

## WRP Guide # 4

# Standard Remediation Details for Relocatables

This guide provides the Ministry's project personnel and external design professionals with the documentation requirements to facilitate weathertightness remediation details for relocatables.

Ministry of Education relocatables are simple single storey buildings, usually built to the same construction details and therefore often having the same weathertightness failures and consequential damage. The purpose of this guidance note is therefore to provide a set of standard construction details that are expected to be applicable to much of the common remediation work required to relocatables. The person responsible for compiling the remediation documentation can then incorporate the applicable standard details where appropriate, with bespoke detailing demands being reduced accordingly.

The construction details included provide –

- Notes regarding where the detail is to be used
- Notes regarding the application of the detail
- An as-built detail with demolition notes
- A remediation detail with new works notes

If standard details cannot be applied in their entirety, the designer shall detail a site-specific construction detail. Such specific details may utilise aspects of or follow the principles of the standard construction details if the designer chooses to do so.

While these details and this guidance note is provided for the purposes of weathertightness remediation, there is no reason why they cannot be pro-actively applied to relocatables without damage to thereby avoid future damage.

## General notes

1. The “as-built” details all show the cladding as direct-fixed plywood, with remediation details based on this construction.
2. The “proposed” details all show plywood as the replacement cladding. The plywood must be H3.2 treated pre-primed with an oil-based primer and must not be painted in dark colours.
3. An alternative, and cost effective, replacement cladding may be selected if desired for durability or to tie in with other school buildings. If the existing and/or replacement cladding is not plywood, but a detail is still applicable, then the designer shall amend both the drawing and the annotation as necessary to clearly describe what is required for the existing and proposed cladding.
4. **These details are intended for application to a complete elevation or element.** In order to achieve this, sheets that have suffered no damage can also be modified or replaced alongside damaged sheets.
5. Other than where specifically noted in this guidance, any additional framing decay and/or other damage identified (e.g. to flooring) shall have separate and appropriate documentation and requirements provided for the necessary remediation work to be carried out.
6. Editable CAD files are available by emailing [WRP.Mailbox@education.govt.nz](mailto:WRP.Mailbox@education.govt.nz). Delete any guidance notes on the detail so that what is provided to the contractor is information related to construction only.
7. If in doubt with respect to the requirements or the intention of anything within this guidance, please email WRP Mailbox [WRP.Mailbox@education.govt.nz](mailto:WRP.Mailbox@education.govt.nz) with your query.

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## Section A: Localised Repairs

### Detail A1: Cladding Base

#### To be used where:

1. A full reclad is not required, and cladding damage is limited to no more than the bottom portion of the sheet that can be remediated by removal of a section equivalent in height to the depth of the joists
2. Damage may also have occurred to either the boundary joist (if it is present) or the ends of floor joists (where no boundary joist is present)

#### Application notes:

##### Boundary Joists:

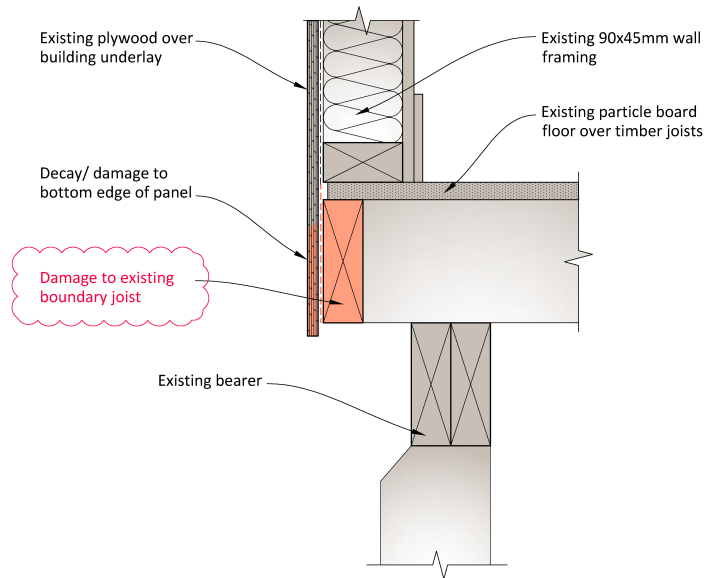
1. If a boundary joist is present, there are no visible signs of decay and it is structurally sound, then it is to be treated in situ with Protim Framesaver. Amendments to Detail A1:
  - a. As built – delete note referencing boundary joist damage, and replace boundary joist fill with that used for joists
  - b. Proposed –replace boundary joist fill with that used for joists, and substitute note referencing new boundary joist to read “Treat existing joist in situ with Protim Framesaver to all visible surfaces”
2. If a boundary joist with visible signs of decay is present, the extent of replacement is to be at least 1m past any sign of decay and then to where it can be joined to retained timbers over a joist. Amendments to Detail A1:
  - a. Proposed – If existing boundary joist is not fully replaced, amend note referencing new boundary joist to read “Install new boundary joist in sections, lapping to existing at joists, and treat retained sections of existing joist in situ with Protim Framesaver to all visible surfaces”

