

# SUMNER SCHIST Cladding System TECHNICAL MANUAL



## Technical and Installation Manual

VERSION: 18th November 2017

Original Stone  
177 Marua Rd  
Ellerslie  
Auckland

|   |           |
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# 1 GENERAL INFORMATION

## 1.1 Introduction

SUMNER Schist Cladding System (SUMNER) uses fibre-cement board as the cladding substrate on to which is adhered stone panels or individual stones to provide a durable, weatherproof and attractive finish.

SUMNER is a stand alone system designed to provide seamless specification and provisioning of:

- Weathertight substrate.
- Replicable adhesion (methods and products).
- Quality stone veneer finish.

## 1.2 Scope

SUMNER is an approved external wall cladding for buildings within the following scope:

- a) Up to 3 storeys, or 10m to top of chimney, and
  - b) With floor plan area limited only by seismic and structural control joints, and
  - c) External walls that are vertical, and roofs that are 60° or less above the horizontal, and
  - d) Buildings that require specific design input must have framing stiffness equal to the framing provisions of NZS3604, and
- Timber frame constructions complying with the NZBC NZS3604:2011, and
  - Steel frame constructions must be to a specific design meeting the requirements of NAS3405:2006, and
  - Masonry constructions complying with NZS3604:2011, and
  - Suitable for residential and commercial applications, in locations where the maximum wind zone is determined to be less than or equal to *very high* (50m/s).

Detailed drawings of common construction methods using the SUMNER system have been included in this Manual, and should be read in conjunction with the text. You can download these and other standard drawings from [www.sumnerschist.co.nz](http://www.sumnerschist.co.nz)

All drawings are now available in CAD and PDF formats.

**Note 1. Always refer to the latest version of the Technical and Installation Manual at [www.sumnerschist.co.nz](http://www.sumnerschist.co.nz)**

**Note 2. No changes are permitted in design or construction from the information outlined in this document.**

## 1.3 NZ Building Code Performances

When installed in accordance with this Technical & Installation Manual the SUMNER Stone Veneer Cladding System will meet the following clauses of the New Zealand Building Code:

### **B1 Structure**

Performance B1.3.1, B1.3.2 and B1.3.3. The SUMNER System meets the requirements for loads arising from self weight, earthquake, wind and impact [ i.e. B1.3.3 (a), (f), (h), (j)]. See paragraphs 11.1 - 11.3

### **B2 Durability**

Performance B2.3.1 (a) Frame Protection System, battens & fixings, (b) FC sheet, adhesive & L-Fixings and 15 years, B2.3.1, (c) Stone 5 years, and B2.3.2. The SUMNER System meets this requirement. See paragraphs 12.1-12.5

### **E2 External Moisture**

Performance E2.3.2 & E2.3.3. The SUMNER System meets this requirement. See paragraph 13.1 - 13.6

### **F2 Hazardous Building Materials**

Performance F2.3.1. The SUMNER System meets this requirement and will not present a health hazard to people.

**Conformance with the above requirements is described in BEAL Appraisal. For a copy of the latest version refer to [www.beal.co.nz](http://www.beal.co.nz)**

## 1.4 Health and Safety

- Please refer to the following Material Safety Data Sheets (MSDS) for identification of hazards associated with our products. These are obtainable from [www.sumnerschist.co.nz/documents](http://www.sumnerschist.co.nz/documents)

[10.0.0 SUMNER Grip MSDS](#)

[10.1.0 SUMNER Board MSDS](#)

[10.2.0 SUMNER Primer MSDS](#)

[10.3.0 SUMNER Batten MSDS](#)

- Always check with the contractor/builder for potential health and safety hazards on site.
- Ensure scaffolding is soundly erected. Do not commence work until scaffolding and other site health and safety requirements meet the accepted standards.

## 2 LIST OF COMPONENTS

### 2.1 Introduction

The SUMNER Schist Cladding System (SUMNER System) uses its own proprietary fibre-cement board as the cladding substrate on to which is installed stone veneer to provide a durable, weatherproof and attractive finish.

The SUMNER (fibre-cement) Board is denser than most fibre-cement boards having a density of ~1420kg/m<sup>3</sup> which makes it ideal for use as a substrate for adhering stone veneer to. Stone weights ranging typically from 50kg/m<sup>2</sup> to 100kg/m<sup>2</sup> can be adhered to the board.

SUMNER Board is fixed to timber or steel framing by way of 10g x 40mm stainless steel screws at 220mm centres applied around the perimeter and centre of the board. In order to ensure the board meets the durability requirements, the board is primed on the face. To prevent the ingress of moisture at vertical junctions, a specialised board tape is used, and for inter-storey junctions, the tape is used in place of z flashings.

To assist the stone adhesion, SUMNER uses bottom mounted stainless steel L-Fixings. These are attached to the SUMNER Board at 600mm vertical and horizontal centres.

### 2.2 SUMNER VERMINI Cavity Battens

#### 2.2.1 Batten sizes and information

SUMNER VERMINI battens are the highest performing polypropylene fluted batten in New Zealand with average compressive strength of 2.2mpa (BEAL Test TR170616-1).

SUMNER VERMINI Battens are specially designed to prevent vermin ingress not just at the foot but throughout the cavity. SUMNER VERMINI Battens completely eliminating the requirement for vermin strips. Cavity closers may be used for visible termination details but remain optional.

- Vertical (VERMINI1200 - supplied in lengths of 1200mm x 45mm, 18mm thick).
- Horizontal (VERMINI550 - Supplied in lengths of 550mm x 45mm, 18mm thick).
- SUMNER Cavity Battens must be protected from physical damage, and should be stored flat.

#### 2.2.2 Temporary batten fixing prior to SUMNER Board

Battens are temporarily attached prior to board fitment at which stage the board anchors are mounted through the battens to provide permanent hold. Temporary attachment technique is determined by the substrate:

- Timber Frame - Tack nail in place of FPS with galvanised clout.
- Light Weight Steel Frame - Use contact adhesive over FPS.
- Masonry - Use contact adhesive over sealed PROTECTA-COAT surface.

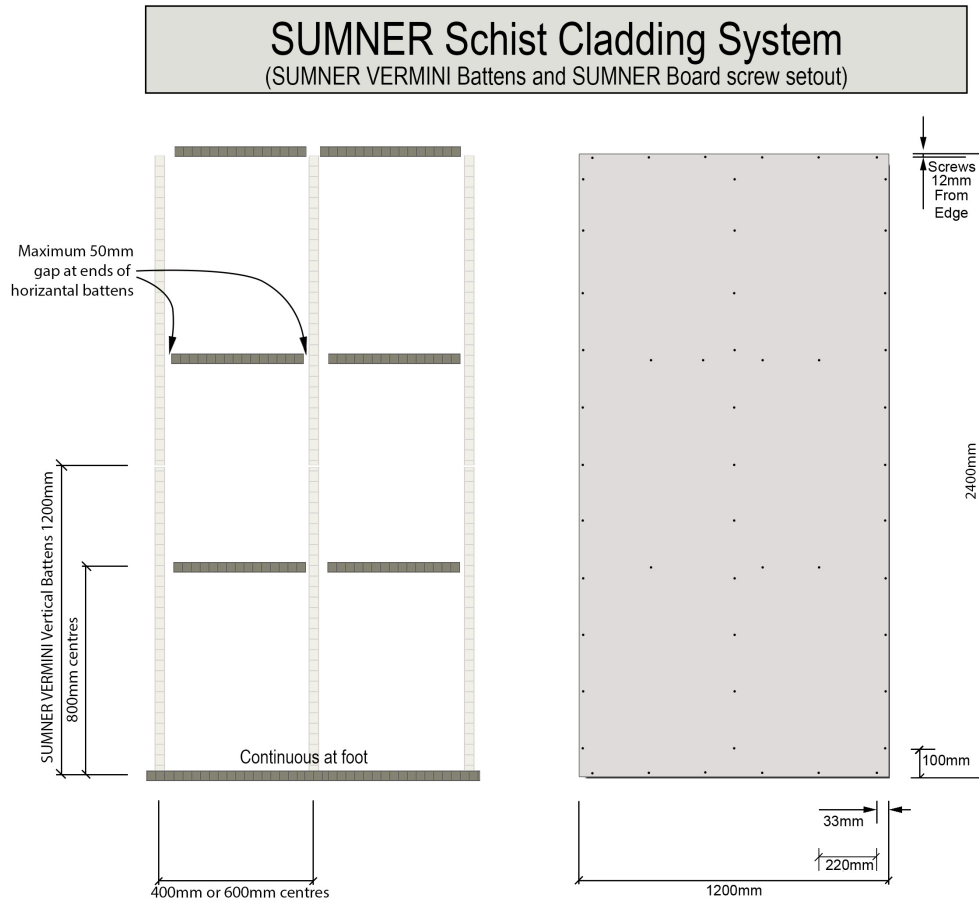


## 2.3 SUMNER Board

A **High Density** Cementaceous Cellulose Sheeting specifically designed for heavy weight cladding. Sheets weigh 40kg each, and are manufactured to meet and exceed:

- AS/NZS 2908.2:2000
- NZBC clause B1

Sheet size is 2400x1200x9mm, to be installed with maximum spacing of 10mm.



1. Start by filling out the builders **Cavity Check Sheet 9.1.1**. Download the most recent version from [www.sumnerschist.co.nz](http://www.sumnerschist.co.nz)
2. For timber frame and steel frame ensure frame protection system is adequately installed. Masonry structures should be coated with PROTECTA-COAT
3. Fit internal cavity flashings to seal or drain water to the outside of the cladding. Flashings are job specific and are to be supplied and fitted by the LBP builder. These may include DYNAFLASH to internal and external corners, head flashing for doors and windows, other metal system flashings folded as the project requires, inner pipe penetration gasket, soffit combination flashing 10.0.0.  
(Note: Cavity closers are optional as SUMNER VERMINI battens provide vermin proofing.)
4. Next align SUMNER battens over studs and nogs, tack in place with galvanized clout or contact adhesive.
  - Horizontal VERMINI 550mm battens are placed at 800mm vertical centers. Continuous at foot of cavity. May be inset 50mm elsewhere.
  - Vertical VERMINI 1200mm battens are placed at 400 or 600mm horizontal centres (no closer than 400mm). One batten per sheet join. Do not double batten.
5. Fit SUMNER board rough side OUT. Attach at 220mm centers using anchors provided, 12mm in from the edge of the sheet ensuring purchase to the structural wall behind. Do NOT countersink screw heads, but instead leave them 2mm proud of SUMNER Board.
6. Fit sill trays, inner/outer soffit flash 3.4.1 & 3.4.3, cap flash 3.3.2, outer pipe penetration gasket, and any other termination details.

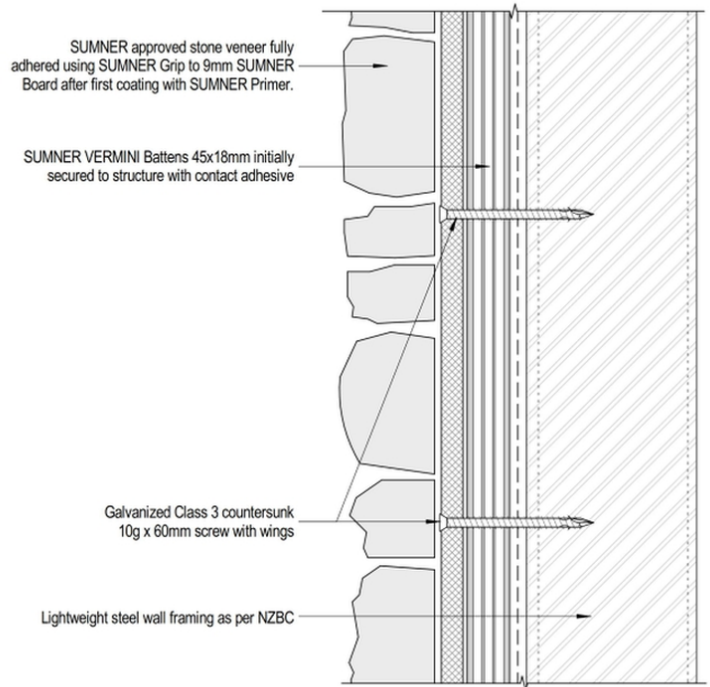
|       |                                      |   |  |
|-------|--------------------------------------|---|--|
| 6.0.1 | SUMNER Board Fixing Detail           | SCALE   | DATE   |
|       | (Standard Method for stones 20-40mm) | NTS   | Oct 2017   |
|       |                                      |  | Original Stone Co Ltd<br>PO Box 125 029, St Heliers<br>Auckland 0800 157 340 |

### 2.3.1 SUMNER Board Anchors

1. For timber frame construction SUMNER Board is to be fixed at 220mm centres using 10g x 63mm Stainless 316 CSK square drive screws.

2. For light gauge steel frame construction SUMNER Board is to be fixed over SUMNER battens with Galvanised Class 3 countersunk 10g x 60mm with wings.

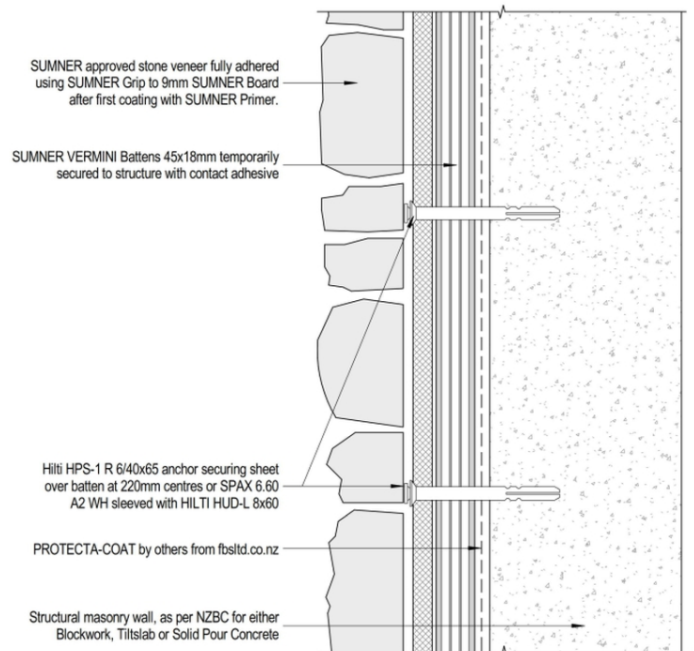
- Note: From 2017 Class 4 replaces Class 3 in New Zealand.



3. For masonry buildings of brick, block, tilt-slab or solid pour construction SUMNER Board is to be fixed with either:

- Hilti HPS-1 R 6/40x65 anchors as per illustration (right), or
- SPAX 6x60 A2 WH sleeved with HILTI HUD-L 8x60 (pre-drill 65mmx8mm at 300mm centres)

- Note: These are also approved to anchor to SIP and AAC.



### 2.3.2 Fastening Centres

SUMNER Board to be fastened at 220mm centres with screw heads left 2mm proud of the surface.



## 2.4 SUMNER Prime

- Used for the on site preparation of substrates, roll to all surfaces that receive SUMNER Grip adhesive (excluding Tilt Slab, which needs cleaning down with water only).

## 2.5 SUMNER Grip Adhesive

- Specifically designed for SUMNER Tile System.
- Strength – Satisfactory performance in terms of the basic requirements of relevant standard AS 4992.1. Testing by BEAL revealed failure of adhesive exceeds 2 mpa. “The adhesive strength off all the test samples exceeded the capacity of the test machine.” This is as set out in BEAL document TR160811-1.
- Must combine in correct proportions with SUMNER Prolastic, and use correct mixing method to be suitable for use with SUMNER Schist. Refer to mixing instructions in this manual or on the product packaging.

## 2.6 SUMNER STONE

- SUMNER Ledge Series Schist Panels, 610x152x30mm (75 kg/m<sup>2</sup>)
- SUMNER Traditional Series Schist Panels, 565x200x30mm (75kg/m<sup>2</sup>)
- Bluestone Series & Loose stones, 30mm thickness. (91.9kg/m<sup>2</sup>)

NB: SUMNER Board for the Bluestone series must be screwed off at 180mm centers, not 220mm. This is documented on the SUMNER Board Fixing Detail, and can be downloaded from [www.sumnerschist.co.nz](http://www.sumnerschist.co.nz).

