

APPENDIX C

SEISMIC SCREENING FORM

SEISMIC SCREENING INVENTORY FORM

2020 Labieux Vehicle Storage and Sign Shop
City of Nanaimo Bldg No. B23

Comments:

Hybrid
Design

- Steel Column with Wood Beams
- Reinforced Concrete Shear Walls at North and South Walls
- 5 meter high exterior concrete block walls
- Concrete block interior partition walls in south half of building (full height)
- Wood joist and diagonal shiplap sheathing
- Interior Concrete partitions incorporate steel columns
- Most of interior partition walls done as a renovation to original.

SEISMIC SCREENING FORM			p. 1 of 2	ITEM No.: B23
Address: 2020 Labieux		Postal Code: V9T6J9		Bldg. Name: Veh. Store & Sign
No. of storeys: 1 1/2	Total Floor Area: 729 m ²	Year Built: 1965	Design NBC: 1965	
Primary use (see list on p. 2): Office & manufacturing			Heritage Designation: N/A	
Inspector: GK	Date: April / 13 / 2012		Checked by:	

See attached

See attached

Sketch

Photo

TYPE OF STRUCTURE (circle appropriate descriptors) see 4.3.2			BM	BUILDING IRREGULARITIES (circle appropriate descriptors) see 4.3.3	
Wood	WLF WPB	Wood Light Frame Wood, Post and Beam	90	1. Vertical Irregularity	Abrupt changes in plan dimensions over height (e.g. setback or building on hill)
Steel	SMF SBF SLF SCW SIW	Steel Moment Frame Steel Braced Frame Steel Light Frame Steel Frame with Concrete Shear Walls Steel Frame with Infill Masonry Shear Walls	90	2. Horizontal Irregularity (Torsion)	Irregular building shapes such as "L", "V", "E", "T", eccentric stiffness in plan (e.g. shear wall on only one side of building)
Concrete	CMF CSW CIW	Concrete Moment Frame Concrete Shear Walls Concrete Frame with Infill Masonry Shear Walls	85	3. Short Concrete Columns	Short columns restrained by partial storey height walls (structural or infill) or deep spandrels
	PCF PCW	Precast Concrete Frame Precast Concrete Walls		4. Soft Storey	Severe reduction of stiffness caused by discontinuous shear walls, openings, etc.
Masonry	<u>RML</u>	Reinforced Masonry Bearing Walls with Wood or Metal Deck Floors or Roofs	90	5. Pounding	Separation between buildings less than 20 Z _v x no. of storeys (in mm)
	RMC	Reinforced Masonry Bearing Walls with Concrete Diaphragms		6. Major Modifications	Any change in function, use or addition which results in significant increase in loading or weight
	URM	Unreinforced Masonry Bearing Wall Building		7. Deterioration	Structural elements are damaged, poor condition of building is apparent (corroded reinforcement or steel, rotted wood, poor concrete or masonry)
				8. <u>None</u>	None of the irregularities listed above is present.

NON - STRUCTURAL HAZARDS (Circle appropriate descriptors) see 4.3.4

F₁ Falling Hazards to Life:

Exterior: Masonry chimneys, parapets, veneer or stone / precast panels, non-safety glass, or canopies over exits and walkways

Interior: Heavy components; masonry partitions; non-safety glass in egress areas; storage shelves which may collapse onto areas of human occupancy

F₂ Hazards to Continuous Operation of Special Buildings: Equipment or lifelines required for continuous operation of special facilities. The owner or authority should provide a list of critical items needed for continuing operations.

SEISMIC SCREENING FORM

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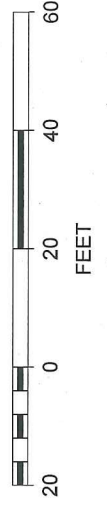
ITEM No.: **B23**

SEISMIC PRIORITY INDEX: Circle appropriate value and enter each result on right side. Use asterisk (*) with uncertain values

