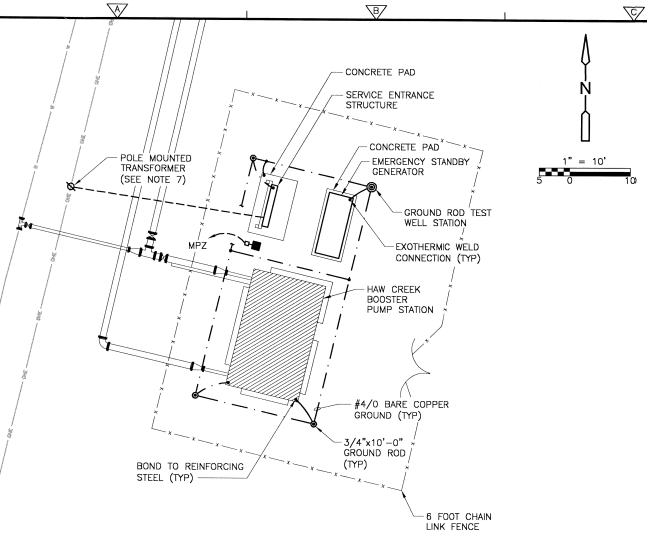


SITE

PLAN

SYMBOLS

SYMBOL	DESCRIPTION
	HOME RUN TO DESIGNATED EQUIPMENT. BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE NOTED. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING.
	CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.
	CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
	GROUND SYSTEM GRID OR LOOP, 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
	GROUND OR GROUND ROD
(5)	ELECTRIC A.C MOTOR, NUMERAL INDICATES HORSEPOWER

CONDUIT AND WIRE LEGEND

(NUMBERS REFERENCE THIS SHEET ONLY)

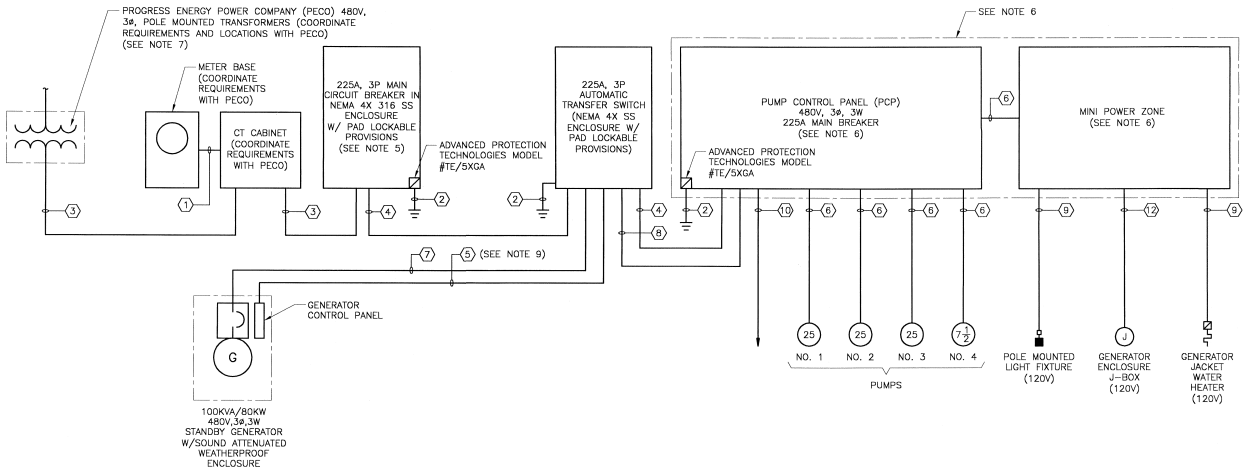
NO.	DESCRIPTION
1	1"C., EMPTY WITH WIRING PER PECO
2	1"C., #4/0 TO GROUNDING GRID
3	3"C., 3#4/0, 1#2/0 NEUTRAL
4	3"C., 3#4/0, 1#2G
5	1 1/2"C., W/WIRING PER GEN. MFR
6	CONDUIT AND WIRE PROVIDED BY PUMP MFR IN PRE-FABRICATED PUMP BLDG
7	2"C, 3#2/0, 1#4G
8	1"C., 4#14
9	3/4"C., 3#12
10	2"C., TO TELEPHONE SERVICE POINT (SEE NOTE 8)
12	3/4"C., 6#12, 1#12G

