



# ELKHORN IDL04265 FA# 10130455



# at&t

## LTE BUILDING SIDE-MOUNT

### CONSTRUCTION DRAWING

IF USING 11"x17" PLOT,  
DRAWINGS WILL BE HALF SCALE

### ENGINEERING

2009 INTERNATIONAL BUILDING CODE  
2008 NATIONAL ELECTRIC CODE  
TIA/EIA-222-F OR LATEST EDITION

### GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE, NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

### PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT CABINETS FOR AT&T'S WIRELESS TELECOMMUNICATIONS NETWORK.

### SITE INFORMATION

PROPERTY OWNER: SUN VALLEY WATER & SEWER DIST  
ADDRESS: 100 SAGE CK RESERVOIR RD  
SUN VALLEY, ID 83353

TOWER OWNER: ELKHORN WT  
SITE NAME: IDL04265  
SITE NUMBER:

COUNTY: BLAINE

LATITUDE (NAD 83): 43° 40' 5" N  
LONGITUDE (NAD 83): 114° 18' 59.4" W

ZONING JURISDICTION: CITY OF SUN VALLEY  
ZONING DISTRICT:

PARCEL #:

POWER COMPANY: IDAHO POWER  
(801) 550-8541

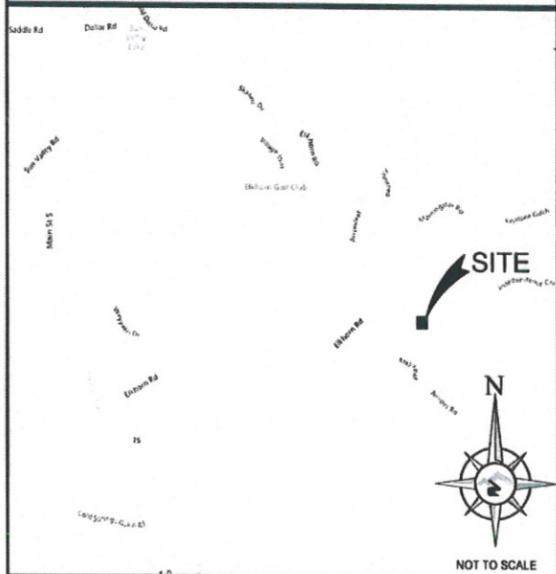
TELEPHONE COMPANY: CENTURY LINK  
(888) 678-8080

SITE ACQUISITION CONTACT: NADINE BOSTWICK  
(208) 938-8544

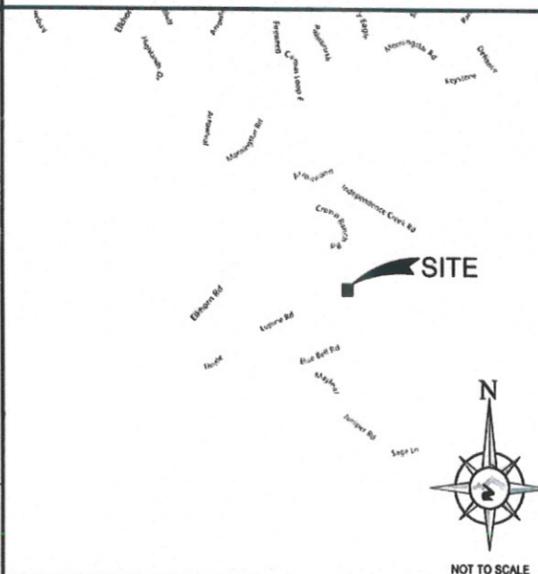
RF ENGINEER: SHAD RYDALCH  
(208) 317-0011

CONSTRUCTION MANAGER: ROCKY MATTISON  
(801) 201-0566

### VICINITY MAP



### LOCAL MAP



### DRIVING DIRECTIONS

#### DIRECTIONS TO SITE:

FROM THE AT&T OFFICE AT 94B N. HARRISON IN POCATELLO, GET ON I-15N TO EXIT 93 (BLACKFOOT/ARCO). GO WEST ON HWY US 20-26 TO ARCO. CONTINUE WEST TO CAREY. TURN RIGHT ON US 20 AND GO WEST 10.0 MILES TO RIGHT ON ID-23 (GANNETT RD.). CONTINUE NORTH TO INTERSECTION WITH ID-75 IN BELLEVUE. GO NORTH ON ID-75 15.9 MILES TO A RIGHT ON ELKHORN RD. GO APPROX 2 MILES TO A RIGHT TURN ON CROWN RANCH RD. NEAR THE END OF THE ROAD IS A LEFT TURN ONTO THE GRAVEL ACCESS ROAD. THE SITE IS NEAR THE TOP OF THE HILL.

### APPROVALS

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

AT&T WIRELESS COMPLIANCE REPRESENTATIVE: \_\_\_\_\_ DATE: \_\_\_\_\_

AT&T WIRELESS REPRESENTATIVE: \_\_\_\_\_ DATE: \_\_\_\_\_

AT&T WIRELESS RF ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

GENERAL DYNAMICS ACQUISITION: \_\_\_\_\_ DATE: \_\_\_\_\_

TAIC SITE ACQUISITION: \_\_\_\_\_ DATE: \_\_\_\_\_

PROPERTY OWNER: \_\_\_\_\_ DATE: \_\_\_\_\_

GENERAL DYNAMICS CONSTRUCTION MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY & CONFIDENTIAL. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO IS STRICTLY PROHIBITED.

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C-1.1	ENLARGED SITE PLAN
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### DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CALL AT LEAST TWO WORKING DAYS BEFORE YOU DIG



4393 RIVERBOAT ROAD, SUITE #400  
TAYLORSVILLE, UTAH 84123

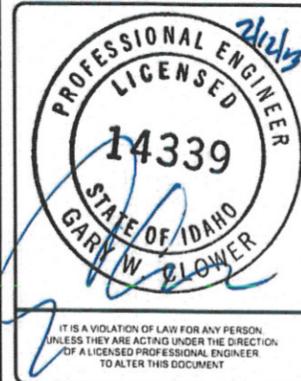
### GENERAL DYNAMICS Information Technology

960 W. LEVOY DRIVE, SUITE 250  
SALT LAKE CITY, UTAH 84123



POWDER RIVER  
Development Services  
100 E. SHENANGO STREET  
SHARPSVILLE, PA 16150  
724.962.5999  
www.powderriverdev.com

REV	DATE	DESCRIPTION	BY
0	02/12/2013	100% CONSTRUCTION	TLH



ELKHORN  
IDL04265  
100 SAGE CK. RESERVOIR RD.  
SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
T-1

PRDS PROJ. NO. 3865-010413

AT&T SAGE CREEK  
DR 2013-18

**GENERAL CONSTRUCTION NOTES**

- 1 FOR THE PURPOSE OF CONSTRUCTION DRAWINGS THE FOLLOWING DEFINITIONS SHALL APPLY  
GENERAL CONTRACTOR TBD  
SUBCONTRACTOR TBD
- 2 ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT PROJECT SPECIFICATIONS
- 3 GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF WORK
- 4 ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK
- 5 ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS
- 6 UNLESS OTHERWISE STATED, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS
- 7 PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO BE FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH WORK
- 8 THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE
- 9 IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE SPACE FOR APPROVAL BY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING
- 10 GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND LOCAL JURISDICTION
- 11 GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES
- 12 ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS
- 13 SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. SUB CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS
- 14 WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. SUB CONTRACTOR SHALL NOTIFY GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWING PRIOR TO THE BEGINNING CONSTRUCTION
- 15 SUBCONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO THE COMMENCEMENT OF WORK
- 16 THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTORS EXPENSE TO THE SATISFACTION OF THE OWNER
- 17 THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION
- 18 GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND SUBCONTRACTORS TO THE SITE AND/OR BUILDING
- 19 THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION
- 20 THE GENERAL CONTRACTOR SHALL MAINTAIN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISION, ADDENDA AND CHANGES ORDERS ON THE PREMISES AT ALL TIMES
- 21 THE GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A, 10-B, 1-C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION
- 22 ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT/ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW THIS SHALL INCLUDE BUT NOT BE LIMITED TO: A) ALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, D) TRENCHING & EXCAVATION
- 23 ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK. AS DIRECTED BY THE RESPONSIBLE ARCHITECT/ENGINEER AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES
- 24 THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OF DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION
- 25 SUB CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL
- 26 NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT
- 27 THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH GRADE AND COMPACTED TO 95 PERCENT STANCE PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL, PRE-APPROVED BY THE LOCAL JURISDICTION
- 28 ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER
- 29 ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT
- 30 SUBCONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDELINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT
- 31 SUBCONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION
- 32 THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED)
- 33 OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH BY AT&T TECHNICIANS
- 34 NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED

**GENERAL CONSTRUCTION NOTES (CONT)**

- 35 ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD. TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES. IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN
- 36 SUBCONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF SUBCONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY
- 37 SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS
- 38 INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION
- 39 NO WHITE STROBIC LIGHTS ARE PERMITTED LIGHTING IF REQUIRE WILL MEET FAA STANDARDS AND REQUIREMENTS
- 40 ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS
- 41 NO NOISE, SMOKE, DUST, OR VIBRATION WILL RESULT FROM THIS FACILITY (DISREGARD THIS NOTE IF THIS SITE HAS A GENERATOR)
- 42 NO ADDITIONAL PARKING TO BE PROPOSED. EXISTING ACCESS AND PARKING TO REMAIN UNLESS NOTED OTHERWISE
- 43 NO LANDSCAPING IS PROPOSED AT THIS SITE UNLESS NOTED OTHERWISE

**SITE WORK & DRAINAGE**

**PART 1 - GENERAL**

- CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS
- 1.1 REFERENCES
    - A DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-CURRENT EDITION)
    - B ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
    - C OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION)
  - 1.2 INSPECTION AND TESTING
    - A FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS SHALL BE PERFORMED BY SUBCONTRACTORS INDEPENDENT TESTING LAB. THIS WORK TO BE COORDINATE BY THE SUBCONTRACTOR
    - B ALL WORK SHALL BE INSPECTED AND RELEASED BY THE GENERAL CONTRACTOR WHO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE SUBCONTRACTOR RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS WORK INACCESSIBLE OR DIFFICULT TO INSPECT
  - 1.3 SITE MAINTENANCE AND PROTECTION
    - A PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OR WORK UNTIL COMPLETION OF THE SUBCONTRACT
    - B AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SCRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK
    - C KEEP SITE FREE OF ALL PONDING WATER
    - D PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT AND EPA REQUIREMENTS
    - E PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST TRAFFIC FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK
    - F EXISTING UTILITIES DO NOT INTERRUPT EXISTING SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE ENGINEER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED
    - G PROVIDE A MINIMUM 48-HOUR NOTICE TO THE ENGINEER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE

**PART 2 - PRODUCTS**

- 2.1 SUITABLE BACKFILL ASTM D2321 (CLASS I, II, III OR IV) FREE FROM FROZEN LUMPS, REFUSE, STONES, OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL
- 2.2 NON-POROUS GRANULAR EMBANKMENT AND BACKFILL ASTM D3321 (CLASS IA, IB OR IC) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL
- 2.3 POROUS GRANULAR EMBANKMENT AND BACKFILL ASTM 52321 (CLASS IA, IB OR IC) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL
- 2.4 SELECT STRUCTURAL FILL GRANULAR FILL MATERIAL MEETING THE REQUIREMENTS OF ASTM E850-95 FOR USE AROUND UNDER STRUCTURES WHERE STRUCTURAL FILL MATERIAL ARE REQUIRED
- 2.5 GRANULAR BEDDING AND TRENCH BACKFILL WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2467 (SE OR SW-5M)
- 2.6 COARSE AGGREGATE FOR ACCESS ROAD SUBBASE COURSE SHALL CONFORM ASTM D2940
- 2.7 UNSUITABLE MATERIAL HIGH AND MODERATELY PLASTIC SILTS AND CLAYS (LL+45) MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION AND SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML AND DL
- 2.8 GEOTEXTILE FABRIC MIRAFI 500X OR APPROVED EQUAL
- 2.9 PLASTIC MARKING TAPE SHALL BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING THE LOCATION UNDERGROUND UTILITIES 6 INCHES WIDE WITH A MINIMUM THICKNESS OF 0.004 INCHES. TAPE SHALL HAVE A MINIMUM STRENGTH OF 1500 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL CONDUCTORS. FOL BACKING OR OTHER MEANS TO PROTECT IT FROM CORROSION. TAPE COLOR SHALL BE RED FOR ELECTRIC UTILITIES AND ORANGE FOR TELECOMMUNICATION UTILITIES

**PART 2 - EXECUTION**

**3.1 GENERAL**

- A BEFORE START GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ANY TIME
- B BEFORE ALL SURVEY LAYOUT, STAKING, AND MARKING ESTABLISH AND MAINTAIN ALL LINE GRADES, ELEVATIONS AND BENCHMARKS NEED FOR EXECUTION OF THE WORK

**PART 2 - EXECUTION (CONT)**

- C CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED
- 1 REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE. ROOTS, STUMPS, AND OTHER DEBRIS BRUSH AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE. RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OR 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED
- 2 REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS
- 3 EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, TILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL
- A REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS BURNING WILL NOT BE PERMITTED
- B PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, OR OTHER ITEM THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS
- C SEPARATE AND STOCK PILE ALL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER
- 3.2 BACKFILL
  - A AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE
  - 1 PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS AND UNSUITABLE MATERIALS
  - 2 BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED. WHEN REQUIRED, HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACTED. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED
  - 3 WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS
  - B THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698
- 3.3 TRENCH EXCAVATION
  - A UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS
  - B EXTEND THE TRENCH WIDTH A MINIMUM OF 7 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT
  - C WHEN SORE YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED BACKFILL AT THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL
- 3.4 TRENCH BACKFILL
  - A PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWING AND THE UTILITY REQUIREMENTS
  - B NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING
  - C CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING
  - D PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TRAMP BACKFILL INTO SPACE AROUND CONDUITS
  - E PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE OR UNBALANCED LOADING
  - F ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8 INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE
  - G COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698
- 3.5 AGGREGATE ACCESS ROAD
  - A CLEAR GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL. ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS SHALL BE CORRECTED
  - B THE ENTIRE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 1557
  - C AFTER PREPARATION OF THE SUBGRADE IS COMPLETE THE GEOTEXTILE FABRIC (MIRAFI 500X) SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG THE ROADWAY. THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUBGRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION. ROLLING OUT AS SMOOTHLY AS POSSIBLE
  - 1 OVERLAPS PARALLEL TO THE ROADWAY WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY SURFACE WIDTH (E WITHIN THE SHOULDER WIDTH) ONLY. NO LONGITUDINAL OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER. PARALLEL OVERLAPS SHALL BE A MINIMUM OF 3 FEET WIDE
  - 2 TRANSVERSE (PERPENDICULAR TO THE ROADWAY) OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL ON TOP) AND SHALL HAVE A MINIMUM LENGTH OF 3 FEET
  - 3 ALL OVERLAPS SHALL BE PINNED WITH STAPLES OF NAILS A MINIMUM 0.10 INCHES LONG TO INSURE POSITIONING DURING PLACEMENT OF AGGREGATE. PIN LONGITUDINAL SEAMS AT 25 FOOT CENTERS AND TRANSVERSE SEAMS EVERY 5 FEET
  - D THE AGGREGATE BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS NOT GEOTEXTILE FABRIC SHALL BE END-DUMPED ON THE FABRIC FROM THE FREE END OF THE FABRIC OR OVER PREVIOUSLY PLACED AGGREGATE. THE FIRST LIFT SHALL BE BLADED DOWN TO A THICKNESS OF 6 INCHES PRIOR TO COMPACTION. AT NO TIME SHALL EQUIPMENT EITHER TRANSPORTING THE AGGREGATE OR GRADING THE AGGREGATE BE PERMITTED ON THE ROADWAY WITH LESS THAN 4 INCHES OF MATERIAL COVERING THE FABRIC
  - E THE AGGREGATE SHALL BE IMMEDIATELY COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE PROCTOR TEST, ASTM D 1557 WITH A TAMPER ROLLER, OR WITH A PNEUMATIC-TIRED ROLLER, OR WITH A VIBRATORY MACHINE OR ANY COMBINATION OF THE ABOVE. THE TOP LAYER SHALL BE GIVEN A FINAL ROLLING WITH A THREE-WHEEL OR TANDEM ROLLER

