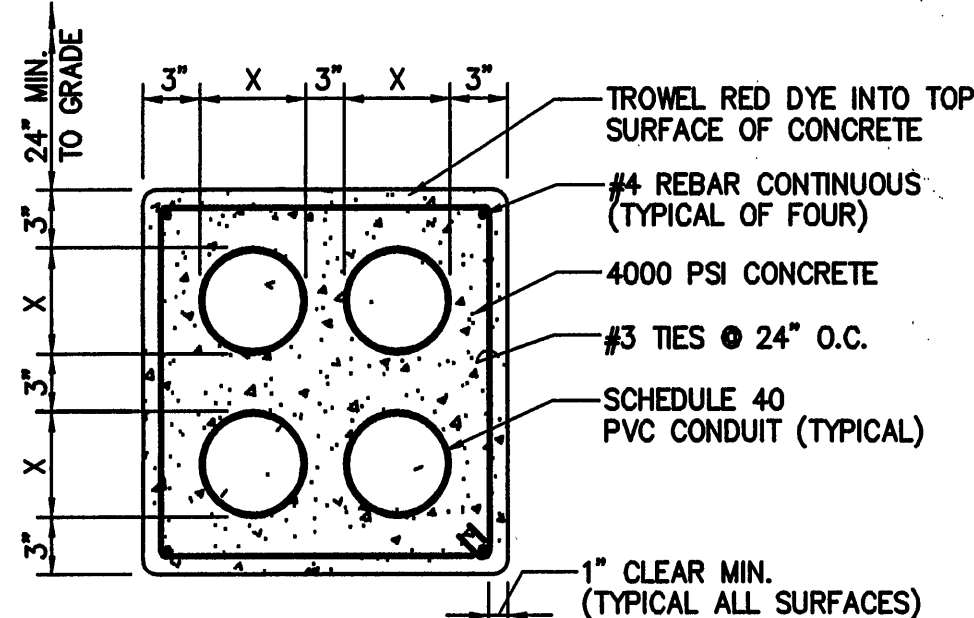


**CONTROL BOX DETAIL  
@ GRINDER PUMP**  
NO SCALE



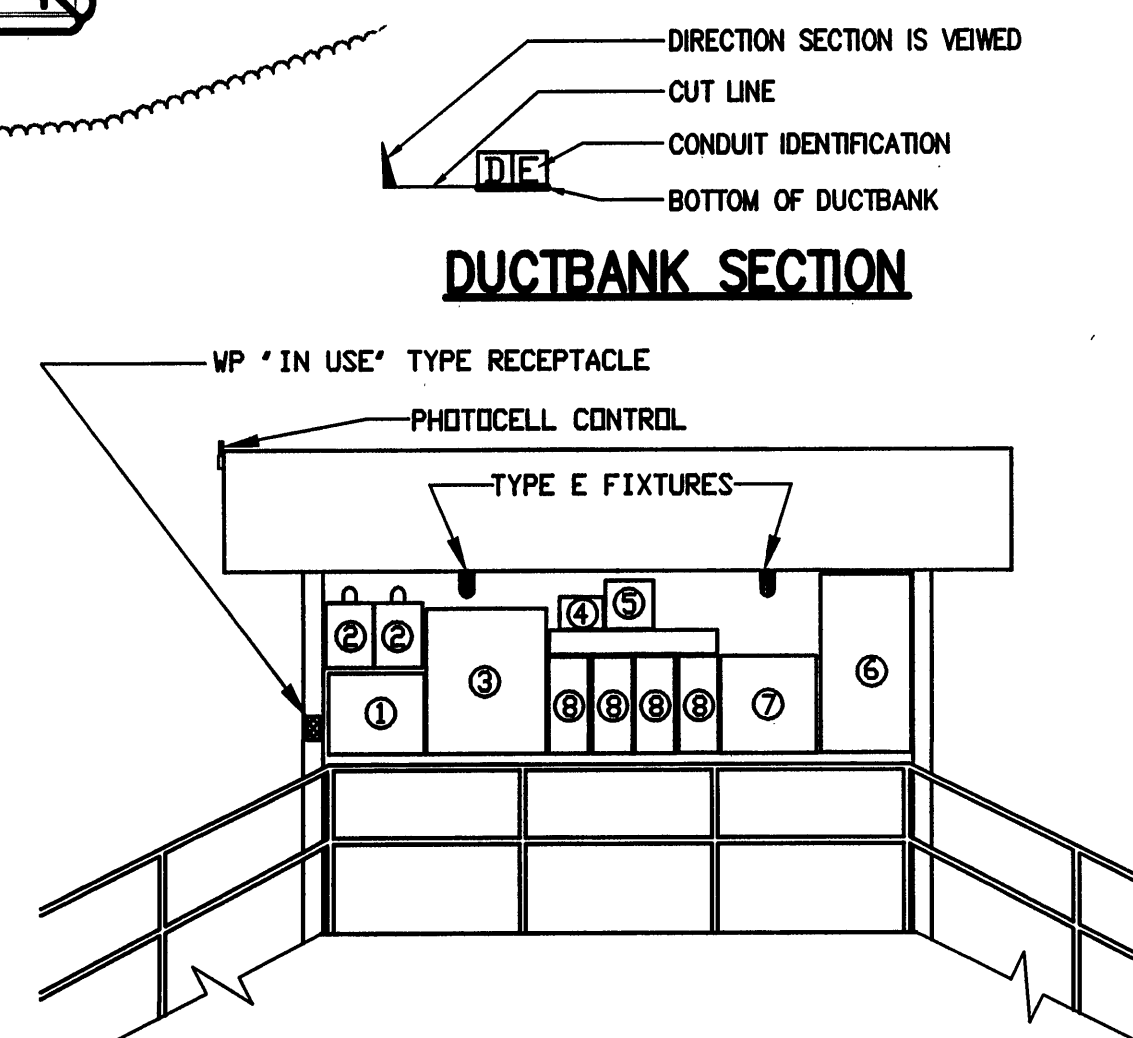
**TYPICAL DUCTBANK DETAIL**  
NOT TO SCALE