##### Floor Joists:

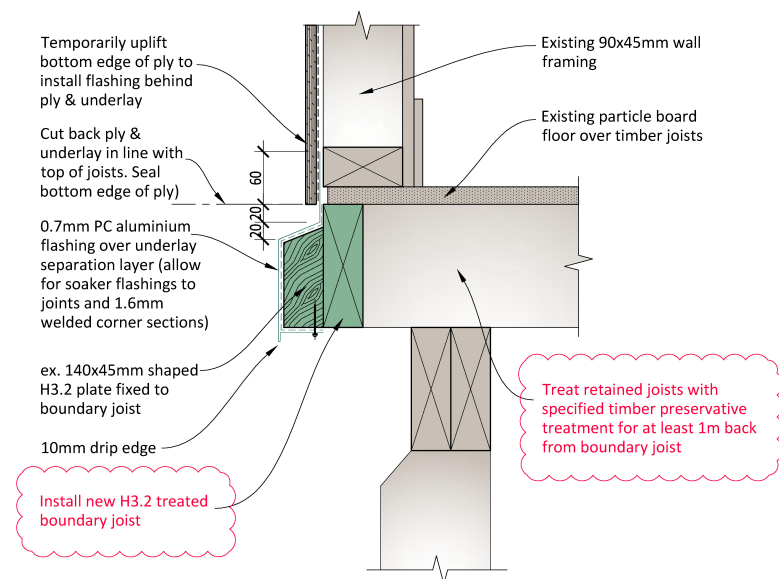
3. If a boundary joist is not present, then the joists are to be cut back to enable the fixing of a boundary joist for the full length of the wall. Amendments to Detail A1:
  - a. As-built – delete boundary joist and extend floor joists as appropriate
  - b. Proposed – amend note referencing new boundary joist to read “Cut back existing joists and install new H3.2 treated boundary joist”
4. If a joist has no visible signs of decay and it is structurally sound, then it is to be treated in situ for at least 1m from the end with Protim Framesaver.
5. If a joist with visible signs of decay is present, the extent of replacement is to be at least 1m past any sign of decay and then to where the replacement joist can be structurally joined to retained joist timber over a bearer. The structural joint detail shall be in accordance with NZS 3604 7.1.1.7 and figure 7.1. Amendments to Detail A1:
  - a. As the extent of work will be specific in each case, provide additional joist plans, foundation sections, details and the like to adequately describe the required scope of work

## Detail A1: Cladding base

Detail notes to be amended as and if required



'As built'



