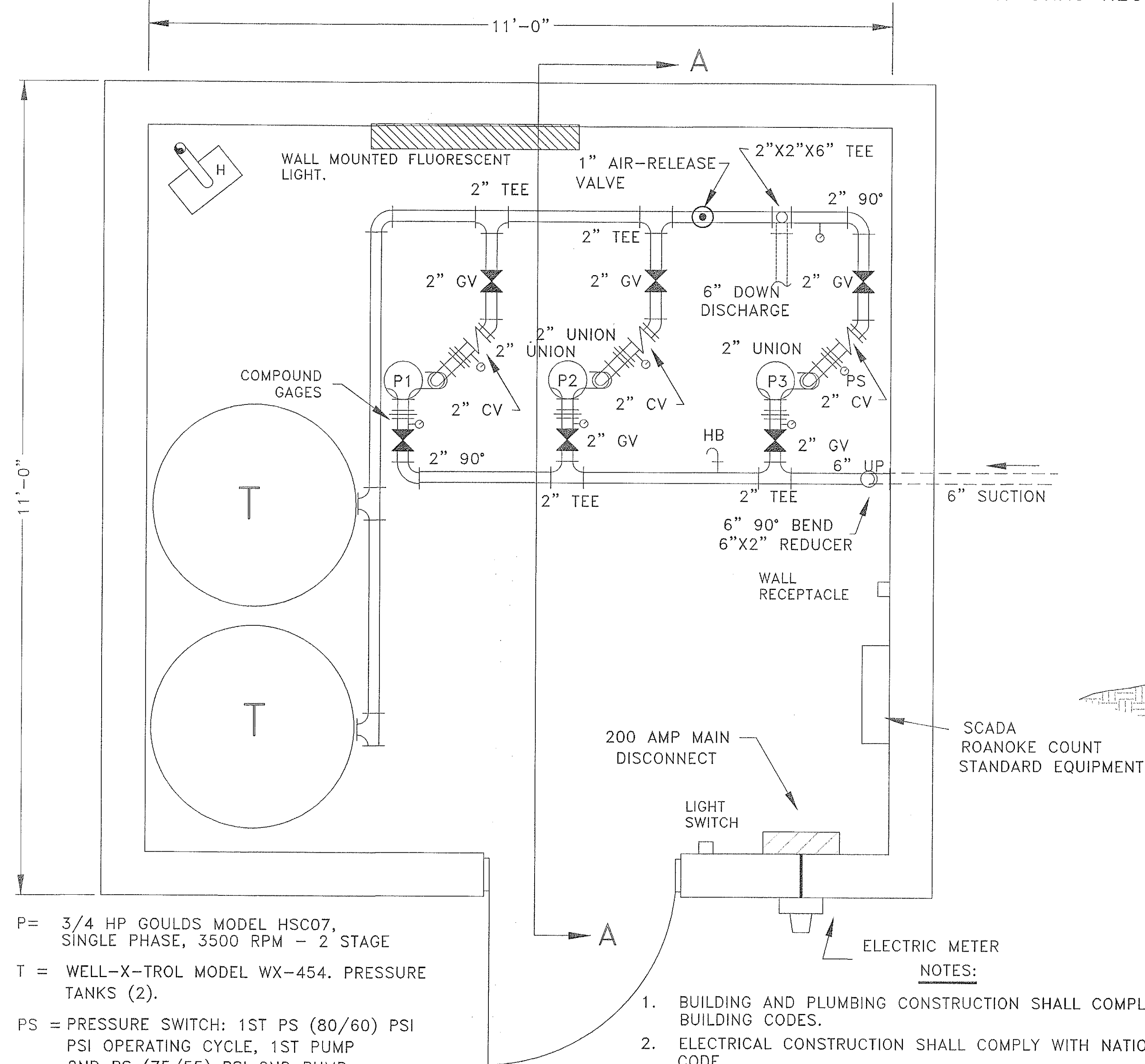


BOOSTER PUMP STATION PLAN SCHEMATIC

NOT TO SCALE

THE PUMP STATION MUST MEET ALL REQUIREMENTS OF
ROANOKE COUNTY WATER AND SEWER REGULATIONS 2nd
EDITION AND VIRGINIA DEPARTMENT OF HEALTH
WATERWORKS REGULATIONS



P= 3/4 HP GOULDS MODEL HSC07,
SINGLE PHASE, 3500 RPM - 2 STAGE
T = WELL-X-TROL MODEL WX-454. PRESSURE
TANKS (2).

