# Southland Times Building Strengthening Concept to 100%NBS (IL2) Invercargill, Southland





Project Number: 1711-2266

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**Project Status : Preliminary Design** 

#### Diaphragm Fixing Repair Schedule (100% NBS (IL2)):

#### North Elevation (A):

N  $\bigcirc$ 

• Roof Diaphragm: Install additional Anchors to acheive 800mm c/c spacing. Current spacing is approximately 1200mm c/c.

- 2nd Floor Diaphragm: Install additional Anchors to acheive 800mm c/c spacing.
- Current spacing is approximately 1200mm c/c. <u>1st Floor Diaphragm</u>: Install additional Anchors to acheive <u>800mm</u> c/c spacing. Current spacing is approximately 1200mm c/c.

### East Elevation (N):

#### • <u>Roof Diaphragm</u>: OK as existing.

<u>2nd Floor Diaphragm</u>: Install additional Anchors to acheive <u>800mm</u> c/c spacing. Current spacing is approximately 1200mm c/c.

• <u>1st Floor Diaphragm</u>: Install additional Anchors to acheive <u>600mm</u> c/c spacing. irrent spacing is approximately 1200mm c/c.

South Elevation (D):
 <u>Roof Diaphragm</u>: Install additional Anchors to acheive <u>800mm</u> c/c spacing. Current spacing is approximately 1200mm c/c.

<u>2nd Floor Diaphragm</u>: Install additional Anchors to acheive <u>800mm</u> c/c spacing.

Current spacing is approximately 1200mm c/c.

<u>1st Floor Diaphragm</u>: Install additional Anchors to acheive <u>800mm</u> c/c spacing. Current spacing is approximately 1200mm c/c.

## West Elevation (M):

<u>Roof Diaphragm</u>: OK as existing.
 <u>2nd Floor Diaphragm</u>: Install additional Anchors to acheive <u>800mm</u> c/c spacing.

Current spacing is approximately 1200mm c/c. • <u>1st Floor Diaphragm</u>: Install additional Anchors to acheive <u>600mm</u> c/c spacing.

Current spacing is approximately 1200mm c/c.

- Internal Walls (B&C): <u>Roof Diaphragm</u>: OK as existing. <u>2nd Floor Diaphragm</u>: Install additional Anchors to acheive <u>600mm</u> c/c spacing. Current spacing is approximately 1200mm c/c. • 1st Floor Diaphragm: Install additional Anchors to acheive 600mm c/c spacing. Current spacing is approximately 1200mm c/c.
- Strengthening Schedule (100%NBS (IL2)):

#### Parapet Restraint:

All parapets to be restrained using detail on sheet S1-02. Approximately 120m of parapet to be restrained

#### Roof Diaphragm repairs:

Repair front and rear elevation diaphragm-wall connections with additional anchors to acheive 800mm c/c including existing anchors. Approximately 31m of diaphragm fixings to be repaired. Note existing anchor condition to be assessed to ensure adequacy

#### 2nd Floor Diaphragm repairs:

Repair perimeter of all 2nd floor diaphragms similar to as shown in 1st floor plan adjacent to acheive 800mm c/c or 600c/c as indicated on table above (including existing connections) around all perimeters. Note existing anchor condition to be assessed to ensure adequacy. Replace remove flooring with min. 15mm Ecoply fixed as a diaphragm as per manufacturers specifications and pack out as required to match existing flooring depth.

## 1st Floor Diaphragm repairs:

Repair perimeter of all 1st floor diaphragms similar to as shown in 1st floor plan adjacent to acheive 800mm c/c or 600c/c as indicated on table above (including existing connections) around all perimeters. Note existing anchor condition to be assessed to ensure adequacy. Replace remove flooring with min. 15mm Ecoply fixed as a diaphragm as per manufacturers specifications and pack out as required to match existing flooring depth.

**2nd Floor Out-Of-Plane Wall Support:** 105m of out of plane wall support with 140x45 SG8 studs @400c/c and steel brackets @400c/c (1x Python MT Screw and 1xM12 coach bolt per bracket). Studs 3.96m tall at 2nd floor level.

## 1st Floor Out-Of-Plane Wall Support:

105m of out of plane wall support with 140x45 SG8 studs @400c/c and steel brackets @400c/c (1x Python MT Screw and 1xM12 coach bolt per bracket). Studs 4.05m tall at 2nd floor level.



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South Elevation (D)





Install new diaphragm anchors along this edge of diaphragm



Legend: Indicates extent of diaphragm repairs. Remove 1200mm Inin around edge of diaphragm to provide access to inspect existing fixings and to provide additional fixings as noted on plan and on Sheet S1-02. After installation of new fixings replace removed flooring with minimum 15mm Ecoply fixed as a diaphragm as per manufacturers specifications and pack out as required to acheive level with existing floor.					
— — Indica perim	ates Extent of Para neter). Refer to Det	pet Strong back su ail 1 on Sheet S1-0	pport (entire 1.		
In-fill this window Refer to Sheet S1	with concrete. -02 Detail 6		-		
Refer to Sheet ST	-02 Detail 6.				
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F	office Wanaka	SCALE @ A1 As indicated	SCALE @ A3 Indicated x2		
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PROJECT NAME & ADDRESS



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## Strengthening Typical Details 1

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 In-fill window with 25 MPa concrete to match wall thickness with HD12 dowels/starters @350mm c/c each face into existing URM wall drilled and chemically anchored 200mm with Ramset Chemset 101 and lapped 400mm with SE72 mesh. Ensure HD12 bars are drilled central to bricks at outer face.

6 Typical In-Fill Detail Scale 1 : 20 @ A1

C1	22/1/2019	Preliminary Issue of 100% NBS (IL2) Strengthening Requirements
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SHEET TITLE

# Strengthening Typical Details 2

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