**3.6 FINISH GRADING**

- A PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES
- B UTILIZE SATISFACTORY FILL MATERIAL, RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILL EMBANKMENTS AND FOR REPLACEMENTS OF REMOVED UNSUITABLE MATERIALS
- C ACHIEVE FINISHED GRADE BY PLACING A MINIMUM OF 4 INCHES OF 1/2"-3/4" CRUSHED STONE ON TOP SOIL STABILIZER FABRIC
- D REPAIR ALL ACCESS ROADS AND SURROUND AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION
- 3.7 ASPHALT PAVING ROAD
  - A DIVISION 600-KOOT FLEXIBLE PAVEMENT (UPDATE PER LOCAL DOT)
  - B SECTION 403-MODOT ASPHALT CONCRETE PAVEMENT



**4393 RIVERBOAT ROAD, SUITE #400  
TAYLORSVILLE, UTAH 84123**

**GENERAL DYNAMICS**  
Information Technology

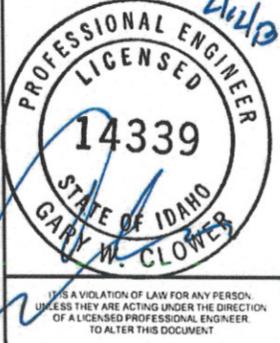
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REV	DATE	DESCRIPTION	BY
0	02/12/2013	100% CONSTRUCTION	TLH



THIS IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

**ELKHORN**  
IDL04265  
100 SAGE CK. RESERVOIR RD.  
SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
**GENERAL NOTES**

SHEET NUMBER  
**T-2**

**ELECTRICAL NOTES:**

**PART 1 - GENERAL**

- A CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE SUBCONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION. NOT AFTER THE CONTRACT HAS BEEN AWARDED.
  - B THE SUBCONTRACTOR SHALL OBTAIN PERMITS, LICENSES, MAKE ALL DEPOSITS, AND PAY ALL FEES REQUIRED FOR THE CONSTRUCTION PERFORMANCE FOR THE WORK UNDER THIS SECTION.
  - C DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. THE SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWINGS SHALL NOT BE SCALED TO DETERMINED DIMENSIONS.
- 1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES
- A ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES. CONDUIT BENDS SHALL BE THE RADIUS BEND FOR THE TRADE SIZE OF CONDUIT IN COMPLIANCE WITH THE LATEST EDITIONS OF NEC.
- 1.3 REFERENCES
- A THE PUBLICATIONS LISTED BELOW ARE PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THIS SPECIFICATION IS ISSUED FOR THE CONSTRUCTION UNLESS OTHERWISE NOTED. EXCEPT AS MODIFIED BY THE REQUIREMENT SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.
- 1 ANSII/IEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
  - 2 ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
  - 3 ICE (INSULATED CABLE ENGINEERS ASSOCIATION)
  - 4 NEMA (NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION)
  - 5 NEPA (NATIONAL ENVIRONMENTAL PROTECTION ASSOCIATION)
  - 6 NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
  - 7 OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
  - 8 UL (UNDERWRITERS LABORATORIES, INC.)
  - 9 AT&T MOBILITY GROUNDING STANDARD NO.0071

1.4 SCOPE OF WORK

- A WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL, AND ASSOCIATED SERVICES REQUIRED TO COMPLETE REQUIRED CONSTRUCTION AND BE OPERATIONAL.
- B ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED, AND ALIGNED BY THE SUBCONTRACTOR.
- C THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL OF EXCESS DIRT.
- D THE SUBCONTRACTOR SHALL FURNISH TO THE OWNER WITH CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.
- E THE SUBCONTRACTOR SHALL PREPARE A COMPLETE SET OF AS-BUILT DRAWINGS, DOCUMENT ALL WIRING EQUIPMENT CONDITIONS, AND CHANGES WHILE COMPLETING THIS CONTRACT. THE AS-BUILT DRAWINGS SHALL BE SUBMITTED AT THE COMPLETION OF THE PROJECT.

**PART 2 - PRODUCTS**

2.1 GENERAL

- A ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED, NEW AND FREE FROM DEFECTS.
- B ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.
- C ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OR APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- D ALL OVER CURRENT DEVICES HAVE AN INTERRUPTING CURRENT RATING EQUAL TO OR GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED. 10000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT.

2.2 MATERIALS AND EQUIPMENT

A CONDUIT

- 1 RIGID METAL CONDUIT (RMC) SHALL BE HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED IN ADDITION TO GALVANIZING.
  - 2 LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED.
  - 3 CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON. ALL FITTINGS SHALL BE COMPRESSION AND CONCRETE TIGHT TYPE. GROUNDING BUSHINGS WITH INSULATED THROATS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.
  - 4 NONMETALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC. INSTALL USING SOLVENT-CEMENT-TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.
- B CONDUCTORS AND CABLE
- 1 CONDUCTORS AND CABLE SHALL BE FLAME-RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC SINGLE CONDUCTOR, COPPER, TYPE THINWALL, 2, 600VOLT, SIZE AS INDICATED. 12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR USED.
  - 2 10 AWG AND SMALLER CONDUCTOR SHALL BE SOLID OR STRANDED AND 6 AWG AND LARGER CONDUCTOR SHALL BE STRANDED.
  - 3 SOLDERLESS, COMPRESSION-TYPE CONNECTORS SHALL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTORS.
  - 4 STRAIN RELIEF SUPPORTS GRIPS SHALL BE HUBBELL KELLEMS OR APPROVED EQUAL. CABLES SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC AND CABLE MANUFACTURERS RECOMMENDATIONS.
  - 5 ALL CONDUCTORS SHALL BE TAGGED AT BOTH ENDS OF THE CONDUCTOR, AT ALL PULL BOXES, J BOXES, EQUIPMENT AND CABINETS AND SHALL BE IDENTIFIED WITH APPROVED PLASTIC TAGS (ACTION CRAFT, BRADY OR APPROVED EQUAL).

C DISCONNECT SWITCHES

- 1 DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD-FRONT, QUICK-MAKE, QUICK-BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCK WITH COVER IN CLOSED POSITION RATING AS INDICATED. UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE D OR APPROVED EQUAL.

D CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

- 1 INSTALL CHEMICAL GROUND AS REQUIRED. THE SYSTEM SHALL BE ELECTROLYTIC, MAINTENANCE FREE, ELECTRODE CONSISTING OF RODS WITH A MINIMUM OF 2 AWG CU, EXOTHERMICALLY WELDED PIGTAIL, PROTECTIVE BOXES, AND BACKFILL MATERIAL. MANUFACTURER SHALL BE LYNCOLE XT GROUND ROD TYPE K2 (1) CS OR K2L (1) CS (1) LENGTH AS REQUIRED.

2.2 MATERIALS AND EQUIPMENT (CONT)

- 2 GROUND ACCESS BOX SHALL BE A POLY-PLASTIC BOX FOR NON-TRAFFIC APPLICATIONS INCLUDING BOLT DOWN FLUSH COVER WITH 'BREATHER' HOLES, KIT MODEL #XB-22. ALL DISCONNECT SWITCHES AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMINOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS ID NUMBERING, AND THE ELECTRICAL POWER SOURCE.
  - 3 BACKFILL MATERIAL SHALL BE LYNCONITE AND LYNCOLE GROUNDING GRAVEL.
- E SYSTEM GROUNDING
- 1 ALL GROUNDING COMPONENTS SHALL BE TINNED AND GROUNDING CONDUCTOR SHALL BE 2 AWG BARE, SOLID, TINNED, COPPER, ABOVE GRADE GROUNDING CONDUCTORS SHALL BE INSULATED WHERE NOTED.
  - 2 GROUNDING BUSES SHALL BE BARE, TINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION. STANDARD BUS BARS MGB, SHALL BE FURNISHED AND INSTALLED BY THE SUBCONTRACTOR. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD. ALL GROUNDING BUSES SHALL BE IDENTIFIED WITH MINIMUM 3/4" LETTERS BY WAY OF STENCILING OR DESIGNATION PLATE.
  - 3 CONNECTORS SHALL BE HIGH-CONDUCTIVITY HEAVY DUTY, LISTED AND LABELED AS GROUNDED CONNECTORS FOR THE MATERIALS USED. USE TWO-HOLD COMPRESSION LUGS WITH HEAT SHRINK FOR MECHANICAL CONNECTIONS.
  - 4 EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.
  - 5 GROUND RODS SHALL BE COPPER-CLAD STEEL WITH HIGH-STRENGTH STEEL CORE AND ELECTROLYTIC-GRADE COPPER OUTER SHEATH, MOLTEN WELDED TO CORE. 5/8"x10'-0" ALL GROUNDING RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES.
  - 6 INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS IN COMPLIANCE WITH THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, DISCONNECT SWITCHES, STARTERS AND EQUIPMENT CABINETS.

F OTHER MATERIALS

- 1 THE SUBCONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.
- 2 PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.

G PANELS AND LOAD CENTERS

- 1 ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

**PART 3 - EXECUTION**

3.1 GENERAL

- A ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  - B EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.
- 3.2 LABOR AND WORKMANSHIP
- A ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE INSTALLED BY EXPERIENCED WIREMEN, IN A NEAT AND WORKMAN-LIKE MANNER.
  - B ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE SUBCONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.
  - C UPON COMPLETION OF WORK, THE SUBCONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.

3.3 COORDINATION

- A THE SUBCONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER-FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.

3.4 INSTALLATION

A CONDUIT

- 1 ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH TRADE SIZE.
- 2 PROVIDE RIGID PVC SCHEDULE 80 CONDUITS FOR ALL RISERS. RMC OTHERWISE NOTED. EMT MAY BE INSTALLED FOR EXTERIOR CONDUITS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
- 3 THE INSTALLATION OF SCHEDULE 40 PVC AND RMC CONDUITS SHALL BE 24 INCHES MINIMUM DEPTH. ALL 90 DEGREE BENDS SHALL BE RMC EXPANSION JOINTS ARE REQUIRED ON ALL CONDUIT RISERS.
- 4 USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION TO EQUIPMENT WITH MOVEMENT, VIBRATION, OR FOR EASE OF MAINTENANCE. USE LIQUID TIGHT, FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS. INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORT TO ALLOW FOR EXPANSION AND CONTRACTION.
- 5 A RUN OF CONDUIT BETWEEN BOXES OR EQUIPMENT SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE QUARTER-BENDS. CONDUIT BEND SHALL BE MADE WITH THE UL LISTED BENDER OR FACTOR 90 DEGREE ELBOWS MAY BE USED.
- 6 FIELD FABRICATED CONDUITS SHALL BE CUT SQUARE WITH A CONDUIT CUTTING TOOL AND REAMED TO PROVIDE A SMOOTH INSIDE SURFACE.
- 7 PROVIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS.
- 8 SUBCONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION. TEMPORARY OPENING IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER. SUBCONTRACTOR SHALL REPLACE ANY CONDUITS CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.
- 9 ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF CONDUCTORS OR CABLES. CONDUIT SHALL BE FREE OF DIRT AND DEBRIS.
- 10 INSTALL PULL STRINGS IN ALL CLEAN EMPTY CONDUITS. IDENTIFY PULL STRINGS AT EACH END.
- 11 INSTALL 2" HIGHLY VISIBLE AND DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUITS AND CONDUCTORS.
- 12 CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.
- 13 PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS TO ALLOW FOR RACEWAYS AND CABLES TO BE ROUTED THROUGH THE BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS, SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE EFFECTIVELY SEALED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATINGS OF THE WALL OR STRUCTURE. FIRE STOPS AT FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE, AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

B CONDUCTORS AND CABLE

- 1 ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:
 

DESCRIPTION	208/240/120 VOLT SYSTEMS
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUNDING	GREEN
- 2 SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDUITS APPROVED FOR THIS PURPOSE.
- 3 PULLING LUBRICANTS SHALL BE UL APPROVED. SHALL USE NYLON OR HEMP ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE CONDUIT.
- 4 CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES & EQUIPMENT TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OF TERMINALS. CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS ARE PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE SUBCONTRACTORS EXPENSE.

C DISCONNECT SWITCHES

- 1 INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB. CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEM AS INDICATED.

D GROUNDING

- 1 ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, AT&T MOBILITY GROUNDING STANDARD NO.0071, NO.00135, AND THE NATIONAL ELECTRICAL CODE.
- 2 PROVIDE ELECTRIC GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
- 3 ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHARPLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.
- 4 BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE SUBCONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM. THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 20 AWG COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM. THE BUILDING STEEL COLUMNS LIGHTNING PROTECTION SYSTEM AND BUILDING MAIN WATERLINE (FERROUS OR NONFERROUS METAL PIPING ONLY).
- 5 TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS, BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS, WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
- 6 SUBCONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN POINTS TO THE EXISTING GROUNDING SYSTEM. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 7 ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.
- 8 APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED. USED COPPER-SHIELD ANTI-OXIDATION COMPOUND ON ALL COMPRESSION GROUNDING CONNECTIONS.
- 9 A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.
- 10 BOND ALL INSULATED GROUNDING BUSHING WITH A BARE 6 AWG GROUNDING CONDUCTOR TO A GROUND BAR.
- 11 DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE. USE GREATER OF THE TWO DISTANCES.
- 12 ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.
- 13 THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHING HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
- 14 DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.
- 15 IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT FROM THE GROUNDING BAR AT THE BASE OF THE TOWER, A SECOND GROUNDING BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE. TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LIN ARRESTERS.
- 16 SUB CONTRACTORS SHALL REPAIR AND/OR REPLACE EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE SUBCONTRACTORS EXPENSE.

3.5 ACCEPTANCE TESTING

- A CERTIFIED PERSONNEL USING CERTIFIED EQUIPMENT SHALL PERFORM REQUIRED TESTS AND SUBMIT WRITTEN TEST REPORTS UPON COMPLETION.
- B WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NON-COMPLYING ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED WITH ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE FOR NON-COMPLIANCE.
- C TEST PROCEDURES
  - 1 ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION, BEFORE CONNECTION TO DEVICES. THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS. TESTING SHALL BE FOR ONE MINUTE USING 1000V DC. PROVIDE WRITTEN DOCUMENTATION FOR ALL TEST LISTED TO SUBCONTRACTOR.
  - 2 PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.
  - 3 MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE CONDUCTORS AND NEUTRALS. SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES.
  - 4 PERFORM GROUNDING TEST TO MEASURE GROUNDING RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD 3-POINT FALL-OF-POTENTIAL METHOD. PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH. NOTIFY THE ENGINEER IMMEDIATELY IF MEASURE VALUE IS OVER 5 OHMS.



