ADMINISTRATIVE APPROVAL 01-07-2013
APPROVED

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TM

SITE NAME: COCONUT CREEK GOVERMENT CENTER
SITE NUMBER: MI60XC004-A
STRUCTURE TYPE: MONOPOLE
MARKET: MIAMI
PROJECT TYPE: NV MMBS LAUNCH

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

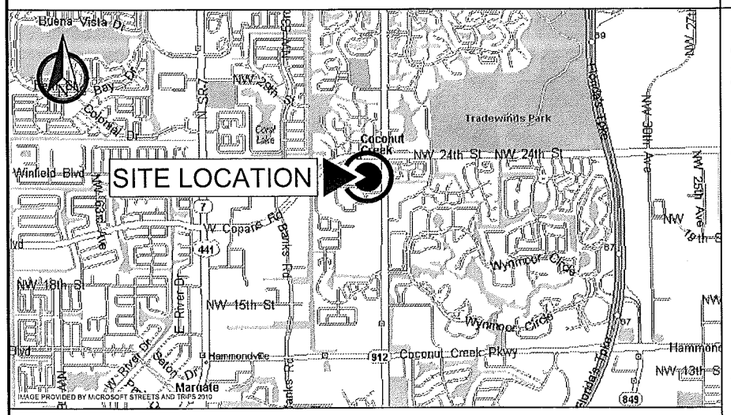
PROJECT NO.: 120-564.48

DRAWN BY:	CHECKED BY:
J. ACOSTA	M. ABBEY

SCOPE OF WORK

1. THE WIRELESS COMMUNICATIONS FACILITY IS NOT INTENDED FOR HUMAN OCCUPANCY.
2. THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. THE SCOPE OF WORK CONSISTS OF MODIFYING THE EXISTING WIRELESS INSTALLATION:
   - REMOVAL OF (3) EXISTING EQUIPMENT CABINETS
   - REMOVAL OF (3) EXISTING ANTENNAS
   - REMOVAL OF (6) EXISTING COAX CABLES
   - REMOVAL OF (1) EXISTING GPS ANTENNA
   - INSTALLATION OF (2) NEW EQUIPMENT CABINETS
   - INSTALLATION OF (3) NEW ANTENNAS
   - INSTALLATION OF (12) NEW RRUS (REMOTE RADIO UNITS)
   - INSTALLATION OF (3) NEW HYBRID CABLES
   - INSTALLATION OF (3) NEW ANTENNA MOUNTING PIPES
   - INSTALLATION OF (1) NEW GPS ANTENNA
   - INSTALLATION OF (3) NEW COMBINERS
   - INSTALLATION OF (3) NEW 800MHz FILTERS

VICINITY MAP



DRIVING DIRECTIONS

FROM ERICSSON'S HOLLYWOOD OFFICE, HEAD NORTH ON I-95 FOR 4.3 MILES TO EXIT 24 (I-595), HEAD WEST ON I-595 FOR 1.9 MILES TO EXIT 8 (FLORIDA'S TURNPIKE), HEAD NORTH ON FLORIDA'S TURNPIKE FOR 10.9 MILES TO EXIT 66 (ATLANTIC BLVD), TURN LEFT AND HEAD WEST ON ATLANTIC FOR 0.5 MILES TO LYONS RD, TURN RIGHT AND HEAD NORTH FOR 1.7 MILES TO NW 22nd ST, TURN LEFT AND WEST FOR 0.2 MILES TO SITE ON RIGHT SIDE OF ROAD.

PROPERTY SUMMARY

FOLIO #:	4842 19 08 2220
LATITUDE:	26° 15' 29.40" N
LONGITUDE:	80° 11' 15.77" W
ZONING JURISDICTION:	CITY OF COCONUT CREEK
ZONING CLASSIFICATION:	PCD (PLANNED COMMERCE DISTRICT)

LEGAL DESCRIPTION

TARTAN COCONUT CREEK PHASE I 103-29 B TR DD,TR CC & POR OF TR 42,DESC AS,BEG NE COR TR 42,S 40.03,SW 100.72,S 150,SW 42.41,W 158,SW 100.13,W 30.03,NW 471.14 E 598.06 TO POB TOG/W LYONS WEST 137-40 B TR CF-1,TOG/W PALM BEACH FARMS 2-54 PB POR OF TR 3, DESC AS BEG SE COR TR 3 NLY 447.85,SWLY 587 TO P/T SWLY 145.90 TO S/L OF TR 3,ELY 575.12 TO POB,LESS PAR DESC IN OR 15865/757 BLK 93

CONTACTS

PROPERTY OWNER:
CITY OF COCONUT CREEK
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

TOWER OWNER:
CITY OF COCONUT CREEK
(XXX) XXX-XXXX

POWER COMPANY:
FP&L
(800) 375-4375

AAV PROVIDER:
TOWER CLOUD
(888) 897-2568

ERICSSON SAM:
IVY LYNN
(727) 481-5337

ERICSSON CM:
LEE CASTAGNONI
(303) 909-8114

ERICSSON RF ENGINEER:
FAISAL KHAN
(214) 893-9738

STRUCTURAL ENGINEER:
DEREK HARTZELL
(607) 591-5381

DESIGN CRITERIA

DESIGN WIND SPEED:	170 MPH (ULT, 3-SECOND GUST)
EXPOSURE:	C
RISK CATEGORY:	II
OPEN STRUCTURE	

APPLICABLE CODES & STANDARDS

- 2010 FLORIDA BUILDING CODE, FIRST PRINTING.
- NATIONAL ELECTRICAL CODE, 2008 EDITION.
- 2010 FLORIDA BUILDING CODE - MECHANICAL.
- 2010 FLORIDA BUILDING CODE - ENERGY CONSERVATION.

APPROVAL

SPRINT REPRESENTATIVE DATE

SPRINT RF ENGINEERING DATE

SITE OWNER DATE

SPRINT CONSTRUCTION MANAGER DATE

THE ABOVE PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

SITE ACCESS PROCEDURES

ACCESS ROAD FROM LYONS RD. SEE ERICSSON CM FOR PADLOCK ACCESS CODE.

INDEX OF DRAWINGS

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T4	GENERAL NOTES	0
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C1.2	COMPOUND PLAN	0
C2	EQUIPMENT PLANS	0
C3.1	ELEVATION	0
C3.2	ANTENNA LAYOUTS	0
C4	COLOR CODING	0
C5	DETAILS	0
C6	DETAILS	0
C7	CABINET DETAILS	0
RF1	RF DATA SHEET	0
RF2	GEEK DIAGRAM	0
E1	ELECTRICAL NOTES	0
E2	GROUNDING NOTES	0
E3	UTILITY ROUTING EQUIPMENT PLANS	0
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E5	GROUNDING PLANS AND NOTES	0
E6	ELECTRICAL DETAILS	0
E7	GROUNDING DETAILS	0
E8	GROUNDING DETAILS	0

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OVERLAND PARK, KS 66251
(913) 315-8081

MICHAEL A. PHILLIPS
LICENSE
No. 68312
STATE OF FLORIDA
PROFESSIONAL ENGINEER

DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
TITLE SHEET

SHEET NUMBER
T1

TABLE OF CONTENTS

COMPLY WITH THESE STANDARDS UNLESS OTHERWISE REQUIRED BY APPLICABLE CODES

1.0 CONSTRUCTION TO CONFORM TO SPRINT NEXTEL INTEGRATED CONSTRUCTION STANDARDS

1.1 PURPOSE AND INTENT

A. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH. SHOULD THERE BE ANY DISCREPANCIES BETWEEN REQUIREMENTS SHOWN IN BOTH, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.

B. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.

C. THE PURPOSE OF THE SPRINT WIRELESS CONSTRUCTION SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.

1.2 CONFLICTS

A. VERIFY ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIAL OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS OR DIMENSIONS SHOWN ON PLANS. SUBMIT NOTICE OF ANY DISCREPANCY IN DIMENSIONS OR OTHERWISE TO SPRINT WIRELESS FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.

B. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST OR OF DIFFICULTIES OF CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS GOVERNING THE WORK.

1.3 CLEANING

KEEP THE SITE FREE FROM ACCUMULATION OF WASTE AND RUBBISH CAUSED BY EMPLOYEES AT THE COMPLETION OF THE WORK. REMOVE ALL WASTE AND NON-CONSTRUCTION MATERIAL INCLUDING ALL CONTRACTOR TOOLS, SCAFFOLDING AND SURPLUS MATERIAL AND LEAVE SITE CLEAN AND READY FOR USE.

1.4 CODES

CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL LAWS, REGULATIONS AND RULES PROMULGATED BY FEDERAL, STATE ANDLOCAL AUTHORITIES WITH JURISDICTION OVER THE SITE. THIS RESPONSIBILITY IS IN EFFECT REGARDLESS OF WHETHER THE LAW, ORDINANCE, REGULATION OR RULE IS MENTIONED IN THESE SPECIFICATIONS.

1.5 LICENSING

HAVE AND MAINTAIN A VALID CONTRACTORS LICENSE FOR THE LOCATION IN WHICH THE WORK IS TO BE PERFORMED. FOR JURISDICTIONS THAT LICENSE INDIVIDUAL TRADES, THE TRADESMAN OR SUBCONTRACTORS PERFORMING THOSE TRADES SHALL BE LICENSED. RESEARCH AND COMPLY WITH LICENSING LAWS, PAY LICENSE FEES, AND SELECT AND INFORM SUBCONTRACTORS REGARDING THESE LAWS.

1.6 OSHA

FOLLOW ALL APPLICABLE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS, AND STATE LAWS BASED IN THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT. THESE REGULATIONS INCLUDE BUT ARE NOT LIMITED TO REGULATIONS DEALING WITH TOWER CONSTRUCTION AND SAFETY, EXCAVATIONS AND TRENCHING, AND WORK IN CONFINED SPACES. ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT AII TIMES DURING CONSTRUCTION.

1.7 PHOTOS

PROVIDE PHOTOGRAPHIC EVIDENCE OF ALL FOUNDATION INSTALLATION, GROUNDING AND TRENCHING AFTER PLACEMENT OF UTILITIES PRIOR TO BACKFILL.

1.8 BUILDING PERMITS

SPRINT WIRELESS WILL SUBMIT CONSTRUCTION DOCUMENTS TO THE JURISDICTIONAL AUTHORITY FOR PLAN CHECK AND REVIEW. CONTRACTOR WILL SUBMIT LICENSING AND WORKMAN'S COMPENSATION INFORMATION TO THE JURISDICTION AS REQUIRED TO OBTAIN THE BUILDING PERMIT. CONTRACTOR SHALL COORDINATE AND SCHEDULE REQUIRED INSPECTIONS AND POST REQUIRED PERMITS AT THE JOB SITE. COMPLY WITH SPECIFIC PROJECT-RELATED REQUESTS AND SUGGESTIONS MADE BY BUILDING INSPECTOR AND INFORM CONSTRUCTION MANAGER OF ANY SUCH WORK THAT MAY BE BEYOND THE SCOPE OF THE CONTRACT OR DEVIATE FROM THE CONSTRUCTION DOCUMENTS. SPRINT WIRELESS WILL REIMBURSE THE CONTRACTOR FOR FEES FOR PLAN REVIEW, BUILDING PERMIT, CONNECTIONS AND INSPECTION.

1.9 ZONING REGULATIONS AND CONDITIONAL USE PERMITS

SPRINT WIRELESS WILL SUBMIT FOR AND OBTAIN ALL ZONING AND CONDITIONAL USE PERMITS. SOME USE PERMITS MAY HAVE SPECIFIC REQUIREMENTS RELATED TO THE CONSTRUCTION SUCH AS NOISE REGULATIONS, HOURS OF WORK, ACCESS LIMITATIONS, ETC. THE CONSTRUCTION MANAGER WILL INFORM THE CONTRACTOR OF THESE REQUIREMENTS AT THE PRE-BID MEETING OR AS SHOWN IN CONSTRUCTION DOCUMENTS.

1.10 FM PERMIT AND TOWER LIGHTING

REFER TO CONSTRUCTION DOCUMENTS AND CONSTRUCTION MANAGER FOR FAA AND STATE LIGHTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE TEMPORARY FM APPROVED LIGHTING UNTIL PERMANENT LIGHTING IS OPERATIONAL

1.11 TOWER SECURITY

TOWER MUST BE FENCED, TEMPORARILY OR PERMANENTLY WITHIN 24 HOURS OF ERECTION. DO NOT ALLOW THE GATE ACCESSING THE TOWER AREA TO REMAIN OPEN OR UNATTENDED AT ANY TIME FOR ANY REASON. KEEP THE GATE CLOSED AND LOCKED WHEN NOT IN USE.

1.12 SITE CONTROL

A. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION AT THE SITE. ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO SPRINT WIRELESS.

B. THE CONTRACTOR IS TO MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR WORK ON THE SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE PROVISIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ANY COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE CONTRACTOR'S EXPENSE.

C. ALL WASTE MATERIAL SHALL BE PROPERLY DISPOSED OF OFF-SITE OR AS DIRECTED BY THE CONSTRUCTION MANAGER AND IN ACCORDANCE WITH JURISDICTIONAL AUTHORITIES.

2.0 SITE PREPARATION

2.1 SCOPE OF WORK INCLUDES:

A. PROTECTION OF EXISTING TREES, VEGETATION AND LANDSCAPING MATERIALS WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.

B. TRIMMING OF EXISTING TREES AND VEGETATION AS REQUIRED FOR PROTECTION DURING CONSTRUCTION ACTIVITIES.

C. CLEARING AND GRUBBING OF STUMPS, VEGETATION, DEBRIS, RUBBISH, DESIGNATED TREES, AND SITE IMPROVEMENTS.

D. TOPSOIL STRIPPING AND STOCKPILING.

E. TEMPORARY EROSION CONTROL, SILTATION CONTROL AND DUST CONTROL CONFORMING TO LOCAL REQUIREMENTS AS APPLICABLE.

F. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS AND MONUMENTS.

G. PROTECTION AND TEMPORARY RELOCATION, STORAGE AND RE-INSTALLATION OF DUSTING FENCING AND OTHER SITE IMPROVEMENTS SCHEDULED FOR REUSE.

H. REMOVAL AND LEGAL DISPOSAL OF CLEARED MATERIALS.

2.2 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS NOTED IN CONSTRUCTION DOCUMENTS.)

A. MATERIALS USED FOR TREE PROTECTION, EROSION CONTROL, SILTATION CONTROL AND DUST CONTROL AS SUITABLE FOR SPECIFIC SITE CONDITIONS.

3.0 EARTH WORK

3.1 SCOPE OF WORK INCLUDES:

A. EXCAVATION, TRENCHING, FILLING, COMPACTION, AND GRADING FOR STRUCTURES, SITE IMPROVEMENTS AND UTILITIES.

B. MATERIALS FOR SUB-BASE DRAINAGE FILL, FILL, BACKFILL AND GRAVEL FOR SLABS, PAVEMENTS AND IMPROVEMENTS.

C. ROCK EXCAVATION WITHOUT BLASTING.

D. SUPPLY OF ADDITIONAL MATERIALS FROM OFFSITE AS REQUIRED.

E. REMOVAL AND LEGAL DISPOSAL OF EXCAVATED MATERIALS AS REQUIRED

3.2 QUALITY ASSURANCE

A. COMPACTION:

1. UNDER STRUCTURES, BUILDING SLABS, PAVEMENTS AND WALKWAYS WILL OBTAIN A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 OR ±3% OF OPTIMUM MOISTURE.

B. GRADING TOLERANCES OUTSIDE BUILDING CODES:

1. LAWNS, UNPAVED AREAS AND WALKS PLUS OR MINUS 1 INCH.
2. UNDER PAVEMENTS PLUS OR MINUS 1/2 INCH.

C. GRADING TOLERANCE FOR FILL UNDER ALL CONCRETE APPLICATIONS: PLUS OR MINUS 1/2 INCH MEASURED WITH 10 FOOT STRAIGHTEDGE.

3.3 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS NOTED IN CONSTRUCTION DOCUMENTS.)

A. SUBBASE MATERIAL GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE OR SLAG. AND NATURAL SAND.

B. WASHED MATERIAL EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL WITH 95 PERCENT PASSING A 1 1/2 INCH SIEVE.

C. GRADING MATERIAL WILL CONSIST OF: SATISFACTORY NATIVE OR IMPORTED SOILMATERIALS FREE Of CLAY, ROCK OR GRAVEL NOT LARGER THAN 2 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS AND OTHER UNSUITABLE MATERIALS WILL NOT BE ALLOWED FOR USE. IMPORTED MATERIALS SHALL HAVE A CLAY CONTENT NO MORE THAN 5 PERCENT.

D. BACKFILL MATERIALS WILL CONSIST OF: SATISFACTORY NON-COHESIVE NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, ROCK OR GRAVEL NOT LARGER THAN 4 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS. IMPORTED MATERIAL SHALL HAVE A CLAY CONTENT OF NO MORE THAN 5 PERCENT.

E. GRAVEL MATERIAL EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL WITH 95 PERCENT PASSING A 1 1/2 INCH SIEVE.

F. GEOTEXTILE FABRIC: AS PER CONSTRUCTION DOCUMENTS.

3.4 CLEARING AND GRUBBING

REMOVE ALL VEGETATION AND MATERIALS AS REQUIRED. REMOVE STUMPS COMPLETELY UNDER FOUNDATIONS AND ROADWAY. DISPOSE OF CLEARING AND GRUBBING OFF-SITE, OR IN AN ON-SITE LOCATION APPROVED BY CONSTRUCTION MANAGER.

3.5 STRIPPING

STRIP NOT LESS THAN 3 INCHES OF SOD AND TOPSOIL FROM AREAS THAT WILL UNDERLAY GRAVEL PAVEMENT, NEW STRUCTURES OR NEW EMBANKMENTS. STOCKPILE STRIPPING ON--SITE FOR RE-USE IN FINAL LANDSCAPING.

3.6 COMMON EXCAVATION

1. EXCAVATE TO DEPTH, LINES AND GRADES SHOWN ON THE PLANS OR AS OTHERWISE SPECIFIED.
2. TEMPORARILY STOCKPILE ON-SITE EXCAVATION AT AN APPROVED LOCATION WITHIN THE WORK AREA UNTIL SITE GRADING IS COMPLETE STOCKPILE SHALL NOT EXCEED 15 FEET IN HEIGHT.
3. LEGALLY DISPOSE OF EXCESS COMMON EXCAVATION OFF-SITE.

GENERAL NOTES | 1

LIST OF ABREVIATIONS | 2

A/C	AIR CONDITIONING UNIT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE	AVENUE
CL	CENTERLINE
COL	COLUMN
FP&L	FLORIDA POWER AND LIGHT
G	GROUND
J-BOX	JUNCTION BOX
LBS	POUND
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
RD	ROAD
RF	RADIO FREQUENCY
ST	STREET
HWY	HIGHWAY
SQ FT	SQUARE FEET (FOOT)
P	POWER
T	TELCO/TELEPHONE
TYP	TYPICAL

LINETYPE LEGEND | 3

- CENTERLINE (CL)
- EASEMENT
- EXISTING EQUIPMENT TO BE REMOVED
- EXISTING FENCE
- GROUND
- PROPERTY BOUNDARY
- POWER
- PROPOSED EQUIPMENT
- TELEPHONE

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DRAWN BY:	CHECKED BY:
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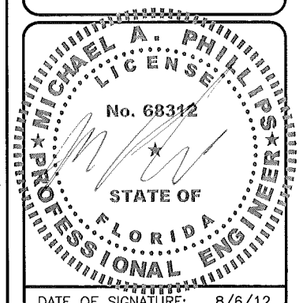

DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
GENERAL NOTES

SHEET NUMBER
T2

3.7 EMBANKMENT

A. CONSTRUCT EMBANKMENT TO THE LINES AND GRADE SHOWN ON THE DRAWINGS.
B. CONSTRUCT EMBANKMENT FROM ON-SITE EXCAVATION MATERIALS WHEN SUITABLE USE IMPORTED BACKFILL ONLY AFTER AVAILABLE ON-SITE EXCAVATION MATERIALS HAVE BEEN USED.
C. CONSTRUCT IN LIFTS OF NOT MORE THAN 12 INCHES IN LOOSE DEPTH. THE FULL WIDTH OF THE CROSS SECTION SHALL BE BROUGHT UP UNIFORMLY.
D. MATERIAL SHALL NOT BE PLACED IN LAYERS AND SHALL BE NEAR OPTIMUM MOISTURE CONTENT BEFORE ROLLING TO OBTAIN THE PRESCRIBED COMPACTION. WETTING DR DRYING OF THE MATERIAL AND MANIPULATION TO SECURE A UNIFORM MOISTURE CONTENT THROUGHOUT THE LAYER MAY BE REQUIRED. SUCH OPERATIONS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM. SHOULD THE MATERIAL BE TOO WET TO PERMIT PROPER COMPACTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE MATERIAL WITH AN ACCEPTABLE MOISTURE CONTENT.
E. DO NOT PLACE FROZEN MATERIAL IN THE EMBANKMENT AND DO NOT PLACE EMBANKMENT MATERIAL UPON FROZEN MATERIAL.
F. CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND THE REPLACEMENT OF ANY PORTION WHICH HAS BECOME DISPLACED DUE TO THE CONTRACTORS OPERATIONS.
G. START LAYERS IN THE DEEPEST PORTION OF THE FILL, AND AS PLACEMENT PROGRESSES, CONSTRUCT LAYERS APPROXIMATELY PARALLEL TO THE FINISHED GRADE LINE.
H. ROUTE EQUIPMENT, BOTH LOADED AND EMPTY, OVER THE FULL WIDTH OF EMBANKMENT TO ENSURE UNIFORMITY OF MATERIAL PLACEMENT.
I. COMPACT EMBANKMENT UNDERLYING NEW GRAVEL PAVING FLOOR SLABS AND STRUCTURES TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM 0-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT NON-STRUCTURAL AREA EMBANKMENTS TO A MINIMUM OF 90 % OF ASTM 0-1557.

