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ANDREW • MELVIN • KING-TURNER

CIVIL AND STRUCTURAL CONSULTING ENGINEERS

SPECIFICATION

# RENWICK COMMUNITY HALL
# 39 High Street
# RENWICK

For

Marlborough District Council

May 2016
Job: 13399

## SECTION 1.0 : STRUCTURAL STEELWORK

### 1.1 SCOPE

This section of the specification covers the supply, fabrication and erection of all structural steelwork.

All steelwork shall comply with the requirements of NZS: 3404.1:2009, NZS: 3404.2: 1997 except where modified by this specification.

### 1.2 MATERIALS

All hot rolled plates to AS/NZS 3678:2011, all rolled structural steel sections shall be mild steel to AS/NZS: 3679.1:2010 Grade 300. Cold formed members (ie. RHS) to comply with AS 1163:2009 Grade 350 minimum.

### 1.3 FABRICATION

For the fabrication of all steelwork the following conditions shall apply:

#### 1.3.1 Materials

Electrodes for manual operation shall comply with AS/NZS 4855: 2007

#### 1.4.1 Straightening

All material before being assembled shall be straightened as necessary and shall be free from twist. Straightening shall be done by methods which will not injure the material.

#### 1.5.1 Preparation for Welding

All faces to be welded shall be prepared in the manner shown on the drawings or in accordance with AS / NZS 1554 Fusion faces and adjacent areas shall be cleaned before welding commences by power wire brushing or grinding.

#### 1.6.1 Welding Equipment

All welding plant and equipment, and protective equipment shall comply with the requirements of AS/NZS 4855:2007. The Contractor shall supply adequate means of measuring the welding current either as part of the welding plant or separately in the form of a portable ammeter.

### 1.7.1 Covered Electrodes

a) The electrodes used shall comply with the requirement of AS/NZS 4855:2007. All electrodes used in the work shall be approved by the Engineer.

b) Any electrodes having areas of flux covering damaged in any way shall be discarded.

c) Any electrodes which become damp shall not be used.

d) Shorting of electrodes to earth is not permitted in any circumstances.

### 1.8.1 Storage of Electrodes

Electrodes shall be stored strictly in accordance with the manufacturer's instructions.

### 1.9.1 Welding

a) All welding shall be carried out in accordance with the requirements of AS/NZS 4855:2007 category GP. Copies of this specification shall be supplied by the Contractor to be freely available on the site and in the shop.

b) Qualification and Testing: Current nationally recognised welding qualification will be accepted as a substitute for the specific tests in NZS: 2980:2007. It should be noted however, that all position tests are required if the work is to be done by position welding.

c) Staging and Protection from Weather: A ladder is not considered to be "adequate staging" for a welder, and scaffolding shall be provided as necessary.

d) All welding on site shall be adequately protected from wind and rain. If, in the opinion of the Engineer, it is too windy or wet for welding on site, all welding operations shall cease until such time as the weather improves to the satisfaction of the Engineer.

## 1.4 STEELWORK ERECTION

### 1.4.1 General

Erection shall comply with the requirements of NZS:3404 and the best trade practice. Accuracy of fit of steelwork shall be the responsibility of the Contractor.

### 1.4.2 Temporary Bracing

a) At all stages of the erection work the steelwork shall be adequately held and braced so that the structure is stable, safe, and not overstressed in any way from erection loads.

b) The method of erection shall be fully discussed and approved by the Engineer prior to any erection taking place on site.

### 1.4.3 Bolts and Erection Cleats

All temporary bolts and erection cleats shall be removed at the completion of erection.

## 1.5 PAINTING OF STRUCTURAL STEELWORK

All structural steel and steel metalwork which is not completely embedded in concrete or which is not specified as galvanised shall be painted as specified below.

### 1.5.1 Sharp Edges

The edges of all members shall be lightly ground to ensure that no sharp corners exist which could cause the protective coatings to be easily damaged or to be excessively thin.

### 1.5.2 Blast Cleaning

Surfaces of all steelwork not encased in concrete or cladding shall be sand, grit, or shotblasted to a minimum standard of Sa 2-1/2 to Swedish Standard SIS: 05 59 00.

Blast cleaning shall be done under cover. Oil and grease shall be removed before blasting using turpentine or petrol only. Blasting shall continue until the surface has a uniform finish of the specified quality. Special care shall be taken at re-entrant corners and to completely remove welding slag. Blasted surfaces shall be brushed or cleaned by vacuum before they are painted and care shall be taken so that surfaces are not touched by hand or contaminated in any way.

### 1.5.3 Shop Coat

**a) Internal Clad Steelwork**

One coat of Resene Steel Fab shop primer paint shall be applied to the manufacturer's recommendations.

