SAN FRANCISCO
PLANNING DEPARTMENT

Executive Summary
Conditional Use Authorization
HEARING DATE: AUGUST 24, 2017

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

Reception:
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Information:
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Date:	August 11, 2017
Case No.:	**2015-014626CUA**
Project Address:	**1025 Fillmore Street**
Current Zoning:	RM-4 (Residential –Mixed, High Density) Fillmore Street NCT (Neighborhood Commercial Transit) District 40-X Height and Bulk District 50-X Height and Bulk District
Block/Lot:	0774/021
Project Sponsor:	T-Mobile, represented by Jenny Wun 240 Stockton Street, 3rd Floor San Francisco, CA 94108
Staff Contact:	Ashley Lindsay – (415) 575-9178 Ashley.Linday@sfgov.org
Recommendation:	Approval with Conditions

PROJECT DESCRIPTION

The proposal is to modify an existing T-Mobile Macro Wireless Telecommunications Services ("WTS") facility. There are three (3) existing unscreened antennas on the property, split into three (3) sectors of one (1) antenna each. Each sector measures 9'-0" x 3'-4" x 1'-0" and is facade mounted outside of the building footprint at three (3) separate facades. Sector A is located along north side of the building, Sector B along the south side of the building, and Sector C along the western side of the building.

The modification consists of the installation of three (3) new panel antennas, each measuring 96.3" x 11.9" x 7.1": one (1) Sector A antenna, one (1) Sector B antenna, and one (1) sector C antenna. Three (3) new FRP Box screens with bottoms are to be installed around each sector for a total volume of 89.91 cubic feet. Three (3) new radio relay units (RRUs) will be installed, and will not be seen from public views: two (2) RRUs on (2) separate penthouse roofs, and one (1) inside the mechanical room within the building.

SITE DESCRIPTION AND PRESENT USE

The Project Site is located on Assessor's Block 0774, Lot 021. The lot is located at the corner of McAllister Street and Fillmore Street. There are three (3) existing antennas on the property, split into three (3) sectors of one (1) antenna each. Each sector is facade mounted toward the top of the building. The building was developed as part of the Western Additional Redevelopment Area A-2 in 1974, and contains approximately 255 dwelling units. The three (3) existing antennas were installed after receiving approval of a Conditional Use Authorization (1998.975C) from the Planning Commission.

SURROUNDING PROPERTIES AND NEIGHBORHOOD

The Project Site is situated within the Western Addition neighborhood. Surrounding uses include a mix of residential uses throughout the RM-4 zoned District, and mixed-use buildings along the Fillmore NCT corridor.

ENVIRONMENTAL REVIEW

The Project is exempt from the California Environmental Quality Act ("CEQA") as a Class 3 categorical exemption (Construction of New Communications Facilities). The categorical exemption and all pertinent documents may be found in the files of the Planning Department, as the custodian of records, at 1650 Mission Street, Suite 400, San Francisco.

HEARING NOTIFICATION

TYPE	REQUIRED PERIOD	REQUIRED NOTICE DATE	ACTUAL NOTICE DATE	ACTUAL PERIOD
Classified News Ad	20 days	August 4, 2017	August 2, 2017	22 days
Posted Notice	20 days	August 4, 2017	August 4, 2017	20 days
Mailed Notice	20 days	August 4, 2017	August 4, 2017	20 days

PUBLIC COMMENT/COMMUNITY OUTREACH

The Project Sponsor held a community meeting on January 28, 2016 from 5:30pm to 7:00pm at a Conference Room at 1550 Scott Street. Three (3) members of the community attended the meeting.

As of August 14, 2017, the Department has not received any calls or testimony raising concerns about, or expressing support for, the proposed project.

ISSUES AND OTHER CONSIDERATIONS

- On June 27, 2017, the project sponsor submitted an Eligible Facilities Request (EFR) under Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 (commonly known as the "Spectrum Act") in response to Planning's request for screening around existing and proposed antennas.

  The Spectrum Act provides that state and local governments "may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that

does not substantially change the physical dimensions of such tower or base station." Pursuant to regulations promulgated by the Federal Communications Commission (FCC), a modification "substantially changes" the physical dimensions of a tower or base station, as measured from the dimensions of the tower or base station inclusive of any modifications approved prior to the passage of the Spectrum Act , only if it meets any of the following criteria:

- For towers in the rights-of-way and for all base stations, it increases the height of the tower or base station by more than ten percent (10%) or ten (10) feet, whichever is greater;
- For those towers in the rights-of-way and for all base stations, it protrudes from the edge of the structure more than six (6) feet.
- The modification involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four (4) cabinets.
- The modification entails any excavation or deployment outside the current site of the tower or base station.
- The modification would defeat the existing concealment elements of the tower or base station.
- The modification does not comply with conditions associated with the prior approval of the tower or base station unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds.

The City may continue to enforce and condition approval on compliance with generally applicable building, structural, electrical, and safety codes and with other laws codifying objective standards reasonably related to health and safety.

Pursuant to FCC regulations, a reviewing agency must approve an EFR within 60 days from the date on which the reviewing agency determines the application is complete—provided that the applicant provides notice in writing that the review period has expired—or the application will be deemed granted.

- Based on the zoning and land use, the proposed WTS facility is considered a Location Preference 2 Site (Co-Location), which is considered a "preferred location" according to the WTS Facilities Siting Guidelines, as the Project Site is a structure within the NCT District and RM-4 District that already has an existing facility.

- Given the directional nature of the panel antennas, their specific orientation, and their placement on the roof, the RF emissions created by the proposed panel antennas would not result in exposure levels that approach or exceed the public exposure limits set by the Federal Communications Commission (FCC). As noted on Radio-Frequency (RF) emissions report, the combined maximum RF exposure would be 0.62% of the public exposure limit set by the FCC. The antennas are not accessible to any unauthorized persons due to their height and location on the roof. Health and safety aspects (e.g. engineering review for structural loads, and backup battery storage) of all wireless Projects are reviewed by the Department of Public Health, San Francisco Fire Department, and the Department of Building Inspection.

- The proposed macro WTS facility would not significantly impair commercial and residential activities within the Project Site.

- T-Mobile has an updated Five Year Plan on file with the Department that includes the approximate longitudinal and latitudinal coordinates of proposed locations, including the Project Site.

- All required public notifications were conducted in compliance with the Planning Code and adopted WTS policies.

REQUIRED COMMISSION ACTION

Pursuant to Sections 303, 747, and 209.2 of the Planning Code, a Conditional Use Authorization is required for a modification to an existing macro WTS facility (Utility and Infrastructure Use) in the Fillmore Street NCT and RM-4 Zoning Districts.

BASIS FOR RECOMMENDATION

Per WTS Facilities Siting Guidelines implemented in 1996, carriers are encouraged to screen and integrate antennas and equipment on rooftops. Although the Department would typically recommend to the Commission that the installation be **approved with conditions** to move the façade-mounted antennas to the roof and screen them, the Department is unable to make this recommendation as a result of T-Mobile's Eligible Facilities Request (EFR) under Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 (commonly known as the "Spectrum Act").

As such, the Department finds the project to be necessary, desirable, and compatible with the surrounding neighborhood, in accordance with Section 303 of the Planning Code, for the following reasons:

- The Project is on balance, consistent with the Objectives and Policies of the General Plan, as outlined in the draft Motion.
- The expected RF emissions fall well within the limits established by the Federal Communications Commission (FCC).
- According to the Wireless Telecommunications Services (WTS) Facilities Siting Guidelines, the Project Site is a preferred location, as a Location Preference 2 (Collocation) Site.
- Based on propagation maps provided by T-Mobile, the Project would provide enhanced coverage in an area that currently experiences gaps in coverage and capacity.
- Based on the analysis provided by T-Mobile, the Project would provide additional capacity in an area that currently experiences insufficient service during periods of high data usage.
- Based on independent third-party evaluation, the maps, data, and conclusions about service coverage and capacity provided by T-Mobile are accurate.

RECOMMENDATION:	**Approve as Proposed**

Attachments:
Draft Conditional Use Authorization Motion
Block Book Map

Sanborn Map
Zoning Map
Aerial Map
Photo Simulations
Radio Frequency Report
Department of Public Health Approval
Community Outreach Report
Coverage Maps
Independent Evaluation
Reduced Plans

Attachment Checklist

☒	Draft Motion	☒	Project sponsor submittal
☒	Zoning District Map	☒	Drawings: Proposed Project
☐	Height & Bulk Map	☒	Check for legibility
☒	Block Book Map	☒	Community Outreach Report
☒	Sanborn Map		Coverage Maps
☒	Aerial Map	☒	RF Report
☒	Context Photos	☒	DPH Approval
☒	Photo Simulations	☐	Independent Evaluation

Exhibits above marked with an "X" are included in this packet AL Planner's Initials

I:\Current Planning\Wireless Facilities\Conditional Use Permits\965 Sutter Street (T-Mobile Modification)\PC Materials

SAN FRANCISCO
PLANNING DEPARTMENT

Subject to: (Select only if applicable)

☐ Affordable Housing (Sec. 415)
☐ Jobs Housing Linkage Program (Sec. 413)
☐ Downtown Park Fee (Sec. 412)
☐ First Source Hiring (Admin. Code)
☐ Child Care Requirement (Sec. 414)
☐ Other

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Planning Commission Draft Motion

HEARING DATE: AUGUST 24, 2017

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Project Address:	1025 Fillmore Street
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Block/Lot:	0774/021
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Staff Contact:	Ashley Lindsay – (415) 575-9178 Ashley.Lindsay@sfgov.org

ADOPTING FINDINGS RELATING TO THE APPROVAL OF A CONDITIONAL USE AUTHORIZATION UNDER PLANNING CODE SECTIONS 303, 747, AND 209.2 TO MODIFY AN EXISTING T-MOBILE MACRO WIRELESS TELECOMMUNICATIONS SERVICES FACILITY CONSITING OF INSTALLATION OF THREE (3) NEW PANEL ANTENNAS, INSTALLATION OF THREE (3) NEW FRP BOX SCREENS, AND INSTALLATION OF ANCILLARY EQUIPMENT AS PART OF THE T-MOBILE TELECOMMUNICATIONS NETWORK WITHIN THE FILLMORE STREET NCT (NEIGHBORHOOD COMMERCIAL TRANSIT) ZONING DISTRICT AND RM-4 (RESIDENTIAL – MIXED, HIGH DENSITY) ZONING DISTRICT, AND A 40-X AND 50-X HEIGHT AND BULK DISTRICT.

PREAMBLE

On November 3, 2015, T-Mobile (hereinafter "Project Sponsor"), submitted an application (hereinafter "Application"), for a Conditional Use Authorization on the property at 1025 Fillmore Street, Block 0774, Lot 021, (hereinafter "Project Site") to modify of an existing T-Mobile Wireless Telecommunications Services Facility (hereinafter "WTS") consisting of the installation of three (3) new panel antennas, three (3) new FRP boxes , and other equipment upgrades as part of the T-Mobile telecommunications network, within the Fillmore Street NCT (Neighborhood Commercial Transit) Zoning District and RM -4 (Residential – Mixed, High Density) Zoning District, and a 40-X and 50-X Height and Bulk District.

The Project is exempt from the California Environmental Quality Act ("CEQA") as a Class 3 Categorical Exemption (Section 15301 of the California Environmental Quality Act). The Planning Commission has reviewed and concurs with said determination. The categorical exemption and all pertinent documents may be found in the files of the Planning Department (hereinafter "Department"), as the custodian of records, at 1650 Mission Street, Suite 400, San Francisco.

On August 24, 2017 the San Francisco Planning Commission (hereinafter "Commission") conducted a duly noticed public hearing at a regularly scheduled meeting on the Application for a Conditional Use Authorization.

The Commission has heard and considered the testimony presented to it at the public hearing and has further considered written materials and oral testimony presented on behalf of the Applicant, Department Staff, and other interested parties.

