Page 1

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

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:	2 Myrtle Street	Job No.:	5-C3957.00
AKA:		By:	GSF
Name of building:	Gibbes Watson Conservatory	Date:	10/12/2019
City:	Hutt Central 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)



oundations: Front - concrete slab c oundations: Front - concrete slab c oof: Steel frames with glass panel c	raced walls and braced roof fram on grade cladding	es.	
ubsoil: D soft or deep soils - NZS11	70.5:2004 Site Subsoil Classificat	tion of Lower Hutt	
onstruction Date: 1967 - minor wor	rks 1993		
	Tick oc conversion		
.4 Note information sources	lick as appropriate		
.4 Note information sources		Specifications	
.4 Note information sources Visual Inspection of Exterior Visual Inspection of Interior		Specifications Geotechnical Reports	

Street Number & Name:	2 Myrtle Street		Job No.:	5-C3957.00
AKA: Name of building: City:	Gibbes Watson Conservatory Hutt Central City	By: Date: Revisior		GSF 10/12/2019 <mark>0</mark>
Table IEP-2 Initial E	valuation Procedure Step 2			
Step 2 - Determination of (%NBS) _b			
(Baseline (%NBS) for particular b	uilding - refer Section B5)			
2.1 Determine nominal (%NB	(%NBS) _{nom}	<u>Longitudina</u>	<u>l</u>	<u>Transverse</u>
a) Building Strongthoning Da				
a) Building Strengthening Da	baya baan atrangthanad in this direction			
TICK II Duliding is known to	have been strengthened in this direction			
If strengthened, enter perc	centage of code the building has been strengthened t	o <mark>N/A</mark>		N/A
b) Year of Design/Strengtheni	ng, Building Type and Seismic Zone			
,		Pre 1935 C)	Pre 1935 ⊖ 1935-1965 ⊖
		1965-1976 🧉		1965-1976 🔘
		1976-1984 C)	1976-1984
		1984-1992 C		1984-1992
		2004-2011	,)	2004-2011
		Post Aug 2011)	Post Aug 2011
	Building Type:	Others	•	Others 🗸
	Seismic Zone:	Zone A	•	Zone A 🗸
c) Soil Type				
From NZS1170.5:2	004, Cl 3.1.3 :	D Soft Soil	•	D Soft Soil
Erom N784203:100	0.014622.			
(for 1992 to 2004 a	nd only if known)	Not applica	ble	Not applicable
d) Estimate Period, <i>T</i>				
Comment:		$n_n = 6$		6 m
		$A_{\rm c} = 1.00$		1.00
Moment Resisting Concrete	Prames: $T = \max\{0.09h_n^{0.75}, 0.4\}$	0		0
Moment Resisting Steel Fra	ames: $T = \max\{0.14h_n^{0.75}, 0.4\}$	۲		۲
Eccentrically Braced Steel	Frames: $T = \max\{0.08h_n^{0.75}, 0.4\}$	õ		õ
All Other Frame Structures: Concrete Shear Walls	$I = \max\{0.06h_{n}^{0.70}, 0.4\}$ $T = \max\{0.06h_{n}^{0.75}, 0.4\}$	\sim		0
Masonry Shear Walls:	$T = \max\{0.0507_{\rm n}, 77_{\rm c}, 0.4\}$ $T \le 0.4 \sec 1$			
User Defined (input Period)	:	ŏ		ŏ
Where h	$_{n}$ = height in metres from the base of the structure to the	_	, I	-
ompermo	st seismic weight or mass.	$\mathbf{T} \cdot 0 54$		0 54



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.