3.8 SITE GRADING

A. USING ON-SITE EXCAVATION MATERIALS SHAPE, TRIM, FINISH AND COMPACT SURFACE AREAS TO CONFORM TO THE LINES, GRADES AND CROSS SECTIONS SHOWN ON THE DRAWINGS OR AS DESIGNATED BY THE CONSTRUCTION MANAGER.
B. GRADE SURFACES TO DRAIN AND ELIMINATE ANY PONDING OR EROSION.
C. ELIMINATE WHEEL RUTS BY REGRADING.
D. COMPACT AREAS UNDERLYING NEW GRAVEL PAVING, FLOOR SLABS AND STRUCTURES TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-I551 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
E. CONSTRUCT FINISHED SURFACE OF SITE GRADING AREAS WITHIN ONE INCH FROM SPECIFIED GRADE

3.9 SUBGRADE PREPARATION

A. SHAPE TOP OF SUBGRADE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.
B. MAINTAIN TOP OF SUBGRADE TO A FREE-DRAINING CONDITION.
C. DO NOT STOCKPILE MATERIALS ON TOP OF SUBGRADE UNLESS AUTHORIZED BY CONSTRUCTION MANAGER.
D. COMPACT THE TOP 12 INCHES OF SUBGRADE TO A 95% COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
E. CONSTRUCT TOP OF SUBGRADE WITHIN ONE INCH Of ESTABLISHED GRADE AND CROSS-SECTION.

3.10 GEOTEXTILE FABRIC

A. LAY GEOTEXTILE FABRIC OVER COMPACTED SUBGRADE AS PER CONSTRUCTION DOCUMENTS IN THE COMPOUND AREA AND UNDER LENGTH OF ROAD (WHEN REQUIRED). LAP ALL JOINTS TO A MINIMUM Of 36 INCHES.

3.11 GRAVEL SURFACING

A. CONSTRUCT GRAVEL SURFACING AREAS USING CRUSHED AGGREGATE BASE AND FINISH COURSES AS SPECIFIED BY CONSTRUCTION MANAGER OR CONSTRUCTION DOCUMENTS.
B. SPREAD GRAVEL AND RAKE TO OBTAIN A UNIFORM SURFACE AREA.

4.0 TRENCHING

CALL LOCAL UNDERGROUND UTILITY LOCATING SERVICE BEFORE ANY EXCAVATION OR TRENCHING.

4.1 MATERIALS

FILL MATERIAL SHALL BE OBTAINED, WHEN POSSIBLE FROM MATERIALS EXCAVATED FROM TRENCHES. ON-SITE STRUCTURAL FILL SAND OR SLURRY SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL GOVERNING JURISDICTIONS AND UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL CONTAIN NO ORGANIC MATERIAL OR ROCKS, NOR SHALL CONTAIN OBJECTIONABLE MATERIALS AND/OR MATERIALS DESIGNATED AS HAZARDOUS OR INDUSTRIAL BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL COMPACTION OF BACKFILL OR BORROW SOIL SHALL BE PLACED IN 12 INCH LOOSE LIFTS WHEN UTILIZING HEAVY COMPACTION EQUIPMENT OR 6 INCH LOOSE LIFTS WHEN UTILIZING HAND OPERATED TAMPERS.

4.2 PIPE DETECTION AND IDENTIFICATION

A. UTILIZING WARNING TAPE: ALL ELECTRIC SERVICE TRENCHES SHALL BE MARKED WITH WARNING TAPE.

4.3 TRENCH EXCAVATION

A. DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY CONSTRUCTION MANAGER.
B. TRENCH LENGTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.
C. DISPOSE OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY, AS DIRECTED BY CONSTRUCTION MANAGER.
D. USE HAND METHODS FOR EXCAVATION THAT CANNOT BE ACCOMPLISHED WITHOUT ENDANGERING EXISTING OR NEW STRUCTURES OR OTHER FACILITIES.

4.4 TRENCH PROTECTION

A. PROVIDE MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.
B. SHEETING AND BRACING: MEET OR EXCEED OSHA REQUIREMENTS.

4.5 BACKFILLING

A. NOTIFY THE CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF BACKFILLING.
B. BACKFILL TRENCH WITH LIFTS UP TO 12 INCHES, LOOSE MEASURE.
C. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. DO NOT FREE FALL BACKFILL INTO TRENCH UNTIL AT LEAST 12 INCHES OF COVER IS OVER THE CONDUIT.

4.6 COMPACTION

A. COMPACT BACKFILL TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
B. IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED, REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL AND RECOMPACT AS SPECIFIED.
C. ANY SUBSEQUENT SETTLEMENT OF TRENCH OR STRUCTURE BACKFILL DURING MAINTENANCE PERIOD SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED.

5.0 CHAIN LINK FENCES AND GATES

5.1 GENERAL

A. PROVIDE CHAIN LINK FENCES AND GATES AS COMPLETE UNITS BY A SINGLE SUPPLY SOURCE INCLUDING NECESSARY ERECTION ACCESSORIES, FITTINGS AND FASTENERS.

5.2 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN CONSTRUCTION DOCUMENTS)

A. COMPOUND FABRIC 84 INCHES HIGH AND OVER WITH 2-INCH MESH SHALL BE KNUCKLED AT ONE SELVAGE AND TWISTED AT THE OTHER.
B. STEEL FABRIC:
COMPLY WITH CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL. FURNISH ONE PIECE OF FABRIC WIDTHS. WIRE SIZE INCLUDES ZINC OR ALUMINUM COATING.
1. SIZE: 2-INCH MESH 9 GAUGE (D.148-INCH DIAMETER) WIRE.
2. GALVANIZED STEEL FINISH: ASTM A 392. CLASS 2. WITH A MINIMUM 2.0 OZ. ZINC PER SQ. FT. OF UNCOATED WIRE SURFACE.
C. FRAMEWORK AND ACCESSORIES:
1. GENERAL REQUIREMENTS: EXCEPT AS INDICATED OTHERWISE CONFORM TO THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL INDUSTRIAL STEEL GUIDE FOR FENCE RAILS, POSTS, GATES AND ACCESSORIES INCLUDING TABLE II.
2. STRENGTH REQUIREMENTS FOR POSTS AND RAILS CONFORMING TO ASTM F669.
3. TYPE 1 PIPE HOT-DIPPED GALVANIZED STEEL PIPE CONFORMING TO ASTM F1083. PLANE ENDS, STANDARD WEIGHT (SCHEDULE 40) WITH NOT LESS THAN 18 OZ. ZINC PER SQ. FT. OF SURFACE AREA COATED.
4. FILLINGS: COMPLY WITH ASTM F526 MILL FINISHED ALUMINUM OR GALVANIZED IRON STEEL TO COMPLY WITH MANUFACTURER'S REQUIREMENTS.
5. TOP RAIL MANUFACTURERS LONGEST LENGTHS, WITH EXPANSION TYPE COUPLINGS, APPROXIMATELY 6 INCHES LONG, FOR EACH JOINT. PROVIDE MEANS FOR ATTACHING TOP RAIL SECURELY TO EACH GATE CORNER, PULL AND END POST.
D. GALVANIZED STEEL 11/4 INCH NPS (1.66 INCH OD) TYPE I OR II STEEL PIPE OR 1.625 INCH x 1.25 INCH ROLL-FORMED C SECTIONS WEIGHING 1.35 LBS. PER FT.
E. SWING GATES:
COMPLY WITH ASTM F9000. PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE. GALVANIZED PER ASTM A153, AND IN ACCORDANCE WITH THE FOLLOWING:
1. HINGES: NON LIFT- OFF TYPE. OFFSET TO PERMIT ISO DEG. GATE OPENING.
2. LATCH: MTS MULTI-LOCKING DEVICE MT-C6477 OR APPROVED EQUAL.
3. KEEPER: PROVIDE KEEPER FOR VEHICLE GATES, WHICH AUTOMATICALLY ENGAGES GATE LEAF AND HOLDS IT IN OPEN POSITION UNTIL MANUALLY RELEASED.
F. CONCRETE:
PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT, ASTM C150, AGGREGATES ASTM C33, AND CLEAN WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM OF 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

6.0 LANDSCAPING

A. FURNISH, INSTALL AND MAINTAIN LANDSCAPE WORK AS SHOWN AND OR REQUIRED WITHIN THE CONSTRUCTION DOCUMENTS OR AS SPECIFIED IN THE SPRINT WIRELESS CONSTRUCTION SPECIFICATIONS.

7.0 CONCRETE FORMWORK

A. FORMS: SMOOTH AND FREE OF SURFACE IRREGULARITIES. UTILIZE FORM RELEASE AGENTS.
B. CHAMFER: EXPOSED EDGES OF ALL TOWER FOUNDATIONS SHALL RECEIVE A 3/4" BY 3/4" 45 DEGREE CHAMFER. OTHER EXPOSED EDGES SHALL RECEIVE A TOOLED RADIUS FINISH.
C. UPON COMPLETION, REMOVE ALL FORMS, INCLUDING THOSE CONCEALED OR BURIED.
D. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

8.0 CONCRETE REINFORCEMENT

REFER TO STRUCTURAL DRAWINGS FOR ALL REQUIREMENTS.

9.0 CAST IN PLACE CONCRETE

FOR STRUCTURAL CONCRETE (FOOTINGS, FOUNDATIONS. ETC.), REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS. FOR ANY MISCELLANEOUS CONCRETE, REFER TO SPECIFICATION BOOK OR OBTAIN REQUIREMENTS FROM CONSTRUCTION MANAGER.
A. ALL CONCRETE SHALL COMPLY WITH ASTM C94 UNLESS NOTED OTHERWISE.
B. MINIMUM COMPRESSIVE STRENGTH (F'C) AT 28 DAYS: 4000 PSI FOR TOWER FOUNDATION AND 3500 PSI FOR ALL OTHER CONCRETE UNLESS SPECIFIED IN CONSTRUCTION DOCUMENTS.
C. AIR ENTRAINMENT: PROVIDE 4% TO 8% AIR ENTRAINMENT FOR ALL CONCRETE SUBJECT TO FREEZE-THAW CYCLE.
D. CONCRETE TESTING: ALL FOUNDATION CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING AGENCY APPROVED BY THE CONSTRUCTION MANAGER. ALL STRUCTURAL TOWER FOUNDATION CONCRETE MUST BE TESTED. EQUIPMENT OR BUILDING PADS ARE NOT REQUIRED TO BE TESTED, UNLESS OTHERWISE NOTED BY CONSTRUCTION MANAGER. PROVIDE A MINIMUM OF 5 CYLINDERS (2-7-DAY, 2-28-DAY, 1-SPARE) FOR EACH OATS POUR, OR FOR EVERY 50 YARDS PLACED, WHICHEVER 15 GREATER. ADDITIONAL TESTS OR CYLINDERS MAY BE REQUIRED BY CONSTRUCTION MANAGER. A SLUMP, AIR, AND TEMPERATURE TEST SHALL BE PERFORMED FOR EACH SET OF CYLINDERS CAST. PREFERABLY, TESTS SHALL BE PERFORMED AT THE LOCATION OF ANCHOR BOLTS (PIERS - FOR MAT & PIERS, CAISSONS - TOP 1/3 OF CAISSON). TESTS SHALL ALSO BE REQUIRED FOR CONCRETE CONSIDERED BEING LESS THAN DESIRABLE BY CONCRETE SPECIFICATION STANDARDS. THE TESTING AGENCY HAS THE AUTHORITY TO NOT ACCEPT CONCRETE MEETING THESE SPECIFICATIONS FOR SPRINT WIRELESS. THE CONTRACTOR IS RESPONSIBLE FOR ANY CONCRETE NOT MEETING THESE STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE TESTING AGENCY A MINIMUM OF 24 HOURS IN ADVANCE OF EACH FOUNDATION POUR. TEST REPORTS SHALL BE FORWARDED TO SPRINT CONSTRUCTION MANAGER WITHIN 24 HOURS OF LAB TEST.
E. VIBRATE ALL CONCRETE USING SUFFICIENT HIGH FREQUENCY LOW AMPLITUDE MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE AROUND AND BETWEEN REINFORCEMENT BARS AND INTO CORNERS AND IRREGULARITIES. VIBRATE THOROUGHLY THROUGH EACH LIFT TO THE PREVIOUS LIFE REVERBERATION AS LATE AS THE RUNNING VIBRATOR WILL SINK THROUGH UPPER LAYERS OF ITS WEIGHT IS RECOMMENDED. DISCONTINUE VIBRATION WHEN RISING ENTRAPPED AIR BUBBLES STOP BREAKING THE LEVELING SURFACE. DO NOT OVER VIBRATE AS THIS MAY CAUSE SEGREGATION.
F. FINISHING EXPOSED CONCRETE SURFACES:
1. THESE PROVISIONS APPLY TO ALL EXPOSED AND ALL FORMED CONCRETE, EXTERIOR OR INTERIOR. UNLESS SPECIFICALLY DETAILED OTHERWISE, PERFORM PROCEDURES PRIOR TO APPLICATION OF ANY CURING COMPOUNDS.
2. ALL SURFACES: THOROUGHLY CLEAN OFF ALL STAINS, SPATTER AND LOOSE MATERIAL.
3. FINS, RIDGES AND HIGH SPOTS: HONE SMOOTH WITH ABRASIVE POWER GRINDERS WHILE CONCRETE IS GREEN, IMMEDIATELY AFTER FORM REMOVAL.
4. FORM TIE HOLES AND DEEP DEPRESSIONS: FLUSH THOROUGHLY WITH CLEAN WATER AND TAMP TO OVERFULL WITH DRYPACK. CURE 10 DAYS AND HONE FLUSH AND SMOOTH.
5. ROCK POCKETS, HONEYCOMB, SAND STREAKS, DEBRIS AND VOIDS: CUT OUT AT LEAST 1 INCH DEEP WITH SIDES PERPENDICULAR TO SURFACE. FLUSH THOROUGHLY WITH CLEAN WATER, COAT SURFACE WITH NEAT CEMENT PASTE AND TAMP TO OVERFULL WITH DRYPACK IN AT LEAST TWO LAYERS. CURE FOR 10 DAYS AND HONE FLUSHED AND SMOOTH.
G. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL ELECTRICAL OPENINGS AND EQUIPMENT/BUILDING PADS WITH THE ELECTRICAL DRAWINGS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES.
CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON STRUCTURAL DRAWINGS.
PRIOR TO CASTING CONCRETE THE INDEPENDENT TESTING AGENCY SHALL INSPECT ALL FOUNDATION STEEL AND FOUNDATION SUBGRADE

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SHEET NAME
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10.0 STRUCTURAL STEEL

MEET OR EXCEED MANUFACTURER'S RECOMMENDATIONS.

A. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315).
B. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A615, GRADE 60, DEFORMED.
C. HEATING AND WELDING OF BARS IS PROHIBITED WITH THE EXCEPTION OF WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
D. ALL REINFORCEMENT BARS TO BE FREE FROM LOOSE RUST AND SCALE.
E. UNLESS OTHERWISE NOTED, ALL REINFORCEMENT SHALL HAVE A MINIMUM CONCRETE COVERAGE OF 3 INCHES. THIS MAY REQUIRE SPACERS AND CHAIRS AS REQUIRED BY TESTING AGENCY OR CONSTRUCTION MANAGER.
F. SPLICES IN REINFORCEMENT STEEL ARE PROHIBITED, UNLESS APPROVED BY CONSTRUCTION MANAGER. ALL SPLICES MUST THEN MEET ALL APPLICABLE ASTM STANDARDS FOR SPLICING.

11.0 GROUNDING

MEET ALL APPLICABLE CODES, REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS AND SPRINT WIRELESS CONSTRUCTION SPECIFICATIONS.

GENERATOR SPECIFICATIONS
1. SWITCHES AND STANDARD FEATURES
   A. CYCLIC CRANKING
   B. ALARM HORN WITH SILENCING SWITCH
   C. VOLTAGE ADJUSTING RHEOSTAT
   D. OVERVOLTAGE PROTECTION
   E. REMOTE TWO-WIRE AUTO START SYSTEM
   F. LAMP TEST SWITCH
   G. RUN-OFF-RESET/AUTO SWITCH (ENGINE START)
   H. ENGINE COOL DOWN TIMER (5 MINUTES)
2. ERROR-PROOF WIRING HARNESS FOR ELECTRICAL CONNECTIONS
3. PANEL LAMPS
4. DC CIRCUIT PROTECTION

UNIT ACCESSORIES
1. WEATHER HOUSING-STANDARD WITH ROOF MOUNTED SILENCER
2. MOUNTED CRITICAL GRADE EXHAUST SILENCER
3. TAIL PIPE AND RAIN CAP

COOLING SYSTEM ACCESSORIES
1. UNIT MOUNTED RADIATOR
2. ENGINE BLOCK HEATER

FUEL SYSTEM ACCESSORIES
1. FLEXIBLE FUEL LINES
2. ENGINE BLOCK HEATER
3. SUBBASE FUEL TANK-172 GALLONS
4. DOUBLE WALL CONSTRUCTION WITH LEAK DETECTION MONITOR
5. U.L. 142 LISTED
6. FUEL LEVEL GAUGE
7. LOW FUEL LEVEL ALARM
8. FILL PIPE EXTENDED 10% INTO TANK
9. HIGH-FUEL LEVEL ALARM-SET AT 95%
10. 7.5 GALLON LOCKABLE FILL WITH SPILL CONTAINMENT

GENERATOR ACCESSORIES
1. MAIN LINE CIRCUIT BREAKER-100 AMPS, INSTALLED ON GENERATOR
2. VOLTAGE REGULATOR ±2%
3. SAFEGUARD BREAKER

ENGINE ELECTRICAL ACCESSORIES
1. ELECTRONIC/ISOCHRONOUS GOVERNOR
2. BATTERY RACK, CABLES AND STARTING BATTERY SYSTEM-LEAD ACID TYPE
3. BATTERY CHARGER-AUTOMATIC 6 AMP OUTPUT

UTILITY POLES
1. ALL UTILITY POLES SHALL BE 35 FT., CLASS 4 OR AS DIRECTED BY THE UTILITY PROVIDER. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY PRIOR TO EXCAVATING OR INSTALLING ANY UTILITY POLES.

GENERAL NOTES:
1. 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.

2. IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, 115, FORM WORK, 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.

3. THE CONTRACTOR SHALL USE ADEQUATE NUMBER 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.

4. 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 THE SAFETY OF ALL PERSONS AND PROPERTY. THAT 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.

5. SITE GROUNDING SHALL COMPLY WITH SPRINT/NEXTEL GROUNDING STANDARDS, LATEST EDITION AND COMPLY WITH SPRINT/NEXTEL GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT, THEY SHALL GOVERN. GROUNDING SHALL BE COMPLETED BEFORE ERECTION OF A NEW TOWER.

6. 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. IF TEMPORARY LIGHTING AND MARKING ARE REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION (FAA), IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE NECESSARY LIGHTS AND NOTIFY THE PROPER AUTHORITIES IN THE EVENT OF A PROBLEM.

7. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES OR ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.

8. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE

9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AMPLE NOTICE TO THE BUILDING INSPECTION DEPARTMENT TO SCHEDULE THE REQUIRED INSPECTIONS. A MINIMUM OF 24 HOURS OF NOTICE SHOULD BE GIVEN AND THE BUILDING INSPECTION DEPARTMENTS HAVE REQUESTED THAT GROUPS OF TWO OR THREE SITES BE SCHEDULED AT ONE TIME IF POSSIBLE.

10. FOR NEW TOWERS, SPRINT WILL CONFIRM FAA APPROVAL OF TOWER LOCATION BY ISSUING TOWER RELEASE FORM. NO TOWER SHALL BE CONSTRUCTED UNTIL TOWER RELEASE FORM IS ISSUED TO THE CONTRACTOR.

11. THE COMPLETE BID PACKAGE INCLUDES THESE CONSTRUCTION DRAWINGS ALONG WITH THE SPECIFICATIONS AND TOWER DRAWINGS/ANALYSIS. CONTRACTOR IS RESPONSIBLE FOR REVIEW OF THE TOTAL BID PACKAGE PRIOR TO BID SUBMITTAL.

12. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES WITHIN THE CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.

13. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE OF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE CONTRACTORS EXPENSE.

14. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE KEPT TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO PROPERTY OUTSIDE THE LEASED PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR.

15. ALL SUITABLE BORROW MATERIAL FOR BACKFILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES PRIOR TO DISPOSAL.

16. SEEDING AND MULCHING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING AN ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD.

17. PERMITS: THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC. AND PROVIDE E911 ADDRESS TO SPRINT WIRELESS.

18. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS, ETC., BETWEEN THE WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DRAWINGS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.

EXCAVATION AND GRADING NOTES:
I. ALL CUT AND FILL SLOPES SHALL BE 3:I MAXIMUM.

2. ALL EXCAVATIONS ON WHICH CONCRETE IS TO BE PLACED SHALL BE SUBSTANTIALLY HORIZONTAL ON UNDISTURBED AND UNFROZEN SOIL AND BE FREE FROM LOOSE MATERIAL AND EXCESS GROUND WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED IF REQUIRED.

3. CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC MATERIAL IF SOUND SOIL IS NOT REACHED AT THE DESIGNATED EXCAVATION DEPTH. THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION.

4. ANY EXCAVATION OVER THE REQUIRED DEPTH SHALL BE FILLED WITH EITHER MECHANICALLY COMPACTED GRANULAR MATERIAL OR CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. STONE, IF USED, SHALL NOT BE USED AS COMPILING CONCRETE THICKNESS.

5. AFTER COMPLETION OF THE FOUNDATION AND OTHER CONSTRUCTION BELOW GRADE AND BEFORE BACKFILLING, ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS AND SO FORTH.

6. ALL BACKFILLING SHALL (1) USE APPROVED MATERIALS CONSISTING OF EARTH, LOAM, SANDY CLAYS, SAND AND GRAVEL OR SOFT SHALE, (2) BE FREE FROM CLODS OR STONES OVER 2 1/2" MAXIMUM DIMENSIONS. MD (3) BE PLACED IN LAYERS AND COMPACTED.

7. SITE FILL MATERIAL AND FOUNDATION BACKFILL SHALL BE PLACED IN LAYERS MAXIMUM 6" DEEP BEFORE COMPACTION. EACH LAYER SHALL BE SPRINKLED IF REQUIRED AND COMPACTED BY HAND OR MACHINE TAMPERS TO 95% OF MAXIMUM DENSITY OR ±3% OF OPTIMUM MOISTURE, UNLESS OTHERWISE APPROVED. SUCH BACKFILL SHALL NOT BE PLACED BEFORE 3 DAYS AFTER PLACEMENT OF CONCRETE.

8. THE FOUNDATION AREA SHALL BE GRADED TO PROVIDE WATER RUNOFF AND PREVENT WATER FROM STANDING. THE FINAL GRADE SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE FOUNDATION AREA (UP TO ONE FOOT OUTSIDE THE FENCE OR GROUND SYSTEM PERIMETER) AND SHALL BE COVERED WITH A GEOTEXTILE FABRIC MIRAFI 500X OR APPROVED EQUAL TO PREVENT REOCCURRENCE OF VEGETATIVE GROWTH, AN THEN SHALL BE COVERED WITH 4" DEEP COMPACTED STONE OR GRAVEL.

9. THE CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, CITY, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENT FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS FROM LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS AND CHECK DAMS.

10. FILL PREPARATION: REMOVE ALL VEGETATION, TOPSOIL DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS AND DELETERIOUS MATERIAL FROM GROUND SURFACE PRIOR TO PLACING FILLS, PLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO FILL MATERIAL WILL BOND WITH EXISTING SURFACE WHEN SUBGRADE OR EXISTING GROUND SURFACE TO RECEIVE FILL HAS A DENSITY LESS THAN THAT REQUIRED FOR FILL, BREAK UP GROUND SURFACE TO REQUIRED DEPTH, PULVERIZE, MOISTURE CONDITION OR AERATE SOIL AND RECOMPACT TO REQUIRED DENSITY.

11. REPLACE EXISTING GRAVEL SURFACING ON AREAS FROM WHICH GRAVEL SURFACING IS REMOVED DURING CONSTRUCTION OPERATIONS. GRAVEL SURFACING SHALL BE REPLACED TO MATCH EXISTING ADJACENT GRAVEL SURFACING AND SHALL BE OF THE SAME THICKNESS. SURFACES AND GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES. EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED IF INJURIOUS AMOUNTS OF EARTH, ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ALL ADDITIONAL GRAVEL RESURFACING MATERIAL AS REQUIRED. BEFORE GRAVEL SURFACING IS REPLACED, SUBGRADE SHALL BE GRADE TO CONFORM TO REQUIRED SUBGRADE ELEVATIONS, AND LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED. DEPRESSIONS IN THE SUBGRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL. GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUBGRADE.

12. PROTECT EXISTING GRAVEL SURFACING AND SUBGRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE, USE PLANKING OR OTHER SUITABLE MATERIALS DESIGNED TO SPREAD EQUIPMENT LOADS. REPAIR ANY DAMAGE TO EXISTING GRAVEL SURFACING OR SUBGRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTOR'S OPERATIONS.

13. DAMAGE TO EXISTING STRUCTURES AND UTILITIES RESULTING FROM CONTRACTORS NEGLIGENCE SHALL BE REPAIRED/REPLACED TO OWNER'S SATISFACTION AT CONTRACTOR'S EXPENSE.

14. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE PROPERTY OWNER SO AS TO AVOID INTERRUPTIONS TO PROPERTY OWNER'S OPERATIONS.

15. ENSURE POSITIVE DRAINAGE DURING AND AFTER COMPLETION OF CONSTRUCTION.

16. RIPRAP SHALL BE CLEAN, HARD, SOUND, DURABLE AND UNIFORM IN QUALITY AND FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI OR OTHER DELETERIOUS SUBSTANCE.

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COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
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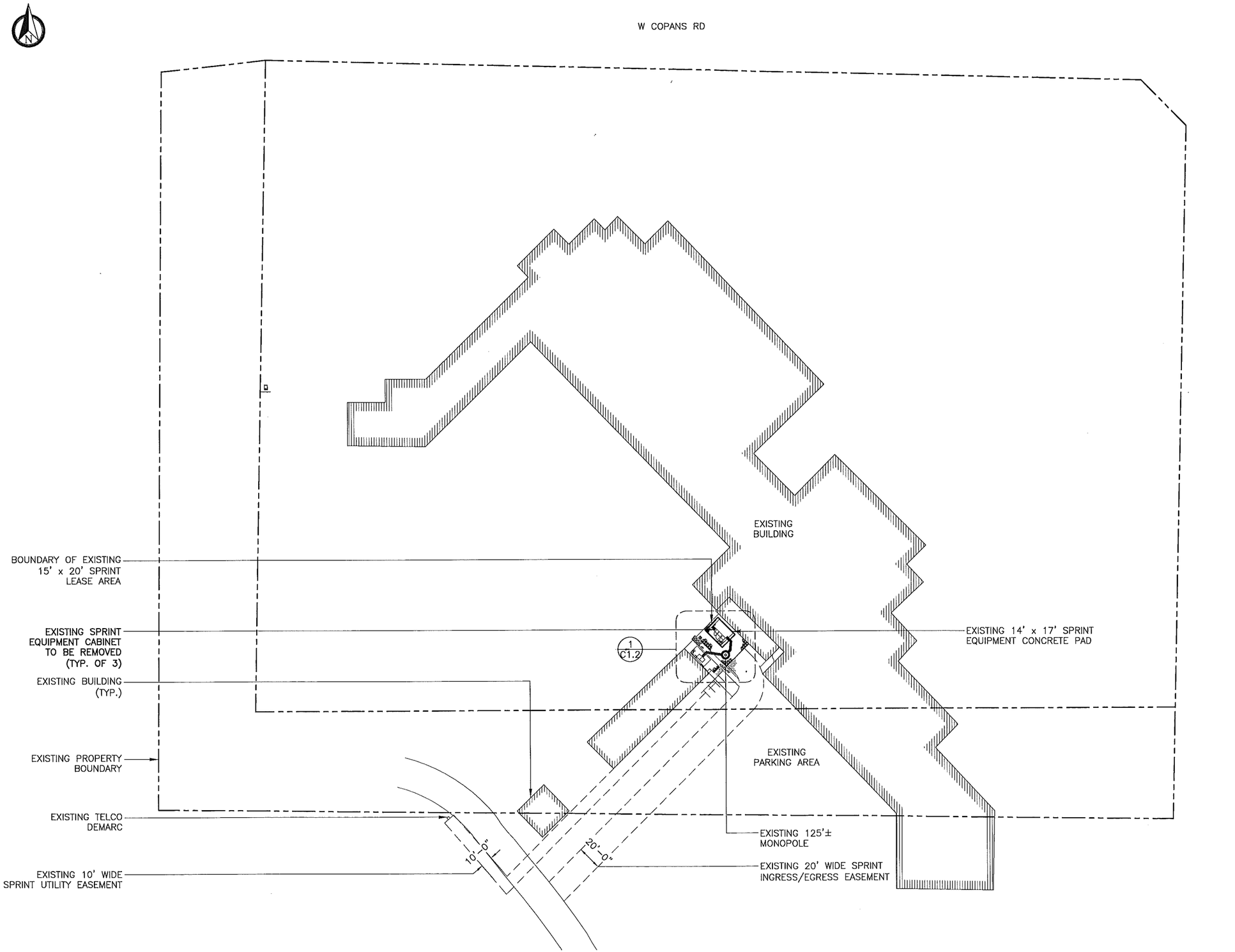
SHEET NAME
GENERAL NOTES

SHEET NUMBER
T4



SITE PLAN

0 20' 40' 80'

SCALE: 1" = 40'-0" (22"x34")
SCALE: 1" = 80'-0" (11"x17")

1

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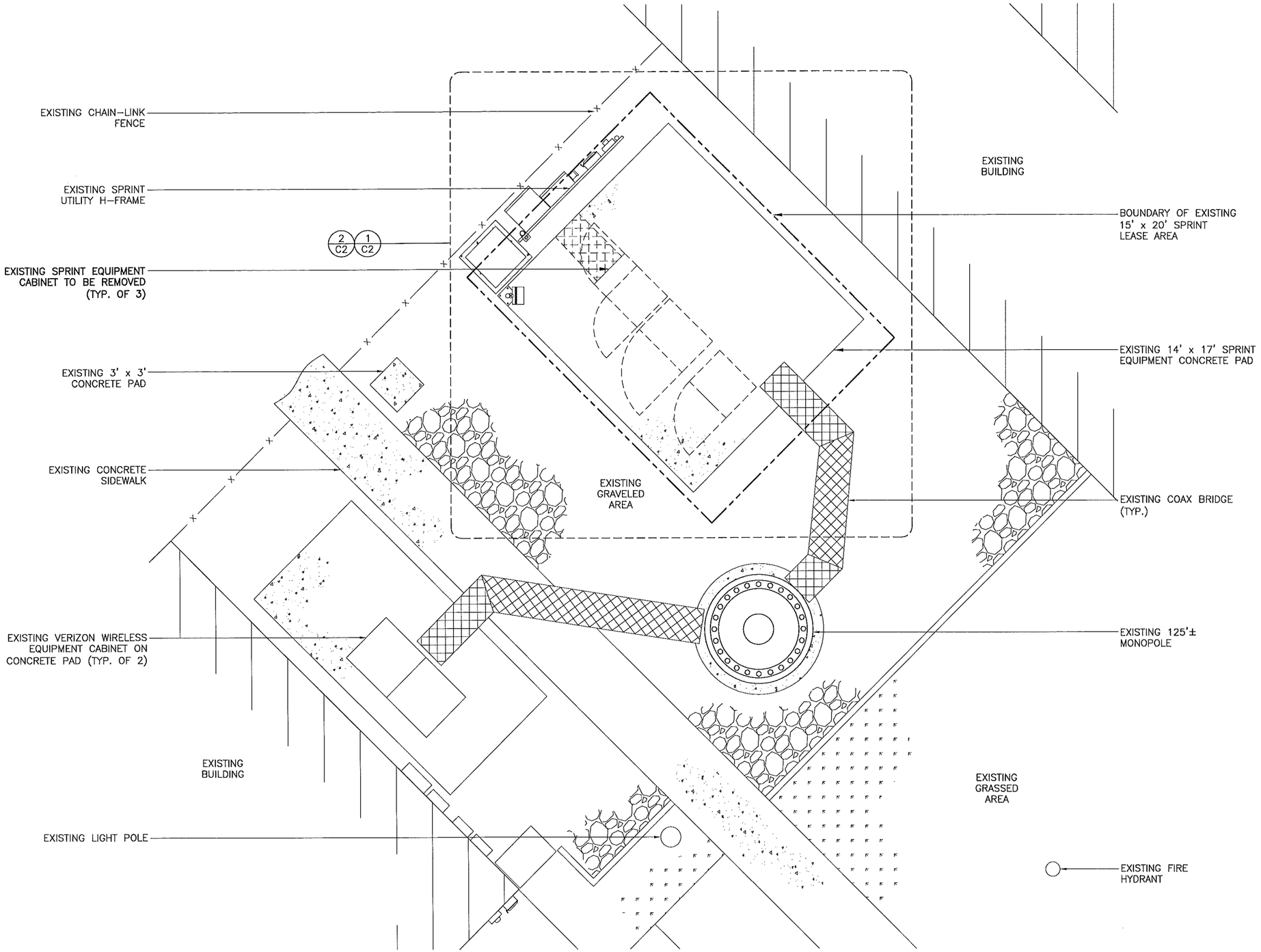
MI60XC004-A

4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
SITE PLAN

SHEET NUMBER
C1.1



NOTE:

NO EXISTING RF WARNING AND EMERGENCY SIGNAGE EXISTS ON SITE, CONTRACTOR SHALL INSTALL SIGNAGE AS REQUIRED TO MEET CODE REQUIREMENTS.

COMPOUND PLAN

0 3' 6'

SCALE: 1" = 3'-0" (22"x34")
SCALE: ½" = 3'-0" (11"x17")

1

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.: 120-564.48

DRAWN BY:	CHECKED BY:
J. ACOSTA	M. ABBEY

CALTROP Telecom
3400 LAKESIDE DRIVE
SUITE 525
MIRAMAR, FL 33027
(954) 874-7870
CERTIFICATE OF AUTHORIZATION 29214

Sprint
6391 SPRINT PARKWAY
OVERLAND PARK, KS 66251
(913) 315-8081

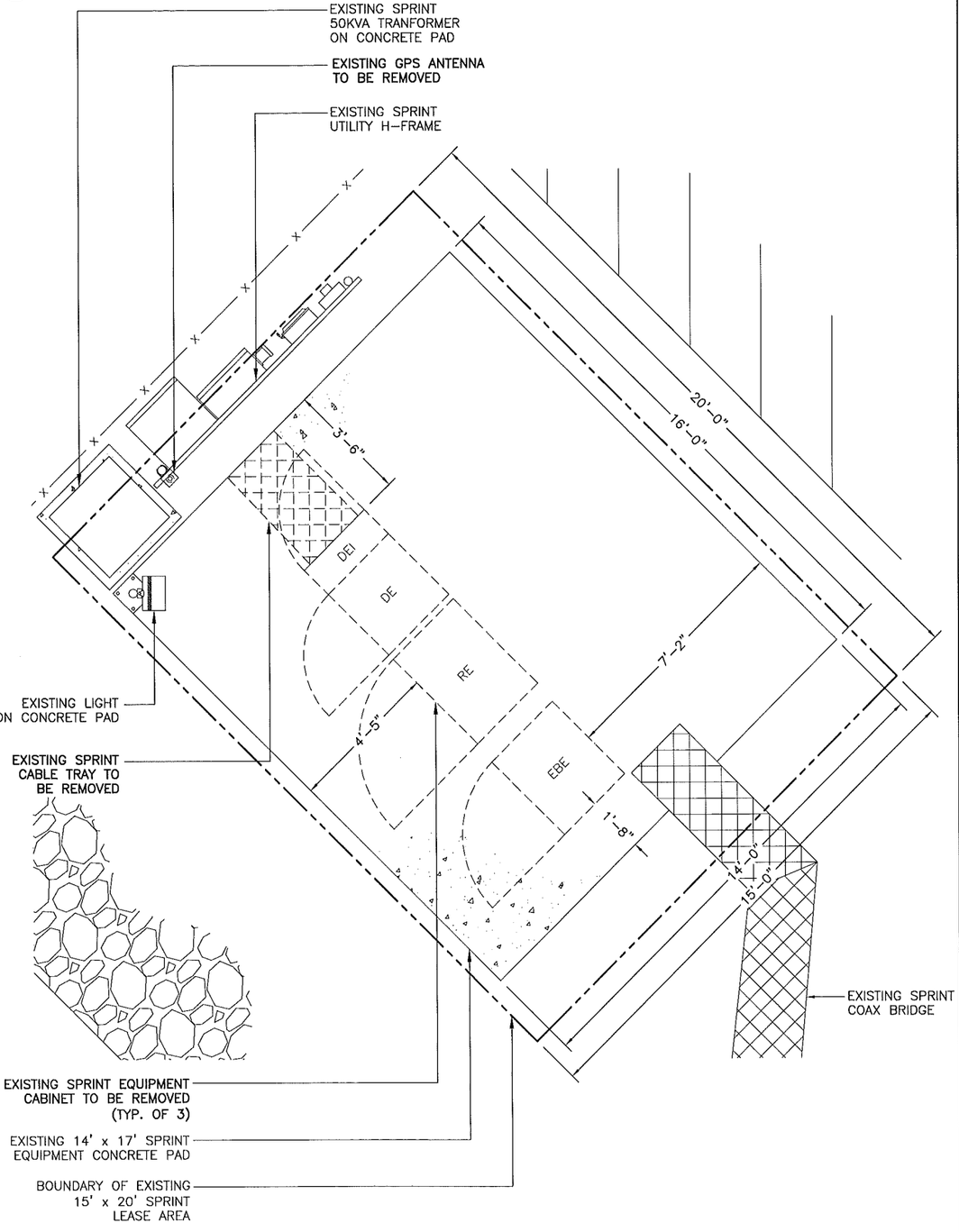
MICHAEL A. PHILLIPS LICENSE No. 68312 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
COMPOUND PLAN

SHEET NUMBER
C1.2

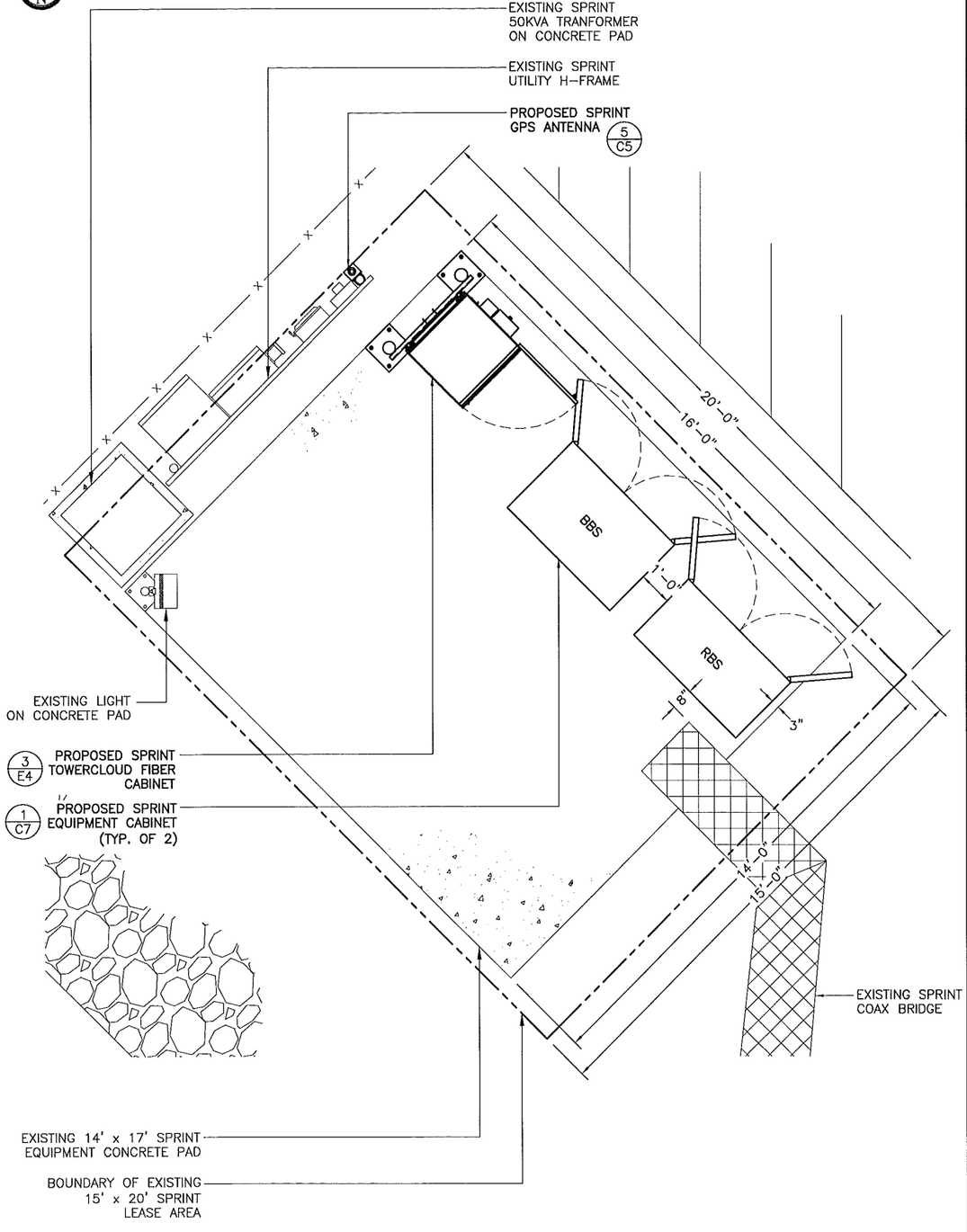


EXISTING EQUIPMENT PLAN

0 1' 2' 4'

