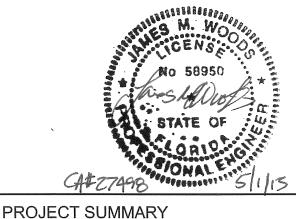
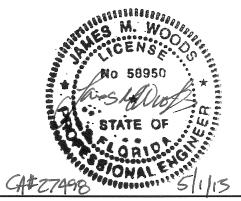




VERIZON WIRELESS SITE NUMBER & NAME # 61005 FPL COCONUT CREEK

PROJECT ADDRESS 4001 LYONS ROAD COCONUT CREEK, FL 33073







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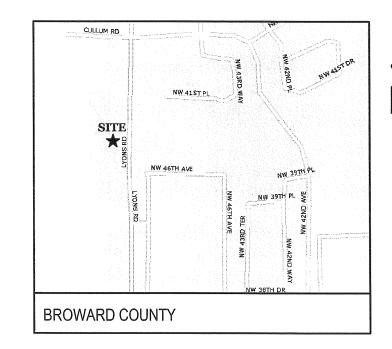
SITE No.: 61005

4001 LYONS ROAD COCONUT CREEK, FL 33073

COVER SHEET

C-1

| | SHEET INDEX |
|----------------------------------|--|
| SHEET NO. | DESCRIPTION |
| C-1 C-2 C-3 C-4 | COVER SHEET CONSTRUCTION NOTES DETAIL SITE PLAN TOWER ELEVATION |
| E-1 E-2 E-2A E-3 E-4 | ELECTRICAL NOTES ELECTRICAL DIAGRAMS & DETAILS LOAD CALCULATIONS GROUNDING NOTES, PLAN & DIAGRAM GROUNDING DETAILS |
| OJ2534 | GENERATOR SPECIFICATION DWG (BY OTHERS) |



VICINITY MAP

TOWER COORDINATES: LATITUDE: 26.28008 LONGITUDE: -80.186713 SITE ADDRESS: 4001 LYONS ROAD COCONUT CREEK, FL 33073

PARCEL ID: 4842-18-01-0370

APPLICABLE BUILDING CODES AND STANDARDS

FBC 2010 (BUILDING AND MECHANICAL) NFPA 30 2008 (FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE) NFPA 37 2006 (INSTALLATION AND USE OF STATIONARY COMBUSTION ENGINES AND GAS TURBINES)

GENERAL NOTES:

NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
VZW - VERIZON WIRELESS

- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- 6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE ENGINEER.
- CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES, FIBER CABLES, AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- 10. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- 11. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- 12. CONTRACTOR SHALL HAVE A PRE CONSTRUCTION MEETING WITH LICENSEE TO DISCUSS ALL ASPECTS OF THE CONSTRUCTION SCOPE OF THIS DRAWING TO ENSURE HE IS FAMILIAR AND UNDERSTANDS ALL REQUIREMENTS AND INTENT OF EACH ACTIVITY.
- 13. THE GENERAL CONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS BEFORE STARTING WORK. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.
- 14. IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETE INSTALLATION.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES,
 FORMWORK, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL ORDINANCES, TO SAFELY
 EXECUTE ALL WORK AND SHALL BE RESPONSIBLE FOR SAME. ALL WORK SHALL BE IN ACCORDANCE
 WITH LOCAL CODES.
- 15. THE CONTRACTOR SHALL USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS, AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.
- 16. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT. ALL WORK SHALL COMPLY WITH OSHA AND STATE SAFETY REQUIREMENTS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.
- ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.

SITE WORK GENERAL NOTES:

NOTES:

- 1. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- 5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF OWNER AND/OR LOCAL UTILITIES.
- 6. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
- 7. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- 9. THE SUB GRADE SHALL BE COMPACTED 98% AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 10. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- 11. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

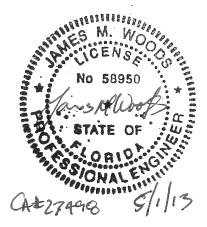
CONCRETE AND REINFORCING STEEL NOTES:

NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST—IN—PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD. UNO.
- 4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.......3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER:

- A CHAMFER 1" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- 6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE DAMAGED WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE.