4393 RIVERBOAT ROAD, SUITE #400  
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**GENERAL DYNAMICS**  
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REV	DATE	DESCRIPTION	BY
0	02/12/2013	100% CONSTRUCTION	TLH

PROFESSIONAL ENGINEER  
LICENSED  
14339  
STATE OF IDAHO  
GARY W. CLOWER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**ELKHORN**  
IDL04265  
100 SAGE CK. RESERVOIR RD.  
SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
**GENERAL NOTES**

SHEET NUMBER  
**T-3**

**GENERAL NOTES:**

- THIS FACILITY IS EXEMPT FROM HANDICAP REQUIREMENTS PER 2010 CBC SECTION 1105B 3.4 EXCEPTION #1 THIS FACILITY IS NON-OCCUPIABLE SPACE AND ENTERED ONLY BY SERVICE PERSONNEL THIS SPACE IS NOT FOR HUMAN OCCUPANCY
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO SUBMITTING BIDS, AND PROCEEDING WITH ANY WORK
- THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES AS THEY MAY BE DISCOVERED IN THE PLANS SPECIFICATIONS, & NOTES PRIOR TO STARTING CONSTRUCTION INCLUDING BUT NOT LIMITED BY DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ERRORS, OMISSIONS OR INCONSISTENCY AFTER THE START OF CONSTRUCTION WHICH HAS NOT BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AND SHALL INCUR ANY EXPENSES TO RECTIFY THE SITUATION. THE METHOD OF CORRECTION SHALL BE APPROVED BY THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR HAS THE RESPONSIBILITY TO LOCATE ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR OR SUBCONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGE TO THE UTILITIES CAUSED DURING THE EXECUTION OF THE WORK. CONTACT USA DIG ALERT @ 800-227-2600
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW OR EXISTING SURFACES, STRUCTURES OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE PROPERTY OWNER. THE CONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGED AREAS
- A COPY OF THE APPROVED PLANS SHALL BE KEPT IN PLACE SPECIFIED BY THE GOVERNING AGENCY, AND BY LAW SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL CONSTRUCTION SETS REFLECT THE SAME INFORMATION AS THE APPROVED PLANS. THE CONTRACTOR SHALL ALSO MAINTAIN ONE SET OF PLANS AT THE SITE FOR THE PURPOSE OF DOCUMENTING ALL AS-BUILT CHANGES, REVISIONS, ADDENDA, OR CHANGE ORDERS. THE CONTRACTOR SHALL FORWARD THE AS-BUILT/THIRD DRAWINGS TO THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT AT THE CONCLUSION OF THE PROJECT
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE WORK IS IN PROGRESS UNTIL THE JOB IS COMPLETE
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY POWER, WATER, AND TOILET FACILITIES AS REQUIRED BY THE PROPERTY OWNER OR GOVERNING AGENCY
- ALL CONSTRUCTION THROUGH THE PROJECT SHALL CONFORM TO THE LATEST C.B.C. AND ALL OTHER GOVERNING CODES, INCLUDING THE CALIFORNIA ADMINISTRATIVE CODES TITLE 8, 19, AND 24. THE MOST RESTRICTIVE CODE SHALL GOVERN
- THE CONTRACTOR AND SUB CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REGULATIONS INCLUDING ALL OSHA REQUIREMENTS
- WHEN REQUIRED STORAGE OF MATERIALS OCCURS, THEY SHALL BE EVENLY DISTRIBUTED OVER THE FLOOR OR ROOF SO AS NOT TO EXCEED THE DESIGNED LIVE LOADS FOR THE STRUCTURE. TEMPORARY SHORING OR BRACING SHALL BE PROVIDED WHERE THE STRUCTURE OR SOIL HAS NOT ATTAINED THE DESIGN STRENGTH FOR THE CONDITIONS PRESENT
- THE CONTRACTOR SHALL SUPERVISE AND COORDINATE ALL WORK, USING HIS PROFESSIONAL KNOWLEDGE AND SKILLS. HE IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCING AND COORDINATING ALL PORTIONS OF THE WORK UNDER THE PROJECT
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS WITH RESPECT TO THE WORK TO COMPLETE THE PROJECT. BUILDING PERMIT APPLICATIONS SHALL BE FILED BY THE OWNER OR AUTHORIZED AGENT. CONTRACTOR SHALL OBTAIN THE PERMIT AND MAKE FINAL PAYMENT OF SAID DOCUMENT
- ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE. DRAWINGS ARE NOT TO BE SCALED UNDER ANY CIRCUMSTANCES
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BRACING, FRAMING, HANGERS OR SUPPORTS FOR THE INSTALLATION OF ITEMS INDICATED ON THE DRAWINGS
- THE CONTRACTOR SHALL PROVIDE THE FIRE MARSHAL OR UL APPROVED MATERIALS TO FILL/SEAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES
- NEW CONSTRUCTION ADDED TO EXISTING CONSTRUCTION SHALL BE MATCHED IN FORM, TEXTURE, MATERIAL, AND PAINT COLOR EXCEPT AS NOTED IN THE PLANS
- THE CONTRACTOR IS TO PROVIDE PORTABLE FIRE EXTINGUISHERS HAVING A MINIMUM 20 10 B C RATING WITHIN 75' OF TRAVEL TO ALL PORTIONS OF THE CONSTRUCTION AREA (2010 CC SECTION 906.1-1 & 7 AND SECTION 906.3.1)
- MATERIALS TESTING SHALL BE TO THE LATEST STANDARDS AVAILABLE AS REQUIRED BY THE LOCAL GOVERNING AGENCY RESPONSIBLE FOR APPROVING THE RESULTS
- ALL GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENTS TO BE USED IN CONDITIONS WHICH ARE NOT SPECIFICALLY SHOWN OTHERWISE
- ALL DEBRIS AND REFUSE IS TO BE REMOVED FROM THE PROJECT. PREMISES SHALL BE LEFT IN A CLEAN BROOM FINISHED CONDITION AT ALL TIMES
- BUILDING INSPECTORS AND/OR OTHER BUILDING OFFICIALS ARE TO BE NOTIFIED PRIOR TO ANY GRADING AND CONSTRUCTION EFFORT AS MANDATED BY THE GOVERNING AGENCY
- ALL SYMBOLS AND ABBREVIATIONS ARE CONSIDERED CONSTRUCTION INDUSTRY STANDARDS. IF A CONTRACTOR HAS A QUESTION REGARDING THEIR EXACT MEANING THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT SHALL BE NOTIFIED FOR CLARIFICATIONS

**GENERAL FIRE NOTES**

- BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE IN ACCORDANCE WITH 2010 CFC SECTION 1401 AND ALL GOVERNING CODES
- ADDRESS SHALL BE PROVIDED FOR ALL NEW AND EXISTING BUILDINGS IN A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY (2010 CFC SECTION 505.1)
- DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME RETARDANT CONDITION (2010 CFC SECTION 807.1.2)
- PORTABLE FIRE EXTINGUISHERS AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2-A-10B-C SHALL BE PROVIDED WITHIN 75 FEET MAXIMUM TRAVEL DISTANCE FOR EACH 6000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR (2010 CFC SECTION 906.1.1 & 7 AND SECTION 906.3.1)

**ABBREVIATIONS**

ABBREVIATION	DEFINITION
A.B	ANCHOR BOLT
ABV	ABOVE
ACCA	ANTENNA CABLE COVER ASSEMBLY
ADDL	ADDITIONAL
A.F.F	ABOVE FINISHED FLOOR
A.F.G	ABOVE FINISHED GRADE
ALUM	ALUMINUM
ALT.	ALTERNATE
ANT.	ANTENNA
APRX	APPROXIMATE(LY)
ARCH	ARCHITECTURAL
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
B.N	BOUNDARY NAILING
BRCW	BARE TINNED COPPER WIRE
B OF	BOTTOM OF FOOTING
BU	BACK-UP CABINET
CAB	CABINET
CANT	CANTILEVER(ED)
C.I.P.	CAST IN PLACE
CLO.	CEILING
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION(OR)
CONST.	CONSTRUCTION
CONT	CONTINUOUS
d	PENNY (NAILS)
DBL	DOUBLE
DEPT	DEPARTMENT
D.F	DOUGLAS FIR
DA	DIAMETER
DAG	DIAGONAL
DIA	DIMENSION
DWG	DRAWING(S)
DWL	DOWEL(S)
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
EN	EDGE NAIL
ENG	ENGINEER
EQ	EQUAL
EXP.	EXPANSION
EXST (E)	EXISTING
EXT	EXTERIOR

**ABBREVIATIONS**

ABBREVIATION	DEFINITION
FAB	FABRICATION(OR)
F.F	FINISH FLOOR
F.G	FINISH GRADE
FN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
F.O.C	FACE OF CONCRETE
F.O.M	FACE OF MASONRY
F.O.S	FACE OF STUD
F.O.W	FACE OF WALL
F.S	FINISH SURFACE
FT (F)	FOOT (FEET)
FTG	FOOTING
G	GROWTH (CABINET)
GAUGE	GAUGE
GI	GALVANIZED(D)
G.F.I	GROUND FAULT CIRCUIT INTERRUPTER
GLB (GLU-LAM)	GLUE LAMINATED BEAM
GPS	GLOBAL POSITIONING SYSTEM
GRND	GROUND
HDR	HEADER
HGR	HANGER
HT	HEIGHT
ICGB	ISOLATED COPPER GROUND BUS INCH(ES)
INT	INTERIOR
LB (#)	LAG BOLTS
L.B	LAG BOLTS
L.F	LINEAR FEET (FOOT)
L	LONG(TUDINAL)
MAS	MASONRY
MAX	MAXIMUM
M.B	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
(N)	NEW
NO (N)	NUMBER
N.T.S	NOT TO SCALE
O.C.	ON CENTER
OPNG	OPENING
PC	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
P.L.V	PLYWOOD
P.P.C	POWER PROTECTION CABINET
P.R.C	PRIMARY RADIO CABINET
P.S.F	POUNDS PER SQUARE FOOT
P.S.I	POUNDS PER SQUARE INCH
P.T	PRESSURE TREATED

**ABBREVIATIONS**

ABBREVIATION	DEFINITION
PWR	POWER (CABINET)
QTY.	QUANTITY
RAD (R)	RADIUS
REF.	REFERENCE
REINP	REINFORCEMENT(ING)
REQD	REQUIRED
RGS	RIGID GALVANIZED STEEL
RRIU	RADIO REMOTE UNIT
SCH	SCHEDULE
SHT	SHEET
SM	SIMILAR
SPEC	SPECIFICATION(S)
SO	SQUARE
S.S	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUC	STRUCTURAL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
T.N	TOE NAIL
T.O.A	TOP OF ANTENNA
T.O.C	TOP OF CURB
T.O.F	TOP OF FOUNDATION
T.O.P	TOP OF PLATE (PARAPET)
T.O.S	TOP OF STEEL
T.O.W	TOP OF WALL
TRP	TYPICAL
U.G	UNDER GROUND
U.L	UNDERWRITERS LABORATORY
U.N.D	UNLESS NOTED OTHERWISE
V.I.F	VERIFY IN FIELD
W	WIDE (WIDTH)
W	WITH
WD	WOOD
W.P	WEATHERPROOF
WT	WEIGHT
1	CENTERLINE
2	PLATE

**ABBREVIATIONS**

	NEW ANTENNA		GRID REFERENCE		CENTERLINE
	EXISTING ANTENNA		DETAIL REFERENCE		PROPERTY/LEASE LINE
	GROUND ROD		ELEVATION REFERENCE		MATCH LINE
	GROUND BUS BAR		SECTION REFERENCE		WORK POINT
	MECHANICAL GRND. CONN.		GROUT OR PLASTER		GROUND CONDUCTOR
	CAD WELD		(E) BRICK		TELEPHONE CONDUIT
	GROUND ACCESS WELL		(E) MASONRY		ELECTRICAL CONDUIT (POWER)
	ELECTRIC BOX		CONCRETE		COAXIAL CABLE
	TELEPHONE BOX		EARTH		OVERHEAD SERVICE CONDUCTORS
	LIGHT POLE		GRAVEL		CHAIN LINK FENCING
	FND. MONUMENT		PLYWOOD		
	SPOT ELEVATION		SAND		
	SET POINT		WOOD CONT.		
	REVISION		WOOD BLOCKING		
			STEEL		

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PROFESSIONAL ENGINEER  
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14339  
STATE OF IDAHO  
GARY W. ELGNER

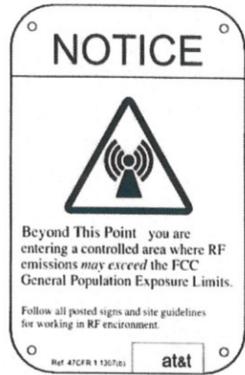
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LTE BLDG SIDE-MOUNT

SHEET TITLE  
**GENERAL NOTES**

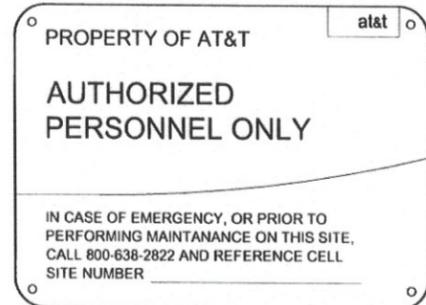
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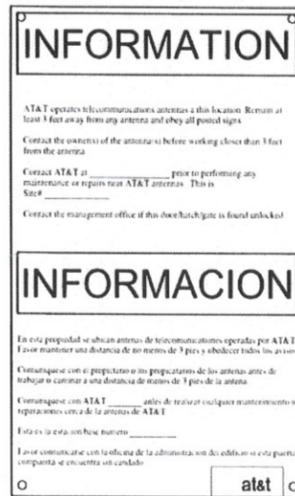
**ALERTING SIGNS**

**ALERTING SIGNS**

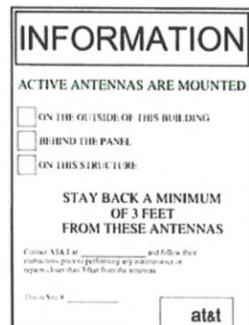


**ALERTING SIGNS**

**INFO SIGN #5**



**INFO SIGN #3**



**INFO SIGN #1**

**INFO SIGN #2**

**INFO SIGN #4**

STAY BACK 3 FEET FROM ANTENNA

**GENERAL SIGNAGE GUIDELINES**

STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	INFO SIGN #5	STRIPING	NOTICE SIGN	CAUTION SIGN
<b>TOWERS</b>								
MONOPOLE/MONOPINE/MONOPALM	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ON BACKSIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINETS			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN. 9FT ABOVE GROUND
SCE TOWERS/TOWERS WITH HIGH VOLTAGE	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ON BACKSIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINETS			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN. 9FT ABOVE GROUND
LIGHT POLES/FLAG POLES	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON BACKSIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINETS			
UTILITY WOOD POLES (JPA)	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON BACKSIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINETS		IF GP MAX VALUE OF MPE AT ANTENNA LEVEL IS: 0-99%: NOTICE SIGN, OVER 99%: CAUTION SIGN AT NO LESS THAN 3FT BELOW ANTENNA AND 9FT ABOVE GROUND	
MICROCELLS MOUNTED ON NON-JPA POLES	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON BACKSIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINETS		NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND, ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT 6FT ABOVE GROUND	
<b>ROOF TOPS</b>								
AT ALL ACCESS POINTS TO THE ROOF	X							
ON ANTENNAS	X		X	X				
CONCEALED ANTENNAS	X	X						
ANTENNA MOUNTED FACING OUTSIDE BUILDING	X	X						
ANTENNAS ON SUPPORT STRUCTURE	X	X						
ROOF TOP GRAPH:								
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA						
RADIATION IS BEYOND 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA				DIAGONAL YELLOW STRIPING AS TO ROOF VIEW GRAPH	EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNAS/BARRIER	
<b>CHURCH STEEPLES</b>	ACCESS TO STEEPLE	ADJACENT TO EACH ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ON BACKSIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			CAUTION SIGN AT THE ANTENNAS
<b>WATER STATIONS</b>	ACCESS TO STEEPLE	ADJACENT TO EACH ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ON BACKSIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			CAUTION SIGN AT THE ANTENNAS

NOTES FOR ROOF TOP SITES:  
 1. EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR.  
 2. IF ROOFVIEW SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED.  
 3. SHOULD THE REQUIRED STRIPING AREA INTERFERE WITH ANY STRUCTURES OR EQUIPMENT (A/C VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.)  
 4. PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA, PRIOR TO STARTING THE WORK.



