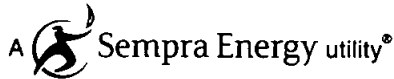




San Diego Gas & Electric
8335 Century Park Court
San Diego, CA 92123-1569



August 1, 2014

Ms. Enza Charles
City of San Diego
Real Estate Assets Department- Telecommunications Division
1200 Third Avenue, Suite 1700
San Diego, California 92101

RE: Site Address: 200 Block of Catalina Blvd., San Diego, California (the "Property")
Site Name: Catalina Standpipe Point Loma
Agreement: Lease Agreement, dated March 16, 2009 (the "Lease") between The City of San Diego ("City") and San Diego Gas & Electric Company, ("Lessee").

Dear Ms. Charles,

As part of the continuous effort to upgrade the Smart Grid Communication System and data network for grid security and in conformance with WECC requirements, San Diego Gas & Electric Company (SDG&E) would like to perform the following modifications to the site referenced above, as described in the attached City of San Diego IT approved plans:

Antennas: Install a ten foot (10') omni whip antenna to be located at 40' together with new waveguides and cable. All other existing antennas to remain as is.

Equipment: Existing racks to remain or be replaced. No additional rack space required. Additional radios and other communication equipment will be placed in existing racks.

Pursuant to Section 9.4, Improvements and Alterations of the Lease Agreement, "Lessee shall not construct any improvements, structures, or installations on the Premises, or make any alterations to the Premises (with the exception of equipment replacements or repairs) without City's prior written approval." In order to comply with such requirement, SDG&E requests the City's consent and approval to complete the items described above.

If all meets with your approval, please have an authorized City representative sign below.

By signing this letter, City is providing its consent and approval to allow SDG&E, its employees, agents, representatives and contractors to perform the proposed modifications described herein subject to obtaining any necessary permits.

Upon signature, please return to my attention at:

Patty Glass, Principal Real Estate Advisor
San Diego Gas & Electric Company
8335 Century Park Court, CP1-1D
San Diego, CA 92123

Sincerely,

Patty Glass
Patty Glass

CITY OF SAN DIEGO ACKNOWLEDGEMENT AND CONSENT

By: [Signature]
Name: CYBULA THOMPSON
Title: OLNECAU RUC ESMTA ASSUS
Date: 10/31/14

PROJECT DESCRIPTION

THE SDGE GRID COMMUNICATIONS SYSTEMS PROGRAM IS A STRATEGIC PARTNERSHIP BETWEEN SDGE'S INFORMATION TECHNOLOGY AND ELECTRIC TRANSMISSION & DISTRIBUTION DIVISIONS TO BRING ADVANCED COMMUNICATION SERVICES TO ELECTRIC ASSETS IN SUPPORT OF SDGE'S SMARTER GRID INITIATIVES. THE IMPLEMENTATION OF THIS PROGRAM IS MISSION CRITICAL FOR SUSTAINING AND SECURING THE POWER GRID AND ITS INFRASTRUCTURE THROUGHOUT THE SAN DIEGO AREA. THE MICROWAVE BACKHAUL AND SCADA COMMUNICATIONS PROPOSED AS PART OF THE PROJECT SERVES TO MEET THE RELIABILITY REQUIREMENTS RECOMMENDED BY WECC. THIS PROGRAM IS AUTHORIZED UNDER A GRANT FROM THE UNITED STATES DEPARTMENT OF ENERGY (DOE) UNDER AWARD NUMBER DE-DE0000371. THE SDGE GRID COMMUNICATIONS SYSTEM PROGRAM HAS IMPLEMENTED AN ADVANCED WIRELESS COMMUNICATIONS SYSTEM THAT ALLOWS SDGE TO MONITOR, COMMUNICATE WITH, AND CONTROL TRANSMISSION AND DISTRIBUTION EQUIPMENT. THIS SYSTEM, KNOWN AS SDGCS, WILL ACCELERATE THE DEPLOYMENT OF SMART GRID APPLICATIONS AND DEVICES. IT WILL CONNECT THOUSANDS OF SMART GRID ASSETS ACROSS 4,100 SQUARE MILES SERVING 3.4 MILLION PEOPLE IN THE SAN DIEGO AREA. ADDITIONALLY, IT WILL UPGRADE SDGE'S EXISTING DATA COMMUNICATIONS SYSTEMS TO SUPPORT SMART GRID FUNCTIONS NEVER ENGINTEERED IN THE ORIGINAL DEVELOPMENT OF SDGE'S EXISTING COMMUNICATIONS SYSTEMS. AS A RESULT OF THIS PROGRAM, THE RESULTS OF THESE INSTALLATIONS WILL IMPROVE GRID SECURITY, LOWER ELECTRICITY COSTS, IMPROVE GRID RESILIENCY, AND SUPPORT FUTURE SMART GRID TECHNOLOGIES.

- INSTALL A 9'-2" OMNI ANTENNA AT 132'-0" MOUNT HEIGHT WITH ACCOMPANYING NEW WAVE GUIDE/CABLE RUNNING FROM THE NEW EQUIPMENT AREA FOR SDGE'S SMART GRID SCADA COMMUNICATION.
- INSTALL RADIO EQUIPMENT IN EXISTING RACK SPACE IN THE EXISTING SDGE EQUIPMENT SPACE AREA.

* NO NEW BATTERIES

SITE INFORMATION

APPLICANT: SAN DIEGO GAS & ELECTRIC (SDG&E)
 SITE NAME: POINT LOMA SITE
 SITE ADDRESS: 200 BLOCK CATALINA BLVD. SAN DIEGO, CA 92106
 LAND OWNER: CITY OF SAN DIEGO
 TOWER OWNER: CITY OF SAN DIEGO
 COUNTY: SAN DIEGO
 LATITUDE (NAD 83): 32° 42' 29.6280" N
 LONGITUDE (NAD 83): 117° 14' 55.86" W
 GROUND ELEVATION: 95' AMSL
 ANTENNA TIP HEIGHT: 141'-0" AGL
 ZONING JURISDICTION: CITY OF SAN DIEGO
 ZONING DISTRICT: RS-1-11/PROP D
 EXISTING PERMITS: -
 PARCEL #: 532-400-01-00
 POWER COMPANY: SDG&E
 TELEPHONE COMPANY: AT&T

CONTACT INFORMATION

SITE CONTACT: ANTONIO NARANJO, SDG&E
 (619) 290-4324
 ANTONIO.NARANJO@SDG&E.COM
 ALL ABOUT SDG&E
 (619) 290-4303
 ANTONIO.NARANJO@SDG&E.COM

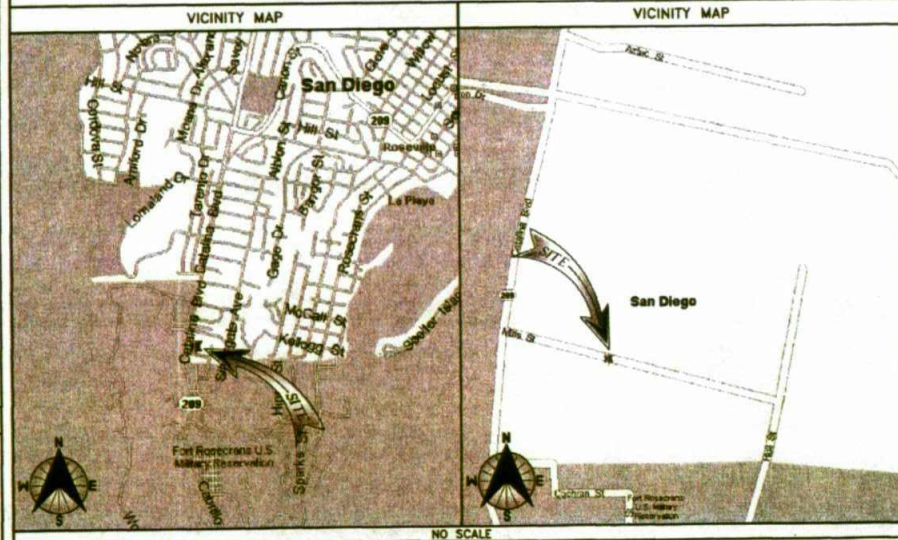
PROJECT MANAGEMENT
 BAY: BLACK & VEATCH CORPORATION
 10000 WILLOW CREEK RD, SUITE 110
 SAN DIEGO, CA 92131
 BAY SITE ACQUISITION: WINDY E. HARTSTEIN
 HARTSTEIN@BAY.COM
 (619) 228-8810
 BAY ENGINEER CONTACT: ANDREW JOHNSON
 JOHNSON@BAY.COM
 (619) 458-7215
 BAY CONSTRUCTION MANAGER CONTACT: STEPHEN E. DUBREY
 DUBREY@BAY.COM
 (619) 458-4667



POINT LOMA SITE COMMUNICATION WORK PACKAGE



LOCATION MAPS



DRIVING DIRECTIONS

DIRECTIONS FROM CENTURY PARK:
 HEAD SOUTH ON KEARNY VILLA ROAD TOWARD BALBOA AVENUE. TAKE THE 1ST RIGHT ONTO BALBOA AVENUE. GO 0.2 MILES THEN MAKE A SLIGHT RIGHT TO MERGE ONTO CA-163 SOUTH TOWARDS DOWNTOWN. GO 4.5 MILES. TAKE THE EXIT ONTO I-8 WEST. GO 4.5 MILES, THEN TURN LEFT ONTO SUNSET CLIFFS BOULEVARD. CONTINUE ONTO NIMITZ BOULEVARD FOR 0.6 MILES. SLIGHT LEFT TO STAY ON NIMITZ BOULEVARD. GO 0.7 MILES, THEN TURN RIGHT ONTO CHATSWORTH BLVD. GO 0.3 MILES, THEN TAKE A LEFT ON CATALINA BLVD. GO 1.6 MILES. DESTINATION IS ON THE LEFT JUST PAST MILLS STREET

DRAWING INDEX

SHEET NO:	SHEET TITLE	REV NO:
T-1	TITLE SHEET	4
T-2	SPECIAL INSPECTIONS	0
T-3	CONDITIONS OF APPROVAL	0
GN-1	LEGEND & ABBREVIATIONS	0
GN-2	GENERAL NOTES	0
GN-3	GENERAL NOTES	0
C-1	SITE PLAN	1
C-2	ENLARGED SITE PLAN	4
C-3	EQUIPMENT LAYOUTS	0
C-4	ANTENNA SCHEDULE	4
C-5	ANTENNA LAYOUTS	4
C-6	SITE ELEVATIONS	4
C-7	SITE ELEVATIONS	4
C-8	EQUIPMENT DETAILS	4
C-9	EQUIPMENT DETAILS	0
RF-1	TELECOMMUNICATION EQUIPMENT RACK	0
RF-2	TELECOMMUNICATION EQUIPMENT RACK	0
E-1	ELECTRICAL AC PLAN	0
E-2	RADIO CONNECTION DIAGRAM	3
G-1	GROUNDING DETAILS	0
G-2	GROUNDING DETAILS	0
G-3	GROUNDING DETAILS	0
SM-1	TOWER REINFORCEMENTS	3
SM-2	REINFORCEMENT DETAILS	0

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

SUBCONTRACTOR 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

SDG&E - UNDERGROUND SERVICE ALERT



SDG&E WILL MARK LOCATIONS OF BURIED UTILITY-OWNED GAS PIPELINES AND OTHER LINES, FREE OF CHARGE

ONLY USE HAND TOOLS TO DIG WITHIN 24" ON MARKED GAS LINES

CALL 1-800-411-7343 IMMEDIATELY FOR PIPELINE DAMAGE.

DOE PROGRAM ACKNOWLEDGEMENT & DISCLAIMER

ACKNOWLEDGEMENT: THIS MATERIAL IS BASED UPON WORK SUPPORTED BY THE DEPARTMENT OF ENERGY UNDER AWARD NUMBER DE-DE0000371.

DISCLAIMER: THIS REPORT WAS PREPARED AS AN ACCOUNT OF WORK SPONSORED BY AN AGENCY OF THE UNITED STATES GOVERNMENT. NEITHER THE UNITED STATES GOVERNMENT NOR ANY AGENCY THEREOF, NOR ANY OF THEIR EMPLOYEES, MAKES ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUMES ANY LEGAL LIABILITY OR RESPONSIBILITY FOR THE ACCURACY, COMPLETENESS, OR USEFULNESS OF ANY INFORMATION, APPARATUS, PRODUCT, OR PROCESS DISCLOSED, OR REPRESENTS THAT ITS USE WOULD NOT INFRINGE PRIVATELY OWNED RIGHTS. REFERENCE HEREIN TO ANY SPECIFIC COMMERCIAL PRODUCT, PROCESS, OR SERVICE BY TRADE NAME, TRADEMARK, MANUFACTURER, OR OTHERWISE DOES NOT NECESSARILY CONSTITUTE OR IMPLY ITS ENDORSEMENT, RECOMMENDATION, OR FAVORING BY THE UNITED STATES GOVERNMENT OR ANY AGENCY THEREOF. THE VIEWS AND OPINIONS OF AUTHORS EXPRESSED HEREIN DO NOT NECESSARILY STATE OR REFLECT THOSE OF THE UNITED STATES GOVERNMENT OR ANY AGENCY THEREOF.

APPLICABLE CODES

2013 CALIFORNIA BUILDING CODE
 2013 CALIFORNIA RESIDENTIAL CODE
 2013 CALIFORNIA TITLE 24
 2013 CALIFORNIA FIRE CODE
 2013 CALIFORNIA ENERGY CODE
 2013 CALIFORNIA PLUMBING CODE
 2013 CALIFORNIA MECHANICAL CODE
 2013 CALIFORNIA ELECTRICAL CODE
 TIA-222-G CODE

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL

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.