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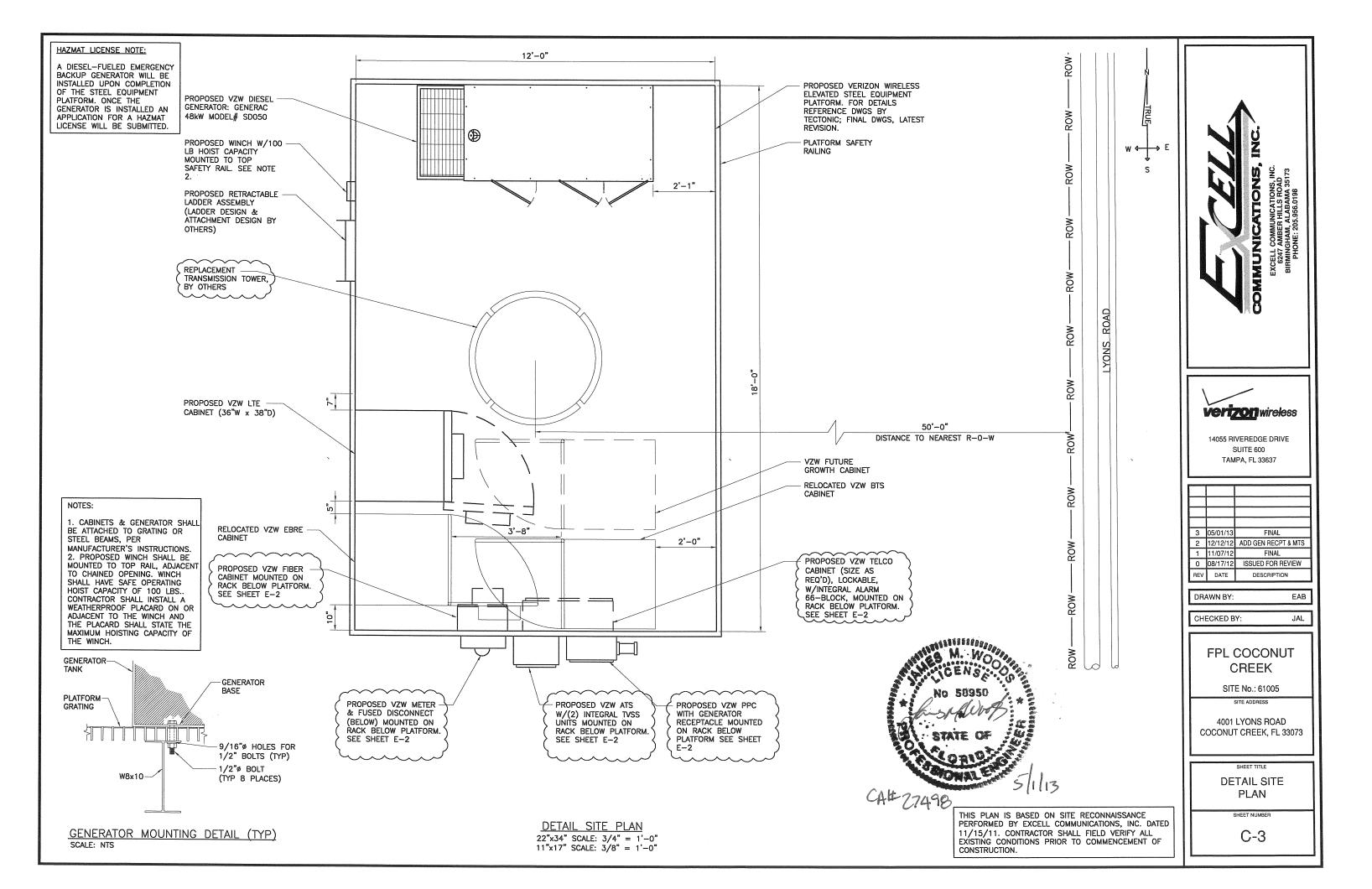
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