

Market: California  
Cell Site Number: CNU3950  
Search Ring Name: 12<sup>th</sup>-Madison  
Cell Site Name: 12<sup>th</sup>-Madison (CA)  
Fixed Asset Number: 10087900

## FIRST AMENDMENT TO MICROCELL SITE LEASE

THIS FIRST AMENDMENT TO THE MICROCELL SITE LEASE ("**Amendment**"), dated as of the latter of the signature dates below, is by and between Lumbee Properties LLC, a California limited liability company, successor in interest to Barclays Plaza Associates, having its principle place of business at 171 12<sup>th</sup> Street Suite 100, Oakland, CA 94607, ("**Lessor**") and New Cingular Wireless PCS, LLC, a Delaware limited liability company, successor in interest of Bay Area Cellular Telephone Company, having a mailing address of 575 Morosgo Drive NE, Suite 13F, West Tower, Atlanta, GA 30324 ("**Lessee**").

WHEREAS, Lessor and Lessee, or their predecessors in interest, entered into a Microcell Site Lease dated June 30, 1997, whereby Lessor leased to Lessee certain Premises, therein described, that are a portion of the rooftop of the Building on the Property located at 171 12<sup>th</sup> Street, Oakland, CA 94607 ("**Lease**"); and

WHEREAS, Lessor and Lessee desire to amend the Lease to clarify scope of Lessee's permitted use of the Premises; and

WHEREAS, Lessor and Lessee desire to amend the Lease to allow Lessee to increase the size of the Premises and increase the number of antennas and related equipment on the Premises; and

WHEREAS, Lessor and Lessee desire to adjust the rent in conjunction with the modifications to the Lease contained herein; and

WHEREAS, Lessor and Lessee desire to amend the Lease to modify the notice section thereof; and

WHEREAS, Lessor and Lessee desire to amend the Lease to permit Lessee to add, modify and/or replace equipment in order to be in compliance with any current or future federal, state or local mandated application, including but not limited to emergency 911 communication services; and

WHEREAS, Lessor and Lessee, in their mutual interest, wish to amend the Lease as set forth below accordingly.

NOW THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Lessor and Lessee agree as follows:

**1. Permitted Use.** The permitted use as delineated in paragraph 6 of the Lease and any reference in the Lease to "cellular radio telephone system" or "cellular" is hereby amended to include the transmission and reception of communications signals and the installation, construction, maintenance, operation, repair, replacement and upgrade of Lessee's communications fixtures and any related equipment, cables, accessories and improvements necessary for Lessee's use.

**2. Lease of the Premises.** Lessor agrees to increase the size of the Premises leased to Lessee to accommodate Lessee's needs. Lessor hereby leases to Lessee and Lessee leases from Lessor that portion of the Site generally described as follows: approximately fifty-eight (58) square feet of space on the roof of the Building for placement of Lessee's communications equipment cabinet and space on the northeast corner of the Building at an elevation of approximately thirty-seven feet (37) above ground level for the placement of up to eight (8) antennas, and approximately eighty (80) square feet of space on the top of the existing roof access stairwell for the placement of up to four (4) antennas (collectively, the "Premises") as shown for legal purposes in the attached Exhibit B-1 to the

Amendment. Lessor's execution of this Amendment will signify Lessor's approval of Exhibit B-1. Exhibit B-1 hereby replaces Exhibit B to the Lease.

**3. Term.** In addition to the optional extension terms presently set forth in the Lease, the parties hereby agree to add three (3) additional five (5) year term(s) (each five (5) year term shall be defined as an "Additional Extension Term"), upon the same terms and conditions presently set forth in the Lease unless Lessee notifies Lessor in writing of Lessee's intention not to renew this Lease at least sixty (60) days prior to the expiration of the extension term or then existing Additional Extension Term.

**4. Base Rent.** Commencing on the first day of the month following the date that Lessee commences construction of the modifications set forth in this Amendment the Base Rent shall increase by One Thousand Eight Hundred Eighty and No/100 Dollars (\$1880.00) per monthly, and shall continue during the term, subject to the annual adjustment identified in section 3(d) of the Lease. Upon Tenant's removal of additional antennas or vacation of additional space, the Base Rent will revert to the original rate, subject to adjustments as provided in the Lease, upon thirty (30) days' prior written notice to Lessor.

**5. Notices.** Section 16 of the Lease is hereby deleted in its entirety and replaced with the following:

**NOTICES.** All notices, requests, demands and communications hereunder will be given by first class certified or registered mail, return receipt requested, or by a nationally recognized overnight courier, postage prepaid, to be effective when properly sent and received, refused or returned undelivered. Notices will be addressed to the parties as follows.

If to Lessor: Lumbee Properties LLC  
Attn: Ben Chavis  
663 Haddon Road  
Oakland, CA 94610

If to Lessee: New Cingular Wireless PCS, LLC  
Attn: Network Real Estate Administration  
Re: Cell Site #: 12952-A  
Search Ring Name: CNU3950 12<sup>th</sup>-Madison  
Cell Site Name: 12<sup>th</sup>-Madison (CA)  
Fixed Asset No: 10087900  
575 Morosgo Drive NE  
Suite 13-F, West Tower  
Atlanta, GA 30324

With a copy to AT&T Legal Department:

New Cingular Wireless PCS, LLC  
Attn: AT&T Legal Department  
Re: Cell Site #: CNU3950  
Search Ring Name: 12<sup>th</sup>-Madison  
Cell Site Name: 12<sup>th</sup> - Madison (CA)  
Fixed Asset No: 10087900  
208 S. Akard Street  
Dallas, Texas 75202-4206

The copy sent to the AT&T Legal Department is an administrative step which alone does not constitute legal notice. Either party hereto may change the place for the giving of notice to it by thirty (30) days prior written notice to the other as provided herein.

6. **Emergency 911 Service.** In the future, without the payment of additional rent and at a location mutually acceptable to Lessor and Lessee, Lessor agrees that Lessee may add, modify and/or replace equipment in order to be in compliance with any current or future federal, state or local mandated application, including but not limited to emergency 911 communication services.

7. **Memorandum of Lease.** Either party will, at any time upon fifteen (15) days prior written notice from the other, execute, acknowledge and deliver to the other a recordable Memorandum of Lease substantially in the form of the Attachment 1. Either party may record this memorandum at any time, in its absolute discretion.

8. **Other Terms and Conditions Remain.** In the event of any inconsistencies between the Lease and this Amendment, the terms of this Amendment shall control. Except as expressly set forth in this Amendment, the Lease otherwise is unmodified and remains in full force and effect. Each reference in the Lease to itself shall be deemed also to refer to this Amendment.

9. **Capitalized Terms.** All capitalized terms used but not defined herein shall have the same meanings as defined in the Lease.

IN WITNESS WHEREOF, the parties have caused this Amendment to be effective as of the last date written below.

“Lessor”

Lumbee Properties LLC, a California limited liability company

By: Ben Davis  
Print Name: BEN DAVIS  
Its: \_\_\_\_\_  
Date: 12-5-13

“Lessee”

New Cingular Wireless PCS, LLC,  
a Delaware limited liability company

By: AT&T Mobility Corporation  
Its: Manager  
By: Michael Guibord  
Print Name: Michael Guibord  
Director  
Its: Construction & Engineering  
Date: 12/12/13

[ACKNOWLEDGMENTS APPEAR ON THE FOLLOWING PAGE]

**LESSOR ACKNOWLEDGMENT**

State of North Carolina  
County of Robeson

On 12-5-13 before me, Ben O'Neil, CEO  
(insert name and title of the officer)

personally appeared before me, Helen Deblaise Hammond Hardin  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of nc that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Helen Deblaise Hardin (Seal)

**LESSEE ACKNOWLEDGMENT**

State of California  
County of Contra Costa

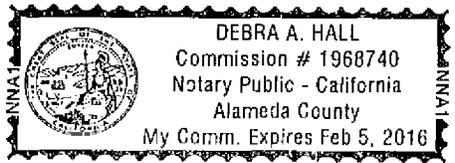
On December 12, 2013 before me, Debra A Hall-Notary Public  
(insert name and title of the officer)

personally appeared Michael Guebard  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Debra A Hall (Seal)



## EXHIBIT B-1

### DESCRIPTION OF PREMISES

Page \_\_\_ of \_\_\_

to the First Amendment to the Microcell Site Lease dated \_\_\_\_\_, 20\_\_, by and between Lumbee Properties LLC, as Lessor, and New Cingular Wireless PCS, LLC, a Delaware limited liability company, as Lessee.

The Premises are described and/or depicted as follows:

#### Premises Sketch or Survey:

[FOLLOWS ON NEXT PAGES]

#### Notes:

1. This Exhibit may be replaced by a land survey and/or construction drawings of the Premises once received by Lessee.
2. Any setback of the Premises from the Property's boundaries shall be the distance required by the applicable governmental authorities.
3. Width of access road shall be the width required by the applicable governmental authorities, including police and fire departments.
4. The type, number and mounting positions and locations of antennas and transmission lines are illustrative only. Actual types, numbers and mounting positions may vary from what is shown above.

APN: 002-0081-003

(E) SUBJECT BUILDING,  
(AMERICAN INDIAN PUBLIC  
CHARTER SCHOOL)

(E) TREE, TTP

PROPOSED AT&T PANEL ANTENNAS  
WITHIN PROPOSED FRP BOX SCREEN,  
(9) ANTENNAS

(E) 54'-0" H. IRON FENCE

(E) OVERHEAD CONDUITS

PROPOSED AT&T PURCELL FLYING OUTDOOR LTE  
EQUIPMENT CABINET MOUNTED ON (E)/PROPOSED  
PLATFORM EXTENSION

PROPOSED AT&T CONTSCOPE RBA72 OUTDOOR DC  
POWER CABINET MOUNTED TO (E)/PROPOSED  
PLATFORM EXTENSION

PROPOSED AT&T GPS ANTENNA MOUNTED TO  
PROPOSED CONTSCOPE CABINET

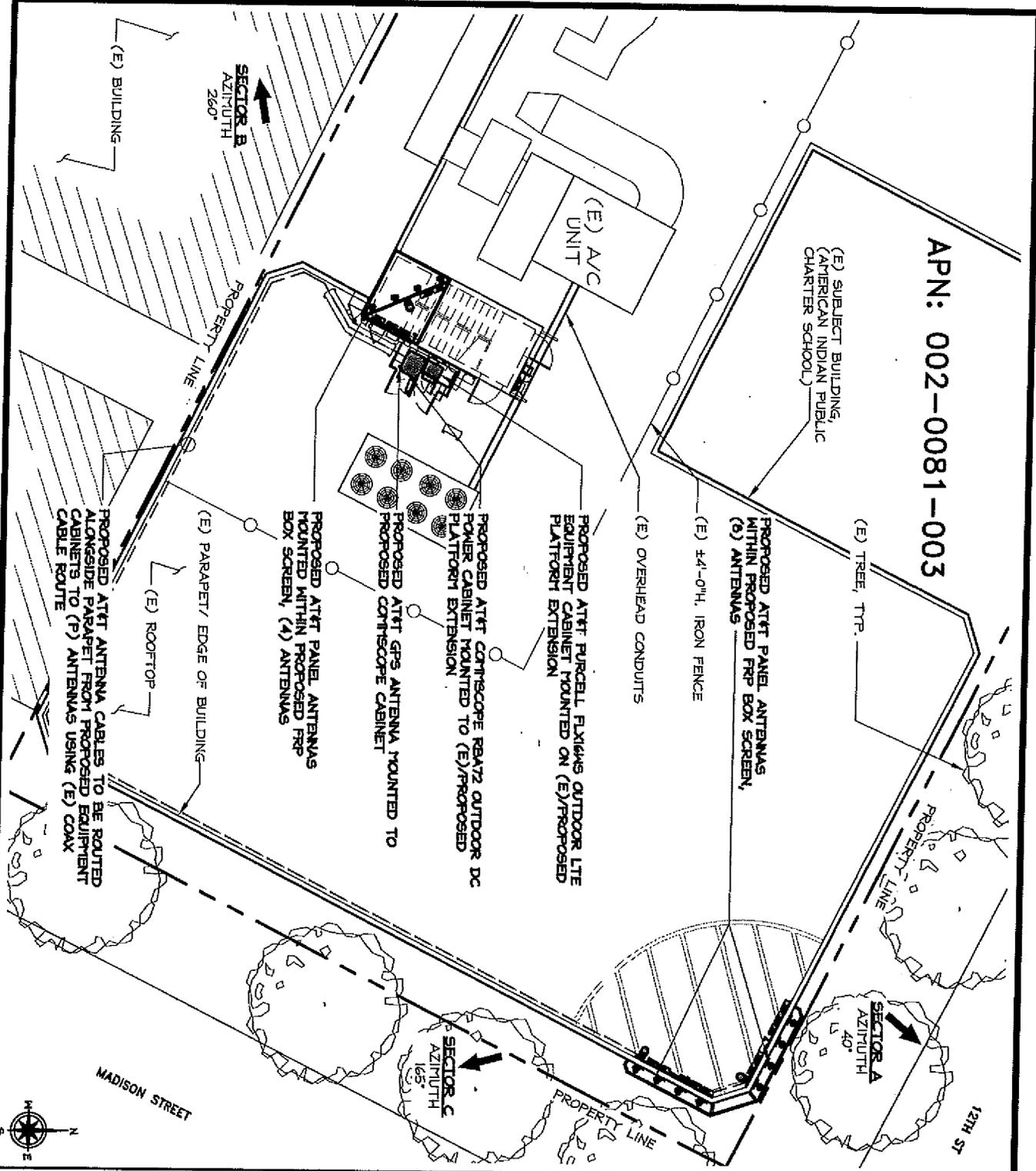
PROPOSED AT&T PANEL ANTENNAS  
MOUNTED WITHIN PROPOSED FRP  
BOX SCREEN, (4) ANTENNAS