10950 GRANDVIEW DRIVE
 OVERLAND PARK, KANSAS 66210
 (913) 458-2000

PROJECT NO: 182301

DRAWN BY: RAS

CHECKED BY: MBO

REV	DATE	DESCRIPTION
4	08/26/14	ISSUED FOR PERMITTING
3	08/12/14	ISSUED FOR PERMITTING
2	07/16/14	ISSUED FOR PERMITTING
1	07/01/14	ISSUED FOR PERMITTING
0	06/26/14	ISSUED FOR PERMITTING



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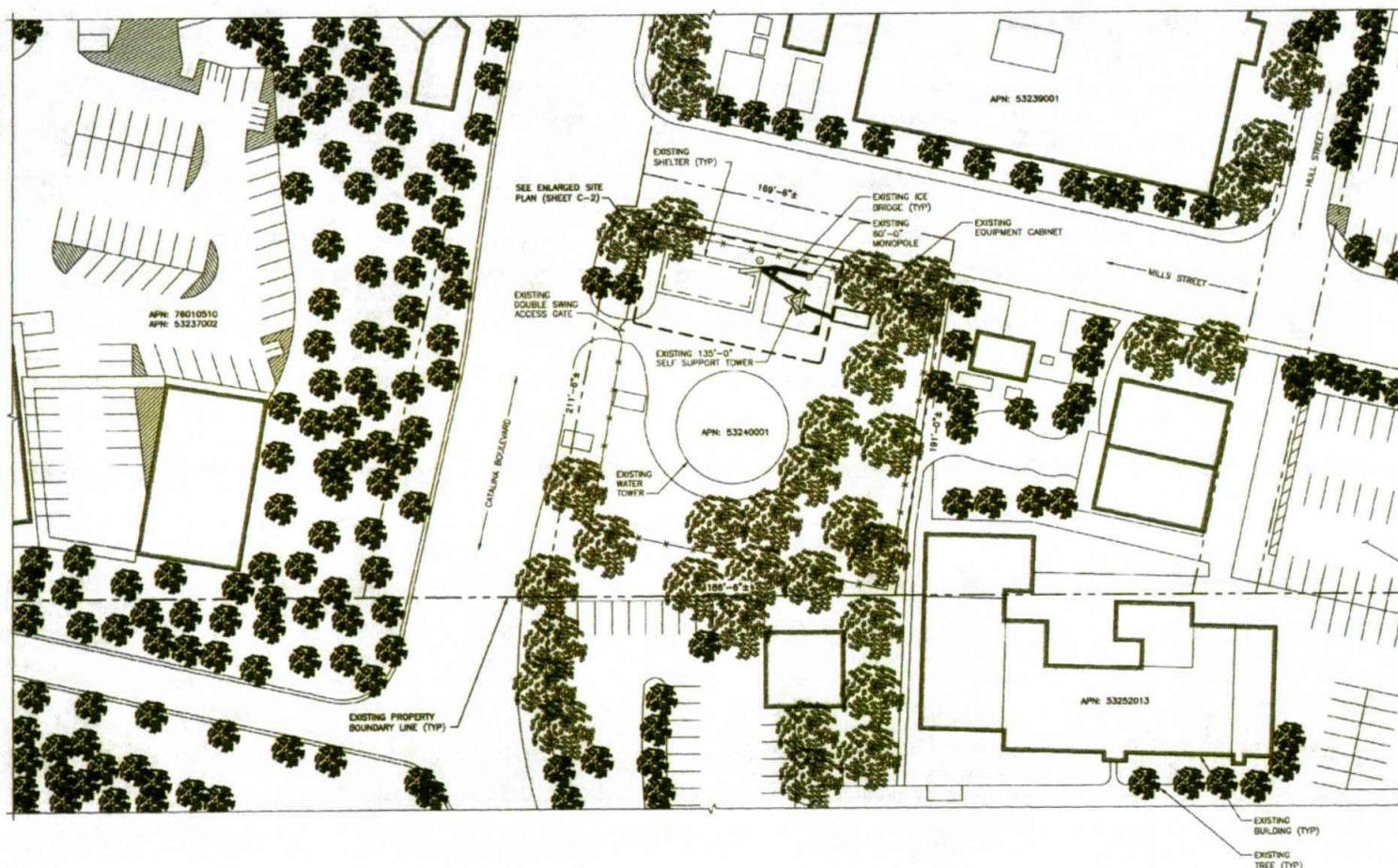
POINT LOMA
 200 BLOCK CATALINA BLVD.
 SAN DIEGO, CA 92106

SHEET TITLE
 TITLE SHEET

SHEET NUMBER
 T-1

NOTES:

1. THIS SITE PLAN HAS BEEN CREATED WITHOUT THE BENEFIT OF A SITE SURVEY AND SHOULD BE USED FOR CONCEPTUAL PURPOSES ONLY.
2. THE EXISTING TOWER HAS BEEN ANALYZED BY BLACK & VEATCH ON JUNE 27, 2014. THE EXISTING TOWER DOES NOT HAVE ENOUGH STRUCTURAL CAPACITY TO CARRY THE PROPOSED EQUIPMENT, COAX, AND ANTENNA LOADS. STRUCTURAL MODIFICATIONS WILL BE NEEDED PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT. REFER TO BLACK & VEATCH TOWER STRUCTURAL REPORT DATED JUNE 27, 2014 AND THE SM-1 AND SM-2 FOR THE STRUCTURAL MODIFICATIONS THAT ARE REQUIRED.



SAN DIEGO, CA



10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182301

DRAWN BY: RAS

CHECKED BY: MBG

REV	DATE	DESCRIPTION
4	08/26/14	ISSUED FOR PERMITTING
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1	07/01/14	ISSUED FOR PERMITTING
0	06/26/14	ISSUED FOR PERMITTING

APPROVED

OCT 23 2014

LAND DEVELOPMENT REVIEW

FLOOD PLAINS

ATTORNEY

EXISTING

PARKING

AREA (TYP)



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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-1

LIST OF SPECIAL INSPECTIONS

LIST OF ITEMS REQUIRING SPECIAL INSPECTIONS

1. VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION (SEE TABLE 1704.3)

NAME & LICENSE # OF SPECIAL INSPECTOR

CHOSTRODER INC.
ROBERT LEE MONTENEGRO, LICENSE # A.B.S. & L.C.C. # SAN DIEGO #728

SPECIAL INSPECTION NOTES

1. THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE CITY OF SAN DIEGO, DEVELOPMENT SERVICES, IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.
2. THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY THE CITY OF SAN DIEGO, DEVELOPMENT SERVICES, FOR TESTING OF MATERIALS, SYSTEMS, COMPONENTS, AND EQUIPMENTS.
3. THE FABRICATOR MUST BE REGISTERED AND APPROVED BY THE CITY OF SAN DIEGO, DEVELOPMENT SERVICES FOR THE FABRICATION OF MEMBERS AND ASSEMBLIES ON THE PREMISES OF THE FABRICATOR'S SHOP.
4. FABRICATOR SHALL SUBMIT AN APPLICATION TO PERFORM OFF-SITE FABRICATION TO THE INSPECTION SERVICES DIVISION FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION.
5. FABRICATOR SHALL SUBMIT A 'CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION' TO THE INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF FABRICATED ITEMS AND ASSEMBLIES.
6. A PROPERTY OWNER'S FINAL REPORT FORM FOR WORK REQUIRED TO HAVE SPECIAL INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS MUST BE COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNER'S AGENT OF RECORD, ARCHITECT OF RECORD, OR ENGINEER OF RECORD AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
7. THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE, IN ADDITION TO, AND NOT A SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A CITY'S BUILDING INSPECTOR.
8. NOTICE TO THE APPLICANT/OWNER/OWNER'S AGENT/ARCHITECT OR ENGINEER OF RECORD: BY USING THIS PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION/INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU ACKNOWLEDGE AND ARE AWARE OF, THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS. YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE CITY OF SAN DIEGO FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND AS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODES.
9. NOTICE TO THE CONTRACTOR/BUILDER/SUB-CONTRACTOR/OWNER-BUILDER: BY USING THIS PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION/INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU ACKNOWLEDGE AND ARE AWARE OF, THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS. YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE CITY OF SAN DIEGO FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND AS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODES.
10. WHERE MATERIALS OR ASSEMBLIES ARE REQUIRED BY THE BUILDING CODE TO BE LABELED, SUCH MATERIALS AND ASSEMBLIES SHALL BE LABELED BY AN AGENCY APPROVED BY THE CITY OF SAN DIEGO IN ACCORDANCE WITH SECTION 1703. PRODUCTS AND MATERIALS TO BE LABELED SHALL BE TESTED, INSPECTED AND LABELED IN ACCORDANCE WITH THE PROCEDURES SET FORTH IN SECTIONS 1703.5.1 THROUGH 1703.5.3. IDENTIFY ON PLANS.

TABLE 1704.3
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	APPLICABLE ASTM MATERIAL STANDARDS	-
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X	-	-
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
a. SNUG-TIGHT JOINTS	-	X	ACI 308, S.E.C. AS.3, APPLICABLE ASTM MATERIAL STANDARDS	1704.3.3
b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	-	-	-
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
a. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	APPLICABLE ASTM MATERIAL STANDARDS	-
c. MANUFACTURER'S CERTIFIED TEST REPORTS.	-	X	-	-



SAN DIEGO, CA



BLACK & VEATCH

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 436-2000

PROJECT NO: 162301
DRAWN BY: RAS
CHECKED BY: MBG

REV	DATE	DESCRIPTION
1	06/26/14	ISSUED FOR PERMITTING
2	06/26/14	ISSUED FOR PERMITTING
3	07/01/14	ISSUED FOR PERMITTING
4	07/01/14	ISSUED FOR PERMITTING
5	06/26/14	ISSUED FOR PERMITTING



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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
SPECIAL INSPECTIONS

SHEET NUMBER

T-2

SAN DIEGO, CA

**BLACK & VEATCH**

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO:	182301
-------------	--------

DRAWN BY: **RAS**

CHECKED BY: MBC

4	06/26/14	ISSUED FOR FORTHRIGHT
3	06/12/14	ISSUED FOR FORTHRIGHT
2	07/10/14	ISSUED FOR FORTHRIGHT
1	07/01/14	ISSUED FOR FORTHRIGHT
0	06/20/14	ISSUED FOR FORTHRIGHT
REV	DATE	DESCRIPTION



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OF A LICENSED PROFESSIONAL ENGINEER,
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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
CONDITIONS OF APPROVAL

SHEET NUMBER

T-3

EXOTHERMIC CONNECTION
MECHANICAL CONNECTION
CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
EXOTHERMIC WITH INSPECTION SLEEVE
GROUNDING BAR
GROUND ROD
TEST GROUND ROD WITH INSPECTION SLEEVE
SINGLE POLE SWITCH

DUPLEX RECEPTACLE
DUPLEX GFI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE
(2) TWO LAMPS 48"-TB

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALUX
LED-1-25A400/31K-SR4-120-PE-DOBTD

CHAINLINK FENCE
WOOD/WROUGHT IRON FENCE
WALL STRUCTURE
LEASE AREA
PROPERTY LINE (PL)

SETBACKS
ICE BRIDGE
CABLE TRAY

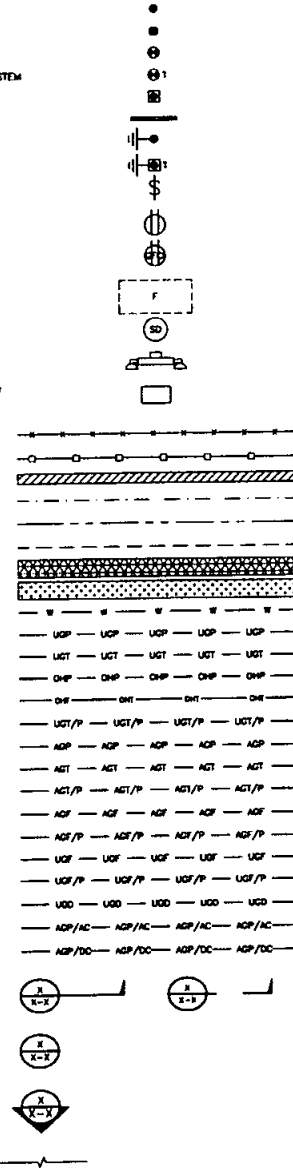
WATER LINE
UNDERGROUND POWER
UNDERGROUND TELCO
OVERHEAD POWER
OVERHEAD TELCO
UNDERGROUND TELCO/POWER
ABOVE GROUND POWER
ABOVE GROUND TELCO
ABOVE GROUND TELCO/POWER
ABOVE GROUND FIBER
ABOVE GROUND FIBER/POWER
UNDERGROUND FIBER
UNDERGROUND FIBER/POWER
UNDERGROUND DUCT
ABOVE GROUND POWER/AC
ABOVE GROUND POWER/DC

SECTION REFERENCE

DETAIL REFERENCE

ELEVATION REFERENCE

BREAKLINE



LEGEND

AB ANCHOR BOLT
ABV ABOVE
AC ALTERNATING CURRENT
ADOL ADDITIONAL
AFT ABOVE FINISHED FLOOR
AFD ABOVE FINISHED GRADE
AGL ABOVE GROUND LEVEL
AIC AMPERAGE INTERRUPTION CAPACITY
ALUM ALUMINUM
ALT ALTERNATE
ANT ANTENNA
APPROX APPROXIMATE
ARCH ARCHITECTURAL
ATS AUTOMATIC TRANSFER SWITCH
AWG AMERICAN WIRE GAUGE
BATT BATTERY
BLDG BUILDING
BLK BLOCK
BLKG BLOCKING
BM BEAM
BTC BARE TINNED COPPER CONDUCTOR
BOF BOTTOM OF FOOTING
BOMM BOLL OF MAJOR MATERIALS
CAB CABINET
CANT CANTILEVERED
CEC CALIFORNIA ELECTRIC CODE
CHG CHARGING
CLG CEILING
CLR CLEAR
COL COLUMN
COMM COMMON
CONC CONCRETE
CONSTR CONSTRUCTION
DBL DOUBLE
DC DIRECT CURRENT
DEPT DEPARTMENT
DF DOUGLAS FIR
DIA DIAMETER
DIAH DIAGONAL
DIM DIMENSION
DNG DRAWING
DNL DOWEL
EX EXISTING
EA EACH
EC ELECTRICAL CONDUCTOR
EL ELEVATION
ELEC ELECTRICAL
EMT ELECTRICAL METALLIC TUBING
ENG ENGINEER
EQ EQUAL
EXP EXPANSION
EXT EXTERIOR
FAB FABRICATION
FF FINISH FLOOR
FG FINISH GRADE
FIF FACILITY INTERFACE FRAME
FIN FINISH(ED)
FLR FLOOR
FDW FOUNDATION
FOC FACE OF CONCRETE
FOM FACE OF MASONRY
FOS FACE OF STUD
FOW FACE OF WALL
FS FINISH SURFACE
FT FOOT
FTG FOOTING
GA GAUGE
GEN GENERATOR
GFCI GROUND FAULT CIRCUIT INTERRUPTER
GLB GLUE LAMINATED BEAM
GLV GALVANIZED

GPS GLOBAL POSITIONING SYSTEM
GND GROUND
GSM GLOBAL SYSTEM FOR MOBILE
HDR HEADER
HGR HANGER
HVAC HEAT/VENTILATION/AIR CONDITIONING
HT HEIGHT
IGR INTERIOR GROUND RING
IN INCH
INT INTERIOR
LB(S) POUND(S)
LF LINEAR FEET
LTE LONG TERM EVOLUTION
MAS MASONRY
MAX MAXIMUM
MB MACHINE BOLT
MECH MECHANICAL
MFR MANUFACTURER
MGB MASTER GROUND BAR
MIN MINIMUM
MISC MISCELLANEOUS
MTL METAL
MTS MANUAL TRANSFER SWITCH
MW MICROWAVE
(N) NEW
NEC NATIONAL ELECTRIC CODE
NO.(#) NUMBER
NTS NOT TO SCALE
OC ON CENTER
OPENING
(P) PROPOSED
P/C PRECAST CONCRETE
PCS PERSONAL COMMUNICATION SERVICES
PCU PRIMARY CONTROL UNIT
PRC PRIMARY RADIO CABINET
PP POLARIZING PRESERVING
PSF POUNDS PER SQUARE FOOT
PSI POUNDS PER SQUARE INCH
PT PRESSURE TREATED
PWR POWER CABINET
QTY QUANTITY
RAD RADIUS
RECT RECTIFIER
REF REFERENCE
REIN REINFORCEMENT
REQ'D REQUIRED
RET REMOTE ELECTRIC TLT
RMC RIGID METALLIC CONDUIT
RRH REMOTE RADIO HEAD
RRU REMOTE RADIO UNIT
RWY RACEWAY
SCH SCHEDULE
SHT SHEET
SIAD SMART INTEGRATED DEVICE
SIM SIMILAR
SPEC SPECIFICATION
SQ SQUARE
SS STAINLESS STEEL
STD STANDARD
STL STEEL
STRUCT STRUCTURAL
TEMP TEMPORARY
TGB TELECOM GROUND BAR
THK THICKNESS
TMA TOWER MOUNTED AMPLIFIER
TN TOE NAIL
TOA TOP OF ANTENNA
TOC TOP OF CURB
TOF TOP OF FOUNDATION
TOP TOP OF PLATE (PARAPET)