treet Number & Name:	2 Myrtle Street		•	Job No.:	5-C3957.00	
KA:			E	By:	GSF	
lame of building:	Gibbes Watso	n Conservato	ry [Date:	10/12/2019	
ity:	Hutt Central City			Revision No.:	0	
able IEP-2 Initial Eval	uation Proced	lure Step 2	continued			
.2 Near Fault Scaling Factor, Fa	actor E					
If <i>T</i> < 1.5sec, Factor E = 1			Longitudinal	I	Transverse	
a) Near Fault Factor, <i>N(T,D)</i>			N(T,D): 1		1	
(from NZS1170.5:2004, CI 3.1.6)		, 				
b) Factor E		= 1/N(T,D)	Factor E: 1.00		1.00	
.3 Hazard Scaling Factor, Facto	or F					
a) Hazard Factor, <i>Z</i> , for site			Pofor right for usor-defined location	ne		
	Hutt Valley-south of Ta			113		
Z =	= 0.4	(trom NZS1170.5	:2004, Table 3.3)			
∠ ₁₉₉₂ =	= 1.2	(NZS4203:1992 2	Cone Factor from accompanying Figure 3.5(b))			
$Z_{2004} =$	= 0.4	(from NZS1170.5	(2004, Table 3.3)			
Eor pre 1992	_	1/7				
For 1992-2011	=	Z_{1002}/Z				
For post 2011	=	Z_{2004}/Z				
			Factor F: 2.50		2.50	
.4 Return Period Scaling Factor	r, Factor G					
(Set to 1 if not known. For buildings designed building set to 1.25. For buildings designed building set to 1.33 for Zone A or 1.2 for Zon	ed prior to 1965 and know 1965-1976 and known to ne B. For 1976-1984 set I	n to be designed as be designed as a pu value.)	a public blic I = 1		1	
b) Design Risk Factor, R _o						
(set to 1.0 if other than 1976-2004, or not l	known)		$R_o = 1$		1	
c) Return Period Factor R						
(from NZS1170.0:2004 Building Importanc	ce Level)	<u>Choose Impo</u>	r <u>tance Level</u> () 1 (🖲 2 () 3	O 4 O	1 • 2 • 3 •	
			R = 1.0		1.0	
d) Factor G	=	IR _o /R	<u> </u>			
			Factor G: 1.00		1.00	
 .5 Ductility Scaling Factor, Fact a) Available Displacement Ductility 	tor H y Within Existing St	tructure				
0	-		$\mu = 1.50$		1.50	
Comment:				-		



