

| WATER TO WATER HEAT PUMP UNIT SCHEDULE         |                  |                        |                         |                        |                       |                      |          |     |      |         |          |               |   |
|--|------------------|------------------------|-------------------------|------------------------|-----------------------|----------------------|----------|-----|------|---------|----------|---------------|---|
| UNIT TAG                                       | AREA SERVED      | HEATING CAPACITY (MBH) | WATER FLOW SOURCE (GPM) | WATER P.D. SOURCE (FT) | WATER FLOW LOAD (GPM) | WATER P.D. LOAD (FT) | ELECTRIC |     |      | MAKE    | MODEL    | UNIT WT (LBS) | REMARK  |
|  |                  |                        |                         |                        |                       |                      | V/PH/HZ  | MCA | MOCP |         |          |               |   |
| HP(W)-1  | IN FLOOR HEATING | 119.5                  | 30                      | 16.2                   | 14                    | 12.3                 | 208/3/60 | 43  | 60   | CARRIER | 50PSW122 | 720           | 30% GLYCOL. WATER TO WATER, HORIZONTAL, FLOOR MOUNTED |
| NOTE:<br>WINTER: EFT=40°F    SUMMER: EFT=100°F |                  |                        |                         |                        |                       |                      |          |     |      |         |          |               |   |

| WATER SOURCE HEAT PUMP UNIT SCHEDULE           |  |                        |                        |                |              |                  |                 |          |     |           |         |          |                 |               |            |
|--|--|------------------------|------------------------|----------------|--------------|------------------|-----------------|----------|-----|-----------|---------|----------|-----------------|---------------|------------|
| UNIT TAG                                       | AREA SERVED                                | COOLING CAPACITY (MBH) | HEATING CAPACITY (MBH) | AIR FLOW (CFM) | E.S.P (inWC) | WATER FLOW (GPM) | WATER P.D. (FT) | ELECTRIC |     |           | MAKE    | MODEL    | FRESH AIR (CFM) | UNIT WT (LBS) | REMARK     |
|  |  |                        |                        |                |              |                  |                 | V/PH/HZ  | MCA | TOTAL MFS |         |          |                 |               |            |
| HP-1   | RECEPTION 102                              | 5.5                    | 5.3                    | 200            | 0.33         | 1.5              | 2.5             | 208/1/60 | 4   | 15        | CARRIER | 50PCH007 | 25              | 96            | HORIZONTAL |
| HP-2   | CAPTAIN OFFICE 104                         | 7.3                    | 7.4                    | 300            | 0.44         | 2.3              | 7.9             | 208/1/60 | 5   | 15        | CARRIER | 50PCH009 | 25              | 100           | HORIZONTAL |
| HP-3   | TRAINING ROOM 105                          | 21.1                   | 19.6                   | 650            | 0.65         | 6.0              | 21.8            | 208/1/60 | 11  | 15        | CARRIER | 50PCH024 | 100             | 181           | HORIZONTAL |
| HP-4   | DORMITORY 109 & 113                        | 5.5                    | 5.3                    | 300            | 0.33         | 1.5              | 2.5             | 208/1/60 | 4   | 15        | CARRIER | 50PCH007 | 25              | 96            | HORIZONTAL |
| HP-5   | CORRIDOR 101, 106, 108 & 114               | 21.1                   | 19.6                   | 650            | 0.65         | 6.0              | 21.8            | 208/1/60 | 11  | 15        | CARRIER | 50PCH024 | 150             | 181           | HORIZONTAL |
| HP-6   | DORMITORY 110, 111 & 112                   | 7.3                    | 7.4                    | 300            | 0.44         | 2.3              | 7.9             | 208/1/60 | 5   | 15        | CARRIER | 50PCH009 | 35              | 100           | HORIZONTAL |
| HP-7   | EXERCISE ROOM 116                          | 21.1                   | 19.6                   | 650            | 0.65         | 6.0              | 21.8            | 208/1/60 | 11  | 15        | CARRIER | 50PCH024 | 160             | 181           | HORIZONTAL |
| HP-8   | LOCKER ROOM 121                            | 7.3                    | 7.4                    | 300            | 0.44         | 2.3              | 7.9             | 208/1/60 | 5   | 15        | CARRIER | 50PCH009 | 85              | 100           | HORIZONTAL |
| HP-9   | CREW LOUNGE 117                            | 16.1                   | 14.4                   | 560            | 0.68         | 4.5              | 12.4            | 208/1/60 | 11  | 15        | CARRIER | 50PCH018 | 160             | 174           | HORIZONTAL |
| HP-10  | DINING 118 & KITCHEN 119                   | 21.1                   | 19.6                   | 650            | 0.65         | 6.0              | 21.8            | 208/1/60 | 11  | 15        | CARRIER | 50PCH024 | 200             | 181           | HORIZONTAL |
| HP-11  | BUNKER GEAR 131<br>BUNKER GEAR WASHING 130 | 9.5                    | 9.2                    | 325            | 0.56         | 3.0              | 13.5            | 208/1/60 | 7   | 15        | CARRIER | 50PCH012 | 70              | 105           | HORIZONTAL |
| HP-12  | IT ROOM                                    | 7.3                    | 7.4                    | 300            | 0.44         | 2.3              | 7.9             | 208/1/60 | 5   | 15        | CARRIER | 50PCH009 | 15              | 100           | HORIZONTAL |
| NOTE:<br>WINTER: EFT=40°F    SUMMER: EFT=100°F |  |                        |                        |                |              |                  |                 |          |     |           |         |          |                 |               |            |

