

| CSA STANDARD F280-12 COMPLIANCE                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                                          |  | CSA F280-12<br>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 <b>BC MINISTRY OF HOUSING</b>                                                         |                                                                                                                                                                                                                                                                                      |                                                                                          |  | <b>PROJECT #</b>                                                                                                                        |               |
| and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red. |                                                                                                                                                                                                                                                                                      |                                                                                          |  | 1                                                                                                                                       | DPLX2-U1-EAST |
| BUILDING LOCATION                                                                                                           |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| Model: DPLX-02-UNIT 1                                                                                                       |                                                                                                                                                                                                                                                                                      | 3 Site: EAST                                                                             |  | 6                                                                                                                                       |               |
| Address:                                                                                                                    |                                                                                                                                                                                                                                                                                      | 4 Lot:                                                                                   |  | 7                                                                                                                                       |               |
| City & Province: PRINCE RUPERT, BC                                                                                          |                                                                                                                                                                                                                                                                                      | 5 Postal Code:                                                                           |  | 8                                                                                                                                       |               |
| COMPLIANCE <small>(See page 2 for input summary and page 3 for room by room values)</small>                                 |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| Submittal is for:                                                                                                           |                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> Whole house<br><input checked="" type="checkbox"/> Room by Room |  | Units: <input checked="" type="checkbox"/> Imperial <input type="checkbox"/> Metric                                                     |               |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| HEATING                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| <b>Minimum Heating Capacity:</b>                                                                                            |                                                                                                                                                                                                                                                                                      | <b>13,857</b>                                                                            |  | <b>BTUH</b> (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                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| <b>Nominal Cooling Capacity:</b>                                                                                            |                                                                                                                                                                                                                                                                                      | <b>7,523</b>                                                                             |  | <b>BTUH</b> (Nominal Cooling Capacity as per 6.3.1)                                                                                     |               |
| <b>Minimum Cooling Capacity:</b>                                                                                            |                                                                                                                                                                                                                                                                                      | <b>6,018</b>                                                                             |  | <b>BTUH</b>                                                                                                                             |               |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                                          |  | <b>Maximum Cooling Capacity:</b>                                                                                                        |               |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      | <b>9,404</b>                                                                             |  | <b>BTUH</b>                                                                                                                             |               |
| 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                                                                                                          |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| <input checked="" type="checkbox"/> Design Summary                                                                          |                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> Room by Room Results                                 |  | Other:                                                                                                                                  |               |
| Other:                                                                                                                      |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| Notes:                                                                                                                      |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| CALCULATIONS PERFORMED BY                                                                                                   |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| Name: TODD BACKUS                                                                                                           |                                                                                                                                                                                                                                                                                      | Designers Signature, Stamp Imprint<br>or other certification mark                        |  | I, _____                                                                                                                                |               |
| Company: TECA                                                                                                               |                                                                                                                                                                                                                                                                                      |                                                                                          |  | have reviewed and take responsibility for the design work described in this document & I am qualified in the appropriate categories. 63 |               |
| Address: PO BOX 73105, EVERGREEN RO                                                                                         |                                                                                                                                                                                                                                                                                      |                                                                                          |  | Accreditation Reference 1                                                                                                               |               |
| City & Prov.: SURREY, BC                                                                                                    |                                                                                                                                                                                                                                                                                      |                                                                                          |  | Accreditation Reference 2                                                                                                               |               |
| Postal Code: V3R 0J2                                                                                                        |                                                                                                                                                                                                                                                                                      |                                                                                          |  | Issued for: (date)                                                                                                                      |               |
| Phone: 604-594-5956                                                                                                         |                                                                                                                                                                                                                                                                                      |                                                                                          |  | Issued for: (date)                                                                                                                      |               |
| Fax: -                                                                                                                      |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| E-mail: TBACKUS@TECA.CA                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                                          |  |                                                                                                                                         |               |
| <b>TECA HEAT LOSS &amp; HEAT GAIN CALCULATOR</b>                                                                            |                                                                                                                                                                                                                                                                                      |                                                                                          |  | <b>HVAC DESIGNERS OF CANADA</b><br><b>VERIFIED F280 SOFTWARE</b>                                                                        |               |