MOVED, that the Commission hereby authorizes the Conditional Use in Application No. 2015-014626CUA, subject to the conditions contained in "EXHIBIT A" of this motion, based on the following findings:

FINDINGS

Having reviewed the materials identified in the preamble above, and having heard all testimony and arguments, this Commission finds, concludes, and determines as follows:

1. The above recitals are accurate and constitute findings of this Commission.

2. **Site Description and Present Use**. The Project Site is located on Assessor's Block 0774, Lot 021. The lot is developed with a 255-unit apartment building, developed in 1947 under the Western Additional Redevelopment Area A-2, and is located at the corner of McAllister and Fillmore Streets. There are three (3) existing wireless telecommunications antennas on the property, split into three (3) sectors of one (1) antenna each. Each sector is facade mounted on existing facades. The three (3) antennas were installed after receiving approval of a Conditional Use Authorization (1998.975C) from the Planning Commission.

3. **Surrounding Properties and Neighborhood**. The Project Site is situated within the Western Addition neighborhood. Surrounding uses include mix-use buildings along the NCT corridor and a variety of residential uses throughout the RM-4 District.

4. **Project Description.** The proposal is to modify an existing T-Mobile Macro Wireless Telecommunications Services ("WTS") facility. There are three (3) existing unscreened antennas on the property, split into three (3) sectors of one (1) antenna each. Each existing sector measures 9'-0" x 3'-4" x 1'-0", and is facade mounted outside of the building footprint at three (3) separate penthouses, approximately 111.5' feet above the ground. Sector A is located along north side of the northernmost facade, Sector B along the south

side the southernmost facade, and Sector C along the western side of the westernmost facade.

The modification consists of the installation of three (3) additional panel antennas, each measuring 96.3" x 11.9" x 7.1": one additional (1) Sector A antenna, one additional (1) Sector B antenna, and one additional (1) sector C antenna. Three (3) new FRP Box screens will enclose the each of the three sectors. Three (3) new RRUs will be installed, and will not be seen from public views: two (2) RRUs on (2) separate penthouse roofs, and one (1) inside the mechanical room within the building.

5. **Past History and Actions.** The Planning Commission adopted the *Wireless Telecommunications Services (WTS) Facilities Siting Guidelines* ("Guidelines") for the installation of wireless telecommunications facilities in 1996. These Guidelines set forth the land use policies and practices that guide the installation and approval of wireless facilities throughout San Francisco. A large portion of the Guidelines was dedicated to establishing location preferences for these installations. The Board of Supervisors, in Resolution No. 635-96, provided input as to where wireless facilities should be located within San Francisco. The Guidelines were updated by the Commission in 2003 and again in 2012, requiring community outreach, notification, and detailed information about the facilities to be installed.

   Section 8.1 of the Guidelines outlines Location Preferences for wireless facilities. There are five primary areas were the installation of wireless facilities should be located:

   1. Publicly-used Structures: such facilities as fire stations, utility structures, community facilities, and other public structures;
   2. Co-Location Site: encourages installation of facilities on buildings that already have wireless installations;
   3. Industrial or Commercial Structures: buildings such as warehouses, factories, garages, service stations;
   4. Industrial or Commercial Structures: buildings such as supermarkets, retail stores, banks; and
   5. Mixed-Use Buildings in High Density Districts: buildings such as housing above commercial or other non-residential space.

   Section 8.1 of the WTS Siting Guidelines further stipulates that the Planning Commission will not approve WTS applications for Preference 5 or below Location Sites unless the application describes (a) what publicly-used building, co-location site or other Preferred Location Sites are located within the geographic service area; (b) what good faith efforts and measures were taken to secure these more Preferred Locations, (c) explains why such efforts were unsuccessful; and (d) demonstrates that the location for the site is essential to meet demands in the geographic service area and the Applicant's citywide networks.

   Before the Planning Commission can review an application to install a wireless facility, the Project Sponsor must submit a five-year facilities plan, which must be updated

biannually, an emissions report and approval by the Department of Public Health, Section 106 Declaration of Intent, an independent evaluation verifying coverage and capacity, a submittal checklist and details about the facilities to be installed.

Under Section 704(B)(iv) of the 1996 Federal Telecommunications Act, local jurisdictions cannot deny wireless facilities based on Radio Frequency (RF) radiation emissions so long as such facilities comply with the FCC's regulations concerning such emissions.

6. **Location Preference.** The *WTS Facilities Siting Guidelines* identify different types of zoning districts and building uses for the siting of wireless telecommunications facilities. Based on the zoning and land use, the proposed WTS facility is at a Location Preference 2 Site (Co-Location site) according to the WTS Facilities Siting Guidelines, making it a desired location.

7. **Radio Waves Range.** The Project Sponsor has stated that the proposed wireless network is designed to address coverage and capacity needs in the area. The network will operate in the 700 Megahertz (MHZ) bands, which are regulated by the Federal Communications Commission (FCC) and must comply with the FCC-adopted health and safety standards for electromagnetic radiation and radio frequency radiation.

8. **Radiofrequency (RF) Emissions:** The Project Sponsor retained Hammett & Edison, a radio engineering consulting firm, to prepare a report describing the expected RF emissions from the proposed facility. Pursuant to the Guidelines, the Department of Public Health reviewed the report and determined that the proposed facility complies with the standards set forth in the Guidelines.

9. **Department of Public Health Review and Approval.** The Project was referred to the Department of Public Health (DPH) for emissions exposure analysis. Radio-Frequency (RF) levels from the proposed AT&T Mobility transmitters at ground level would be 0.62% of the FCC public exposure limit.

   In total, there are 3 antennas existing operated by T-Mobile installed on the facades of the building at 1025 Fillmore Street. Existing RF levels at ground level were less than 1% of the FCC public exposure limit. There were observed no other antennas within 100 feet of this site. T-Mobile is proposing the installation of three new antennas. The antennas are mounted at a height of 111.5' feet above the ground. The estimated ambient RF field from the proposed T-Mobile transmitters at ground level is calculated to be 0.0046 mW/sq cm., which is 0.62% of the FCC public exposure limit. The three dimensional perimeter of RF levels equal to the public exposure limit extends 45 feet and does not reach any publicly accessible areas. Due to lack of access to the public, no mitigation measures are necessary to comply with the FCC public exposure guidelines. Warning signs must be posted at the antennas and roof access points in English, Spanish and Chinese. Workers should not have access to within 9 feet of the front of the antennas while they are in operation.

10. **Coverage and Capacity Verification.** Coverage and capacity maps and data were not provided by T-Mobile for this site as they are not required to be submitted as part of an Eligible Facilities Request under the Spectrum Act.

11. **Maintenance Schedule**. The facility would operate without on-site staff but with a maintenance crew visiting the property to service and monitor the facility.

12. **Community Outreach.** As required under the *Guidelines*, the Project Sponsor held a community meeting on January 28, 2016 from 5:30pm to 7:00pm at a Conference Room at 1550 Scott Street. Three (3) members of the community attended the meeting.

13. **Five-year plan:** Per the *Guidelines*, the Project Sponsor submitted an updated five-year plan, as required, in April 2017.

14. **Public Comment.** As of August 14, 2017, the Department has not received any calls or testimony raising concerns about, or expressing support for, the proposed project.

15. **Planning Code Compliance.** The Commission finds that the Project is consistent with the relevant provisions of the Planning Code in the following manner:

    A. **Use.** Per Planning Code Section 747 and 209.2, a Conditional Use Authorization is required for a macro WTS facility (Utility and Infrastructure Use) in the Fillmore Street NCT and RM-4 Zoning Districts, respectively.

16. **Planning Code Section 303** establishes criteria for the Planning Commission to consider when reviewing applications for Conditional Use approval. On balance, the Project complies with said criteria in that:

    A. The proposed new uses and building, at the size and intensity contemplated and at the proposed location, will provide a development that is necessary or desirable, and compatible with, the neighborhood or the community.

        i. *Desirable: San Francisco is a leader of the technological economy; it is important and desirable to the vitality of the City to have and maintain adequate telecommunications coverage and data capacity. This includes the installation and upgrading of systems to keep up with changing technology and increases in usage. It is desirable for the City to allow wireless facilities to be installed.*

        The Project at 1025 Fillmore Street is generally desirable and compatible with the surrounding neighborhood because the Project will not conflict with the existing uses of the property, provides a necessary service to the community, and promotes public safety.

        ii. *Necessary: In the case of wireless installations, there are two criteria that the Commission reviews: coverage and capacity.*

Coverage: San Francisco does have sufficient overall wireless coverage (note that this is separate from carrier capacity). San Francisco's unique coverage issues are due to topography and building heights. The hills and buildings disrupt lines-of-site between WTS base stations. Thus, telecommunication carriers continue to install additional installations to make sure coverage is sufficient.

Capacity: While a carrier may have adequate coverage in a certain area, the capacity may not be sufficient. With the continuous innovations in wireless data technology and demand placed on existing infrastructure, individual telecommunications carriers must upgrade and in some instances expand their facilities network to provide proper data and voice capacity. It is necessary for San Francisco, as a leader in technology, to have adequate capacity.

The Project at 1025 Fillmore Street has not provided data to reflect the need for additional coverage or capacity, as local jurisdictions are precluded from requiring this information when a carrier submits an Eligible Facilities Request under the Spectrum Act.

B. The proposed Project will not be detrimental to the health, safety, convenience or general welfare of persons residing or working in the vicinity. There are no features of the project that could be detrimental to the health, safety or convenience of those residing or working the area, in that:

i. Nature of proposed site, including its size and shape, and the proposed size, shape and arrangement of structures;

The Project must comply with all applicable Federal and State regulations to safeguard the health, safety and to ensure that persons residing or working in the vicinity will not be affected, and prevent harm to other personal property.

The Department of Public Health conducted an evaluation of potential health effects from Radio Frequency radiation, and has concluded that the proposed wireless transmission facilities will have no adverse health effects if operated in compliance with the FCC-adopted health and safety standards.

ii. The accessibility and traffic patterns for persons and vehicles, the type and volume of such traffic, and the adequacy of proposed off-street parking and loading;

No increase in traffic volume is anticipated with the facilities operating unmanned, with a maintenance crew visiting the Site once a month or on an as-needed basis.

iii. The safeguards afforded to prevent noxious or offensive emissions such as noise, glare, dust and odor;

While some noise and dust may result from the installation of the antennas and transceiver equipment, noise or noxious emissions from continued use are not likely to be significantly greater than ambient conditions due to the operation of the wireless communication network.

iv. Treatment given, as appropriate, to such aspects as landscaping, screening, open spaces, parking and loading areas, service areas, lighting and signs;

The facility will not affect landscaping, open space, required parking, lighting or signage at the Project Site or surrounding area.

C. That the use as proposed will comply with the applicable provisions of the Planning Code and will not adversely affect the General Plan.

The Project complies with all relevant requirements and standards of the Planning Code and is on balance, consistent with Objectives and Policies of the General Plan, as detailed below.

17. **General Plan Compliance.** The Project is, on balance, consistent with the following Objectives and Policies of the General Plan:

HOUSING ELEMENT
Objectives and Policies

BALANCE HOUSING CONSTRUCTION AND COMMUNITY INFRASTRUCTURE

OBJECTIVE 12:
BALANCE HOUSING GROWTH WITH ADEQUATE INFRASTRUCTURE THAT SERVES THE CITY'S GROWING POPULATION.

Policy 12.3:
Ensure new housing is sustainable supported by the City's public infrastructure systems.

The Project would improve T-Mobile's coverage and capacity within the Western Addition neighborhood.

COMMERCE AND INDUSTRY ELEMENT
Objectives and Policies

OBJECTIVE 1:
MANAGE ECONOMIC GROWTH AND CHANGE TO ENSURE ENHANCEMENT OF THE TOTAL CITY LIVING AND WORKING ENVIRONMENT.