SCALE: ½" = 1'-0" (22"x34")
SCALE: ¼" = 1'-0" (11"x17")

1



PROPOSED EQUIPMENT PLAN

0 1' 2' 4'

SCALE: ½" = 1'-0" (22"x34")
SCALE: ¼" = 1'-0" (11"x17")

2

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
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PROJECT NO.:	120-564.48
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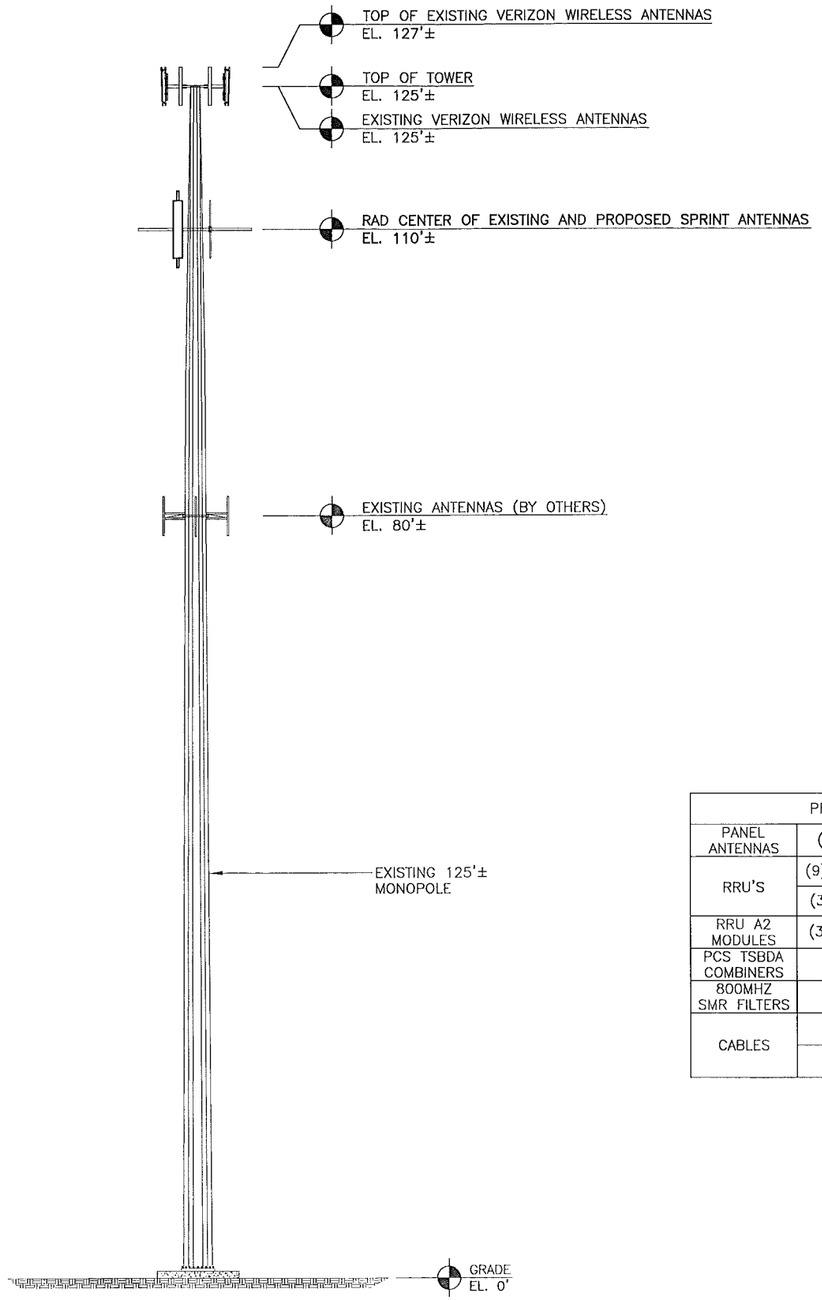
COCONUT CREEK GOVERMENT CENTER
MI60XC004-A

4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
EQUIPMENT PLANS

SHEET NUMBER
C2



PROPOSED TOWER EQUIPMENT SCHEDULE	
PANEL ANTENNAS	(3) RFS APXVERR18-C-X-1910I (72" x 11.8" x 7")
RRU'S	(9) ERICSSON RRUS-11 1900MHz (17" x 17.8" x 9.2")
	(3) ERICSSON RRUS-11 800MHz (17" x 17.8" x 9.2")
RRU A2 MODULES	(3) ERICSSON RRU A2 MODULE (12.8" x 15.0" x 3.4")
PCS TSBDA COMBINERS	(3) RFS IBC1900HG-1 (8.7" x 16.3" x 2.6")
800MHZ SMR FILTERS	(3) ERICSSON 800 ESMR (4.6" x 11.0" x 4.5")
CABLES	(3) H&S HYBRID 1.53"ø
	H&S HYBRID LENGTH: 140'±

NOTE:

THIS DRAWING IS INTENDED TO DEPICT THE GENERAL LOCATION AND HEIGHT OF THE PROPOSED ANTENNAS ON THE EXISTING TOWER. IN ACCORDANCE WITH THE TOWER ANALYSIS PERFORMED BY ARMOR TOWER ENGINEERING DATED 5/30/12, THE TOWER AND FOUNDATION SYSTEM ARE ADEQUATE TO SUPPORT THE PROPOSED AND EXISTING EQUIPMENT. FURTHERMORE, IN ACCORDANCE WITH THE ANTENNA MOUNT ANALYSIS PERFORMED BY ARMOR TOWER ENGINEERING DATED 5/31/12, THE ANTENNA MOUNTS ARE ADEQUATE TO SUPPORT THE PROPOSED EQUIPMENT CONFIGURATION. THEREFORE, BASED ON THE AFOREMENTIONED DOCUMENTS, THE ENTIRE ANTENNA STRUCTURE THAT INCLUDES THE TOWER, FOUNDATION SYSTEM, COAX SUPPORT SYSTEM, AND ANTENNA MOUNTS HAVE SUFFICIENT STRUCTURAL CAPACITY TO SUPPORT THE PROPOSED SPRINT NETWORK VISION DEPLOYMENT.

ELEVATION

0 4' 8' 16'

SCALE: 1/8" = 1'-0" (22"x34")
SCALE: 1/16" = 1'-0" (11"x17")

1

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MICHAEL A. PHILLIPPE LICENSE No. 68312 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A

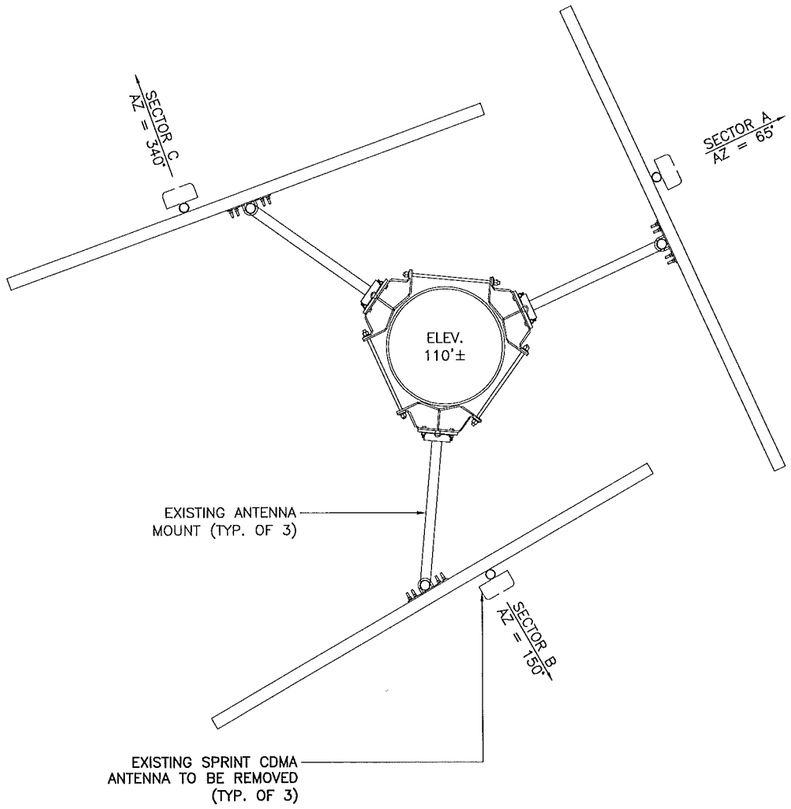
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME

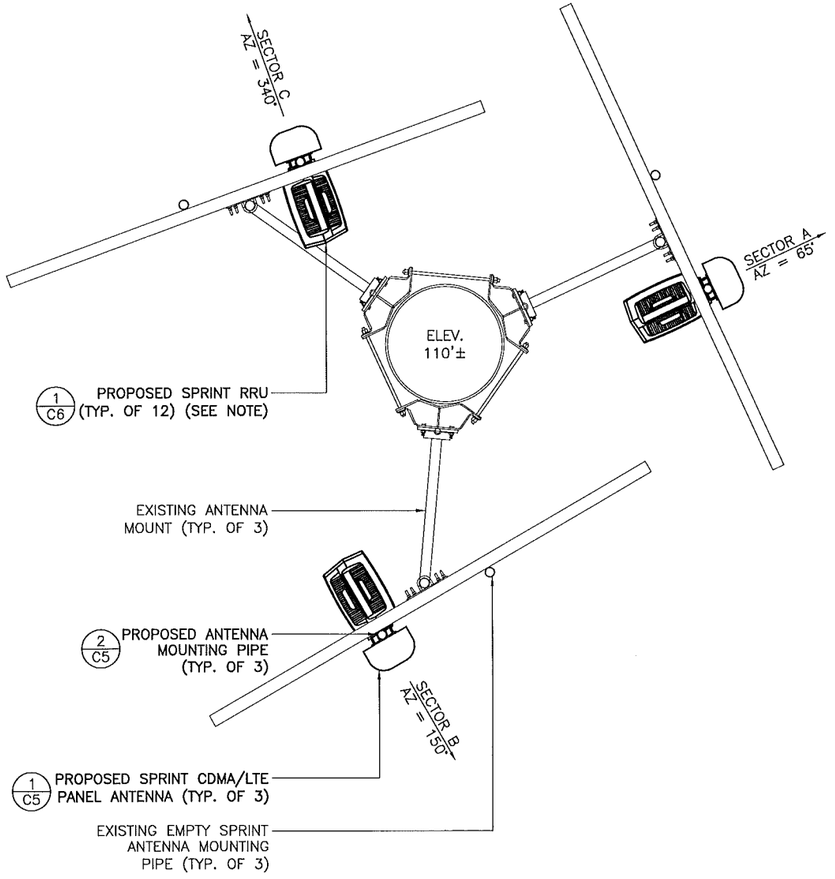
ELEVATION

SHEET NUMBER

C3.1



EXISTING ANTENNA LAYOUT NTS 1



NOTE:

ALL RRU'S MUST BE ELECTRICALLY POWERED WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.

PROPOSED ANTENNA LAYOUT NTS 2

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.:	120-564.48
DRAWN BY:	CHECKED BY:
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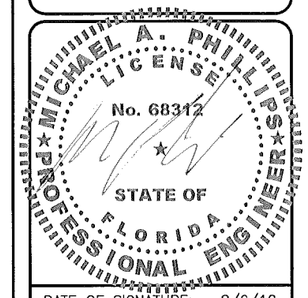
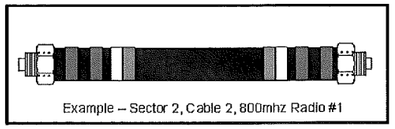


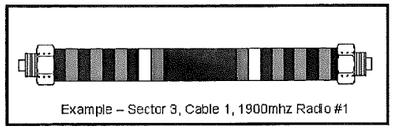
DATE OF SIGNATURE: 8/6/12

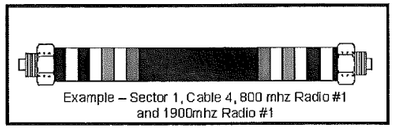
COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

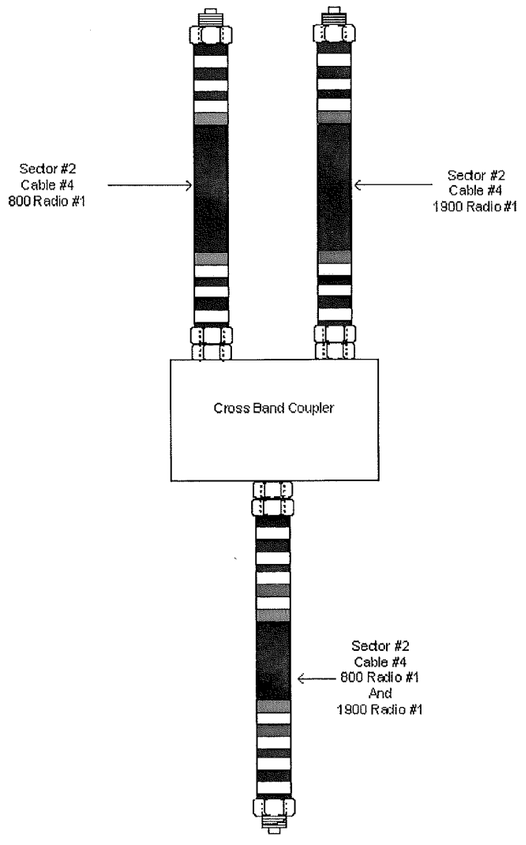
SHEET NAME
ANTENNA LAYOUTS

SHEET NUMBER
C3.2









1 ANTENNA AND CABLE COLOR CODE

Frequenc	Indicator	ID
800 #1	Yellow	Green
1900 #1	Yellow	Red
1900 #2	Yellow	Brown
Reserved	Yellow	Blue
Reserved	Yellow	Slate
Reserved	Yellow	Orange
Reserved	Yellow	White
1600 #1	Yellow	Pruple

2 FREQUENCY COLOR CODE

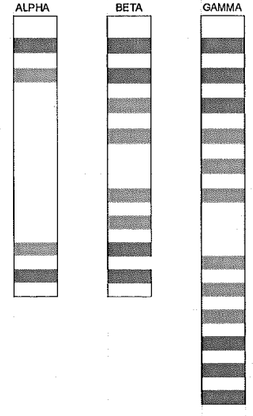
Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
1	2	Blue	No Tape	No Tape
1	3	Brown	No Tape	No Tape
1	4	White	No Tape	No Tape
1	5	Red	No Tape	No Tape
1	6	Slate	No Tape	No Tape
1	7	Purple	No Tape	No Tape
1	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
2	2	Blue	Blue	No Tape
2	3	Brown	Brown	No Tape
2	4	White	White	No Tape
2	5	Red	Red	No Tape
2	6	Slate	Slate	No Tape
2	7	Purple	Purple	No Tape
2	8	Orange	Orange	No Tape
3 Gamm	1	Green	Green	Green
3	2	Blue	Blue	Blue
3	3	Brown	Brown	Brown
3	4	White	White	White
3	5	Red	Red	Red
3	6	Slate	Slate	Slate
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange

3 COAXIAL CABLE COLOR CODE

Sprint NV Color Code Fiber Hybrid cable

Sprint Frequency	Sprint Indicator	Sprint ID	Carrier	Hybrid Fiber & DC ID Color	DC Cable Colors @ RBS	DC Cable @ RRU
					Side A	Side B
800 #1	Yellow	Green	CDMA	Green	GREEN / WHITE	Black / Gray
1900 # 1	Yellow	Red	LTE	Red	RED / BLACK	Black / Gray
1900 # 2	Yellow	Brown	CDMA	Yellow	Wht -Bk & Red-Blk Leads	Black / Gray
1900 # 3	Yellow	Blue	CDMA	Blue	Blue & Orange Leads	Black / Gray
1900 # 4	Yellow	Slate	LTE	Wht	Gn-BK & Or-BK Leads	Black / Gray
				Black Fiber Spare	No DC spare	n/a

Color tape from H & S for Identification Install correct Sprint color code during installation
Hybrid Cable ID 1 Red-Green / Sector Alpha 2 Red-Green / Sector Beta 3 Red-Green / Sector Gama
4 Red-Green / Sector Delta 5 Red_Green / Epsolan 6 Red-Green / Zeta



4 HYBRID CABLE COLOR CODE

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A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.: 120–564.48

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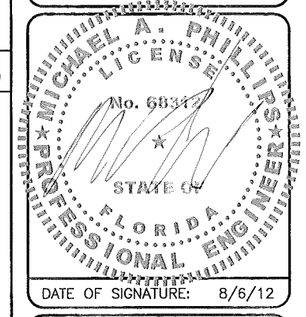
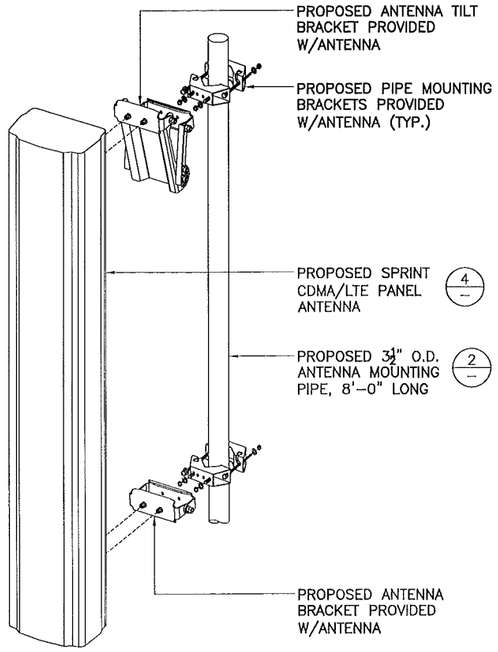


DATE OF SIGNATURE: 8/6/12

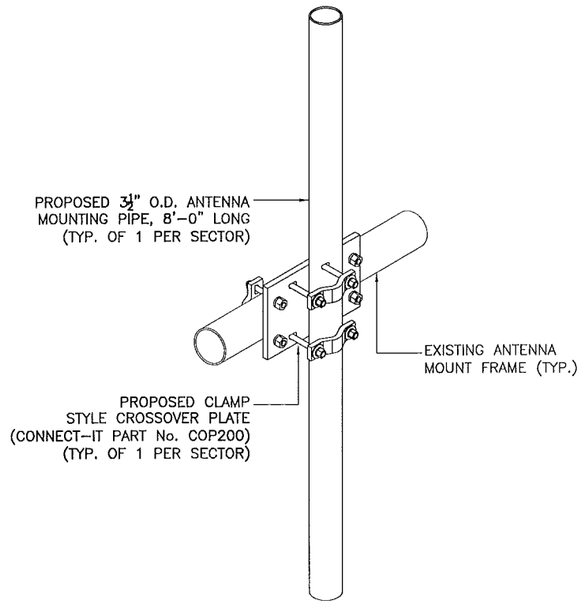
COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
COLOR CODING

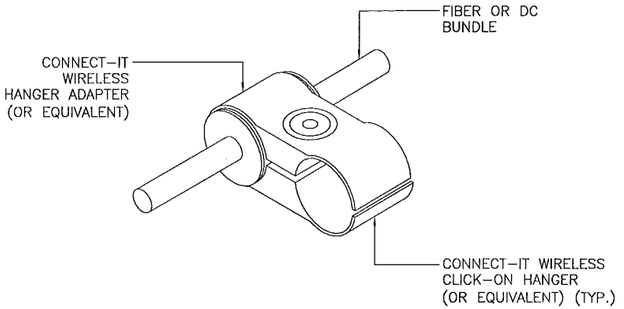
SHEET NUMBER
C4



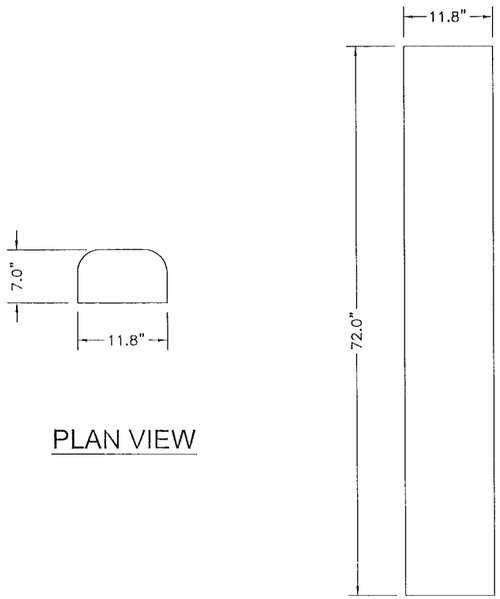
ANTENNA MOUNTING DETAIL NTS 1



CROSSOVER PLATE KIT DETAIL NTS 2



FIBER AND DC CABLE MOUNTING DETAIL NTS 3



PLAN VIEW

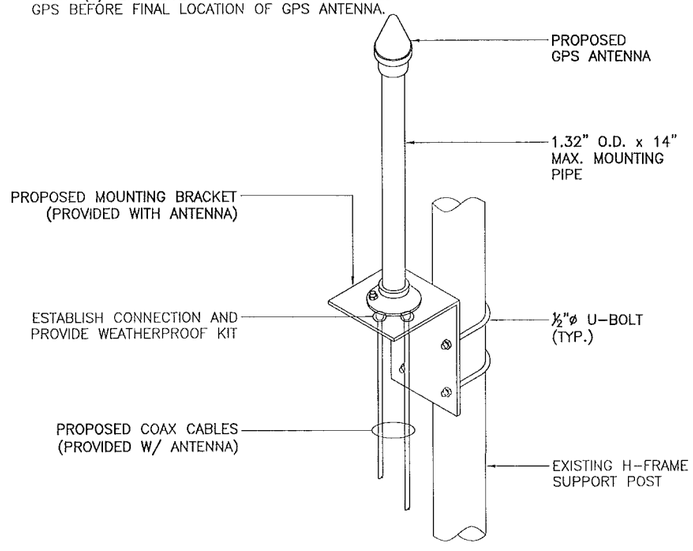
FRONT VIEW

MODEL:	RFS APXVERR18-C-X-1910I
FREQUENCY RANGE:	806-869 & 1850-1995 MHZ
ANTENNA W/O MOUNTING HARDWARE:	55 LBS.
MOUNTING HARDWARE:	7.5 LBS.
TOTAL WEIGHT:	62.5 LBS

ANTENNA SPECIFICATIONS NTS 4

NOTES:

1. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.
2. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.