| EXHAUST FAN SCHEDULE |   |                 |             |           |            |             |                      |            |             |            |  |  |
|----------------------|---|-----------------|-------------|-----------|------------|-------------|----------------------|------------|-------------|------------|--|--|
| UNIT TAG             | SERVICE AREA                                      | VOLUME FLOW CFM | E.S.P. inWC | SPEED RPM | MOTOR AMPS | MOTOR WATTS | POWER SUPPLY V/PH/HZ | MAKE       | MODEL       | WEIGHT LBS | REMARKS                                |  |
| HEF-1                | HOOD EXHAUST (KITCHEN 119)                        | 250             | 0.25        | —         | 2.0        | —           | 120/1/60             | BROAN      | ALLURE WS2  |            |  |  |
| EF-1                 | SPRINKLER ROOM 132                                | 100             | 0.25        | 1550      | —          | 79          | 120/1/60             | PENN BARRY | ZEPHYR Z5H  |            |  |  |
| EF-2                 | ELECTRICAL ROOM 133                               | 75              | 0.25        | 1050      | —          | 47          | 120/1/60             | PENN BARRY | ZEPHYR Z6S  |            |  |  |
| EF-3                 | MECHANICAL ROOM 200                               | 150             | 0.25        | 1550      | —          | 108         | 120/1/60             | PENN BARRY | ZEPHYR Z6H  |            | INTERLOCK WITH MOTORIZED DAMPER        |  |
| EF-4                 | JANITOR 127                                       | 50              | 0.25        | 1380      | —          | 50          | 120/1/60             | PENN BARRY | ZEPHYR ZL2  |            |  |  |
| EF-5                 | APPARATUS BAY 129                                 | 4750            | 0.5         | 511       | —          | 2 KW        | 208/1/60             | PENN BARRY | ZEPHYR ZC18 |            |  |  |
| EF-6                 | HOSE TOWER 134                                    | 200             | 0.375       | 1060      | —          | 187         | 120/1/60             | PENN BARRY | DOMEX DX06B |            |  |  |
| EF-7                 | BUNKER GEAR WASHING 130                           | 75              | 0.25        | 1050      | —          | 47          | 120/1/60             | PENN BARRY | ZEPHYR Z6S  |            |  |  |
| EF-8                 | BUNKER GEAR 131                                   | 150             | 0.25        | 1550      | —          | 108         | 120/1/60             | PENN BARRY | ZEPHYR Z6H  |            |  |  |
| EF-9                 | GARBAGE ROOM 136                                  | 50              | 0.25        | 1550      | —          | 52          | 120/1/60             | PENN BARRY | DOMEX DX06R |            |  |  |
| EF-10                | APPARATUS BAY 129                                 | 410-2540        | 11.6-3.8    | 3515      | —          | 4 HP        | 208/3/60             | NEDERMAN   | NCF30/20    | 187        | RD 0" STANDARD                         |  |
| EF-11                | CLEAN LAUNDRY 120                                 | 75              | 0.25        | 1050      | —          | 47          | 120/1/60             | PENN BARRY | ZEPHYR Z6S  |            |  |  |
| CF-1 TO CF-4         | CEILING FAN NO. CF-1 TO CF-4<br>APPARATUS BAY 129 | 16800           | —           | —         | —          | 157         | 120/1/60             | WILCORP    | 60F (56")   |            | C/W SPEED CONTROLLER AND FAN ENCLOSURE |  |

| MANIFOLD SCHEDULE |                                |                    |             |                         |                  |                            |                    |                      |                     |
|-------------------|--------------------------------|--------------------|-------------|-------------------------|------------------|----------------------------|--------------------|----------------------|---------------------|
| NAME              | MANIFOLD TYPE                  | NUMBER OF CIRCUITS | TUBING SIZE | FLUID TYPE              | SUPPLY TEMP (°F) | SUPPLY/RETURN DELTA-T (°F) | TOTAL FLOW (USGPM) | HEAD LOSS (FT WATER) | TOTAL LOAD (BTU/HR) |
| MANIFOLD 1        | PRO-BALANCE 1" STAINLESS STEEL | 7                  | 5/8"        | 30-40% PROPYLENE GLYCOL | 120              | 20                         | 14                 | 22                   | 114,504             |