PROPOSED AT&T ANTENNA CABLES TO BE ROUTED  
ALONGSIDE PARAPET FROM PROPOSED EQUIPMENT  
CABINET'S TO (P) ANTENNAS USING (E) COAX  
CABLE ROUTE

SECTOR B  
AZIMUTH  
260°

SECTOR A  
AZIMUTH  
40°

SECTOR C  
AZIMUTH  
165°



2600 CARINO RAYON  
SAN RAYON, CA 94588

575 LEBRON LANE, SUITE 225  
MOUNTAIN VIEW, CA 94039

ZAZALI & ASSOCIATES INC.  
2070 BUSINESS CENTER DRIVE  
SUNTEC CITY, CA 94608  
IRVINE, CA 92612

PROJECT NO. \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_

REV	DATE	DESCRIPTION
1	10/21/2010	LEASE EXHIBIT

PROJECT NAME:  
12TH-MADISON

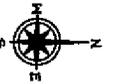
NUMBER:  
CN18060

FAI: 10087900

ADDRESS:  
171 12TH STREET  
OAKLAND, CA 94607

SHEET TITLE:  
LEASE EXHIBIT

SHEET NUMBER:  
LE-1





2600 CANTINO RAYTON  
SAN RAYTON, CA 94583



676 LENOX LANE, SUITE 126  
MILLIKIT CREEK, CA 94595



ZALZALI & ASSOCIATES, INC.  
2070 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO: \_\_\_\_\_  
DRAWN BY: RF  
CHECKED BY: DM

REV	DATE	LEAVE EXHIBIT	DESCRIPTION
A	10/21/2018		

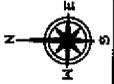
PROJECT NAME: 12TH-MADISON

NUMBER: CN13/950  
FA: 10087900

ADDRESS: 171 12TH STREET  
OAKLAND, CA 94607

SHEET TITLE  
LEASE EXHIBIT

SHEET NUMBER  
LE-2



PROPOSED AT&T PANEL ANTENNAS MOUNTED  
BEHIND PROPOSED FRP BOX SCREEN (4) PER  
SECTOR, (3) SECTORS TOTAL

PROPOSED FRP BOX SCREEN MOUNTED  
ON TOP OF STAIRWELL PENTHOUSE

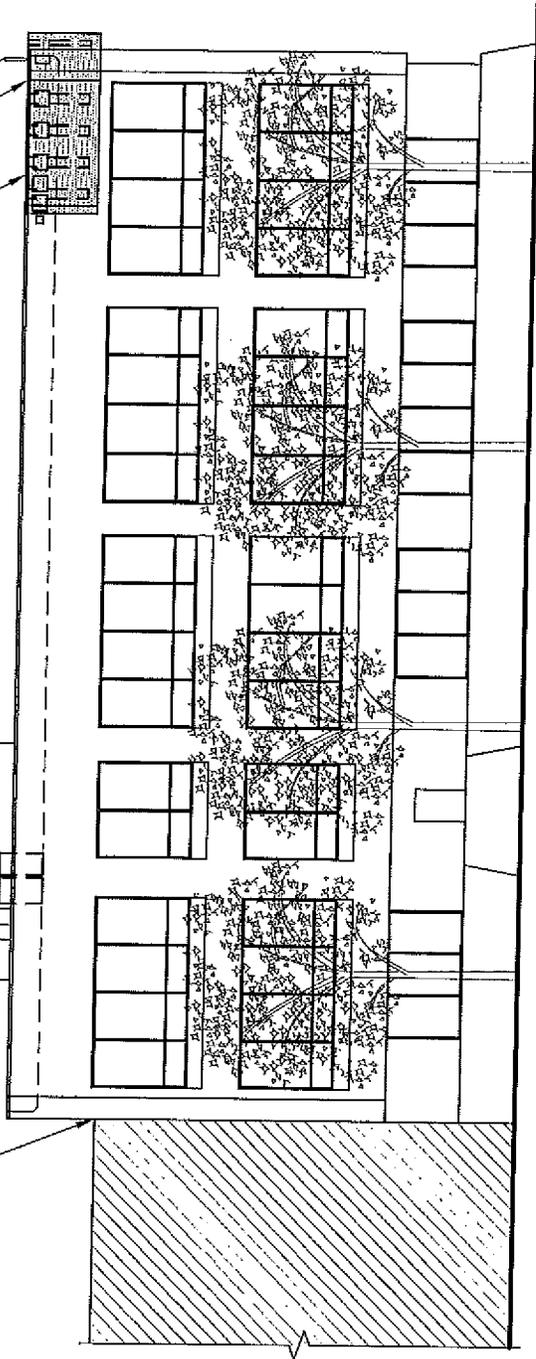
(E) STAIRWELL  
PENTHOUSE

(E) BUILDING

(E) CP-NI ANTENNA, TO REMAIN

PROPOSED AT&T RF TRANSPARENT  
SCREENED BOX PAINTED AND TEXTURED  
TO MATCH (E) BUILDING

PROPOSED AT&T PANEL ANTENNAS MOUNTED  
BEHIND PROPOSED FRP BOX SCREEN (4) PER  
SECTOR, (3) SECTORS TOTAL





### GENERAL CONSTRUCTION NOTES:

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING CODE, THE LATEST EDITION AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
  - CONTRACTOR SHALL CONSTRUCT SITE IN ACCORDANCE WITH THESE DRAWINGS AND CONSTRUCTION SPECIFICATIONS. THE PROJECT SHALL BE IN ACCORDANCE WITH THE BUILDING DEPARTMENT AND ANY DISCREPANCIES BETWEEN THE SPECIFICATION AND THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  - CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROJECT. HE SHALL MAKE PROVISIONS AS TO THE COST OF ANY WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND 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 ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OF FIELD CONDITIONS.
  - PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGNOSTIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS. OWNER PROVIDED MATERIALS WILL INCLUDE THE FOLLOWING, UNLESS NOTED OTHERWISE:
    - TRANSMITTER
    - RF FILTER
    - FMPS RACK
    - AUXILIARY EQUIPMENT IN FMPS RACK
    - FILTER ASSEMBLY
    - HEAT EXCHANGER
    - HOSE AND HOSE MANIFOLDS (ANY COPPER OR STEEL SECTIONS PROVIDE BY CONTRACTOR)
    - USE ANTENNA AND MOUNTING BRACKETS, GPS ANTENNAS AND KU ANTENNAS
    - 400-200 & 200-400 ELECTRICAL TRANSFORMERS (RE: E-2 FOR SPECIALIZED TRANSFORMERS PROVIDED BY CONTRACTOR)
    - USE COAXIAL SWITCH AND GENERATOR
    - EQUIPMENT WHELTER (SHELTERS FURNISHED IN FACTORY BY HVAC EQUIPMENT AND ELECTRICAL DISTRIBUTION PANELS)
    - INTERFACER
  - DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, REGULATIONS OR ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE WORK.
  - DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
  - CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORITY TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
  - CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCING AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE 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.
  - CONTRACTOR SHALL COORDINATE HIS WORK WITH THE SUPERINTENDENT OF BUILDINGS & CODES AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
  - INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
  - MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING ETC. AND IMMEDIATELY REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
  - IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC. MUST BE CLEARLY UNDERSTOOD THAT REINFORCING STEEL SHALL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES (UNLESS NOTED OTHERWISE). LOCATIONS OF REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT.
  - REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND IN WITH ADJACENT SURFACES.
  - SEAL PENETRATIONS THROUGH FIVE RATED AREAS WITH U.S. LISTED AND FIRE CODE APPROVED MATERIALS.
  - KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SPRAYS OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
  - MINIMUM BEND RADIUS OF ANTENNA CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURERS RECOMMENDATIONS.
  - ALL EXISTING INACTIVE SPINER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR PROTECTED. ANY UTILITIES NOT OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO APPLICABLE REGULATORY AUTHORITIES.
  - CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH JURISDICTIONAL OR STATE AND LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL AND COORDINATED WITH LOCAL REGULATORY AUTHORITIES.
  - ALL CONSTRUCTION IS TO ADHERE TO ATTY'S INTEGRATED CONSTRUCTION STANDARDS UNLESS CALIFORNIA CODE WORK STRIKED.
- ### ELECTRICAL NOTES:
- ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER AS SOON AS POSSIBLE AFTER THE "DISCOVERY" OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE "CONSTRUCTION MANAGER" HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
  - ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL EXISTING CONDITIONS OF ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBSTITUTION OF HIS OWN EQUIP. TO COMPLY WITH THIS PARAGRAPH. HE SHALL HAVE NO OBLIGATION CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
  - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER & TELEPHONE COMPANIES HAVING JURISDICTION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO:
    - NATIONAL FIRE CODES
    - NATIONAL UNDERWRITERS LABORATORIES
    - NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
    - OCCUPATIONAL SAFETY AND HEALTH ACT
    - STANDARD BUILDING CODE
  - DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH "CONSTRUCTION MANAGER" ANY SIZES AND LOCATIONS WHEN NEEDED.
  - EXISTING SERVICES: CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
  - CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR COMMENCING EQUIPMENT.
  - THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
  - CONTRACTOR SHALL CONFORM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE USE OF RESTRICTIONS CONSULT ENTRY, USE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS CONFIRMATION, ETC.. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
  - MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING, UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THIN INSULATION.
  - OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
  - IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
  - ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATIONS, SET FORTH BY ATTY.
  - ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.
  - ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
  - CONTRACTOR SHALL GUARANTEE AGAINST MATERIALS AND WORK FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
  - THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
  - ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND POTENTIAL PROPERTY DAMAGE FOR THE DURATION OF WORK.
  - PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
  - DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO NOTES AND REQUIREMENTS EXCAVATION, AND BACKFILLING.
  - MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF ALL APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IEC.
  - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURERS CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
  - ANY LIFTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE CONSTRUCTION MANAGER UPON FINAL ACCEPTANCE.
  - THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
  - DISCONNECT SWITCHES SHALL BE 1/2" RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY SPECIFICATIONS.
  - ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDANT COMPOUND SUCH AS INCO-ORGANIC BT DEARBORNER CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. DISPOSED COPPER SURFACES, INCLUDING CONDUIT BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
  - RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC RIGID OR EXCEEDING NEMA 100 - 1000. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 300 LBS TEST POLYETHYLENE COPD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 90 DEGREE. RIGID CONDUITS WHEN SPECIFIED, SHALL BE TEST U-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH BRIS 2100 OR GOLD GALV.
  - SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
  - CONDUCTORS: CONTRACTOR SHALL USE 90% CONDUCTIVITY COPPER WITH TYPE THIN INSULATION, 900 VOLT, COLOR CODED, USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 6 AWG. USE STRAIGHT CONDUCTORS FOR WIRE ABOVE NO. 6 AWG.
  - CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TIGHT INSULATED THIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER, USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
  - SERVICE: 240/120V, SINGLE PHASE, 3 WIRE CONNECTION AVAILABLE FROM UTILITY COMPANY. OWNER OR OWNERS AGENT WILL APPLY FOR POWER.
  - TELEPHONE SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.
  - ELECTRICAL, AND TELL RACEWAYS TO BE BURIED A MINIMUM OF 2' DEPTH.
  - CONTRACTOR SHALL PLACE TWO LENGTHS OF HARDING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELEPHONE CONDUITS. CAUTION TAPE TO READ "CAUTION BURIED ELECTRICAL OR BURIED TELEPHONE".

