2.1.2 2.1.2.1 2.1.6 2.1.6.1 2.2.22.2.2.1 2.1.4 2.1.3.1 PART 2 - PRODUCTS 2.1 HEATING 2.2.2.2 2.2.2.3 PART 1 - GENERAL LOCK OUT & TAG OUT (LOTO) BE REQUIRED TO FOLLOW SNC CANNED ROTOR TYPE, S CARBON THRUST BEARIN CORROSION—RESISTANT I AND C/W CHECK VALVE HEAD. RATED FOR A MA TEMPERATURE RANGE OF V/1 PH/60 HZ. STANDA ENTILATION CLASS 125, CAST IRON BODY, FULL FACED FLANGE, RENEWABLE SEAT, BRONZE DISC, BOLTED CAP. STANDARD OF ACCEPTANCE: CRANE 373, JENKINS 587, NIBCO F-918-B. STEEL BODY, THREADED ENDS, ACCEPTANCE: SARCO TYPE IT, CLASS 150, BRONZE TWO PIECE BODY, FULL PORT, CHROME PLATED BRASS OR STANKINGS SOCIET LEVER HANDLE. STANDARD OF ACCEPTANCE: CRANE 9302, CHECK VALVES ALL METAL, Y PATTERN STYLE, WITH SOLDERED OR SCREWED CONNECTIONS, BUILT-IN DRAIN CONNECTION WITH SHUT OFF VALVE AND PROTECTIVE CAPS, AND INTEGRAL VAVLE INSULATION. SELECT VAVLE SIZE TO PROVIDE A PRESSURE DROP BETWEEN 3 KPA AND 21 KPA WHEN 100% OPEN. STANDARD OF ACCEPTANCE: ARMSTRONG MODEL CBV. ACCESS DOORS: NON-INSULATED DUCTS SANDWICH CONSTRUCTION OF SAME MATERIAL AS DUCT, ONE SHEET METAL THICKNESS HEAVIER, COMPLETE WITH SHEET METAL ANGLE FRAME. INSULATED DUCTS — SANDWICH CONSTRUCTION OF SAME MATERIAL AS DUCT, ONE SHEET METAL THICKNESS HEAVIER, COMPLETE WITH SHEET METAL ANGLE FRAME AND 1 IN. THICK RIGID GLASS FIBRE INSULATION. GASKETS: NEOPRENE OR FOAM RUBBER. HARDWARE: UP TO 300MM X 300MM: 2 SASH LOCKS. 300MM TO 460MM: 4 SASH LOCKS. 460MM TO 1020MM: PIANO HINGE AND MINIMUM 2 SASH LOCKS. DOORS OVER 1020MM: PIANO HINGE AND 2 HANDLES OPERABLE FROM BOTH SIDES. BALANCING DAMPERS: TO SMACNA, SINGLE BLADE — V—G SHEET METAL GAUGE HEAVIER THAN DUCT, MAX 250MM. MANUFACTURER OF MATERIAL COMPATIBLE TO DUCTWORK, CONFIGURATION WITH LOCKING QUADRANT. FLEXIBLE CONNECTIONS: LOCATION ON INTAKE AND DISCHARGE OF ALL VENTILATION EQUIPMENT 1.6 MM (1/16 IN.) THICK GALVANIZED SHEET METAL FRAME WITH FABRIC CLENCHED BY MEANS OF DOUBLE LOCKED SEAMS. FABRIC TO BE NEOPRENE COATED GLASS, FIRE RESISTANT, SELF EXTINGUISHING, TEMPERATURE RATED AT -30 DEG C TO 95 DEG C, WEIGHT OF 1.22 KG/SQM (0.25 LB/SQFT). ALL AIR SYSTEM DUCTWORK SHALL BE CONSTRUCTED UPPROPRIATE REINFORCING, IN ACCORDANCE WITH THE PROPRIATE REINFORCING, IN ACCORDANCE WITH THE PROPRIATE REINFORCING, IN ACCORDANCE WITH THE PROPRIATE REINFORCING, IN ACCORDANCE IN RIGID. HE DUCT DIAMETER SHALL BE USED