**Note:** System includes architectural stone details such as:

- ‘L’ Angle Trims
- Sills and Cap stones
- Formed ‘L’ Shaped corners

## 2.7 Accessories

- Stainless steel ‘L angles’ for window and door terminations or butt-to details to be provided and installed by the main contractor.
- DYNAFLASH or other metal system flashings folded as projects require to be provided and installed by the main contractor.
- SUMNER Tape (for board joins, omega detail, corners, control joints, and forming pipe gaskets).
- Hat flashings and similar details are to be provided and installed by the main contractor, and are to specific design.
- Sill tray with stop ends provided and installed by the main contractor. Available from [www.e2flashingsolutions.co.nz](http://www.e2flashingsolutions.co.nz)
- Window and door flashing system to be provided and installed by main contractor.
- MS Exterior Grade Sealant compliant with NZBC by others.

## 3 LIMITATIONS & CONSIDERATIONS

### 3.1 Limitations

SUMNER System must only be installed on vertical surfaces in accordance with the technical literature.

#### 3.1.2 Wind Zone

Suitable for locations where the maximum wind zone is determined to be less than or equal to *very high* (50m/s), or where specific design is employed.

Where SUMNER System is to be used for high-wind zones (44m/s), a Rigid Air Barrier compliant with NZBC must be employed.

SUMNER System has also been appraised for weather tightness and structural wind loading when used for timber or steel framed buildings subject to specific design up to a design differential ultimate limit state (ULS) wind pressure of 2.5kPa.

#### 3.1.3 Maximum Height

Three storey buildings and chimneys no higher than 10 metres above ground level.

### 3.2 Considerations

#### 3.2.0 Timber Treatment

Must be in accordance with NZS3604:2011.

Use kiln dried timber. SUMNER tile installation cannot proceed until verified timber moisture is below 16%. Kiln dried timber is supplied with a moisture content of 14 ~ 16% so it must then be kept dry, with buildings being wrapped as soon as possible.

#### 3.2.1 Steel Framing

Must be constructed with steel framing complying with the NASH 3405.

#### 3.2.2 Wall Wrap

Prior to the SUMNER System being installed, a Frame Protection System complying with NZBC must be fixed in place over timber and steel frame construction. Where the term "Frame Protection System" is used, it may be applicable to use a Rigid Air Barrier instead.

#### 3.2.3 Flashing Tapes

SUMNER Tape complies with the performance requirements of the NZBC. It must be applied to all SUMNER Board joins and penetrations.

#### 3.2.4 Window Detailing

Windows and door openings must be flashed with SUMNER Tape. Sill trays and stop ends fitted.

Use of the SUMNER Schist cladding system relies on joinery meeting the requirements of NZS4211 for the relevant building wind zone or being designed for use in specifically designed buildings.

SUMNER Schist Cladding System has two standard architectural details. Flush fit window frame (for timber frame construction), and Deep Reveal Window details for more substantial wall thicknesses (commercial tilt slab applications).

### **3.2.5 Parapets**

SUMNER Schist Cladding System uses standard industry details for parapets. This uses a metal hat flashing by others. Refer to Parapet detail 9.0.0.

### **3.2.6 Horizontal Surfaces and Caps**

There must be no horizontal surfaces which will be subject to water ponding, this includes folded metal sills. A minimum slope of 10° is required on all capping stones.

### **3.2.7 Certified Installers**

Installation of SUMNER system components and accessories must be carried out only by personnel trained and certified by SUMNER. Please contact our office on (09) 5793326 to find out about a certified installer.

## 4 SUMNER BATTENING

### 4.1 Preparation

Before installing SUMNER VERMINI Battens, the LBP must start filling out the **9.1.1 SUMNER Builder's Cavity Checklist**. Download most recent .pdf from:

[www.sumnerschist.co.nz](http://www.sumnerschist.co.nz)

All components must be installed correctly and marked off on the checklist which is then handed to the SUMNER installer. He will inspect and discuss any remedial work required with the LBP, and send letter of non-compliance to LBP or owner for any remedial work.

For framing applications, look to see provision has been made to secure the SUMNER Board where required (e.g. at soffits, and at internal corners).

Timber framing must have a maximum moisture content of 16% at the time of cladding application. (*Problems could arise later on due to timber shrinkage if over 16%*). It is the responsibility of the SUMNER System installer to verify this with their moisture meter and record on the 9.2.1 Stonework Checklist.



[Moisture Meter: ProMeter Mini](#)

It is the LBP's responsibility to install the appropriate industry appraised wall wrap, inspect that it has been properly installed and folded around the inside of the framing at openings. Have the LBP repair any damage to wall wrap prior to battening.

### 4.2 General Process

The LBP will first fit the Frame Protection System as per E2/AS1 and then install flashings. SUMNER VERMINI Battens are vermin proof however a uPVC cavity closer may fitted to the bottom of the cavity for aesthetic reasons. Other flashings may include DYNAFLASH fitted over the battens for internal or external corners, other metal system flashings folded as the project requires, and window sill trays (refer to drawings in this manual).

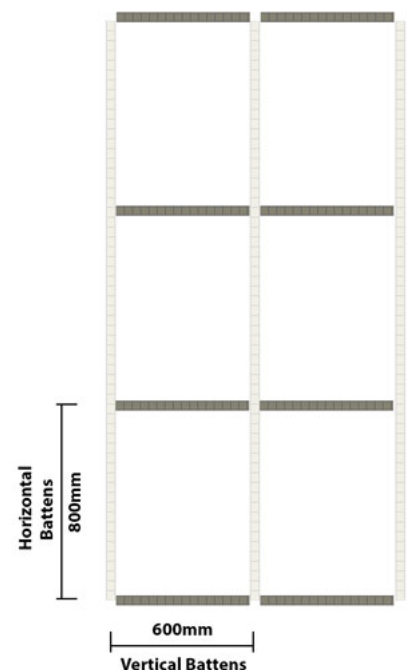
When battening over timber framework the LBP should tack SUMNER VERMINI Battens in place with galvanised flat head 75mm x 3.15 or 3.75mm nails. Avoid "double battening" and the over consumption of battens and anchors. Where projects have 300mm stud centres the battens should still be attached at the normal 600mm centres.

Masonry, SIP and AAC structures follow a similar process.

SUMNER VERMINI1200 Vertical Battens are a white colour and 1200mm long. These are to be installed vertically over studs or Maximum 600mm and minimum 400mm horizontal centres.

SUMNER VERMINI550 Horizontal Battens are grey and 550mm long. These are installed continuous across both the top and bottom plates, and at 800mm vertical centres.

SUMNER Board is then fitted as per architectural details, using system anchors specific to the construction, at the correct



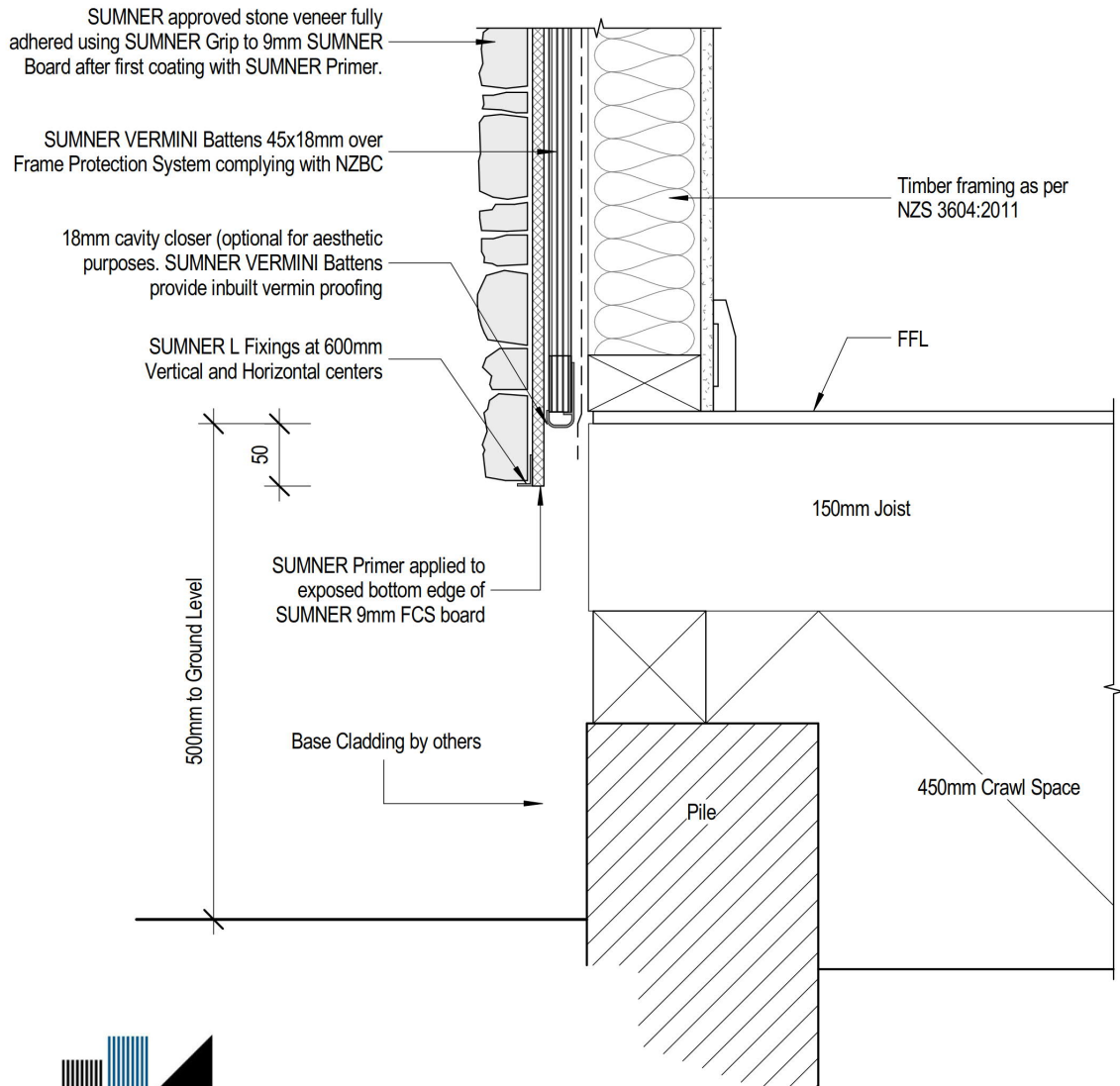
centres. After fitment the board is coated with SUMNER Primer, and the joints taped to create a continuous rain screen. Door and windows abutting the cavity are sealed with first and secondary air seal as they are fitted.

Stone installation then commences as outlined in the following sections in this manual.

## 5 CONSTRUCTION DETAILS

Our standard details are shown below. Please download the most up to date drawings from our website [www.sumnerschist.co.nz](http://www.sumnerschist.co.nz). These are available in the following formats:

- Revit (.rvt),
- CAD Files (.dwg).
  - Native to AutoCAD
  - Suitable for import into ArchiCAD,
- Portable Document Files (.pdf)

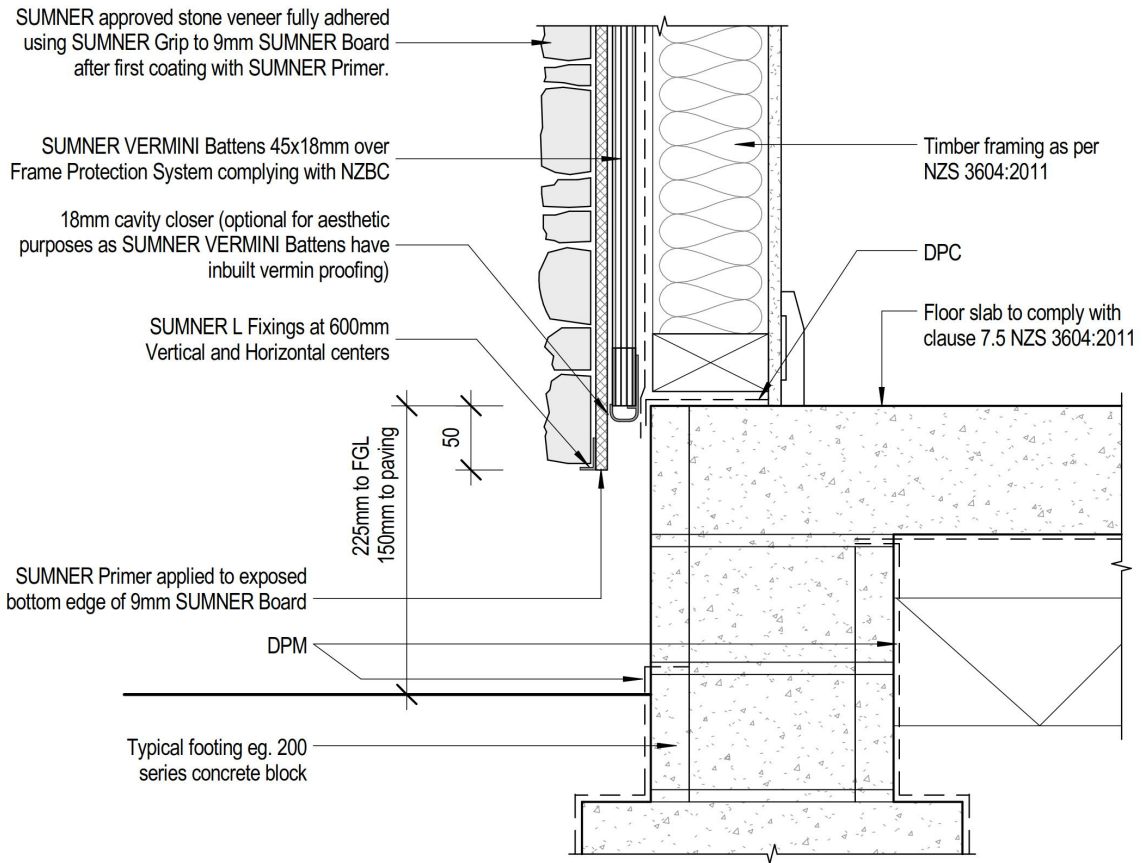


[www.sumnerschist.co.nz/](http://www.sumnerschist.co.nz/)

## Approved Stone Veneer on SUMNER Tile System

Vertical Section - Timber Frame

|            |           |             |
|------------|-----------|-------------|
| Date       | Sept 2017 | 2.1.0       |
| Drawn by   | SUMNER    |             |
| Checked by | DS        | Scale 1 : 5 |



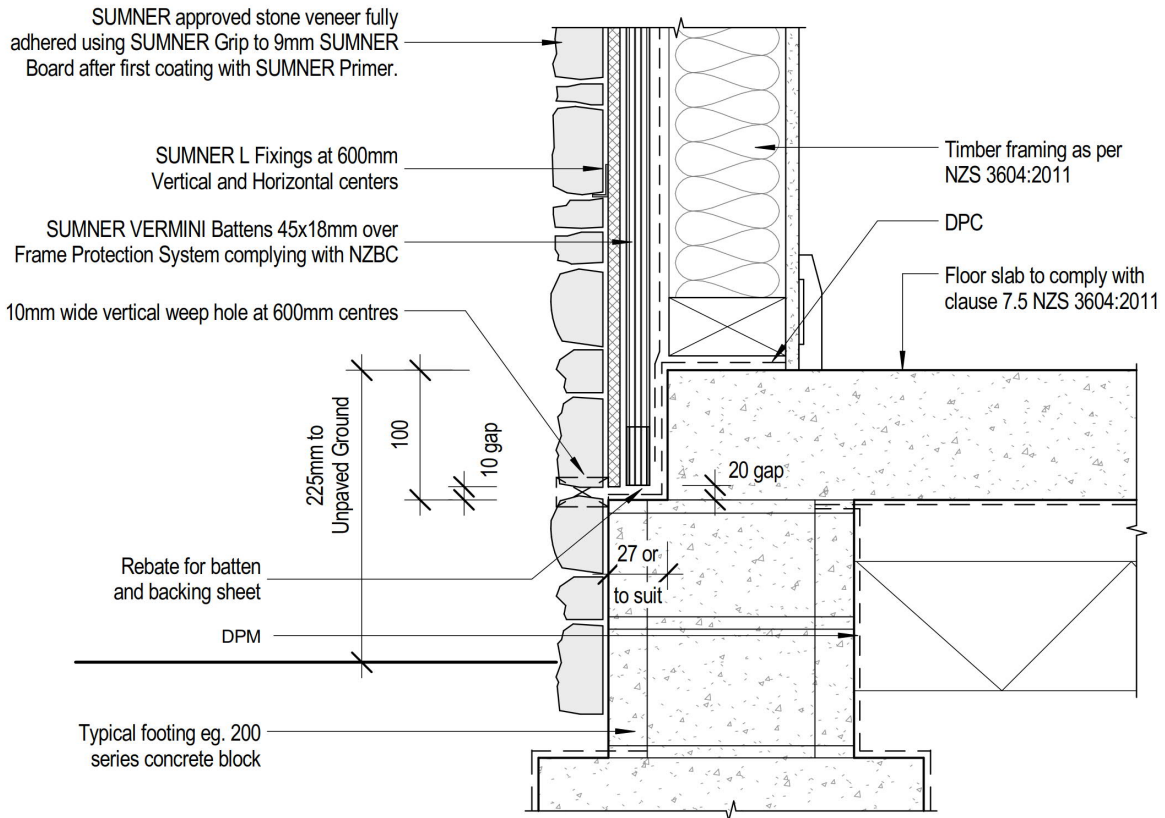
[www.sumnerschist.co.nz/](http://www.sumnerschist.co.nz/)