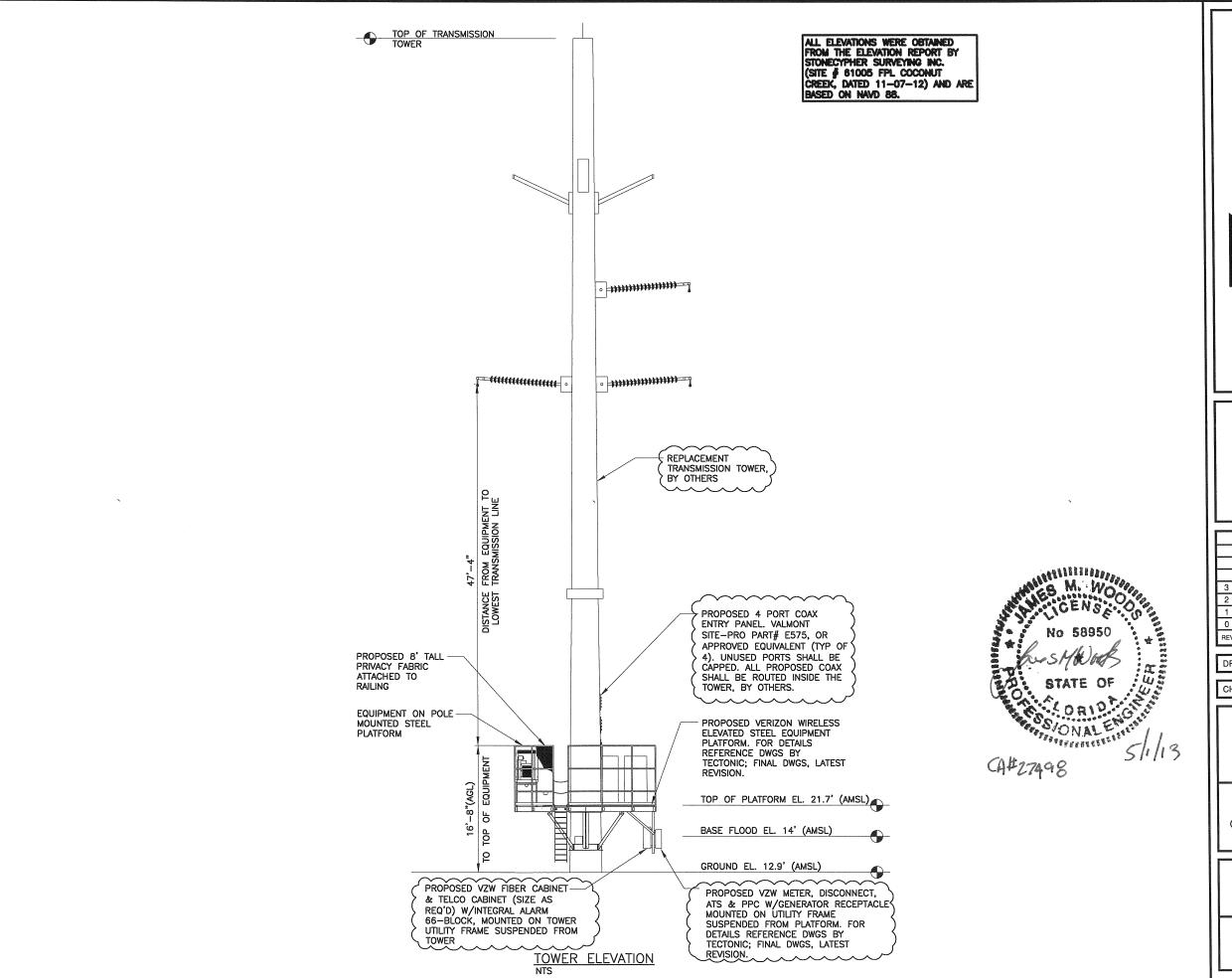
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CONSTRUCTION NOTES