ABBREVIATIONS

TOS TOP OF STEEL
TOW TOP OF WALL
TVSS TRANSIENT VOLTAGE SUPPRESSION SYSTEM
TYP TYPICAL
UG UNDERGROUND
UL UNDERWRITERS LABORATORY
UNO UNLESS NOTED OTHERWISE
UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF VERIFIED IN FIELD
W WIDE
W/ WITH
WO WOOD
W.P. WORK POINT
WP WEATHERPROOF
WT WEIGHT



SAN DIEGO, CA



BLACK & VEATCH

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OVERLAND PARK, KANSAS 66210
(913) 436-2000

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UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER
TO ALTER THIS DOCUMENT

POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
LEGEND
& ABBREVIATIONS

SHEET NUMBER
GN-1

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
GENERAL CONTRACTOR - OVERLAND CONTRACTING INC. (BAY)
SUBCONTRACTOR - CONTRACTOR (CONSTRUCTION)
OWNER - SDGE
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND SDGE PROJECT SPECIFICATIONS.
3. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
4. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL VISIT THE SITE AND SHALL BECOME FAMILIAR WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE COMPLETED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
5. 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.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
9. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
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 THE LOCAL JURISDICTION.
11. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
12. SEAL ANY PENETRATION WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. SUBCONTRACTOR SHALL KEEP AREA CLEAN, MAINTAIN FREE, AND DISPOSE OF ALL DEBRIS.
13. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISHED 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 ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOI DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
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. SUBCONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY DISTINGUISHING CONDITIONS THAT DEViate FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
15. SUBCONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
16. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, FENCEWAYS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S 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 JOI COMPLETION.
20. THE GENERAL CONTRACTOR SHALL MAINTAIN, IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE 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 OF 10-A-10-B-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 ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PITS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND 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 ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRAINAGE, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
25. SUBCONTRACTOR 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 ENVIRONMENTAL MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR DRAINAGE.
27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 90 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. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
31. CONTRACTOR 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 SDGE TECHNICIANS.
34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
35. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
36. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
37. 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.
38. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
39. ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS

PART 1 - GENERAL

1.1 GENERAL CONDITIONS:

- A. CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE SUBCONTRACTOR'S 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 OF 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. DRAWING SHALL NOT BE SCALED TO DETERMINE DIMENSIONS.

1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES.

- A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE 2010 EDITION OF THE CALIFORNIA ELECTRICAL CODE AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES. CONDUIT BENDS SHALL BE THE RADIOUS BEND FOR THE TRADE SIZE OF CONDUIT IN COMPLIANCE WITH THE 2010 EDITION OF CEC.

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 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. ANSI/IEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
 2. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
 3. ICE (INSULATED CABLE ENGINEERS ASSOCIATION)
 4. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
 5. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
 6. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
 7. UL (UNDERWRITERS LABORATORIES, INC.)

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, DRILLING, TRENCHING, BACKFILLING, AND REMOVAL OF EXISTING UTILITIES.
- D. THE SUBCONTRACTOR SHALL FURNISH TO THE OWNER WITH CERTIFICATES OF A 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 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 SUFFICIENT FOR THE USE INTENDED.
- C. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE CALIFORNIA ELECTRICAL CODE.
- D. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING EQUAL TO OR GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED. 10,000 AC 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 DRAINED OR LACQUERED INSIDE IN ADDITION TO GALVANIZING.
2. LIQUIDTIGHT 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 THREADS 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 THHN/THWN-2, 900 VOLT, SIZE AS INDICATED, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR USED.
2. #10 AWG AND SMALLER CONDUCTOR SHALL BE SOLID OR STRANDED AND #8 AWG AND LARGER CONDUCTORS

SHALL BE STRANDED.

3. SOLDERLESS, COMPRESSION-TYPE CONNECTORS SHALL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTOR.
4. STRAIN-RELIEF SUPPORT CMPS SHALL BE HUBBELL ROLLERS OR APPROVED EQUAL. CABLES SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC AND CABLE MANUFACTURER'S 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 ENGINEERED APPROVED EQUAL.

D. CHEMICAL ELECTROLYTIC GROUNDING SYSTEM:

1. INSTALL CHEMICAL GROUNDING AS REQUIRED. THE SYSTEM SHALL BE ELECTROLYTIC MAINTENANCE FREE. ELECTRODE CONSISTING OF RODS WITH A MINIMUM #2 AWG CU EXOTHERMICALLY WELDED POTIAL PROTECTIVE BOXES, AND BACKFILL MATERIAL. MANUFACTURER SHALL BE LYNCOLE XIT GROUNDING ROD TYPES K2-(C)/CS OR K2L-(C)/CS. (4) 1/2" OR 20" AS AVAILABLE FROM MANUFACTURER, BUT NOT LESS THAN 6' MIN [REQUIRED PER CEC 250.32 A (5)].
2. GROUND ACCESS BOX SHALL BE A POLYPLASTIC BOX FOR NON-TRAFFIC APPLICATIONS, INCLUDING BOLT DOWN FLUSH COVER WITH "BREATHER" HOLES, KIT MODEL #28-22. ALL DISCONNECT SWITCHES AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMINATE NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS & NUMBERING, AND THE ELECTRICAL POWER SOURCE.
3. BACKFILL MATERIAL SHALL BE LYONHATE AND LYONHOLE GROUNDING GRAVEL.

E. SYSTEM GROUNDING:

1. ALL GROUNDING COMPONENTS SHALL BE THINNED AND GROUNDING CONDUCTOR SHALL BE #2 AWG BARE, SOLID, THINNED, COPPER ABOVE GRADE GROUNDING CONDUCTORS SHALL BE INSULATED WHERE NOTED.
2. GROUNDING BUSSES SHALL BE BARE, THINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION. STANDARD BUS BARS MOIL 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 DECASSATION PLATE.
3. CONNECTORS SHALL BE HIGH-CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED. USE TWO-HOLE COMPRESSION LUGS WITH HEAT SHIELD FOR MECHANICAL CONNECTIONS. INTERIOR CONNECTIONS USE TWO-HOLE COMPRESSION LUGS WITH INSPECTION WINDOW AND CLEAR HEAT SHIELD.
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. WELDED TO CORN, 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 SPECIFICATIONS. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, 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 CEC.

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 WORKMAN 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, COATING 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 40 CONDUITS FOR ALL RISERS, RMC OTHERWISE NOTED. ENT 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.



SAN DIEGO, CA



BLACK & VEATCH

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 436-2000

PROJECT NO: 182301

DRAWN BY: RAS

CHECKED BY: MBO

REV	DATE	DESCRIPTION
1	06/26/16	ISSUED FOR PERMITTING
2	07/18/16	ISSUED FOR PERMITTING
3	07/18/16	ISSUED FOR PERMITTING
4	07/18/16	ISSUED FOR PERMITTING
5	08/30/16	ISSUED FOR PERMITTING



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.

POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-2

- 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.
- 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 FACTORY 90 DEGREE ELBOWS MAY BE USED.
- FIELD FABRICATED CONDUITS SHALL BE CUT SQUARE WITH A CONDUIT CUTTING TOOL AND REAMED TO PROVIDE A SMOOTH INSIDE SURFACE.
- PROVIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS.
- SUBCONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION. TEMPORARY OPENINGS 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.
- ALL CONDUITS SHALL BE SHAVED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF CONDUCTORS OR CABLES. CONDUIT SHALL BE FREE OF DIRT AND DEBRIS.
- INSTALL PULL STRINGS IN ALL CLEAN EMPTY CONDUITS. IDENTIFY PULL STRINGS AT EACH END.
- INSTALL 3" HIGHLY VISIBLE AND DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUITS AND CONDUCTORS.
- CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.
- 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 SHALL BE EFFECTIVELY SEALED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING 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:

- ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:

DESCRIPTION	280/240/120 SYSTEM
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUNDING	GREEN

- SPICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDULETS APPROVED FOR THIS PURPOSE.
- PULLING LUBRICANTS SHALL BE UL APPROVED. SUBCONTRACTOR SHALL USE NYLON OR HEAVY ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE CONDUIT.
- CABLES SHALL BE HEAVILY TRIMMED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES AND EQUIPMENT TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OR TERMINALS. CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS IS PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE SUBCONTRACTOR'S EXPENSE.
- DISCONNECT SWITCHES:
- INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB. CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEM AS INDICATED.
- GROUNDING:
- ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, AND THE CALIFORNIA ELECTRICAL CODE (2010 CEC EDITION).
- PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS, AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
- ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH CIRCULAR 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.
- 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 2/0 AWG COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLLARS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (TERRIBLE OR NONFERROUS METAL PIPING ONLY). SEE STANDARD 4.3.2.2.
- TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUE REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
- 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.
- ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR BONDNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.
- APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED. USE COPPER-SHELD ANTI-OXIDATION COMPOUND ON ALL COMPRESSION GROUNDING CONNECTIONS.
- A SEPARATE AND CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.
- BOND ALL INSULATED GROUNDING BUSHINGS WITH A DARE #6 AWG GROUNDING CONDUCTOR TO A GROUND BUS.
- DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE THE GREATER OF THE TWO DISTANCES.
- ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.

- THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
- DRIVE GROUNDING RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 8" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.
- IF COAX ON THE ICE BRIDGE IS MORE THAN 8 FT. FROM THE GROUNDING BAR AT THE BASE OF THE TOWER, THEN A SECOND GROUNDING BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING RDS AND IN-LINE ARRESTORS.
- SUBCONTRACTOR SHALL REPAIR, AND/OR REPLACE, EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE SUBCONTRACTOR'S EXPENSE.
- ACCEPTANCE TESTING:
 - CERTIFIED PERSONNEL USING CERTIFIED EQUIPMENT SHALL PERFORM REQUIRED TESTS AND SUBMIT WRITTEN TEST REPORTS UPON COMPLETION.
 - 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.
 - TEST PROCEDURES:
 - ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION BUT BEFORE CONNECTION TO DEVICES. THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDING. TESTING SHALL BE FOR ONE MINUTE USING 1000V DC. PROVIDE WRITTEN DOCUMENTATION FOR ALL TEST RESULTS.
 - PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.
 - MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE CONDUCTORS AND NEUTRALS. SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES.
 - 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 MEASURED VALUE IS OVER 5 OHMS.



SAN DIEGO, CA



BLACK & VEATCH

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 455-2000

PROJECT NO: 182301

DRAWN BY: RAS

CHECKED BY: MBS

REV	DATE	DESCRIPTION
1	06/28/14	ISSUED FOR PERMITTING
2	07/12/14	ISSUED FOR PERMITTING
3	07/12/14	ISSUED FOR PERMITTING
4	07/12/14	ISSUED FOR PERMITTING
5	06/26/14	ISSUED FOR PERMITTING
6	06/26/14	ISSUED FOR PERMITTING



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.

POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3



10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 438-2000

PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MBO

REV	DATE	DESCRIPTION
4	06/26/14	ISSUED FOR PERMITTING
3	06/13/14	ISSUED FOR PERMITTING
2	07/16/14	ISSUED FOR PERMITTING
1	07/01/14	ISSUED FOR PERMITTING
0	06/26/14	ISSUED FOR PERMITTING



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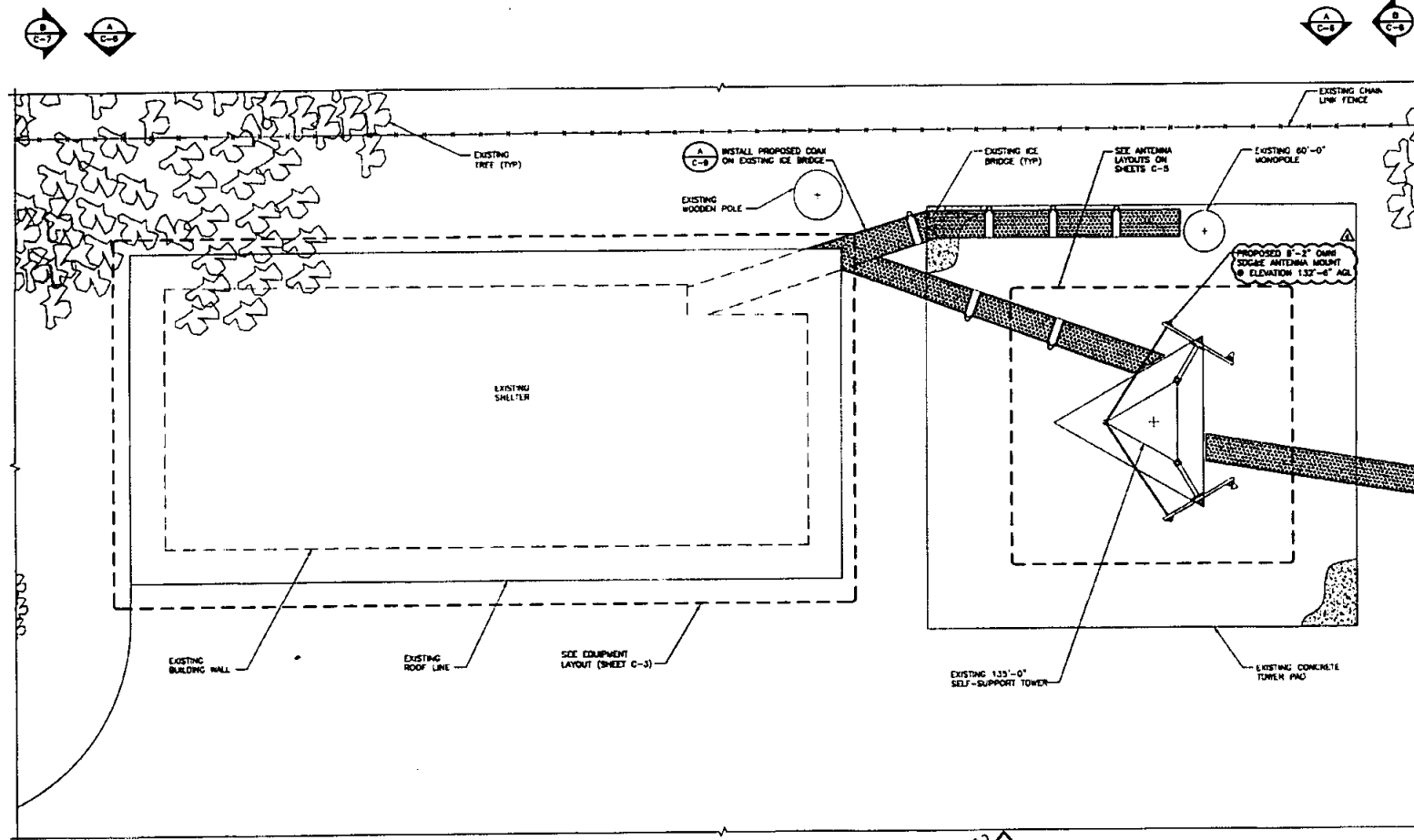
POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER

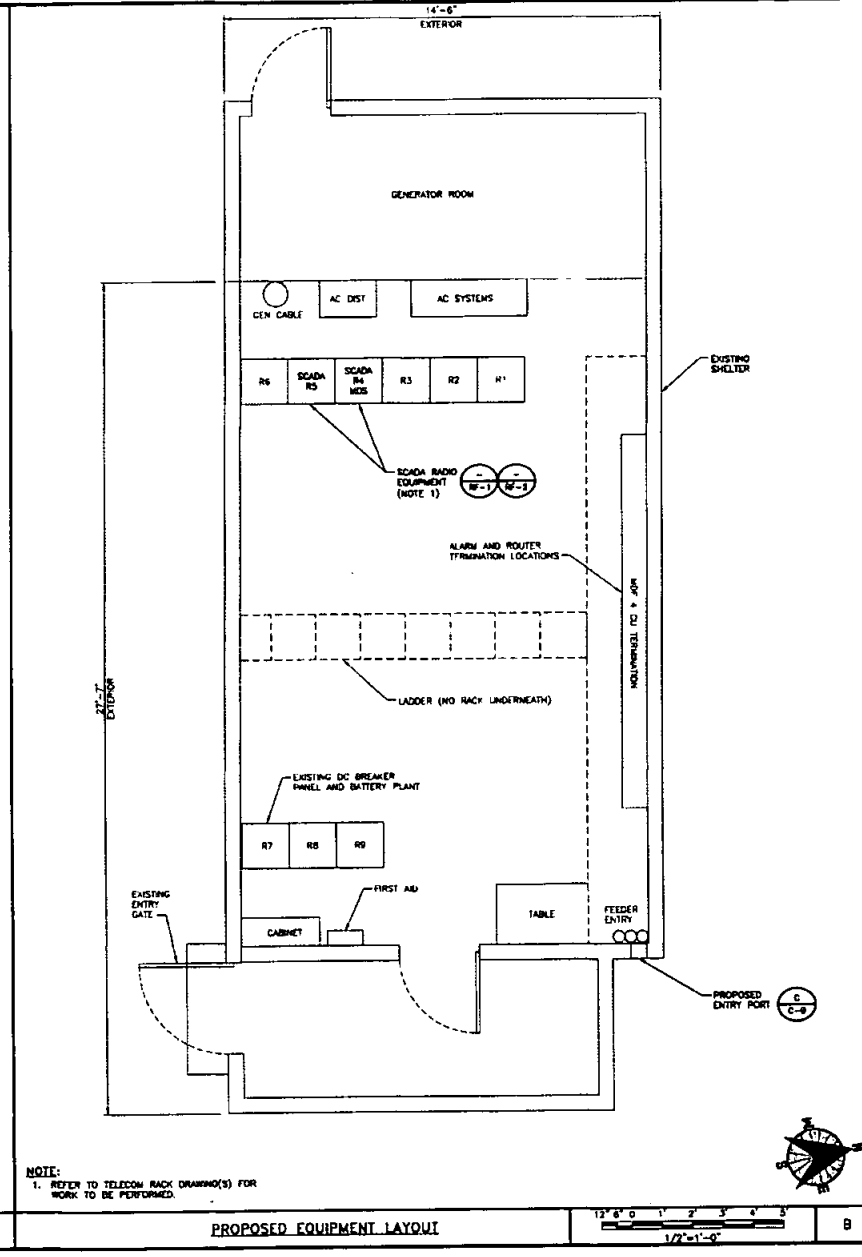
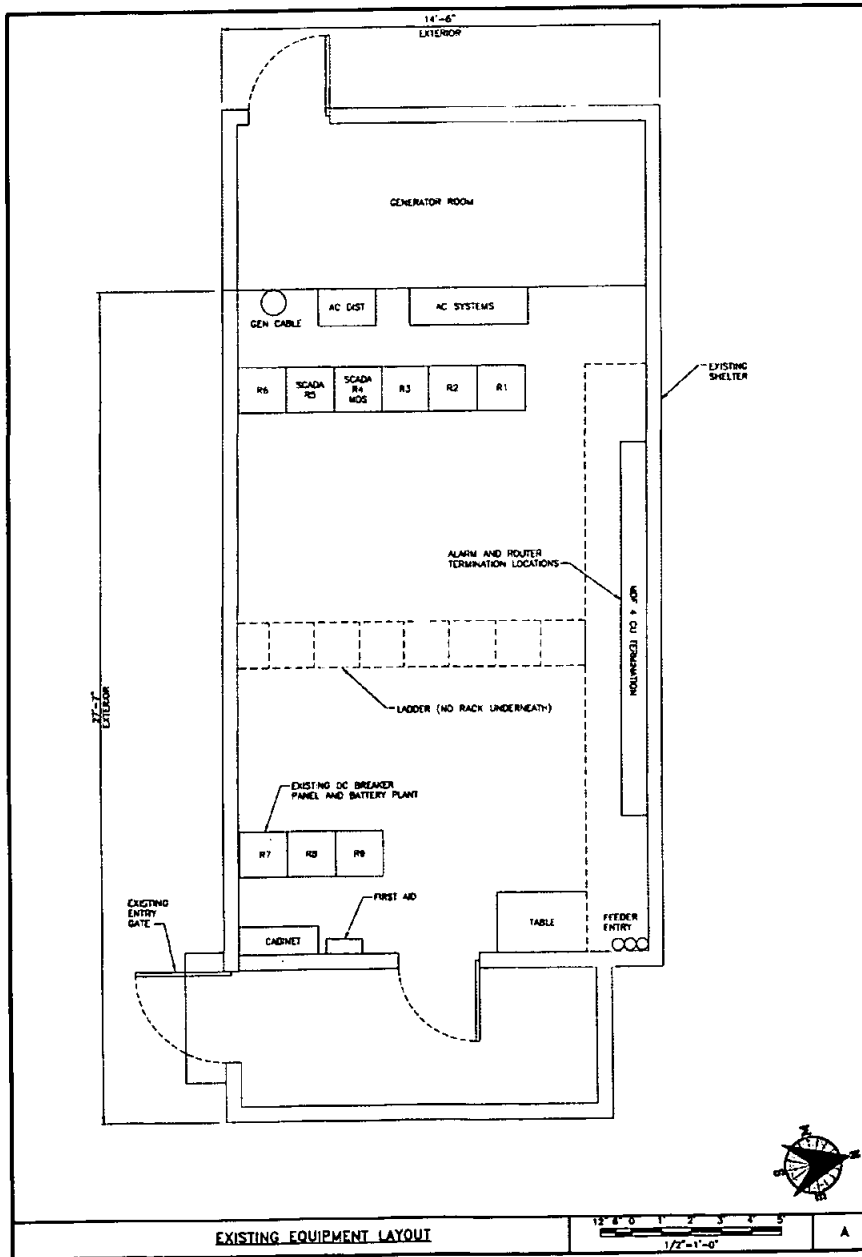
C-2

NOTE:
1. THIS SITE PLAN HAS BEEN CREATED WITHOUT THE BENEFIT OF A SITE SURVEY AND SHOULD BE USED FOR CONCEPTUAL PURPOSES ONLY.



ENLARGED SITE PLAN

1/4"=1'-0"



NOTE:
1. REFER TO TELECOM RACK DRAWING(S) FOR WORK TO BE PERFORMED.



SDGE
SAN DIEGO, CA



BLACK & VEATCH
10050 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(813) 458-2000

PROJECT NO:	182301
DRAWN BY:	RAS
CHECKED BY:	MBG

REV	DATE	DESCRIPTION
4	07/26/14	ISSUED FOR ADJUSTING
3	06/12/14	ISSUED FOR POLARITY
2	07/26/14	ISSUED FOR PLANTING
1	07/26/14	ISSUED FOR PLANTING
0	06/26/14	ISSUED FOR PLANTING



P.J. BOYLE
65798
CIVIL
STATE OF CALIFORNIA

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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
EQUIPMENT LAYOUTS

SHEET NUMBER
C-3



PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MBO

4	06/26/14	ISSUED FOR PERMITTING
3	06/19/14	ISSUED FOR PERMITTING
2	07/16/14	ISSUED FOR PERMITTING
1	07/01/14	ISSUED FOR PERMITTING
0	06/26/14	ISSUED FOR PERMITTING
REV	DATE	DESCRIPTION



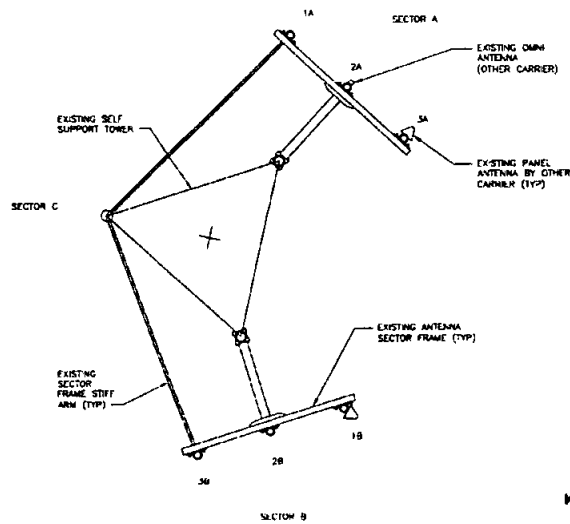
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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
ANTENNA SCHEDULE

SHEET NUMBER
C-4

PROPOSED ANTENNA SCHEDULE (MOUNT HEIGHT 132'-6")						
SECTOR	ANTENNA			ODU	COAX LINE	
	POS.	AZIMUTH	MODEL NO.	TIP HEIGHT (FT)	Quantity	SIZE
A	1	-	DB589-Y	141'-8" Δ	1	7/8"
	2	-	-	-	-	-
	3	-	-	-	-	-
B	1	-	-	-	-	-
	2	-	-	-	-	-
	3	-	-	-	-	-
C	1	-	-	-	-	-
	2	-	-	-	-	-
	3	-	-	-	-	-
TOTALS	1			-	1	



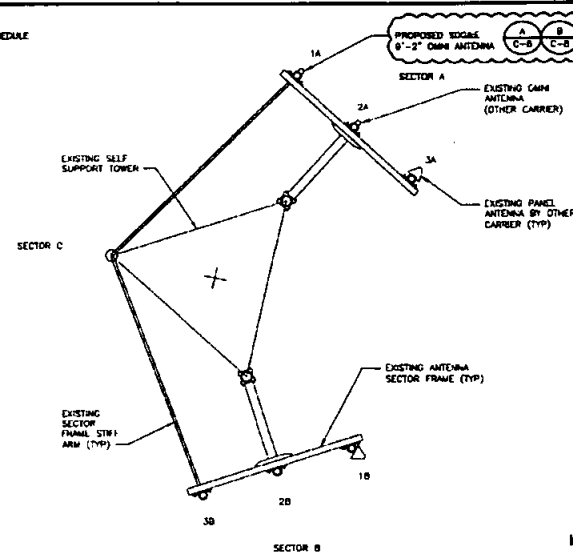
EXISTING ANTENNA LAYOUT (MOUNT HEIGHT AT 132'-6")

1. "I, P. J. Dole DO HEREBY CERTIFY THAT THE STRUCTURE(S) OR MODIFICATION TO EXISTING STRUCTURE(S) SHOWN ON THESE PLANS DO NOT REQUIRE FEDERAL AVIATION ADMINISTRATION NOTIFICATION BECAUSE PER SECTION 77.15 (g) OF TITLE 14 OF THE CODE OF FEDERAL REGULATIONS CFR PART 77, NOTIFICATION IS NOT REQUIRED"
2. "A PRE-CONSTRUCTION INSPECTION IS REQUIRED DUE TO THE HEIGHT OF THE PROPOSED STRUCTURE IN RELATION TO THE FAA PART 77 NOTIFICATION SURFACE REQUIREMENTS. THE PRE-CONSTRUCTION INSPECTION MUST BE SCHEDULED AND CLEARED BY THE FIELD INSPECTOR BEFORE ANY SUBSEQUENT INSPECTION CAN BE SCHEDULED. CALL (858) 581-7111 TO SCHEDULE THE PRE-CONSTRUCTION INSPECTION. CONTACT THE INSPECTION SERVICES OFFICE AT (858) 492-5070, IF YOU HAVE ANY QUESTIONS PERTAINING TO THE PRE-CONSTRUCTION INSPECTION."