A	Seismicity	Design NBC	Effective Seismic Zone (Z_V , or $Z_V + 1$ if $Z_a > Z_V$)					A = 2																											
			2	3	4	5	6																												
		Pre - 65 65 - 84 Post - 85	1.0 1.0 1.0	1.5 1.0 1.0	2.0 1.3 1.0	3.0 1.5 1.0	4.0 2.0 1.0																												
B	Soil Conditions	Design NBC	Soil Category					B = 1.3																											
			Rock or Stiff Soil	Stiff Soil > 50 m	Soft Soil > 15 m	Very Soft or Liquefiable Soil	Unknown Soil																												
		Pre - 65 Post - 65	1.0 1.0	1.3 1.0	1.5 1.0	2.0 1.5	1.5 1.5																												
C	Type of Structure (BM = Benchmark year, see p.1)	Design NBC	Construction Type and Symbol (see p. 1)												C = 2.5																				
			Wood		Steel			Concrete		Precast		Masonry Infill		Masonry																					
			WLF	WPB	SLF	SMF	SBF	SCW	CMF	CSW	PCF	PCW	SIW, CIW	RML, RMC		URM																			
		Pre - 70 70 - BM Post - BM	1.2 1.2 1.0	2.0 2.0 1.0	1.0 1.0 1.0	1.2 1.2 1.0	1.5 1.5 1.0	2.0 1.5 1.0	2.5 1.5 1.0	2.0 1.5 1.0	2.5 1.8 1.0	2.0 1.5 1.0	3.0 2.0 1.0	2.5 1.5 1.0		3.5 3.5 -																			
D	Building Irregularities	Design NBC	1. Vertical	2. Horiz.	3. Short Concrete Columns	4. Soft Storey	5. Pounding	6. Modification	7. Deterioration	8. None	D = product of circled Numbers (Max of 4.0) = 1																								
		Pre - 70 Post - 70	1.3 1.3	1.5 1.5	1.5 1.5	2.0 1.5	1.3 1.3	1.3 1.0	1.3 1.3	1.0 1.0																									
E	Building Importance	Design NBC	Low Occupancy N < 10	Normal Occupancy N = 10 - 300	School, or High Occupancy N = 301 - 3000	Post Disaster, or Very High Occup. N > 3000	Special Operational Requirements	E = 1																											
		Pre - 70 Post - 70	0.7 0.7	1.0 1.0	1.5 1.2	2.0 1.5	3.0 2.0																												
<p>$N = \text{Occupied Area} \times \text{Occupancy Density} \times \text{Duration Factor}^* = \dots 729 \dots \times \dots 1 \dots \times \dots 5 \dots = 36$</p> <table border="0"> <tr> <td>Primary Use:</td> <td>Occupancy Density Persons / m²</td> <td>Average Weekly Hours of Human Occupancy</td> <td>* Duration Factor is equal to the average weekly hours of human occupancy divided by 100, not greater than 1.0</td> </tr> <tr> <td>Assembly</td> <td>1</td> <td>5 - 50</td> <td></td> </tr> <tr> <td>Mercantile, Personal service</td> <td>0.2</td> <td>50 - 80</td> <td></td> </tr> <tr> <td>Offices, Institutional, Manufacturing</td> <td>0.1</td> <td>50 - 60</td> <td></td> </tr> <tr> <td>Residential</td> <td>0.05</td> <td>100</td> <td></td> </tr> <tr> <td>Storage</td> <td>0.01 - 0.02</td> <td>100</td> <td></td> </tr> </table>												Primary Use:	Occupancy Density Persons / m ²	Average Weekly Hours of Human Occupancy	* Duration Factor is equal to the average weekly hours of human occupancy divided by 100, not greater than 1.0	Assembly	1	5 - 50		Mercantile, Personal service	0.2	50 - 80		Offices, Institutional, Manufacturing	0.1	50 - 60		Residential	0.05	100		Storage	0.01 - 0.02	100	
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Storage	0.01 - 0.02	100																																	
SI	STRUCTURAL INDEX = A · B · C · D · E =										SI = 6.5																								
F	NON - STRUCTURAL HAZARDS		Description (see p. 1)		None	Yes	Yes *	F = max (F ₁ , F ₂) = 3																											
	F ₁	Falling Hazards to Life		Pre - 70 NBC Post - 70 NBC	1.0 1.0	3.0 2.0	6.0 3.0																												
	F ₂	Hazards to Vital Operations		Any Year	1.0	3.0	6.0																												
* applies only if one or more of the following descriptors on page 1 are circled: SMF, CMF, soft storey, torsion																																			
NSI	NON - STRUCTURAL INDEX = B · E · F =										NSI = 3.9																								
SPI	SEISMIC PRIORITY INDEX = SI + NSI =										SPI = 10.4																								
<p>Comments: <i>Medium Priority</i></p> <p><i>Due to amount of full height concrete block partitions and concrete shear walls building should perform well</i></p>																																			



