| Date (mmm dd yyyy) | Issued For | Rev. |
|---|---|---|
| 09-21-2007 | TITLE 1 60% REVIEW | A |
| 10-24-2007 | TITLE 1 100% COMPLETE | B |
| 12-07-2007 | TITLE II DESIGN 30% REVIEW SUBMITTAL | C |
| 03-28-2008 | TITLE II DESIGN 60% REVIEW SUBMITTAL | D |
| 07-31-2008 | TITLE II DESIGN 90% REVIEW SUBMITTAL | E |
| 08-25-2008 | TITLE II DESIGN 100% OWNER REVIEW | F |
| 02-19-2009 | TITLE II CONSTRUCTION BID ISSUE | 0 |

## STEAM TRAP SCHEDULE

| MARK | SYSTEM SERVED | TYPE | CONDENSATE (LBS/HR) | SERVICE CAPACITY (LBS/HR) | INLET CONN (IN) | WORKING PRESSURE (PSIG) | DIFFERENTIAL PRESSURE (PSIG) | DESIGN BASIS MFR/MOD NO. | REF DWG NO | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| ST-1 | SUH-7 THRU 12 | F&T | N.A. | 91 | 3/4 | 15 | 0.25 | SARCO FT-15 | MH-101, MH-102 | |
| ST-2 | LP DRIP | F&T | N.A. | 70 | 3/4 | 15 | 0.25 | SARCO FT-15 | MP-304, MH-101 | |
| ST-3 | DWH-1 | F&T | N.A. | 1,813 | 2 | 15 | 0.25 | SARCO FT-15 | MP-304 | |
| ST-4 | AHU-4 | F&T | N.A. | 3,211 | 2 | 15 | 0.25 | SARCO FTB-20 | MH-102 | |
| ST-5 | AHU-3 | F&T | N.A. | 3,356 | 2 | 15 | 0.25 | SARCO FTB-20 | MH-102 | |
| ST-6 | SFT-1 | F&T | N.A. | 8 | 3/4 | 15 | 0.25 | SARCO FT-15 | MH-101 | |
| ST-7 | ACU-2 | F&T | N.A. | 140 | 3/4 | 15 | 0.25 | SARCO FT-15 | MH-101 | |
| ST-8 | HP DRIP | THERMODYNAMIC | N.A. | 142 | 3/4 | 125 | 0.25 | YARWAY 721 | MP-100, MP-304 | |

## FINNED TUBE RADIATION (STEAM) SCHEDULE

| MARK | AREA SERVED | MOUNTING TYPE | MOUNTING HEIGHT (IN) | DIMENSIONS (W' X H") | TUBE SIZE (IN) | FIN SIZE (IN) | FINS/FT | BTU HR PER FT | ACTIVE LENGTH (FT) | TOTAL (MBH) | STEAM DATA PRES (PSIG) | STEAM DATA MAX PD (LBS) | STEAM DATA FLOW (LBS/HR) | DESIGN BASIS MFR/MOD NO. | REF DWG NO | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFT-1 | LOCKER RM 124 | WALL | 18 | 72 x 14 | 1.25 | 3.25 x 3.25 | 20 | 750 | 4 | 3.0 | 15 | — | 3.2 | STERLING JVA-S-14 W/ S-132 | MH-101 | |
| SFT-2 | UTILITY RM 122 | WALL | 18 | 48 x 14 | 1.25 | 3.25 x 3.25 | 20 | 750 | 2 | 1.5 | 15 | — | 1.6 | STERLING JVA-S-14 W/ S-132 | MH-101 | |

## UNIT HEATER (ELECTRIC) SCHEDULE

| MARK | AREA SERVED | TYPE | CFM @ 70 °F | MOUNTING HEIGHT (FT) | THROW (FT) | AIR TEMP °F ENT | AIR TEMP °F LVG | MBH | ELECTRIC DATA KW | ELECTRIC DATA VOLTS | ELECTRIC DATA PHASE | MOTOR HP (MIN) | MOTOR VOLTS | MOTOR PHASE | DESIGN BASIS MFR/MOD NO. | OPERATING WEIGHT (LBS) | REF DWG NO | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EUH-3 | 600A | ELEC | 650 | 9 | 18 | 45 | 94 | 34.1 | 10.0 | 480 | 3 | 1/30 | | | QMARK MODEL MUH-10-4 | 52 | MP-104 | UNIT MTD THERMOSTAT |
| EUH-4 | 600A | ELEC | 650 | 9 | 18 | 45 | 94 | 34.1 | 10.0 | 480 | 3 | 1/30 | | | QMARK MODEL MUH-10-4 | 52 | MP-104 | UNIT MTD THERMOSTAT |
| EUH-5 | 600C | ELECT | 350 | 8 | 12 | 45 | 95 | 10.2 | 3.0 | 208 | 1 | 1/100 | | | QMARK MODEL MUH-03-81 | 27 | MP-105 | UNIT MTD THERMOSTAT |
| EUH-6 | 600 | ELECT | 350 | 8 | 12 | 45 | 95 | 10.2 | 3.0 | 208 | 1 | 1/100 | | | QMARK MODEL MUH-03-81 | 27 | FP-100 | UNIT MTD THERMOSTAT |

