

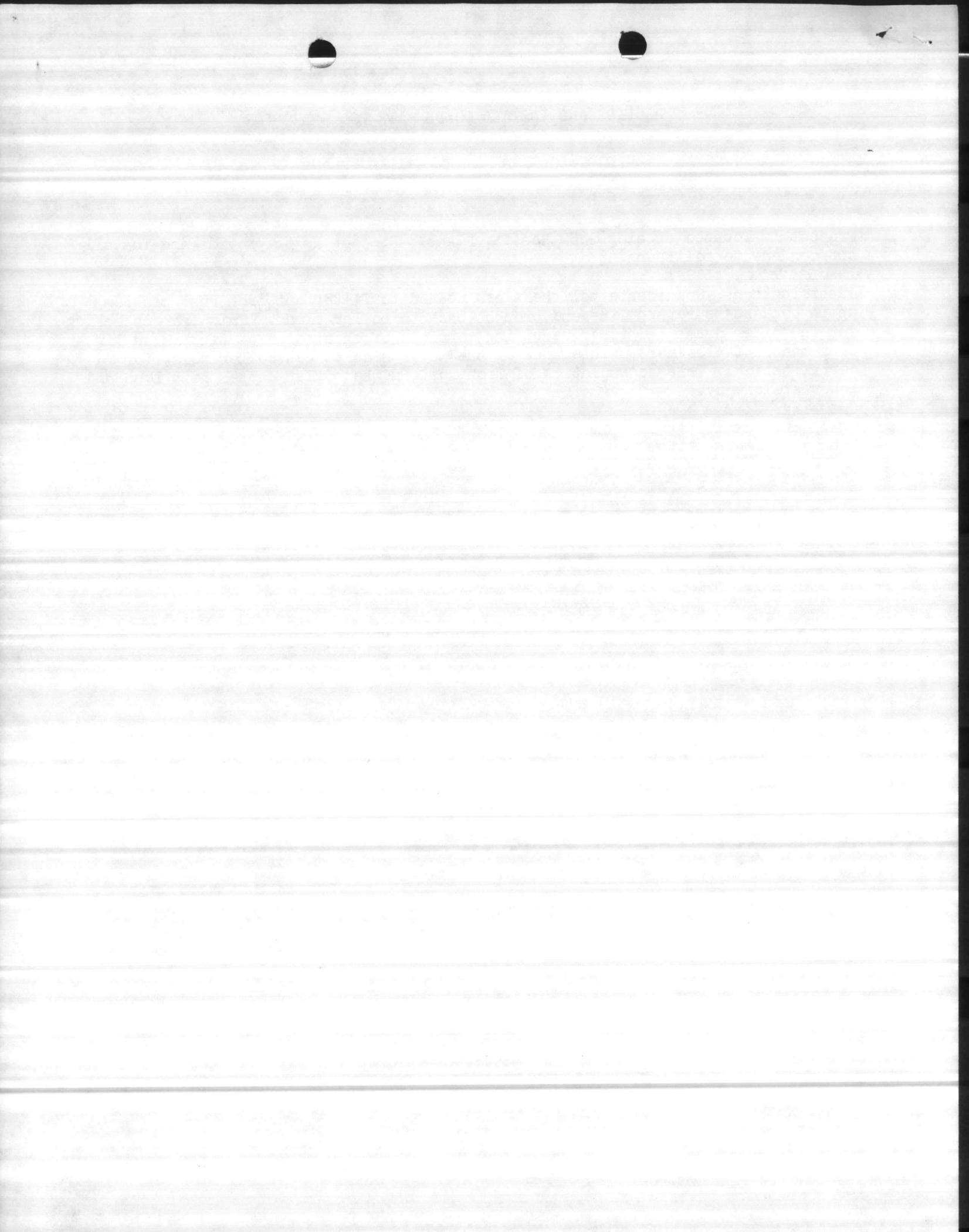
PROVIDE AND INSTALL CONDENSATE POLISHERS FOR

BLDG G650 CAMP GEIGER HEATING PLANT

Project is located at bldg G650 Heating Plant. Project is to provide and install two condensate polishers.

Justification: Condensate polishers are needed to filter out iron rust picked up in condensate return line and brought back to boiler plant. This iron is baking out in boiler drums and tubes requiring more use of chemicals to maintain on line treatment and also more maintenance of the water side to get boiler ready for certification. This accumulation of iron rust in the boiler causes heat loss and lower efficiency.

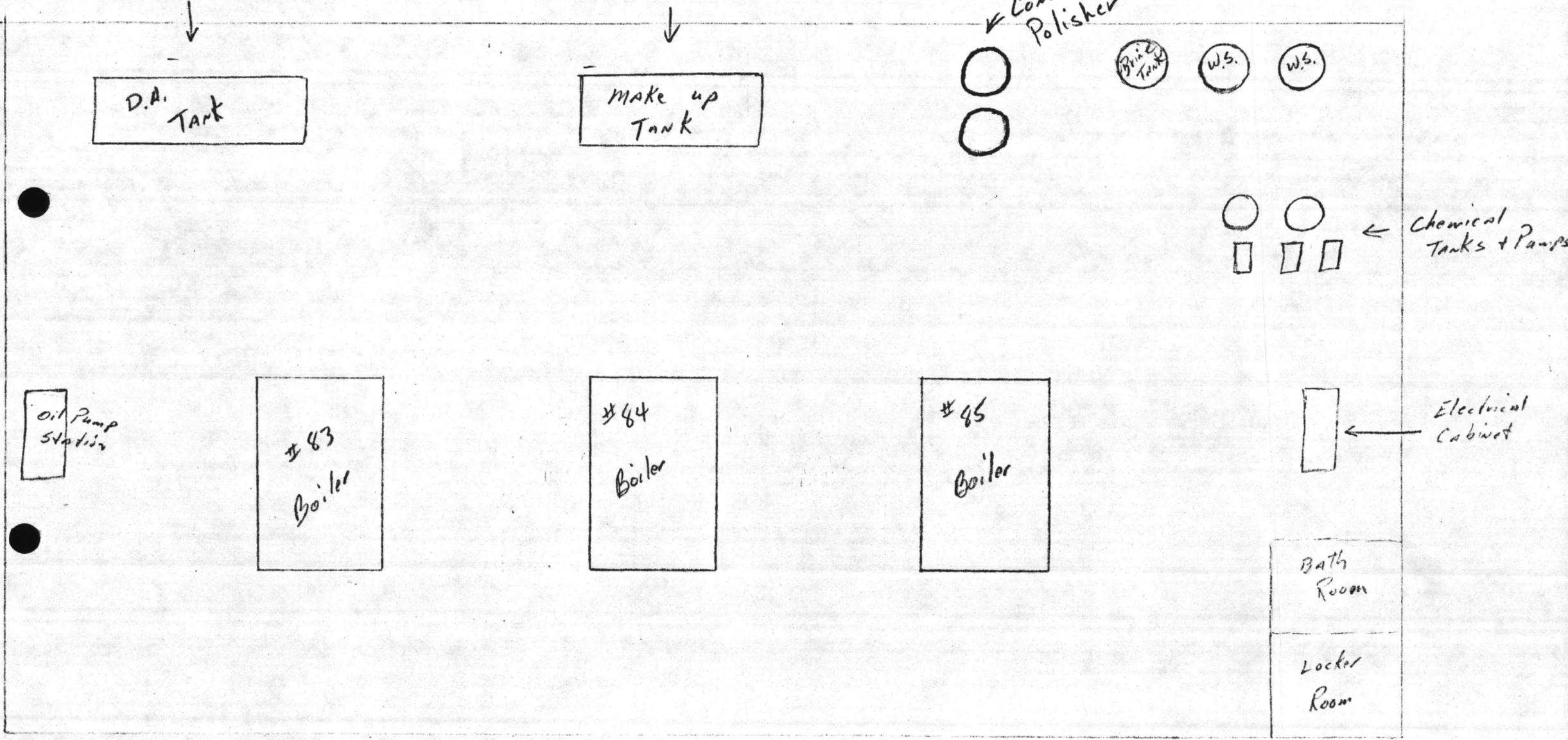
Estimated Cost: \$15,000

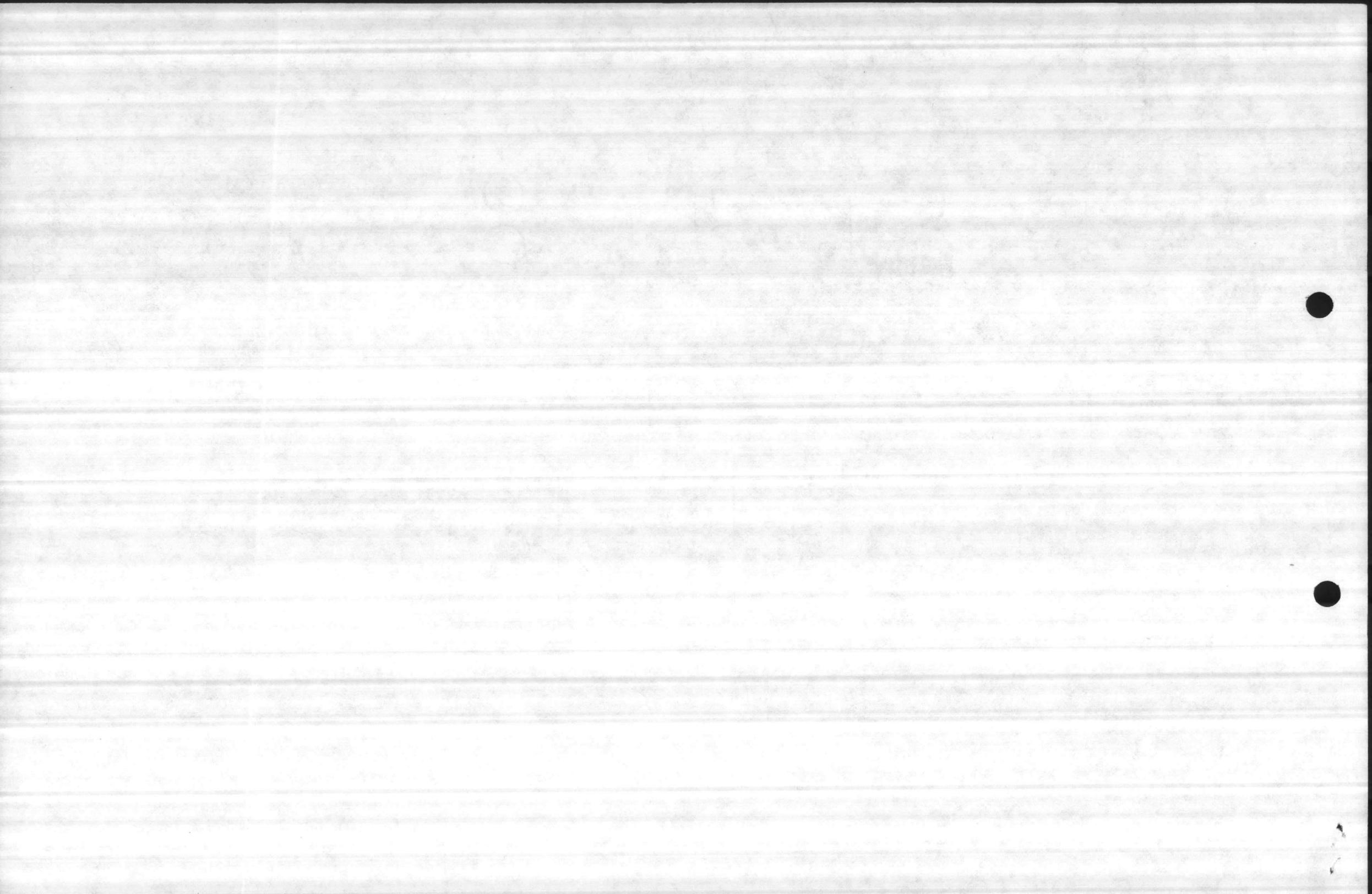


D.A. Tank is on upper level with Feed Water Pumps under it.

Make up Tank is on upper level with condensate pumps under it.

G 650





REPLACE COOLING WATER DRAIN LINES ON FOUR BOILERS WITH A PRESSURIZED SYSTEM AT

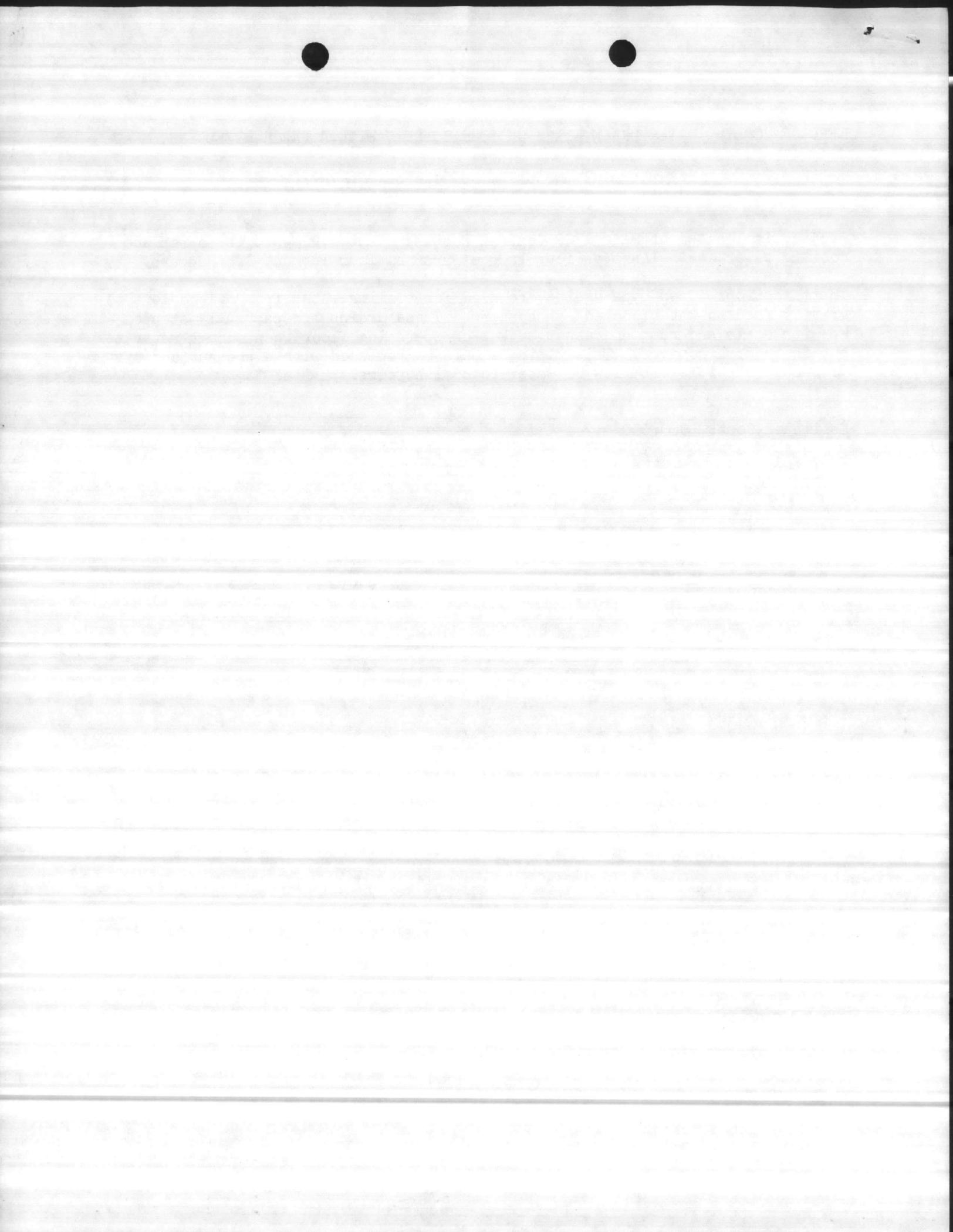
BLDG 1700 HADNOT POINT CENTRAL HEATING PLANT

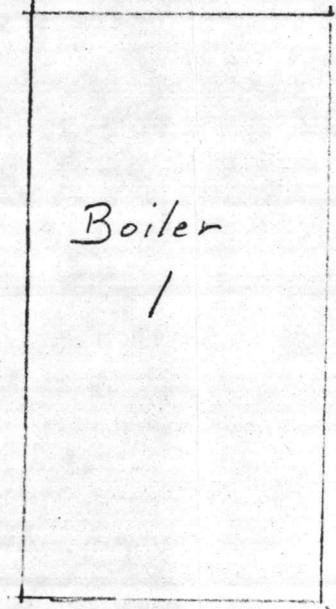
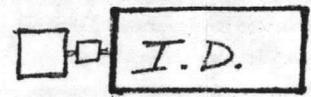
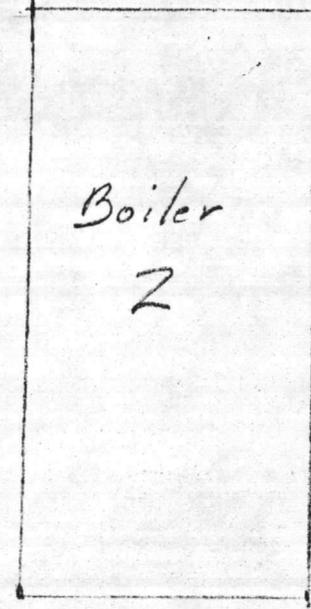
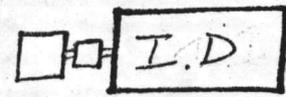
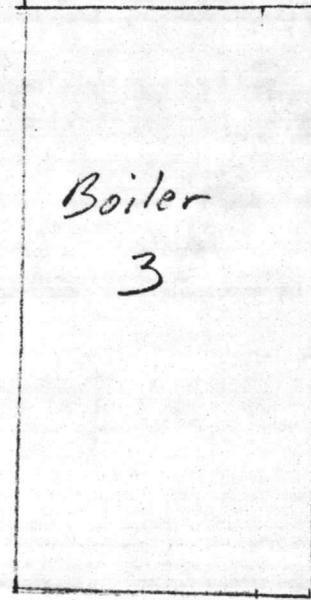
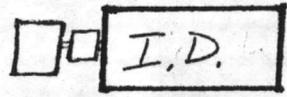
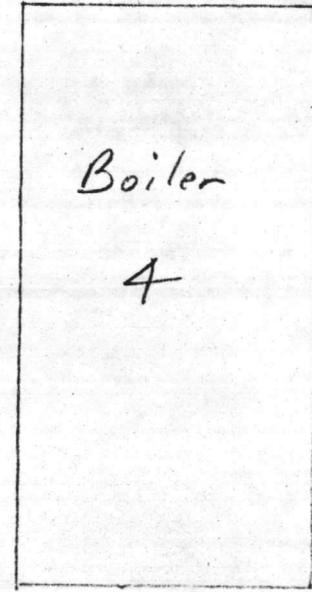
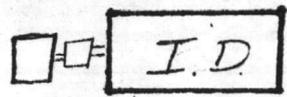
Project is located at Bldg 1700 Central Heating Plant. Project is to replace cooling water drain lines on four Induce Fans and four Furnace Ash Hoppers.

Justification: Open type drains are used for cooling water from oil coolers to gravity feed to water cooled ash hoppers. These drains are partially stopped up with scale and rust and water backup on operating floor when enough water is put in to cool hoppers. This piping should be replaced with a pressurized system to ensure a sufficient flow of water to cool hoppers.