**b) Exposed Internal Steelwork**

One coat of Inorganic Zinc silicate paint shall be applied within the shortest possible time with a maximum delay of 4 hours from blasting. Turpentine or petrol shall be used for cleaning but not kerosene. Paint shall be supplied by the manufacturer in a suitable consistency for painting and it shall on no account be thinned. Coverage shall be maintained at 6.8 sq.m. to the litre and records shall be kept to prove this figure. Areas to be site welded may or may not be painted at the Contractor's discretion, as this type of paint has a suitable welding conductivity. The minimum total thickness of the paint shall be 75 microns.

**c) External Steelwork & Steelwork below floor level**

Zinc arc spray to TSZ100. The total minimum thickness of arc spay should be 100 microns. Three coats of Mulseal to be provided 200mm above and below Finished Ground Level where steel extends into the ground.

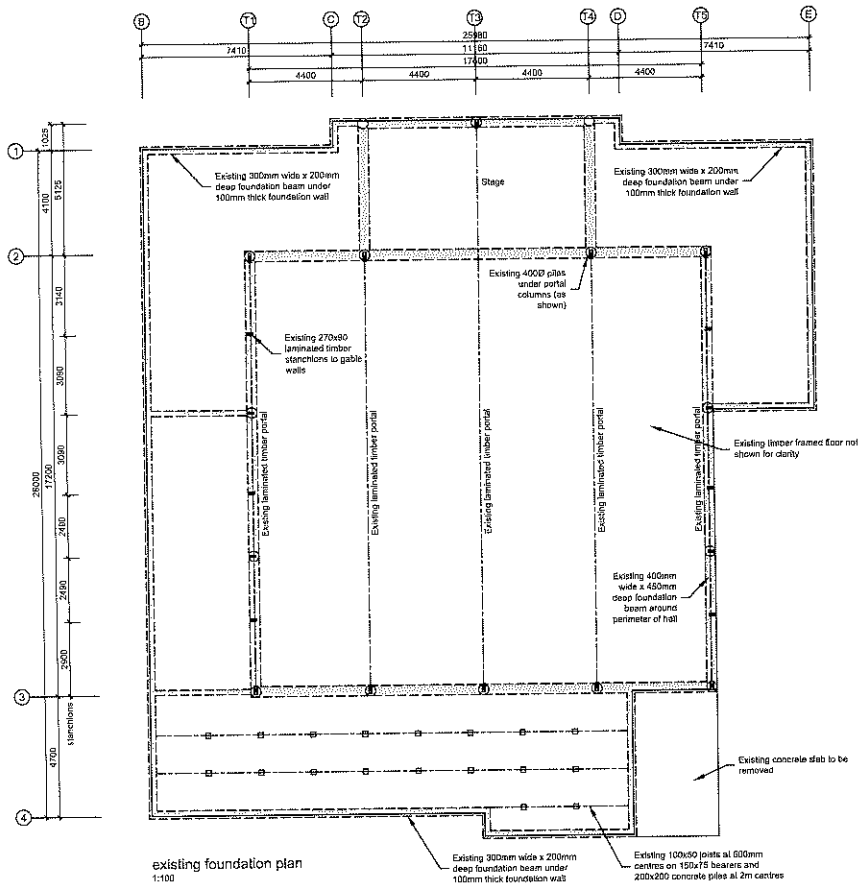
### 1.5.4 Patching Up

After erection, all portions of the shop coats which have been damaged in transit or erection, field welds and other unpainted surfaces shall be scraped, brushed, washed down with clean water and painted with compatible zinc epoxy primer.