GPS DETAIL NTS 5

(NOT USED) 6

REV	DATE	DESCRIPTION
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0	8/6/12	FOR PERMIT

PROJECT NO.: 120-564.48

DRAWN BY:	CHECKED BY:
J. ACOSTA	M. ABBEY

CALTROP Telecom
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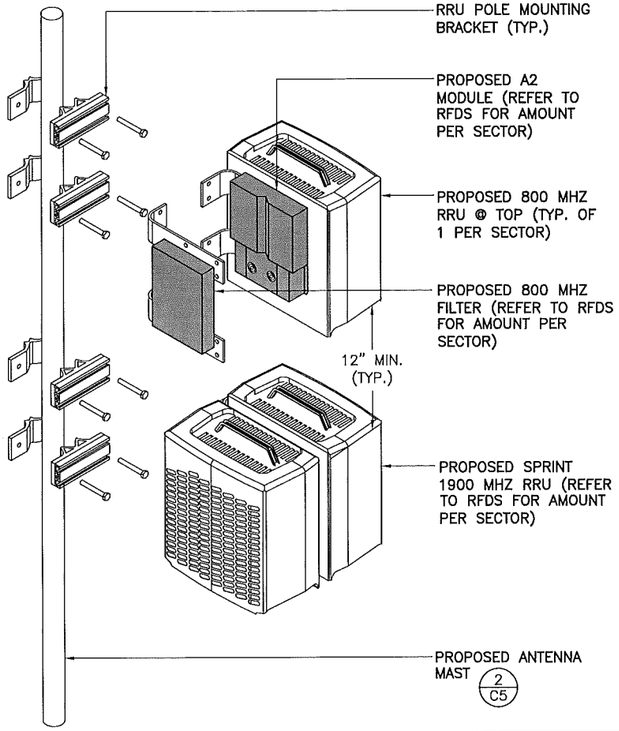
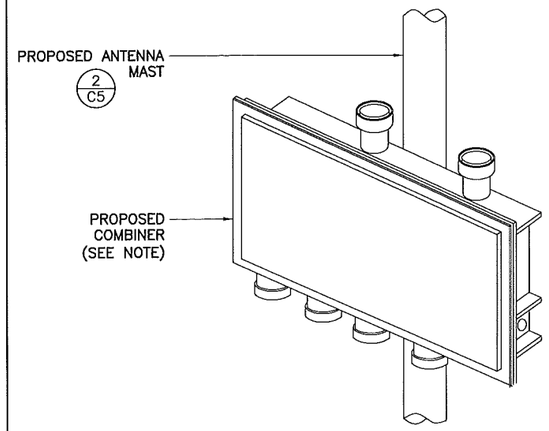
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
DETAILS

SHEET NUMBER
C5



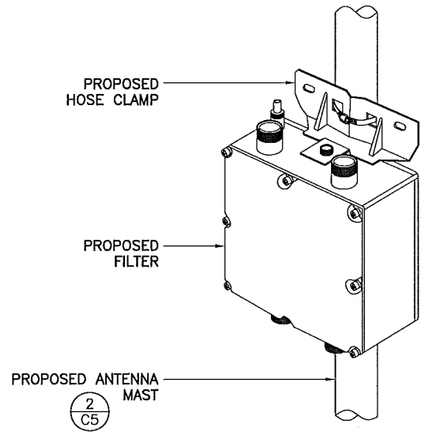
RRU MOUNTING CONFIGURATION NTS 1



NOTE:

COMBINERS SHALL BE MOUNTED ON PROPOSED ANTENNA MOUNTING PIPE WITH MANUFACTURERS MOUNTING BRACKET

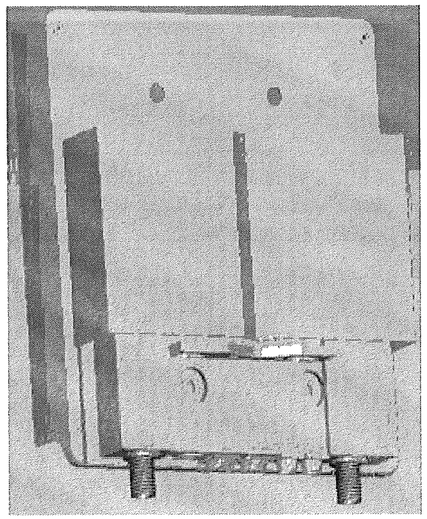
COMBINER MOUNTING DETAIL NTS 2



FILTER MOUNTING DETAIL NTS 3

(NOT USED) 4

MANUFACTURER:	ERICSSON
DIMENSIONS: HxWxD:	12.8"x15.0"x3.4"
VOLUME:	10.76 LITERS
WEIGHT:	21 LBS
EXTERNAL CONNECTIONS:	2x 7/16 DIN ANT CONNECTIONS POWER IN AND POWER OUT TO RRU EXTERNAL RET INTERFACE 2 FIBER INTERFACES



RRU A2 MODULE NTS 5

(NOT USED) 6

REV	DATE	DESCRIPTION
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0	8/6/12	FOR PERMIT

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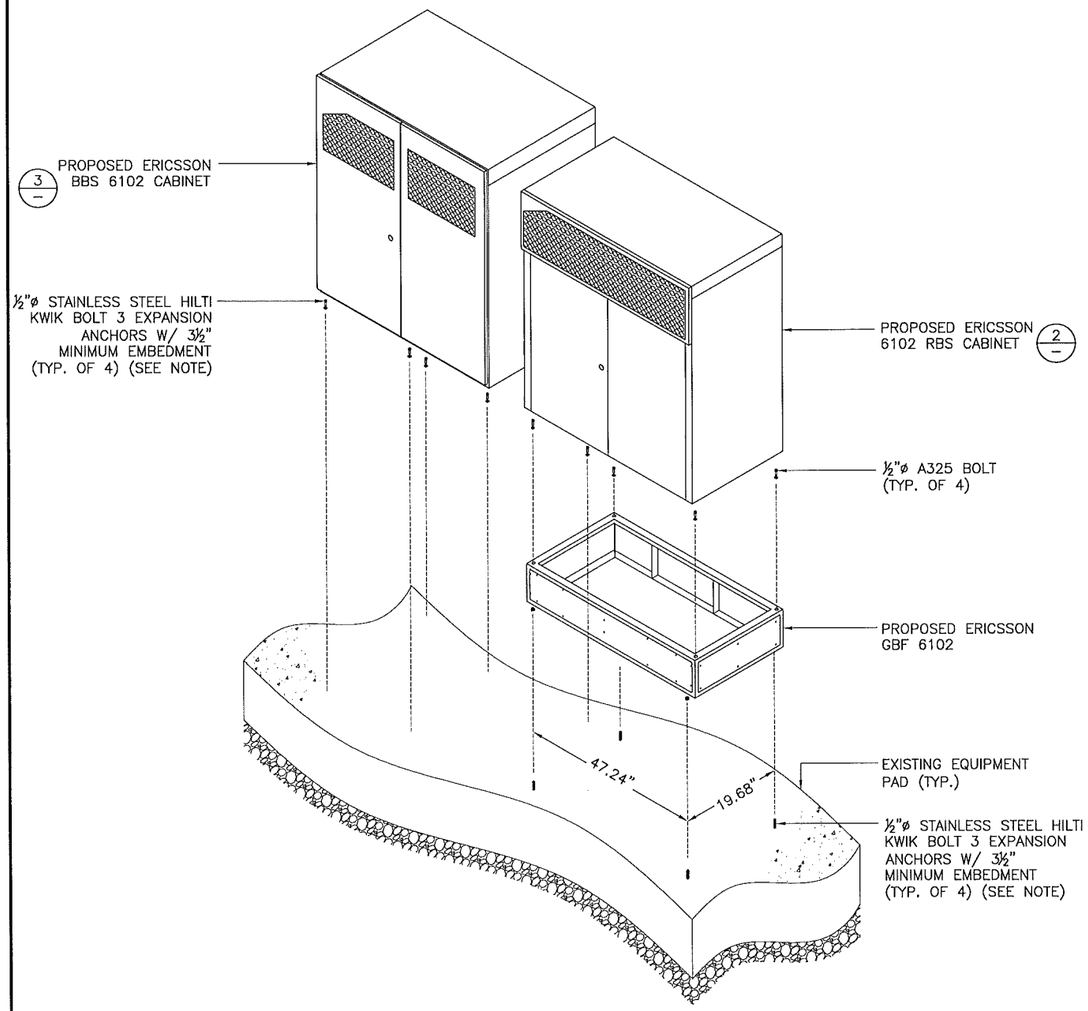
SHEET NAME
DETAILS

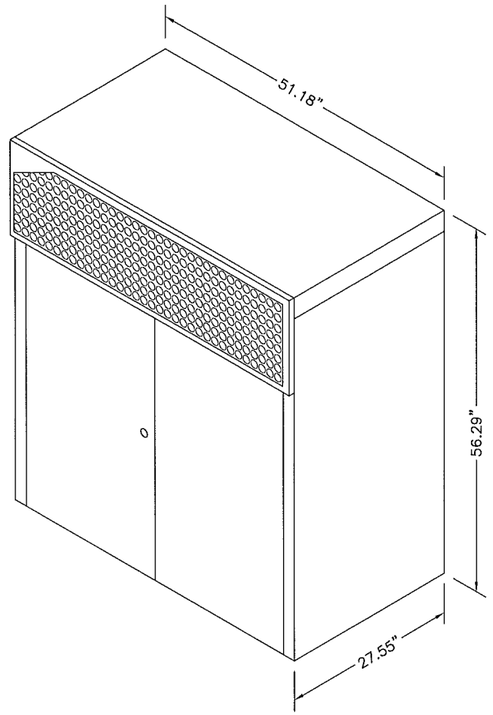
SHEET NUMBER
C6



NOTE

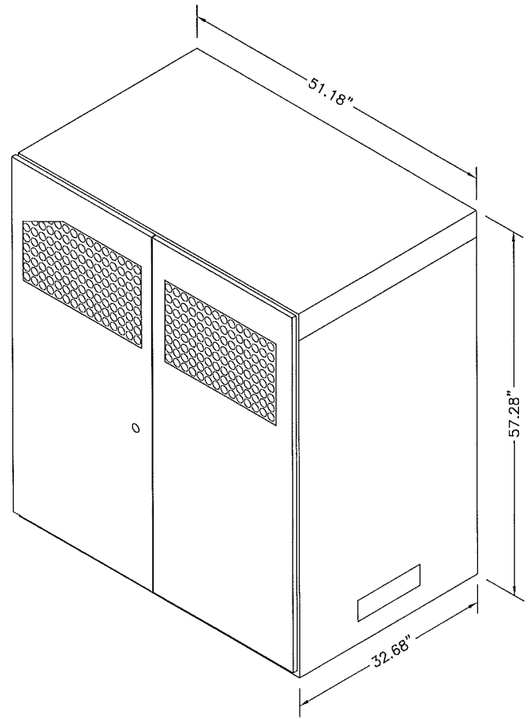
MINIMUM EDGE DISTANCE = 3"

CABINET MOUNTING ISOMETRIC NTS | 1



ERICSSON RBS 6102	
DIMENSIONS	51.18"(W) x 27.55"(D) x 56.29"(H)
WEIGHT	884lbs (FULLY EQUIPPED)
MINIMUM CLEARANCES	
FRONT	27.56"
SIDES	1.97"
REAR	7.87"

RBS 6102 DETAIL 0 1' 2' SCALE: 1" = 1'-0" (22"x34") SCALE: ½" = 1'-0" (11"x17") | 2



ERICSSON BBS 6102	
DIMENSIONS	51.18"(W) x 32.68"(D) x 57.28"(H)
WEIGHTS	669lbs – 3586lbs (MAX.)
MINIMUM CLEARANCES	
FRONT	31.00"
SIDES	6.00"
REAR	6.00"

BBS 6102 DETAIL 0 1' 2' SCALE: 1" = 1'-0" (22"x34") SCALE: ½" = 1'-0" (11"x17") | 3

REV	DATE	DESCRIPTION
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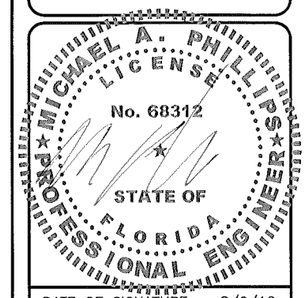


DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
CABINET DETAILS

SHEET NUMBER
C7

Revision:	B1
Date:	7/12/2012

RFDS Phase	

Cascade	MI60XC004
Market	Miami
MTX/BSC	MIA-DEERFIELD-BSC_1.1
Lat	26.258056
Lon	-80.18750
Structure Type	MONOPOLE

	RBS1	RBS2
Existing BTS #		
New BTS #		
Existing Cell ID	609	
New Cell ID		
RBS Cabinet Type	Outdoor	

Number of Sectors:	3

ANTENNA #1 (800 MHz & 1900 MHz Dual Band)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor	RFS	RFS	RFS			
Model	APXVERR18-C-4-19101	APXVERR18-C-0-19101	APXVERR18-C-10-19101			
Antenna Band Type	Dual	Dual	Dual			
Antenna Count	1	1	1			
Gain (dBi)	17.8	17.8	17.8			
Beamwidth	69.4	68.9	68.9			
Azimuth	65	150	340			
Height (ft)	110	110	110			
Mech. Downtilt	0	0	0			
Elect. Downtilt 1900	4	0	10			
Elect. Downtilt 800	6	2	10			
EIRP (W)	250	250	250			
RET Count	3	3	3			
RET Manufacturer	RFS	RFS	RFS			
RET Model	ACU-A20-N	ACU-A20-N	ACU-A20-N			
Antenna Count Per Sector	1	1	1	0	0	0

1900/800	TowerMountedRRU

CABLING						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Est. Cable Length (feet)	125	125	125			
Number of Cables	1	1	1			
Cable1 Diameter	39 mm	39 mm	39 mm			
Cable1 Type	Hybrid Cable	Hybrid Cable	Hybrid Cable			
Cable1 Manufacturer	H+S	H+S	H+S			
Cable1 Model	TSZ 999 067/xxxM	TSZ 999 067/xxxM	TSZ 999 067/xxxM			
Number of Cables	0	0	0			
Cable2 Diameter	39 mm	39 mm	39 mm			
Cable2 Type	Hybrid Cable	Hybrid Cable	Hybrid Cable			
Cable2 Manufacturer	H+S	H+S	H+S			
Cable2 Model	TSZ 999 066/xxxM	TSZ 999 066/xxxM	TSZ 999 066/xxxM			
Top Jumper Length	3 m	3 m	3 m			
Top Jumper Type	TSR 951 70/3	TSR 951 70/3	TSR 951 70/3			
Cable Type						
Cable Manufacturer						
Cable Model						
Total Power Cables						
Cable Type	Fiber OPTO	Fiber OPTO	Fiber OPTO			
Cable Manufacturer	Ericsson	Ericsson	Ericsson			
Cable Model	RPM 253 469 2/xxxx	RPM 253 469 2/xxxx	RPM 253 469 2/xxxx			
Total Opto Cables	8	8	8			
Coax Cable - Main - Type						
Coax Cable - Main - Length						
Coax Cable - Main - Count						
Coax Cable - Main - Manufacturer						
Coax Cable - Main - Model						
Coax Cable - Top Jumper - Type						
Coax Cable - Top Jumper - Length						
Coax Cable - Top Jumper - Count						
Coax Cable - Top Jumper - Manufacturer						
Coax Cable - Top Jumper - Model						
Coax Cable - Bottom Jumper - Type						
Coax Cable - Bottom Jumper - Length						
Coax Cable - Bottom Jumper - Count						
Coax Cable - Bottom Jumper - Manufacturer						
Coax Cable - Bottom Jumper - Model						

RRU Count						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
RRUS 11 Single	4	4	4			
RRUS 12 Single	0	0	0			
RRUS 12 Dual	0	0	0			
RRUS 13 Single	0	0	0			
RRUS 13 Dual	0	0	0			
RRUS A2 Module	1	1	1			
RRU Count - Detailed Breakdown						
RRUS 11	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
CDMA - 800	1	1	1			
CDMA - 1900	2	2	2			
LTE - 800	0	0	0			
LTE - 1600	0	0	0			
LTE - 1900	1	1	1			
LTE - 2500	0	0	0			
RRUS12	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
CDMA/LTE - 800	0	0	0			
CDMA/LTE - 1900	0	0	0			
LTE - 1600	0	0	0			
LTE - 2500	0	0	0			
RRUS13	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
CDMA/LTE - 800	0	0	0			
CDMA/LTE - 1900	0	0	0			
LTE - 1600	0	0	0			
LTE - 2500	0	0	0			
RRUS 11 Count	4	4	4			
RRUS 12 Count	0	0	0			
RRUS 13 Count	0	0	0			

Combiners						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Count	1	1	1			
Manufacturer	RFS	RFS	RFS			
Model	IBC1900HG-1	IBC1900HG-1	IBC1900HG-1			
Gain (dB)	3-9 dB	3-9 dB	3-9 dB			

800 MHz FILTER						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Count	1	1	1			
Manufacturer	Ericsson	Ericsson	Ericsson			
Model	800 ESMR	800 ESMR	800 ESMR			

	Count	Model
RBS	1	6102
BBS	1	6102
MW 20p		
MW 20p BBS		

GPS INFO		
	GPS	Cable
Vendor	Ericsson	
Model	GPS-TMG-HR26NCM	
Type		
Diameter		

Carrier Information			Start/Stop Freqs		Channel Element Counts		
	Carriers	Frequencies	Tx (MHz)	Rx (MHz)	Total	32 Blocks	Per Carrier
1x ADV-800	1		862.275 - 863.525	817.275 - 818.525	192	6	192
EVDO-800	0				0	0	0
1x ADV-1900	3	100;50;175;	1930.625 - 1939.375	1850.625 - 1859.375	576	18	192
EVDO-1900	3	75;25;150;	1930.625 - 1939.375	1850.625 - 1859.375	576	18	192
LTE 1900	1		1990.000 - 1995.000	1910.000 - 1915.000			
LTE 1600							
Total 800	1						
Total 1900	6						

RBS Configuration					
RBS Modules				RBS Cards		
Count:	RBS1	RBS2		Count:	RBS1	RBS2
DBU	0	0		XCEMA (1900)	0	0
DBA	3	0		AEM (1900)	0	0
CEEM	0	0		XCEMA (800)	0	0
DUL	4	0		AEM (800)	0	0
XMU	3	0				

1900 3G Radio Config	
Radio Number	Freq Vect
Radio 1	(100;50;)(75;25;)
Radio 2	(175;)(150;)
Radio 3	
Radio 4	

T1 COUNTS	
CDMA 800	1
CDMA 1900	4
EVDO 800	0
EVDO 1900	6
LTE	0

REQUEST CURRENT RFDS BEFORE INSTALLATION

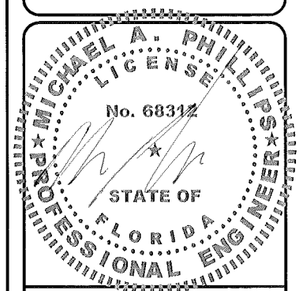
REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.: 120-564.48