WHERE SPACE BY SEALED WITH LOW PRESSURE DUCT SEALER AND WO COATS. ALL FLEXIBLE DUCT RUNOUTS TO DIFFUS COATED MINERAL BASE FABRIC TYPE, HELICALLY SUPPLY OF THE PROPRIATE NG AND PATCHING IS TO BE ACES AFFECTED BY THIS WOL OR TYPE, SELF LUBRICATING, CERAMIC SHAFT AND RADIAL BEARINGS, JST BEARING, STAINLESS STEEL ROTOR AND BEARING PLATE, RESISTANT IMPELLER, CAST IRON HOUSING, FLANGE PIPE CONNECTION, IECK VALVE. CAPACITY OF 0.88 L/S (14 USPM) AT 42 KPA (14 FT) OF FOR A MAXIMUM OPERATING PRESSURE OF 1000 KPA AND A LIQUID RANGE OF 2 DEG C TO 110 DEG C. THREE SPEED MOTOR, 197W, 115 HZ. STANDARD OF ACCEPTANCE: GRUNDFOS UPS 26-99 FC. HALL BE SCHEDULE 40 BLACK STEEL SUITABLE FOR THREADED INSULATE PIPING WITH 38MM THICK RIGID MINERAL FIBRE SLEEVIN ACKET ON ALL PIPES, VALVES, AND FITTINGS TO TIAC STANDARDS. PROCEDURES MUST BE I P S.F. EQUIPMENT. THAT WORK CAN BE CARRIED OUT WILL ON THE DRAWING. ANY DEFECTS, REPORTED AT ONCE TO EXP FOR BE CONSIDERED DUE TO A FAILURE M HOTWORK PERMIT WANNER SUCH THE JRROUNDING THE SIZE FIRE ALAF VDING AREA IS EPARTMENTAL R THAT HE WILL THE AREA TO BE LARM SYSTEM, S IN OPERATION. REPRESENTATIVE. CANADA, OF THE STIFFENED ONE BLADE - FACT 2.3.2.4 2.3.2.5 2.3.2.6 **2.3**.1 ≥ 2.3.1 2.3.2 A 2.3.2.1 2.2.6.3 2.2.3 (2.2.3.1 2.2.6 2.2.6.1 2.2.5 \ 2.2.5.1 2.3.2.7 2.2.4 7 2.3.2.3 2.6.2 CONTROL SOFTWARE WITH PROTECTION TO OWS IS TO BE LOCATED IN THE WHEN PROGRAMMING IS COMPLED TO EMAILS, CE ACOUSTIC LINER: F BOX ATTENUATORS. RECTANGULAR SUPPLY DUCT FIBER BASED INSULATION C/W STANDARD OF ACCEPTANCE: N SUPPLY DUCT V T C/W VAPOUR NAUF DUCT WRAI 9 PLETED, SYSTEM SHALL HAVE THE ABILITY CELL PHONES, OR POCKET PAGERS. E BACNET CONTROL TO THE HEATING/VENTILATION SYSTEM CAPABILITIES AND FEATURES AS REQUIRED TO PERFORM INDICATED. ALL CONTROLLERS SHALL BE FULLY TESTING LATES (BTL) LISTED. MODULAR MULTI-TASKING OR BASED DIRECT DIGITAL CONTROLLER WITH MINIMUM DRAM MEMORY, 1 MB FLASH MEMORY MOUNTED IN TED USER FRIENDLY ENGLISH LANGUAGE WITH MINIMUM S SPARE OUTPUTS. CONTROLLER TO BE COMPLETE WITH RMER AND FILTER. THE EXISTING DIAL UP MODEM IS NOT AND MAINTENANCE TO REMOTELY MONITOR THE BUILDING ECTION IS ALSO REQUIRED FOR FUTURE CONNECTION USING L INITIAL APPLICATION SOFTWARE SHALL BE PROGRAMMED JWNER SHALL BE PROGRAMMED WITH COPIES OF THE SOURCE TION NECESSARY FOR THE USER TO INTERPRET IT AND REPORT OF