eet Number & Name:	2 Myrtle Street		Jo	b No.:	5-C3957.00
(A:	,		By	:	GSF
ame of building:	Gibbes Watson Conserva	tory	Da	te:	10/12/2019
ty:	Hutt Central City			vision No.:	0
able IEP-3 Initial Ev	/aluation Procedure Step 3	3			
ep 3 - Assessment of Per efer Appendix B - Section B3.2)	formance Achievement Ratio	(PAR)			
Longitudinal Direction					
potential CSWs	Effect c (Choose	on Structural Performa a value - Do not interpol	nce ate)		Facto
1 Plan Irregularity					
Effect on Structural Performa	Ince O Severe formance	⊖ Significant		Insignificant	Factor A 1.0
2 Vertical Irregularity					
Effect on Structural Performa	ince _{Severe}	○ Significant		Insignificant	Factor B 1.0
Comment: Nil					
3 Short Columns					
Effect on Structural Performa	ance 🔾 Severe	⊖ Significant		Insignificant	Factor C 1.0
Comment: Nil Pounding Potential	ance 🔿 Severe	⊖ Significant		Insignificant	Factor C 1.0
Effect on Structural Performa Comment: Nil 4 Pounding Potential (Estimate D1 and D2 and set a) Factor D1: - Pounding Effect Note: Values given assume the may be reduced by takin	D = the lower of the two, or 1.0 if no t ⇒ building has a frame structure. For g the coefficient to the right of the v f Factor D1	⊖ Significant potential for pounding, of stiff buildings (eg shear ralue applicable to frame Factor D1 For Lon Severe eparation 0 <sep<.005h< td=""><td>or consequences walls), the effect buildings. gitudinal Direct Significant .005<sep<.01h< td=""><td>Insignificant Insignificant Insignificant Set of pounding Ction: 1.0 Insignificant Sep>.01H</td><td>Factor C 1.0</td></sep<.01h<></td></sep<.005h<>	or consequences walls), the effect buildings. gitudinal Direct Significant .005 <sep<.01h< td=""><td>Insignificant Insignificant Insignificant Set of pounding Ction: 1.0 Insignificant Sep>.01H</td><td>Factor C 1.0</td></sep<.01h<>	Insignificant Insignificant Insignificant Set of pounding Ction: 1.0 Insignificant Sep>.01H	Factor C 1.0
Comment: Nil Pounding Potential (Estimate D1 and D2 and set) Factor D1: - Pounding Effect Note: Values given assume the may be reduced by takin Table for Selection o	D = the lower of the two, or 1.0 if no t building has a frame structure. For g the coefficient to the right of the v f Factor D1 Si Alignment of Floors within 20% of Store	Significant O Significant potential for pounding, of stiff buildings (eg shear value applicable to frame Factor D1 For Lon Severe eparation 0 <sep<.005h< td=""> ey Height 1</sep<.005h<>	or consequences walls), the effect buildings. gitudinal Direct Significant .005 <sep<.01h< td=""><td>Insignificant Insignificant Insignificant Set of pounding Ction: 1.0 Insignificant Sep>.01H I</td><td>Factor C 1.0</td></sep<.01h<>	Insignificant Insignificant Insignificant Set of pounding Ction: 1.0 Insignificant Sep>.01H I	Factor C 1.0
Comment: Nil Pounding Potential (Estimate D1 and D2 and set a) Factor D1: - Pounding Effect Note: Values given assume the may be reduced by takin Table for Selection o Alig	D = the lower of the two, or 1.0 if no t building has a frame structure. For g the coefficient to the right of the v f Factor D1 Su Alignment of Floors within 20% of Store nment of Floors not within 20% of Store	Significant potential for pounding, of stiff buildings (eg shear value applicable to frame Factor D1 For Lon Severe eparation 0 <sep<.005h< p=""> ey Height ○ 1 ey Height ○ 0.4</sep<.005h<>	or consequence walls), the effect buildings. gitudinal Direct Significant .005 <sep<.01h () 1</sep<.01h 	Insignificant Insignificant Insignificant Insignificant Sep>.01H 0.8	Factor C 1.0
Comment: Nil Pounding Potential (Estimate D1 and D2 and set Factor D1: - Pounding Effect Note: Values given assume the may be reduced by takin Table for Selection o Alig Comment: Nil	D = the lower of the two, or 1.0 if no t building has a frame structure. For g the coefficient to the right of the v f Factor D1 Si Alignment of Floors within 20% of Store nment of Floors not within 20% of Store	Significant potential for pounding, of stiff buildings (eg shear value applicable to frame Factor D1 For Lon Severe eparation 0 <sep<.005h< p=""> ey Height ○ 1 ey Height ○ 0.4</sep<.005h<>	or consequences walls), the effect buildings. gitudinal Direct Significant .005 <sep<.01h () 1 () 0.7</sep<.01h 	Insignificant Insignificant Insignificant Insignificant Sep>.01H 0.8	Factor C 1.0
Effect on Structural Performa Comment: Nil 4 Pounding Potential (Estimate D1 and D2 and set a) Factor D1: - Pounding Effect Note: Values given assume the may be reduced by takin Table for Selection o Alig Comment: Nil b) Factor D2: - Height I	D = the lower of the two, or 1.0 if no t building has a frame structure. For g the coefficient to the right of the v f Factor D1 Si Alignment of Floors within 20% of Store nment of Floors not within 20% of Store Difference Effect	Significant ○ Significant potential for pounding, of r stiff buildings (eg shear ralue applicable to frame Factor D1 For Lon Severe eparation 0 <sep<.005h< td=""> ey Height 0 0.4</sep<.005h<>	or consequences walls), the effect buildings. gitudinal Direct Significant .005 <sep<.01h 0 1 0.7</sep<.01h 	Insignificant Insignificant Insignificant Set of pounding Ction: 1.0 Insignificant Sep>.01H 0.8	Factor C 1.0
Comment: Nil Pounding Potential (Estimate D1 and D2 and set Factor D1: - Pounding Effect Note: Values given assume the may be reduced by takin Table for Selection o Alig Comment: Nil b) Factor D2: - Height I	ance \bigcirc Severe D = the lower of the two, or 1.0 if no $ttbuilding has a frame structure. For tructure for the coefficient to the right of the v f Factor D1Support of Floors within 20% of Storenment of Floors not within 20% of Store Difference Effect f Factor D2$	O Significant potential for pounding, of r stiff buildings (eg shear ralue applicable to frame Factor D1 For Lon Severe eparation 0 <sep<.005h ey Height 0 1 ey Height 0 1 Factor D2 For Lon</sep<.005h 	or consequence walls), the effect buildings. gitudinal Direct Significant .005 <sep<.01h 0 1 0.7</sep<.01h 	Insignificant Insignificant Insignificant Insignificant Sep>.01H 0.8 Insignificant Sep>.01H 1 0.8 Insignificant Insignificant Sep>.01H 1	Factor C 1.0