| HEAT RECOVERY UNIT SCHEDULE  |                |                     |         |              |                  |                |                        |                       |                       |                   |                       |                       |                   |                   |         |                         |           |      |      |                            |                      |         |
|--|----------------|---------------------|---------|--------------|------------------|----------------|------------------------|-----------------------|-----------------------|-------------------|-----------------------|-----------------------|-------------------|-------------------|---------|-------------------------|-----------|------|------|----------------------------|----------------------|---------|
| TAG  | AREA SERVED    | AIR FLOW RATE (CFM) |         | E.S.P (inWC) | COOLING CAPACITY |                | HEATING CAPACITY (MBH) | HEAT RECOVERY         |                       |                   |                       |                       |                   | BLOWER MOTOR (HP) |         | ELECTRICAL HEATING (KW) | ELECTRICS |      |      | MAKE MODEL                 | APPROX. WEIGHT (LBS) | REMARKS |
|  |                | SUPPLY              | EXHAUST |              | TOTAL (MBH)      | SENSIBLE (MBH) |                        | O/A EDB/EWB °F (SUM.) | O/A LBS/LWB °F (SUM.) | E/A EDB °F (SUM.) | O/A EDB/EWB °F (WIN.) | O/A LBS/LWB °F (WIN.) | E/A EDB °F (WIN.) | SUPPLY            | EXHAUST |                         | V/PH/HZ   | MCA  | MOPA |                            |                      |         |
| HRU-1  | WHOLE BUILDING | 1450                | 1450    | 0.5          | 73.4             | 45.8           | 20.5                   | 88.1 / 74.4           | 78.0 / 66.1           | 75                | -4 / -5.3             | 52.8 / 43.6           | 72                | 1.0               | 1.0     | 12.3                    | 208/3/60  | 74.2 | 80   | VALENT VXE-112-36B-SA-1-A1 | 3135                 |         |
| 1. PROVIDE FRESH AIR INTAKE HOOD & EXHAUST AIR DISCHARGE HOODS.<br>2. PROVIDE FRESH AIR MOTORIZED MODULATING DAMPERS.<br>3. PROVIDE VFD SPEED CONTROL THROUGH CO2 SENSORS FOR SUPPLY AND EXHAUST.<br>4. PROVIDE RETURN AIR FILTER SECTION.<br>5. PROVIDE FLEXIBLE DUCT CONNECTIONS.<br>6. PROVIDE NON FUSED DISCONNECT SWITCH. |                |                     |         |              |                  |                |                        |                       |                       |                   |                       |                       |                   |                   |         |                         |           |      |      |                            |                      |         |

| ELECTRIC DUCT COIL SCHEDULE |         |              |                   |                       |            |       |         |              |                   |                       |            |       |         |              |                   |                       |            |      |         |              |                   |                       |            |   |  |
|-----------------------------|---------|--------------|-------------------|-----------------------|------------|-------|---------|--------------|-------------------|-----------------------|------------|-------|---------|--------------|-------------------|-----------------------|------------|------|---------|--------------|-------------------|-----------------------|------------|---|--|
| TAG                         | SERVICE | AIR FLOW CFM | DUCT SIZE in x in | HEATING CAPACITY (KW) | VOLT/PH/HZ | TAG   | SERVICE | AIR FLOW CFM | DUCT SIZE in x in | HEATING CAPACITY (KW) | VOLT/PH/HZ | TAG   | SERVICE | AIR FLOW CFM | DUCT SIZE in x in | HEATING CAPACITY (KW) | VOLT/PH/HZ | TAG  | SERVICE | AIR FLOW CFM | DUCT SIZE in x in | HEATING CAPACITY (KW) | VOLT/PH/HZ | REMARK  |  |
| HC-1                        | HP-1    | 260          | 8x8               | 1.0                   | 208/1/60   | HC-2  | HP-2    | 300          | 8x8               | 1.3                   | 208/1/60   | HC-3  | HP-3    | 800          | 14x10             | 2.5                   | 208/3/60   | HC-4 | HP-4    | 260          | 8x8               | 1.0                   | 208/1/60   | ALL ELECTRICAL DUCT COILS WILL BE PROVIDED BY MECHANICAL (DIVISION 15). ELECTRICAL CONTRACT WILL CONNECT DUCT COILS TO POWER. |  |
| HC-5                        | HP-5    | 800          | 14x10             | 4.5                   | 208/3/60   | HC-6  | HP-6    | 300          | 8x8               | 1.0                   | 208/1/60   | HC-7  | HP-7    | 800          | 14x10             | 4.5                   | 208/3/60   | HC-8 | HP-8    | 300          | 8x8               | 1.0                   | 208/1/60   |   |  |
| HC-9                        | HP-9    | 600          | 12x10             | 2.4                   | 208/3/60   | HC-10 | HP-10   | 800          | 14x10             | 2.5                   | 208/3/60   | HC-11 | HP-12   | 260          | 8x8               | 1.0                   | 208/1/60   |      |         |              |                   |                       |            |   |  |
|                             |         |              |                   |                       |            |       |         |              |                   |                       |            |       |         |              |                   |                       |            |      |         |              |                   |                       |            |   |  |