34. ALL BOLTS SHALL BE STAINLESS STEEL.

### GROUNDING NOTES:

- COMPRESSION CONNECTIONS (2) 2 AWG BARE TINED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC BOND.
- USE SHALL USE PERMANENT PAPER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("M", "N", "P") WITH A HIGH LETTERS.
- ALL HARDWARE IS 304 STAINLESS STEEL INCLUDING LOCK WASHERS. COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE FINISHING. ALL HARDWARE SHALL BE STAINLESS STEEL 5/8" INCH DIAMETER OR LARGER.
- FOR GROUND BOND TO STEEL ONLY, INSERT A CARBIDE FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE FINISHING.
- NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND BOLTED ON THE BACK SIDE.
- NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION, PROVIDE AS REQUIRED.
- WHEN THE SCOPE OF WORK REQUIRES THE ADDITION OF A GROUNDING BAR TO AN EXISTING TOWER, THE SUBCONTRACTOR SHALL OBTAIN APPROVAL FROM THE TOWER OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER.
- ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 700 (LATEST EDITION), AND MANUFACTURERS.

### FOUNDATION, EXCAVATION & BACKFILL NOTES:

- ALL FINAL GRADED SLOPES SHALL BE A MAXIMUM OF 3 HORIZONTAL TO 1 VERTICAL.
- ALL EXCAVATIONS PREPARED FOR PLACEMENT OF CONCRETE SHALL BE OF UNDISTURBED SOILS, SUBSTANTIALLY HORIZONTAL AND FREE FROM ANY LOOSE UNSUITABLE MATERIAL, OR FROZEN SOILS, AND WITHOUT THE PRESENCE OF POUNDING WATER. DEMARKING FOR EXCESS GRAAD MUST BE PROVIDED WHEN REQUIRED. CONNECTION OF SOILS UNDER CONCRETE PAD FOUNDATIONS SHALL NOT BE LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR THE SOIL IN ACCORDANCE WITH ASTM D667.
- CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC OR UNSUITABLE MATERIAL, IF NECESSARY THE AREA REACHED AFTER EXCAVATION SHALL BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE RAKE TYPE SPECIFIED FOR THE FOUNDATION. CRUSHED STONE THAT IS USED TO STABILIZE THE BOTTOM OF THE EXCAVATION, ANY STONE SUB BASE MATERIAL, IF USED, SHALL NOT SUBSTITUTE FOR REQUIRED THICKNESS OF CONCRETE.
- ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH PRIOR TO THE PLACING. BACK FILLING SHALL BE WITH APPROVED MATERIALS SUCH AS EARTH, LOAM, SANDY CLAY, SAND AND GRAVEL, OR SOFT SHALE. FREE FROM FLOOD OR LARGE STONES OVER 2 1/2" MAX DIMENSIONS. ALL BACK FILL SHALL BE PLACED IN COMPACTED LIFTS.
- ALL FILL MATERIALS AND FOUNDATION BACK FILL SHALL BE PLACED IN MAXIMUM 6" LIFTS BEFORE COMPACTION. EACH LIFT SHALL BE WETTED IF REQUIRED AND COMPACTION TO NOT LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR SOIL IN ACCORDANCE WITH ASTM D667.
- NEARLY PLACED CONCRETE FOUNDATIONS SHALL CURE A MINIMUM OF 72 HRS PRIOR TO BACK FILLING.
- FINISHED GRADING SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AND PREVENT STANDING WATER. THE FINAL (FINISH) ELEVATION OF SLAB FOUNDATIONS SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE CENTER. FINISH GRADE OF CONCRETE PADS SHALL BE A MAXIMUM OF A 1/4" ABOVE FINAL FINISH GRADE ELEVATIONS. PROVIDE SURFACE FILL GRADE TO ESTABLISH SPECIFIED ELEVATIONS WHERE REQUIRED.
- NEWLY GRADED SURFACE AREAS TO RECEIVE GRAVEL SHALL BE COVERED WITH GEOTEXTILE FABRIC TYPE TYRAS-300 AS MANUFACTURED BY CONSTRUCTION MATERIAL 1-800-299-6667 OR AN APPROVED EQUIVALENT, SHOWN ON PLANS. THE GEOTEXTILE FABRIC SHALL BE BLACK IN COLOR TO CONTROL THE REQUIREMENT OF VEGETATIVE GROWTH AND EXTEND TO WITHIN 1 FOOT OUTSIDE THE SITE BOUNDARY OR ELECTRICAL GROUNDING SYSTEM PERIMETER HEIGHT IS GREATER. ALL FABRIC SHALL BE COVERED WITH A MINIMUM OF 4" DEEP COMPACTED STONE OR GRAVEL AS SPECIFIED, I.E. FOOT TYPE NO. 57 NON FENCED COMPOUND FOOT TYPE NO. 67 FOR ACCESS DRIVE GRAVEL.
- IN ALL AREAS TO RECEIVE FILL, REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, MET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE. PLYN STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SUCH THAT FILL MATERIAL WILL BOND WITH EXISTING/PROPOSED SOIL SURFACE.
- WHEN SUB GRADE OR PREPARED GROUND SURFACE HAS A DENSITY LESS THAN THAT REQUIRED FOR THE FILL MATERIAL, SCARIFY THE GROUND SURFACE TO DEPTH REQUIRED, TUMBLE, DISTURBE CONDITION AND/OR ABRADE THE SOILS AND RECOMPACT TO THE REQUIRED DENSITY PRIOR TO PLACEMENT OF FILL.
- IN AREAS WHICH EXISTING GRAVEL SURFACING IS REMOVED OR DISTURBED DURING CONSTRUCTION OPERATIONS, REPLACE GRAVEL SURFACING TO MATCH ADJACENT GRAVEL SURFACING AND RESTORED TO THE SAME THICKNESS AND COMPACTION AS SPECIFIED. ALL RESTORED GRAVEL SURFACING SHALL BE FREE FROM CORROSIONS AND NAVES.
- EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED WITH THE CONDITION THAT ANY UNFAVORABLE AMOUNTS OF ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ANY ADDITIONAL GRAVEL RESURFACING MATERIAL AS NEEDED TO PROVIDE FULL DEPTH COMPACTED SURFACE TO GRAVEL SITE.
- GRAVEL SUB SURFACE SHALL BE PREPARED TO REQUIRED COMPACTION AND SUB GRADE ELEVATIONS BEFORE GRAVEL SURFACING IS PLACED AND/OR RESTORED. ANY LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED AND ANY DEPRESSIONS IN THE SUB GRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL. GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUB GRADE.
- PROTECT EXISTING GRAVEL SURFACING AND SUB GRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING MATTS OR OTHER SUITABLE PROTECTION DESIGNED TO SPREAD EQUIPMENT LOADS AS MAY BE NECESSARY. REPAIR ANY DAMAGE TO EXISTING GRAVEL SURFACING OR SUB GRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTORS OPERATIONS.
- DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES RESULTING FROM CONTRACTORS NEGLIGENCE SHALL BE REPAIRED AND/OR REPLACED TO THE OWNERS SATISFACTION AT NO ADDITIONAL COST TO THE CONTRACT.
- ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE REMOVED OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES AT NO ADDITIONAL COST TO THE CONTRACT.



4430 ROSEWOOD DR. BLDG. #3  
PLEASANTON, CA 94688



575 LENNON LANE, SUITE 125  
WALNUT CREEK, CA 94590



ZALZALI & ASSOCIATES INC.  
2010 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO: -

DRAWN BY: RF

CHECKED BY: DBA

DATE: -

SCALE: -

REVISIONS:

NO. DATE DESCRIPTION

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2. 02/20/2009 300 CDS FOR REDLINE

3. 02/20/2009 300 CDS FOR REDLINE

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## SITE WORK & DRAINAGE

### PART 1 - GENERAL

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED ROAD SHOULDER IN THESE PLANS.

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).
2. INSPECTION AND TESTING:
  - A. FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS SHALL BE PERFORMED BY SUBCONTRACTORS INDEPENDENT TESTING LABS. THIS WORK TO BE COORDINATED BY THE SUBCONTRACTOR.
  - B. ALL WORK SHALL BE INSPECTED AND RELEASED BY THE GENERAL CONTRACTOR WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONSENT TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE SUBCONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.
3. SITE MAINTENANCE AND PROTECTION:
  - A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE SUBCONTRACT.
  - B. AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS 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 SIGNAL DEVICES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
  - F. EXISTING UTILITIES AND EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERTINENT 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 D2922 (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 FAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.2 NON-POROUS GRANULAR EMPANMENT AND BACKFILL ASTM D2922 (CLASS II, III, IV OR V) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY FAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.3 POROUS GRANULAR EMPANMENT AND BACKFILL ASTM D2922 (CLASS I, II, III OR IV) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY FAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.4 SELECT STRUCTURAL FILL GRANULAR FILL MATERIAL MEETING THE REQUIREMENTS OF ASTM D2924. FOR USE ABOVE AND UNDER STRUCTURES WHERE STRUCTURAL FILL MATERIAL ARE REQUIRED.
- 2.5 GRANULAR BEDDING AND TRENCH BACKFILL, WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2924.
- 2.6 COARSE AGGREGATE FOR ACCESS ROAD SUBGRADE COURSE SHALL CONFORM TO ASTM D2924.
- 2.7 UNSUITABLE FILL MATERIAL UNDESIRABLE FOR BACKFILL: MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DELIBERATE BIOTERRIC MATERIAL, VEGETATIVE MATTER, MOSS, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION, AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL THESE MAY BE SOLS CLASSIFIED BY ASTM AS PT, PA, CH, CH, M, AND D.
- 2.8 EXISTING FABRIC FIBRE SOIL OR APPROVED EQUAL.
- 2.9 PLASTIC MARKING TAPE SHALL BE LIGHT AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING AND LOCATION UNDERGROUND UTILITIES, 6 INCHES WIDE WITH A MINIMUM THICKNESS OF 0.04 INCH. TAPE SHALL HAVE MINIMUM DIRECTION OF 150 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL CONDUCTORS, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3 FEET DEEP. THE METALLIC CORE OF THE TAPE SHALL BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH 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 STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONTROLLED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE PROTECTED AT ALL TIMES.
  - B. BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
  - C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, RUBBISH, AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.
- 3.2 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 OPENED IN OR PROTRUDING THROUGH THE GROUND SURFACE, ROCKS, OR FLOM THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
- 3.3 REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID FROZEN TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.
- 3.4 EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, EROSION CONTROL MEASURES, OR OTHER WORK WITH SUITABLE FILL.
- 3.5 REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING SHALL NOT BE PERMITTED. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE PROTECTION OF THE FACILITIES. THE CONTRACTOR IS RESPONSIBLE FOR TAKING APPROPRIATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL MEASURES MAY BE REQUIRED IN ALL AREAS SUBJECT TO EXPOSURE.
- 3.6 CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS OF ALL SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT REMOVAL AS NECESSARY.
- 3.7 CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE WELD TO A MINIMUM OF THREE FEET FROM THE CONSTRUCTION OF THE FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING APPROPRIATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL MEASURES MAY BE REQUIRED IN ALL AREAS SUBJECT TO EXPOSURE.
- 3.8 CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY AND STATE CODES AND ENHANCED TO PREVENT EROSION FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAIN BUCKETS, CHECK DAMS, AND OTHER MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- 3.9 TOP SOIL OF SIZES INDICATED SHALL CONSIST OF CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY STONE FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRAGILE, THIN, FLAKED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, FIL, ALKALI, OR OTHER DELIBERIOUS SUBSTANCES.

THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED TO THE DENSITY INDICATED.