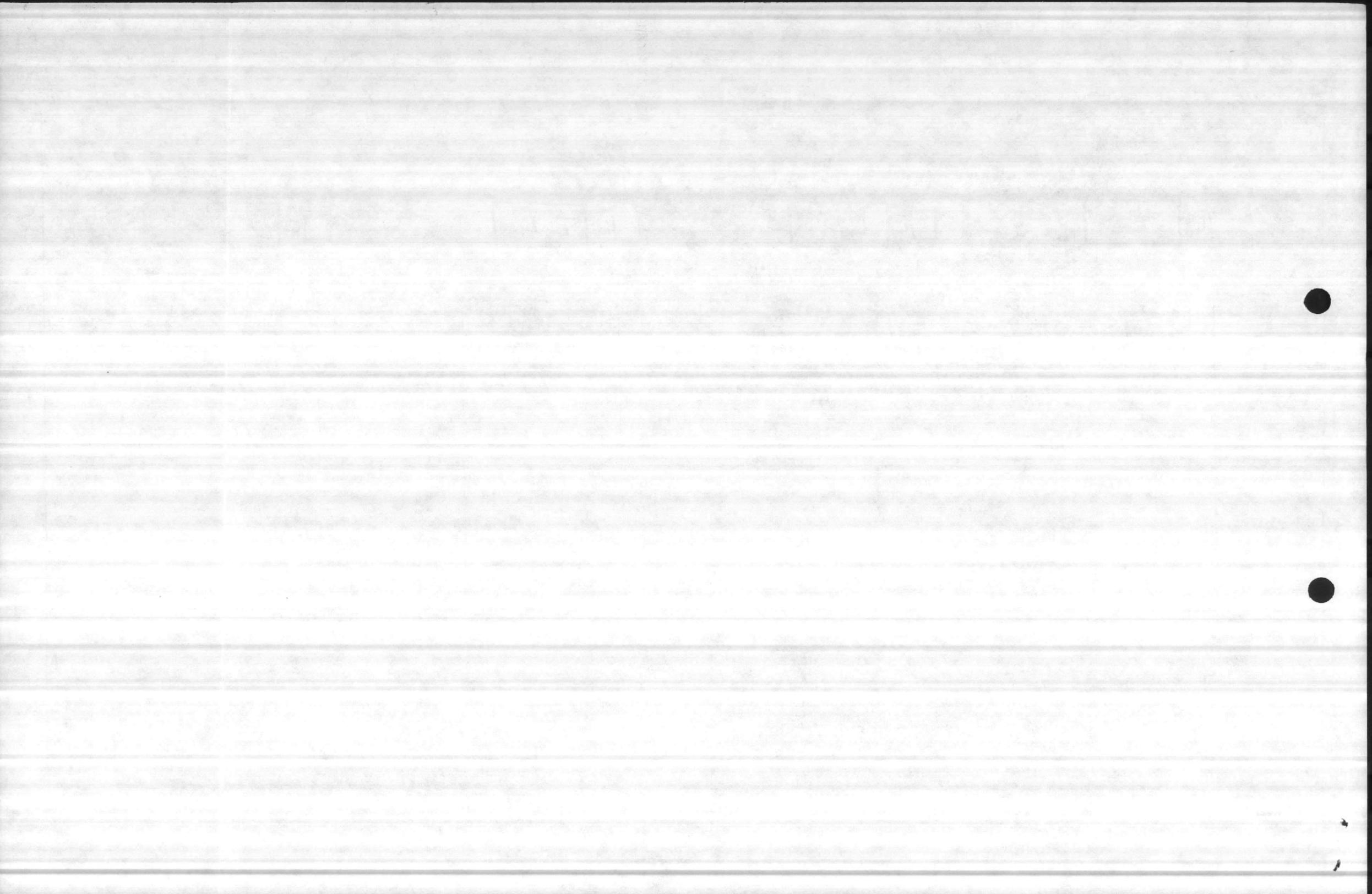
Estimated Cost: \$10,000

*Under Construction
R+W*



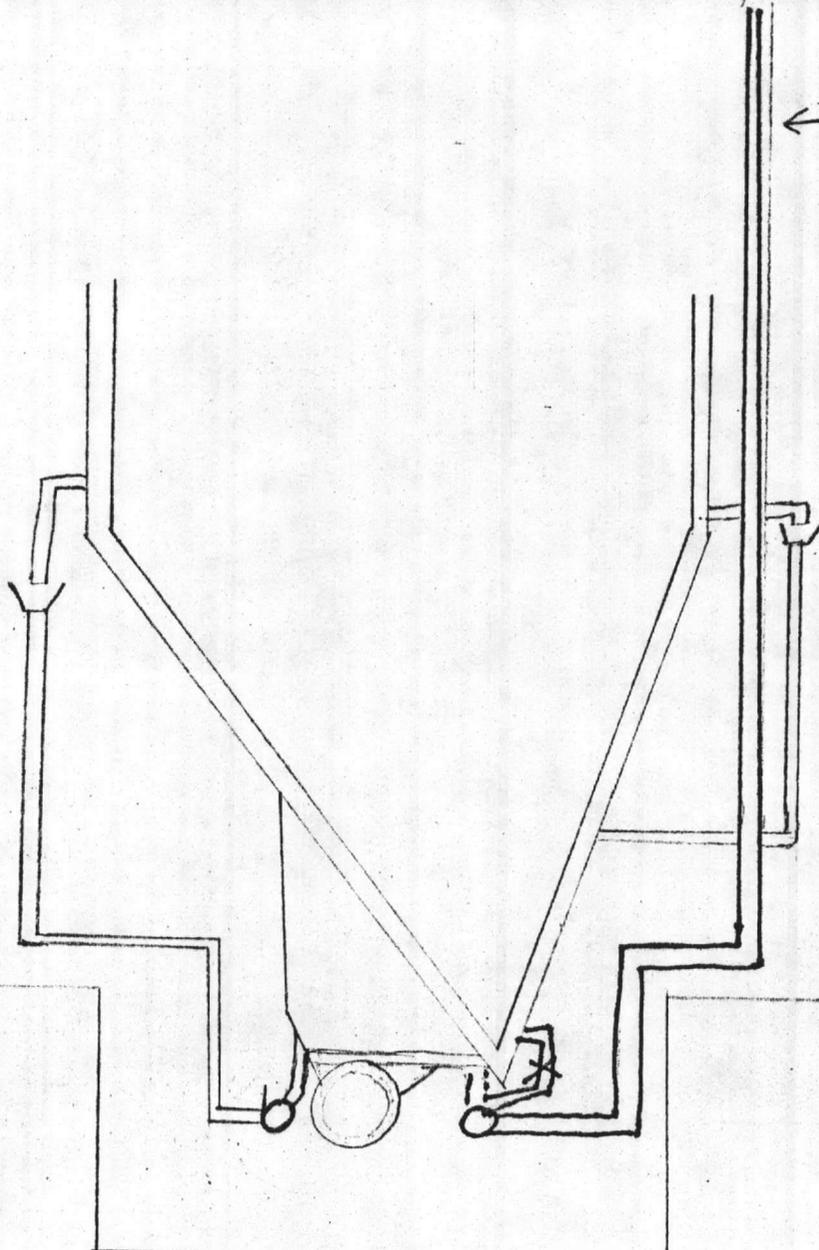


Operating Floor

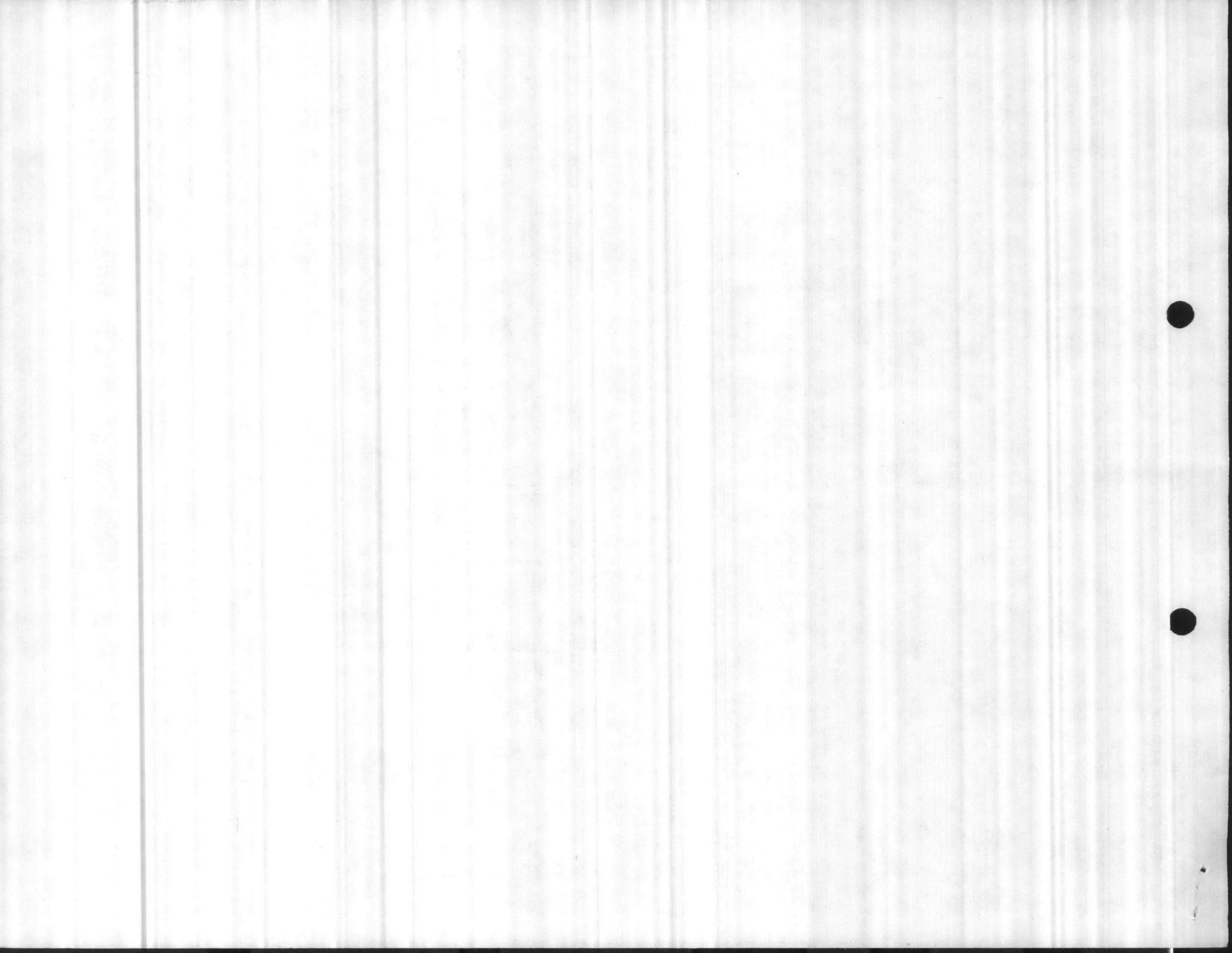


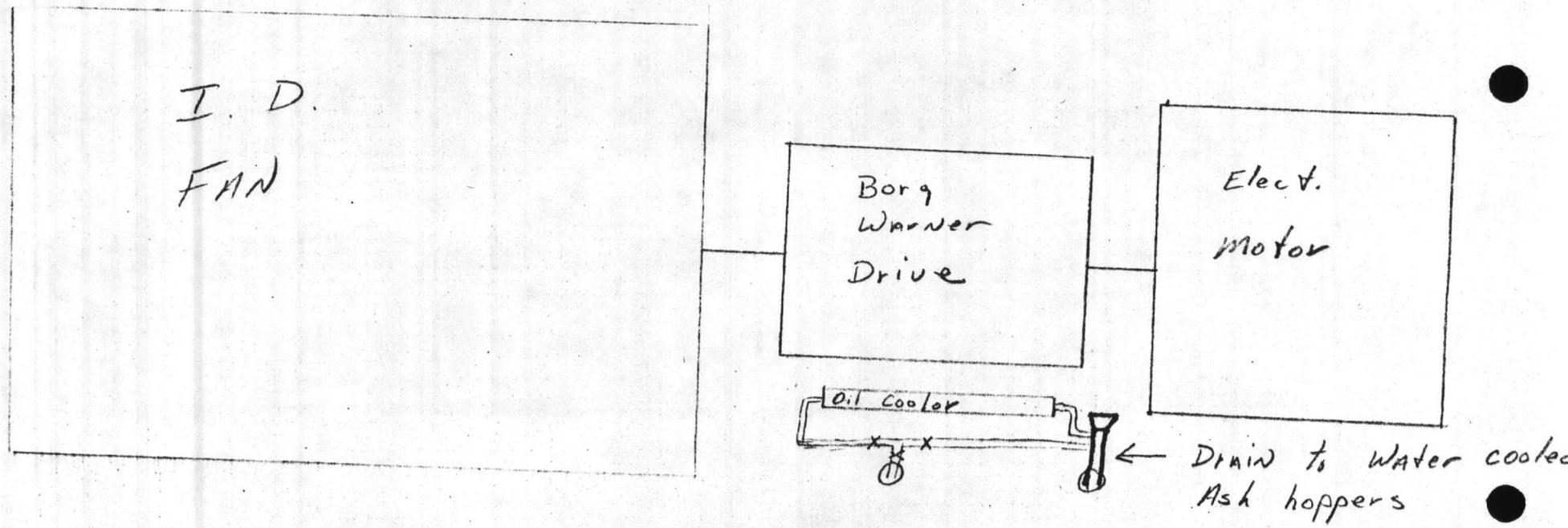
Bldg 1700

← Drain + Cooling Water from
Borse Warner drive to Ash Hoppers

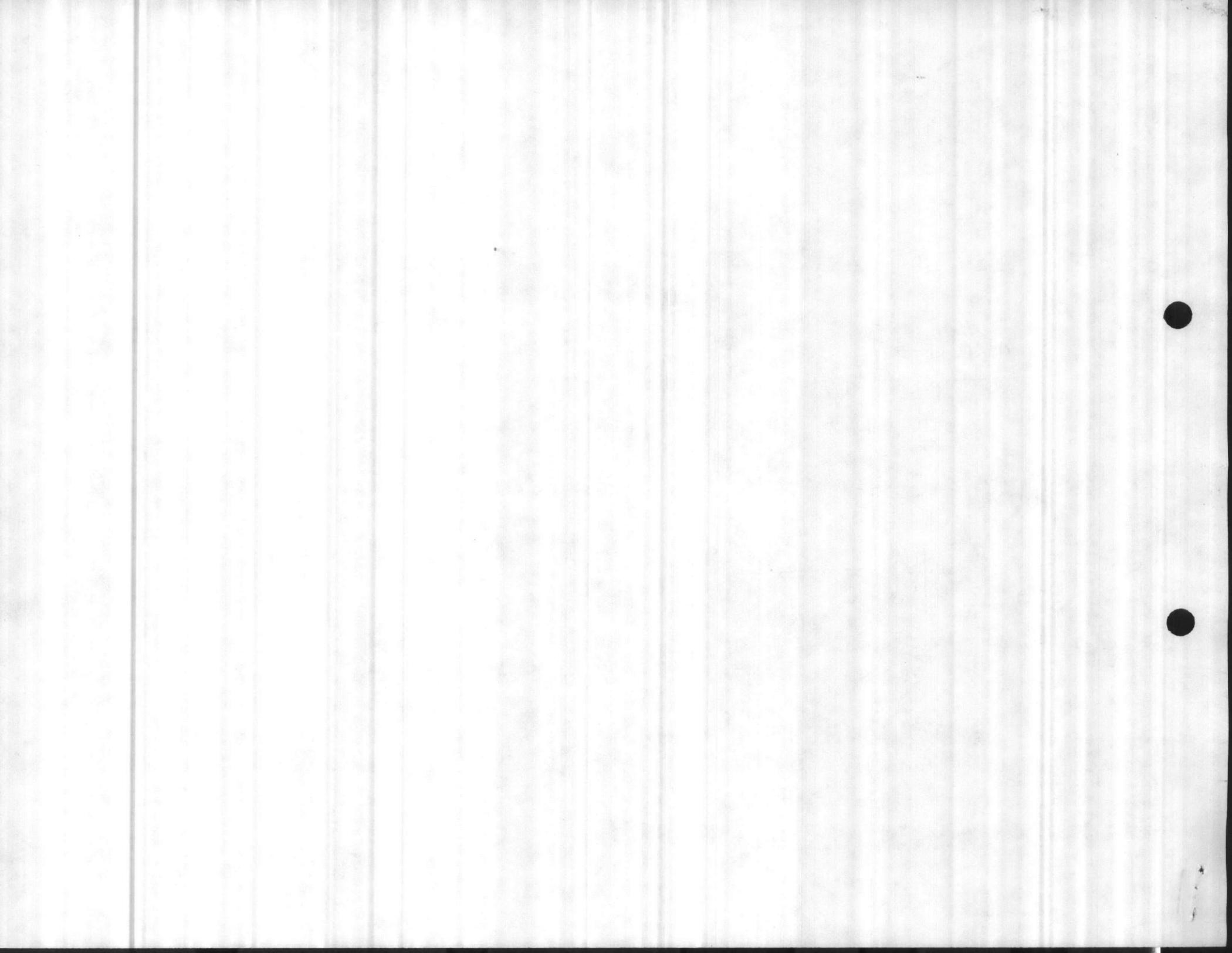


Bottom Floor





Operating Floor



REPLACE AREA STOP VALVES AT THE CENTRAL HEATING PLANT BUILDING 1700 HADNOT POINT

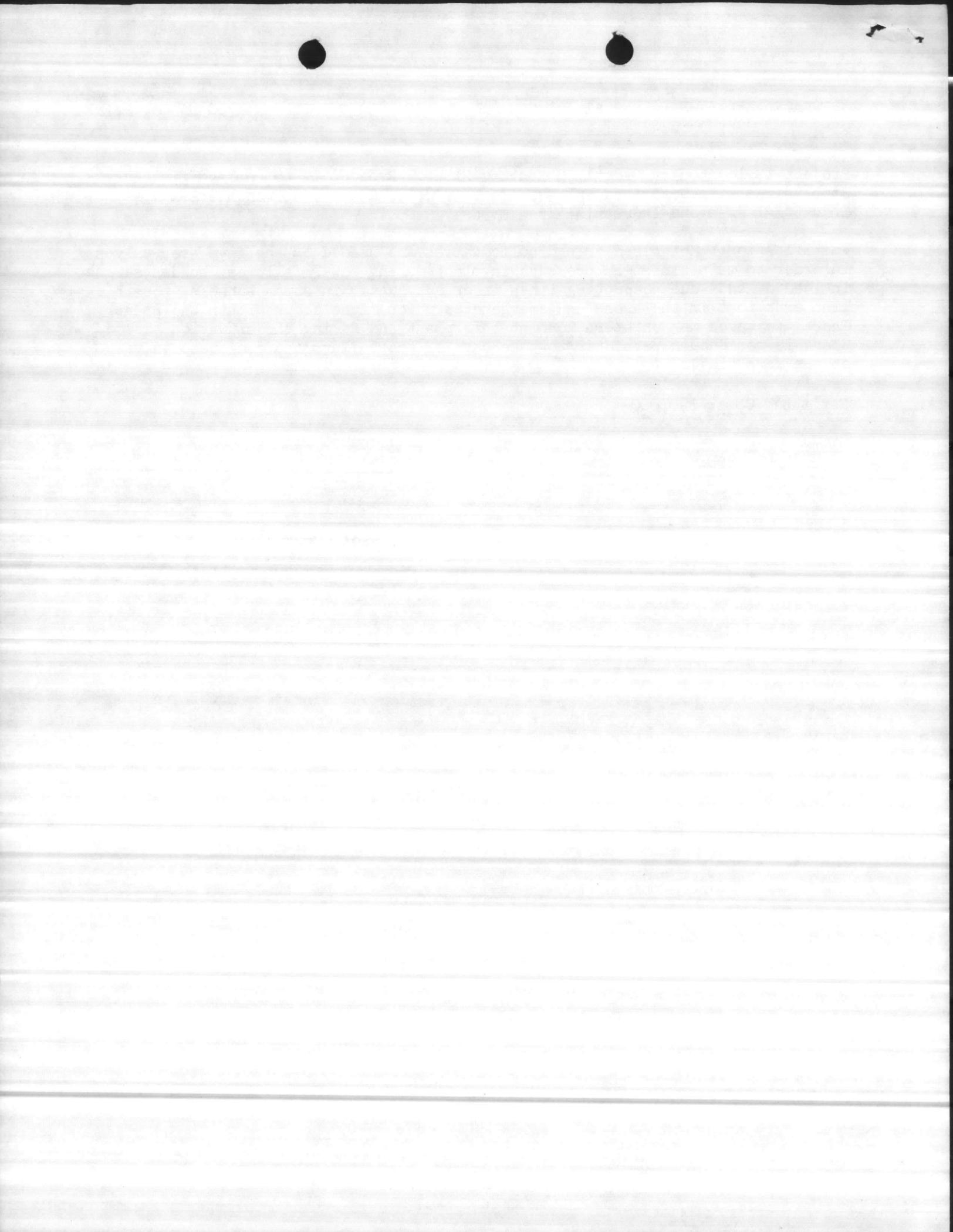
Project is located at Bldg 1700 Heating Plant. Project is to replace five Area Stop Valves with Motorized Valves, areas 1, 2, 3, 4 and 5 - French Creek Area, Industrial Area and Industrial Area Bypass.

Justification: Motorized or hydraulic valves are needed on the five area valves in order to maintain steam pressure in plant during power failures, sudden surges in load demands due to cutting lines in or out, water in steam tunnels, possible line eruptions in the areas and emergencies which might occur within the plant. There are three men on operations at this plant and during the situation listed, there is not enough personnel to take care of the boilers and man these valves at the same time.

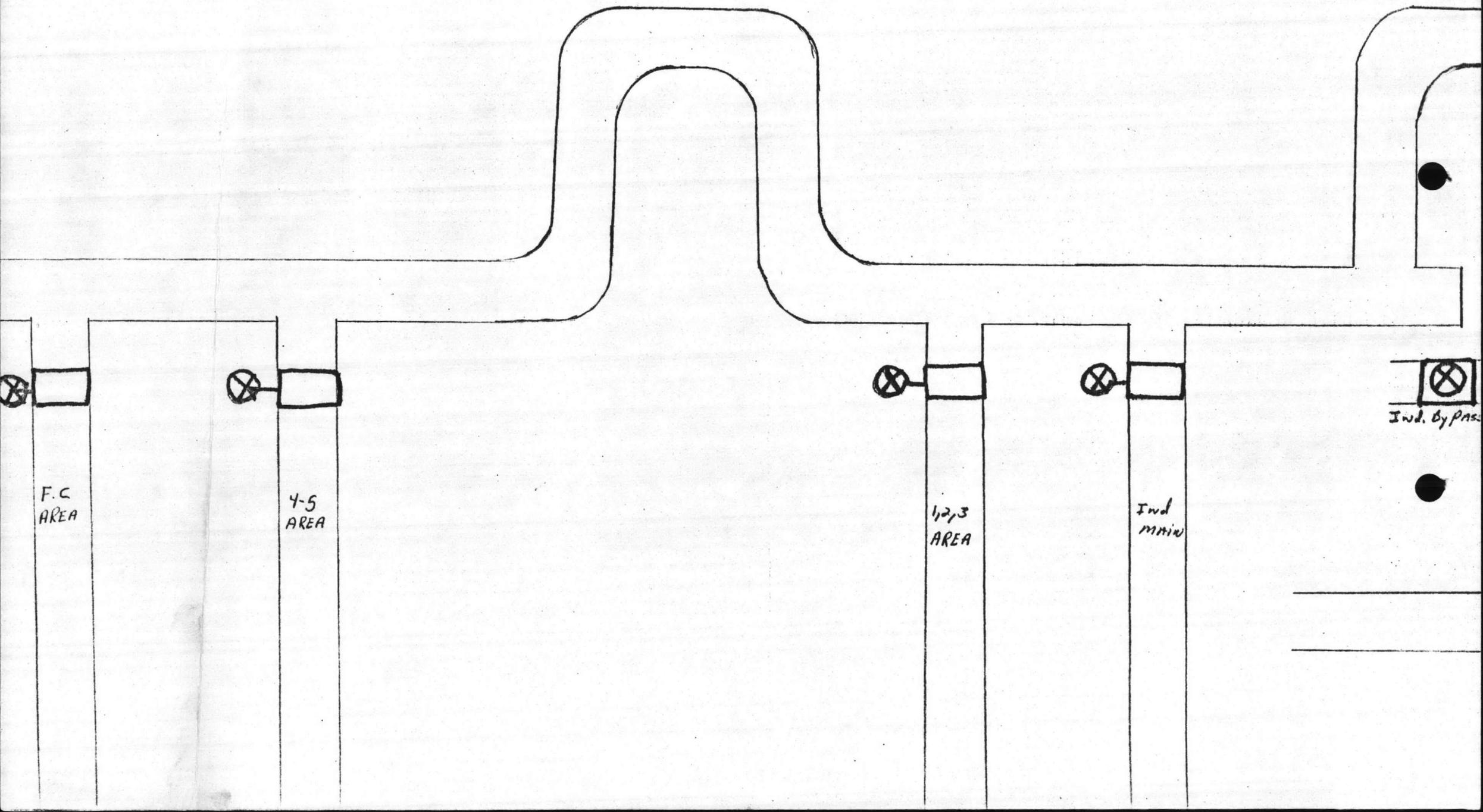
Estimated Cost: \$90,000

Under Construction

1-11-83



#1 Main Steam Header Bldg. 1700





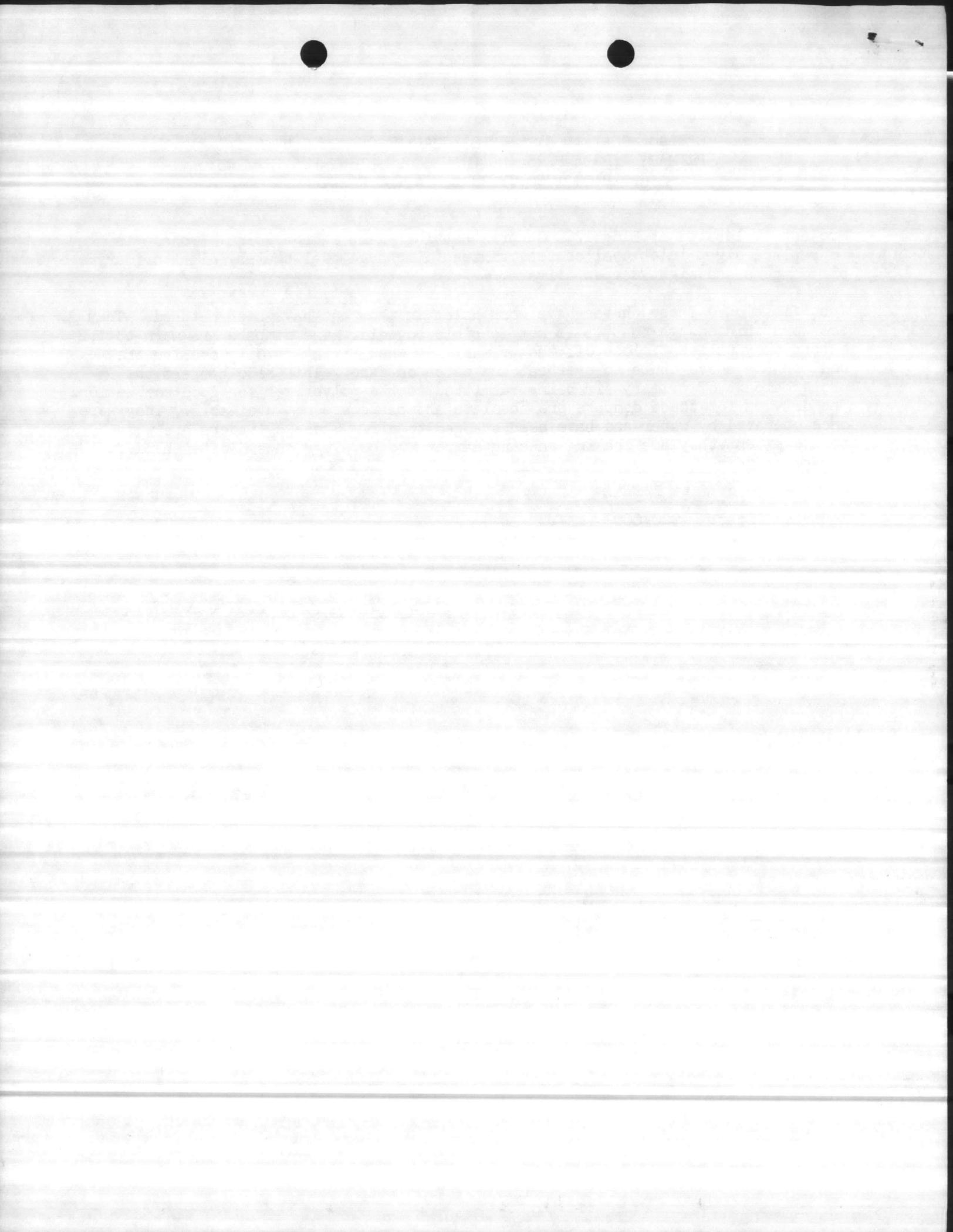
REPLACE COAL INLET CHUTES, COAL DISCHARGE CHUTES,
PRIMARY AIR DAMPERS AND DRIVERS ON EIGHT PULVERIZERS
BLDG 1700 CENTRAL HEATING PLANT

Project is located at Bldg 1700 Central Heating Plant Hadnot Point. Project is to replace eight inlet coal chutes, sixteen discharge coal chutes, eight primary air dampers and eight damper drivers.

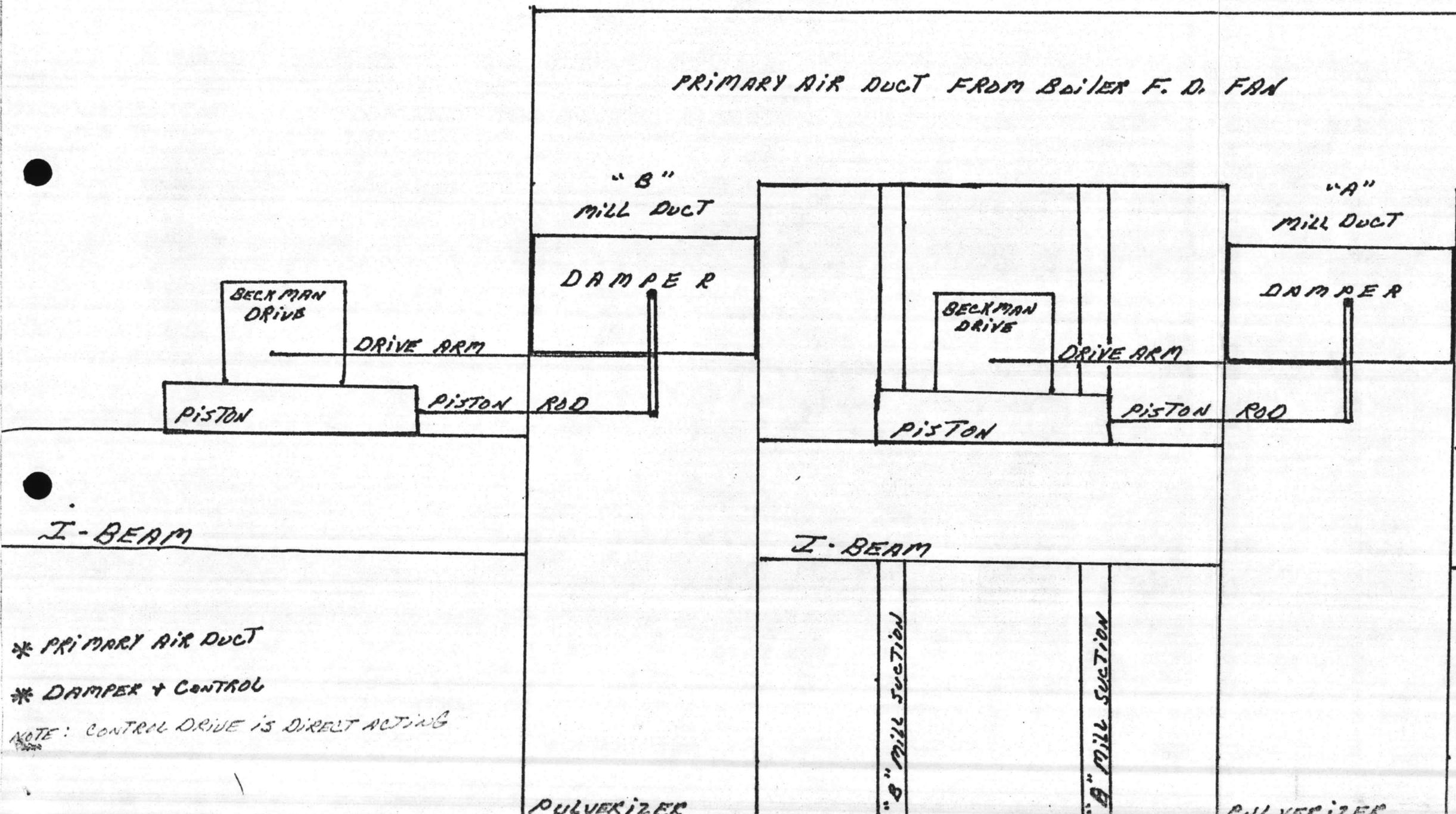
Justification: These chutes have worn holes in them and have been patched. They are worn thin enough that it is not feasible to weld. The dampers are worn to the extent they will not close off the primary air when firing on oil, causing the coal in the above chute to overheat and catch on fire. This also hampers the proper amount of primary air being submitted to the pulverizer for good combustion. The drivers for these dampers are obsolete and parts are not available. They were once operated by water and have been changed to air. These cylinders are worn to the extent they are leaking causing dampers to be sluggish and often hand in one position.