THE SOURCE STATIFE MEASUREMENTS SHALL BE LOGGED SO THAT A STRENDING SHALL BE IN SYSTEM. VAPOUR BARRIER, ANSON A.K. BOARD PECIFICATION TO PROVIDE A PLATFORM FROM WHICH TERFACE WITH THE CONTROL SYSTEM. SYSTEMS WHICH TER TO REMAIN "ONLINE" TO DIRECT COMMUNICATION ROLLER UNITS WILL NOT BE CONSIDERED. TO SUPPLY AND INSTALL ALL SOFTWARE FOR EXISTING AND NEW SYSTEMS INSTALLED, COMPLETE AND OPERATIONAL SYSTEM. SET-UP 25 9F ONE 25MM LAYER OF RIGID MINERAL ER, JACKET, AND FACING MATERIAL. AND FSK, KNAUF INSULATION BOARD FS MM LAYER OF MINERAL FIBER F ACCEPTANCE: MANSON ALLEY WRAP ILE VOLUME CONTROL ASSEMBLIES TO MATCH ITEMS SPECIFIED IN ARTICLE MINIMUM AIR FLOWS. AND ELECTRICAL STANDARD OF ACCEPTANCE: E.H. PRICE LY AND INSTALL ALL CONTROLS, E WITH CONTROL EQUIPMENT TH A MINIMUM OF: INTEL RD DRIVE PROVIDING DATA / RAPHICS ADAPTER, ETHERNE T VERSION), 425 MM LCD , AND NETWORK M OPERATION. (VA) 9) WORD ON AND OFF SITE MANAGER. \$100,000E 3.1 HEATING 3.1.1 CONNECT EQUIPMENT IN CONNECT FOR INSTALL. 3.3.4 3.3.4.1 3.3.4.1. 3.2.4 3.2.5 3.2.6 3.2.1 3.2.2 3.2.2 3.2.3 3.3.3 3.3.2 2.3.13 2.3.12 2.3.10 2.3.9 2.3.5 2.3.5.1 2.3.8 2.3.7 2.3.6 .3.11 \Rightarrow CONNECT EQUIPMENT CLEARANCE FOR INSTA PIPES, CLEAN SCALE / VALVE STEMS UPRIGHT OF PUMP PRIOR TO S INSTALL IN A POSITION BEST SUITED FOR PROPER OPERATION. ALL CONTROLS TO BE SETUP, CALIBRATED AND VERIFIED FOR CONTROL SEQUENCE OPERATIONS AS SPECIFIED. PUT ALL CONTROLS THROUGH ALL SPECIFIED SEQUENCES VERIFY CORRECT OPERATION ON SITE. FABRICATE AND INSTALL DUCTWORK AND EQUIPMENT IN ACCORDAN MANUFACTURERS RECOMMENDATIONS, ASHRAE/SMACNA STANDARDS CONTROL RELAYS: SWITCHING AND ISOLATING RELAYS SHALL BE PROVIDED BY THIS CONTRACTOR WHEREVER REQUIRED FOR PROPER OPERATION OF THE CONTROLLED PER SEQUENCE SPECIFIED. STANDARD OF ACCEPTANCE: OMRON. JPPLY ALL CONTROL DEVICES, ACTUATORS, RELAYS, WIRING, SCELLANEOUS CONTROL MATERIALS FOR COMPLETE OPERAT SCRIBED. MOTOR STARTERS, MANUAL AND MAGNETIC, AND ROVIDED BY DIVISION 26 UNLESS NOTED OTHERWISE. MODULATING E AND CAPACI TER: FAN SYSTEM. STATIC CESSING ENERGY MANAGEM CONTR 31TY AS AND OUTLETS TROL OF ELECTRIC HEATER OF INDICATED ON DRAWINGS A ANUFACTURER'S INSTRUCTIONS. PROVAND MAINTENANCE OF EQUIPMENT. I UTSIDE BEFORE AND AFTER ASSEMBLE DOES NOT SUPPORT PIPING. CHECK TION OF THE PROTECTION COILS AND AND SPEC. TURE FROM MOUNTING . TEMPERATURE