## SPRING HANGER SCHEDULE (VARIABLE)

| MARK | SERVICE | PIPE SIZE | INSTALLATION LOAD (LBS) | OPERATION LOAD (LBS) | THERMAL DISPLACEMENT (IN) | SPRING STIFFNESS (LBS/IN) | DIRECTION OF MOVEMENT | DESIGN BASE MANUFACTURER / MODEL | REF DWG NO | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| SH-1 | STEAM | 6 | 1,060 | 923 | 0.333 | 415 | UP | Bergen-Power 910 Type A | MH-101 | |
| SH-2 | STEAM | 6 | 486 | 444 | 0.242 | 175 | UP | Bergen-Power 910 Type A | MH-101 | |
| SH-3 | COND | 3 | 461 | 410 | 0.290 | 180 | UP | Bergen-Power 910 Type A | MH-101 | |
| SH-4 | COND | 3 | 230 | 196 | 0.230 | 150 | UP | Bergen-Power 910 Type A | MH-101 | |

NOTES: 1. PIPE SUPPORT SELECTION AT SPRING HANGER LOCATIONS SHALL BE RATED FOR THE MAXIMUM LOAD (OPERATION OR INSTALLATION) + 25%

## FAN SCHEDULE

| MARK | AREA / SYSTEM SERVED | TYPE | CFM @ 70 °F | TOTAL SP (IN WC) | OUTLET VELOCITY (FPM) | NO OF WHEELS & DIA (IN) | FAN RPM | MAX TIP SPEED (FPM) | BHP | DRIVE | MOTOR HP (MIN) | MOTOR RPM | MOTOR VOLT | MOTOR PHASE | MOTOR ENCL | DESIGN BASIS MFR/MOD NO. | OPERATING WEIGHT (LBS) | REF DWG NO. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF-2 | BLDG 600A | PROPELLER | 9,000 | 0.75 | 1833 | 1 @ 30 | 1,196 | 9,205 | 2.14 | BELT | 3 | 1,750 | 460 | 3 | TEFC | GREENHECK SBE | 150 | MP-104 | |
| EF-6 | TOILET/LOCKERS | CENT | 900 | 1.00 | 1000 | 1 @ 10 | 1,693 | 7,931 | 0.27 | BELT | 1/3 | 1,750 | 460 | 3 | ODP | GREENHECK GB | 75 | MH-103 | |
| EF-7 | OPERATING FLR / PIPE TUNNEL | PROPELLER | 12,500 | 1.75 | 1768 | 1 @ 36 | 1,306 | 12,309 | 8.23 | BELT | 10 | 1,750 | 460 | 3 | ODP | GREENHECK TBI-FS | 440 | MH-103 | REFRIGERANT EXHAUST |
| EF-8 | OPERATING FLR / PIPE TUNNEL | PROPELLER | 12,500 | 1.75 | 1768 | 1 @ 36 | 1,306 | 12,309 | 8.23 | BELT | 10 | 1,750 | 460 | 3 | ODP | GREENHECK TBI-FS | 440 | MH-103 | REFRIGERANT EXHAUST |
| EF-9 | ELECTRICAL ROOM | PROPELLER | 22500 / 11250 | 0.25 | 1744 | 1 @ 42 | 602 | 6,619 | 3.52 | BELT | 5 | 1,750 | 460 | 3 | TEFC | GREENHECK RBU | 500 | MH-10 3 | |
| EF-10 | ELECTRICAL ROOM | PROPELLER | 22500 / 11250 | 0.25 | 1744 | 1 @ 42 | 602 | 6,619 | 3.52 | BELT | 5 | 1,750 | 460 | 3 | TEFC | GREENHECK RBU | 500 | MH-103 | |

NOTES:
1. FOR ROOF MOUNTED EXHAUST FANS THE UNIT MANUFACTURER TO PROVIDE DISCONNECT SWITCH AND STARTER BY DIVISION 16000
2. FURNISH 2 SPEED / 2 WINDING MOTORS WITH EF-9 AND EF-10