Policy 1.1:
Encourage development, which provides substantial net benefits and minimizes

undesirable consequences. Discourage development, which has substantial undesirable consequences that cannot be mitigated.

Policy 1.2:
Assure that all commercial and industrial uses meet minimum, reasonable performance standards.

The Project would enhance the total city living and working environment by providing communication services for residents and workers within the City. Additionally, the Project would comply with Federal, State and Local performance standards.

OBJECTIVE 2:
MAINTAIN AND ENHANCE A SOUND AND DIVERSE ECONOMIC BASE AND FISCAL STRUCTURE FOR THE CITY.

Policy 2.1:
Seek to retain existing commercial and industrial activity and to attract new such activity to the city.

Policy 2.3:
Maintain a favorable social and cultural climate in the city in order to enhance its attractiveness as a firm location.

The Site would be an integral part of a new wireless communications network that would enhance the City's diverse economic base.

OBJECTIVE 4:
IMPROVE THE VIABILITY OF EXISTING INDUSTRY IN THE CITY AND THE ATTRACTIVENESS OF THE CITY AS A LOCATION FOR NEW INDUSTRY.

Policy 4.1:
Maintain and enhance a favorable business climate in the City.

Policy 4.2:
Promote and attract those economic activities with potential benefit to the City.

The Project would benefit the City by enhancing the business climate through improved communication services for residents and workers.

VISITOR TRADE

OBJECTIVE 8:
ENHANCE SAN FRANCISCO'S POSITION AS A NATIONAL CENTER FOR CONVENTIONS AND VISITOR TRADE.

Policy 8.3:
Assure that areas of particular visitor attraction are provided with adequate public services for both residents and visitors.

The Project would ensure that residents and visitors have adequate public service in the form of T-Mobile telecommunications.

COMMUNITY SAFETY ELEMENT
Objectives and Policies

OBJECTIVE 3:
ESTABLISH STRATEGIES TO ADDRESS THE IMMEDIATE EFFECTS OF A DISASTER.

Policy 1.20
Increase communication capabilities in preparation for all phases of a disaster and ensure communication abilities extend to hard-to-reach areas and special populations.

Policy 2.4
Bolster the Department of Emergency Management's role as the City's provider of emergency planning and communication, and prioritize its actions to meet the needs of San Francisco.

Policy 2.15
Utilize advancing technology to enhance communication capabilities in preparation for all phases of a disaster, particularly in the high-contact period immediately following a disaster.

Policy 3.7:
Develop a system to convey personalized information during and immediately after a disaster.

The Project would enhance the ability of the City to protect both life and property from the effects of a fire or natural disaster by providing communication services.

18. **Planning Code Section 101.1(b)** establishes eight priority-planning policies and requires review of permits for consistency with said policies. On balance, the Project does comply with said policies in that:

    A. That existing neighborhood-serving retail uses be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses be enhanced.

    The wireless communications network would enhance personal communication services for businesses and customers in the surrounding area.

B. That existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods.

No residential uses would be displaced or altered in any way by the granting of this Authorization. The Project site features residential units on the upper stories and penthouse.

C. That the City's supply of affordable housing be preserved and enhanced.

The Project would have no adverse effect on housing in the vicinity.

D. That commuter traffic not impede MUNI transit service or overburden our streets or neighborhood parking.

Due to the nature of the Project and minimal maintenance or repair, municipal transit service would not be significantly impeded and neighborhood parking would not be overburdened.

E. That a diverse economic base be maintained by protecting our industrial and service sectors from displacement due to commercial office development, and that future opportunities for resident employment and ownership in these sectors be enhanced.

The Project would not cause any displacement of industrial and service sector activity.

F. That the City achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.

Compliance with applicable structural safety and seismic safety requirements would be considered during the building permit application review process.

G. That landmarks and historic buildings be preserved.

The existing facility is neither a landmark nor historic building.

H. That our parks and open space and their access to sunlight and vistas be protected from development.

The Project would have no adverse effect on parks or open space, or their access to sunlight or public vistas.

19. The Project is consistent with and would promote the general and specific purposes of the Code provided under Section 101.1(b) in that, as designed, the Project would contribute to the character and stability of the neighborhood and would constitute a beneficial development.

20. The Commission hereby finds that approval of the Conditional Use Authorization would promote the health, safety and welfare of the City.

DECISION

That based upon the Record, the submissions by the Applicant, the staff of the Department and other interested parties, the oral testimony presented to this Commission at the public hearings, and all other written materials submitted by all parties, the Commission hereby APPROVES Conditional Use Application No. **2015-0014626CUA**, subject to the following conditions attached hereto as "EXHIBIT A" in general conformance with plans on file, dated July 12, 2017, and stamped "EXHIBIT B", which is incorporated herein by reference as though fully set forth.

APPEAL AND EFFECTIVE DATE OF MOTION: Any aggrieved person may appeal this Conditional Use Authorization to the Board of Supervisors within thirty (30) days after the date of this Motion No. XXXX. The effective date of this Motion shall be the date of this Motion if not appealed (After the 30-day period has expired) OR the date of the decision of the Board of Supervisors if appealed to the Board of Supervisors. For further information, please contact the Board of Supervisors at (415) 554-5184, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Protest of Fee or Exaction: You may protest any fee or exaction subject to Government Code Section 66000 that is imposed as a condition of approval by following the procedures set forth in Government Code Section 66020. The protest must satisfy the requirements of Government Code Section 66020(a) and must be filed within 90 days of the date of the first approval or conditional approval of the development referencing the challenged fee or exaction. For purposes of Government Code Section 66020, the date of imposition of the fee shall be the date of the earliest discretionary approval by the City of the subject development.

If the City has not previously given Notice of an earlier discretionary approval of the project, the Planning Commission's adoption of this Motion, Resolution, Discretionary Review Action or the Zoning Administrator's Variance Decision Letter constitutes the approval or conditional approval of the development and the City hereby gives NOTICE that the 90-day protest period under Government Code Section 66020 has begun. If the City has already given Notice that the 90-day approval period has begun for the subject development, then this document does not re-commence the 90-day approval period.

I hereby certify that the foregoing Motion was adopted by the Planning Commission on **August 24, 2017**.

Jonas P. Ionin
Commission Secretary

AYES:

NAYS:

ABSENT:

ADOPTED:

EXHIBIT A

AUTHORIZATION

This authorization is for a Conditional Use to allow a Macro Wireless Telecommunications Facility with up to six (6) panel antennas (operated by T-Mobile) located at 1025 Fillmore Street, Block 0774, and Lot 021 pursuant to Planning Code Sections 303, 747 and 209.2 within the Fillmore Street NCT Zoning District, RM-4 Zoning District, and 40-X and 50-X Height and Bulk Districts; in general conformance with plans, dated July 12, 2017 and stamped "EXHIBIT B" included in the docket for Record No. 2015-014626CUA and subject to conditions of approval reviewed and approved by the Commission on August 24, 2017, under Motion No. **XXXX**. This authorization and the conditions contained herein run with the property and not with a particular Project Sponsor, business, or operator.

RECORDATION OF CONDITIONS OF APPROVAL

Prior to the issuance of the building permit or commencement of use for the Project the Zoning Administrator shall approve and order the recordation of a Notice in the Official Records of the Recorder of the City and County of San Francisco for the subject property. This Notice shall state that the Project is subject to the conditions of approval contained herein and reviewed and approved by the Planning Commission on **August 24, 2017** under Motion No. **XXXX**.

PRINTING OF CONDITIONS OF APPROVAL ON PLANS

The conditions of approval under the 'Exhibit A' of this Planning Commission Motion No. **XXXX** shall be reproduced on the Index Sheet of construction plans submitted with the Site or Building permit application for the Project. The Index Sheet of the construction plans shall reference to the Conditional Use Authorization and any subsequent amendments or modifications.

SEVERABILITY

The Project shall comply with all applicable City codes and requirements. If any clause, sentence, section or any part of these conditions of approval is for any reason held to be invalid, such invalidity shall not affect or impair other remaining clauses, sentences, or sections of these conditions. This decision conveys no right to construct, or to receive a building permit. "Project Sponsor" shall include any subsequent responsible party.

CHANGES AND MODIFICATIONS

Changes to the approved plans may be approved administratively by the Zoning Administrator. Significant changes and modifications of conditions shall require Planning Commission approval of a new Conditional Use Authorization.

Conditions of Approval, Compliance, Monitoring, and Reporting

PERFORMANCE

1. **Validity.** The authorization and right vested by virtue of this action is valid for three (3) years from the effective date of the Motion. The Department of Building Inspection shall have issued a Building Permit or Site Permit to construct the project and/or commence the approved use within this three-year period.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

2. **Expiration and Renewal.** Should a Building or Site Permit be sought after the three (3) year period has lapsed, the project sponsor must seek a renewal of this Authorization by filing an application for an amendment to the original Authorization or a new application for Authorization. Should the project sponsor decline to so file, and decline to withdraw the permit application, the Commission shall conduct a public hearing in order to consider the revocation of the Authorization. Should the Commission not revoke the Authorization following the closure of the public hearing, the Commission shall determine the extension of time for the continued validity of the Authorization.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

3. **10-Year Renewal.** This authorization is valid for ten (10) years from date of approval. The project sponsor must seek a renewal of this Authorization prior to expiration, but no earlier than 24 months prior to expiration, by filing an application for an amendment to the original Authorization or a new application for Authorization. Should the project sponsor decline to so file, and decline to decommission the wireless facility, the Commission shall conduct a public hearing in order to consider the revocation of the Authorization. Should the Commission not revoke the Authorization following the closure of the public hearing, the Commission shall determine the extension of time for the continued validity of the Authorization.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

4. **Diligent pursuit.** Once a site or Building Permit has been issued, construction must commence within the timeframe required by the Department of Building Inspection and be continued diligently to completion. Failure to do so shall be grounds for the Commission to consider revoking the approval if more than three (3) years have passed since this Authorization was approved.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

5. **Extension.** All time limits in the preceding three paragraphs may be extended at the discretion of the Zoning Administrator where implementation of the project is delayed by a public agency, an appeal or a legal challenge and only by the length of time for which such public agency, appeal or challenge has caused delay.

For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

6. **Conformity with Current Law.** No application for Building Permit, Site Permit, or other entitlement shall be approved unless it complies with all applicable provisions of City Codes in effect at the time of such approval.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

DESIGN – COMPLIANCE AT PLAN STAGE

7. **Plan Drawings - WTS**. Prior to the issuance of any building or electrical permits for the installation of the facilities, the Project Sponsor shall submit final scaled drawings for review and approval by the Planning Department ("Plan Drawings"). The Plan Drawings shall describe:
   a. Structure and Siting. Identify all facility related support and protection measures to be installed. This includes, but is not limited to, the location(s) and method(s) of placement, support, protection, screening, paint and/or other treatments of the antennas and other appurtenances to insure public safety, insure compatibility with urban design, architectural and historic preservation principles, and harmony with neighborhood character.
   b. For the Project Site, regardless of the ownership of the existing facilities. Identify the location of all existing antennas and facilities; and identify the location of all approved (but not installed) antennas and facilities.
   c. Emissions. Provide a report, subject to approval of the Zoning Administrator, that operation of the facilities in addition to ambient RF emission levels will not exceed adopted FCC standards with regard to human exposure in uncontrolled areas.
   For information about compliance, contact the Case Planner, Planning Department at 415-575-9078, www.sf-planning.org.

