



SAN FRANCISCO PLANNING DEPARTMENT

Letter of Determination

September 22, 2017

Laura Meiners
SureSite Consulting Group for Sirius XM
43251 Osgood Road
Fremont, CA 94539

Site Address:	1101 Green Street and 400 Beale Street
Assessor's Block/Lot:	0125/026-089 and 3766/012-259
Zoning District:	RH-3/40-X and RH DTR/65-X
Staff Contact:	Stephanie Skangos - (415) 575-8731 or Stephanie.Skangos@sfgov.org
Record Number:	2017-009245ZAD

Dear Ms. Meiners:

This letter is in response to your request for a Letter of Determination (LOD) as to whether two (2) new Sirius XM Wireless Telecommunication Services (WTS) Facilities proposed for 1101 Green Street and 400 Beale Street can be considered Micro WTS Facilities, pursuant to Planning Code Section 102.

The proposed facility at 1101 Green Street would consist of the following: (a) one panel antenna, measuring 39.5" tall by 6.5" wide by 8.0" deep; (b) one VSAT dish, measuring 70.9" in diameter; (c) one RX dish, measuring 26" in diameter; and (d) one equipment cabinet, measuring 80.26" tall by 34.6" wide by 31.5" deep. The proposed facility at 400 Beale Street would consist of the same equipment except that the proposed VSAT dish would be smaller at this location, measuring 39.4" in diameter instead of 70.9" in diameter.

On August 2, 2016, the Board of Supervisors adopted Ordinance No. 16-166 (Planning Code - Wireless Telecommunications Services Facilities) which, among other things, amended the Planning Code to add "Micro WTS Facilities" as a use category which is principally permitted in all zoning districts subject to specific limitations. Micro WTS Facilities are defined as follows:

Wireless Telecommunications Services (WTS) Facility, Micro. The Zoning Administrator shall determine whether a proposed WTS Facility is a Micro WTS Facility. A Micro WTS Facility is generally characterized by

- (a) limited spatial effects;*
- (b) a small number of antennas (typically up to two);*
- (c) an absence of substantial cumulative effects on neighborhood character or aesthetics, when considered in conjunction with other WTS Facilities at the same project site; and*
- (d) a location that is not "disfavored" as specified in the Guidelines.*

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Laura Meiners
SureSite Consulting Group for Sirius XM
43251 Osgood Road
Fremont, CA 94539

September 22, 2017
Letter of Determination
Sirius XM

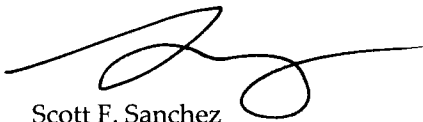
After reviewing previous determinations, relevant Planning Code provisions, existing guidelines and the information submitted with your letter, it is my determination that the proposed Sirius XM WTS facilities at 1101 Green Street and 400 Beale Street would not be consistent with the definition of Micro WTS Facilities based upon the following:

1. The size, number and function of the proposed equipment are similar to that of a Macro WTS Facility, when considered in conjunction with other WTS Facilities in similar adjacent areas.
 - a. The size of the proposed equipment, specifically the proposed dishes, is larger than the accessory dishes typically included as part of a WTS facility and will have more than a limited spatial effect on the project sites.
 - b. The proposed facility includes one (1) panel antenna; however, the panel antenna is not the only transmitting element of the proposed facility. The VSAT dish functions similar to an antenna and also transmits and receives; and, while, the proposed RX dish receives only, the potential overall impact of the equipment as a whole is more similar to that of a Macro WTS Facility.
2. Additionally, the project site at 1101 Green Street is located within an RH-3 Zoning District, which has been identified as a "Disfavored Site," per the WTS Facilities Siting Guidelines.

Please note that a Letter of Determination is a determination regarding the classification of uses and interpretation and applicability of the provisions of the Planning Code. This Letter of Determination is not a permit to commence any work or change occupancy. Permits from appropriate Departments must be secured before work is started or occupancy is changed.

APPEAL: If you believe this determination represents an error in interpretation of the Planning Code or abuse in discretion by the Zoning Administrator, an appeal may be filed with the Board of Appeals within 15 days of the date of this letter. For information regarding the appeals process, please contact the Board of Appeals located at 1650 Mission Street, Room 304, San Francisco, or call (415) 575-6880.

Sincerely,



Scott F. Sanchez
Zoning Administrator

cc: Property Owners
Russian Hill and SoMa Neighborhood Group Mailing Lists
Stephanie Skangos, Planner



RA# 2017-009245 ZAD
CK # 19729 \$664-
A. LINDSAY (WIRELESS)

Sirius XM Radio Inc.
1221 Avenue of Americas
New York, New York, 10020
T: 222-584-5100
F: 212-584-5200
siriusxm.com

RECEIVED

July 13, 2017

JUL 19 2017

Office of the Zoning Administrator
1650 Mission Street, Suite 400
San Francisco, CA 94103

CITY & COUNTY OF S.F.
DEPT. OF CITY PLANNING
ADMINISTRATION

Reference: Request for Letter of Determination for two (2) projects, Applicant Sirius XM:

Project Site Address: 1101 Green Street (Sirius XM SFX501S)
Block/Lot: 0125/026-089
Building Permit Application Number: 2016.11.10.2496
Zone: RH-3

Project Site Address: 400 Beale Street (Sirius XM SFX502T)
Block/Lot: 3766/012-259
Building Permit Application Number: 2017.04.28.5180
Zone: RH-DTR

Zoning Administrator,

Per Notice of Planning Department Requirements letters dated December 8, 2016 and May 22, 2017, please find this Request for a Letter of Determination (LOD) to determine whether each of the above referenced projects is a micro wireless facility or a macro wireless facility. Please also find copies of the submitted plans enclosed to assist you in your review.

The 1101 Green Street scope of work includes:

- Install (1) new Sirius XM panel antenna on existing penthouse (antenna dimensions: 39.5" x 8")
- Install (1) new Sirius XM VSAT dish on existing penthouse (VSAT diameter: 70.9")
- Install (1) new Sirius XM RX dish on existing penthouse (RX dish diameter: 26")
- Install (1) new Sirius XM cabinet and equipment platform on existing rooftop (dimensions 6' x 4')

The 400 Beale Street scope of work is very similar:

- Install (1) new Sirius XM panel antenna on existing rooftop (antenna dimensions: 39.5" x 8")
- Install (1) new Sirius XM VSAT dish on existing rooftop (VSAT diameter: 39.4")
- Install (1) new Sirius XM RX dish on existing rooftop (RX dish diameter: 26")
- Install (1) new Sirius XM cabinet and equipment platform on existing rooftop (dimensions 6' x 4')



Sirius XM Radio Inc.
1221 Avenue of Americas
New York, New York, 10020

T: 222-584-5100
F: 212-584-5200

siriusxm.com

The only difference in the scope is a smaller VSAT dish proposed on the Beale Street site. Please also review the plans that were submitted with the application if you have any additional questions regarding what is being proposed.

Thank you for your review of these projects. Please provide Letters of Determination for both sites at your earliest convenience. Please let me know if you have any further questions or if you need any additional information to complete your review.

Sincerely,

A handwritten signature in cursive script that reads "Laura Meiners".

Laura Meiners

SureSite Consulting Group for Sirius XM

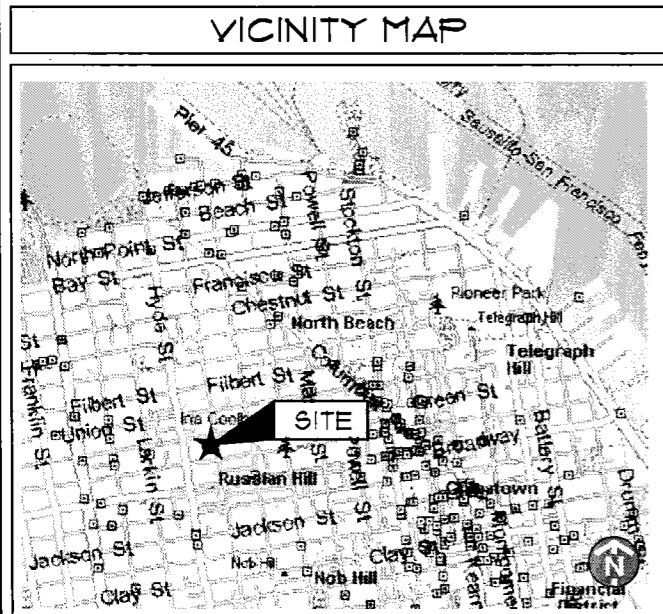
l.meiners@sure-site.com

949-278-2962

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C-3	SITE ELEVATION
C-4	ANTENNA LAYOUTS
C-5	ANTENNA DETAILS
C-5A	SITE DETAILS
C-6	ANTENNA SCHEDULES
C-7	EQUIPMENT SPECS
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E-1	UTILITY PLAN AT ROOF LEVEL AND NOTES
E-1A	UTILITY PLAN AT 20TH FLOOR
E-2	FINAL SINGLE LINE DIAGRAM/PANEL SCHEDULE
E-3	GROUNDING DETAILS AND NOTES
E-4	SITE CONFIGURATIONS MATERIAL LIST
E-4A	SITE CONFIGURATIONS MATERIAL LIST
E-5	SITE CONFIGURATIONS MATERIAL LIST

DRIVING DIRECTIONS

FROM: SAN FRANCISCO INTERNATIONAL AIRPORT
 DEPART SAN FRANCISCO INTERNATIONAL AIRPORT, TAKE RAMP (LEFT) ONTO US-101/BAYSHORE FWY, KEEP RIGHT ONTO I-80/JAMES LICK SKWY, AT EXIT 1, TURN RIGHT ONTO RAMP, BEAR LEFT (NORTH-WEST) ONTO 1TH ST, ROAD NAME CHANGES TO CHARLES J BRENHAM PL/1TH ST N, BEAR LEFT (WEST) ONTO MCALLISTER ST, THEN IMMEDIATELY TURN RIGHT (NORTH) ONTO LEAVENWORTH ST, ARRIVE AT SITE





SITE NAME

GREEN STREET

SITE I.D.

SFX501S


SITE ADDRESS

1101 GREEN ST
 SAN FRANCISCO, CA 94109

STRUCTURE TYPE

ROOFTOP


PROJECT TEAM



WIRELESS SERVICES

22 SHELTER ROCK LN.
 BUILDING C
 DANBURY, CT 06810

**PROJECT MANAGER/
 SITE ACQUISITION**



1100 E. WOODFIELD ROAD, SUITE 500
 SCHAUMBURG, ILLINOIS 60173
 TEL: 847-908-8400
 www.FullertonEngineering.com

ENGINEER

- | | |
|---|--|
| <p>CODE COMPLIANCE:</p> <ul style="list-style-type: none"> HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION FACILITY HAS NO PLUMBING OR REFRIGERANTS THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS | <p>SCOPE OF WORK:</p> <ul style="list-style-type: none"> INSTALL (1) NEW SIRIUS XM PANEL ANTENNA ON EXISTING PENTHOUSE INSTALL NEW SIRIUS XM VSAT DISH ON EXISTING PENTHOUSE INSTALL NEW SIRIUS XM RX DISH ON EXISTING PENTHOUSE INSTALL NEW SIRIUS XM CABINET AND EQUIPMENT PLATFORM ON EXISTING ROOFTOP ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. CABINETS, ANTENNAS AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR |
|---|--|

PROJECT SUMMARY

SITE NAME: GREEN STREET
SITE NO.: SFX501S
SITE ADDRESS: 1101 GREEN ST
 SAN FRANCISCO, CA 94109
COUNTY: SAN FRANCISCO

SITE COORDINATES:
 LATITUDE: 37.797969° (NAD 83)
 LONGITUDE: -122.417469° (NAD 83)
 GROUND ELEVATION: 300' (AMSL)

JURISDICTION: CITY OF SAN FRANCISCO
ZONING: RH-3

APPLICANT: SIRIUS XM
 1500 ECKINGTON PL NE
 WASHINGTON, DC 20002
 TEL: (202) 380-4151
 FAX: (202) 380-4510


LANDLORD:

OCCUPANCY TYPE:
CONSTRUCTION TYPE:

2013 CALIFORNIA ADMINISTRATIVE CODE
 2013 CALIFORNIA BUILDING CODE (IBC 2012)
 2013 CALIFORNIA ELECTRICAL CODE (2011 NEC)
 2013 CALIFORNIA MECHANICAL CODE (2012 UMC)
 2013 CALIFORNIA ENERGY CODE
 2013 CALIFORNIA FIRE CODE (2012 IFC)
 2013 CALIFORNIA GREEN CODE
 2013 CALIFORNIA REFERENCES STANDARDS CODE
 CITY/COUNTY ZONING ORDINANCES

CERTIFICATION STATEMENT


I HEREBY CERTIFY THAT THESE DRAWING WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.




APPROVALS

CONST.	DATE
RF	DATE
OPS	DATE
LANDLORD	DATE

DRAWING SCALED TO 11"x17"



SATELLITE RADIO



WIRELESS SERVICES

22 SHELTER ROCK LN.
 BUILDING C
 DANBURY, CT 06810

FULLERTON
 ENGINEERING DESIGN

1100 E. WOODFIELD ROAD, SUITE 500
 SCHAUMBURG, ILLINOIS 60173
 TEL: 847-908-8400
 www.FullertonEngineering.com

CHECKED BY:	AG		
APPROVED BY:	MB		
#	DATE	DESCRIPTION	INT.
A	9/3/16	30% REVIEW	MC
B	9/20/16	REVISION	MB
0	9/26/16	FINAL	GT

SITE NAME

GREEN STREET

SITE I.D.

SFX501S

SITE ADDRESS

1101 GREEN ST
 SAN FRANCISCO, CA 94109

SHEET NAME

TITLE SHEET

SHEET NUMBER

T-1

THIS DRAWING IS THE PROPERTY OF FULLERTON ENGINEERING CONSULTANTS, INC. IT IS FOR THE EXCLUSIVE USE OF THIS PROJECT. ANY RE-USE OF THIS DRAWING WITHOUT THE EXPRESSED WRITTEN CONSENT OF FULLERTON ENGINEERING CONSULTANTS, INC. IS PROHIBITED.

GENERAL CONSTRUCTION NOTES:

1. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL.
2. THESE PLANS ARE INTENDED TO BE USED TO DIRECT THE PROPOSED LAYOUT. DRAWINGS SHOULD NOT BE SCALED UNLESS OTHERWISE NOTED. PLANS, ELEVATIONS AND DETAILS ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES BEFORE STARTING ANY WORK.
4. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED BY THE ENGINEER OF RECORD.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE IN STRICT CONFORMANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. ELECTRICAL SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, AND ALL OTHER LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES, AND WITH LOCAL UTILITY COMPANY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
6. THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DIRT, STUMPS, STONES, RUBBISH OR DEBRIS IN ACCORDANCE WITH ALL LOCAL AND ENVIRONMENTAL LAWS. NO MATERIALS OR EQUIPMENT SHALL BE PLACED ANYWHERE ON OR IN THE STRUCTURE WITHOUT MAKING ADEQUATE PROVISIONS TO PROTECT EXISTING PROPERTY. UPON COMPLETION, REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DURING CONSTRUCTION. REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES.

WARRANTIES AND BONDS:

1. THE CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS USED IN THIS PROJECT FOR A MINIMUM PERIOD OF ONE (1) YEAR COMMENCING FROM THE DATE OF FINAL ACCEPTANCE BY THE CLIENT. THE CONTRACTOR IS NOT REQUIRED TO GUARANTEE MATERIAL SUPPLIED BY THE OWNER.
2. FINAL DATE OF ACCEPTANCE IS DEEMED AS THE DATE THAT ALL REQUIRED STATE AND FEDERAL APPROVAL HAVE BEEN OBTAINED INCLUDING, BUT NOT LIMITED TO:
 - A. FINAL INSPECTION- D14
 - B. CERTIFICATE OF OCCUPANCY
3. ANY DEFICIENCIES THAT COME EVIDENT DURING THIS ONE (1) YEAR PERIOD SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

DELIVERY, STORAGE AND HANDLING:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROCEDURES AND SCHEDULING ASSOCIATED WITH HOISTING, STAGING, AND ERECTING OF MATERIALS AND EQUIPMENT TO AND/OR UPON THE SITE.
2. ALL ELEMENTS OF THE EXISTING SITE, I.E. STRUCTURES, SITE PLANTINGS, ETC. SHALL BE PROTECTED AS NECESSARY FROM SAID ACTIONS. THIS WORK MUST BE DONE IN A SAFE, SECURE NONDESTRUCTIVE MANNER FOR PROTECTING PERSONNEL AND PROPERTY.

SITE WORK GENERAL NOTES:

1. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL.
2. THESE PLANS ARE INTENDED TO BE USED TO DIRECT THE PROPOSED LAYOUT. DRAWINGS SHOULD NOT BE SCALED UNLESS OTHERWISE NOTED. PLANS, ELEVATIONS AND DETAILS ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES BEFORE STARTING ANY WORK.
4. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED BY THE ENGINEER OF RECORD.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE IN STRICT CONFORMANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. ELECTRICAL SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, AND ALL OTHER LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES, AND WITH LOCAL UTILITY COMPANY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
6. THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DIRT, STUMPS, STONES, RUBBISH OR DEBRIS IN ACCORDANCE WITH ALL LOCAL AND ENVIRONMENTAL LAWS. NO MATERIALS OR EQUIPMENT SHALL BE PLACED ANYWHERE ON OR IN THE STRUCTURE WITHOUT MAKING ADEQUATE PROVISIONS TO PROTECT EXISTING PROPERTY. UPON COMPLETION, REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DURING CONSTRUCTION. REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
8. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
9. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWING AND STIPULATED IN THE SPECIFICATION PROJECT SUMMARY.
10. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
11. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER FLOW AWAY FROM THE EQUIPMENT SHELTER AND TOWER AREAS.
12. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
13. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
14. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
15. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED AND SEEDED.
16. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
17. ALL BACK FILL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY AS DETERMINED BY ASTM STANDARD TEST PROCEDURES.

CONSTRUCTION SPECIFICATIONS:

1. THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT THEMSELVES WITH THE CONDITIONS AS THEY EXIST IN ORDER THAT ANY RESTRICTIONS PERTAINING TO THE WORK ARE UNDERSTOOD. ALL AREAS AND DIMENSIONS ARE INDICATED ON THE DRAWINGS AS ACCURATELY AS POSSIBLE, BUT ALL CONDITIONS SHALL BE VERIFIED BY EACH CONTRACTOR AND/OR SUBCONTRACTOR AT THE SITE. THE FAILURE OF THE CONTRACTOR TO EXAMINE OR RECEIVE ANY FORM, INSTRUMENT OR DOCUMENT, OR TO VISIT THE SITE SHALL NOT RELIEVE THE CONTRACTOR FROM ANY OBLIGATION WITH RESPECT TO THEIR QUOTED PRICE. THE SUBMISSION OF A QUOTATION SHALL ACKNOWLEDGE THAT THE CONTRACTOR AND THEIR SUBCONTRACTORS HAVE FULLY EXAMINED THE SITE AND KNOW THE EXISTING CONDITIONS AND HAVE MADE PROVISIONS FOR OPERATING UNDER THE CONDITIONS AS THEY EXIST AT THE SITE AND HAVE INCLUDED ALL NECESSARY ITEMS.
2. THE GENERAL CONTRACTOR'S RESPONSIBILITIES SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION OF THE EQUIPMENT FOUNDATION, INCLUDING ELECTRICAL SERVICE, TELEPHONE CONDUITS, GROUNDING SYSTEM AND COORDINATION WITH LOCAL UTILITY COMPANIES.
3. THE ANTENNA INSTALLERS RESPONSIBILITIES SHALL INCLUDE, BUT NOT BE LIMITED TO, CABLE TRAY INSTALLATION, ROUTING OF CABLES FROM RADIO EQUIPMENT TO ANTENNAS, ASSOCIATED HARDWARE FOR SECURING ANTENNA CABLES, ANTENNA MOUNTS, DETERMINING SUPPLIER OF ANTENNAS, GROUNDING OF ANTENNAS TO GROUNDING SYSTEM, INSTALLING ANTENNAS AND VERIFYING WITH RADIO FREQUENCY ENGINEERS, THE ALIGNMENT, LOCATION, AND PROPER ORIENTATION OF ANTENNAS.
4. THE CONTRACTORS SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE BUILDING LANDLORD IN ORDER TO AVOID CONFLICTS WITH CURRENT USE OF THE SITE.
5. THE OWNER MAY HAVE WORK PERFORMED UNDER SEPARATE CONTRACTS, CONCURRENTLY, WITH THE WORK OF THIS CONTRACT.
6. THE GENERAL CONTRACTOR SHALL PERMIT ACCESS TO THE PROJECT TO THESE CONTRACTORS TO PERFORM THEIR WORK.
7. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE LOCAL, COUNTY, STATE, AND FEDERAL CODES, LAWS AND REQUIREMENTS, INCLUDING OSHA.
8. THE CONTRACTOR SHALL APPLY AND PAY FOR THE CONSTRUCTION PERMIT, CERTIFICATE OF OCCUPANCY AND ALL OTHER REQUIRED PERMITS OR LICENSES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL INSPECTIONS.
9. CARE SHALL BE EXERCISED IN PROTECTING THE BUILDING OCCUPANTS DURING THE DEMOLITION AND CONSTRUCTION PERIODS OF THIS PROJECT. EVERY EFFORT SHALL BE MADE TO MAINTAIN A CLEAN OPERATION. DEBRIS SHALL NOT ACCUMULATE. ALL DEBRIS WILL BE DEPOSITED IN A SUITABLE CONTAINER ON A DAILY BASIS AND SHALL BE EMPTIED ON A REGULAR SCHEDULE. THE LOCATION OF THE CONTAINER SHALL BE COORDINATED WITH THE BUILDING MANAGER.
10. SAFETY PROCEDURES: ATTENTION IS DIRECTED TO FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH STANDARDS. THE CONSTRUCTION COMPANY AWARDED THIS PROJECT SHALL ENSURE ALL WORKING SURROUNDINGS AND CONDITIONS ARE SANITARY AND ARE NOT HAZARDOUS OR DANGEROUS TO THE HEALTH OR SAFETY OF THE WORK CREWS OR BUILDING OCCUPANTS. PRECAUTION SHALL BE EXERCISED AT ALL TIMES FOR THE PROTECTION OF PERSONS AND PROPERTY. IT IS MANDATORY THAT THE SAFETY PROVISIONS OF APPLICABLE LOCAL LAWS, OSHA REGULATIONS AND BUILDING AND CONSTRUCTION CODES, BE OBSERVED FOR ALL CONTRACTORS AND ANTENNA RIGGERS.
11. THE GENERAL CONTRACTOR MUST COORDINATE ALL ROOF RELATED WORK WITH THE LANDLORD'S PRE-APPROVED ROOFER. THE GENERAL CONTRACTOR MUST CONFIRM THE COMPATIBILITY OF ALL MATERIALS AND ENSURE THAT ALL EXISTING ROOF WARRANTIES, IF ANY, REMAIN IN EFFECT.



22 SHELTER ROCK LN.
BUILDING C
DANBURY, CT 06810



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

CHECKED BY:	AG		
APPROVED BY:	MB		
#	DATE	DESCRIPTION	INT.
A	9/9/16	90% REVIEW	MC
B	9/20/16	REVISION	RT
D	9/26/16	FINAL	GT

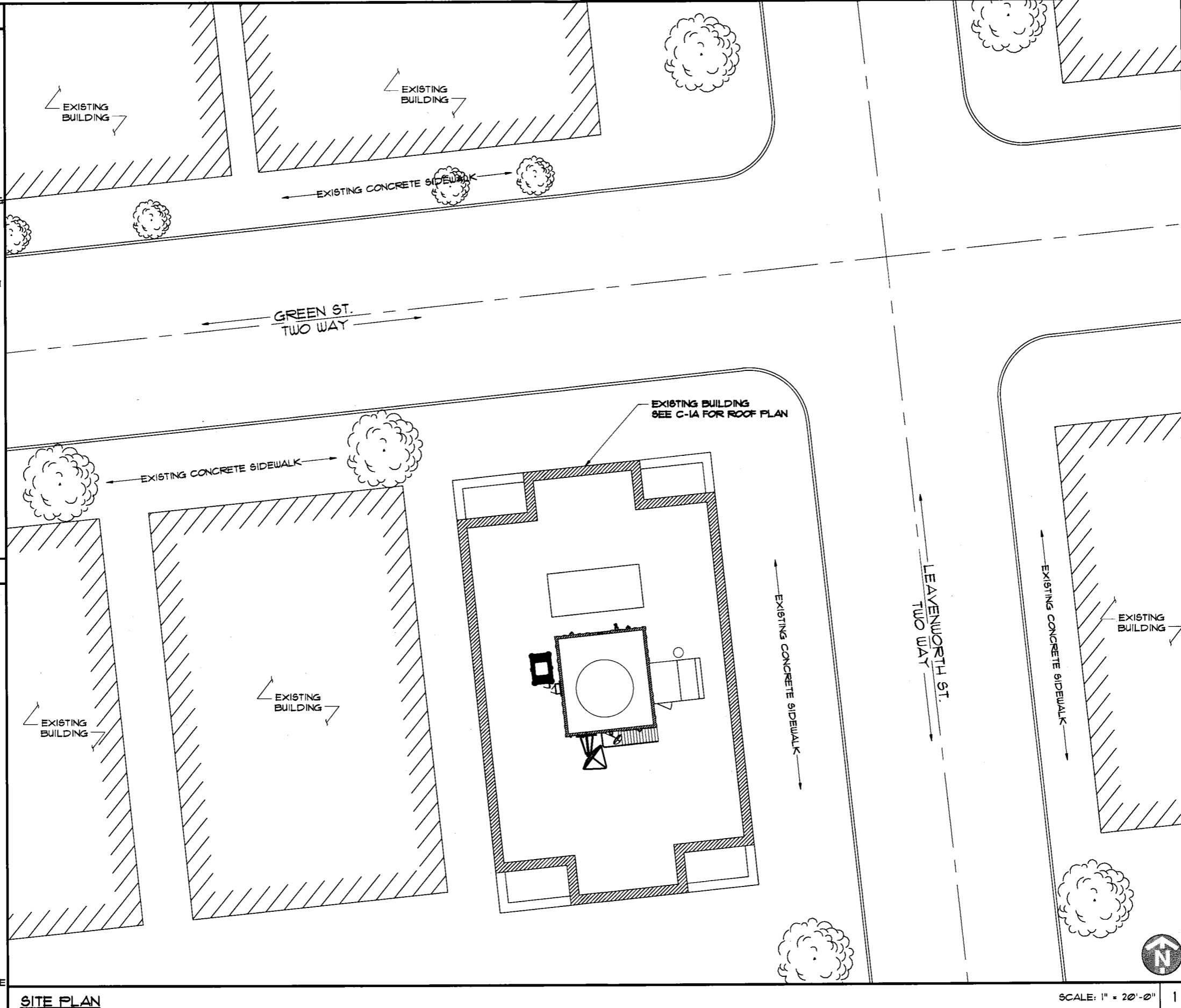


SITE NAME	GREEN STREET
SITE ID.	SFX501S
SITE ADDRESS	1101 GREEN ST SAN FRANCISCO, CA 94109
SHEET NAME	GENERAL NOTES
SHEET NUMBER	T-2

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ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BTS	BASE TRANSMISSION STATION
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
EXISTING	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
NTS	NOT TO SCALE
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB.(#)	POUND(S)
RRU	REMOTE RADIO UNIT
SF	SQUARE FOOT
STL	STEEL
TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
UT	UNDERGROUND TELCO
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
W	WITH
XFMR	TRANSFORMER
PL	CENTERLINE PLATE

SYMBOLS	
⊕	CENTERLINE
△	REVISION
●	WORK POINT
⊙	UTILITY POLE
	BRICK
	COMPRESSED STONE
	CONCRETE
	EARTH
	GRAVEL
	MASONRY
	STEEL
—	CENTERLINE
—	PROPERTY LINE
—	LEASE LINE
—	EASEMENT LINE
X-X	CHAIN LINK FENCE
□-□	WOOD FENCE
UE	BELOW GRADE ELECTRIC
UT	BELOW GRADE TELEPHONE
OE/OT	OVERHEAD ELECTRIC/TELEPHONE
	SECTION REFERENCE



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SATELLITE RADIO

HPC
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BUILDING C
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SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

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B	9/20/16	REVISION	MB
D	9/26/16	FINAL	GT

SITE NAME
GREEN STREET

SITE ID.
SFX5015

SITE ADDRESS
**1101 GREEN ST
SAN FRANCISCO, CA 94109**

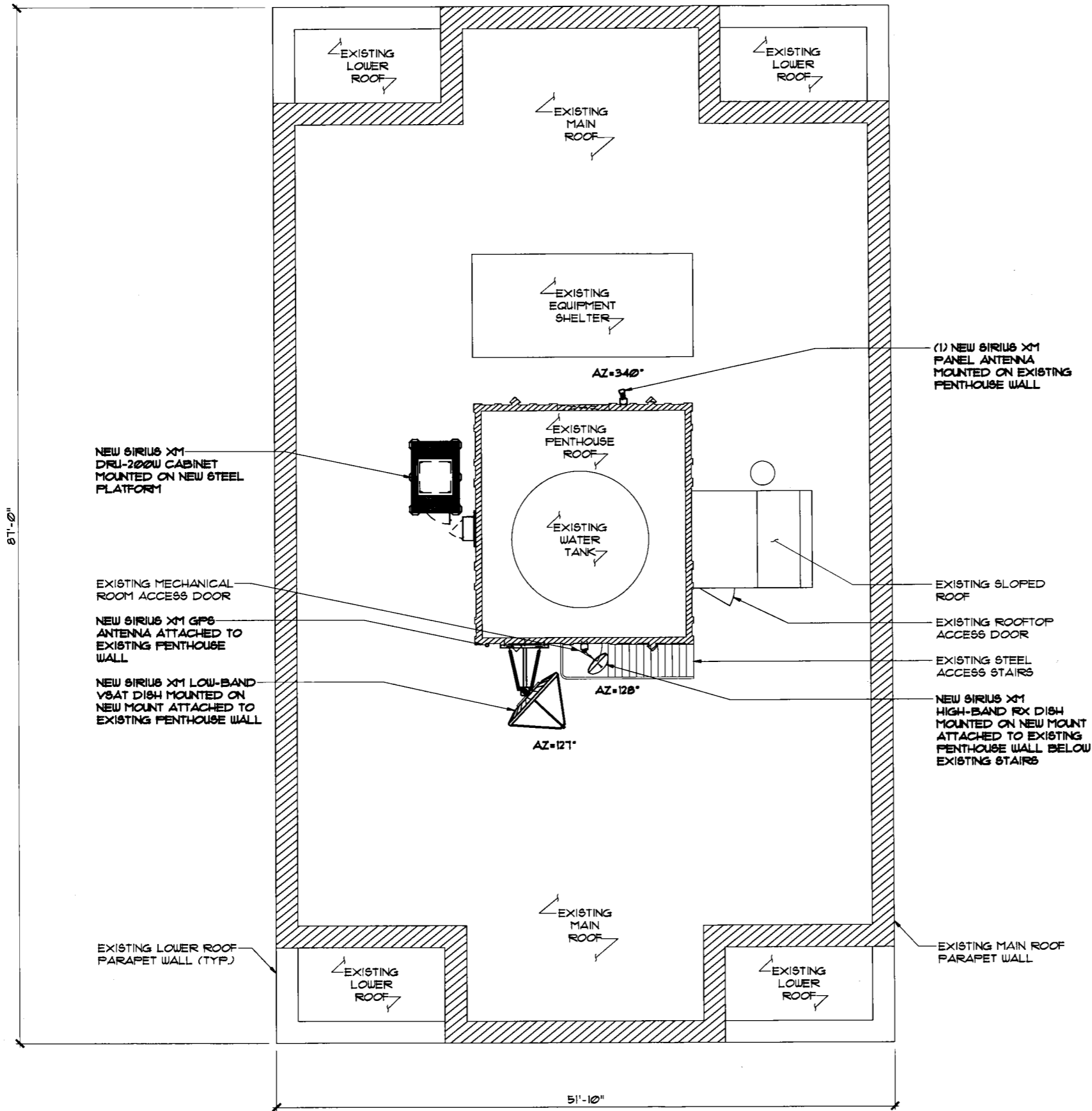
SHEET NAME
SITE PLAN

SHEET NUMBER
C-1

SCALE: 1" = 20'-0" | 1

SITE PLAN

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SITE NAME

GREEN STREET

SITE I.D.