Estimated Cost: \$20,000

Combined with Pulverizer
Project



BOTTOM VIEW



PRIMARY AIR DUCT FROM BOILER F. D. FAN

"B"
MILL DUCT

"A"
MILL DUCT

DAMPER

DAMPER

BECKMAN
DRIVE

BECKMAN
DRIVE

DRIVE ARM

DRIVE ARM

PISTON

PISTON ROD

PISTON

PISTON ROD

I-BEAM

I-BEAM

* PRIMARY AIR DUCT

* DAMPER + CONTROL

NOTE: CONTROL DRIVE IS DIRECT ACTING

PULVERIZER

"B" MILL SUCTION

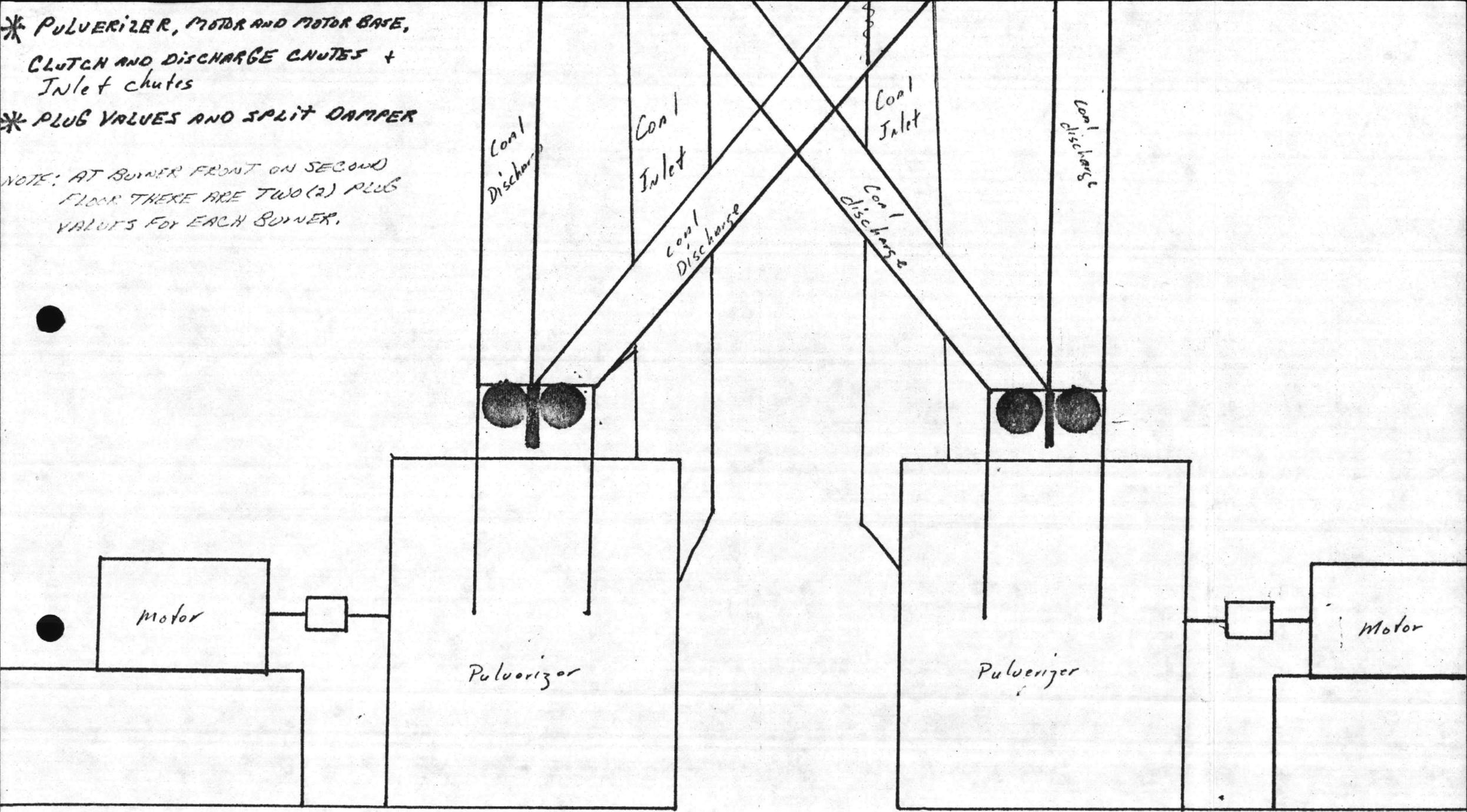
"A" MILL SUCTION

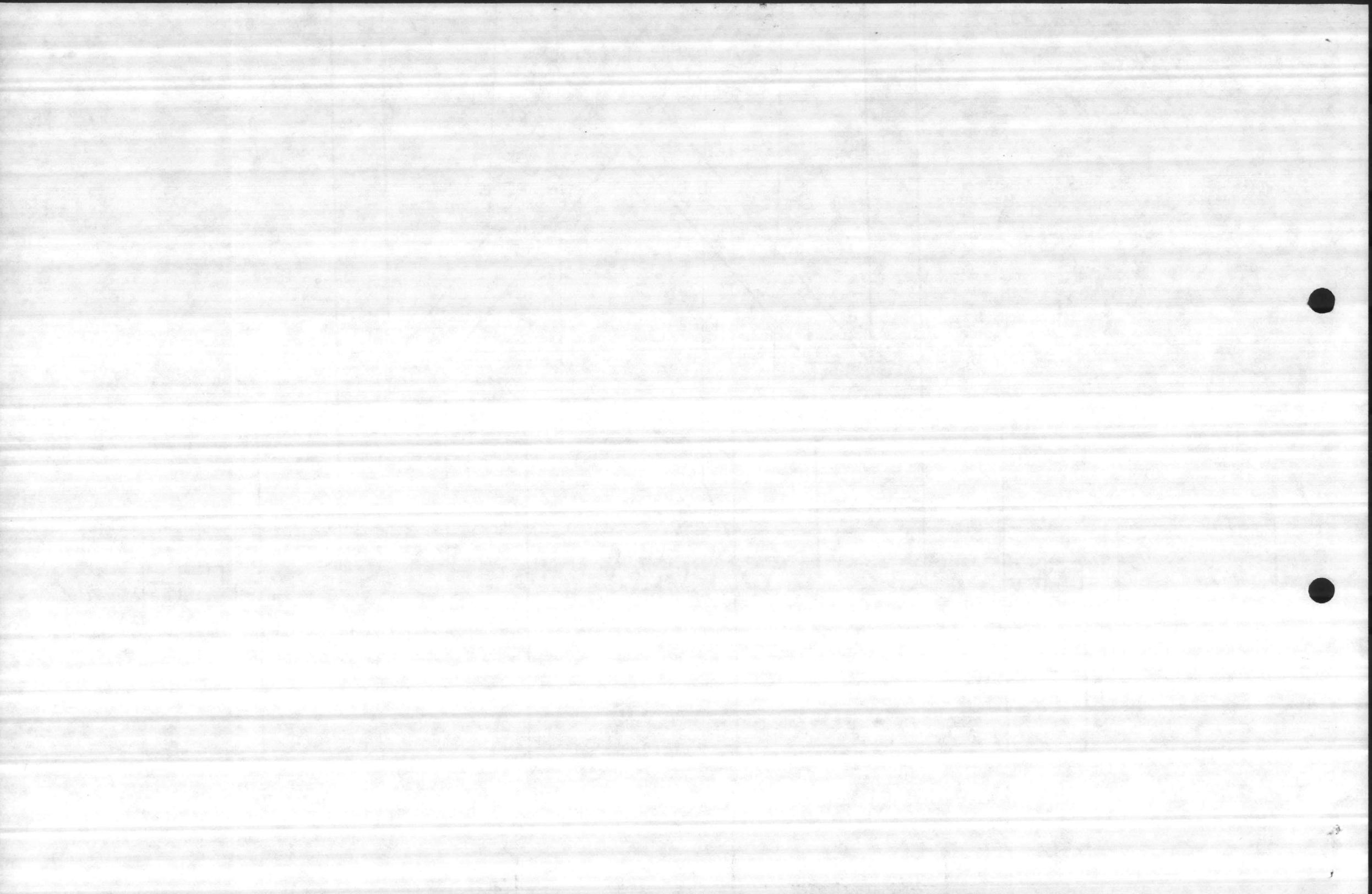
PULVERIZER



* PULVERIZER, MOTOR AND MOTOR BASE,
CLUTCH AND DISCHARGE CHUTES +
Inlet chutes
* PLUG VALVES AND SPLIT DAMPER

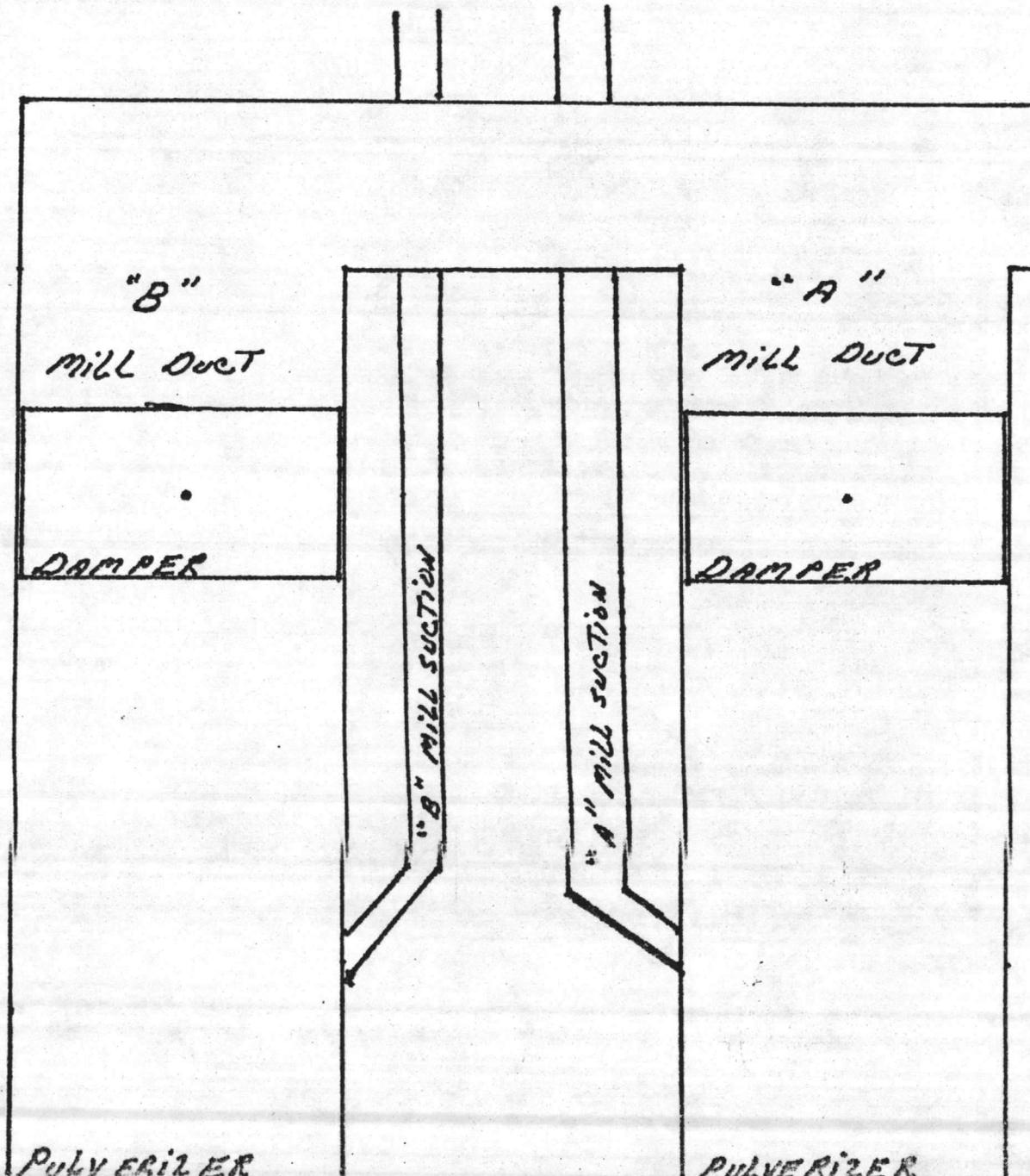
NOTE: AT BURNER FRONT ON SECOND
FLOOR THERE ARE TWO (2) PLUG
VALVES FOR EACH BURNER.





TOP VIEW

PRIMARY AIR
DUCT FROM
Boiler F. D.
FAN



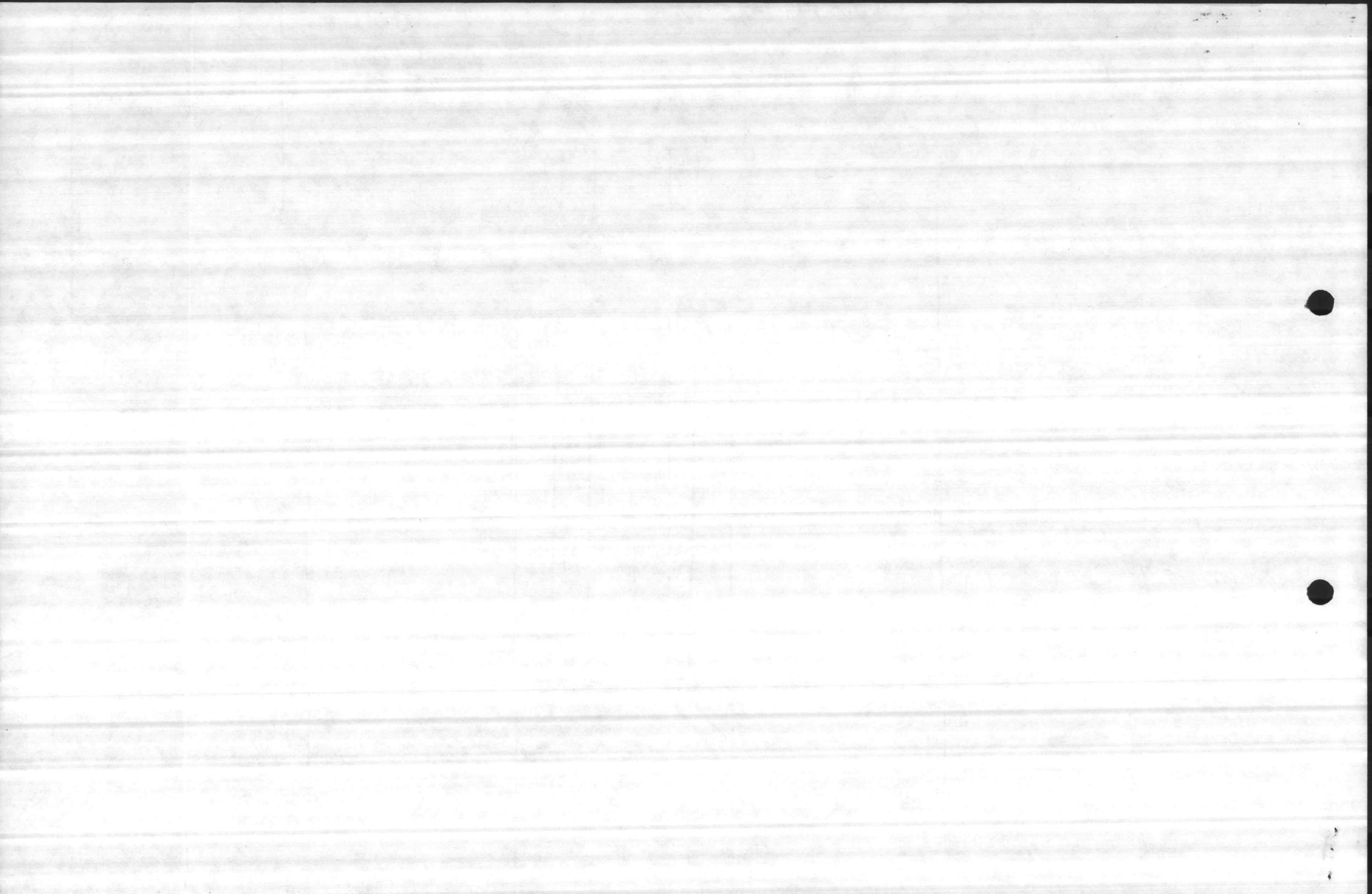
* PRIMARY AIR DUCT

* DAMPER AND MILL
SUCTION SIGNAL

NOTE: MILL SUCTION LINES TIE
TO PRIMARY AIR CONTROLLERS
ON MAIN CONTROL PANEL ON
EXISTING FLOOR

PULVERIZER

PULVERIZER



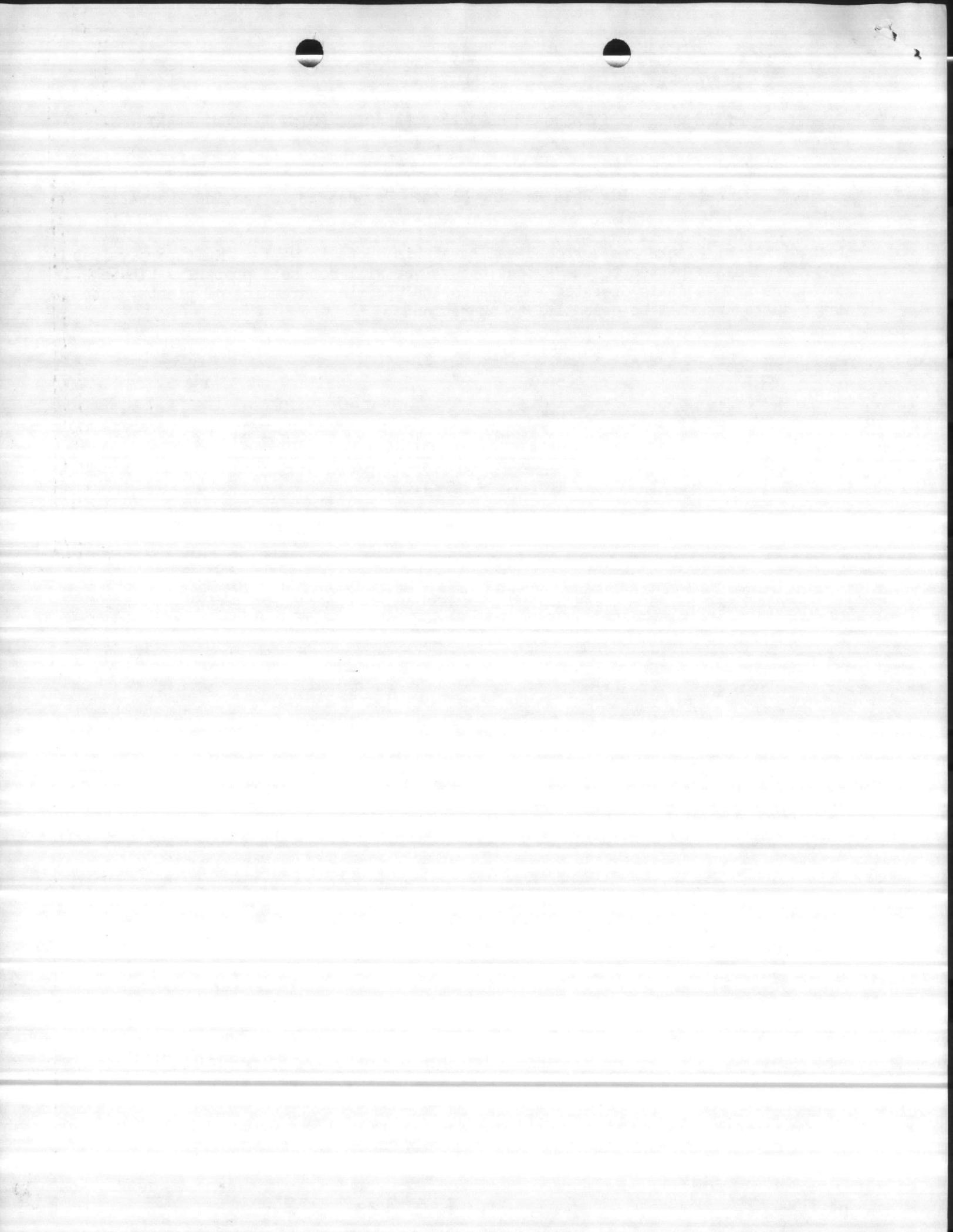
REPLACE WATER SOFTENERS AT BLDG 2615 PARADISE POINT HEATING PLANT

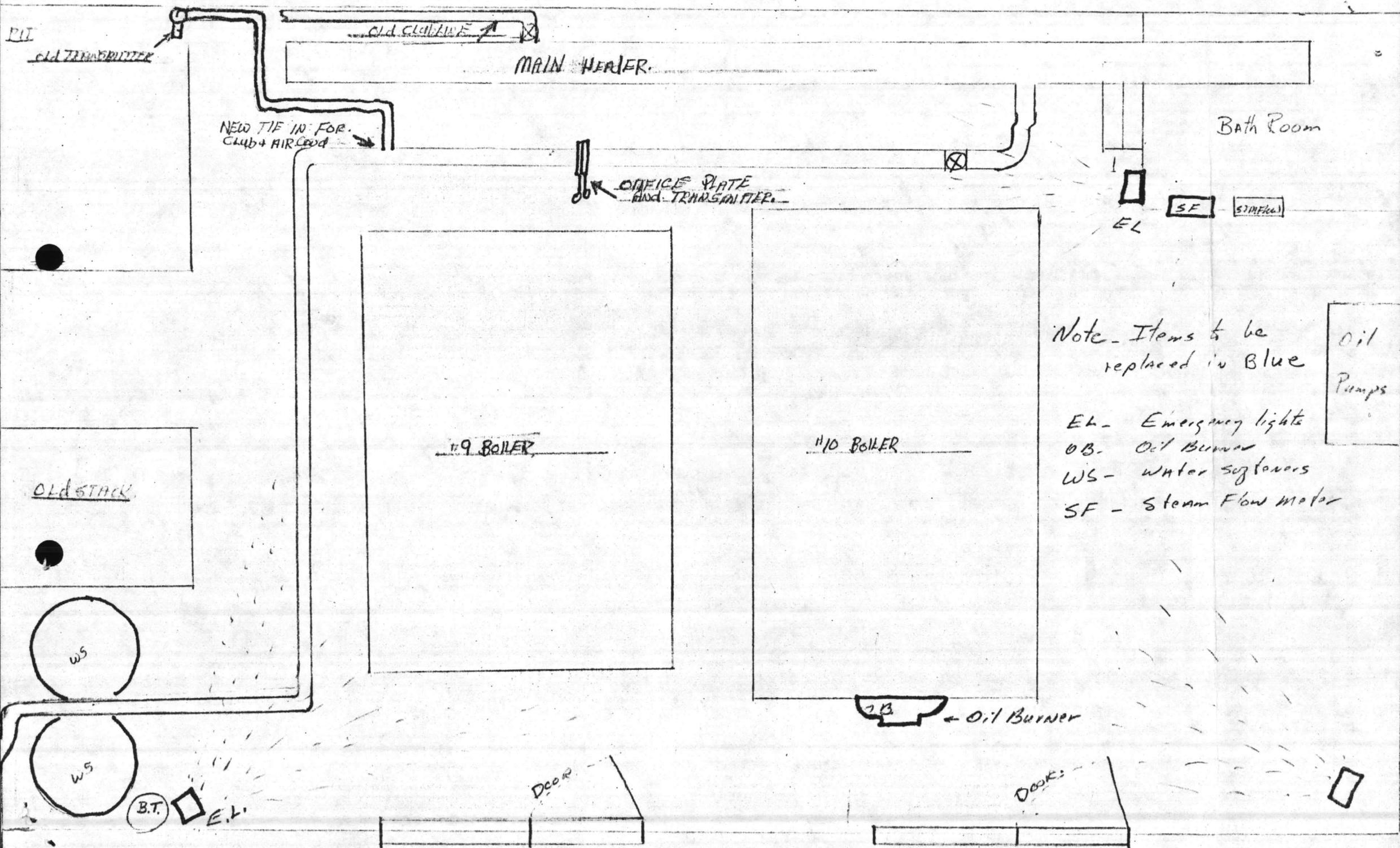
Project is located at Bldg 2615 Heating Plant. Project is to provide two water softeners.

Justification: Tanks are corroded and have thin spots in walls. Multiport valves are corroded and pitted to the extent the valves will not seat properly. These softeners are manually operated and due to the upcoming unmanning of plants, automatic softeners will be essential to operation.

Estimated Cost: \$3,500

Complete

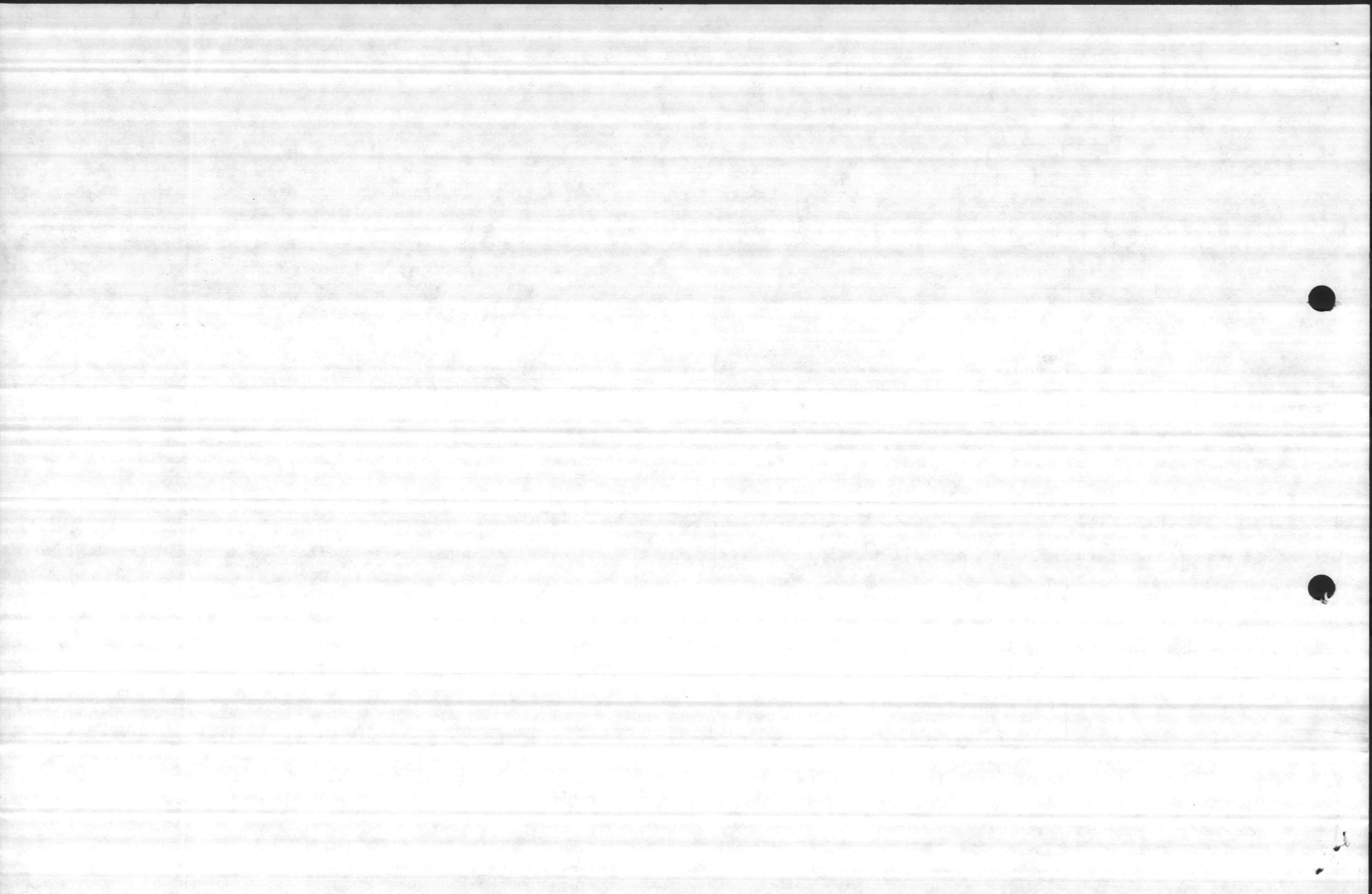




Note - Items to be replaced in Blue

- EL - Emergency lights
- OB - Oil Burner
- WS - Water softeners
- SF - Steam Flow meter

Oil Pumps



PROVIDE AND INSTALL CONDENSATE POLISHERS FOR
BLDG 4151 MARINE CORPS AIR STATION HEATING PLANT

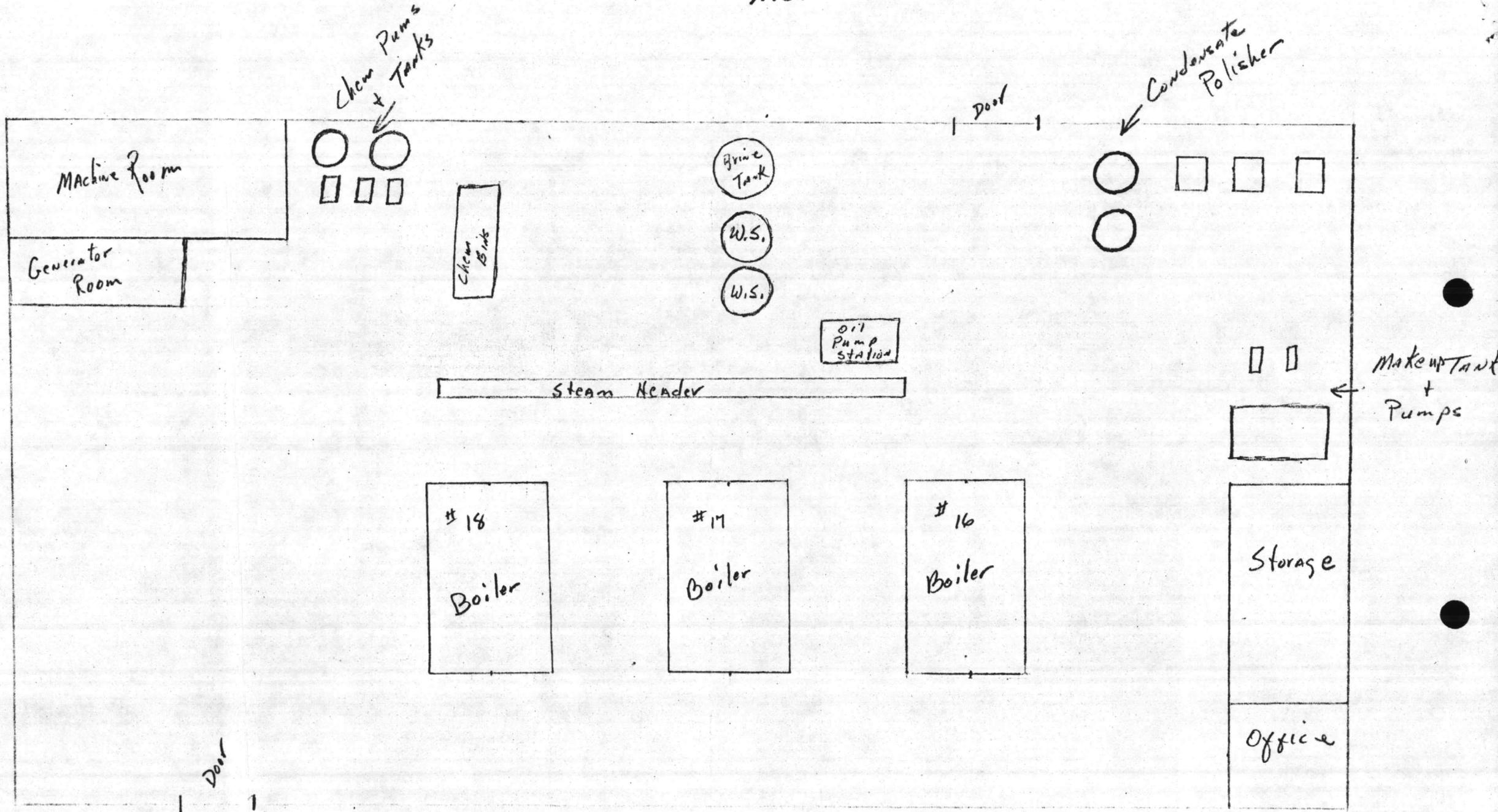
Project is located at MCAS Bldg 4151 Heating Plant. Project is to provide and install two condensate polishers.

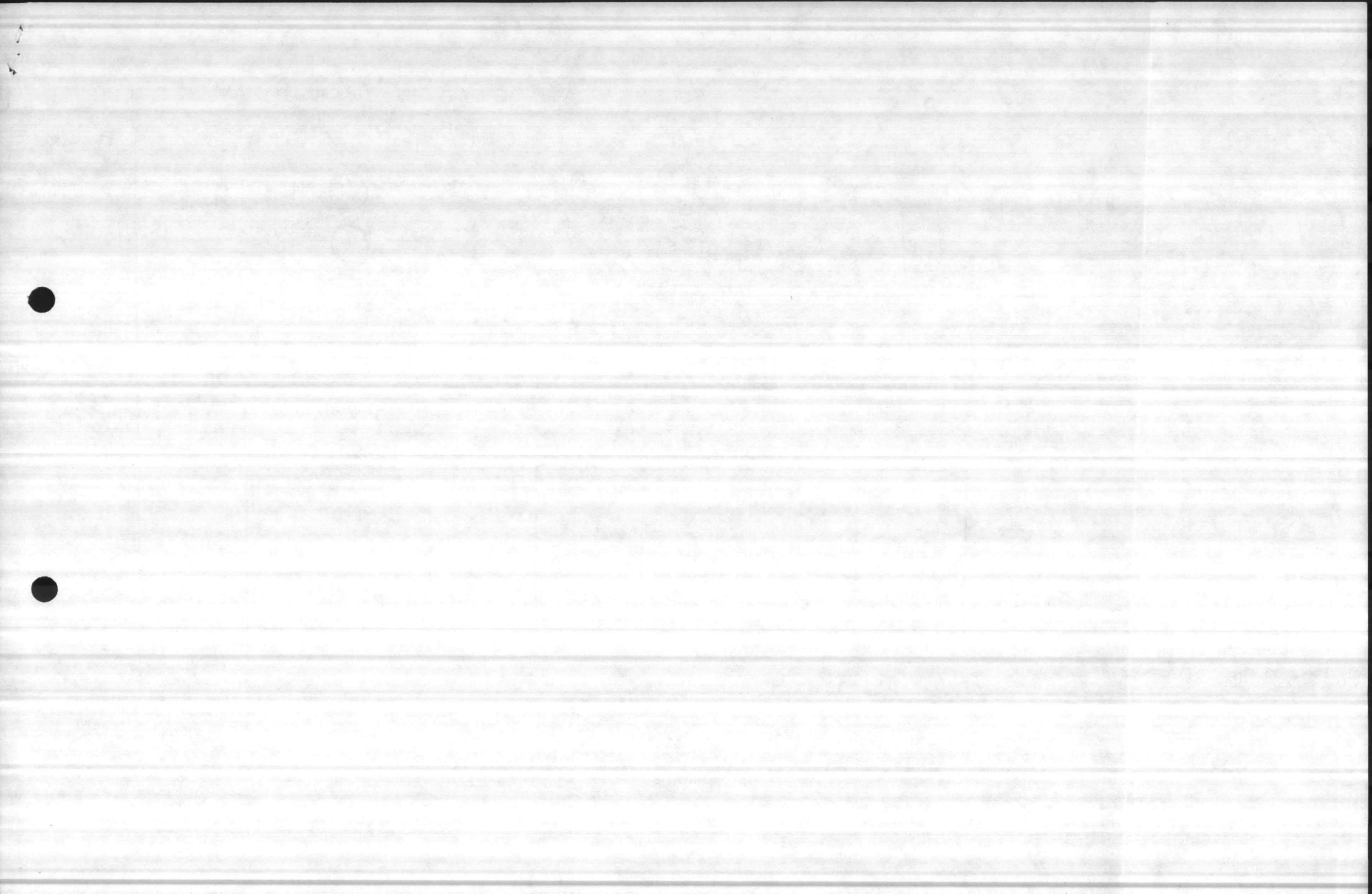
Justification: Condensate polishers are needed to filter out iron rust picked up in condensate return line and brought back to boiler plant. This iron is baking out in boiler drums and tubes requiring more use of chemicals to maintain on line treatment and also more maintenance of the water side to get boiler ready for certification. This accumulation of iron rust in the boiler causes heat loss and lower efficiency.