- 3.10 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DENSITY TESTING. THE CONTRACTOR SHALL TAKE IMMEDIATE APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND BENDING, ADDING WATER OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM DENSITY REQUIREMENTS.
- 3.11 THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS CALLED BY THE STANDARD PROCTOR TEST, ASTM D 1557.
- 3.2 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 COLLAPSE OR SUBSIDING OF THE TRENCH WALLS.
  - B. EXTEND THE TRENCH WIDTH A MINIMUM OF 4 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
  - C. WHEN SOFT TRENCHING, 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.
- 3.3 TRENCH BACKFILL:
  - A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS 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 BEDDING MATERIAL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 3-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS.
  - E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING. ABOVE THE CONDUIT EMPANMENT SHALL BE PLACED AND CONTACT SATISFACTORY BACKFILL MATERIAL IN 3-INCH MAXIMUM THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
  - F. PROVIDE 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 1557.
- 3.4 AGGREGATE ACCESS ROAD:
  - A. CLEAR, GRUB, STOP AND EXCAVATE FOR THE ACCESS ROAD TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. SCOURIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL ALL HOLES, RITS, ECT. PLACE AND OTHER DEBRIS SHALL BE CORRECTED.
  - B. THE ENTIRE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT 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 500K) SHALL BE INSTALLED TO THE LIFTS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY TO THE GRADES. THE FABRIC SHALL BE TRAPPED AGAINST THE SUBGRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION, ROLLING OUT AS SMOOTHLY AS POSSIBLE.
  - D. OVERLAPS PARALLEL TO THE ROADWAY SHALL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY SURFACE WIDTH (I.E. WITHIN THE SHOULDER WIDTH) ONLY. NO LONGITUDINAL OVERLAP SHALL BE PERMITTED. OVERLAPS BETWEEN THE CENTERLINE AND THE SHOULDER PARALLEL OVERLAP SHALL BE A MINIMUM OF 3 FEET MIN.
  - E. TRANSVERSE (PERPENDICULAR TO THE ROADWAY) OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL OR LIFT) AND SHALL HAVE A MINIMUM LENGTH OF 5 FEET.
  - F. ALL OVERLAPS SHALL BE FINISHED WITH STAPLES OR NAILS A MINIMUM OF 10 INCHES LONG TO INSURE POSITIONING DURING PLACEMENT OF AGGREGATE. PIN LENGTHS SHALL BE 25 FOOT CENTERS AND TRANSVERSE SPACES EVERY 5 FEET.
  - G. THE AGGREGATE BASES AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS NOT THICKER THAN 4 INCH (COMPACTED) THICKNESS. AGGREGATE TO BE PLACED ON GEOTEXTILE FABRIC SHALL BE PLACED IN LIFTS NOT THICKER THAN 4 INCHES. THE FABRIC SHALL BE TRAPPED AGAINST THE PLACED AGGREGATE. THE FIRST LIFT SHALL BE BLASTED DOWN TO A MINIMUM OF 2 INCHES BELOW TO CONTACT. AT NO TIME SHALL EQUIPMENT, EITHER TRUCKS OR LOADERS, BE DRIVEN ON THE MATERIAL COVERING THE FABRIC.
  - H. THE AGGREGATE SHALL BE THOROUGHLY COMPACTED TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE PROCTOR TEST, ASTM D 1557 WITH A TAMPING ROLLER, OR WITH A PNEUMATIC-TYRED 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 TAMPER ROLLER.
- 3.5 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 FILLS, EMBANKMENTS AND FOR REPLACEMENT 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 SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.
- 3.6 ASPHALT PAVING ROAD:
  - A. DIVISION 600 - 4" FDOT FLOORABLE PAVEMENT. (UPDATE PER LOCAL DOT)
  - B. SECTION 403 - 1" FDOT ASPHALT CONCRETE PAVEMENT.

### ENVIRONMENTAL NOTES

1. ALL WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH ISSUED PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PROPER CLEAN UP FOR AREAS IN VIOLATION.
2. CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS AND WATERWAYS AND SHALL BE MAINTAINED IN PLACE THROUGH FINAL JURISDICTIONAL INSPECTION AND RELEASE OF SITE.
3. CONTRACTOR SHALL INSTALL NECESSARY SEDIMENT/CONTROL, FENCING AND PROTECTIVE MEASURES WITHIN THE LIMITS OF SITE DISTURBANCE PRIOR TO CONSTRUCTION. NO SEDIMENT SHALL BE PERMITTED TO EXIT THE PROPERTY. THE CONTRACTOR IS RESPONSIBLE FOR TAKING APPROPRIATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL MEASURES MAY BE REQUIRED IN ALL AREAS SUBJECT TO EXPOSURE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS OF ALL SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT REMOVAL AS NECESSARY.
5. CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE WELD TO A MINIMUM OF THREE FEET FROM THE CONSTRUCTION OF THE FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING APPROPRIATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL MEASURES MAY BE REQUIRED IN ALL AREAS SUBJECT TO EXPOSURE.
6. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY AND STATE CODES AND ENHANCED TO PREVENT EROSION FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAIN BUCKETS, CHECK DAMS, AND OTHER MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
7. TOP SOIL OF SIZES INDICATED SHALL CONSIST OF CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY STONE FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRAGILE, THIN, FLAKED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, FIL, ALKALI, OR OTHER DELIBERIOUS SUBSTANCES.

### CONCRETE MASONRY NOTES

1. CONCRETE MASONRY UNITS SHALL BE PRECAST HEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-4, (770-1500 PSI), FREIGHT WEIGHT (75 PCF).
2. PORTLAND CEMENT SHALL BE TYPE I-60 (MINIMUM 1,000 PSI AT 28 DAYS).
3. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.
4. ALL CELLS CONTAINING STEEL REINFORCING STEEL AND ALL CELLS IN RETAINING WALLS AND BELL BOWLS GRADE SHALL BE SOLID GROUTED.
5. ALL HORIZONTAL REINFORCING SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS, WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT FOUR 1/2" BELOW TOP OF THE UPPERMOST UNIT.
6. ALL BOND BEAM BLOCK SHALL BE DEEP CUT UNITS.
7. PROVIDE INSULATION AND GLEASHTO HOLE AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT.
8. ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.
9. PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
10. REINFORCING BARS - SEE NOTES UNDER "REINFORCING STEEL" FOR REQUIREMENTS.
11. PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
12. LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET.
13. HIGH LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 204.6.1 OF CURRENT BUILDING CODE.
14. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED WITH GROUT, EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.
15. CELLS SHALL BE IN VERTICAL ALIGNMENT, DONOLS IN FOOTINGS SHALL BE SET TO ALIGN WITH JOINT TYPE.
16. REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.
17. SAND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM ILLEGAL AMOUNTS OF DUST, LUMPS, SHALL, ALKALI OR ORGANIC MATERIAL.
18. BLOCK SHALL CONFORM TO ASTM C-902 AND SHALL BE GRADE 114 OR BETTER.

### STRUCTURAL CONCRETE NOTES

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 308.10-02.
2. ACI 308-10R AND THE SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS UNLESS NOTED OTHERWISE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED BARS UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL WELDS SHALL BE STANDARD UNLESS NOTED OTHERWISE.
5. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH	2 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER	AS LARGER
45 AND SMALLER 1/4" W/WF	1-1/2 IN.
6. CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:

SLAB AND WALL	3/4 IN.
SEATS AND COLUMNS	1-1/2 IN.
7. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE UNLESS IN ACCORDANCE WITH ACI 308 SECTION 4.2.2.
8. HOLE TO RECEIVE EXPANSION/JEWE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWN OR ROD AND SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. LOCATE AND AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN ELEVATED CONCRETE SLABS.
9. USE AND INSTALLATION OF CONCRETE EXPANSION/JEWE ANCHOR, SHALL BE PER EICC 4 MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.

### STRUCTURAL STEEL NOTES

1. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW:

W-SECTIONS	ASTM A572, 50 KSI
ANGLES, DASH CHANNELS	ASTM A572, 50 KSI
PIPE SECTIONS	ASTM A53, 48 KSI
PIPE SECTIONS	ASTM A53, 48 KSI
2. ALL EXTERIOR EXPOSED STEEL AND HARDWARE SHALL BE HOT DIPPED GALVANIZED.
3. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC/EWING FILLET WELD SPECIFICATIONS. PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCH UP.
4. BOLTED CONNECTIONS SHALL BE ASTM A505 BEARING TYPE 3/4" CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
5. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A507 BOLTS UNLESS NOTED OTHERWISE.
6. FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT.

4820 ROSEWOOD DR. BLDG. #3  
PLEASANTON, CA 94588

375 LENNON LANE, SUITE 125  
MALDEN CREEK, CA 94558

ZALZALI & ASSOCIATES INC.  
2070 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO.	
DRAWN BY:	RF
CHECKED BY:	DK
DATE:	
NO.	
DATE	DESCRIPTION
1	10/1/2009 100% CDS FOR REDLINE
2	10/1/2009 100% CDS FOR REDLINE

NOT FOR CONSTRUCTION

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.

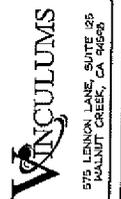
CNU3950/FA/10087900  
12TH-MADISON  
171 12TH STREET  
OAKLAND, CA 94607  
(ROOFTOP)

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
GN-2



4830 ROSELAND DR. BLDG. 18  
PLEASANTON, CA 94665



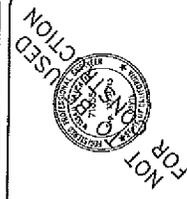
575 LENOX LAKE SUITE 05  
HAUNUT CREEK, CA 94609



ZALZALI ASSOCIATES INC.  
2010 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO.	-
DRAWN BY	BT
CHECKED BY	BT

REV	DATE	DESCRIPTION
3	10/2003	SEE EXP FOR REVISION
4	10/2003	SEE EXP FOR REVISION



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

CNU3950 / FA:100879500  
12TH-MADISON  
171 12TH STREET  
DANKLAND, CA 94507  
(ROFTCP)

SHEET TITLE  
GENERAL SIGNAGE  
DETAILS

SHEET NUMBER  
GN-3

- REMARK AND-SERIES INFORMATION**
1. FOLLOWING INFORMATION IS A GUIDELINE BY REFERENCE TO PRESENTED ENERGY AND SHOULD BE USED AS SUCH. IN THE NOTES OF THIS DRAWING, THE NUMBER OF FEET FOR ANY REGULATORY REQUIREMENTS SHOULD BE CHANGED TO REFLECT THE NUMBER OF FEET OF EXPOSURE AS REQUIRED BY THE PUBLIC LIMIT OF EXPOSURE GUIDELINE OR REGULATION SHOWING OCCUPATIONAL LIMIT OF EXPOSURE ALLOWED BY AFT 19.
  2. IF THE POSITION OF THE ANTENNA IS CHANGED (S) 4-FT FEET LIMIT OF EXPOSURE MUST BE MAINTAINED. THE PERSONAL COMMUNICATIONS CENTER (PCS) AND PERSONAL COMMUNICATIONS SYSTEM (PCS) ANTENNAS MUST BE MAINTAINED WITHIN THE BARRICADES AND STRIPING SHALL BE PLACED AROUND THE ANTENNA AFTER COMPLETION OF SITE CONSTRUCTION. BARRICADES AND STRIPING FOR PLACEMENT OF SIGN.
  3. THE AREA IS PUBLICLY ACCESSIBLE. THE SIGNAGE SHALL BE MAINTAINED AND THE AREA SHALL BE KEPT CLEAR OF OBSTRUCTIONS. THE SIGNAGE SHALL BE MAINTAINED AND THE AREA SHALL BE KEPT CLEAR OF OBSTRUCTIONS. THE SIGNAGE SHALL BE MAINTAINED AND THE AREA SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
  4. THE SIGNAGE SHALL BE MAINTAINED AND THE AREA SHALL BE KEPT CLEAR OF OBSTRUCTIONS. THE SIGNAGE SHALL BE MAINTAINED AND THE AREA SHALL BE KEPT CLEAR OF OBSTRUCTIONS. THE SIGNAGE SHALL BE MAINTAINED AND THE AREA SHALL BE KEPT CLEAR OF OBSTRUCTIONS.

**GENERAL NOTES**

**NOTICE**

Beyond This Point you are entering a controlled area where RF emissions may exceed the FCC Controlled Exposure Limits.

Please do not work in this guideline for working in RF environment.

**INFORMATION SIGNAGE**

Beyond This Point you are entering a controlled area where RF emissions may exceed the FCC Controlled Exposure Limits.

Obey all posted signs and site guidelines for working in RF environment.

