OF SHEET JOB NO. DATE SKETCH NO. DWN/CHKPROJECT ENG/APPRTITLEREFERENCE DWG. SITEBUILDING 3-374 BOILER HOUSEO/W SEPARATOR FEINSTEIN4/25/06FUEL TANK HEATER CONDENSATE*** DO NOT TYPE HERE ***FEINSTEINM: 4/25/2006 3:25:05 PM1/2" COOLING WATER (PW)3/4" STEAM CONDENSATE LINE FROMFUEL TANK SUCTION HEATER (475 LB/HR DESIGN)OIL/WATER SEPARATOR(40 GALLON COLLECTION TANK)BUCKET TO COLLECT COOLINGWATER DISCHARGE. OK TO DISCHARGESAMPLECOOLERCOLLECT SAMPLEHERECLEAN CONDENSATE TOSANITARY DRAINDESIGN CRITERIA: STEAM SUPPLY IS SIZED TO HEAT 1500 GAL PER HOUR OF NO.5 FUEL OIL FROM 20°F TO 100°F. FUEL SPEC. GRAV. APPROX 0.93. FUEL SPECIFIC HEAT CAPACITY IS APPROX 0.45 BTU/(LB-°F). THIS RESULTS IN DESIGN HEATING REQUIREMENT OF 419,000 BTUH. 100 PSIG STEAM (CONSERVATIVE) RESULTS IN A CONDENSATE FLOW RATE OF 475 LB/HR, OR ABOUT 63 GAL/HR, OR 1.06 GPM.NBF BOILERS (2 TOTAL) ARE RATED FOR 40,000 PPH AND 60,000 PPH. IF YOU ASSUME 75% BOILER EFFICIENCY, THE BOILERS IN TOTAL WILL REQUIRE ABOUT 115,900,000 BTUH OF HEAT INPUT. NO.5 FUEL OIL HAS A HEATING VALUE OF 150,000 BTU/GAL. THE AMOUNT OF NO.5 FUEL OIL REQUIRED TO PRODUCE 115.9 MBTUH IS 772 GAL/HR. THE FUEL HEATER DESIGN THEREFORE HAS A BUILT-IN FACTOR OF SAFETY OF TWO, AND THE ACTUAL AMOUNT OF STEAM USED WILL BE ABOUT 1/2 OF THE 475 LB/HR LISTED ABOVE.IF NO SHEEN.TEMPERATURE CONTROL VALVE ON STEAM SUPPLY IS 3/4" VALVE WITH A MAX FLOW OF 825 PPH AT 125 PSIG INLET PRESSURE AND 100 PSIG OUTLET PRESSURE. SINCE REQ'D FLOW < 825 PPH, CONDENSATE PRESSURE WILL BE < 100 PSIG.2" VENT TO ROOF1CONSTRUCTION NOTES:CONSTRUCT TANK OF 12" DIAMETER SCH 40STEEL PIPE. 12" WELDED CAPS ON EACH END. WITH DIMENSION INDICATED ON SKETCH,TANK WILL HOLD 23.5 GALLONS BEFORE DISCHARGING, EQUIVALENT TO A 22 MINUTERETENTION TIME AT 1.06 GPM CONDENSATE FLOW RATE.4'-0"1