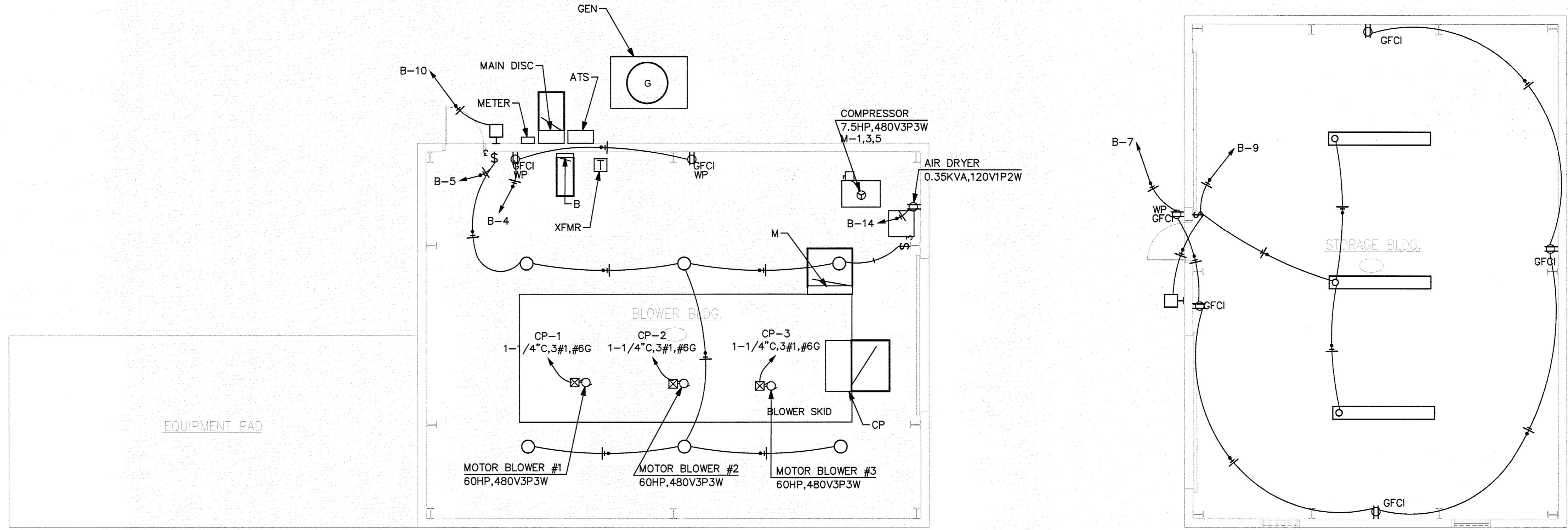


GENERAL NOTES:

- MATERIALS AND INSTALLATION, AS A MINIMUM, ARE TO CONFORM WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, THE LATEST EDITION OF N.F.P.A., AND THE LATEST EDITIONS OF THE LOCAL CODES AND ORDINANCES, INCLUDING ALL AMENDMENTS TO THE N.E.C. EQUIPMENT, WHERE APPLICABLE, WILL BE LISTED WITH THE UNDERWRITERS LABORATORIES, INC. QUALITY AND WORKMANSHIP ESTABLISHED BY DRAWINGS AND SPECIFICATIONS ARE NOT TO BE REDUCED BY THE ABOVE MENTIONED CODES.
- BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK. THE SUBMISSION OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST-CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM IS TO BE FULLY OPERABLE AND ACCEPTANCE OF THIS SYSTEM BY THE ENGINEER/OWNER MUST BE A CONDITION OF THE SUBCONTRACT.
- ALL WORK TO BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE.
- CORRECTION OF ANY DEFECTS TO BE COMPLETED WITHOUT ADDITIONAL CHARGE AND TO INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- CONTRACTOR TO PAY FOR ALL PERMITS, FEES INSPECTIONS AND TESTINGS.
- ELECTRICAL INSTALLATION TO MEET ALL STANDARD REQUIREMENTS OF LOCAL POWER AND TELEPHONE COMPANIES. ELECTRICAL CONTRACTOR SHALL CONTACT LOCAL POWER AND TELEPHONE COMPANIES PRIOR TO START OF CONSTRUCTION.
- ALL WIRING SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED, MINIMUM WIRE SIZE SHALL BE #12 AWG, EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER WITH THWN/THHN INSULATION. CONDUCTORS #10 AND SMALLER MAY BE SOLID; ALL THOSE #8 AND LARGER TO BE STRANDED.
- ALL UNDERGROUND RACEWAYS SHALL BE MINIMUM 3/4", GALVANIZED RIGID STEEL CONDUIT OR SCHEDULE 40 PVC. ALL OTHER RACEWAYS TO COMPLY WITH GOVERNING CODES. WHERE RIGID STEEL IS USED, IT SHALL BE COMPLETELY COATED WITH AN ALKALI AND RUST RESISTANT BITUMASTIC PAINT, COPPER NO. 50, AND THREADS SHALL BE COATED WITH ZINC CHROMATE. RIGID STEEL SHALL ALSO BE USED WHEN CONDUIT IS EXPOSED TO EXTERIOR ENVIRONMENT SUCH AS EXTERIOR OF BUILDING OR WHERE IT IS EXPOSED AND SUBJECT TO DAMAGE.
- ALL UNDERGROUND SERVICE CONDUITS/RACEWAYS ENTERING BUILDING OR STRUCTURE FROM OUTSIDE TO INSIDE SHALL BE SEALED AND REQUIRED TO BE EXPLOSIONPROOF, INCLUDING SPARE CONDUITS. SEALANT SHALL BE SUITABLE FOR THIS USE. IN CLASS 1, DIVISION 2 LOCATIONS, CONDUIT SEALS SHALL BE LOCATED IN ACCORDANCE WITH NEC 501.15(B)(1) AND (B)(2). SEALS INSTALLED IN CLASS 1, DIVISIONS 1 AND 2 LOCATIONS SHALL COMPLY WITH NEC 501.15(C)(1) THROUGH (C)(6).
- OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS, AND BE OF SPECIAL CONSTRUCTION FOR OTHER CLASSIFIED AREAS. ALL BOXES SHALL BE RECESSED (FLUSH) IN WALLS OR CEILINGS WHENEVER POSSIBLE.
- DISCONNECT SWITCHES SHALL BE H.P. RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK TYPE. ENCLOSURES SHALL BE AS REQUIRED BY N.E.C. AND LOCATION (WEATHERPROOF, EXPLOSION PROOF, ETC.). ENGRAVED LAMINATED PLASTIC IDENTIFICATION PLATES SHALL BE FURNISHED AND INSTALLED ON ALL DISCONNECT SWITCHES, CONTACTORS AND STARTERS.
- A SEPARATE, GREEN TYPE THW COPPER GROUND CONDUCTOR SHALL BE RUN FROM GROUND LUG OF EACH GROUNDED RECEPTACLE TO AN APPROVED CONNECTION INSIDE THE ENCLOSING STEEL OUTLET BOX. DEVICE MOUNTING SCREWS SHALL NOT BE CONSIDERED AN APPROVED GROUND.