Proposed



## Detail A2: Upper Gable Wall

### To be used where:

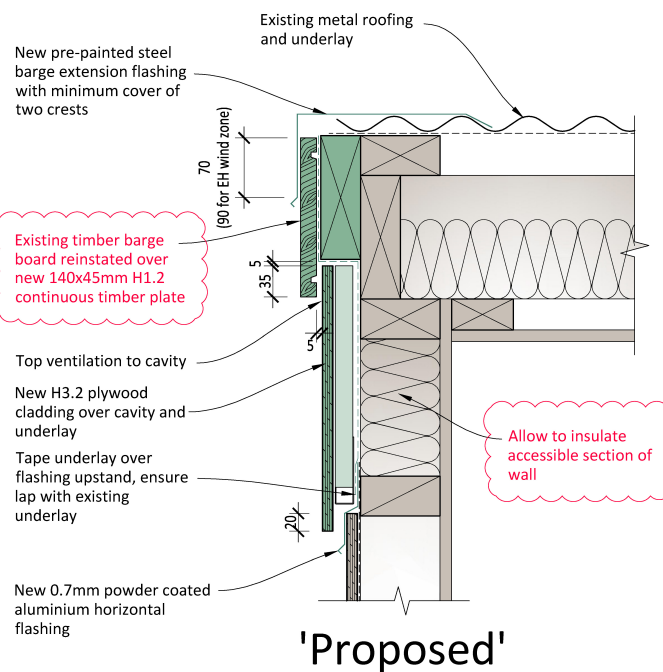
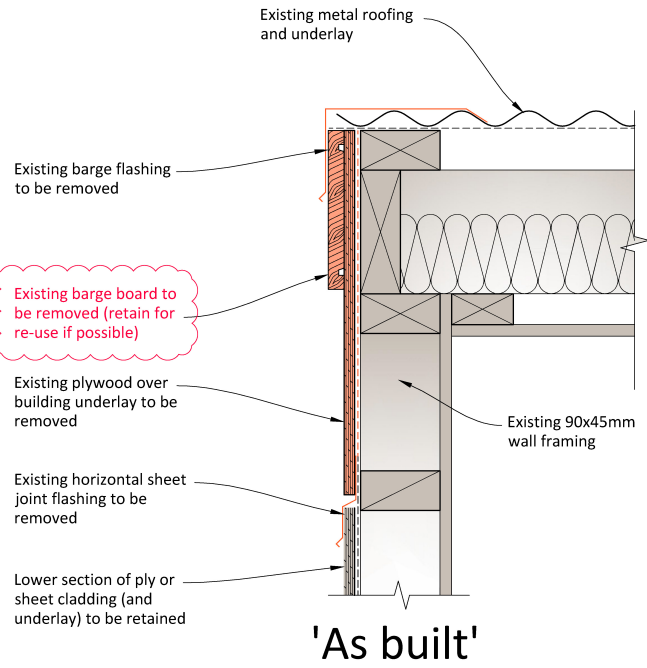
1. A full reclad is not required, and recladding is limited to remediating the damage to the gable cladding sheets and/or the horizontal flashing to the lower sheet and/or sheet joint flashings
2. The roofing is to remain

### Application notes:

1. An assessment of the condition of the existing barge board is to be made to determine if it is suitable for reuse or should be replaced. If the barge board is suitable, it is to be carefully removed for reinstatement. If the barge board is not suitable, and is to be replaced, make the following amendments to Detail A2:
  - a. As built – amend note referencing existing barge board to read “Existing barge board to be removed”
  - b. Proposed – amend note referencing barge board to read “New H3.1 [enter size here] timber barge board over new 140x45mm H1.2 continuous timber plate”
2. If the roof is a skillion roof, allow to insulate accessible sections of wall cavities if not already insulated, or if there is good reason to replace and upgrade existing insulation. Amendments to Detail A2:
  - a. If insulation is not required, delete note referencing insulation
  - b. If insulation is required, amend note referencing insulation to describe R-value and type
3. If the relocatable has a truss-framed roof, insulation is not required in the gable. Amendments to Detail A2:
  - a. Delete note referencing insulation
4. If the wind zone is EH, amend the dimension for the required overlap of the barge flashing to the barge board to 90mm.
5. If the horizontal flashing is to align with the head flashing of joinery, site measure existing joinery and provide site-specific details showing the head flashing and the junction of the head flashing to the horizontal flashing to provide weathertight construction.

## Detail A2: Upper gable wall

Detail notes to be amended as and if required



## Detail A3: Upper Side Wall

### To be used where:

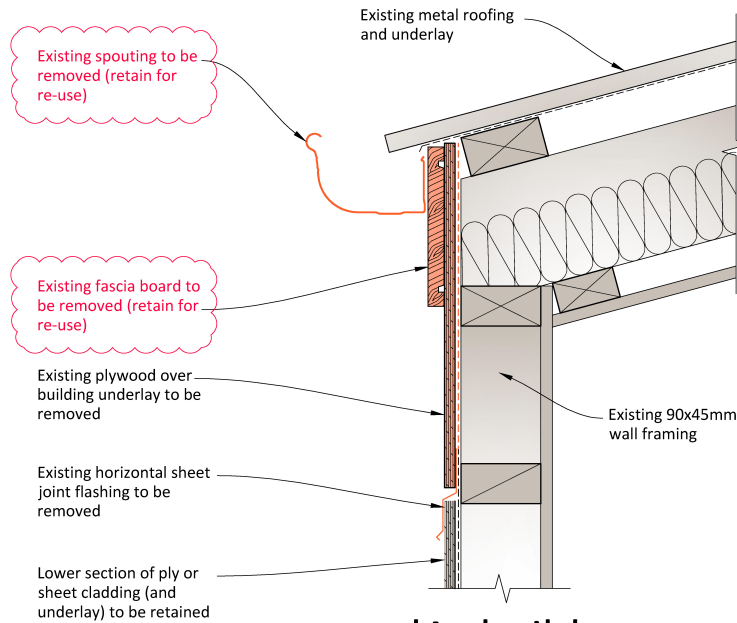
1. A full reclad is not required, and recladding is limited to remediating the damage to the top cladding sheet and/or sheet joint flashings and/or the horizontal flashing to the lower sheets
2. The roofing is to remain