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ELECTRICAL INSTALLATION NOTES

- 1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- 2. ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE U.L. APPROVED OR LISTED.
- 3. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- 4. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- 5. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- 6. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- 7. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.
- 8. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- 9. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- 10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- 11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- 12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- 13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 90°C.
- 14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL. ANSI/IEEE, AND NEC.
- 15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID METALLIC CONDUIT (RGS) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- 16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL METALLIC TUBING (RGS) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- 17. RIGID NON-METALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR IN AREAS OF HEAVY VEHICLE TRAFFIC, GALVANIZED RIGID CONDUIT SHALL BE USED.
- 18. ALL OUTDOOR EXPOSED CONDUIT SHALL BE RGS AND SHALL BE SUPPORTED ADEQUATELY.
- 19. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- 20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION—TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- 21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
- 22. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

ELECTRICAL INSTALLATION NOTES, (cont.)

- 23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY—COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS
- 24. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- 25. NON-METALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- 26. CONTRACTOR SHALL APPLY FOR ELECTRICAL SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS, SERVICE ROUTING, AND METER SOCKET TYPE WITH LOCAL POWER COMPANY.
- 27. CONTRACTOR SHALL APPLY FOR TELEPHONE SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS AND SERVICE ROUTING WITH TELEPHONE COMPANY.
- 28. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT FEES, AND SCHEDULE INSPECTIONS.
- 29. ALL SAFETY SWITCHES SHALL BE NEMA 1 FOR INDOOR, NEMA 3R FOR OUTDOOR, UL LISTED 200K SCCR RATED, REJECTION TYPE, WITH RK1 FUSES. FUSES SHALL HAVE AN AIR OF 200K AND SHALL HAVE A LIMITING RATING AS SHOWN IN THESE DRAWINGS. EQUIPMENT AND ACCESSORIES SHALL BE RATED FOR 75 DEGREES CELSIUS OR HIGHER.
- 30. ALL LOAD CENTERS SHALL BE 30 SPACE UNLESS NOTED OTHERWISE, NEMA 1 FOR INDOOR, NEMA 3R FOR OUTDOOR, MCB WITH CONVERTIBLE MAINS, UL LISTED 22K IA OR HIGHER SCCR, WITH 22K AIR BREAKERS. BREAKERS AND LOAD CENTER SHALL BE RATED FOR 75 DEGREES CELSIUS OR HIGHER. BREAKERS SHALL HAVE A LIMITING RATING AS SPECIFIED ON THESE DRAWINGS.
- 31. CONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
- 32. CONTRACTOR SHALL VERIFY THAT THE MAIN BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR IS INSTALLED PROPERLY AT SERVICE ENTRANCE.
- 33. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND ROOFS TO PREVENT MOISTURE PENETRATION OR VERMIN INFESTATIONS.
- 34. ALL VERTICAL RUNS OF POWER CABLE SHALL BE SUPPORTED PER N.E.C. 300.19 USING ACCEPTABLE CABLE SUPPORT SYSTEMS.
- 35. WHERE ELECTRICAL POWER IS TO BE SUB-FED FROM AN EXISTING DISTRIBUTION SYSTEM, THE FOLLOWING SHALL APPLY:
 - A) CONTRACTOR SHALL PERFORM LOAD TESTING TO DETERMINE MAXIMUM FEEDER DEMAND PER N.E.C. ARTICLE 220.
 - B) CONTRACTOR SHALL VERIFY WHETHER EXISTING FEEDER CAPACITY EXCEEDS VALUE CALCULATED PER N.E.C. ARTICLE 220.
 - C) EACH BRANCH CIRCUIT PROTECTIVE DEVICE SHALL HAVE SAME INTERRUPTING RATING AS EQUIPMENT SUPPLYING IT.
 - D) PREFERRED MEANS OF SUPPLY SHALL BE A BRANCH CIRCUIT PROTECTIVE DEVICE LOCATED IN FXISTING PANFI.
- 36. DURING TRENCH BACK-FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE TWELVE INCHES BELOW FINISHED







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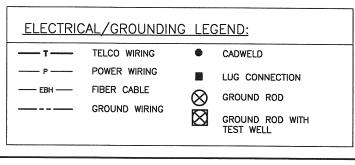
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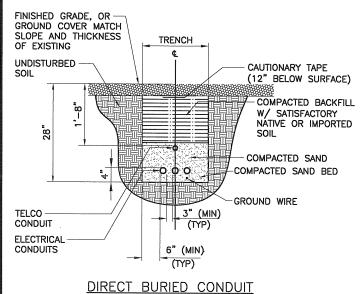
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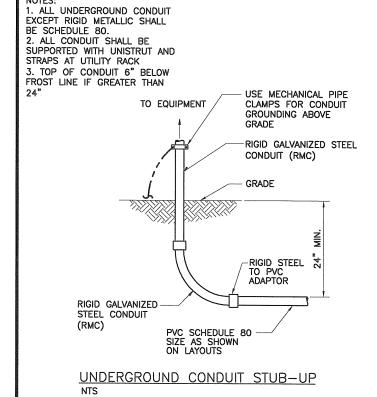
ELECTRICAL NOTES