8. **Screening - WTS.** To the extent necessary to ensure compliance with adopted FCC regulations regarding human exposure to RF emissions, and upon the recommendation of the Zoning Administrator, the Project Sponsor shall:
   a. Modify the placement of the facilities;
   b. Install fencing, barriers or other appropriate structures or devices to restrict access to the facilities;
   c. Install multi-lingual signage, including the RF radiation hazard warning symbol identified in ANSI C95.2 1982, to notify persons that the facility could cause exposure to RF emissions;
   d. Implement any other practice reasonably necessary to ensure that the facility is operated in compliance with adopted FCC RF emission standards.
   e. To the extent necessary to minimize visual obtrusion and clutter, installations shall conform to the following standards:
      a. Antennas and back up equipment shall be painted, fenced, landscaped or otherwise treated architecturally so as to minimize visual effects;

b. Rooftop installations shall be setback such that back up facilities are not viewed from the street;
c. Although co location of various companies' facilities may be desirable, a maximum number of antennas and back up facilities on the Project Site shall be established, on a case by case basis, such that "antennae farms" or similar visual intrusions for the site and area is not created.

For information about compliance, contact the Case Planner, Planning Department at 415-575-9078, www.sf-planning.org .

MONITORING - AFTER ENTITLEMENT

9. **Enforcement.** Violation of any of the Planning Department conditions of approval contained in this Motion or of any other provisions of Planning Code applicable to this Project shall be subject to the enforcement procedures and administrative penalties set forth under Planning Code Section 176 or Section 176.1. The Planning Department may also refer the violation complaints to other city departments and agencies for appropriate enforcement action under their jurisdiction.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

10. **Revocation due to Violation of Conditions.** Should implementation of this Project result in complaints from interested property owners, residents, or commercial lessees which are not resolved by the Project Sponsor and found to be in violation of the Planning Code and/or the specific Conditions of Approval for the Project as set forth in Exhibit A of this Motion, the Zoning Administrator shall refer such complaints to the Commission, after which it may hold a public hearing on the matter to consider revocation of this authorization.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org.

11. **Implementation Costs - WTS**.
The Project Sponsor, on an equitable basis with other WTS providers, shall pay the cost of preparing and adopting appropriate General Plan policies related to the placement of WTS facilities. Should future legislation be enacted to provide for cost recovery for planning, the Project Sponsor shall be bound by such legislation.

The Project Sponsor or its successors shall be responsible for the payment of all reasonable costs associated with implementation of the conditions of approval contained in this authorization, including costs incurred by this Department, the Department of Public Health, the Department of Technology, Office of the City Attorney, or any other appropriate City Department or agency. The Planning Department shall collect such costs on behalf of the City.

The Project Sponsor shall be responsible for the payment of all fees associated with the installation of the subject facility, which are assessed by the City pursuant to all applicable law.

For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

12. **Implementation and Monitoring - WTS**. In the event that the Project implementation report includes a finding that RF emissions for the site exceed FCC Standards in any uncontrolled location, the Zoning Administrator may require the Applicant to immediately cease and desist operation of the facility until such time that the violation is corrected to the satisfaction of the Zoning Administrator.

    For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

13. **Project Implementation Report - WTS**. The Project Sponsor shall prepare and submit to the Zoning Administrator a Project Implementation Report. The Project Implementation Report shall:
    a. Identify the three dimensional perimeter closest to the facility at which adopted FCC standards for human exposure to RF emissions in uncontrolled areas are satisfied;
    b. Document testing that demonstrates that the facility will not cause any potential exposure to RF emissions that exceed adopted FCC emission standards for human exposure in uncontrolled areas.
    c. The Project Implementation Report shall compare test results for each test point with applicable FCC standards. Testing shall be conducted in compliance with FCC regulations governing the measurement of RF emissions and shall be conducted during normal business hours on a non-holiday weekday with the subject equipment measured while operating at maximum power.
    d. Testing, Monitoring, and Preparation. The Project Implementation Report shall be prepared by a certified professional engineer or other technical expert approved by the Department. At the sole option of the Department, the Department (or its agents) may monitor the performance of testing required for preparation of the Project Implementation Report. The cost of such monitoring shall be borne by the Project Sponsor pursuant to the condition related to the payment of the City's reasonable costs.
    e. Notification and Testing. The Project Implementation Report shall set forth the testing and measurements undertaken pursuant to Conditions 2 and 4.
    f. Approval. The Zoning Administrator shall request that the Certification of Final Completion for operation of the facility not be issued by the Department of Building Inspection until such time that the Project Implementation Report is approved by the Department for compliance with these conditions.

    For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org.

14. **Notification prior to Project Implementation Report - WTS.** The Project Sponsor shall undertake appropriate tests for residents of any dwelling units located within 25 feet of the transmitting antenna.

a. At least twenty calendar days prior to conducting the testing required for preparation of the Project Implementation Report, the Project Sponsor shall mail notice to the Department, as well as to the resident of any legal dwelling unit within 25 feet of a transmitting antenna of the date on which testing will be conducted. The Applicant will submit a written affidavit attesting to this mail notice along with the mailing list.
b. When requested in advance by a resident notified of testing pursuant to subsection (a), the Project Sponsor shall conduct testing of total power density of RF emissions within the residence of that resident on the date on which the testing is conducted for the Project Implementation Report.

For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

15. **Installation - WTS.** Within 10 days of the installation and operation of the facilities, the Project Sponsor shall confirm in writing to the Zoning Administrator that the facilities are being maintained and operated in compliance with applicable Building, Electrical and other Code requirements, as well as applicable FCC emissions standards.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

16. **Periodic Safety Monitoring - WTS.** The Project Sponsor shall submit to the Zoning Administrator 10 days after installation of the facilities, and every two years thereafter, a certification attested to by a licensed engineer expert in the field of EMR/RF emissions, that the facilities are and have been operated within the then current applicable FCC standards for RF/EMF emissions.
For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org.

OPERATION

17. **Community Liaison.** Prior to issuance of a building permit application to construct the project and implement the approved use, the Project Sponsor shall appoint a community liaison officer to deal with the issues of concern to owners and occupants of nearby properties. The Project Sponsor shall provide the Zoning Administrator written notice of the name, business address, and telephone number of the community liaison. Should the contact information change, the Zoning Administrator shall be made aware of such change. The community liaison shall report to the Zoning Administrator what issues, if any, are of concern to the community and what issues have not been resolved by the Project Sponsor.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

18. **Out of Service – WTS**. The Project Sponsor or Property Owner shall remove antennas and equipment that has been out of service or otherwise abandoned for a continuous period of six (6) months.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

19. **Emissions Conditions – WTS**. It is a continuing condition of this authorization that the facilities be operated in such a manner so as not to contribute to ambient RF/EMF emissions in excess of then current FCC adopted RF/EMF emission standards; violation of this condition shall be grounds for revocation.
    For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org.

20. **Noise and Heat – WTS**. The WTS facility, including power source and cooling facility, shall be operated at all times within the limits of the San Francisco Noise Control Ordinance. The WTS facility, including power source and any heating/cooling facility, shall not be operated so as to cause the generation of heat that adversely affects a building occupant.
    For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org.

21. **Transfer of Operation – WTS**. Any carrier/provider authorized by the Zoning Administrator or by the Planning Commission to operate a specific WTS installation may assign the operation of the facility to another carrier licensed by the FCC for that radio frequency provided that such transfer is made known to the Zoning Administrator in advance of such operation, and all conditions of approval for the subject installation are carried out by the new carrier/provider.
    For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

22. **Compatibility with City Emergency Services – WTS**. The facility shall not be operated or caused to transmit on or adjacent to any radio frequencies licensed to the City for emergency telecommunication services such that the City's emergency telecommunications system experiences interference, unless prior approval for such has been granted in writing by the City.
    For information about compliance, contact the Department of Technology, 415-581-4000, http://sfgov3.org/index.aspx?page=1421