| CSA F280-12 INPUT SUMMARY                                                                                                                                                                                                                                                                                                                                              |  |                                            |                                                            |                            |  |                                                                                                                                                                                                                                                                    |  |                    |  | CSA F280-12<br>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.                                                                                                                                                                                                                                            |  |                                            |                                                            |                            |  |                                                                                                                                                                                                                                                                    |  |                    |  | DPLX2-U1-EAST                     |  |
| BUILDING LOCATION                                                                                                                                                                                                                                                                                                                                                      |  |                                            |                                                            |                            |  |                                                                                                                                                                                                                                                                    |  |                    |  |                                   |  |
| Model: DPLX-02-UNIT 1                                                                                                                                                                                                                                                                                                                                                  |  |                                            | Site: EAST                                                 |                            |  | 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: N                                            |                            |  | 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: <input checked="" type="checkbox"/> Imperial <input type="checkbox"/> 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 |  |                                            |                                                            |                            |  |                                                                                                                                                                                                                                                                    |  |                    |  |                                   |  |
| Issued: August 22, 2025                                                                                                                                                                                                                                                                                                                                                |  |                                            |                                                            |                            |  | Page: 2-2 of 3                                                                                                                                                                                                                                                     |  |                    |  |                                   |  |
|  <b>TECA HEAT LOSS &amp; HEAT GAIN CALCULATOR</b>                                                                                                                                                                                                                                    |  |                                            |                                                            |                            |  |  <b>HVAC DESIGNERS OF CANADA</b><br><b>VERIFIED F280 SOFTWARE</b>                                                                                                             |  |                    |  |                                   |  |

|                                                                                                                                    |                        |        |         |                                                                                                                                                       |                                                 |               |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------|
| CSA F280-12 INPUT SUMMARY                                                                                                          |                        |        |         |                                                                                                                                                       | CSA F280-12<br>Form Set Ver 24.10               |               |
| These documents issued for the use of <u>BC MINISTRY OF HOUSING</u> 1                                                              |                        |        |         |                                                                                                                                                       | PROJECT #: 2                                    |               |
| and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.        |                        |        |         |                                                                                                                                                       | DPLX2-U1-EAST                                   |               |
| Model: DPLX-02-UNIT 1                                                                                                              |                        |        | 3       | Site: EAST                                                                                                                                            |                                                 | 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   |                                                                                                                                                       | 140                                             |               |
| 3                                                                                                                                  | (#3)101-POWDER         |        | 135     |                                                                                                                                                       | 0                                               |               |
| 4                                                                                                                                  | (#4)102-LIVING ROOM    |        | 645     |                                                                                                                                                       | 2,644                                           |               |
| 5                                                                                                                                  | (#5)103-KITCHEN/DINING |        | 2,355   |                                                                                                                                                       | 2,717                                           |               |
| 6                                                                                                                                  | (#6)200-BEDROOM 1      |        | 1,402   |                                                                                                                                                       | 128                                             |               |
| 7                                                                                                                                  | (#7)201-BEDROOM 2      |        | 558     |                                                                                                                                                       | 248                                             |               |
| 9                                                                                                                                  | (#9)203-LANDING        |        | 1,195   |                                                                                                                                                       | 248                                             |               |
| 10                                                                                                                                 | (#10)300-BEDROOM 3     |        | 1,353   |                                                                                                                                                       | 203                                             |               |
| 11                                                                                                                                 | (#11)301-STUDY         |        | 726     |                                                                                                                                                       | 322                                             |               |
| 12                                                                                                                                 | (#12)302-WASHROOM      |        | 89      |                                                                                                                                                       | 22                                              |               |
| 13                                                                                                                                 | (#13)303-LANDING       |        | 1,323   |                                                                                                                                                       | 851                                             |               |
| Ventilation Loss (if separate):                                                                                                    |                        | 1,420  | BTUH    | 74                                                                                                                                                    | Latent Gain (if separate, value or multiplier): | 1,736 BTUH 75 |
| Total Building Heat Loss (5.2.7):                                                                                                  |                        | 13,857 | BTUH    |                                                                                                                                                       | Nominal Cooling System Capacity (6.3.1):        | 7,523 BTUH    |
| See page 1 for heating & Cooling System Capacity Limits                                                                            |                        |        |         | Issued: August 22, 2025                                                                                                                               | 76                                              | Page: 3 of 3  |
|  <b>TECA HEAT LOSS &amp; HEAT GAIN CALCULATOR</b> |                        |        |         |  <b>HVAC DESIGNERS OF CANADA</b><br><b>VERIFIED F280 SOFTWARE</b> |                                                 |               |