ABBREVIATIONS

A	AMPERES
AF	AMP FRAME
AT	AMPS TRIP
ATS	AUTOMATIC TRANSFER SWITCH
CPT	CONTROL POWER TRANSFORMER
ELEC	ELECTRICAL
EP	EXPLOSION PROOF
GEN	GENERATOR
GND	GROUND
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LTG	LIGHTING
MB	MAIN BREAKER
MFR	MANUFACTURER
MIN	MINIMUM
MPZ	MINI POWER ZONE
MTD	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NEUT	NEUTRAL
NTS	NOT TO SCALE
P	POLE
PCP	PUMP CONTROL PANEL
SQ	SQUARE
SS	STAINLESS STEEL
TYP	TYPICAL
V	VOLT
W	WATT, WIRE
WP	WEATHERPROOF

GENERAL NOTES:

1. DO NOT SCALE THE ELECTRICAL DRAWINGS REFER TO THE CIVIL, MECHANICAL, STRUCTURAL DRAWINGS, AND APPROVED MANUFACTURER'S SHOP DRAWINGS FOR THE EXACT LOCATION OF ALL EQUIPMENT.
2. ALL WORK SHALL COMPLY WITH NEC AND LOCAL CODES.
3. CONDUCTORS SHALL NOT BE SPLICED EXCEPT AS APPROVED BY THE ENGINEERING WHERE SPLICING IS PERMITTED. ALL SPLICING MATERIALS SHALL BE PER ENGINEER DIRECTION.
4. ALL CONDUITS SHALL HAVE A BOND WIRE SIZED PER TABLE 250.122 OF THE NEC (UNLESS OTHERWISE NOTED).
5. THE MAIN BREAKER SHALL BE SERVICE ENTRANCE RATED.
6. PUMP CONTROL PANEL AND MPZ FURNISHED AND INSTALLED UNDER DIVISION 11.
7. THE POLE LOCATION AND ROUTING ARE SHOWN FOR INFORMATION ONLY. SPECIFIC LOCATION SHALL BE COORDINATED BY THE CONTRACTOR. COORDINATE POLE AND TRANSFORMER LOCATION WITH PROGRESS ENERGY COMPANY (PECO). PROVIDE RISER, CONDUIT, WEATHER HEAD, WIRING, ETC. AS REQUIRED. CONTRACTOR SHALL PAY ALL FEES AND CHARGES AS REQUIRED TO OBTAIN TEMPORARY AND PERMANENT SERVICE. COORDINATE WITH PECO TO PROVIDE AND MEET REQUIREMENTS FOR THESE SERVICES.
8. COORDINATE TELEPHONE SERVICE POINT WITH TELEPHONE COMPANY. PROVIDE #22 AWG, 4-PAIR CONDUCTOR (MINIMUM).
9. WIRING FOR GENERATOR RUN, FAIL, FUEL, ETC. SIGNALS SHALL BE RUN FROM THE GENERATOR CONTROL PANEL TO THE ATS. GENERATOR RUN, WARNING ALARM, AND SHUTDOWN ALARM SIGNALS SHALL BE RUN TO THE AUTODIALER. (SEE SPECIFICATIONS)
10. CONTRACTOR SHALL FIELD VERIFY EXISTING UNDERGROUND UTILITIES, PIPING, ETC. REROUTE NEW CONDUITS, HAND HOLES, PULL BOXES, ETC., AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
11. RIGID GALVANIZED STEEL CONDUIT OR SCHEDULE 80 PVC CONDUIT SHALL BE USED UNDERGROUND. PVC SCHEDULE 80 CONDUIT SHALL BE AS MANUFACTURED BY CARLON OR EQUAL. PVC CONDUIT SHALL BE FOR USE UNDER THE PROVISIONS OF NEC ARTICLE 352.
12. CONDUITS TERMINATING IN PRESSED STEEL BOXES SHALL HAVE DOUBLE LOCKNUTS (MALLEABLE IRON) AND INSULATED GROUNDING BUSHINGS.
13. CONDUITS TERMINATING IN GASKETED ENCLOSURES SHALL BE TERMINATED WITH GROUNDING TYPE CONDUIT HUBS.
14. CONDUITS CONTAINING EQUIPMENT GROUNDING CONDUCTORS AND TERMINATING IN SHEET STEEL BOXES SHALL HAVE INSULATED THROAT GROUNDING BUSHINGS WITH LAY-IN TYPE LUGS.
15. CONDUITS SHALL BE INSTALLED USING THREADED FITTINGS.
16. WHERE CONDUITS PASS THROUGH OPENINGS IN WALLS OR FLOOR SLABS, THE REMAINING OPENINGS SHALL BE SEALED AGAINST THE PASSAGE OF FLAME AND SMOKE.