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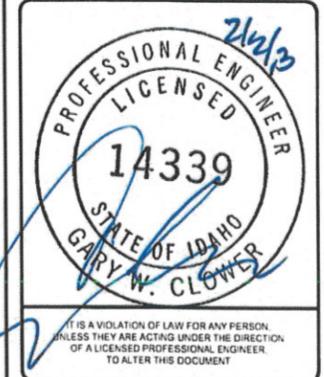
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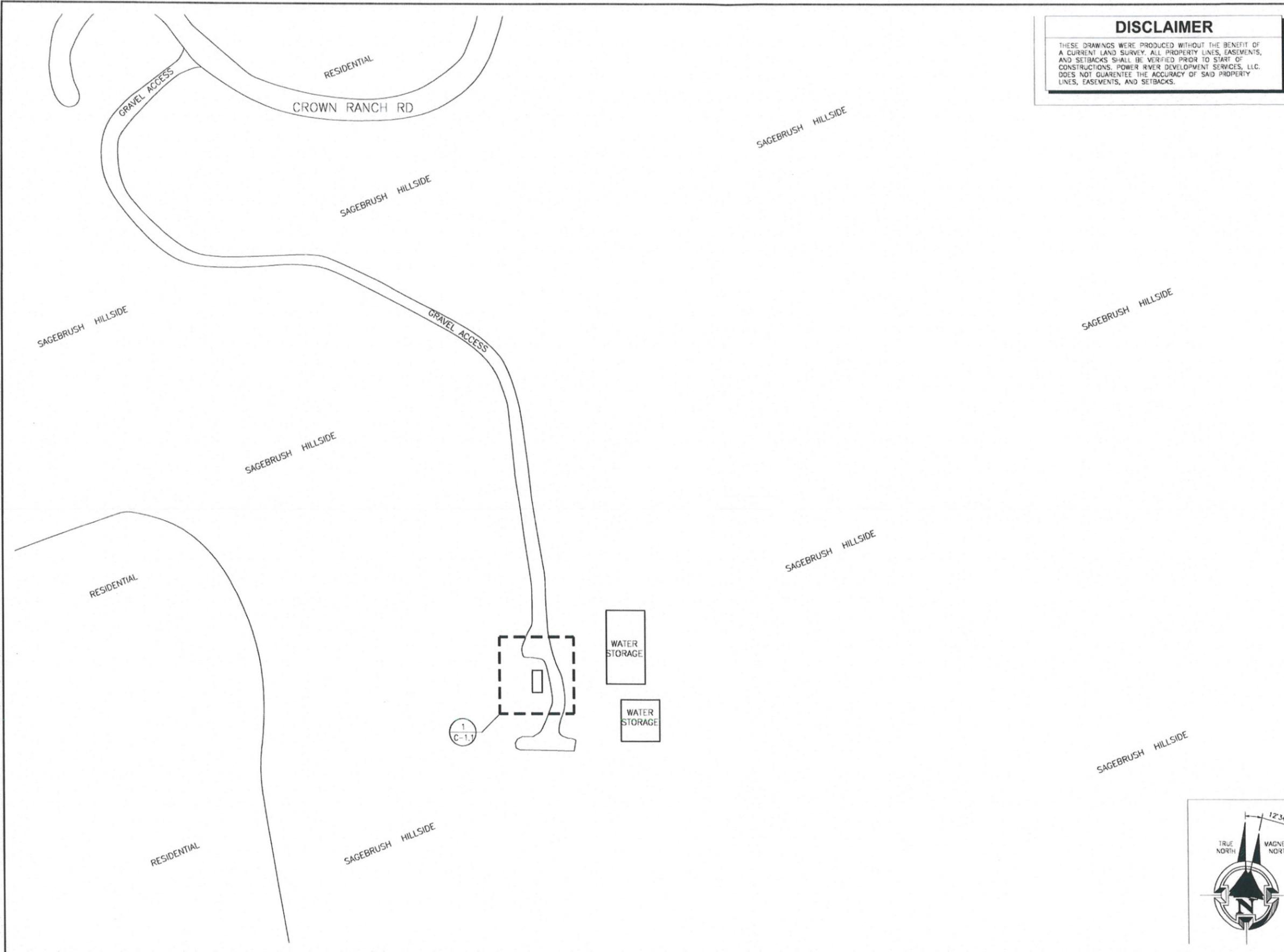


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LTE BLDG SIDE-MOUNT

SHEET TITLE  
**SIGNAGE & NOTES**

SHEET NUMBER  
**T-5**

PRDS PROJ. NO. 3865-010413



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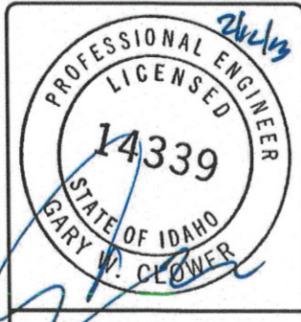
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SHEET TITLE  
**OVERALL SITE PLAN**

SHEET NUMBER  
**C-1**

PRDS PROJ. NO. 3665-010413

OVERALL SITE PLAN

SCALE: 1/32" = 1'-0" (24x36)  
 (OR) 1/64" = 1'-0" (11x17)

1

1-2  
C-3

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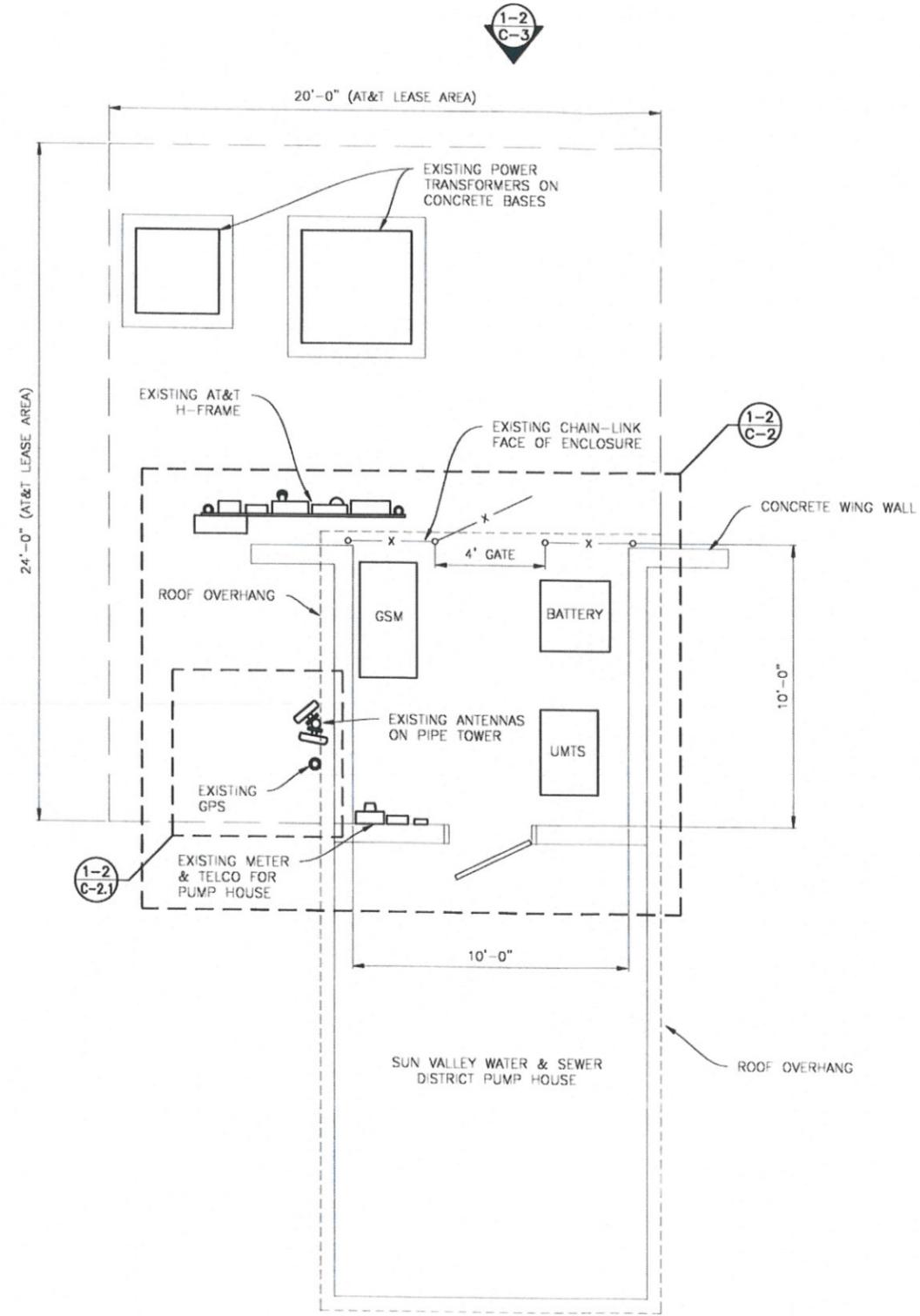
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LICENSED  
14339  
STATE OF IDAHO  
GARY W. BLOWER

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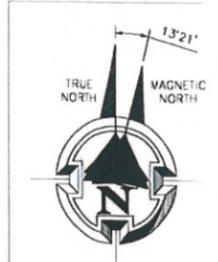
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SHEET TITLE  
**ENLARGED  
SITE PLAN**

SHEET NUMBER  
**C-1.1**  
PRDS PROJ. NO. 3865-010413



1-2  
C-4



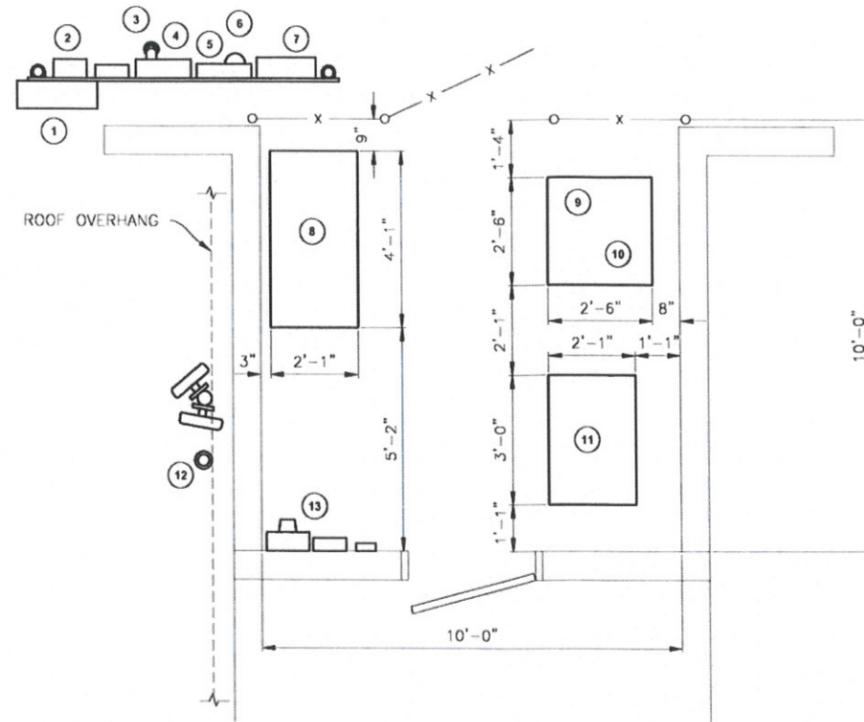
ENLARGED SITE PLAN

SCALE: 3/8" = 1'-0" (24x36)  
(OR) 3/16" = 1'-0" (11x17)

1

**KEY NOTES**

- ① EXISTING MCU
- ② EXISTING SURGE SUPPRESSOR
- ③ EXISTING GENERATOR PLUG
- ④ EXISTING TRANSFER SWITCH
- ⑤ EXISTING AC PANEL
- ⑥ EXISTING METER
- ⑦ EXISTING TELCO BOX
- ⑧ EXISTING GSM CABINET
- ⑨ EXISTING BATTERY
- ⑩ EXISTING DC POWER PLANT
- ⑪ EXISTING UMITS CABINET
- ⑫ EXISTING GPS ANTENNA
- ⑬ EXISTING METER & TELCO FOR PUMP HOUSE



**NOTE:**

1. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.

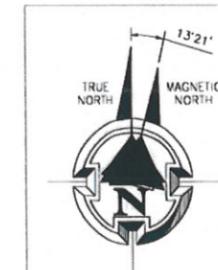


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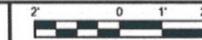
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**EQUIPMENT PLAN (EXISTING)**

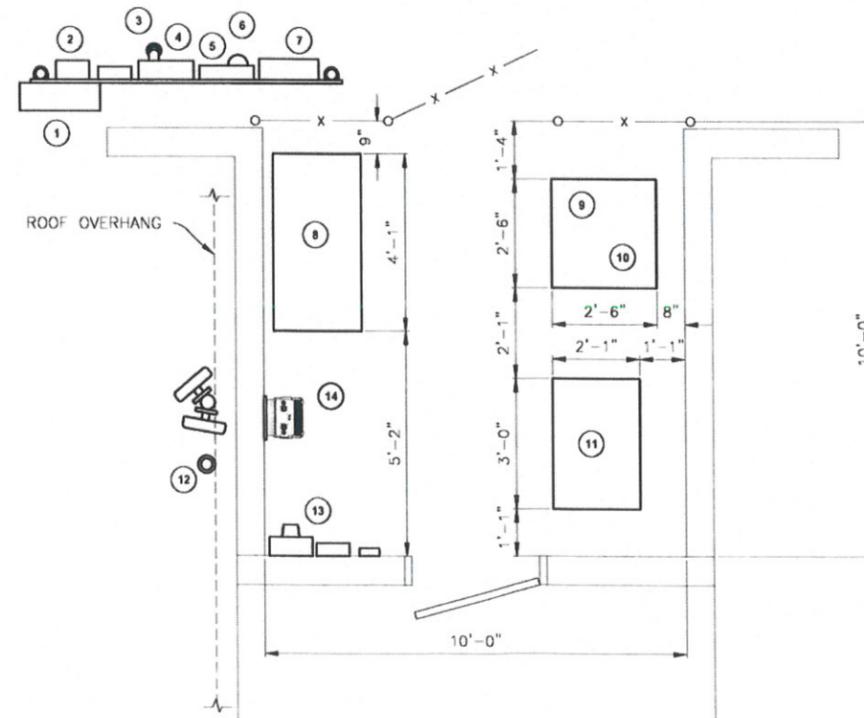


SCALE: 1/2" = 1' - 0" (24x36)  
(OR) 1/4" = 1' - 0" (11x17)

**1**

**KEY NOTES**

- ① EXISTING MCU
- ② EXISTING SURGE SUPPRESSOR
- ③ EXISTING GENERATOR PLUG
- ④ EXISTING TRANSFER SWITCH
- ⑤ EXISTING AC PANEL
- ⑥ EXISTING METER
- ⑦ EXISTING TELCO BOX
- ⑧ EXISTING GSM CABINET
- ⑨ EXISTING BATTERY
- ⑩ EXISTING DC POWER PLANT
- ⑪ EXISTING UMITS CABINET
- ⑫ EXISTING GPS ANTENNA
- ⑬ EXISTING METER & TELCO FOR PUMP HOUSE
- ⑭ NEW RRRH'S MOUNTED TO WALL
- ⑮ NEW LTE EQUIPMENT CABINET



**NOTE:**

1. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.