378592
INSPECTION SERVICES
STRUCTURAL DIVISION
DATE: 08/10/14
BY: [Signature]
CALL ANTENNAS ON
ON EXISTING TOWER

NOTES

NOTE:
1. SEE SHEET C-4 FOR ANTENNA SCHEDULE



PROPOSED ANTENNA LAYOUT (MOUNT HEIGHT AT 132'-6")

378592
INSPECTION SERVICES
STRUCTURAL DIVISION
DATE: 08/10/14
BY: [Signature]
CALL ANTENNAS ON
ON EXISTING TOWER

DETAIL NOT USED

NO SCALE

C

SDGE

SAN DIEGO, CA



BLACK & VEATCH

10050 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 450-2000

PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MRC

REV	DATE	DESCRIPTION
4	08/26/14	ISSUED FOR PERMITTING
3	08/12/14	ISSUED FOR PERMITTING
2	07/16/14	ISSUED FOR PERMITTING
1	07/01/14	ISSUED FOR PERMITTING
0	06/26/14	ISSUED FOR PERMITTING



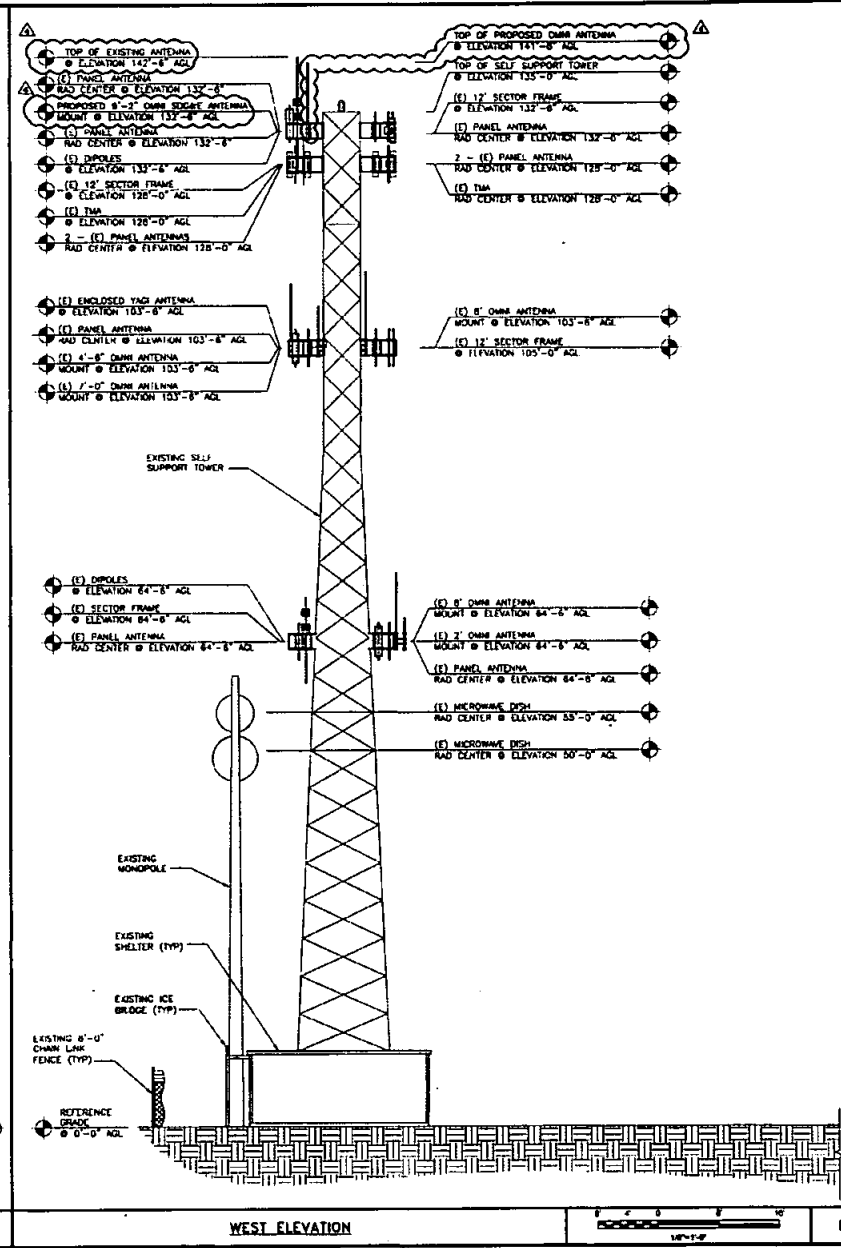
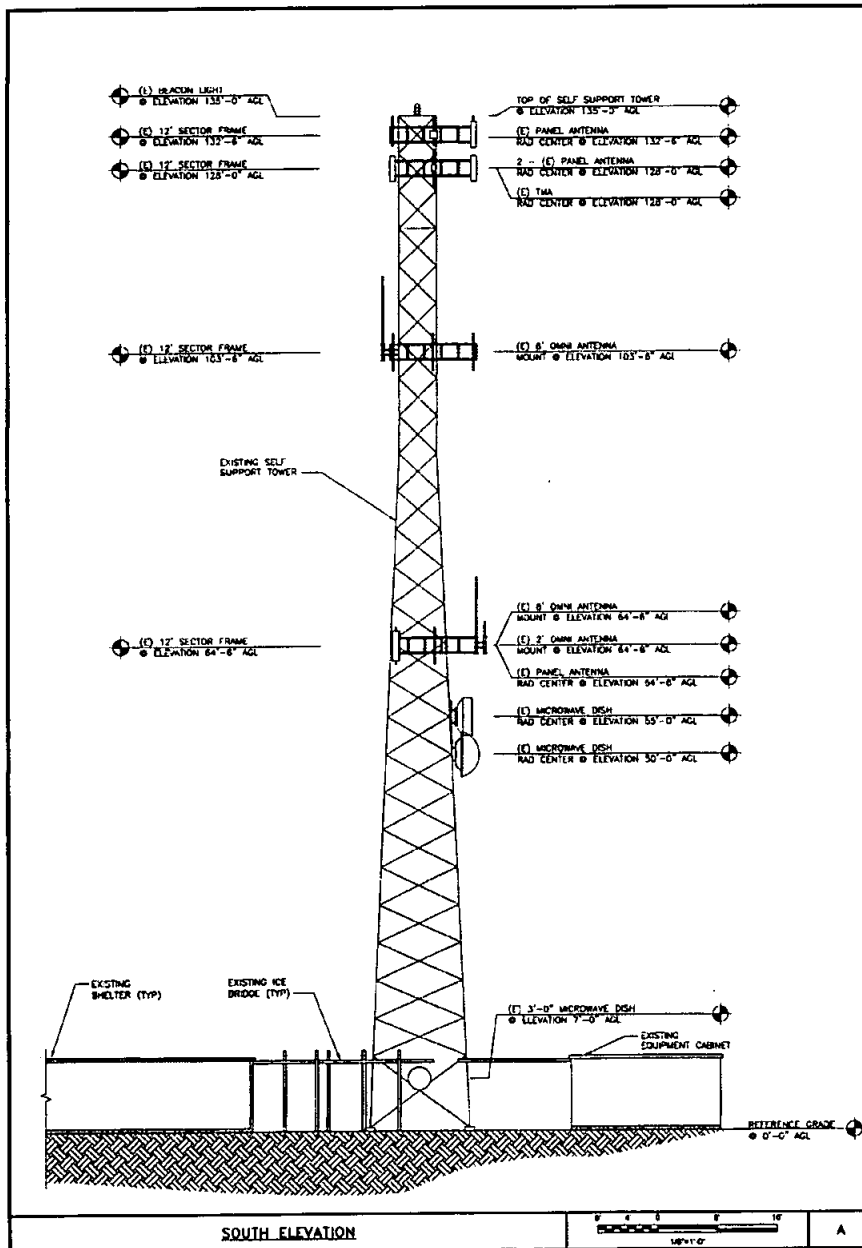
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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
ANTENNA LAYOUTS

SHEET NUMBER

C-5



PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MSG

REV	DATE	DESCRIPTION
1	06/26/14	ISSUED FOR PERMITTING
2	06/18/14	ISSUED FOR PERMITTING
3	07/14/14	ISSUED FOR PERMITTING
4	07/02/14	ISSUED FOR PERMITTING
5	06/26/14	ISSUED FOR PERMITTING

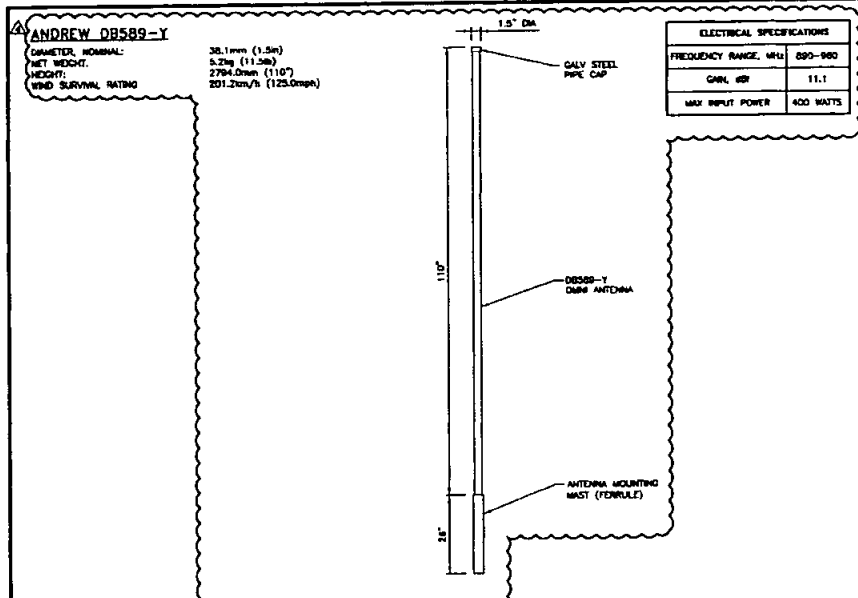


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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92108

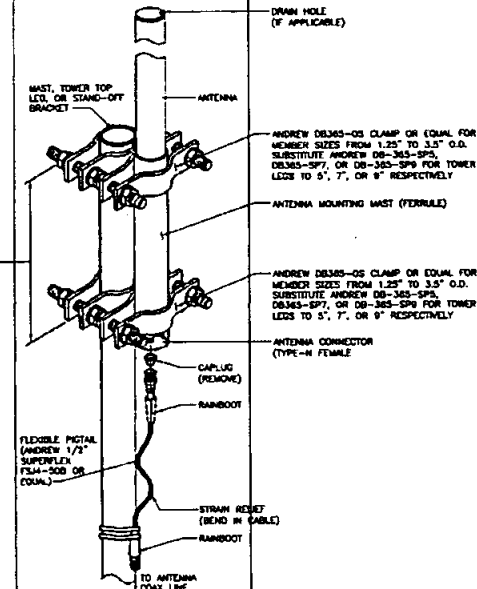
SHEET TITLE
SITE ELEVATIONS

SHEET NUMBER
C-7



TIGHTEN ALL FASTENERS.
 TORQUE: 1/2-13 = 516 IN-LBS (56 N-M)

POSITION CLAMPS ON
 FERRULE APPROX. 2" FROM
 TOP OF FERRULE AND
 FROM BOTTOM OF FERRULE



PROPOSED DB589-Y SPECIFICATIONS

NO SCALE

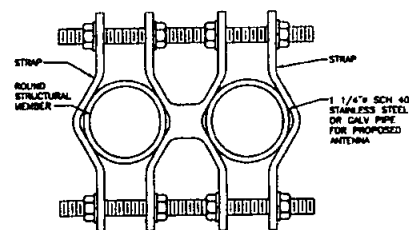
A

ANTENNA ATTACHMENT DETAIL

NO SCALE

B

NOTE:
 1. CONTRACTOR TO INSTALL PER MANUFACTURER'S REQUIREMENTS



MOUNTING ON ROUND STRUCTURAL MEMBER

ANDREW DB365-OS PIPE MOUNT HARDWARE KIT (OR EQUIVALENT)

NO SCALE

C

DETAIL NOT USED

NO SCALE

D



PROJECT NO: 182301
 DRAWN BY: RAS
 CHECKED BY: MBO

REV	DATE	DESCRIPTION
1	06/26/14	ISSUED FOR PERMITTING
2	06/12/14	ISSUED FOR ADJUSTING
3	07/10/14	ISSUED FOR PERMITTING
4	07/01/14	ISSUED FOR PERMITTING
5	06/20/14	ISSUED FOR PERMITTING



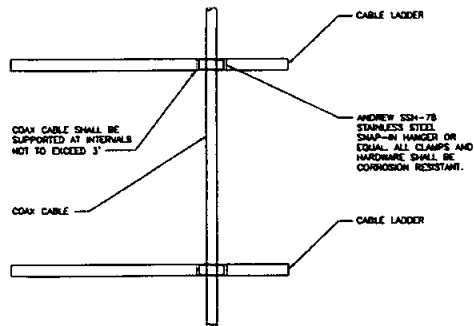
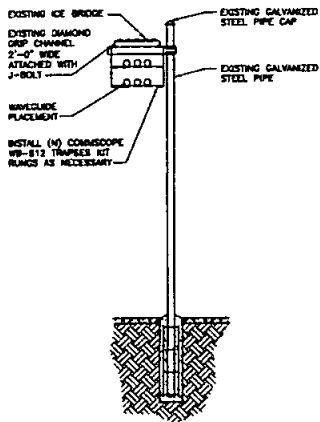
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POINT LOMA
 200 BLOCK CATALINA BLVD.
 SAN DIEGO, CA 92106

SHEET TITLE
 EQUIPMENT DETAILS

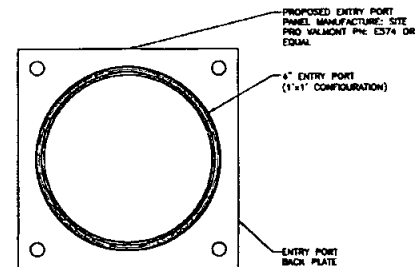
SHEET NUMBER

C-8



NOTES:

1. USE EXISTING EMPTY SPARE HARDWARE, COAX LADDER OR VERTICAL SUPPORTS. CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR SITUATIONS THAT REQUIRE NEW COAX LADDER, EXTENSIONS, OR OTHER VERTICAL SUPPORTS.
2. COAX SHALL NOT BE INSTALLED IN A WAY THAT WILL IMPEDE CLIMBING OR SAFETY DEVICES.
3. COAX SHALL NOT BE MOUNTED TO CLIMBING LADDER RUNGS OR CLIMBING PECS.
4. EXCESS COAX SHALL NOT BE STORED, COILED, OR LOOPED ON TOWER.
5. ALL COAX CONNECTORS, SPLICES, AND JUNCTIONS SHALL BE WATERPROOFED.