17. ALL FIELD CUTS THREADS ON GALVANIZED STEEL CONDUIT SHALL BE CLEANED AND PAINTED WITH COLD GALVANIZING COMPOUND (95% ZINC CONTENT MINIMUM) BEFORE INSTALLATION.
18. ALL RISERS FROM UNDERGROUND, CONCRETE PADS, FLOORS, ETC. SHALL BE PROVIDED WITH HEAT SHRINK TUBING (RAYCHEM CO. OR EQUAL) FROM A POINT 12-INCHES BELOW BOTTOM OF SLAB OR GRADE TO A POINT NOT LESS THAN 6-INCHES ABOVE GRADE OR SURFACE OF SLAB.
19. ALL JUNCTION BOXES AND PULL BOXES SHALL BE TYPE 316 STAINLESS STEEL. BOXES SHALL BE SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 314.
20. CONDUITS PASSING FROM HEATED TO UNHEATED SPACES, EXTERIOR SPACES, REFRIGERATED SPACES, COLD AIR PLENUMS, ETC. SHALL BE SEALED WITH "DUXSEAL" AS MANUFACTURED BY MANVILLE OR SEAL FITTING TO PREVENT THE ACCUMULATION OF CONDENSATION.
21. ALL CONDUIT MOUNTING EQUIPMENT AND HARDWARE SUCH AS CHANNELS, HANGERS, RODS, BACKPLATES, BEAM CLAMPS, FASTENERS, ANCHORS, NUTS, WASHERS, ETC. SHALL BE TYPE 316 STAINLESS STEEL.
22. WIRE AND CABLE FOR POWER AND CONTROL CIRCUITS SHALL BE NEC TYPE XHHW.
23. ALL POWER AND CONTROL CONDUITS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR. EQUIPMENT GROUNDING CONDUCTORS SHALL BE NEC TYPE THHN/THWN OR XHHW, GREEN AND UNLESS OTHERWISE SHOWN SHALL BE SIZED PER NEC TABLE 250-122.
24. WIRE AND CABLE TYPES XHHW AND THW SHALL BE OKOSEAL-N AS MANUFACTURED BY OKONITE, OR EQUAL BY ROME CABLE CORP, OR EQUAL BY SOUTHWIRE CO.
25. THE MINIMUM COVER FOR DIRECT BURIED CONDUITS SHALL BE 30 INCHES UNLESS OTHERWISE PERMITTED BY THE ENGINEER.
26. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO INSTALL A COMPLETE GROUNDING SYSTEM IN STRICT ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE (NEC), AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HERIN.
27. GROUNDING CONDUIT HUBS SHALL BE MALLEABLE IRON TYPE, MANUFACTURED BY THOMAS & BETTS CO.; CATALOG NO. 3940 (3/4 INCH CONDUIT SIZE), SIMILAR TO BURNDY; O.Z./GEDNEY CO. OR APPROVED EQUAL, AND OF THE CORRECT SIZE FOR THE CONDUIT.
28. GROUND TRANSFORMER NEUTRALS TO NEAREST AVAILABLE GROUNDING ELECTRODE WITH A MINIMUM CONDUCTOR SIZED IN ACCORDANCE WITH NEC ARTICLE 250-66 OR AS SHOWN ON THE DRAWINGS.
29. SEAL EXPOSED CONNECTION BETWEEN DIFFERENT METALS WITH NO-OXIDE PAINT GRADE A OR APPROVED EQUAL.



PUMP STATION POWER

RISER DIAGRAM

NTS

NORTH CAROLINA PROFESSIONAL SEAL 27710 ENGINEER JOHN M. SANCHEZ 10/2/2007

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	10/2007	MJC	JMS	SHEET ISSUED PER ADDENDA NO. 1

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DRAWN BY: M. CAHILL
SHEET CHK'D BY: J. SANCHEZ
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CITY OF ASHEVILLE
ASHEVILLE, NORTH CAROLINA
TOWN MOUNTAIN DISTRIBUTION, STORAGE AND PUMP STATION IMPROVEMENTS

PUMP STATION ELECTRICAL SITE PLAN, SYMBOLS, ABBREVIATIONS, AND POWER RISER DIAGRAM

PROJECT NO. 20481-60263
FILE NAME: E001STPL
SHEET NO. E-1

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