

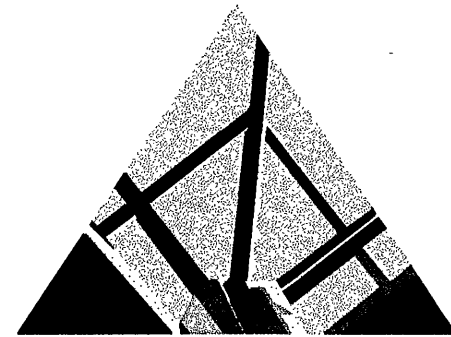
BLOWER BUILDING PARTIAL FLOOR PLAN - MAIN BLOWER ROOM

ELECTRICAL SHEET NOTES

- SN1 EXISTING UNDERGROUND SERVICE CONDUCTORS TO REMAIN FROM TRANSFORMER THRU JUNCTION BOX IN BASEMENT. INTERCEPT EXISTING CONDUITS FROM BASEMENT JUNCTION BOX TO THE EXISTING AUTOTRANSFORMER STARTER. PROVIDE NEW CONDUIT ROUTE UP THROUGH FLOOR TO MAIN SWITCHGEAR ON MAIN FLOOR LEVEL. PROVIDE NEW CONDUIT ROUTE FROM SWITCHGEAR DOWN THROUGH FLOOR AND INTERCEPT EXISTING CONDUITS TO EXISTING AUTOTRANSFORMER STARTER. PROVIDE NEW 5KV CABLE AS REQUIRED FOR SPLICE-FREE SERVICE AND FEEDERS. ONE CONDUIT TO BE SPARE.
- SN2 INTERCEPT EXISTING FEEDER FROM AUTOTRANSFORMER TO EXISTING MOTOR. PROVIDE TWO NEW CONDUITS THRU FLOOR AND ROUTE IN BASEMENT TO NEW STARTER SELECTOR SWITCHGEAR.
- SN3 PROVIDE TWO NEW CONDUITS FROM NEW SWITCH DOWN THROUGH FLOOR AND ROUTE THROUGH BASEMENT TO NEW VFD LOCATION. COORDINATE ROUTE AND CONDUIT PENETRATIONS WITH EXISTING PIPING AND STRUCTURAL MEMBERS. ONE CONDUIT TO BE SPARE.
- SN4 MOUNT NEW VFD AND STARTER SELECTOR SWITCHGEAR BACK-TO BACK ON 4" CONCRETE HOUSEKEEPING PAD. COORDINATE LOCATION WITH STRUCTURAL BEAM TO PERMIT PROPER CONDUIT ENTRY INTO THE VFD AND SWITCHGEAR. MAINTAIN 6'-0" CLEAR BETWEEN SWITCHGEAR/VFD AND BLOWER EQUIPMENT.
- SN5 EXISTING BLOWER MONITOR PANEL TO REMAIN. CERTAIN ALARMS AND READOUTS ASSOCIATED WITH THE OLD COMBUSTION ENGINE WILL BE REMOVED AND/OR ABANDONED IN PLACE. ALARMS AND READOUTS ASSOCIATED WITH THE BLOWER FAN AND SPEED MULTIPLIER WILL REMAIN AND/OR BE CONVERTED FOR DIGITAL READOUT. SEE SHEET E-2.1.
- SN6 REMOVE EXISTING INTERNAL COMBUSTION BLOWER ENGINE AND ASSOCIATED COMPONENTS. EXISTING CONCRETE BASE, BLOWER FAN AND SPEED MULTIPLIER GEARBOX SHALL REMAIN FOR CONNECTION TO THE NEW MOTOR. PROVIDE MODIFICATIONS AND ADDITIONS TO THE EXISTING CONCRETE BASE AND INSTALL THE NEW MOTOR IN PROPER ALIGNMENT WITH THE EXISTING GEARBOX. ALL GEARBOX MONITORING CIRCUITS, PNEUMATIC CIRCUITS AND COOLING PIPING SHALL REMAIN UNDISTURBED AND OPERATIONAL.
- SN7 PROVIDE NEW 4" CONDUIT ROUTE THRU FLOOR FROM STARTER SELECTOR SWITCHGEAR TO NEW ELECTRIC MOTOR JUNCTION. PROVIDE NEW 1" CONDUIT ROUTE THRU FLOOR FROM NEW MOTOR TEMPERATURE AND VIBRATION SENSORS TO THE VFD CONTROL SECTION. PROVIDE 120V CIRCUIT TO THE VFD CONTROLS SO THAT THE MOTOR MONITORING AND VFD TESTING FEATURES CONTINUE TO BE ACTIVE, EVEN WHEN 4160 VOLTS TO THE VFD IS NOT ENERGIZED. IF THE NEW MOTOR IS SELECTED TO BE RUN USING THE EXISTING AUTOTRANSFORMER STARTER, THE NEW VFD CONTROL SYSTEM WILL STILL MONITOR MOTOR CONDITION AND TEMPERATURE, AND GENERATE ALARMS IF NECESSARY.
- SN8 EXISTING MOTOR CONTROL CENTER HAS TRANSFORMER AND LOW VOLTAGE PANELBOARD SECTION. EXTEND NEW 120V CIRCUIT FROM THIS LOCATION TO SERVE NEW VFD SYSTEM CONTROLS. EXTEND NEW 120V CIRCUIT FROM THIS LOCATION TO SERVE NEW BLOWER MOTOR #7 SPACE HEATER.
- SN9 EXISTING CONTROL CABINET TO BE REUSED FOR NEW PLC UNITS AND CONTROL POWER SUPPLIES. EXISTING 120 VOLT CIRCUIT TO THE CABINET SHALL BE REUSED FOR NEW EQUIPMENT. NEW CONTROL WIRING IN CONDUIT SHALL BE PROVIDED AS NEEDED TO SENSORS, ACTUATORS, VFD SYSTEM AND OWNER'S CONTROL COMPUTER.

KEY PLAN

GENERAL NOTES

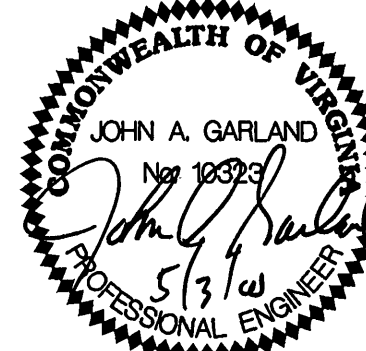


SPECTRUM DESIGN

325 MOUNTAIN AVENUE ROANOKE, VIRGINIA 24016 540.345.8020  
ROANOKE • MARION • VIRGINIA BEACH

ROANOKE SEWAGE  
TREATMENT PLANT  
BLOWER  
ROOM  
RENOVATION

SPECTRUM DESIGN PROJECT NO. 00001



DATE  
DESIGN ARCHITECT  
PROJECT ARCHITECT  
PROJECT ENGINEER  
CHECKED BY  
DRAWN BY  
REVISIONS

28 APRIL 2000  
LER  
CPU  
NUMBER  
DATE

SHEET TITLE

BLOWER BUILDING  
MAIN BLOWER ROOM

E-1.2