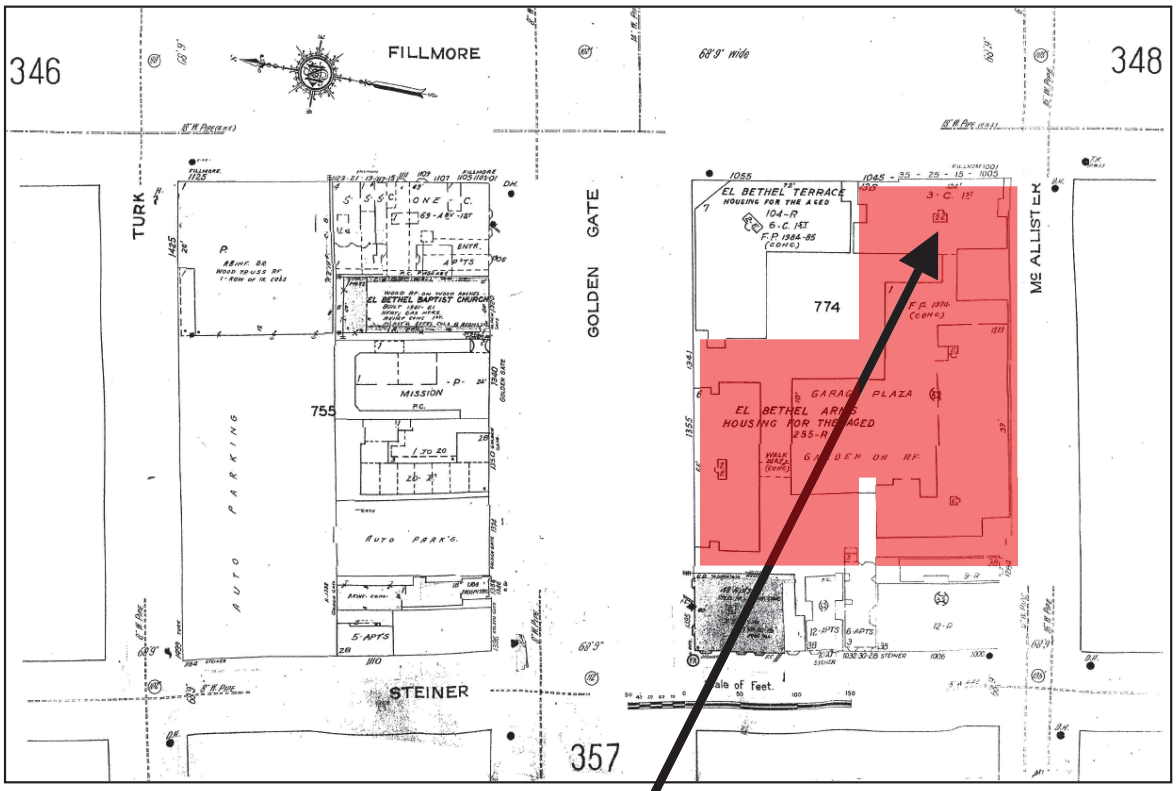
Block Book Map

SUBJECT PROPERTY

Case Number 2015-014626CUA
T-Mobile
Macro WTS Facility
1025 Fillmore Street

SAN FRANCISCO
PLANNING DEPARTMENT

Sanborn Map*

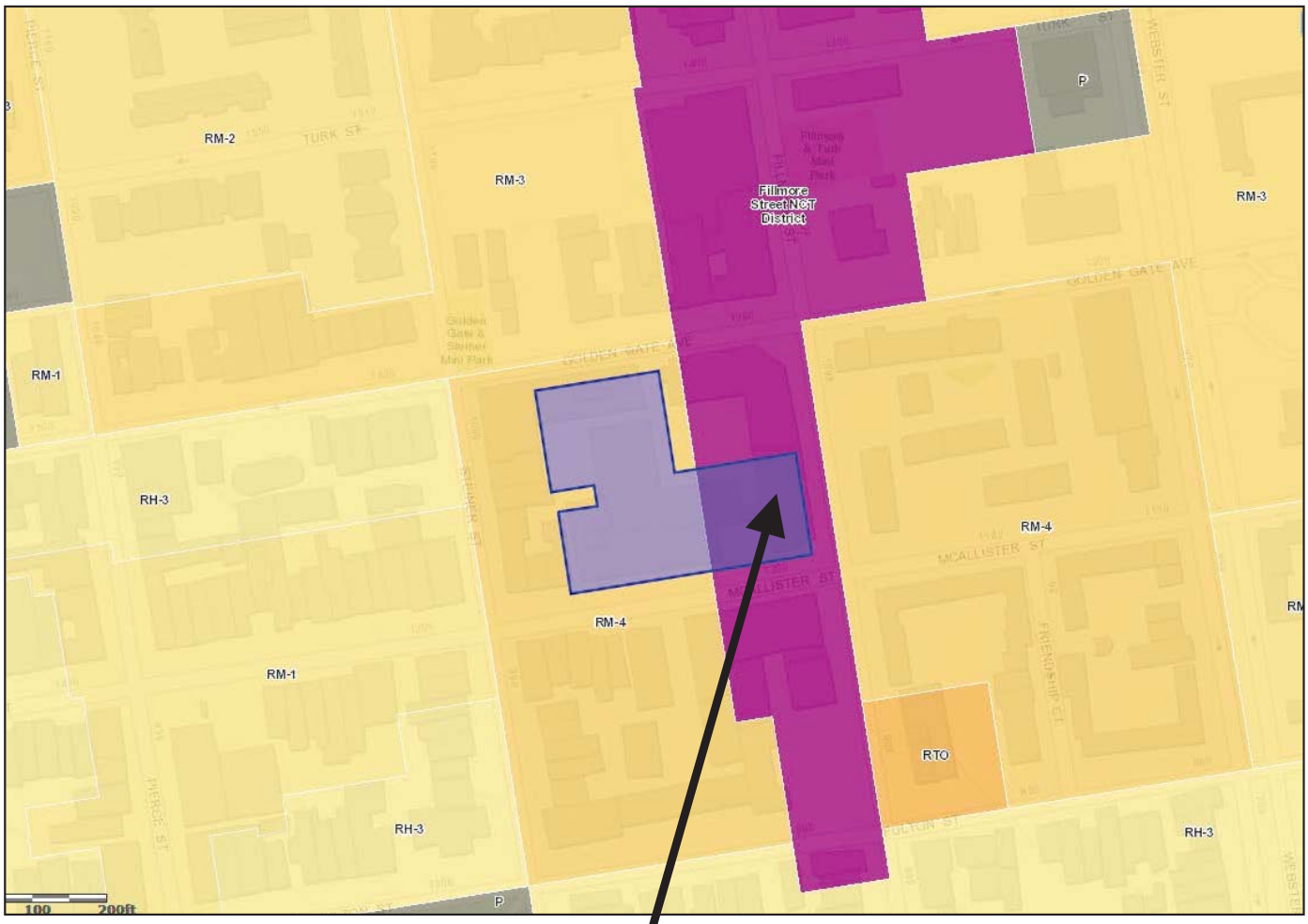


**The Sanborn Maps in San Francisco have not been updated since 1998, and this map may not accurately reflect existing conditions.*

Case Number 2015-014626CUA
T-Mobile
Macro WTS Facility
1025 Fillmore Street

SAN FRANCISCO
PLANNING DEPARTMENT

Zoning Map

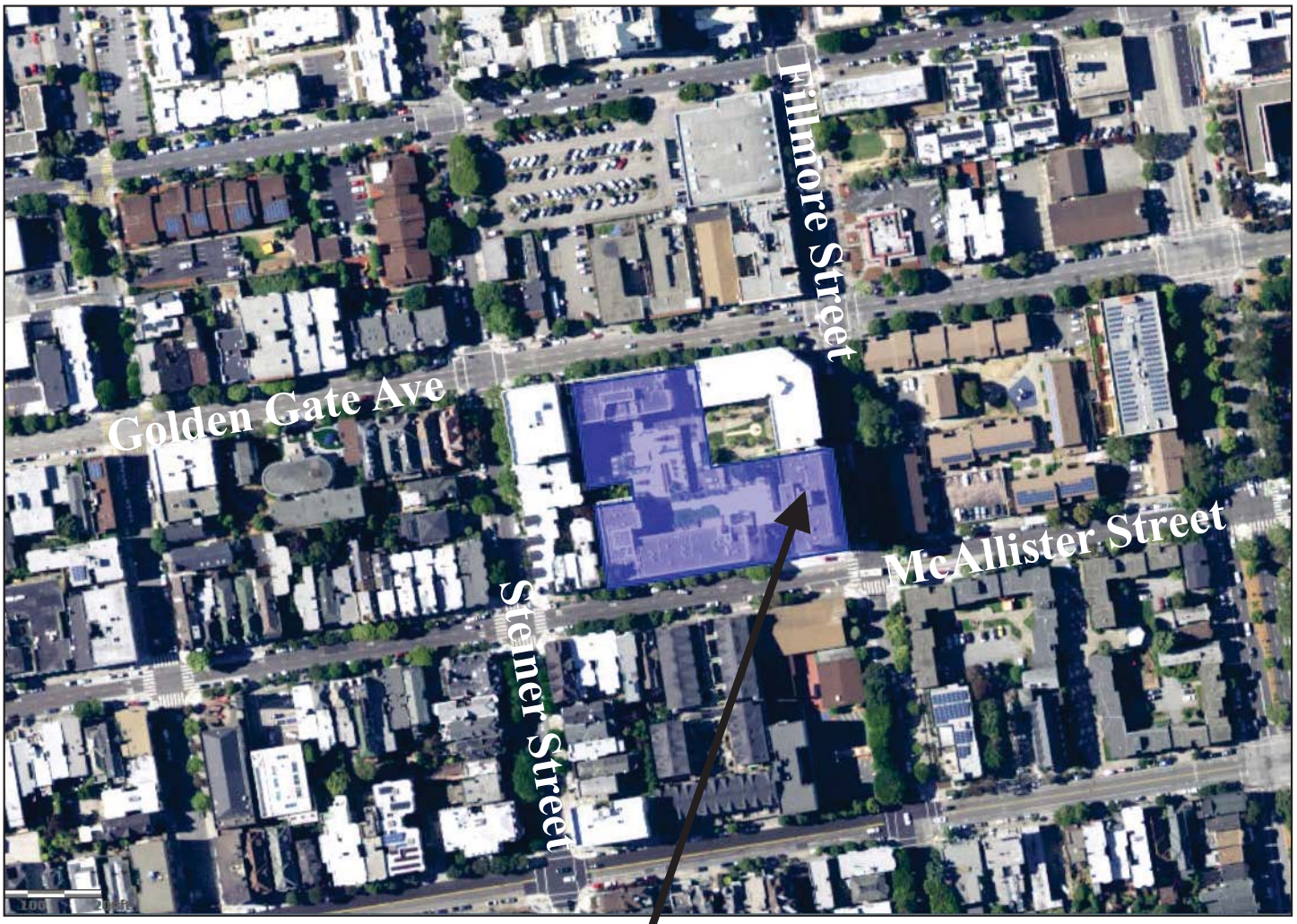


SUBJECT PROPERTY

Case Number 2015-014626CUA
T-Mobile
Macro WTS Facility
1025 Fillmore Street

SAN FRANCISCO
PLANNING DEPARTMENT

Aerial Photo



Case Number 2015-014626CUA
T-Mobile
Macro WTS Facility
1025 Fillmore Street

SAN FRANCISCO
PLANNING DEPARTMENT

SF03024A

EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115

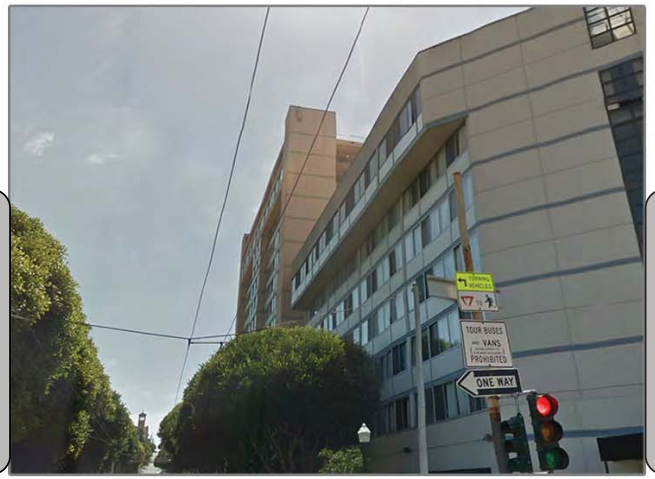
T-Mobile

VIEW #: 1

JUNE 15, 2015

LOCATION

EXISTING



PROPOSED

The illustration above is a representation of the proposed project based on information provided by the client. Actual construction may vary dependent on constructon plans and therefore the A&E firm will not be held responsible for any post production design changes.

T-MOBILE
1855 GATEWAY BOULEVARD, STE. 900
CONCORD, CA 94520

ALL STATES ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DR.
LAKE FOREST, CA 92630
949.273.0996
949.606.7222 (FAX)

REV:
A

BASED ON FILE: SF03024A - El Bethel Arms_CD100_RevB_For Review_06152015

SF03024A

EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115

T-Mobile

VIEW #: 2

JUNE 15, 2015

LOCATION

EXISTING

PROPOSED

The illustration above is a representation of the proposed project based on information provided by the client. Actual construction may vary dependent on constructon plans and therefore the A&E firm will not be held responsible for any post production design changes.

T-MOBILE
1855 GATEWAY BOULEVARD, STE. 900
CONCORD, CA 94520

ALL STATES ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DR.
LAKE FOREST, CA 92630
949.273.0996
949.606.7222 (FAX)

REV: A

BASED ON FILE: SF03024A - El Bethel Arms_CD100_RevB_For Review_06152015

T-Mobile West LLC • Base Station No. SF03024A
1025 Fillmore Street • San Francisco, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by T-Mobile West LLC, a personal wireless telecommunications carrier, to evaluate proposed modifications to its existing base station (Site No. SF03024A) located at 1025 Fillmore Street in San Francisco, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Background

The San Francisco Department of Public Health has adopted a 10-point checklist for determining compliance of proposed WTS facilities or proposed modifications to such facilities with prevailing safety standards. The acceptable limits set by the FCC for exposures of unlimited duration are:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm^2	1.00 mW/cm^2
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

The site was visited by Mr. Charles Cherolis, a qualified field technician contracted by Hammett & Edison, Inc., during normal business hours on June 19, 2015, a non-holiday weekday, and reference has been made to information provided by T-Mobile, including zoning drawings by All States Engineering & Surveying, dated May 21, 2015.

Checklist

1. The location of all existing antennas and facilities at site. Existing RF levels.

T-Mobile had installed three directional panel antennas high on the sides of the tall residential building located at 1025 Fillmore Street. There were observed no other wireless base stations installed at the site. Existing RF levels for a person at ground near the site were less than 1% of the most restrictive public exposure limit. The measurement equipment used was a Narda Type NBM-520 Broadband Field Meter with Type EF-0391 Isotropic Broadband Electric Field Probe (Serial No. D-0454). The meter and probe were under current calibration by the manufacturer.

2. *The location of all approved (but not installed) antennas and facilities. Expected RF levels from approved antennas.*

No other WTS facilities are reported to be approved for this site but not installed.

3. *The number and types of WTS within 100 feet of proposed site and estimates of additive EMR emissions at proposed site.*

There were no other WTS facilities observed within 100 feet of the site.

4. *Location (and number) of Applicant's antennas and back-up facilities per building and location (and number) of other WTS at site.*

T-Mobile proposes to install three Andrew Model LNX-6515DS directional panel antennas next to its existing antennas, reportedly Ericsson Model AIR21, behind new view screens. The six antennas would employ up to 8° downtilt,* would be mounted at effective heights of at least 111½ feet above ground, and would be oriented in pairs (one of each type) toward 20°T, 140°T, and 260°T, to provide service in all directions.

5. *Power rating (maximum and expected operating power) for all existing and proposed backup equipment subject to application.*

The expected operating power of the T-Mobile transmitters is reflected in the resulting effective radiated power given in Item 6 below; the transmitters may operate at a power below their maximum rating.