NOTES:

1. MASONRY: REMOVE ENOUGH BLOCK OR BRICK AND MORTAR TO PROVIDE AN OPENING 1 1/4\"/>
2. METAL, WOOD, PLASTIC: POSITION THE WAVEGUIDE ENTRY PLATE ON THE WALL MAKING SURE THAT IT IS LEVEL AND MARK ALL THE HOLES LOCATIONS ON THE WALL. CUT THE LARGE HOLES FIRST, THEN DRILL 5/16\"/>

ICF BRIDGE WAVE GUIDE DETAIL (AS REQUIRED)

NO SCALE

A

TYPICAL COAX ATTACHMENT DETAIL

NO SCALE

B

PROPOSED SINGLE ENTRY PANEL PORT
(AS REQUIRED)

NO SCALE

C

DETAIL NOT USED

NO SCALE

D

DETAIL NOT USED

NO SCALE

E

DETAIL NOT USED

NO SCALE

F

SDGE
SAN DIEGO, CA

BLACK & VEATCH
10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 456-2000

PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MBO

REV	DATE	DESCRIPTION
1	08/26/14	ISSUED FOR PERMITTING
2	08/12/14	ISSUED FOR PERMITTING
3	07/16/14	ISSUED FOR PERMITTING
4	07/01/14	ISSUED FOR PERMITTING
5	06/26/14	ISSUED FOR PERMITTING



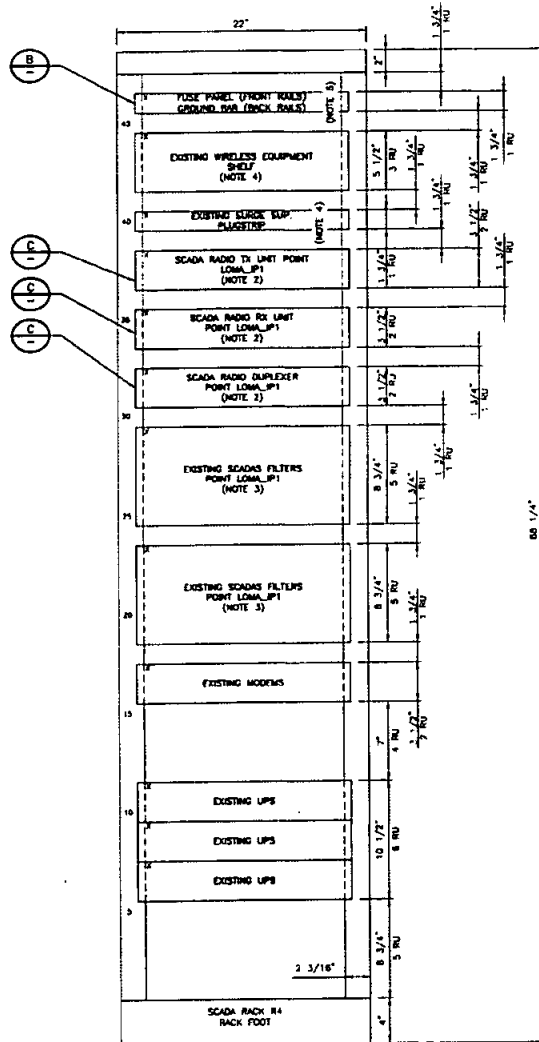
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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

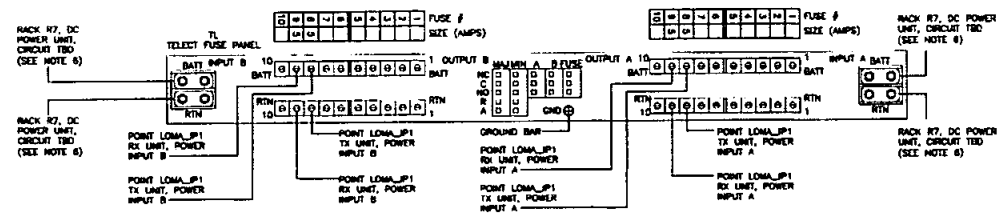
C-9



EXISTING TELECOM RACK (FRONT VIEW)

NO SCALE

A



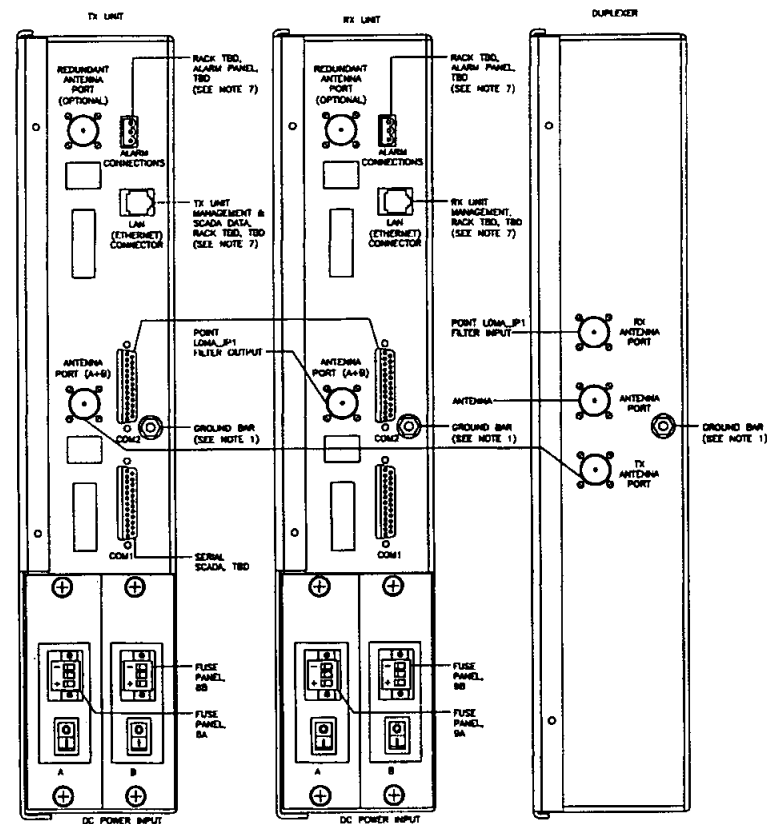
TELET FUSE PANEL

NO SCALE

B

NOTES:

1. BUILDER TO GROUND THE RADIO GROUNDING STUD TO THE RACK/FRAME GROUND BAR USING A LENGTH OF 4 mm/2 (AWG 12) GREEN PVC INSULATED STRANDED COPPER WIRE.
2. BUILDER TO REPLACE EXISTING SCADA RADIOS WITH NEW SCADA RADIO EQUIPMENT.
3. BUILDER TO RELOCATE EXISTING FILTERS AS SHOWN AND REUSE FOR REPLACEMENT RADIOS.
4. BUILDER TO RELOCATE EXISTING EQUIPMENT AS SHOWN.
5. BUILDER TO INSTALL NEW FUSE PANEL ON FRONT RAILS AND GROUNDING BAR ON BACK RAILS. BOND BAR TO ROOM TELECOMMUNICATIONS GROUND BAR USING GREEN JACKETED #8 AWG COPPER WIRE.
6. BUILDER TO INSTALL (2) NEW BREAKERS INTO EXISTING DC BREAKER PANEL IN RACK TBO FOR NEW FUSE PANEL.
7. BUILDER TO ROUTE CABLE TO DESTINATION RACK AND LEAVE EXCESS LABELED AND NEATLY COILED OVERHEAD IN CABLE TRAY.



POINT LOMA IP1 SCADA RADIO UNIT

NO SCALE

C



10950 CRAWFORD DRIVE
OVERLAND PARK, KANSAS 66210
(913) 456-2000

PROJECT NO: 162301

DRAWN BY: RAS

CHECKED BY: MBO

REV	DATE	DESCRIPTION
1	07/01/14	ISSUED FOR PERMITTING
2	07/16/14	ISSUED FOR PERMITTING
3	08/12/14	ISSUED FOR PERMITTING
4	08/28/14	ISSUED FOR PERMITTING
5	08/28/14	ISSUED FOR PERMITTING
6	08/28/14	ISSUED FOR PERMITTING



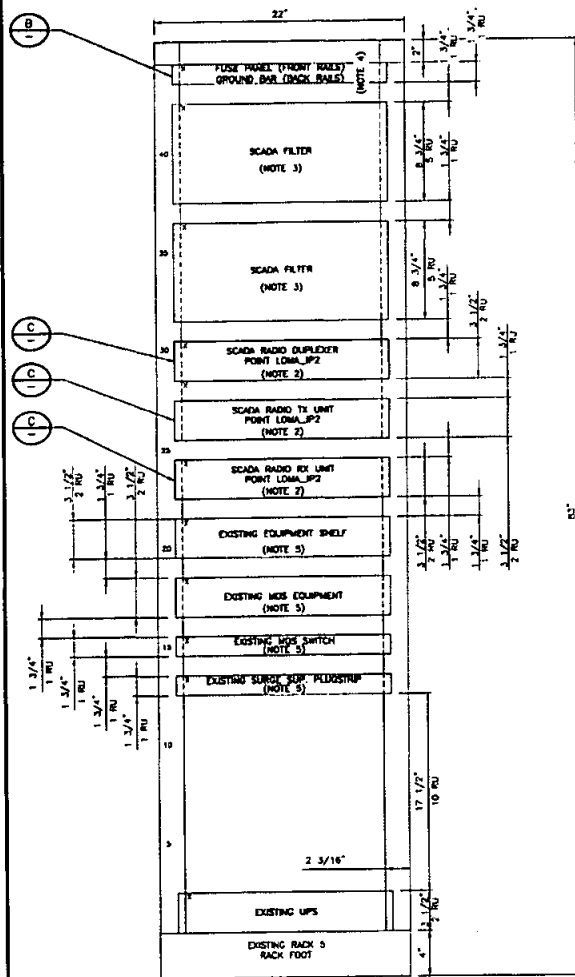
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OF A LICENSED PROFESSIONAL ENGINEER
TO ALTER THIS DOCUMENT.

POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
TELECOMMUNICATION
EQUIPMENT RACK

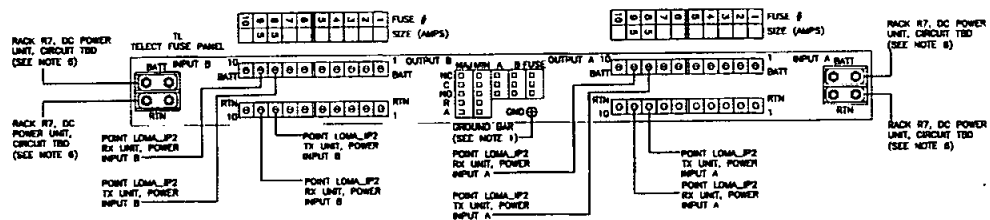
SHEET NUMBER

RF-1



EXISTING TELECOM RACK (FRONT VIEW)

NO SCALE A

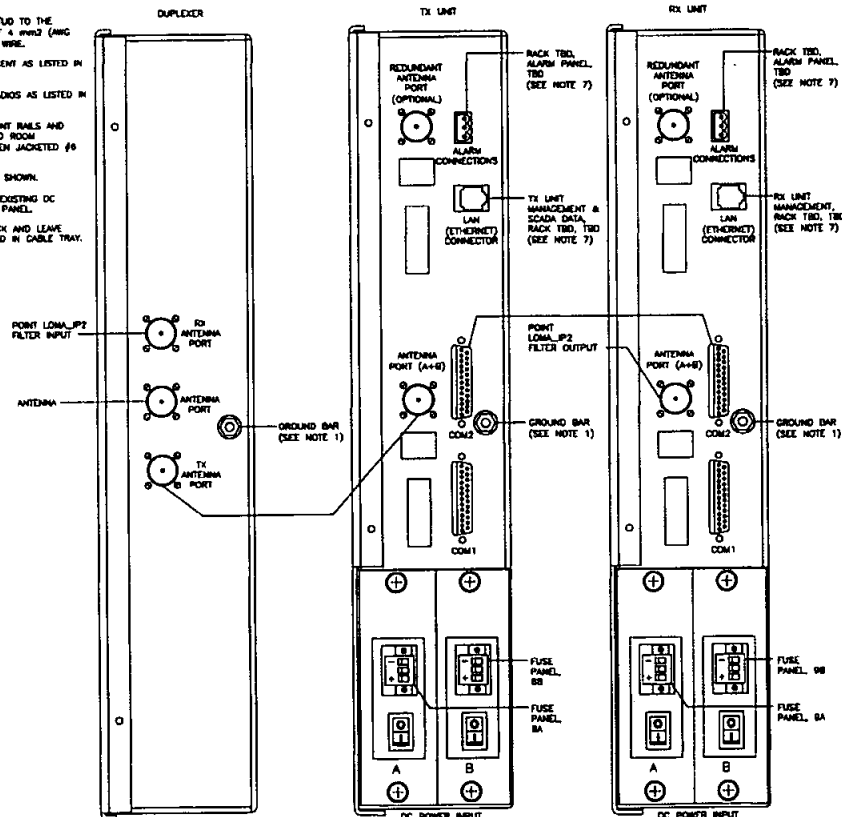


SELECT FUSE PANEL

NO SCALE B

NOTES:

- BUILDER TO GROUND THE RADIO GROUNDING STUD TO THE RACK/FRAME GROUNDING BAR USING A LENGTH OF 4 AWG (MIG 12) GREEN PVC INSULATED STRANDED COPPER WIRE.
- BUILDER TO INSTALL NEW SCADA RADIO EQUIPMENT AS LISTED IN THE BILL OF MATERIALS (BOM).
- BUILDER TO INSTALL NEW FILTERS FOR NEW RADIOS AS LISTED IN THE BILL OF MATERIALS (BOM).
- BUILDER TO INSTALL NEW FUSE PANEL ON FRONT RAILS AND GROUNDING BAR ON BACK RAILS. BOND BAR TO ROOM TELECOMMUNICATIONS GROUND BAR USING GREEN JACKETED #6 AWG COPPER WIRE.
- BUILDER TO RELOCATE EXISTING EQUIPMENT AS SHOWN.
- BUILDER TO INSTALL (2) NEW BREAKERS INTO EXISTING DC BREAKER PANEL IN RACK #7 FOR NEW FUSE PANEL.
- BUILDER TO ROUTE CABLE TO DESTINATION RACK AND LEAVE EXCESS LABELED AND NEATLY COILED OVERHEAD IN CABLE TRAY.



POINT LOMA IP2 SCADA RADIO UNIT

NO SCALE C



BLACK & VEATCH

10930 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182301

DRAWN BY: RAS

CHECKED BY: MBO

REV	DATE	DESCRIPTION
1	06/26/14	ISSUED FOR PERMITS
2	06/15/14	ISSUED FOR PERMITTING
3	07/16/14	ISSUED FOR PERMITTING
4	07/16/14	ISSUED FOR PERMITTING
5	06/26/14	ISSUED FOR PERMITTING



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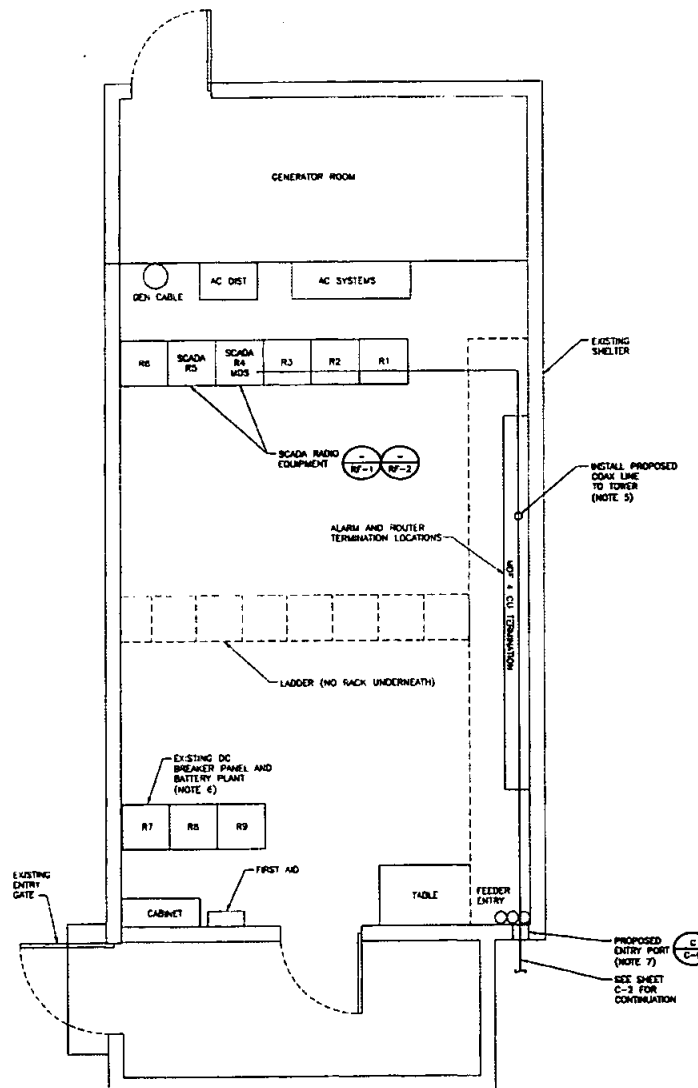
POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
TELECOMMUNICATION
EQUIPMENT RACK

