

CSA STANDARD F280-12 COMPLIANCE				CSA F280-12 Form Set Ver 24.10	
NBC 2015: 9.33.5.1.; 9.36.3.2. & 9.36.5.15; NBC 2020; 9.33.5.1.; 9.36.3.2.; 9.36.5.15 (5); 9.36.8.9. (1);					
These documents issued for the use of BC MINISTRY OF HOUSING				PROJECT #	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.				1 DPLX2-U1-SOUTH 2	
BUILDING LOCATION					
Model: DPLX-02-UNIT 1		3 Site: SOUTH		6	
Address:		4 Lot:		7	
City & Province: PRINCE RUPERT, BC		5 Postal Code:		8	
COMPLIANCE (See page 2 for input summary and page 3 for room by room values)					
Submittal is for: ☐ Whole house aw		☒ Room by Room ar		Units: ☒ Imperial ☐ Metric b	
HEATING					
Minimum Heating Capacity:		13,857		BTUH (total building heat loss as per 5.2.7) c	
5.3.1 The total heat output capacity of all heating systems installed in a building shall not be less than 100% of the total building heat loss as determined in Clause 5.2.7.					
5.3.2 The combined heating delivery of the heating systems that serve a room or space shall not be less than 100% of the space heat loss , as determined in Clause 5.2.6.. (If room by room submittal, see page 2 for individual space heating requirements)					
COOLING					
Nominal Cooling Capacity:		9,345		BTUH (Nominal Cooling Capacity as per 6.3.1) d	
Minimum Cooling Capacity:		7,476		BTUH e	
		Maximum Cooling Capacity:		11,682	
				BTUH f	
6.3.2 Except as provided in Clause 6.3.3., the cooling system capacity shall not be less than 80% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.. In no case shall it be less than the nominal cooling capacity of the building minus 1800 W (0.51 tons)					
6.3.3 Where the cooling system is added to an existing heating system, it's capacity in Watts shall not exceed 18 times the capacity of the air-handling capacity of the existing system in L/s. (Cooling capacity in Tons not more than 1.0 per 400 CFM of air handling capacity)					
6.3.4 Except for ground-source and water source heat pumps used for cooling, and as permitted in Clause 6.3.5, the installed cooling capacity shall not exceed 125% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.					
6.3.5 If the nominal cooling system capacity for the building, as determined in Clause 6.3.1. is less than 6,000 W (1.7 tons), the installed cooling system capacity may exceed the nominal cooling system capacity for the building by up to 1750 W (0.49 tons).					
ATTACHED DOCUMENTS					
☒ Design Summary g		☒ Room by Room Results h		Other: i	
Other: j					
Notes: j					
CALCULATIONS PERFORMED BY					
Name: TODD BACKUS 55		Designers Signature, Stamp Imprint or other certification mark		I, _____	
Company: TECA 56				have reviewed and take responsibility for the design	
Address: PO BOX 73105, EVERGREEN RO 57				work described in this document & I am qualified in the	
City & Prov.: SURREY, BC 58				appropriate categories. 63	
Postal Code: V3R 0J2 59				Accreditation Reference 1 64	
Phone: 604-594-5956 60				Accreditation Reference 2 65	
Fax: - 61				Issued for: 66	
E-mail: TBACKUS@TECA.CA 62				Issued for: 67	
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		TECA HEAT LOSS & HEAT GAIN CALCULATOR		 HVAC DESIGNERS OF CANADA VERIFIED F280 SOFTWARE	

CSA F280-12 INPUT SUMMARY										CSA F280-12 Form Set Ver 24.10	
These documents issued for the use of <u>BC MINISTRY OF HOUSING</u>										PROJECT #:	
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BUILDING LOCATION											
Model: DPLX-02-UNIT 1			Site: SOUTH			Lot:					
Address:			City/ Prov: PRINCE RUPERT, BC			Post. Code:					
CALCULATION BASED ON (See Following Page For Results)											
Dimensional Info Based On:			drawings done by: Leckie Studio Architecture + Design Inc.								