### Approved Stone Veneer on SUMNER Tile System

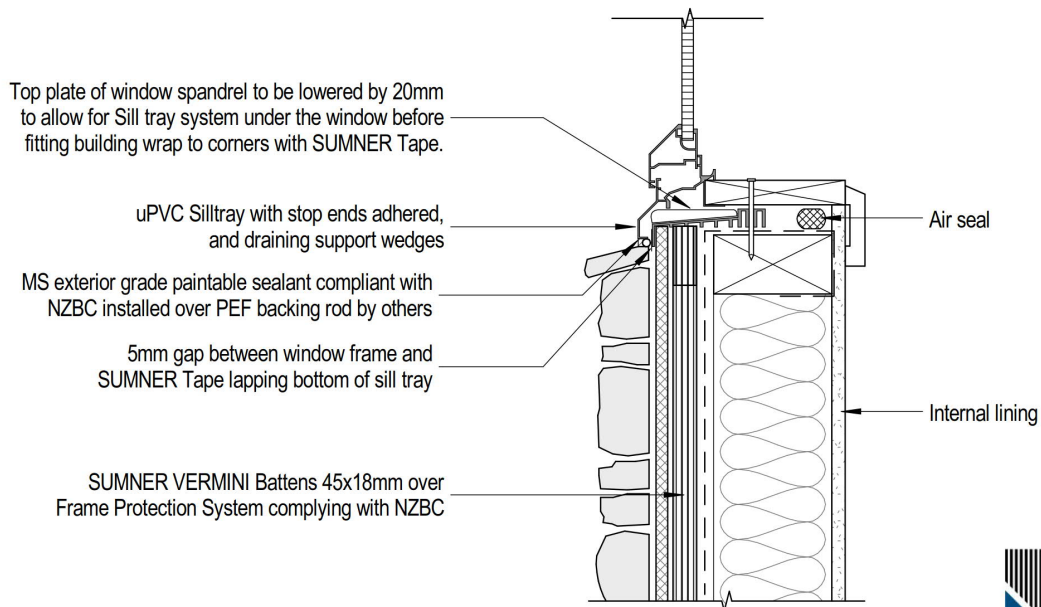
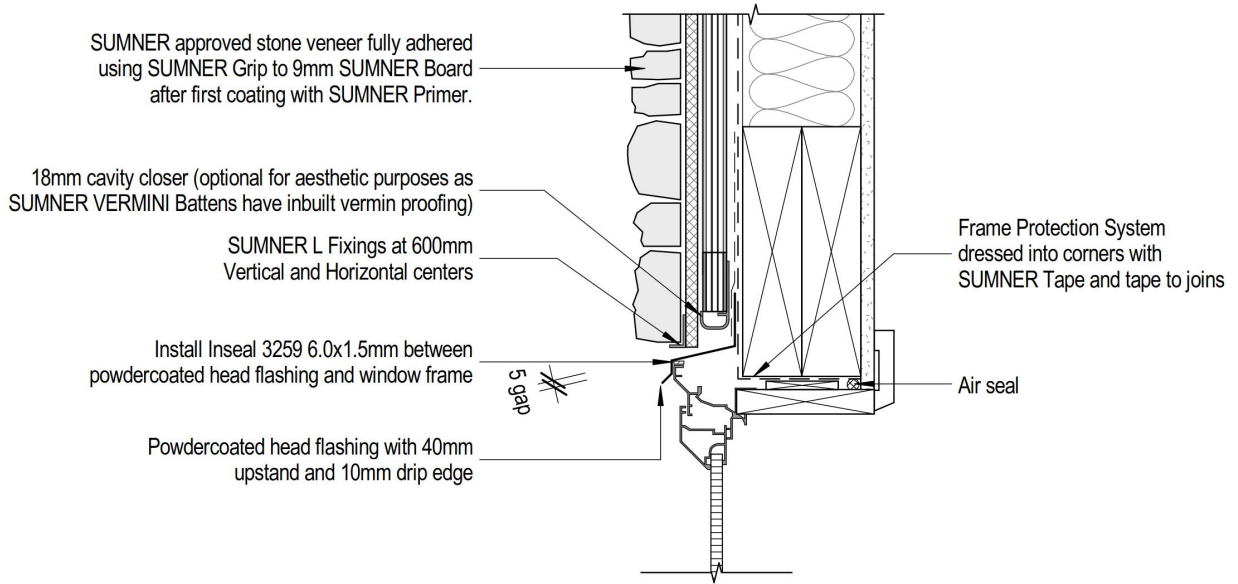
Standard Slab Edge - Timber Frame

|            |           |             |
|------------|-----------|-------------|
| Date       | Sept 2017 | 3.0.0       |
| Drawn by   | SUMNER    |             |
| Checked by | DS        | Scale 1 : 5 |





|   |  |  |      |           |       |          |        |            |
|---|--|--|------|-----------|-------|----------|--------|------------|
|  | <p>Approved Stone Veneer on SUMNER Tile System</p> | <p>Rebated Slab Edge - Timber Frame</p>  |      |           |       |          |        |            |
|   |  | <table border="1"> <tr> <td>Date</td> <td>Sept 2017</td> <td rowspan="3" style="font-size: 2em; text-align: center;">3.0.1</td> </tr> <tr> <td>Drawn by</td> <td>SUMNER</td> </tr> <tr> <td>Checked by</td> <td>DS</td> </tr> </table> | Date | Sept 2017 | 3.0.1 | Drawn by | SUMNER | Checked by |
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| Drawn by  | SUMNER   |  |      |           |       |          |        |            |
| Checked by  | DS   |  |      |           |       |          |        |            |
| <p><a href="http://www.sumnerschist.co.nz/">www.sumnerschist.co.nz/</a></p>         |  |  |      |           |       |          |        |            |



**CODEMARK™**  
BCS-171817-CMNZ



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## Approved Stone Veneer on SUMNER Tile System

Window Detail-Abutting Stone-Timber Frame

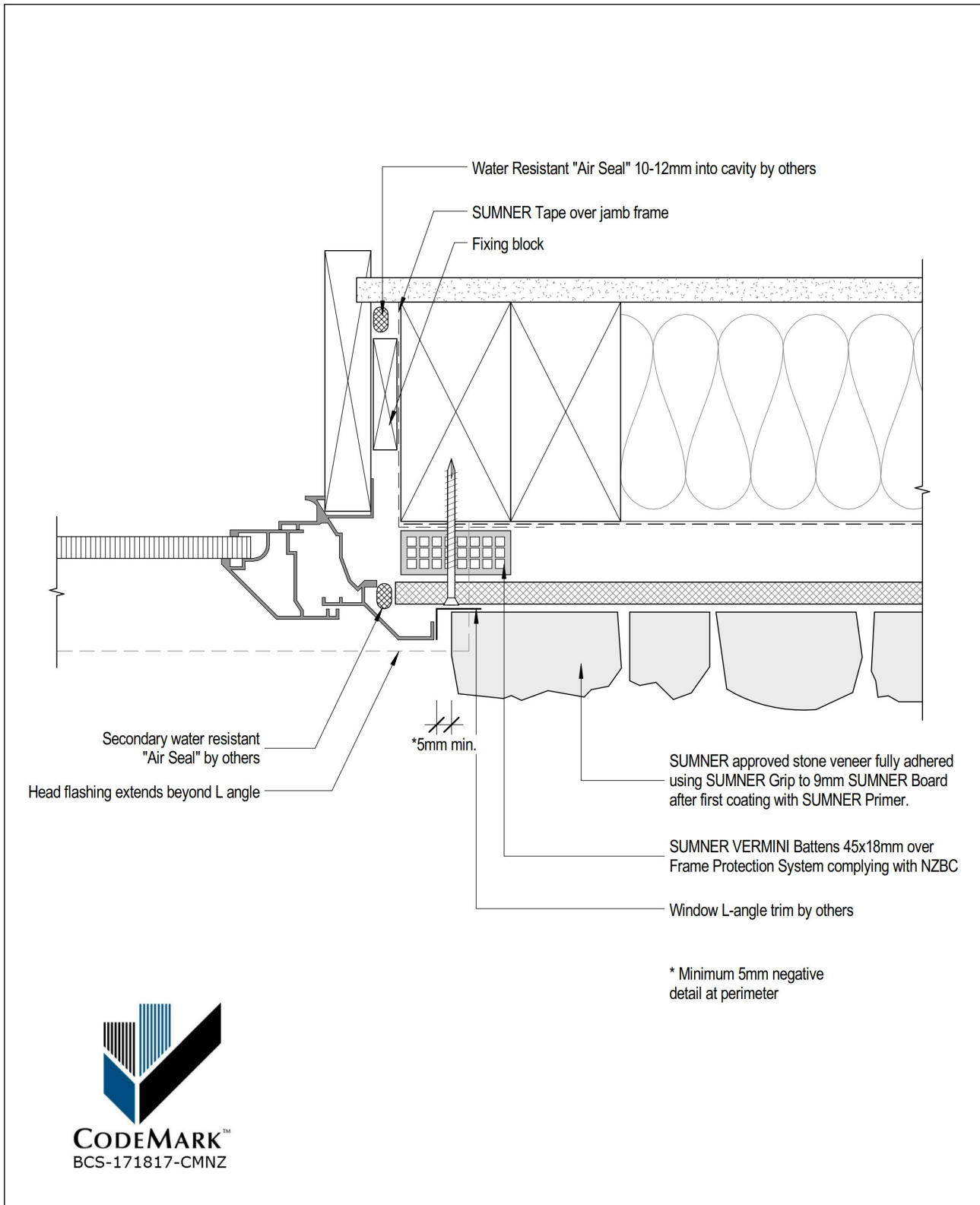
Date Sept 2017

Drawn by SUMNER

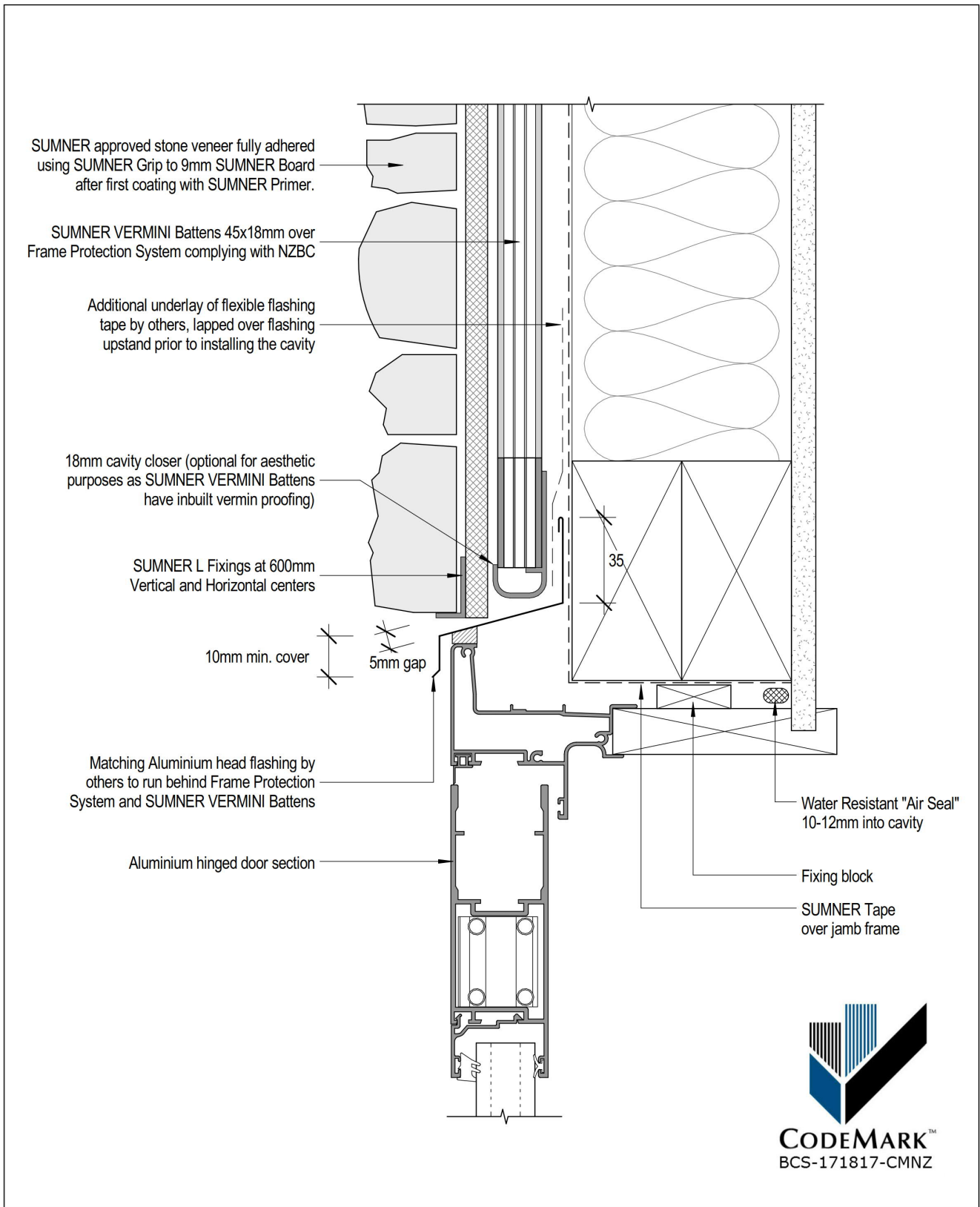
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**3.1.0**

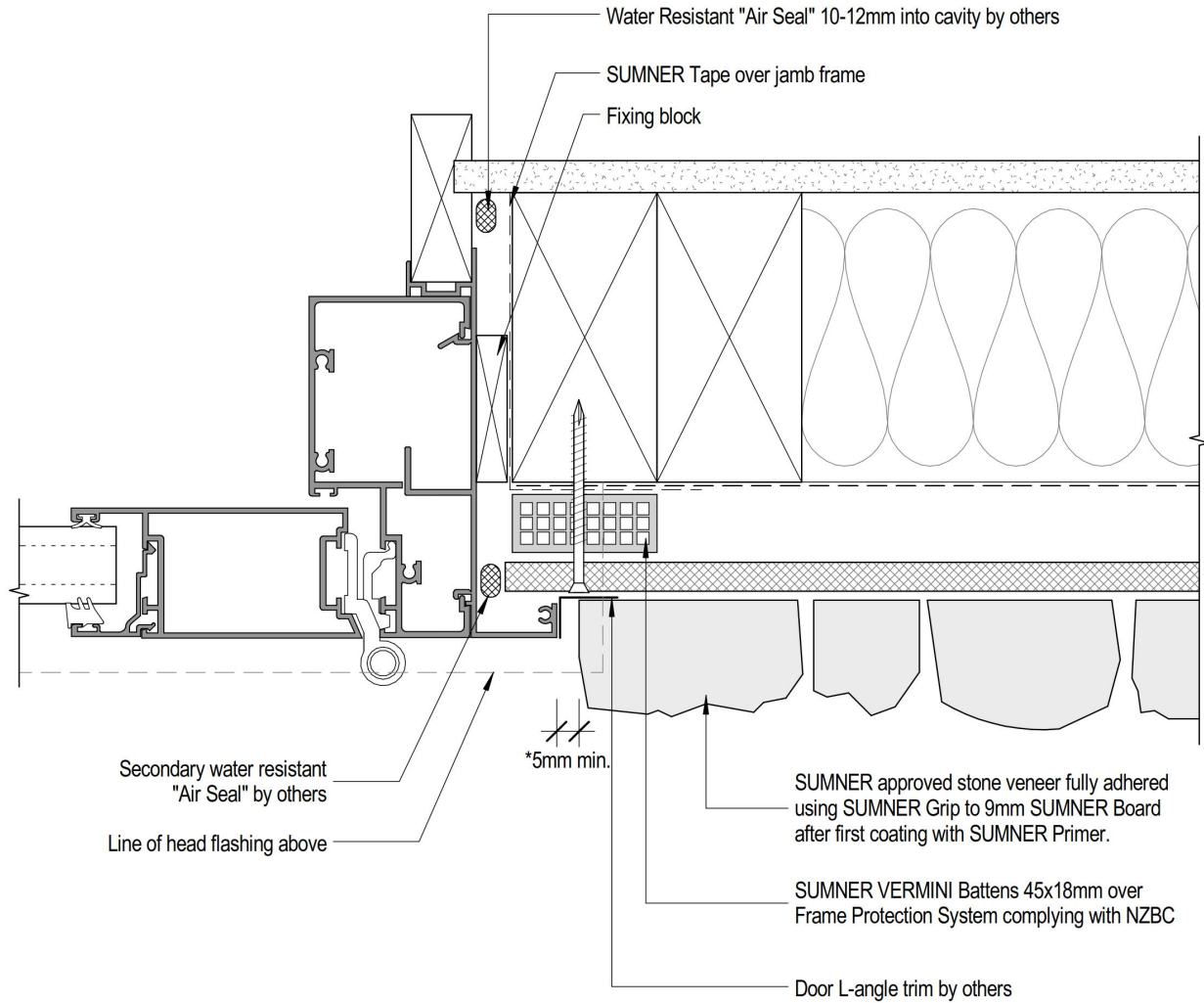
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|   |   |   |                     |
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|  | <p style="text-align: center;"><b>Approved Stone Veneer on SUMNER Tile System</b></p> | <p>Window Detail-Jamb-Abutting Stone-Timber Frame</p> |                     |
|   |   | <p>Date Sept 2017</p>                                 | <p><b>3.1.1</b></p> |
| <p>www.sumnerschist.co.nz/</p>  | <p>Checked by DS</p>  | <p>Scale 1 : 2</p>                                    |                     |