REV	DATE	DESCRIPTION	BY
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2/12/13

PROFESSIONAL ENGINEER  
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14339  
STATE OF IDAHO  
GARN W. FLOWER

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**ELKHORN**  
IDL04265  
100 SAGE CK. RESERVOIR RD.  
SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
**EQUIPMENT PLAN**

SHEET NUMBER  
**C-2**

PRDS PROJ. NO. 3865-010413

**EQUIPMENT PLAN (NEW)**



SCALE: 1/2" = 1' - 0" (24x36)  
(OR) 1/4" = 1' - 0" (11x17)

**2**

EXISTING AT&T GSM/UMTS ANTENNAS TO BE REPLACED



EXISTING 3/2" PIPE ANTENNA TOWER



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**GENERAL DYNAMICS**  
Information Technology

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ANTENNA PLAN (EXISTING)

SCALE: 3/4" = 1' - 0" (24x36)  
(OR) 3/8" = 1' - 0" (11x17)

1

1-2  
RF-1

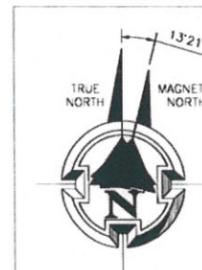
NEW TRIPLE-BAND AT&T ANTENNAS

A1



EXISTING 3/2" PIPE ANTENNA TOWER

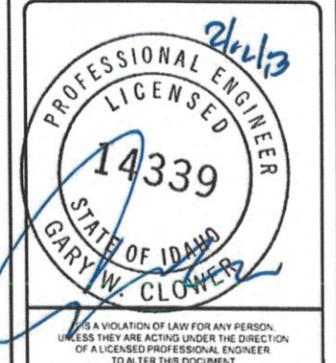
B1



NEW ANTENNA AND TRANSMISSION CABLE REQUIREMENT						
SECTOR	ANTENNA TYPE	TECHNOLOGY	ANTENNA AZIMUTH	TRANSMISSION CABLE		
				QTY.	LENGTH	TYPE
ALPHA A1	NEW ANTENNA	LTE/GSM/UMTS	320°	6	35'	COAX
BETA B1	NEW ANTENNA	LTE/GSM/UMTS	190°	6	35'	COAX
GAMMA						

NOTE TO CONTRACTOR:  
ANTENNA CLEARANCE AND MOUNTING TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION WITH FINAL ANTENNA SPECIFICATIONS MOUNTING HARDWARE AND RF DESIGN. ANTENNA PIPE MOUNT MODIFICATION MAY BE REQUIRED.

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SHEET TITLE  
**ANTENNA PLANS**

SHEET NUMBER  
**C-2.1**

PRDS PROJ. NO. 3865-010413

ANTENNA PLAN (NEW)

SCALE: 3/4" = 1' - 0" (24x36)  
(OR) 3/8" = 1' - 0" (11x17)

2



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**GENERAL DYNAMICS**  
Information Technology

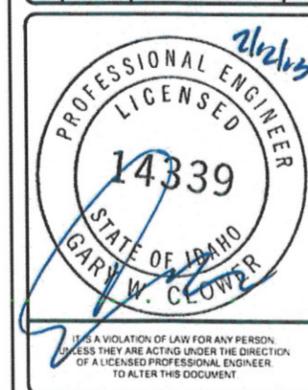
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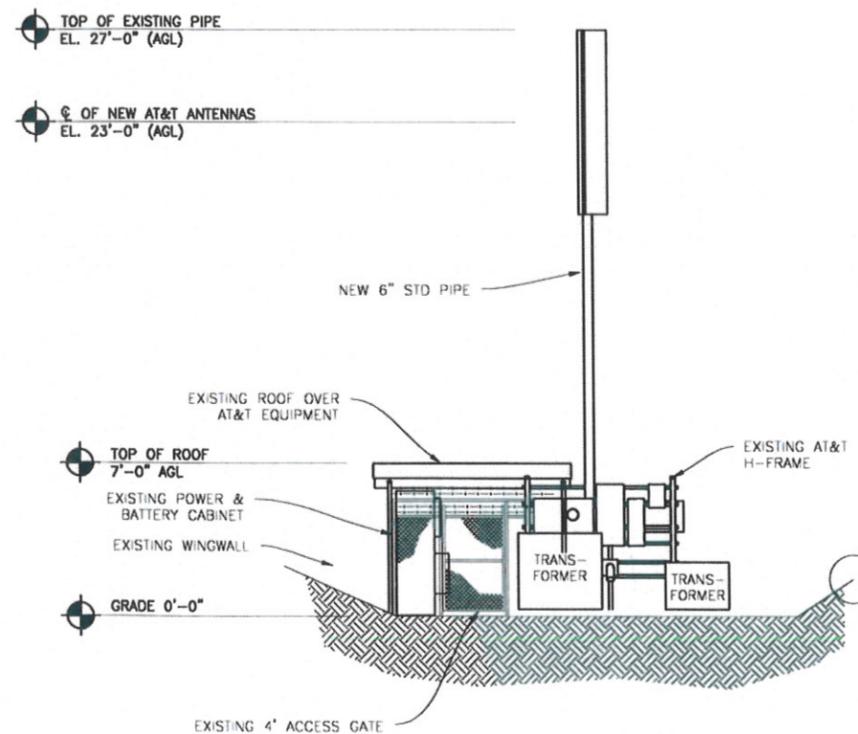
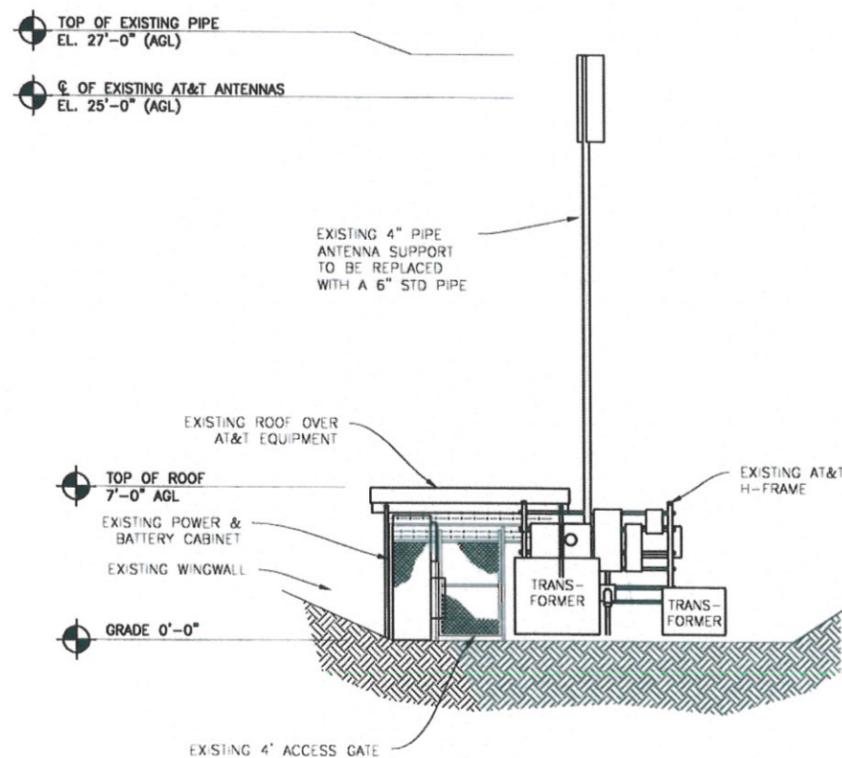


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LTE BLDG SIDE-MOUNT

SHEET TITLE  
**SOUTH ELEVATIONS**

SHEET NUMBER  
**C-3**

PRDS PROJ. NO. 3865-010413



**NORTH ELEVATION (EXISTING)**



SCALE: 1/4" = 1' - 0" (24x36)  
(OR) 1/8" = 1' - 0" (11x17)

**1**

**NORTH ELEVATION (NEW)**



SCALE: 1/4" = 1' - 0" (24x36)  
(OR) 1/8" = 1' - 0" (11x17)

**2**



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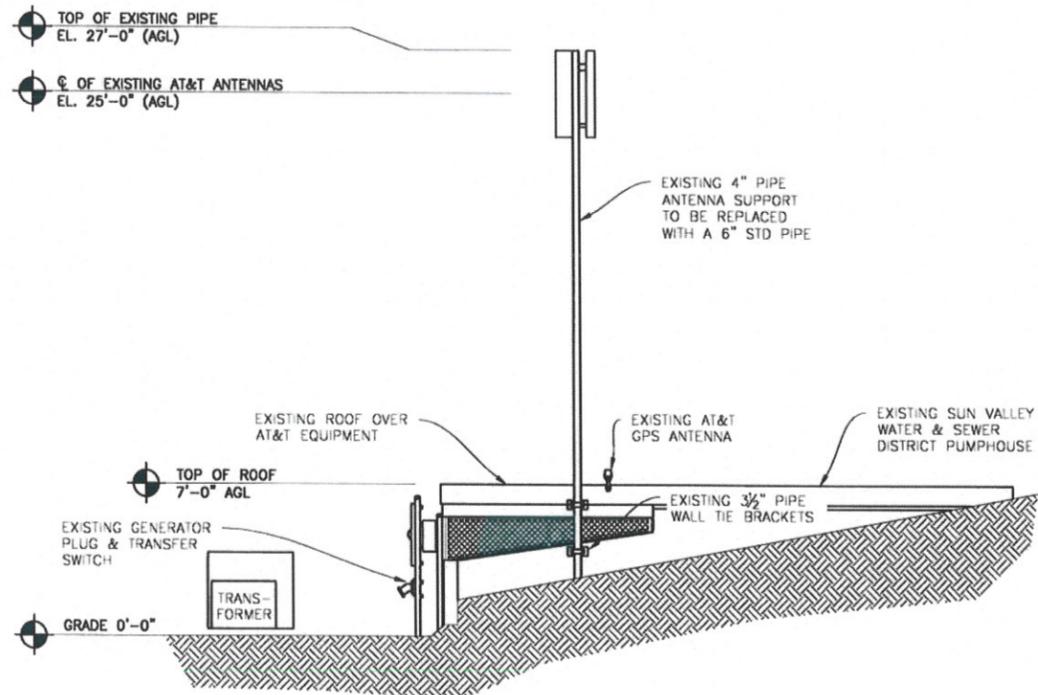


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SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
**WEST ELEVATIONS**

SHEET NUMBER  
**C-4**

PRDS PROJ. NO. 3865-010413

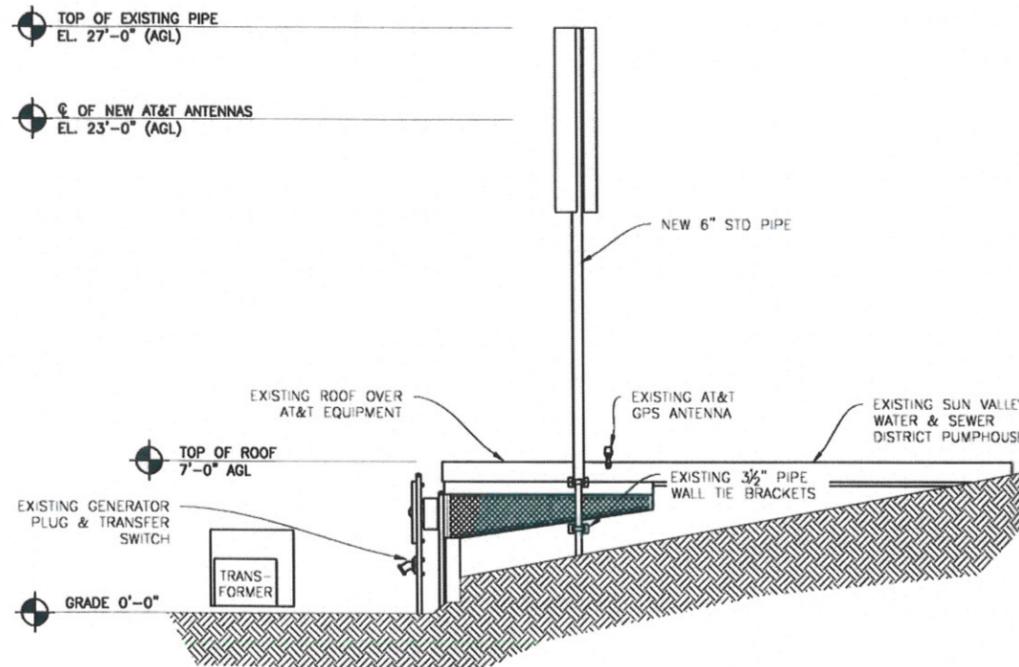


WEST ELEVATION (EXISTING)



SCALE: 1/4" = 1' - 0" (24x36)  
(OR) 1/8" = 1' - 0" (11x17)

**1**

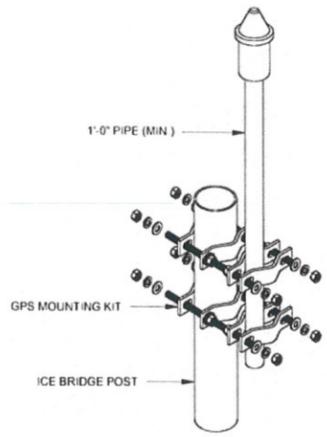


WEST ELEVATION (NEW)

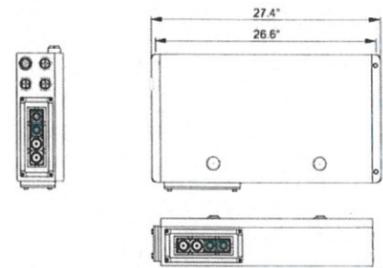


SCALE: 1/4" = 1' - 0" (24x36)  
(OR) 1/8" = 1' - 0" (11x17)

**2**



ARAYCAP DC6-48-60-18  
 NUMBER OF RADIOS PROTECTED 6  
 SUPPRESSION CONNECTION METHOD COMPRESSION LUG, #2-#14 AWG COPPER, #2-#12 ALUMINUM  
 ENVIRONMENTAL RATING NEMA 4/IP66  
 WEIGHT 53 LBS (235.76 N)



GPS ANTENNA MOUNTING

SCALE N.T.S.

1

SURGE SUPPRESSOR

SCALE N.T.S.

2

NOT USED

SCALE N.T.S.

3

NOT USED

SCALE N.T.S.

4

NOT USED

SCALE N.T.S.

5

NOT USED

SCALE N.T.S.

6

NOT USED

SCALE N.T.S.

7

NOT USED

SCALE N.T.S.

8

NOT USED

SCALE N.T.S.

9

NOT USED

SCALE N.T.S.

10

NOT USED

SCALE N.T.S.

11

NOT USED

SCALE N.T.S.