RANGE)NE TE-200FDB7B. TO BE SWITCH ON STANDARD OF TRADE DEVICES C OAT = CONTROL ND ALLOW ER TO 3.3.5.2.1 3.3.5.2.2 3.3.5.2.2 3.3.5.2.4 3.3.5.2.5 3.3.5.2.6 3.3.5.2.7 3.4.5 \Rightarrow 3.4.4 SCHEDULES SHALL BE PRODUCED FOR ALL AHU'S, VAV'S AND HE SHALL GIVE THE ABILITY TO OPERATE EACH ZONE INDIVIDUALLY. TO START UP 60 MINUTES PRIOR TO OCCUPANCY TO REACH THE SETPOINTS. START TIME MAY BE ADJUSTED BY AN ADAPTIVE SEL AREAS WITH RADIANT CEILING PANELS WILL UTILIZE A SELF LEARN THEIR ZONES ARE AT THEIR OCCUPIED SETPOINT AT TIME OF OCCUPIED SETPOINT AT TIME OCCUPIED SETPOINT AT TIME OF OCCUPIED SETPOINT AT TIME OCCUPIED SE ACE TEMPERATURE CONTROL ON IN-FLOOR HEATING ZONES: ON CALL FOR HEAT ON CONTROL VALVE UNTIL SETPOINT IS REACHED. HEATING ZONES 150, 151, 152, 5 ARE CONTROLLED BY THE SENSOR IN ROOM 155. NITER: SET WINTER MODE FROM FIRST OF OCTOBER TO END OF MAY. IN ED MODE THE AHU SHALL BE OFF WITH THE OUTSIDE AIR DAMPER CLOSED AND E SETBACK TEMPERATURE SHALL RESET TO 18 DEG C FOR ALL ZONES BEING Y AHU—2. IN THE OCCUPIED MODE, AHU SHALL START ON SCHEDULE OR MANUA START UNIT WITH OUTSIDE AIR DAMPER CLOSED, PUMP P—3 RUNNING USEN START UNIT WITH AHU'S HEATING COIL OPERATING AT FULL TO ASSIST WITH WARM—UP TO OCCUPIED SPACE TEMPERATURE SETPOINT. UPON COMPLETION OF UP CYCLE, MAINTAIN SUPPLY AIR TEMPERATURE ON A RESET SCHEDULE AS O DEG C OAT = 18 DEG C SAT AND 10 DEG C OAT = 13 DEG C SAT BY IT OF THE 3 WAY CONTROL VALVE. SET OUTSIDE AIR DAMPER TO MINIMUM POSITION R: SET SUMMER MODE FROM FIRST OF JUNE TO END OF SEPTEMBER. IN ODE THE AHU SHALL BE OFF WITH THE OUTSIDE AIR DAMPER CLOSED AND IBACK TEMPERATURE SHALL RESET UP TO 25 DEG C FOR ALL ZONES BEING U-2. IN OCCUPIED MODE, AHU SHALL START ON SCHEDULE OR MANUAL TO UNIT WITH OUTSIDE AIR DAMPER CLOSED. IF COOLING IS REQUIRED OPERATE THE ECONOMIZER CYCLE IF APPLICABLE. UPON COMPLETION OF CYCLE OPEN OUTSIDE AIR DAMPER TO MINIMUM POSTION AND CONTROL UNIT OF 13 DEG C. USE ECONOMIZER CYCLE AS APPROPRIATE FOR FREE 0 10 DEG C. TATING UNITS. PROGRAMMING UNITS SHALL BE PERMITTED IR OCCUPIED COOLING IF LEARNING ALGORITHM. VING ALGORITHM TO ENSURE CUPANCY. O DEG C RELEASED FOR CONSTRUCTION 1 GENERAL REVISIONS No. Revision VENTILATION UPGRADE GOCB EAST PRINCE, PE MECHANICAL PECIFICATIONS May 14, 2

Ckd. By

RDD CTG

MOTTED BY: "USER" DATE: "DATE: "TIME"

MODIET: JWODET/WWE.