| HUMIDIFIER SCHEDULE |               |                  |                                |                     |             |                 |      |      |                      |         |
|---------------------|---------------|------------------|--------------------------------|---------------------|-------------|-----------------|------|------|----------------------|---------|
| NO.                 | SYSTEM SERVED | MAKE & MODEL     | DISCHARGE CAPACITY<br>LBS / HR | WATER INLET<br>PSIG | POWER<br>KW | ELECTRICAL DATA |      |      | FULL WEIGHT<br>(LBS) | REMARKS |
|                     |               |                  |                                |                     |             | V/PH/HZ         | MCA  | MOCP |                      |         |
| HU-1                | HRU-1         | CONDAIR<br>EL 50 | 50                             | 30 - 80             | 18.7        | 280/3/60        | 51.9 | 70   | 150                  |         |
|                     |               |                  |                                |                     |             |                 |      |      |                      |         |

| CIRCULATING PUMP SCHEDULE |                                   |                        |          |         |       |        |          |          |                |                             |
|---------------------------|-----------------------------------|------------------------|----------|---------|-------|--------|----------|----------|----------------|-----------------------------|
| TAG                       | SYSTEM SERVED                     | SIZE                   | FLOW GPM | HEAD FT | MOTOR |        |          | DUTY     | MAKE & MODEL   | REMARKS                     |
|                           |                                   |                        |          |         | HP    | R.P.M. | V/PH/HZ  |          |                |                             |
| P-1                       | CIRCULATING PUMP                  | 2x2x8 VERTICAL-IN-LINE | 74       | 65      | 3     | 1800   | 208/3/60 | RUNNING  | ARMSTRONG 4300 | FLUID: 30% PROPYLENE GLYCOL |
| P-2                       | CIRCULATING PUMP                  | 2x2x8 VERTICAL-IN-LINE | 74       | 65      | 3     | 1800   | 208/3/60 | STAND BY | ARMSTRONG 4300 | FLUID: 30% PROPYLENE GLYCOL |
| P-3                       | IN-FLOOR HEATING CIRCULATING PUMP | H64                    | 14       | 38      | 1     | 1800   | 208/1/60 | RUNNING  | SERIES H H64   | FLUID: 30% PROPYLENE GLYCOL |
| P-4                       | IN-FLOOR HEATING CIRCULATING PUMP | H64                    | 14       | 38      | 1     | 1800   | 208/1/60 | STAND BY | SERIES H H64   | FLUID: 30% PROPYLENE GLYCOL |

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| NO.               | ISSUED FOR                     | DATE       |
| 1                 | DESIGN DEVELOPMENT FOR COSTING | 2022-07-07 |
| 2                 | ISSUED FOR PERMIT              | 2023-09-06 |
| 3                 | ISSUED FOR TENDER              | 2024-04-15 |
|                   |                                |            |
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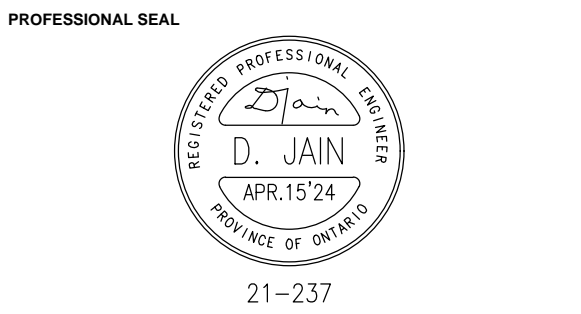
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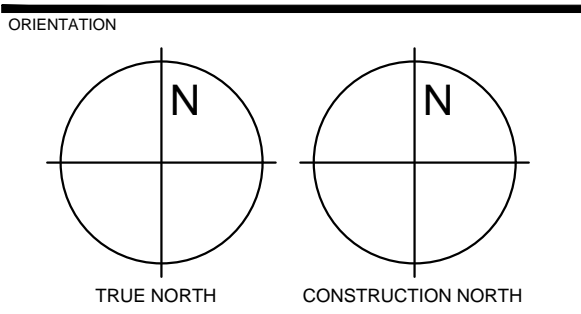
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DWG TITLE  
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DATE  
2022-06-24

SCALE  
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