12

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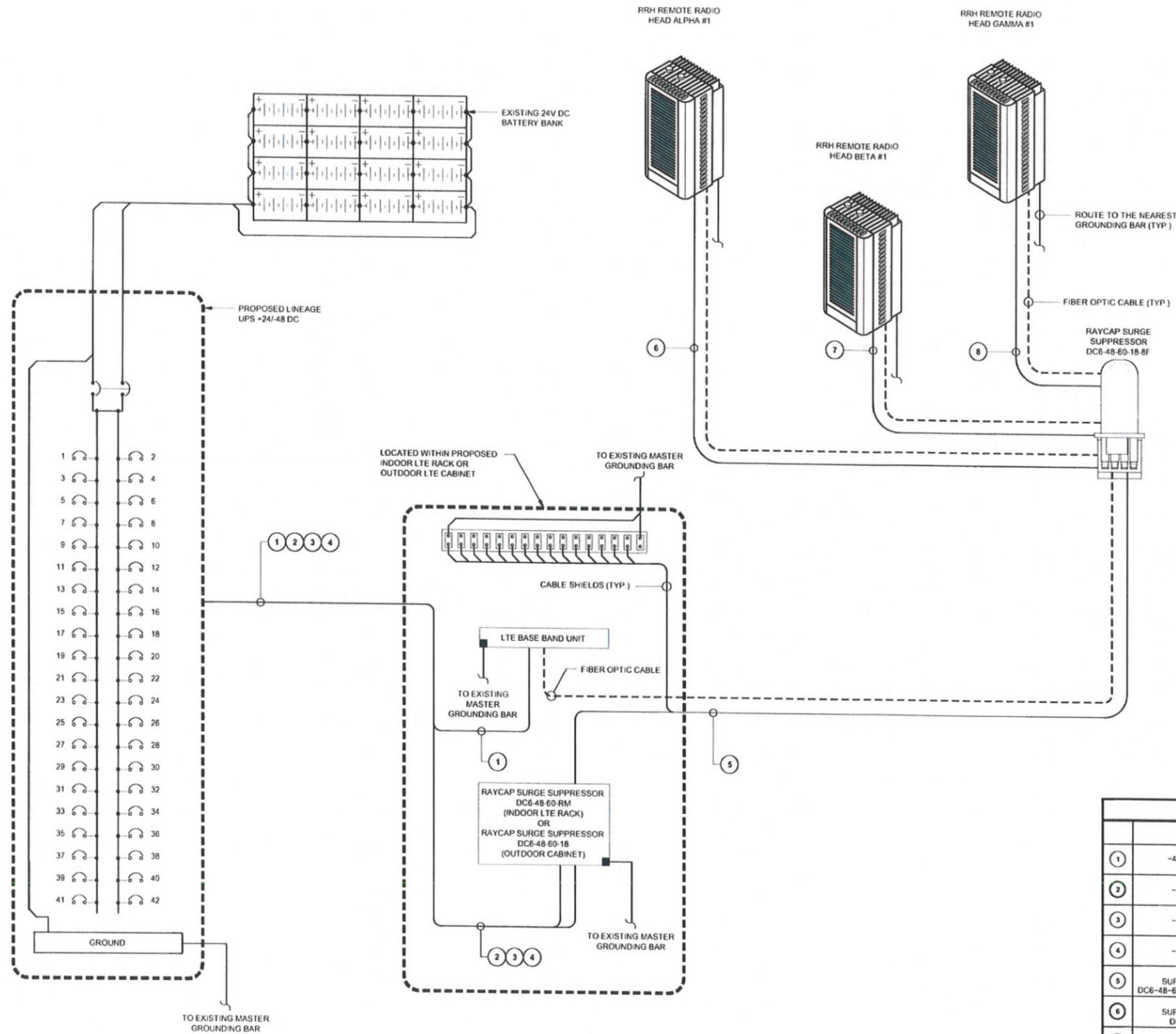
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 IDL04265  
 100 SAGE CK. RESERVOIR RD.  
 SUN VALLEY, ID 83353  
 LTE BLDG SIDE-MOUNT

SHEET TITLE  
**DETAILS**

SHEET NUMBER  
**C-5**  
 PRDS PROJ. NO. 3865-010413



DC CIRCUIT SCHEDULE			
	FROM	TO	CONFIGURATION
①	-48V DC CIRCUIT	LTE BASE BAND UNIT	(1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE
②	-48V DC CIRCUIT	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	(1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE
③	-48V DC CIRCUIT	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	(1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE
④	-48V DC CIRCUIT	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	(1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE
⑤	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	(1) 6-#8 THHN/THWN/VW-1 TYPE TC-ER DC CABLE
⑥	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD ALPHA #1	(1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE
⑦	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD BETA #1	(1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE
⑧	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD GAMMA #1	(1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE

NOTES:  
 1. INSTALL ADDITIONAL CIRCUITS TO RECTIFIERS AS REQUIRED TO PROVIDE -48V DC POWER FOR LTE SYSTEM



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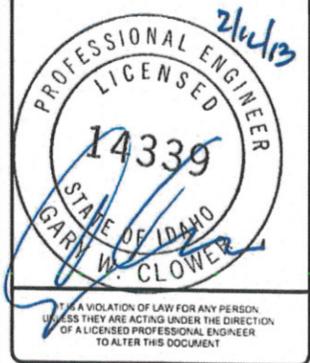
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 LTE BLDG SIDE-MOUNT

SHEET TITLE  
**ELECTRICAL ONE LINE DIAGRAM**

SHEET NUMBER  
**E-1**

PRDS PROJ. NO. 3865-010413



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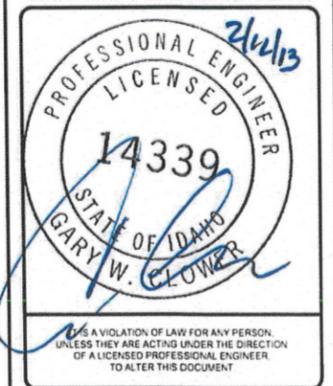
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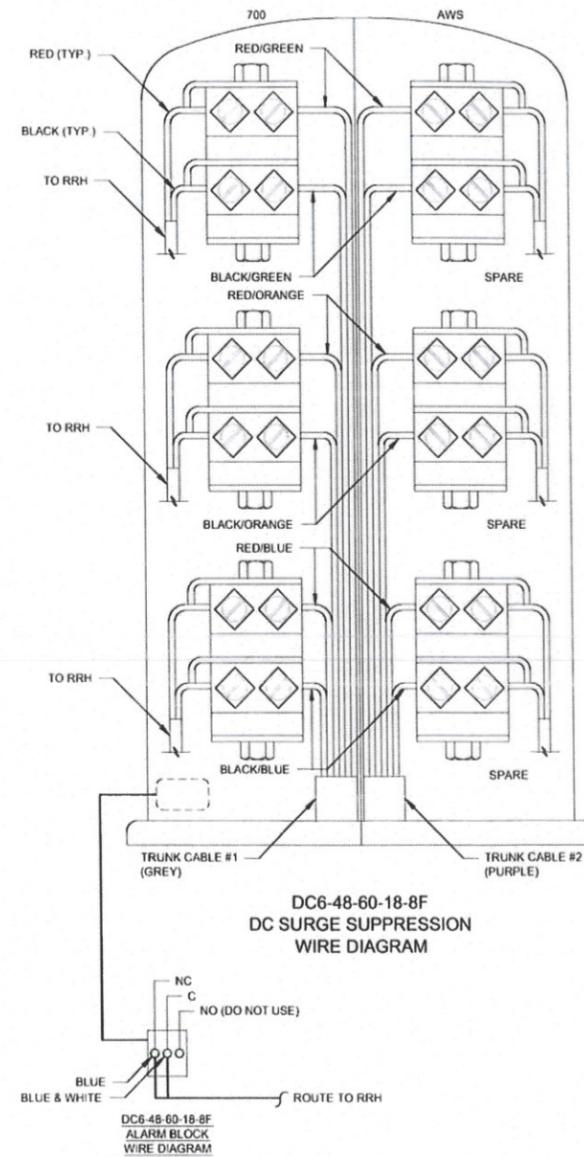
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IDL04265  
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SUN VALLEY, ID 83353  
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SHEET TITLE  
**ELECTRICAL DC  
SURGE SUPPRESSOR  
DIAGRAM**

SHEET NUMBER

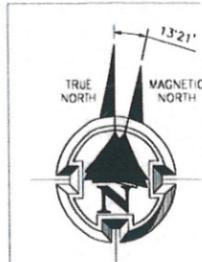
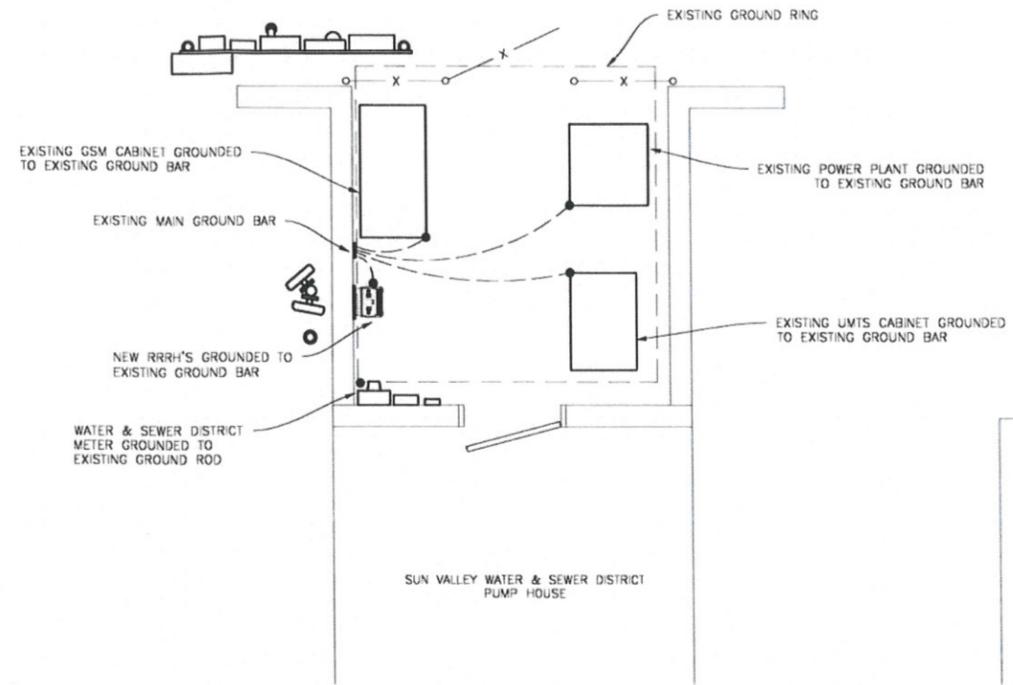
**E-2**

PRDS PROJ. NO. 3965-010413



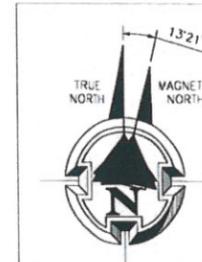
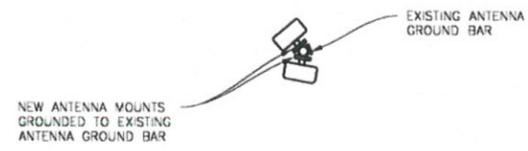
**ELECTRICAL GROUNDING SPECIFICATIONS**

- 1 GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE CURRENTLY IN EFFECT FOR THE AUTHORITY HAVING JURISDICTION.
- 2 ALL GROUNDING DEVICE SHALL BE U.L. LISTED FOR THEIR INTENDED USE.
- 3 GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID COPPER UNLESS OTHERWISE NOTED.
- 4 CONNECTIONS OF ALL GROUND WIRES TO THE GROUND RING SHALL BE EXOTHERMIC (CAD-WELDED), UNLESS OTHERWISE NOTED AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AT&T WIRELESS BROADBAND STANDARDS.
- 5 GROUNDING CONDUCTORS SHALL BE ROUTED ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE WHEN REQUIRED. GROUND LEADS SHALL BE BENT TO A MINIMUM OF 8" RADIUS.
- 6 WHERE GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO THE GROUND RING, INSTALL WIRE IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM CONNECTION POINT TO 5' BELOW GRADE AND SEAL THE TOP WITH SILICONE SEALANT.
- 7 ALL GROUND BARS SHALL BE TINNED, 114" COPPER, SECTOR BARS 2", COLLECTOR AND MGB BARS 4", OF SUFFICIENT LENGTH TO ACCOMMODATE ALL REQUIRED CONNECTIONS WITHOUT DOUBLING LIGS, AND EACH INSTALLED WITH ISOLATORS. WHEN CONNECTING GROUND BARS (WITHIN 10 FEET OF GRADE) DIRECTLY TO THE GROUND RING, 2 EA. #2 SOLID DOWNLEADS SHALL BE CAD-WELDED TO THE GROUNDING, 1 AT EACH OPPOSITE BOTTOM CORNER, AND EACH SHALL RUN IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM GROUND BAR DOWN TO THE GROUND RING. WHEN CONNECTING SECTOR GROUND BARS, DAISY-CHAIN THE GROUND BARS AND RUN 1 EA. #2 AWG STRANDED COPPER WIRE WITH THWN INSULATION FROM THE MIDDLE GROUND BAR TO THE GROUND RING AND CAD-WELD TO THE RING.
- 8 WHEN ATTACHING STRANDED GROUND LEADS TO THE GROUND BARS, 2 HOLE COMPRESSION LUGS SHALL BE USED, PROTECT WITH WEATHERPROOF HEAT SHRINK, AND WITH A THIN COAT OF "KOP'R SHIELD" OR EQUIVALENT PROPERLY APPLIED AND ATTACHED ONLY WITH STAINLESS STEEL HARDWARE.
- 9 WHEN GROUNDING EQUIPMENT ENCLOSURES, PANELS, FRAMES, AND OTHER METAL APPARATUS, A #6 AWG STRANDED COPPER WIRE WITH THWN INSULATION SHALL BE ATTACHED UTILIZING A 2 HOLE COMPRESSION TYPE LUG, PROTECTED WITH WEATHERPROOF HEAT A CLEAN AND CORROSION FREE METALLIC SURFACE UTILIZING STAINLESS STEEL SELF-TAPPING SCREWS AS NOTED IN NOTE 10 BELOW.
- 10 PREPARE ALL BONDING SURFACES FOR GROUND CONNECTIONS BY REMOVING ANY AND ALL PAINT AND CORROSION TO SHINY METAL. CAD-WELDED CONNECTIONS TO NON-COPPER SURFACES, APPLY ONE COAT OF ANY ANTI-OXIDIZING PAINT, "COLD GALV" OR EQUIVALENT.
- 11 GROUND RODS SHALL BE COPPER-CLAD STEEL 5/8"x10", SPACED NO LESS THAN 10' ON CENTER.
- 12 ALL GROUND SYSTEM CONDUCTORS AND CONDUITS SHALL BE SECURED UTILIZING ONLY NONMETALLIC, NON-CONDUCTIVE, UV RATED CLAMPS, BRACKET, AND OR SUPPORTS.
- 13 WHEN REQUIRED, THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN INDEPENDENT TESTING FIRM TO VERIFY, UTILIZING A MEGGER TEST, THAT THE RESISTANCE TO EARTH OF THE NEW GROUND SYSTEM IS EQUAL TO OR LESS THAN 5 (OHMS). A COPY OF THE COMPLETE TESTING REPORT SHALL BE PROVIDED TO THE AT&T REPRESENTATIVE.
- 14 ALL MATERIALS AND HARDWARE SHALL BE INSTALLED IN A WORKMAN-LIKE MANNER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND DEFINED IN NFPA-70 AND APPROVED BY A, H, J.