6. *Total number of watts per installation and total number of watts for all installations at site.*

The maximum effective radiated power proposed by T-Mobile in any direction is 6,500 watts, representing simultaneous operation at 2,200 watts for AWS, 2,200 watts for PCS, and 2,100 watts for 700 MHz service.

7. *Plot or roof plan showing method of attachment of antennas, directionality of antennas, and height above roof level. Discuss nearby inhabited buildings.*

The drawings show the antennas to be installed as described in Item 4 above. There were noted no buildings of similar height nearby.

8. *Estimated ambient RF levels for proposed site and identify three-dimensional perimeter where exposure standards are exceeded.*

For a person anywhere at ground, the maximum RF exposure level due to the proposed T-Mobile operation is calculated to be 0.0046 mW/cm^2, which is 0.62% of the applicable public exposure limit. Ambient RF levels at ground near the site are therefore estimated to be below 1.7% of the limit. The maximum calculated level at any nearby building is 3.0% of the public exposure limit. The three-

* Assumed for the purposes of this study.

dimensional perimeter of RF levels equal to the public exposure limit is calculated to extend up to 45 feet out from the antenna faces and to much lesser distances above, below, and to the sides; this does not reach any publicly accessible areas.

9. Describe proposed signage at site.

Due to their mounting locations and height, the T-Mobile antennas are not accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access to the antennas, including employees and contractors of T-Mobile and of the property owner. No access within 9 feet directly in front of the antennas themselves, such as might occur during certain maintenance activities, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

10. Statement of authorship.

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-20309, which expires on March 31, 2017. This work has been carried out under her direction, and all statements are true and correct of her own knowledge except, where noted, when data has been supplied by others, which data she believes to be correct.

† Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter; the San Francisco Department of Public Health recommends that all signs be written in English, Spanish, and Chinese.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the proposed operation of the T-Mobile West LLC base station located at 1025 Fillmore Street in San Francisco, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs is recommended to establish compliance with occupational exposure limits.

Andrea L. Bright, P.E.
707/996-5200

June 25, 2015

San Francisco City and County
Department of Public Health

Environmental Health Section

Edwin M. Lee, *Mayor*
Barbara Garcia, *Director of Health*

Stephanie K.J. Cushing, MSPH, CHMM, REHS
Director of Environmental Health

Review of Cellular Antenna Site Proposals

Project Sponsor : *T-Mobile* **Planner:** *Elizabeth Watty*

RF Engineer Consultant: *Hammett and Edison* **Phone Number:** *(707) 996-5200*

Project Address/Location: *1025 Fillmore St*

Site ID: *832* **SiteNo.:** *SF03024A* **Report Dated:** *5/8/2017*

The following information is required to be provided before approval of this project can be made. These information requirements are established in the San Francisco Planning Department Wireless Telecommunications Services Facility Sitting Guidelines dated August 1996.

In order to facilitate quicker approval of this project, it is recommended that the project sponsor review this document before submitting the proposal to ensure that all requirements are included.

X 1. The location, identity and total number of all operational radiating antennas installed at this site was provided. (WTS-FSG, Section 10.4.1, Section 11, 2b)

Number of Existing Antennas: **3**

X 2. A list of all radiating antennas located within 100 feet of the site which could contribute to the cumulative radio frequency energy at this location was provided. (WTS-FSG, Section 10.5.2)

◉ **Yes** ○ **No**

X 3. A narrative description of the proposed work for this project was provided. The description should be consistent with scope of work for the final installation drawings. (WTS-FSG, Section 10)

◉ **Yes** ○ **No**

X 4. An inventory of the make and model of antennas or transmitting equipment being installed or removed was provided. The antenna inventory included the proposed installation height above the nearest walking/working surface, the height above ground level and the orientations of the antennas. (WTS-FSG, Section 10.5.2)

◉ **Yes** ○ **No**

X 5. A description of the existing radio frequency energy environment at the nearest walking/working surface to the antennas and at ground level was provided. A description of any assumptions made when doing the calculations was also provided. (WTS-FSG, Section 10.4.1a, Section 10.4.1c, Section 10.5)

◉ **Yes** ○ **No**

X 6. The maximum effective radiated power per sector for the proposed installation was provided along with the frequency bands used by the antennas. (WTS-FSG, Section 10.1.2, Section 10.5.1)

Maximum Effective Radiated Power: **4400** Watts

X 7. Based on the antenna orientation, the maximum cumulative predicted radio frequency energy level for any nearby publicly accessible building or area was provided. (WTS-FSG, Section 10.4, Section 10.5.1)

Maximum percent of applicable FCC public standard at the nearest building or structure: **1.5** %

Distance to this nearby building or structure: **210** feet

X 8. The estimated maximum cumulative radio frequency fields for the proposed site at ground level. (WTS-FSG, Section 10.5)

Maximum RF Exposure: **0.0031** mW/cm^2 Maximum RF Exposure Percent: **0.31** %

X 9. The maximum distance (in feet) the three dimensional perimeter of the radio frequency energy level equal to the public and occupational exposure limit is calculated to extend from the face of the antennas was provided. Any potential walking/working surfaces exceeding regulatory standards were identified. (WTS-FSG, Section 10.9.2)

☑ Public Exclusion Area — Public Exclusion In Feet: 1

☑ Occupational Exclusion Area — Occupational Exclusion In Feet: 1

X 10. A description of whether or not the public has access to the antennas was provided. A description was also provided of any existing or proposed warning signs, barricades, barriers, rooftop stripping or other safety precautions for people nearing the equipment as may be required by any applicable FCC-adopted standards. All signs will be provided in English, Spanish and Chinese. (WTS-FSG, Section 9.5, Section 10.9.2)

◉ **Yes** ○ **No**

X 11. Statement regarding the engineer who produced the report and their qualifications was provided. The engineer is licensed in the State of California. (WTS-FSG, Section 11,8)

◉ **Yes** ○ **No**

X **Approved**. Based on the information provided the following staff believes that the project proposal will comply with the current Federal Communication Commission safety standards for radiofrequency radiation exposure. FCC standard CFR47 1.1310 **Approval of the subsequent Project Implementation Report is based on project sponsor completing recommendations by project consultant and DPH.**

Comments:

There are 3 antennas operated by T-Mobile installed on the roof top of the building at 1025 Fillmore Street. Existing RF levels at ground level were less than 1% of the FCC public exposure limit. No other antennas were observed within 100 feet of this site. T-Mobile proposes to install 1 new microwave dish antenna. The antennas will be mounted at a height of 111 feet above the ground. The estimated ambient RF field from the proposed T-Mobile transmitters at ground level is calculated to be 0.0031 mW/sq cm., which is 0.31 % of the FCC public exposure limit. The three dimensional perimeter of RF levels equal to the public exposure limit extends 1 foot and does not reach any publicly accessible areas. Warning signs must be posted at the antennas and roof access points in English, Spanish and Chinese. Workers should not have access to within 1 foot of the front of the antennas while they are in operation.

___ **Not Approved**, additional information required.

___ **Not Approved**, does not comply with Federal Communication Commission safety standards for radiofrequency radiation exposure. FCC Standard

1 Hours spent reviewing

Charges to Project Sponsor (in addition to previous charges, to be received at time of receipt by Sponsor)

Dated: 5/19/2017

Signed: 

Larry Kessler
Environmental Health Management Section
San Francisco Dept. of Public Health
1390 Market St., Suite 210,
San Francisco, CA. 94102
(415) 252-3841

T-Mobile Proposed Cell Site @ 1025 Fillmore
Community Meeting Summary Sheet

Meeting Information:

Date: Thursday, January 28, 2016
Time: 5:30-7:00 p.m.
Where: 1550 Scott Street
Conference Room
San Francisco, CA 94115

T-Mobile Representatives/Attendees:

- Laurel Ferguson, Modus Inc
- Neil Olij, Hammett & Edison

Neighborhood Attendees

- Rufus Abercrombie, on the board for 1025 Fillmore St.
- Cora McCoy, on the board for 1025 Fillmore St.
- Joann Crayton, on the board for 1025 Fillmore St.

Meeting notes:

- Rufus Abercrombie (board member) attended just to inquire about cell site technology and wanted to know exactly what was changing. We provided him with photo simulations, plans and RF report. Not opposed to project.
- Cora McCoy (board member) attended to hear about T-Mobile's modification, she took notes on the plans and wanted to know about the RF emissions. Was not opposed to the project.
- Joann Crayton (board member). She attended to inquire about cell site technology and wanted to know about the project and what would be changing at 1025 Fillmore. Not opposed to project.
- Two community members declined to sign in or provide their names were openly opposed to the project due to RF and health/environmental impact. Both members stated that they lived at 1025 Fillmore Street. Laurel provided them with the RF study and Hammett & Edison representative Niel Olij provided them with a summary of the technology and RF emissions due to the proposed project. The two community members did not believe the science and are opposed to the project.

Neighborhood Emails Received

- No emails were received concerning T-Mobile's modification at 1025 Fillmore.

Neighborhood Phone Calls Received

- Maryom An Al-Wati

- Called Laurel Ferguson on Tuesday January 26th (1/26) to express interest in the T-Mobile project and left a voicemail.
- Laurel Ferguson responded to Maryom the same day (1/26) and left a voicemail.
- Maryom returned the call Wednesday evening (1/27) and was concerned about the RF and health/environmental impact especially because the primary demographic of the community (in her opinion) is the elderly and would be impacted by the cell site more than others.
- Laurel Ferguson responded to Helena via mail on 1/29 to provide more info to Maryom. This included a project summary, plans, photo simulations, and RF report.
- No response from Maryom received after Laurel's letter (1/29)

Neighborhood Meeting Sign-In Sheet
T-Mobile Wireless Facility 1025 Fillmore
January 28, 2016 at 5:30 PM

1025 Fillmore St, San Francisco, CA
T-Mobile # SF03024A - El Bethel Arms

NAME	ADDRESS	CONTACT INFORMATION
Rufus Abercrombie	Not provided	Not provided
Cora McCoy	Not provided	Not provided
Joann Crayton	Not provided	Not provided

Neighborhood Meeting Comment Sheet
T-Mobile Wireless Facility 1025 Fillmore Street

1025 Fillmore St, San Francisco, CA
T-Mobile # SF0302A – El Bethel Arms

NAME	CONTACT INFORMATION	COMMENT
N/A		

COMMUNITY OUTREACH MEETING ON A WIRELESS COMMUNICATION FACILITY PROPOSED IN YOUR NEIGHBORHOOD

To: Neighbors within 500 feet of 1025 Fillmore Street, San Francisco, CA

Meeting Information

Date: Thursday, January 28, 2015
Time: 5:30-7:30 p.m.
Where: Western Addition Library
1550 Scott Street
San Francisco, CA 94115

Applicant

T-Mobile
c/o Modus Inc.
149 Natoma St., 3rd floor
San Francisco, CA 94105

T-Mobile Site Information

Address: 1025 Fillmore Street
San Francisco, CA 94115
APN: 0774/021
Zoning: NCT

Contact Information

Laurel Ferguson
149 Natoma St., 3rd floor
San Francisco, CA 94105
(916) 342-0298
lferguson@modus-corp.com

**This is not a Library Sponsored Program*

T-Mobile has applied for zoning approval to modify their existing rooftop wireless facility located at 1025 Fillmore Street in San Francisco. The proposed modifications will enhance T-Mobile's network by adding more spectrum, resulting in faster and more reliable data streaming. This update will improve service for T-Mobile customers with significantly faster data rates for both uploading and downloading.

You are invited to attend an informational community meeting on Thursday, January 28 from 5:30-7:30 p.m. at the 1550 Scott Street Library in San Francisco. This project will be scheduled for a Planning Commission public hearing after the neighborhood meeting. Architectural plans and photo simulations will be available for your review at the meeting.

