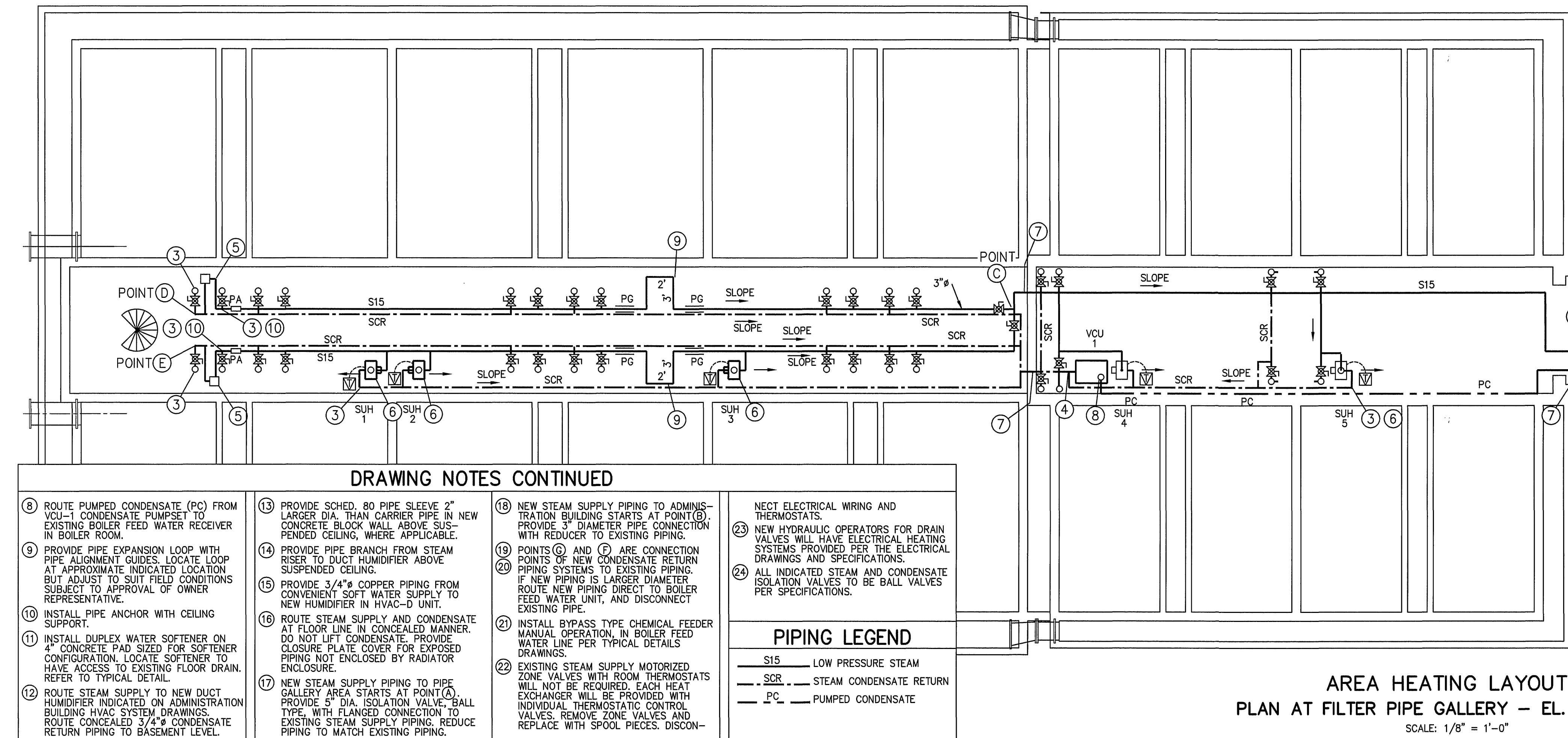


AREA HEATING SYSTEM LAYOUT
PLAN AT FILTER OPERATING GALLERY - EL. 1157.50
SCALE: 1/8" = 1'-0"