Estimated Cost: \$15,000



MCAS 4151





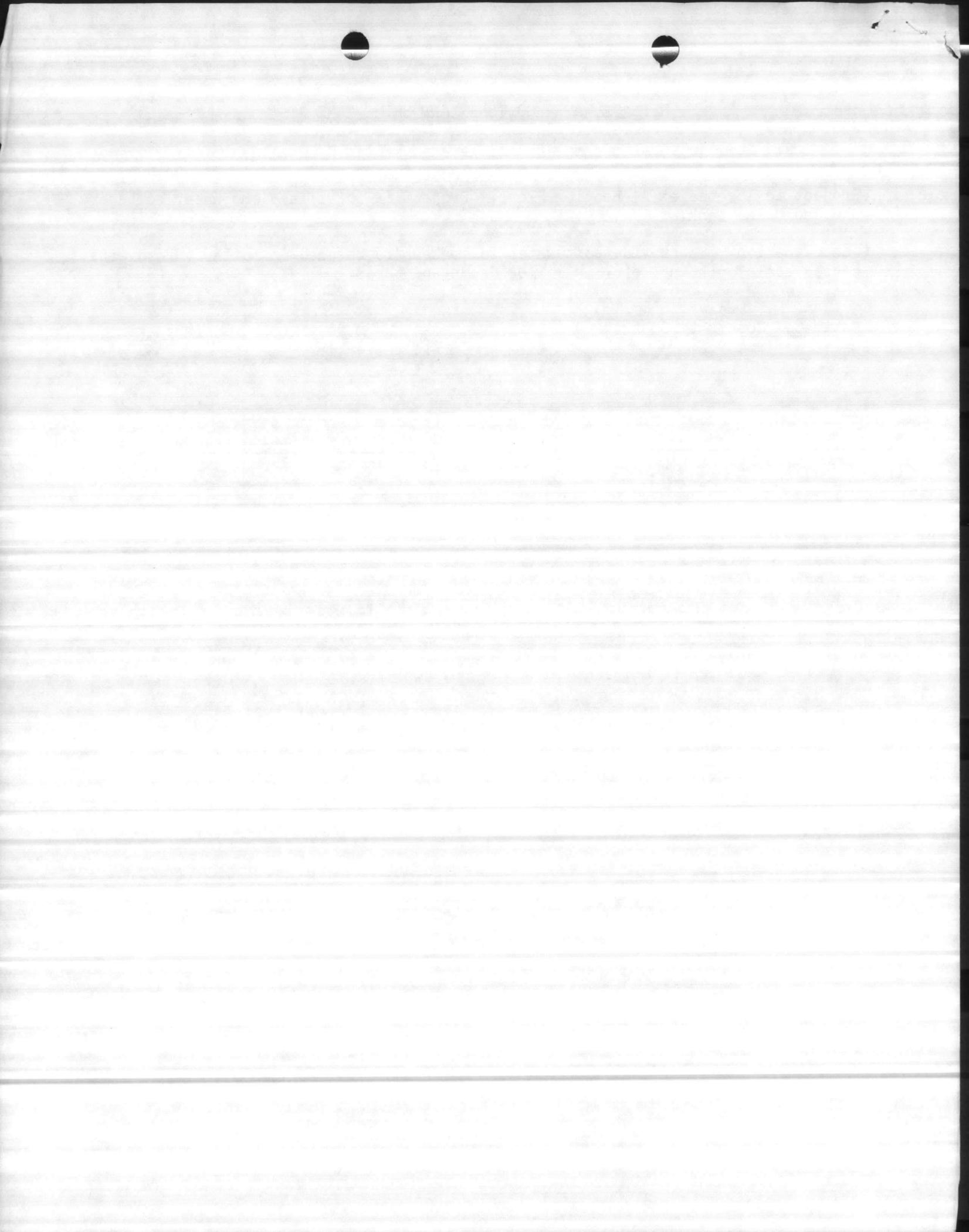
REPLACE WATER SOFTENER AND BRINE TANK AT
BLDG A1 COURTHOUSE BAY HEATING PLANT

Project is located at A1 Heating Plant. Project is to replace one water softener and one brine tank.

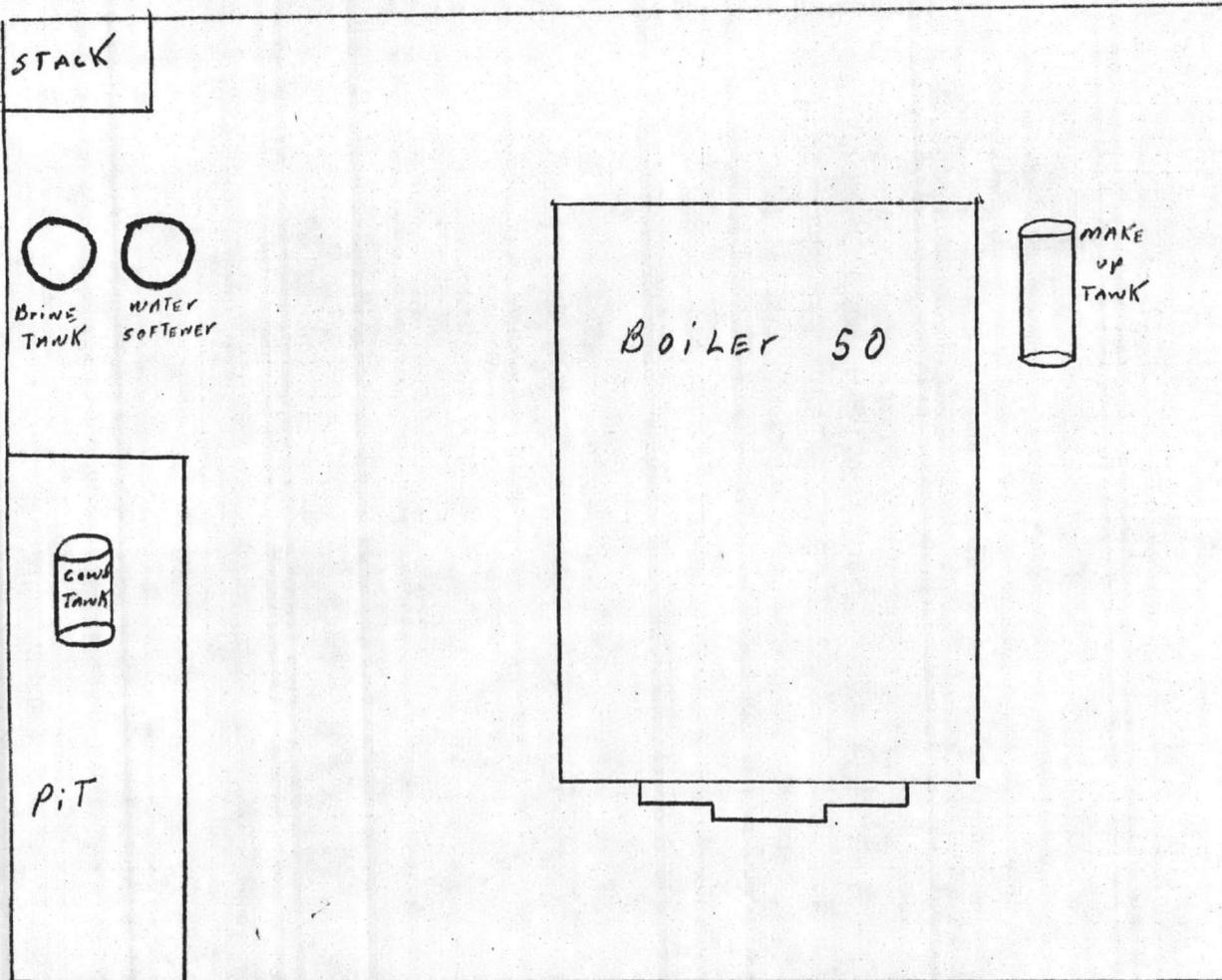
Justification: To provide soft water for makeup to be used in boiler. Hard water causes scale, pitting, etc. in boiler drums and tubes.

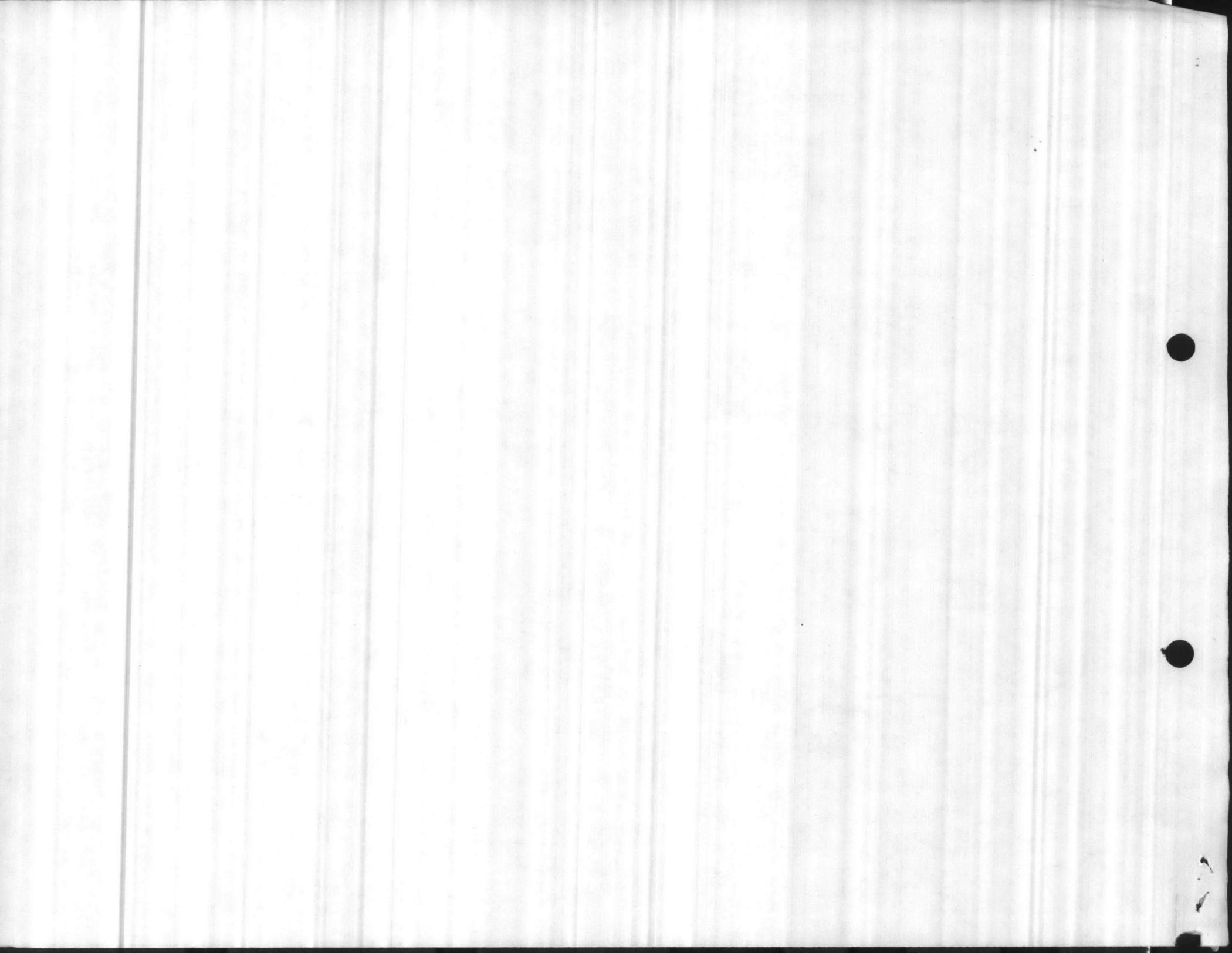
Estimated Cost: \$1,800

(Complete - Humphrey Htg)



A-1





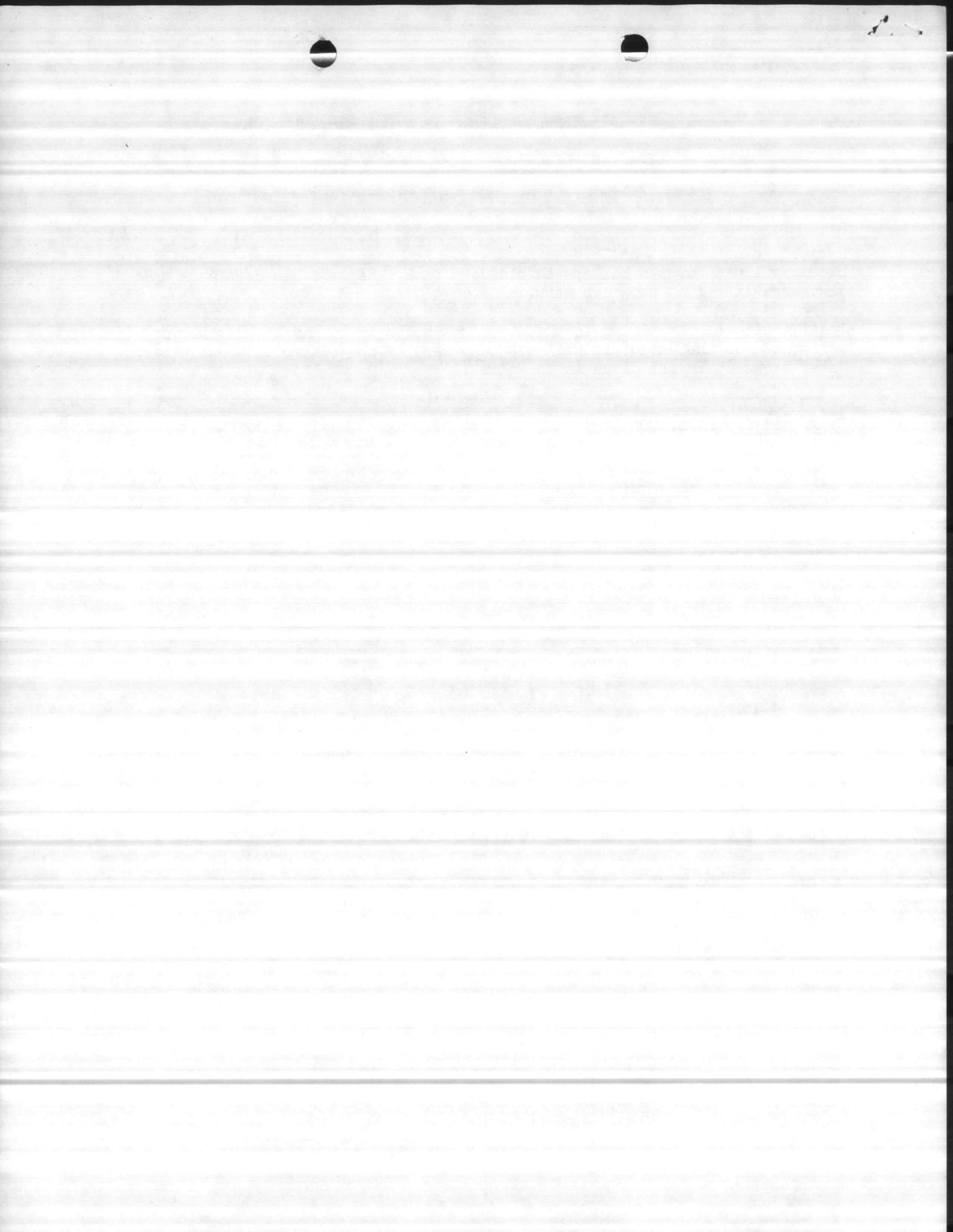
REPLACE BLOWDOWN LINES FROM BOILERS, BLOWDOWN
TANK AND DISCHARGE LINES FROM BLOWDOWN TANK
AT BA106 ONSLOW BEACH HEATING PLANT

Project is located at BA106 Heating Plant. Project is to replace all discharge blowdown lines for two boilers to blowdown tank. Replace blowdown tank and discharge line from blowdown tank.

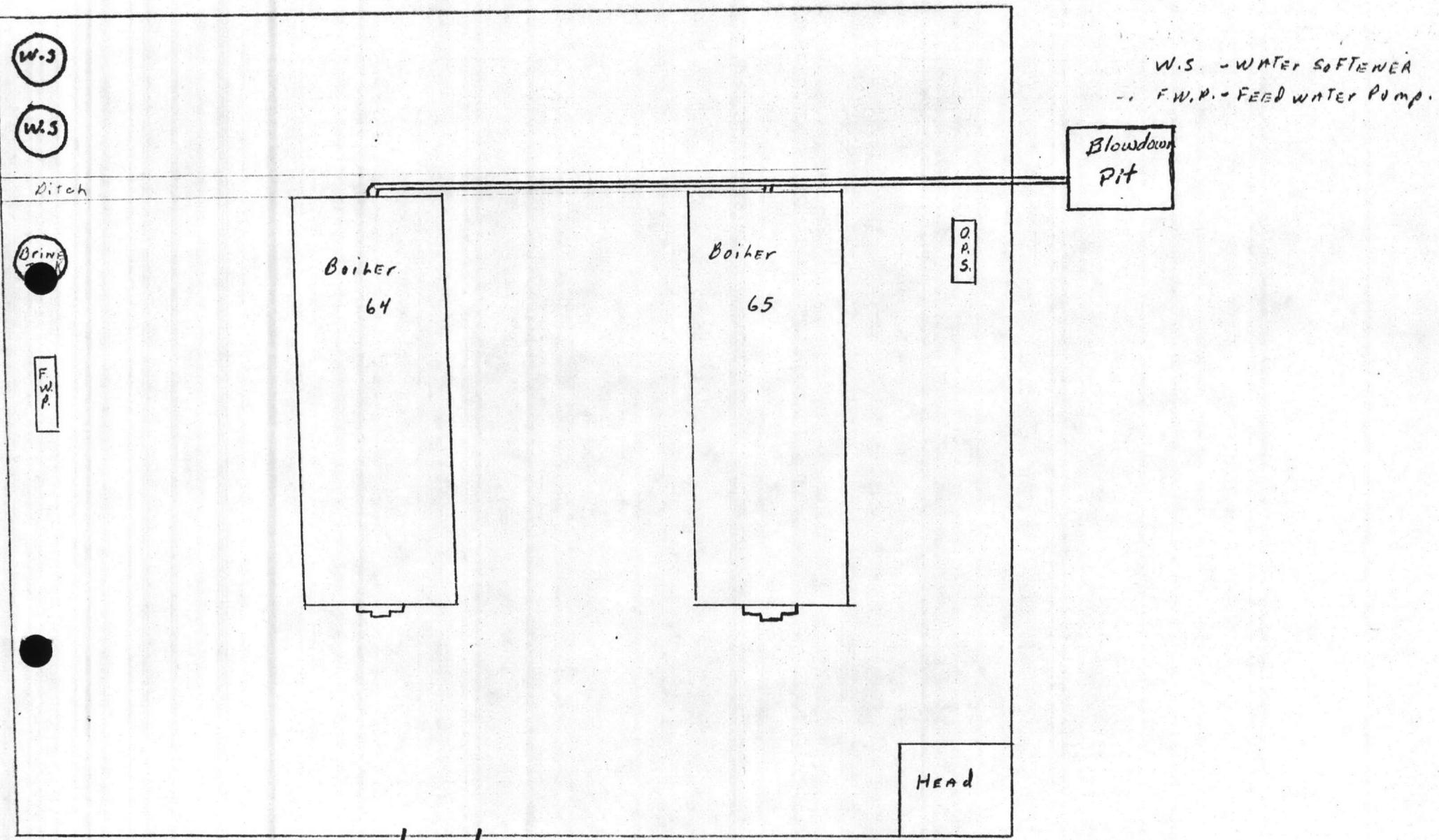
Justification: The piping in the ditch has holes in it and the pit has deteriorated to the extent it will not take care of the boiler blowdown water. Water backs up in the ditch in the plant.

Estimated Cost: \$4,000

Complete (In-house)



BA-106



W.S. - WATER SOFTENER
F.W.P. - FEED WATER PUMP

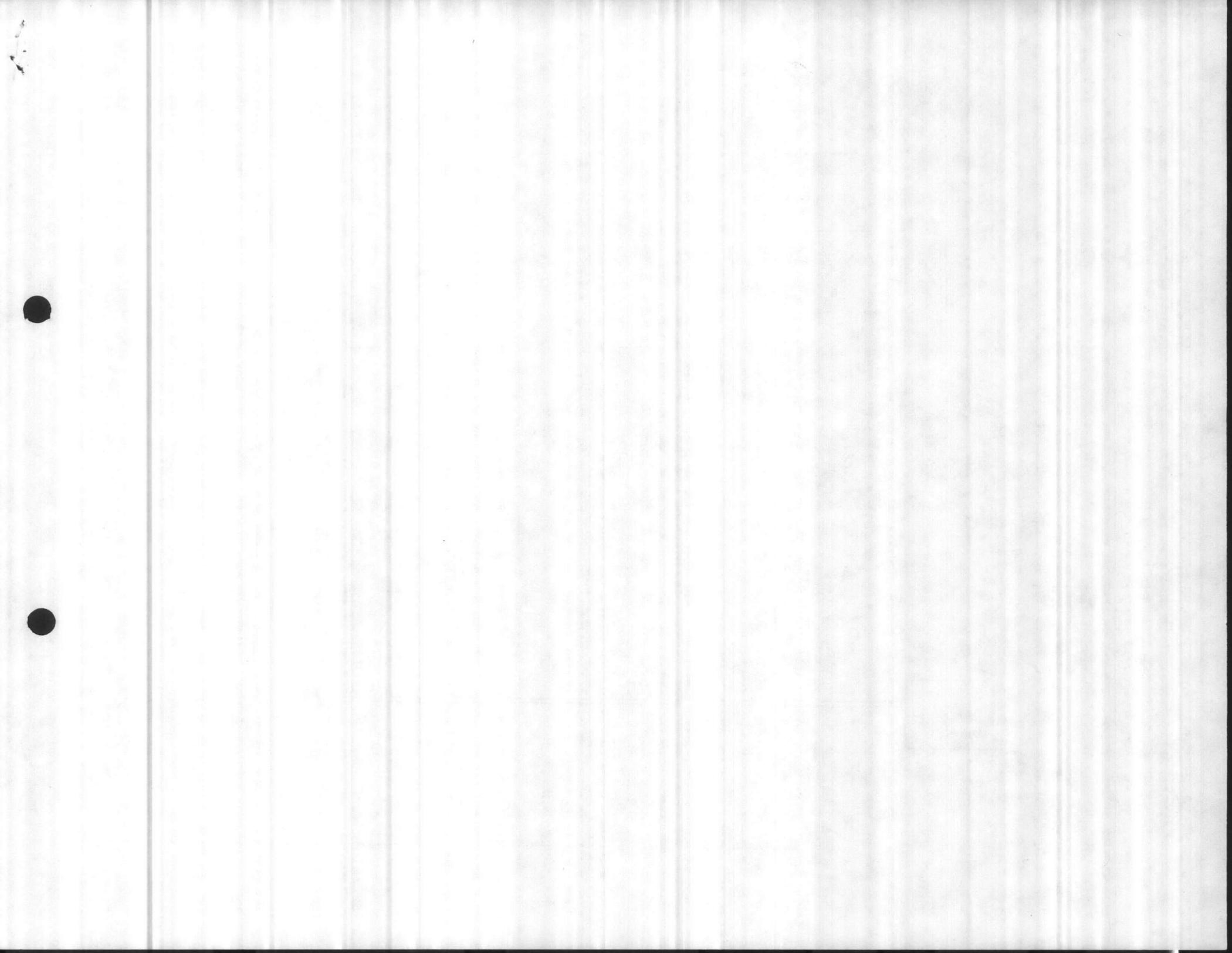
Blowdown
PIT

Boiler
64

Boiler
65

O.P.S.

HEAD



REPLACE TWO WATER SOFTENERS AND BRINE TANK

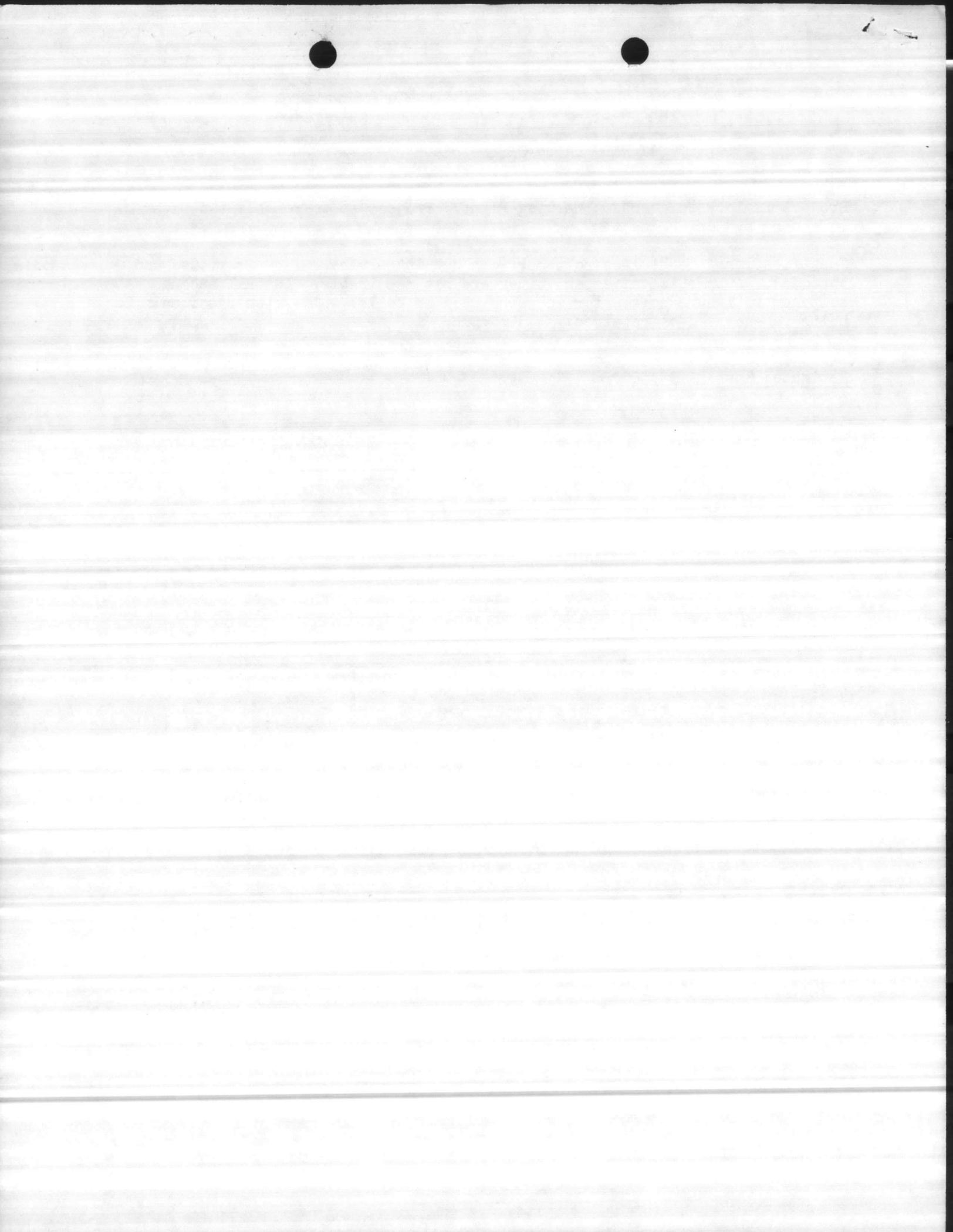
AT BLDG BA106 ONSLOW BEACH HEATING PLANT

Project is located at BA106 Heating Plant. Project is to replace two water softeners and one brine tank.

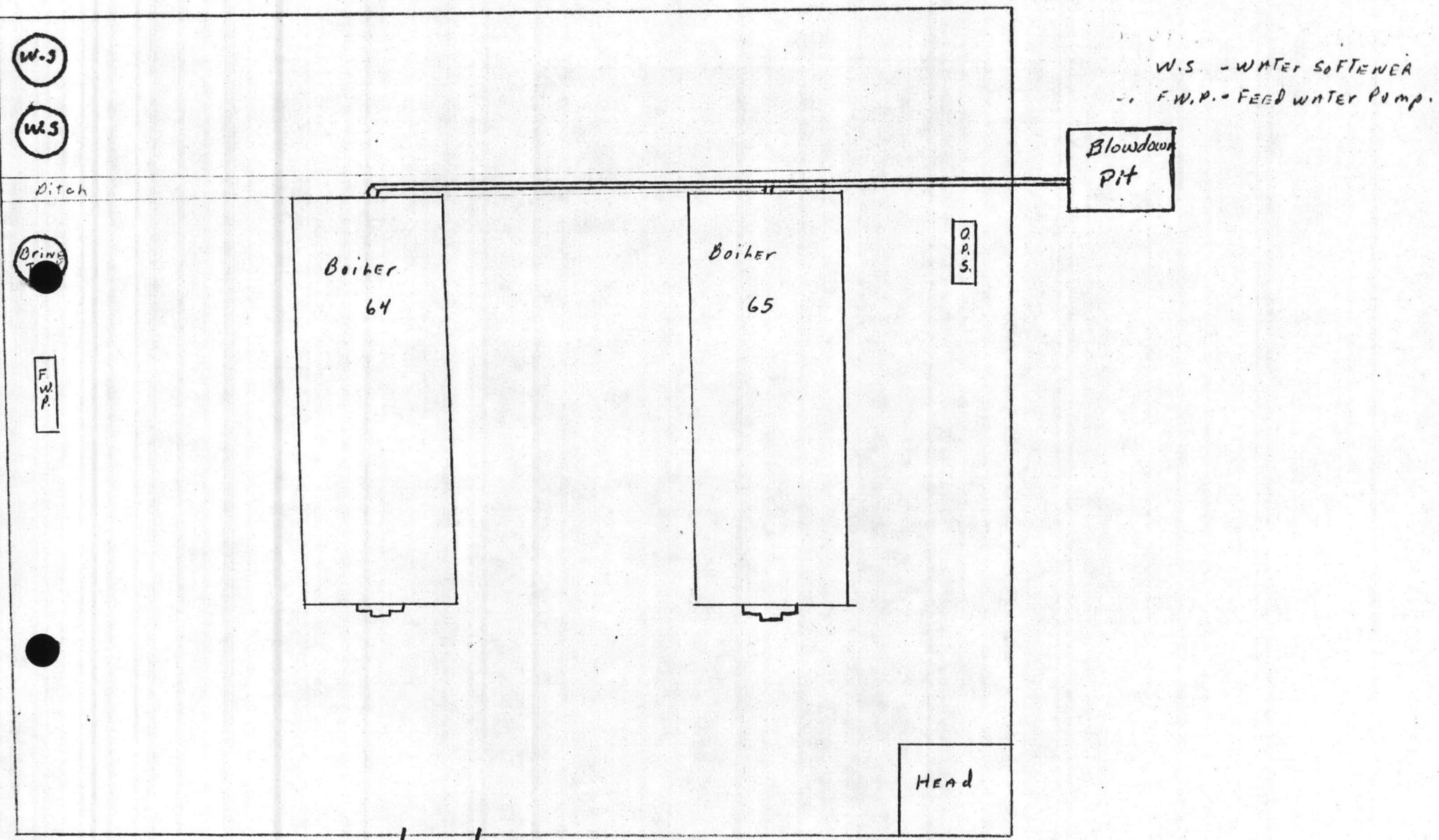
Justification: To replace softener worn out in service. Tank is pitted and corroded. Automatic valves and timer are not repairable. Install second softener to insure soft water is being used in boiler while either softener is being regenerated or repaired.