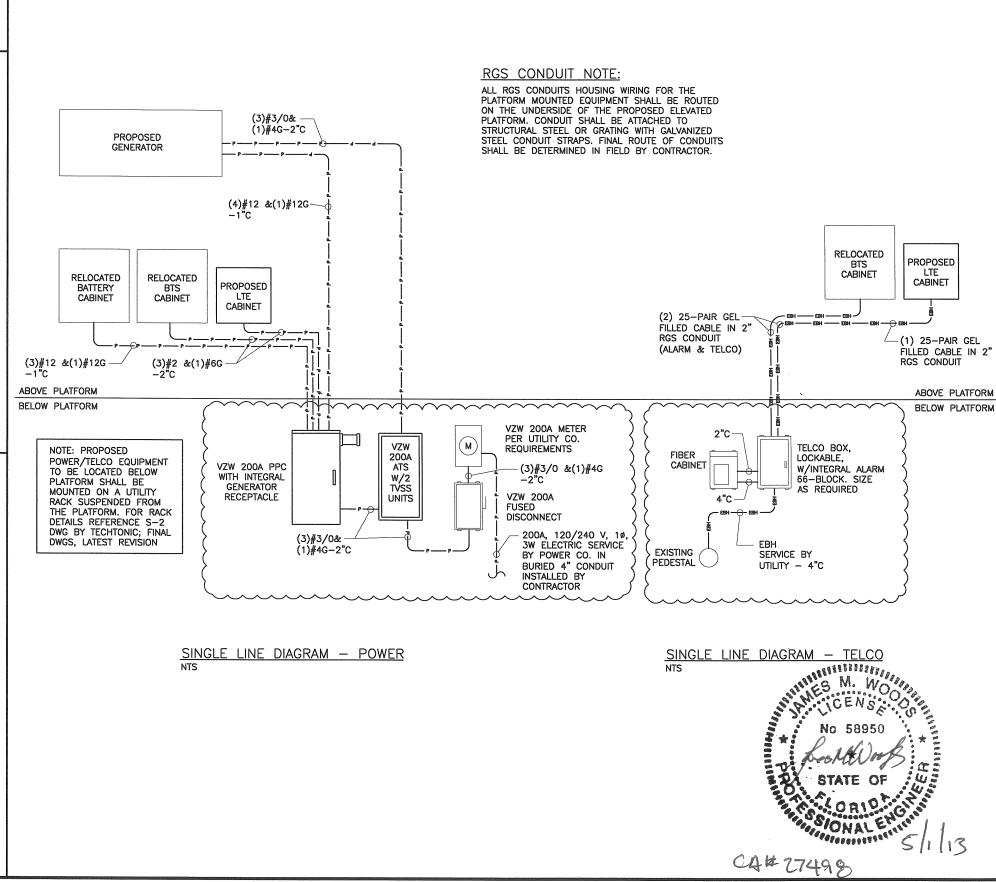
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* CONDUIT SIZE, TYPE, QUANTITY AND SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS











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SHEET TITLE
ELECTRICAL
DIAGRAMS &
DETAILS