**SITE PLAN**  
SCALE: 1" = 10'-0"

#### GENERAL NOTES:

- PROVIDE A 16-ZONE ALARM PANEL TO CENTRALIZE ALL PLANT ALARMS. PROVIDE SUPERVISED INITIATING CIRCUITS TO DRY CONTACTS IN CONTROL PANELS FOR CONVEYOR SCREEN, INFLUENT PUMPS EQ LEVEL, BLOWHEEL AND BLOWER CONTROL, D.D. TRANSMITTER, UV CONTROL MODULES, FILTER DISK CONTROL FLOW RECORDER AND ENGINE GENERATOR CONTROL. MOUNT ALARM PANEL IN CONTROL BUILDING NEAR FLOW RECORDER. PROVIDE DIGITAL AUTODIALER TO SEND RECORDED MESSAGE IN THE EVENT OF AN ALARM. ALARM PANEL AND DIGITAL DIALER SHALL HAVE 3 HOUR EMERGENCY BATTERY BACKUP POWER.
- ALL CONDUIT RUN EXPOSED ON OR ABOVE THE CONCRETE TREATMENT BASINS SHALL BE RIGID GALVANIZED STEEL CONDUIT WITH 40 MIL FACTORY APPLIED PVC COATING. ALL CONDUIT BODIES, HANGERS, STRAPS AND FITTINGS SHALL ALSO HAVE A FACTORY APPLIED 40 MIL PVC COATING. ALL THREADED JOINTS FOR ABOVE SHALL HAVE A FIELD APPLIED PVC DOPING WITH A MINIMUM THICKNESS OF 40 MIL TO COVER ALL EXPOSED THREADS.
- ALL LOADS TO TREATMENT EQUIPMENT ARE SUBJECT TO CHANGE AND MUST BE VERIFIED WITH THE SUCCESSFUL TREATMENT SYSTEM EQUIPMENT SUPPLIER. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THESE CHANGES.
- INTEGRATION OF CONTROLS IS THE RESPONSIBILITY OF THE TREATMENT SYSTEM EQUIPMENT SUPPLIER. CONTRACTOR IS RESPONSIBLE FOR MOUNTING CONTROL CABINETS AND MODULES AND INTERWIRING LISTED IN THE CONDUIT SCHEDULE. PROVIDE ALL CONNECTIONS AND TERMINATIONS ASSOCIATED WITH THE WIRING LISTED IN THE CONDUIT SCHEDULE.

#### DUCTBANK SECTION



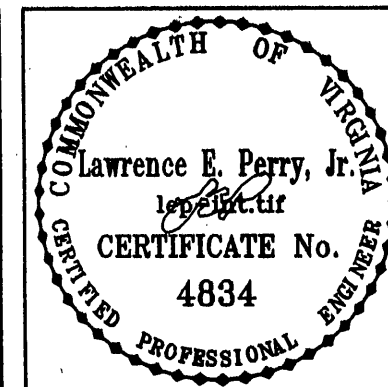
#### CONTROL STATION ELEVATION

- SCALE: 1/4" = 1'-0"
- INSTALL AND CONNECT THE BELOW CONTROL PANELS AS SHOWN ABOVE ON GALVANIZED STEEL CHANNEL RACK. ALL WIRING FROM THE CONTROLLERS TO THE EQUIPMENT SHALL BE PROVIDED BY THE TREATMENT SYSTEM EQUIPMENT SUPPLIER. ENCLOSURES SHALL BE NEMA-4X. SEE SHEET 13 FOR SHELTER/RACK DETAILS.
- ENCLOSURE TO HOUSE CONVEYOR SCREEN CONTROLS. 208V, 3Ø, CKT. B-8.
  - ENCLOSURE TO HOUSE INFLUENT PUMPS. 208V, 3Ø, CKT. B-1.
  - ENCLOSURE TO HOUSE BIO-WHEEL CONTROLS AND BLOWER CONTROLS. 208V, 3Ø, CKT. MP-8.
  - ENCLOSURE TO HOUSE DISSOLVED OXYGEN ANALYZER/TRANSMITTER. 120V, 1Ø, CKT. B-26.
  - ENCLOSURE TO HOUSE SLUDGE PUMP CONTROLS. 208V, 3Ø, CKT. MP-13.
  - ENCLOSURE TO HOUSE 5 MAG METER READ OUTS. 120V, 1Ø, CKT. B-24.
  - ENCLOSURE TO HOUSE FILTER DISK CONTROLS. 208V, 3Ø, CKT. B-2.
  - (4) COMB. CB/STARTERS FOR (2) MIXERS, SLUDGE PUMP AND SUPERNATANT RETURN PUMP. ALL ON COMMON CIRCUIT. 208V, 3Ø, CKT. MP-14.