Estimated Cost: \$3,500

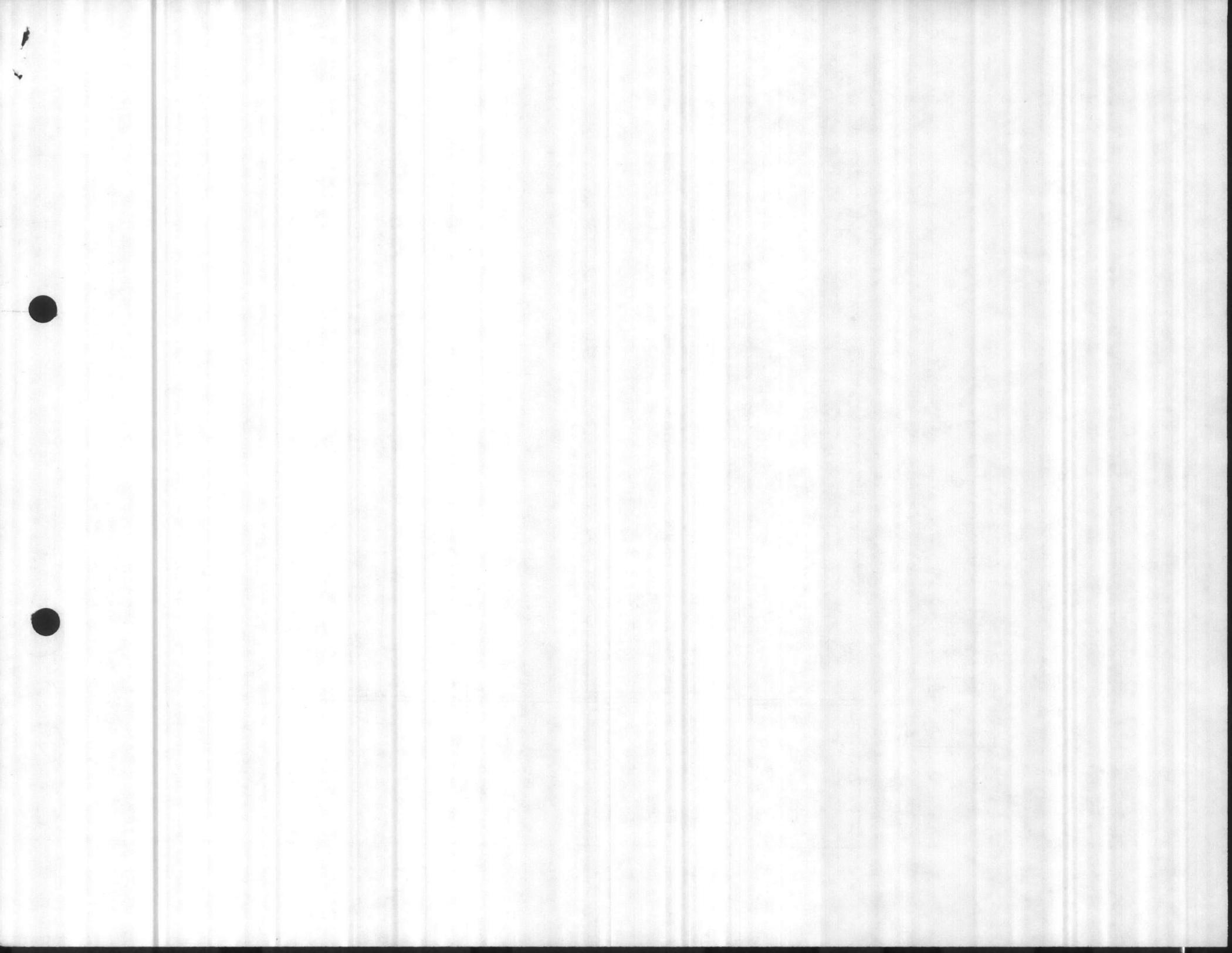
Complete



BA-106



W.S. - WATER SOFTENER
F.W.P. - FEED WATER PUMP.



REPLACE WATERLINE ACROSS INLAND WATERWAY BLDG BA-138

Replace approximately 500 feet of 10 inch c.i. waterline crossing the Inter-coastal Waterway. The line presently extends approximately seventy five feet into the water before descending to bottom of waterway. The pipe is over thirty years old and is leaking under water. It has been broken by barges several times. Pipe should be replaced and thoroughly protected from vessels and corrosion. See diagram attached.

Estimated Total Cost - \$15,000

Complete



INLAND
WATERWAY

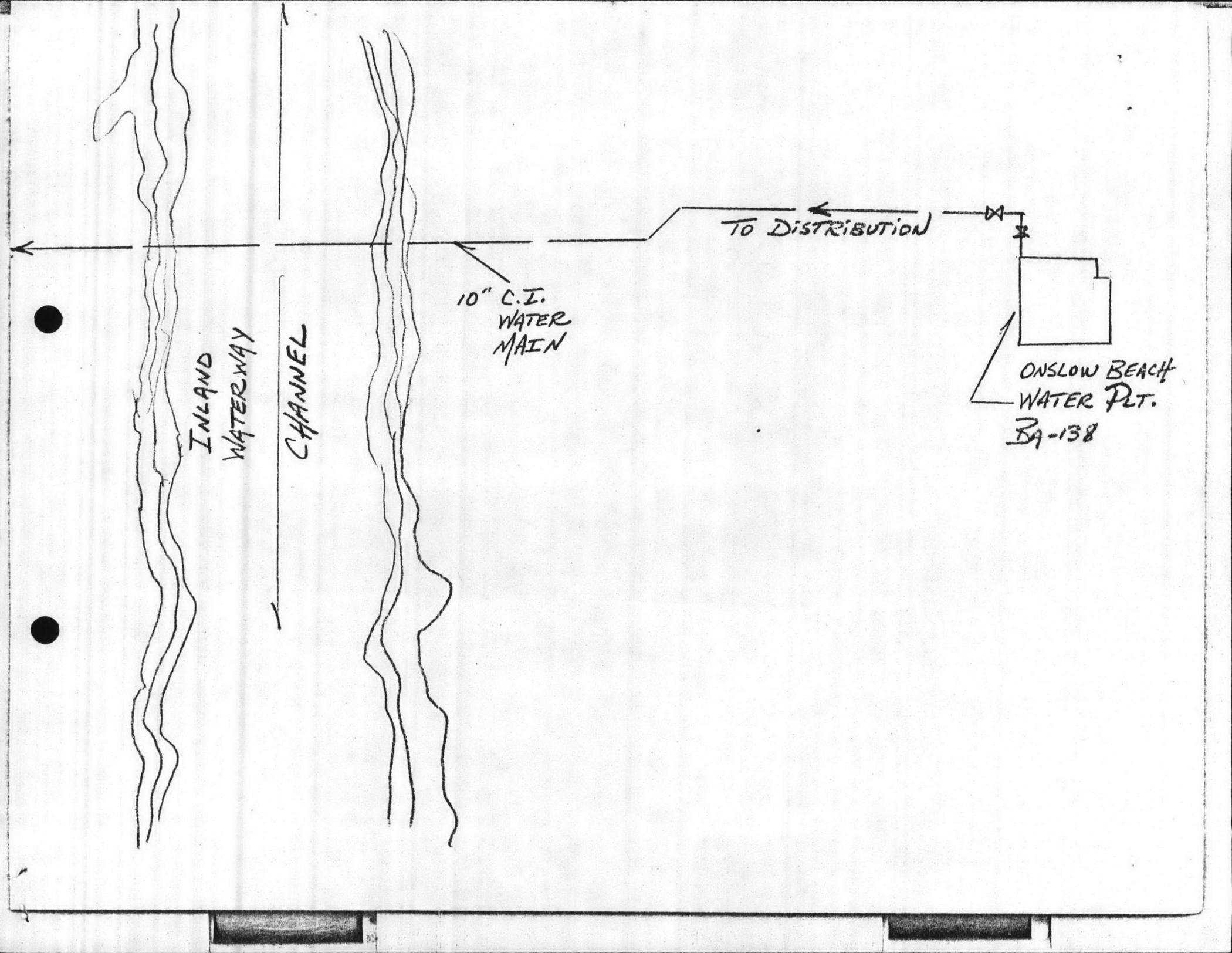
CHANNEL

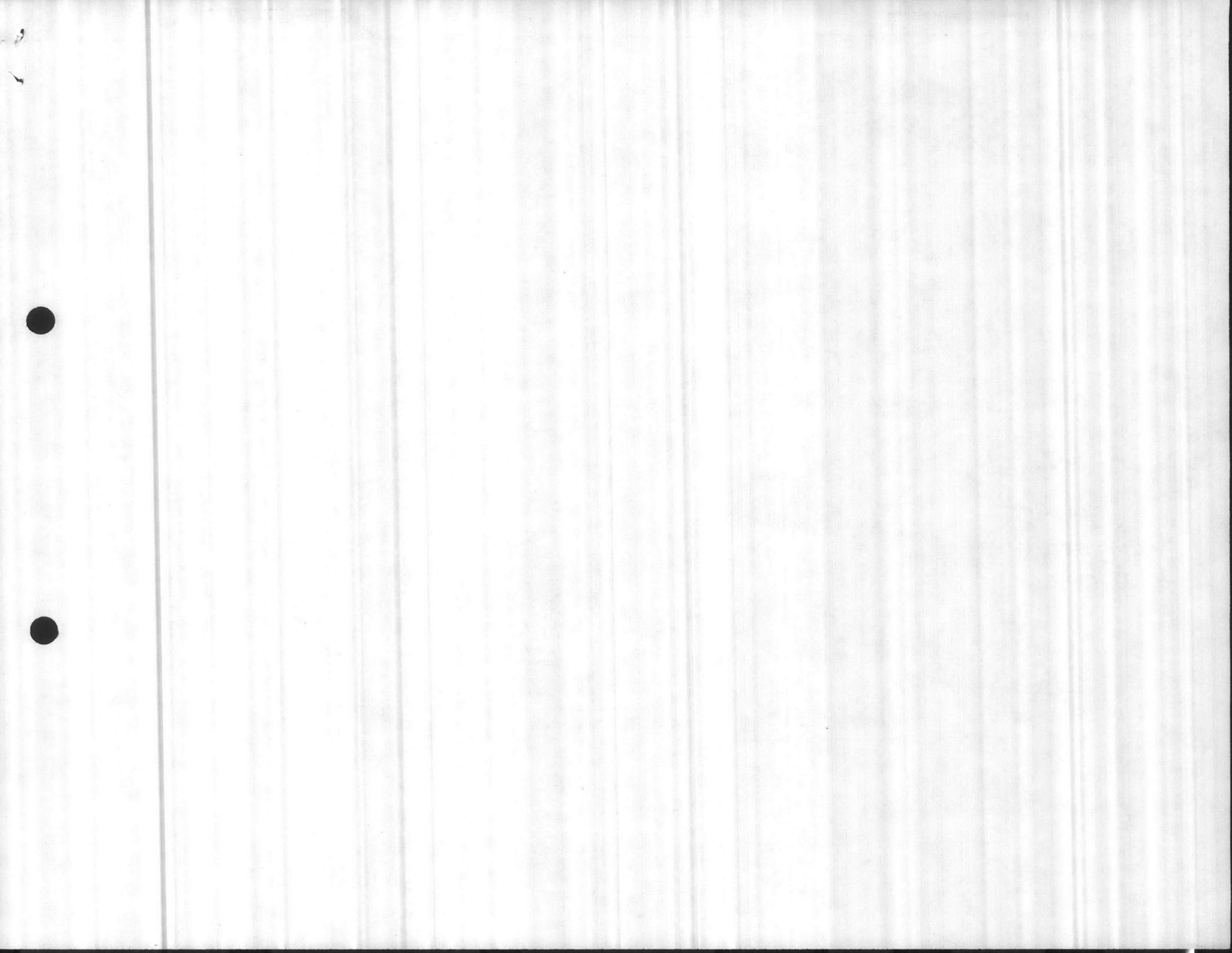
10" C.I.
WATER
MAIN

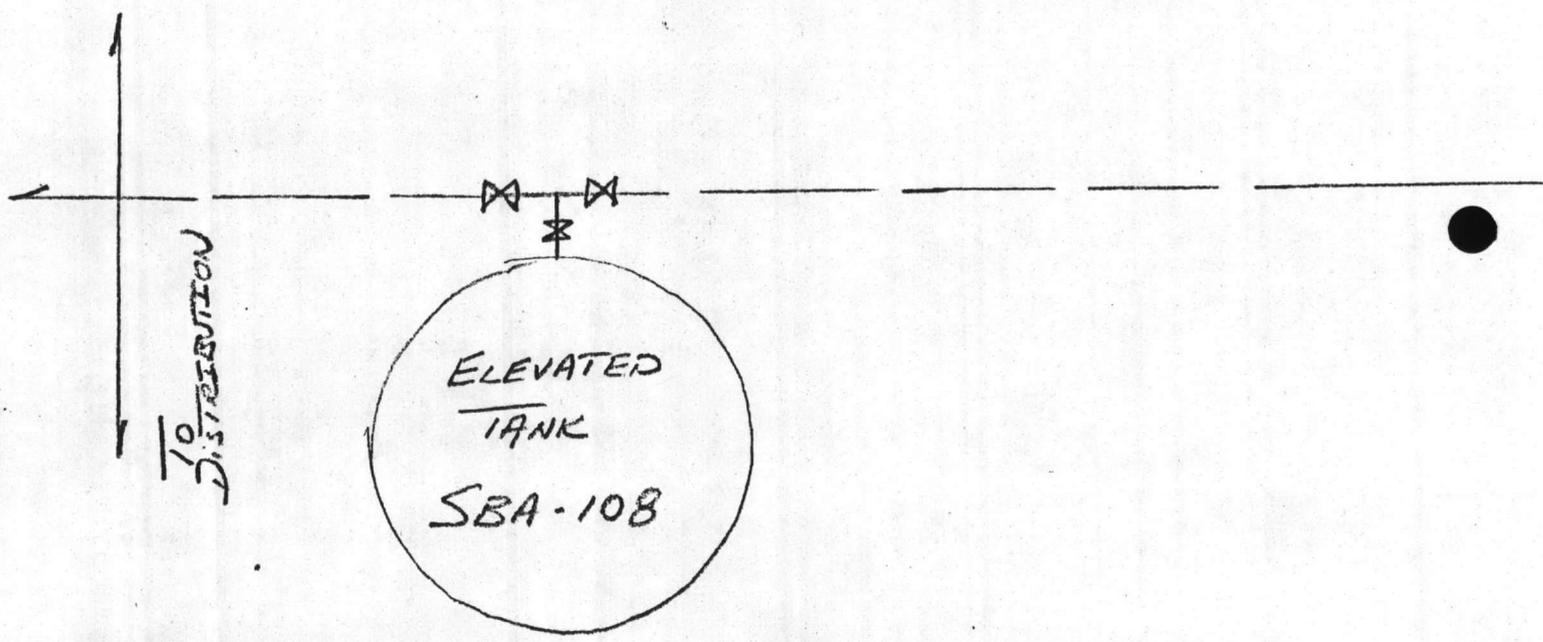
TO DISTRIBUTION

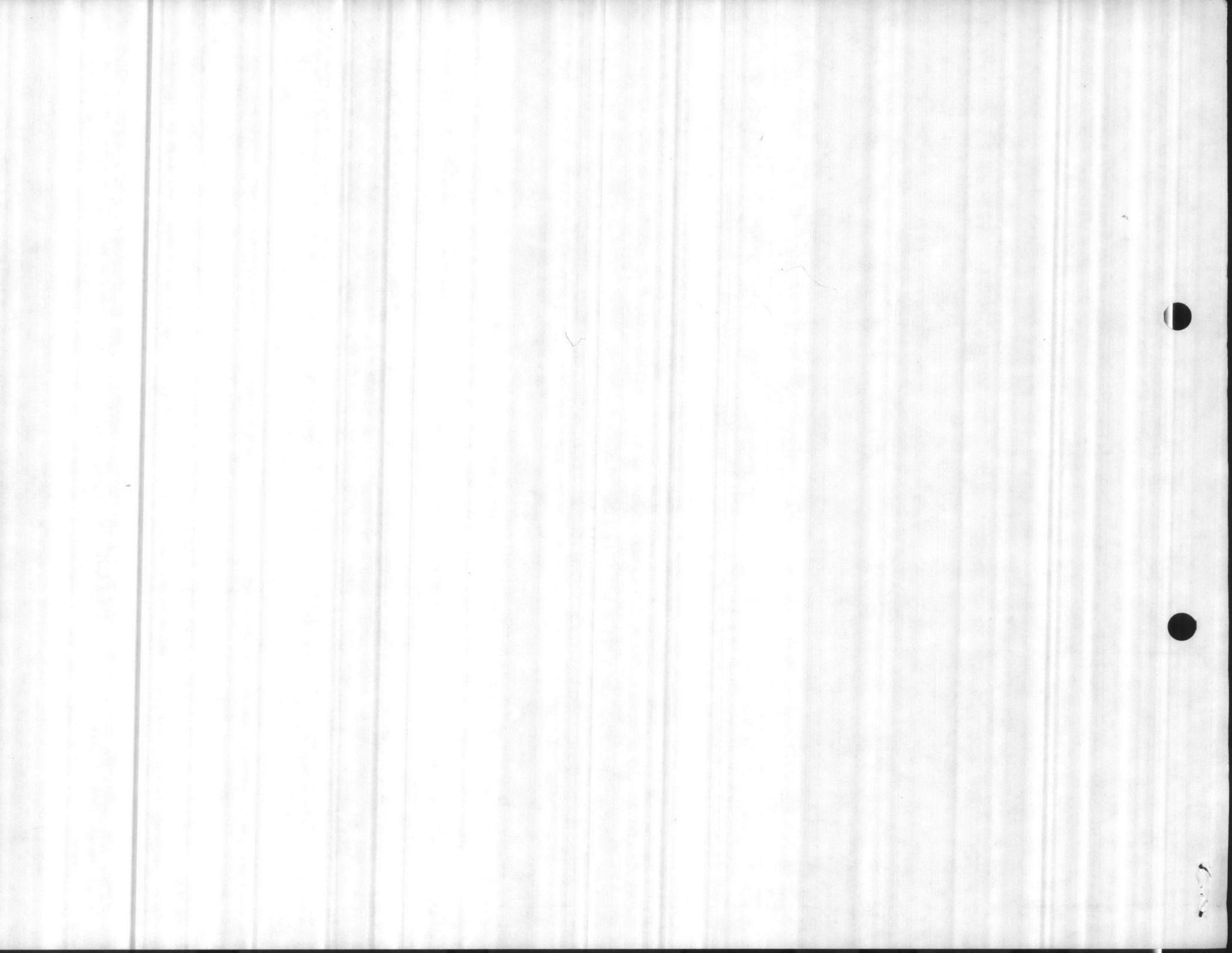
ON SLOW BEACH
WATER PLT.

BA-138









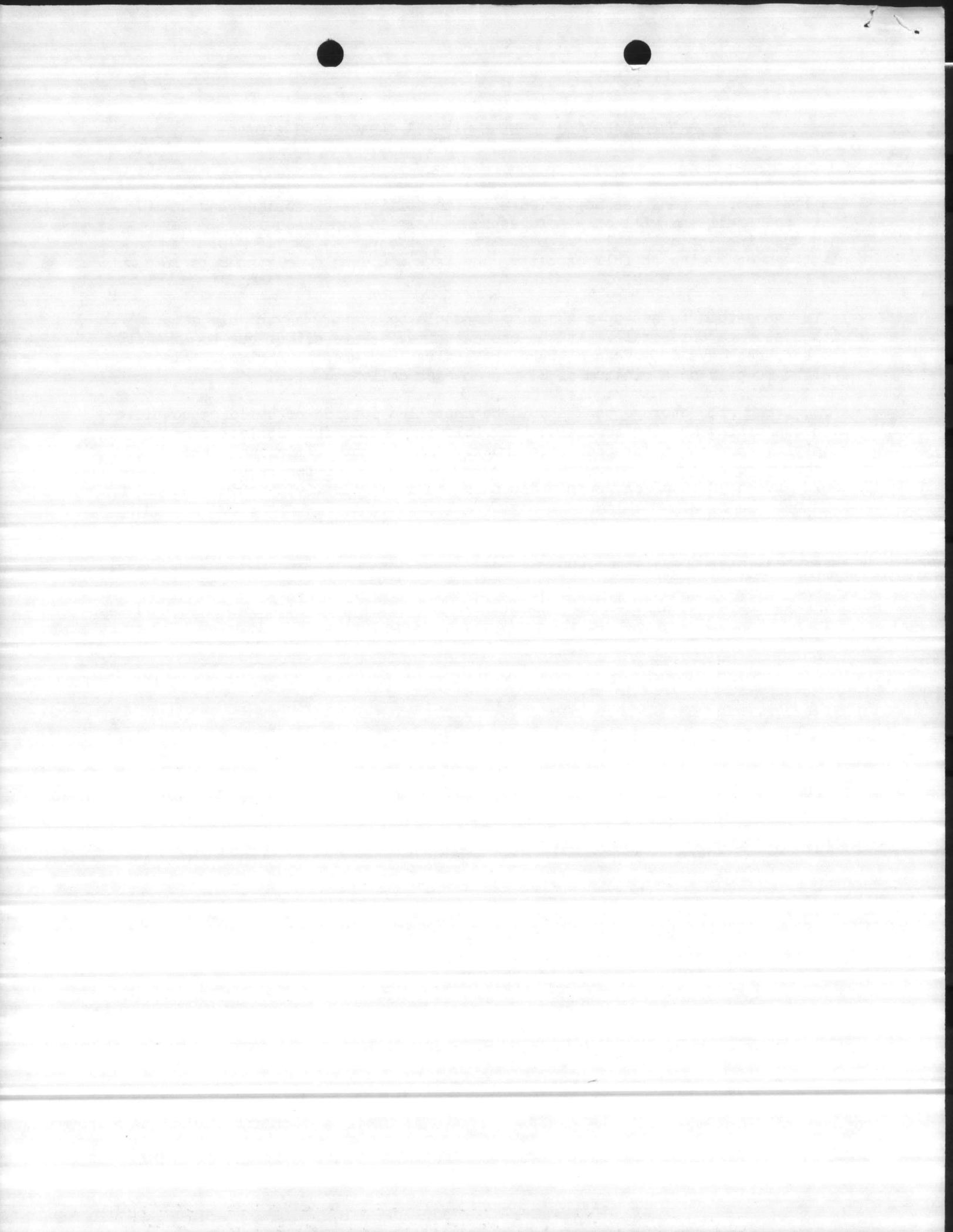
PROVIDE ADDITIONAL LIME STORAGE CAPACITY AS-110

The lime storage tank was installed with the utilities expansion plan in 1975. It is too small and will only hold approximately 16 ton which is a 22 day supply when treating approximately 1.3 MGD. The plant capacity is 3.5 MGD. If the plant was operating at full capacity, the tank would hold only an 8 to 10 day supply.

It is impossible to set up a shipping schedule to satisfy a variable demand with a storage this small. At the present time, we are either out to lime from one to three days or we cannot take the entire load when it arrives. Also freight is paid on a minimum of 21 ton on each delivery.

A receiving silo storage tank should be installed outside of building complete with connecting 4" pipe to inside tank, blower system, dust collector and receiving connection for pneumatic truck. Silo to have a minimum capacity of 40 ton. The delivery trucks usually carry 25 ton. A 40 ton receiving tank would give a 30 to 60 day supply depending on daily flow. It would also eliminate being without lime and paying extra freight. See attached sketch.

Estimated Total Cost - \$75,000



DUST COLLECTOR

VENT PIPE

DIVERTER VALVE

LEVEL INDICATORS

4" RETURN AIR LINE

3" LIME FEED LINE

LIME STORAGE SILO

CO. T

LOCATION OF CLEAN OUT 3' FROM EDGE OF ROOF

LEVEL INDICATOR

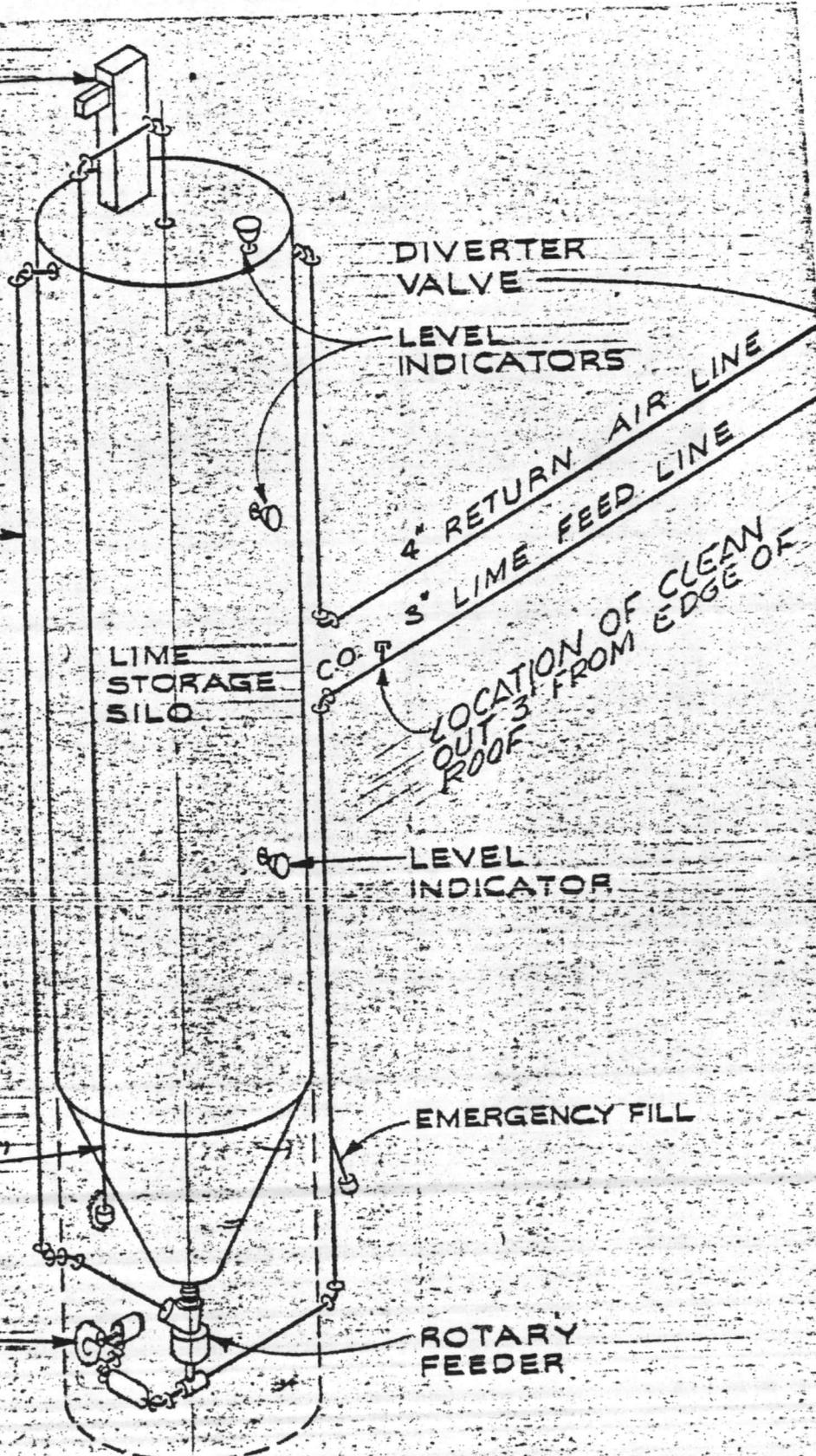
4" FILL PIPE SEE DETAIL THIS SH. T.