SCALE 1 : 387



2020 Labieux Vehicle Storage
and Sign Shop B23



B23 WEST VIEW



B23 SOUTHWEST VIEW



INTERIOR CONCRETE BLOCK PARTITIONS



B23 SOUTHEAST VIEW

**APPENDIX "G"
BUILDING COST ANALYSIS
CITY OF NANAIMO
VEHICLE STORAGE & SIGN SHOP
2020 LABIEUX ROAD**



APPRAISAL BUILDING #: B23 EFFECTIVE DATE: FEBRUARY 8, 2008
 GROSS FLOOR AREA: 7,850 FT² CLASS: C & D YEAR(S) BUILT: CIRCA 1965

BELOW GRADE ASSETS	CRN	CRNLD
EXCAVATION, BACKFILL AND SITE PREPARATION:	25,300	11,100
FOUNDATIONS:	18,700	8,300
ARCHITECTURAL OR ENGINEERING FEES:	3,100	1,400
TOTAL BELOW GRADE ASSETS:	47,100	20,800

ABOVE GRADE ASSETS		
BUILDING FRAMING:	21,900	9,600
FLOOR STRUCTURE:	67,500	29,800
INTERIOR CONSTRUCTION, MEZZANINES, STAIRS:	143,000	63,100
FLOOR AND CEILING FINISHES:	-	-
PLUMBING SYSTEM, FIXTURES, AND SEWERAGE:	2,300	1,000
HEATING, VENTILATION AND AIR CONDITIONING:	50,600	22,300
ELECTRICAL AND LIGHTING:	33,800	15,000
EXTERIOR WALL CONSTRUCTION, BALCONIES:	138,200	61,100
ROOF STRUCTURE, ROOF COVERING, AND CANOPIES:	33,800	15,000
FIRE PROTECTION:	-	-
ELEVATORS:	-	-
ADDITIONAL CONSTRUCTION:	-	-
ARCHITECTURAL OR ENGINEERING FEES:	35,900	15,900
TOTAL ABOVE GRADE ASSETS:	527,000	232,800

TOTAL BELOW AND ABOVE GRADE ASSETS:	574,100	253,600
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BUILDING CODES & BYLAWS		
PARKING SPACES	MEETS CODE	-
SPECIAL NEEDS ACCESS	MEETS CODE	-
FIRE PROTECTION	MEETS CODE	-
TOTAL BUILDING CODES & BYLAWS:		-

TOTAL YARD IMPROVEMENTS:	21,300	21,300
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TOTAL CRN COST:	595,400	274,900
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FOUNDATIONS:	REINFORCED CONCRETE FOUNDATIONS
FRAMING:	LOAD BEARING MASONRY & WD FRAME WALLS, PART STL COLUMNS
FLOOR STRUCTURE:	REINFORCED CONCRETE SLAB ON GRADE, NO FINISH
INTERIOR CONSTRUCTION:	PAINTED CONCRETE BLOCK WALLS, EXPOSED ROOF DECK
PLUMBING SYSTEM:	MINIMAL FIXTURES & SERVICE FOR OCCUPANCY (SINGLE SINK ONLY)
H.V.A.C.:	RADIANT & FORCED AIR HEAT
ELECTRICAL AND LIGHTING:	STANDARD FIXTURES & TYPICAL SERVICE FOR OCCUPANCY
EXTERIOR WALLS:	PART PAINTED CONCRETE BLOCK, PART WD SIDING ON WD FRAME
ROOF:	WOOD JOIST & WOOD DECK WITH BUILT-UP ROOFING
FIRE PROTECTION:	NIL
ELEVATORS:	NIL
ADDITIONAL CONSTRUCTION:	SITE IMPROVEMENTS