DRAWN BY:	CHECKED BY:
J. ACOSTA	M. ABBEY

CALTROP Telecom
3400 LAKESIDE DRIVE
SUITE 525
MIRAMAR, FL 33027
(954) 874-7870
CERTIFICATE OF AUTHORIZATION 29214

Sprint
6391 SPRINT PARKWAY
OVERLAND PARK, KS 66251
(913) 315-8081



DATE OF SIGNATURE: 8/6/12

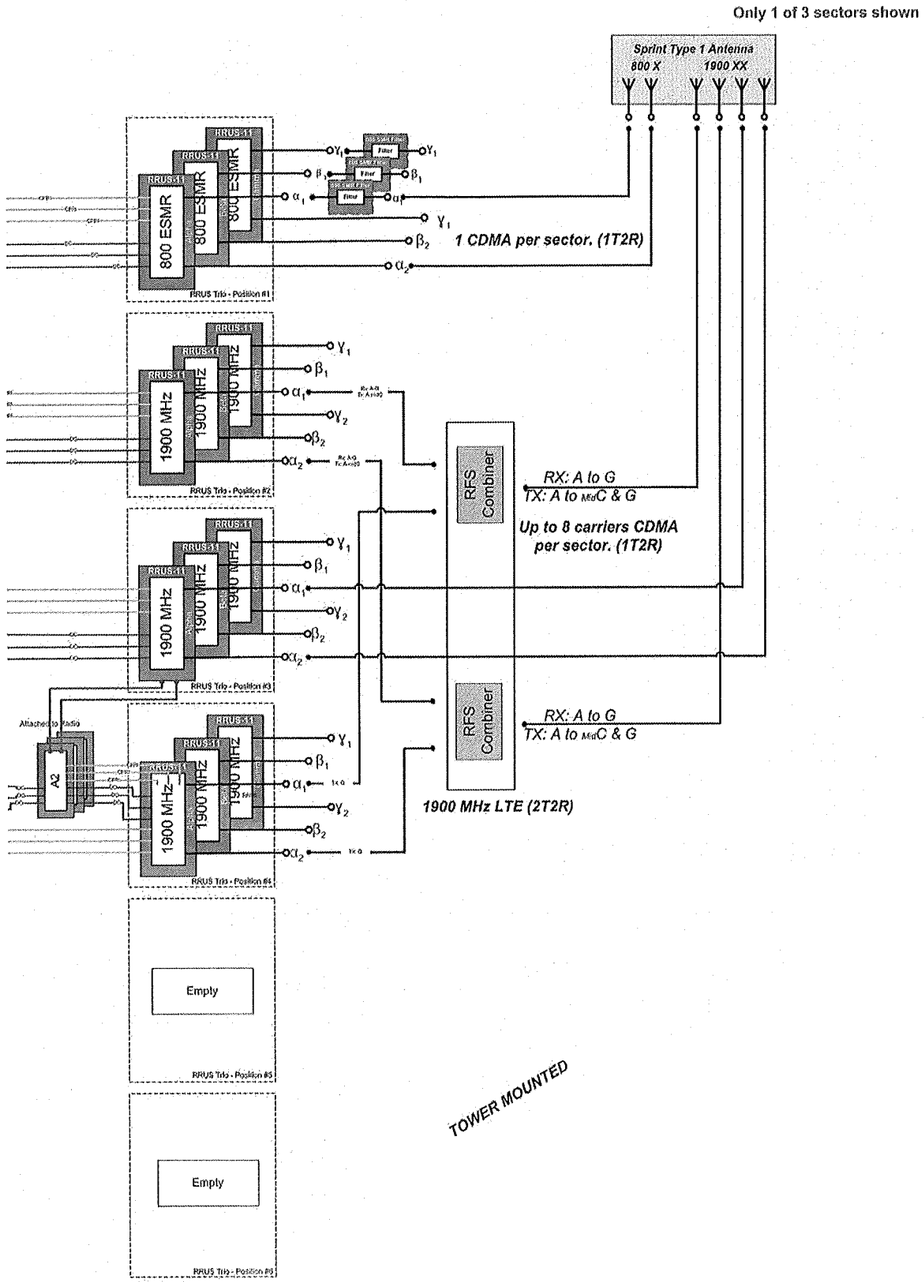
COCONUT CREEK GOVERMENT CENTER MI60XC004-A

4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
RF DATA SHEET

SHEET NUMBER
RF1

ANTENNA DIAGRAMS ARE BASED ON RFDS REVISION #B1



RBS 6102 Main Remote – 2011 Deployments with RRUS-11
800 MHz: 1 carrier 1T2R CDMA
1900 MHz: up to 8 carriers 1T2R CDMA
1900 MHz: 5 MHz 2T2R LTE

REQUEST CURRENT RFDS BEFORE INSTALLATION

REV	DATE	DESCRIPTION
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0	8/6/12	FOR PERMIT

PROJECT NO.:	120-564.48
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MICHAEL A. PHILLIPS
LICENSE
No. 68312
STATE OF FLORIDA
PROFESSIONAL ENGINEER

DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
GEEK DIAGRAM

SHEET NUMBER
RF2

A – GENERAL

A1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (EDITION ADOPTED BY LOCAL JURISDICTION) AND APPLICABLE LOCAL CODES.

A2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.

A3. ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE U.L. APPROVED OR LISTED.

A4. ALL POWER WIRING SHALL BE STRANDED COPPER, TYPE THHN/THHW, AND 90 DEGREES C RATED.

A5. GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE, TIN COATED COPPER AND EQUIPMENT GROUND CONDUCTORS SHALL BE GREEN INSULATED, UNLESS OTHERWISE NOTED.

A6. ALL POWER WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT, PVC, OR FLEXIBLE LIQUIDTIGHT CONDUIT, AS INDICATED.

A7. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT FEES, AND SCHEDULE INSPECTIONS.

A8. CONTRACTOR SHALL APPLY FOR ELECTRICAL SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS, SERVICE ROUTING, AND METER SOCKET TYPE WITH LOCAL POWER COMPANY.

A9. CONTRACTOR SHALL APPLY FOR TELEPHONE SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS AND SERVICE ROUTING WITH TELEPHONE COMPANY.

A10. PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING, AND ALL ITEMS INCIDENTAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.

A11. WHERE LONG POWER CABLE RUNS PREVAIL, CONTRACTOR SHALL CALCULATE THE VOLTAGE DROP AND SIZE WIRES AND CONDUIT ACCORDINGLY.

A12. WHERE TRANSFORMER IS REQUIRED FOR ELECTRICAL SERVICE, TRANSFORMER SECONDARY SHALL BE GROUNDED PER N.E.C., ARTICLE 250–26.

A13. REFER TO SITE SPECIFIC DWGS FOR ELEVATIONS.

A14. ALL ELECTRICAL DEVICES EXPOSED TO WEATHER SHALL BE OF RAINPROOF CONSTRUCTION AND SHALL REQUIRE WATER TIGHT CONDUIT HUBS.

A15. CONTRACTOR SHALL COIL CABLES AT HANDHOLE WITH LENGTHS AS REQUIRED BY ELECTRICAL UTILITY FOR CONNECTION BY UTILITY.

A16. ALL UNDERGROUND SERVICE ENTRANCE POWER CABLES SHALL BE TYPE FOR SUCH USE. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND RE–SIZE CABLES PER NEC REQUIREMENTS FOR CABLE RUNS EXCEEDING 250 FEET.

B – POWER CABLE AND SERVICE

B1. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING TO BTS AND VERIFY EXACT CONDUIT ROUTING. RACEWAY SYSTEM MATERIALS AND DEVICES FURNISHED SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA, AND UL. RACEWAY SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE N.E.C.

B2. A COIL OF WIRE SHALL EXTEND A MINIMUM OF 10 FEET FROM CONDUIT TO PERMIT TERMINATION BY OTHERS.

B3. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND ROOFS TO PREVENT MOISTURE PENETRATION OR VERMIN INFESTATION.

B4. CONDUCTORS RUNNING ALONG HORIZONTAL SURFACES (ROOF TOP OR SLAB) SHALL BE INSTALLED IN RIGID CONDUIT SUPPORTED ON SLEEPERS.

B5. ALL VERTICAL RUNS OF POWER CABLE EXCEEDING 80 FEET IN LENGTH SHALL BE SUPPORTED PER N.E.C. ARTICLE 300 USING KELLEMS GRIPS OR ACCEPTABLE EQUAL CABLE SUPPORT SYSTEM.

B6. WHERE A SEPARATE ELECTRICAL SERVICE DROP IS ADDED, CONTRACTOR SHALL INSTALL PERMANENT SERVICE DISCONNECT OR GROUPING THEREOF, DENOTING ALL OTHER SERVICE ENTRANCES, LOCATION OF EACH AND THE AREAS SERVED BY EACH.

B7. 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 220–35.
- B) CONTRACTOR SHALL VERIFY WHETHER EXISTING FEEDER CAPACITY EXCEEDS VALUE CALCULATED PER N.E.C. ARTICLE 220–35
- 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 EXISTING PANEL.
- E) IF A BRANCH CIRCUIT PROTECTIVE DEVICE CANNOT BE OBTAINED OR SPACE IS NOT AVAILABLE, A BRANCH CIRCUIT MAY BE TAPPED FROM EXISTING FEEDER CONDUCTORS USING AN INSTALLED 2–POLE FUSED DISCONNECT AND METER BASE PER N.E.C. ARTICLE 240–21 WITH TEN FOOT (10) MAXIMUM TAP CONDUCTORS. FUSED DISCONNECT SHALL BE LISTED SAME OR BETTER INTERRUPTING RATING AS EXISTING SOURCE OF SUPPLY.

C – RF (COAX) AND LOW VOLTAGE CABLE

C1. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE SUPPORTED USING CLICK–ON HANGERS OR ACCEPTABLE EQUAL.

C2. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE ROUTED AS FOLLOWS:
- A) RUNNING ALONG HORIZONTAL SURFACES: USE WAVEGUIDE SUPPORTS OR BRIDGE KIT MOUNTED ON CONCRETE SLEEPERS.
- B) RUNNING ALONG VERTICAL TOWER FACE: WAVEGUIDE LADDER W/HANGERS OR KELLEMS GRIPS.
- C) RUNNING ALONG OR ADJACENT TO BTS PLATFORM: USE 12 X 3 OPEN OR COVERED ELECTRICAL LADDER TRAY.

D – IDENTIFICATION

D1. LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON OUTSIDE EQUIPMENT OR BOX FRONT COVERS.

D2. PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH SAFETY SWITCH AND ALL OTHER ELECTRICAL CABINETS, ETC.

D3. DURING TRENCH BACK–FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE TWELVE INCHES BELOW FINISHED GRADE.

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.: 120–564.48

DRAWN BY:	CHECKED BY:
J. ACOSTA	M. ABBEY

CALTROP Telecom
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SUITE 525
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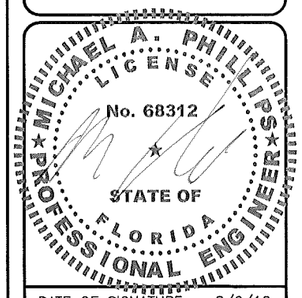


DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
ELECTRICAL NOTES

SHEET NUMBER
E1

A – GENERAL

A1. INSTALLATION OF GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE AND WITH ALL BUILDING CODES OF AUTHORITIES HAVING JURISDICTION.

A2. GROUNDING CONDUCTORS SHALL BE #2 AWG TINNED SOLID BARE COPPER BELOW AND ABOVE GRADE, UNLESS OTHERWISE NOTED AND SHALL BE ROUTED IN A DOWNWARD PATH TOWARDS GROUND BARS.

A3. GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AND DIRECT AS POSSIBLE WITH MINIMUM BEND RADIUS OF 12 INCHES.

A4. ALL BELOW GRADE CONNECTIONS SHALL BE CADWELD TYPE CONNECTIONS AND ALL CONNECTIONS TO EQUIPMENT AND GROUND BARS SHALL BE 2–HOLE BRONZE COMPRESSION CONNECTORS UNLESS OTHERWISE NOTED.

A5. CONTRACTOR SHALL INSTALL NEW PCS GROUNDING SYSTEM PER SPECIFICATIONS AND INTERCONNECT NEW SYSTEMS TO ANY EXISTING GROUNDING SYSTEMS AS REQUIRED BY NFPA 70 AND 780 (THIS APPLIES TO ELECTRICAL POWER DISTRIBUTION GROUNDING SYSTEM, LIGHTNING PROTECTION GROUNDING SYSTEM, COAX CABLE GROUNDING SYSTEM AND ANY OTHER EXISTING GROUNDING SYSTEMS).

A6. GROUNDING CONDUCTORS SHALL BE BONDED TO CABLE SUPPORTS, ANTENNA FRAMES, AND ANY SUPPORT FRAMES OR RACKS USING CADWELD OR MECHANICAL CONNECTIONS.

A7. CONTRACTOR SHALL PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS, STAINLESS STEEL HARDWARE SHALL BE USED THROUGHOUT.

A8. GROUNDING CONDUCTORS EMBEDDED IN CONCRETE OR PENETRATING WALLS AND FLOORS SHALL BE ENCASED IN PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS UNLESS REQUIRED BY LOCAL CODES OR OTHERWISE INDICATED ON DRAWINGS. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS TO PREVENT MOISTURE PENETRATION AND VERMIN INFESTATION.

A9. CONTRACTOR SHALL BOND PCS GROUNDING SYSTEM VIA THE MASTER GROUND BAR TO ALL METAL OBJECTS WITHIN 12 FEET OF EQUIPMENT, CONDUIT AND CABLES.

A10. BONDING OF GROUNDED CONDUCTOR (NEUTRAL) AND GROUNDING CONDUCTOR SHALL BE AT SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250–28.

A11. CONTRACTOR SHALL VERIFY EXACT CONDUIT ROUTING FOR GROUNDING CONDUCTORS WHERE APPLICABLE.

A12. A GROUND LEAD IS REQUIRED ONLY FOR BTS SUPPORTED ON STEEL FRAME. AN ADDITIONAL GROUND LEAD IS REQUIRED IF CABLE TRAY IS USED.

A13. CONNECTIONS TO CGB SHALL BE ARRANGED IN THE FOLLOWING THREE GROUPS:

* SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO CABINET AND POWER PEDESTAL GROUND).
* SURGE ABSORBERS (GROUNDING ELECTRODE RING OR BUILDING STEEL).
* NON–SURGING OBJECTS (EGB GROUND IN BTS).

A14. DOUBLING OR STACKING OF ANY GROUNDING CONNECTIONS IS NOT ACCEPTABLE.

A15. ALL GROUND BARS SHALL BE INSTALLED WITH STAND OFF INSULATORS.

B – PREPARATION

B1. SURFACES: ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED TO ENSURE PROPER CONTACT. ALL GALVANIZED SURFACES ON WHICH GALVANIZING HAS BEEN REMOVED BY CUTTING, DRILLING, OR ANY OTHER OPERATION SHALL BE RE–GALVANIZED IN ACCORDANCE WITH ASTM A780 USING "ZINC RICH" COATING AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS COMPANY (LOCATED IN QUINCY, MASSACHUSETTS), OR ACCEPTABLE EQUAL. NO WASHERS ARE ALLOWED BETWEEN ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON–OXIDIZING AGENT ("COPPER SHIELD") APPLIED PRIOR TO INSTALLATION.

B2. GROUND BAR: ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON–OXIDIZING AGENT ("COPPER SHIELD") APPLIED. NO FINGER PRINTS OR DISCOLORED COPPER SHALL BE PERMITTED.

C – BUILDINGS

C1. ELECTRICAL CONTRACTOR SHALL PERFORM REQUIRED TESTING ON GROUNDING SYSTEM ONCE GROUNDING SYSTEM IS COMPLETELY CONSTRUCTED AND BEFORE SERVICE POWER AND GROUND IS CONNECTED (SEE NOTE T1 FOR TEST DESCRIPTION).

C2. A #4/0 AWG COPPER CONDUCTOR SHALL BE ROUTED FROM MASTER GROUND BAR AT BTS SITE TO MAIN METAL COLD WATER PIPE AND BONDED TO PIPE WITH BRONZE 2–HOLE PIPE CLAMP. CLAMP SHALL BE CONNECTED TO WATER PIPE WITHIN 5 FEET OF ENTRY OF PIPE INTO BUILDING WITH NO DEVICES BETWEEN ENTRY POINT AND CONNECTION AND SHALL COME IN CONTACT WITH PIPE FOR A MINIMUM DISTANCE OF 4 INCHES.

C3. METAL RACEWAYS, ENCLOSURES, FRAMES AND OTHER NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT SHALL BE KEPT AT LEAST 6 FEET AWAY FROM LIGHTNING ROD CONDUCTORS OR THEY MUST BE BONDED TO LIGHTING ROD CONDUCTORS AT THE LOCATION WHERE SEPARATION DISTANCE IS LESS THAN 6 FEET.

C4. A MASTER GROUND BAR (MGB) SHALL BE INSTALLED NEAR BTS WITH BUILDING PRINCIPAL GROUND BAR (BPG) INSTALLED NEAR ENTRANCE OF MAIN METAL COLD WATER PIPE INTO BUILDING. A #4/0 AWG STRANDED COPPER DOWN CONDUCTOR (VERTICAL GROUND RISER) SHALL BE USED TO INTERCONNECT GROUND BARS.

C5. VERTICAL RISER SHALL CONSIST OF A #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR INSIDE ¾" CONDUIT.

C6. CONTRACTOR SHALL BOND BUILDING PRINCIPAL GROUND BAR (BPG) NEAR MAIN METAL COLD WATER PIPE TO EXISTING BUILDING GROUND RING AS WELL AS TO MAIN METAL COLD WATER PIPE WITH #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR.

C7. ANTENNA GROUND BARS (AGB) SHALL BE INSTALLED NEAR ANTENNAS AND SHALL BE BONDED TO MASTER GROUND BAR (MGB) WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR.

C8. F CODES REQUIRE VERTICAL RISER TO BE ISOLATED IN CONDUIT, PVC CONDUIT IS PREFERRED. IF METALLIC CONDUIT IS USED, GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF THE CONDUIT AND BONDED TO GROUND BARS USING #2 AWG (THWN) STRANDED COPPER CONDUCTORS WITH GREEN INSULATION.

D – LAND BUILDS AND CO–LOCATES

D1. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS UNIFORMLY SPACED AROUND THE EQUIPMENT FOUNDATION AND AROUND THE PERIMETER OF THE TOWER FOUNDATION. THE GROUND RODS SHALL BE ⅝" X 10'–0" COPPER CLAD STEEL INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND CONDUCTOR TO FORM A GROUND RING AT A DEPTH OF 30 INCHES BELOW THE SURFACE OF THE SOIL. A MINIMUM OF 1 FOOT AND A MAXIMUM OF 3 FEET CLEARANCES SHALL BE MAINTAINED FROM FOUNDATIONS. TOWER AND EQUIPMENT GROUND RINGS SHALL BE INTERCONNECTED WITH TWO GROUNDING CONDUCTORS OF EQUAL LENGTH AND MATERIALS.

D2. GROUND RODS SHALL BE BONDED TO GROUND RINGS AND INTERCONNECTING CONDUCTORS AT EQUAL INTERVALS OF APPROXIMATELY 10 FEET.

D3. WAVEGUIDE BRIDGE SHALL BE BONDED TO GROUND RINGS OR NTERCONNECTING CONDUCTORS WITH GROUNDING CONDUCTORS BONDED TO DIAGONALLY OPPOSED SUPPORT POSTS.

D4. GROUND BARS SHALL BE BONDED TO GROUND RING WITH SINGLE GROUNDING CONDUCTOR.

D5. BONDS TO ANTENNA MASTS, FENCE POSTS, WAVEGUIDE BRIDGE, TOWER STEEL (UNLESS PROHIBITED BY TOWER MANUFACTURER) AND THOSE BELOW GRADE SHALL BE EXOTHERMIC TYPE (CADWELD). ALL OTHER BONDS SHALL BE BRONZE 2–HOLE COMPRESSION FITTINGS UNLESS OTHERWISE NOTED.

D6. GROUNDING CONDUCTORS MAKING A TRANSITION FROM ABOVE TO BELOW GRADE SHALL BE INSULATED FROM EARTH CONTACT BY PASSING THROUGH PVC CONDUIT. THE CONDUIT SHALL EXTEND AT LEAST 6 INCHES ABOVE AND 12 INCHES BELOW GRADE LEVEL.

E – LIGHTNING PROTECTION

E1. IF EXISTING BUILDING HAS AN NFPA 780 AIR TERMINAL SYSTEM, EXISTING SYSTEM SHALL BE BONDED TO A GROUND BAR TO BOND THE EXISTING SYSTEM TO THE NEW SYSTEM. SHOULD THE EXISTING SYSTEM COME WITHIN 8 FEET OF ANTENNA STRUCTURES, EXISTING SYSTEM SHALL ALSO BE BONDED TO COAX GROUND BARS.

