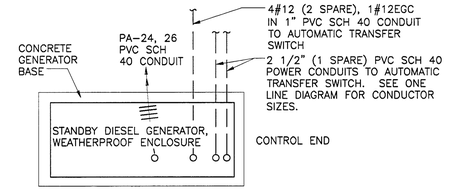
LEGEND

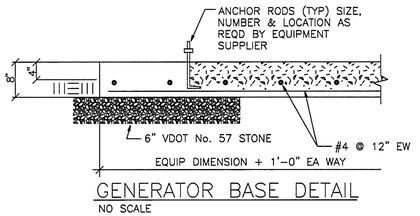
- CONDUIT RUN CONCEALED IN WALLS AND EXPOSED ELSEWHERE
- CONDUIT RUN CONCEALED IN OR BELOW FLOOR OR BELOW GRADE AS APPLICABLE
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- TICK MARKS: INDICATE NUMBER OF CONDUCTORS IN A CONDUIT IN ADDITION TO EGC. NO TICK MARKS INDICATE TWO CONDUCTORS IN ADDITION TO EGC
- HOMERUN TO PANELBOARD
- FLUORESCENT LIGHTING FIXTURE
- WALL MOUNTED LIGHTING FIXTURE
- WP, GFI — NEMA 5-20R DUPLEX RECEPTACLE, "WP", WHERE USED, INDICATES WEATHERPROOF. "GFI", WHERE USED, INDICATES GROUND FAULT INTERRUPTER.
- ELECTRICAL PANEL AS INDICATED
- JUNCTION BOX
- (M) — MOTOR
- M — MANUAL MOTOR STARTER, PROVIDE WITH POLES AND AMPERE RATING AS REQUIRED FOR THE LOAD AND ENCLOSURE AS INDICATED
- DISCONNECT SWITCH, 3 POLE, 30 AMP, NON-FUSIBLE UNLESS OTHERWISE INDICATED
- F — DISCONNECT SWITCH, 3 POLE, 30 AMP, FUSIBLE UON
- TC — 24 HOUR TIME CLOCK
- CS — CONDUIT SEAL
- TRANSFORMER
- CIRCUIT BREAKER
- SWITCH
- CONTACT, NORMALLY OPEN
- CONTACT, NORMALLY CLOSED
- PILOT LIGHT
- PS — PRESSURE TRANSDUCER LEVEL TRANSMITTER
- FM — FLOW METER
- FT — FLOW TRANSMITTER
- MFS — MERCURY FLOAT SWITCH
- LSH — LEVEL SWITCH HIGH
- AUTOMATIC TRANSFER SWITCH
- GROUND
- COPPER CLAD 3/4" DIA x 10' L GROUND ROD

ABBREVIATIONS

A,AMP	AMPERE(S)
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AT	AMPERE TRIP
BCSD	BARE COPPER SOFT DRAWN
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CH	COUNTER HEIGHT (42" AFF)
C&I	CONTROL & INSTRUMENTATION
CKT	CIRCUIT
CMU	CONCRETE MASONRY UNIT
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
DWG	DRAWING
EA	EACH
ECB	ENCLOSED CIRCUIT BREAKER
EGC	EQUIPMENT GROUNDING CONDUCTOR
EQPT	EQUIPMENT
FLA	FULL LOAD AMPS
FVNR	FULL VOLTAGE, NON-REVERSING
GAL	GALLON
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRSC	GALVANIZED RIGID STEEL CONDUIT
HP	HORSEPOWER
H-O-A	HAND-OFF-AUTO
kcmil	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERE
KW	KILOWATTS
MCCB	MOLDED CASE CIRCUIT BREAKER
MCP	MOTOR CIRCUIT PROTECTOR
MIN	MINIMUM
MISC	MISCELLANEOUS
MSKVA	MOTOR STARTING KVA
MTD	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NEUT	NEUTRAL
OL'S	OVERLOADS
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PVC	POLYVINYL CHLORIDE
RECEPTS	RECEPTACLES
RMS	ROOT MEAN SQUARE
SYM	SYMMETRICAL
TP	TWISTED PAIR
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
W	WATT(S),WIRE,WIDE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER



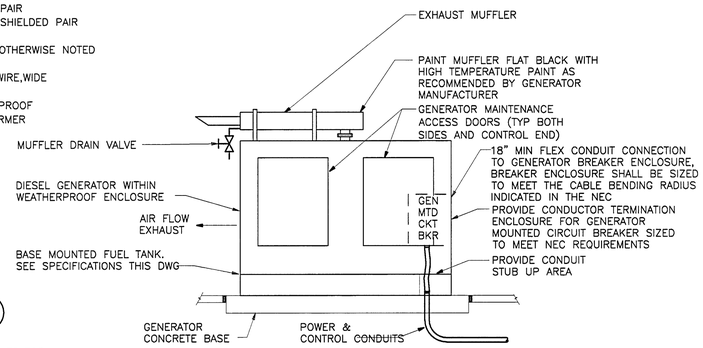
GENERATOR PLAN
NO SCALE



GENERATOR BASE DETAIL
NO SCALE

NOTES:

CONCRETE COMPRESSIVE STRENGTH, REINFORCING STEEL, FY = 60,000 PSI FC' = 4,000 PSI @ 28 DAYS



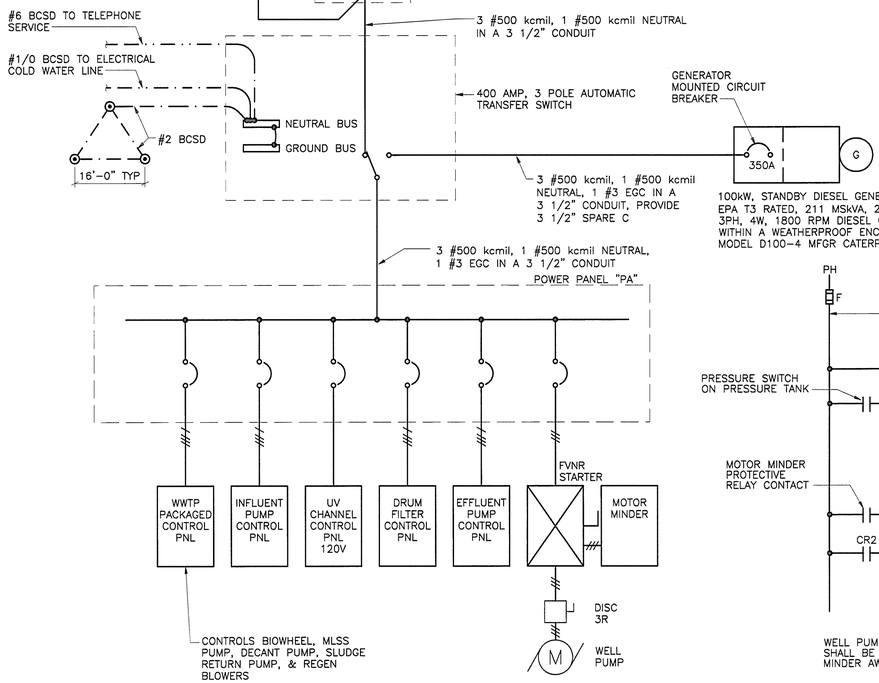
GENERATOR ELEVATION
NO SCALE

NOTES:

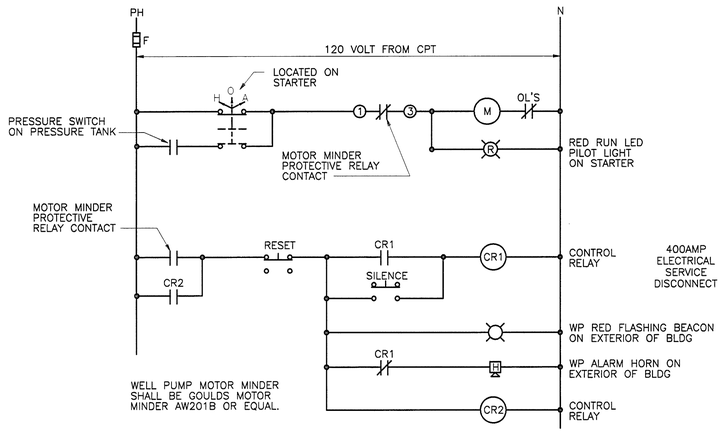
1. ALL EQUIPMENT SHALL BE CONSIDERED NEW UNLESS OTHERWISE NOTED AND SHALL BE UL LISTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE "NEC".
2. CONDUCTORS SHALL BE STRANDED COPPER WITH TYPE "USE" INSULATION FOR DIRECT BURY INSTALLATION. CONDUCTORS FOR INTERIOR USE SHALL BE TYPE "THHN/THWN". ALL CONDUCTORS SHALL BE RATED FOR 600 VOLTS.
3. CONDUCTORS SHALL BE COLOR CODED AS REQUIRED BY THE NEC.