SHEET NUMBER

RF-2

EXISTING BATTERIES DETAILS:
 TOTAL NUMBER OF BATTERIES: 5 (ALL IN ONE RACK)
 MANUFACTURE: ORN/ABSOLYTE
 MODEL NUMBER: 30A-07
 TOTAL GALLONS OF ELECTROLYTES: 2.225



NO NEW AC POWER REQUIRED FOR THIS SITE

ELECTRICAL PLAN - AC ONLY

OVERHEAD POWER — OHP — OHP — OHP — OHP —
 UNDERGROUND POWER — UGP — UGP — UGP — UGP —
 UNDERGROUND DUCT — UGD — UGD — UGD — UGD —
 ABOVE GROUND POWER — AGP — AGP — AGP — AGP —
 ABOVE GROUND POWER/AC — AGP/AC — AGP/AC — AGP/AC —
 ABOVE GROUND POWER/DC — AGP/DC — AGP/DC — AGP/DC —
 ABOVE GROUND FIBER — AGF — AGF — AGF — AGF —
 ABOVE GROUND FIBER/POWER — AGF/P — AGF/P — AGF/P —
 UNDERGROUND FIBER — UGF — UGF — UGF — UGF —
 UNDERGROUND FIBER/POWER — UGF/P — UGF/P — UGF/P —

LEGEND

AC ALTERNATING CURRENT
 AC AMPERAGE INTERLUIS-111FROM CAPACITY
 ATS AUTOMATIC TRANSFER SWITCH
 AWG AMERICAN WIRE GAUGE
 BTD BARE TINNED COPPER CONDUCTOR
 BATT BATTERY
 CEE CALIFORNIA ELECTRICAL CODE (2010)
 CHG CHARGING
 COMM COMMON
 DC DIRECT CURRENT
 DIA DIAMETER
 DMC DRAWING
 EC ELECTRICAL CONDUCTOR
 EMT ELECTRICAL METALLIC TUBING
 FIF FACILITY INTERFACE FRAME
 COND CONDENSATOR
 GPS GLOBAL POSITIONING SYSTEM
 HVAC HEAT/VENTILATION/AIR CONDITIONING
 IGR INTERIOR GROUNDING RING (WELD)
 MGR MASTER GROUNDING BAR
 MIN MINIMUM
 M/V M/V
 MTS MANUAL TRANSFER SWITCH
 ON ON CENTER
 PP POLARIZING PRESERVING
 PCU PRIMARY CONTROL UNIT
 PDU PROTOCOL DATA UNIT
 RECT RECTIFIER
 RAC RIGID METALLIC CONDUIT
 RMH REMOTE RADIO HEAD
 RFT RACEWAY
 SHD SMART INTEGRATED ACCESS DEVICE
 TVSS TRANSIENT VOLTAGE SUPPRESSION SYSTEM
 TYP TYPICAL
 UPS UNINTERRUPTIBLE POWER SOURCE

ABBREVIATIONS

- THESE ELECTRICAL PLANS ARE SUPPLEMENTARY TO CIVIL ENGINEERING ACTIVITIES, AS DEFINED BY CAL. BUS. & PROF. CODE §8731. THEREFORE, IN ACCORDANCE WITH CAL. BUS. & PROF. CODE §8737.2, THESE PLANS HAVE BEEN PREPARED UNDER THE RESPONSIBLE CHARGE OF THE CAL. LICENSED AND REGISTERED CIVIL ENGINEER WHOSE SEAL AND SIGNATURE APPEAR ON PLANS.
- THE CONDUIT ROUTING ARE ORIGINALLY SHOWN ON THE PLANS AND ARE ONLY APPROXIMATIONS. THE EXACT LOCATION AND ROUTING SHALL BE FIELD VERIFIED.
- ALL ELECTRICAL EQUIPMENT AND CONTROLLING DEVICES SHALL BE PROVIDED WITH EXHIBED LAMINATED NAMEPLATES, INDICATING THE CIRCUITS ORIGIN AND ALL EQUIPMENT TERMINATIONS.
- WHEN TYPE "TO-EXT" CABLE IS UTILIZED IN THE ELECTRICAL SYSTEM, TYPE "TO-EXT" CABLE SHALL BE INSTALLED WITHIN A CABLE TRAY SYSTEM, CONDUIT SYSTEMS OR A COMBINATION OF BOTH AND SHALL BE ELECTRICALLY CONTINUOUS. ALL RACEWAYS SHALL BE APPROVED FOR THEIR PURPOSE.
- BUILDER TO INSTALL (1) NEW SCADA COAX LINE IN CABLE LADDER. BUILDER TO INSTALL NEW SURGE PROTECTIVE DEVICE ON ANTENNA COAX LINE WITHIN 2 FEET OF BUILDING ENTRY.
- BUILDER TO INSTALL (2) NEW BREAKERS INTO EXISTING DC BREAKER PANEL IN RACK R7 FOR NEW PLUS PANEL.
- BUILDER TO CREATE NEW WALL PENETRATION FOR PROPOSED ENTRY PORT. SEE SHEET C-3 DETAIL G.

SDGE

SAN DIEGO, CA



BLACK & VEATCH

10850 GRANDVIEW DRIVE
 OVERLAND PARK, KANSAS 66210
 (913) 458-2000

PROJECT NO: 182301
 DRAWN BY: RAS
 CHECKED BY: MBO

REV	DATE	DESCRIPTION
4	06/26/14	ISSUED FOR PERMITTING
3	06/11/14	ISSUED FOR PERMITTING
2	07/16/14	ISSUED FOR PERMITTING
1	07/16/14	ISSUED FOR PERMITTING
0	06/26/14	ISSUED FOR PERMITTING



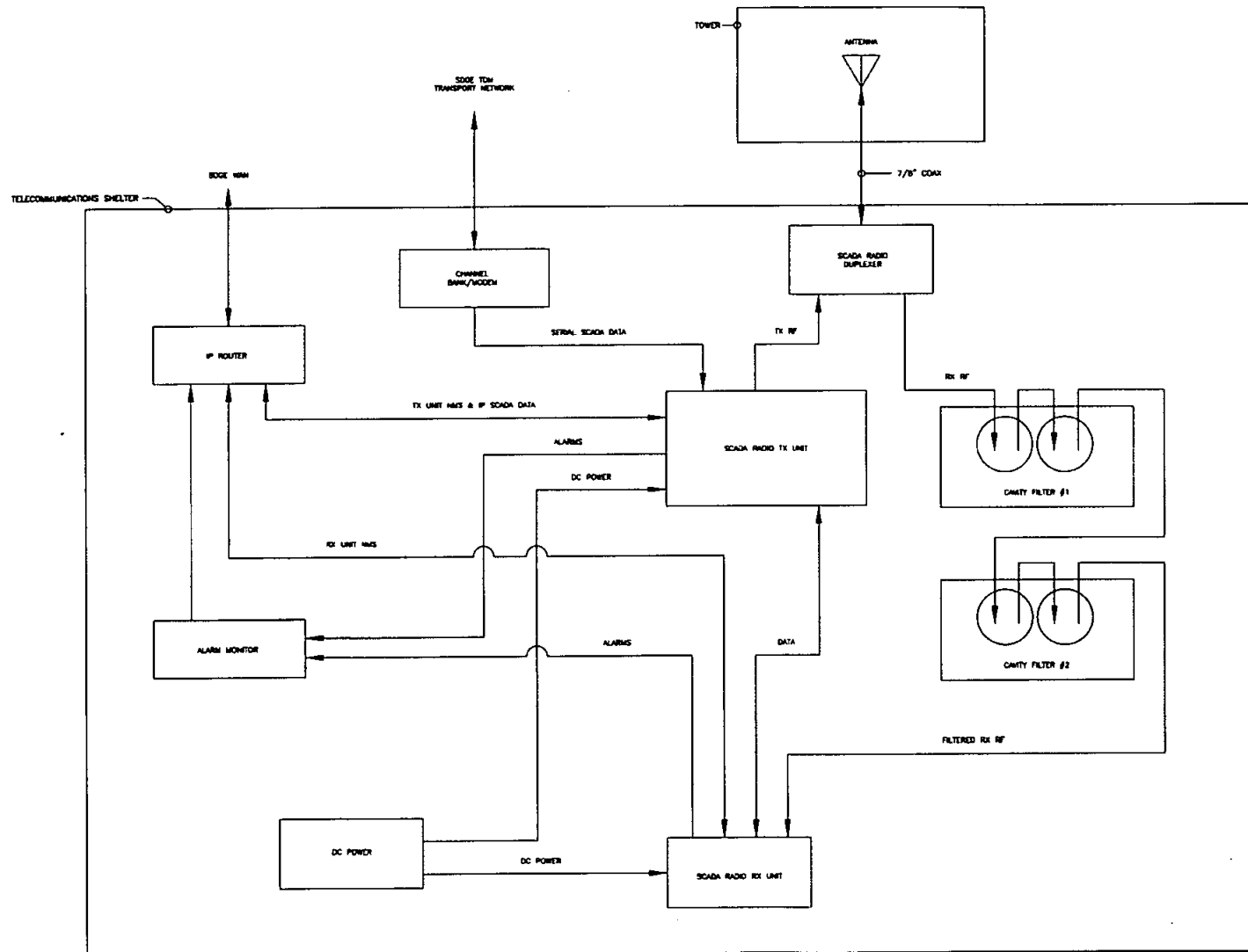
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POINT LOMA
 200 BLOCK CATALINA BLVD.
 SAN DIEGO, CA 92106

SHEET TITLE
 ELECTRICAL AC PLAN

SHEET NUMBER
 E-1

NOTES



TYPICAL RADIO CONNECTION DIAGRAM

NO SCALE



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10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 438-2000

PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MBO

REV	DATE	DESCRIPTION
4	04/26/11	ISSUED FOR PERMITTING
3	04/26/11	ISSUED FOR PERMITTING
2	07/26/11	ISSUED FOR PERMITTING
1	07/26/11	ISSUED FOR PERMITTING
0	04/26/11	ISSUED FOR PERMITTING



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200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92108

SHEET TITLE
**RADIO
CONNECTION DIAGRAM**

SHEET NUMBER
E-2

1. PROVIDE AND INSTALL INSULATED 8 AWG GREEN GROUNDING CONDUCTOR FROM SURGE PROTECTOR TO GROUND BAR.
2. EXISTING GROUND BAR.
3. GROUND KIT TO BE INSTALLED ABOVE GROUND BAR AS SHOWN.
4. TOWER GROUNDING CONDUCTOR. RUNS INSIDE FULL LENGTH OF TOWER. BOND TO EACH TOWER SECTION.
5. COAX LINE GROUNDING KIT(S).
6. EXISTING LIGHTNING ROD.



10830 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

CHECKED BY: WBG

6	06/28/74	ISSUED FOR PLANNING
3	06/12/74	ISSUED FOR PLANNING
2	07/18/74	ISSUED FOR PLANNING
1	07/01/74	ISSUED FOR PLANNING
0	06/28/74	ISSUED FOR PLANNING
REV	DATE	DESCRIPTION



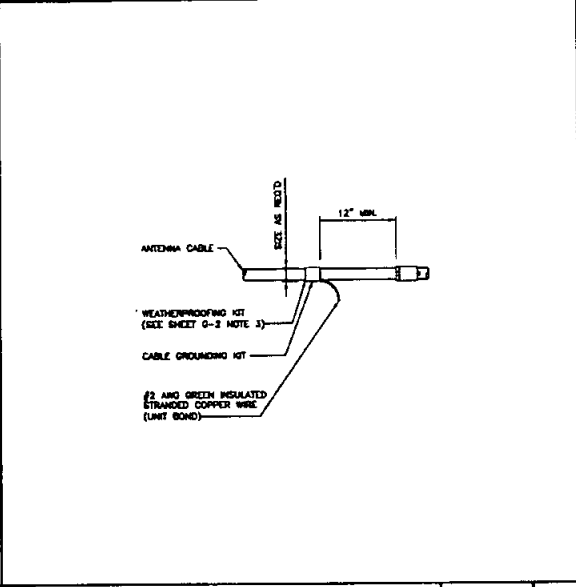
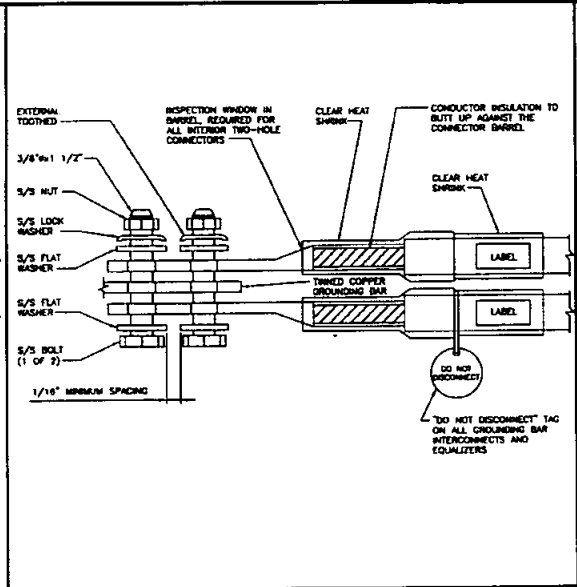
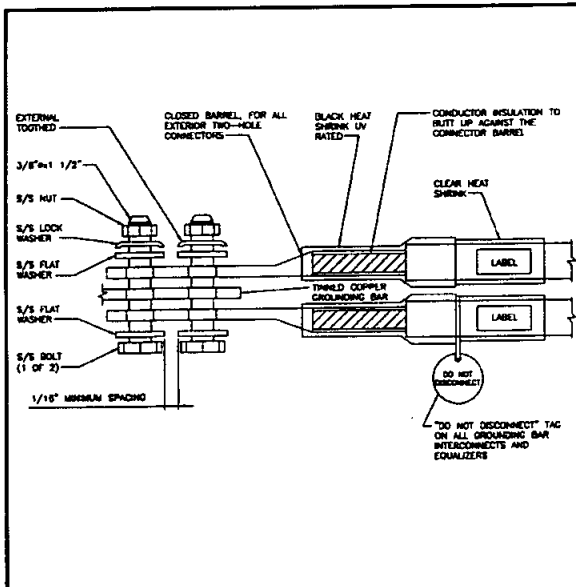
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SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

