

**24043 – Pier House, Harbour Road, Brora**



**STRUCTURAL INSPECTION REPORT**

PREPARED BY:

**FLEMING ENGINEERING LIMITED  
BLACK ISLE BUSINESS CENTRE  
85 HIGH STREET  
FORTROSE  
IV10 8TX**

**JUNE 2024**

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## **24043 – Pier House, Harbour Road, Brora**

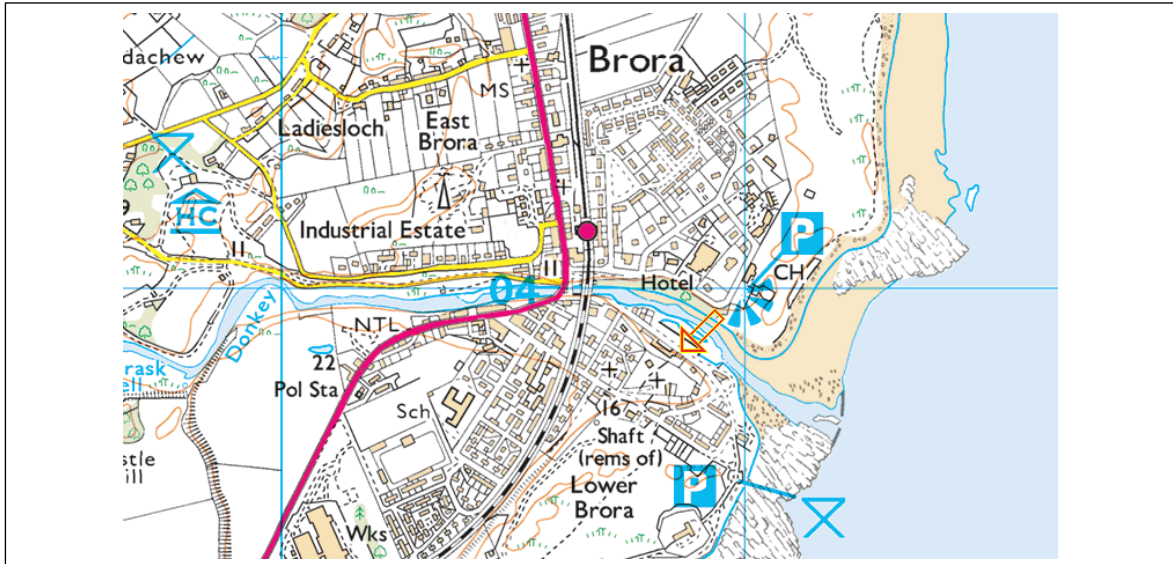
Further to your recent request, we confirm having carried out a visual structural inspection of the property on the 16<sup>th</sup> of April 2024 and record our observations and comments below.

### **1 INTRODUCTION**

- 1.1. The purpose of the inspection and report is to provide guidance regarding the structural condition of the existing attic roof structure in particular at the existing roof lights. Guidelines will be provided for necessary remedial action or further investigation as appropriate.
- 1.2. The inspection consisted of a visual examination of the interior and exterior of the property.
- 1.3. Unless specifically noted, finishes were not disturbed nor was any subsoil investigation or inspection of buried foundations carried out.
- 1.4. We have not inspected any parts of the structure which are covered, unexposed or otherwise inaccessible and therefore we are unable to report that any such part of the property is free from defect.

## 2 DESCRIPTION

2.1 The site is located in Brora close to the A9, as shown on the location map below.



- 2.2 The premises form a two-storey detached house with attached later single storey extension incorporating a garage. The main house is constructed of stone walls, timber first floor, timber internal partitions and timber closed couple roof trusses with slate roof finish to the attic. The single storey garage is constructed of masonry external walls, masonry & timber internal walls, timber flat roof rafters with felt roof finish spanning onto the external walls and the ground floor throughout appears to be a concrete slab 'on hard'.
- 2.3 From records it is thought that the original building was constructed in the 1800's and a later extension was built in in the mid to late1900's.
- 2.4 No ground investigation was undertaken but it is envisaged that foundations of the building are either stone or concrete strip foundations.