SFX5013

SITE ADDRESS

101 GREEN ST.
SAN FRANCISCO, CA 94109

SHEET NAME

ROOF PLAN

SHEET NUMBER

C-1A

ROOF PLAN

SCALE 1" = 10'-0" | 1



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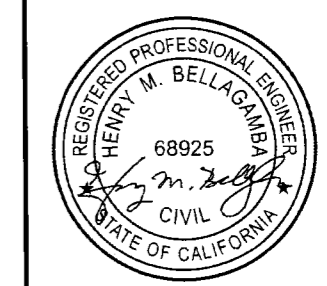
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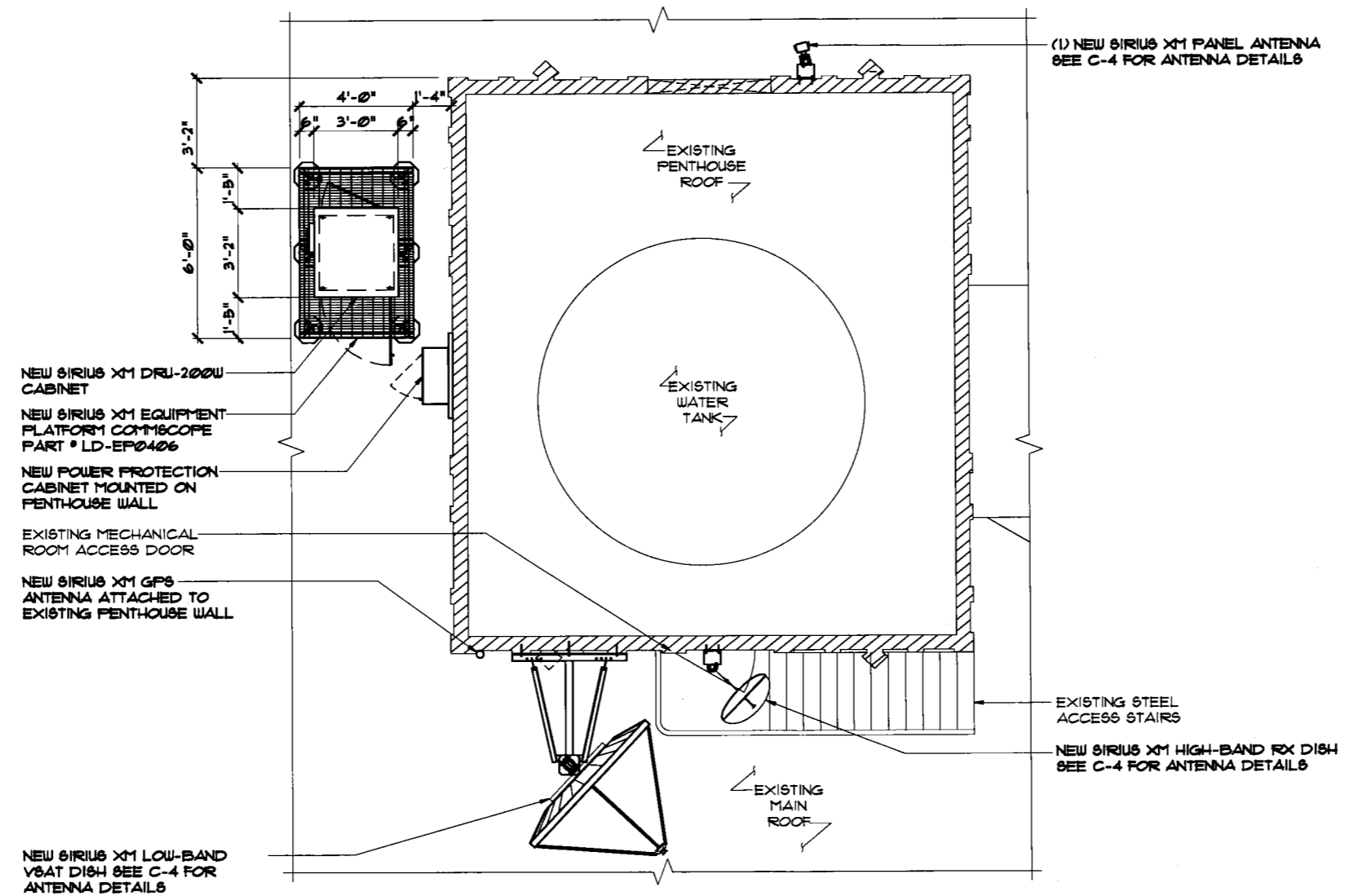
SITE NAME
GREEN STREET

SITE ID.
SFX5015

SITE ADDRESS
1101 GREEN ST
SAN FRANCISCO, CA 94109

SHEET NAME
**ENLARGED
EQUIPMENT
LAYOUT**

SHEET NUMBER
C-2



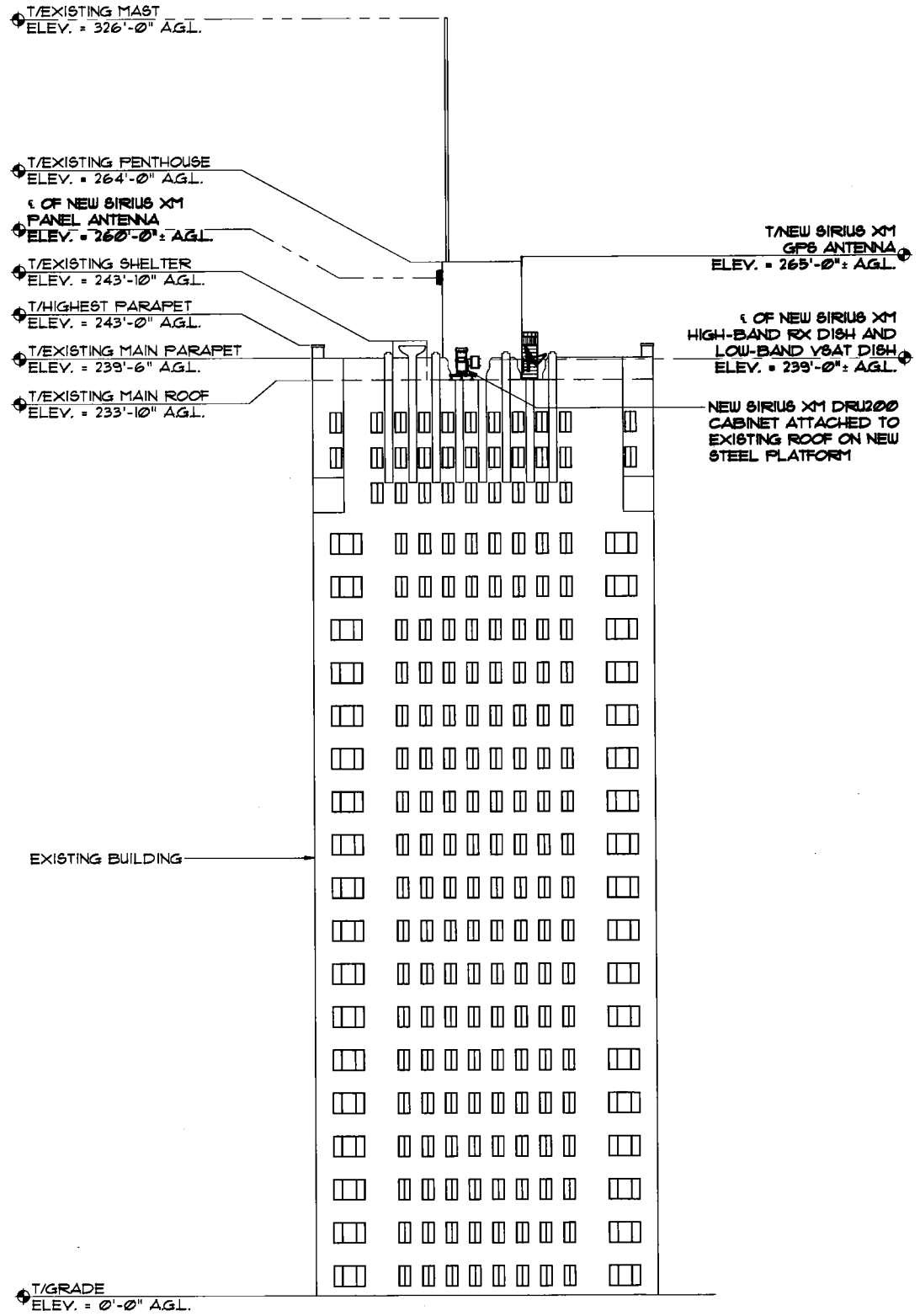
EQUIPMENT LAYOUT

SCALE: 3/16" = 1'-0" | 1

PROJECT# 2015.0042.0022

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- ANTENNA NOTES:**
1. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNA SHALL BE ADJUSTED TO MEET SYSTEM REQUIREMENTS.
 2. CONTRACTOR SHALL VERIFY HEIGHT OF ANTENNA WITH SIRIUS XM REPRESENTATIVE.
 3. ALL ANTENNA AZIMUTH TO BE FROM TRUE NORTH.
- STRUCTURAL NOTES:**
- STRUCTURAL CALCULATION PREPARED BY FULLERTON ENGINEERING CONSULTANTS. CONTRACTOR TO COORDINATE WITH SIRIUS XM REPRESENTATIVE TO OBTAIN A COPY.



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SITE NAME
GREEN STREET

SITE ID.
SFX501S

SITE ADDRESS
**1101 GREEN ST
SAN FRANCISCO, CA 94109**

SHEET NAME
SITE ELEVATION

SHEET NUMBER
C-3

SITE ELEVATION

SCALE: N.T.S. 1

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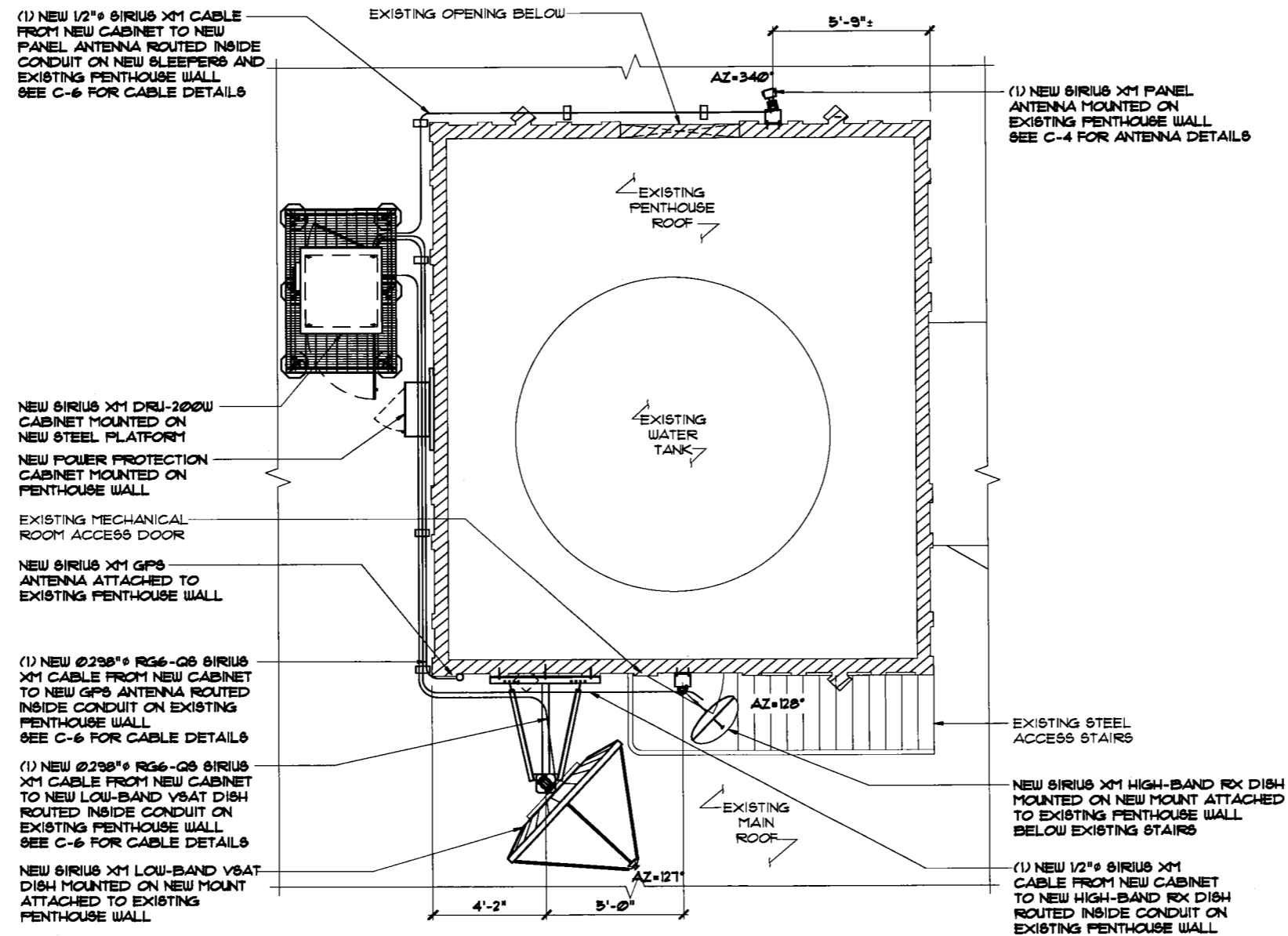
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SITE NAME	GREEN STREET
SITE ID.	SFX501S
SITE ADDRESS	1101 GREEN ST SAN FRANCISCO, CA 94109
SHEET NAME	ANTENNA LAYOUTS
SHEET NUMBER	C-4



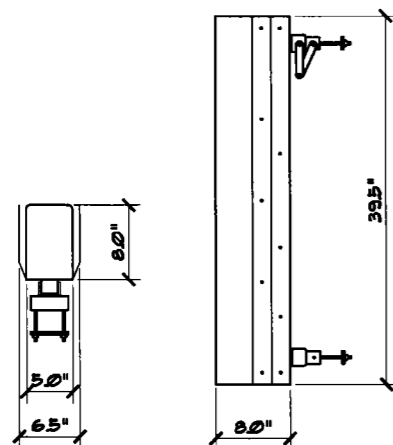
ANTENNA LAYOUT

SCALE: 3/16" = 1'-0" | 1



PROJECT# 2015.0042.0022

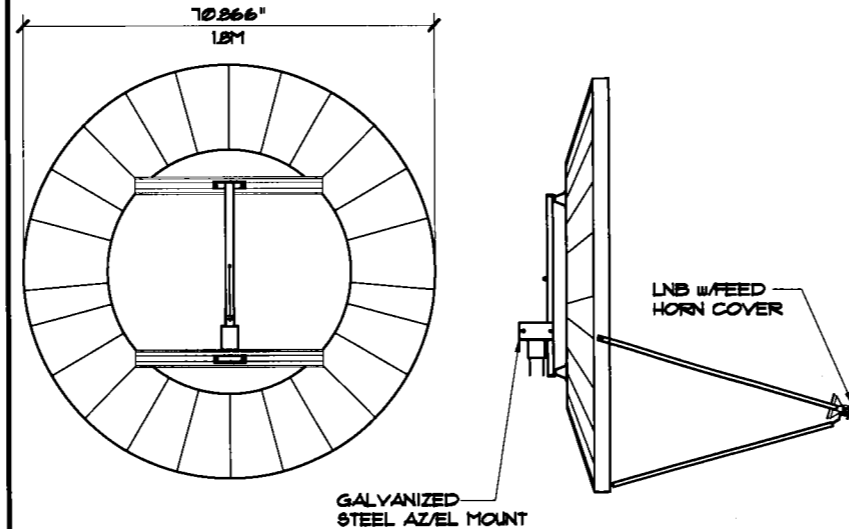
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PLAN VIEW SIDE VIEW

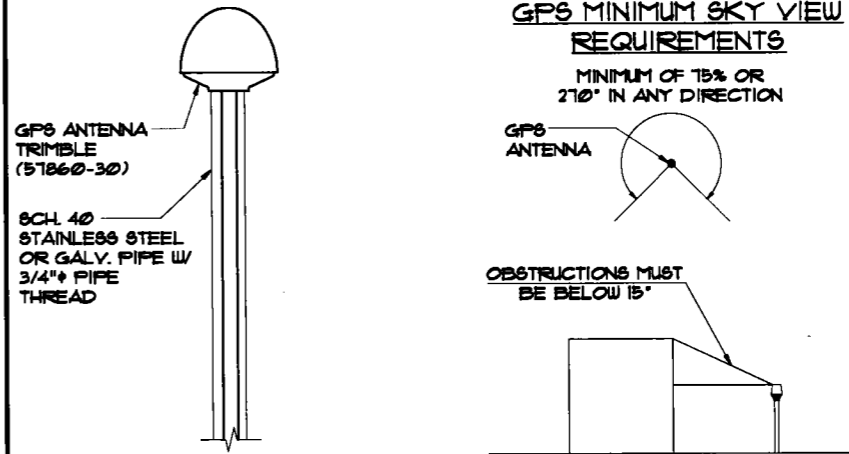
TIL-TEK
TA-2304-2-DAB-L-120

FREQUENCY RANGE 2320-2345 MHz
ANTENNA WITH CLAMPS 8 lb



REAR VIEW SIDE VIEW

MANUFACTURER: PRODELIN CORP
MODEL #: 1183
WEIGHT: 180 LBS



- NOTES:
1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
 2. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A 0.5" STD. GALV. STEEL OR STAINLESS STEEL PIPE WITH 3/4" PIPE THREAD AT ANTENNA MOUNT.
 3. CONTRACTOR TO VERIFY THAT GPS MOUNT IS INSTALLED AND PLUMBED CORRECTLY
 4. DO NOT SWEEP TEST GPS ANTENNA.

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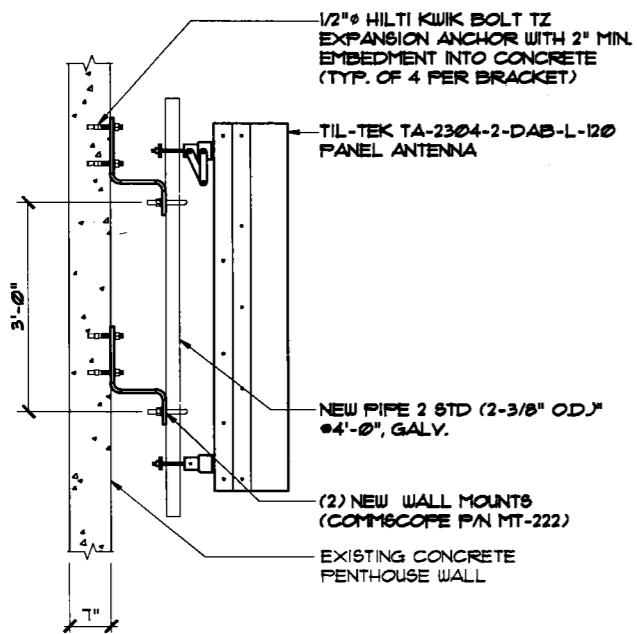
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C	9/26/16	FINAL	GT

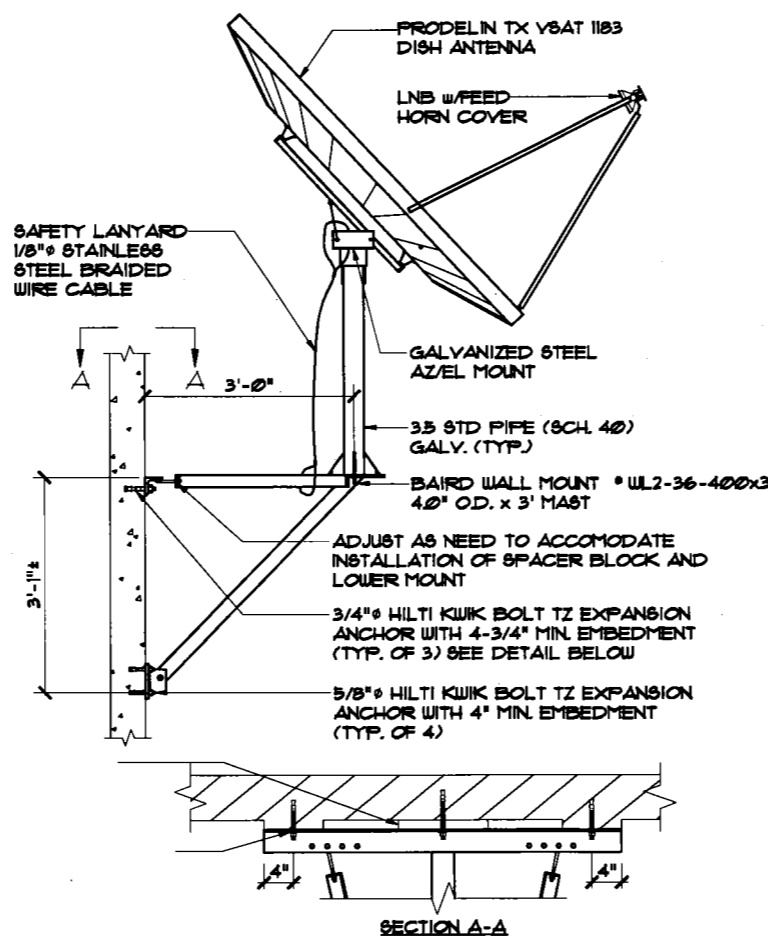
ANTENNA SPEC SCALE: N.T.S. 1

VSAT SPEC SCALE: N.T.S. 2

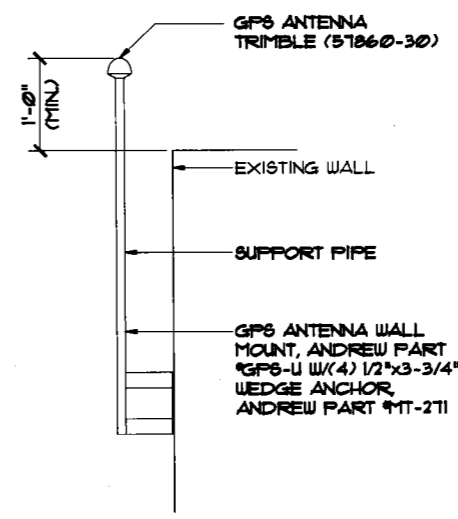
GPS SPEC SCALE: N.T.S. 3



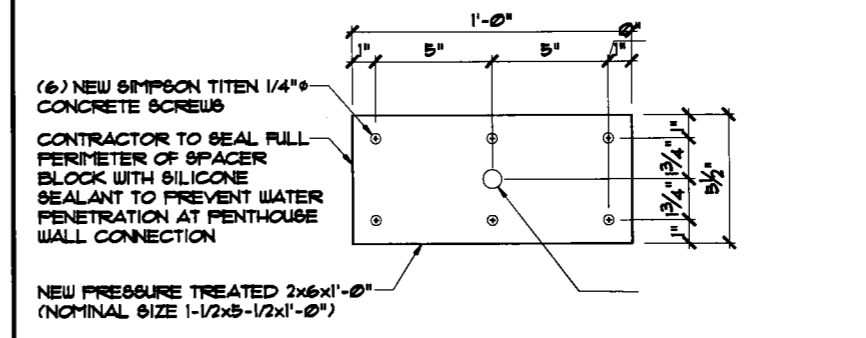
ANTENNA MOUNTING DETAIL SCALE: N.T.S. 4



VSAT MOUNTING DETAIL SCALE: N.T.S. 5



GPS MOUNTING DETAIL SCALE: N.T.S. 6



SPACER BLOCK SCALE: N.T.S. 7



SITE NAME
GREEN STREET

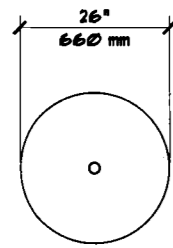
SITE ID.
SFX501S

SITE ADDRESS
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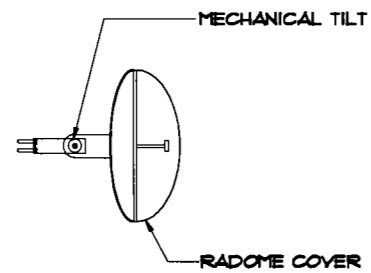
SHEET NAME
**ANTENNA
DETAILS**

SHEET NUMBER
C-5

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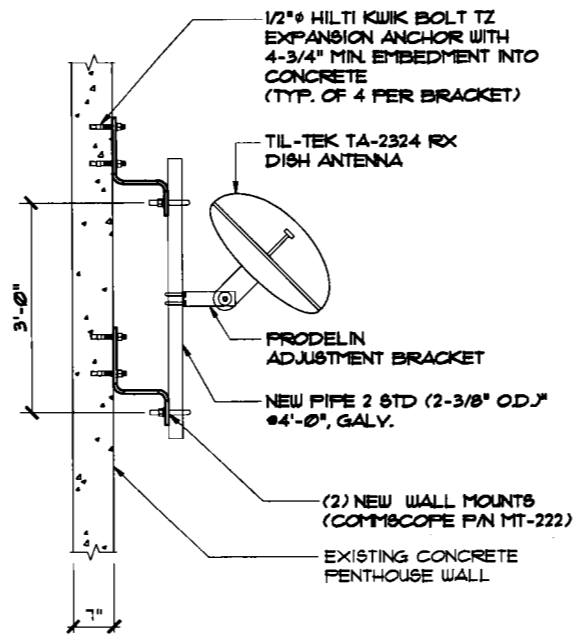


REAR VIEW

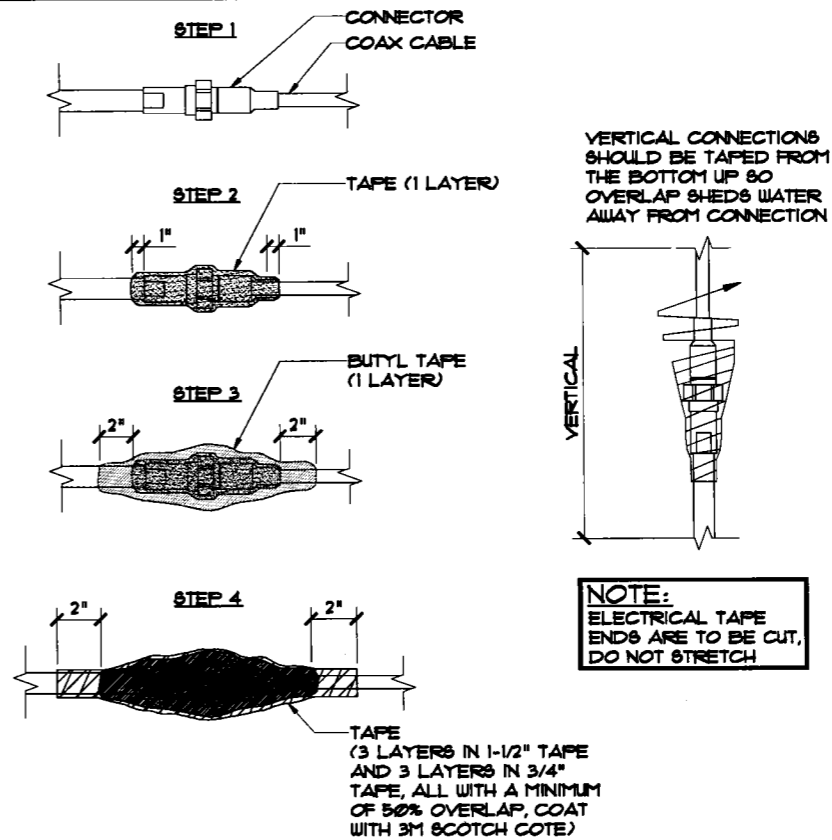


SIDE VIEW

MANUFACTURER: TIL-TEK
 MODEL #: TA-2324-LHCP
 WEIGHT: 26 LBS



ANTENNA MOUNTING DETAIL



WEATHERPROOFING DETAIL

RX DISH SPECS

SCALE: N.T.S.

SCALE: N.T.S.

SCALE: N.T.S.