If you are unable to attend the meeting and would like to request information, please contact Laurel Ferguson at (916) 342-0298 or lferguson@modus-corp.com

If you have any questions about the zoning process, you may contact Omar Masry, the project planner with the San Francisco Planning Department at (415) 575-9116 or omar.masry@sfgov.org.

NOTE: If you require an interpreter to be present at the meeting, please contact our office at 916-342-0298 or lferguson@modus-corp.com no later than January 21th and we will make every effort to provide you with an interpreter.

NOTIFICACIÓN DE REUNIÓN DE ALCANCE COMUNITARIO SOBRE UNA INSTALACIÓN DE COMUNICACIONES INALÁMBRICAS PROPUESTA PARA SU VECINDARIO

A: Vecinos A Menos De 500 Pies De 1025 Fillmore St, San Francisco, CA

Reunión informativa
Fecha: Jueves, 28 de enero 2016
Hora: 5 : 30-7 : 30 pm
Dónde : Western Addition Biblioteca
1550 Scott Street
San Francisco , CA 94115

Solicitante
T-Mobile
c / o Modus Inc.
149 Natoma St , 3er piso
San Francisco , CA 94105

T-Mobile Información del sitio
Dirección: 1025 Fillmore Street
San Francisco , CA 94115
APN: 0774/021
Zonificación: NCT
Información del contacto
Laurel Ferguson
149 Natoma St , 3er piso
San Francisco , CA 94105
(916) 342-0298
lferguson@modus-corp.com

* Este no es un programa de Biblioteca patrocinados

T-Mobile ha solicitado la aprobación de zonificación para modificar su instalación inalámbrica en la azotea existente ubicada en 1025 Fillmore Street en San Francisco. Las modificaciones propuestas mejorarán la red de T-Mobile mediante la adición de más espectro, lo que resulta en la transmisión de datos más rápida y más confiable. Esta actualización mejorará el servicio para los clientes de T-Mobile con velocidades de datos significativamente más rápidas, tanto para la carga y descarga.

Usted está invitado a asistir a una reunión de la comunidad informativa el jueves 28 de enero a partir de 5: 30-7: 30 pm en la Biblioteca de Scott 1550 Street en San Francisco. Este proyecto será programado para una audiencia pública de la Comisión de Planificación después de la reunión de vecinos. Planos arquitectónicos y simulaciones fotográficas estarán disponibles para su revisión en la reunión.

Si usted no puede asistir a la reunión y desea solicitar información, por favor póngase en contacto con Laurel Ferguson al (916) 342 a 0298 o lferguson@modus-corp.com Si usted tiene alguna pregunta sobre el proceso de zonificación, puede comunicarse con Omar Masry, el planificador de proyecto con el Departamento de Planificación de San Francisco al (415) 575 a 9116 o omar.masry@sfgov.org.

NOTA: Si necesita un intérprete para estar presente en la reunión, por favor comuníquese con nuestra oficina al 916-342-0298 o lferguson@modus-corp.com a más tardar el 21 de enero y vamos a hacer todo lo posible para ofrecerle un intérprete.

会议信息

日期：周四， 2015 年 1 月 28 日

时间： 5 ： 30-7 ： 30 下午

其中：西增区图书馆

1550 斯科特街

旧金山，加州 94115

申请人

T 移动

C / Ø 作案有限公司

149 纳托马街 3 楼

旧金山，加利福尼亚州 94105

T-Mobile 的站点信息

地址 1025 菲尔莫尔街

旧金山，加州 94115

APN ： 0774/021

分区： NCT

联系信息

劳雷尔弗格森

149 纳托马街 3 楼

旧金山，加利福尼亚州 94105

（ 916 ） 342-0298

lferguson@modus-corp.com

*这是不是一个图书馆赞助计划

Huìyì xìnxī

rìqí: Zhōu sì, 2015 nián 1 yuè 28 rì

shíjiān: 5: 30-7: 30 Xiàwǔ

qízhōng: Xī zēng qū túshū guǎn

1550 sī kē tè jiē

jiùjīnshān, jiāzhōu 94115

shēnqǐng rén

T yídòng

C/ Ø zuò'àn yǒuxiàn gōngsī

149 nà tuō mǎ jiē 3 lóu

jiùjīnshān, jiālifúníyǎ zhōu 94105

T-Mobile de zhàndiǎn xìnxī

dìzhǐ 1025 fēi ěr mò ěr jiē

jiùjīnshān, jiāzhōu 94115

APN: 0774/021

Fēnqū: NCT

liánxì xìnxī

láo léi ěr fúgésēn

149 nà tuō mǎ jiē 3 lóu

jiùjīnshān, jiālifúníyǎ zhōu 94105

(916) 342-0298

lferguson@modus-corp.Com

*zhè shì bùshì yīgè túshū guǎn zànzhù jìhuà

T-Mobile 公司已经申请区划批准修改现有屋顶的无线设备位于 1025 菲尔莫尔街在旧金山。建议修改将增强 T-Mobile 的网络，加入更多的频谱，从而能更快，更可靠的数据流。此更新将改善 T-Mobile 的客户服务与显著更快的数据传输速率为上传和下载。

邀请您从 5 参加一个信息社区会议上月 17 日星期二 28：30-7：30 时，在 1550 斯科特街道图书馆在旧金山。该项目将安排在附近的会后举行的计划委员会公开听证会。建筑计划和模拟图片将可用于您的评论出席了会议。

如果您无法出席会议，并想请求的信息，请联系劳雷尔弗格森（ 916）342-0298 或 lferguson@modus-corp.com

如果您对分区过程中有任何疑问，您可以联系奥马尔·马斯利，项目策划者与旧金山规划部（ 415）575-9116 或 omar.masry@sfgov.org。

注：如果您需要口译员出席了会议，请联系 916-342-0298 我们的办公室或 lferguson@modus-corp.com 不迟于 1 月 21 日， 我们将尽全力为您提供翻译。

T-Mobile gōngsī yǐjīng shēnqǐng qūhuà pīzhǔn xiūgǎi xiàn yǒu wūdǐng de wúxiàn shèbèi wèiyú 1025 fēi ěr mò ěr jiē zài jiùjīnshān. Jiànyì xiūgǎi jiāng zēngqiáng T-Mobile de wǎngluò, jiārù gèng duō de pínpǔ, cóng'ér néng gèng kuài, gèng kěkào de shùjù liú. Cǐ gēngxīn jiāng gǎishàn T-Mobile de kèhù fúwù yǔ xiǎnzhù gèng kuài de shùjù zhuàn shū sùlǜ wéi shàngchuán hé xiàzài.

Yāoqǐng nín cóng 5 cānjiā yīgè xìnxī shèqū huìyì shàng yuè 17 rì xīngqí'èr 28:30-7:30 Shí, zài 1550 sī kē tè jiēdào túshū guǎn zài jiùjīnshān. Gāi xiàngmù jiāng ānpái zài fùjìn de huì hòu jǔxíng de jìhuà wěiyuánhuì gōngkāi tīngzhèng huì. Jiànzhú jìhuà hé mónǐ túpiàn jiāng kěyòng yú nín de pínglùn chūxíle huìyì.

Rúguǒ nín wúfǎ chūxí huìyì, bìng xiǎng qǐngqiú de xìnxī, qǐng liánxì láo léi ěr fúgésēn (916)342-0298 huò lferguson@modus-corp.Com rúguǒ nín duì fēnqū guòchéng zhōng yǒu rènhé yíwèn, nín kěyǐ liánxì ào mǎ'ěr·mǎ sī lì, xiàngmù cèhuà zhě yǔ jiùjīnshān guīhuà bù (415)575-9116 huò omar.Masry@sfgov.Org.

Zhù: Rúguǒ nín xūyào kǒuyì yuán chūxíle huìyì, qǐng liánxì 916-342-0298 wǒmen de bàngōngshì huò lferguson@modus-corp.Com bù chí yú 1 yuè 21 rì, wǒmen jiāng jìn quánlì wèi nín tígōng fānyì.

STATE OF CALIFORNIA)
)
COUNTY OF ORANGE)

DECLARATION OF MAILING RE: COMMUNITY OUTREACH MEETING ON A WIRELESS COMMUNICATION FACILITY PROPOSED IN YOUR NEIGHBORHOOD

I, __Norah Jaffan _____, do hereby declare as follows:

1. I am a _Project Manager of NotificationMaps.com. I am over 18 years of age and I am a resident of the County of Orange, State of California.

2. On Jan 15, 2016 I caused to be mailed and/or distributed a copy of "COMMUNITY OUTREACH MEETING ON A WIRELESS COMMUNICATION FACILITY PROPOSED IN YOUR NEIGHBORHOOD" to the following location(s) within the 500 foot boundaries of the proposed site and also including neighborhood association within 500 foot boundaries of site:

a. See Attached Map
See Attached Mailing List
See Attached Notice

b. 1025 Fillmore ST

c. _____

d. _____

3. The attached list was prepared using the latest available data per the County Assesor's Office.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed 01/15/2016 at County of Orange, California.

By: 

___Norah Jaffan _____ _____
[Please Print Name]

T-Mobile

SITE NUMBER: SF03024A
SITE NAME: EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
COUNTY: SAN FRANCISCO

CONDITIONAL USE AUTHORIZATION
2015-014626CUA (SUPERSEDING 1998.975C)

RFDS VERSION 3 DATE: 04/06/2015

ENGINEERING

2013 CALIFORNIA BUILDING CODE
2013 CALIFORNIA ELECTRICAL CODE
2013 INTERNATIONAL BUILDING CODE
2013 NATIONAL ELECTRICAL CODE
TIA/EIA-222-G-2 OR LATEST EDITION
LOCAL BUILDING/PLANNING CODE

GENERAL NOTES

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

SITE INFORMATION

PROPERTY OWNER:	EL BETHEL ARMS, INC.
ADDRESS:	C/O CHRISTIAN CHURCH HOMES 303 HEGENBERGER ROAD, SUITE 201 OAKLAND, CA 94621
APPLICANT:	T-MOBILE USA
ADDRESS:	1855 GATEWAY BOULEVARD, STE. 900 CONCORD, CA 94520
LATITUDE:	37° 46' 44.03" N (37.778897)
LONGITUDE:	122° 25' 55.00" W (-122.431944)
LAT/LONG TYPE:	NAD 83
GROUND ELEVATION:	±116.5' AMSL
APN #:	0774-021
ZONING JURISDICTION:	SAN FRANCISCO COUNTY
CURRENT ZONING:	RM-4; NCT
PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY
TELEPHONE:	AT¢T
POWER:	PG¢E

PROJECT TEAM

SITE ACQUISITION MANAGER:
MODUS, INC.
240 STOCKTON ST., 3RD FLOOR
SAN FRANCISCO, CA 94108
CONTACT: NICK VOTAW
PHONE: (415) 622-8706
EMAIL: nvotaw@modus-corp.com

CONSTRUCTION MANAGER:
T-MOBILE USA
SAN FRANCISCO /
SACRAMENTO MARKETS
CONTACT: MIKE KOVACH
PHONE: (530) 979-1117
EMAIL: Mike.Kovach@T-Mobile.com