### **3 EXTERNAL OBSERVATIONS**

- 3.1 The structural survey concentrated at the roof level and started externally followed by an internal inspection.

#### **NORTH ELEVATION.**

- 3.2 This elevation fronts onto Harbour Road and has roughcast render finish. There are 2No. entrance doors, 1No. garage door and 6No. windows on this elevation, with 2No. roof windows.
- 3.3 Sagging in the roof was visible to the roof structure around the roof lights. The roof light on the left-hand side appeared to be sagging further.

### **4 INTERNAL OBSERVATIONS.**

- 4.1 We entered the building via the ground floor entrance door on the North elevation and inspected the attic rooms in the property.
- 4.2 On entering the attic space, some of the finishes had been removed and a temporary timber support has been constructed between the underside of the rafters and floor joists.
- 4.3 Sagging to the roof structure was observed around the roof light windows. It was noted that there had been no strengthening to the rafters either side of the roof lights.
- 4.4 Where floorboards had been partially removed, some of the attic floor joists appeared to have loss of section towards the joist ends.

## 5 **CONCLUSIONS & RECOMMENDATIONS**


- 5.1 The main purpose of the inspection and report was to provide guidance regarding the condition of the existing attic roof structure at the existing roof lights.
- 5.2 The sagging to the roof structure in particular to the roof light supports is of concern and should be addressed.

As for remedial works, we would recommend installing additional steel strengthening to the existing rafters either side of the roof lights to stabilise the roof. We would also recommend doubling up the existing roof rafters and install new ceiling ties. Please refer to the attached drawing SK01 & SK02 for a description of the works and typical construction details.

- 5.3 The loss of section to the existing attic floor joists is of concern, we would therefore recommend doubling up the existing floor joists. Please refer to the attached drawing SK01 for a description of the works.