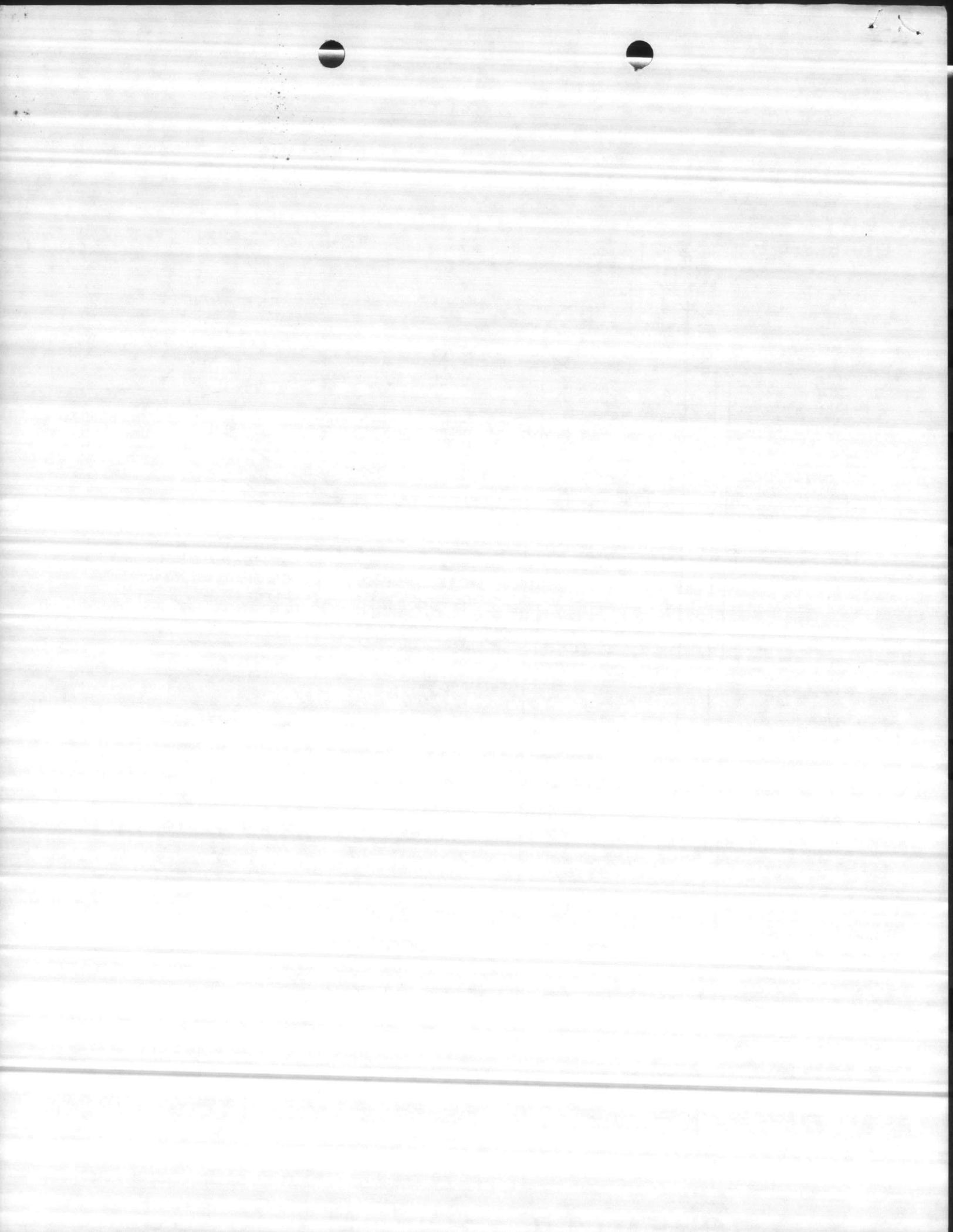
EMERGENCY FILL

BLOWER UNIT

ROTARY FEEDER

SCHEMATIC - PNEUMATIC CON

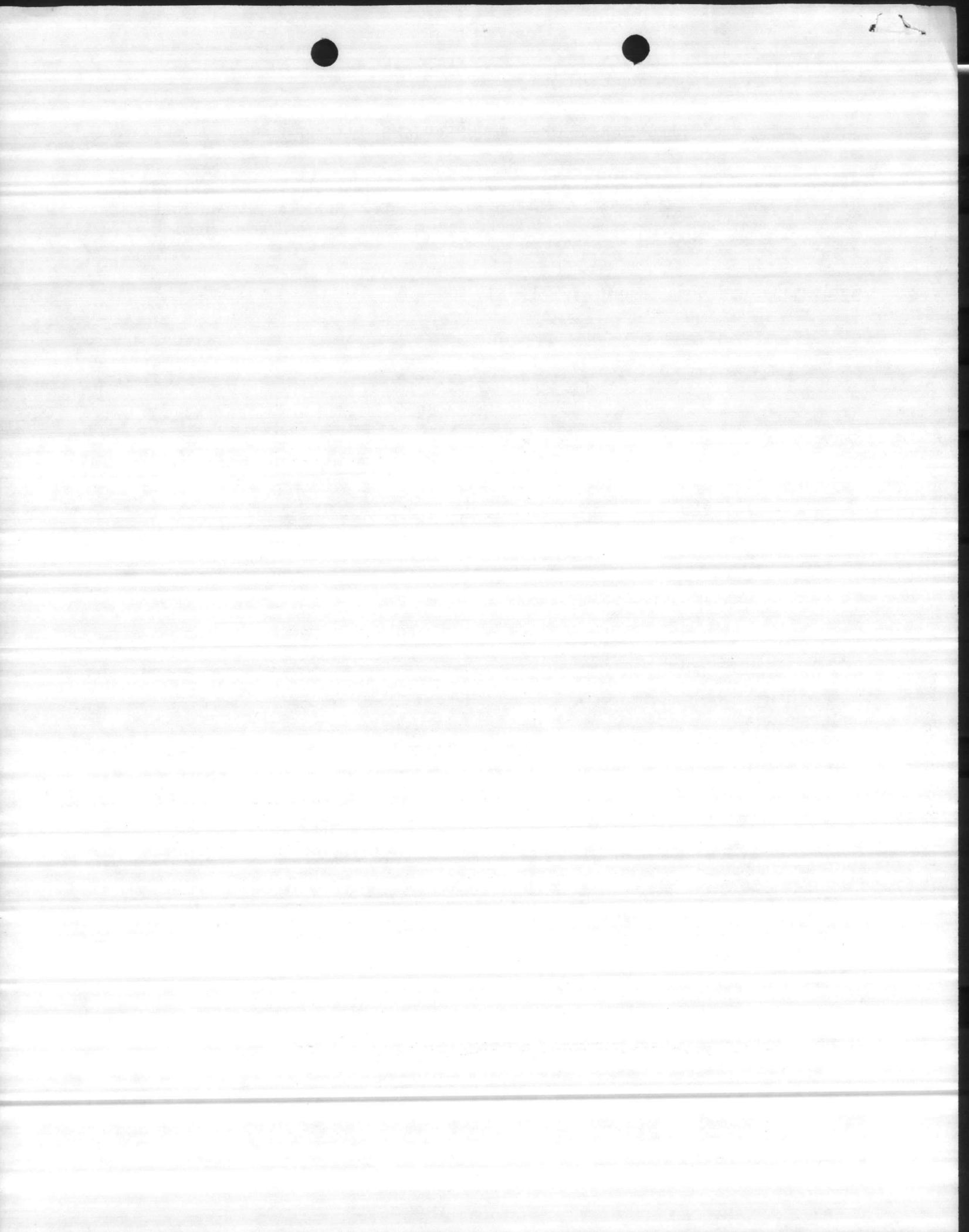


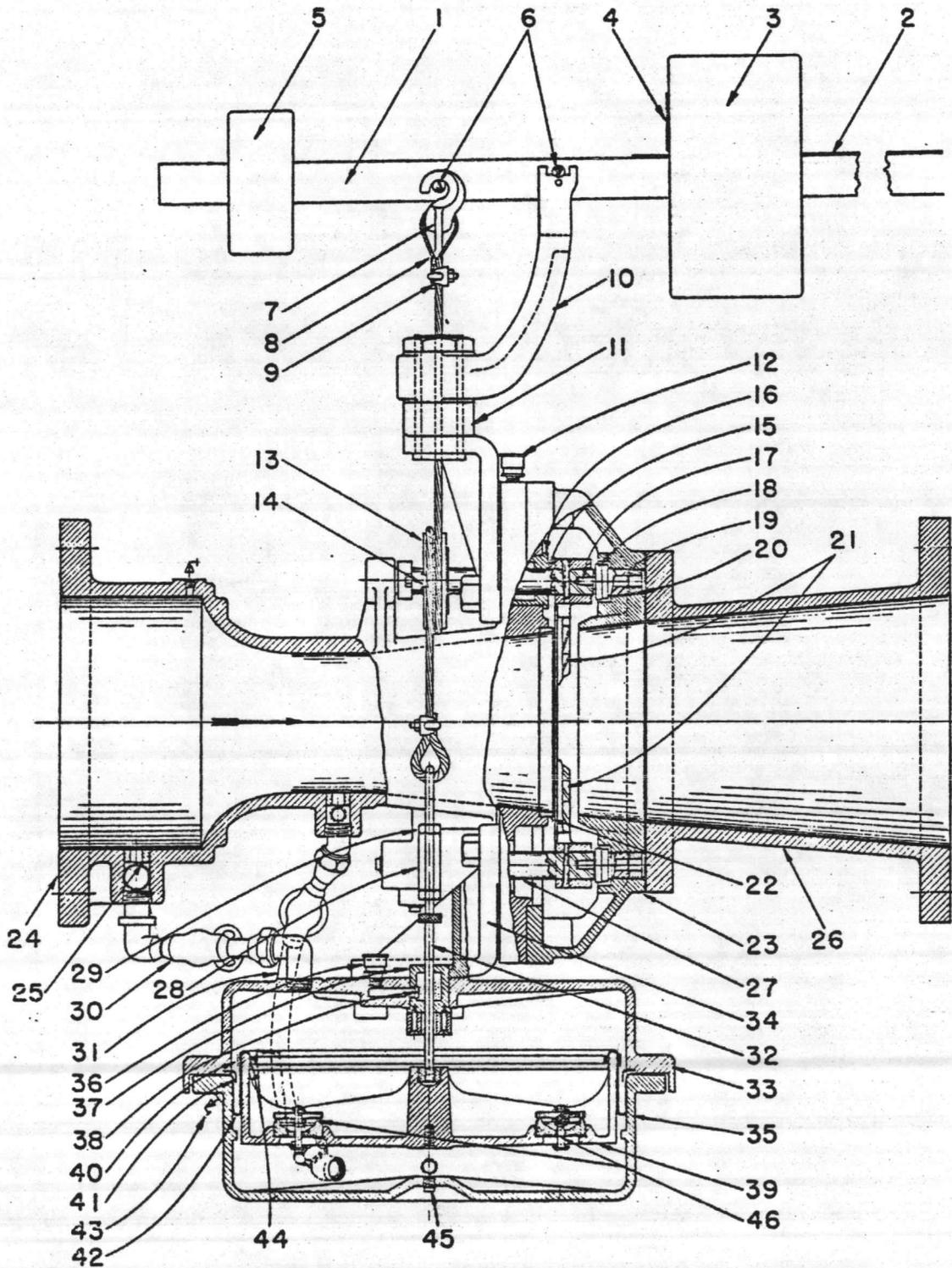


REPLACE RATE OF FLOW CONTROLLERS, BLDG HP-20

Replace rate of flow controller simplex Type S. This equipment, installed in 1942, is worn out and parts are no longer available. Replacement controller should be a modern type size eight inch, capacity 700 GPM and an operating range of 50% to 100%. See attached sketch.

Estimated Total Cost Each @ \$2,500 = \$12,500





SIMPLEX TYPE S CONTROLLER PARTS LIST

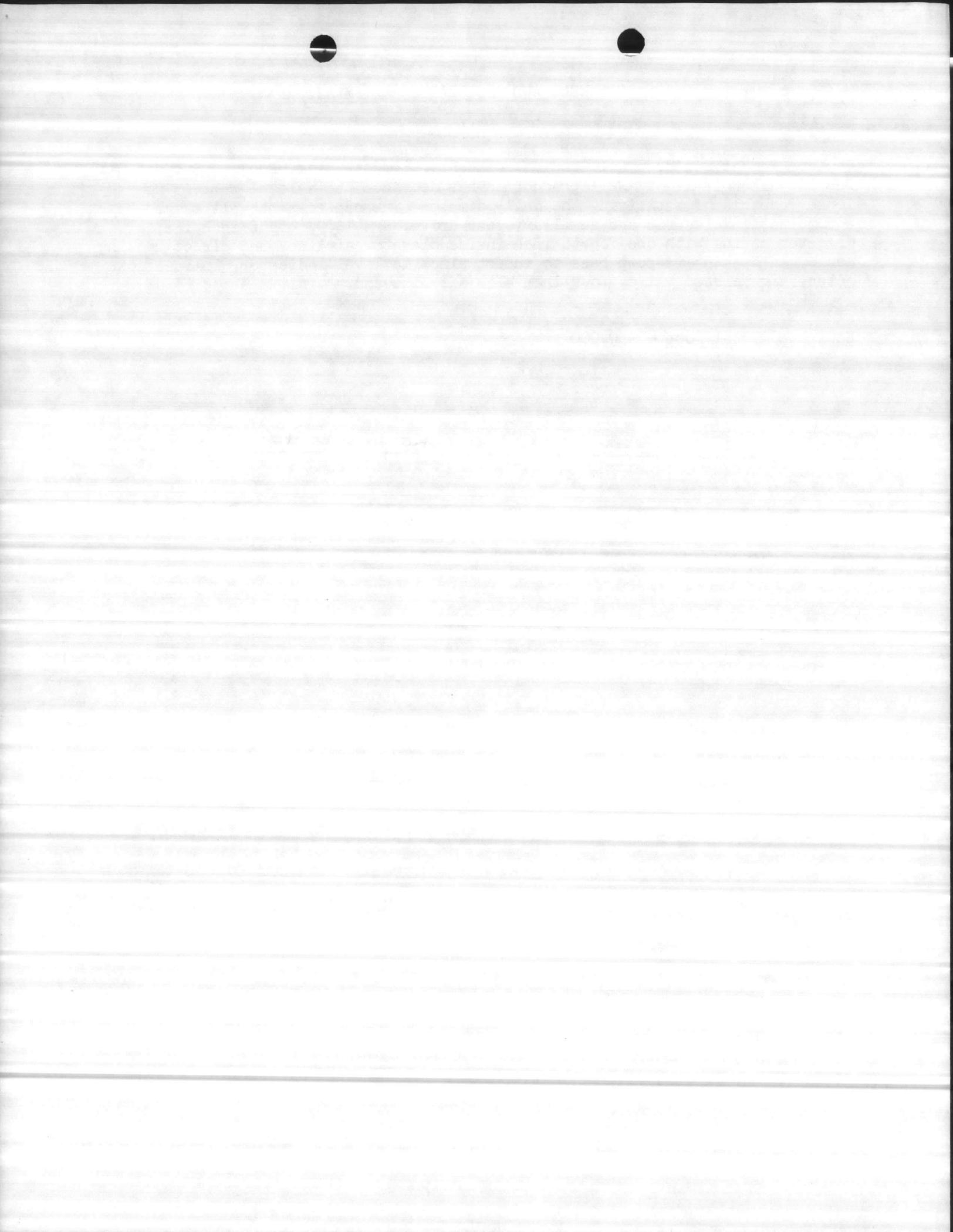


REPLACE DEEP WELL AND ASSOCIATED EQUIPMENT, HP-610

Replace Number Ten deep well and associated equipment, Bldg HP=610. Subject well was installed in 1943. Well production has decreased to a level that is no longer capable of satisfying the daily demand. The replacement well should have a combination electric and auxillary gear drive, RPM 1800, eight inch inside diameter casing with one-fourth inch inside diameter airline, and direct reading gauge, an opening in pump base to insert electric level indicator, inline flow meter, air release valve, four inch blow off line and a minimum capacity of 200 GPM.

Estimated Total Cost - \$50,000

Changed to Repair



REPLACE DEEP WELL, BLDG M-168

Replace number six deep well, pump and all associated equipment. Well was installed in 1943 with a capacity of 150 G.P.M. Through the period of twenty seven years of operation, the well efficiency has slowly decreased to a point that it is no longer capable of satisfying the daily demand.

The pump has been pulled and cleaned, inspected, repaired, well was blown and screens jetted with air. After this was done, there was still no noticeable increase in efficiency. The replacement well production should not be less than 200 G.P.M. with a combination electric and auxillary gear drive at 1800 RPM, inside casing should be 8" inside diameter with $\frac{1}{4}$ " inside diameter airline, and an opening insert for electric level indicator, flow meter, air release valve and 4" blow off line.

Total Estimated Cost: \$50,000



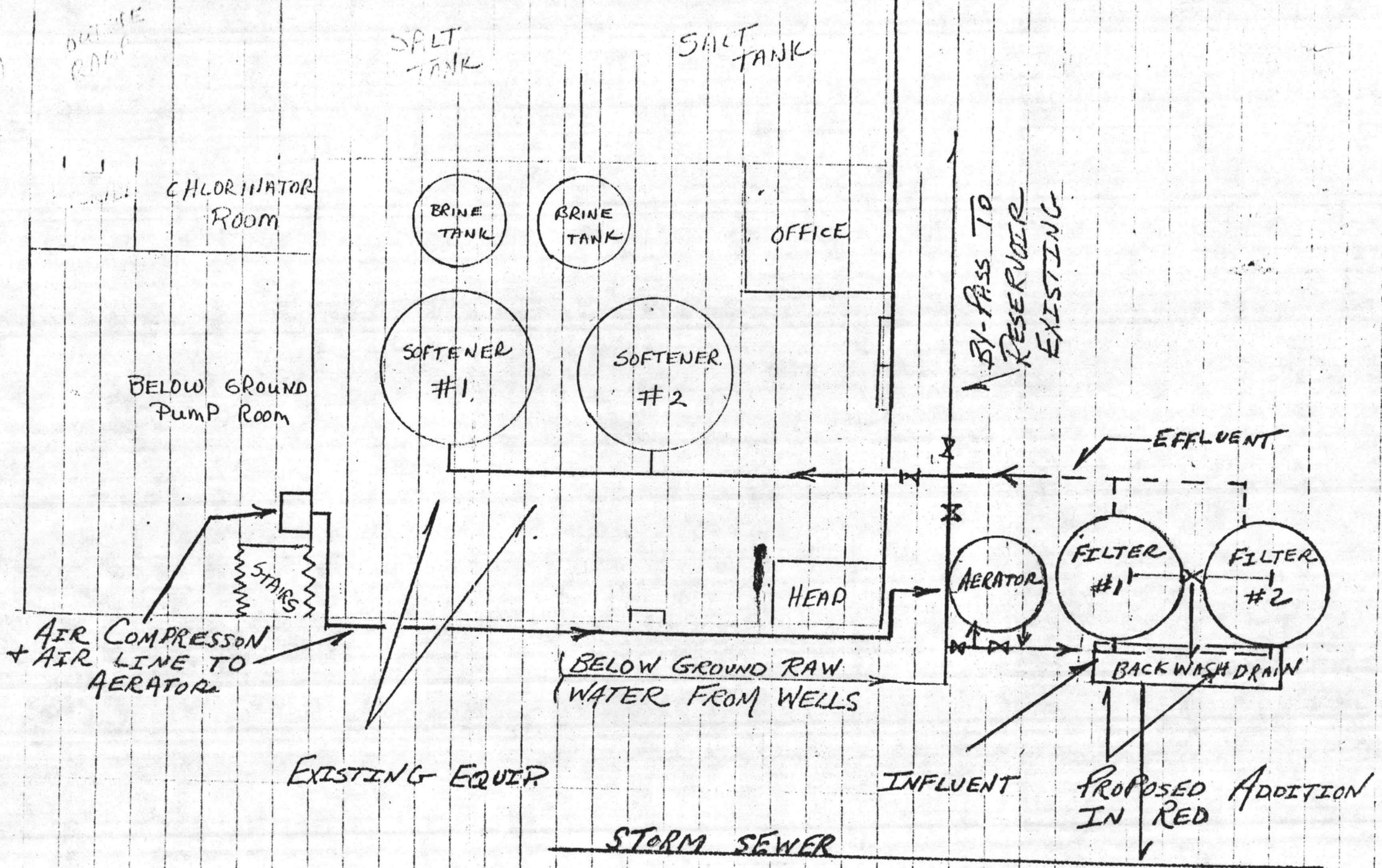
INSTALL AERATOR AND FILTERS, M-178

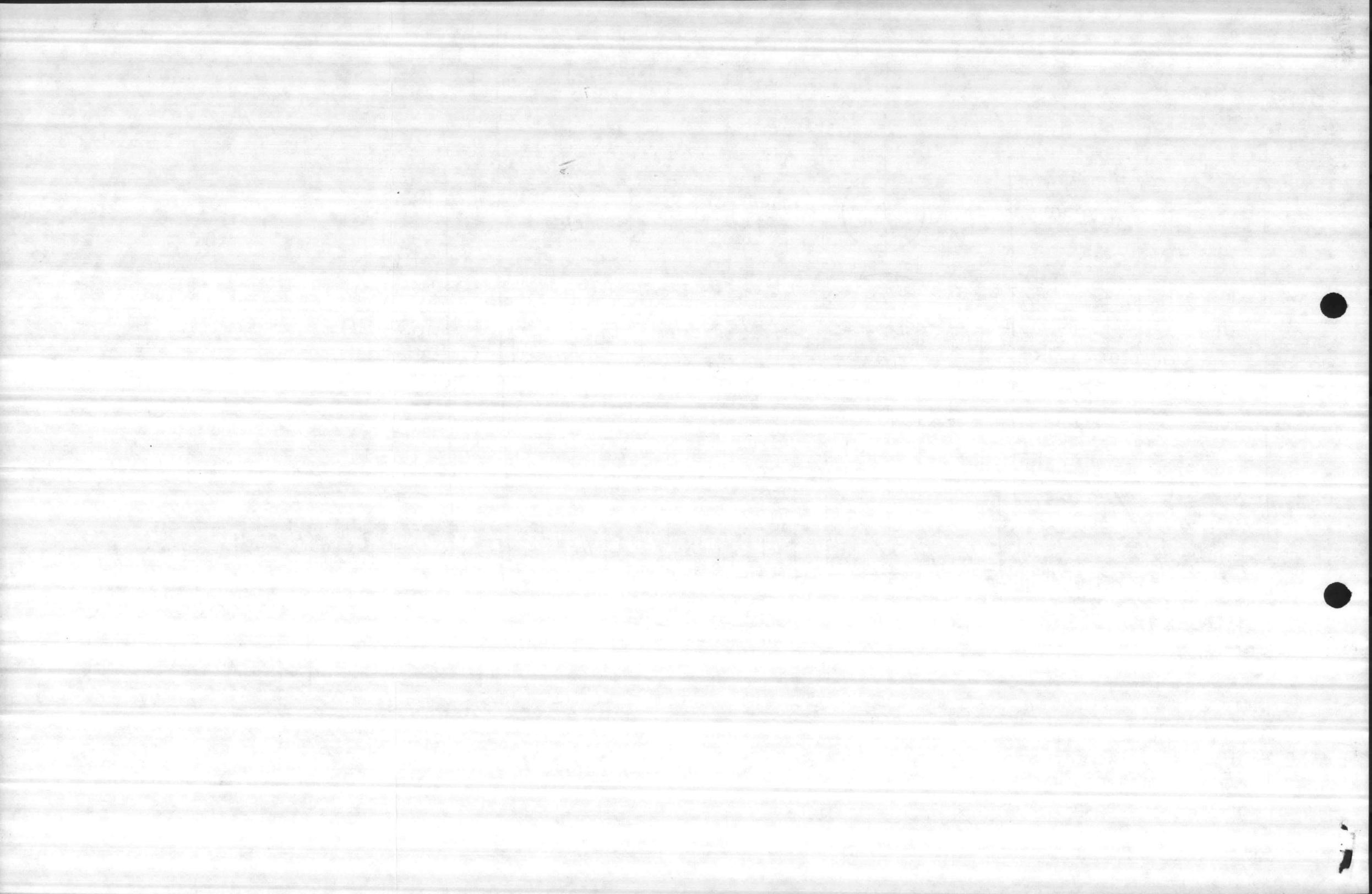
The water treatment equipment consists of two ion-exchange softeners. These softeners are not capable of removing the iron content to the acceptable level stated in both state and federal regulations. The iron is continually exceeding the prescribed level. To eliminate this problem, aeration and filtration should be added. See attached sketch.

Estimated Total Cost - \$50,000

Cancel.



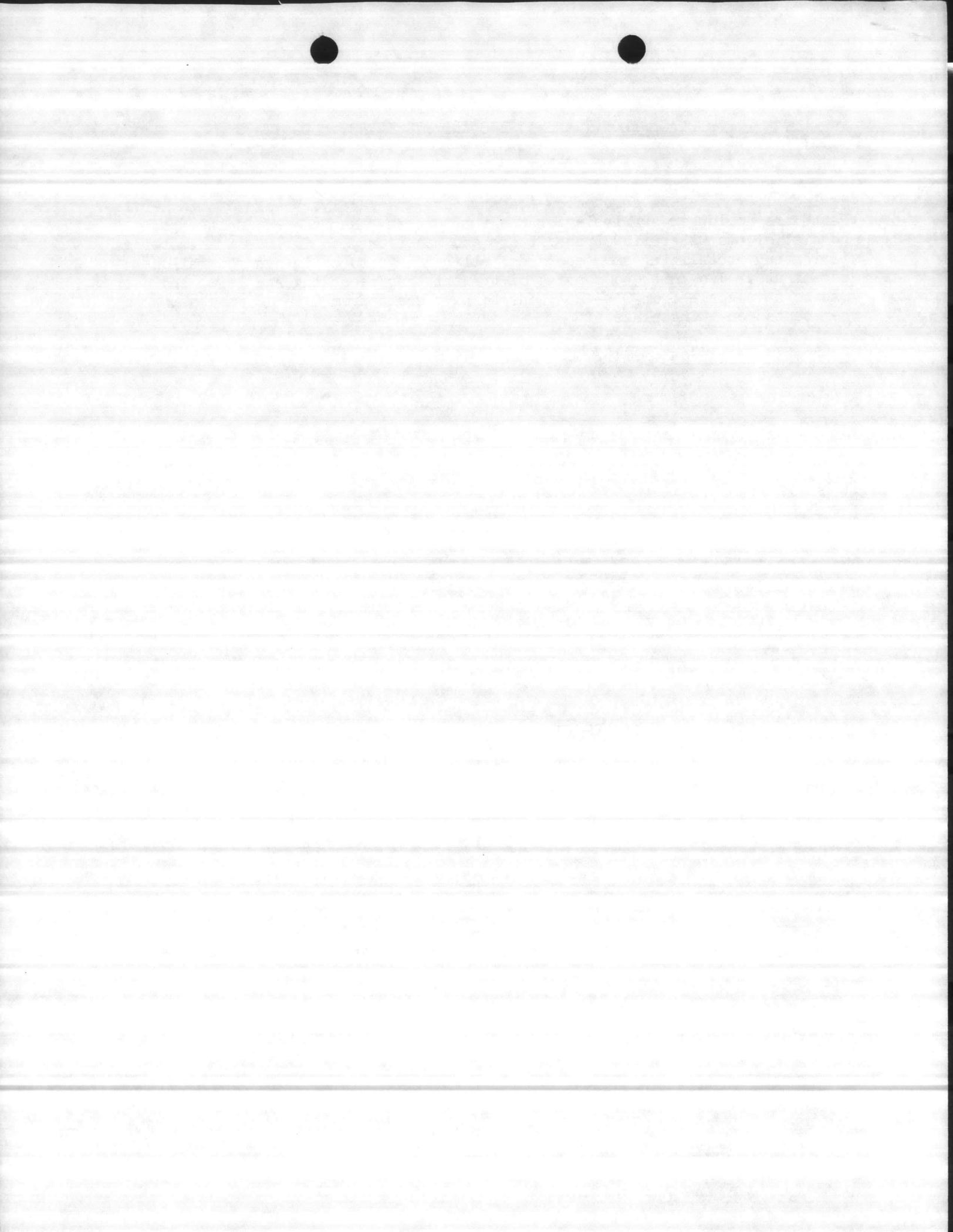




REPLACE FLOW TRANSMITTERS AND RECEIVERS, BLDG TT-38

Replace four existing chronoflow transmitters and receivers worn out in service. Parts are no longer available for the instruments. Replacement units should consist of two water flow transmitters and receivers, to include transmitting, indicating, totalizing and recording; all readings to be in hundred gallons per minute. Two units to consist of transmitting/recording and level indicating. One to have scale from 0' - 25'; one to have scale from 0' - 12'; mechanism to be mounted on swing plate.