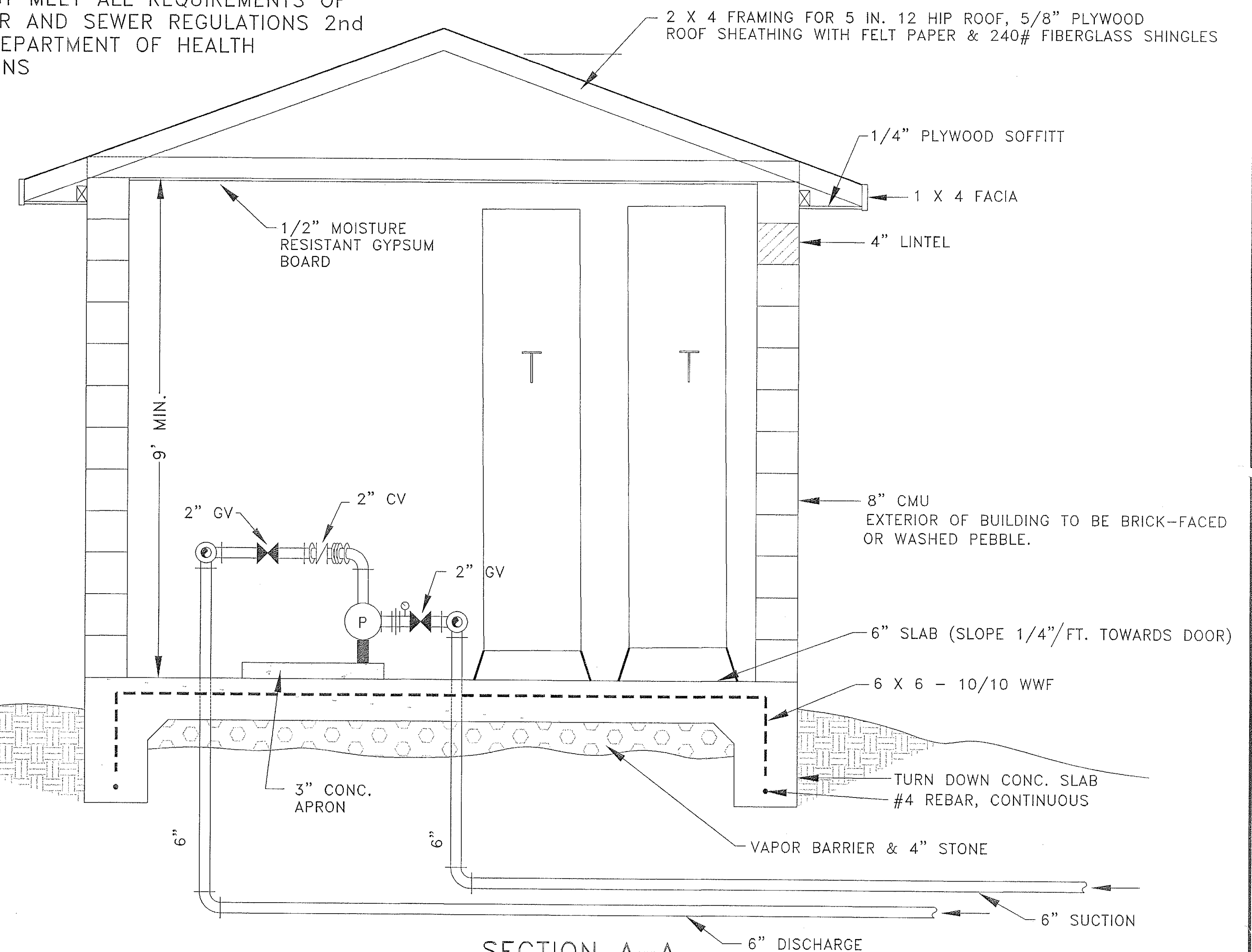
PS = PRESSURE SWITCH: 1ST PS (80/60) PSI
PSI OPERATING CYCLE, 1ST PUMP
2ND PS (75/55) PSI 2ND PUMP

H = 110V OR 220V WALL HEATER
SITH THERMOSTAT 3000
WATTS MIN.

GV = GATE VALVE
CV = CHECK VALVE

3 (THREE) SMALL BOOSTER PUMPS WILL BE UTILIZED.
BY USING ANY 2 TO MEET PEAK DEMAND, RATHER THAN
2 PUMPS (EACH CAPABLE TO PEAK DEMAND), WILL HELP
ON PUMP CYCLE TIME. THE 3 PUMP SET UP WOULD ALLOW
1 PUMP TO OPERATE AT A TIME ON A NORMAL CYCLE, AND
SWITCH ON THE 2ND PUMP IF THE FIRST PUMP DID NOT KEEP
UP. THE PUMPS WILL UTILIZE A 3 PUMP ALTERNATOR OPERATED
BY A PRESSURE SWITCH. PRESSURE SWITCH #1 WILL BE SET
@ 60/80psi AND #2 WILL BE SET @ 55/75psi. THIS TYPE
OF SETUP WOULD PROVIDE A PUMP RUN TIME OF +/- 4 MINUTES.