### **END OF REPORT**

**Signed**

  
.....  
**on behalf of Fleming Engineering**

**CRAIG BRUCE  
FLEMING ENGINEERING LIMITED  
BLACK ISLE BUSINESS CENTRE  
85 HIGH STREET  
FORTROSE  
IV10 8TX**

## **APPENDIX A**

### **SELECTED PHOTOGRAPHS**





Photograph 1 – North Elevation



Photograph 2 – Sagging to the roof around the rooflights





Photograph 2 – Sagging to the roof around the rooflights



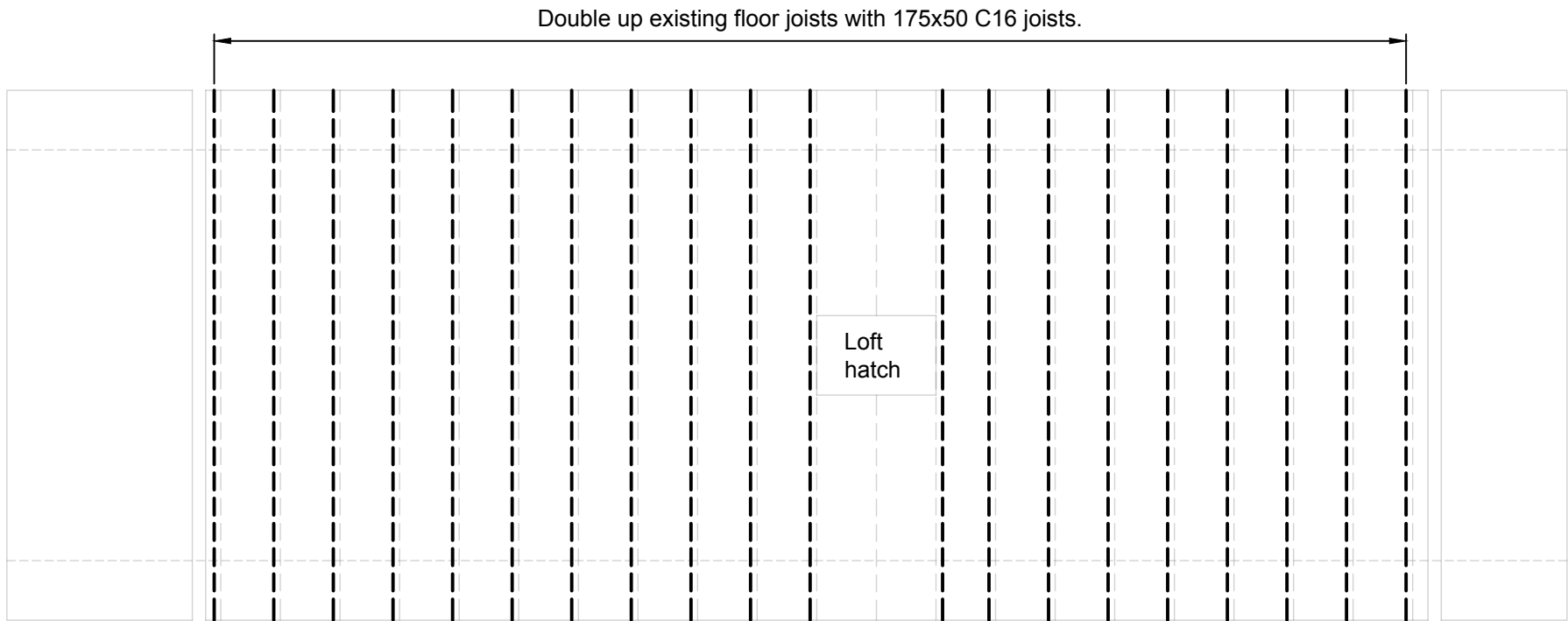
Photograph 4 – Existing attic space with temporary roof propping



