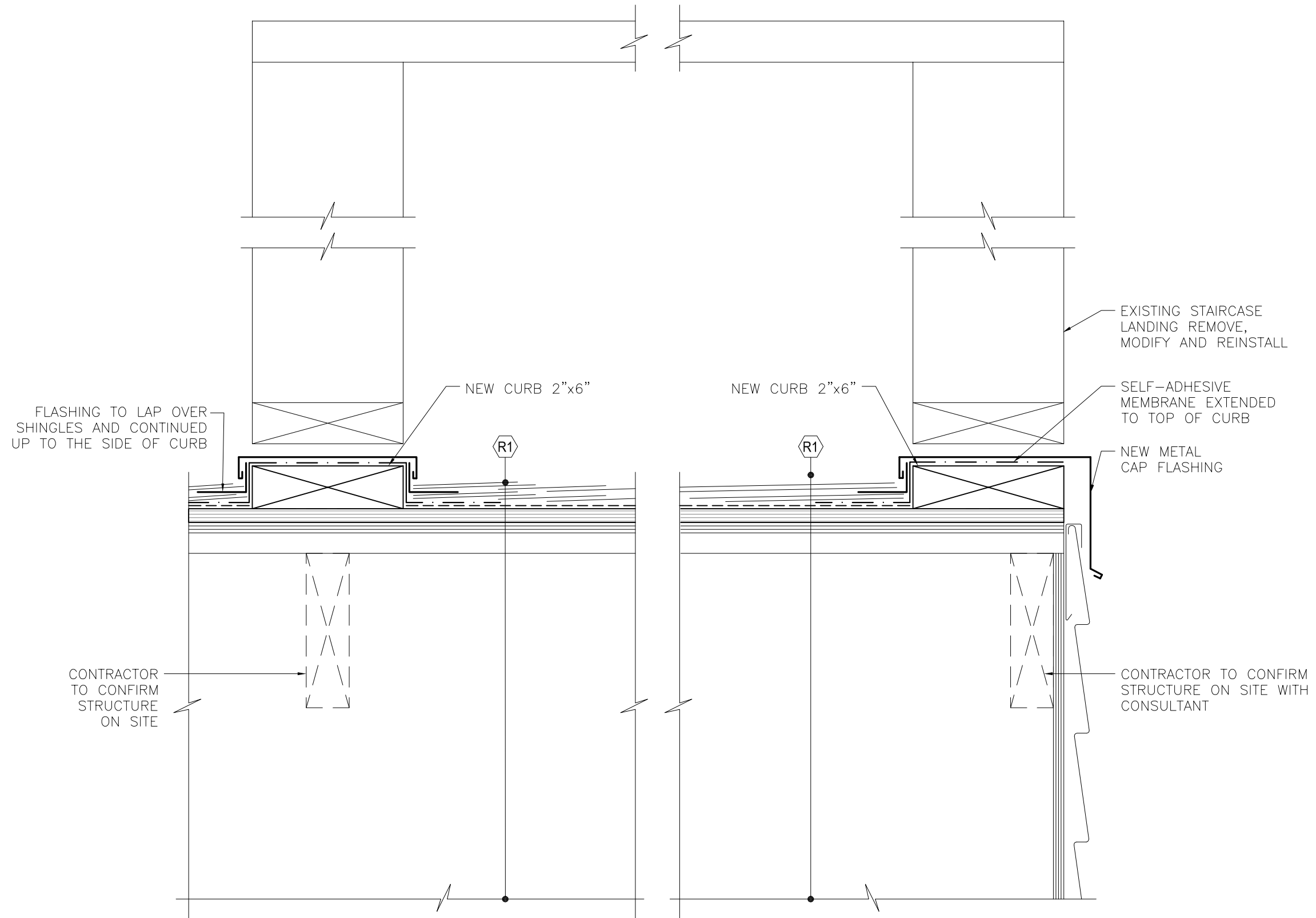
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FLAT ROOF AT SIDE WALL TRANSITION DETAIL

DATE: APR. 17	DRAWING No:
SCALE: 3"=1'-0"	A5.409
DESIGN: ALM	PROJECT No:
DRAWN: DML	5170000.00
REVIEWED: ALM	

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ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1
STAIRCASE LANDING
TO SLOPED ROOF DETAIL
SCALE: 3"=1'-0"

