## Initial Evaluation Procedure (IEP) Assessment - Completed for Hutt City Council

Page 1

**WARNING!!** This initial evaluation has been carried out solely as an initial seismic assessment of the building following the procedure set out in the "The Seismic Assessment of Existing Buildings" Technical Guidelines for Engineering Assessments, July 2017. This spreadsheet must be read in conjunction with the limitations set out in the accompanying report, and should not be relied on by any party for any other purpose. Detailed inspections and engineering calculations, or engineering judgements based on them, have not been undertaken, and these may lead to a different result or seismic grade.

Street Number & Name:	39 Norfolk Street	Job No.:	5-C3957.00
AKA:		By:	GSF
Name of building:	Hardwick Smith Lounge	Date:	23/08/2019
City:	Belmont, Hutt City	Revision No.:	0

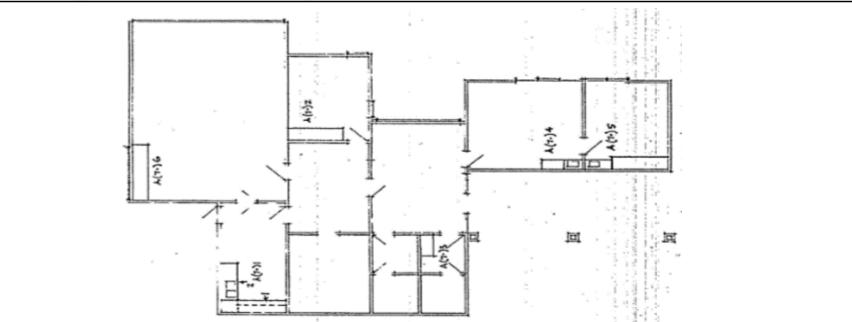
### Table IEP-1 Initial Evaluation Procedure Step 1

#### **Step 1 - General Information**

#### 1.1 Photos (attach sufficient to describe building)

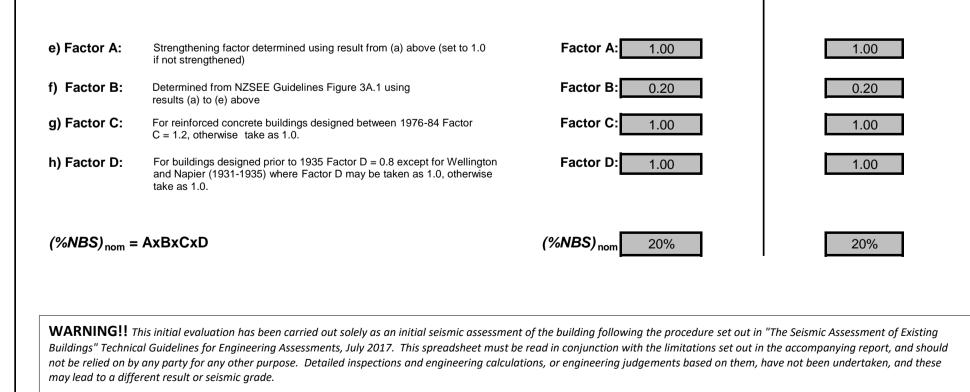


#### 1.2 Sketches (plans etc, show items of interest)

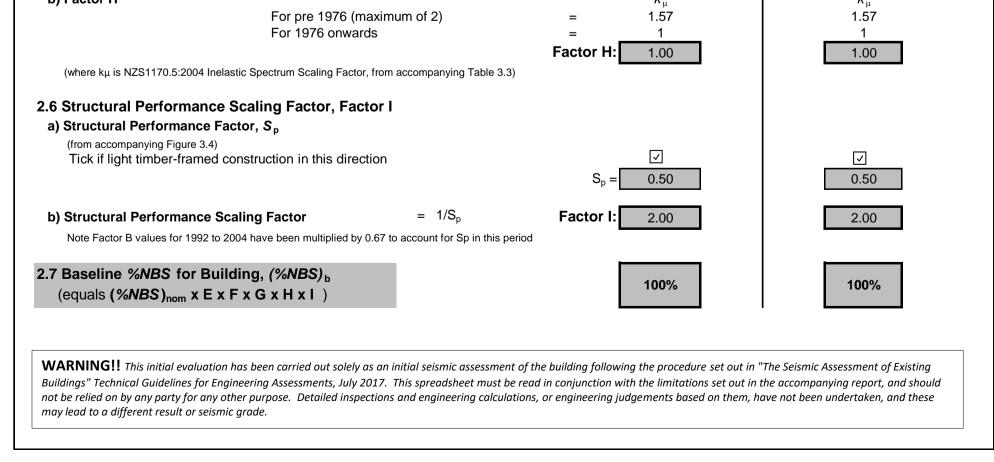


Foundations: Concrete slab on grade Roof: Timber framed with heavy tile			
Subsoil: D soft or deep soils - NZS11	70.5:2004 Site Subsoil Classificati	on of Lower Hutt	
Construction Date: 1980			
1.4 Note information sources	Tick as appropriate		
Visual Inspection of Exterior Visual Inspection of Interior	$\overline{\checkmark}$	Specifications Geotechnical Reports Other (list)	