**GENERAL NOTES**

**CAUTION**

Beyond This Point you are entering a controlled area where RF emissions may exceed the FCC Controlled Exposure Limits.

Obey all posted signs and site guidelines for working in RF environment.

**FENCED COMPOUND SIGNAGE**

PROPERTY OF AT&T  
AUTHORIZED PERSONNEL ONLY

IN CASE OF EMERGENCY, OR PRIOR TO PERFORMING MAINTENANCE ON THIS SITE, CALL 800-368-9822 AND REFERENCE CELL SITE NUMBER.

**GENERAL NOTES**

**CAUTION AND WARNING SIGN**

Beyond This Point you are entering a controlled area where RF emissions may exceed the FCC Controlled Exposure Limits.

Obey all posted signs and site guidelines for working in RF environment.

10

4

3

1

**PROPERTY OF AT&T  
AUTHORIZED PERSONNEL ONLY**

No Trespassing  
Visitors will be Presented  
In case of emergency, or prior to performing maintenance on this site, call and reference cell site number

**NO TRESPASSING**

FEDERAL COMMUNICATIONS COMMUNICATIONS IDENTIFICATION NUMBER 1 2 3 4 5 6 7 PORTS IN COMPLIANCE WITH FEDERAL COMMUNICATIONS COMMISSION RULES AND ANTENNA TOWER REGISTRATION APPROVAL

**FCC ASS SIGNAGE**

PROPERTY OF AT&T  
AUTHORIZED PERSONNEL ONLY

No Trespassing  
Visitors will be Presented  
In case of emergency, or prior to performing maintenance on this site, call and reference cell site number

**DOOR / EQUIP. SIGN**

PROPERTY OF AT&T  
AUTHORIZED PERSONNEL ONLY

IN CASE OF EMERGENCY, OR PRIOR TO PERFORMING MAINTENANCE ON THIS SITE, CALL 800-368-9822 AND REFERENCE CELL SITE NUMBER.

5

6

7

8

9

10



BATTERY INFORMATION SHEET

1. GENERAL INFORMATION

Model No. 26-38-0.65  
 Voltage 26  
 Capacity 38.0 Ah @ 20°C  
 Weight 6.5 lbs  
 Dimensions 10.5" x 4.9" x 9.0"

2. ELECTRICAL CHARACTERISTICS

Temp. (°C)	Capacity (Ah)	Self-Discharge (%)	Internal Resistance (mΩ)
20	38.0	3.0	20
0	35.0	3.5	25
-10	32.0	4.0	30
-20	28.0	4.5	35
-30	24.0	5.0	40
-40	20.0	5.5	45

3. OPERATIONAL LIMITS

Operating Temp. Range: -40°C to 50°C  
 Storage Temp. Range: -40°C to 60°C  
 Max. Charge Current: 3.8A (1C)  
 Max. Discharge Current: 3.8A (1C)  
 Max. Voltage: 28.0V (1.40V/cell)  
 Min. Voltage: 1.75V/cell

EXIDE BATTERY COMPANY, INC. 10000 W. CENTRAL EXPRESSWAY, SUITE 100, DENVER, CO 80231

4. PHYSICAL CHARACTERISTICS

Case Material: ABS Plastic  
 Terminal Material: Lead  
 Terminal Type: D-Terminals  
 Weight: 6.5 lbs (2.95 kg)  
 Dimensions: 10.5" x 4.9" x 9.0"

5. SAFETY INFORMATION

Do not short circuit terminals.  
 Do not use in explosive atmospheres.  
 Do not use in applications where fire or explosion is a hazard.  
 Do not use in applications where the battery is subjected to vibration or shock.  
 Do not use in applications where the battery is subjected to extreme temperatures.

EXIDE BATTERY COMPANY, INC. 10000 W. CENTRAL EXPRESSWAY, SUITE 100, DENVER, CO 80231

6. PERFORMANCE CHARACTERISTICS

Operating Temp. Range: -40°C to 50°C  
 Storage Temp. Range: -40°C to 60°C  
 Max. Charge Current: 3.8A (1C)  
 Max. Discharge Current: 3.8A (1C)  
 Max. Voltage: 28.0V (1.40V/cell)  
 Min. Voltage: 1.75V/cell

7. APPLICATIONS

Automotive: Starting, Lighting, Power Windows  
 Industrial: Backup Power, Emergency Lighting  
 Marine: Boat Power, Outboard Motors  
 Recreational: RV Power, Camping Equipment

8. SAFETY INFORMATION

Do not short circuit terminals.  
 Do not use in explosive atmospheres.  
 Do not use in applications where fire or explosion is a hazard.  
 Do not use in applications where the battery is subjected to vibration or shock.  
 Do not use in applications where the battery is subjected to extreme temperatures.

EXIDE BATTERY COMPANY, INC. 10000 W. CENTRAL EXPRESSWAY, SUITE 100, DENVER, CO 80231

9. SAFETY INFORMATION

Do not short circuit terminals.  
 Do not use in explosive atmospheres.  
 Do not use in applications where fire or explosion is a hazard.  
 Do not use in applications where the battery is subjected to vibration or shock.  
 Do not use in applications where the battery is subjected to extreme temperatures.

10. SAFETY INFORMATION

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 Do not use in applications where the battery is subjected to vibration or shock.  
 Do not use in applications where the battery is subjected to extreme temperatures.

EXIDE BATTERY COMPANY, INC. 10000 W. CENTRAL EXPRESSWAY, SUITE 100, DENVER, CO 80231

11. SAFETY INFORMATION

Do not short circuit terminals.  
 Do not use in explosive atmospheres.  
 Do not use in applications where fire or explosion is a hazard.  
 Do not use in applications where the battery is subjected to vibration or shock.  
 Do not use in applications where the battery is subjected to extreme temperatures.

12. SAFETY INFORMATION

Do not short circuit terminals.  
 Do not use in explosive atmospheres.  
 Do not use in applications where fire or explosion is a hazard.  
 Do not use in applications where the battery is subjected to vibration or shock.  
 Do not use in applications where the battery is subjected to extreme temperatures.

EXIDE BATTERY COMPANY, INC. 10000 W. CENTRAL EXPRESSWAY, SUITE 100, DENVER, CO 80231

4900 ROSENTHAL DR., BLDG. #8  
 PLASANTON, CA 94588

975 LENOX LANE, SUITE 205  
 MALIBU CREEK, CA 94295

2070 BUSINESS CENTER DRIVE  
 SUITE 200  
 IRVINE, CA 92612

PROJECT NO. \_\_\_\_\_  
 DRAWN BY: RF  
 CHECKED BY: DM

NO.	DATE	DESCRIPTION
B	1/23/82	REVISED FOR REDLINE
A	1/23/82	REVISED FOR REDLINE



IT IS A VIOLATION OF LAW FOR ANY  
 PERSON, BUSINESS, FIRM, OR  
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 THIS DOCUMENT.

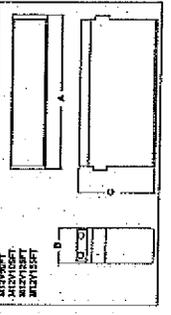
CNU5850/FA:10067900  
 12TH-MADISON  
 171 12TH STREET  
 (ROOFTOP)  
 OAKLAND, CA 94607

SHEET TITLE  
 BATTERY  
 SPECIFICATIONS

SHEET NUMBER  
 GN-4

MARATHON

Model	Capacity (Ah)	Weight (lbs)	Dimensions (L x W x H)
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0
26-38-0.65	38.0	6.5	10.5 x 4.9 x 9.0



13. SAFETY INFORMATION

Do not short circuit terminals.  
 Do not use in explosive atmospheres.  
 Do not use in applications where fire or explosion is a hazard.  
 Do not use in applications where the battery is subjected to vibration or shock.  
 Do not use in applications where the battery is subjected to extreme temperatures.

MARATHON

From the World Leader in  
 VRLA Battery Technology

Marathon's "Quality Manufacturing" process provides high performance, long life, maintenance free batteries. The batteries are produced in a clean, controlled environment. The batteries are tested for performance and reliability. The batteries are guaranteed for a minimum of 3 years.

Applications

- Automotive: Starting, Lighting, Power Windows
- Industrial: Backup Power, Emergency Lighting
- Marine: Boat Power, Outboard Motors
- Recreational: RV Power, Camping Equipment



50, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000

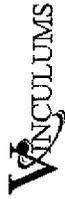








480 ROSEWOOD DR. BLDG. #3  
PLEASANTON, CA 94555



575 LEMMON LANE, SUITE 205  
MAYMUT CREEK, CA 94569



ZALZALI & ASSOCIATES, INC.  
2070 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO.	
ISSUED BY:	RF
CHECKED BY:	DM
B. ISSUES	NO. DTS FOR ISSUE
A. ISSUES	NO. CDS FOR ISSUE
REV.	DATE
	DESCRIPTION

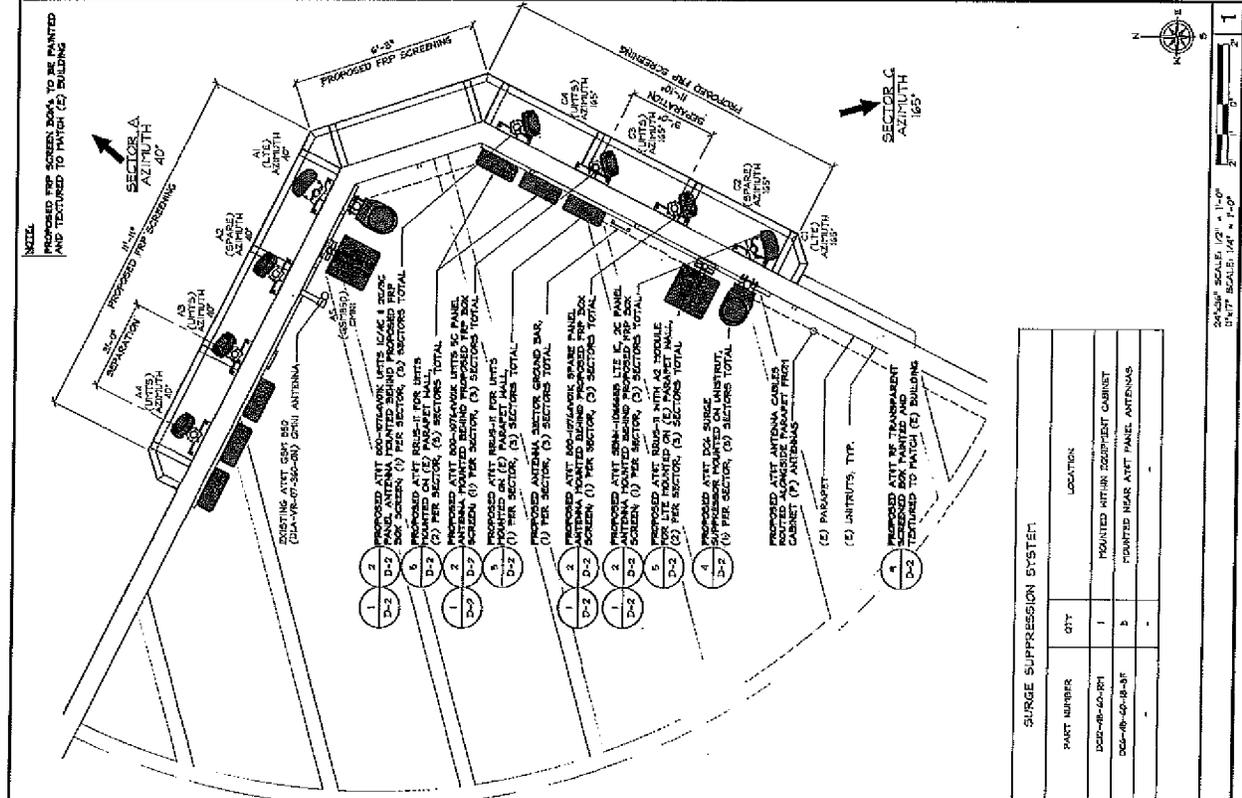


IT IS A VIOLATION OF LAW FOR ANY  
PERSON OTHER THAN THE DESIGNER  
OR HIS EMPLOYEES TO ALTER  
THIS DOCUMENT.