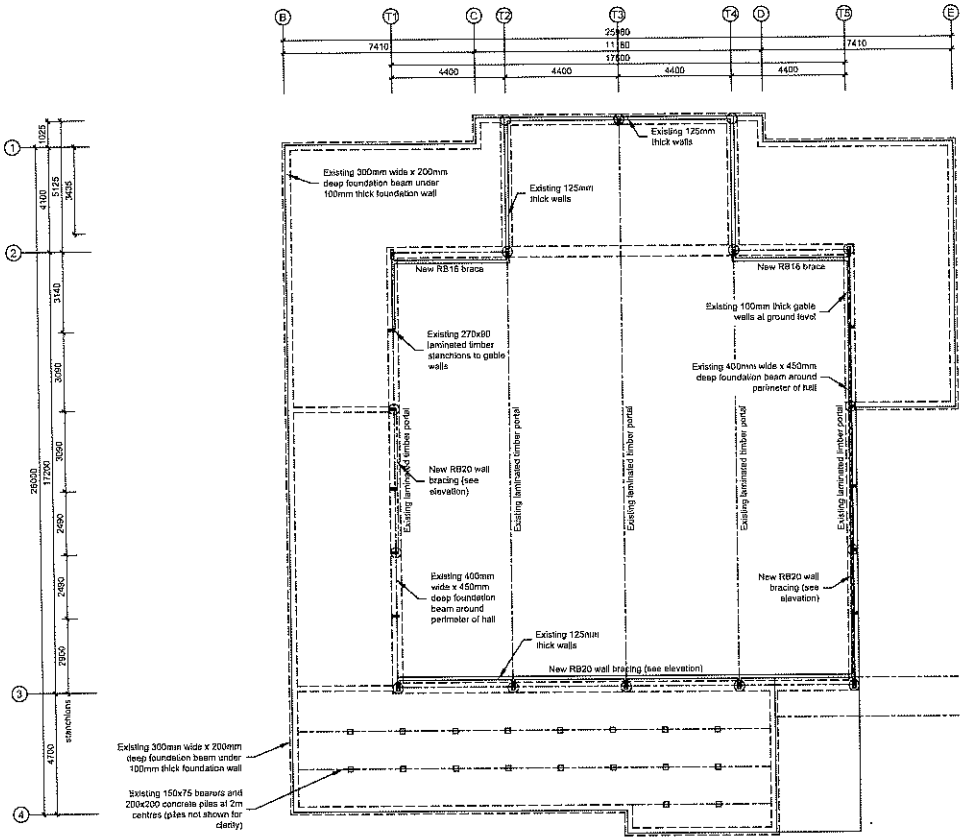
## 1.6 BOLTS, NUTS, ETC,

All bolts, nuts and washers used within this contract shall be galvanised.

Bolt grade as noted on the drawings. It is acceptable for threads to cross the shear planes.




existing foundation plan
1:100




proposed floor and foundation plan
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*Amdt A; 02.06.2016 – Proposed additions removed*

# SEISMIC STRENGTHENING
## RENWICK COMMUNITY MEMORIAL HALL
39 HIGH STREET, RENWICK

foundation and floor plans


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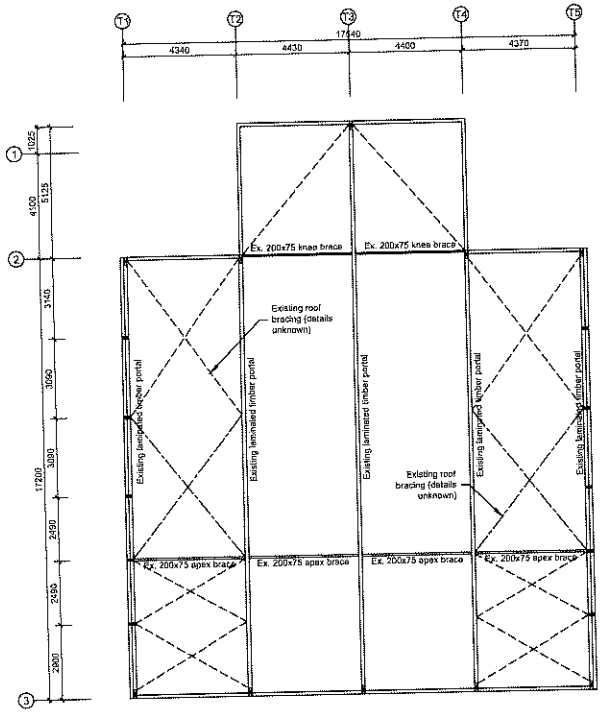


existing roof plan
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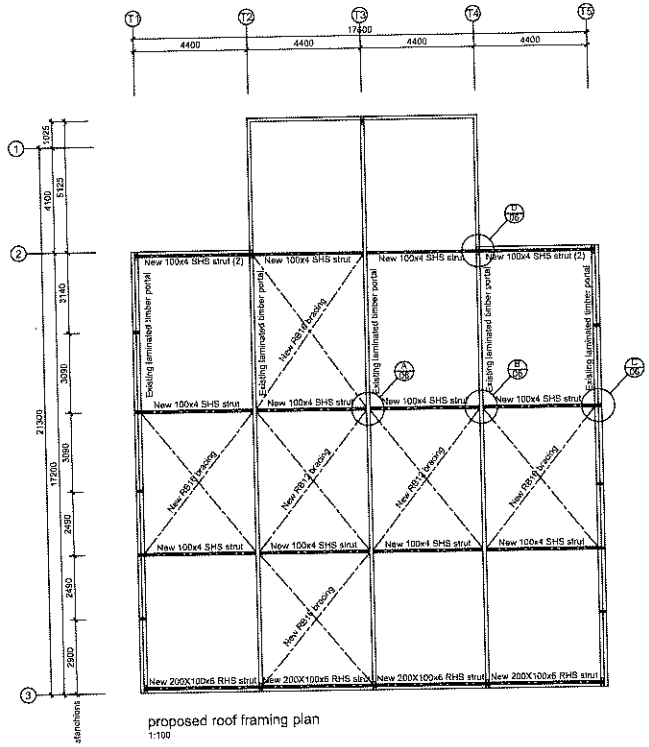


proposed roof framing plan
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Amdt A; 02.06.2016 – Proposed additions removed