**EQUIPMENT GROUNDING**

SCALE N.T.S. 2



**ANTENNA GROUNDING**

SCALE N.T.S. 3

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PROFESSIONAL ENGINEER LICENSED 14339 STATE OF IDAHO GARY W. CLOVER 2/12/13

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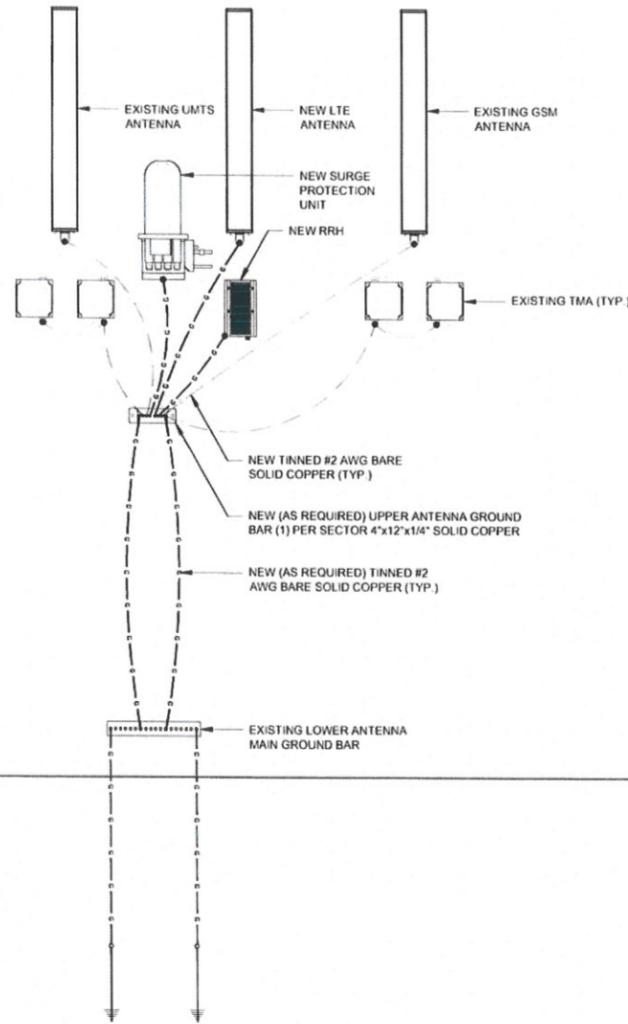
**ELKHORN**  
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100 SAGE CK. RESERVOIR RD.  
SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
**GROUNDING PLANS**

SHEET NUMBER  
**G-1**  
PRDS PROJ. NO. 3865-010413

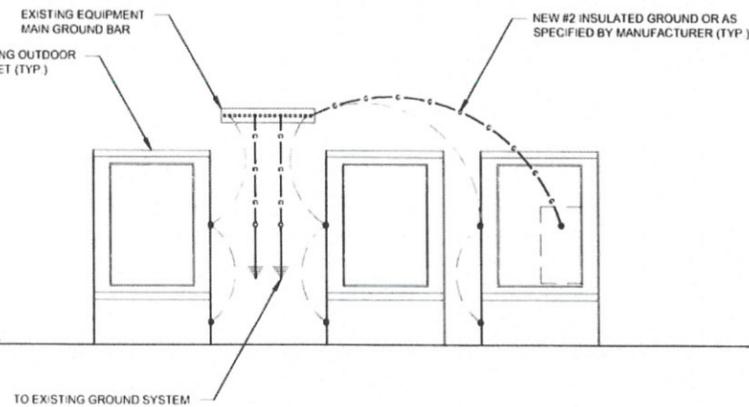
**NOTES**

SCALE N.T.S. 1



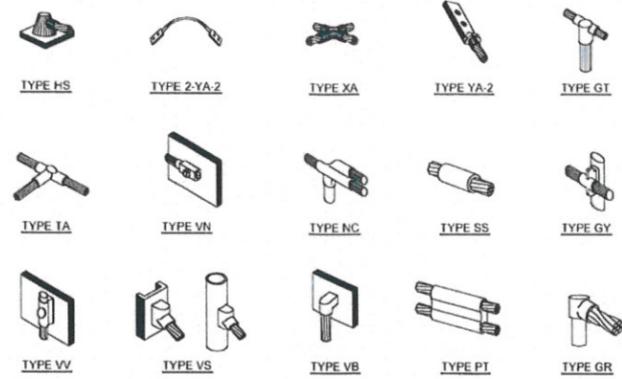
MONOPOLE OR TOWER

EXISTING GROUND LEVEL OR EXISTING ROOF TOP



**GROUNDING SCHEMATIC**

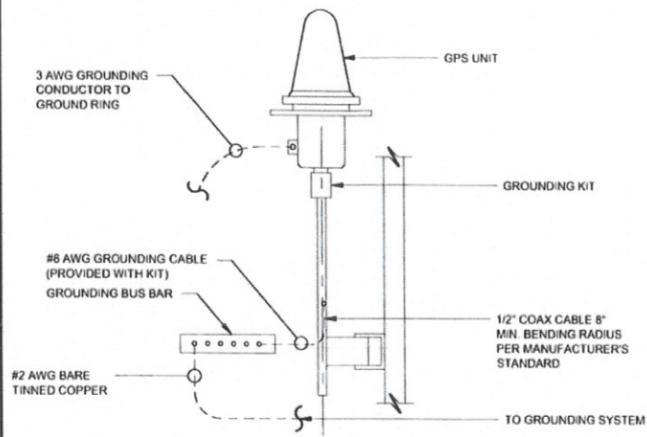
SCALE N.T.S. 1



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

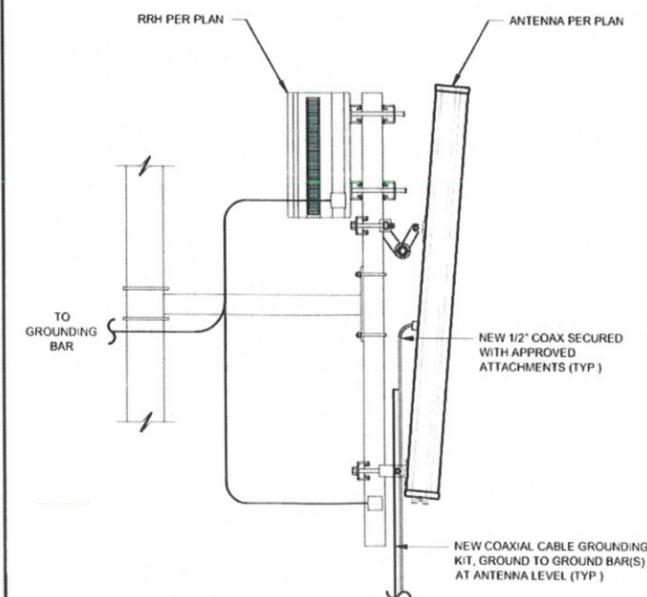
**EXOTHERMIC WELDING**

SCALE N.T.S. 2



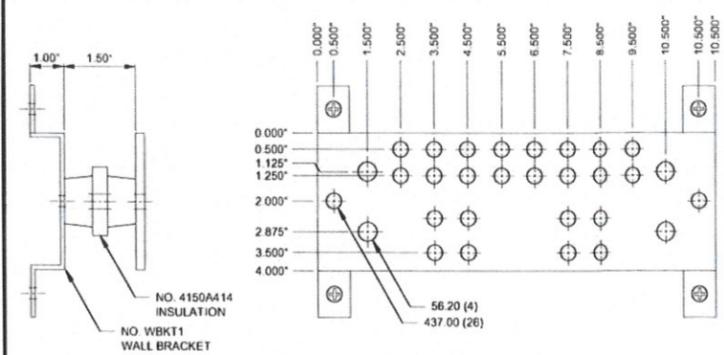
**GPS ANTENNA MOUNTING**

SCALE N.T.S. 4



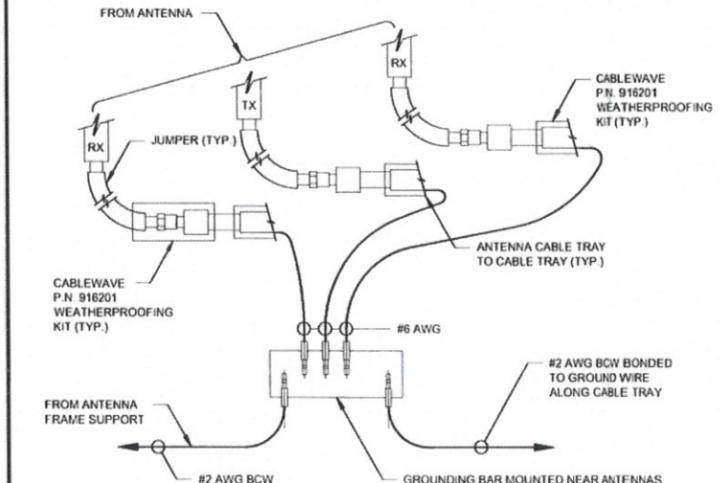
**ANTENNA GROUNDING**

SCALE N.T.S. 6



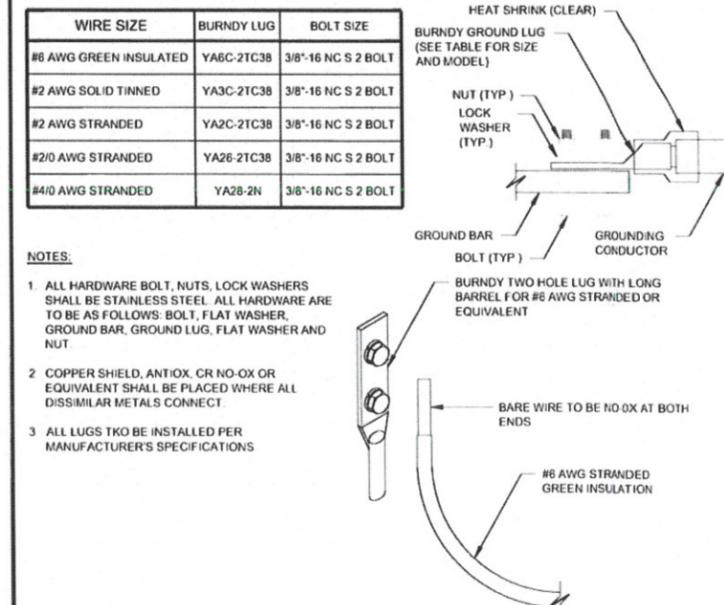
**12" & 18" GROUND BAR**

SCALE N.T.S. 3



**ANTENNA GROUND KIT**

SCALE N.T.S. 5



**MECHANICAL LUG CONNECTION**

SCALE N.T.S. 7

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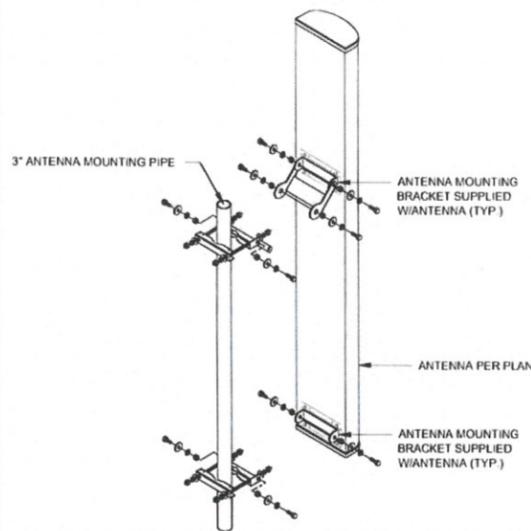
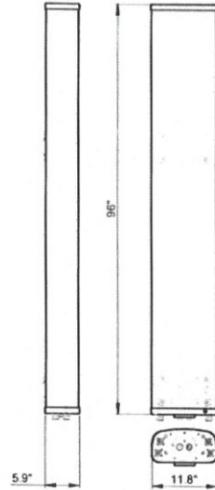
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LTE BLDG SIDE-MOUNT

SHEET TITLE  
**GROUNDING PLANS**

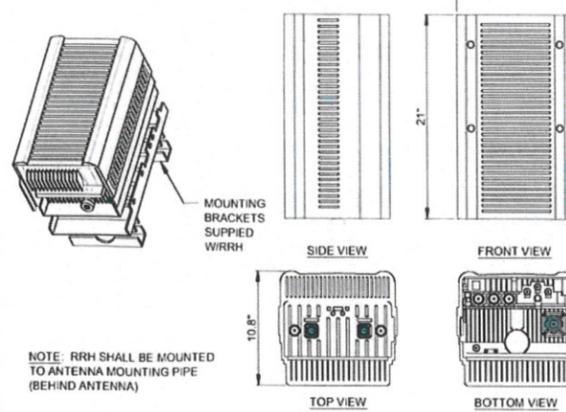
SHEET NUMBER  
**G-2**  
PRDS PROJ. NO. 3865-010413

**AM-X-CD-17-65-00T-RET-725MHz-09DT**

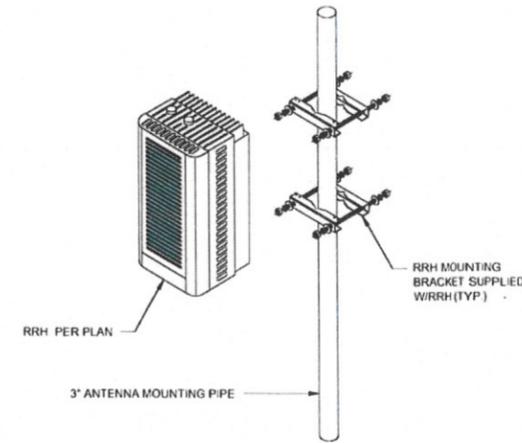
RADOME MATERIAL PVC, UV RESISTANT  
 RADOME COLOR LIGHT GRAY  
 DIMENSION, H x W x D 96" x 11 8" x 5 9"  
 WEIGHT, W/ PRE-MOUNTED BRACKETS 59.5 lb  
 CONNECTOR 4 x 7/16 DIN FEMALE



ALCATEL - LUCENT 9942 RRH 700  
 OPERATIONAL BANDWIDTH 15.5 MHz, 2 LTE CARRIERS  
 WEIGHT: 51 LBS  
 SIZE: 12 2" x 10 8" x 21"



NOTE: RRH SHALL BE MOUNTED TO ANTENNA MOUNTING PIPE (BEHIND ANTENNA)



4393 RIVERBOAT ROAD, SUITE #400  
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 Information Technology  
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**ANTENNA SPECIFICATIONS**

SCALE N.T.S. **1**

**ANTENNA MOUNTING**

SCALE N.T.S. **2**

**RRH SPECIFICATIONS**

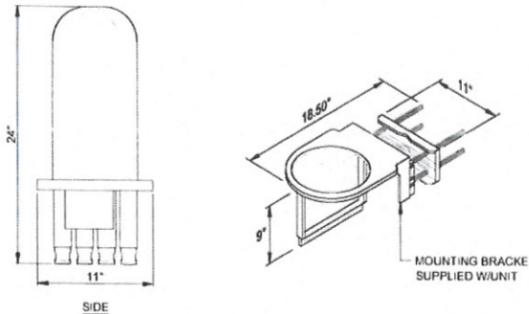
SCALE N.T.S. **3**

**RRH MOUNTING**

SCALE N.T.S. **4**

**RAYCAP DC6-48-60-18-8F**

NUMBER OF RADIOS PROTECTED 6  
 SUPPRESSION CONNECTION METHOD COMPRESSION LUG, #2-#14 AWG COPPER, #2-#14 ALUMINUM  
 ENVIRONMENTAL RATING IP 68, 7M 72 HRS  
 WEIGHT 32.8 LBS (141.45 N)