KA: ame of building: ity:			By/	GSF
_	Hardwick Smith Lounge		By: Date:	23/08/2019
	Belmont, Hutt City		Revision No.:	0
able IEP-2 Initial Ev	aluation Procedure Step 2			
tep 2 - Determination of (%	%NBS) <sub>b</sub>			
Baseline (%NBS) for particular bui				
.1 Determine nominal (%NBS	\$) = (%NBS) <sub>nom</sub>	Longitudina		<b>Transverse</b>
a) Building Strengthening Data				
	have been strengthened in this direction			
-		_		
If strengthened, enter perce	entage of code the building has been strengthened t	o <mark>N/A</mark>		N/A
b) Year of Design/Strengthenin	g, Building Type and Seismic Zone			
	,	Pre 1935		Pre 1935
		1935-1965		Pre 1935 O 1935-1965 O
		1965-1976		1965-1976
		1976-1984		1976-1984 🔘
		1984-1992		1984-1992 🔾
		1992-2004 🔾		1992-2004 🔾
		2004-2011		2004-2011 🔿
		Post Aug 2011		Post Aug 2011
	Building Type:	Others	•	Others 🗸
	Seismic Zone:	Zone A	•	Zone A 🗸
c) Soil Type				
From NZS1170.5:20	04, Cl 3.1.3 :	D Soft Soil	▼	D Soft Soil
		5501 501		
From NZS4203:1992 (for 1992 to 2004 an		Not applica	ble	Not applicable
d) Estimate Period, T				
Comment:		h <sub>n</sub> = 4.5		4.5 m
		A <sub>c</sub> = 1.00		1.00 m <sup>2</sup>
Moment Resisting Concrete	Frames: $T = \max\{0.09h_0^{0.75}, 0.4\}$	$\bigcirc$		$\bigcirc$
Moment Resisting Steel Fran		ŏ		ŏ
Eccentrically Braced Steel F	rames: $T = \max\{0.08h_n^{0.75}, 0.4\}$			
All Other Frame Structures:	$T = \max\{0.06h_n^{0.75}, 0.4\}$	ŏ		õ
Concrete Shear Walls	$T = \max\{0.09h_{\rm n}^{0.75} / A_{\rm c}^{0.5}, 0.4\}$	Ō		0
Masonry Shear Walls:	<i>T</i> ≤ 0.4sec	O		0
User Defined (input Period):		0		0
	= height in metres from the base of the structure to the seismic weight or mass.	<b>T</b> : 0.40	, I	0.40