# SEISMIC STRENGTHENING
## RENWICK COMMUNITY MEMORIAL HALL
39 HIGH STREET, RENWICK

roof framing plans


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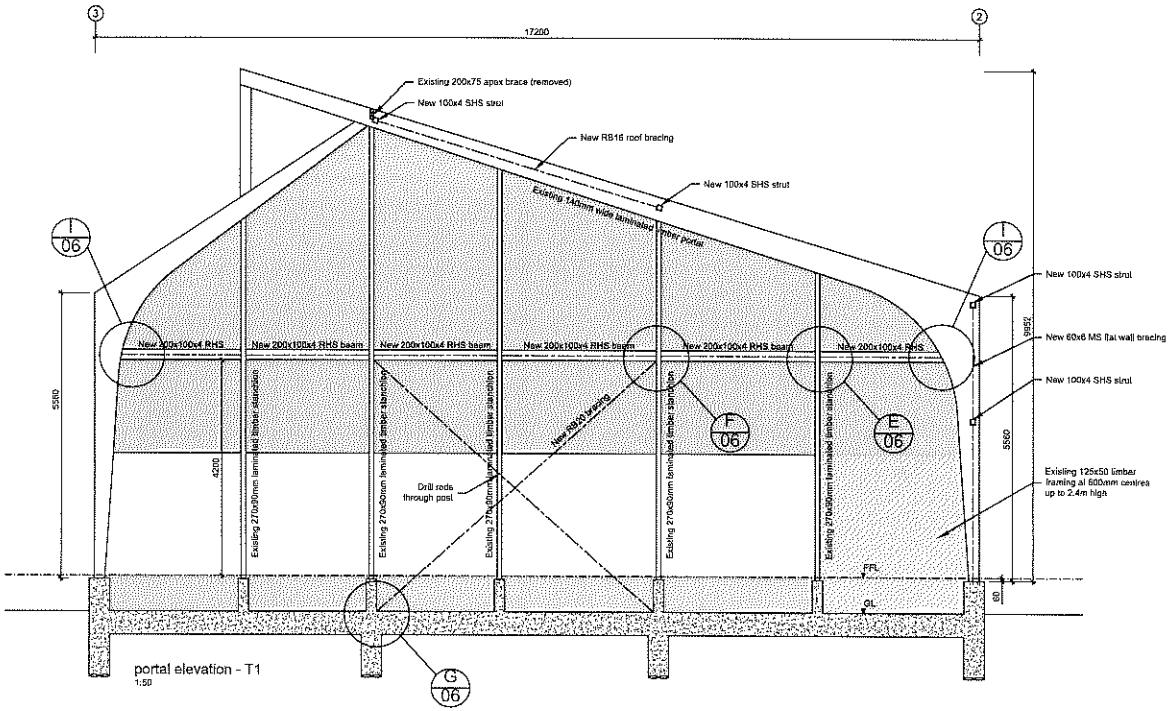