CNU3950/FA-10087900  
12TH-MADISON  
171 12TH STREET  
OAKLAND, CA 94607  
(ROOFTOP)

SHEET TITLE  
ANTENNA LAYOUTS

SHEET NUMBER  
A-4

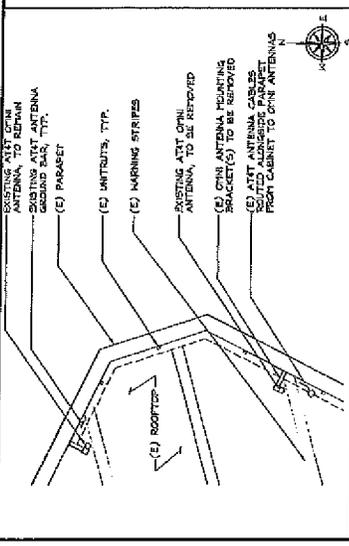


REMOTE RADIO UNITS (RRU/S)

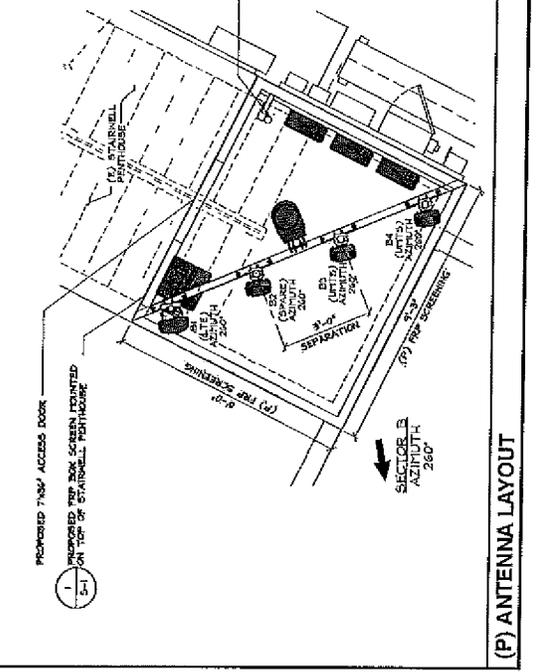
ANTENNA	RRU TYPE	QTY.
1	ARRIS RRUS-11 (MOBILE)	1 EA.
2	ARRIS RRUS-11 (MOBILE)	1 EA.
3	ARRIS RRUS-11 (MOBILE)	1 EA.
4	ARRIS RRUS-11 (MOBILE)	1 EA.

PROPOSED OPTIMAL ANTENNA AND TRANSMISSION CABLES REQUIREMENT (VERIFY WITH CURRENT RFDS)

ANTENNA	PROPOSED TECHNOLOGY	EXISTING	PROPOSED	LENGTH	PART NUMBER
A1	LTE 4G/LTE	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
A2	SPARE	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
A3	UNITS 5G	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
A4	UNITS 5G	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
A5	UNITS 5G	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
B1 & C1	LTE 4G/LTE	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
B2 & C2	SPARE	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
B3 & C3	UNITS 5G	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)
B4 & C4	UNITS 5G	OPN	45'-0"	3160'	ARRIS RRUS-11 (MOBILE)



(E) ANTENNA LAYOUT



(P) ANTENNA LAYOUT

SURGE SUPPRESSION SYSTEM

PART NUMBER	QTY.	LOCATION
DCS-65-60-RP1	1	POINTED NTHR DEPARTMENT CABINET
DCS-65-60-RP2	1	POINTED NTHR ANT. PANEL ANTENNAS

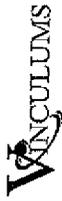
SCALE: 1/2" = 1'-0"  
DATE: 1/17/17







4450 ROSELAND DR. BLDG. 103  
ROSELAND, CA 94608



975 LINDEN LANE, SUITE 105  
MILPITAS, CA 95035



ZALZALI & ASSOCIATES INC.  
2070 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO.	
DRAWN BY	RF
CHECKED BY	SH

REV	DATE	DESCRIPTION
1		ISSUED FOR REVIEW
2		ISSUED FOR REVIEW
3		ISSUED FOR REVIEW

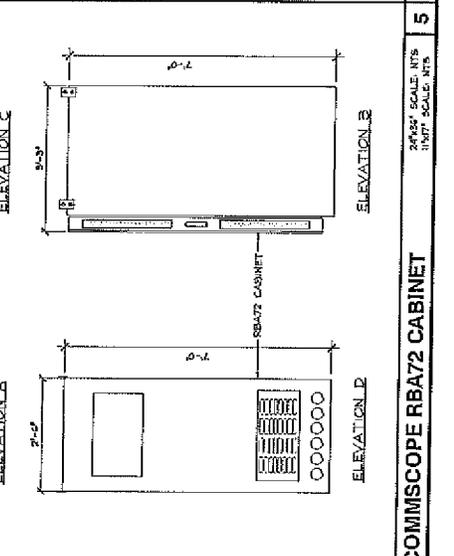
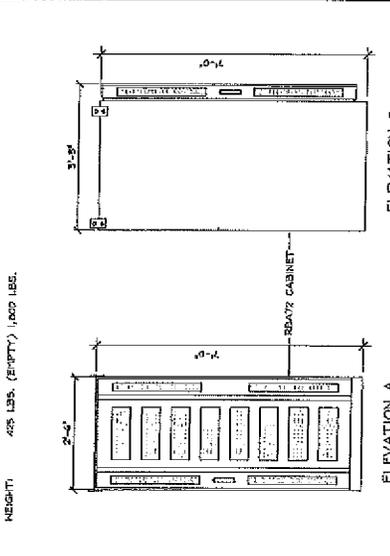
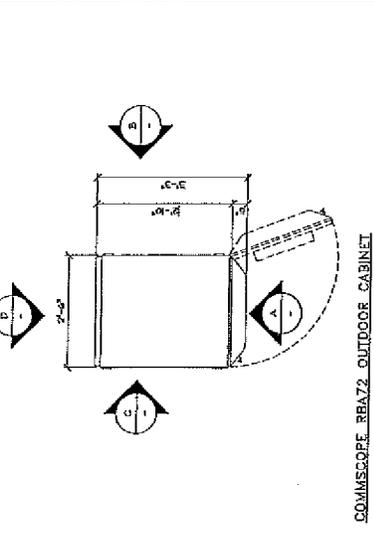
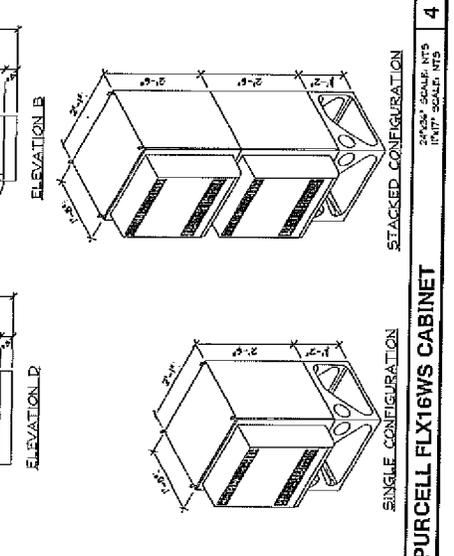
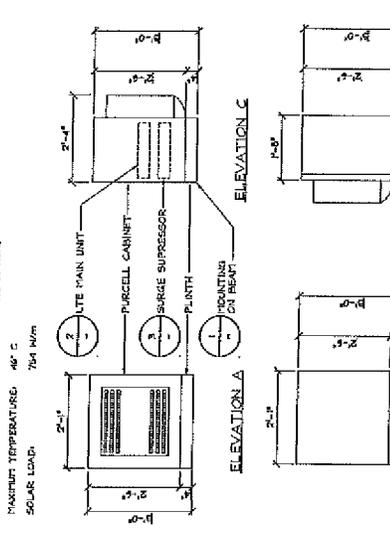
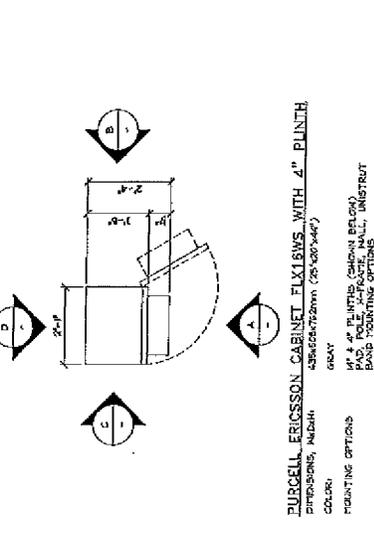
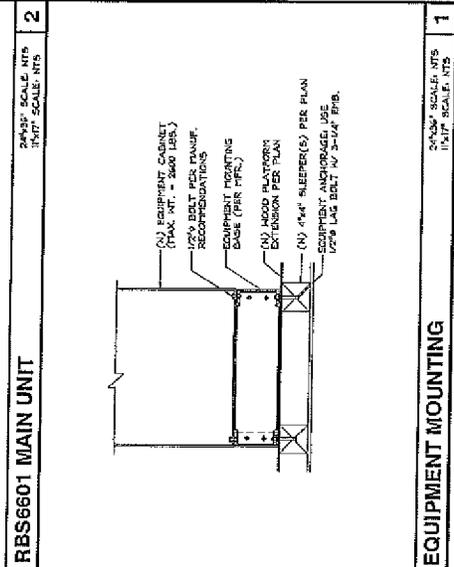
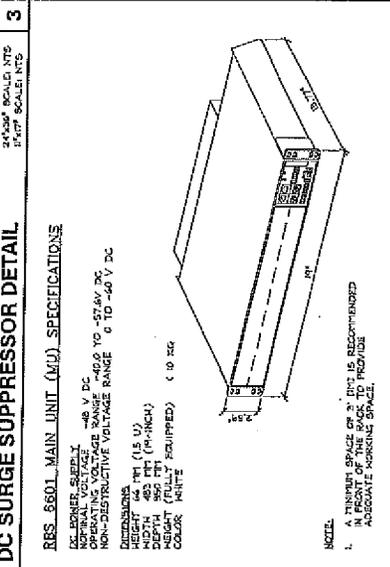
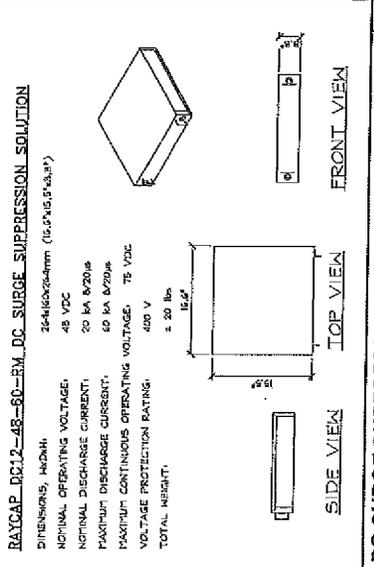


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CNU3950/FA:10087900  
12TH-MADISON  
171 12TH STREET  
OAKLAND, CA 94607  
(908/470P)

SHEET TITLE  
DETAILS

SHEET NUMBER  
D-1





PROJECT NO.	
DRAWN BY:	RF
CHECKED BY:	DM
DATE:	
DESCRIPTION:	