Name of building:       Hardwick Smith Lounge       Date:       2306/2019         City:       Beimont, Hutt City       Revision No.:       0         Table IEP-2       Initial Evaluation Procedure Step 2 continued         L2.Next Fault Scaling Factor, Factor E       If T $\leq$ 1.5sec, Factor E = 1       Image: Construct Constr	treet Number & Name:	39 Norfolk St	reet	Job N	o.:	5-C3957.00
City: Belmont, Hutt City Revision No.: 0 Table IEP-2 Initial Evaluation Procedure Step 2 continued 2.2 Near Fault Scaling Factor, Factor E If $T \leq 1.5$ sec, Factor E = 1 If $T \leq 1.5$ sec, Factor F = 1/N(T,D) Factor E = 1.00 If the N231770.5.2004, C13.16) If the Statistical Factor, Z, for site Location: Inst Valley-south of Table Genge Refer right for user-defined locations $Z_{max} = \frac{0.4}{0.4}$ (West-Statistics 2.000 A Table 3.3) If for pris 1992 = 1/Z For pris 1992 = 2/100 2.4 Return Period Scaling Factor, Factor G Image 10 1.3 for Zone A to 1.2 for Zone B. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zone A to 1.2 for Zone I. For 1976-1984 set 1 value. Image 10 1.3 for Zo				By:		GSF
Table IEP-2 Initial Evaluation Procedure Step 2 continued         2.2 Near Fault Scaling Factor, Factor E       If $T \le 1.5 \sec$ , Factor E = 1       Iongitudinal       Image: Initial Evaluation Procedure Step 2 continued         a) Near Fault Factor, N(7,D)       N(T,D):       1       1         (mon N251170.5.2004, Cl 3.1.0)       b) Factor E       1.00       1.00         b) Factor C       = 1/N(T,D)       Factor E:       1.00         2.3 Hazard Scaling Factor, Factor F       +       Near Factor, Z, for site       1.00         Location: $L_{trift Valley south of Tata Gorge Importance Level, 1       Near Factor, Z, for site       1.00         Z agout =       0.4       (Mon N251170.5.2004, Table 3.3)       Point Conscionary program State State$	-					
2.2 Near Fault Scaling Factor, Factor E If $T \leq 1.5 \sec$ , Factor E = 1 Longitudinal Tansverse (tom NZS1170.5.3004, G13.16) b) Factor E = 1/N(T,D) Ractor E: 1.00 10 2.3 Hazard Scaling Factor, Factor F a) Hazard Scaling Factor, Factor F b) Factor E = $0.4$ $Z_{2004} = 0.12$ $Z_{2004} = 0.12$ For pre 1992 = $1/Z$ For pre 1992 = $1/Z$ For pre 1992 = $1/Z$ For pre 1992 = $1/Z$ For pre 1992 = $1/Z$ $Z_{2004} = 0.12$ $Z_{2004} = 0.12$ $Z_{200$	ity:	Beimont, Hut		Revis	ION NO.:	U
If $\Gamma \leq 1.5 \sec$ , Factor $F = 1$ a) Near Fault Factor, $N(T,D)$ (rom NZS1170.5.2004, Cl 3.1.8) b) Factor $F$ c) Hazard Scaling Factor, Factor $F$ c) Hazard Scaling Factor, Factor $F$ c) Hazard Scaling Factor, Factor $F$ c) Hazard Factor, $R$ $L_{100}$ $L_{100}$ $L_{100}$ c) $L_{100}$ c) $L_{100}$	able IEP-2 Initial Eva	luation Proce	dure Step 2 cor	ntinued		
a) Near Fault Factor, N(T,D) (rem NZS1170.5.2004, Cl 3.16) b) Factor E = 1/N(T,D) Factor E: 1.00 1.00 3.3 Hazard Scaling Factor, Factor F a) Hazard Factor, Z, for site Location: Furt Valley-south of Tata Gorge Refer right for user-defined locations $Z_{1502} = 0.4$ (rem NZS1170.5.2004, Table 3.3) $Z_{1502} = 0.4$ (rem NZS1170.5.2004, Table 3.3) b) Factor F For pre 1992 = 1/Z For pre 1992 = 1/Z For post 2011 = $Z_{1502}/Z$ For post 2011 = $Z_{1502}/Z$ Factor F: 2.50 2.	.2 Near Fault Scaling Factor, F	actor E				
a) Near Fault Factor, N(T,D) (trom NZ51170.5.2004, Cl 3.1.6) b) Factor E = 1/N(T,D) Factor E: 1.00 3.3 Hazard Scaling Factor, Factor F a) Hazard Factor, Z, for site Location: Hurt Valley-south of Tata Gorge Refer right for user-defined locations $Z_{1922} = 1.2$ (trom NZ51170.5.2004, Table 3.3) $Z_{1922} = 1.2$ (trom NZ51170.5.2004, Table 3.3) b) Factor F For pre 1992 = 1/Z For pres 2011 = $Z_{1920}/Z$ For pres 2011 = $Z_{1920}/Z$ Factor F: $Z_{200}$ = 1 1 1 1 1 1 1 1 1 1 1 1 1 1	If $T \leq 1.5 \text{sec}$ , Factor E = 1			Longitudinal		Transverse
(rom NZS1170.52004, Cl 3.1.8)  b) Factor E $ = 1/N(T,D) $ Factor E: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00						
b) Factor E = $1/N(T,D)$ Factor E 1.00 100 3.3 Hazard Scaling Factor, Factor F a) Hazard Factor, Z, for site Location: Hutt Valley-south of Tails Gorge Refer right for user-defined locations Z = 0.4 (trom NZS1170.52004, Table 3.3) $Z_{2004} = 0.4$ (trom NZS1170.52004, Table 3.3) b) Factor F For pre 1992 = $1/Z$ For pre 1992 = $1/Z$ Factor F: $2.50$ 2.50				N(T,D): 1		1
2.3 Hazard Scaling Factor, Factor F a) Hazard Factor, Z, for site Location: $\mu_{Utt Valley-south of Taita Gorge \checkmark Refer right for user-defined locationsZ_{1922} = \underbrace{0.4}_{1.2} (from NZ51170.5.2004, Table 3.3)Z_{1922} = \underbrace{0.4}_{1.2} (from NZ51170.5.2004, Table 3.3)b) Factor FFor pre 1992 = 1/ZFor pre 1992 = 1/ZFor pre 1992 = 1/ZFor post 2011 = Z_{1922}/ZFor post 2011 = Z_{192}/ZFor post 2011 = Z_{1$						
a) Hazard Factor, Z, for site Location: $  _{Hutt Valley-south of Taita Gorge \checkmark Refer right for user-defined locationsZ = \underbrace{0.4}_{1.2} (from NZS1170.52004, Table 3.3)Z_{1992} = \underbrace{0.4}_{1.2} (from NZS1170.52004, Table 3.3)b) Factor FFor pre 1992 = 11/ZFor 1992.2011 = Z_{1992}/ZFor post 2011 = Z_{1992}/ZFor tailing background plot to 1985 and known to be designed as a publicbuilding set to 1.35 For buildings designed 1985-1976-1984 set 1 value.)b) Design Risk Factor, Ra(set to 1.0 if other than 1976-2004, or not known)c) Return Period Factor, R(from NZS1170.02004 Building importance Level)Choose Importance Level 01 @ 2 03 04R = 1.0d) Factor G = IR2/RFactor G: 1.00factor G = IR2/RFactor G: 1.00L5 Ductility Scaling Factor, Factor Ha) Available Displacement Ductility Within Existing StructureComment: \mu = 2.00 2.00$	b) Factor E		= 1/N(T,D)	Factor E: 1.00		1.00