Attachment: Semi-Detached (Duplex)			Front Facing: E			Assumed? Yes					
# of Stories: 3 (4 total floors)			Air Tightness: 1.5			Assumed? Yes					
Weather Location: Prince Rupert			Internal Shading: No			Assumed? Yes					
Wind Exposure, Site: Low crops, x/H > 20			Occupants: 4			Assumed? Yes					
Wind Sheltering, Building: Light local shielding			Ventilated? Non-dedicated HRV			HRV/ERV? Yes					
Units: ☒ Imperial ☐ Metric			HRV ASE %: 65%			HRV ATRE %: 0%					
HEATING DESIGN CONDITIONS						COOLING DESIGN CONDITIONS					
Outdoor Temp: -13°C, 8.6°F		Indoor Temp: 22°C, 71.6°F		Mean Soil Temp: 10°C, 50°F		Outdoor Temp: 19°C, 66.2°F		Range: 6°C, 42.8°F			
Soil Cond. Normal conductivity: dry sand, loam, clay		Water Table Depth: Normal (7-10m, 23-33ft)		Slab Fluid Temp: None		Indoor Temp: 24°C, 75.2°F		Latitude: 54.32			
ABOVE GRADE WALLS						BELOW GRADE WALLS					
ID 1: 1/ (TYP. EXT. WALL: R-22), inside wall, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 16"OC, R20 (5.5"), // Sheathing materials, Softwood plywood, // Insulation, Mineral wool and glass fibre, // Cladding materials, Vinyl siding, outside air; 22.42R-VALUE						ID 1:					
FLOOR HEADERS						CEILINGS					
ID 1: 1/ (TYP. HEADER: R-22); 22R-VALUE						ID 1: 1/ (TYP. ROOF: R-32), inside ceilings, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 24"OC, custom insulation, // Sheathing materials, Softwood plywood, // Roofing materials, Built-up roofing, outside air; 32.01R-VALUE					
WINDOWS						EXPOSED FLOORS					
ID 1: 1/ (Windows (Energy modelling requirements)) custom, USI: 1.3, SHGC: 0.25						ID 1:					
SKYLIGHTS						DOORS					
ID 1: 1/ (SKYLIGHT) double glazed, Fixed — Wood/Vinyl, insulating, low-E, 13mm Air, USI: 1.96, SHGC: 0.47						ID 1: 1/ (EXT. DOOR) Insulated metal — Polyurethane core, without storm door, USI: 0.91					
FOUNDATIONS											
ID 1: 1/ [Heated Crawlpace] Concrete Slab & Walls, insulation: below slab = 2.64RSI, interior wall = 2.11RSI, exterior wall = 2.11RSI (configuration #69) // any first storey construction type, interior surface of wall insulated over full-height, exterior surface of wall insulated over full-height, sub-surface of floor slab fully insulated but no insulation											
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Model: DPLX-02-UNIT 1			3 Site: SOUTH			6	
Address:			4 Lot:			7	
City & Province: PRINCE RUPERT, BC			5 Postal Code:			8	
CALCULATION RESULTS - ROOM BY ROOM (BTUH)							
#	ROOM NAME	71	HEATING	72	TOTAL COOLING	73	
1	(#1)HEATED CRAWL - U1		2,822		0		
2	(#2)100-ENTRY		1,254		601		
3	(#3)101-POWDER		135		0		
4	(#4)102-LIVING ROOM		645		2,467		
5	(#5)103-KITCHEN/DINING		2,355		3,778		
6	(#6)200-BEDROOM 1		1,402		553		
7	(#7)201-BEDROOM 2		558		72		
9	(#9)203-LANDING		1,195		194		
10	(#10)300-BEDROOM 3		1,353		636		
11	(#11)301-STUDY		726		154		
12	(#12)302-WASHROOM		89		24		
13	(#13)303-LANDING		1,323		866		
Ventilation Loss (if separate):		1,420	BTUH	74	Latent Gain (if separate, value or multiplier):		2,157 BTUH 75
Total Building Heat Loss (5.2.7):		13,857	BTUH		Nominal Cooling System Capacity (6.3.1):		9,345 BTUH
See page 1 for heating & Cooling System Capacity Limits				Issued: August 22, 2025		76 Page: 3 of 3	
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