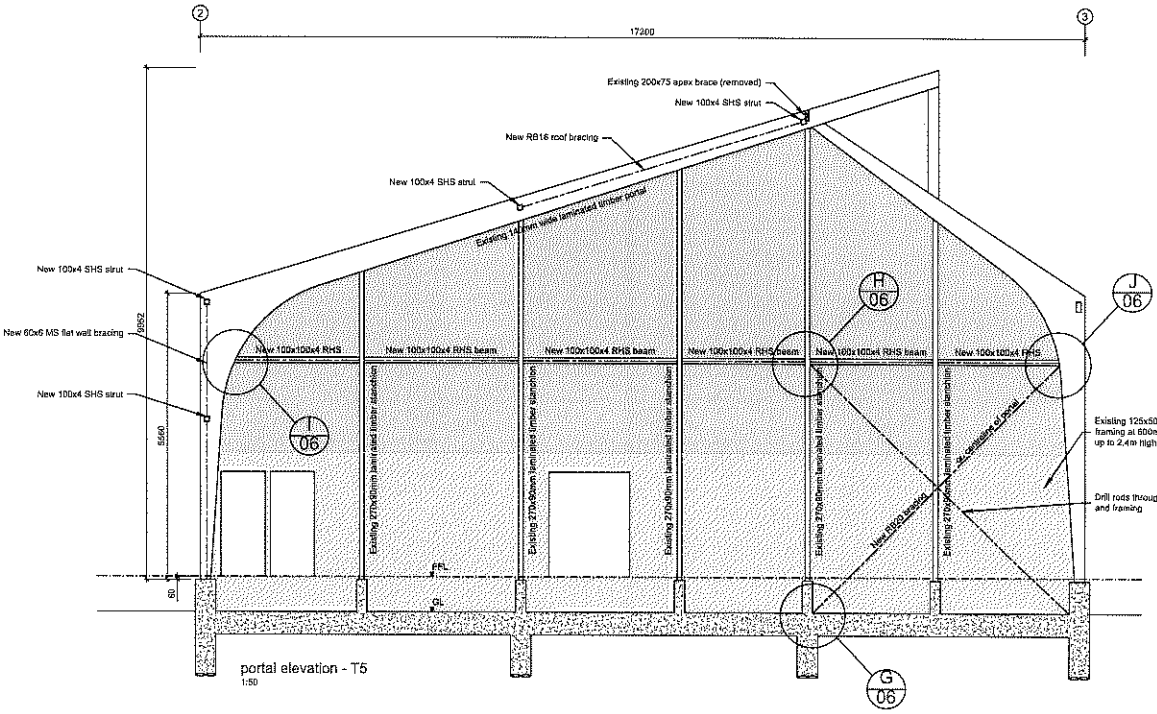


*Amdt A; 02.06.2016 – Proposed additions removed*

# SEISMIC STRENGTHENING
## RENWICK COMMUNITY MEMORIAL HALL
39 HIGH STREET, RENWICK

side wall elevations

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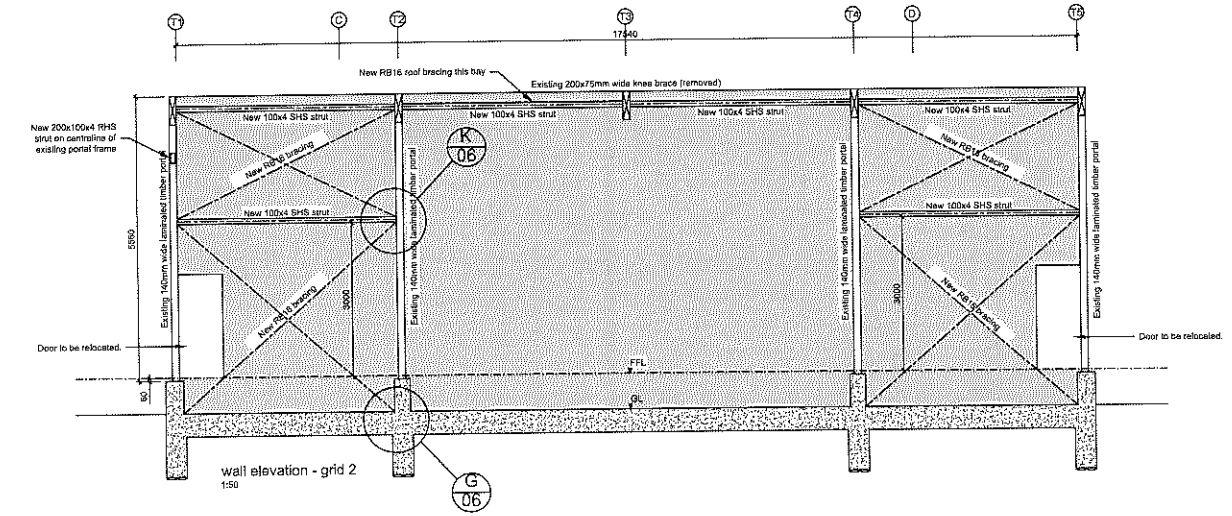


wall elevation - grid 2
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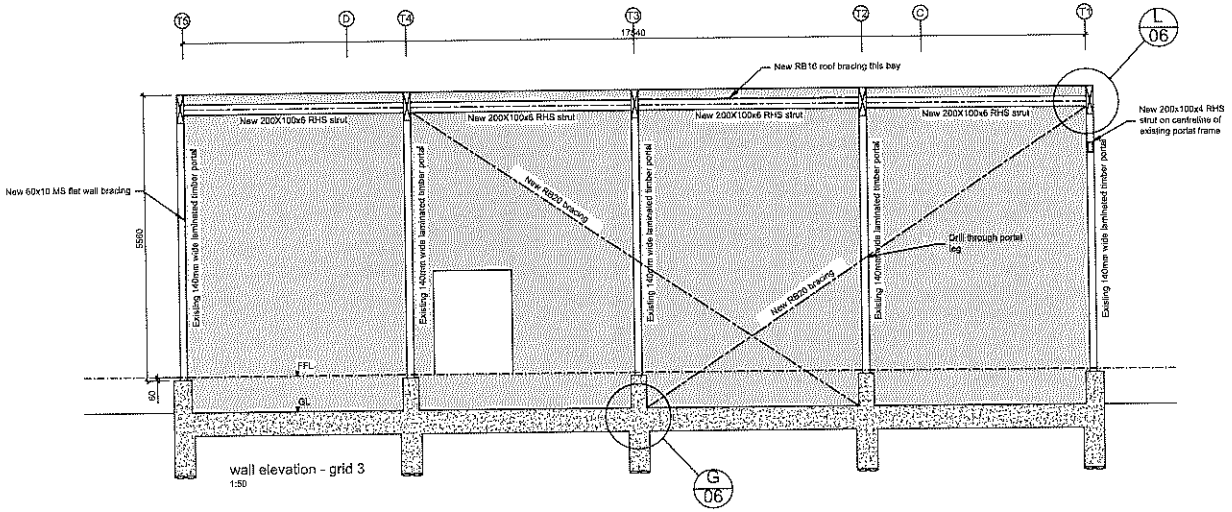