$z_{192} = \frac{0.4}{1.2}$ (from NZS1170.5.2004, Table 3.3) $z_{192} = \frac{1.2}{1.2}$ (NZS4203.1992 Zone Factor from accompanying Figure 3.5(b)) $z_{2004} = \frac{1/Z}{1.2}$ (from NZS1170.5.2004, Table 3.3) b) Factor F For pre 1992 = 1/Z For 1992-2011 = Z_{1929}/Z For post 2011 = Z_{2004}/Z Factor F: 2.50 2.50 2.4 Return Period Scaling Factor, Factor G a) Design Importance Level, I (Set to 1.3 If or Known. For buildings designed prior to 1965 and known to be designed as a public building set to 1.33 for Zone A or 1.2 for Zone B. For 1976-1984 set I value.) b) Design Risk Factor, R <sub>0</sub> (set to 1.0 if other than 1976-2004, or not known) Choose Importance Level 0 1 0 2 0 3 0 4 R = 1.0 d) Factor G = IR <sub>0</sub> /R Factor G: 1.00 1	<b>-</b>	or F				
	Location	Hutt Valley-south of	Taita Gorge 🛛 🔻 Ref	er right for user-defined locations		
$Z_{2004} = 0.4 $ (from NZS1170.5:2004, Table 3.3) b) Factor F For pre 1992 = 1/Z For post 2011 = $Z_{1902}/Z$ For post 2011 = $Z_{2004}/Z$ Factor F: 2.50 2	Z	= 0.4	(from NZS1170.5:2004,	Table 3.3)		
b) Factor F For pre 1992 = $1/Z$ For 1992-2011 = $Z_{199/}Z$ For post 2011 = $Z_{200/}Z$ Factor F: 2.50 2.50 4.4 Return Period Scaling Factor, Factor G a) Design Importance Level, I (Set to 1.33 for Zone A or 1.2 for 1965-1976 and known to be designed as a public building set to 1.33 for Zone A or 1.2 for 1966-1976 and known to be designed as a public building set to 1.33 for Zone A or 1.2 for 1976-1984 set I value.) b) Design Risk Factor, R (form NZS1170.0:2004 Building Importance Level) Choose Importance Level 0 1 $\odot$ 2 $3$ 4 R = 1.0 2 $\odot$ 3 $4$ (J $\odot$ 2 $3$ 4 R = 1.0 2 $\odot$ 3 $4$ (J $\odot$ 2 $3$ 4 R = 2.00 2.00	Z <sub>1992</sub>	= 1.2	(NZS4203:1992 Zone F	actor from accompanying Figure 3.5(b))		
For pre 1992 = $1/Z$ For 1992-2011 = $Z_{1900}/Z$ For post 2011 = $Z_{2000}/Z$ Factor F: 2.50 2.50 2.4 Return Period Scaling Factor, Factor G a) Design Importance Level, I (Set to 1 if not known, For buildings designed 1965-1976 and known to be designed as a public building set to 1.33 for Zone A or 1.2 for Zone B. For 1976-1984 set I value.) b) Design Risk Factor, R <sub>o</sub> (set to 1.0 if other than 1976-2004, or not known) Choose Importance Level 0 1 $@ 2 0 3 0 4$ R = 1.0 d) Factor G = $IR_{o}/R$ Factor G: 1.00 1.00 1.00 1.00 1.00 2.00	$Z_{2004}$	= 0.4	(from NZS1170.5:2004,	Table 3.3)		
For 1992-2011 = $Z_{1992}/Z$ For post 2011 = $Z_{2004}/Z$ Factor F: 2.50 2.50 2.4 Return Period Scaling Factor, Factor G a) Design Importance Level, I (Set to 11 not known, For buildings designed prior to 1965 and known to be designed as a public building set to 1.33 for Zone A or 1.2 for Zone B. For 1976-1984 set I value.) b) Design Risk Factor, R <sub>o</sub> (set to 1.0 if other than 1976-2004, or not known) (set to 1.0 if other than 1976-2004, or not known) Choose Importance Level 0 1 0 2 3 4 R = 1.0 d) Factor G = $IR_0/R$ Factor G: 1.00 1.00 1.00 1.00 1.00 2.00	b) Factor F					
For post 2011 = $Z_{200}/Z$ Factor F: 2.50 2.00 2.00	•	=				
Factor F: 2.50 2.4 Return Period Scaling Factor, Factor G a) Design Importance Level, 1 (Set to 1 if not known. For buildings designed prior to 1965 and known to be designed as a public building set to 1.35 for Zone A or 1.2 for Zone B. For 1976-1984 set 1 value.) b) Design Risk Factor, R <sub>o</sub> (set to 1.0 if other than 1976-2004, or not known) (set to 1.0 if other than 1976-2004, or not known) Choose Importance Level (from NZS1170.0:2004 Building Importance Level) c) Redurn Period Factor, R (from NZS1170.0:2004 Building Importance Level) c) Factor G = IR <sub>0</sub> /R Factor G: 1.00 1.00 1.00 1.00 2.00		=				
a) Design Importance Level, I (Set to 1 if not known. For buildings designed prior to 1965 and known to be designed as a public building set to 1.25. For buildings designed 1965-1976 and known to be designed as a public building set to 1.33 for Zone A or 1.2 for Zone B. For 1976-1984 set I value.) b) Design Risk Factor, R <sub>0</sub> (set to 1.0 if other than 1976-2004, or not known) c) Return Period Factor, R (from NZS1170.0:2004 Building Importance Level) c) Factor G = IR <sub>0</sub> /R factor G = IR <sub>0</sub> /R factor G: 1.00 factor Factor, Factor H a) Available Displacement Ductility Within Existing Structure Comment: $\mu = 2.00$ 2.00	For post 2011	=	∠ <sub>2004</sub> /∠	Factor F: 2.50		2.50
a) Design Importance Level, I (Set to 1 if not known. For buildings designed prior to 1965 and known to be designed as a public building set to 1.25. For buildings designed 1965 and known to be designed as a public building set to 1.23. For Jore A or 1.2 for Zone B. For 1976-1984 set I value.) b) Design Risk Factor, R <sub>0</sub> (set to 1.0 if other than 1976-2004, or not known) Choose Importance Level $1 \oplus 2 \oplus 3 \oplus 4$ (from NZS1170.0:2004 Building Importance Level) Choose Importance Level $1 \oplus 2 \oplus 3 \oplus 4$ R = 1.0 c) Factor G = IR <sub>0</sub> /R Factor G: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	.4 Return Period Scaling Facto	or. Factor G				
(set to 1.0 if other than 1976-2004, or not known) $R_{0} = 1$ $R_{0} = 1$	a) Design Importance Level, I (Set to 1 if not known. For buildings design building set to 1.25. For buildings designed	ned prior to 1965 and known	to be designed as a public	c .		▼
$\frac{(\text{from NZS1170.0:2004 Building Importance Level})}{(\text{from NZS1170.0:2004 Building Importance Level})} \qquad Choose Importance Level 1 \oplus 2 \oplus 3 \oplus 4R = 1.0$ $R = 1.0$ $1.0$ $1.00$ $1.00$ $1.00$ $1.00$ $1.00$ $1.00$ $2.00$		known)		$R_{o} = 1$		1
Factor G: 1.00       1.00         2.5 Ductility Scaling Factor, Factor H       1.00         a) Available Displacement Ductility Within Existing Structure $\mu = 2.00$ 2.00	-	ice Level)	Choose Importanc		O 1	
a) Available Displacement Ductility Within Existing Structure Comment: $\mu = 2.00$ $2.00$	d) Factor G	=	IR <sub>o</sub> /R	<b>Factor G:</b> 1.00		1.00
	a) Available Displacement Ductili		Structure			
Lightweight timber bracing walls				$\mu = 2.00$		2.00