Estimated Total Cost - \$15,000



Util's file copy

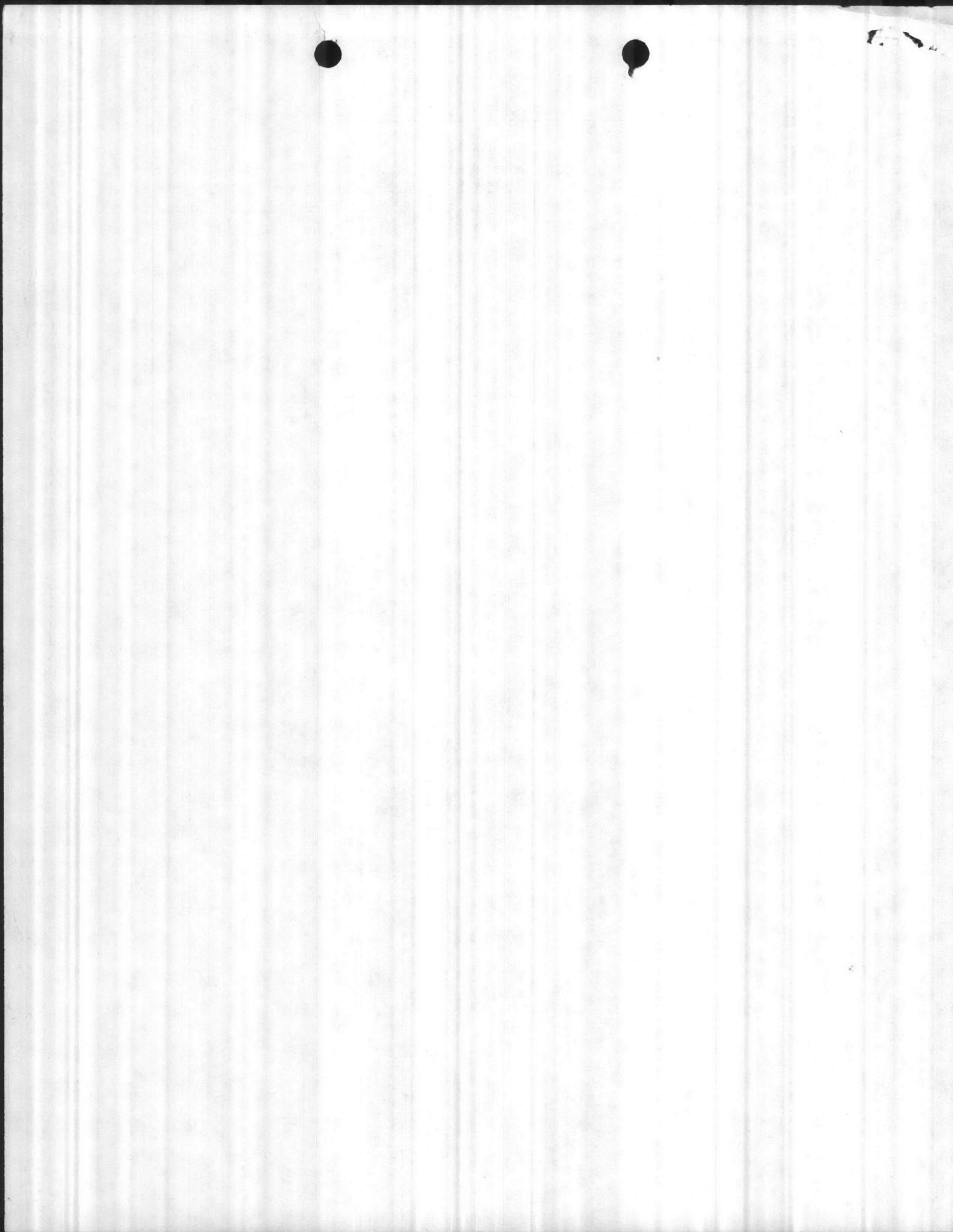
REPAIR DIGESTER COVERS, BLDG 22

Project is located at Hadnot Point Sewage Plant Bldg. 22. The digester composition roof has cracks and holes in it; the rain has kept the rafters and sheathing wet, and they have become rotten. The digester roof should be repaired. See attached sheet.

Estimated Price:

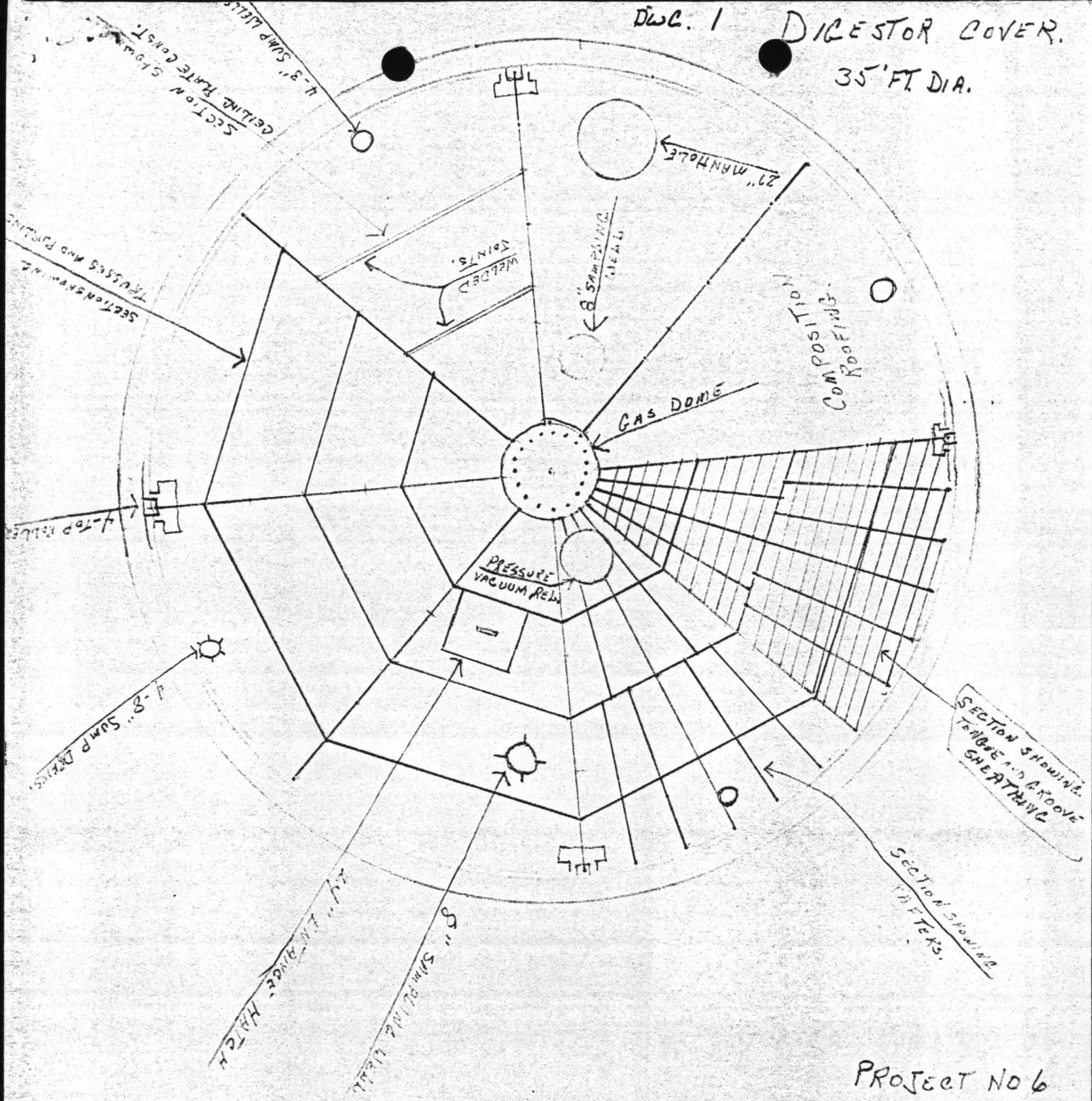
New Cover on Digester - \$8,000

3 Digestors - Total - \$24,000



DWG. 1 DIGESTOR COVER.

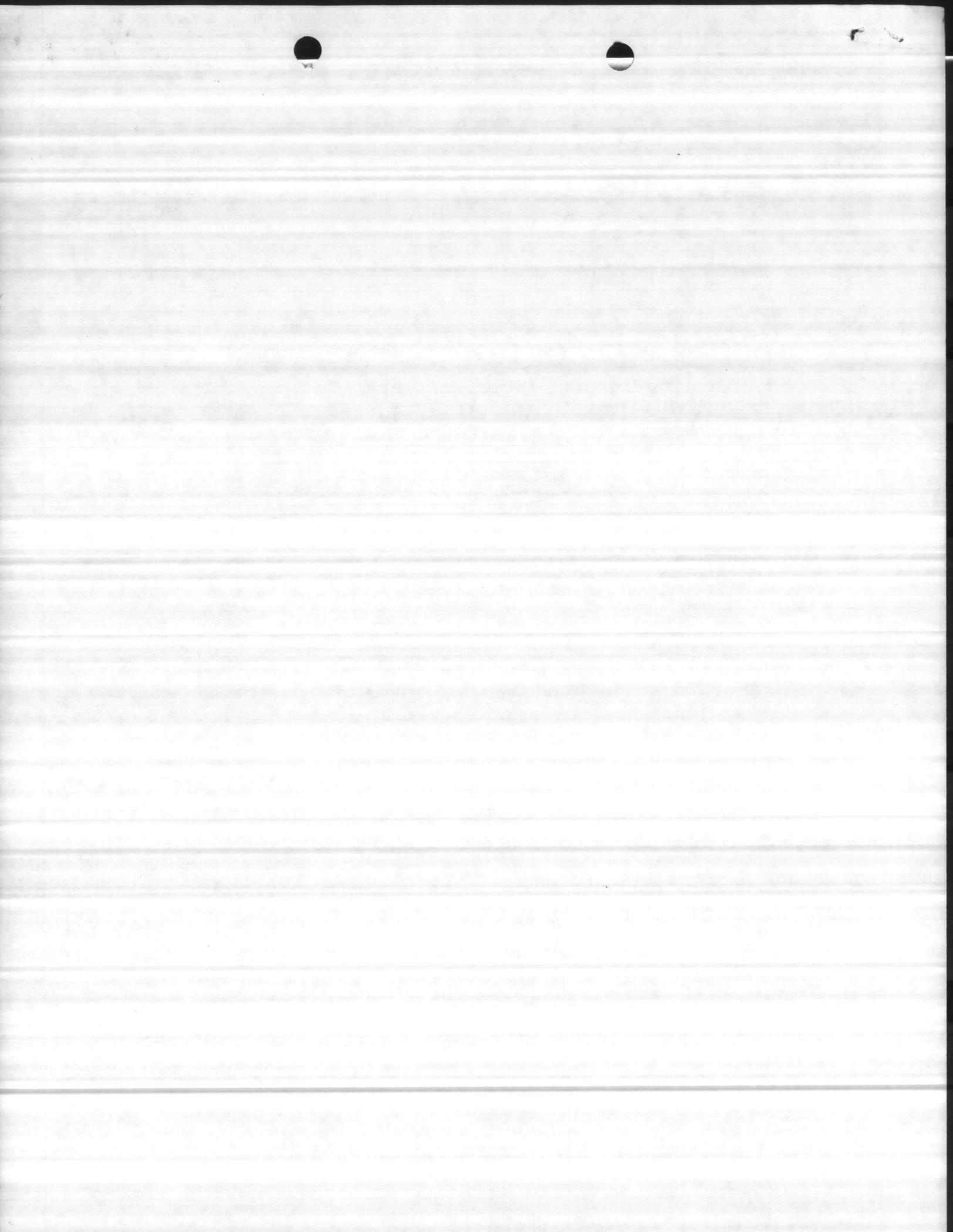
35' FT. DIA.



PROJECT NO 6

REPAIR TO DIGESTOR COVER.

- 1- CLEAN AND PAINT ALL EXPOSED METAL.
- 2- REPLACE RAFTERS AND SHEATHING.
- 3- REPLACE COMPOSITING ROOFING.
- 4- EST. COST. \$3,000.00
- 5- THREE DIGESTORS NEEDS REPAIR.



Old file copy

REPLACE LIFT STATION, COMMUNOTOR CHANNEL,
PUMPS AND COMMUNOTORS, TT-35

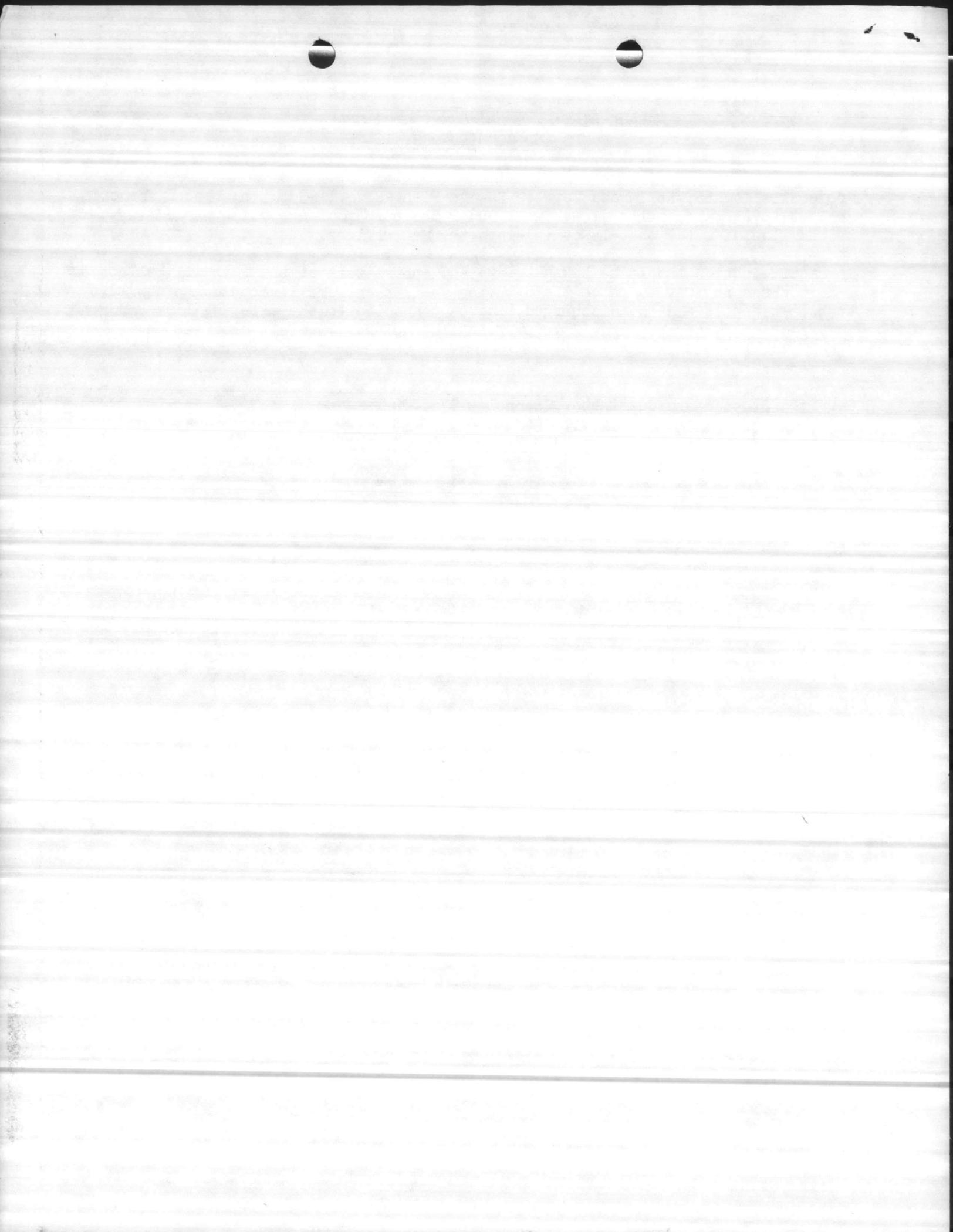
Project is located at Tarawa Terrace Sewage Plant Bldg. TT-35. The reason for this project is that the walls of wet well under the pump room are being washed away by the flow of water that is coming into the wet well.

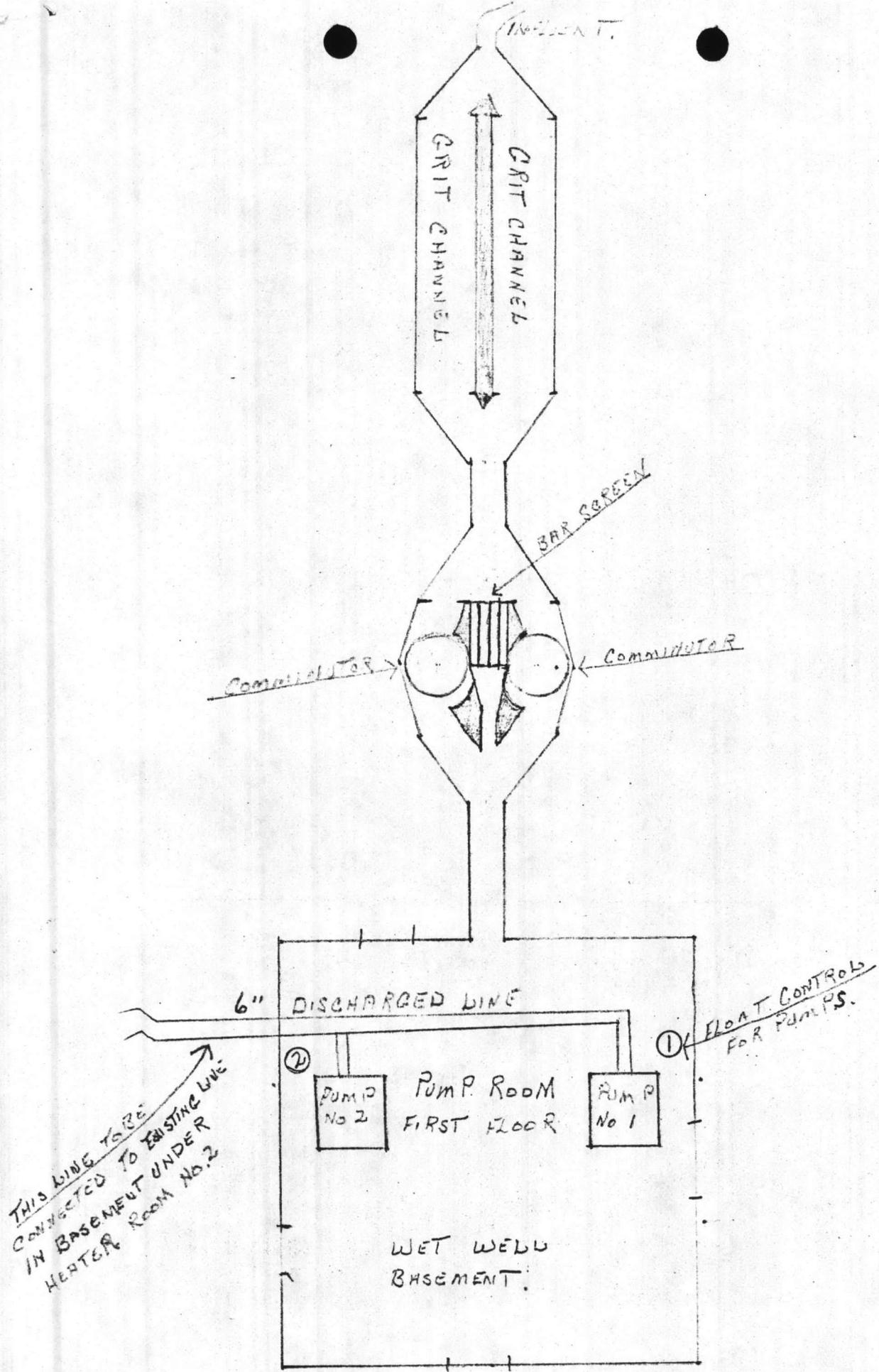
Corrective action should be taken before the entire wall of the wet well collapses. I do not see any way to patch the existing wall, therefore I recommend a new lift station be built and the discharged line be connected to the existing line under the floor of heater room no. 2 in present floor plans. See attached sketch.

Estimated Price:

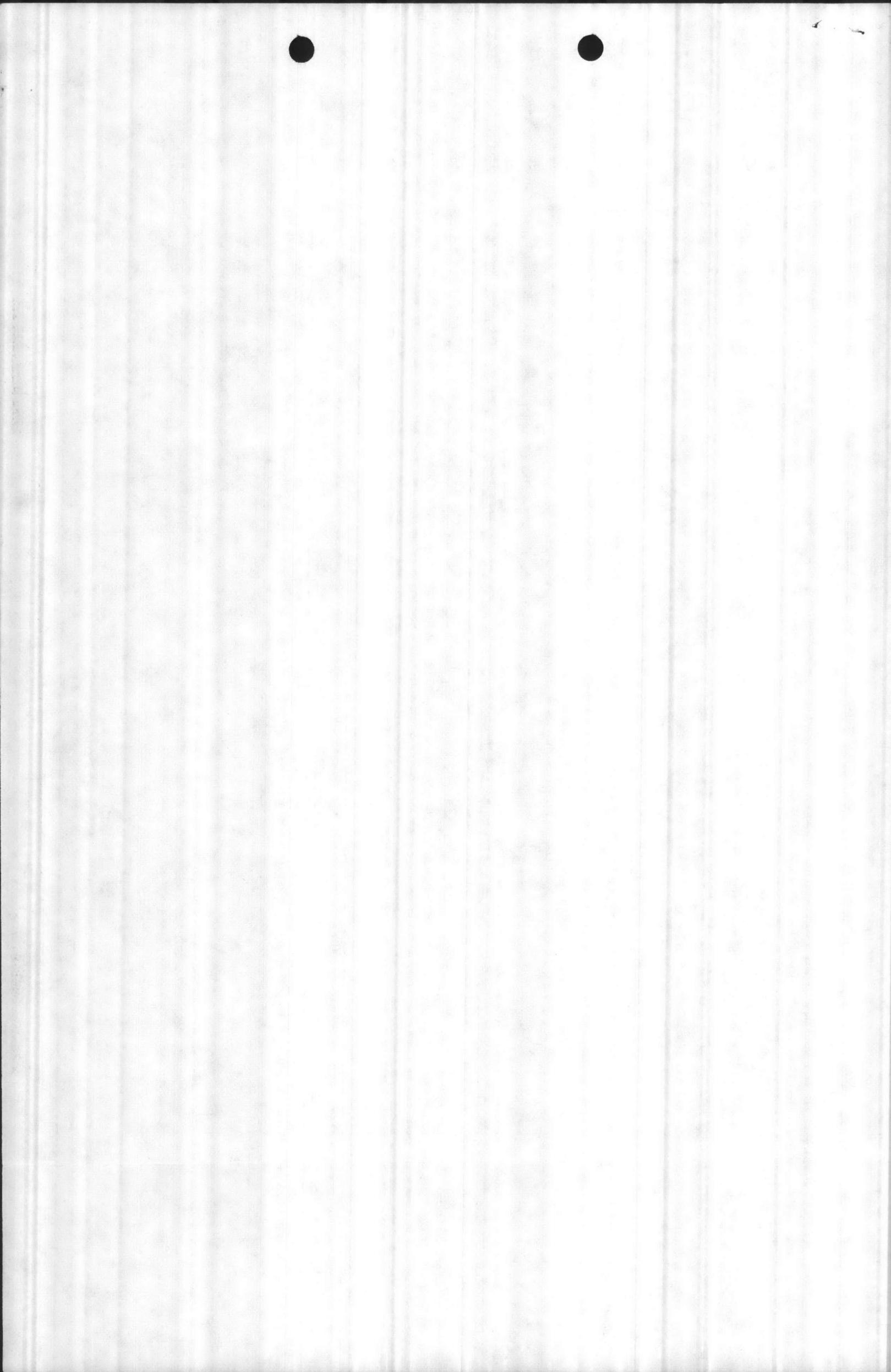
New Lift Station and Communotor Channel - \$75,000

New 1000 gal. Pumps and two (15 inch) Communotors - \$40,000





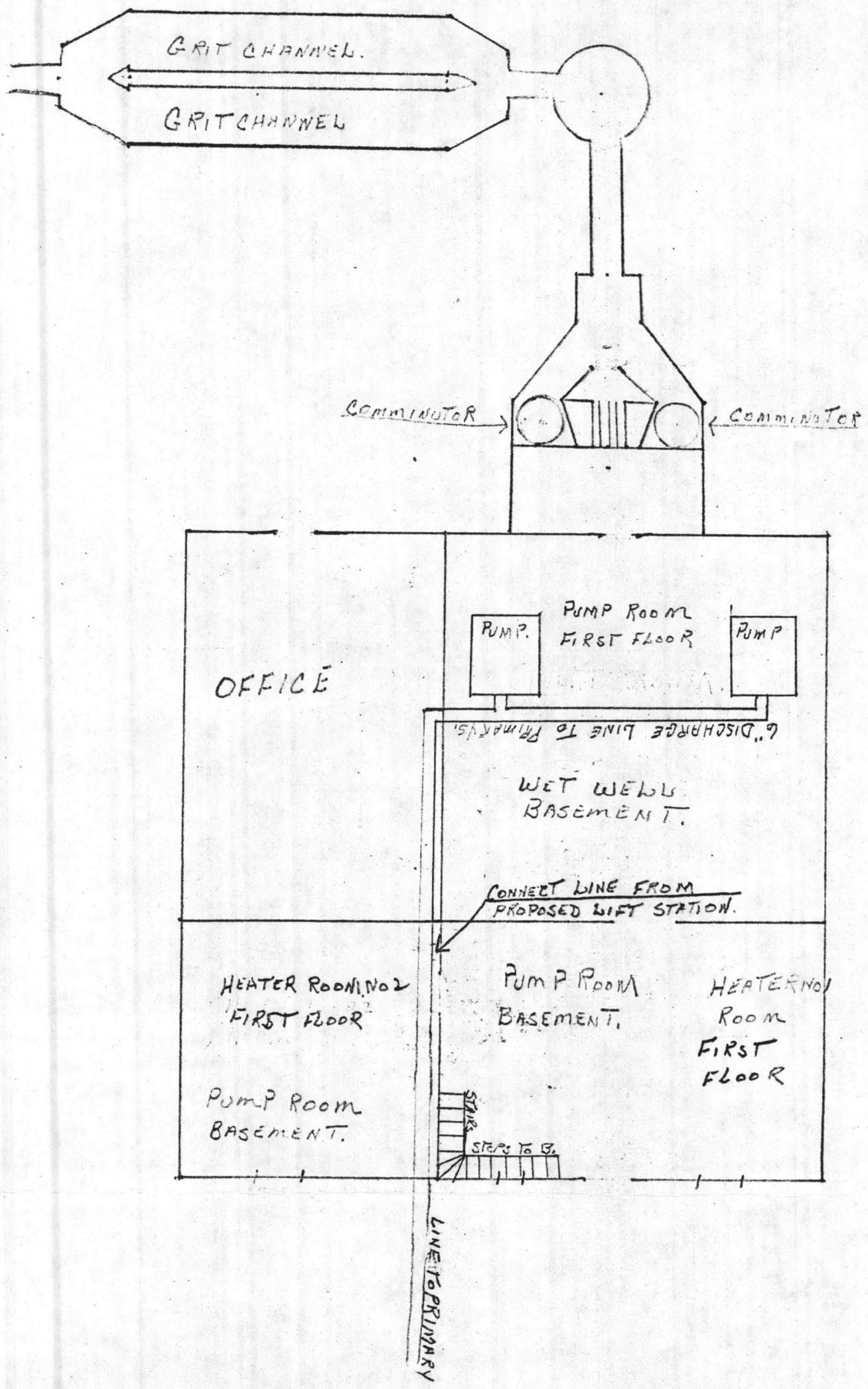
PROPOSED FLOOR PLAN OF LIFT STATION.
 NEW PUMP ROOM AND WET WELL

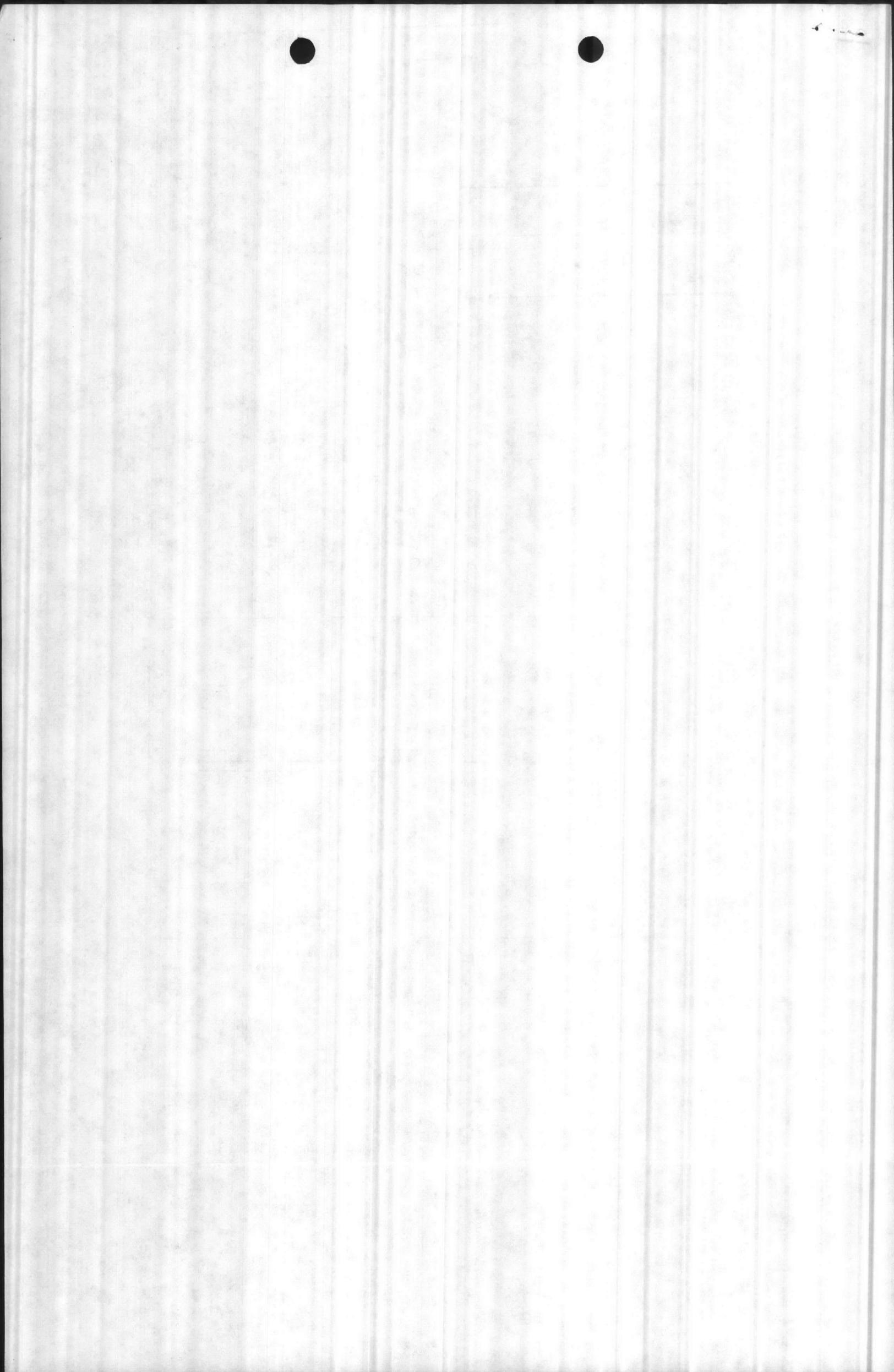


LAJARA TERRACE PLANT

BUILD. T.T. 3.