- A SEPARATE GROUND CONDUCTOR SHALL BE INSTALLED IN EVERY CONDUIT AND RACEWAY AND SECURELY BONDED IN AN APPROVED GROUNDING TERMINAL AT BOTH ENDS OF THE RUN. THE GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH TABLE 250-95 OF THE N.E.C. CONTRACTOR SHALL SIZE CONDUIT TO ACCOMMODATE ADDITIONAL CONDUCTOR.
- GROUND RODS SHALL BE 5/8" DIAMETER, TEN (10) FEET LONG COPPERCLAD STEEL. OBTAIN TWENTY FIVE (25) OHMS MAXIMUM RESISTANCE AS READ WITH AN OHM METER, USING TWO REFERENCE RODS. IF TWENTY FIVE (25) OHMS CANNOT BE ACHIEVED, CONTRACTOR SHALL PROVIDE ADDITIONAL RODS, UNTIL TWENTY FIVE (25) HAS BEEN OBTAINED.
- CIRCUITS SHOWN ON PLANS ARE TO DETERMINE LOAD DATA AND PANEL SIZES. THE CONTRACTOR IS TO PROVIDE CIRCUITS AND ROUTING OF CONDUITS TO SUIT JOB CONDITIONS.
- TYPEWRITTEN CIRCUIT INDEX SHALL BE AFFIXED TO INSIDE SURFACE OF EACH PANELBOARD DOOR, CLEARLY INDICATING AREA AND TYPE OF LOAD SERVED BY EACH BRANCH CIRCUIT PROTECTIVE DEVICE, INCLUDING SPARES. HAND PRINTED WILL NOT BE ACCEPTED.
- ENGRAVED, LAMINATED PLASTIC IDENTIFICATION PLATES SHALL BE FURNISHED AND INSTALLED ON ALL PANELS AND SWITCHGEAR. PLATES SHALL BE AFFIXED TO FRONT OF PANELS, INDICATING PANEL NAME, VOLTAGE AND AMPERAGE.
- ALL UNDERGROUND PVC CONDUIT RUNS SHALL HAVE RIGID STEEL ELBOWS AND RIGID STEEL SECTIONS AT SLAB PENETRATIONS WHERE SUBJECT TO POSSIBLE DAMAGE.
- THE ELECTRICAL CONTRACTOR SHALL MEET AND COORDINATE WITH THE LOCAL POWER COMPANY AT THE SITE PRIOR TO CONSTRUCTION. AT THAT TIME, THE CONTRACTOR SHALL COORDINATE ALL RELATED WORK WITH THE UTILITY COMPANY'S RESPONSIBILITIES TO MEET THE OWNER'S.
- ALL ELECTRICAL CONDUCTORS SHALL BE INSTALLED IN AN APPROVED RACEWAY, EMT, IMC, RIGID GALVANIZED CONDUIT OR SCHEDULE 40 P.V.C. TYPE "NM", "MC", ELECTRICAL NON-METALLIC TUBING, & FLEXIBLE METAL CONDUIT MAY BE USED FOR BRANCH CIRCUITING AS ALLOWED BY THE N.E.C. & AHJ.
- CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:
480V SYSTEM PHASE SEQUENCE
NEUTRAL - GRAY ABC, TOP TO BOTTOM
PHASE A - BROWN LEFT TO RIGHT, FRONT
PHASE B - ORANGE TO BACK
PHASE C - YELLOW
GRD.CON - GREEN
- CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL CONDUIT PENETRATIONS MADE THROUGH FIRE RATED WALLS, CEILINGS, SLABS, ETC. PENETRATION SEALS SHALL BE PER U.L. ASSEMBLY STANDARDS.
- CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF CONTRACT DRAWINGS AT JOB SITE WITH COLORED MARKINGS INDICATING PROGRESS OF WORK. THIS SET OF CONTRACT DRAWINGS IS TO BE SEPARATE FROM AND IN ADDITION TO CONTRACTOR'S CONSTRUCTION SET. EVERY UNIT OF EQUIPMENT, DEVICE, CONDUIT AND WIRE IS TO BE MARKED WHEN INSTALLED. USE GREEN TO INDICATE INSTALLATION AS SHOWN ON DRAWINGS AND USE RED TO INDICATE FIELD CHANGES. UPON COMPLETION OF WORK, THIS SET OF CONTRACT DRAWINGS IS TO BE TURNED OVER TO, AND BECOME PROPERTY OF THE COUNTY.
- THE OWNER RESERVES THE RIGHT TO REVISE THE DRAWING FROM TIME TO TIME TO INDICATE CHANGES IN THE WORK. WHEN REVISED DRAWINGS AND/OR ANY REVISIONS ARE ISSUED, THE CONTRACTOR SHALL EVALUATE THE CHANGES PROMPTLY, BEFORE INSTALLATION OF ANY ITEM OR PERFORMANCE THE WORK INDICATED BY THE REVISED DRAWINGS OR REVISIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER IN WRITING.
- IF ELECTRICAL CONTRACTOR HAS QUESTIONS, OR IN THEIR OPINION FINDS OMISSIONS OR ERRORS ON ELECTRICAL DOCUMENTS, IT IS THEIR RESPONSIBILITY TO BRING THIS TO THE ATTENTION OF THE ELECTRICAL ENGINEER/OWNER IMMEDIATELY.
- FIRE PROTECTION BY OTHERS.