## PRV STATION SCHEDULE

| MARK | SYSTEM SERVED | LOCATION | TYPE | VALVE SIZE (IN) | PRESSURE (PSIG) IN | PRESSURE (PSIG) OUT | CAPACITY (LBS/HR) MAX | CAPACITY (LBS/HR) MIN | SOUND PRES LEVEL (dBA) | RELIEF VALVE PRES SETTING (PSIG) | DESIGN BASIS MFR/MOD NO. | REF DWG NO | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRV-4 | LPS | PIPE TUNNEL | PILOT OPER. | 1.5 | 125 | 60 | 3,400 | 34 | 80 | 25 | SPENCE E-FP-T-1.5 | MP-304 | Cv = 19.8 |
| PRV-5 | LPS | PIPE TUNNEL | PILOT OPER. | 2 | 60 | 15 | 3,400 | 34 | 80 | 25 | SPENCE E-FP-T-2.0 | MP-305 | Cv = 31.0 |

NOTES:
1. SCHEDULED CAPACITY IS OPERATING CAPACITY.
2. SAFETY RELIEF CAPACITY IS 7,460 LBS/HR BASED ON PRV-5 WITH 125 PSIG INLET.

## UNIT HEATER (STEAM) SCHEDULE

| MARK | AREA SERVED | CFM @ 70 °F | MOUNTING HEIGHT (FT) | AIR TEMP °F ENT | AIR TEMP °F LVG | MBH | STEAM DATA PRES (PSIG) | STEAM DATA MAX PD (LBS) | STEAM DATA FLOW (LBS/HR) | STEAM DATA TRAP CAP (LBS/HR) | MOTOR HP (MIN) | MOTOR VOLT | MOTOR PHASE | DESIGN BASIS MFR/MOD NO. | OPERATING WEIGHT | REF DWG NO. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUH-7 | OPERATING FLOOR | 470 | 10 | 40 | 108 | 34.3 | 15 | — | 36.3 | 72.6 | 1/40 | 115 | 1 | TRANE P-42L | 50 LBS | M-101 | |
| SUH-8 | OPERATING FLOOR | 470 | 10 | 40 | 108 | 34.3 | 15 | — | 36.3 | 72.6 | 1/40 | 115 | 1 | TRANE P-42L | 50 LBS | M-101 | |
| SUH-9 | OPERATING FLOOR | 470 | 10 | 40 | 108 | 34.3 | 15 | — | 36.3 | 72.6 | 1/40 | 115 | 1 | TRANE P-42L | 50 LBS | M-101 | |
| SUH-10 | OPERATING FLOOR | 470 | 10 | 40 | 108 | 34.3 | 15 | — | 36.3 | 72.6 | 1/40 | 115 | 1 | TRANE P-42L | 50 LBS | M-101 | |
| SUH-11 | OPERATING FLOOR | 470 | 10 | 40 | 108 | 34.3 | 15 | — | 36.3 | 72.6 | 1/40 | 115 | 1 | TRANE P-42L | 50 LBS | M-102 | |
| SUH-12 | OPERATING FLOOR | 470 | 10 | 40 | 108 | 34.3 | 15 | — | 36.3 | 72.6 | 1/40 | 115 | 1 | TRANE P-42L | 50 LBS | M-102 | |

## AIR HANDLING UNIT SCHEDULE

SUPPLY FAN

| MARK | AREA SERVED | LOCATION | TYPE | FAN CFM @ 70 °F | OUTLET VELOCITY (FPM) | EXT SP (IN WC) | TOTAL SP (IN WC) | NO. OF WHEELS & DIAM (IN) | FAN RPM | BHP | DRIVE | MOTOR HP (MIN) | MOTOR VOLT | MOTOR PHASE | MOTOR ENCL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ACU-2 | TOILET / LOCKERS | ROOF | CENT BC | 700 | 800 | 1.00 | 1.83 | 1 @ 9 | 2183 | 0.48 | BELT | 1 | 460 | 3 | TEFC |
| AHU-3 | OPERATING FLR | ROOF | CENT AF | 40000/20000 | 2316 | 1.50 | 3.88 | 1 @ 40 | 911 | 37.01 | BELT | 40 | 460 | 3 | TEFC |
| AHU-4 | ELECTRICAL SUB | ROOF | CENT AF | 45000/22500 | 2628 | 1.25 | 2.30 | 1 @ 44 | 677 | 26.69 | BELT | 30 | 460 | 3 | TEFC |

RETURN FAN

| MARK | TYPE | FAN CFM @ 70 °F | OUTLET VELOCITY (FPM) | EXT SP (IN WC) | TOTAL SP (IN WC) | NO. OF WHEELS & DIAM (IN) | FAN RPM | BHP | DRIVE | MOTOR HP (MIN) | MOTOR VOLT | MOTOR PHASE | MOTOR ENCL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ACU-2 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| AHU-3 | CENT AF | 40000 | 2316 | 1.00 | 2.32 | 1 @ 40 | 822 | 27.40 | BELT | 30 | 460 | 3 | TEFC |
| AHU-4 | — | — | — | — | — | — | — | — | — | — | — | — | — |

