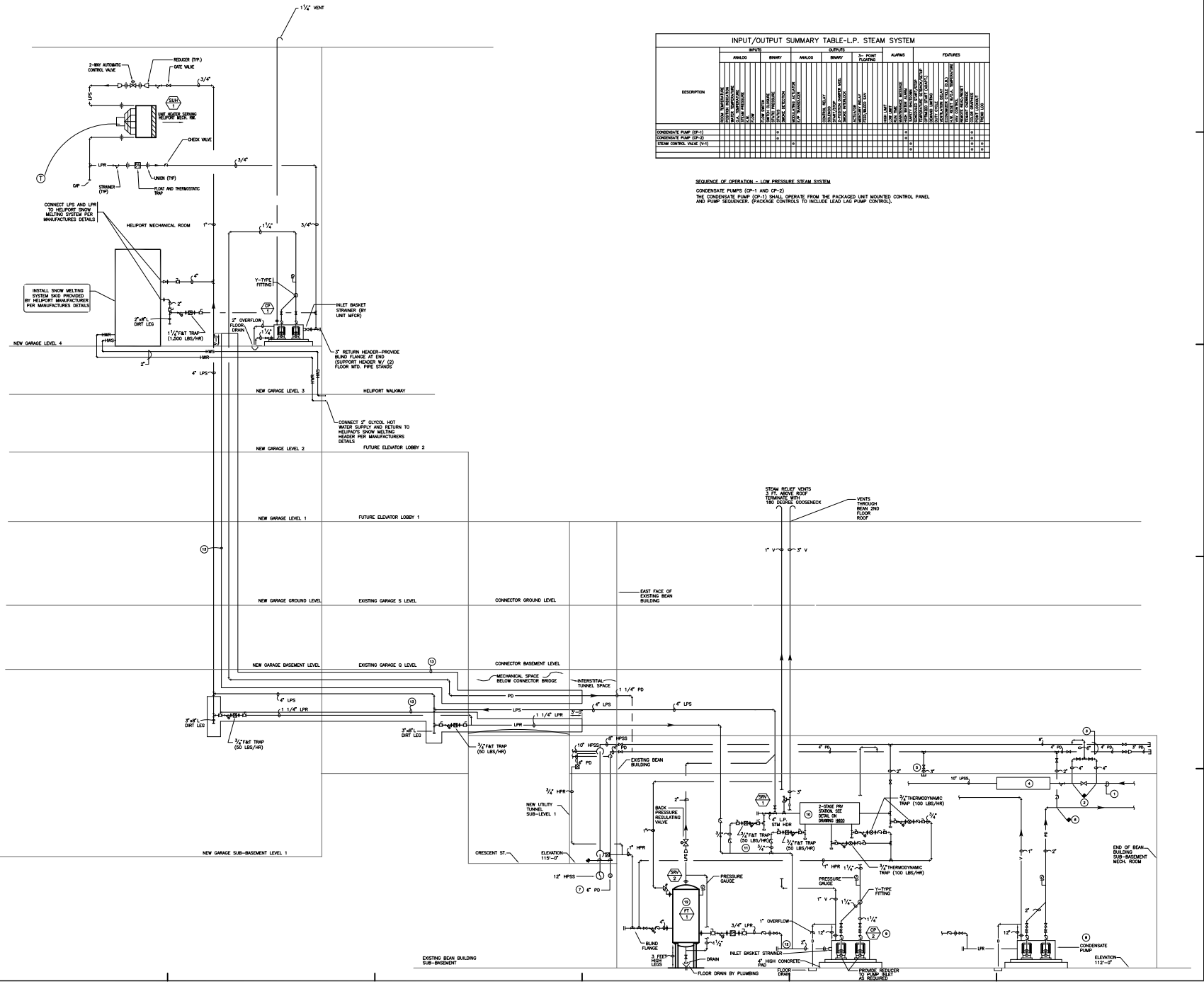


INPUT/OUTPUT SUMMARY TABLE-L.P. STEAM SYSTEM

DESCRIPTION	INPUTS: ANALOG	INPUTS: BINARY	OUTPUTS: ANALOG	OUTPUTS: BINARY	OUTPUTS: 3-POINT FLOATING	ALARMS	FEATURES
	AREA TEMPERATURE; PUMP/RECEIVER DISCHARGE TEMPERATURE; S.A. TEMPERATURE; S.A. PRESSURE; E.A. TEMPERATURE; E.A. FLOW; CONDENSATE TANK LEVEL; STEAM FLOW; STEAM PRESSURE; BRIDGE DEFLECTION	STEAM FLOW/NO FLOW; STEAM PRESSURE SWITCH; HIGH/LOW PRESSURE; SMOKE DETECTION; AHU ALARM; FILTER STATUS	CONTROL VALVE; STEAM FLOW; STEAM PRESSURE; SMOKE EXTRACTION	DAMPER MOD; DAMPER STATUS; SMOKE DETECTION; ACTUATOR; ACTUATOR; FEED/BLEED VLV	DAMPER MOD; DAMPER STATUS; SMOKE DETECTION; ACTUATOR; ACTUATOR; FEED/BLEED VLV	UNIT ALARM; FAN FAIL; HIGH/LOW TEMP; HIGH WATER ALARM; SMOKE DETECTION; CONDENSATE TANK FLOOD; DUCT SMOKE; CONDENSATE PUMP FAILURE; CONDENSATE TANK LEVEL; S.A. CONTROL FAILURE; TEMPERATURE; PUMP CONTROL; TRIPPED; LOW TEMP. LOG	SCHEDULED START/STOP; OPTIMUM START/STOP; DUTY CYCLE; ECONOMIZER CYCLE (E.A.); TEMPERATURE RESET; PUMP CONTROL; TRIPPED; LOW TEMP. LOG
CONDENSATE PUMP (CP-1)		●				●	●
CONDENSATE PUMP (CP-2)		●				●	●
STEAM CONTROL VALVE (V-1)	●	●	●			●	●

SEQUENCE OF OPERATION - LOW PRESSURE STEAM SYSTEM

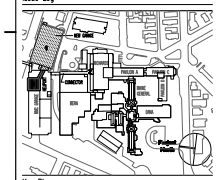
CONDENSATE PUMPS (CP-1 AND CP-2)
THE CONDENSATE PUMP (CP-1) SHALL OPERATE FROM THE PACKAGED UNIT MOUNTED CONTROL PANEL AND PUMP SEQUENCER. (PACKAGE CONTROLS TO INCLUDE LEAD LAG PUMP CONTROL).

General Notes:

1. EXISTING 4" HPSS TO REMAIN. THIS WILL CONTINUE TO SUPPLY THE EXISTING DISTRIBUTION SYSTEM UNTIL THE NEW CENTRAL UTILITY PLANT (C.U.P.) PROJECT, UNDER PACKAGE-"I" AND THE CHARLES STREET PROJECT-PACKAGE-"H" IN PROGRESS. THE EXISTING 4" HPSS WILL TEMPORARILY FEED THE NEW GARAGE PRV STATION LOCATED AT THE EAST END OF THIS MECHANICAL ROOM , WHICH ULTIMATELY SERVES THE NEW HELIPAD SNOW MELT SYSTEM.
2. PROVIDE TWO NEW 4" HPSS CONNECTIONS TO EXISTING 4" HPSS UPSTREAM OF THE EXISTING 2-STAGE PRESSURE REDUCING STATION AS SHOWN. REMOVE EXISTING 4" HPSS SHUT OFF VALVE AND SECTION OF PIPE JUST PRIOR TO ACTIVATION OF THE NEW CENTRAL UTILITY PLANT (C.U.P.). PROVIDE EACH NEW 4" CONNECTION WITH ISOLATION VALVES AS SHOWN. COORDINATE SHUT DOWNS WITH OWNER.
3. PROVIDE NEW FUTURE 6" HPSS AND 4" PD PIPES AND CAP AT MECHANICAL ROOM WALL. THESE PIPES WILL BACKFEED THE EXISTING BOILER PLANT FROM THE NEW BOILER PLANT, UNDER THE C.U.P. PROJECT. FOR CONTINUATION OF THIS PIPING SEE C.U.P. PROJECT, PACKAGE-"I". THIS PIPING IS A BACKFEED TO THE EXISTING PLANT FROM THE NEW BOILER PLANT.
4. EXISTING 2-STAGE PRV STEAM STATION TO REMAIN.
5. NEW 3" PUMPED DISCHARGE BRANCH PIPING CONNECTION FOR FUTURE CONDENSATE/RECEIVER PUMP UNIT. CONDENSATE PUMP/RECEIVER UNIT SHALL BE REPLACED UNDER THE CHARLES STREET PROJECT, PACKAGE-"H".
6. TEMPORARILY CONNECT NEW CONDENSATE PUMPED DISCHARGE TO EXISTING 3" PD PIPING FROM EXISTING CONDENSATE PUMP/RECEIVER UNIT. INSTALL BRANCH ISOLATION VALVE AND CHECK VALVE AT THIS CONNECTION. THIS IS A TEMPORARY CONNECTION UNTIL THE CHARLES STREET PROJECT, PACKAGE-"H" REPLACES THE EXISTING CONDENSATE PUMP/RECEIVER UNIT IN A NEW LOCATION. THIS 3" PIPE WILL BE CAPPED IN THE FUTURE PROJECT. THIS MUST BE COORDINATED WITH THE START-UP PLANS OF THE C.U.P. PROJECT, PACKAGE-"I". THE C.U.P. PROJECT INTENDS TO REDIRECT ALL PUMPED CONDENSATE FROM THIS ROOM TO THE NEW C.U.P. VIA THE NEW 4" PD PIPING BURIED UNDERGROUND IN THE STREET (PROVIDED UNDER THE C.U.P. PROJECT.
7. DIRECT BURIED 12" HPSS AND 6" PD BELOW CRESCENT STREET, PROVIDED UNDER THE C.U.P. PROJECT, PACKAGE-"I".
8. EXISTING CONDENSATE PUMP/RECEIVER UNIT TO REMAIN IN THIS PROJECT. THIS UNIT WILL BE REPLACED DURING THE CHARLES STREET PROJECT, PACKAGE-"H" IN A NEW LOCATION. SEE NOTE #5 ABOVE FOR FUTURE PIPE CONNECTION PROVISIONS.