NEW 200A, 120/240V, 1ø, 30 SPACE PANELBOARD, MB NEMA 3R

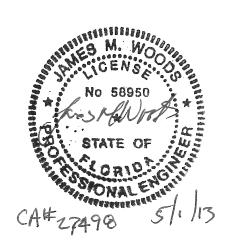
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| # | DESCRI | PTION | | LOAD | PER B | LEG A | (KW) B | | DESCRIPTION | # |
| - | | and the same of th | | | | | D | | | - |
| 1 | BTS | | 80A/2P | 4.25 | | 2.4 | | 20A/2P | BATTERY CABINET | 2 |
| 3 | 5.0 | | 30A/ 21 | | 4.25 | | 2.4 | 2011, 21 | DATTER! CABINE! | 4 |
| 5 | LTE | | 60A/2P | 3.0 | | 0.5 | | 20A/1P | GEN BATT CHARGE | 6 |
| 7 | | | OUA/ZP | | 3.0 | | 1.8 | 20A/1P | GEN BLK HEATER | 8 |
| 9 | SPACE | | _ | 0 | | 0 | | | SPACE | 10 |
| 11 | SPACE | | - | | 0 | | 0 | _ | SPACE | 12 |
| 13 | SPACE | | - | 0 | | 0 | | - | SPACE | 14 |
| 15 | SPACE | | _ | | 0 | | 0 | _ | SPACE | 16 |
| 17 | SPACE | | - | 0 | | 0 | | - | SPACE | 18 |
| 19 | SPACE | | - | | 0 | | 0 | | SPACE | 20 |
| 21 | SPACE | | - | 0 | | 0 | | _ | SPACE | 22 |
| 23 | SPACE | | - | | 0 | | 0 | - | SPACE | 24 |
| 25 | SPACE | | _ | 0 | | 0 | | _ | SPACE | 26 |
| 27 | SPACE | | _ | | 0 | | 0 | \ <u> </u> | SPACE | 28 |
| 29 | SPACE | | _ | 0 | | 0 | | | SPACE | 30 |
| | | TOTAL (| KW) | 7.25 | 7.25 | 2.9 | 4.2 | | | |