PRESENT FLOOR PLAN





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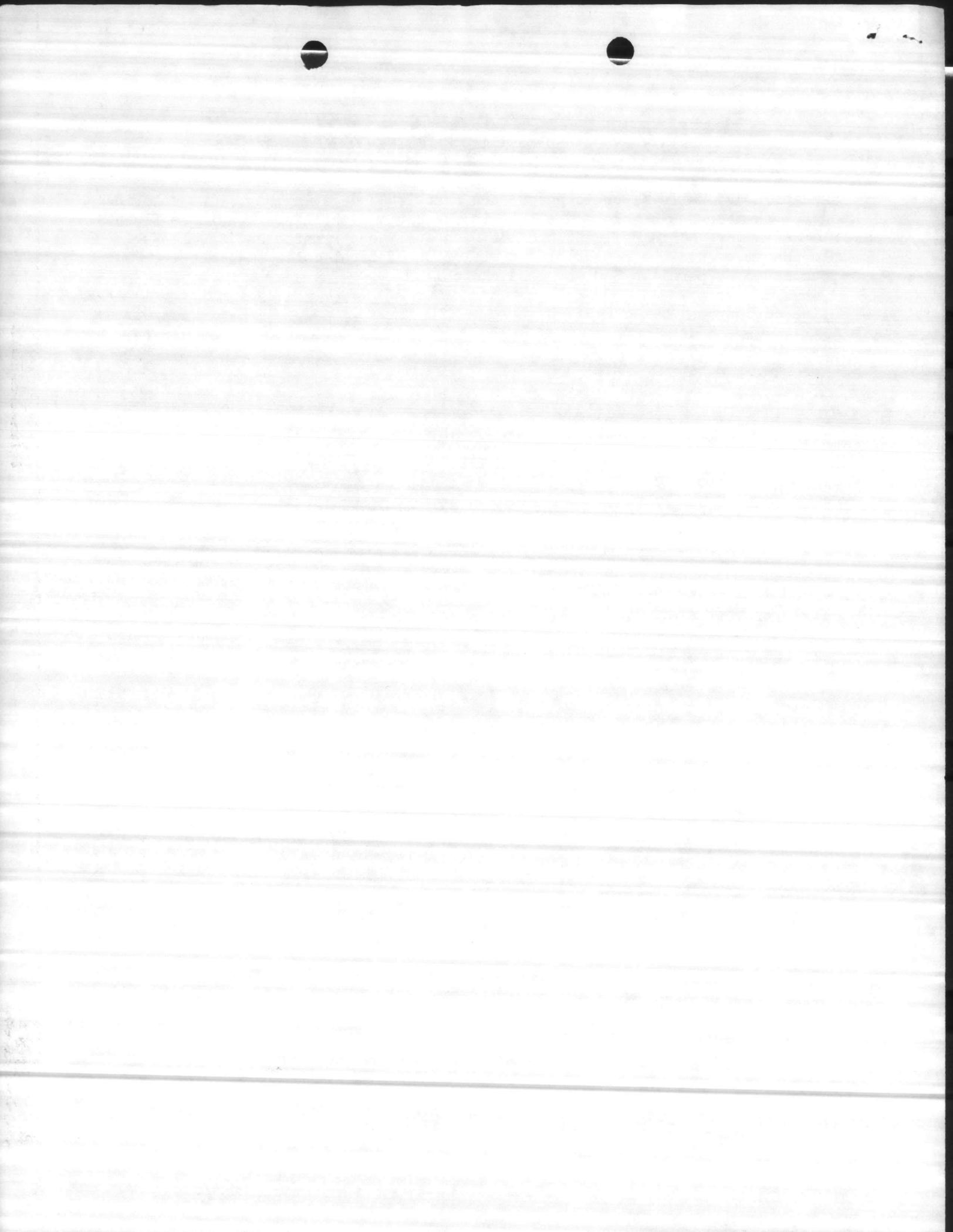
REPAIR/REPLACE BLDG 683 AND CHLORINE CONTACT CHAMBER

Foundation and walls of building 683 are cracking and giving way. The chlorine contact chamber has cracks and a hole in the bottom, which are leaking effluent into New River. This effluent has not been fully chlorinated and the leakage into the river has the potential for violation of total coliform limits established by permit. See attached sketch.

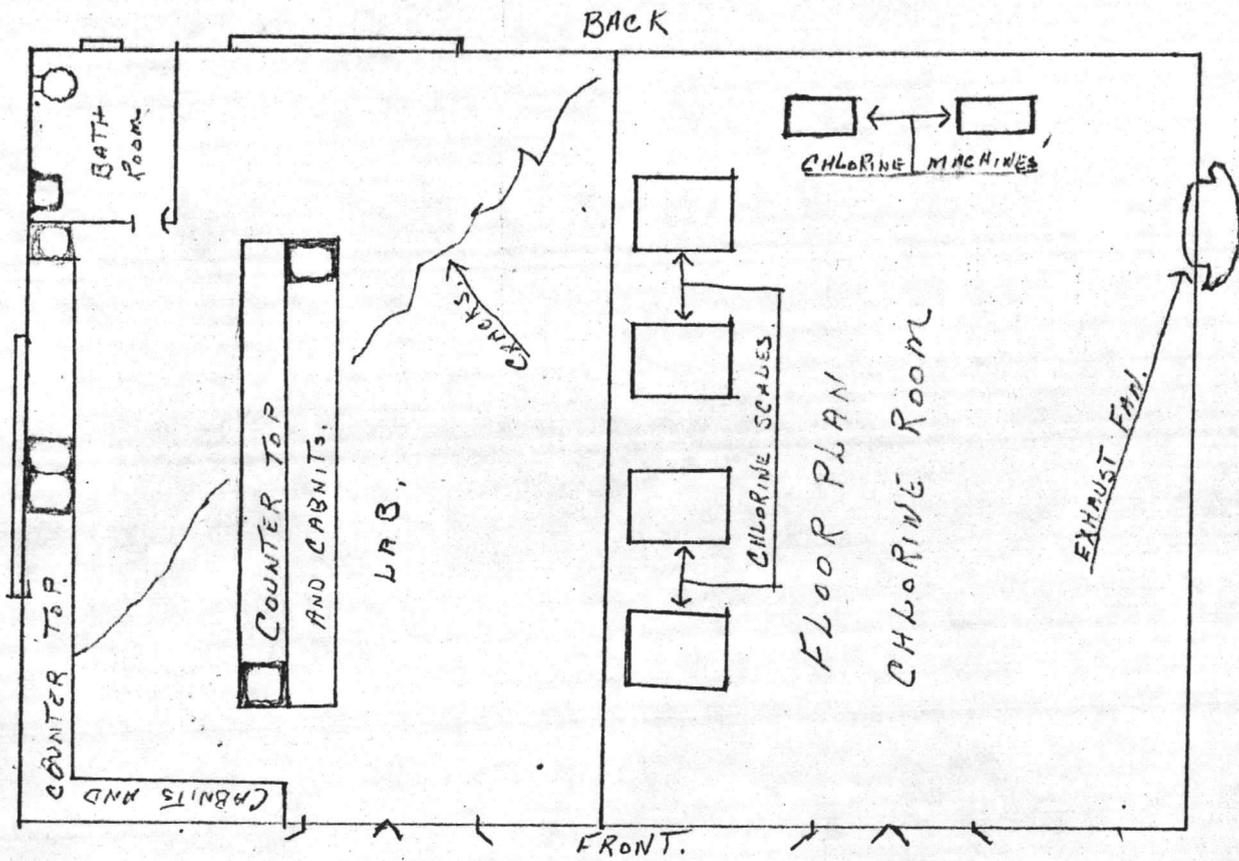
Estimated Cost:

Repair - \$50,000

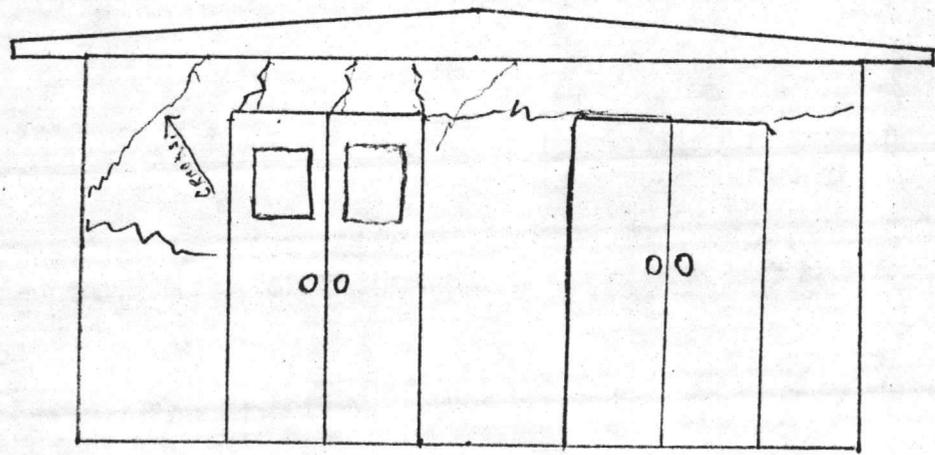
Replace -\$150,000



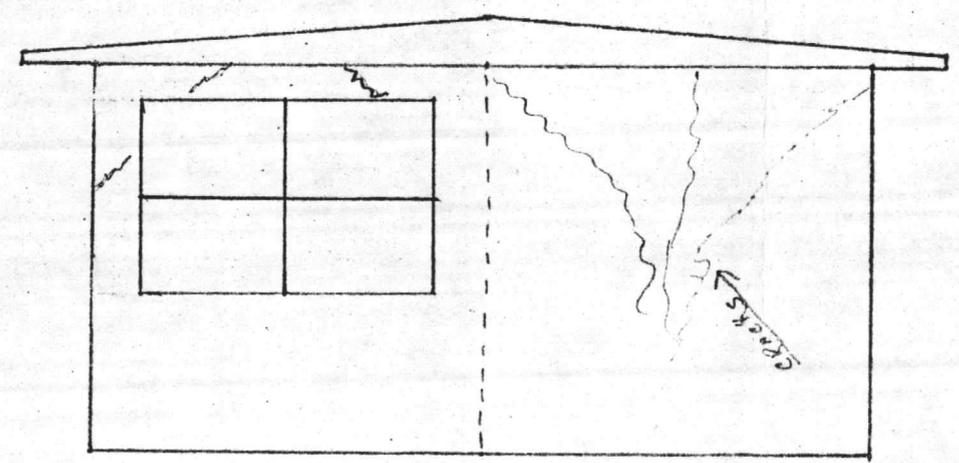
REPLACE 150,000
REPAIR 50,000



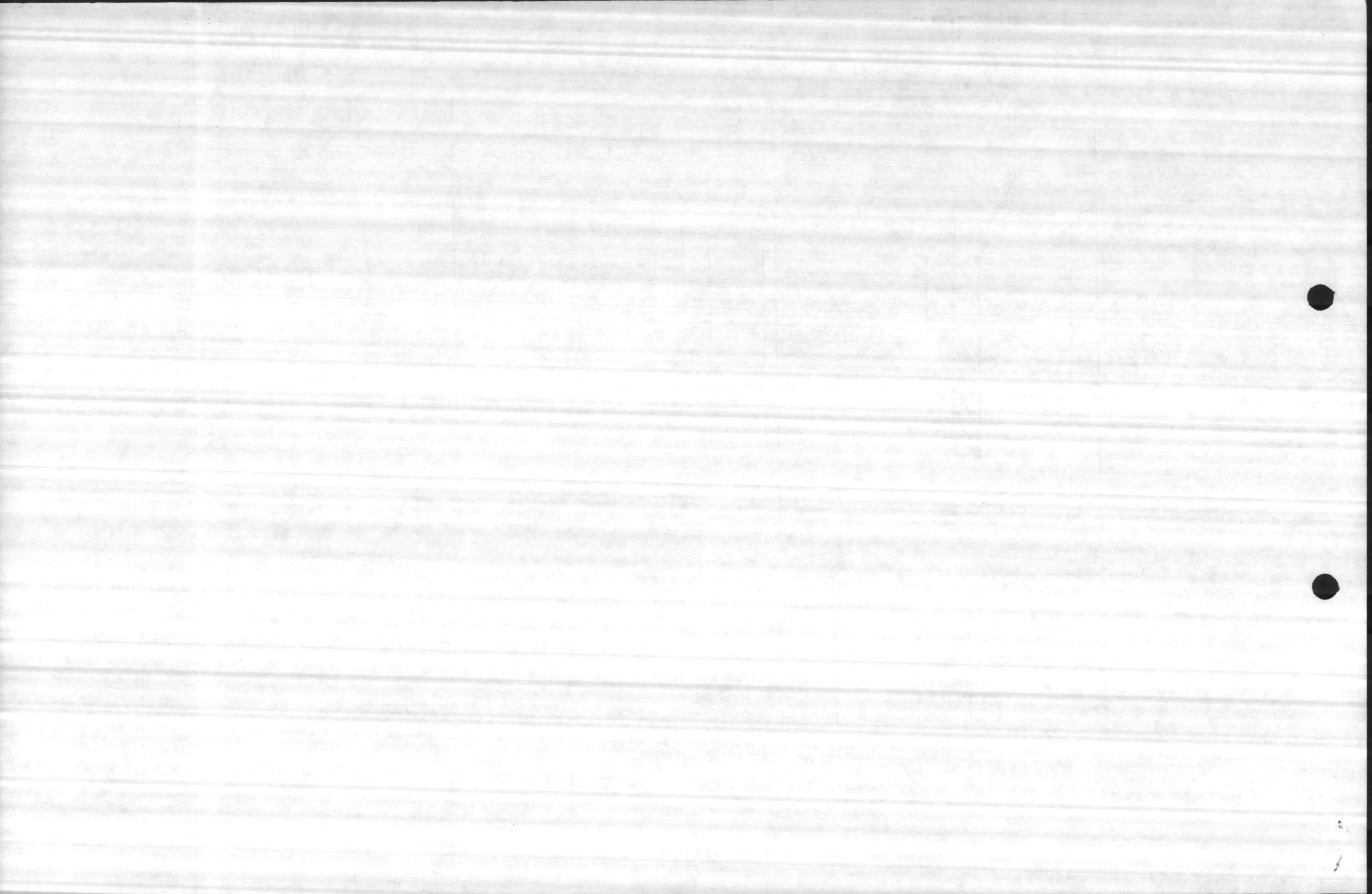
BLDG. 683
LAB. AND CHLORINE ROOM
THIS BUILDING IS IN BAD NEED OF
REPAIR OR REPLACED.
THE JAGGED LINES ARE CRACKS
IN THE WALLS AND FLOOR.

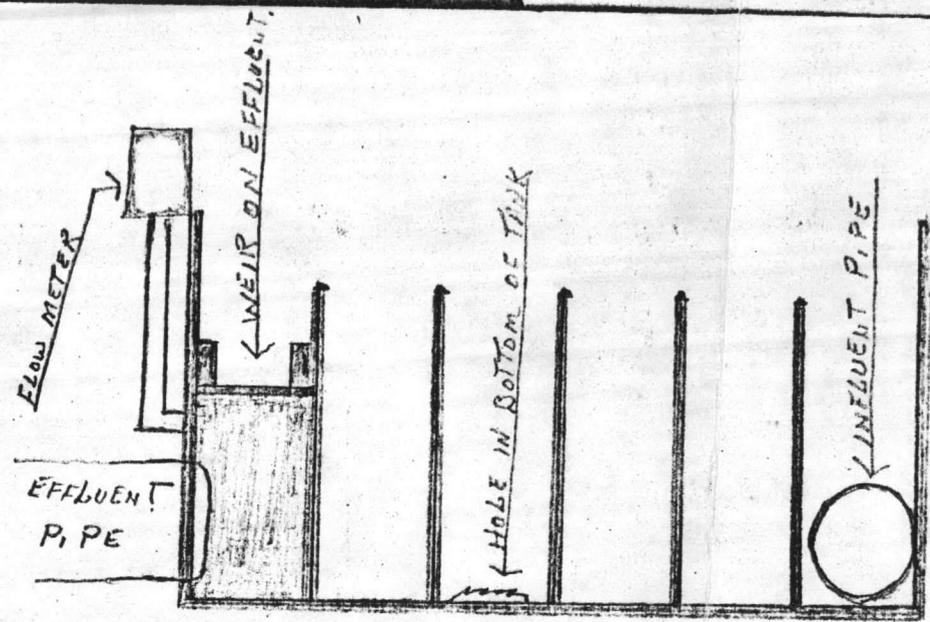
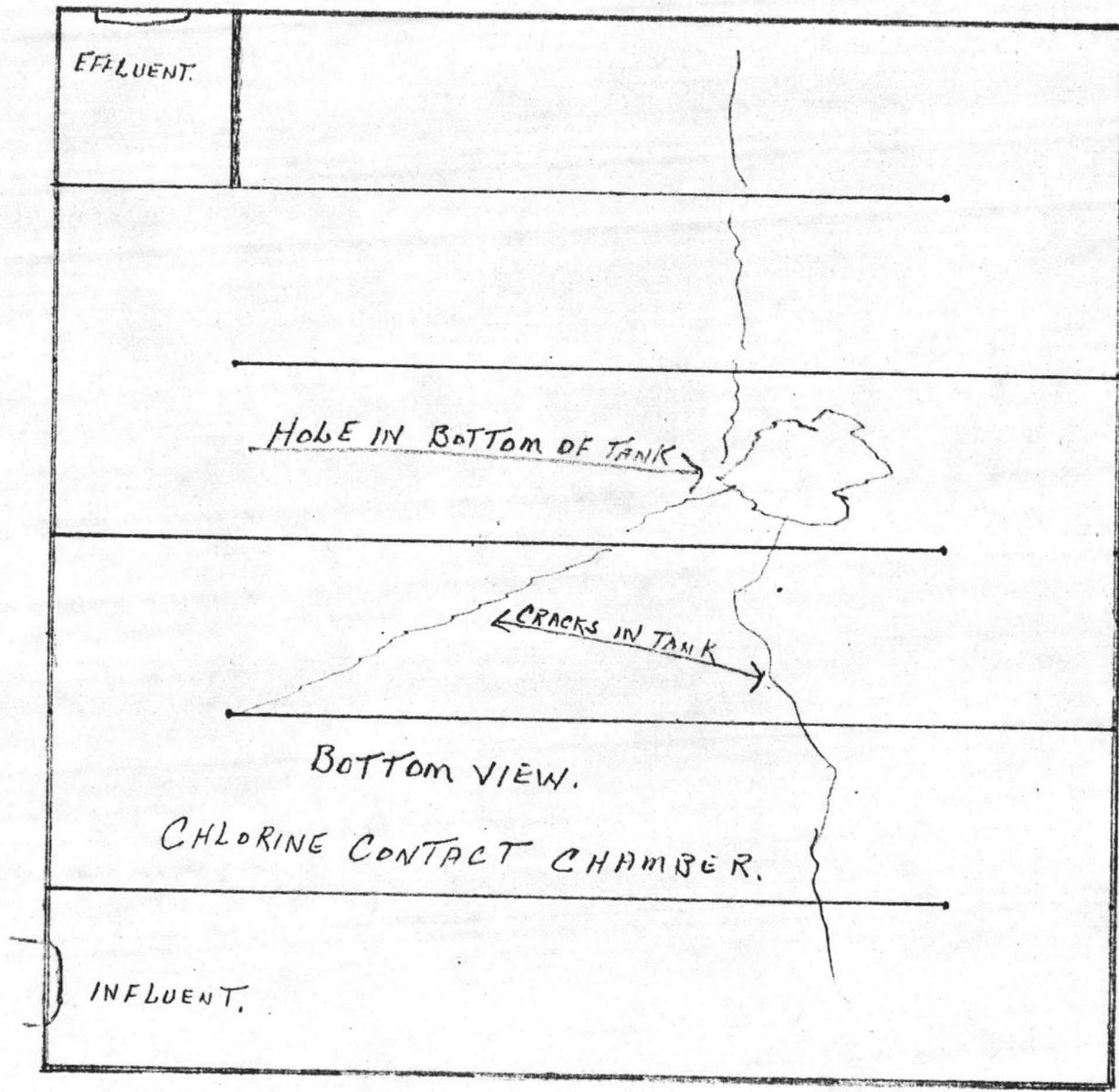


FRONT VIEW OF BLDG. 683.

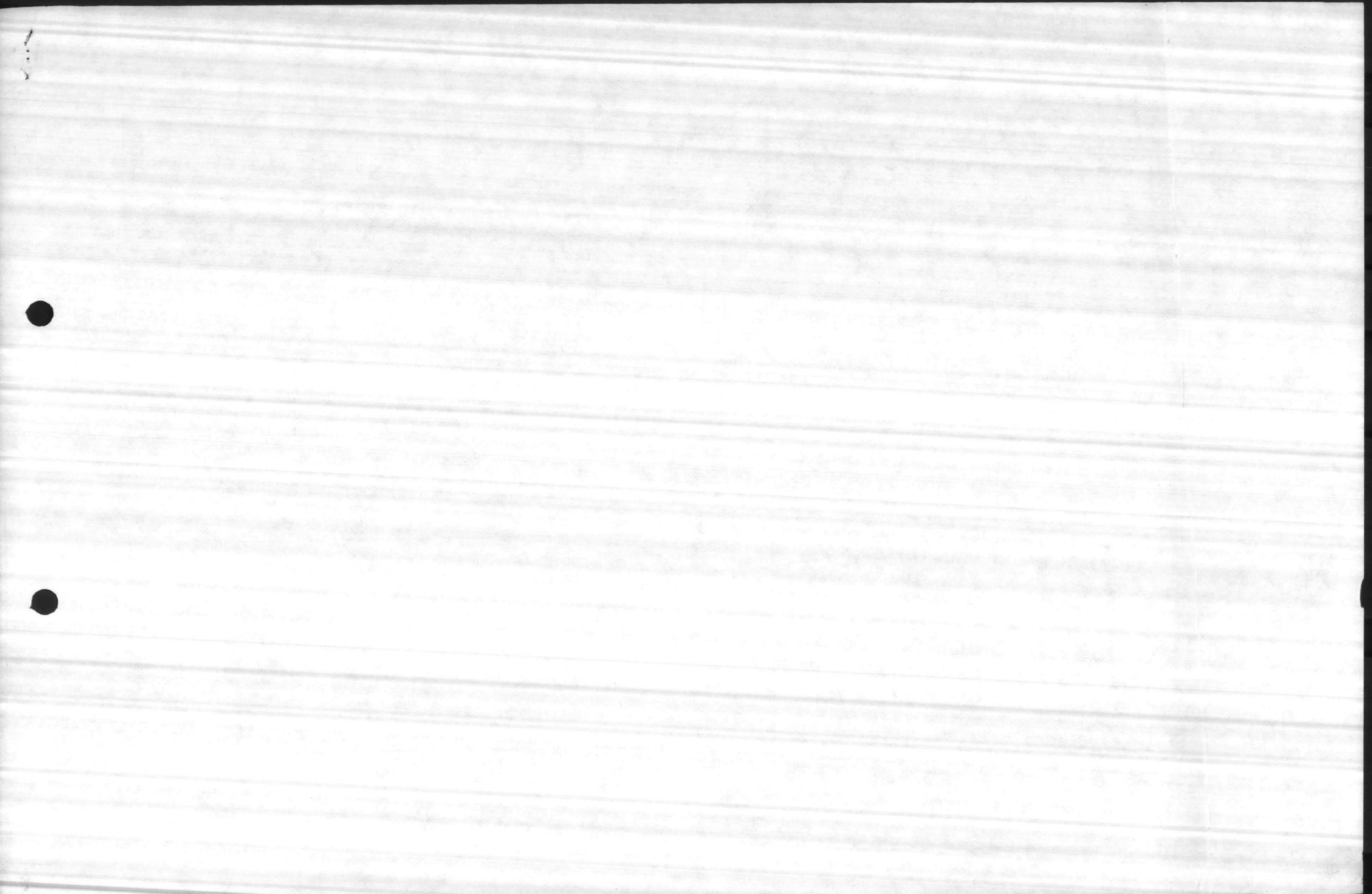


INSIDE BACK VIEW OF BLDG. 683





END VIEW OF CHLORINE CONTACT CHAMBER



REPLACE DEEP WELL PUMP 601

Replace Deep Well Pump 601 and all associated equipment. Well was installed in 1942, with a capacity of 250 GPM. Through the period of 38 years of operation, the well efficiency has decreased to a point that it is no longer capable of satisfying the daily demand. The pump has been pulled, cleaned, inspected and repaired; There was no noticeable improvement. It is determined that the well has collapsed. The replacement well production should not be less than 250 GPM with a combination electric and auxiliary gear drive at 1800 RPM. Inside casing should be 8" inside diameter with $\frac{1}{4}$ " inside diameter airline, and an opening insert for electric level indicator, flow meter, air release valve and 4" blow off line.

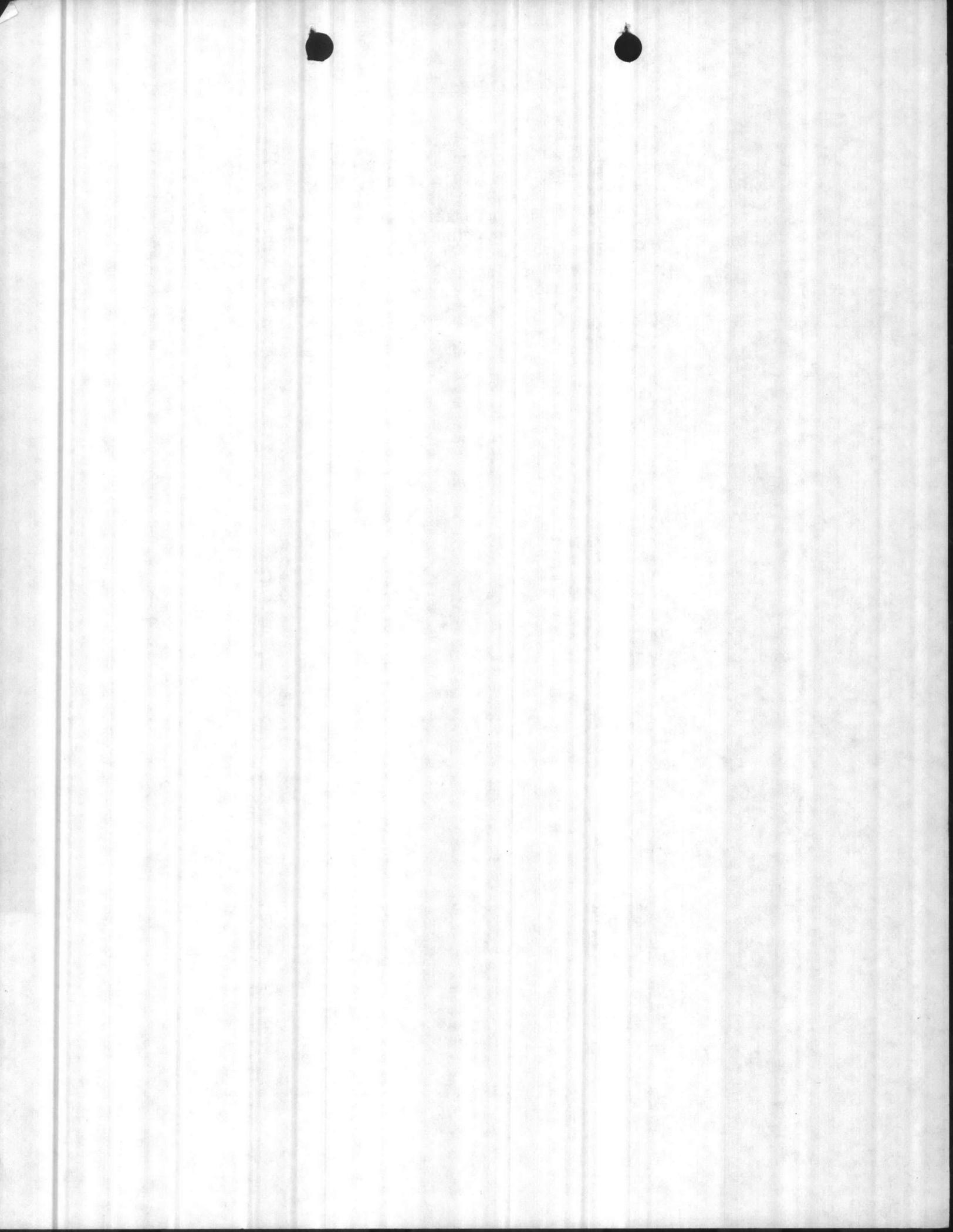
Total Estimated Cost: \$50,000

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REPLACE DEEP WELL BB43

Replace Deep Well Pump BB43 and all associated equipment. Well was installed in 1942, with a capacity of 250 GPM. Through the period of 38 years of operation, the well efficiency has decreased to a point that it is no longer capable of satisfying the daily demand. The pump has been pulled, cleaned, repaired and inspected; after this was done, there still was no noticeable increase in efficiency. The replacement well production should not be less than 250 GPM with a combination electric and auxiliary gear drive at 1800 RPM. Inside casing should be 8" inside diameter with $\frac{1}{4}$ " inside diameter airline, and an opening insert for electric level indicator, flow meter, air release valve, and 4" blow off line.

Total Estimated Cost: \$50,000



T-11300/3

17 Sep 1980

INSTALL SECURITY FENCE - BLDG AS-4151

Project is located at MCAS(H), Bldg AS-4151 Heating Plant, and three No. 6 oil tanks. Project is to provide and install a security fence around Bldg AS-4151, including area around oil separator and three 100,000-gal tanks in accordance with the attached schematic.

Justification: As a result of vandalism, causing a oil spill at Marine Corps Air Station Heating Plant, it is recommended that a security fence be installed around Bldg AS-4151 and three No. 6 oil tanks.

Estimated Cost: \$8,236.50

Complete