- COAX MAINLINE FOR TX & RX ANTENNAS WILL BE LABELED AT THE TOP AND BOTTOM WITHIN 12" OF THE CONNECTORS.
- FOR COAX MAIN LINE CABLE CONNECTS TO A POWER SPLITTER LABEL MUST ALSO BE PLACED ON THE JUMPER CABLE 12" FROM THE ANTENNA CONNECTOR.
- ANY COAX MAKING A WALL PENETRATION WILL BE LABELED ON EACH SIDE OF THE PENETRATION.
- LOW BAND DIVERSITY IS NOT INSTALLED IN ALL THE SITES, ONLY THE CORE SITE FOR THE MARKET.
- ALL COLOR CODED TAPE SHOULD BE 1-1/2" IN WIDTH.
- ANTENNA LINE COLORS WILL BE AS FOLLOWS:
 - A. LB-RED (R)
 - B. HB-BLUE (B)
 - C. GPB-WHITE (W)
 - D. VSAT ()
 - E. RX DISH-GREEN (G)
 - F. DIVERSITY-ORANGE (O)

SECTOR 1 LOW BAND/HIGH BAND COMBINE



RECEIVE ANTENNA



GPS ANTENNA



TYPICAL COLOR CODING

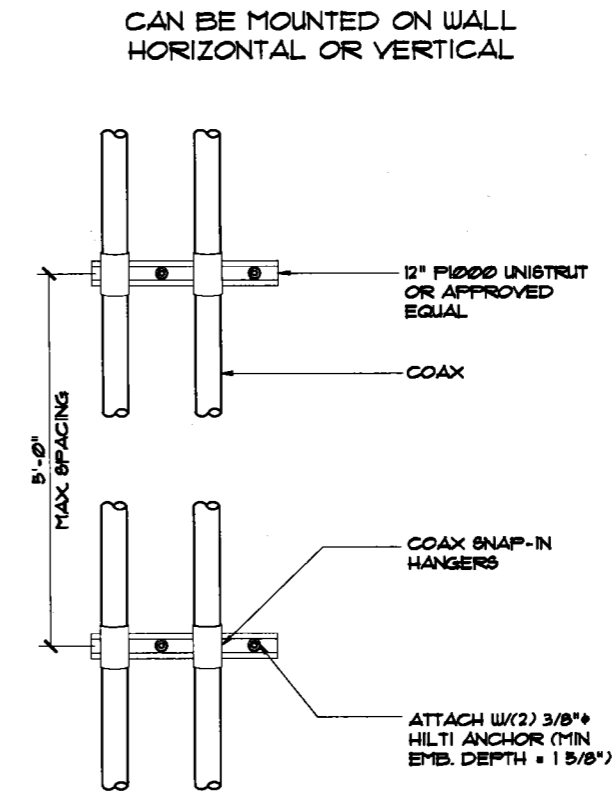
SCALE: N.T.S.

SCALE: N.T.S.

SCALE: N.T.S.

NOT USED

CABLE ROUTING DETAIL



CABLE ROUTING DETAIL



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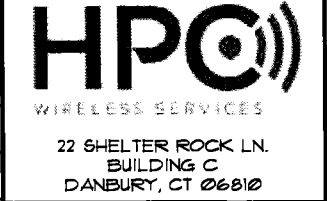
SITE NAME	GREEN STREET
SITE ID.	SFX5018
SITE ADDRESS	1101 GREEN ST SAN FRANCISCO, CA 94109
SHEET NAME	SITE DETAILS
SHEET NUMBER	C-5A

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NEW ANTENNA CONFIGURATION											
ANTENNA								CABLE			
ANTENNA NUMBER	NEW OR EXISTING	ANTENNA MANUFACTURER	ANTENNA TYPE	MODEL NUMBER	AZIMUTH (TN)	TILT (+ OR -)	± OF ANTENNA FROM GROUND LEVEL (FT)	NEW OR EXISTING	CABLE TYPE	CABLE SIZE (DIA. IN)	CABLE LENGTH (FT)
1	NEW	TIL-TEK	PANEL	TA-2304-2-DAB-L (120)	340°	4°	260'-0"	NEW	LD4-50A	500"	65'
2	NEW	PRODELIN	V8AT DISH	1183 WITHOUT DEICING	121°	31°	239'-0"	NEW	RG6-Q8	298"	35'
3	NEW	TIL-TEK	RX DISH	TA-2324-LHCP	128°	32°	239'-0"	NEW	LD4-50A	500"	40'
4	NEW	TRIMBLE	GPS	51860-30	N/A	N/A	265'-0"	NEW	RG6-Q8	298"	65'

NEW EQUIPMENT SCHEDULE				
CABINET NUMBER	CABINET MANUFACTURER	CABINET TYPE	MODEL NUMBER	NOTES
1	UBS	REPEATER	DRU-200U	-

NEW POWER SCHEDULE			
AMPERE	VOLTAGE	PHASE	NOTES
100 AMPS	120/240V	SINGLE	SUB METER FROM EXISTING AC PANEL ON THE 20TH FLOOR



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SITE NAME
GREEN STREET

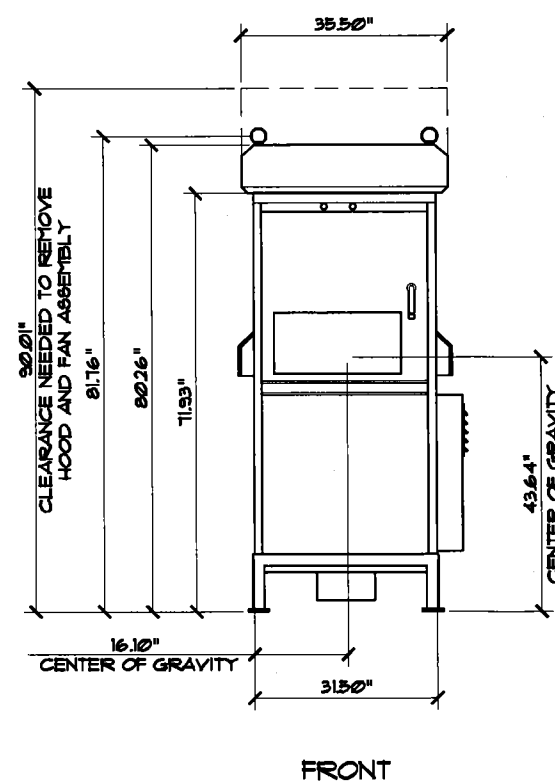
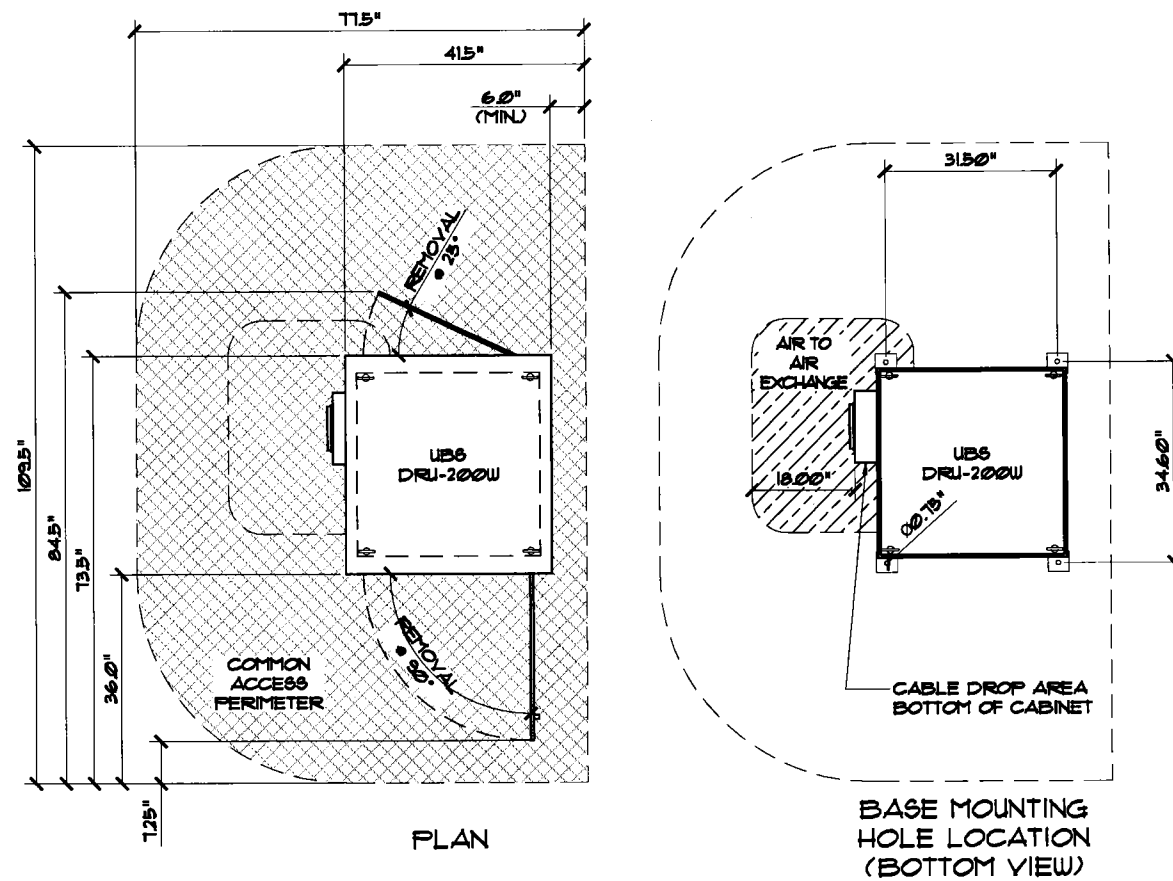
SITE I.D.
SFX501S

SITE ADDRESS
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SHEET NAME
**ANTENNA
SCHEDULES**

SHEET NUMBER
C-6

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UBS DRU-200W CABINET DETAIL

SCALE: 3/8" = 1'-0" | 1



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SITE NAME
GREEN STREET

SITE I.D.
SFX501S

SITE ADDRESS
**1101 GREEN ST
SAN FRANCISCO, CA 94109**

SHEET NAME
**EQUIPMENT
SPECS**

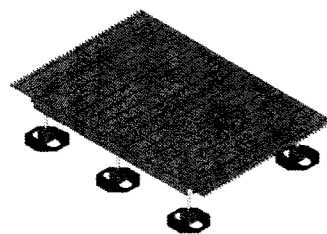
SHEET NUMBER
C-7

PROJECT# 2015.0042.0022

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Product Specifications

COMMSCOPE®



LD-EPO406
Light Duty Equipment Platform, 4 ft x 6 ft, with six light duty legs

Dimensions

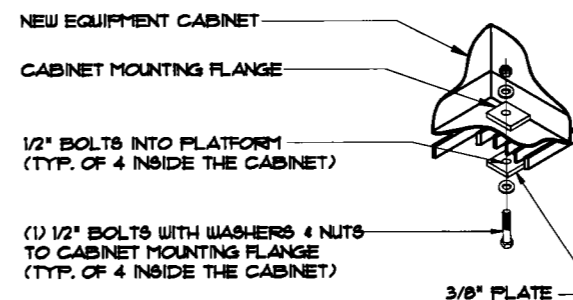
Height 508.0 mm | 20.0 in
 Length 1219.2 mm | 48.0 in
 Weight 124.8 kg | 275.1 lb
 Width 1828.8 mm | 72.0 in

General Specifications

Product Type Equipment platform system
 Includes Frame | Grating | Hardware | Legs
 Legs, quantity 6
 Material Type Hot dip galvanized steel
 Note Contact 828-324-2200 or 1-800-982-1708 (toll free), or your local CommScope representative | Equipment platforms in additional sizes available.
 Package Quantity 1

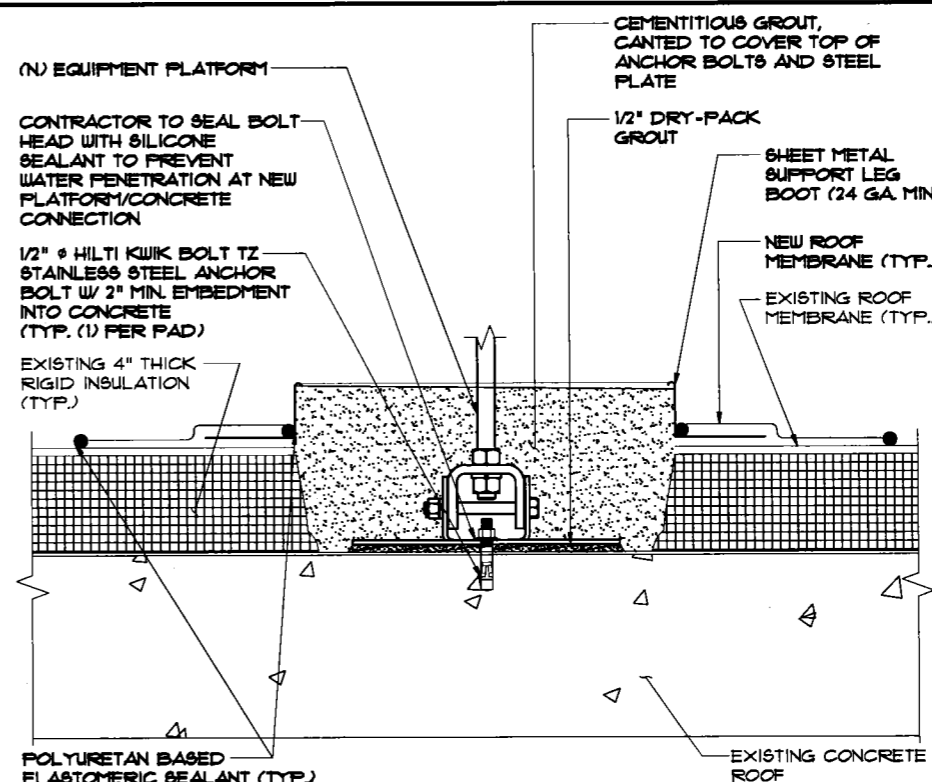
Regulatory Compliance/Certifications

Agency ISO 9001:2008
 Classification Designed, manufactured and/or distributed under this quality management system



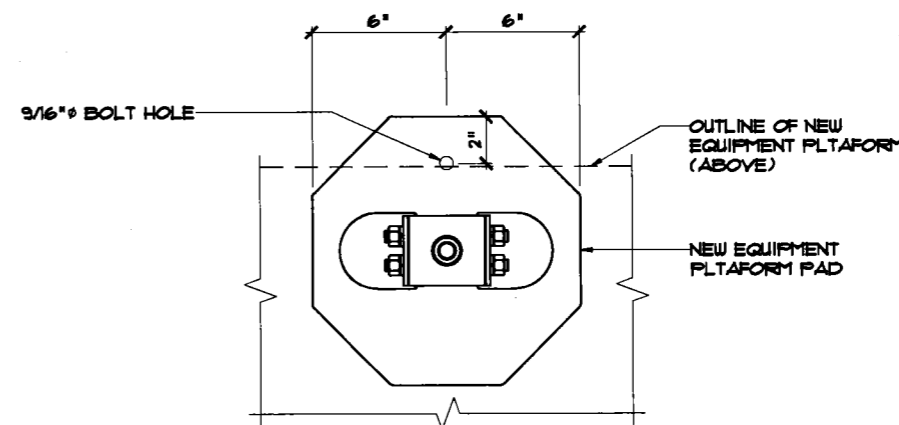
CABINET MOUNTING DETAIL

SCALE: N.T.S. 2



PLATFORM ANCHORING DETAIL

SCALE: N.T.S. 3



PLATFORM PAD MODIFICATION DETAIL (TYP.)

SCALE: N.T.S. 4



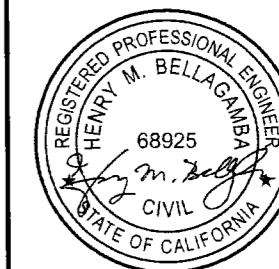
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SITE NAME

GREEN STREET

SITE ID.

SFX5015

SITE ADDRESS

1101 GREEN ST
SAN FRANCISCO, CA 94109

SHEET NAME

**EQUIPMENT
PLATFORM
DETAILS**

SHEET NUMBER

C-7A

EQUIPMENT PLATFORM SPECS

SCALE: 3/8" = 1'-0" 1

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SERVICE EQUIPMENT NOTES:

1. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS
2. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK

CONDUCTOR NOTES:

1. ALL CONDUCTORS SHALL BE COPPER
2. ALL WIRING SHALL BE COPPER WITH THINWALL DUAL RATED 600 VOLTS INSULATION
3. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED

CONDUIT NOTES:

1. SCH 80 PVC CONDUIT SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, OR EXPOSED ABOVE GRADE
2. EMT SHALL BE USED ONLY FOR INTERIOR RUNS AND SHALL HAVE COMPRESSION TYPE FITTINGS
3. SEAL TIGHT, FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE
4. SERVICE CONDUITS SHALL HAVE NO MORE THAN (3) - 90° BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE FULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS
5. ALL CABLES, POWER AND/OR TELEPHONE AND/OR FIBER SYSTEM CONDUITS SHALL HAVE A MINIMUM 24" RADIUS SWEEPS TO EQUIPMENT, FULL BOXES, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES

NEW CABLE GROUNDING NOTES:

1. AVOID DISRUPTION OF EXISTING GROUNDING SYSTEM. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE OWNER
2. CONTRACTOR SHALL CONNECT GROUND KITS TO THE EXISTING GROUND BARS AT THE TOP AND BASE OF TOWER
3. CONTRACTOR SHALL CONNECT GROUND KITS TO THE NEW GROUND BAR BEFORE ENTRY TO CABINET
4. NO BACK TO BACK LUGGING OF GROUNDS

GENERAL GROUNDING NOTES:

1. VERTICAL DROPS SHALL BE 20'-0" OF #2 AWG SOLID TINNED COPPER WIRE. CADWELDED TO GROUND BAR
2. ALL BENDS MINIMUM 8" RADIUS
3. APPLY ANTI-OXIDATION COMPOUND TO ALL CONNECTIONS
4. BARE COPPER CONDUCTORS SHALL NOT BE IN CONTACT WITH ANY DISSIMILAR MATERIAL. PLACE ON STANDOFFS, IF NECESSARY TO ALLOW FOR PROPER INSTALLATION
5. SHARP BENDS IN GROUNDING CONDUCTORS SHALL BE AVOIDED. 90° BENDS SHALL NOT BE USED
6. ALL GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AS POSSIBLE. THE SHORTEST PRACTICAL ROUTE SHALL BE CHOSEN WITH THE LEAST AMOUNT OF BENDS AND SPLICES. USE THIS RULE AT ALL TIMES
7. ALL CONNECTIONS TO GROUND BARS SHALL BE WITH A 2-HOLE LUG UNLESS OTHERWISE SPECIFIED
8. WHEN GROUNDING MORE THAN ONE PIECE OF EQUIPMENT, DO NOT USE THE EQUIPMENT AS A GROUNDING CONDUCTOR. DOUBLE-STACKING OF LUGS SHALL BE USED TO GET FROM EQUIPMENT TO EQUIPMENT
9. REMOVE ALL PAINT BENEATH THE SURFACE OF GROUND LUGS



WIRELESS SERVICES
22 SHELTER ROCK LN.
BUILDING C
DANBURY, CT 06810



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

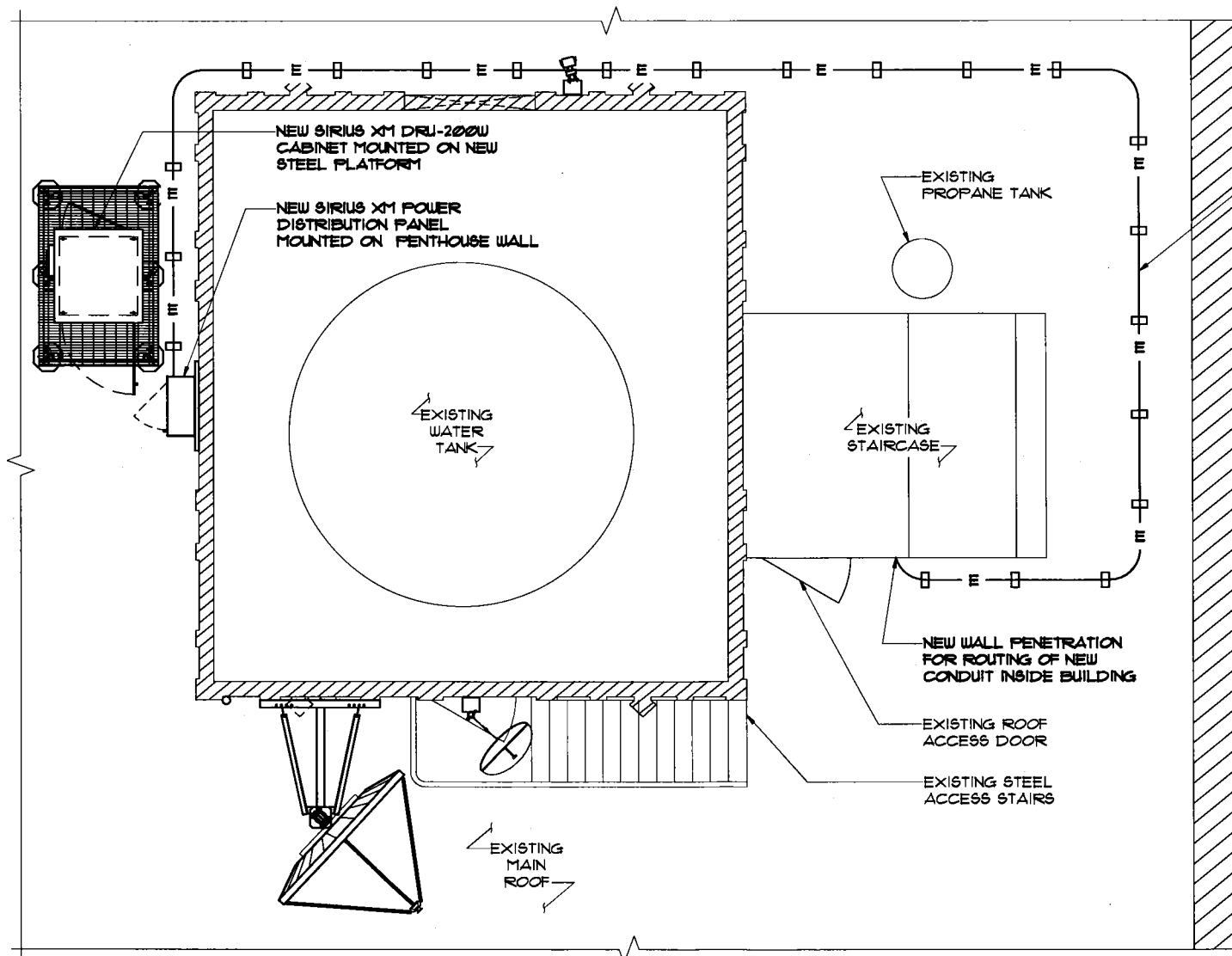
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APPROVED BY: MB

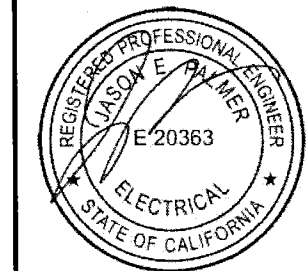
#	DATE	DESCRIPTION	INT.
A	9/9/16	20% REVIEW	MC
B	9/20/16	REVISION	RD
D	9/26/16	FINAL	GT

ELECTRICAL NOTES

SCALE: N.T.S. 1



NEW 1"Ø ELECTRICAL CONDUIT FROM NEW SIRIUS XM DISTRIBUTION PANEL TO EXISTING PANEL LOCATED ON 20TH FLOOR BELOW ROUTE CONDUIT ALONG ROOFTOP ON SLEEPERS SEE E-1A FOR CONTINUATION



SITE NAME

GREEN STREET

SITE ID.

SFX5015

SITE ADDRESS

101 GREEN ST
SAN FRANCISCO, CA 94109

SHEET NAME

UTILITY PLAN
@ ROOF

SHEET NUMBER

E-1

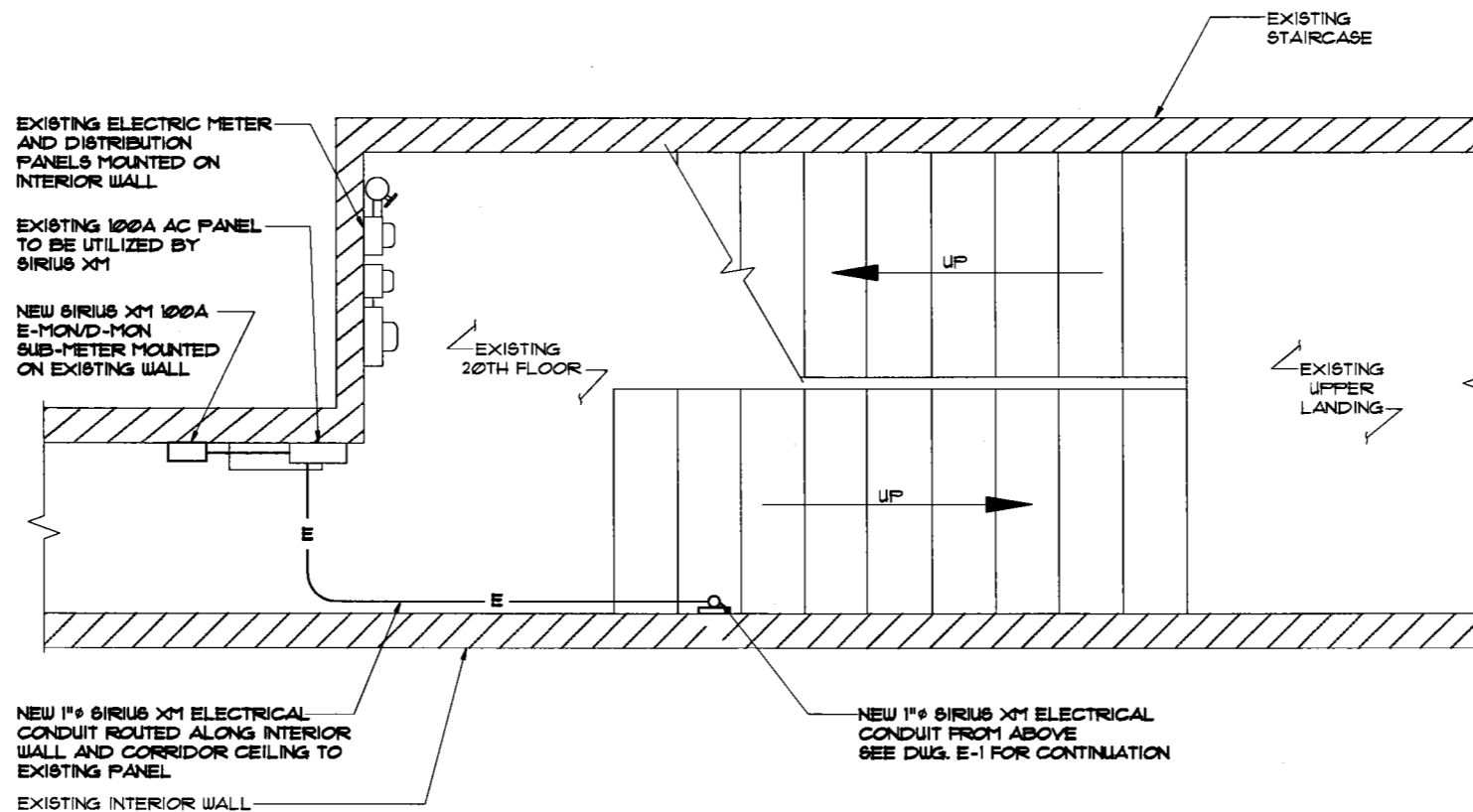
UTILITY PLAN @ ROOF

SCALE: 3/16" = 1'-0" 3

PROJECT# 2015.0042.0022

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NOTE:
 EXACT LOCATION OF SIRIUS XM
 ELECTRIC METER SHALL BE
 COORDINATED WITH LANDLORD

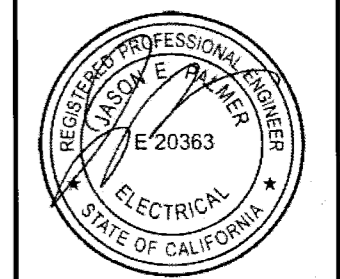


HPC
 WIRELESS SERVICES
 22 SHELTER ROCK LN.
 BUILDING C
 DANBURY, CT 06810

FULLERTON
 ENGINEERING DESIGN
 1100 E. WOODFIELD ROAD, SUITE 500
 SCHAUMBURG, ILLINOIS 60173
 TEL: 847-908-8400
 www.FullertonEngineering.com

CHECKED BY: **AG**
 APPROVED BY: **MB**

#	DATE	DESCRIPTION	INT.
A	9/9/16	20% REVIEW	MC
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D	9/26/16	FINAL	GT



SITE NAME
GREEN STREET

SITE ID.
SFX5015

SITE ADDRESS
**1101 GREEN ST
 SAN FRANCISCO, CA 94109**

SHEET NAME
**UTILITY PLAN @
 20TH FLOOR**

SHEET NUMBER
E-1A

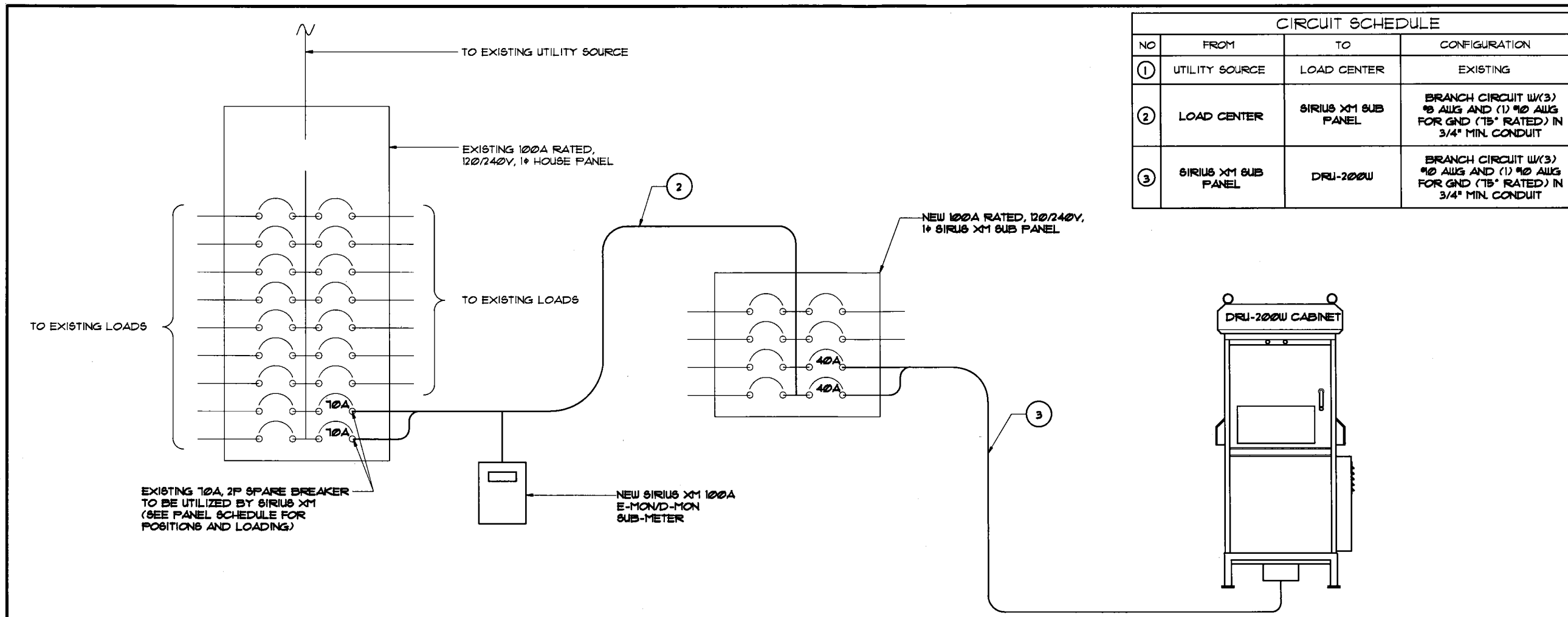
UTILITY PLAN @ 20TH FLOOR

SCALE: 3/8" = 1'-0" 3



PROJECT# 2015.0042.0022

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CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
①	UTILITY SOURCE	LOAD CENTER	EXISTING
②	LOAD CENTER	SIRIUS XM SUB PANEL	BRANCH CIRCUIT W/ (3) #8 AWG AND (1) #10 AWG FOR GND (75° RATED) IN 3/4" MIN. CONDUIT
③	SIRIUS XM SUB PANEL	DRU-200W	BRANCH CIRCUIT W/ (3) #10 AWG AND (1) #10 AWG FOR GND (75° RATED) IN 3/4" MIN. CONDUIT



HPCC
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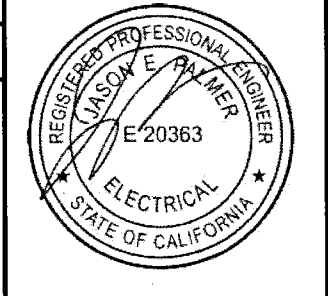
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 1100 E. WOODFIELD ROAD, SUITE 500
 SCHAUMBURG, ILLINOIS 60173
 TEL: 847-908-8400
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CHECKED BY:	AG		
APPROVED BY:	MB		
#	DATE	DESCRIPTION	INT.
A	9/9/16	90% REVIEW	MC
B	9/20/16	REVISION	RD
Ø	9/26/16	FINAL	GT

SINGLE LINE DIAGRAM SCALE: N.T.S. 1

SITE NUMBER:	SFX501S	MODEL NUMBER:	TBD	WIRE:	3
VOLTAGE:	120/240	PHASE:	1	AIC:	
MAIN BREAKER:	40 AMP	BUSS RATING:	100 AMPS	GROUND BAR:	
MOUNT:	Surface				
ENCLOSURE TYPE:	Nema 3R				
PANEL STATUS:	Existing				

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT	
1	MAIN BREAKER	100	2	On			0		1.00		--	--	--		2	
3							0	1.00		--	--	--		4		
5	DRU-200W CABINET	70	2	On	2194	1.00	2194		1.00		--	--	--		6	
7					2194	1.00		2194	1.00		--	--	--		8	
							2194	2194	VA			TOTAL KVA	4.39			
													AMPS	18.28		



SITE NAME
GREEN STREET

SITE ID.
SFX501S

SITE ADDRESS
 1101 GREEN ST
 SAN FRANCISCO, CA 94109

SHEET NAME
**FINAL SINGLE LINE DIAGRAM/
 PANEL SCHED.**

SHEET NUMBER
E-2

HOUSE PANEL SCHEDULE SCALE: N.T.S. 2

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SERVICE EQUIPMENT NOTES:

- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.