DRAWING NOTES CONTINUED

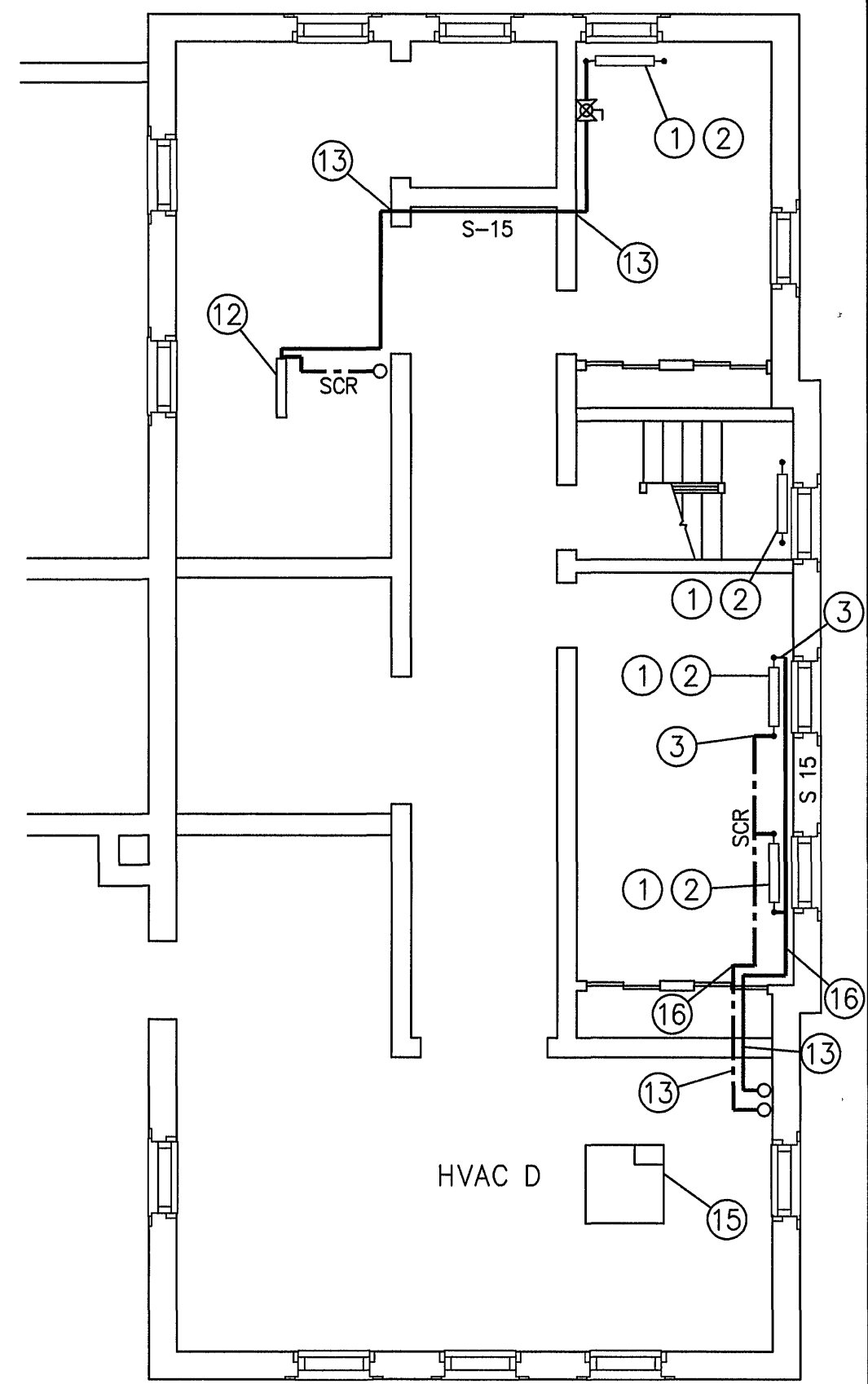
- 8 ROUTE PUMPED CONDENSATE (PC) FROM VCU-1 CONDENSATE PUMPSET TO EXISTING BOILER FEED WATER RECEIVER IN BOILER ROOM.
- 9 PROVIDE PIPE EXPANSION LOOP WITH PIPE ALIGNMENT GUIDES. LOCATE LOOP AT APPROXIMATE INDICATED LOCATION BUT ADJUST TO SUIT FIELD CONDITIONS SUBJECT TO APPROVAL OF OWNER REPRESENTATIVE.
- 10 INSTALL PIPE ANCHOR WITH CEILING SUPPORT.
- 11 INSTALL DUPLEX WATER SOFTENER ON 4" CONCRETE PAD SIZED FOR SOFTENER CONFIGURATION. LOCATE SOFTENER TO HAVE ACCESS TO EXISTING FLOOR DRAIN. REFER TO TYPICAL DETAIL.
- 12 ROUTE STEAM SUPPLY TO NEW DUCT HUMIDIFIER INDICATED ON ADMINISTRATION BUILDING HVAC SYSTEM DRAWINGS. ROUTE CONCEALED 3/4" CONDENSATE RETURN PIPING TO BASEMENT LEVEL.
- 13 PROVIDE SCHED. 80 PIPE SLEEVE 2" LARGER DIA. THAN CARRIER PIPE IN NEW CONCRETE BLOCK WALL ABOVE SUSPENDED CEILING, WHERE APPLICABLE.
- 14 PROVIDE PIPE BRANCH FROM STEAM RISER TO DUCT HUMIDIFIER ABOVE SUSPENDED CEILING.
- 15 PROVIDE 3/4" COPPER PIPING FROM CONVENIENT SOFT WATER SUPPLY TO NEW HUMIDIFIER IN HVAC-D UNIT.
- 16 ROUTE STEAM SUPPLY AND CONDENSATE AT FLOOR LINE IN CONCEALED MANNER. DO NOT LIFT CONDENSATE. PROVIDE CLOSURE PLATE COVER FOR EXPOSED PIPING NOT ENCLOSED BY RADIATOR ENCLOSURE.
- 17 NEW STEAM SUPPLY PIPING TO PIPE GALLERY AREA STARTS AT POINT (Q). PROVIDE 5" DIA. ISOLATION VALVE, BALL TYPE, WITH FLANGED CONNECTION TO EXISTING STEAM SUPPLY PIPING. REDUCE PIPING TO MATCH EXISTING PIPING.
- 18 NEW STEAM SUPPLY PIPING TO ADMINISTRATION BUILDING STARTS AT POINT (B). PROVIDE 3" DIAMETER PIPE CONNECTION WITH REDUCER TO EXISTING PIPING.
- 19 POINTS (Q) AND (P) ARE CONNECTION POINTS OF NEW CONDENSATE RETURN PIPING SYSTEMS TO EXISTING PIPING. IF NEW PIPING IS LARGER DIAMETER ROUTE NEW PIPING DIRECT TO BOILER FEED WATER UNIT, AND DISCONNECT EXISTING PIPE.
- 20
- 21 INSTALL BYPASS TYPE CHEMICAL FEEDER MANUAL OPERATION, IN BOILER FEED WATER LINE PER TYPICAL DETAILS DRAWINGS.
- 22 EXISTING STEAM SUPPLY MOTORIZED ZONE VALVES WITH ROOM THERMOSTATS WILL NOT BE REQUIRED. EACH HEAT EXCHANGER WILL BE PROVIDED WITH INDIVIDUAL THERMOSTATIC CONTROL VALVES. REMOVE ZONE VALVES AND REPLACE WITH SPOOL PIECES. DISCON-