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	2 Myrtle Street		Job No.:	5-C3957.00	
:			By:	GSF	
e of building:	Gibbes Watson Conservatory		Date:	10/12/2019 0	
:	Hutt Central City		Revision No.:		
ble IEP-3 Initial Eval	uation Procedure Step 3				
o 3 - Assessment of Perfor er Appendix B - Section B3.2)	mance Achievement Ratio (PAR)				
ransverse Direction				F act	
potential CSWs	Effect on St	ructural Performance		Facto	
Plan Irregularity					
Effect on Structural Performanc	e 🔿 Severe 🔿	Significant	Insignificant	Factor A 1.0	
Comment: Nil			Ū		
Vertical Irregularity					
Effect on Structural Performance	e 🔿 Severe	Significant	Insignificant	Factor B 1.0	
Comment: Nil	0	, C			
Short Columns				- 	
Effect on Structural Performance	e O Severe C	Significant	Insignificant	Factor C 1.0	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D =	the lower of the two, or 1.0 if no potentia	al for pounding, or consequ	uences are considered	l to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th	the lower of the two, or 1.0 if no potentia ilding has a frame structure. For stiff bui e coefficient to the right of the value app	al for pounding, or consequildings (eg shear walls), the blicable to frame buildings.	e effect of pounding	to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa	the lower of the two, or 1.0 if no potentia ilding has a frame structure. For stiff bui e coefficient to the right of the value app <u>F</u> ctor D1	al for pounding, or consequ ildings (eg shear walls), the olicable to frame buildings. actor D1 For Transverse Severe Significa	e effect of pounding	to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa	the lower of the two, or 1.0 if no potentia ilding has a frame structure. For stiff bui e coefficient to the right of the value app <u>F</u> ctor D1 Separation nment of Floors within 20% of Storey Heigh	al for pounding, or consequ ildings (eg shear walls), the olicable to frame buildings. Severe Significa n 0 <sep<.005h .005<sep<<br="">t 0 1 0 1</sep<.005h>	e effect of pounding Direction: 1.0 Int Insignificant .01H Sep>.01H	to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa	the lower of the two, or 1.0 if no potentia ilding has a frame structure. For stiff bui e coefficient to the right of the value app F ctor D1 Separation nment of Floors within 20% of Storey Heigh ant of Floors not within 20% of Storey Heigh	al for pounding, or consequilidings (eg shear walls), the oblicable to frame buildings.	e effect of pounding Direction: 1.0 Int Insignificant 01H Sep>.01H 1 01H Sep>.01H 01H Sep>.01H 01H Sep>.01H 01H Sep>.01H 01H Sep>.01H 01H Sep>.01H 01H Sep>.01H	to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa Alig Alignme Comment: Nil	the lower of the two, or 1.0 if no potential ilding has a frame structure. For stiff built e coefficient to the right of the value app F Ctor D1 Separation nment of Floors within 20% of Storey Heigh ant of Floors not within 20% of Storey Heigh	al for pounding, or consequination of the second se	e effect of pounding Direction: 1.0 Int Insignificant .01H Sep>.01H ① 1 .7 ① 0.8	to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa Alig Alignme Comment: Nil b) Factor D2: - Height Diffe	the lower of the two, or 1.0 if no potential ilding has a frame structure. For stiff built e coefficient to the right of the value app cord D1 Separation nment of Floors within 20% of Storey Heigh ant of Floors not within 20% of Storey Heigh	al for pounding, or consequilidings (eg shear walls), the oblicable to frame buildings.	e effect of pounding Direction: 1.0 Int Insignificant 01H Sep>.01H © 1 .7 0.8	to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa Alig Alignme Comment: Nil b) Factor D2: - Height Diffe	the lower of the two, or 1.0 if no potential ilding has a frame structure. For stiff bur e coefficient to the right of the value app for D1 Separation nment of Floors within 20% of Storey Heigh ant of Floors not within 20% of Storey Heigh erence Effect F	al for pounding, or consequilidings (eg shear walls), the oblicable to frame buildings.	e effect of pounding Direction: 1.0 Insignificant 01H Sep>.01H 1 .7 0.8 Direction: 1.0	to be minimal)	
Comment: Nil Pounding Potential Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa Alig Alignme Comment: Nil b) Factor D2: - Height Diffe	the lower of the two, or 1.0 if no potential ilding has a frame structure. For stiff bur e coefficient to the right of the value app For D1 Separation nment of Floors within 20% of Storey Heigh ant of Floors not within 20% of Storey Heigh erence Effect For D2	al for pounding, or consequent ildings (eg shear walls), the oblicable to frame buildings. actor D1 For Transverse Severe Significa n 0 <sep<.005h .005<sep<<br="">t 0 1 0 1 t 0 0.4 0 0 actor D2 For Transverse Severe Significa 0<sep<.005h .005<sep<.<="" td=""><td>e effect of pounding Direction: 1.0 Int Insignificant 01H Sep>.01H 01H 2 Direction: 1.0 1 .7 0.8 0 Direction: 1.0 0.8 0 Direction: 1.0 0 Direction: 1.0 Direction: 1.0 Direction:</td><td>to be minimal)</td></sep<.005h></sep<.005h>	e effect of pounding Direction: 1.0 Int Insignificant 01H Sep>.01H 01H 2 Direction: 1.0 1 .7 0.8 0 Direction: 1.0 0.8 0 Direction: 1.0 0 Direction: 1.0 Direction:	to be minimal)	
Comment: Nil Pounding Potential (Estimate D1 and D2 and set D = Factor D1: - Pounding Effect Note: Values given assume the bu may be reduced by taking th Table for Selection of Fa Alig Alignme Comment: Nil b) Factor D2: - Height Diffe	the lower of the two, or 1.0 if no potential ilding has a frame structure. For stiff built coefficient to the right of the value app F ctor D1 Separation nment of Floors within 20% of Storey Heigh ant of Floors not within 20% of Storey Heigh erence Effect F ctor D2 Height Difference > 4 Storeys	al for pounding, or consequent ildings (eg shear walls), the oblicable to frame buildings. actor D1 For Transverse Severe Significa n 0 <sep<.005h .005<sep<<br="">t 0 1 0 1 t 0 0.4 0 actor D2 For Transverse Severe Significa 0<sep<.005h .005<sep<.<br="">S 0.4 0 0</sep<.005h></sep<.005h>	e effect of pounding Direction: 1.0 1.0 1.0 1.0 1.7 0.8 2 Direction: 1.0 0.8 2 Direction: 1.0 0 Di	to be minimal)	