CONDUCTOR NOTES:

- ALL CONDUCTORS SHALL BE COPPER
- ALL WIRING SHALL BE COPPER WITH THIN/THIN DUAL RATED 600 VOLTS INSULATION
- GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED.

CONDUIT NOTES:

- SCH 80 PVC CONDUIT SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, OR EXPOSED ABOVE GRADE
- EMT SHALL BE USED ONLY FOR INTERIOR RUNS AND SHALL HAVE COMPRESSION TYPE FITTINGS
- SEAL TIGHT, FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE
- SERVICE CONDUITS SHALL HAVE NO MORE THAN (3) - 90° BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE FULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS
- ALL CABLES, POWER AND/OR TELEPHONE AND/OR FIBER SYSTEM CONDUITS SHALL HAVE A MINIMUM 24" RADIUS BUEEFS TO EQUIPMENT, FULL BOXES, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES

NEW CABLE GROUNDING NOTES:

- AVOID DISRUPTION OF EXISTING GROUNDING SYSTEM. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE OWNER
- CONTRACTOR SHALL CONNECT GROUND KITS TO THE EXISTING GROUND BARS AT THE TOP AND BASE OF TOWER
- CONTRACTOR SHALL CONNECT GROUND KITS TO THE NEW GROUND BAR BEFORE ENTRY TO CABINET
- NO BACK TO BACK LUGGING OF GROUNDS

GENERAL GROUNDING NOTES:

- VERTICAL DROPS SHALL BE 2'-0" OF #2 AWG SOLID TINNED COPPER WIRE. CADWELDED TO GROUND BAR
- ALL BENDS MINIMUM 8" RADIUS.
- APPLY ANTI-OXIDATION COMPOUND TO ALL CONNECTIONS.
- BARE COPPER CONDUCTORS SHALL NOT BE IN CONTACT WITH ANY DISSIMILIAR MATERIAL. PLACE ON STANDOFFS, IF NECESSARY TO ALLOW FOR PROPER INSTALLATION.
- SHARP BENDS IN GROUNDING CONDUCTORS SHALL BE AVOIDED. 90° BENDS SHALL NOT BE USED.
- ALL GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AS POSSIBLE. THE SHORTEST PRACTICAL ROUTE SHALL BE CHOSEN WITH THE LEAST AMOUNT OF BENDS AND SPLICES. USE THIS RULE AT ALL TIMES.
- ALL CONNECTIONS TO GROUND BARS SHALL BE WITH A 2-HOLE LUG UNLESS OTHERWISE SPECIFIED.
- WHEN GROUNDING MORE THAN ONE PIECE OF EQUIPMENT, DO NOT USE THE EQUIPMENT AS A GROUNDING CONDUCTOR. DOUBLE-STACKING OF LUGS SHALL BE USED TO GET FROM EQUIPMENT TO EQUIPMENT.
- REMOVE ALL PAINT BENEATH THE SURFACE OF GROUND LUGS
- GROUND SYSTEM TO BE TESTED TO 5 OHMS OR LESS

NOT USED

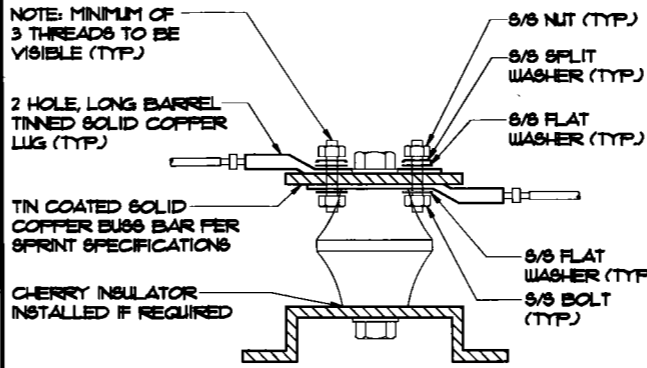
SCALE: N.T.S. 2

GROUND LUG DETAIL

SCALE: N.T.S. 3

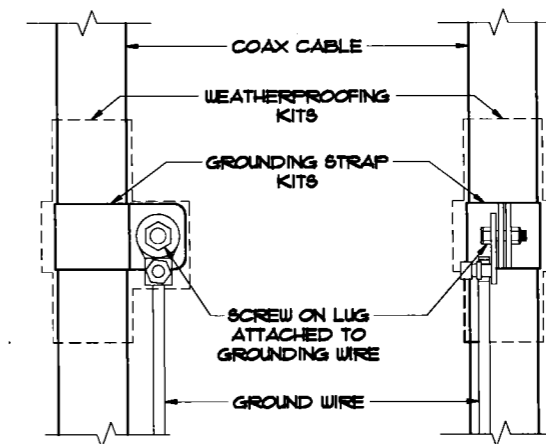
COAX GROUND KIT

SCALE: N.T.S. 4



NOTES:

- ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING 8/16T WASHERS.
- COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
- APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.



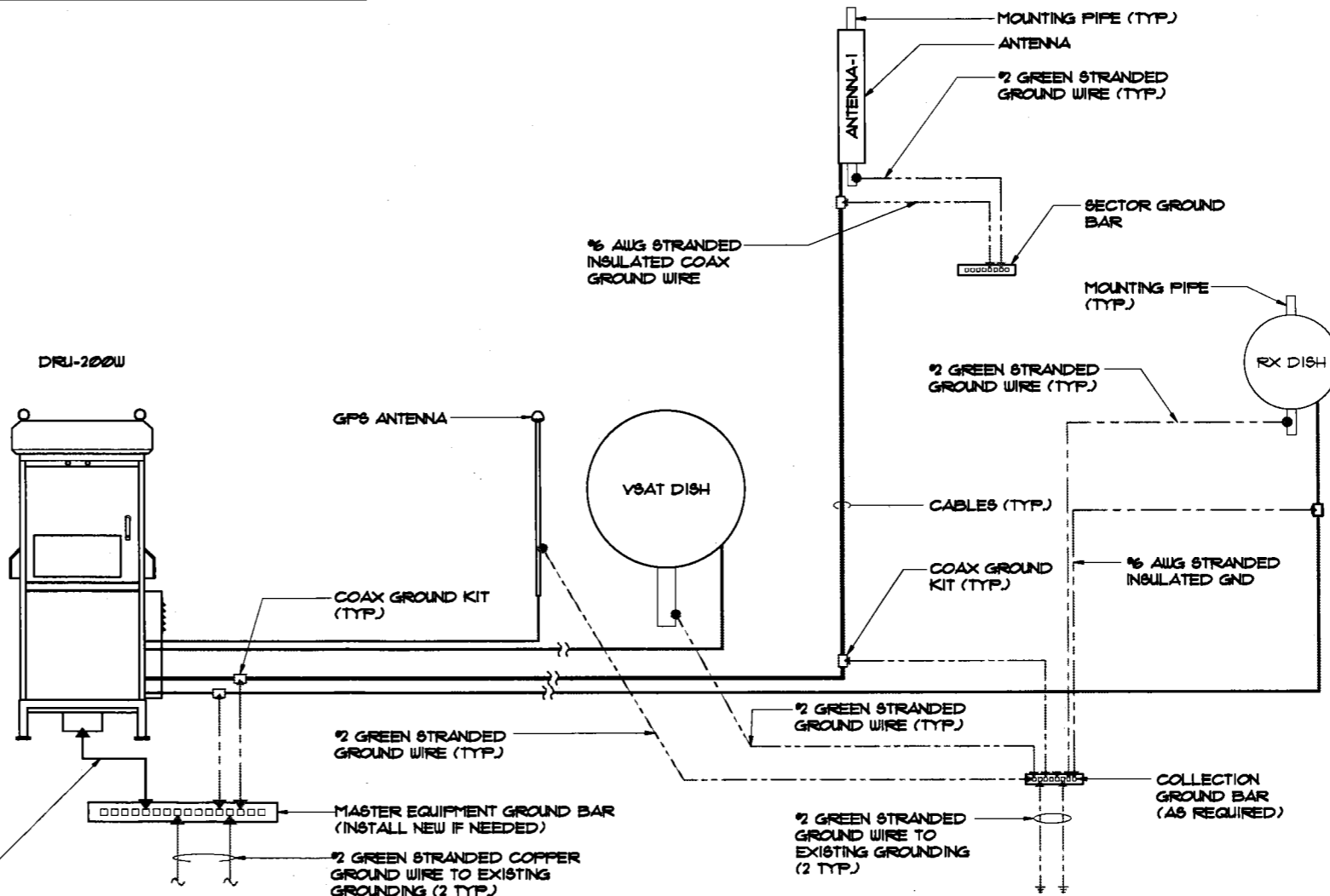
NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- THIS DETAILS IS TYPICAL FOR EACH CABLE WHERE IT IS SPECIFIED TO BE GROUNDED

NOTE:
ALL NEW GROUND BARS SHALL BE TIED TO (E) GROUND RING OR BONDED TO (E) GROUND BARS

▲ MECHANICAL CONNECTION ● EXOTHERMIC CONNECTION

GROUND EACH CABINET FROM GROUND BAR INSIDE CABINET TO MASTER GROUND BAR. INSTALL GROMMET AT BOTTOM OF CABINET, 2 HOLE LUG.



NOTES

SCALE: N.T.S. 1

FINAL SINGLE LINE GROUNDING DIAGRAM

SCALE: N.T.S. 5



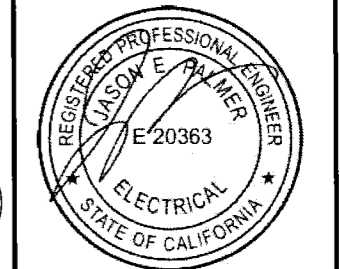
22 SHELTER ROCK LN.
BUILDING C
DANBURY, CT 06810



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

CHECKED BY: AG
APPROVED BY: MB

#	DATE	DESCRIPTION	INT.
A	9/9/16	30% REVIEW	MC
B	9/20/16	REVISION	RD
C	9/26/16	FINAL	GT



SITE NAME

GREEN STREET

SITE I.D.

SFX5015

SITE ADDRESS

1101 GREEN ST
SAN FRANCISCO, CA 94109

SHEET NAME

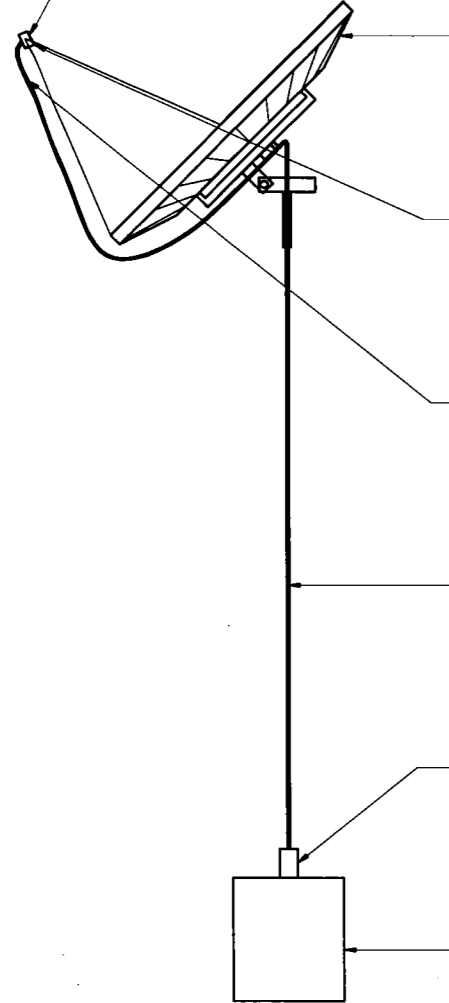
GROUNDING
DETAILS AND
NOTES

SHEET NUMBER

E-3

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LNB PART #4507A BY NORSAT F-FEMALE CONNECTOR



ITEM #	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	VSAT DISH	10866"	1 NEW	N/A	PRODELIN	1183 W/O DEICING	PRODELIN VSAT DISH ANTENNA	VENDOR
2	LNB	N/A	1 NEW	N/A	NORSAT	4507A	-	VENDOR
3	F-MALE CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNSIP6QS	-	VENDOR
4	COAX CABLE	298"	1 NEW	35'	BELDEN	RG6-QS	-	VENDOR
5	F-MALE CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNSIP6QS	-	VENDOR
6	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W	-	SIRIUS XM

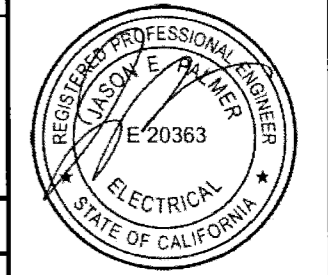


HPC
WIRELESS SERVICES
22 SHELTER ROCK LN.
BUILDING C
DANBURY, CT 06810

FULLERTON
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1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
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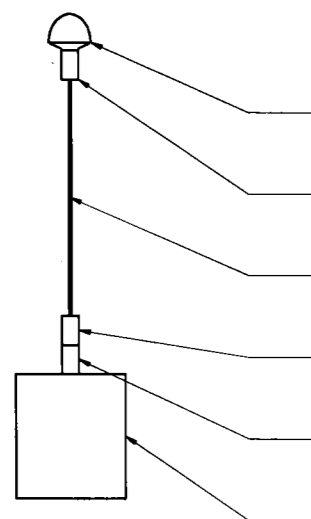
CHECKED BY: AG
APPROVED BY: MB

#	DATE	DESCRIPTION	INT.
A	9/9/16	30% REVIEW	MC
B	9/20/16	REVISION	BT
D	9/26/16	FINAL	GT



VSAT ANTENNA CONFIGURATION

SCALE: N.T.S. 1



ITEM #	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	GPS ANTENNA	N/A	1 NEW	N/A	TRIMBLE	57860-30	-	SIRIUS XM
2	F CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNSIP6QS	-	VENDOR
3	COAX CABLE	298"	1 NEW	65'	BELDEN	RG6-QS	-	VENDOR
4	F CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNSIP6QS	-	VENDOR
5	F TO N CONNECTOR	N/A	1 NEW	N/A	EMERSON	26-8020	-	SIRIUS XM
6	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W	-	SIRIUS XM

GPS ANTENNA CONFIGURATION

SCALE: N.T.S. 2

SITE NAME
GREEN STREET

SITE ID.
SFX501S

SITE ADDRESS
**1101 GREEN ST
SAN FRANCISCO, CA 94109**

SHEET NAME
SITE CONFIGURATIONS MATERIAL LIST

SHEET NUMBER
E-4

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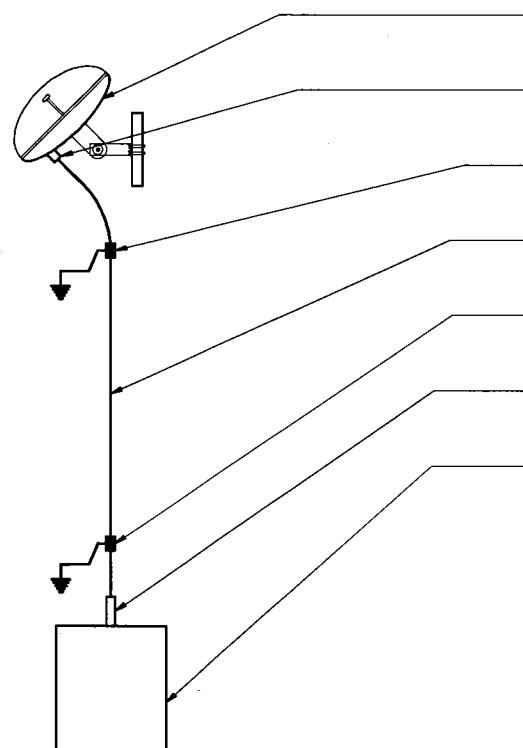
22 SHELTER ROCK LN.
BUILDING C
DANBURY, CT 06810



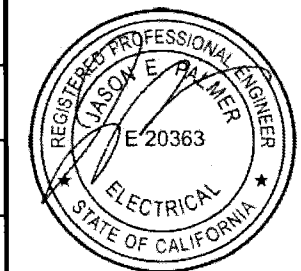
1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

CHECKED BY: **AG**
APPROVED BY: **MB**

#	DATE	DESCRIPTION	INT.
A	9/9/16	90% REVIEW	MC
B	9/20/16	REVISION	RD
0	9/26/16	FINAL	GT



ITEM #	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	HB RX DISH (2330-2345 MHz)	25.25"	1 NEW	N/A	TIL-TEK	TA-2324-LHCP	CIRCULAR POLARIZED SOLID PARABOLIC DISH ANTENNA	SIRIUS XM
2	T-16 DIN MALE CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4TDM-P6A	ATTACH TO CABLE PRIOR TO INSTALLATION	VENDOR
3	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	SGI2-06B2A	INCLUDES 59' #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
4	COAXIAL CABLE	1/2"φ	1 NEW	50'	ANDREW	LDF4-50A	MINIMUM BEND RADIUS PER MANUFACTURER SPECS	VENDOR
5	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	SGI2-06B2A	INCLUDES 59' #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
6	N MALE CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4TMM-P6A	-	VENDOR
7	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W	-	SIRIUS XM



SITE NAME
GREEN STREET

SITE ID.
SFX5013

SITE ADDRESS
**1101 GREEN ST
SAN FRANCISCO, CA 94109**

SHEET NAME
**SITE
CONFIGURATIONS
MATERIAL LIST**

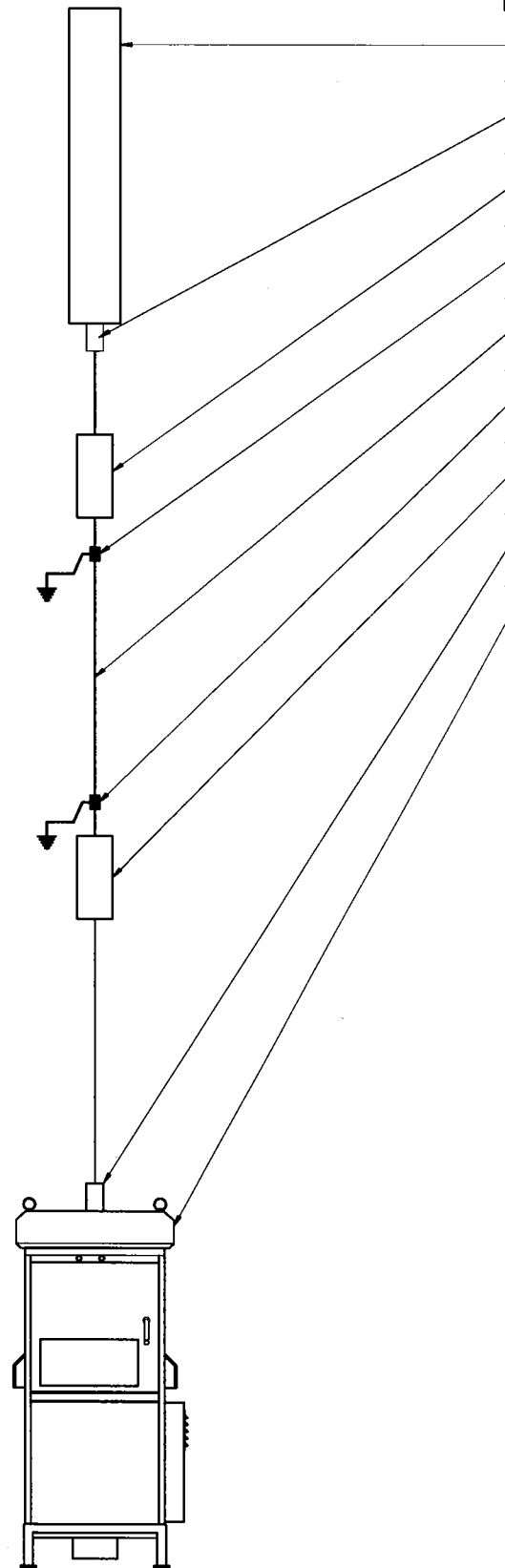
SHEET NUMBER
E-4A

RX ANTENNA CONFIGURATION

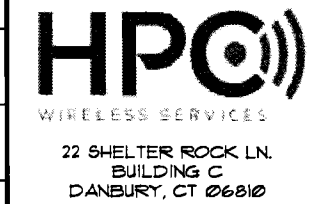
SCALE: N.T.S. 1

PROJECT# 2015.0042.0022

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ITEM #	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	TRANSMIT ANTENNA	N/A	1 NEW	N/A	TILTEK	TA-2304-2-DAB-L	-	SIRIUS XM
2	1-16 DIN MALE CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4TDM-P8A	ATTACH TO CABLE PRIOR TO INSTALLATION	VENDOR
3	WEATHERPROOFING	N/A	1 NEW	N/A	ANDREW	U8-LTL4	WEATHERPROOFING PER 3/C-5A	VENDOR
4	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	8GPL1-5B4	INCLUDES 5/8" #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
5	COAXIAL CABLE	1/2"	1 NEW	65'	ANDREW	LDF4-50A	MINIMUM BEND RADIUS PER MANUFACTURER SPECS	VENDOR
6	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	8GPL1-5B4	INCLUDES 5/8" #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
7	WEATHERPROOFING	N/A	1 NEW	N/A	ANDREW	U8-LTL4	WEATHERPROOFING PER 3/C-5A	VENDOR
8	1/8" EIA CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4E18-P6	ATTACH TO CABLE PRIOR TO INSTALLATION	VENDOR
9	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W	-	SIRIUS XM



CHECKED BY: AG
APPROVED BY: MB

#	DATE	DESCRIPTION	INT.
A	3/3/16	20% REVIEW	MC
B	3/20/16	REVISION	BT
D	3/26/16	FINAL	GT



SITE NAME
GREEN STREET

SITE ID.
SFX5015

SITE ADDRESS
**1101 GREEN ST
SAN FRANCISCO, CA 94109**

SHEET NAME
SITE CONFIGURATIONS MATERIAL LIST

SHEET NUMBER
E-5

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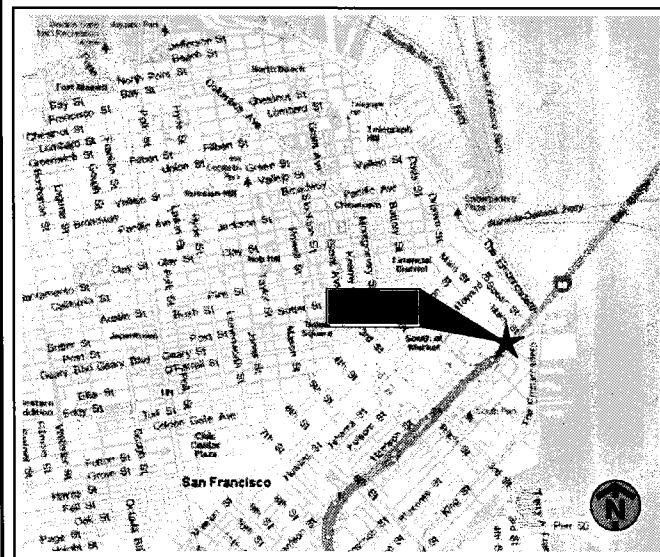
SHEET INDEX

NO.	DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN
C-1A	ENLARGED ROOF PLAN
C-2	ENLARGED EQUIPMENT LAYOUT
C-3	SITE ELEVATION
C-4	ANTENNA LAYOUTS
C-5	ANTENNA DETAILS
C-5A	SITE DETAILS
C-5B	MOUNTING DETAILS
C-5C	MOUNTING DETAILS
C-6	ANTENNA SCHEDULES
C-7	EQUIPMENT SPECS
E-1	UTILITY PLAN AND NOTES
E-1A	UTILITY PLAN AND NOTES
E-2	FINAL SINGLE LINE DIAGRAM/PANEL SCHEDULE
E-3	GROUNDING DETAILS AND NOTES
E-4	SITE CONFIGURATIONS MATERIAL LIST
E-4A	SITE CONFIGURATIONS MATERIAL LIST
E-5	SITE CONFIGURATIONS MATERIAL LIST

DRIVING DIRECTIONS

DEPART SAN FRANCISCO INTERNATIONAL AIRPORT
 TURN LEFT (WEST) ONTO LOCAL ROAD(S)
 KEEP RIGHT ONTO RAMP
 TAKE RAMP (LEFT) ONTO BAYSHORE FWY
 TAKE RAMP (RIGHT) ONTO JOHN F FORAN FWY
 TURN LEFT ONTO RAMP
 ROAD NAME CHANGES TO KING ST
 ROAD NAME CHANGES TO HERB CAEN WAY
 TURN LEFT (WEST) ONTO BRYANT ST
 TURN RIGHT (NORTH-WEST) ONTO BEALE ST
 TURN LEFT (SOUTH) ONTO LOCAL ROAD(S)
 ARRIVE 400 BEALE ST, SAN FRANCISCO, CA 94105

VICINITY MAP



APPROVED
 By kdavis at 8:27 am, Apr 07, 2017



SITE NAME

400 BEALE STREET

SITE I.D.

SFX502T

SITE ADDRESS

400 BEALE STREET
 SAN FRANCISCO, CA 94105

STRUCTURE TYPE

ROOF TOP

PROJECT SUMMARY

SITE NAME: 400 BEALE STREET
SITE NO.: SFX502T
SITE ADDRESS: Site 1
 400 BEALE STREET
 SAN FRANCISCO, CA 94105
COUNTY: SAN FRANCISCO
SITE COORDINATES:
LATITUDE: 37.07037500' (NAD 83)
LONGITUDE: -122.39086388' (NAD 83)
GROUND ELEVATION: 36' (AMSL)
JURISDICTION: SAN FRANCISCO
ZONING: -
APPLICANT: SIRIUS XM
 1500 ECKINGTON PL NE
 WASHINGTON, DC 20002
 TEL: (202) 380-4157
 FAX: (202) 380-4570
LANDLORD:
OCCUPANCY TYPE:
CONSTRUCTION TYPE:
 2016 CALIFORNIA ADMINISTRATIVE CODE
 2016 CALIFORNIA BUILDING CODE (IBC 2012)
 2016 CALIFORNIA ELECTRICAL CODE (2011 NEC)
 2016 CALIFORNIA MECHANICAL CODE (2012 UMC)
 2016 CALIFORNIA ENERGY CODE
 2016 CALIFORNIA FIRE CODE (2012 IFC)
 2016 CALIFORNIA GREEN CODE
 2016 CALIFORNIA REFERENCES STANDARDS CODE
 CITY/COUNTY ZONING ORDINANCES

CERTIFICATION STATEMENT

I HEREBY CERTIFY THAT THESE DRAWING WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



APPROVALS

CONST.	DATE
RF	DATE
OPS	DATE
LANDLORD	DATE

DRAWING SCALED TO 11"x17"

PROJECT TEAM



22 SHELTER ROCK LN.
 BUILDING C
 DANBURY, CT 06810
**PROJECT MANAGER/
 SITE ACQUISITION**



1100 E. WOODFIELD ROAD, SUITE 500
 SCHAUMBURG, ILLINOIS 60173
 TEL: 847-908-8400
 www.FullertonEngineering.com

ENGINEER

CODE COMPLIANCE:

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
- FACILITY HAS NO PLUMBING OR REFRIGERANTS
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS

SCOPE OF WORK:

- INSTALL (1) NEW SIRIUS XM PANEL ANTENNA ON EXISTING ROOFTOP
- INSTALL NEW SIRIUS XM RX DISH ON EXISTING ROOFTOP
- INSTALL NEW SIRIUS XM VSAT DISH ON EXISTING ROOFTOP
- INSTALL NEW SIRIUS XM GPS ANTENNA ON EXISTING ROOFTOP
- INSTALL NEW SIRIUS XM CABINET ON NEW STEEL PLATFORM ON EXISTING ROOF TOP
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. CABINETS, ANTENNAS AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR



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	01/13/17	90% REVIEW	KC
	03/14/17	REVISION	KC
	03/28/17	REVISION	KC
	04/03/17	FINAL	KC

SITE NAME

400 BEALE STREET

SITE I.D.