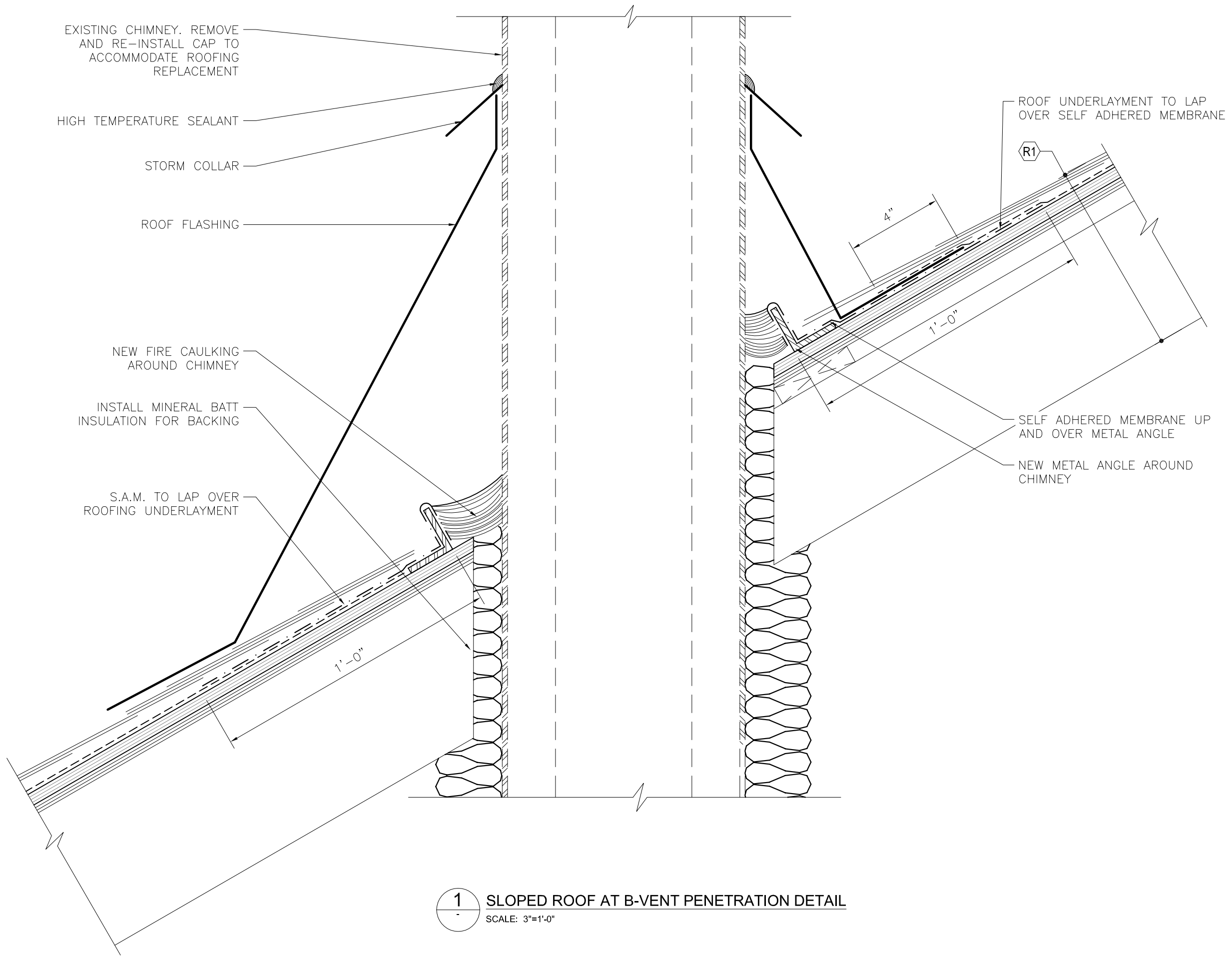
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TRIPLEX MARKET HOUSING
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STAIRCASE LANDING TO SLOPED ROOF DETAIL	
DATE: APR. 17	DRAWING No: A5.410
SCALE: 3"=1'-0"	PROJECT No: 5170000.00
DESIGN: ALM	
DRAWN: DML	
REVIEWED: ALM	

Do not scale drawing. Dimensions to be verified on site. Drawing to be read in conjunction with written specification.

ISSUE	DESCRIPTION	DATE (DD/MM/YY)
A	ISSUED FOR TENDER	04/05/17



1 SLOPED ROOF AT B-VENT PENETRATION DETAIL
SCALE: 3"=1'-0"

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B-VENT PENETRATION DETAIL

DATE: APR. 17	DRAWING No:
SCALE: 3"=1'-0"	A5.411
DESIGN: ALM	PROJECT No:
DRAWN: DML	5170000.00
REVIEWED: ALM	