wall elevation - grid 3
1:50

Amdt A; 02.06.2016 - Proposed additions removed

# SEISMIC STRENGTHENING
## RENWICK COMMUNITY MEMORIAL HALL
39 HIGH STREET, RENWICK

end wall elevations, entry frame


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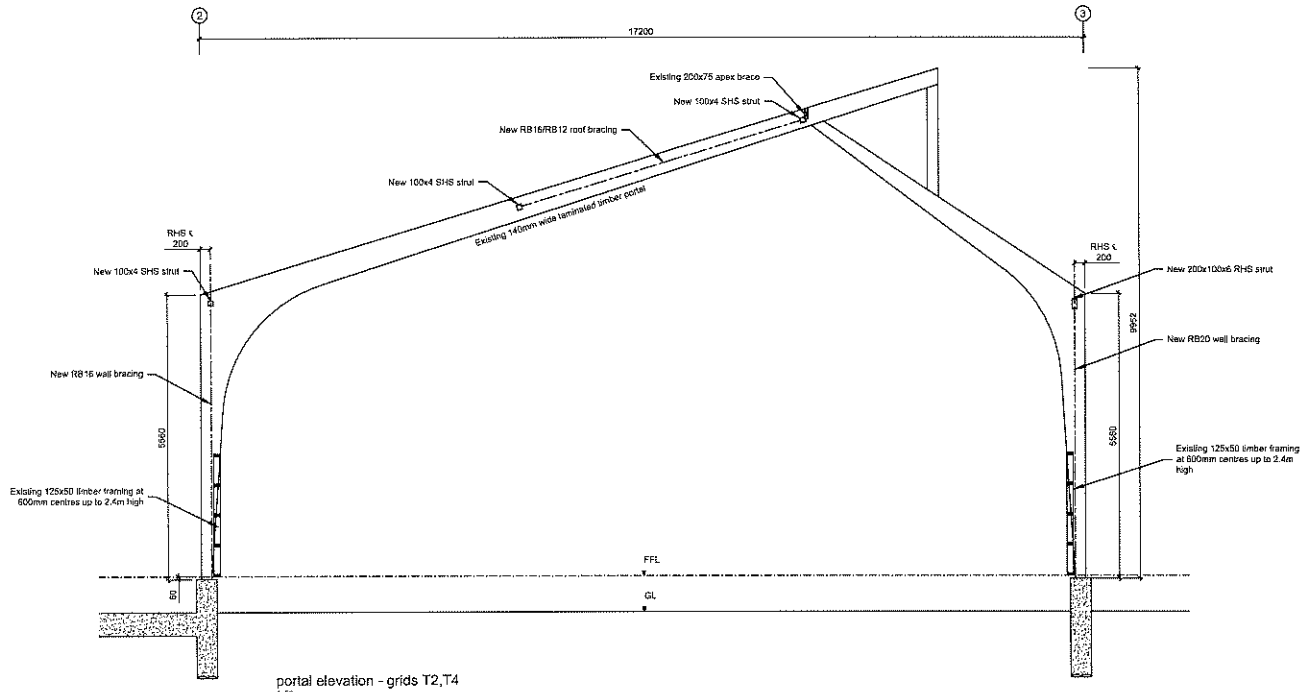
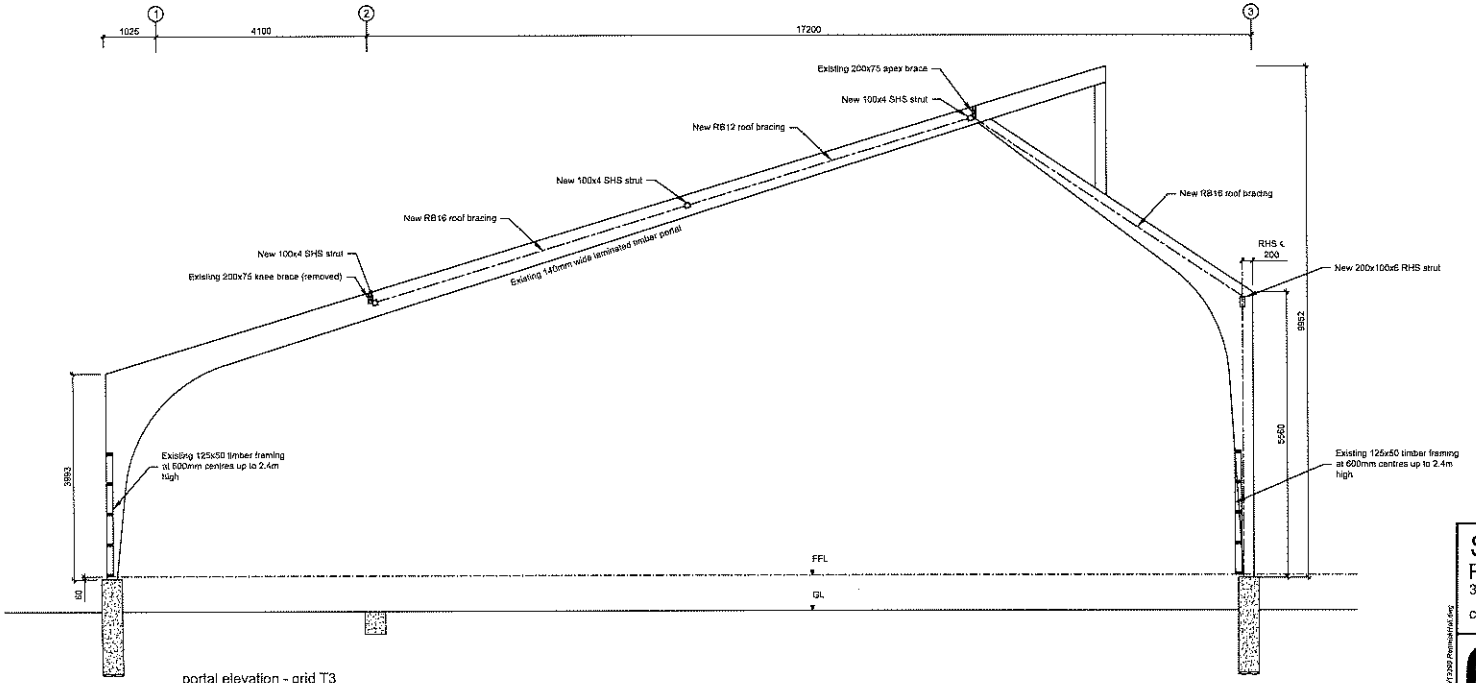