eet Number & Name: 39	Norfolk Street		Job No.	:	5-C3957.00
A:			By:		GSF
······································	dwick Smith Lounge		Date:		23/08/2019
y: Bel	mont, Hutt City		Revisio	n <b>No</b> .:	0
able IEP-3 Initial Evaluation	on Procedure Step 3				
ep 3 - Assessment of Performan efer Appendix B - Section B3.2)	ce Achievement Ratio (PAR)				
Longitudinal Direction					
potential CSWs	Effect on Struct (Choose a value -				Facto
1 Plan Irregularity	(choose a value -				
Effect on Structural Performance	Severe OS	ignificant	⊚ In	significant	Factor A 1.0
Irregular but insignifcant impact on pe	rformance, timber frame with bracing w	alls			
2 Vertical Irregularity					
Effect on Structural Performance	Severe OS	ignificant	) In	significant	Factor B 1.0
Comment: NĀ	Ŭ		Ŭ		
3 Short Columns					
Effect on Structural Performance OS	Severe $\bigcirc$ S	ignificant	) In	significant	Factor C 1.0
Comment: Nil	<u> </u>		Ũ		
4 Pounding Potential					
(Estimate D1 and D2 and set D = the lo a) Factor D1: - Pounding Effect Note: Values given assume the building	y has a frame structure. For stiff buil efficient to the right of the value appl Fact D1	dings (eg shear w licable to frame bu tor D1 For Long Severe	alls), the effect of p uildings. itudinal Direction: Significant Insig	ounding 1.0 nificant	to be minimal)
(Estimate D1 and D2 and set D = the la a) Factor D1: - Pounding Effect Note: Values given assume the building may be reduced by taking the coe Table for Selection of Factor I	g has a frame structure. For stiff buil efficient to the right of the value appl Fact D1 Separation	dings (eg shear w licable to frame bu tor D1 For Long Severe 0 <sep<.005h .0<="" td=""><td>alls), the effect of p uildings. itudinal Direction: Significant Insig 05<sep<.01h se<="" td=""><td>ounding 1.0 nificant ep&gt;.01H</td><td>to be minimal)</td></sep<.01h></td></sep<.005h>	alls), the effect of p uildings. itudinal Direction: Significant Insig 05 <sep<.01h se<="" td=""><td>ounding 1.0 nificant ep&gt;.01H</td><td>to be minimal)</td></sep<.01h>	ounding 1.0 nificant ep>.01H	to be minimal)
(Estimate D1 and D2 and set D = the la a) Factor D1: - Pounding Effect Note: Values given assume the building may be reduced by taking the coe Table for Selection of Factor I	y has a frame structure. For stiff buil efficient to the right of the value appl Fact D1	dings (eg shear w licable to frame bu tor D1 For Long Severe	alls), the effect of p uildings. itudinal Direction: Significant Insig 05 <sep<.01h se<="" td=""><td>ounding 1.0 nificant</td><td>to be minimal)</td></sep<.01h>	ounding 1.0 nificant	to be minimal)
(Estimate D1 and D2 and set D = the la a) Factor D1: - Pounding Effect Note: Values given assume the building may be reduced by taking the coe Table for Selection of Factor I Alignment	g has a frame structure. For stiff buil efficient to the right of the value appl Fact D1 Separation	dings (eg shear w licable to frame bu tor D1 For Long Severe 0 <sep<.005h .0<br="">() 1</sep<.005h>	talls), the effect of p uildings. itudinal Direction: Significant Insig 05 <sep<.01h se<br="">() 1</sep<.01h>	ounding 1.0 nificant ep>.01H	to be minimal)
(Estimate D1 and D2 and set D = the le a) Factor D1: - Pounding Effect Note: Values given assume the building may be reduced by taking the coe Table for Selection of Factor I Alignmen	g has a frame structure. For stiff built efficient to the right of the value appl Fact D1 Separation t of Floors within 20% of Storey Height Floors not within 20% of Storey Height e Effect	dings (eg shear w licable to frame bu tor D1 For Long Severe 0 <sep<.005h .00<br="">0 1 0 0.4</sep<.005h>	talls), the effect of p uildings. itudinal Direction: Significant Insig 05 <sep<.01h se<br="">0 1 0.7</sep<.01h>	ounding 1.0 nificant p>.01H 0 1 0.8	to be minimal)
(Estimate D1 and D2 and set D = the latest of the formation of the second set of the	g has a frame structure. For stiff build efficient to the right of the value appl Fact D1 Separation t of Floors within 20% of Storey Height Floors not within 20% of Storey Height e Effect Fact	dings (eg shear w licable to frame bu tor D1 For Long Severe 0 <sep<.005h .0<br="">0 1 0 0.4</sep<.005h>	itudinal Direction: Significant Insig 05 <sep<.01h se<br="">0.7</sep<.01h>	ounding 1.0 nificant ep>.01H ① 1.0 0.8	to be minimal)
(Estimate D1 and D2 and set D = the la a) Factor D1: - Pounding Effect Note: Values given assume the building may be reduced by taking the coe Table for Selection of Factor I Alignment Alignment of NÅ	g has a frame structure. For stiff build efficient to the right of the value appl Fact D1 Separation t of Floors within 20% of Storey Height Floors not within 20% of Storey Height e Effect Fact	dings (eg shear w licable to frame bu tor D1 For Long Severe 0 <sep<.005h .0<br="">0 1 0 0.4</sep<.005h>	talls), the effect of p uildings. itudinal Direction: Significant Insig 05 <sep<.01h se<br="">0 1 0 0.7 itudinal Direction: Significant Insig</sep<.01h>	ounding 1.0 nificant p>.01H 0 1 0.8	to be minimal)
(Estimate D1 and D2 and set D = the latest of the formation of the second set of the	g has a frame structure. For stiff build efficient to the right of the value appl Fact D1 Separation t of Floors within 20% of Storey Height Floors not within 20% of Storey Height e Effect Fact	dings (eg shear w licable to frame bu tor D1 For Long Severe 0 <sep<.005h .0<br="">0 1 0 0.4 tor D2 For Long Severe</sep<.005h>	itudinal Direction: Significant Insig 05 <sep<.01h se<br="">0 1 0 0.7 itudinal Direction: Significant Insig</sep<.01h>	ounding 1.0 nificant p>.01H 0 1 0.8 1.0 nificant	to be minimal)