TOTAL CONNECTED LOAD (KW) = 21.6
TOTAL CONNECTED LOAD (APPROX.) = 90A

** THIS CHART IS FOR LOAD CALCULATION ONLY. ACTUAL BREAKER ARRANGEMENT SHALL BE FIELD VERIFIED BY CONTRACTOR.

*** GENERATOR IS RATED AT 48KW

LOAD CALCULATIONS







14055 RIVEREDGE DRIVE SUITE 600 TAMPA, FL 33637

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SITE No.: 61005

SITE ADDRES

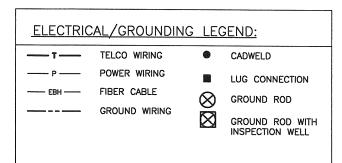
4001 LYONS ROAD COCONUT CREEK, FL 33073

SHEET TITLE

LOAD CALCULATIONS

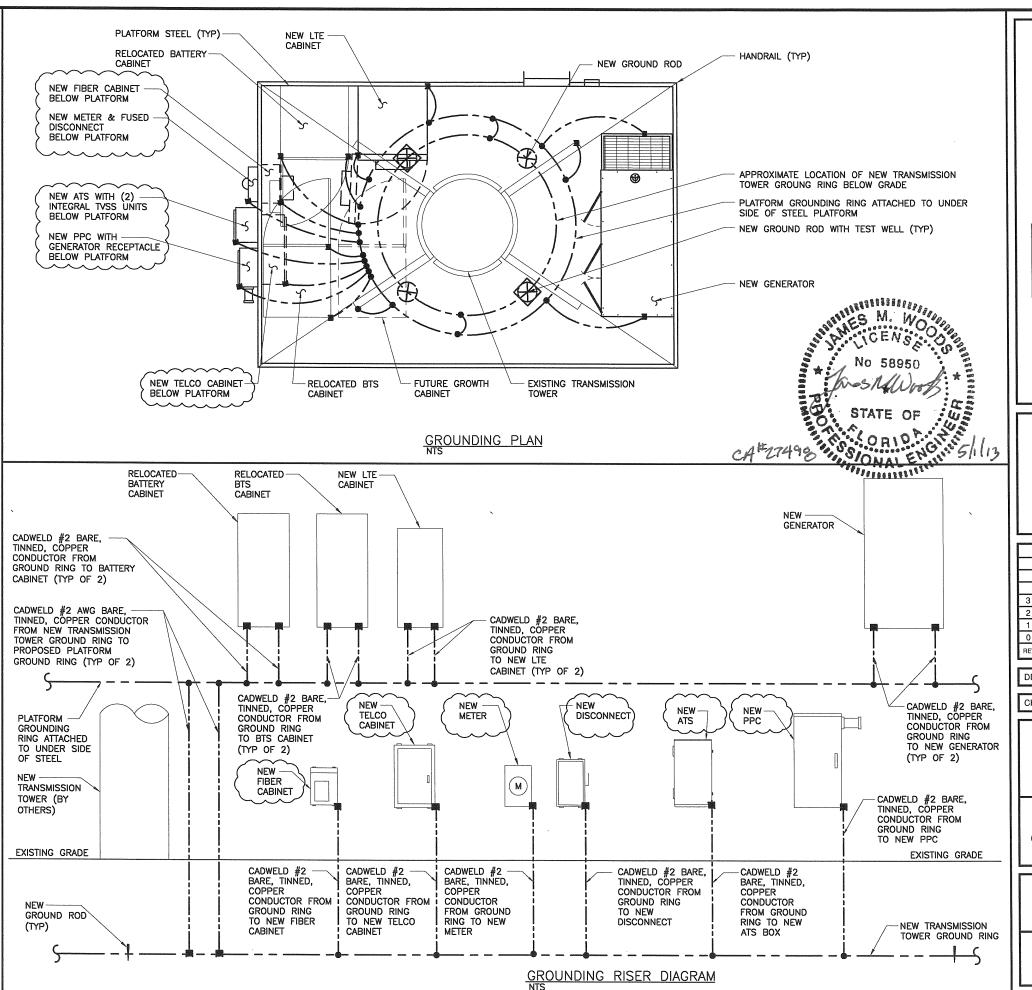
SHEET NUME

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GROUNDING NOTES

- ALL GROUNDING CONNECTIONS SHALL BE MADE USING EXOTHERMIC WELDING PROCESS (CAD WELD OR EQUAL) EXCEPT FOR EQUIPMENT THAT MAY BE MECHANICALLY FASTENED. ALL LUGS SHALL BE TWO HOLE, LONG BARREL TYPE, FOR COPPER, UNLESS OTHERWISE NOTED.
- 2. ALL GROUND RODS SHALL BE A MINIMUM OF 10 FEET LONG, COPPER CLAD STEEL (302 OR 304), 5/8 DIAMETER, DRIVEN VERTICALLY DOWN WITH TOPS 30" BELOW GRADE. UNDERGROUND GROUNDING CONDUCTORS SHALL BE 30" BELOW GRADE.
- 3. ALL GROUND CONDUCTORS SHALL BE MIN. #2 AWG SOLID BARE TINNED COPPER WIRE. EQUIPMENT GROUND CONDUCTORS SHALL BE MIN. #6 GREEN INSULATED, UNLESS OTHERWISE NOTED.
- GROUND RODS FOR GROUND RING SHALL BE LOCATED 10-16 FEET APART.
- 5. ANY METAL OBJECT WITHIN 6 FEET OF THE TOWER OR EQUIPMENT GROUND RING SHALL BE BONDED DIRECTLY TO THE RING.
- 6. THE MINIMUM BENDING RADIUS FOR ALL GROUNDING CONDUCTORS #6 AWG OR LARGER SHALL BE 24".
- ALL ABOVE GRADE GROUND CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD EARTH AND HORIZONTAL ONLY WHERE NECESSARY.
- 8. ALL CONDUCTORS SHALL BE ROUTED SUCH THAT THERE ARE NO INCLUSIVE ANGLES OF LESS THAN 90 DEGREES.
- 9. THE CONTRACTOR SHALL PERFORM IEEE FALL—OF—POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- 10. ALL GROUNDING SHALL COMPLY WITH THE N.E.C. AND NFPA 780, "LIGHTNING PROTECTION CODE".
- 11. ALL GROUNDING COMPONENTS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 12. ANY METAL CONDUIT MOUNTED ON THE TOWER SHALL BE BONDED TO THE TOWER AT EACH END.
- 13. ALL EXPOSED GROUNDING SHALL BE IN NON-METALLIC FLEX CONDUIT AND SECURED AS NECESSARY.
- 14. WHEN BONDING TO EQUIPMENT, REMOVE PAINT TO BARE STEEL AND PROTECT WITH A COATING OF NO-OX.
- APPROVED ANTIOXIDANT COATINGS SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- 16. BOND ICE BRIDGE SECTIONS TOGETHER EXOTHERMICALLY OR WITH 2 HOLE LUGS. BOND ICE BRIDGE TO SUPPORT POSTS.