Comment: Nil

Effect on Structural Performance	ce 🔿 Severe	○ Significant	Insignificant	Factor E	1.0
Comment: Potential for liquifact	tion, insignificant on performa	nce	Ŭ		
Other Factors - for allowance Record rationale for cho Comment: Braced steel frames	of all other relevant characters bice of Factor F: c. Cross bracing at wall level a	stics of the building For ≤ 3 sto otherv nd braced roof frames.	reys - Maximum value 2.5 vise - Maximum value 1.5. No minimum.	Factor F	2.0
					PA
Performance Achievement F	Ratio (PAR)		т.		2.0

reet Number & Name:	2 Myrtle Street				Job N	lo.:	5-C3957.00
(A:		_			By:		GSF
me of building:	Gibbes Watson	Conservat	ory		Date:		<mark>10/12/2019</mark>
y:	Hutt Central Cit	ty			Revis	ion No.:	0
able IEP-4 Initial Ev	valuation Proced	ure Steps	4, 5, 6 and	17			
ep 4 - Percentage of New	<pre>v Building Standard</pre>	(%NBS)					
				Long	gitudinal		Transverse
Assessed Baseline %N	BS (%NBS) _b				25%		25%
(from Table IEP - 1)							
Performance Achievem	ent Ratio (PAR)				2.00		2.00
(from Table IEP - 2)							2.00
PAR y Baseline (%NRS	1.			-	50%		50%
	/ b				5078		5078
Percentage New Buildin	ng Standard (%NBS)	- Seismic R	ating				50%
(Use lower of two values	s from Step 4.3)						
n 5 lo % NBS < 342							
-μ 5 - 15 <i>/0Ν</i> Δ5 < 54 !							NO
ep 6 - Potentially Earthqu	uake Risk (is <i>%NBS</i>	< 67)?					YES
ep 7 - Provisional Gradin	ig for Seismic Risk	based on I	P		Color	ia Orada	
					Seisn	nic Grade	C
Additional Comments (iter	ms of note affecting IEP	based seism	ic rating)				
Comment: None							
Relationship betwo	een Grade and %	NBS:					
Greed		٨	P	<u> </u>	D	F	
Ci ao		-					

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.