|  |  |  |      |           |       |          |        |            |    |  |
|--|--|--|------|-----------|-------|----------|--------|------------|----|--|
|  <p><b>SUMNER</b><br/>PROFESSIONAL CLADDING SYSTEMS</p> <p><a href="http://www.sumnerschist.co.nz/">www.sumnerschist.co.nz/</a></p> | <p>Approved Stone Veneer on SUMNER Tile System</p> | Door Detail - Head   |      |           |       |          |        |            |    |  |
|  |  | <table border="1"> <tr> <td>Date</td> <td>Sept 2017</td> <td rowspan="3" style="font-size: 2em; text-align: center;">3.2.0</td> </tr> <tr> <td>Drawn by</td> <td>SUMNER</td> </tr> <tr> <td>Checked by</td> <td>DS</td> </tr> </table> | Date | Sept 2017 | 3.2.0 | Drawn by | SUMNER | Checked by | DS | <table border="1"> <tr> <td>Scale</td> <td>1 : 2</td> </tr> </table> |
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\* Minimum 5mm negative detail at perimeter

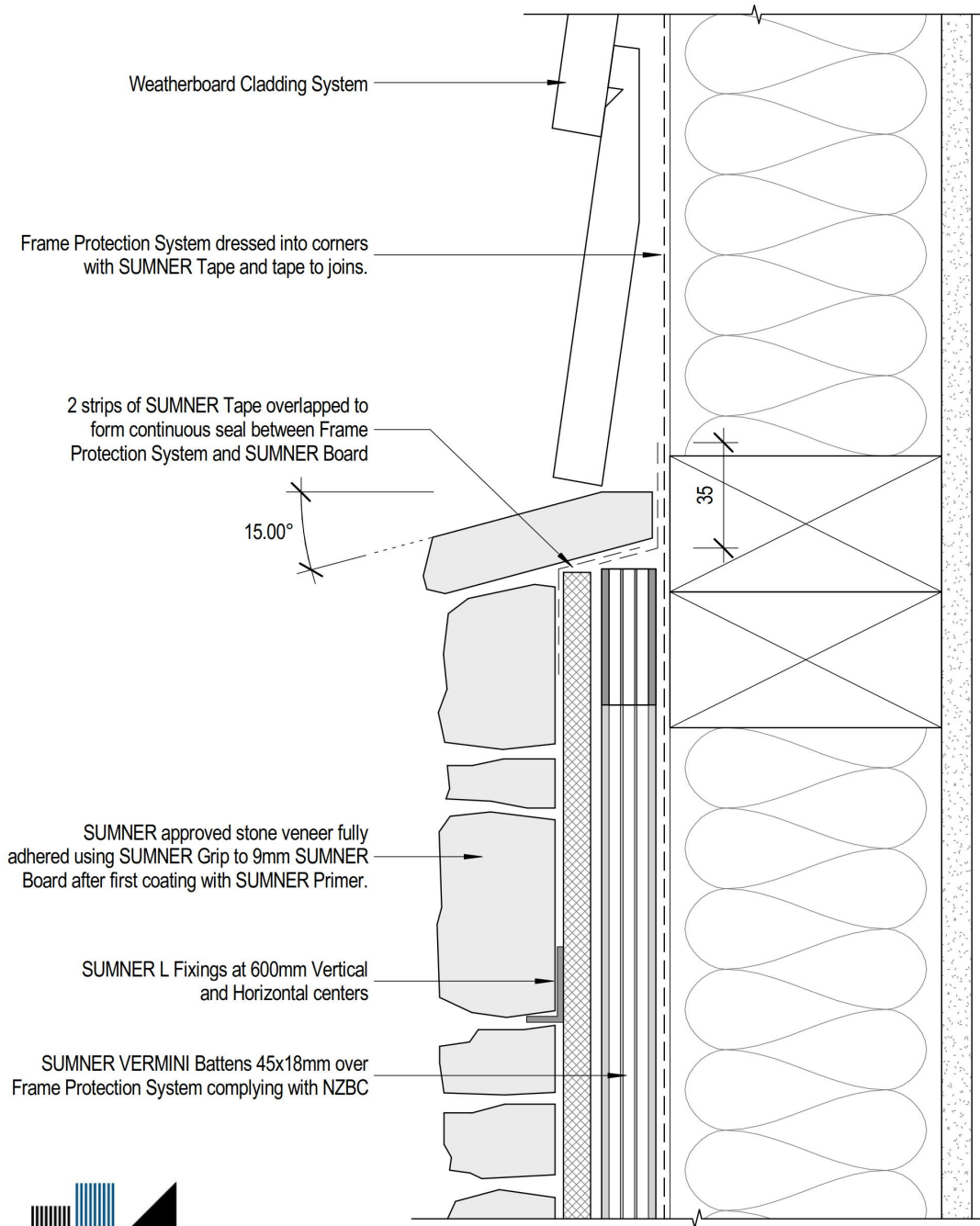



[www.sumnerschist.co.nz/](http://www.sumnerschist.co.nz/)

## Approved Stone Veneer on SUMNER Tile System

### Door Detail-Jamb

|            |           |              |
|------------|-----------|--------------|
| Date       | Sept 2017 | <b>3.2.1</b> |
| Drawn by   | SUMNER    |              |
| Checked by | DS        | Scale 1 : 2  |

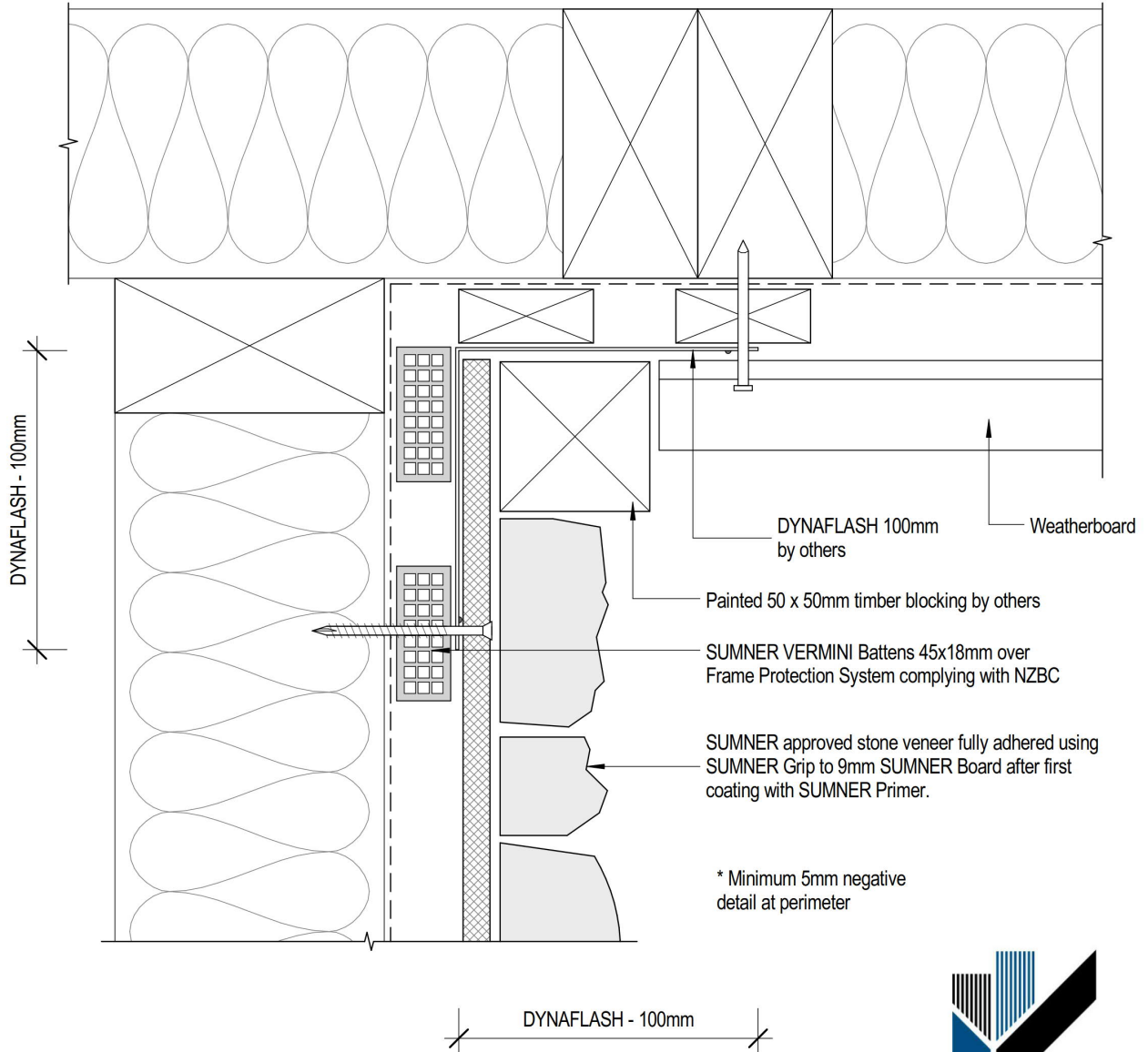


[www.sumnerschist.co.nz/](http://www.sumnerschist.co.nz/)

## Approved Stone Veneer on SUMNER Tile System

### Horizontal Abutment - Weatherboard

|            |           |              |
|------------|-----------|--------------|
| Date       | Sept 2017 | <b>3.3.2</b> |
| Drawn by   | SUMNER    |              |
| Checked by | DS        | Scale 1 : 2  |

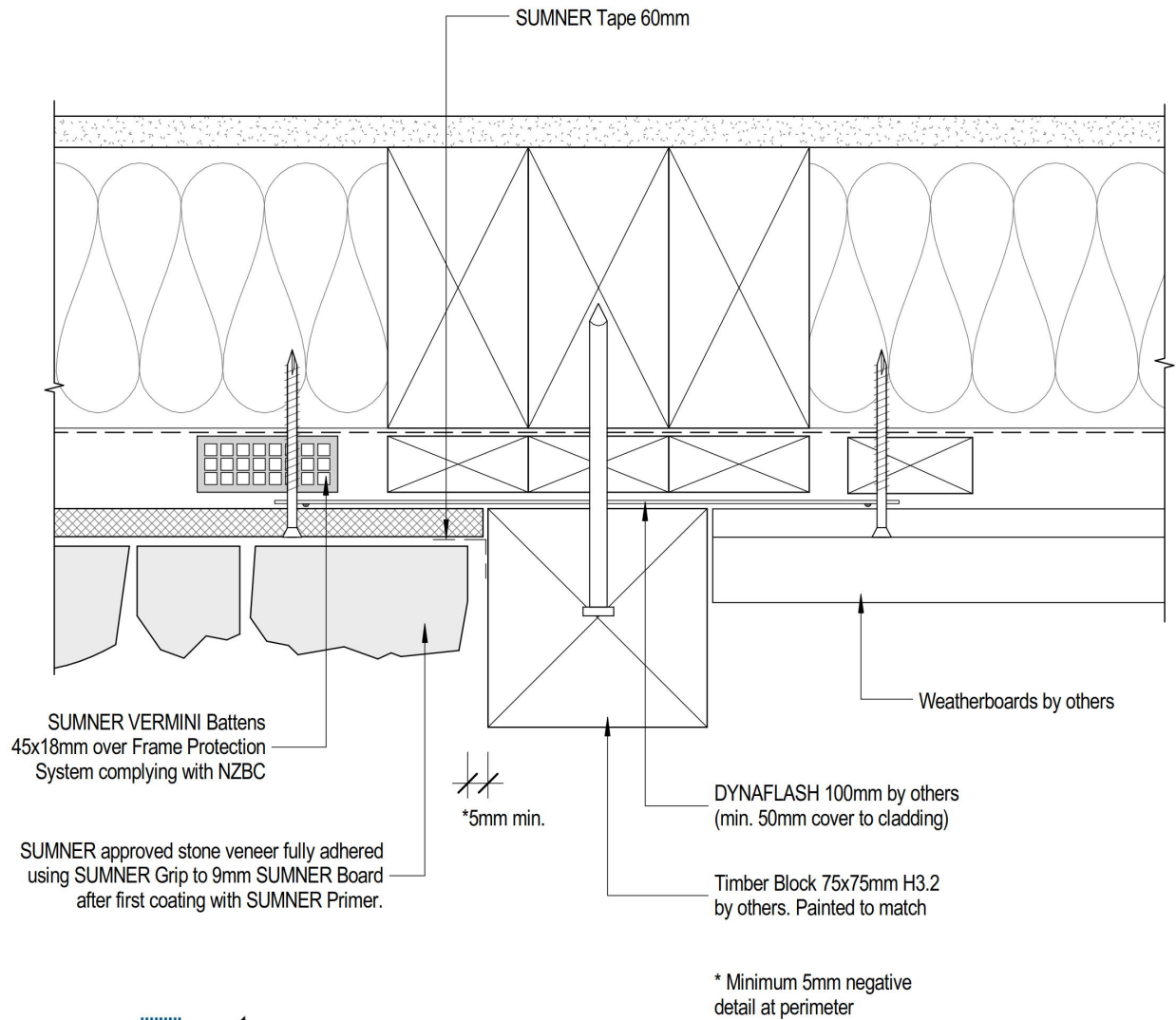


[www.sumnerschist.co.nz/](http://www.sumnerschist.co.nz/)

### Approved Stone Veneer on SUMNER Tile System

Internal Corner Abutment-Negative Detail (Weatherboard)

|            |           |             |
|------------|-----------|-------------|
| Date       | Sept 2017 | 3.3.3       |
| Drawn by   | SUMNER    |             |
| Checked by | DS        | Scale 1 : 2 |