POWER PLAN

SCALE: 3/16" = 1' - 0"

1

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	INPUT WATTS	VOLTS	QUANTITY
A	⊠	(2) 54W	1X8 FLUORESCENT STRIP	ELECTRONIC	CHAIN HUNG	CONSULT PROJECT LEAD.	120	120V 1P 2W	3
B	⊠	(1) 250W	FULL CUTOFF WALLPACK	ELECTRONIC	WALL	250W MH WALLPACK WITH PHOTOSENSOR	277	120V 1P 2W	2
C	⊙	(1) 300W	EXPLOSION PROOF NEMA 4X	ELECTRONIC	CEILING	RAB EX124 INCANDESCENT	300	120V 1P 2W	6

PROJECT NOTES:

- LOAD DATA IS BASED ON INFORMATION GIVEN TO THE ENGINEER AT THE TIME OF DESIGN. VERIFY NAMEPLATE RATING DATA FOR ALL ELECTRICAL EQUIPMENT BEFORE ORDERING AND INSTALL PER MANUFACTURER'S ELECTRICAL REQUIREMENTS AND SPECIFICATIONS.
- VERIFY FINAL LOCATION OF ALL EQUIPMENTS AND PANELS WITH PROJECT LEAD.
- METER SOCKET, MAIN DISCONNECT AND AUTOMATIC TRANSFER SWITCH SHALL BE SUPPLIED AND INSTALLED BY CONTRACTOR ON THE EXTERIOR SIDE OF THE STRUCTURE.
- UL LISTED AND COUNTY APPROVED LIGHTNING ARRESTOR TO BE CONNECTED ON THE LOAD SIDE OF THE METER SOCKET.
- MOTOR OVERLOAD AND FAULT PROTECTION MUST BE DONE IN ACCORDANCE TO NEC ARTICLE 430. IF MOTOR SIZE CHANGES CONSULT NEC AND RECALCULATE LOADS, FEEDERS AND PROTECTION.
- TOP OF ENCLOSURE SHALL BE A MAXIMUM OF 66" ABOVE FINAL GRADE.
- CONTRACTOR SHALL SUPPLY AND INSTALL SPARE 1" PVC UNDERGROUND CONDUIT FOR COMMUNICATIONS BACKUP. EXTEND CONDUIT TO EDGE OF PAVEMENT. TURN UP AND CAP ABOVE GRADE.
- APPROVED GROUND CLAMPS SHALL BE ATTACHED TO TWO APPROVED GROUNDING RODS (MINIMUM SPACING 6'-0") AND THE METALLIC WATER LINE IF POSSIBLE.
- ELECTRICAL CONTRACTOR SHALL WORK CLOSELY WITH BLOWER/FLARE MANUFACTURER AND PROJECT LEAD FOR EQUIPMENT INSTALLATIONS AND REQUIREMENTS.
- BLOWER/FLARE MANUFACTURER SHALL SUPPLY MOTOR CONTROL PANEL WITH VFD AND CONTROLS WITH ACCORDANCE TO HILLSBOROUGH COUNTY SPECIFICATIONS.
- BLOWER CONTROLLERS SHALL PROVIDE AUTOMATIC STARTUP OF BLOWER 1 AND 2, A TIME DELAY WILL PREVENT BOTH BLOWERS FROM STARTING SIMULTANEOUSLY. ONLY TWO BLOWERS WILL RUN AT THE SAME TIME. BLOWER 3 IS A BACKUP/STANDBY.
- SURGE SUPPRESSION SYSTEM SHALL BE PROVIDED FOR ALL PHASES AND VOLTAGES.
- CONSULT WITH PROJECT LEAD ON BRAND OF LIGHTING. LIGHT FIXTURES IN LIGHTING SCHEDULE ARE GENERIC AND CAN BE USED TO ACCOMPLISH LIGHTING DESIGN GOALS. PLEASE MAINTAIN THE WATTAGE AS INDICATED IN THE LIGHTING SCHEDULE.
- EXTERIOR LIGHTING SHALL BE CONNECTED TO A PHOTOSENSOR, TO TURN LIGHTS "ON" AT DUSK AND "OFF" AT DAWN.
- ALL EQUIPMENT AND PANELS SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH NEC ARTICLE 250 AND AUTHORITY HAVING JURISDICTION.
- 50 HP MOTOR WILLS BE INSTALLED AT THE CURRENT TIME, HOWEVER IT IS POSSIBLE THAT IN THE FUTURE 60 HP MOTOTRS MAY BE REQUIRED, THEREFORE THE SYSTEM HAS BEEN DESIGNED TO ACCOMODATE 60 HP MOTOTRS.

RECEPTACLE SCHEDULE

CALLOUT	SYMBOL	VOLTS	FEATURES	NOTE 1	QUANTITY
GFCI	⊕	120V 1P 2W	GFCI, GND		4
WP/GFCI	⊕	120V 1P 2W	WP, GFCI, GND	GENERAL PURPOSE	3

EQUIPMENT SCHEDULE

CALLOUT	SYMBOL	NEMA	VOLTS	AMPS	KVA	HP	CIRCUIT
AIR DRYER	⊕		120V 1P 2W	3.65	0.35		B-3
COMPRESSOR	⊕	NEMA 4	480V 3P 3W	13.8		7.5 HP	CP-4
MOTOR BLOWER #1	⊕	NEMA 4	480V 3P 3W	96.59		60 HP*	CP-1
MOTOR BLOWER #2	⊕	NEMA 4	480V 3P 3W	96.59		60 HP*	CP-2
MOTOR BLOWER #3	⊕	NEMA 4	480V 3P 3W	96.59		60 HP*	CP-3

* ACTUAL SIZE OF MOTORS TO BE INSTALLED IS 50 HP SEE NOTE 16

RECORD DRAWING

DATE: APRIL 15, 2010

SI Engineering, Inc.
MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION
Certificate of Authorization Number: 26291
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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
APR 16 2010
SOUTHWEST DISTRICT TAMPA

Carlos M. Orsma, P.E.
Lic. # 60205

DRAWING TITLE
ELECTRICAL PLAN AND GENERAL NOTES

PROJECT TITLE
SOUTHEAST COUNTY LANDFILL LANDFILL GAS COLLECTION AND CONTROL SYSTEM

CLIENT
HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT TAMPA, FLORIDA

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
4611 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 821-9880 FAX 813 822-8757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892
DATE: APR 15 2010

CADD FILE:
075500P.dwg

DATE:
JULY 7, 2008

SCALE:
AS SHOWN

DRAWING NO.:
E-1 of 30