COOLING COIL (CHILLED WATER)

| MARK | CFM THRU COIL | ENT AIR °F DB | ENT AIR °F WB | ENT AIR °F h (btu/lb) | LVG AIR °F DB | LVG AIR °F WB | LVG AIR °F h (btu/lb) | SENS (MBH) | TOTAL (TONS) | MAX FACE VEL (FPM) | AIR PD (IN WC) | WATER DATA ENT °F | WATER DATA LVG °F | WATER DATA GPM | WATER DATA FLUID PD (FT H20) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ACU-2 | 700 | 87.0 | 72.0 | 35.69 | 55.0 | 54.4 | 22.82 | 24.2 | 3.34 | 500 | 0.13 | 42 | 52 | 8.02 | 0.75 |
| AHU-3 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| AHU-4 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

NOTES:
1. ACU-2 STEAM COIL SHALL BE PROVIDED WITH FACE AND BYPASS ARRANGEMENT.
2. PROVIDE FACTORY INSTALLLED, WIRED AND TESTED VFD'S WITH AHU

## CONDENSATE RECEIVER & PUMP SCHEDULE

| MARK | LOCATION | SYSTEM SERVED | TYPE | CAPACITY (E.D.R) | RECEIVER CAPACITY (GAL) | PUMP CAPACITY GPM | PUMP CAPACITY NPSHR (FT) | PUMP CAPACITY DISCH PRESS (PSIG) | PUMP CAPACITY HP (MIN) | PUMP CAPACITY RPM | PUMP CAPACITY VOLTS | PUMP CAPACITY PHASE | DESIGN BASIS MFR/MOD NO. | REF DWG NO | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNR-2 | PIPE TUNNEL | LPS | DUPLEX | 30,000 | 36 | 30 | 2 | 40 | 2 | 3,500 | 480 | 3 | DOMESTIC 36CBE040 | M-100 | |

NOTES:
1. FOR PACKAGED SELF-CONTAINED, THE UNIT MANUFACTURER TO PROVIDE DISCONNECT SWITCH AND STARTER. THE DISCONNECT SWITCH TO BE UNFUSED TYPE.

## AIR HANDLING UNIT SCHEDULE CONT'D

HEATING COIL (STEAM)

| CFM THRU COIL | AIR TEMP °F ENT | AIR TEMP °F LVG | MBH | MAX FACE VEL (FPM) | AIR PD (IN WC) | STEAM DATA PRES (PSIG) | STEAM DATA MAX PD (LBS) | STEAM DATA FLOW LB/HR | STEAM DATA TRAP CAP (LBS/HR) |
|---|---|---|---|---|---|---|---|---|---|
| 700 | 0 | 70 | 52.9 | 500 | 0.08 | 8 | 0.21 | 55.57 | — |
| 20000 | 24 | 73 | 1058.4 | 263 | 0.03 | 8 | 0.20 | 1219 | — |
| 22500 | 20 | 70 | 1215.0 | 405 | 0.06 | 8 | 0.19 | 1430 | — |

AIR FILTER

| TYPE | MAX FACE VEL (FPM) | PRES DROP (IN WC) INITIAL | PRES DROP (IN WC) FINAL | EFFICIENCY(*) % | EFFICIENCY(*) MERV VALUE | BANK DIMENSIONS WIDTH (FT-IN) | BANK DIMENSIONS HEIGHT (FT-IN) | BANK DIMENSIONS THICK (IN) | DESIGN BASIS MFR/MOD NO. | OPERATING WEIGHT | REF DWG NO. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PLEATED | 125 | 0.09 | 1.00 | 30 | 7 | 2'-2.5" | 1'-10" | 2 | TRANE T-SERIES | 2600 LBS. | | SEE NOTE 1 |
| PLEATED | 500 | 0.22 | 1.00 | 30 | 7 | 11'-0" | 7'-4" | 4 | TRANE T-SERIES | 19000 LBS. | | SEE NOTE 2 |
| PLEATED | 500 | 0.20 | 1.00 | 30 | 7 | 12'-4" | 8'-4" | 4 | TRANE T-SERIES | 15500 LBS. | | SEE NOTE 2 |

* Based on ASHRAE 52.1 - 1992 & 52.2 - 1999 test method

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UNDER CONTRACT WITH
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Project No.: SF070003

JOB TITLE: CENTRAL CHILLED WATER FACILITY PHASE II
DWG. TITLE: MECHANICAL SCHEDULES
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