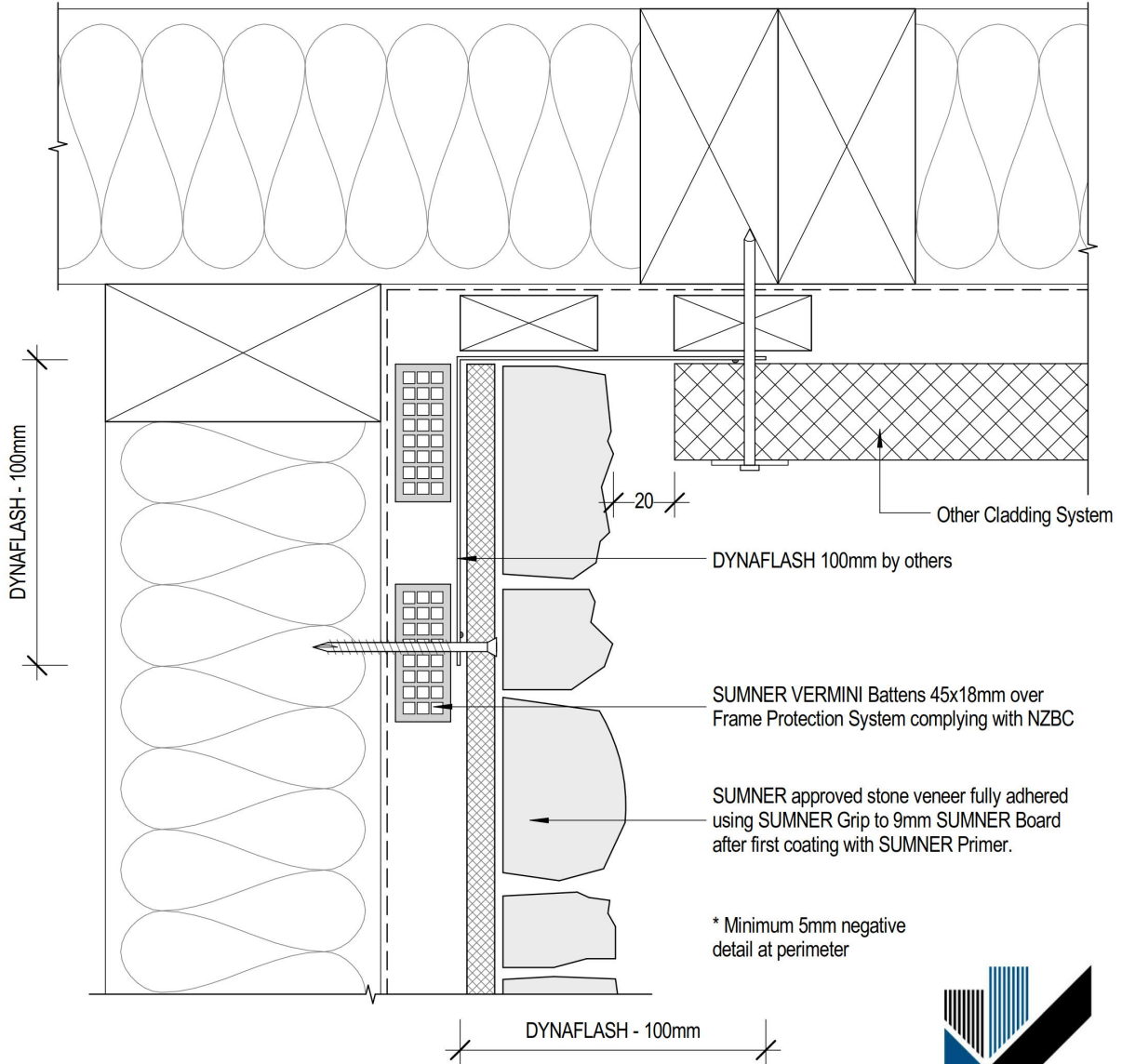

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### Approved Stone Veneer on SUMNER Tile System

#### Vertical Junction Abutment

|            |           |              |
|------------|-----------|--------------|
| Date       | Sept 2017 | <b>3.3.4</b> |
| Drawn by   | SUMNER    |              |
| Checked by | DS        | Scale 1 : 2  |





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BCS-171817-CMNZ



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## Approved Stone Veneer on SUMNER Tile System

Internal Corner Abutment - Butt To Cladding (Except Weatherboard)

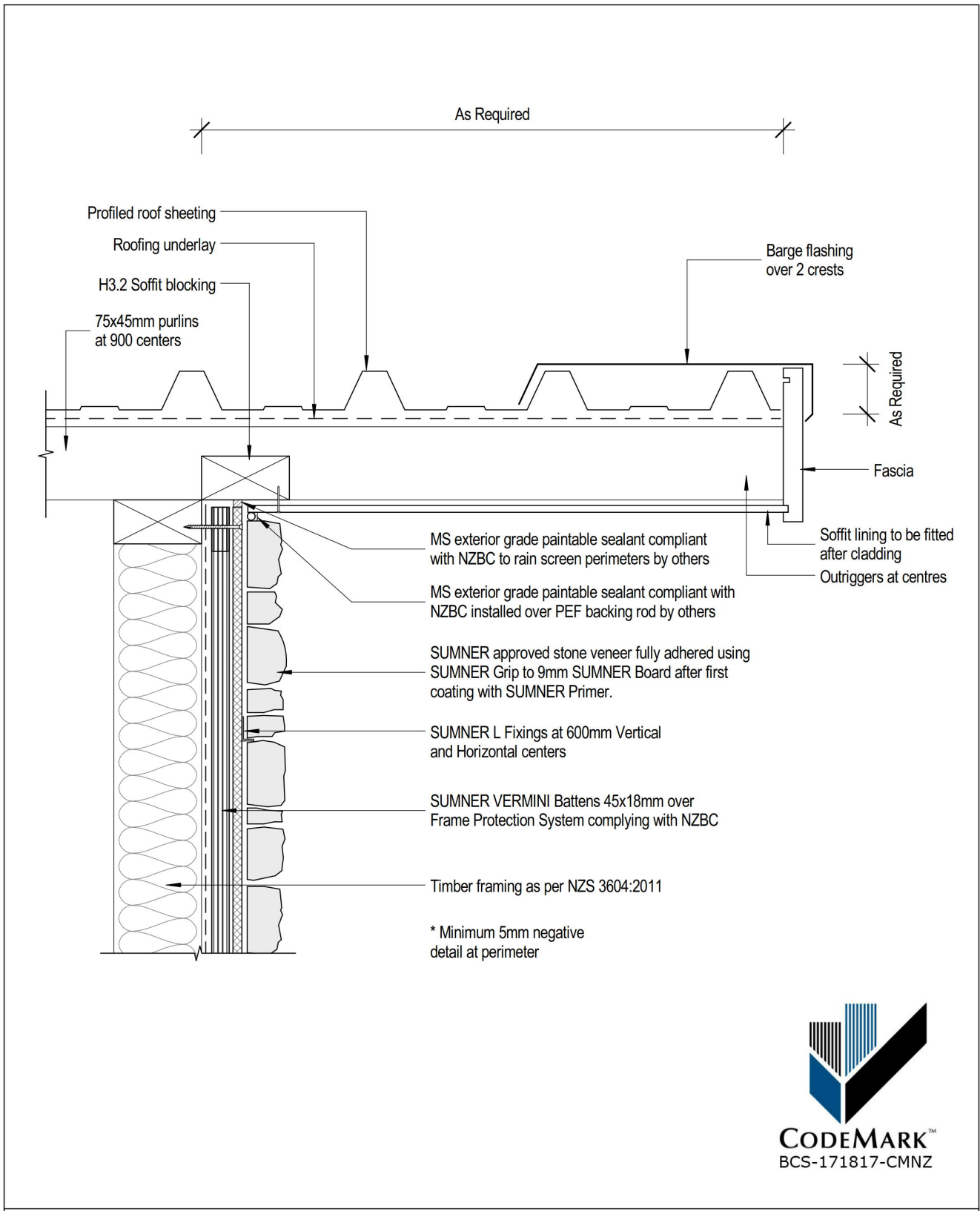
Date Sept 2017

Drawn by SUMNER

Checked by DS

**3.3.5**

Scale 1 : 2

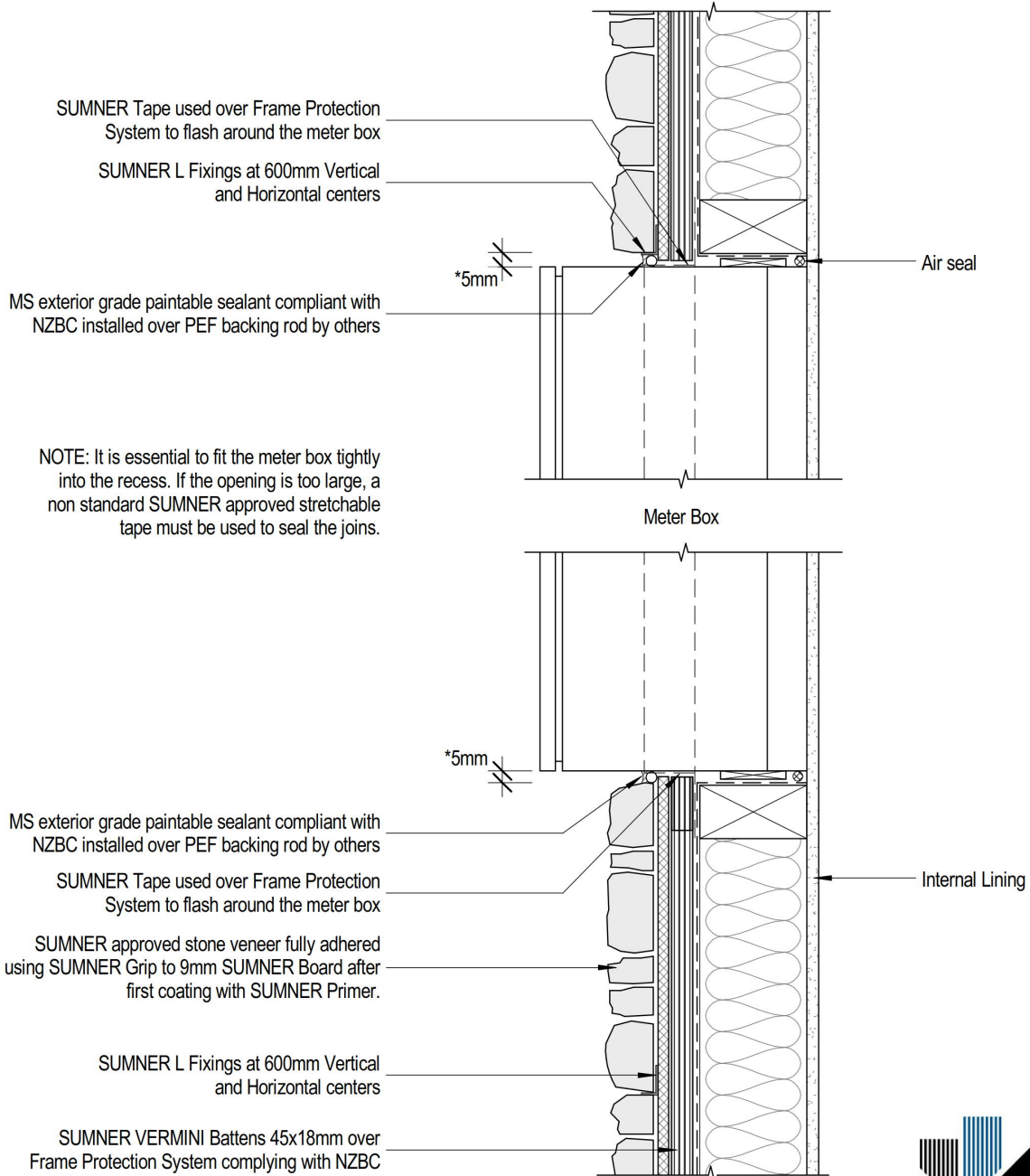


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## Approved Stone Veneer on SUMNER Tile System

### Soffit Termination Detail/ Roof Verge

|            |           |              |
|------------|-----------|--------------|
| Date       | Sept 2017 | <b>3.4.3</b> |
| Drawn by   | SUMNER    |              |
| Checked by | DS        |              |
| Scale      |           | 1 : 5        |



NOTE: It is essential to fit the meter box tightly into the recess. If the opening is too large, a non standard SUMNER approved stretchable tape must be used to seal the joins.

\* Minimum 5mm negative detail at perimeter



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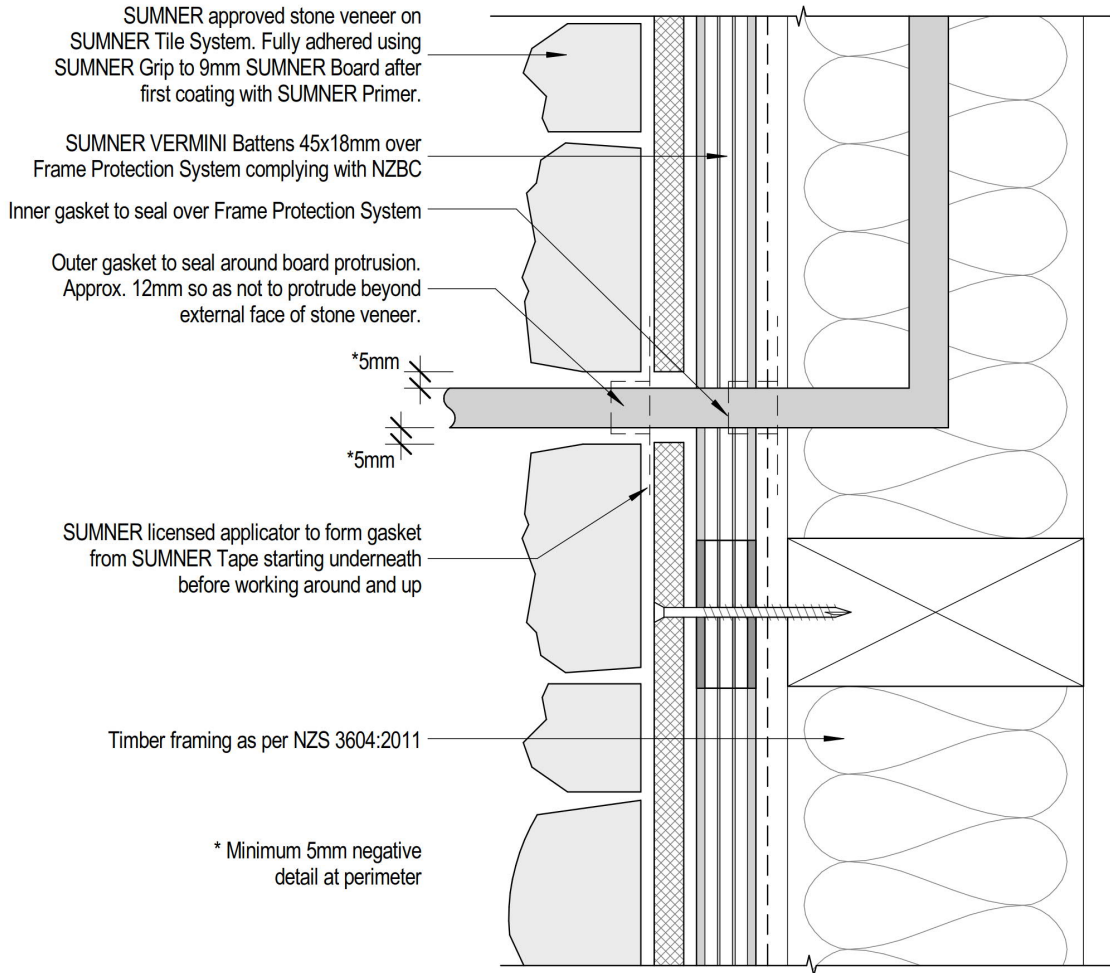


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## Approved Stone Veneer on SUMNER Tile System

### Meter Box Detail

|            |           |             |
|------------|-----------|-------------|
| Date       | Sept 2017 | 3.5.3       |
| Drawn by   | SUMNER    |             |
| Checked by | DS        | Scale 1 : 5 |

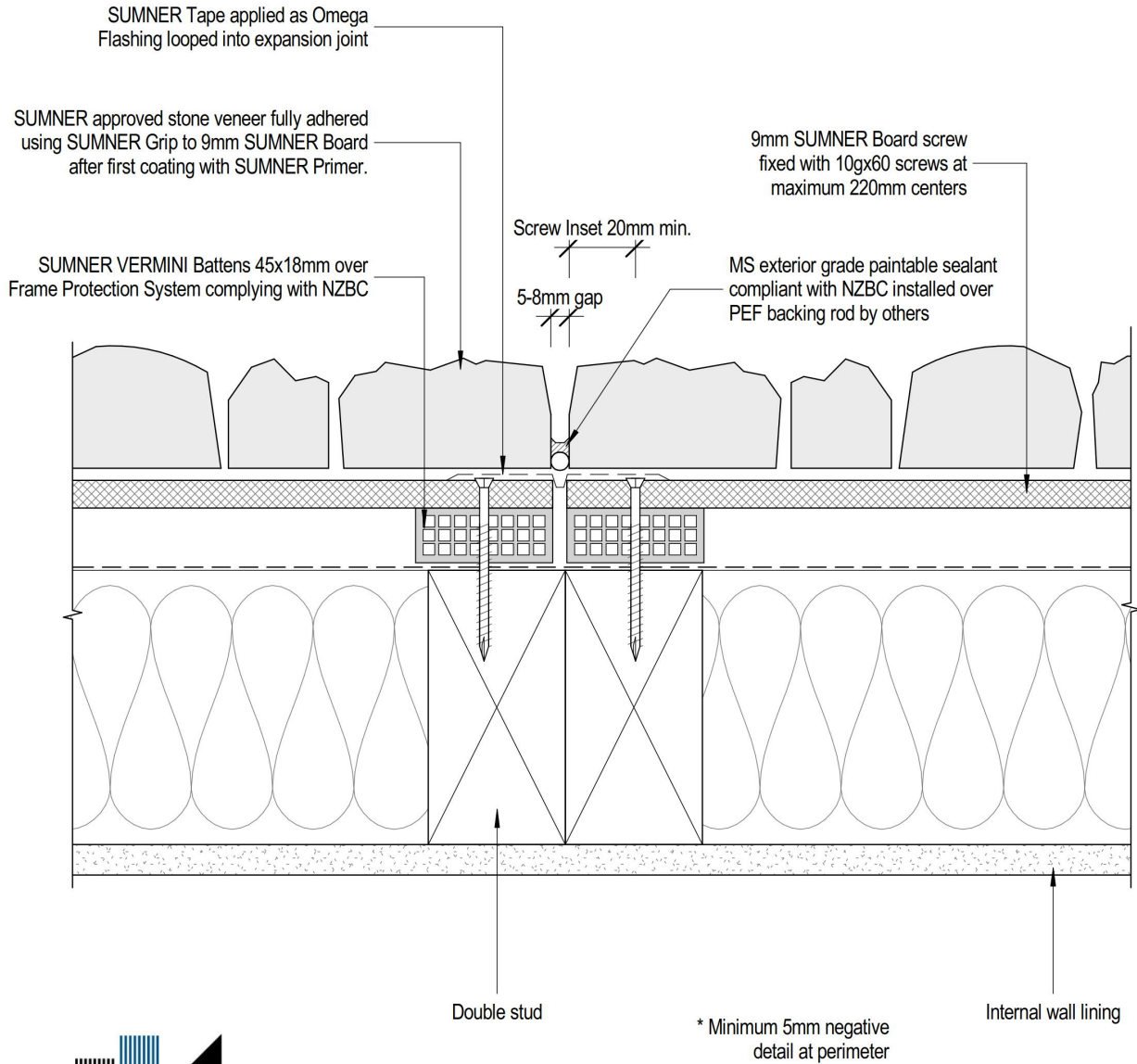



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### Approved Stone Veneer on SUMNER Tile System