	Significant	🔿 Insignificant	Factor E 0
iteral spreading due to location n	ear Hutt River 150m to the So	uth-East	
	terstics of the building	For <u>&lt;</u> 3 storeys - Maximum value 2.5 otherwise - Maximum value 1.5.	Factor F
hoice of Factor F:		No minimum.	
with heavy roof and heavy claddi	ng, F factor 1.0		
ent Ratio (PAR)			ongitudinal 0.
: : :	ance of all other relevant charact hoice of Factor F: vith heavy roof and heavy claddin	ance of all other relevant characterstics of the building hoice of Factor F: vith heavy roof and heavy cladding, F factor 1.0 ent Ratio (PAR)	hoice of Factor F: vith heavy roof and heavy cladding, F factor 1.0

et Number & Name:	39 Norfolk Street		Job No.:	5-C3957.00
:			By:	GSF
ne of building:	Hardwick Smith Lounge		Date:	23/08/2019
:	Belmont, Hutt City		Revision No.:	0
ole IEP-3 Initial I	Evaluation Procedure Step 3			
<b>p 3 - Assessment of P</b> er Appendix B - Section B3.2	erformance Achievement Ratio (PAR)			
Fransverse Direction				
potential CSWs	Effect on Str	uctural Performar	nce	Facto
	(Choose a valu	e - Do not interpola	ite)	
Plan Irregularity		Ciamificant	- 1	
Effect on Structural Perfor	mance Osevere O	Significant	Insignition	cant Factor A 1.0
	npact on performance, timber frame with bracing v	vans		
Vertical Irregularity				
Effect on Structural Perfor	mance O Severe O	Significant	Insignific	cant Factor B 1.0
Comment: NĀ				
Short Columns				
Effect on Structural Perfor	mance O Severe	Significant	) Insignifi	cant Factor C 1.0
Effect on Structural Perfor Comment: Nil Pounding Potential		Significant	Insignific	
Comment: Nil Pounding Potential (Estimate D1 and D2 and so Factor D1: - Pounding Eff Note: Values given assume t	et D = the lower of the two, or 1.0 if no potentia ect he building has a frame structure. For stiff buil ing the coefficient to the right of the value app Factor D1 Separation	I for pounding, or c dings (eg shear wa licable to frame bui actor D1 For Trans Severe S 0 <sep<.005h .005<="" th=""><th>onsequences are consid</th><th>ered to be minimal)</th></sep<.005h>	onsequences are consid	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and so Factor D1: - Pounding Eff Note: Values given assume t may be reduced by tak	et <i>D</i> = the lower of the two, or 1.0 if no potentia ect he building has a frame structure. For stiff buil ing the coefficient to the right of the value app Factor D1	I for pounding, or c dings (eg shear wa licable to frame bui actor D1 For Trans Severe S 0 <sep<.005h .005<="" td=""><td>onsequences are consid Ils), the effect of poundin Idings. sverse Direction:</td><td>ered to be minimal)</td></sep<.005h>	onsequences are consid Ils), the effect of poundin Idings. sverse Direction:	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and so Factor D1: - Pounding Effection Note: Values given assume to may be reduced by tak Table for Selection A	et D = the lower of the two, or 1.0 if no potentia ect he building has a frame structure. For stiff buil ing the coefficient to the right of the value app Factor D1 Separation	I for pounding, or c dings (eg shear wat licable to frame buil severe S 0 <sep<.005h .005<br="">0 1</sep<.005h>	onsequences are consid	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and se Factor D1: - Pounding Effection Note: Values given assume to may be reduced by tak Table for Selection	et D = the lower of the two, or 1.0 if no potentia ect he building has a frame structure. For stiff buil ing the coefficient to the right of the value app Factor D1 Separation Alignment of Floors within 20% of Storey Height	I for pounding, or c dings (eg shear wat licable to frame buil severe S 0 <sep<.005h .005<br="">0 1</sep<.005h>	onsequences are consid	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and so Factor D1: - Pounding Effection Note: Values given assume to may be reduced by tak Table for Selection A	et D = the lower of the two, or 1.0 if no potentia ect he building has a frame structure. For stiff buil ing the coefficient to the right of the value app Fa of Factor D1 Separation Alignment of Floors within 20% of Storey Height lignment of Floors not within 20% of Storey Height	I for pounding, or c dings (eg shear war licable to frame bui severe S 0 <sep<.005h .005<br="">0 1 0 0.4</sep<.005h>	onsequences are consid	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and set Factor D1: - Pounding Effection Note: Values given assume to may be reduced by tak Table for Selection A Comment: Nil b) Factor D2: - Heigh	et D = the lower of the two, or 1.0 if no potentia ect  he building has a frame structure. For stiff buil ing the coefficient to the right of the value app  Fa of Factor D1 Separation Alignment of Floors within 20% of Storey Height lignment of Floors not within 20% of Storey Height  t Difference Effect Fa	I for pounding, or c dings (eg shear wa licable to frame bui severe S 0 <sep<.005h .008<br="">0 1 0 0.4</sep<.005h>	onsequences are consid	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and set Factor D1: - Pounding Effection Note: Values given assume to may be reduced by tak Table for Selection A Comment: Nil	et D = the lower of the two, or 1.0 if no potentia ect  he building has a frame structure. For stiff buil ing the coefficient to the right of the value app  Fa of Factor D1 Separation Alignment of Floors within 20% of Storey Height lignment of Floors not within 20% of Storey Height  t Difference Effect Fa	I for pounding, or c dings (eg shear wat licable to frame buil octor D1 For Trans Severe S 0 <sep<.005h .005<br="">0 1 0 0.4</sep<.005h>	onsequences are consid	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and set Factor D1: - Pounding Effection Note: Values given assume to may be reduced by tak Table for Selection A Comment: Nil b) Factor D2: - Heigh	et D = the lower of the two, or 1.0 if no potentia ect  he building has a frame structure. For stiff buil ing the coefficient to the right of the value app  Fa of Factor D1 Separation Alignment of Floors within 20% of Storey Height lignment of Floors not within 20% of Storey Height  t Difference Effect Fa	I for pounding, or c dings (eg shear wat licable to frame buil severe S 0 <sep<.005h .005<br="">0 1 0 0.4 actor D2 For Trans Severe S 0<sep<.005h .005<="" td=""><td>onsequences are consid</td><td>ered to be minimal)</td></sep<.005h></sep<.005h>	onsequences are consid	ered to be minimal)
Comment: Nil Pounding Potential (Estimate D1 and D2 and set Factor D1: - Pounding Effection Note: Values given assume to may be reduced by tak Table for Selection A Comment: Nil b) Factor D2: - Heigh	et D = the lower of the two, or 1.0 if no potentia ect he building has a frame structure. For stiff buil ing the coefficient to the right of the value app Fa of Factor D1 Separation Alignment of Floors within 20% of Storey Height lignment of Floors not within 20% of Storey Height t Difference Effect Fa of Factor D2	I for pounding, or c dings (eg shear wat licable to frame buil octor D1 For Trans Severe S 0 <sep<.005h .005<br="">0 1 0 0.4</sep<.005h>	onsequences are consid	ered to be minimal)