### Application notes:

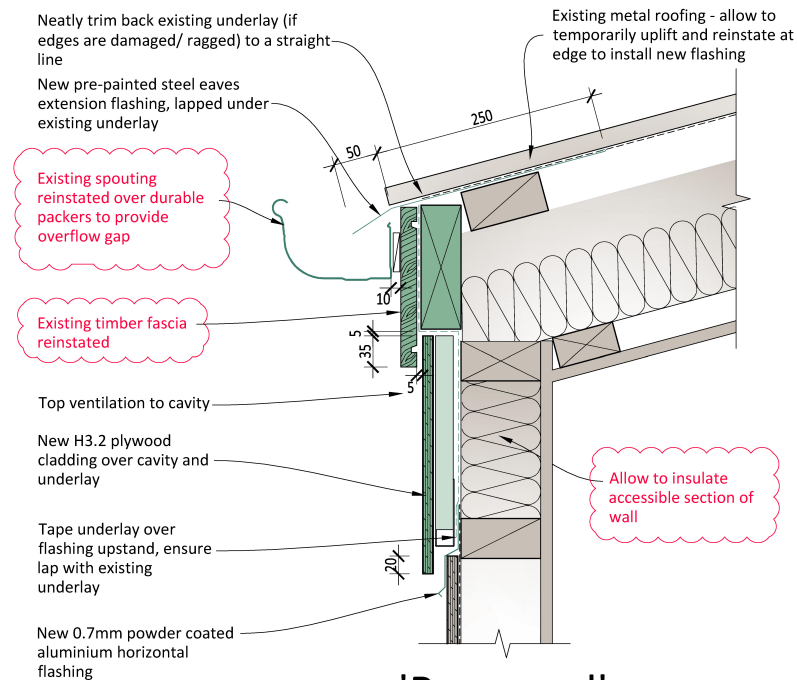
1. An assessment of the capacity of the gutters and the size, location and number of downpipes is to be carried out in accordance with the NZ Metal Roof and Wall Cladding Code of Practice Version 3.0. If existing gutters and downpipes comply, and are of suitable condition for reuse, they are to be carefully removed for reinstatement. If they do not comply or are not of suitable condition for reuse, then new compliant gutters with external brackets and downpipes shall be provided and installed, and Detail A3 amended as follows:
  - a. As-built – note referencing spouting amended to read “Existing spouting to be removed”
  - b. Proposed – Note referencing spouting to have “existing” substituted with description of required spouting
2. An assessment of the condition of the existing fascia is to be made to determine if it is suitable for reuse or should be replaced. If the fascia is suitable, it is to be carefully removed for reinstatement. If the fascia is to be replaced, Detail A3 is amended as follows:
  - a. As-built – note referencing fascia amended to read “Existing fascia to be removed”
  - b. Proposed – Note referencing fascia to have description of required size of fascia and “H3.1 treated” inserted before “timber fascia” (e.g. “... 180 x 19mm H3.1 timber fascia ...”, and “reinstated” deleted.
3. Allow to insulate accessible sections of wall cavities if not already insulated, or if there is good reason to replace and upgrade existing insulation. Amendments to Detail A3:
  - a. If insulation is not required, delete note referencing insulation
  - b. If insulation is required, amend note referencing insulation to describe R-value and type
4. If the horizontal flashing is to align with the head flashing of joinery, site measure existing joinery and provide site-specific details showing the head flashing and the junction of the head flashing to the horizontal flashing to provide weathertight construction.