#### Pipe Penetration

|            |           |              |
|------------|-----------|--------------|
| Date       | Sept 2017 | <b>3.5.5</b> |
| Drawn by   | SUMNER    |              |
| Checked by | DS        | Scale 1 : 2  |

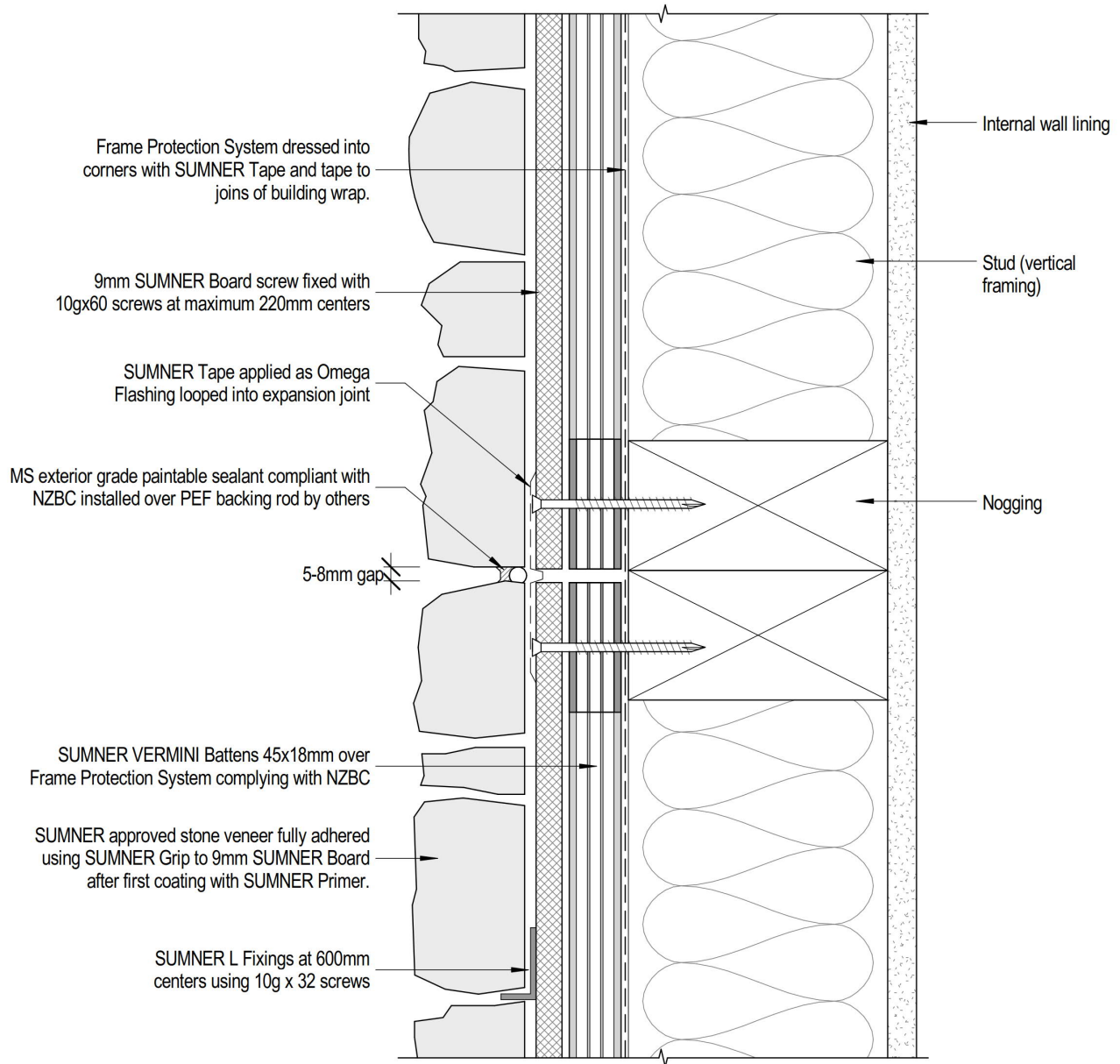



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## Approved Stone Veneer on SUMNER Tile System

### Vertical Movement Control Joint

|            |           |              |
|------------|-----------|--------------|
| Date       | Sept 2017 | <b>3.5.6</b> |
| Drawn by   | SUMNER    |              |
| Checked by | DS        | Scale 1 : 2  |

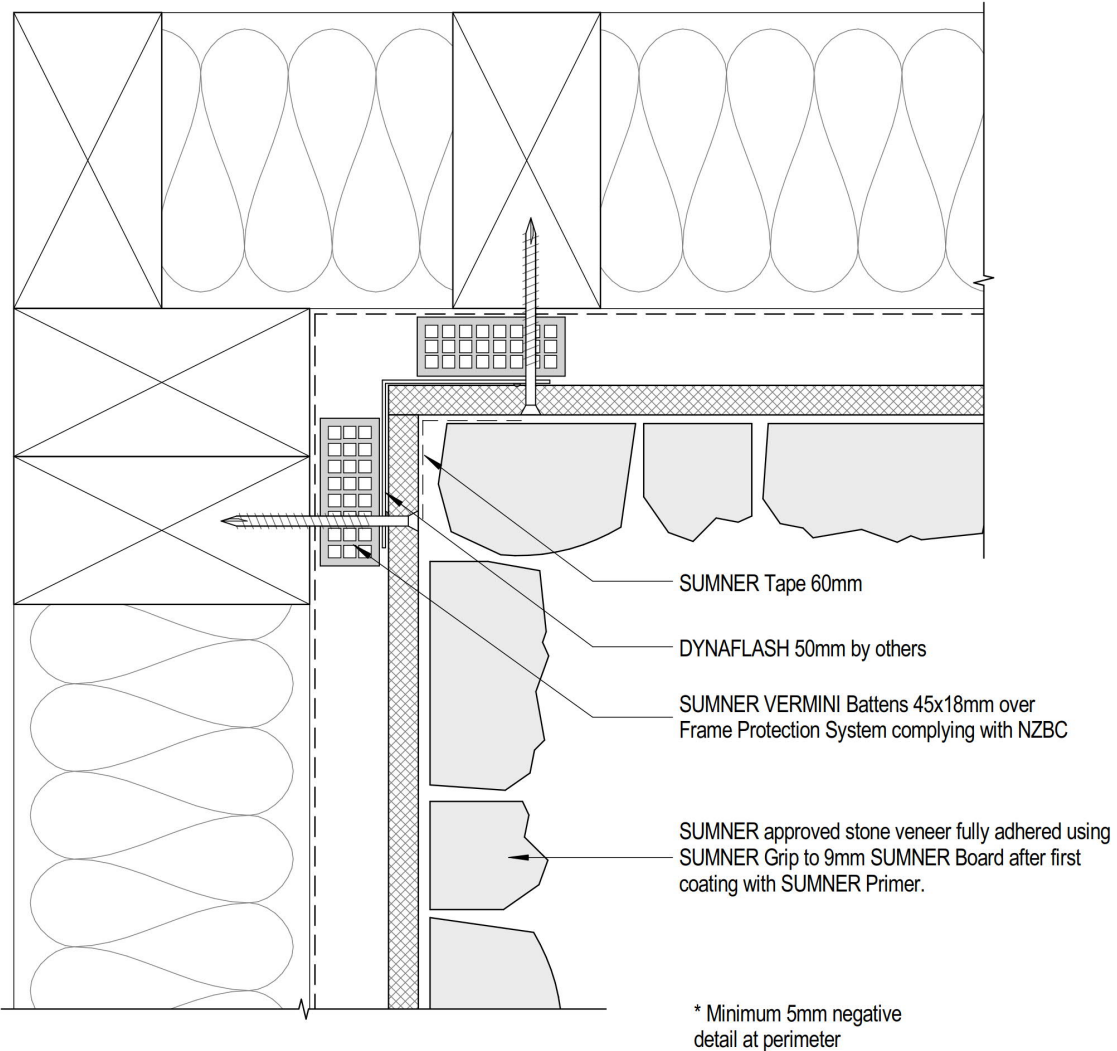



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## Approved Stone Veneer on SUMNER Tile System

### Horizontal Inter-Story Control Joint

|            |           |              |
|------------|-----------|--------------|
| Date       | Sept 2017 | <b>3.5.7</b> |
| Drawn by   | SUMNER    |              |
| Checked by | DS        | Scale 1 : 2  |



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## Approved Stone Veneer on SUMNER Tile System

Internal Corner

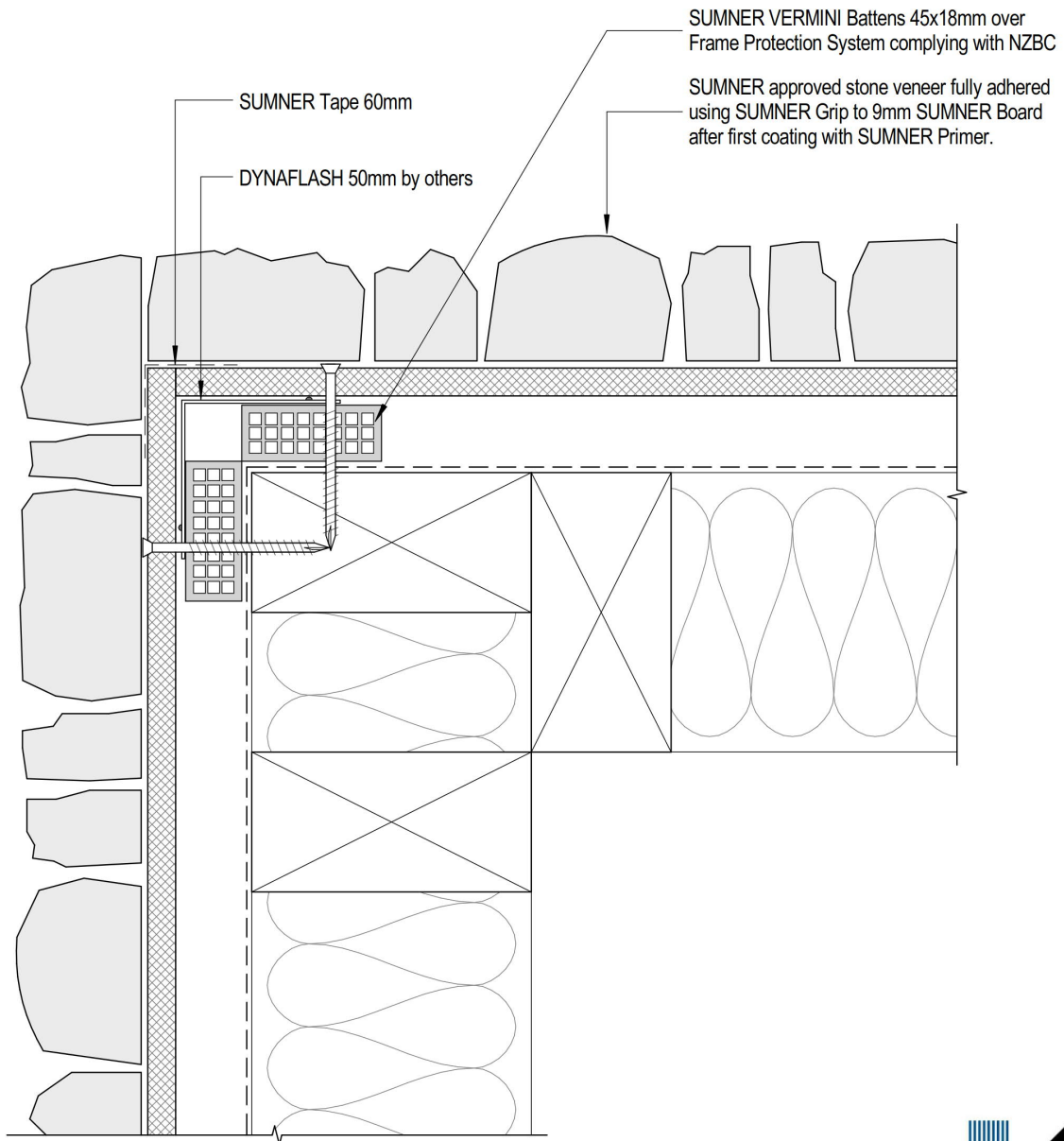
Date Sept 2017

Drawn by SUMNER

Checked by DS

4.0.0

Scale 1 : 2



[www.sumnerschist.co.nz/](http://www.sumnerschist.co.nz/)

### Approved Stone Veneer on SUMNER Tile System

External Corner

Date Sept 2017

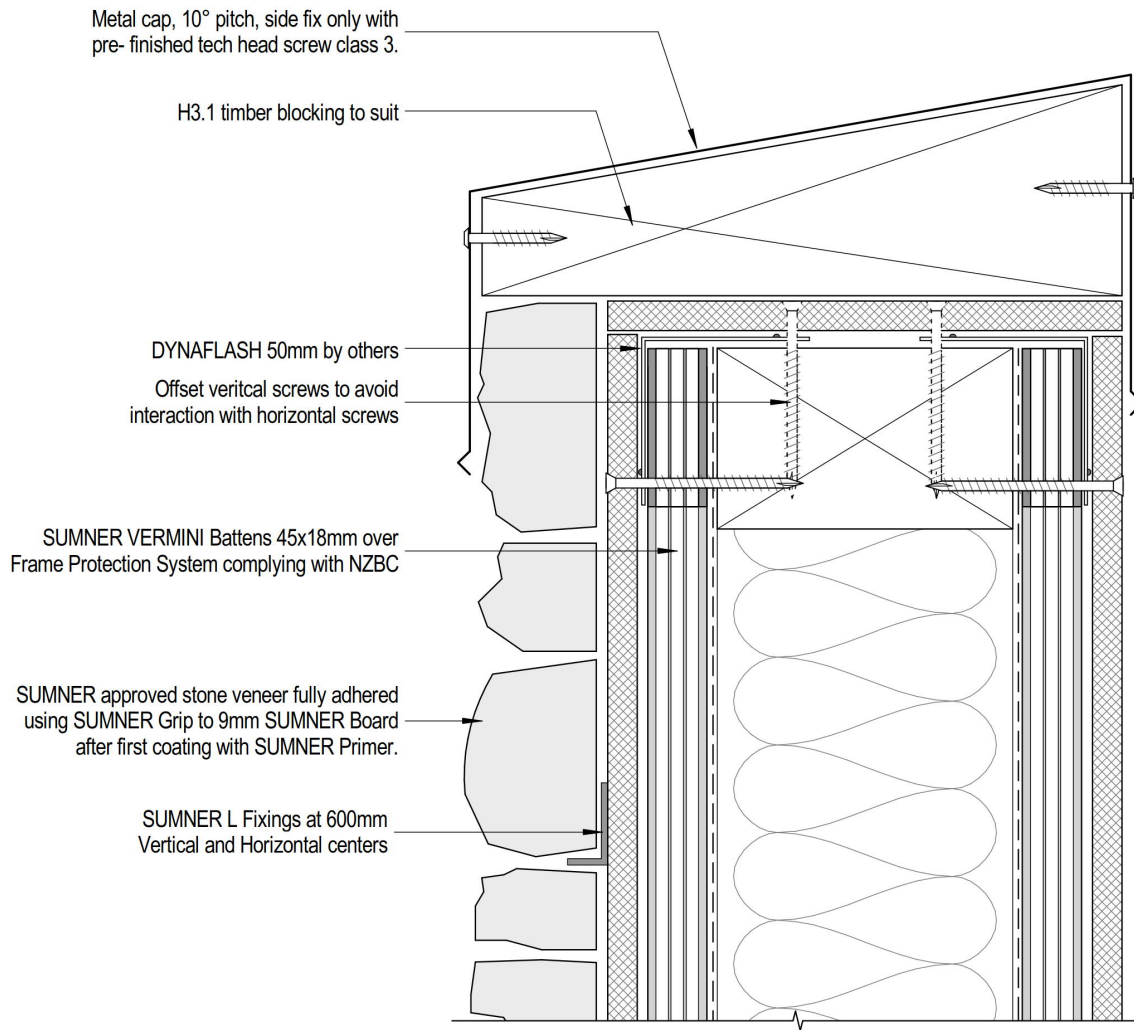
Drawn by SUMNER

Checked by DS

4.0.1

Scale 1 : 2






[www.sumnerschist.co.nz/](http://www.sumnerschist.co.nz/)

### Approved Stone Veneer on SUMNER Tile System

|            |           |       |       |
|------------|-----------|-------|-------|
| Parapet    |           |       |       |
| Date       | Sept 2017 | 9.0.0 |       |
| Drawn by   | SUMNER    |       |       |
| Checked by | DS        | Scale | 1 : 2 |

## 6 WEATHER TIGHTNESS

There are many steps throughout the cladding process that must be undertaken to ensure weather tightness as per NZBC clause E2.3.2. The best way is to use our fully warranted system that can only be put in place by an in-house professional.