SFX502T

SITE ADDRESS

400 BEALE STREET
 SAN FRANCISCO, CA 94105

SHEET NAME

TITLE SHEET

SHEET NUMBER

T-1

GENERAL CONSTRUCTION NOTES:

1. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL.
2. THESE PLANS ARE INTENDED TO BE USED TO DIRECT THE NEW LAYOUT. DRAWINGS SHOULD NOT BE SCALED UNLESS OTHERWISE NOTED. PLANS, ELEVATIONS AND DETAILS ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES BEFORE STARTING ANY WORK.
4. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED BY THE ENGINEER OF RECORD.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE IN STRICT CONFORMANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. ELECTRICAL SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, AND ALL OTHER LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES, AND WITH LOCAL UTILITY COMPANY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
6. THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DIRT, STUMPS, STONES, RUBBISH OR DEBRIS IN ACCORDANCE WITH ALL LOCAL AND ENVIRONMENTAL LAWS. NO MATERIALS OR EQUIPMENT SHALL BE PLACED ANYWHERE ON OR IN THE STRUCTURE WITHOUT MAKING ADEQUATE PROVISIONS TO PROTECT EXISTING PROPERTY. UPON COMPLETION, REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DURING CONSTRUCTION. REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES.

WARRANTIES AND BONDS:

1. THE CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS USED IN THIS PROJECT FOR A MINIMUM PERIOD OF ONE (1) YEAR COMMENCING FROM THE DATE OF FINAL ACCEPTANCE BY THE CLIENT. THE CONTRACTOR IS NOT REQUIRED TO GUARANTEE MATERIAL SUPPLIED BY THE OWNER.
2. FINAL DATE OF ACCEPTANCE IS DEEMED AS THE DATE THAT ALL REQUIRED STATE AND FEDERAL APPROVAL HAVE BEEN OBTAINED INCLUDING, BUT NOT LIMITED TO:
A. FINAL INSPECTION- D14
B. CERTIFICATE OF OCCUPANCY
3. ANY DEFICIENCIES THAT COME EVIDENT DURING THIS ONE (1) YEAR PERIOD SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

DELIVERY, STORAGE AND HANDLING:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROCEDURES AND SCHEDULING ASSOCIATED WITH HOISTING, STAGING, AND ERECTING OF MATERIALS AND EQUIPMENT TO AND/OR UPON THE SITE.
2. ALL ELEMENTS OF THE EXISTING SITE, I.E. STRUCTURES, SITE PLANTINGS, ETC. SHALL BE PROTECTED AS NECESSARY FROM SAID ACTIONS. THIS WORK MUST BE DONE IN A SAFE, SECURE NONDESTRUCTIVE MANNER FOR PROTECTING PERSONNEL AND PROPERTY.

SITE WORK GENERAL NOTES:

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3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES BEFORE STARTING ANY WORK.
4. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED BY THE ENGINEER OF RECORD.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE IN STRICT CONFORMANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. ELECTRICAL SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, AND ALL OTHER LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES, AND WITH LOCAL UTILITY COMPANY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
6. THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DIRT, STUMPS, STONES, RUBBISH OR DEBRIS IN ACCORDANCE WITH ALL LOCAL AND ENVIRONMENTAL LAWS. NO MATERIALS OR EQUIPMENT SHALL BE PLACED ANYWHERE ON OR IN THE STRUCTURE WITHOUT MAKING ADEQUATE PROVISIONS TO PROTECT EXISTING PROPERTY. UPON COMPLETION, REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DURING CONSTRUCTION. REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
8. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
9. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWING AND STIPULATED IN THE SPECIFICATION PROJECT SUMMARY.
10. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
11. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER FLOW AWAY FROM THE EQUIPMENT SHELTER AND TOWER AREAS.
12. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
13. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
14. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
15. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED AND SEEDED.
16. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
17. ALL BACK FILL SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY AS DETERMINED BY ASTM STANDARD TEST PROCEDURES.

CONSTRUCTION SPECIFICATIONS:

1. THE CONTRACTOR SHALL VISIT THE SITE OF THE NEW WORK AND FULLY ACQUAINT THEMSELVES WITH THE CONDITIONS AS THEY EXIST IN ORDER THAT ANY RESTRICTIONS PERTAINING TO THE WORK ARE UNDERSTOOD. ALL AREAS AND DIMENSIONS ARE INDICATED ON THE DRAWINGS AS ACCURATELY AS POSSIBLE, BUT ALL CONDITIONS SHALL BE VERIFIED BY EACH CONTRACTOR AND/OR SUBCONTRACTOR AT THE SITE. THE FAILURE OF THE CONTRACTOR TO EXAMINE OR RECEIVE ANY FORM, INSTRUMENT OR DOCUMENT, OR TO VISIT THE SITE SHALL NOT RELIEVE THE CONTRACTOR FROM ANY OBLIGATION WITH RESPECT TO THEIR QUOTED PRICE. THE SUBMISSION OF A QUOTATION SHALL ACKNOWLEDGE THAT THE CONTRACTOR AND THEIR SUBCONTRACTORS HAVE FULLY EXAMINED THE SITE AND KNOW THE EXISTING CONDITIONS AND HAVE MADE PROVISIONS FOR OPERATING UNDER THE CONDITIONS AS THEY EXIST AT THE SITE AND HAVE INCLUDED ALL NECESSARY ITEMS.
2. THE GENERAL CONTRACTOR'S RESPONSIBILITIES SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION OF THE EQUIPMENT FOUNDATION, INCLUDING ELECTRICAL SERVICE, TELEPHONE CONDUITS, GROUNDING SYSTEM AND COORDINATION WITH LOCAL UTILITY COMPANIES.
3. THE ANTENNA INSTALLERS RESPONSIBILITIES SHALL INCLUDE, BUT NOT BE LIMITED TO, CABLE TRAY INSTALLATION, ROUTING OF CABLES FROM RADIO EQUIPMENT TO ANTENNAS, ASSOCIATED HARDWARE FOR SECURING ANTENNA CABLES, ANTENNA MOUNTS, DETERMINING SUPPLIER OF ANTENNAS, GROUNDING OF ANTENNAS TO GROUNDING SYSTEM, INSTALLING ANTENNAS AND VERIFYING WITH RADIO FREQUENCY ENGINEERS, THE ALIGNMENT, LOCATION, AND PROPER ORIENTATION OF ANTENNAS.
4. THE CONTRACTORS SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE BUILDING LANDLORD IN ORDER TO AVOID CONFLICTS WITH CURRENT USE OF THE SITE.
5. THE OWNER MAY HAVE WORK PERFORMED UNDER SEPARATE CONTRACTS, CONCURRENTLY, WITH THE WORK OF THIS CONTRACT.
6. THE GENERAL CONTRACTOR SHALL PERMIT ACCESS TO THE PROJECT TO THESE CONTRACTORS TO PERFORM THEIR WORK.
7. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE LOCAL, COUNTY, STATE, AND FEDERAL CODES, LAWS AND REQUIREMENTS, INCLUDING OSHA.
8. THE CONTRACTOR SHALL APPLY AND PAY FOR THE CONSTRUCTION PERMIT, CERTIFICATE OF OCCUPANCY AND ALL OTHER REQUIRED PERMITS OR LICENSES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL INSPECTIONS.
9. CARE SHALL BE EXERCISED IN PROTECTING THE BUILDING OCCUPANTS DURING THE DEMOLITION AND CONSTRUCTION PERIODS OF THIS PROJECT. EVERY EFFORT SHALL BE MADE TO MAINTAIN A CLEAN OPERATION. DEBRIS SHALL NOT ACCUMULATE. ALL DEBRIS WILL BE DEPOSITED IN A SUITABLE CONTAINER ON A DAILY BASIS AND SHALL BE EMPTIED ON A REGULAR SCHEDULE. THE LOCATION OF THE CONTAINER SHALL BE COORDINATED WITH THE BUILDING MANAGER.
10. SAFETY PROCEDURES: ATTENTION IS DIRECTED TO FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH STANDARDS. THE CONSTRUCTION COMPANY AWARDED THIS PROJECT SHALL ENSURE ALL WORKING SURROUNDINGS AND CONDITIONS ARE SANITARY AND ARE NOT HAZARDOUS OR DANGEROUS TO THE HEALTH OR SAFETY OF THE WORK CREWS OR BUILDING OCCUPANTS. PRECAUTION SHALL BE EXERCISED AT ALL TIMES FOR THE PROTECTION OF PERSONS AND PROPERTY. IT IS MANDATORY THAT THE SAFETY PROVISIONS OF APPLICABLE LOCAL LAWS, OSHA REGULATIONS AND BUILDING AND CONSTRUCTION CODES, BE OBSERVED FOR ALL CONTRACTORS AND ANTENNA RIGGERS.
11. THE GENERAL CONTRACTOR MUST COORDINATE ALL ROOF RELATED WORK WITH THE LANDLORD'S PRE-APPROVED ROOFER. THE GENERAL CONTRACTOR MUST CONFIRM THE COMPATIBILITY OF ALL MATERIALS AND ENSURE THAT ALL EXISTING ROOF WARRANTIES, IF ANY, REMAIN IN EFFECT.



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BUILDING C
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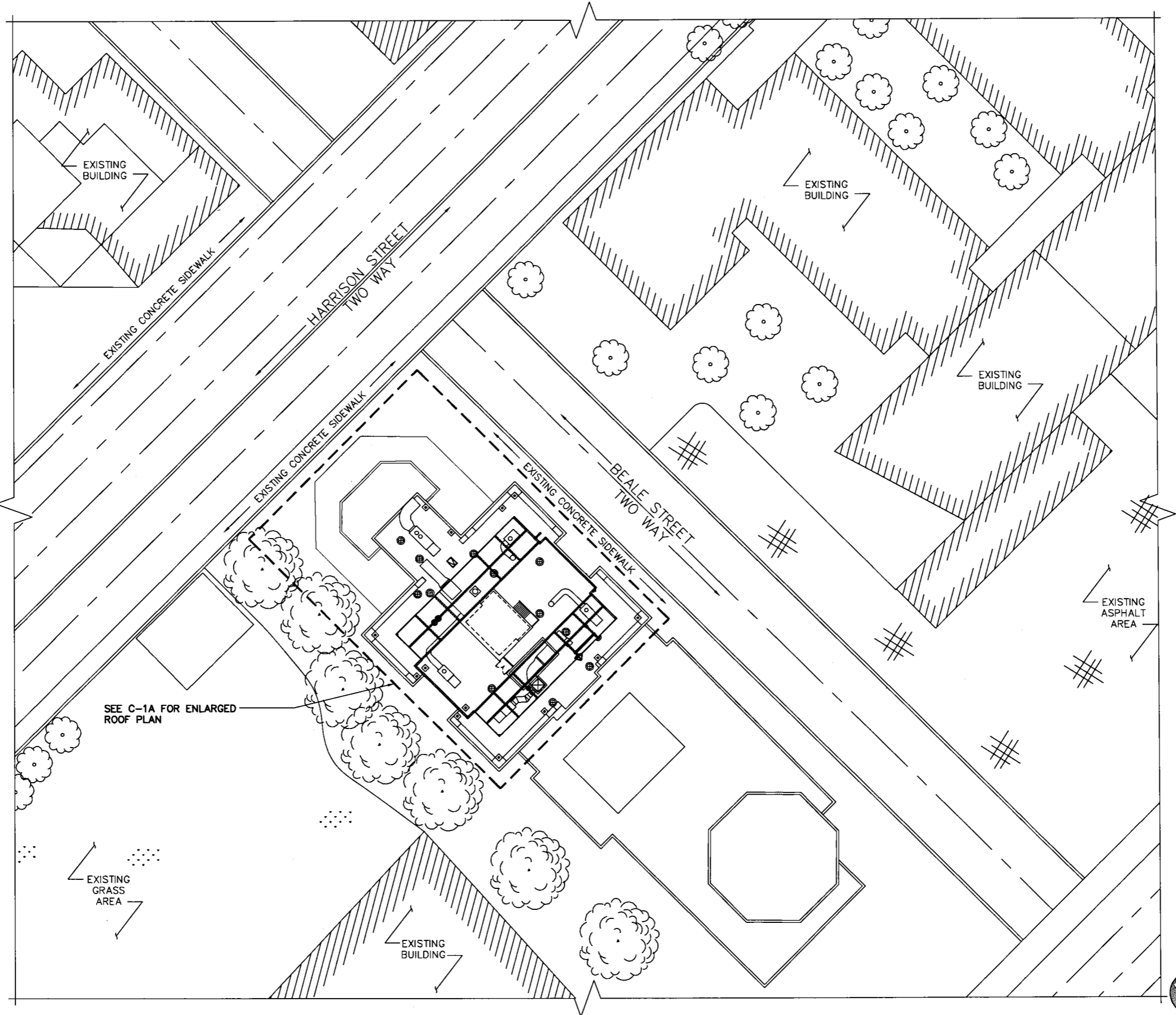
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	01/13/17	90% REVIEW	KC
	03/14/17	REVISION	KC
	03/28/17	REVISION	KC
	04/03/17	FINAL	KC



SITE NAME	400 BEALE STREET
SITE I.D.	SFX502T
SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	GENERAL NOTES
SHEET NUMBER	T-2

ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BTS	BASE TRANSMISSION STATION
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
EXISTING	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
NTS	NOT TO SCALE
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB.(#)	POUND(S)
RRU	REMOTE RADIO UNIT
SF	SQUARE FOOT
STL	STEEL
TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
UT	UNDERGROUND TELCO
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER
<	CENTERLINE
>	PLATE

SYMBOLS	
<	CENTERLINE
▲	REVISION
●	WORK POINT
○	UTILITY POLE
	BRICK
	COMPRESSED STONE
	CONCRETE
	EARTH
	GRAVEL
	MASONRY
	STEEL
—	CENTERLINE
—	PROPERTY LINE
—	LEASE LINE
—	EASEMENT LINE
— X —	CHAIN LINK FENCE
— □ —	WOOD FENCE
— UE —	BELOW GRADE ELECTRIC
— UT —	BELOW GRADE TELEPHONE
— OE/OT —	OVERHEAD ELECTRIC/TELEPHONE
L A L A	SECTION REFERENCE



ROOF PLAN

SCALE: 1" = 40'-0" 1



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BUILDING C
DANBURY, CT 06810



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www.FullertonEngineering.com

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03	03/28/17	REVISION	KC
04	04/03/17	FINAL	KC



SITE NAME
400 BEALE STREET

SITE I.D.
SFX502T

SITE ADDRESS
**400 BEALE STREET
SAN FRANCISCO, CA 94105**

SHEET NAME
ROOF PLAN

SHEET NUMBER
C-1



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BUILDING C
DANBURY, CT 06810

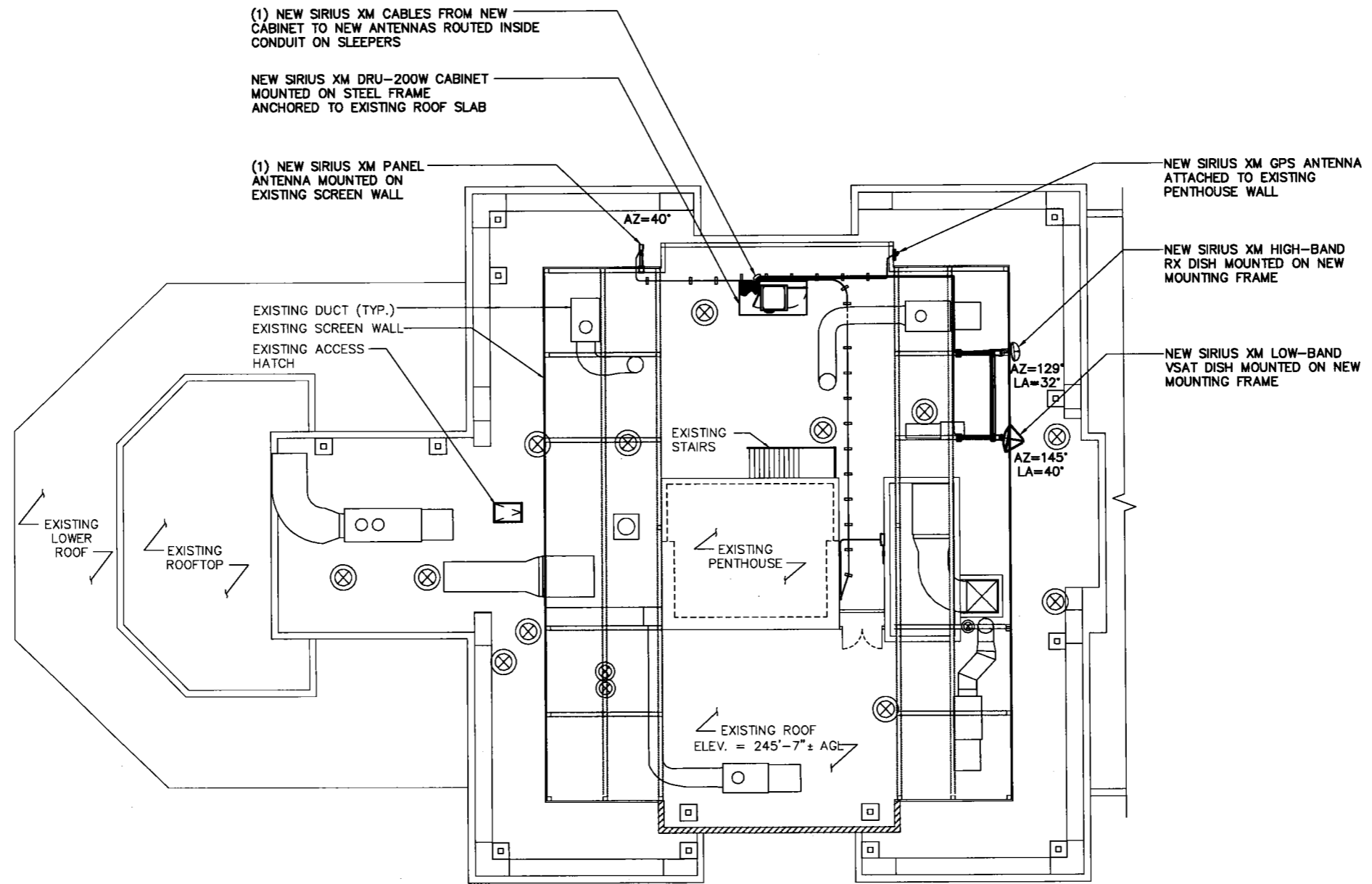
FULLERTON
ENGINEERING DESIGN

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SCHAUMBURG, ILLINOIS 60173
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	04/03/17	FINAL	KC



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SITE I.D.	SFX502T
SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	ENLARGED ROOF PLAN
SHEET NUMBER	C-1A



ENLARGED ROOF PLAN

SCALE: 1/16" = 1'-0" 1





WIRELESS SERVICES
22 SHELTER ROCK LN.
BUILDING C
DANBURY, CT 06810



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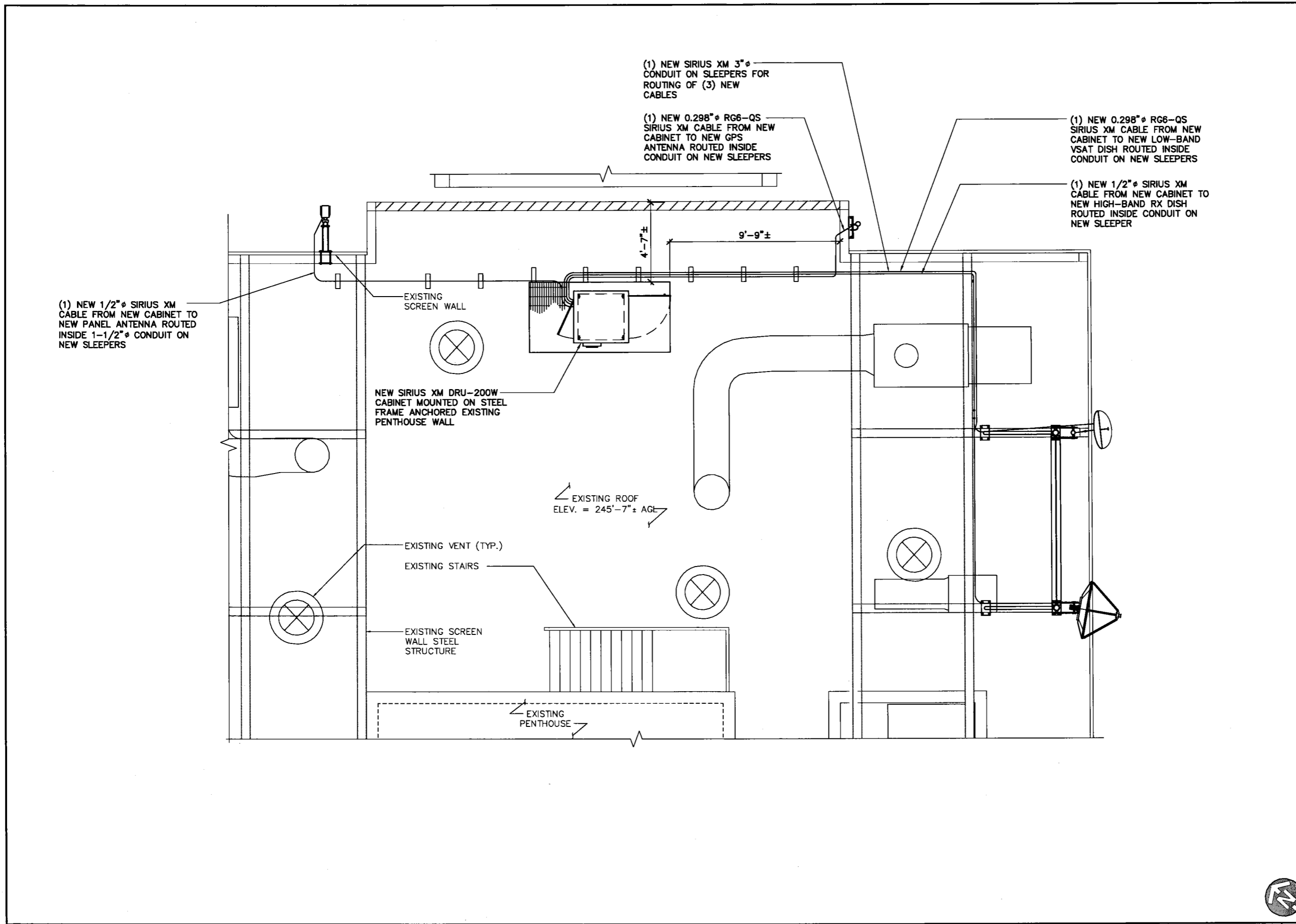
SITE NAME
400 BEALE STREET

SITE I.D.
SFX502T

SITE ADDRESS
400 BEALE STREET
SAN FRANCISCO, CA 94105

SHEET NAME
ENLARGED EQUIPMENT LAYOUT

SHEET NUMBER
C-2

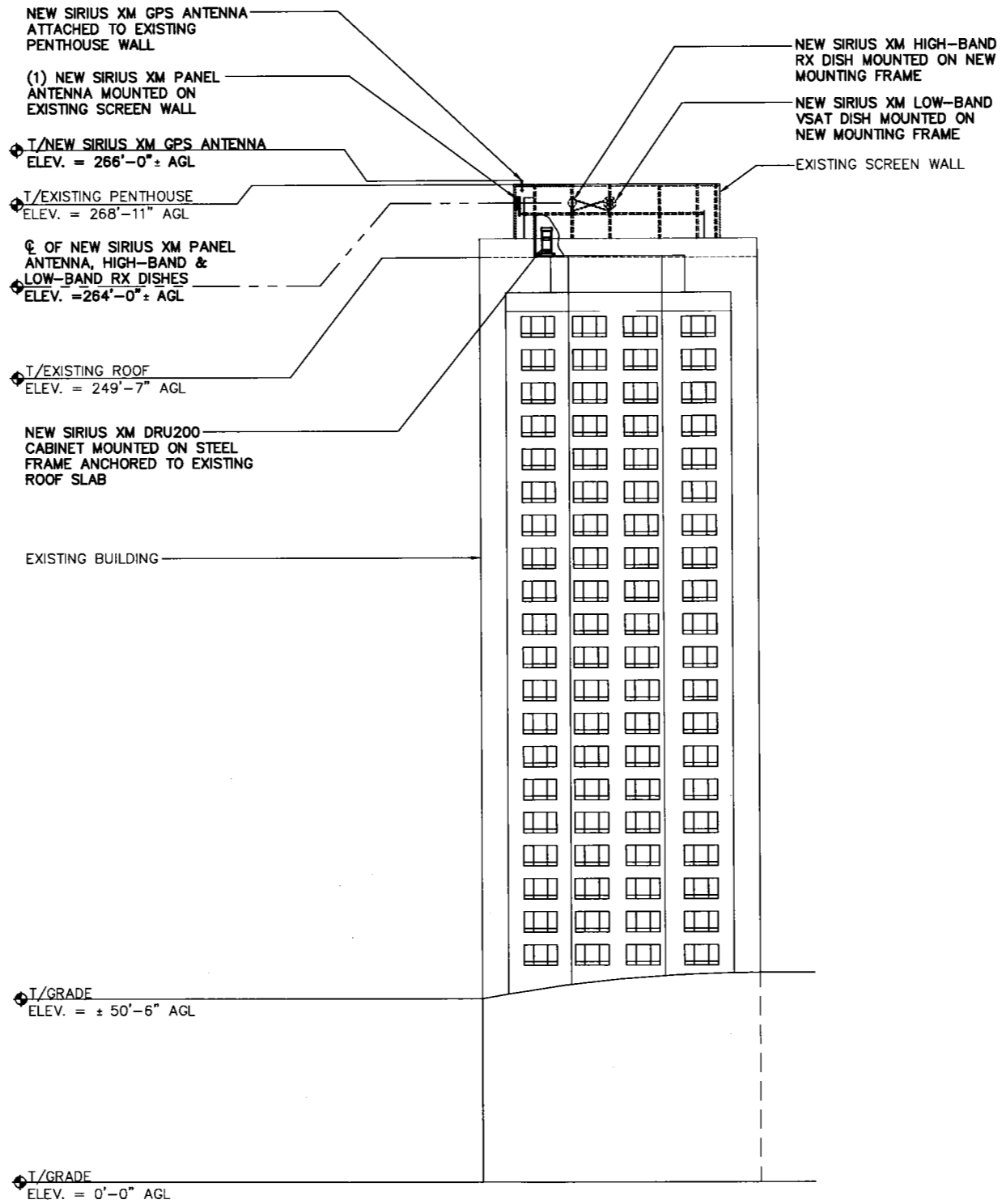


EXISTING EQUIPMENT LAYOUT

SCALE: 3/16" = 1'-0" 1

ANTENNA NOTES:
 1. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNA SHALL BE ADJUSTED TO MEET SYSTEM REQUIREMENTS.
 2. CONTRACTOR SHALL VERIFY HEIGHT OF ANTENNA WITH SIRIUS XM REPRESENTATIVE.
 3. ALL ANTENNA AZIMUTH TO BE FROM TRUE NORTH.

STRUCTURAL NOTES:
 STRUCTURAL CALCULATION PREPARED BY FULLERTON ENGINEERING CONSULTANTS. CONTRACTOR TO COORDINATE WITH SIRIUS XM REPRESENTATIVE TO OBTAIN A COPY.



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FULLERTON
 ENGINEERING DESIGN

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SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	SITE ELEVATION
SHEET NUMBER	C-3

NORTHWEST ELEVATION

SCALE: N.T.S. 1

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	04/03/17	FINAL	KC



SITE NAME

400 BEALE STREET

SITE I.D.