- NOTES:
- BUILDING AND PLUMBING CONSTRUCTION SHALL COMPLY WITH BOCA BUILDING CODES.
 - ELECTRICAL CONSTRUCTION SHALL COMPLY WITH NATIONAL ELECTRIC CODE.
 - INTERIOR PIPING SHALL BE FLANGED COPPER.
 - UNDERGROUND PIPING SHALL BE DUCTILE IRON, CLASS 52 OR PVC, AWWA C-900.
 - UNDERGROUND FITTINGS SHALL BE DUCTILE IRON, CLASS 250, WITH MECHANICAL JOINTS.
 - ALL PIPING SHALL BE BRACED AND SECURED TO PREVENT MOVEMENT.
 - ALL PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C653-87
 - BOOSTER PUMPS SHALL BE CONTROLLED BY THE SCADA SYSTEM OPERATING SETTINGS AT 80/60 PSI.
 - SCADA SYSTEM CONTROLS SHALL TURN PUMPS OFF IF INLET PRESSURE DROPS TO 10 PSI.
 - THE PUMP STATION SHALL BE EQUIPPED WITH AN WELL X-TROL PRE-PRESSURIZED HYDRO PNEUMATIC TANK, MODEL WX-454 (2)
 - AN ELECTRODE TRANSFER SWITCH SHALL BE PROVIDED TO ALLOW THE CONNECTION OF A GENERATOR.
 - HOUR RUN METERS SHALL BE REQUIRED FOR EACH PUMP MOTOR.
 - ISOLATION VALVES SHALL BE REQUIRED BETWEEN THE CONNECTION TO THE PIPING AND ALL GAUGES AND ALL OTHER SMALLER DIAMETER TAPS.
 - BLEEDER VALVES (PETCOCKS) SHALL BE PROVIDED ON ALL PUMP DISCHARGE LINES.
 - THE SCADA SYSTEM WILL CONTROL PUMP SHUTOFF (HIGH PRESSURE) A MANUAL RESET IS REQUIRED FOR EACH PUMP WHEN DISCHARGE EXCEEDS 90 PSI UNLESS OTHERWISE APPROVED BY THE UTILITY DIRECTOR.
 - THE SCADA SYSTEM SHALL MEET ROANOKE COUNTY'S SCADA SYSTEM COMPONENT SPECIFICATIONS,



SECTION A-A
NOT TO SCALE

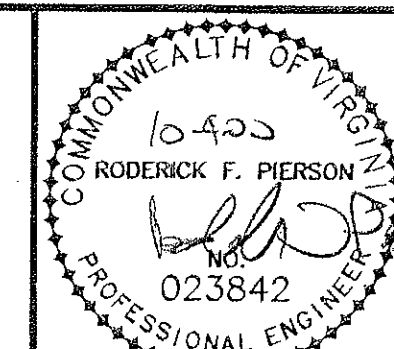
ELECTRICAL NOTES:

- ALL PUMPS SHALL BE CONTROLLED BY STARTERS WITH INDIVIDUAL HOA SWITCHES.
- STARTERS SHALL BE SIZED ONE SIZE LARGER THAN HORSEPOWER REQUIRED. HEATERS SHALL BE SIZED FOR ACTUAL CURRENT LOAD.
- ALL CONTROL CIRCUITS SHALL BE 120 VOLT.
- ELECTRICAL SERVICE SHALL BE PROVIDED WITH LIGHTNING ARRESTERS.
- ELECTRICAL PANEL SHALL HAVE A MINIMUM OF 20 CIRCUITS.
- ALL ELECTRICAL WIRING SHALL BE PLACED IN CONDUIT.
- WATER PUMP STATIONS SHALL BE CONSIDERED A WET LOCATION FOR INTERPRETATION OF THE NATIONAL ELECTRICAL CODE REQUIREMENTS.
- ALL RECEPTACLES AND SWITCHES SHALL HAVE A MINIMUM 20-AMP RATING.
- AT LEAST ONE 20-AMP CIRCUIT EQUIPPED WITH GFI PROTECTION SHALL BE PROVIDED.
- ALL ELECTRICAL EQUIPMENT AND PANELS SHALL BE MANUFACTURED UNITS WITH UL LISTING AND SHALL INCLUDE THE MANUFACTURER'S WARRANTY.

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(540)966-3027

REV	DATE	DESCRIPTION	BY	APP
1	09/01/00	PER ROANOKE COUNTY COMMENTS		
2	10/04/00	PER ROANOKE COUNTY COMMENTS		

WATER BOOSTER PUMP STATION
SCHEMATIC
STONEGATE SUBDIVISION



SCALE: 1" = 30'
COMM. NO. R2001
DATE: APRIL 5, 2000
SHEET 21

RC 8556