- Under the Building Act 2004, this is classified as Restricted Building Work (RBW) and can only be carried out by a Licensed Building Practitioner (LBP). An unlicensed tradesperson can be liable for a court fine between \$5,000 and \$20,000.
- Wall wraps must be returned around the jamb, sill and window head framing and flashing tapes installed must be installed at all openings, with low expanding foam in behind windows.
- Hat flash/metal capping offers a practical solution to waterproof perimeter, sills, and chimneys.
- When detailing parapets make sure that any internal gutters have adequate fall and that any overflow units are positioned so that if there is a block in the guttering that the overflows will operate correctly.

## 7 INSTALLATION OF SUMNER BOARD

### 7.1 Ground Clearances

SUMNER Board is to start a minimum of 100mm up from exterior paving at all times. Please see SUMNER Vertical Cross Section detail on our website for more .pdf details.

<http://sumnerschist.co.nz/documents/documents.html>

### 7.2 Internal / External Corners

For all corners, ensure that the edges are clean and dust free, coat board with SUMNER Primer before applying SUMNER Tape to the face of the board, centred over the corner.

### 7.3 Flashings Behind SUMNER system (Aluminium or uPVC)






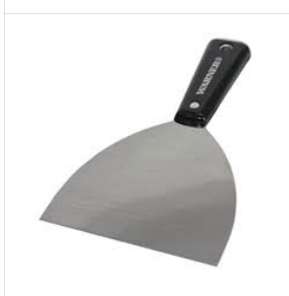









Ensure flashings have been installed correctly. The LBP is responsible for fixing all flashings in place. **Flashings are not part of the SUMNER system and they are not the responsibility of the SUMNER installer.**







### 7.4 Board Joints / Control Joints

- Fit SUMNER Board with maximum sheet joins of 10mm.
- Ensure sheet joins are clean and dust free, before applying SUMNER Tape centred over the joint.
- For horizontal control joints between floor levels the tape needs to be folded down in between the sheets to allow for expansion.
- Ensure 5mm tolerance for expansion is allowed at sheet perimeter (i.e. installations hemmed in by wing-walls).
- Walls need expansion joints every 5 vertical metres, and every 8 horizontal metres.
- Install either vertical or horizontal control joints at locations where two different substrates meet (i.e. concrete block and timber frame).
- Inter-story drained joints must be provided for walls over two storeys in height in accordance with the requirements of NZBC. Refer to Inter Story Control Joint Detail 3.5.7





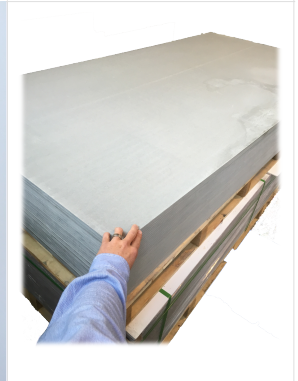
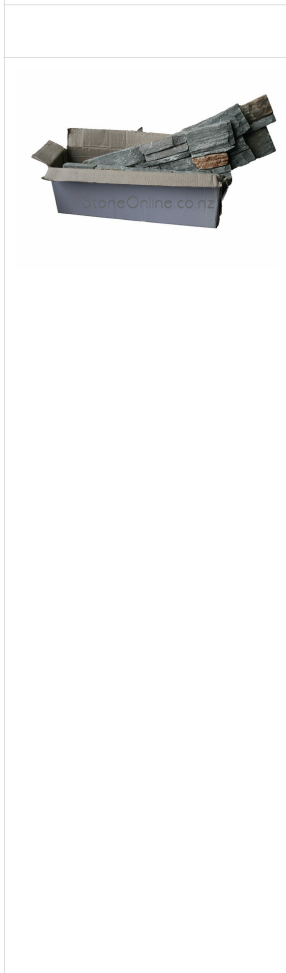
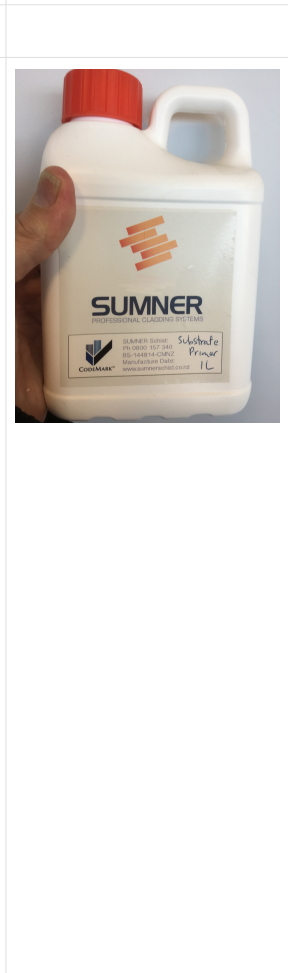


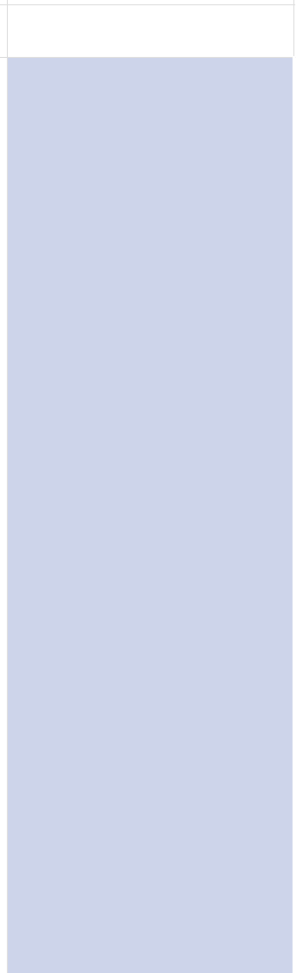
# 8 APPLICATION OF THE SUMNER STONE VENEER SYSTEM

## 8.1 TOOLS REQUIRED

|  |   |   |  |   |
|--|---|---|--|---|
|    |    |    |    |    |
| <p>9” or 14” Wet saw with a stone cutting blade</p>                                | <p>Large mixing drill, with appropriate mixing paddle.</p>                          | <p>4” angle grinder with a stone cutting blade</p>                                  | <p>Power impact drill with square drive and SPAX T20 Drivers</p>                     | <p>10mm notched trowel</p>  |
|  |  |  |  |  |
| <p>15cm broad knife</p>  | <p>Hammer</p>   | <p>Rubber mallet</p>  | <p>Spirit level</p>  | <p>Chalk Line</p>   |
|  |  |  |  |  |
| <p>Tape measure</p>  | <p>Pencil</p>   | <p>Tajima knife (or similar knife)</p>  | <p>Paint roller tray, roller, and sleeve</p>   | <p>Paintbrush</p>   |

|   |   |   |  |   |
|---|---|---|--|---|
|   |   |   |  |   |
|  |  |  |  |  |
| <p>Masking tapes and plastic film drop sheets</p>                                 | <p>Cloth Drop Sheet</p>   | <p>Car sponge</p>   | <p>Clean 20 litre pails</p>  | <p>Clean rags</p>   |
|   |   |   |  |   |
|  |   |   |  |   |
| <p>First Aid Kit</p>  |   |   |  |   |

# 8.2 MATERIALS REQUIRED

|  |  |  |   |  |
|--|--|--|---|--|
|   |   |   |   |   |
| <p>Building Wrap (by others) or Appraised RAB Board 5mm (Heavy Wind Zones)</p>     | <p>SUMNER Tape</p>   | <p>SUMNER VERMINI cavity battens</p>   | <p>SUMNER Board 10g 63mm 316 CSK Screws</p>   | <p>SUMNER Board</p>  |
|  |  |  |  |  |
| <p>SUMNER Stone</p>  | <p>SUMNER Primer</p>   | <p>SUMNER Grip adhesive Powder</p>   | <p>SUMNER L-Fixings and 32mm screws</p>   |  |

## STORAGE

All adhesives and stone must be stored out of the elements and elevated off any concrete floors.

### 8.3 Preparation

1. Erect SUMNER site sign at the front of the premises.
2. Collect the signed **Substrate Sign off Sheet** from the LBP and staple it behind the **Installer Checklist**.
3. Walk around the job with the check sheets and ensure everything is ticked off and completed satisfactory prior to commencing installation. Ensure surfaces are plumb, clean and dust free before SUMNER tile installation begins. Ensure flashing of penetrations and projections (e.g. pipes, taps).
4. Installed tiles must be protected from heavy rain for a minimum of 24 hours. If rain is likely, either delay installation or use waterproof tarpaulins to keep completed stonework dry.
5. Sort some tiles
  - a. Ensure and colour variation is evenly distributed.
  - b. Any undesirable tiles may be deselected if it leaves sufficient to successfully complete the installation.
6. Be familiar with the SUMNER system application relevant to the structure. See Table below.

## SUMMARY OF SYSTEM APPLICATIONS FOR DIFFERENT STRUCTURES

|   | TIMBER & STEEL FRAME |         | BLOCKWORK |                             | SOLID POUR |                             | TILT SLAB |                             |
|---|----------------------|---------|-----------|-----------------------------|------------|-----------------------------|-----------|-----------------------------|
|   | Inside               | Outside | Inside    | Outside                     | Inside     | Outside                     | Inside    | Outside                     |
| <b>CAVITY</b>                           |                      |         |           |                             |            |                             |           |                             |
| SUMNER Board                            | ✓                    | ✓       |           | ✓                           |            | ✓                           |           | ✓                           |
| VERMINI Battens vertical and horizontal |                      | ✓       |           | ✓                           |            | ✓                           |           | ✓                           |
|   |                      |         |           | Except landscape structures |            | Except landscape structures |           | Except landscape structures |
| <b>PREPARATION</b>                      |                      |         |           |                             |            |                             |           |                             |
| SUMNER Primer                           | ✓                    | ✓       | ✓         | ✓                           | ✓          | ✓                           |           | Cavity Installations        |
| Prime With Water                        |                      |         |           |                             |            |                             | ✓         | Direct Fix                  |
| <b>SHEET JOINTS</b>                     |                      |         |           |                             |            |                             |           |                             |
| SUMNER Tape                             |                      | ✓       |           | If cavity                   |            | If cavity                   |           | If cavity                   |
| <b>ADHESIVE</b>                         |                      |         |           |                             |            |                             |           |                             |
| SUMNER Grip                             | ✓                    | ✓       | ✓         | ✓                           | ✓          | ✓                           | ✓         | ✓                           |
| Rai-Fixings                             | ✓                    | ✓       | ✓         | ✓                           | ✓          | ✓                           | ✓         | ✓                           |

#### **8.4 Masking and Drop Sheets**

7. SUMNER Grip can be extremely difficult to remove. You must avoid contact with all other components. Therefore **prior** to commencing installation place drop cloths to cover other finished surfaces like weatherboard or driveways. Mask against any susceptible areas as required. Note: It is highly recommended to protect all openings such as windows, doors and any finished materials or products. **Prevention is better than cure.**

#### **8.5 Surface Preparation**

8. Ensure the surface to be covered is solid, flat, and free from dust. SUMNER Primer must be applied to SUMNER Board. Allow SUMNER Primer to cure before commencing installation.



## 8.6 Applying Adhesive

### **SET YOUR LEVELS**

9. Using 100x50mm framing timber and 100mm concrete nails, fix the timber to the concrete foundation, forming a temporary footing on which the first course can start.
10. It is essential that this footing is level.

**Note: Do not remove the temporary footing until the adhesive has fully cured (approximately 24 hours).**

### **MIXING THE ADHESIVE**

**CAUTION:** Care must be taken not to knock bucket over with electric tools nearby.

11. QUANTITY - Mix only enough adhesive to be used in 30 minutes (plus or minus 10 minutes in hot or cold weather respectively).
12. MIX - Using a paddle mixer combine half of the 25kg bag of SUMNER Grip adhesive with 2 litres of SUMNER Prolastic. Mix on low speed for a minimum of 3 minutes. This seems like a long time but under mixing may adversely affect the adhesive.
13. SLACK-TIME - The consistency **MUST** be correct prior to resting the adhesive for 2 minutes. **DO NOT** add any further liquid or powder after resting.
14. RE-MIX – after the 2 minute slack time, remix for 1 minute.
15. Set aside for 20 minutes. - This period reduces adhesive slump. The batch is then ready for application.

#### **Notes:**

- I. Clean paddle with clean potable water between batches to avoid adhesive setting up on the tool.
- II. On hot and/or windy days, the adhesive will dry very quickly. Avoid applying to walls that have heated up to 30°C .
- III. SUMNER adhesive mix must not be applied when the outside air temperature is below 4°C or over 30°C.
- IV. If 48 hour weather forecast implies temperature conditions may be below 4°C or over 30°C then application must be postponed to avoid impaired curing.

## 8.7 Applying the Stone

### **LAYING THE 1st COURSE**

16. Starting from an external corner, apply the adhesive to the wall, one course high with a 10mm notched trowel.
17. Butter a thin coat of adhesive to the backside of **Natural End. Formed Corner** installation is not discussed here as the installation of these is straight forward.
18. Press the panel into the adhesive on the wall, leaving the natural end panel overhanging the corner by the thickness of the stone.
19. Continue this process along the wall, using the standard SUMNER panels, hard butting the panels together (no grout between the joints).
20. For the return wall, Butt a standard SUMNER panel into the back of the overhanging natural end.
21. It is important to note that the corner should alternate on every course to avoid seeming.

#### **Notes:**

- I. Take care not to disturb panels already laid. If the panels become disturbed whilst the adhesive is still 'green,' they will not re-adhere.
- II. 600mm is the maximum height of stone to be fixed and fully cured prior to commencing a new course.

### **LAYING THE 2<sup>nd</sup> COURSE**

17. Using screws and SUMNER FIXINGS, fix the bracket so that it sits hard on top of the 1<sup>st</sup> course.

SUMNER FIXINGS need to be located every 600 vertical and 600 horizontal centres.

**Horizontal:** Locate one fixing in front of every stud, using 40mm screw, or SplitDrive at 600mm centres for masonry installations.

**Vertical:** Ping a chalk line at 600mm vertical centres to remind yourself.

18. On the bottom edge of the panels (to be laid), where the fixing will be located, use the angle grinder to check-out a seat to accommodate the SUMNER FIXING. This ensures the panels can butt with the 1<sup>st</sup> course, and stay level.
19. Continue laying the courses, staggering the joints from that of the previous course.

## **INTERNAL CORNERS**

20. Cut a 45° mitre to stone, to sit into the internal corner, so that the return (also mitred) will form a clean joint.

## **EXTERNAL CORNERS**

21. Use formed Solid-L Corners, or alternatively overhang stone with a natural end and return back perpendicular with a matching stone butted in behind.

## **WINDOWS and DOORS**

### Abutting Joinery

SUMNER System is primarily designed to terminate against the side of the windows and door jambs. For the majority of timber frame houses this detail is appropriate. Tiles should be cut and fitted around window frames allowing 5mm at perimeter, to be filled with MS exterior grade paintable sealant compliant with NZBC.