portal elevation - grids T2,T4
1:50




portal elevation - grid T3
1:50

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# SEISMIC STRENGTHENING

## RENWICK COMMUNITY MEMORIAL HALL

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cross sections


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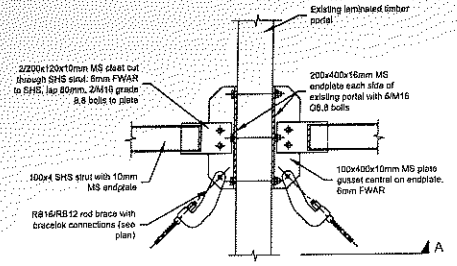
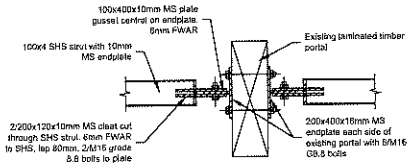



A/02 central roof bracing plan at existing portal
1:10




central bracing section A
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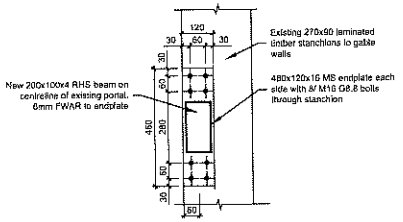


E/03 end plate plan
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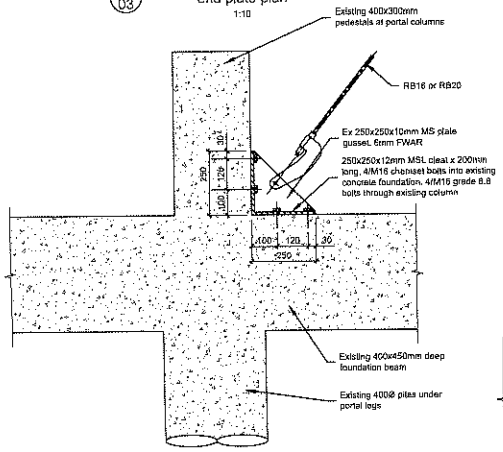


G/03 bracing elevation at existing foundation - grids 2&3
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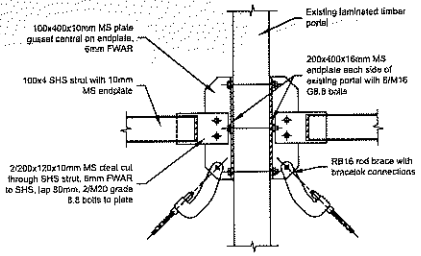


B/02 roof bracing plan at existing portal
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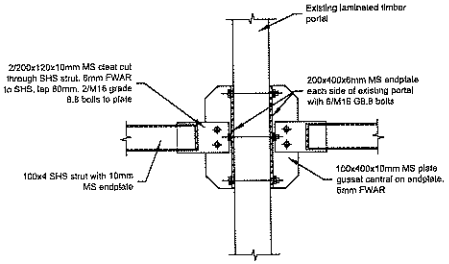