A 100 to 80

79 to 67

66 to 34 < 34 to 20

< 20

> 100

%NBS:

Init	ial Evaluation Proced	lure (IEP) Assessment - Complete	d for Hutt City Council	Page 7
Stre AKA Nam City	et Number & Name: A: ne of building: :	2 Myrtle Street Gibbes Watson Conservatory Hutt Central City	Job No.: By: Date: Revision No.:	5-C3957.00 GSF 10/12/2019 0
Tab	ole IEP-5 Initial Eva	luation Procedure Step 8		
Ste	p 8 - Identification of pot significant risk to a	ential Severe Structural Weaknesses (S significant number of occupants	SWs) that could result in	
		5		
8.1	Number of storeys above	e ground level		1
8.2	Presence of heavy concr	ete floors and/or concrete roof? (Y/N)		N
	Potential Severe	Structural Weaknesses (SSW	s):	
	Note: Options that are greyed	out are not applicable and need not be considered		
	Occupancy not consid	ered to be significant - no further consid	deration required	
	Risk not considered to	be significant - no further consideratio	n required	
	The following potential in the building that cou	Severe Structural Weaknesses (SSWs) Id result in significant risk to a signification	have been identified ant number of occupants:	
	1. None identified			
	2. Weak or soft storey	(except top storey)		
	3. Brittle columns and/ not constrained by o	or beam-column joints the deformations other structural elements	s of which are	
	4. Flat slab buildings w connections	vith lateral capacity reliant on low ductili	ity slab-to-column	
	5. No identifiable conn	ection between primary structure and d	iaphragms	
	6. Ledge and gap stairs	5		



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.



WARNING!! This initial evaluation has been carried out solely as an initial seismic assessment of the building following the procedure set out "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.

1. Building Information	n
Building Name/ Description	Gibbes Watson Conservatory
Street Address	2 Myrtle Street, Central Hutt City
Territorial Authority	Hutt City Council
No. of Storeys	1
Area of Typical Floor (approx.)	250 sqm
Year of Design (approx.)	1967
NZ Standards designed to	NZSS 1900, Chapter 8: 1965
Structural System including Foundations	Structure: Steel framed structure with cross braced frames and glass cladding panels Foundations: Concrete slab on grade. Roof: Steel frame with glass panels
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	Flat even ground profile, subsoil D with potential for liquefaction.
Previous strengthening and/ or significant alteration	Minor alterations with little impact on performance of the building
Heritage Issues/ Status	Nil
Other Relevant Information	None

2. Assessment Informa	tion
Consulting Practice	WSP New Zealand Ltd
CPEng Responsible, including: Name CPEng number A statement of suitable skills and experience in the seismic assessment of existing buildings ¹	
 Documentation reviewed, including: date/version of drawings/ calculations² previous seismic assessments 	1967 calculations and specifications by Structon Group 1993 minor addition of pergola to the exterior – drawings and details
Geotechnical Report(s)	NA – assumed based on local knowledge refer to section 3
Date(s) Building Inspected and extent of inspection	6 December 2019
Description of any structural testing undertaken and results summary	None
Previous Assessment Reports	NA
Other Relevant Information	Nil

¹ 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

² Or justification of assumptions if no drawings were able to be obtained

3. Summary of Enginee	ering 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 NZS1170.5:2004 Site Subsoil Classification of Lower Hutt http://nzsee.org.nz/db/2011/013.pdf
For an ISA:	
 Summary of how Part B was applied, including: Key parameters such as μ, S_p and F factors Any supplementary specific calculations 	Ductility – 1.50 Steel cross-braced frames Sp Factor – 0.85 F Factor – 2.0 both directions, Braced steel frames. Cross bracing at wall level and braced roof frames.
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	50%NBS IL2	
Seismic Grade and Relative Risk (from Table A3.1)	C - 5 – 10 times greater	
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	Mode of Failure and Physical Consequence 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) ³ :	Engineering Statement of Structural Weaknesses and Location	Mode of Failure and Physical Consequence Statement(s)
Recommendations (optional for EPB purposes)		

³ 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.