ELECTRICAL SPECIFICATIONS:

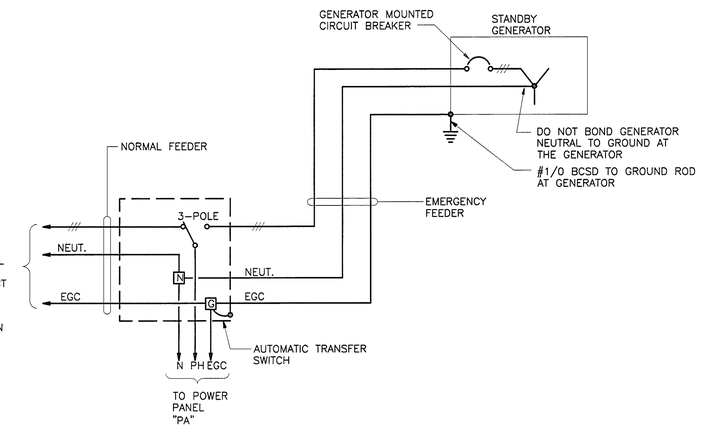
1. PROVIDE NECESSARY ITEMS FOR A COMPLETE INSTALLATION OF ELECTRICALLY OPERATED EQUIPMENT SPECIFIED OR SHOWN ON THE CONTRACT DRAWING. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL.
2. PROVIDE LAMINATED PHENOLIC NAMEPLATES ON EACH STARTER, DISCONNECT AND THE LIKE INDICATING THE EQUIPMENT CONTROLLED AND WHERE FEED FROM. LETTERS SHALL BE 3/8" HIGH.
3. ALL EQUIPMENT SHALL BE UL LISTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE "NEC".
4. TEST ALL CONDUCTORS AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
5. PROVIDE MOTORS THAT ARE DESIGNED FOR THE INTENDED USE. MOTORS SHALL BE ENERGY EFFICIENT TYPE.
6. CONDUCTORS SHALL BE STRANDED COPPER WITH TYPE "USE" INSULATION FOR DIRECT BURY INSTALLATION. CONDUCTORS FOR INTERIOR USE SHALL BE TYPE "THHN/THWN". ALL CONDUCTORS SHALL BE RATED FOR 600 VOLTS. CONDUCTORS SHALL BE COLOR CODED AS REQUIRED BY THE NEC.
7. BURIED CONDUITS SHALL BE PVC SCH 40, SIZE AS INDICATED. EXPOSED EXTERIOR CONDUITS SHALL BE GALVANIZED RIGID STEEL. INTERIOR DRY LOCATION CONDUITS SHALL BE ELECTRICAL METALLIC TUBING "EMT" TYPE. EMT CONDUIT FITTINGS SHALL BE COMPRESSION TYPE. WET AND/OR DAMP LOCATION CONDUITS SHALL BE PVC SCH 40, UL LISTED FOR THE INTENDED INSTALLATION. INSTALL RUNS OF CONDUIT PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR INTERSECTIONS OF VERTICAL PLANES.
8. PROVIDE PULL AND JUNCTION BOXES WHERE REQUIRED FOR CHANGES IN DIRECTION, AT JUNCTION POINTS, AND TO FACILITATE WIRE PULLING.
9. WIRING DEVICE AND JUNCTION BOXES SHALL BE METALLIC EXCEPT WHERE PVC CONDUITS ARE INSTALLED AND SHALL BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
10. WIRING DEVICES SHALL BE ROUGH SERVICE SPECIFICATIONS GRADE, 20 AMP RATED.
11. SEAL ALL WALL PENETRATIONS WITH SILICONE CAULKING DESIGNED FOR THE APPLICATION.
12. SAFETY SWITCHES OR DISCONNECTS SHALL BE HEAVY DUTY METAL ENCLOSED, WITH QUICK MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD LOCKABLE OPERATING HANDLE. ENCLOSURES SHALL BE NEMA 1 INDOORS UNLESS OTHERWISE NOTED AND NEMA 4X EXTERIOR.