REV	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

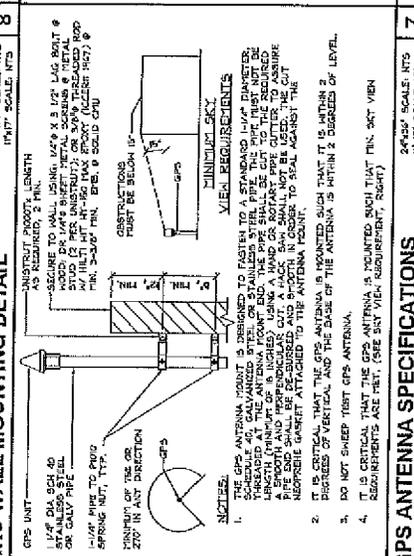
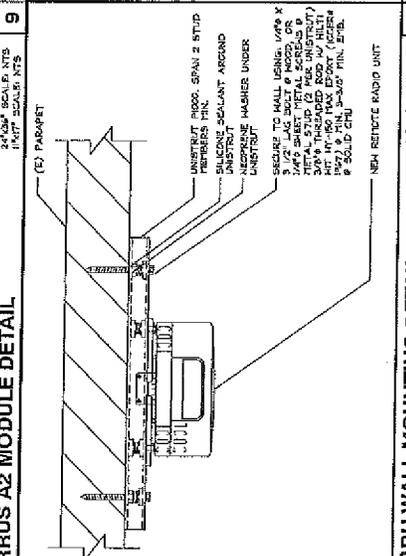
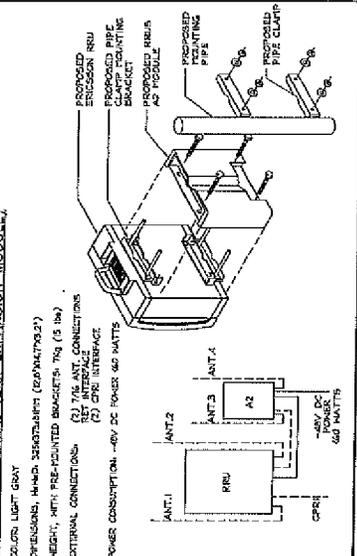
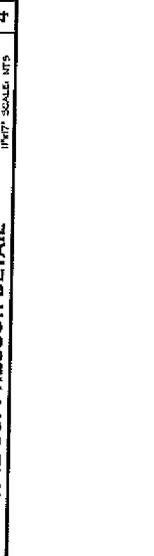
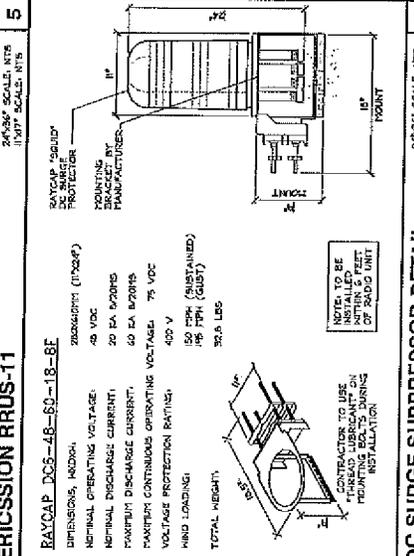
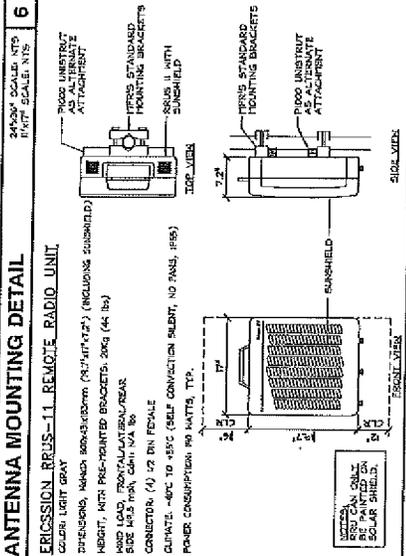
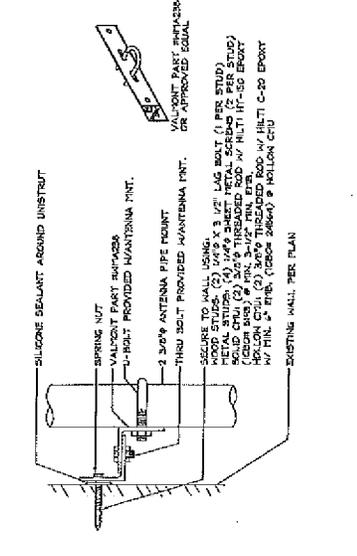
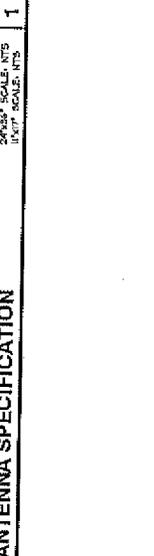
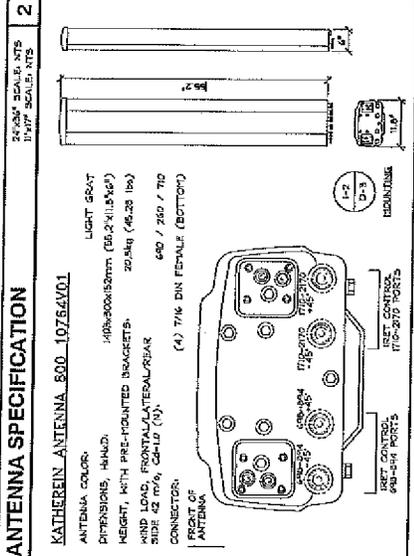
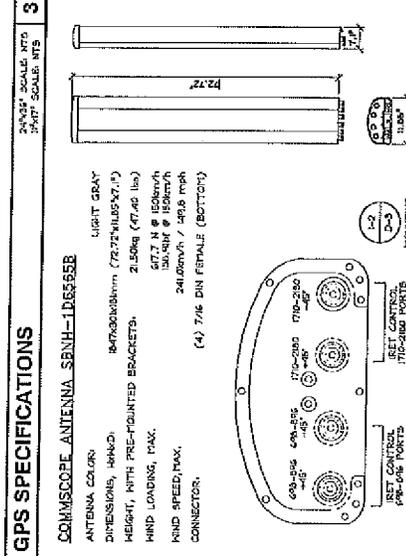
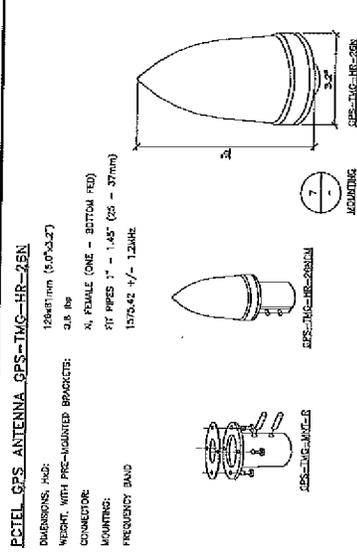


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CNU3590/FA-10087900  
12TH-MADISON  
171 12TH STREET  
(ROOFTOP)

SHEET TITLE  
DETAILS

SHEET NUMBER  
D-2





4800 ROSENCRD DR, BLDG. 19  
PLEASANTON, CA 94553



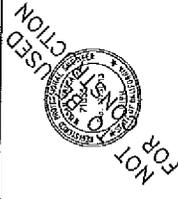
575 LENNON LANE, SUITE 126  
WALNUT CREEK, CA 94598



ZALZALI & ASSOCIATES, INC.  
2070 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO.  
DRAWN BY: RF  
CHECKED BY: DW

REV	DATE	DESCRIPTION
A.	1/2/88	ISSUED FOR REDLINE
B.	1/2/88	ISSUED FOR REDLINE



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

CNU13950/FA:10087900  
12TH-MADISON  
171 12TH STREET  
OAKLAND, CA 94607  
(ROOFTOP)

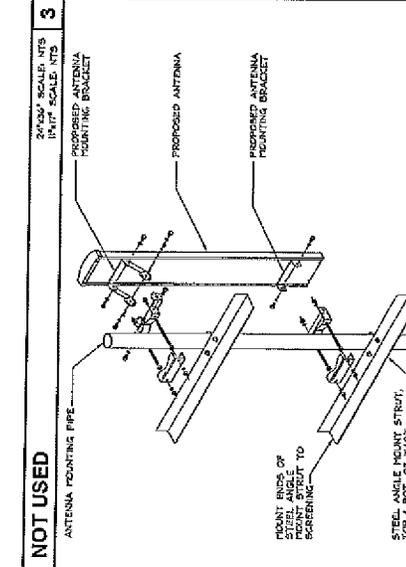
SHEET TITLE  
DETAILS

SHEET NUMBER  
D-3

**NOT USED**  
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1 1/4" TYP. SCALE, NTS

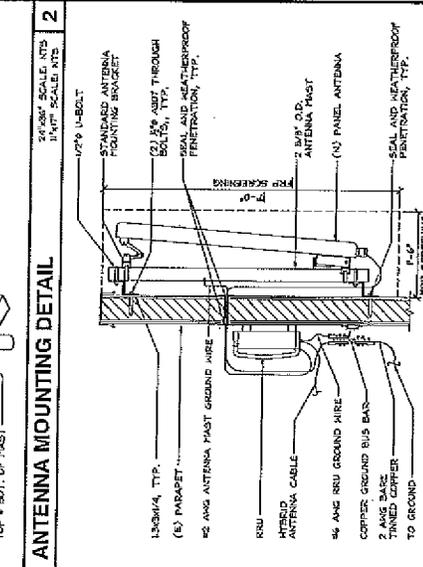
**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS

**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS



**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS

**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS



**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS

**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS

**ANT. & RSU GROUNDING / MOUNTING DETAIL**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS

**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS

**NOT USED**  
24"x36" SCALE, NTS  
1 1/4" TYP. SCALE, NTS







480 ROSEWOOD DR. SUITE 403  
PLEASANTON, CA 94588

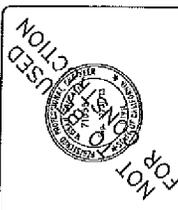


875 LINDEN LANE, SUITE 205  
MALIBU CREEK, CA 90406



ZALZALI ASSOCIATES, INC.  
2070 BUSINESS CENTER DRIVE  
SUITE 200  
IRVINE, CA 92612

PROJECT NO.	
DRAWN BY:	RF
CHECKED BY:	DM
DATE:	
NO.	DESCRIPTION
1	REVISED FOR REDLINE
2	REVISED FOR REDLINE

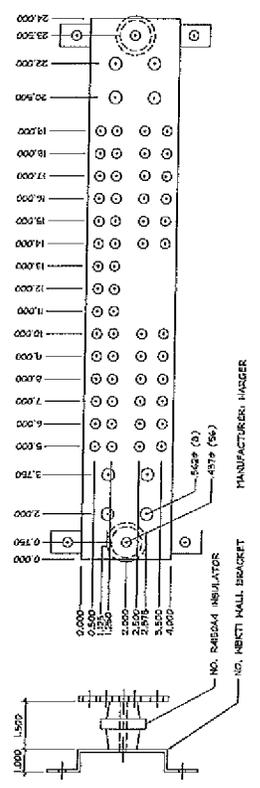


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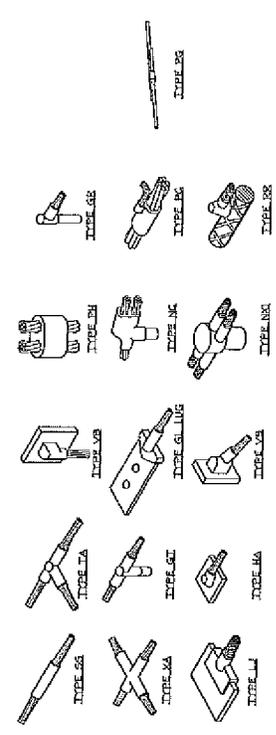
CN1395D/FA10087900  
12TH-MADISON  
171 12TH STREET  
OAKLAND, CA 94607  
(ROOFTOP)