SFX502T

SITE ADDRESS

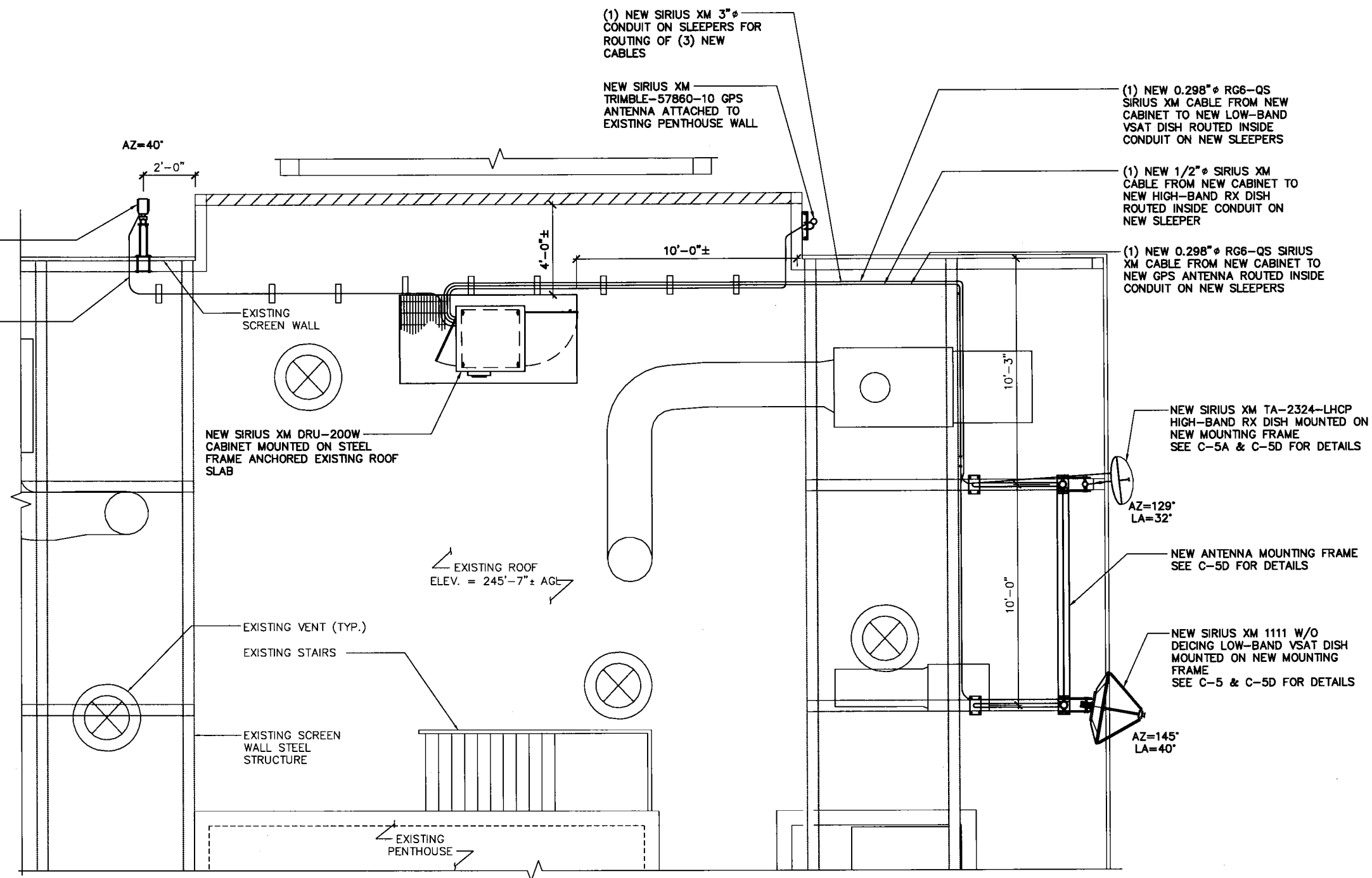
400 BEALE STREET
SAN FRANCISCO, CA 94105

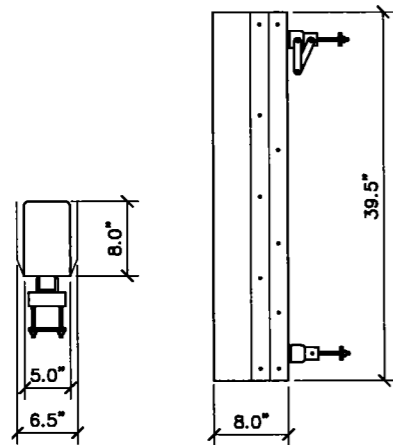
SHEET NAME

ANTENNA LAYOUTS

SHEET NUMBER

C-4

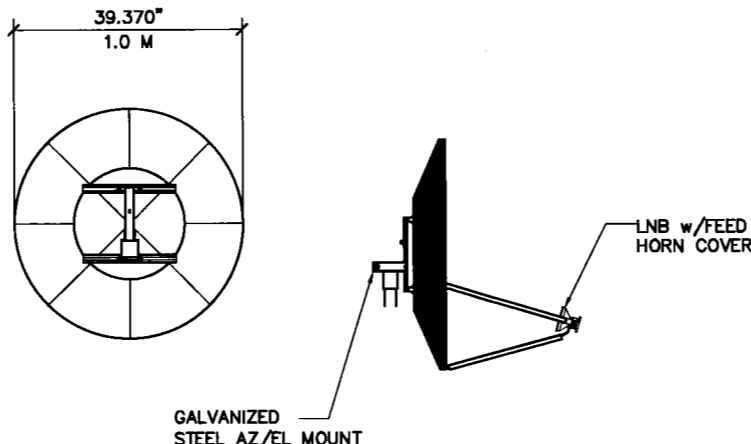




PLAN VIEW SIDE VIEW

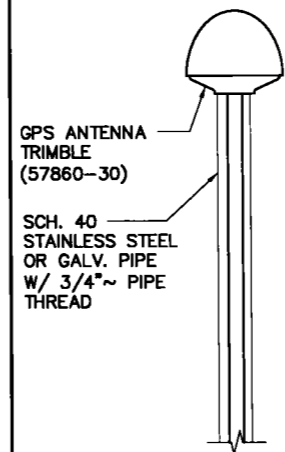
TIL-TEK
TA-2304-2-DAB-L-045

FREQUENCY RANGE 2320-2345 MHz
ANTENNA WITH CLAMPS 8 lb



REAR VIEW SIDE VIEW

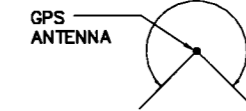
MANUFACTURER: PRODELIN CORP
MODEL #: 1111
WEIGHT: ±40 LBS



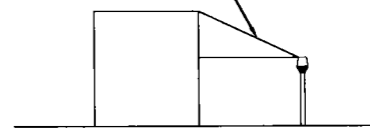
GPS ANTENNA TRIMBLE (57860-30)
SCH. 40 STAINLESS STEEL OR GALV. PIPE W/ 3/4\"/>

GPS MINIMUM SKY VIEW REQUIREMENTS

MINIMUM OF 75% OR 270° IN ANY DIRECTION



OBSTRUCTIONS MUST BE BELOW 15°



NOTES:

1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
2. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A 0.5\"/>



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	03/28/17	REVISION	KC
	04/03/17	FINAL	KC

ANTENNA SPEC

SCALE: N.T.S. 1

VSAT SPEC

SCALE: N.T.S. 2

GPS SPEC

SCALE: N.T.S. 3

NOT USED

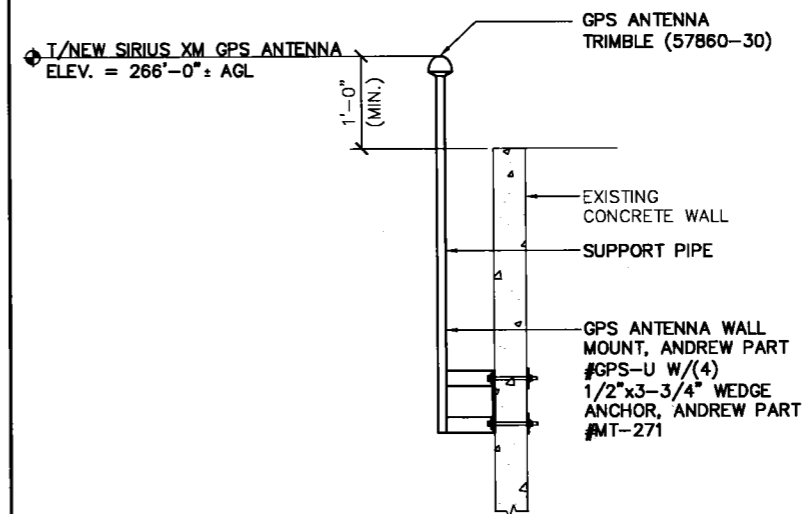
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NOT USED

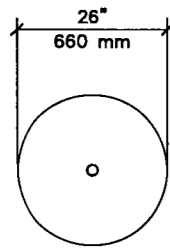
SCALE: N.T.S. 5

GPS MOUNTING DETAIL

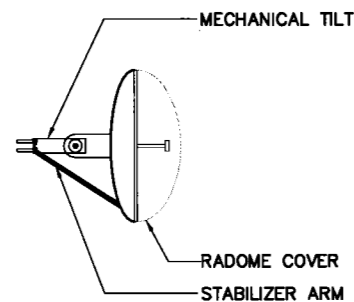
SCALE: N.T.S. 6



SITE NAME	400 BEALE STREET
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SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	ANTENNA DETAILS
SHEET NUMBER	C-5

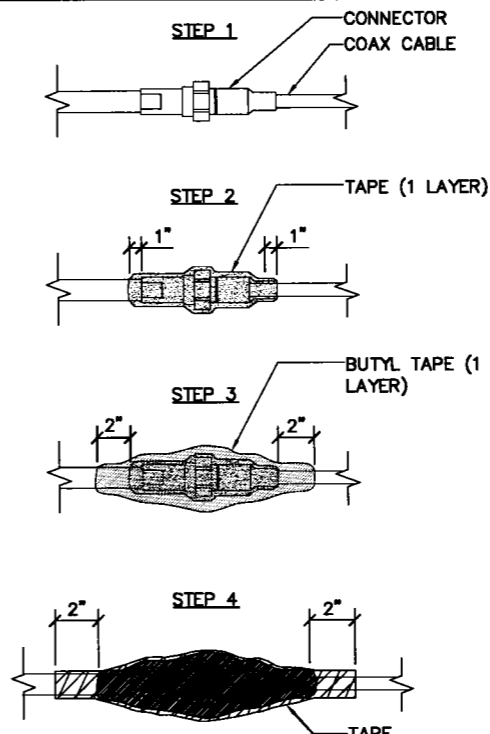


REAR VIEW

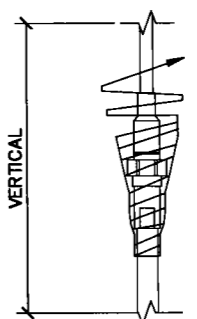


SIDE VIEW

MANUFACTURER: TIL-TEK
 MODEL#: TA-2324-LHCP
 WEIGHT: ±26 LBS



VERTICAL CONNECTIONS SHOULD BE TAPED FROM THE BOTTOM UP SO OVERLAP SHEDS WATER AWAY FROM CONNECTION



NOTE: ELECTRICAL TAPE ENDS ARE TO BE CUT, DO NOT STRETCH

TAPE (3 LAYERS IN 1-1/2" TAPE AND 3 LAYERS IN 3/4" TAPE, ALL WITH A MINIMUM OF 50% OVERLAP, COAT WITH 3M SCOTCH COTE)



22 SHELTER ROCK LN.
 BUILDING C
 DANBURY, CT 06810



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 SCHAUMBURG, ILLINOIS 60173
 TEL: 847-908-8400
 www.FullertonEngineering.com

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APPROVED BY:	AR		
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	03/14/17	REVISION	KC
	03/28/17	REVISION	KC
	04/03/17	FINAL	KC

RX DISH SPECS

SCALE: N.T.S.

1

NOT USED

SCALE: N.T.S.

2

WEATHERPROOFING DETAIL

SCALE: N.T.S.

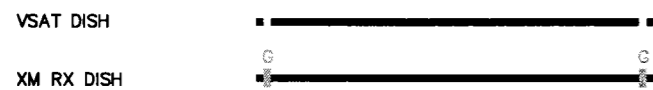
3

1. COAX MAINLINE FOR TX & RX ANTENNAS WILL BE LABELED AT THE TOP AND BOTTOM WITHIN 12" OF THE CONNECTORS.
2. FOR COAX MAIN LINE CABLE CONNECTS TO A POWER SPLITTER, LABEL MUST ALSO BE PLACED ON THE JUMPER CABLE 12" FROM THE ANTENNA CONNECTOR.
3. ANY COAX MAKING A WALL PENETRATION WILL BE LABELED ON EACH SIDE OF THE PENETRATION.
4. LOW BAND DIVERSITY IS NOT INSTALLED IN ALL THE SITES, ONLY THE CORE SITE FOR THE MARKET.
5. ALL COLOR CODED TAPE SHOULD BE 1-1/2" IN WIDTH.
6. ANTENNA LINE COLORS WILL BE AS FOLLOWS:
 - A. LB-RED (R)
 - B. HB-BLUE (B)
 - C. GPS-WHITE (W)
 - D. VSAT-
 - E. RX DISH-GREEN (G)
 - F. DIVERSITY-ORANGE (O)

SECTOR 1 LOW BAND/HIGH BAND COMBINE



RECEIVE ANTENNA



GPS ANTENNA



TYPICAL COLOR CODING

SCALE: N.T.S.

4

NOT USED

SCALE: N.T.S.

5

CABLE ROUTING DETAIL

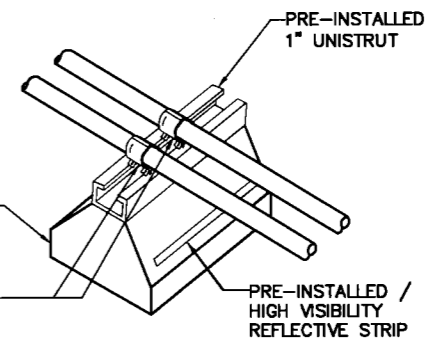
SCALE: N.T.S.

6

PRODUCT INFORMATION:

COOPER B-LINE
 509 W. MONROE ST.
 HIGHLAND, IL 62249
 PH: 800-851-7415
 FAX: 618-654-1917
 WEB: WWW.COOPERBLINE.COM

NEW COOPER B-LINE "DURA-BLOK" MODEL DB10 PART# 782051 49972
 UNISTRUT CABLE SNAP-INS



NOTE: COOPER B-LINE "DURA-BLOK" HAS A FIRE RATING OF: ASTM D573

NOTE: MAXIMUM SPACING 10'

SLEEPER DETAIL



SITE NAME

400 BEALE STREET

SITE I.D.

SFX502T

SITE ADDRESS

400 BEALE STREET
 SAN FRANCISCO, CA 94105

SHEET NAME

SITE DETAILS

SHEET NUMBER

C-5A

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	03/28/17	REVISION	KC
	04/03/17	FINAL	KC



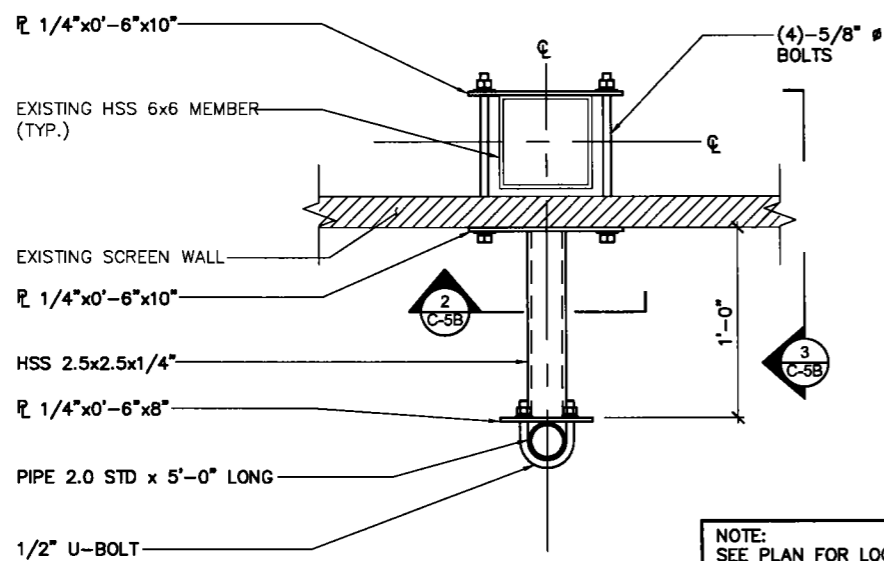
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400 BEALE STREET

SITE I.D.
SFX502T

SITE ADDRESS
**400 BEALE STREET
SAN FRANCISCO, CA 94105**

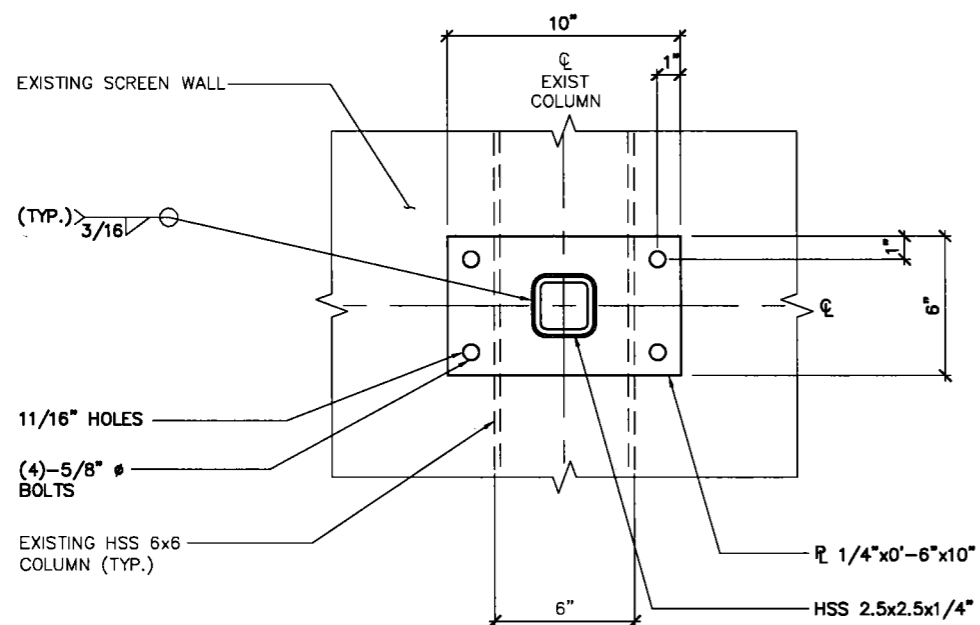
SHEET NAME
**MOUNTING
DETAILS**

SHEET NUMBER
C-5B



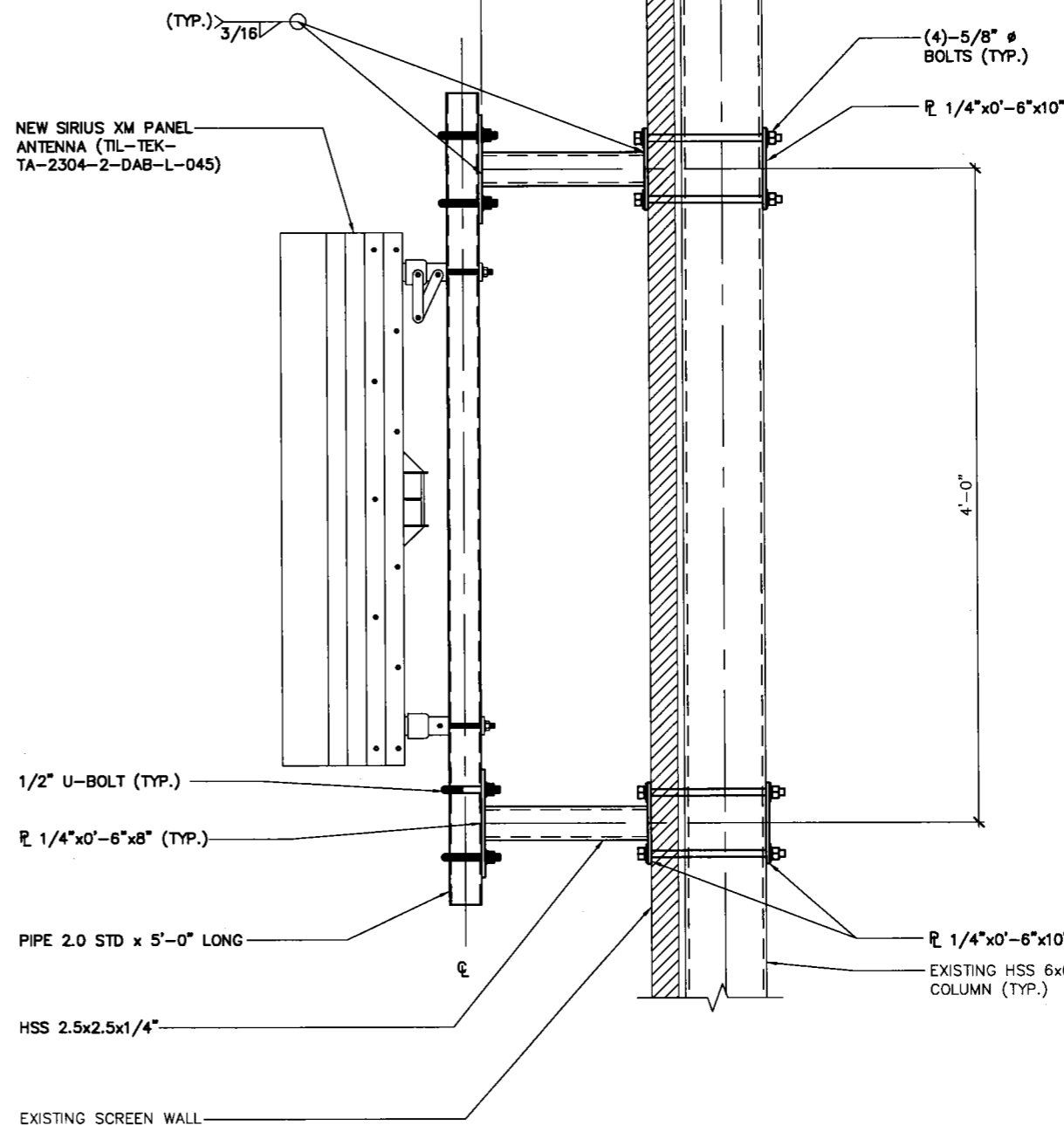
NEW MOUNTING STRUCTURE PLAN VIEW

SCALE: 1" = 1'-0" 1



NEW MOUNTING STRUCTURE ELEVATION VIEW

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



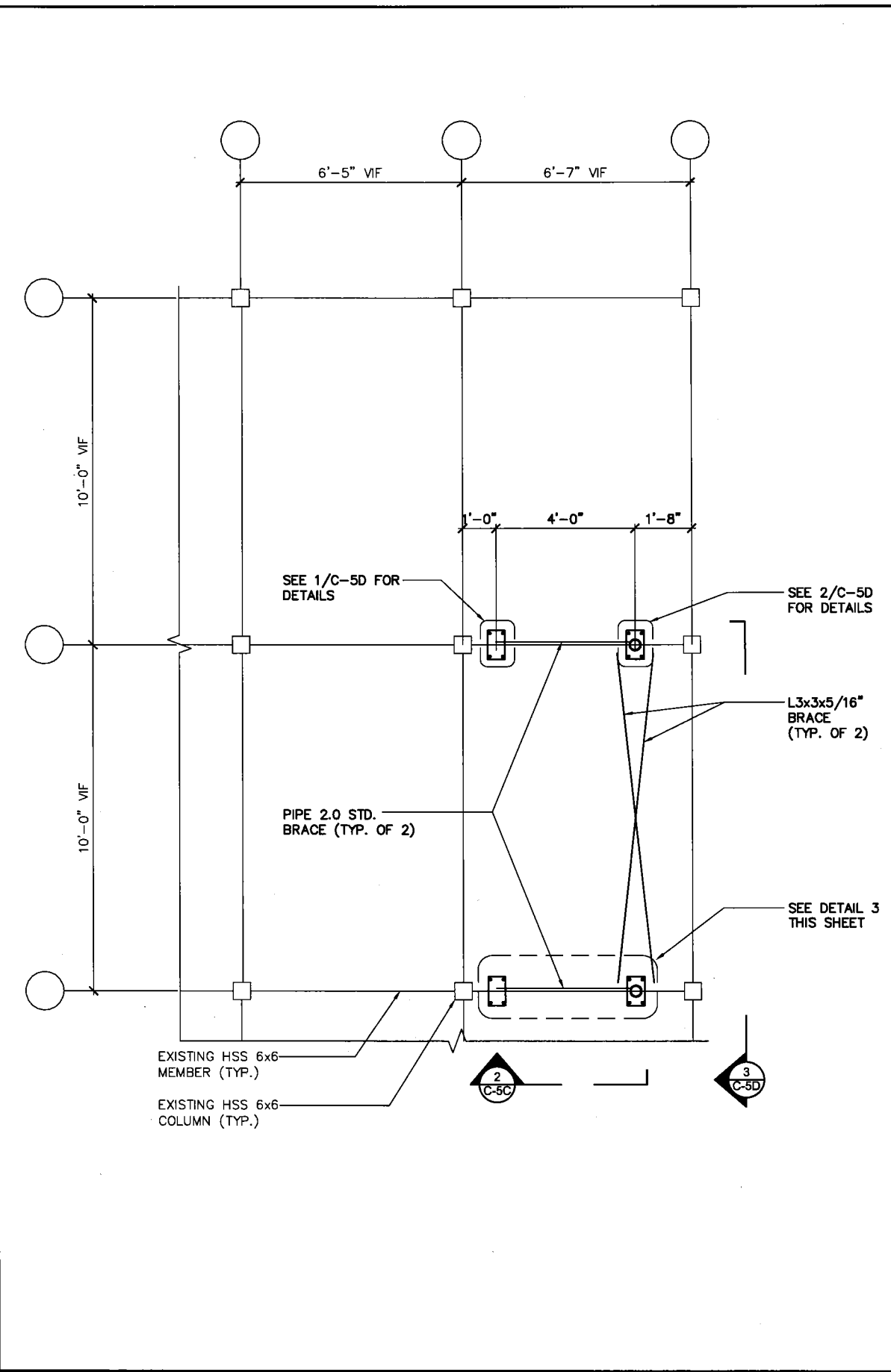
SECTION VIEW

SCALE: 1" = 1'-0" 3

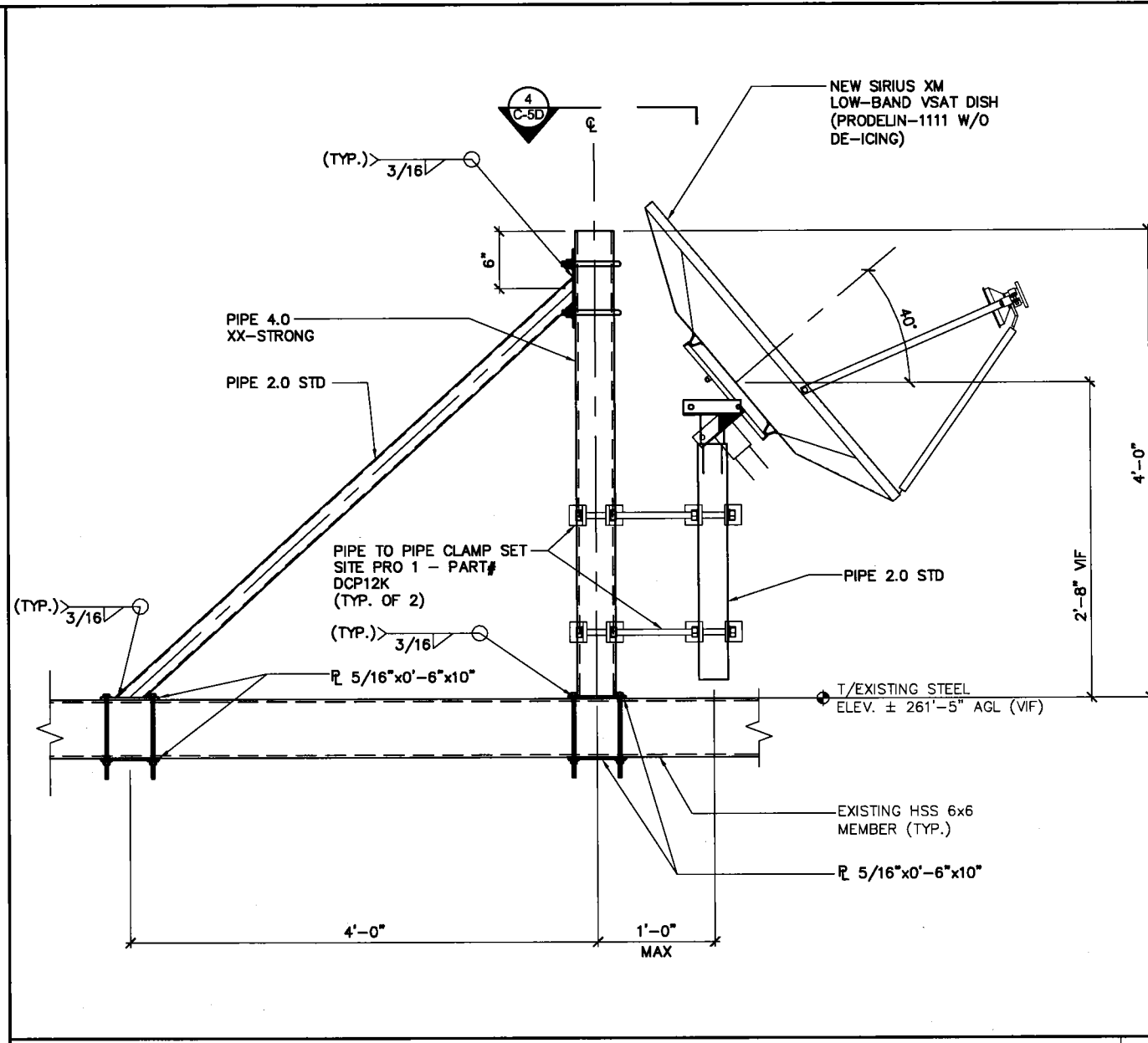
CHECKED BY:	AG		
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#	DATE	DESCRIPTION	INT.
01	01/13/17	90% REVIEW	KC
03	03/14/17	REVISION	KC
03	03/28/17	REVISION	KC
04	04/03/17	FINAL	KC



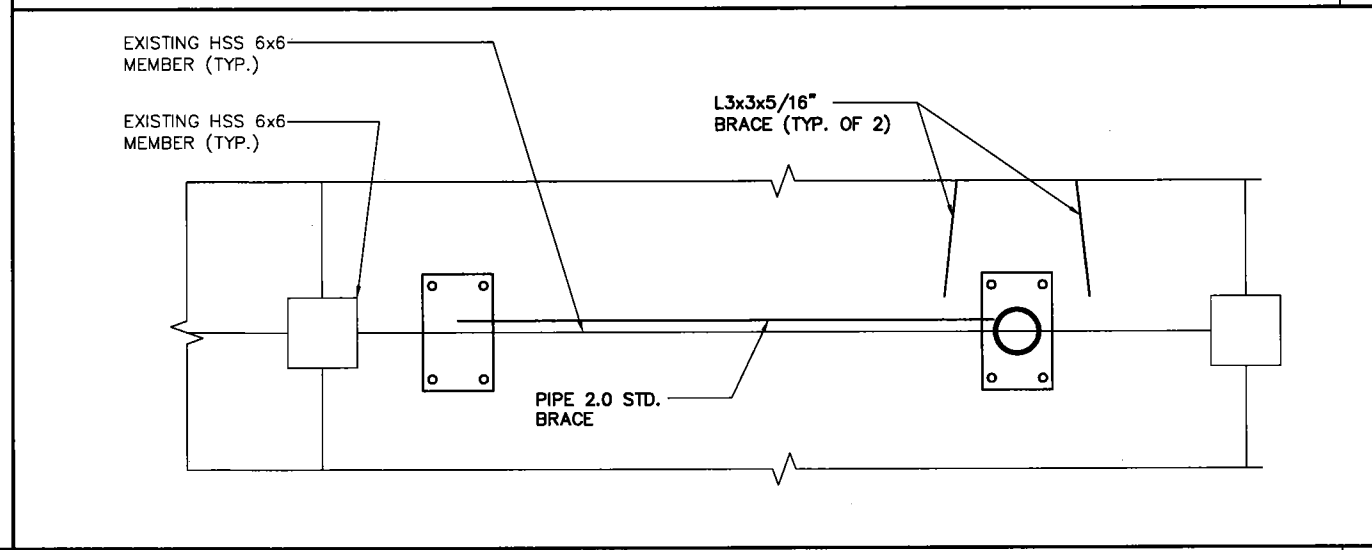
SITE NAME	400 BEALE STREET
SITE I.D.	SFX502T
SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	MOUNTING DETAILS
SHEET NUMBER	C-5C