## Detail A3: Upper side wall

Detail notes to be amended as and if required



**'As built'**



**'Proposed'**

## Detail A4: Corner Board

### To be used where:

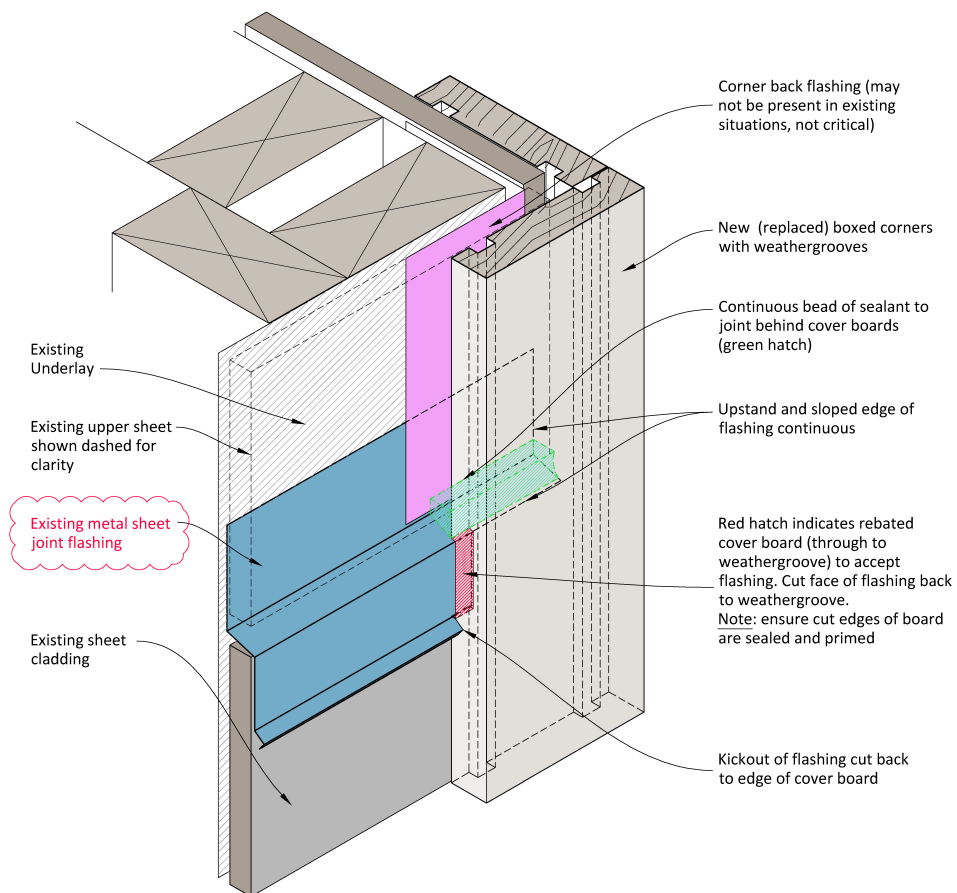
1. The plywood sheet cladding is in good condition and can be retained
2. Replacement of decayed existing corner boards is required
3. Damage, if any, of the horizontal 'Z' flashing is limited to sections within the cladding sheet closest to the corner. If damage to the 'Z' flashing is more extensive, then consideration should be given to implementing the relevant stepped cladding details (Details A2 and A3) alongside replacement of the corner boards.

### Application notes:

1. If a new horizontal flashing is required, a 0.7mm aluminium powdercoated flashing is to be provided. Amendment to Detail A4:
  - a. Amend note referencing existing metal flashing to read "New 0.7mm aluminium powdercoated flashing"
2. The requirement is that the corner boards sit tight to the cladding so that the weathergrooves can function as intended. Care is therefore required on site so that the cutting of the flashing and the rebating of the corner board are carried out correctly.

## Detail A4: Corner board

Detail notes to be amended as and if required



## Section B: Wall Reclad Over a Cavity

### Detail B1: Eaves

#### To be used where:

1. The direct-fixed wall cladding on a side wall elevation is going to be removed in its entirety and the wall reclad
2. The roofing is to remain