- NEET ELECTRICAL WIRING AND THERMOSTATS.
- 23 NEW HYDRAULIC OPERATORS FOR DRAIN VALVES WILL HAVE ELECTRICAL HEATING SYSTEMS PROVIDED PER THE ELECTRICAL DRAWINGS AND SPECIFICATIONS.
- 24 ALL INDICATED STEAM AND CONDENSATE ISOLATION VALVES TO BE BALL VALVES PER SPECIFICATIONS.

PIPING LEGEND

- S15 LOW PRESSURE STEAM
SCR STEAM CONDENSATE RETURN
PC PUMPED CONDENSATE

AREA HEATING LAYOUT
PLAN AT FILTER PIPE GALLERY - EL. 1146.50
SCALE: 1/8" = 1'-0"



AREA HEATING SYSTEM PLAN
PLAN @ EL. 1169.50
SCALE: 1/8" = 1'-0"

GENERAL NOTES

INSTALLATION OF PIPING SYSTEMS ARE SUBJECT TO JOBSITE FIELD CONDITIONS AND REQUIRE APPROVAL OF OWNER REPRESENTATIVE PRIOR TO PERFORMANCE OF WORK.

INDICATED PIPE SYSTEM ROUTING IS FOR INFORMATION PURPOSES AND MUST BE VERIFIED OR READJUSTED TO SUIT FIELD CONDITIONS BY CONTRACTOR.

EQUIPMENT AND PIPE HANGERS/SUPPORTS LOCATIONS TO BE FIELD DETERMINED. STRUCTURAL ELEMENTS ARE TO BE HOT DIP GALVANIZED WITH EPOXY PAINT FINISH AFTER INSTALLATION, AND ARE TO BE SUITABLY DESIGNED FOR FIELD CONDITIONS. REFER TO TYPICAL PIPE SUPPORT DETAILS.

REFER TO TYPICAL DETAILS DRAWINGS FOR UNIT HEATERS, HEAT EXCHANGERS, ETC. PIPING DETAILS.

INSULATE ALL STEAM, CONDENSATE, HVAC RELATED SERVICE WATER, ETC. PIPING PER SPECIFICATIONS.