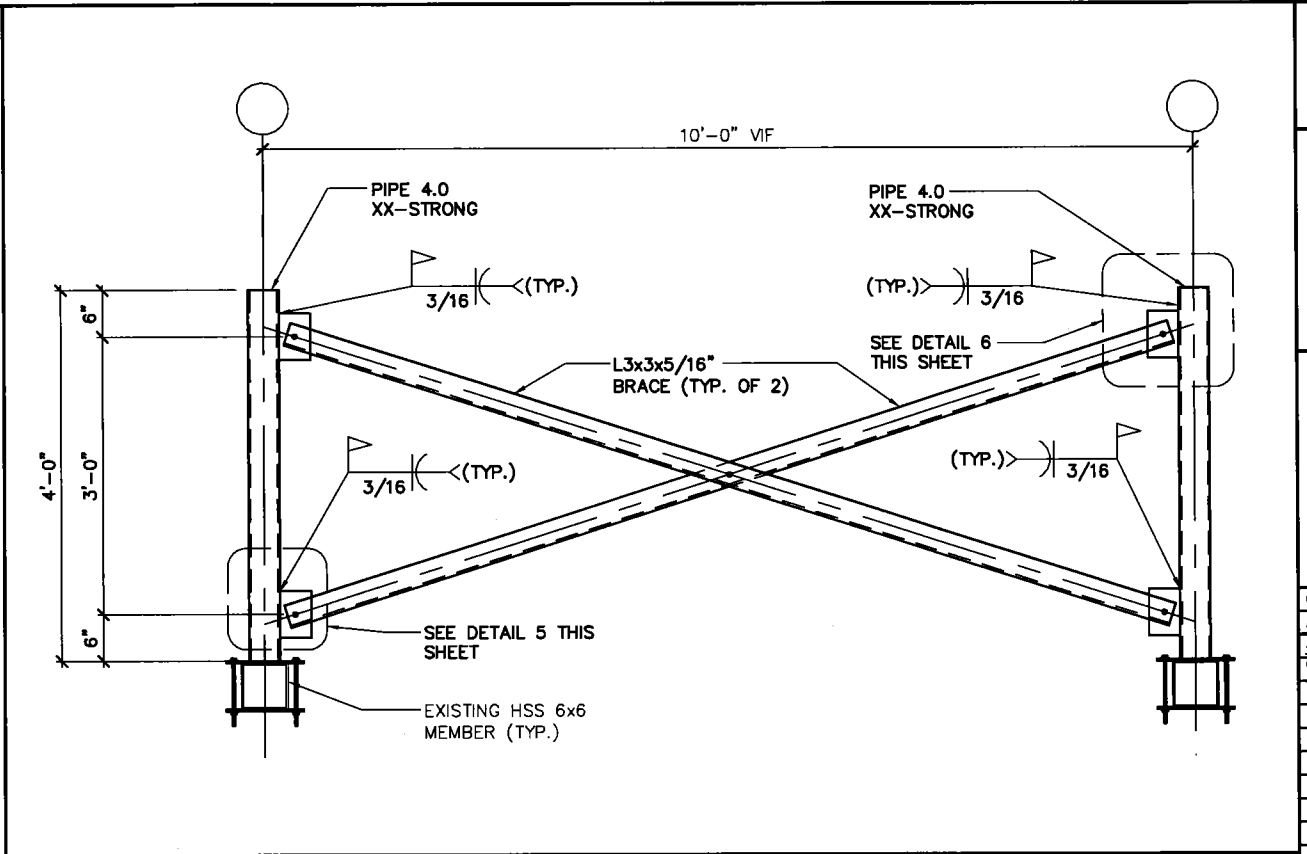
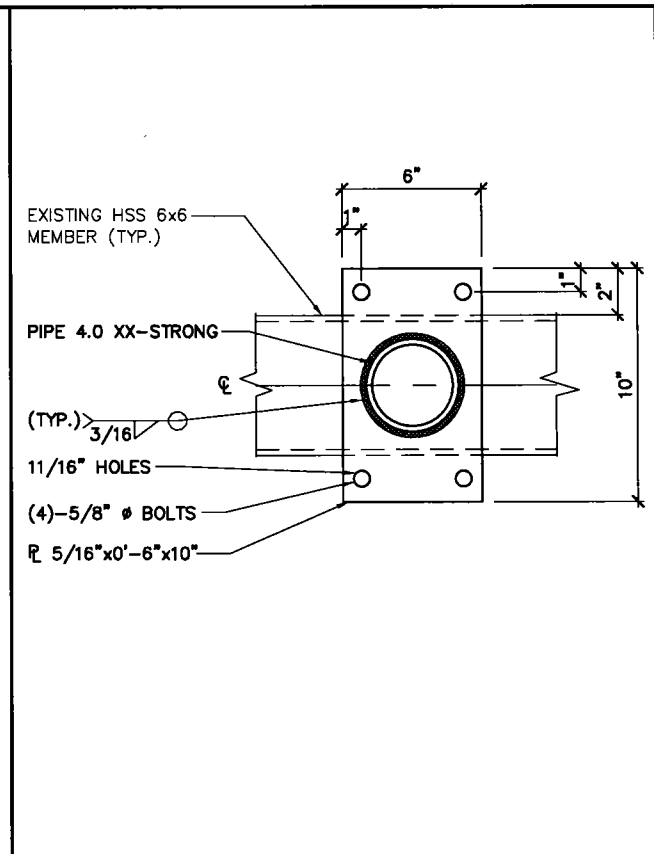
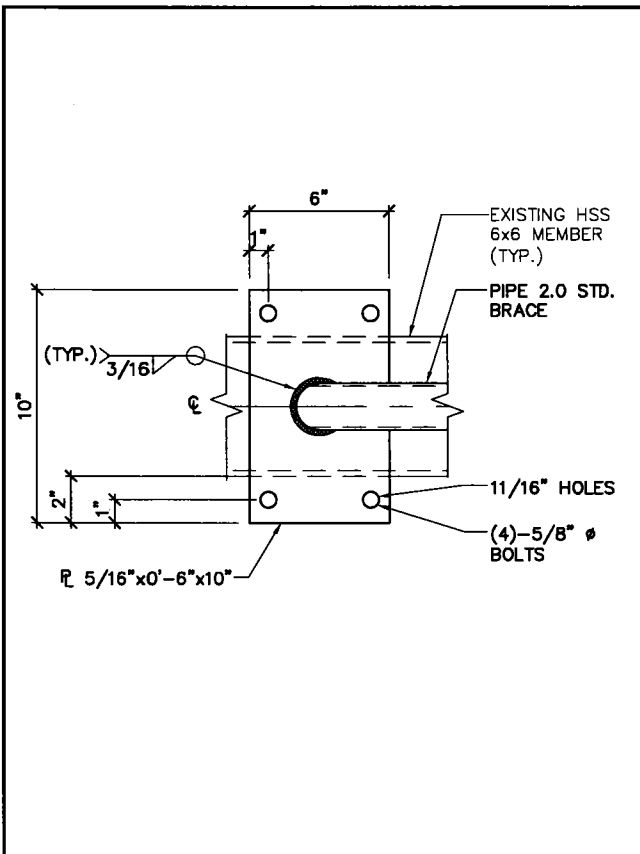
NEW DISH ANTENNAS FRAMING PLAN SCALE: 1/4" = 1'-0" 1



NEW DISH ANTENNAS MOUNTING STRUCTURE SECTION SCALE: 3/4" = 1'-0" 2



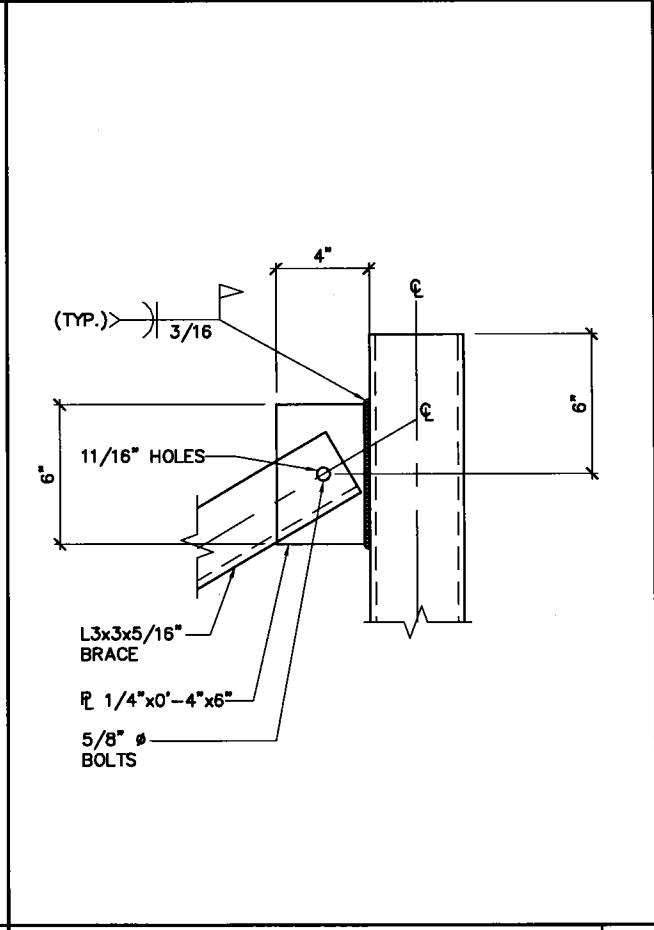
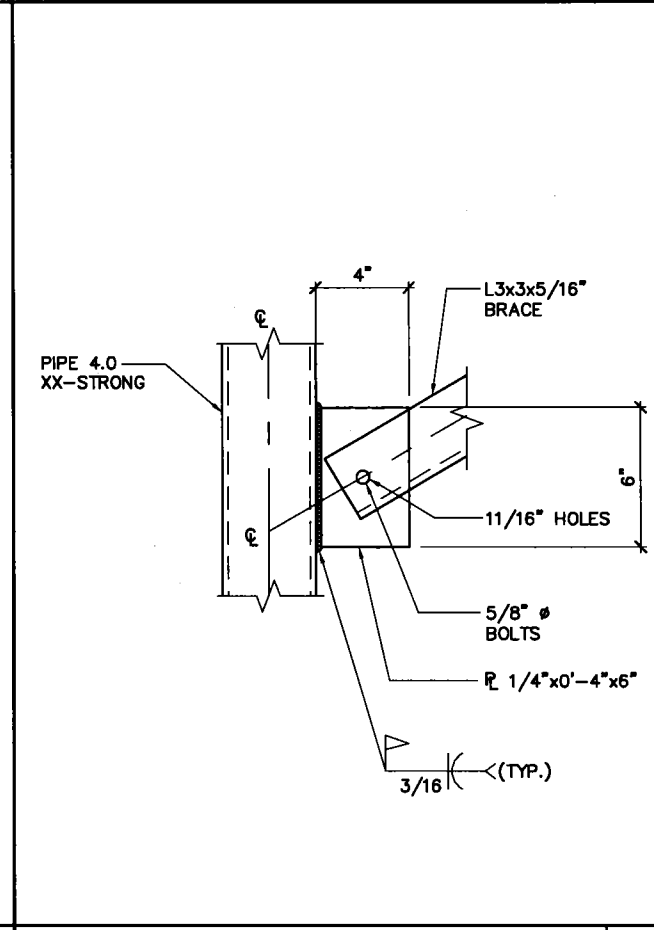
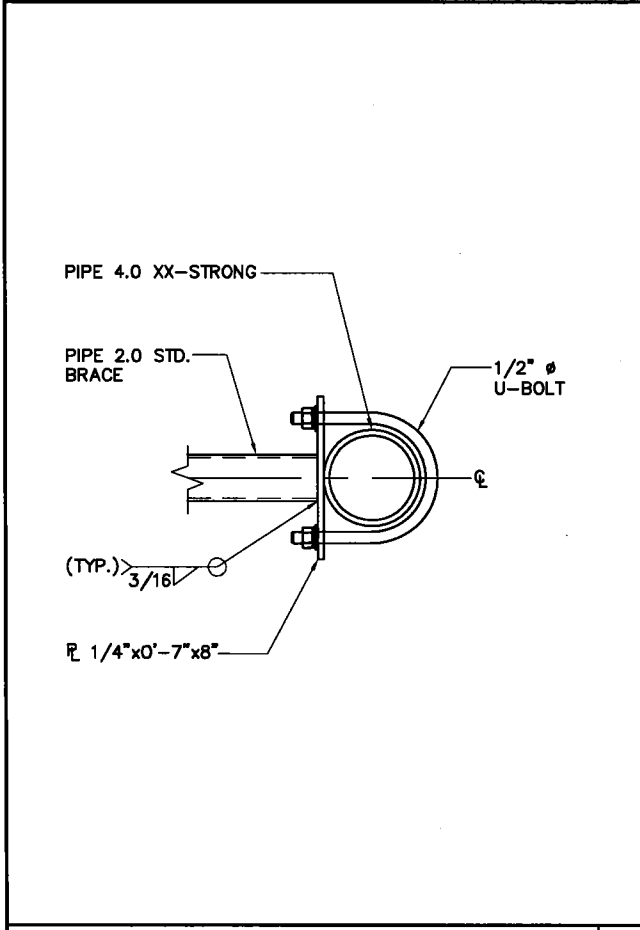
DETAIL SCALE: 3/4" = 1'-0" 3



DETAIL SCALE: 1-1/2" = 1'-0" 1

DETAIL SCALE: 1-1/2" = 1'-0" 2

X - BRACE DETAIL SCALE: 1/2" = 1'-0" 3



NOT USED SCALE: NTS 7

DETAIL SCALE: 1-1/2" = 1'-0" 4

DETAIL SCALE: 1-1/2" = 1'-0" 5

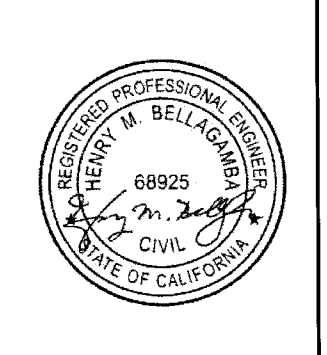
DETAIL SCALE: 1-1/2" = 1'-0" 6

Sirius XM
SATELLITE RADIO

HPCC
WIRELESS SERVICES
22 SHELTER ROCK LN.
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	03/28/17	REVISION	KC
	04/03/17	FINAL	KC



SITE NAME	400 BEALE STREET
SITE I.D.	SFX502T
SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	MOUNTING DETAILS
SHEET NUMBER	C-5D

NEW ANTENNA CONFIGURATION											
ANTENNA								CABLE			
ANTENNA NUMBER	NEW OR EXISTING	ANTENNA MANUFACTURER	ANTENNA TYPE	MODEL NUMBER	AZIMUTH (TN)	TILT (+ OR -)	☐ OF ANTENNA FROM GROUND LEVEL (FT)	NEW OR EXISTING	CABLE TYPE	CABLE SIZE (DIA. IN)	CABLE LENGTH (FT)
1	NEW	TIL-TEK	PANEL	TA-2304-2-DAB-L-045	40°	0°	264'	NEW	LDFR-50A	1/2"	45'
2	NEW	PRODELIN	VSAT	1111 W/O DE-ICING	145°	40°	264'	NEW	RG6-QS	0.298"	75'
3	NEW	TILTEK	RX	TA-2324-LHCP	129°	32°	264'	NEW	LDF4-50A	1/2"	60'
4	NEW	TRIMBLE	GPS	57860-30	N/A	N/A	266'	NEW	RG6-QS	.298	50'



SATELLITE RADIO



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NEW EQUIPMENT SCHEDULE

CABINET NUMBER	CABINET MANUFACTURER	CABINET TYPE	MODEL NUMBER	NOTES
1	UBS	REPEATER	DRU-200W	

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NEW POWER SCHEDULE

AMPERE	VOLTAGE	PHASE	NOTES
40 AMPS	208/120V	3	UTILIZE EXISTING PANEL INSIDE ELECTRICAL ROOM ON 26TH FLOOR

#	DATE	DESCRIPTION	INT.
	01/13/17	90% REVIEW	KC
	03/14/17	REVISION	KC
	03/28/17	REVISION	KC
	04/03/17	FINAL	KC



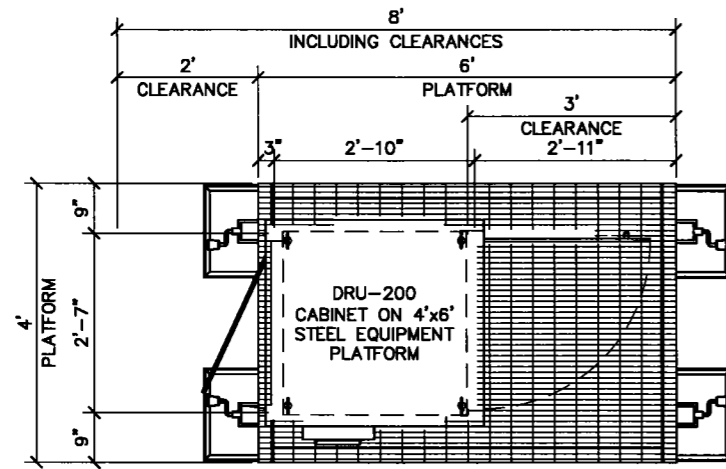
SITE NAME
400 BEALE STREET

SITE I.D.
SFX502T

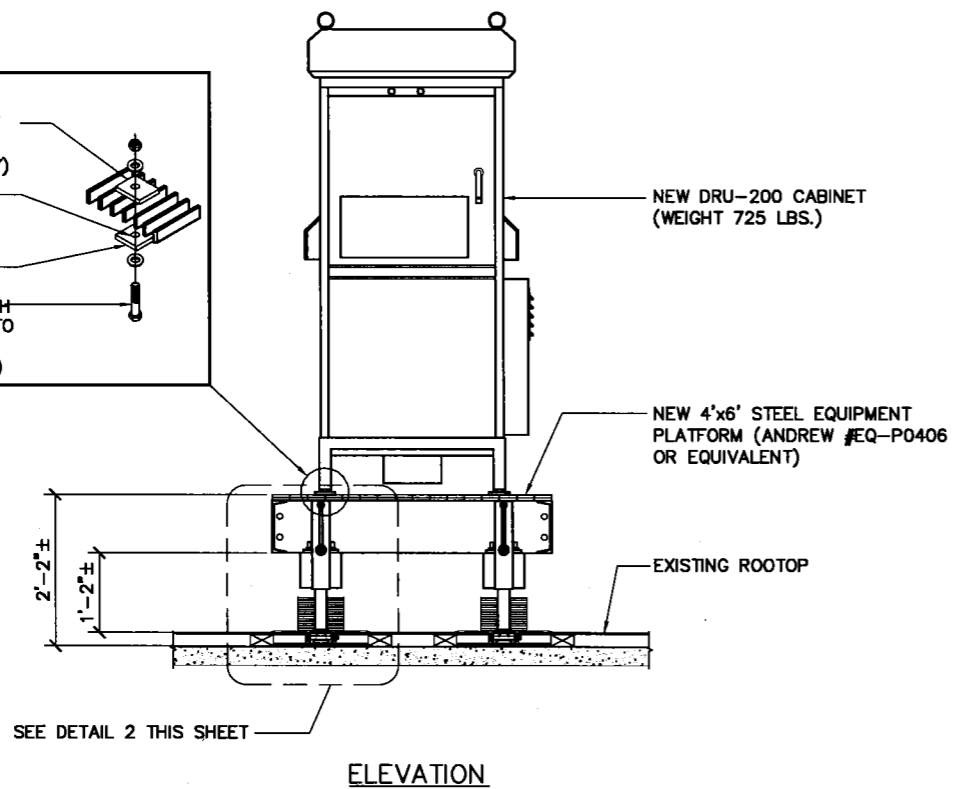
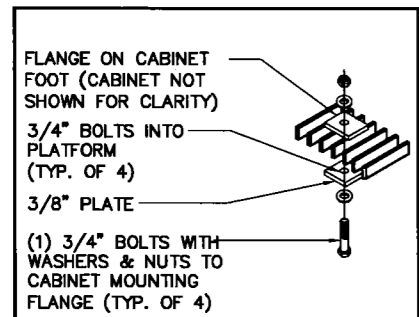
SITE ADDRESS
**400 BEALE STREET
SAN FRANCISCO, CA 94105**

SHEET NAME
ANTENNA SCHEDULES

SHEET NUMBER
C-6



PLAN



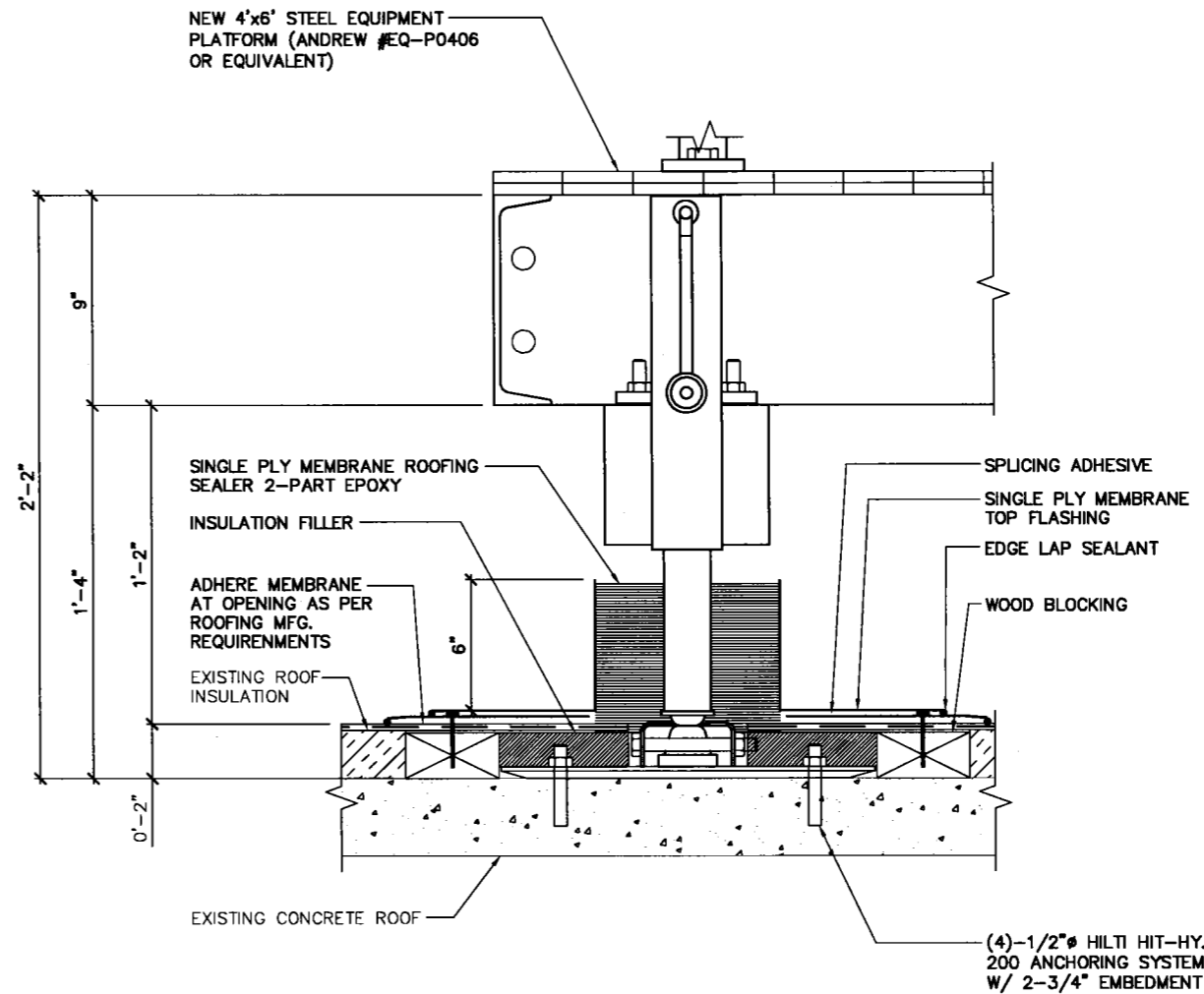
ELEVATION

UBS DRU-200W CABINET DETAIL

SCALE: 3/8" = 1'-0" 1

MOUNTING DETAIL

SCALE: N.T.S. 2



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	03/28/17	REVISION	KC
	04/03/17	FINAL	KC



SITE NAME	400 BEALE STREET
SITE I.D.	SFX502T
SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	EQUIPMENT SPECS
SHEET NUMBER	C-7

SERVICE EQUIPMENT NOTES:

1. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS
2. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK

CONDUCTOR NOTES:

1. ALL CONDUCTORS SHALL BE COPPER
2. ALL WIRING SHALL BE COPPER WITH THHN/THWN DUAL RATED 600 VOLTS INSULATION
3. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED

CONDUIT NOTES:

1. SCH 80 PVC CONDUIT SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, OR EXPOSED ABOVE GRADE
2. EMT SHALL BE USED ONLY FOR INTERIOR RUNS AND SHALL HAVE COMPRESSION TYPE FITTINGS
3. SEAL TIGHT, FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE
4. SERVICE CONDUITS SHALL HAVE NO MORE THAN (3) - 90° BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE PULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS
5. ALL CABLES, POWER AND/OR TELEPHONE AND/OR FIBER SYSTEM CONDUITS SHALL HAVE A MINIMUM 24" RADIUS SWEEPS TO EQUIPMENT, PULL BOXES, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES

NEW CABLE GROUNDING NOTES:

1. AVOID DISRUPTION OF EXISTING GROUNDING SYSTEM. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE OWNER
2. CONTRACTOR SHALL CONNECT GROUND KITS TO THE EXISTING GROUND BARS AT THE TOP AND BASE OF TOWER
3. CONTRACTOR SHALL CONNECT GROUND KITS TO THE NEW GROUND BAR BEFORE ENTRY TO CABINET
4. NO BACK TO BACK LUGGING OF GROUNDS

GENERAL GROUNDING NOTES:

1. VERTICAL DROPS SHALL BE 20'-0" OF #2 AWG SOLID TINNED COPPER WIRE. CADWELD TO GROUND BAR
2. ALL BENDS MINIMUM 8" RADIUS
3. APPLY ANTI-OXIDATION COMPOUND TO ALL CONNECTIONS
4. BARE COPPER CONDUCTORS SHALL NOT BE IN CONTACT WITH ANY DISSIMILAR MATERIAL. PLACE ON STANDOFFS, IF NECESSARY TO ALLOW FOR PROPER INSTALLATION
5. SHARP BENDS IN GROUNDING CONDUCTORS SHALL BE AVOIDED. 90° BENDS SHALL NOT BE USED
6. ALL GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AS POSSIBLE. THE SHORTEST PRACTICAL ROUTE SHALL BE CHOSEN WITH THE LEAST AMOUNT OF BENDS AND SPLICES. USE THIS RULE AT ALL TIMES
7. ALL CONNECTIONS TO GROUND BARS SHALL BE WITH A 2-HOLE LUG UNLESS OTHERWISE SPECIFIED
8. WHEN GROUNDING MORE THAN ONE PIECE OF EQUIPMENT, DO NOT USE THE EQUIPMENT AS A GROUNDING CONDUCTOR. DOUBLE-STACKING OF LUGS SHALL BE USED TO GET FROM EQUIPMENT TO EQUIPMENT
9. REMOVE ALL PAINT BENEATH THE SURFACE OF GROUND LUGS



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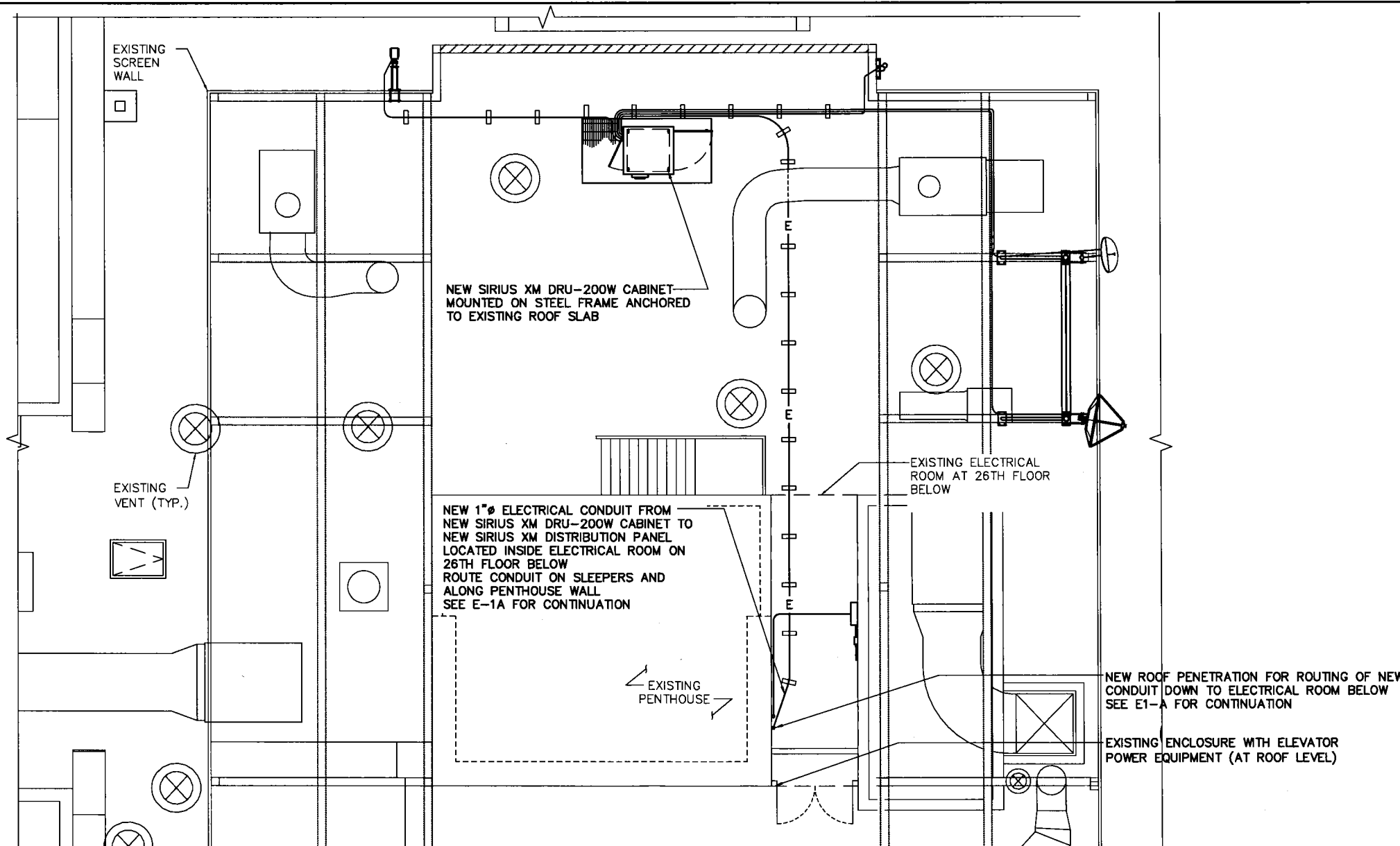