9. PROVIDE NEW CONDENSATE PUMP/RECEIVER UNIT, LOCATED NEAR NEW GARAGE PRV STEAM STATION. SEE SCHEDULE AND DETAIL SHEETS FOR MORE INFORMATION. UNDER THE SCOPE OF THIS PROJECT, THIS UNIT WILL TEMPORARILY PUMP CONDENSATE UP TO THE EXISTING BOILER ROOM, VIA THE TEMPORARY CONNECTION NOTED IN ITEM #5 ABOVE. THE 3400 MBH PRESSURE WILL BE EXTREMELY THROTTLED DOWN TO THE 350 MBH EXISTING BOILER PRESSURE DURING THIS TIME. During the C.U.P. AND CHARLES STREET PROJECTS, THE STEAM DISCHARGE PRESSURE WILL BE ADJUSTED UPWARDS TO MATCH THE NEW PRESSURE REQUIREMENTS FOR THE NEW BOILER PLANT.
10. PROVIDE NEW 2-STAGE, STEAM PRV STATION, WHICH SERVES THE NEW GARAGE HELIPAD. SEE DETAIL AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION. MOUNT THE PRV STATION AS HIGH AS PRACTICAL ON THE EAST WALL OF BEAN SUB-BASEMENT MECHANICAL ROOM AND IN THE LOCATION AS SHOWN ON THE PIPING PLAN. ALL LOW PRESSURE RETURN, TRAP DISCHARGE PIPES MUST BE MOUNTED HIGH ENOUGH IN ORDER TO ENTER THE CONDENSATE PUMP BY GRAVITY.
11. LIFTING OF CONDENSATE IS NOT ACCEPTABLE UNDER THE SCOPE OF THIS PROJECT. COORDINATE ALL NEW EQUIPMENT MOUNTING REQUIREMENTS IN ORDER TO AVOID THIS CONDITION. ALLOW FOR REQUIRED DIRT POCKETS UPSTREAM OF TRAPS AS SHOWN ON THE DETAIL SHEET.
12. PROVIDE NEW VERTICAL FLASH TANK IN LOCATION AS SHOWN ON THE PIPING PLAN. PROVIDE 3 FOOT WELDED ANGLE IRON LEG SUPPORTS TO ALLOW THE LPR TO DRAIN TO THE CONDENSATE PUMP/RECEIVER UNIT BY GRAVITY. SEE SCHEDULE FOR ADDITIONAL INFORMATION.
13. HEAT TRACED PIPING PROVIDED BY DIVISION 16, ELECTRICAL SCOPE.

MARK	ISSUE DATE	DESCRIPTION
PERMIT	08/16/04	PERMIT SET
BID	08/28/04	BID SET

Issue Log



Key Plan

TRO
ARCHITECTURE
PLANNING
ENGINEERING
INTERIOR DESIGN
The Ritchie Organization
48 Ridge Road
Newton, MA 02459-1104
617-332-3400

Maine Medical Center
Pkg F - Garage / Vault / Conn / Heliport
Portland, ME
MMC Project No. 21845

Drawing Title
HVAC
STEAM SCHEMATICS AND SEQUENCE OF OPERATION

Commission No.	4678	Date Issued	08/26/04
Scale	NTS	Sheet Number	PKG-F H501
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Approved By	GM/TM		
Filename	4678H501		

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