Photograph 5 – Roof light trimmers

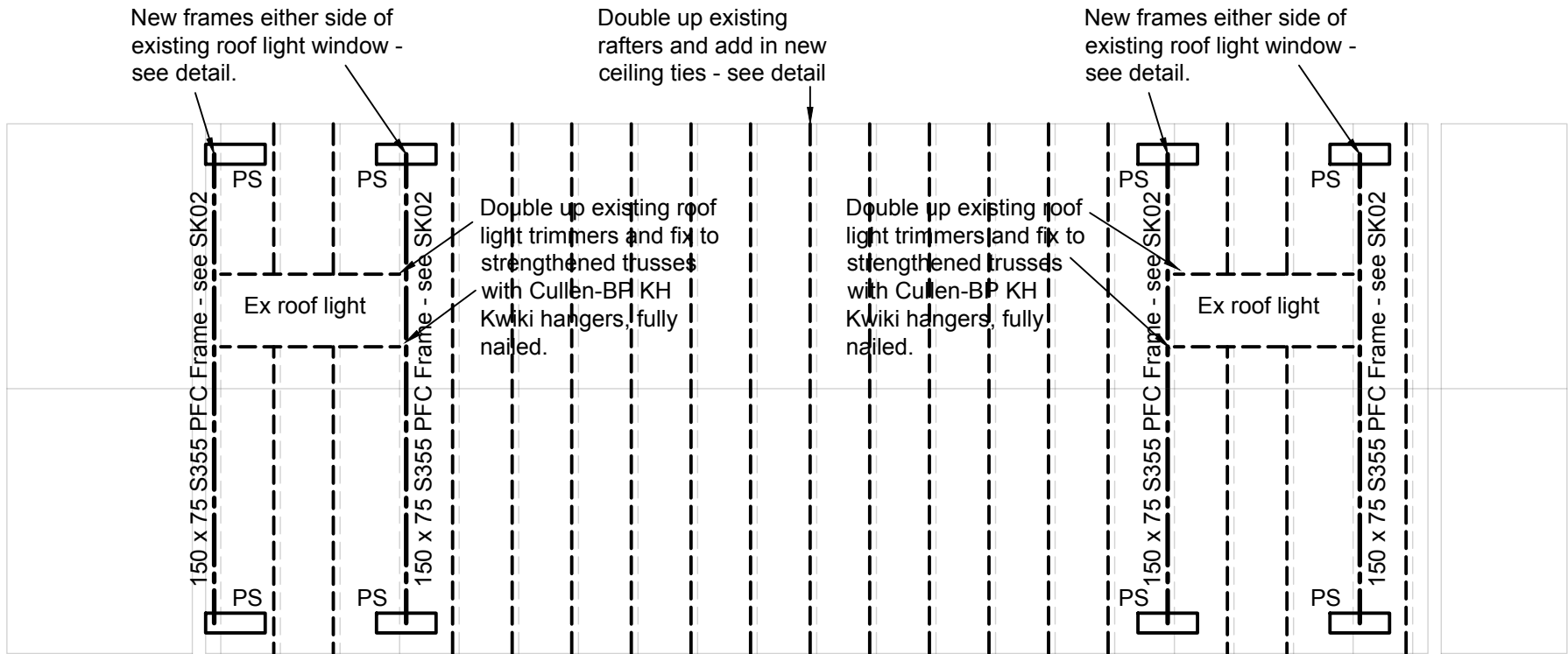
## **APPENDIX B**

### **REMEDIAL WORKS DRAWINGS**



ATTIC FLOOR LAYOUT

SCALE 1:50



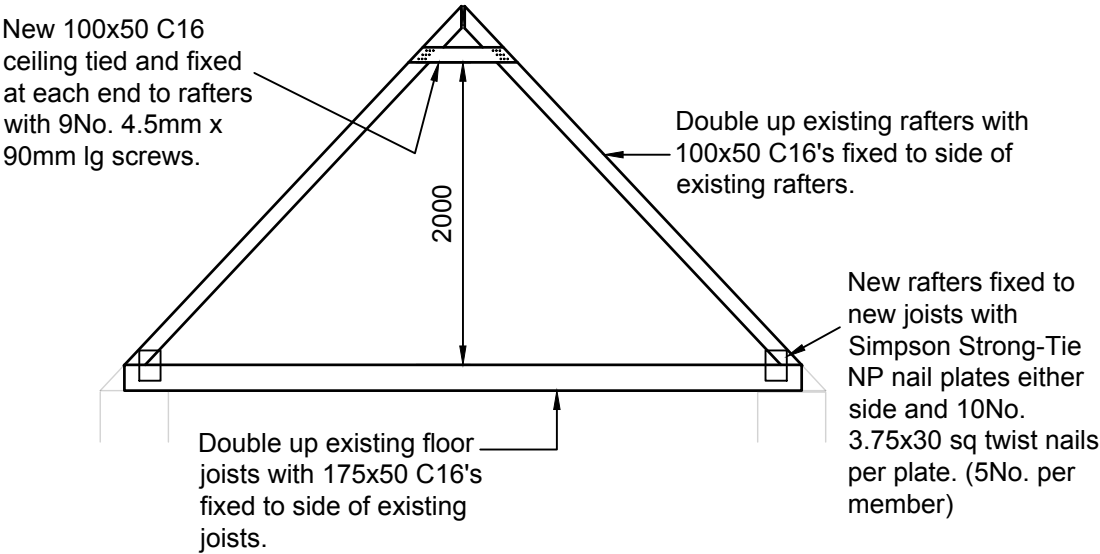
ROOF LAYOUT

SCALE 1:50

DOWN TAKINGS.

Note: contractor to allow for opening up existing walls and ceilings to check make-up and spans of existing structures, prior to commencing any down takings. Contractor to report to engineer if any details differ from drawings.