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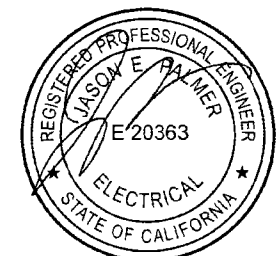
ELECTRICAL NOTES

SCALE: N.T.S. 1

NOTE:
CONTRACTOR TO VERIFY AVAILABILITY OF EXISTING CONDUIT AND REUSE WHEN POSSIBLE



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SITE NAME
400 BEALE STREET

SITE I.D.
SFX502T

SITE ADDRESS
**400 BEALE STREET
SAN FRANCISCO, CA 94105**

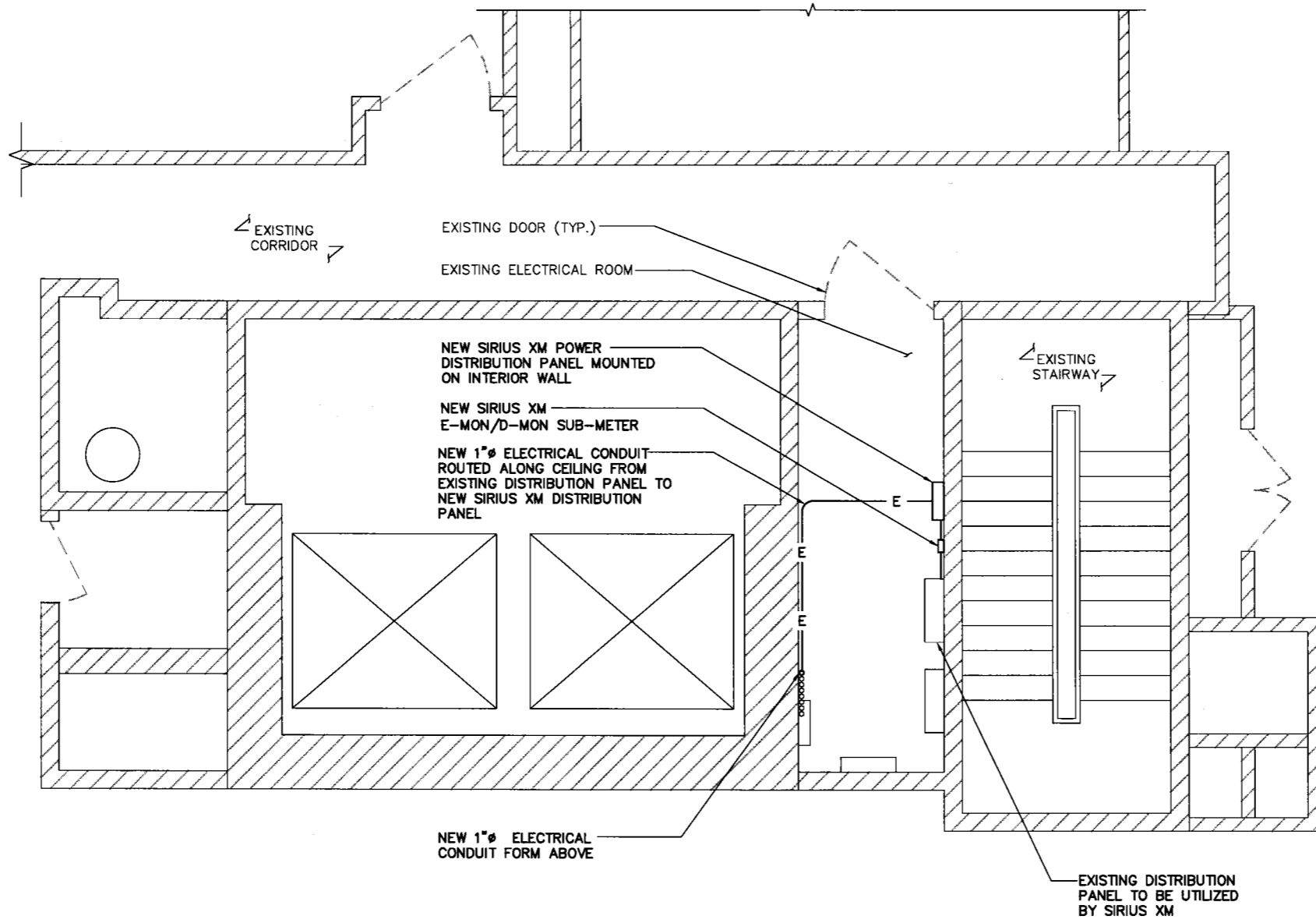
SHEET NAME
UTILITY PLAN AND NOTES

SHEET NUMBER
E-1

FINAL UTILITY PLAN

SCALE: 1/8" = 1'-0" 2

NOTE:
CONTRACTOR TO VERIFY AVAILABILITY
OF EXISTING CONDUIT AND REUSE
WHEN POSSIBLE



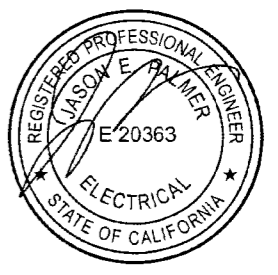
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SAN FRANCISCO, CA 94105

SHEET NAME
UTILITY PLAN
AND NOTES

SHEET NUMBER
E-1A





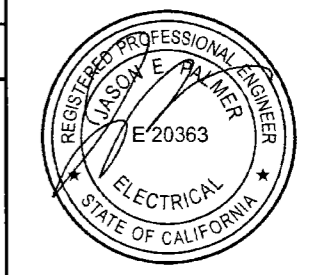
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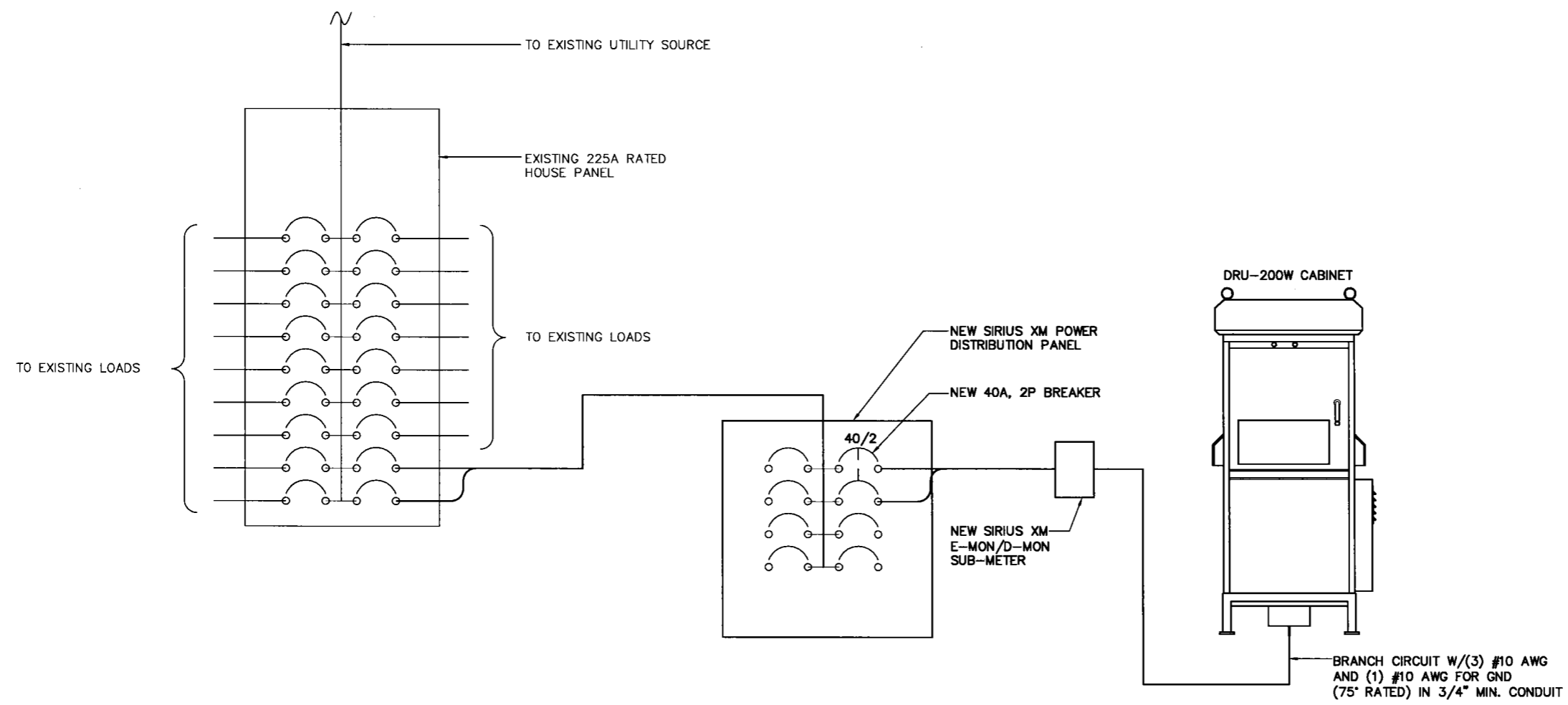
SITE NAME
400 BEALE STREET

SITE I.D.
SFX502T

SITE ADDRESS
**400 BEALE STREET
SAN FRANCISCO, CA 94105**

SHEET NAME
**FINAL SINGLE
LINE DIAGRAM/
PANEL SCHED.**

SHEET NUMBER
E-2



FINAL SINGLE LINE DIAGRAM

SCALE: N.T.S. 1

SITE NUMBER: SFX502T		MODEL NUMBER: TBD	
VOLTAGE: 240V/120		PHASE: 3	
MAIN BREAKER: 225AMP MLO		BUSS RATING: 225 AMPS	
MOUNT: SURFACE		NEUTRAL BAR: YES	
ENCLOSURE TYPE: NEMA 1		N to GROUND BOND: YES	
PANEL STATUS: EXISTING		INTERNAL TVSS: YES	
WIRE: 4		AIC: 10,000	
		GROUND BAR: YES	

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT	
1	TELEPHONE BOARD PLUGS	20	1	ON	200	1.00	400		1.00	200	ON	1	20	TELEPHONE BOARD PLUGS	2	
3	TELEPHONE BOARD PLUGS	20	1	ON	200	1.00		400	1.00	200	ON	1	20	TELEPHONE BOARD PLUGS	4	
5	TELEPHONE BOARD PLUGS	20	1	ON	200	1.00	400		1.00	200	ON	1	20	SPARE	6	
7	SPARE	20	1	ON	200	1.00		400	1.00	200	ON	1	20	SPARE	8	
9	SPACE	-	-	-	0	0.00	0		0.00	0	-	-	-	SPACE	10	
11	SPACE	-	-	-	0	0.00		0	0.00	0	-	-	-	SPACE	12	
13	SPACE	-	-	-	0	0.00	0		0.00	0	-	-	-	SPACE	14	
15	TEMP POWER	40	2	ON	2194	1.25		2742.5	0.00	0	-	-	-	SPACE	16	
17		-	-	N/A	2194	1.25	2743		0.00	0	-	-	-	SPACE	18	
							3543	3543	VA			TOTAL KVA	7.09			
													AMPS	29.52		

FINAL PANEL SCHEDULE

SCALE: N.T.S. 2

SERVICE EQUIPMENT NOTES:

- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.

CONDUCTOR NOTES:

- ALL CONDUCTORS SHALL BE COPPER
- ALL WIRING SHALL BE COPPER WITH THHN/THWN DUAL RATED 600 VOLTS INSULATION
- GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED.

CONDUIT NOTES:

- SCH 80 PVC CONDUIT SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, OR EXPOSED ABOVE GRADE
- EMT SHALL BE USED ONLY FOR INTERIOR RUNS AND SHALL HAVE COMPRESSION TYPE FITTINGS
- SEAL TIGHT, FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE
- SERVICE CONDUITS SHALL HAVE NO MORE THAN (3) - 90° BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE PULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS
- ALL CABLES, POWER AND/OR TELEPHONE AND/OR FIBER SYSTEM CONDUITS SHALL HAVE A MINIMUM 24" RADIUS SWEEPS TO EQUIPMENT, PULL BOXES, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES

NEW CABLE GROUNDING NOTES:

- AVOID DISRUPTION OF EXISTING GROUNDING SYSTEM. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE OWNER
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- CONTRACTOR SHALL CONNECT GROUND KITS TO THE NEW GROUND BAR BEFORE ENTRY TO CABINET
- NO BACK TO BACK LUGGING OF GROUNDS

GENERAL GROUNDING NOTES:

- VERTICAL DROPS SHALL BE 20"-0" OF #2 AWG SOLID TINNED COPPER WIRE. CADWELDED TO GROUND BAR.
- ALL BENDS MINIMUM 8" RADIUS.
- APPLY ANTI-OXIDATION COMPOUND TO ALL CONNECTIONS.
- BARE COPPER CONDUCTORS SHALL NOT BE IN CONTACT WITH ANY DISSIMILIAR MATERIAL PLACE ON STANDOFFS, IF NECESSARY TO ALLOW FOR PROPER INSTALLATION.
- SHARP BENDS IN GROUNDING CONDUCTORS SHALL BE AVOIDED. 90° BENDS SHALL NOT BE USED.
- ALL GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AS POSSIBLE. THE SHORTEST PRACTICAL ROUTE SHALL BE CHOSEN WITH THE LEAST AMOUNT OF BENDS AND SPLICES. USE THIS RULE AT ALL TIMES.
- ALL CONNECTIONS TO GROUND BARS SHALL BE WITH A 2-HOLE LUG UNLESS OTHERWISE SPECIFIED.
- WHEN GROUNDING MORE THAN ONE PIECE OF EQUIPMENT, DO NOT USE THE EQUIPMENT AS A GROUNDING CONDUCTOR. DOUBLE-STACKING OF LUGS SHALL BE USED TO GET FROM EQUIPMENT TO EQUIPMENT.
- REMOVE ALL PAINT BENEATH THE SURFACE OF GROUND LUGS
- GROUND SYSTEM TO BE TESTED TO 5 OHMS OR LESS

NOTES

SCALE: N.T.S.

1

FINAL SINGLE LINE GROUNDING DIAGRAM

SCALE: N.T.S.

1

NOT USED

SCALE: N.T.S.

2

GROUND LUG DETAIL

SCALE: N.T.S.

3

COAX GROUND KIT

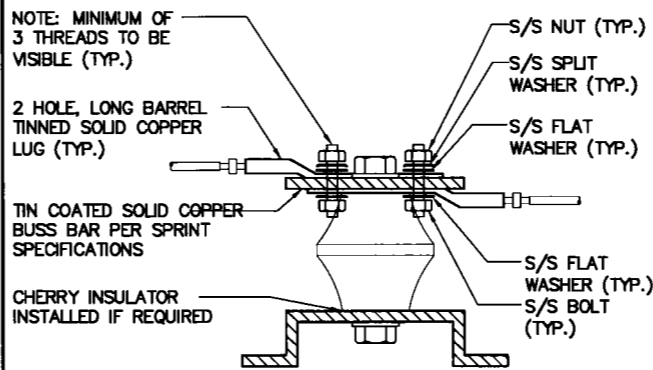
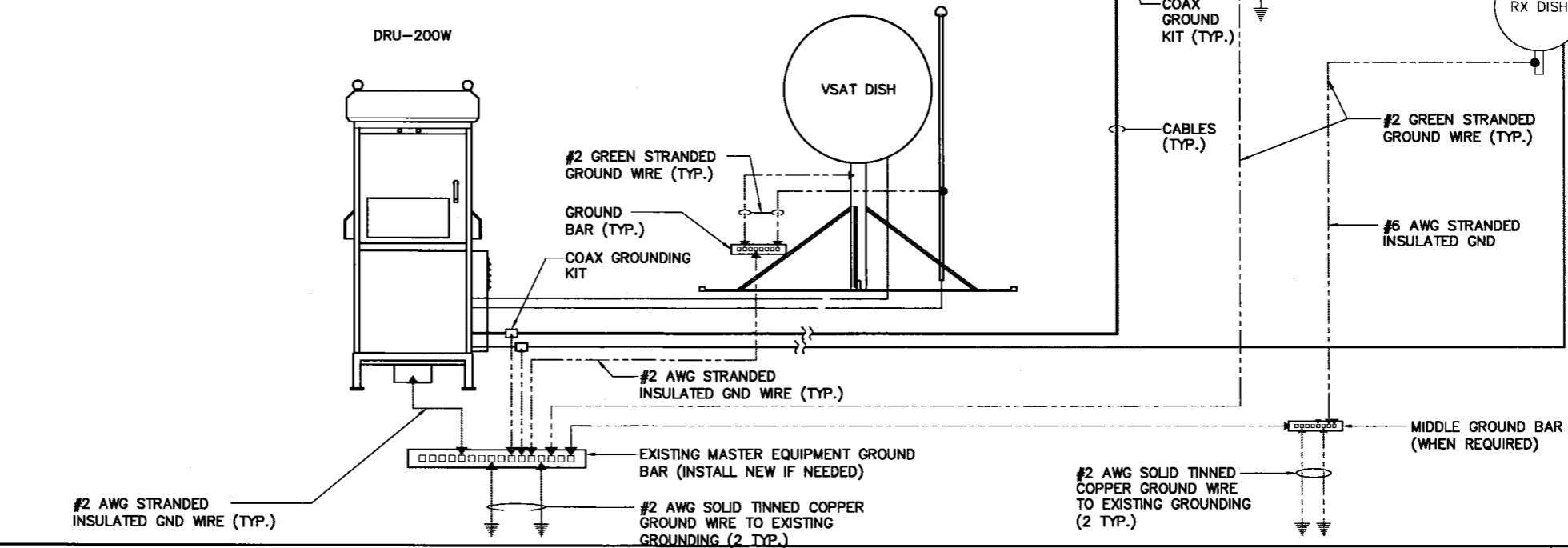
SCALE: N.T.S.

4

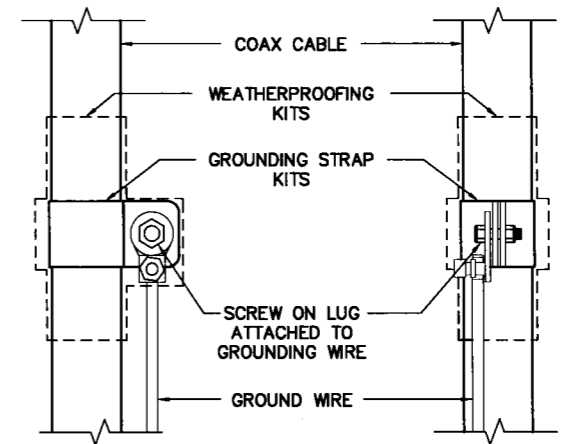
NOTE:
ALL NEW GROUND BARS SHALL BE TIED TO (E) GROUND RING OR BONDED TO (E) GROUND BARS

▲ MECHANICAL CONNECTION ● EXOTHERMIC CONNECTION

GROUND EACH CABINET FROM GROUND BAR INSIDE CABINET TO MASTER GROUND BAR. INSTALL GROMMET AT BOTTOM OF CABINET, 2 HOLE LUG.



- NOTE:** MINIMUM OF 3 THREADS TO BE VISIBLE (TYP.)
- 2 HOLE, LONG BARREL TINNED SOLID COPPER LUG (TYP.)
- TIN COATED SOLID COPPER BUSS BAR PER SPRINT SPECIFICATIONS
- CHERRY INSULATOR INSTALLED IF REQUIRED
- S/S NUT (TYP.)
- S/S SPLIT WASHER (TYP.)
- S/S FLAT WASHER (TYP.)
- S/S FLAT WASHER (TYP.)
- S/S BOLT (TYP.)
- NOTES:**
- ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
 - COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
 - APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.



- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - THIS DETAILS IS TYPICAL FOR EACH CABLE WHERE IT IS SPECIFIED TO BE GROUNDED

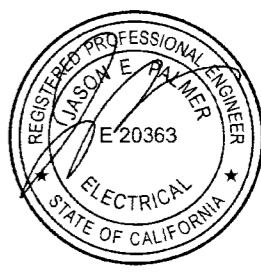


22 SHELTER ROCK LN.
BUILDING C
DANBURY, CT 06810



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

CHECKED BY:	AG		
APPROVED BY:	AR		
#	DATE	DESCRIPTION	INT.
	01/13/17	90% REVIEW	KC
	03/14/17	REVISION	KC
	03/28/17	REVISION	KC
	04/03/17	FINAL	KC



SITE NAME	400 BEALE STREET
SITE I.D.	SFX502T
SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	GROUNDING DETAILS AND NOTES
SHEET NUMBER	E-3



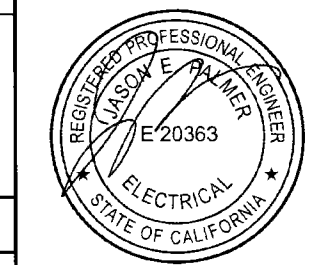
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400 BEALE STREET

SITE I.D.
SFX502T

SITE ADDRESS
400 BEALE STREET
SAN FRANCISCO, CA 94105

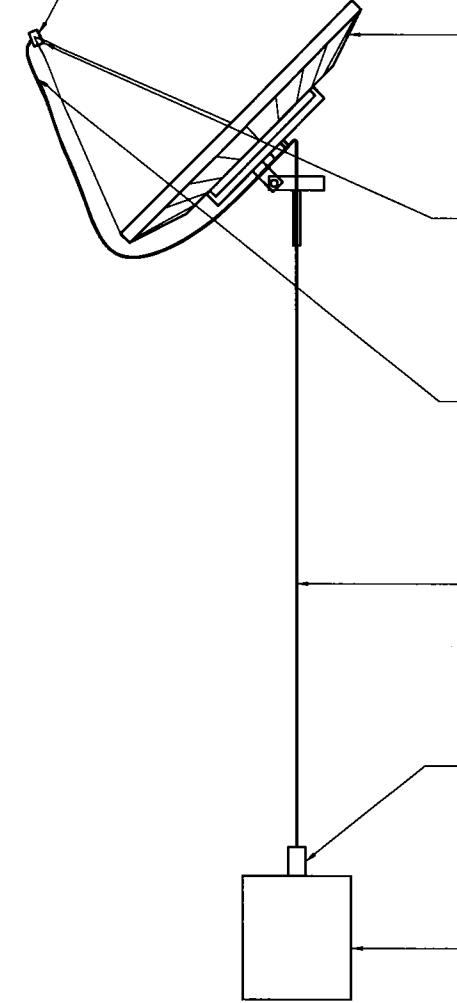
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SITE CONFIGURATIONS MATERIAL LIST

SHEET NUMBER
E-4

FEC# 2015.0042.0025

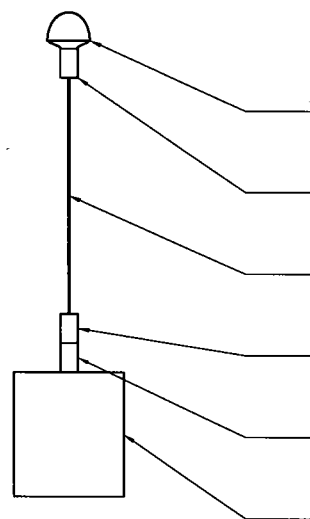
ITEM #	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	VSAT DISH	1.0M	1 NEW	N/A	PRODELIN	1111 WITHOUT DEICING	PRODELIN VSAT DISH ANTENNA	VENDOR
2	LNB	N/A	1 NEW	N/A	NORSAT	4507A	-	VENDOR
3	F-MALE CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNS1P6QS	-	VENDOR
4	COAX CABLE	.298"	1 NEW	75'	BELDEN	RG6-QS	-	VENDOR
5	F-MALE CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNS1P6QS	-	VENDOR
6	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W	-	SIRIUS XM

LNB PART #4507A BY NORSAT F-FEMALE CONNECTOR



VSAT ANTENNA CONFIGURATION SCALE: N.T.S. 1

ITEM #	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	GPS ANTENNA	N/A	1 NEW	N/A	TRIMBLE	57860-30	-	SIRIUS XM
2	F CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNS1P6QS	-	VENDOR
3	COAX CABLE	.298"	1 NEW	50'	TRIMBLE	RG6-QS	-	VENDOR
4	F CONNECTOR	N/A	1 NEW	N/A	THOMAS AND BETTS	SNS1P6QS	-	VENDOR
5	F TO N CONNECTOR	N/A	1 NEW	N/A	EMERSON	26-8020	-	SIRIUS XM
6	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W	-	SIRIUS XM



GPS ANTENNA CONFIGURATION SCALE: N.T.S. 2

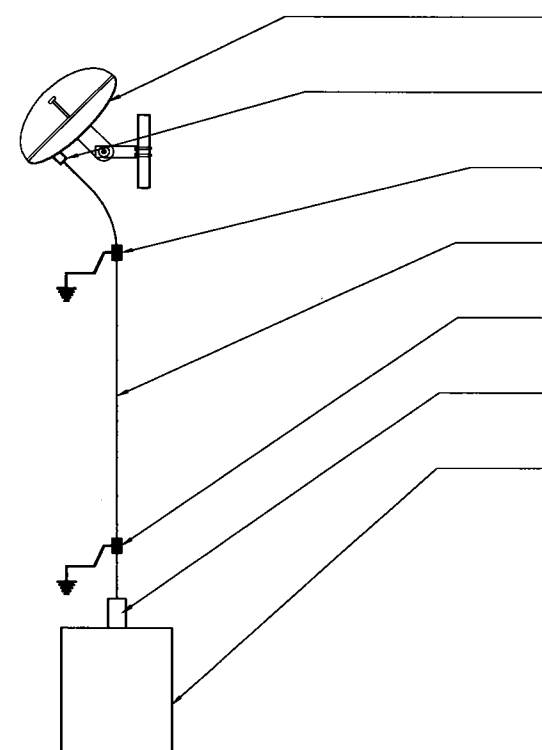


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DANBURY, CT 06810

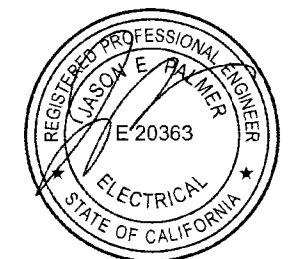


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	03/14/17	REVISION	KC
	03/28/17	REVISION	KC
	04/03/17	FINAL	KC



ITEM#	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	HB RX DISH (2330-2345 MHz)	25.25"	1 NEW	N/A	TIL-TEK	TA-2324-LHCP	CIRCULAR POLARIZED SOLID PARABOLIC DISH ANTENNA	SIRIUS XM
2	7-16 DIN MALE CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4TDM-PSA	ATTACH TO CABLE PRIOR TO INSTALLATION	VENDOR
3	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	SG12-06B2A	INCLUDES 59" #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
4	COAXIAL CABLE	1/2" ϕ	1 NEW	60'	ANDREW	LDF4-50A	MINIMUM BEND RADIUS PER MANUFACTURER SPECS	VENDOR
5	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	SG12-06B2A	INCLUDES 59" #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
6	N MALE CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4TNM-PSA	-	VENDOR
7	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W	-	SIRIUS XM



SITE NAME	400 BEALE STREET
SITE I.D.	SFX502T
SITE ADDRESS	400 BEALE STREET SAN FRANCISCO, CA 94105
SHEET NAME	SITE CONFIGURATIONS MATERIAL LIST
SHEET NUMBER	E-4A



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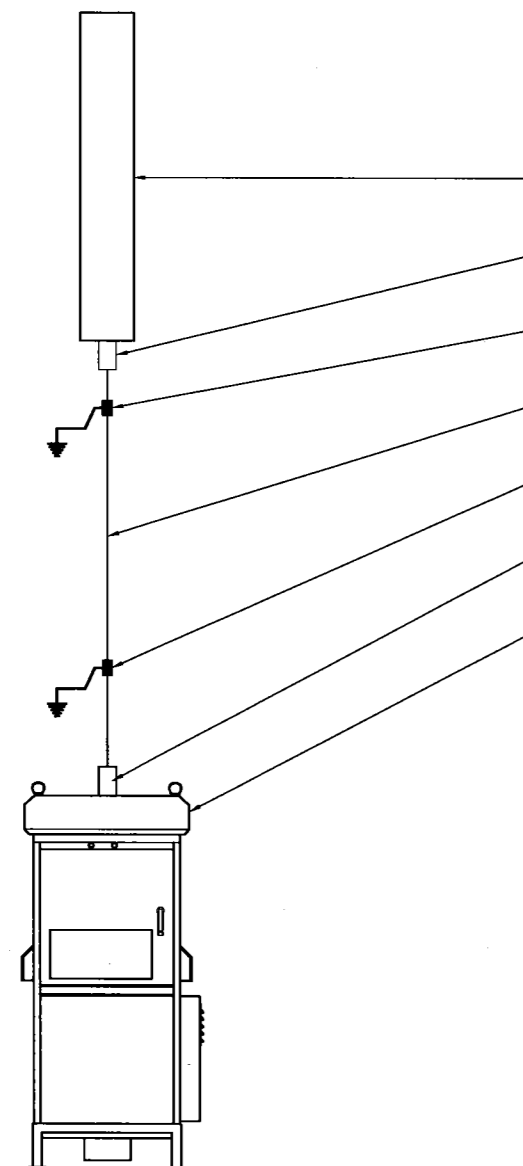


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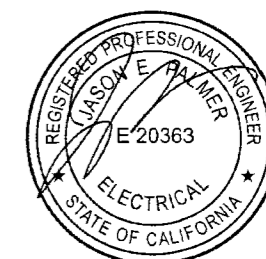
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04/03/17	FINAL	KC	



ITEM #	DESCRIPTION	SIZE	QUANTITY	LENGTH	MANUFACTURER	PART NUMBER	REMARKS	PROVIDED BY
1	TRANSMIT ANTENNA	N/A	1 NEW	N/A	TIL-LEK	TA-2304-2-DAB-L-045		SIRIUS XM
2	7-16 DIN MALE CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4TDM-PSA	ATTACH TO CABLE PRIOR TO INSTALLATION	VENDOR
3	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	SG12-06B2A	INCLUDES 59" #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
4	COAXIAL CABLE	1/2"	1 NEW	60'	ANDREW	LDF4-50A	MINIMUM BEND RADIUS PER MANUFACTURER SPECS	VENDOR
5	GROUNDING KIT	N/A	1 NEW	N/A	ANDREW	SG12-06B2A	INCLUDES 59" #6 GROUND WIRE, INSTALL 1 KIT EVERY 100 FT. MIN.	VENDOR
6	7/8" EIA CONNECTOR	N/A	1 NEW	N/A	ANDREW	L4E78-PS	ATTACH TO CABLE PRIOR TO INSTALLATION	VENDOR
7	CABINET	N/A	1 NEW	N/A	UBS	DRU-200W		SIRIUS XM



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SAN FRANCISCO, CA 94105

SHEET NAME
SITE CONFIGURATIONS MATERIAL LIST

SHEET NUMBER
E-5