E2. IF SITE IS IN A HIGH RISK AREA AND ANTENNAS DO NOT FALL WITHIN EXISTING CONE OF PROTECTION FOR BUILDING, AIR TERMINALS SHALL BE INSTALLED AT ANTENNAS. A SINGLE AIR TERMINAL MAY BE USED WHEN TWO ANTENNAS ARE MOUNTED ON SAME STRUCTURE AND IT HAS BEEN DETERMINED THAT BOTH ANTENNAS WILL FALL WITHIN LIGHTNING CONE OF PROTECTION FOR SINGLE AIR TERMINAL.

SPRINT GROUNDING REQUIREMENTS

S1. CONTRACTOR SHALL INSPECT AND TEST ANY NEW OR EXISTING SPRINT GROUNDING SYSTEM WITH A BIDDLE–MEGGER TESTER UTILIZING THE FALL OF POTENTIAL METHOD AND CONTACT CONSTRUCTION MANAGER IF RESISTANCE EXCEEDS 5 OHMS AND SHALL FIELD MODIFY GROUNDING SYSTEM AS NECESSARY TO ACHIEVE COMPLIANCE. TEST RESULTS AND CONCLUSIONS SHALL BE RECORDED FOR PROJECT CLOSE–OUT DOCUMENTATION.

S2. COAX CABLE OUTER CONDUCTORS (SHIELDS) SHALL BE GROUNDED USING COAX GROUNDING KITS AT A MINIMUM OF TWO POINTS, INCLUDING AT ANTENNA AND AT MASTER GROUND BAR. THE COAXIAL CABLE SHALL NOT EXCEED 100 FEET BETWEEN GROUNDING KITS.

S3. GROUNDING CONDUCTOR CONSISTING OF #6 AWG TINNED SOLID BARE COPPER WIRE SHALL BE BONDED TO WAVEGUIDE ENTRY GROUND BAR USING CADWELD CONNECTIONS.

S4. COAX CABLE ENTERING A BUILDING SHALL BE GROUNDED WITH COAX GROUNDING KITS TO AN INSULATED COAX GROUND BAR WHICH SHALL BE INSTALLED ON THE OUTSIDE FACE OF THE BUILDING, BELOW THE CABLE ENTRY PORTS.

S5. WHEN COAX CABLES ENTER A BUILDING FROM A TOWER, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE EXTERNAL GROUND RING USING #6 AWG BARE TINNED SOLID COPPER ISOLATED IN PVC CONDUIT.

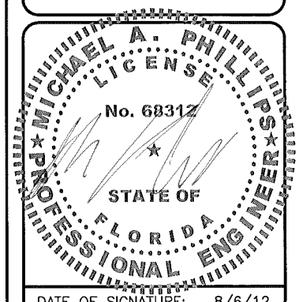
S6. WHEN COAX CABLES ENTER A BUILDING FROM A ROOF TOP, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE MASTER GROUND BAR NEAR THE BTS USING #6 AWG STRANDED INSULATED COPPER CONDUCTOR (SEE BUILDINGS NOTES ON THIS DRAWING FOR CONNECTION TO PRINCIPLE GROUND BAR AND BUILDING GROUND).

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.:	120–564.48
DRAWN BY: J. ACOSTA	CHECKED BY: M. ABBEY

CALTROP Telecom
3400 LAKESIDE DRIVE
SUITE 525
MIRAMAR, FL 33027
(954) 874–7870
CERTIFICATE OF AUTHORIZATION 29214

Sprint
6391 SPRINT PARKWAY
OVERLAND PARK, KS 66251
(913) 315–8081

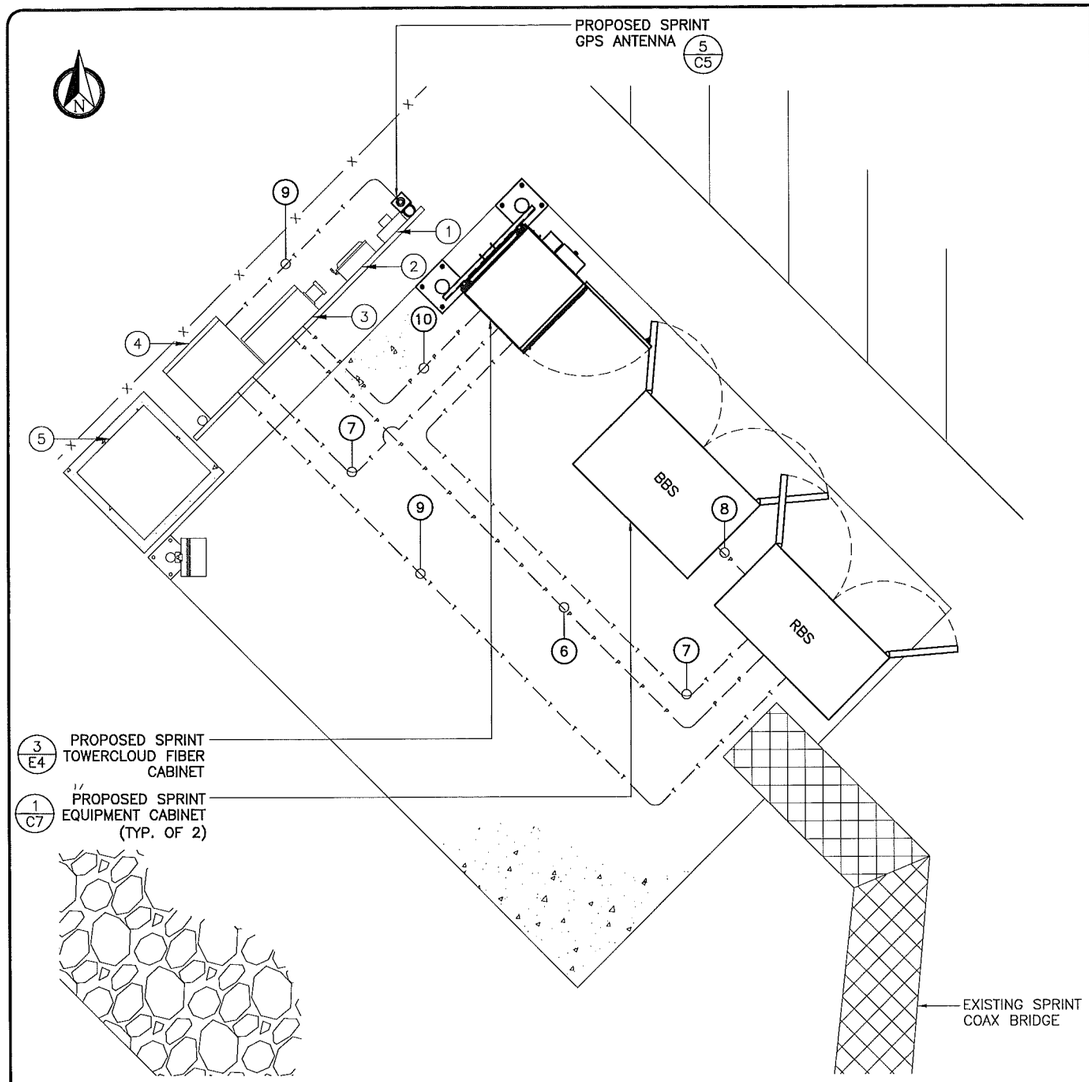


DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
GROUNDING NOTES

SHEET NUMBER
E2



(1) EXISTING SPRINT METER

(2) EXISTING SPRINT DISCONNECT

(3) EXISTING SPRINT PPC

(4) EXISTING SPRINT TELCO CABINET

(5) EXISTING SPRINT 50KVA TRANSFORMER

(6) PROPOSED 2"ø CONDUIT W/ (3) #1 AWG & (1) #6 FOR GROUND

(7) PROPOSED 2"ø CONDUIT FOR TELCO/FIBER

(8) PROPOSED 2"ø CONDUIT FOR -48V DC CABLES

(9) PROPOSED 1"ø CONDUIT FOR GPS CABLES

(10) PROPOSED 1¼"ø CONDUIT W/ (3) #2 AWG & (1) #8 FOR GROUND

NOTE:

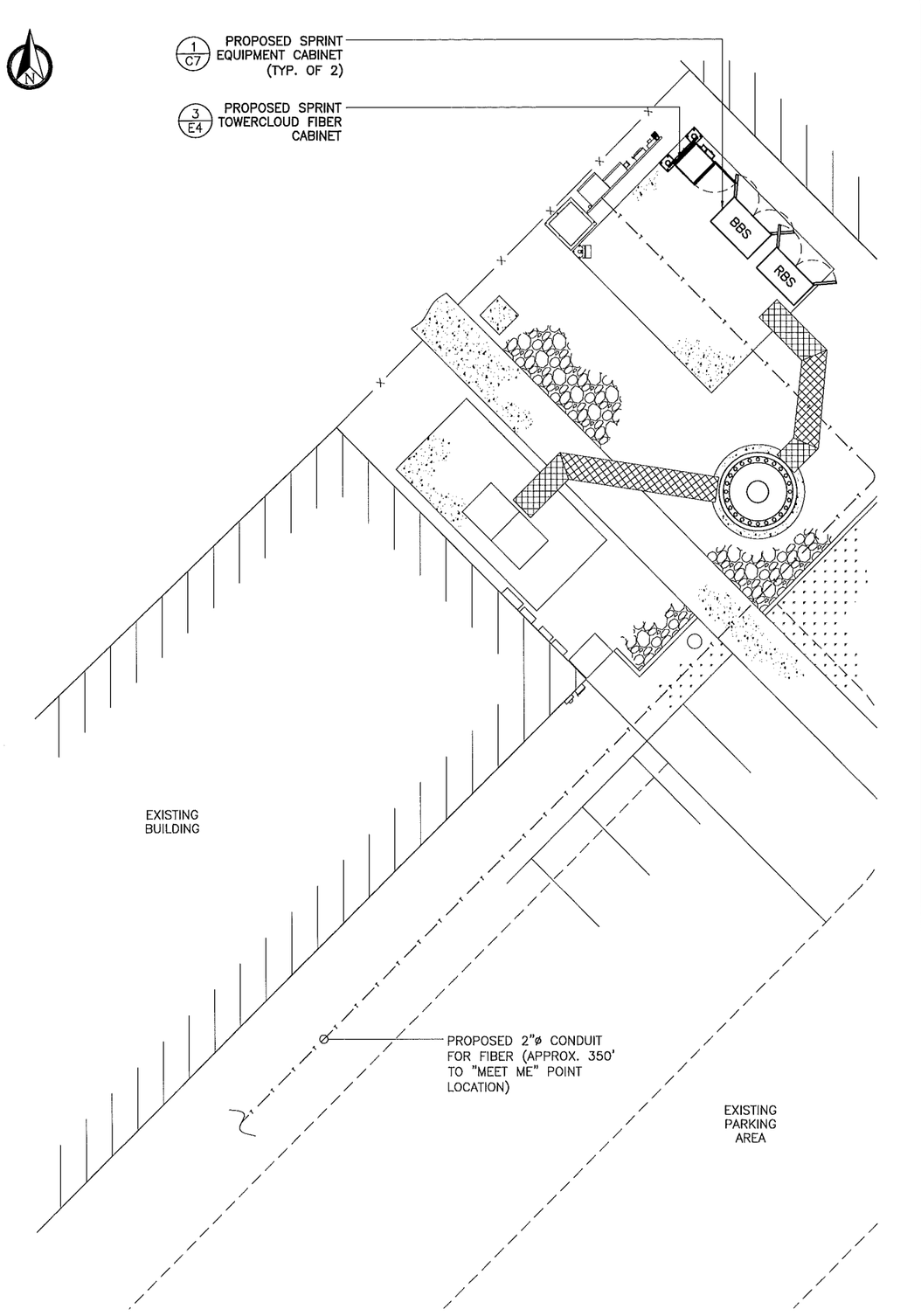
PROPOSED CONDUIT ROUTING IS SCHEMATIC ONLY, CONTRACTOR SHALL DETERMINE SUITABLE ROUTING IN THE FIELD.

UTILITY ROUTING EQUIPMENT PLAN

0 1' 2' 4'

SCALE: ½" = 1'-0" (22"x34")
SCALE: ¼" = 1'-0" (11"x17")

1



FIBER ROUTING PLAN

0 2' 4' 6' 8' 10'

SCALE: 3/16" = 1'-0" (22"x34")
SCALE: 3/32" = 1'-0" (11"x17")

2

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MICHAEL A. PHILLIPS LICENSE No. 68312 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER MI60XC004-A

4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME

UTILITY ROUTING EQUIPMENT PLANS

SHEET NUMBER

E3

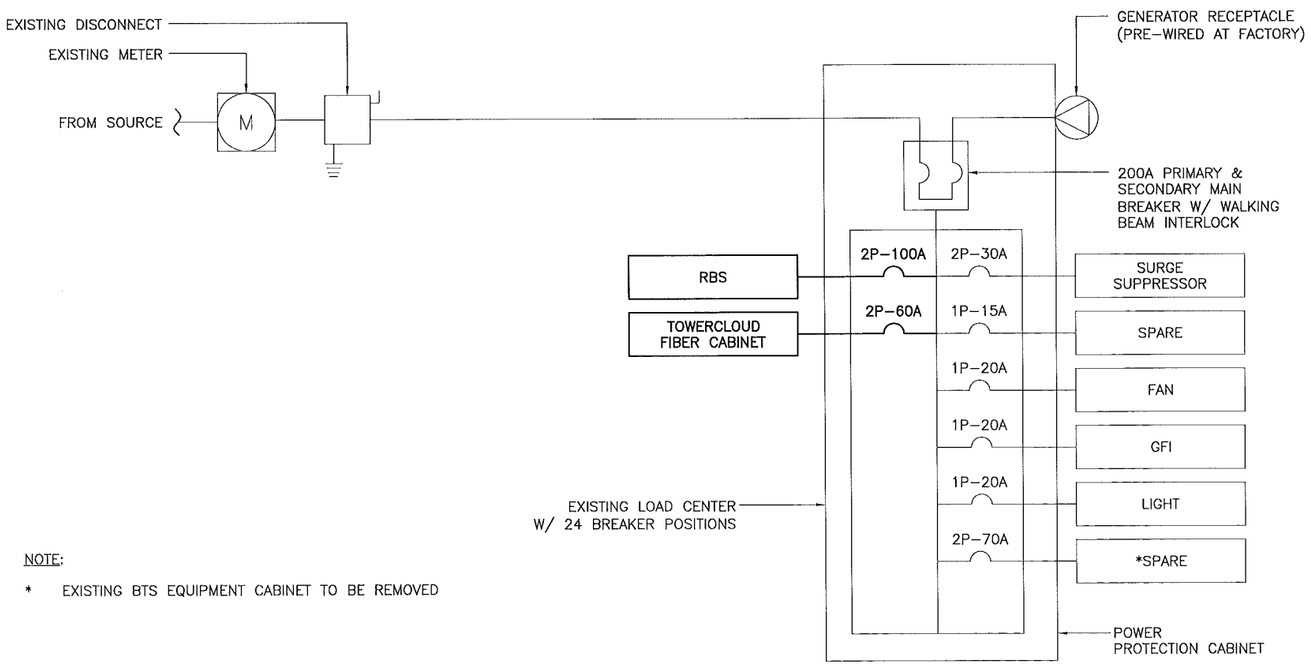
PANEL NAME: SPRINT	PANEL RATING 200 AMPS	PHASE 1	X MCB RATING 200 AMP
LOCATION: PPC	120/240 VOLTS	WIRE 3	MAIN LUG ONLY

CKT NO.	DESCRIPTION	KVA A	KVA B	AMP POLE	WIRE	GND	COND	COND	GND	WIRE	AMP POLE	KVA A	KVA B	DESCRIPTION	CKT NO.
1	RBS EQUIPMENT	9.6	-	100/2	#1	#6	2"	(E)	(E)	(E)	30/2	0	-	SURGE SUPPRESSOR	2
3		-	9.6									-	0		4
5	TOWERCLOUD FIBER CABINET	5.76	-	60/2	#2	#8	1 1/4"				15/1		-	SPARE	6
7		-	5.76					(E)	(E)	(E)	20/1	-	0.5	FAN	8
9	SPACE		-					(E)	(E)	(E)	20/1	0.18	-	GFI	10
11	SPACE	-						(E)	(E)	(E)	20/1	-	0.83	LIGHT	12
13	SPACE		-								70/2		-	*SPARE	14
15	SPACE	-										-			16
17	SPACE		-										-	SPACE	18
19	SPACE	-										-		SPACE	20
21	SPACE		-										-	SPACE	22
23	SPACE	-										-		SPACE	24
SUB TOTAL KVA (CONT)		0	0									0	0	SUB TOTAL KVA (CONT)	
SUB TOTAL KVA (NON-CONT)		15.4	15.4									0.18	1.33	SUB TOTAL KVA (NON-CONT)	
TOTAL KVA NON-CONT + 125% CONT.		32.2						134.3						TOTAL AMPS	

* EXISTING BTS EQUIPMENT CABINET TO BE REMOVED

(E) EXISTING

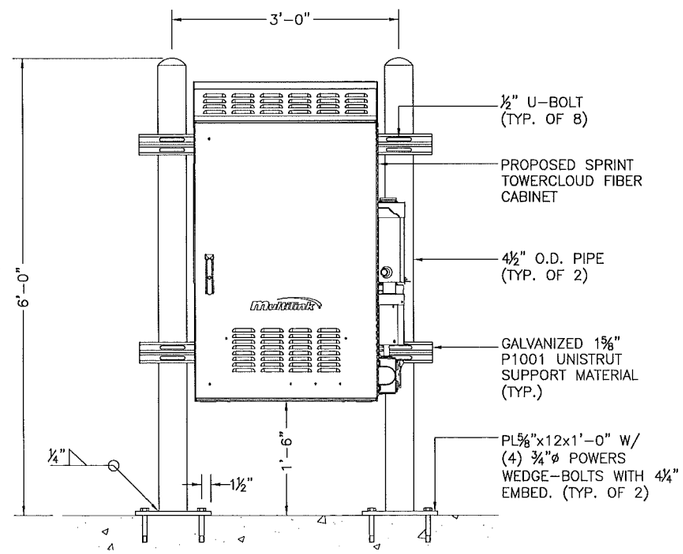
PANEL SCHEDULE | 1



NOTE:

* EXISTING BTS EQUIPMENT CABINET TO BE REMOVED

ELECTRICAL ONE-LINE | 2



TOWERCLOUD CABINET H-FRAME MOUNTING DETAIL NTS | 3

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PROJECT NO.: 120-564.48

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J. ACOSTA	M. ABBEY

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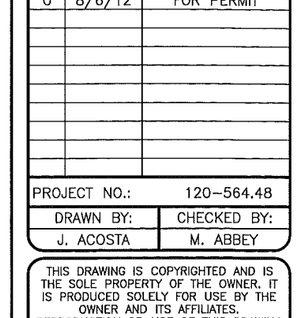
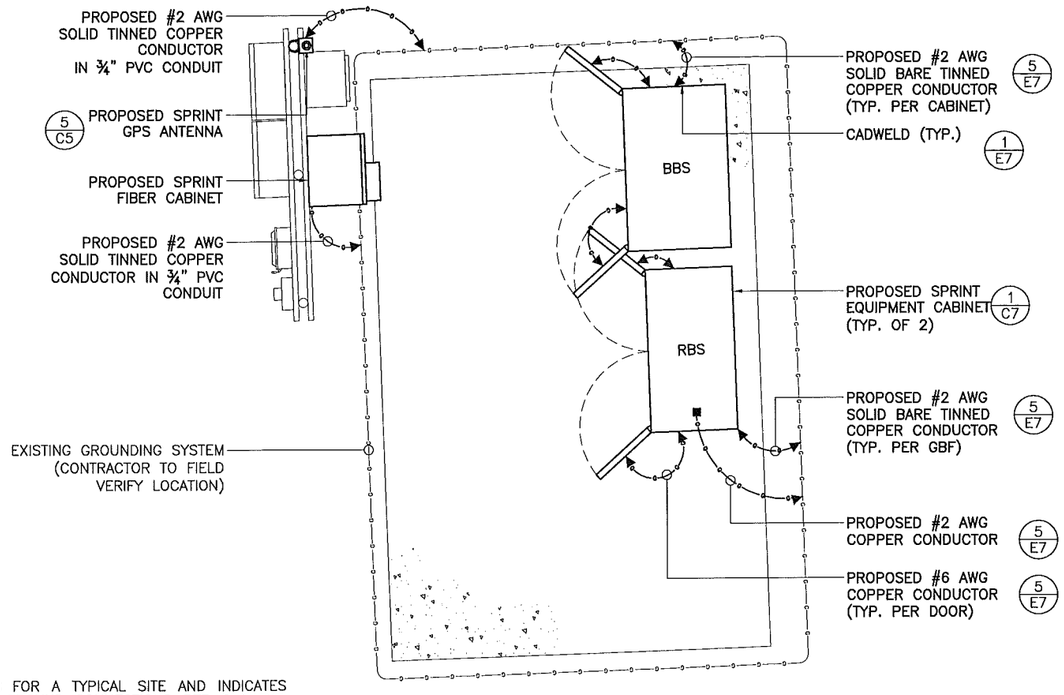


DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
ELECTRICAL DETAILS

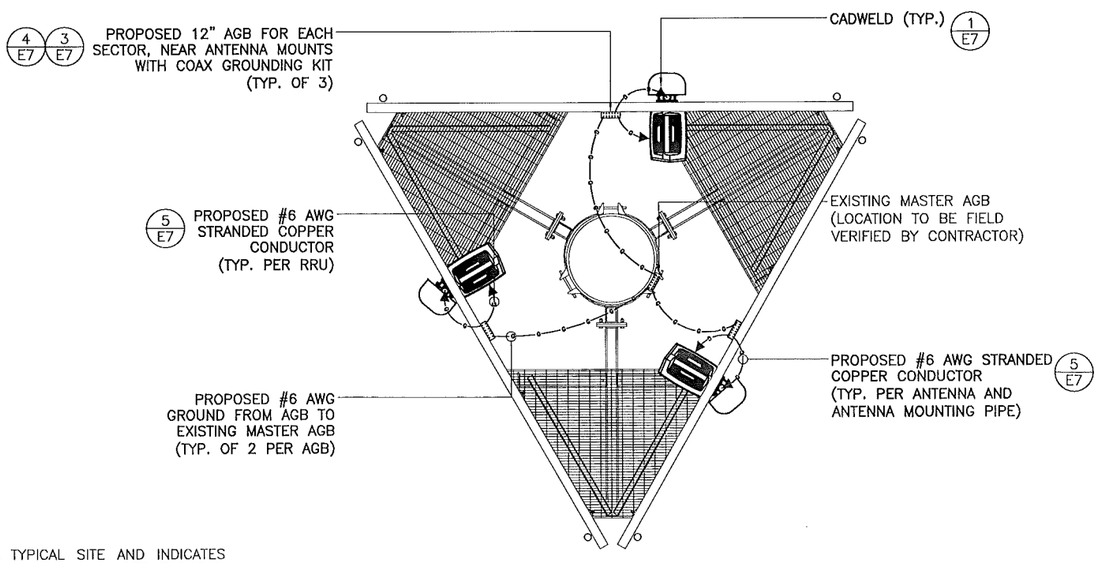
SHEET NUMBER
E4



NOTE:

THIS DETAIL IS FOR A TYPICAL SITE AND INDICATES THE REQUIRED GROUND CONNECTIONS PER ELEMENT. CONTRACTOR SHALL INSTALL SITE SPECIFIC GROUNDING BASED ON THESE GUIDELINES.