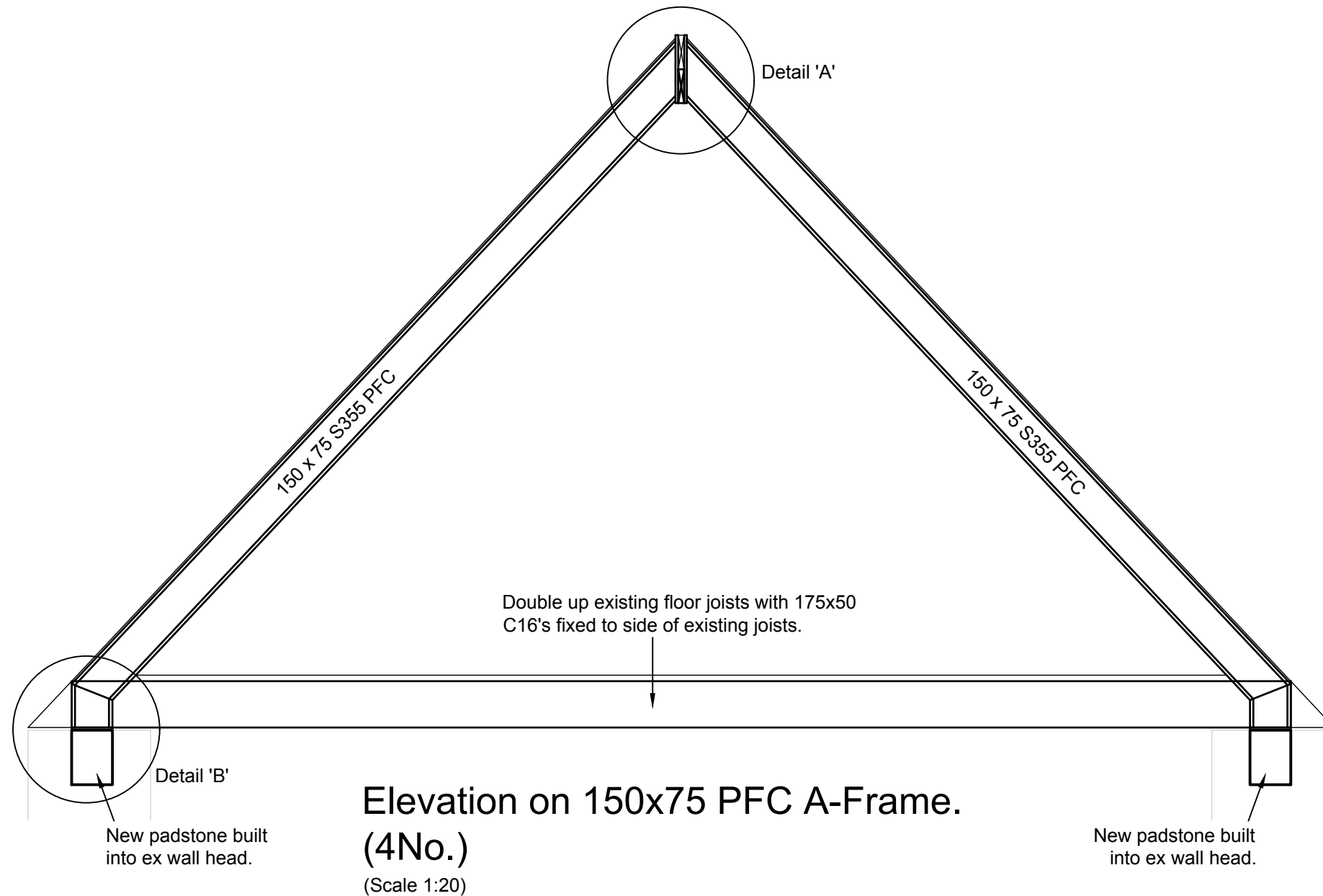
PS Denotes padstone to be grade C30/37 concrete, 440mm long x 200mm deep x 150mm thickness unless noted otherwise. Steelwork to be fixed to padstone as per details.