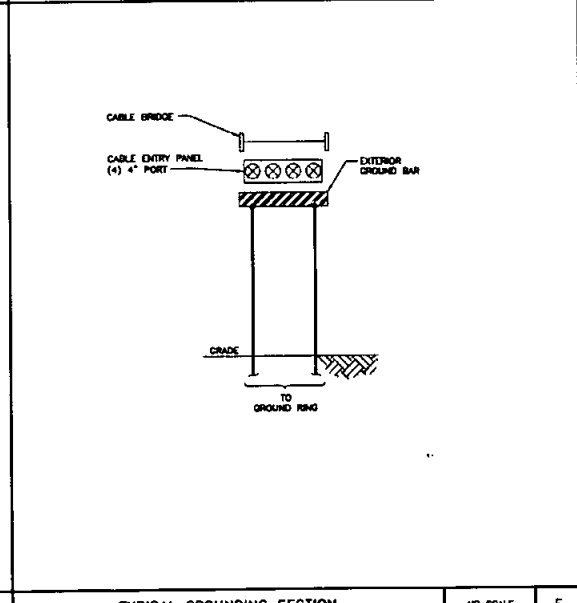
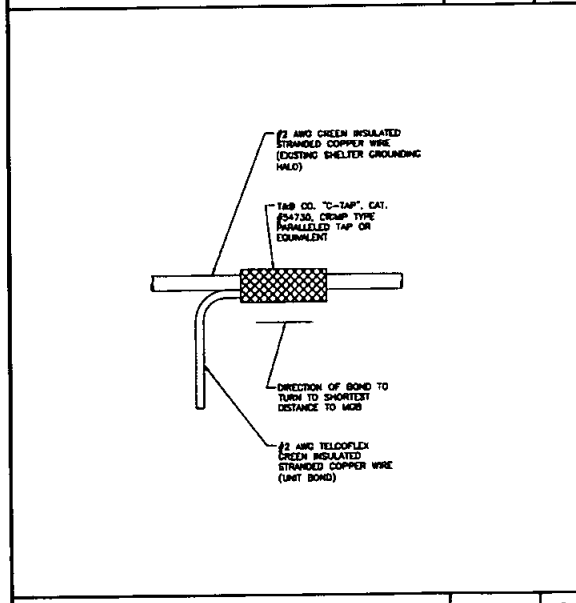
G-1



EXTERIOR TWO HOLE LUG DETAIL NO SCALE A

INTERIOR TWO HOLE LUG DETAIL NO SCALE B

CABLE GROUNDING KIT TO ANTENNA CABLE NO SCALE C

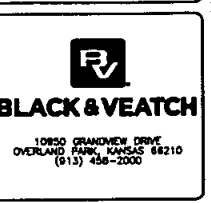


1. EXOTHERMIC WELD #2 AND BARE THINNED SOLID COPPER CONDUCTOR TO GROUND BAR. ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL GROUND BARS SHALL BE STAMPED IN TO THE METAL "W" STOLEN DO NOT RECYCLE." THE CONTRACTOR SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "T") WITH 1" HIGH LETTERS.
3. ALL HARDWARE SHALL BE STAINLESS STEEL. 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS. COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
5. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUNDING CONDUCTOR DOWN TO GROUNDING BUS.
6. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, 600 VOLT INSULATION, ON ALL GROUNDING TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION.
7. SUPPLIED AND INSTALLED BY CONTRACTOR.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BARS AS REQUIRED, PROVIDING 50% SPARE CONNECTION POINTS.
9. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHIMMERS).

GROUNDING WIRE CONNECTION NO SCALE D

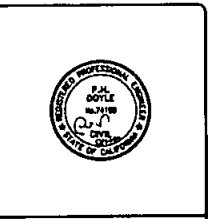
TYPICAL GROUNDING SECTION NO SCALE E

NOTES NO SCALE F



PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MBO

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1	07/01/14	ISSUED FOR PERMITTING
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REV	DATE	DESCRIPTION

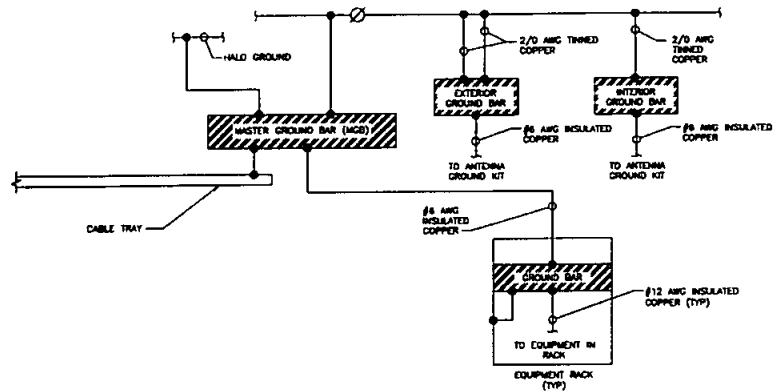


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SAN DIEGO, CA 92106

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2



GROUNDING RISER DIAGRAM

NO SCALE

A

DETAIL NOT USED

NO SCALE

B

DETAIL NOT USED

NO SCALE

C

DETAIL NOT USED

NO SCALE

D



BLACK & VEATCH

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 438-2000

PROJECT NO: 182301
DRAWN BY: RAS
CHECKED BY: MBO

REV	DATE	DESCRIPTION
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2	07/16/14	ISSUED FOR PERMITTING
1	07/16/14	ISSUED FOR PERMITTING
0	06/20/14	ISSUED FOR PERMITTING



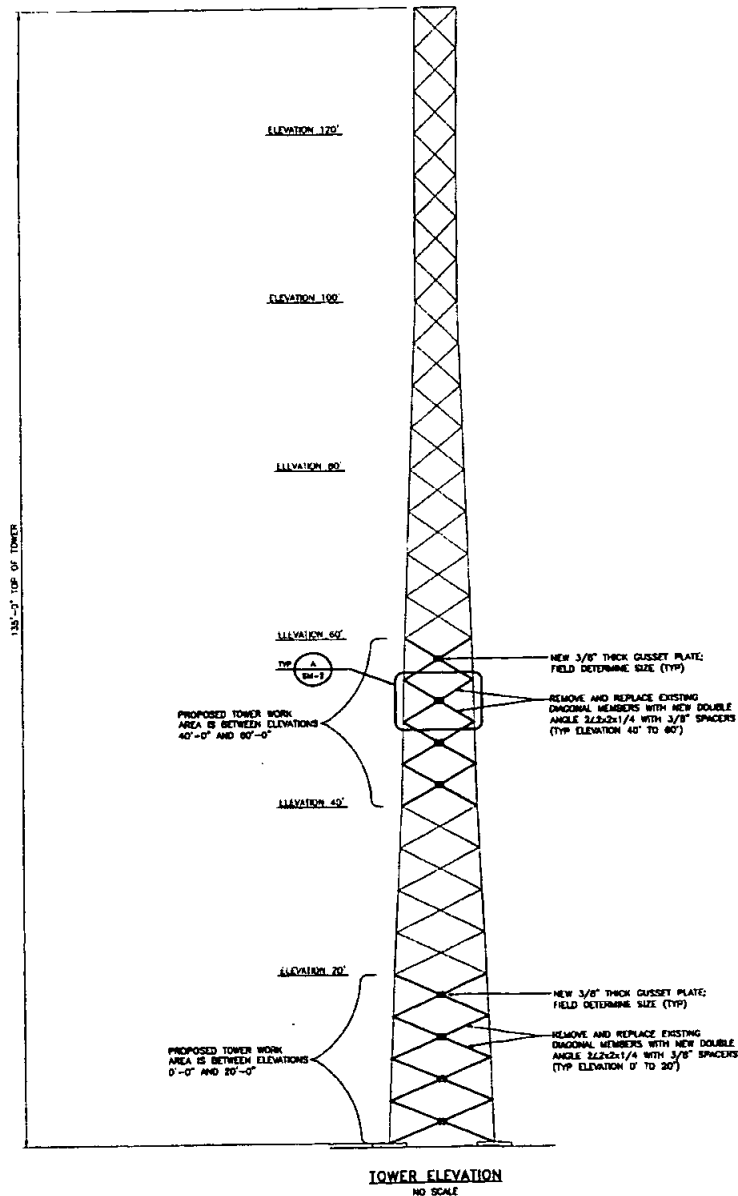
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SAN DIEGO, CA 92106

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

G-3



- CONTRACTOR TO FIELD VERIFY SIZES AND LENGTHS OF ALL BRACING MEMBERS AND BOLTS PRIOR TO ORDERING MATERIAL.
- STRUCTURAL COMPONENTS OF THIS PROJECT SITE/FACILITY ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO DAMAGE IS DONE TO THE TOWER DURING THE CONSTRUCTION PROCESS. THE TOWER SHOULD BE ADEQUATELY SUPPORTED AND BRACED AT ALL TIMES.
- THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
- CONTRACTOR TO SUPPLY ALL NECESSARY CONNECTION HARDWARE.
- ALL NEW CONNECTIONS SHALL USE ASTM A153 GALVANIZED A325-K BOLTS, NUTS AND LOCKING DEVICES UNLESS NOTED OTHERWISE. "Y" INDICATES BEARING-TYPE CONNECTION "SHAG TIGHT FIT" WITH THREADS EXCLUDED FROM SHEAR PLANE.
- U-BOLTS SHALL BE A307 UNLESS NOTED OTHERWISE.
- STRUCTURAL BOLTS SPACING AND EDGE DISTANCE SHALL MEET 2005 AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS REQUIREMENTS UNLESS NOTED OTHERWISE.
- ALL STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO ASTM A123 GALVANIZED UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL TOUCH UP ANY DAMAGED PAINT AREAS WITH ZINC RICH PAINT. ALL AREAS OF FIELD DRILLING, WELDING, OR CUTTING SHALL BE TOUCHED UP WITH ZINC RICH PAINT.
- FIELD DRILLING OR CUTTING OF NEW MEMBERS IS ALLOWED IF NECESSARY. NO FIELD DRILLING OR CUTTING OF EXISTING MEMBERS IS ALLOWED UNLESS NOTED OTHERWISE.
- ALL NEW STRUCTURAL BRACING MEMBERS AND PLATES TO BE ASTM A36 STEEL MINIMUM. ALL NEW LEO STEEL SHALL BE ASTM A500-42 STEEL MINIMUM UNLESS NOTED OTHERWISE.
- ALL DOUBLE ANGLES TO HAVE MINIMUM (1) 5/8" STITCH BOLT WITH 3/8" PLATE PER UNBRACED SPAN UNLESS NOTED OTHERWISE. MAXIMUM SPACING BETWEEN STITCH BOLTS SHALL NOT BE GREATER THAN 3'-0".
- ALL WELDS TO BE COMPLETED PER AWS D1.1 STANDARDS USING E70XX ELECTRODES.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS DURING WELDING OPERATIONS OF GALVANIZED MATERIALS ACCORDING TO AWS E2.1-1-011.
- CONTRACTOR SHALL HAVE ALL WELDING INSPECTED BY THIRD PARTY CERTIFIED WELDING INSPECTOR AND SUBMIT THE REPORT TO TOWER OWNER.
- TOWER MODIFICATIONS AND ANALYSIS COMPLY WITH TA-222-G.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE OSHA REGULATIONS, PER TA-222-G (1998), AND SHALL BE PERFORMED ONLY IN "GOOD WEATHER". GOOD WEATHER MEANS LITTLE OR NO WIND AND RAIN AND MINIMUM TEMPERATURE OF 50 DEGREES F. CONTACT ENGINEER FOR ADDITIONAL INSTRUCTIONS IF "GOOD WEATHER" CANNOT BE ACHIEVED.
- ONLY ONE BRACING MEMBER SHALL BE REMOVED AND REPLACED AT A TIME FOR ALL EXISTING BRACING MEMBERS.
- WHEN REMOVING AND INSTALLING NEW BOLTS ONLY ONE BOLT SHALL BE REMOVED AND REPLACED AT A TIME.
- ALL CHANGES/ALTERNATES/REVISIONS TO THESE DRAWINGS SHALL BE DOCUMENTED BY REQUEST FOR INFORMATION (RFI) FORM APPROVED BY ENGINEER OF RECORD. FINAL WORK AUTHORIZATION AND ALL CHANGE ORDERS SHALL BE APPROVED BY CLIENT AND/OR CLIENT REPRESENTATIVE PRIOR TO PROCEEDING WITH ANY WORK THAT DEVIATES FROM THE ORIGINAL DESIGN, SCOPE, PRICE AND/OR SCHEDULE.

CONTRACTOR SHALL FIELD VERIFY AND MEASURE DIMENSIONS OF THE SITE STRUCTURE BEFORE FABRICATION OF MATERIALS FOR ALL TOWER MODIFICATION INSTALLATIONS.



BLACK & VEATCH

10830 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182301

DRAWN BY: RAS

CHECKED BY: MBO

REV	DATE	DESCRIPTION
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2	06/12/14	ISSUED FOR PERMITTING
3	07/16/14	ISSUED FOR PERMITTING
4	07/16/14	ISSUED FOR PERMITTING
5	06/26/14	ISSUED FOR PERMITTING



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POINT LOMA
200 BLOCK CATALINA BLVD.
SAN DIEGO, CA 92106

SHEET TITLE
**TOWER
REINFORCEMENTS**

SHEET NUMBER

SM-1



SAN DIEGO, CA



BLACK & VEATCH

10250 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 438-2000

PROJECT NO: 152301
DRAWN BY: RAS
CHECKED BY: MBO

REV	DATE	DESCRIPTION
4	06/26/14	REVISION FOR PERMITTING
3	06/13/14	REVISION FOR PERMITTING
2	07/16/14	REVISION FOR PERMITTING
1	07/01/14	REVISION FOR PERMITTING
0	06/26/14	REVISION FOR PERMITTING

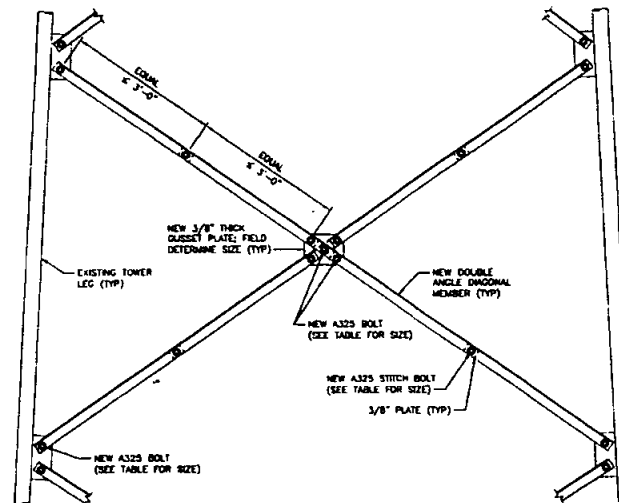


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SAN DIEGO, CA 92106

SHEET TITLE
**REINFORCEMENT
DETAILS**

SHEET NUMBER
SM-2



A325 BOLTS TABLE		
END & MIDDLE CONNECTION	STITCH BOLT	SECTION
1/2"	1/2"	0° TO 25°
1/2"	1/2"	40° TO 90°

NOTE

1. ALL DOUBLE ANGLES TO HAVE MINIMUM 1 STITCH BOLT WITH 3/8" PLATE PER UNBRACED SPAN. MAXIMUM SPACING BETWEEN STITCH BOLTS SHALL NOT BE GREATER THAN 3'-0".
2. ONLY ONE CONNECTION BOLT SHALL BE REMOVED AT A TIME.

DETAIL A
NO SCALE