14055 RIVEREDGE DRIVE SUITE 600 TAMPA, FL 33637

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| | 3 | 05/01/13 | FINAL |
| | 2 | 12/12/12 | ADD GEN RECPT & MTS |
| ı | 1 | 11/07/12 | FINAL |
| | 0 | 08/17/12 | ISSUED FOR REVIEW |
| | REV | DATE | DESCRIPTION |

DRAWN BY: EAB

CHECKED BY:

FPL COCONUT CREEK

JAL

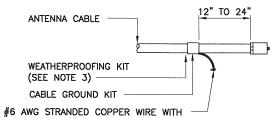
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4001 LYONS ROAD COCONUT CREEK, FL 33073

SHEET TITLE

GROUNDING NOTES, PLAN & DIAGRAM

SHEET NUMBER

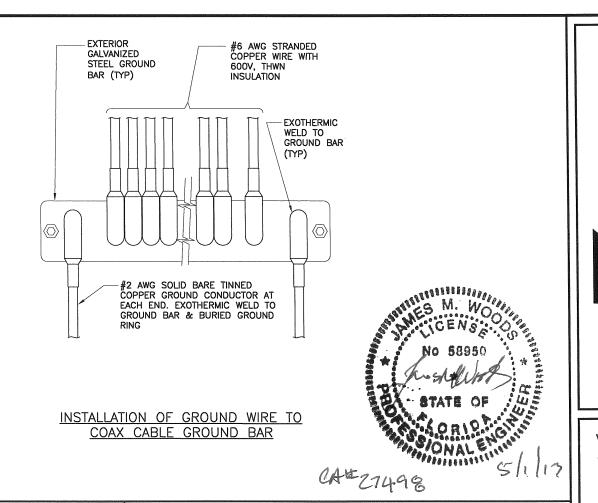


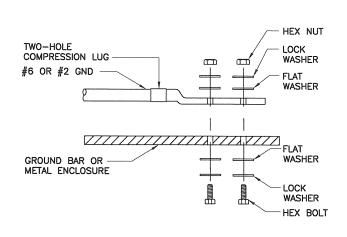
#6 AWG STRANDED COPPER WIRE WITH - 600V, THWN INSULATION (GROUNDED TO GROUND BAR) (SEE NOTES 1 & 2)

NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- 2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
- 3. WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

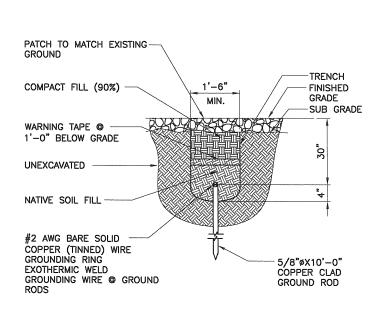




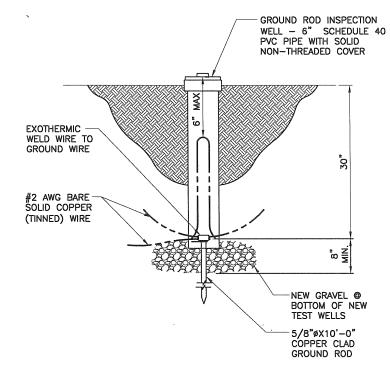
INSTALLATION NOTES:

- 1. BOLTS, WASHERS AND NUTS SHALL BE STAINLESS STEEL.
- 2. SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS.
- 3. BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF LUG CONTACT.
- 4. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG AND WIPE CLEAN EXCESS COMPOUND.
- 5. USE 1/4" HARDWARE FOR ATTACHMENT TO METAL ENCLOSURES & 3/8" FOR ATTACHMENT TO GROUND BARS.

CONNECTION OF GROUNDING CONDUCTOR TO GROUND BAR



GROUND ROD



GROUND ROD WITH TEST WELL





14055 RIVEREDGE DRIVE SUITE 600 TAMPA, FL 33637

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FPL COCONUT CREEK

JAL

SITE No.: 61005

4001 LYONS ROAD COCONUT CREEK, FL 33073

SHEET TIT

GROUNDING DETAILS

SHEET NUMBER