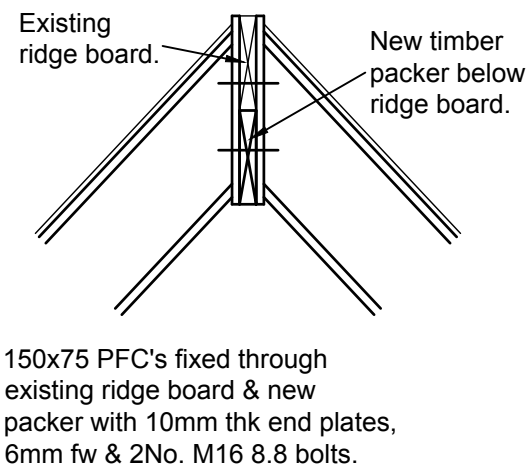
Existing Roof Strengthening Detail

(Scale 1:50)

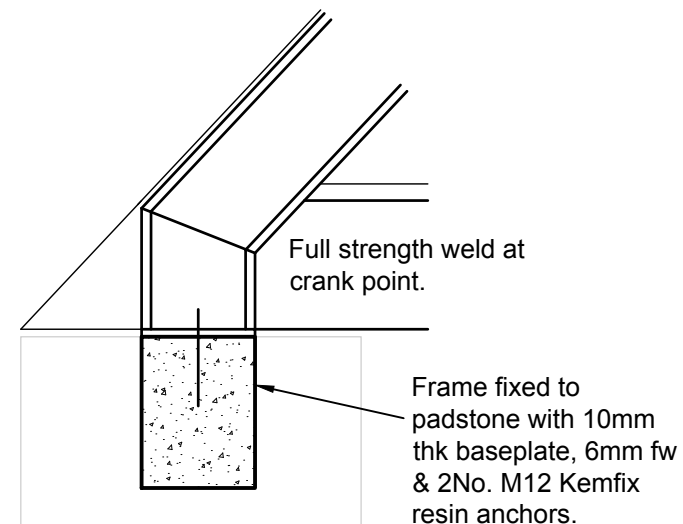
Revision Details		By Check	Date Suff
Drawing Status			
INFORMATION			
Client			
ROSS SHIRE CARE AND REPAIR			
Job Title			
PIER HOUSE HARBOUR ROAD BRORA			
Drawing Title			
ATTIC AND ROOF LAYOUTS			
Scale at A3 1:50 UNLESS INDICATED OTHERWISE			
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Drawing Number		Rev	
24043 - SK01		-	



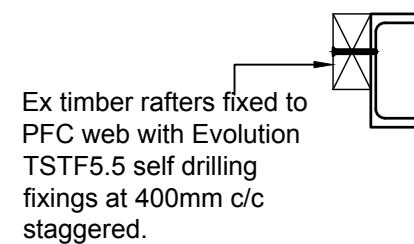
**Elevation on 150x75 PFC A-Frame.**  
**(4No.)**  
(Scale 1:20)



**Detail 'A'**  
Scale 1:10



**Detail 'B'**  
Scale 1:10



**150x75 PFC Fixing to ex rafter detail**  
Scale 1:10

Revision Details	By	Check	Date	Suffix
Drawing Status				
INFORMATION				
Client				
ROSS SHIRE CARE AND REPAIR				
Job Title				
PIER HOUSE HARBOUR ROAD BRORA				
Drawing Title				
ROOF FRAME DETAILS				
Scale at A3 1:20 UNLESS INDICATED OTHERWISE				
Drawn CB	Checked SF	Approved -	Date JUN/2024	
Fleming Engineering Black Isle Business Centre 85 High Street Fortrose IV10 8TX 01381 408040			Fleming Engineering www.flemeng.com	
Drawing Number			Rev	
24043 - SK02			-	