#### CONDUIT SCHEDULE

CONDUIT	SIZE	CONTENTS	FROM	TO	NOTES
A	4"	4 - 350 kCMIL	SERVICE POLE	BLOWER BUILDING	ELECTRICAL SERVICE
B	4"	4 - 350 kCMIL	SERVICE POLE	BLOWER BUILDING	ELECTRICAL SERVICE
C	4"	SPARE - PULL CORD	SERVICE POLE	BLOWER BUILDING	SPARE
D	2"	36 #14	CONTROL BLDG.	MONITOR @ UV BASIN	FROM UV CONTROL PANELS (2) TO 12" NEMA 4X LOW VOLTAGE J-BOX
E	2"	(6) 2#18STP, (6) 2#18UTP & (2) CAT6UTP	CONTROL BLDG.	MONITOR @ UV BASIN	FROM UV CONTROL PANELS (2) TO 12" NEMA 4X LOW VOLTAGE J-BOX
F	2"	CKT. MP-2	PANEL MP	DEWATERING BLDG.	PANEL D FEEDER
G	2"	CKT. B-18	PANEL B	GRINDER PUMP	
H	2"	SPARE - PULL CORD	DEWATERING BLDG.	BLOWER BLDG.	
I	4"	TEL. - PULL CORD	SERVICE POLE	CONTROL BUILDING	TELEPHONE SERVICE
J	2"	CKT. B-20, 22&25	PANEL B	BASIN LTG, RECPT & SUMP PUMP	REDUCE TO 1" ABOVE GRADE
K	2"	CKT. B-1 & 8	PANEL B	CONTROL PANELS	PANEL FEEDERS (PROVIDE 3 #10 SPARES)
L	2"	CKT. B-2, 24&26	PANEL B	CONTROL PANELS	PANEL FEEDERS (PROVIDE 3 #10 SPARES)
M	2"	CKT. MP-8, 13&14	PANEL MP	CONTROL PANELS	PANEL FEEDERS (PROVIDE 3 #10 SPARES)
N	2"	CKT. B-20 & 25	PANEL B	BASIN LTG. & RECPT.	REDUCE TO 1" ABOVE GRADE
O	3"	4 - 350 kCMIL & 1 #4 GND.	GENSET	ATS	STANDBY ELECTRICAL SERVICE
P	3"	4 - 350 kCMIL & 1 #4 GND.	GENSET	ATS	STANDBY ELECTRICAL SERVICE
Q	1"	AS REQUIRED	GENSET	ATS	DC ALARMS & CONTROL
R	1"	CKT. B-14, 19&21	PANEL B	GENSET	HEATER, CONTROLS & CHARGING
S	2"	(2) 2#18STP	PARSHALL FLUME	CONTROL BLDG.	RECORDER SIGNAL
T	2"	(6) 2#18STP, (6) 2#18UTP & (2) CAT6UTP	BLOWER BLDG.	CONTROL BLDG.	
U	2"	SPARE - PULL CORD	BLOWER BLDG.	CONTROL BLDG.	
V	2"	SPARE - PULL CORD	CONTROL STATION	BLOWER BLDG.	
X	2"	(6) 2#18STP, (6) 2#18UTP & (2) CAT6UTP	CONTROL STATION	CONTROL BLDG.	
Y	2"	SPARE - PULL CORD	CONTROL STATION	CONTROL BLDG.	

- NOTES:
- ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC.
  - WHERE CONDUITS TURN UP EXPOSED, THEY SHALL BECOME RIGID GALVANIZED.
  - WHERE CONDUIT RUNS INCLUDE MORE THAN ONE CONDUIT THEY SHALL BE CONCRETE ENCASED - SEE 'TYPICAL DUCTBANK DETAIL'.
  - DUCTBANKS UNDER DRIVEWAYS AND PARKING AREAS SHALL HAVE STEEL REINFORCEMENT - SEE 'TYPICAL DUCTBANK DETAIL'.



Lawrence E. Perry, Jr. CONSULTING ENGINEER ROANOKE, VA	Date
Revisions	
1	

Issue Date: APRIL 2005	Drawn By: CAD	Designed By: GWW	Checked By: WDC	Date: APRIL 2005
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## ELECTRICAL - SITE PLAN AND DETAILS

FINCASTE WASTE WATER TREATMENT PLANT  
BOTETOURT COUNTY, VIRGINIA

Vertical Scale: AS SHOWN	Horizontal Scale: AS SHOWN
Commission Number: 2305	Sheet No.: E1