13. STARTERS SHALL BE LOCATED WHERE INDICATED AND SHALL HAVE THE FEATURES INDICATED IN THE SPECIFICATIONS AND AS NOTED ON THE DRAWINGS. STARTERS SHALL BE PROVIDED WITH MOTOR CIRCUIT PROTECTORS, SOLID STATE OVERLOADS, CONTROL POWER TRANSFORMER SIZED FOR THE LOAD INDICATED, PHASE LOSS PROTECTION AND WITH CONTROL AND INDICATING DEVICES AS INDICATED IN THE CONTROL DIAGRAMS. ENCLOSURES SHALL BE NEMA TYPE 1 FOR INTERIOR LOCATIONS. THE MINIMUM NEMA SIZE STARTER SHALL BE NEMA SIZE 1.
14. PANELBOARDS SHALL BE ENCLOSED DEAD-FRONT WITH FEATURES AND RATINGS AS SCHEDULED. CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE 120/208 VOLT COMMERCIAL GRADE, PANELS KNOWN AS LOAD CENTERS WILL NOT BE ACCEPTED. PROVIDE TYPED DIRECTORY CARDS.
15. PROVIDE GROUND CONDUCTORS IN ALL CONDUITS AND RACEWAYS. CONNECT TO ALL METAL ENCLOSURES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
16. PROVIDE SERVICE ENTRANCE CONDUITS AS INDICATED ON THE DRAWINGS.
17. A COMPLETE EMERGENCY STANDBY GENERATOR POWER SYSTEM SHALL BE PROVIDED INCLUDING DIESEL ENGINE GENERATOR SET AND AUXILIARY SYSTEMS REQUIRED FOR AUTOMATIC OPERATION. GEN SETS SHALL BE PROVIDED WITHIN WEATHERPROOF ENCLOSURES WITH BASE MOUNTED FUEL TANK. FUEL TANK SHALL BE SIZED FOR A MINIMUM OF 48 HOURS OF FUEL AT 100% LOADED. MOTOR STARTING SUB TRANSIENT VOLTAGE DIP SHALL NOT EXCEED 25 PERCENT. VOLTAGE REGULATION SHALL BE NO MORE THAN 4 PERCENT FROM NO LOAD TO FULL LOAD.
18. AUTOMATIC TRANSFER SWITCH SHALL BE PROVIDED WITH FEATURES AND SIZES AS INDICATED ON THE DRAWINGS. THEY SHALL BE TOTALLY ENCLOSED IN NEMA 1 ENCLOSURE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. AUTOMATIC TRANSFER SWITCH SHALL HAVE THE FOLLOWING SIGNAL AVAILABLE TO BE MONITORED REMOTELY FROM THE ATS: TRANSFER SWITCH IN NORMAL POWER POSITION, TRANSFER SWITCH ON EMERGENCY BACKUP POWER, GENERATOR RUNNING STARUS, ALARM WITH STANDBY GENERATOR, LOW FUEL LEVEL ON GENERATOR.



PUMP STATION ELECTRICAL SERVICE - ONE LINE DIAGRAM
NO SCALE



WELL PUMP CONTROL DIAGRAM



CONNECTION DIAGRAM - NEUTRAL & GROUND CONDUCTORS
NO SCALE

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WESTLAKE VILLAGE CENTRAL SEWER SYSTEM FRANKLIN COUNTY, VIRGINIA

DRAWN BY:	RNM
DESIGNED BY:	WKH
CHECKED BY:	WKH
DATE:	5 JUL 2007
JOB NUMBER:	K07023

REVISIONS:

No. 1
No. 2
No. 3
No. 4

SHEET NO.:
E-1

SERVICE RISER DIAG, GEN. NOTES, SPECS., LEGEND, & ABBREV.