EQUIPMENT GROUNDING PLAN (GENERIC) — NTS — 1



NOTE:

THIS DETAIL IS FOR A TYPICAL SITE AND INDICATES THE REQUIRED GROUND CONNECTIONS PER ELEMENT. CONTRACTOR SHALL INSTALL SITE SPECIFIC GROUNDING BASED ON THESE GUIDELINES.

ANTENNA GROUNDING PLAN (GENERIC) — NTS — 2

GROUNDING KEY NOTES — 3

1. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
2. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDS, ETC., FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIAL AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR PERIOD OF WARRANTY.
3. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
4. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
5. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
6. 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.
7. 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.
8. 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.
9. NONMETALLIC 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.
10. CONTRACTOR SHALL REFER TO SPRINT GROUNDING AND BONDING PRACTICE.

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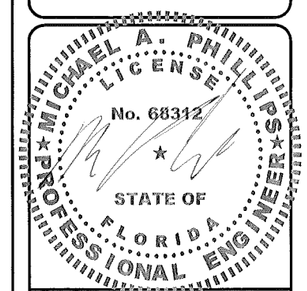


DATE OF SIGNATURE: 8/6/12

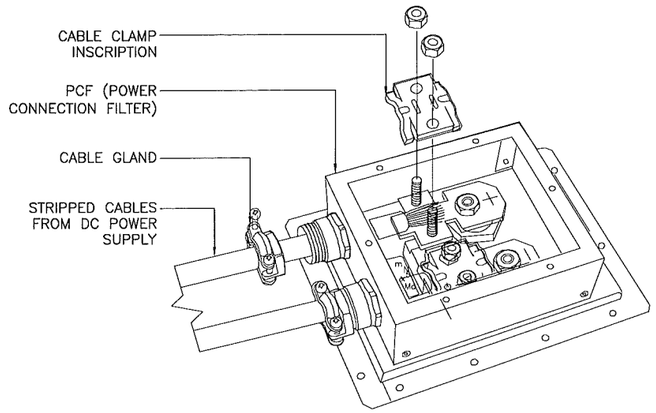
COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
GROUNDING PLANS & NOTES

SHEET NUMBER
E5

NOTE:

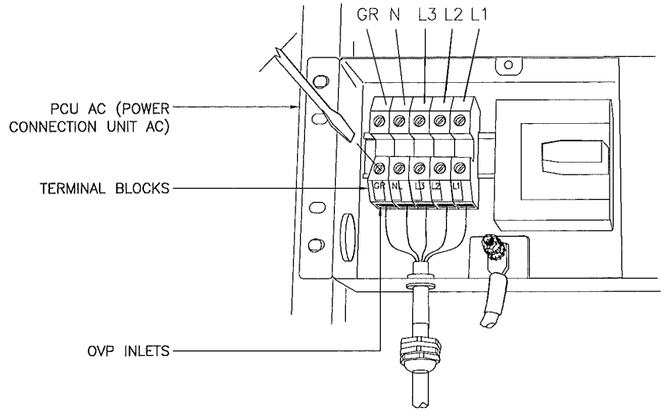
CG SHALL REFERENCE SECTION 10 "CONNECTING THE POWER SUPPLY" OF THE ERICSSON RBS 6102 INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



DC POWER CONNECTION AT RBS NTS 1

NOTE:

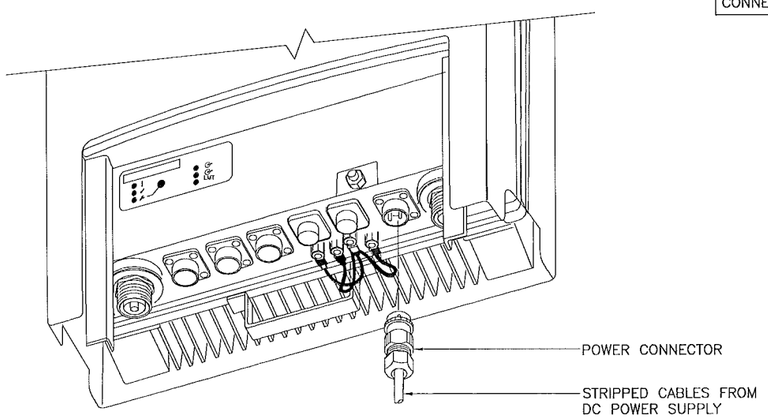
CG SHALL REFERENCE SECTION 10 "CONNECTING THE POWER SUPPLY" OF THE ERICSSON RBS 6102 INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



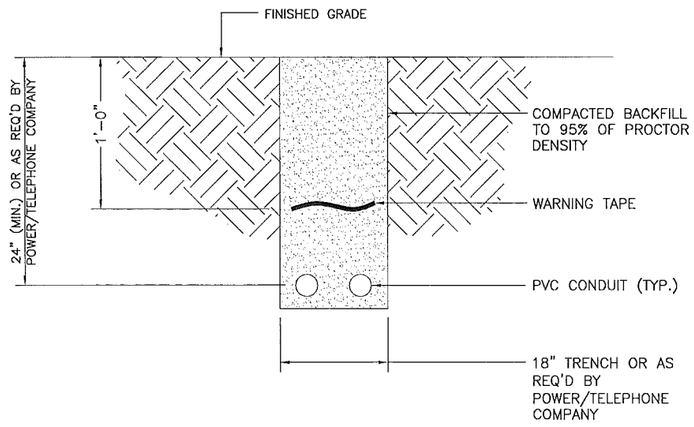
AC POWER CONNECTION AT RBS NTS 2

NOTE:

CG SHALL REFERENCE SECTION 8.4 "CONNECTING THE −48V DC POWER SUPPLY" OF THE ERICSSON RRUS INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



POWER CONNECTION AT RRU NTS 3



TRENCH DETAIL NTS 4

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.:	120-564.48
DRAWN BY: J. ACOSTA	CHECKED BY: M. ABBEY

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CERTIFICATE OF AUTHORIZATION 29214

Sprint
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OVERLAND PARK, KS 66251
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MICHAEL A. PHILLIPS LICENSE No. 68312 STATE OF FLORIDA PROFESSIONAL ENGINEER

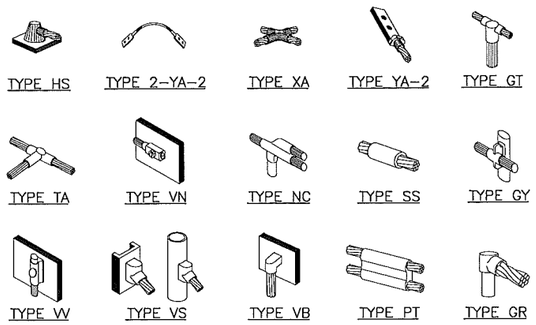
DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A

4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
ELECTRICAL DETAILS

SHEET NUMBER
E6



NOTE:

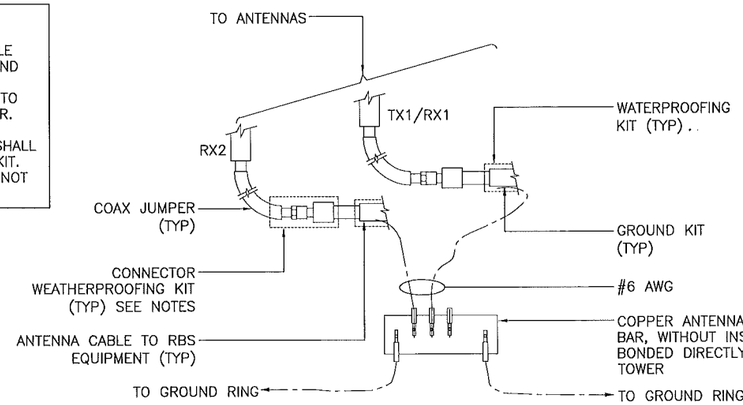
ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.

EXOTHERMIC WELD

NTS | 1

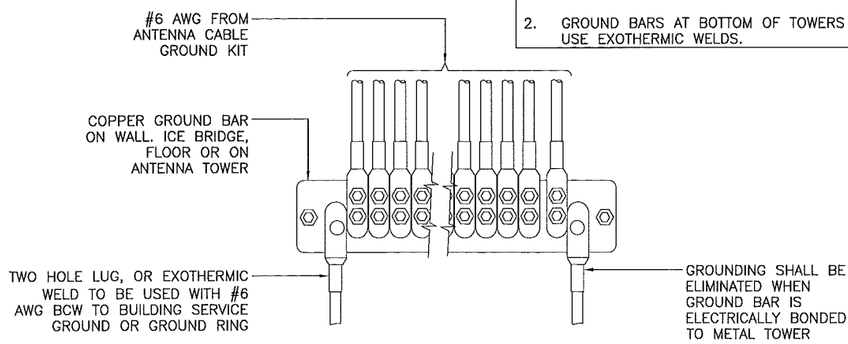
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.



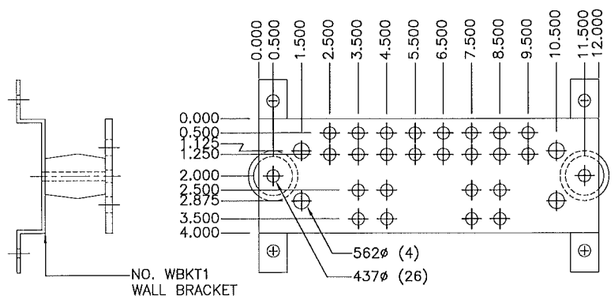
NOTES:

1. ANTENNA GROUNDING BARS NOT TO USE INSULATORS.
2. GROUND BARS AT BOTTOM OF TOWERS SHALL ONLY USE EXOTHERMIC WELDS.



GROUNDWIRE INSTALLATION

NTS | 2



MANUFACTURER: HARGER

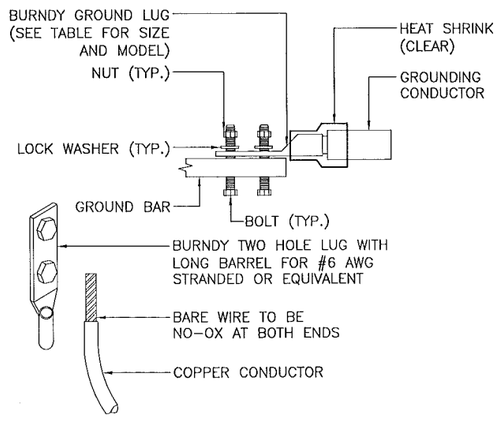
ANTENNA GROUNDING KIT

NTS | 3

WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT

NOTES:

1. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.
2. COPPER SHIELD, ANTIOX, CR NO-OX OR EQUIVALENT SHALL BE PLACE WHERE ALL DISSIMILAR METALS CONNECT.
3. ALL LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



MECHANICAL LUG CONNECTION

NTS | 5

12" GROUND BAR

NTS | 4

(NOT USED)

6

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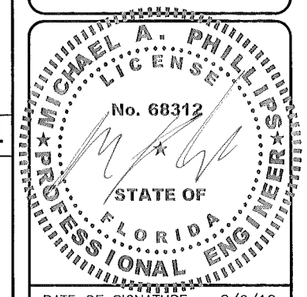

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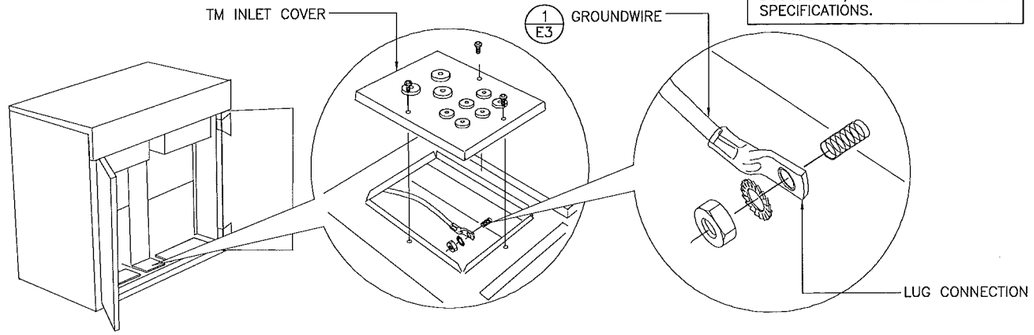
COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
E7

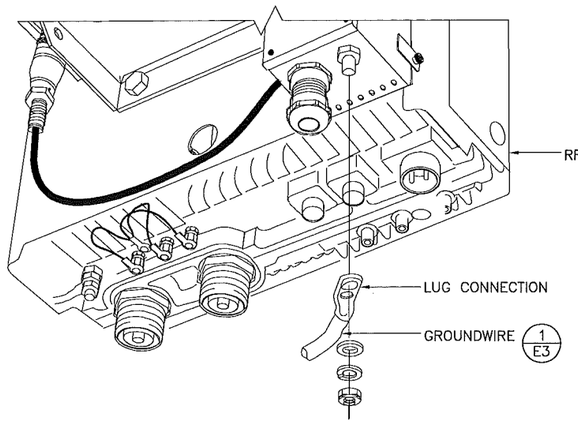


NOTE:

CG SHALL REFERENCE SECTION 8 "GROUNDING THE CABINET" OF THE ERICSSON RBS 6102 INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

GBF GROUNDING DETAIL

NTS | 1

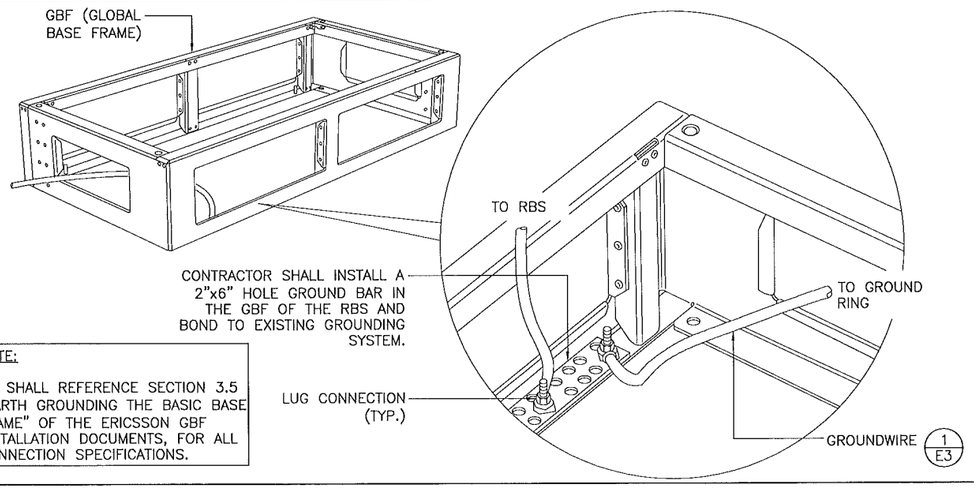


NOTE:

CG SHALL REFERENCE SECTION 8.3.2 "EARTH GROUNDING THE RRUS" OF THE ERICSSON RRUS INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

RRU GROUNDING DETAIL

NTS | 2



NOTE:

CG SHALL REFERENCE SECTION 3.5 "EARTH GROUNDING THE BASIC BASE FRAME" OF THE ERICSSON GBF INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

GBF GROUNDING DETAIL

NTS | 3

Ericsson MM-BTS RBS 6102		Alarm Contact	Severity	Owner	Comments	Color Code
BTS Scan Point 1	[1000] Utility Power Failure	NC	Major	Service Assurance	RBS/Right OVP1/A4	White/Blue
BTS Scan Point 2	[1200] Generator Failure	NC	Minor	Field Services	RBS/Right OVP1/A5	White/Orange
BTS Scan Point 3	[1201] Generator Running	NC	Minor	DRMS Only	RBS/Right OVP1/A6	White/Green
BTS Scan Point 4	[1202] Generator Low Fuel Threshold Reached	NC	Major	Field Services	RBS/Right OVP1/A7	White /Brown
BTS Scan Point 5	[9000] Tower Top Light Failure, NOTAM Required	NC	Major	Service Assurance	RBS/Right OVP1/A5	White/Slate
BTS Scan Point 6	[9100] Tower Side Light Failure, no NOTAM	NC	Minor	Service Assurance	RBS/Right OVP2/A2	Red/Blue
BTS Scan Point 7	[2008] 1900#1 DBU Fan Failure (cable supplied internal)	NC	Major	Field Services	RBS/Right OVP2/A3	White/Brown
BTS Scan Point 8	[2008] 1900#2 DBU Fan Failure (cable supplied internal)	NC	Major	Field Services	RBS/Right OVP2/A1	White/Brown
BTS Scan Point 9	[2008] 800 DBU Fan Failure (cable supplied internal)	NC	Major	Field Services	RBS/Left OVP1/A1	White/Brown
BTS Scan Point 10	User Defined from Standards Column A Only	NC			RBS/Right OVP1/A8	Red/Orange
BTS Scan Point 11	User Defined from Standards Column A Only	NC			RBS/Right OVP2/A4	Red/Green
BTS Scan Point 12	User Defined from Standards Column A Only	NC			RBS/Right OVP2/A5	Red/Brown
BTS Scan Point 13	User Defined from Standards Column A Only	NC			RBS/Right OVP2/A6	Red/Slate
BTS Scan Point 14	User Defined from Standards Column A Only	NC			RBS/Right OVP2/A7	Black/Blue
BTS Scan Point 15	Climate Alarm BBS 6102 (Cable supplied)	NC		Field Services	RBS/Right OVP1/A2	Red/Orange
BTS Scan Point 16	Open Door BBS 6102 (Cable supplied)	NC		Field Services	RBS/Right OVP1/A1	Black/Brown
* NC = Normally Closed (Closed contacts with no alarm condition)						
~~GNOC = Global Network Operations Center~~						

SNV - ALARM WIRE SCHEMATICS

4

(NOT USED)

5

(NOT USED)

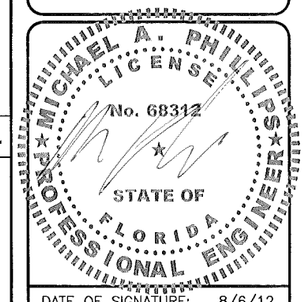
6

REV	DATE	DESCRIPTION
A	7/23/12	PRELIMINARY
0	8/6/12	FOR PERMIT

PROJECT NO.:	120-564.48
DRAWN BY: J. ACOSTA	CHECKED BY: M. ABBEY

CALTROP Telecom
3400 LAKESIDE DRIVE
SUITE 525
MIRAMAR, FL 33027
(954) 874-7870
CERTIFICATE OF AUTHORIZATION 29214

Sprint
6391 SPRINT PARKWAY
OVERLAND PARK, KS 66251
(913) 315-8081



DATE OF SIGNATURE: 8/6/12

COCONUT CREEK GOVERMENT CENTER
MI60XC004-A
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
E8