PIPING LAYOUT ONLY INDICATES MAIN VALVES AND EQUIPMENT LOCATIONS. ALL ACCESSORIES AND PIPE CONNECTIONS ARE INDICATED ON TYPICAL DETAILS.

STEAM PIPING TO BE SLOPED BACK TO BOILER AT 1 IN. PER 40 FT. PITCH.

CONDENSATE PIPING TO BE SLOPED TO NEW CONDENSATE PUMPSET VCU-1 AND TO EXISTING CONDENSATE PUMPSET IN BOILER ROOM AT 1 IN. PER 40 FT. PITCH AS INDICATED ON DRAWING.

DRAWING NOTES

- 1 EXISTING HEAT EXCHANGER RADIATION UNIT TO BE REFURBISHED FOR PROPER OPERATION. IF DEFECTIVE, REPLACE UNIT WITH COMPARABLE EQUIPMENT. EQUIPMENT SUPPORTS MUST BE REMOVED IF RADIATION UNITS ARE ADJUSTED OR RELOCATED. WALL OR CEILING SURFACES MUST BE RESTORED TO ORIGINAL CONDITION TO MATCH SURROUNDING AREA. REPLACE OR RESTORE DAMAGED RADIATOR UNIT ENCLOSURES TO ORIGINAL CONDITION.
- 2 REFER TO TYPICAL PIPING DETAILS FOR RADIATION UNITS. INSTALL NEW ISOLATION VALVES, VENT VALVES, CHECK VALVES, STRAINERS, CONDENSATE TRAPS, UNIONS, DANFOSS THERMOSTATIC CONTROL VALVES, ETC.
- 3 HIGH POINT OF PIPING BRANCH. DETERMINE IN FIELD WITH APPROVAL OF OWNER REPRESENTATIVE TO PERMIT REQUIRED PITCH TO TERMINATION LOW POINT BASED ON FIELD CONDITIONS AND CLEARING OF ALL OBSTRUCTIONS. DO NOT LIFT
- CONDENSATE.
- 4 LOW POINT OF PIPING BRANCH AS FIELD DETERMINED WITH APPROVAL OF OWNER REPRESENTATIVE.
- 5 PROVIDE END OF PIPING TRAP ASSEMBLY PER TYPICAL DETAIL DRAWING. DO NOT LIFT CONDENSATE. STEAM TRAP MUST BE ABOVE CONDENSATE PIPING.
- 6 INSTALL UNIT HEATERS AS HIGH AS POSSIBLE TO CLEAR OBSTACLES. DO NOT LIFT CONDENSATE. STEAM TRAP MUST BE ABOVE CONDENSATE PIPING. REFER TO TYPICAL DETAILS FOR PIPING CONFIGURATION AND SIZES.
- 7 CORE HOLE AT REQUIRED ELEVATION. PROVIDE SCHED. 80 PIPE SLEEVE 2" LARGER DIA. THAN CARRIER PIPE. PATCH WALL TO MATCH SURROUNDING SURFACE. IF EXISTING PIPE WALL PENETRATIONS ARE SUITABLE FOR SIZE AND ELEVATION, THEY CAN BE USED, SUBJECT TO APPROVAL OF OWNER REPRESENTATIVE.

DRAWING OF RECORD

DATE: SEP 30 1997

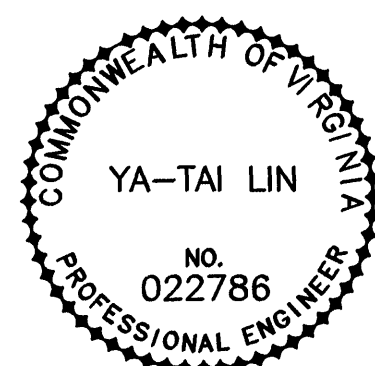
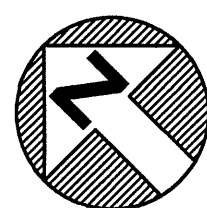
MATTERN & CRAIG
CONSULTING ENGINEERS • SURVEYORS
ROANOKE VIRGINIA

ALVORD, BURDICK & HOWSON
ENGINEERS CHICAGO

DESIGNED:

DRAWN: H. FERRERA

CHECKED:



REV.	DATE	DESCRIPTION	BY	APP.

CARVINS COVE FILTER PLANT IMPROVEMENTS - PHASE I

ROANOKE, VIRGINIA

ADMINISTRATION & FILTER BUILDING
MODIFICATIONS TO STEAM HEATING SYSTEM

DATE
APRIL 1992

COMM. NO.
9130

SHEET
M2