### Deep Reveal Doors and Windows

Commercial buildings of masonry construction have thicker walls and their window and door joinery is in reveal of the cladding. SUMNER deep reveal window details 3.1.2 and 3.1.3 are designed for these applications with folded sills and L angle trims to jamb and head. Stone should be cut and fitted precisely over the SUMNER Board.

## **8.8 Health and Safety**

22. A current Site Safe passport is compulsory.
23. All tradesmen must have an approved First Aid Kit, on site at all times.
24. Large format stones may require two men to lift safely.
25. All hazards must be identified, eliminated or minimised, before commencing any work.
26. Always use all power tools with caution as a lapse of concentration can result in serious injury.
27. Always use any protective guards supplied with any machinery.
28. Never work alone if using machinery or undertaking any work with any level of risk involved.
29. Always use safety approved transformers and safety approved extension cords when using any electrical appliances.
30. Always wear protective eyewear and ear muffs when cutting tiles.
31. Always keep an accident log book for your own security.

**Note: Make sure you have your own Health and Safety policy, as this has become compulsory in all aspects of the construction industry as per the Health and Safety at Work Act 2015.**

## 9 CLEAN UP AND MAINTENANCE

### 9.1 General

35. SUMNER Grip adhesive has extremely high adhesive strength and cannot be cleaned off many substrates. It is vitally important to leave the job in a clean and tidy condition.
36. CAREFULLY remove all masking tape from joinery and remove the temporary timber footing from the foundation.
37. Place all rubbish in the skip or on an allocated rubbish pile. If no provisions have been made for rubbish, then remove all rubbish from site and dispose of in a fit manner.

**Note: This step can determine return business.**

### 9.2 Maintenance

- Never use a water blaster to clean cladding under any circumstance (this could compromise your window seals).
- Gentle house wash is recommended to be carried out once a year.
- Avoid the use of aggressive chemical cleaning agents.

### 9.3 Warranty

SUMNER Schist Cladding System can only be applied by a SUMNER approved installer. Our full supply and installation warranty is 15 years.

## 10.0 CHECKLISTS

For Warranty purposes it is essential that we receive the following completed SUMNER CAVITY CHECKLIST and SUMNER INSTALLATION CHECKLIST. Please ensure you have the latest version by visiting our website [www.sumnerschist.co.nz](http://www.sumnerschist.co.nz).

### 9.1.1 SUMNER Cavity Checksheet - Timber Frame Exterior

| Project:   |   | O.K. ✓ | Reqd ✓ | Re Check | O.K. ✓ | Re Check | Date of O.K. |
|--|---|--------|--------|----------|--------|----------|--------------|
| Operation: Full System for Timber frame Exterior |   |        |        |          |        |          |              |
| Revision: F ( Manual 2014/08 )                   |   |        |        |          |        |          |              |
| Work Sequence                                    | Level/Zone  |        |        |          |        |          |              |
| <b>Considerations</b>                            | Keep timber framing dry. Framing can have a maximum moisture content of no more than 18% to apply the stonework. As such we recommend using Kiln dried timber (14%-16% moisture) and wrapping the building asap. SUMNER Board acts as a rain shield so this should also be put in place asap. |        |        |          |        |          |              |
| <b>SUMNER CAVITY</b>                             |   |        |        |          |        |          |              |
| <b>1.0 Framing Checks</b>                        |   |        |        |          |        |          |              |
|  | 1.1 Check for double stud at window/door openings & internal corners  |        |        |          |        |          |              |
|  | 1.2 Check alignment of framing i.e. Studs & nogs straight and true  |        |        |          |        |          |              |
|  | 1.3 Upper framing aligning with lower framing   |        |        |          |        |          |              |
|  | 1.4 Intermediate studs at centre < 600mm  |        |        |          |        |          |              |
| <b>2.0 Air Seal</b>                              |   |        |        |          |        |          |              |
|  | <b>2.1 Identify air seal</b>  |        |        |          |        |          |              |
|  | 2.1.1 Low wind loading < 1550 kpa, can be building wrap   |        |        |          |        |          |              |
|  | 2.1.2 High wind loading > 1550 kpa, must be SUMNER Board  |        |        |          |        |          |              |
|  | 2.1.3 Fire rated to -30/30 & < 1550kpa, can be building wrap  |        |        |          |        |          |              |
|  | <b>2.2 Roof Flashing</b>  |        |        |          |        |          |              |
|  | 2.2.1 Fit lower roof flashings intersecting with upper framing with upstand behind building wrap & stop ended where necessary   |        |        |          |        |          |              |
|  | <b>2.3 Building wrap</b>  |        |        |          |        |          |              |
|  | 2.3.1 Fixed with staples. Fix blue band (Polyprop Tape) vertically between studs > 300 cts or horizontally between nogs   |        |        |          |        |          |              |
|  | 2.3.2 Repair all cuts & tears with duct tape  |        |        |          |        |          |              |
|  | 2.3.3 Fold in around windows ( 4 sides)   |        |        |          |        |          |              |
|  | 2.3.4 Tape the 4 corners and sill of each opening with SUMNER tape.   |        |        |          |        |          |              |
|  | <b>2.4 Rigid backer</b>   |        |        |          |        |          |              |
|  | 2.4.1 Fix with 40mm clouts at 300 centres to all nogs & studs   |        |        |          |        |          |              |
|  | 2.4.2 Edge distances; min 15.0mm<br>Corner distances; min 100 & 50  |        |        |          |        |          |              |
|  | 2.4.3 Perimeter seal with SUMNER Tape   |        |        |          |        |          |              |
|  | 2.4.4 Tape the 4 corners and sill of each opening with SUMNER tape.   |        |        |          |        |          |              |
| <b>3.0 Batten &amp; Flashing</b>                 |   |        |        |          |        |          |              |
|  | <b>3.1 Fixings - Tack in place with 40 mm fixings</b>   |        |        |          |        |          |              |
|  | <b>3.2 Set out horizontal battens</b>   |        |        |          |        |          |              |
|  | 3.2.1 Top (set 10.0mm below horizontal protrusion)  |        |        |          |        |          |              |
|  | 3.2.2 Bottom (set flush with bottom plate)  |        |        |          |        |          |              |
|  | 3.2.3 Fit horizontal batten to bottom of full Ht. windows/doors with top of batten flush with top of floor or retro fit aluminium angle   |        |        |          |        |          |              |
|  | <b>3.3 Fitting flashings</b>  |        |        |          |        |          |              |
|  | 3.3.1 Vermin flashing to bottom batten  |        |        |          |        |          |              |
|  | 3.3.2 Fit head and sill tray flashing over windows (extend past by 50mm) including assembling Stop Ends   |        |        |          |        |          |              |
|  | 3.3.3 Building wrap sits into head flashing   |        |        |          |        |          |              |
|  | <b>3.4 Fit off remainder of batten</b>  |        |        |          |        |          |              |
|  | 3.4.1 Horizontal above window   |        |        |          |        |          |              |
|  | 3.4.2 Horizontal below window   |        |        |          |        |          |              |
|  | 3.4.3 Vertical at window is set back 10mm   |        |        |          |        |          |              |
|  | 3.4.4 Verticals at all sheet joins  |        |        |          |        |          |              |
|  | 3.4.5 Verticals at all intermediate studs (max 600 cts)   |        |        |          |        |          |              |
|  | 3.4.6 Horizontal at all horizontal joints & nogs  |        |        |          |        |          |              |
|  | 3.4.7 Horizontal at inter-storey refer to specific detail   |        |        |          |        |          |              |
|  | <b>3.5 Penetrations</b>   |        |        |          |        |          |              |
|  | 3.5.1 Fit meter box using SUMNER tape flash to all 4 sides of penetration   |        |        |          |        |          |              |
|  | 3.5.2 Install all pipe & duct penetrations and seal as with site folded SUMNER tape gasket  |        |        |          |        |          |              |
| <b>SUMNER BOARD</b>                              |   |        |        |          |        |          |              |
|  | <b>4.1 Fixing Board</b>   |        |        |          |        |          |              |
|  | 4.1.1 Sheets to over-sail bottom plate by 50.0mm  |        |        |          |        |          |              |
|  | 4.1.2 Maintain ground clearances. Bottom of sheets to finish 35.0 mm clear of finished deck surface or 100.0 mm clear of paved surfaces or 175.0 mm clear of unpaved surfaces   |        |        |          |        |          |              |
|  | 4.1.3 9.0mm fix with 60mm stainless steel screws  |        |        |          |        |          |              |
|  | 4.1.4 Normal weight system, centres max 220mm to perimeter, centre stud and nogs  |        |        |          |        |          |              |
|  | 4.1.4 Heavy Weight System centres max 180mm to perimeter, centre stud and nogs (SUMNER Otago and Bluestone Series only)   |        |        |          |        |          |              |
|  | 4.1.5 Heads NOT flush with face of sheet - ie leave 2mm proud   |        |        |          |        |          |              |
|  | 4.1.6 Window flashings stop ended ( Sealant if PVC )  |        |        |          |        |          |              |
|  | 4.1.7. Install Air Seal to window trim gap prior to fixing interior lining  |        |        |          |        |          |              |
|  | 4.1.8 Provide for vertical control joints @ 5m centers max, and horizontal control joints at max 8 m centers  |        |        |          |        |          |              |
| <b>CONTROL JOINTS</b>                            |   |        |        |          |        |          |              |
|  | Nominate type: SUMNER LedgeStone Series <input type="checkbox"/>  |        |        |          |        |          |              |
|  | SUMNER Otago Series <input type="checkbox"/>  |        |        |          |        |          |              |
|  | SUMNER Traditional Series <input type="checkbox"/>  |        |        |          |        |          |              |
|  | SUMNER Bluestone Series <input type="checkbox"/>  |        |        |          |        |          |              |
|  | SUMNER Sandstone Series <input type="checkbox"/>  |        |        |          |        |          |              |

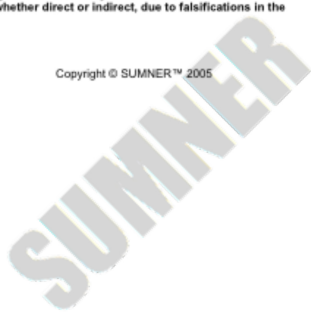
NAME OF BUILDER: \_\_\_\_\_

BUILDERS LBP Number: \_\_\_\_\_

PLEASE SIGN HERE \_\_\_\_\_

Date: \_\_\_\_\_

Note: This form is a legal document and you will be held liable for the costs of any failures, whether direct or indirect, due to falsifications in the document.



revision  
F Aug  
2014



| ie, write in weather it is exterior columns or chimney etc...   | YES ✓      | No ✓                                     | Re Checked YES ✓                    | Re Checked No ✓ |                     |
|---|------------|--|-------------------------------------|-----------------|---------------------|
| <b>1.0 Substrate &amp; Pre Installation.</b>  |            |  |                                     |                 |                     |
| 1.1 Attached Builders <b>SUMNER Cavity Check Sheet</b> to the back of this form.  |            |  |                                     |                 |                     |
| 1.2 Has the <b>SUMNER Cavity Check Sheet</b> been completed satisfactory?<br>- if not then advise the builder and have rectifications made.<br>- if builder declines then advise SUMNER office and they will send a <b>Non Compliance</b> letter to the client. Do not commence work! |            |  |                                     |                 |                     |
| 1.3 Have you examined the areas to be weathertight and advised the main contractor / architect of any existing conditions or surface contaminants which will require correction before work commences.  |            |  |                                     |                 |                     |
| 1.4 The four corners of every window, and the sills have been SUMNER taped?   |            |  |                                     |                 |                     |
| 1.5 Walls are vertical and plumb (not leaning out)  |            |  |                                     |                 |                     |
| 1.6 Have you been asked to clad any ceiling or inverted areas?  |            |  |                                     |                 |                     |
| 1.7 Ensure SUMNER Cavity System is NOT installer over brick, steel frame, aerated concrete or another veneer?   |            |  |                                     |                 |                     |
| 1.8 Have you verified with your moisture meter that timber framing has a moisture content <18% BEFORE installing stonework?   |            |  |                                     |                 |                     |
| 1.9 Any horizontal surfaces have a 10 degrees slope   |            |  |                                     |                 |                     |
| <b>2.0 Licence Info</b>   |            |  |                                     |                 |                     |
| 2.1 Are you licensed as a <b>SUMNER Installer</b> ?   |            |  |                                     |                 |                     |
| 2.2 Are you a Licensed Building Practitioner  |            |  |                                     |                 | Write LBP No: _____ |
| <b>3.0 SUMNER Taping</b>  |            |  |                                     |                 |                     |
| 3.0 Have you inspected to see you are not installing over another coating/seal?   |            |  |                                     |                 |                     |
| 3.1 When installing the tape over SUMNER Sheeting, did it cover 100% of all joints, voids and gaps?   |            |  |                                     |                 |                     |
| 3.2 Was surface temperature between 10 and 32 degrees Celsius?  |            |  |                                     |                 |                     |
| 3.3 <b>Primer &amp; Joints:</b> Did you apply SUMNER Prime to board surface, and then tape the joints?  |            |  |                                     |                 |                     |
| 3.4 Try tearing a small thumb nail of the tape away. It should not come away easily. Tick yes if this test was carried out.   |            |  |                                     |                 |                     |
| <b>4.0 Installation</b>   |            |  |                                     |                 |                     |
| 4.1 Was the back of the stone free of excessive water which inhibits the adhesive bond?   |            |  |                                     |                 |                     |
| 4.2 Were SUMNER adhesives used and mixed as per our specification?  |            |  |                                     |                 |                     |
| 4.3 Were adequate props used along the bottom prior to install?   |            |  |                                     |                 |                     |
| 4.4 Was both the board and stone free from dirt, dust or contaminants?  |            |  |                                     |                 |                     |
| <b>CONTROL JOINTS</b>   |            |  |                                     |                 |                     |
| 4.5 Cumulative Lineal Expansion: Where any walls more than 8 meters high, or longer than 5 meters wide?   |            |  |                                     |                 |                     |
| 4.6 Substrate Expansion Joints: Are there any mid floor expansion joints?   |            |  |                                     |                 |                     |
| 4.7 If yes to either of the above, tick how control joints were accommodated into the stone installation.   | Slip-joint | Cut expansion joint into the panel wall. | loose stone with room for expansion |                 |                     |
| 4.8 Was installed stone protected from weather until cured?   |            |  |                                     |                 |                     |
| 4.9 Were SUMNER fixings installed at minimum 600mm vertical centres horizontal centres.   |            |  |                                     |                 |                     |
| 4.10 Did you avoid rehydrating or using an adhesive mix older than 1 hour?  |            |  |                                     |                 |                     |
| 4.11 Did you ensure stone was not soaking wet on the back when you were troweling the adhesive on?  |            |  |                                     |                 |                     |
| 4.12 Was adhesive troweled on the stone, and a thin skim coat to the wall to ensure the adhesive was taking to both surfaces?   |            |  |                                     |                 |                     |
| <b>5.0 Other Important Checks</b>   |            |  |                                     |                 |                     |
| 5.1 The temperature was not under 10 or over 32 degrees when adhering the stone?  |            |  |                                     |                 |                     |
| 5.2 Were panels spot fixed?   |            |  |                                     |                 |                     |
| 5.3 95% coverage troweled on the back of the stone, and thick enough with a 10mm notched trowel to effect the same percentage bond to the substrate?  |            |  |                                     |                 |                     |

**7.0 Stone Slip used**

|     |   |                          |
|-----|---|--------------------------|
| 7.1 | Nominate type: <b>Ledgestone, Traditional or Sandstone Series</b> | <input type="checkbox"/> |
|     | <b>Otago or Bluestone Series</b>                                  | <input type="checkbox"/> |

NAME OF APPLICATOR: \_\_\_\_\_

SIGN HERE \_\_\_\_\_

Date: \_\_\_\_\_

Note: This form is a legal document and you will be held liable for the costs of any failures, whether direct or indirect, due to falsifications in the document.

**REQUEST SUMNER OFFICE FOR PRODUCER STATEMENT AND WARRANTY.**

**Site Address:-**

**Consent No:-** \_\_\_\_\_

**Territorial** \_\_\_\_\_

**Authority:-** \_\_\_\_\_

**Fixer/ Builder** \_\_\_\_\_

**Contact Details:-** \_\_\_\_\_

**Phone:-** \_\_\_\_\_

**Mobile:-** \_\_\_\_\_

**mail:-** \_\_\_\_\_

Please note all Producer Statement requests must be completed and signed by a SUMNER applicator.

Date: \_\_\_\_\_



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