

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 QPLX1-U1-EAST 2	
BUILDING LOCATION			
Model: QPLX-01-UNIT 1	3 Site: EAST	6	
Address:	4 Lot:	7	
City & Province: PRINCE GEORGE, 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 ☒ Room by Room		Units: ☒ Imperial ☐ Metric	
HEATING			
Minimum Heating Capacity:		22,859 BTUH (total building heat loss as per 5.2.7)	
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:		14,566 BTUH (Nominal Cooling Capacity as per 6.3.1)	
Minimum Cooling Capacity:		11,653 BTUH	
		Maximum Cooling Capacity:	
		18,207 BTUH	
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		☒ Room by Room Results	
Other:		Other:	
Notes:			
CALCULATIONS PERFORMED BY			
Name:	TODD BACKUS	55	
Company:	TECA	56	
Address:	PO BOX 73105, EVERGREEN RO	57	
City & Prov.:	SURREY, BC	58	
Postal Code:	V3R 0J2	59	
Phone:	604-594-5956	60	
Fax:	-	61	
E-mail:	TBACKUS@TECA.CA	62	
Designers Signature, Stamp Imprint or other certification mark		I, _____	
		have reviewed and take responsibility for the design work described in this document & I am qualified in the appropriate categories. 63	
		Accreditation Reference 1	64
		Accreditation Reference 2	65
		Issued for: (date)	66
Issued for: (date)	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 #:	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.										QPLX1-U1-EAST	
BUILDING LOCATION											
Model: QPLX-01-UNIT 1			Site: EAST			Lot:					
Address:			City/ Prov: PRINCE GEORGE, BC			Post. Code:					
CALCULATION BASED ON (See Following Page For Results)											
Dimensional Info Based On:			drawings done by: Leckie Studio Architecture + Design Inc.								
Attachment: Row House - End Unit			Front Facing: E			Assumed? Yes					
# of Stories: 3 (4 total floors)			Air Tightness: 1.5			Assumed? Yes					
Weather Location: Prince George			Internal Shading: No			Assumed? Yes					
Wind Exposure, Site: Low crops, x/H > 20			Occupants: 3			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: -32°C, -25.6°F		Indoor Temp: 22°C, 71.6°F		Mean Soil Temp: 6°C, 42.8°F		Outdoor Temp: 28°C, 82.4°F		Range: 12°C, 53.6°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: 53.92			
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: 1/ (TYP. EXPOSED FLOOR), inside floor, // Finished floor w/ underlay, // 3/4" ply, // framing w/ cavity insulation: softwood (default), 2x12 joists @ 16"OC, R35 (9.25") // Exterior finished material // outside air: 30.98R-VALUE					
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 Crawlspace] 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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Address:			4	Lot:		7	
City & Province: PRINCE GEORGE, BC			5	Postal Code:		8	
CALCULATION RESULTS - ROOM BY ROOM (BTUH)							
#	ROOM NAME	71	HEATING	72	TOTAL COOLING	73	
1	(#1)HEATED CRAWL - U1		3,564		20		
2	(#2)100-ENTRY & STAIRS		6,106		1,999		
3	(#3)201-KITCHEN/DINING		4,683		5,081		
4	(#4)201-LIVING ROOM		1,621		3,539		
5	(#5)202-STUDY		1,064		378		
6	(#6)300-LANDING		2,295		1,244		
7	(#7)301-WASHROOM		135		60		
8	(#8)302-BEDROOM 1		1,605		1,117		
9	(#9)303-BEDROOM 2		1,785		1,127		
Ventilation Loss (if separate):		2,191	BTUH	74	Latent Gain (if separate, value or multiplier):		3,361 BTUH 75
Total Building Heat Loss (5.2.7):		22,859	BTUH		Nominal Cooling System Capacity (6.3.1):		14,566 BTUH
See page 1 for heating & Cooling System Capacity Limits				Issued: August 22, 2025	76	Page: 3 of 3	
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