#### Application notes:

##### General:

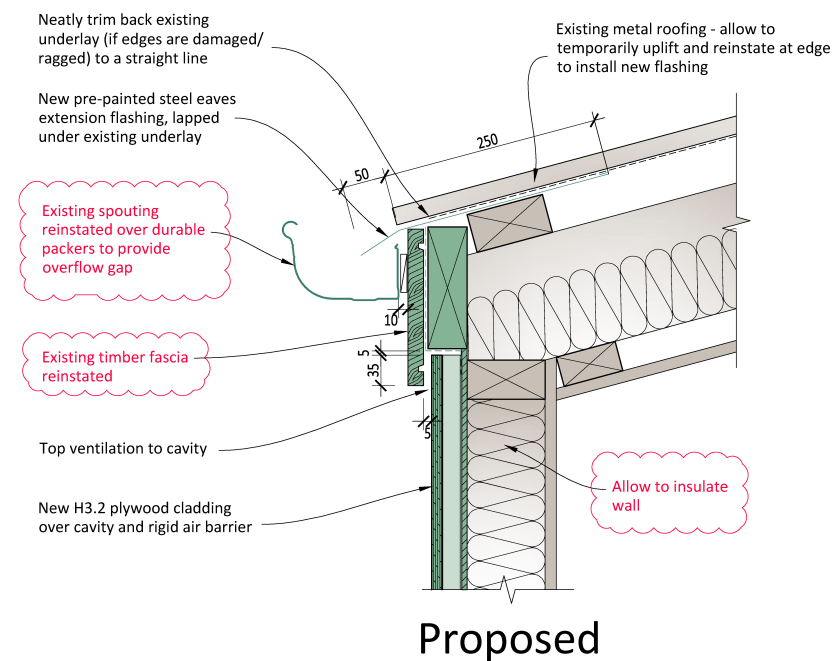
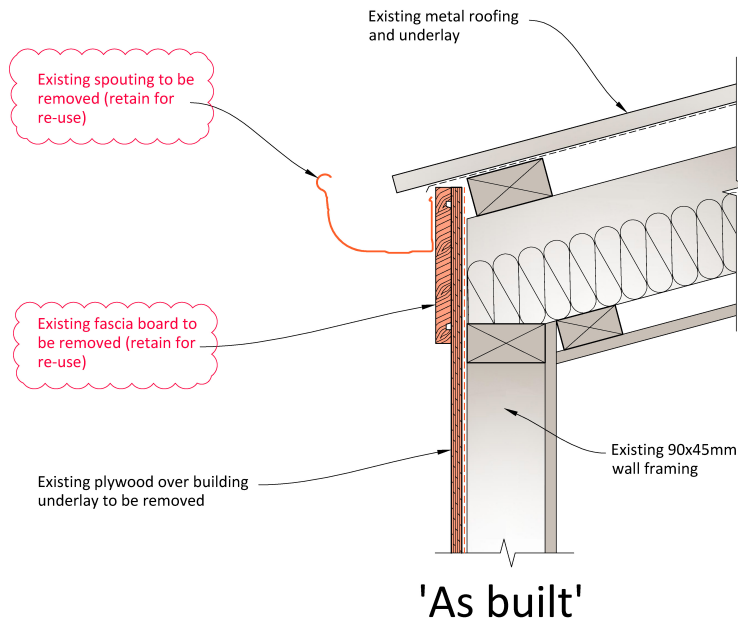
1. Plywood cladding and underlay are to be removed entirely from the elevation to enable a full inspection of wall framing to occur. If framing decay and/or damage is identified, appropriate remediation work is to be carried out prior to recladding occurring.
2. An assessment of the capacity of the gutters and the size, location and number of downpipes is to be carried out in accordance with the NZ Metal Roof and Wall Cladding Code of Practice Version 3.0. If existing gutters and downpipes comply, and are of suitable condition for reuse, they are to be carefully removed for reinstatement. If they do not comply or are not of suitable condition for reuse, then new compliant gutters with external brackets and downpipes shall be provided and installed, and Detail B1 amended as follows:
  - a. As-built – note referencing spouting amended to read “Existing spouting to be removed”
  - b. Proposed – Note referencing spouting to have “existing” substituted with description of required spouting
3. An assessment of the condition of the existing fascia is to be made to determine if it is suitable for reuse or should be replaced. If the fascia is suitable, it is to be carefully removed for reinstatement. If the fascia is to be replaced, Detail B1 is amended as follows:
  - a. As-built – note referencing fascia amended to read “Existing fascia to be removed”
  - b. Proposed – Note referencing fascia to have description of required size of fascia and “H3.1 treated” inserted before “timber fascia” (e.g. “... 180 x 19mm H3.1 timber fascia ...”, and “reinstated” deleted.
4. Allow to insulate wall cavities if not already insulated, or if there is good reason to replace and upgrade existing insulation. Amendments to Detail B1:
  - a. If insulation is not required, delete note referencing insulation
  - b. If insulation is required, amend note referencing insulation to describe R-value and type