SHEET TITLE  
GROUNDING SCHEMATIC  
& GROUNDING DETAILS

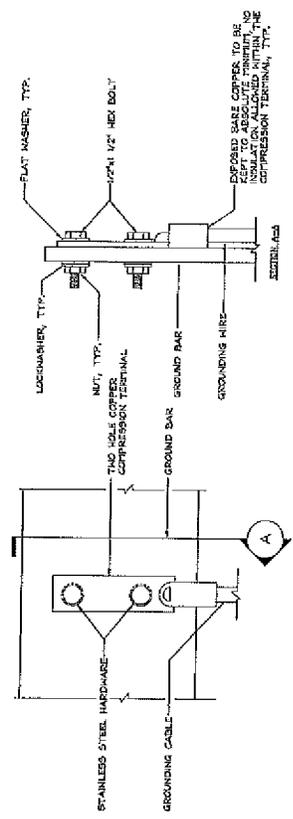
SHEET NUMBER  
G-1



24" GROUND BAR  
24" x 3" SCALE: NTS  
1/4" = 1' SCALE: NTS

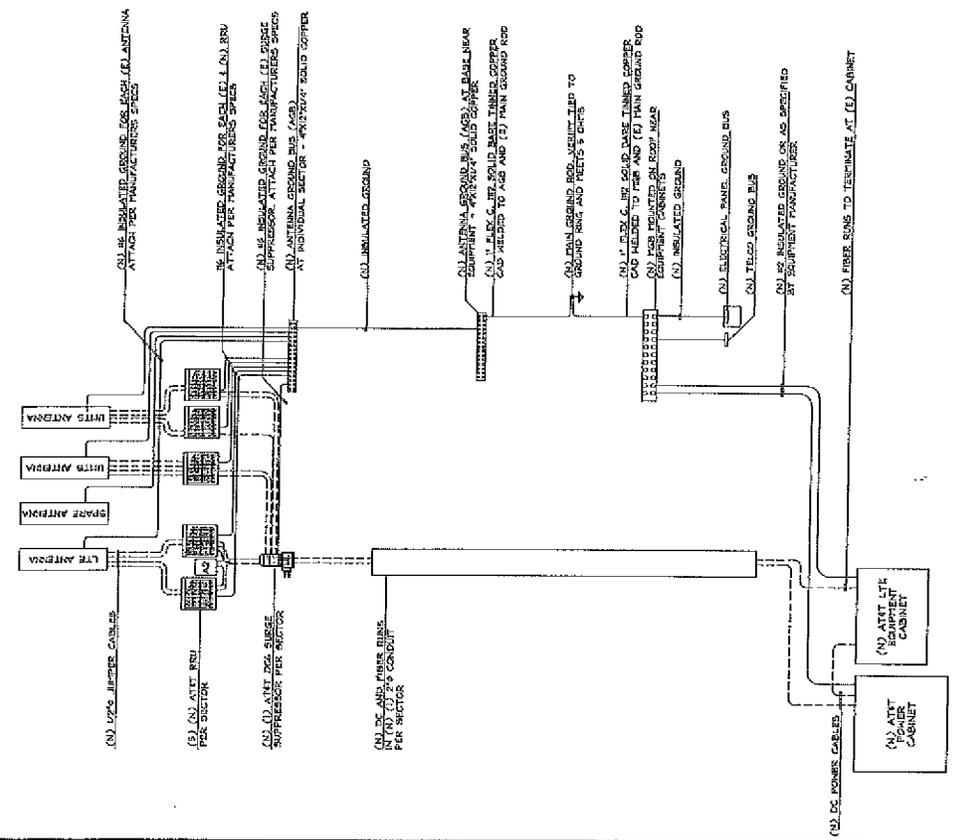


TYPICAL CADWELD TYPES  
24" x 3" SCALE: NTS  
1/4" = 1' SCALE: NTS



TYPICAL GROUND BAR CONNECTION  
24" x 3" SCALE: NTS  
1/4" = 1' SCALE: NTS

- NOTES:
1. TORQUE 1/4" OR 5/16" DIAMETER OF CONNECTIONS IS NOT SPECIFIED.
  2. OXID INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS AND TO BE APPLIED PRIOR TO ADDING WADONASE.



COAX & GROUNDING SYSTEM SCHEMATIC  
24" x 3" SCALE: NTS  
1/4" = 1' SCALE: NTS

- GENERAL NOTES:
1. SPURSE GROUND CONNECTIONS.
  2. FOLLOW GENERAL CABLE MANUFACTURER'S RECOMMENDATIONS, TYP.
  3. ALL INSULATED GROUND BUSES TO BE STRANDED, AND WIRE UNLESS NOTED OTHERWISE.
  4. THIS IS TYPICAL FOR ONE SECTOR OF ANTENNAS. SEE PLANS FOR NUMBER OF SECTIONS.
  5. NUMBER OF COAX IS DIAGNOSTIC.
  6. EXISTING SPLINERS AND EXISTING TYP'S NOT SHOWN FOR CLARITY.



480 ECHOLSWOOD DR. BUILD. #8  
PLEASANTON, CA 94699



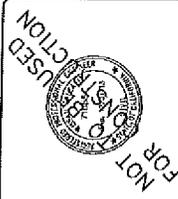
578 LENOX LAKE, SUITE 25  
MALIBU, CA 90263



ZALZALI & ASSOCIATES, INC.  
2070 BUSINESS CENTER DRIVE  
IRVINE, CA 92612

PROJECT NO.	
DRAWN BY	RF
CHECKED BY	DM

REV	DATE	DESCRIPTION
B	10/20/88	REV GPS FOR REDLINE
A	09/29/88	REV GPS FOR REDLINE

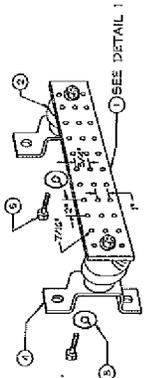


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CNU3950/FA-10087900  
12TH-MADISON  
171 12TH STREET  
OAKLAND, CA 94607  
(ROOFTOP)

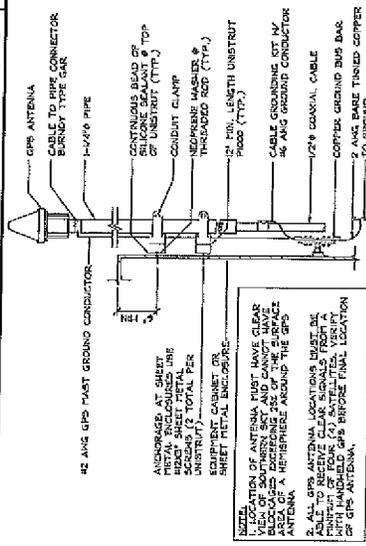
SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER  
G-2

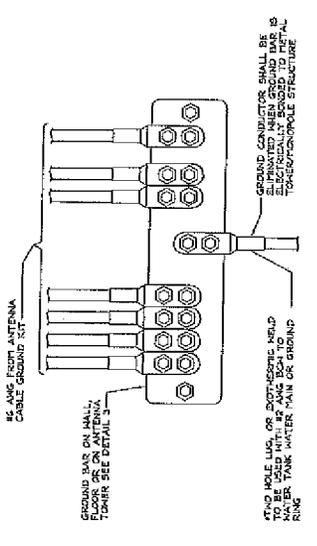


- LEGEND:
- CONDUCTOR SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE EXTENSION SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL.
  - INSULATORS, NEWTON INSTRUMENT CO. CAT. NO. 36644 OR EQUAL.
  - 2" X 1/4" LOCKWASHER, NEWTON INSTRUMENT CO. CAT. NO. 36644 OR EQUAL.
  - 2" X 1/4" NUT, NEWTON INSTRUMENT CO. CAT. NO. 36644 OR EQUAL.
  - INSULATORS SHALL BE EPOXY-RESIN WITH PROVISIONS TO INSURE PROPER CONNECTION TO TOWER/POLE/PILE STRUCTURE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

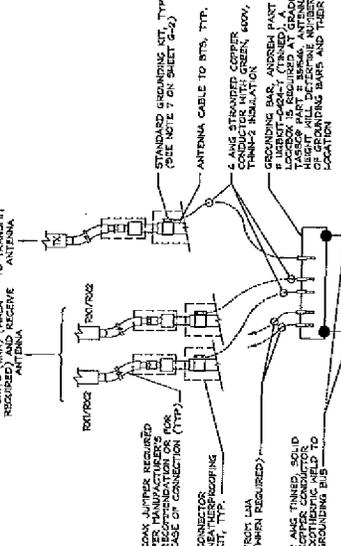
GROUNDING BAR DETAIL  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



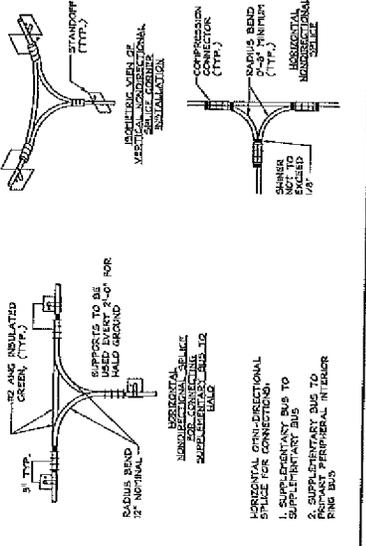
GPS ANTENNA GROUNDING DETAIL  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



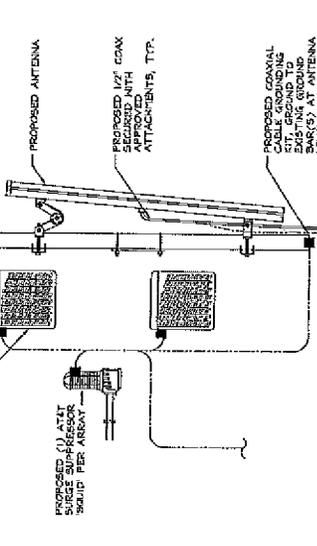
WIRE TO GROUND BAR CONNECTION  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



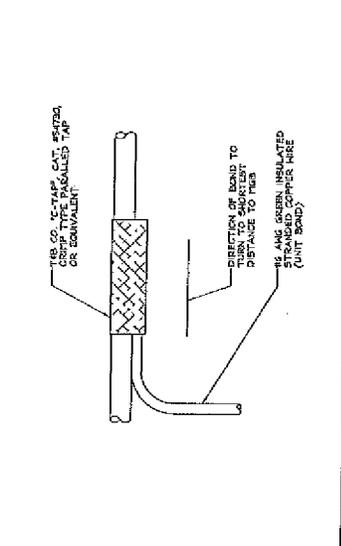
GROUNDING BAR CONNECTION  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



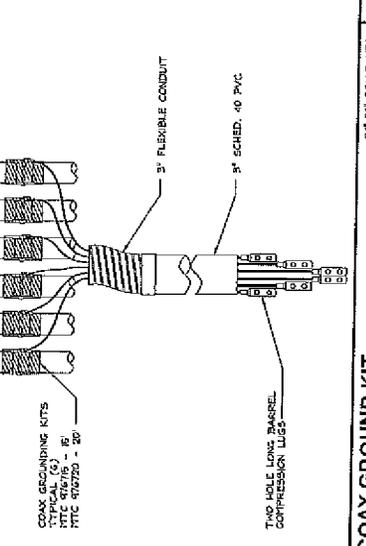
HALO GROUND (INDOOR RING)  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



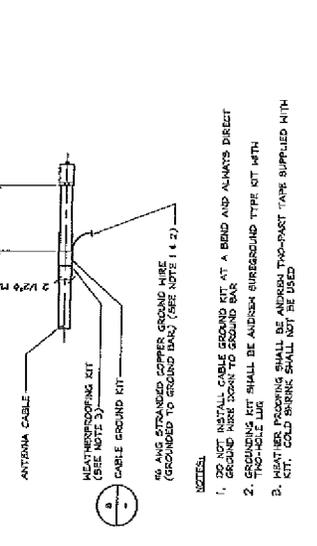
ANTENNA/RRU GROUNDING  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



GROUNDING WIRE CONNECTION  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



COAX GROUND KIT  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



CABLE GROUND KIT DETAIL  
24"x36" SCALE, NTS  
1/4" = 1' SCALE, NTS



COAX GROUNDING KITS  
NTEC 97675 - 6'  
NTEC 97676 - 6'  
NTEC 97675 - 20'

3" FLEXIBLE CONDUIT  
3" SCHED. 40 PVC

TAP HOLE LONG WARESEL  
COMPRESSION LUGS

ANTENNA CABLE  
WEATHERPROOFING KIT  
(SEE NOTE 3)  
CABLE GROUND KIT  
1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE EXTENSION SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL.

NOTES:  
1. DO NOT INSTALL CABLE GROUND KIT AT A BRID AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BUS.  
2. GROUNDING KIT SHALL BE ADDRESS SURROUND TYPE KIT WITH THO-HOLE LUG.  
3. WEATHER PROOFING SHALL BE ADDRESS THO-PAST TYPE SUPPLIED WITH KIT. COLD BRINKS SHALL NOT BE USED.

LEGEND:  
1. COAX JUMPS REQUIRED PER MANUFACTURER'S PAGE OF CONNECTION (TYP.)  
2. ANTENNA CABLE TO RYS, TYP.  
3. 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE EXTENSION SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL.  
4. INSULATORS, NEWTON INSTRUMENT CO. CAT. NO. 36644 OR EQUAL.  
5. 2" X 1/4" LOCKWASHER, NEWTON INSTRUMENT CO. CAT. NO. 36644 OR EQUAL.  
6. 2" X 1/4" NUT, NEWTON INSTRUMENT CO. CAT. NO. 36644 OR EQUAL.  
7. INSULATORS SHALL BE EPOXY-RESIN WITH PROVISIONS TO INSURE PROPER CONNECTION TO TOWER/POLE/PILE STRUCTURE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

GROUND CONDUCTOR SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE EXTENSION SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL. WIRE SHALL BE 1/4" X 1/8" ANTENNA INSTRUMENT CO. CAT. NO. B-642 OR EQUAL.