**SURGE SUPPRESSOR**

SCALE N.T.S. **5**

**NOT USED**

SCALE N.T.S. **6**

**NOT USED**

SCALE N.T.S. **7**

**NOT USED**

SCALE N.T.S. **8**

**NOT USED**

SCALE N.T.S. **9**

**NOT USED**

SCALE N.T.S. **10**

**NOT USED**

SCALE N.T.S. **11**

**NOT USED**

SCALE N.T.S. **12**

POWDER RIVER  
 100 E. SHENANGO STREET  
 SHARPSVILLE, PA 16150  
 724.962.5999  
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REV	DATE	DESCRIPTION	BY
0	02/12/2013	100% CONSTRUCTION	TLH

2/12/13

PROFESSIONAL ENGINEER  
 LICENSED  
 14339  
 STATE OF IDAHO  
 GARY W. CLOWER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**ELKHORN**  
 IDL04265  
 100 SAGE CK. RESERVOIR RD.  
 SUN VALLEY, ID 83353  
 LTE BLDG SIDE-MOUNT

SHEET TITLE  
**DETAILS**

SHEET NUMBER  
**RF-1**

**RADIO HEAD CONFIGURATION NOTES:**

- 1 ALL RF CABLE LENGTHS ARE WITHIN 9 FT. OR EACH OTHER ACROSS ALL SECTORS, FOR EXAMPLE, SECTOR A'S SHORTEST JUMPER IS 6 FT., THEREFORE C'S SHORTEST JUMPER CAN BE NO MORE THAN 15' LONG
- 2 ALL RF CABLE JUMPERS MUST USE PRE-MADE JUMPERS WITH PRE-INSTALLED CONNECTORS ON BOTH ENDS, AS PER RF AND CTO BEST PRACTICES AND GUIDELINES. USE ONLY LDF OR LCF 12 JUMPERS FROM APPROVED RF JUMPER CABLE VENDORS (ANDREW & RFS). DO NOT USE SUPREFLEX TYPE JUMPERS
- 3 ENSURE PROPER WEATHERPROOFING AND TORQUE IS APPLIED TO ALL RF CONNECTIONS, AS PER ATT-002-290-041. ENSURE PROPER RF SWEEP IS PERFORMED, AS PER ATT-002-290-043
- 4 ANY RF JUMPERS REMOVED FROM THE TOWER DURING THE IMPLEMENTATION OF THIS MOP CAN BE REUSED AT NEW CELL SITES, PROVIDED THEY ARE CONSTRUCTED WITH PRE-MADE CONNECTORS ON BOTH ENDS AND PASS SPECIFICATIONS
- 5 ALL FIBERS MUST BE OF THE SAME LENGTH FROM THE FIBER/DC SURGE PROTECTION BOX TO THE RRH. ANY EXCESS FIBER SHOULD BE SPOOLED IN THE FIBER/DC SURGE PROTECTION BOX
- 6 IMPLEMENTATION OF THIS MOP WILL BE A LTE CAPITAL PROJECT. REFER TO DRIVER NUMBER C170 FOR PRICING

**NOTES:**

- 1 GRAY TAPING TO BE USED FOR 700 MHZ AND PURPLE TAPING TO BE USED FOR AOWS. TAPING TO FOLLOW AT&T STANDARD

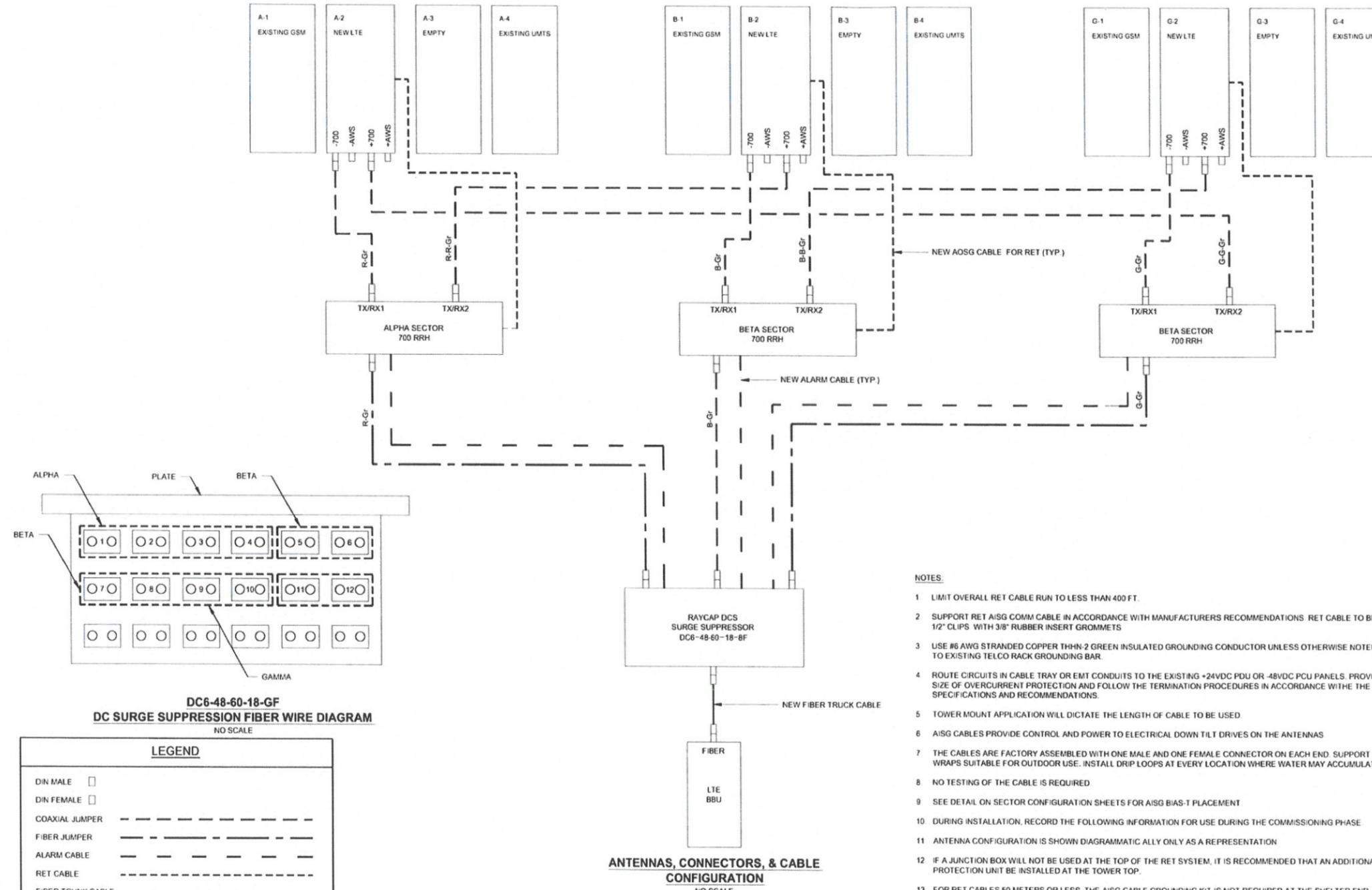
**ABBREVIATIONS**

- R RED
- B BLUE
- G GREEN
- GR GRAY

**NOTES:**

- 1 FOR BOTTOM JUMPERS (FROM THE MAIN COAX TO THE BTS CONNECTOR) LONGER THAN 15' USE 7/8" COAX. FOR BOTTOM JUMPERS LESS THAN 15' USE 1/2" EC4 OR EQUIVALENT.
- 2 FABRICATE JUMPERS TO ASSURE THAT THE 90° CONNECTOR IS 56" FROM THE FLOOR ALLOWING ENOUGH SLACK TO REACH ALL BTS (DUAMCO) CONNECTIONS IF CABINET IS IN PLACE
- 3 MOUNT PDU IN FIF RACK. ASSURE THAT THE PREFABRICATED CONDUCTORS SUPPLIED WITH THE BIAS TEE WILL REACH THE DESIGNATED TERMINATION POINTS
- 4 SUPPLY AND INSTALL #6 AWG GROUND TO THE TELCO RACK FROM THE MAIN GROUNDING BUS. SUPPLIED AND INSTALLED BY CONTRACTOR

CONFIGURATION AS VIEWED FROM THE REAR OF THE ANTENNA



**NOTES:**

- 1 LIMIT OVERALL RET CABLE RUN TO LESS THAN 400 FT.
- 2 SUPPORT RET AISG COMM CABLE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. RET CABLE TO BE SUPPORTED USING 1/2" CLIPS WITH 3/8" RUBBER INSERT GROMMETS
- 3 USE #6 AWG STRANDED COPPER THHN-2 GREEN INSULATED GROUNDING CONDUCTOR UNLESS OTHERWISE NOTED. CONNECT THE PCU TO EXISTING TELCO RACK GROUNDING BAR.
- 4 ROUTE CIRCUITS IN CABLE TRAY OR EMT CONDUITS TO THE EXISTING +24VDC PDU OR -48VDC PCU PANELS. PROVIDE THE APPROPRIATE SIZE OF OVERCURRENT PROTECTION AND FOLLOW THE TERMINATION PROCEDURES IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.
- 5 TOWER MOUNT APPLICATION WILL DICTATE THE LENGTH OF CABLE TO BE USED
- 6 AISG CABLES PROVIDE CONTROL AND POWER TO ELECTRICAL DOWN TILT DRIVES ON THE ANTENNAS
- 7 THE CABLES ARE FACTORY ASSEMBLED WITH ONE MALE AND ONE FEMALE CONNECTOR ON EACH END. SUPPORT EVERY 18" USING TIE WRAPS SUITABLE FOR OUTDOOR USE. INSTALL DRIP LOOPS AT EVERY LOCATION WHERE WATER MAY ACCUMULATE
- 8 NO TESTING OF THE CABLE IS REQUIRED
- 9 SEE DETAIL ON SECTOR CONFIGURATION SHEETS FOR AISG BIAS-T PLACEMENT
- 10 DURING INSTALLATION, RECORD THE FOLLOWING INFORMATION FOR USE DURING THE COMMISSIONING PHASE
- 11 ANTENNA CONFIGURATION IS SHOWN DIAGRAMMATICALLY ONLY AS A REPRESENTATION
- 12 IF A JUNCTION BOX WILL NOT BE USED AT THE TOP OF THE RET SYSTEM, IT IS RECOMMENDED THAT AN ADDITIONAL LIGHTNING PROTECTION UNIT BE INSTALLED AT THE TOWER TOP.
- 13 FOR RET CABLES 50 METERS OR LESS, THE AISG CABLE GROUNDING KIT IS NOT REQUIRED AT THE SHELTER END
- 14 USE THIS DRAWING FOR RET GROUNDING SPECIFICATIONS. SEE DRAWING G-1 FOR GENERAL REQUIREMENTS
- 15 ALL RET CONNECTIONS SHALL BE WEATHERPROOFED. PREFERRED METHOD OF WEATHERPROOFING SHALL BE TO HEAT SHRINK ALL RET CONNECTIONS PER ND-135 RET GUIDE LINES SECTION 3.3 AISG (RS 485) CABLE. \*ALL CABLE CONNECTORS REQUIRE WEATHERPROOFING\*

**ANTENNAS, CONNECTORS, & CABLE CONFIGURATION**  
NO SCALE

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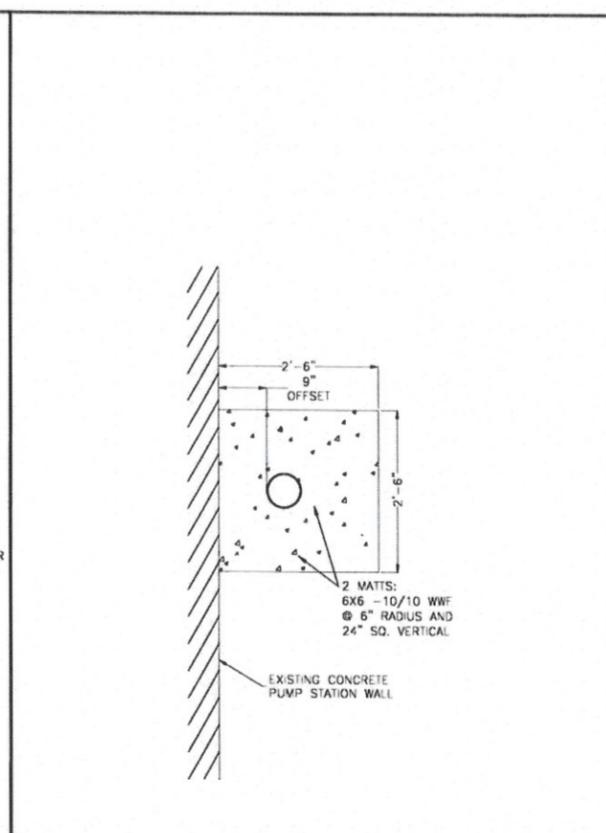
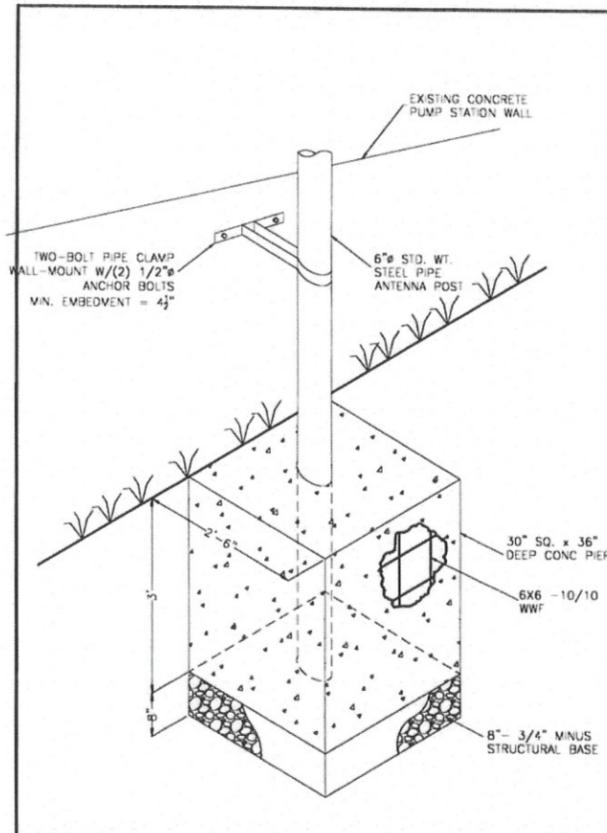
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**ELKHORN**  
IDL04265

100 SAGE CK. RESERVOIR RD.  
SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
**LTE CONFIGURATION**

SHEET NUMBER  
**RF-2**



RRH SPECIFICATIONS

RRH MOUNTING

ANTENNA POST DETAIL SCALE N.T.S. 1

ANTENNA POST PLAN SCALE N.T.S. 2

RRH SPECIFICATIONS SCALE N.T.S. 3

RRH MOUNTING SCALE N.T.S. 4

NOT USED

NOT USED

NOT USED

NOT USED

NOT USED SCALE N.T.S. 5

NOT USED SCALE N.T.S. 6

NOT USED SCALE N.T.S. 7

NOT USED SCALE N.T.S. 8

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SUN VALLEY, ID 83353  
LTE BLDG SIDE-MOUNT

SHEET TITLE  
**STRUCTURAL  
DETAILS**

SHEET NUMBER  
**S-1**  
PROJ. NO. 3065-010413