##### Eaves options:

5. Option 1 is the preferred option to provide a simple detail for the fascia/cladding junction.
6. Where there are reasons why this detail may not be desirable, then option 2 provides an alternative solution. Where option 2 is used, attention is to be paid to maintaining the top ventilation to the cavity and to the use of soaker flashings and welded corner sections for the ‘Z’ flashing.
7. If the option 2 horizontal flashing is to align with the head flashing of joinery, site measure existing joinery and provide site-specific details showing the head flashing and the junction of the head flashing to the horizontal flashing to provide weathertight construction.

## Detail B1: Eaves - Option 1

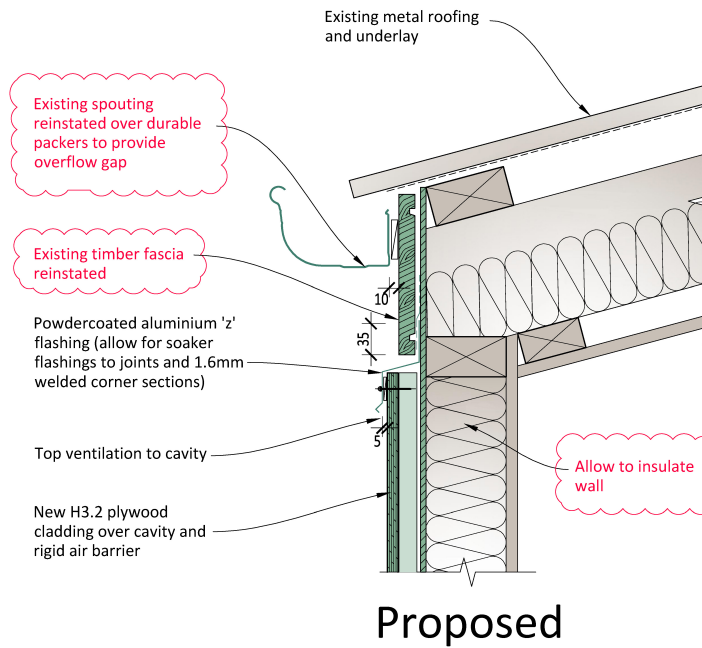
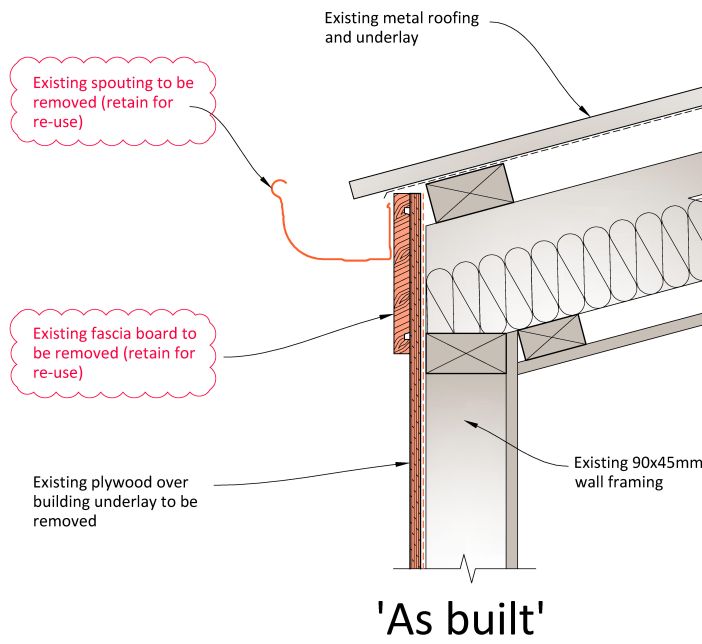
Detail notes to be amended as and if required