Comment: NĀ

			n etc as it affects the structural performa		
	on Structural Performance	⊖ Severe	● Significant	⊖ Insignificant	Factor E 0.7
Comme	int: Potential for lateral spre	eading due to location near	r Hutt River 150m to the South-East		
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Other Fa	actors - for allowance of a	all other relevant character	stics of the building For $\leq$ 3 store	ys - Maximum value 2.5	Factor F 1.0
			<b>—</b>		
	d rationalo for choice	a of Eactor E:	otherwi	se - Maximum value 1.5.	
Recor	d rationale for choice			se - Maximum value 1.5. No minimum.	
Recor	rd rationale for choice ent: Timber frame with heav				
Recor					
Recor					ΡΔ
<b>Recor</b> Comme	ent: Timber frame with heav	y roof and heavy cladding			PA
Recor Comme		vy roof and heavy cladding		No minimum.	PA ransverse 0.7

reet Number & Name:	39 Norfolk Stre	eet			Job N	o.:	5-C3957.00
KA:					By:		GSF
ame of building:	Hardwick Smit	The second s			Date:		23/08/2019
ity:	Belmont, Hutt	City			Revis	ion No.:	0
able IEP-4 Initial Ev	valuation Proced	dure Steps	s 4, 5, 6 and	17			
tep 4 - Percentage of New	Building Standard	d <i>(%NBS)</i>					
				Long	itudinal		Transverse
.1 Assessed Baseline %N (from Table IEP - 1)	BS (%NBS) <sub>b</sub>			1	00%		100%
.2 Performance Achievem (from Table IEP - 2)	ent Ratio (PAR)				0.70		0.70
.3 PAR x Baseline (%NBS)	) <sub>b</sub>				70%		70%
.4 Percentage New Buildin ( Use lower of two values	• • • •	) - Seismic R	ating				70%
tep 5 - Is <i>%NBS</i> < 34?							NO
tep 6 - Potentially Earthqu	uake Risk (is <i>%NB</i> S	S < 67)?					NO
tep 7 - Provisional Gradin	g for Seismic Risk	based on II	EP		Seism	ic Grade	В
Additional Commente (item		D has a dasian	is noting)				
Additional Comments (iter Comment: Nil	ns of note affecting IE	P based seism	nic rating)				
Relationship betwe	een Grade and %	%NBS:					
							-
Grade	e:   A+	Α	B	С	D	E	

WARNING!! This initial evaluation has been carried out solely as an initial seismic assessment of the building following the procedure set out in "The Seismic Assessment of Existing Buildings" Technical Guidelines for Engineering Assessments, July 2017. This spreadsheet must be read in conjunction with the limitations set out in the accompanying report, and should not be relied on by any party for any other purpose. Detailed inspections and engineering calculations, or engineering judgements based on them, have not been undertaken, and these may lead to a different result or seismic grade.

100 to 80

79 to 67

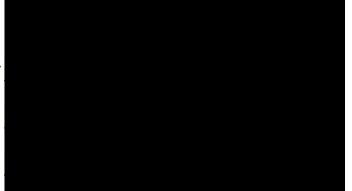
66 to 34 < 34 to 20

< 20

> 100

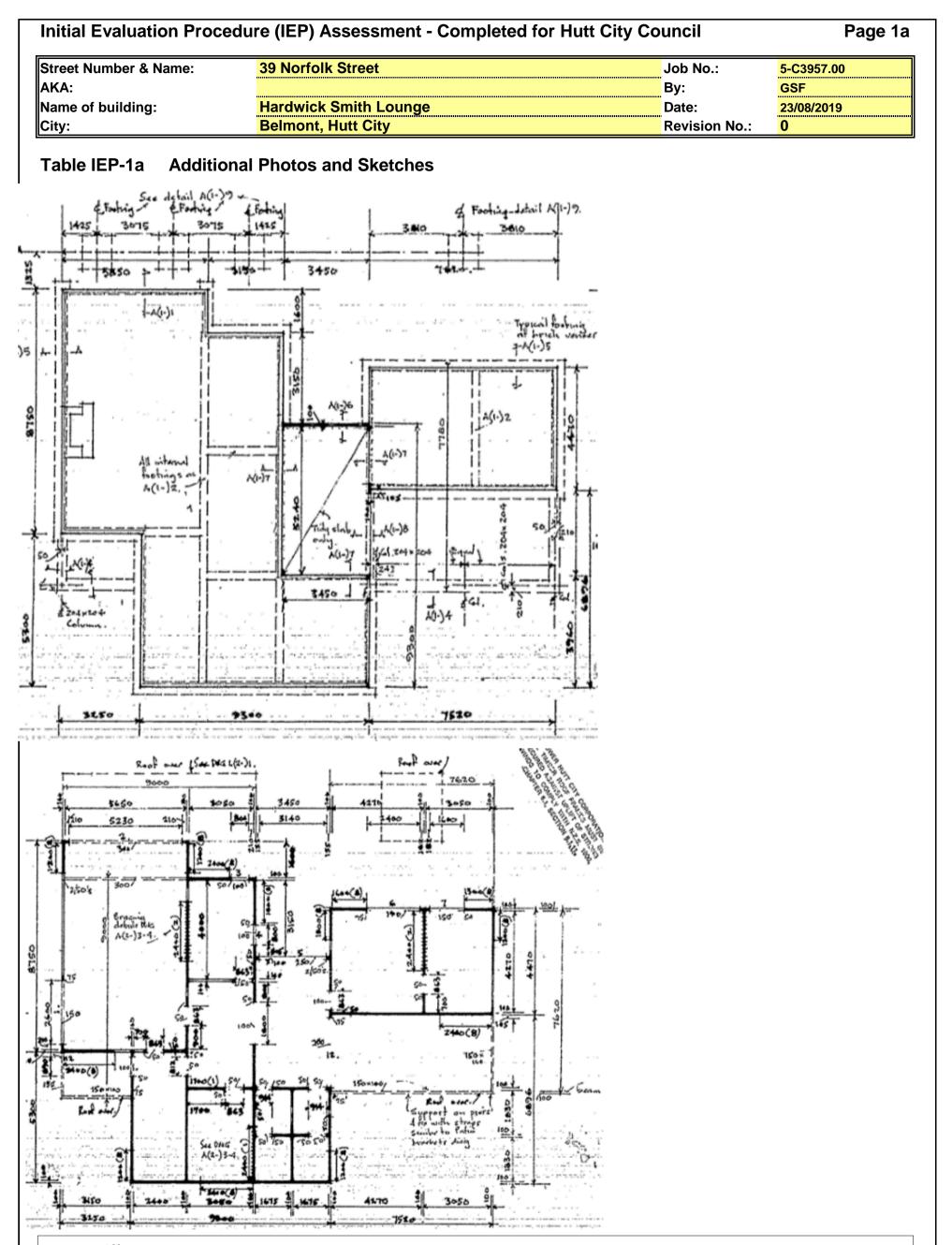
%NBS:

Init	ial Evaluation Procedu	ire (IEP) Assessment - Complete	d for Hutt City Council	Page 7
AKA	ne of building:	39 Norfolk Street Hardwick Smith Lounge Belmont, Hutt City	Job No.: By: Date: Revision No.:	5-C3957.00 GSF 23/08/2019 0
	p 8 - Identification of pote	uation Procedure Step 8 ntial Severe Structural Weaknesses (S gnificant number of occupants	SWs) that could result in	
8.1	Number of storeys above (	ground level		1
8.2	Presence of heavy concret	e floors and/or concrete roof? (Y/N)		N
	Potential Severe S	tructural Weaknesses (SSW	s):	
	Note: Options that are greyed o	ut are not applicable and need not be considered	l.	
	Occupancy not conside	red to be significant - no further consid	deration required	
	Risk not considered to b	e significant - no further consideration	n required	
		Severe Structural Weaknesses (SSWs) d result in significant risk to a significa		
	1. None identified			
	2. Weak or soft storey (e	xcept top storey)		
		r beam-column joints the deformations ner structural elements	s of which are	
	4. Flat slab buildings wit connections	h lateral capacity reliant on low ductil	ity slab-to-column	
	5. No identifiable connec	tion between primary structure and d	iaphragms	
	6. Ledge and gap stairs			



# IEP Assessment Confirmed by

**WARNING!!** This initial evaluation has been carried out solely as an initial seismic assessment of the building following the procedure set out in "The Seismic Assessment of Existing Buildings" Technical Guidelines for Engineering Assessments, July 2017. This spreadsheet must be read in conjunction with the limitations set out in the accompanying report, and should not be relied on by any party for any other purpose. Detailed inspections and engineering calculations, or engineering judgements based on them, have not been undertaken, and these may lead to a different result or seismic grade.



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1. Building Information	n
Building Name/ Description	Hardwick Smith Lounge
Street Address	39 Norfolk Street, Belmont
Territorial Authority	Hutt City Council
No. of Storeys	1
Area of Typical Floor (approx.)	200 sqm
Year of Design (approx.)	1980
NZ Standards designed to	NZS 3604:1978
Structural System including Foundations	Lined timber framed walls with brick cladding lightweight timber framed roof with heavy concrete tiles, concrete slab on grade and reinforced foundation walls and tie beams.
Does the building comprise a shared structural form or shares structural elements with any other adjacent titles?	Νο
Key features of ground profile and identified geohazards	Generally flat under the building and wider site, potential for lateral spreading 150m from the Hutt River
Previous strengthening and/ or significant alteration	None
Heritage Issues/ Status	Nil
Other Relevant Information	Seismic Hazard Map Series: Liquefaction Hazard, Map Sheet 3, 1993 Liquefaction Hazard Hutt Valley.

2. Assessment Information		
Consulting Practice		
CPEng Responsible, including: Name CPEng number A statement of suitable skills and experience in the seismic assessment of existing buildings <sup>1</sup>		
<ul> <li>Documentation reviewed, including:</li> <li>date/version of drawings/ calculations<sup>2</sup></li> <li>previous seismic assessments</li> </ul>	1980 design drawings and calculations	
Geotechnical Report(s)	NA – assumed based on local knowledge refer to section 3	
Date(s) Building Inspected and extent of inspection	22 August 2019	
Description of any structural testing undertaken and results summary	None	
Previous Assessment Reports	NA	
Other Relevant Information	Nil	

<sup>&</sup>lt;sup>1</sup> This should include reference to the engineer's Practice Field being in Structural Engineering, and

commentary on experience in seismic assessment and recent relevant training

 $<sup>^{2}</sup>$  Or justification of assumptions if no drawings were able to be obtained

Final	
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3. Summary of Engineering Assessment Methodology and Key Parameters Used		
Occupancy Type(s) and Importance Level	Importance Level 2	
Site Subsoil Class	D assumed based on local knowledge and <b>NZS1170.5:2004 Site Subsoil</b> Classification of Lower Hutt http://nzsee.org.nz/db/2011/013.pdf	
For an ISA:		
<ul> <li>Summary of how Part B was applied, including:</li> <li>Key parameters such as μ, S<sub>p</sub> and F factors</li> <li>Any supplementary specific calculations</li> </ul>	Ductility – 2.0 lined and braced timber framed walls Sp Factor – 0.5 for lightweight timber structure F Factor – 1.0 both directions based on the arrangement and length of the bracing walls with lightweight cladding. 0.7 Site factor characteristic applied for lateral spreading toward the Hutt river	
For a DSA:		
Summary of how Part C was applied, including: • the analysis methodology(s) used from C2 • other sections of Part C applied	NA	
Other Relevant Information	NA	

4. Assessment Outcomes			
Assessment Status (Draft or Final)	Final		
Assessed %NBS Rating	70%NBS IL2		
Seismic Grade and Relative Risk (from Table A3.1)	B, 2 to 5 times the Risk of a comparable to new building		
For an ISA:			
Describe the Potential Critical Structural Weaknesses	None identified		
Does the result reflect the building's expected behaviour, or is more information/ analysis required?	Yes – the ISA is sufficient		
If the results of this ISA are being used for earthquake prone decision purposes, <u>and</u> elements rating <34%NBS have been identified:	Engineering Statement of Structural Weaknesses and Location NA	<i>Mode of Failure and Physical</i> <i>Consequence</i> Statement(s) NA	
For a DSA:			
Comment on the nature of Secondary Structural and Non-structural elements/ parts identified and assessed			
Describe the Governing Critical Structural Weakness			
If the results of this DSA are being used for earthquake prone decision purposes, <u>and</u> elements rating <34%NBS have been identified (including Parts) <sup>3</sup> :	Engineering Statement of Structural Weaknesses and Location	Mode of Failure and Physical Consequence Statement(s)	
Recommendations (optional for EPB purposes)			

<sup>&</sup>lt;sup>3</sup> If a building comprises a shared structural form or shares structural elements with other adjacent titles, information about the extent to which the low scoring elements affect, or do not affect the structure.