D/02 central roof bracing plan at existing portal
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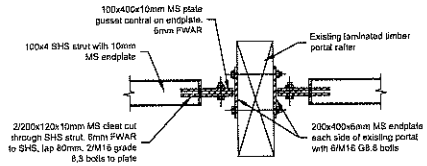


typical central bracing section - roof
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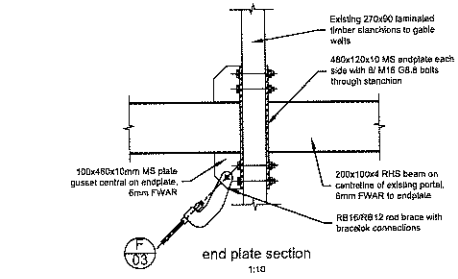


F/03 end plate section
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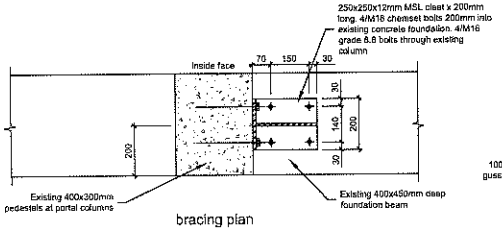


bracing plan
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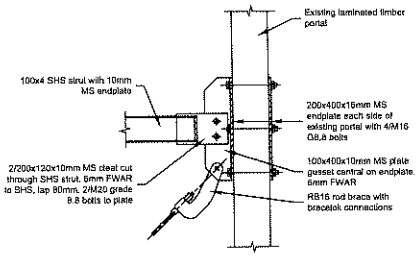


C/02 roof bracing plan at wall brace
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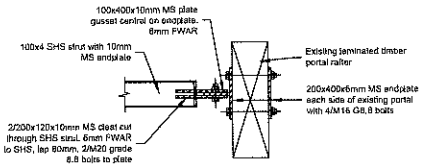


bracing section at side rafter
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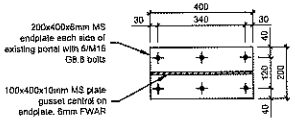


endplate plan - rafter
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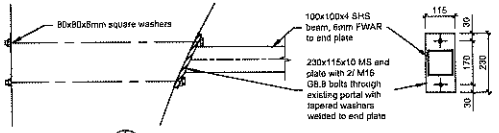


I/03 bracing section at sidewalls
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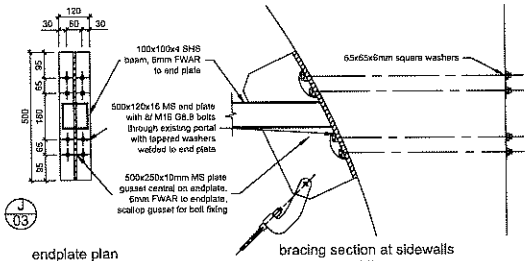
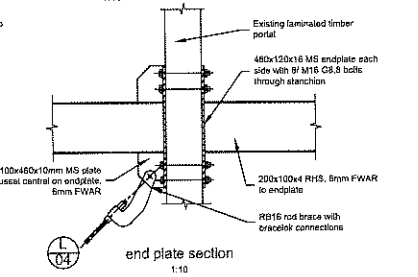
endplate plan
1:10




J/03 endplate plan
1:10

bracing section at sidewalls
1:10




L/04 end plate section
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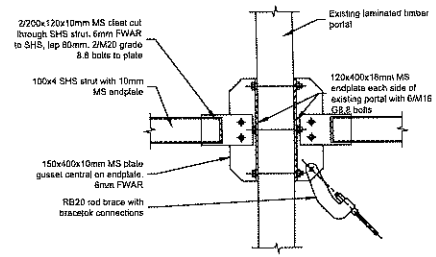


H/03 wall bracing elevation at existing stanchion
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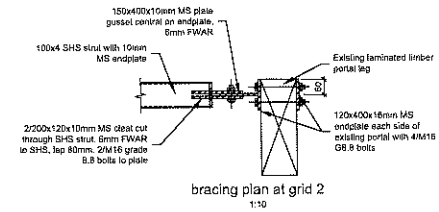


bracing plan at grid 2
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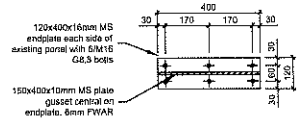


endplate plan - wall
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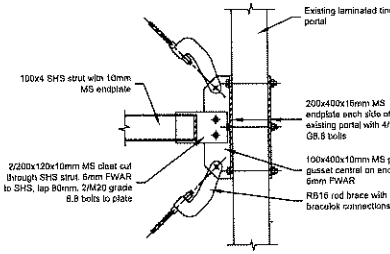


K/04 wall bracing plan at wall brace
1:10

Amdt A. 02.06.2016 - Proposed additions removed

# SEISMIC STRENGTHENING
## RENWICK COMMUNITY MEMORIAL HALL
3 9 H I G H S T R E E T , R E N W I C K

details


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