## Detail B1: Eaves - Option 2

Detail notes to be amended as and if required



## Detail B2: Gables

### To be used where:

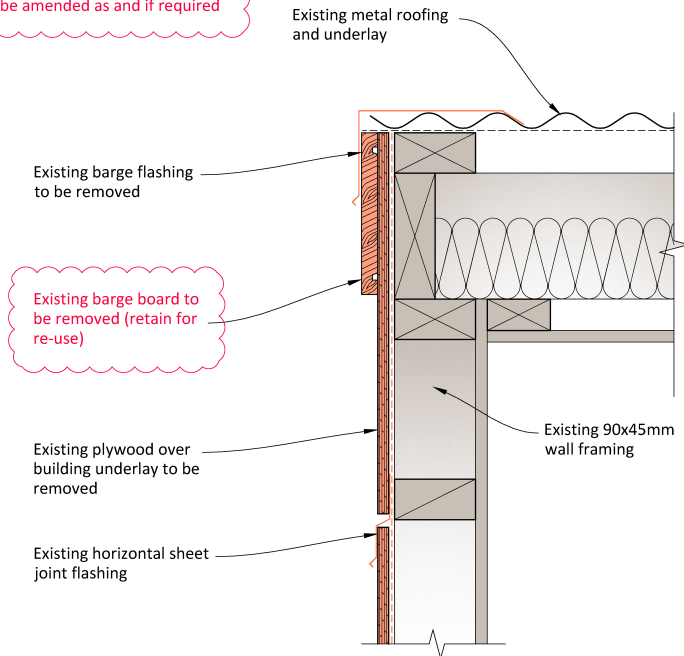
1. The direct-fixed wall cladding on a gable wall elevation is going to be removed in its entirety and the wall reclad
2. The roofing is to remain

### Application notes:

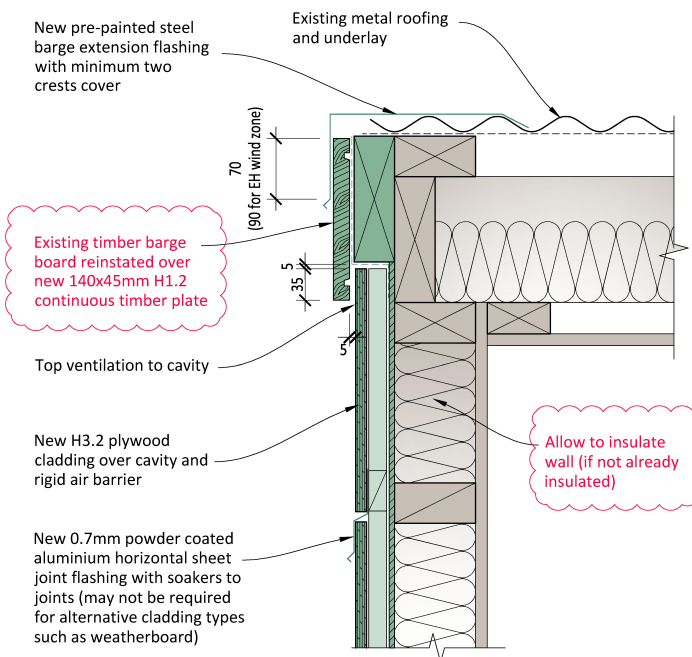
1. Plywood cladding and underlay are to be removed entirely from the gable end wall to enable a full inspection of wall framing to occur. If framing decay and/or damage is identified, appropriate remediation work is to be carried out prior to recladding occurring.
2. An assessment of the condition of the existing barge board is to be made to determine if it is suitable for reuse or should be replaced. If the barge board is suitable, it is to be carefully removed for reinstatement. If the barge board is not suitable, and is to be replaced, make the following amendments to Detail B2:
  - a. As built – amend note referencing existing barge board to read “Existing barge board to be removed”
  - b. Proposed – amend note referencing barge board to read “New H3.1 [enter size here] timber barge board over new 140x45mm H1.2 continuous timber plate”
3. If the roof is a skillion roof, allow to insulate wall cavities if not already insulated, or if there is good reason to replace and upgrade existing insulation. Amendments to Detail B2:
  - a. If insulation is not required, delete note referencing insulation
  - b. If insulation is required, amend note referencing insulation to describe R-value and type
4. Bb If the relocatable has a truss-framed roof, insulation is not required in the gable. Amendments to Detail A2:
  - a. Delete note referencing insulation
5. If the wind zone is EH, amend the dimension for the required overlap of the barge flashing to the barge board to 90mm.
6. If the horizontal flashing is to align with the head flashing of joinery, site measure existing joinery and provide site-specific details showing the head flashing and the junction of the head flashing to the horizontal flashing to provide weathertight construction.

## Detail B2 - Gable

Detail notes to be amended as and if required



**'As built'**



**'Proposed'**