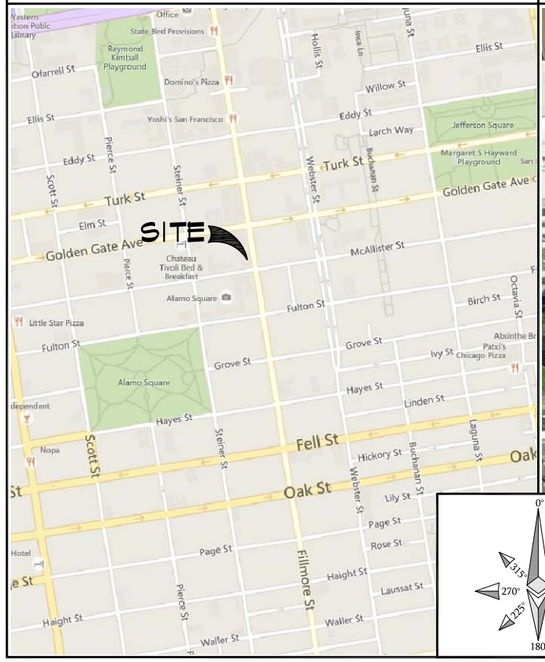
RF ENGINEER:
T-MOBILE USA
SAN FRANCISCO /
SACRAMENTO MARKETS
CONTACT: FATEMA KOTHARI
PHONE: (404) 542-8164
EMAIL: Fatema.Kothari3@T-Mobile.com

ENGINEER:
ZALZALI & ASSOCIATES INC.
dba ALL STATES ENGINEERING
& SURVEYING
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630
OFFICE: (949) 273-0996
PRINCIPAL: WISSAM ZALZALI
(C-71655)
CELL: (949) 609-9559
PM: KRYSTIAN MARSHALL
CELL: (949) 690-7975
EMAIL: krystian@zalzali.com

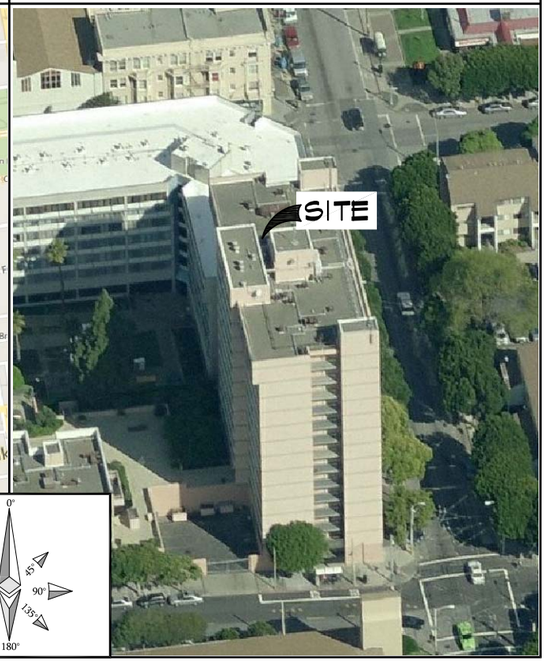
LAND USE PLANNER:
MODUS, INC.
240 STOCKTON ST., 3RD FLOOR
SAN FRANCISCO, CA 94108
CONTACT: LAUREL FERGUSON
PHONE: (916) 342-0298
EMAIL: lferguson@modus-corp.com

LOCATION MAPS

VICINITY MAP



LOCAL MAP



DRIVING DIRECTIONS

DIRECTIONS FROM T-MOBILE OFFICE IN CONCORD:

START OUT GOING SOUTHEAST ON GATEWAY BLVD. TAKE THE 1ST RIGHT ONTO CLAYTON RD. MERGE ONTO CA-242 S TOWARD OAKLAND. MERGE ONTO I-680 S VIA THE EXIT ON THE LEFT. MERGE ONTO CA-24 W VIA EXIT 46 TOWARD OAKLAND/LAFAYETTE. MERGE ONTO I-580 W VIA EXIT 2B. MERGE ONTO I-80 W VIA EXIT 19A ON THE LEFT (PORTIONS TOLL). MERGE ONTO US-101 N/CENTRAL FWY/CENTRAL SKWY N VIA EXIT 1B TOWARD GOLDEN GATE BRIDGE. TAKE EXIT 434B ON THE LEFT TOWARD OCTAVIA BLVD/FELL STREET. STAY STRAIGHT TO GO ONTO OCTAVIA BLVD. TURN LEFT ONTO FELL ST. TURN RIGHT ONTO FILLMORE ST. 1025 FILLMORE ST IS ON THE LEFT.

#1025 FILLMORE ST. SAN FRANCISCO, CA 94115

CONSTRUCTION DRAWINGS

IF USING 11"X17" PLOT, DRAWINGS WILL BE HALF SCALE

PROJECT DESCRIPTION

T-MOBILE WIRELESS PROPOSES TO MODIFY AN EXISTING WIRELESS COMMUNICATION SITE ON A BUILDING. THE SCOPE WILL CONSIST OF THE FOLLOWING:

- INSTALL (3) 8'-0" PANEL ANTENNAS ON NEW MASTS ADJACENT TO EXISTING PANEL ANTENNAS WITHIN (3) NEW FRP BOX SCREENS W/ BOTTOMS
- INSTALL (3) NEW ERICSSON RRUS-11s ADJACENT TO EXISTING RRUs, SETBACK ENOUGH NOT TO BE SEEN FROM ADJACENT STREETS
- INSTALL (3) NEW FRP BOX SCREENS W/ BOTTOMS
- REUSE EXISTING FCS CABLES

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
T-2	EMF REPORT
T-3	FIRE DEPARTMENT CHECKLIST
GN-1	GENERAL NOTES
GN-2	GENERAL NOTES
GS-1	GENERAL SIGNAGE DETAILS
PS-1	PHOTOSIMULATION
A-1	SITE PLAN
A-2	ENLARGED ROOF PLAN & EQUIPMENT LAYOUT PLAN
A-3	ANTENNA LAYOUT & SCHEDULE
A-4	ELEVATIONS
A-5	ELEVATIONS
D-1	DETAILS
D-2	SCREENING DETAILS
D-3	SPECIFICATION SHEETS
E-1	ELECTRICAL PLAN
G-1	GROUNDING SCHEMATIC & GROUNDING DETAILS
G-2	GROUNDING DETAILS

APPROVALS

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

T-MOBILE RF ENGINEER: _____ DATE: _____
T-MOBILE OPERATIONS: _____ DATE: _____
SITE ACQUISITION: _____ DATE: _____
CONSTRUCTION MANAGER: _____ DATE: _____
PROPERTY OWNER: _____ DATE: _____
ZONING: _____ DATE: _____
PROJECT MANAGER: _____ DATE: _____

DO NOT SCALE DRAWINGS

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

811 Dig Alert
Know what's below. Call before you dig.
California
Call Two Working Days Before You Dig!
811 / 800-227-2600

T-Mobile
1855 GATEWAY BLVD., 9th FLOOR
CONCORD, CA 94520

MODUS
240 STOCKTON ST., 3RD FLOOR
SAN FRANCISCO, CA 94108

ALL STATES ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630
PHONE: (949) 273-0996

PROJECT NO:	SF03024A
DRAWN BY:	RF
CHECKED BY:	KM

REV	DATE	DESCRIPTION	
2	07/12/2017	PER PLANNING COMMENTS	RA
1	01/14/2016	PER PLANNING COMMENTS	KM
0	06/26/2015	100% CD'S FOR SUBMITTAL	KM
B	06/15/2015	100% CD'S FOR REVIEW	RF
A	04/14/2015	90% CD'S FOR REDLINE	RF

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by T-Mobile West LLC, a personal wireless telecommunications carrier, to evaluate proposed modifications to its existing base station (Site No. SF03024A) located at 1025 Fillmore Street in San Francisco, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Background

The San Francisco Department of Public Health has adopted a 10-point checklist for determining compliance of proposed WTS facilities or proposed modifications to such facilities with prevailing safety standards. The acceptable limits set by the FCC for exposures of unlimited duration are:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm^2	1.00 mW/cm^2
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

The site was visited by Mr. Charles Cherolis, a qualified field technician contracted by Hammett & Edison, Inc., during normal business hours on June 19, 2015, a non-holiday weekday, and reference has been made to information provided by T-Mobile, including zoning drawings by All States Engineering & Surveying, dated May 21, 2015.

Checklist

1. The location of all existing antennas and facilities at site. Existing RF levels.

T-Mobile had installed three directional panel antennas high on the sides of the tall residential building located at 1025 Fillmore Street. There were observed no other wireless base stations installed at the site. Existing RF levels for a person at ground near the site were less than 1% of the most restrictive public exposure limit. The measurement equipment used was a Narda Type NBM-520 Broadband Field Meter with Type EF-0391 Isotropic Broadband Electric Field Probe (Serial No. D-0454). The meter and probe were under current calibration by the manufacturer.

2. The location of all approved (but not installed) antennas and facilities. Expected RF levels from approved antennas.

No other WTS facilities are reported to be approved for this site but not installed.

3. The number and types of WTS within 100 feet of proposed site and estimates of additive EMR emissions at proposed site.

There were no other WTS facilities observed within 100 feet of the site.

4. Location (and number) of Applicant's antennas and back-up facilities per building and location (and number) of other WTS at site.

T-Mobile proposes to install three Andrew Model LNX-6515DS directional panel antennas next to its existing antennas, reportedly Ericsson Model AIR21, behind new view screens. The six antennas would employ up to 8° downtilt,* would be mounted at effective heights of at least 111½ feet above ground, and would be oriented in pairs (one of each type) toward 20°T, 140°T, and 260°T, to provide service in all directions.

5. Power rating (maximum and expected operating power) for all existing and proposed backup equipment subject to application.

The expected operating power of the T-Mobile transmitters is reflected in the resulting effective radiated power given in Item 6 below; the transmitters may operate at a power below their maximum rating.

6. Total number of watts per installation and total number of watts for all installations at site.

The maximum effective radiated power proposed by T-Mobile in any direction is 6,500 watts, representing simultaneous operation at 2,200 watts for AWS, 2,200 watts for PCS, and 2,100 watts for 700 MHz service.

7. Plot or roof plan showing method of attachment of antennas, directionality of antennas, and height above roof level. Discuss nearby inhabited buildings.

The drawings show the antennas to be installed as described in Item 4 above. There were noted no buildings of similar height nearby.

8. Estimated ambient RF levels for proposed site and identify three-dimensional perimeter where exposure standards are exceeded.

For a person anywhere at ground, the maximum RF exposure level due to the proposed T-Mobile operation is calculated to be 0.0046 mW/cm^2, which is 0.62% of the applicable public exposure limit. Ambient RF levels at ground near the site are therefore estimated to be below 1.7% of the limit. The maximum calculated level at any nearby building is 3.0% of the public exposure limit. The three-

* Assumed for the purposes of this study.

dimensional perimeter of RF levels equal to the public exposure limit is calculated to extend up to 45 feet out from the antenna faces and to much lesser distances above, below, and to the sides; this does not reach any publicly accessible areas.

9. Describe proposed signage at site.

Due to their mounting locations and height, the T-Mobile antennas are not accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access to the antennas, including employees and contractors of T-Mobile and of the property owner. No access within 9 feet directly in front of the antennas themselves, such as might occur during certain maintenance activities, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

10. Statement of authorship.

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-20309, which expires on March 31, 2017. This work has been carried out under her direction, and all statements are true and correct of her own knowledge except, where noted, when data has been supplied by others, which data she believes to be correct.

† Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter; the San Francisco Department of Public Health recommends that all signs be written in English, Spanish, and Chinese.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the proposed operation of the T-Mobile West LLC base station located at 1025 Fillmore Street in San Francisco, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs is recommended to establish compliance with occupational exposure limits.

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3-31-2017
ELECTRICAL
STATE OF CALIFORNIA

Andrea L. Bright, P.E.
707/996-5200

June 25, 2015

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PROJECT NO:	SF03024A
DRAWN BY:	RF
CHECKED BY:	KM

REV	DATE	DESCRIPTION	
2	07/12/2017	PER PLANNING COMMENTS	RA
1	01/14/2016	PER PLANNING COMMENTS	KM
0	06/26/2015	100% CD'S FOR SUBMITTAL	KM
B	06/15/2015	100% CD'S FOR REVIEW	RF
A	04/14/2015	90% CD'S FOR REDLINE	RF

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SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
EMF REPORT

SHEET NUMBER
T-2

2.06 SUBMITTAL REQUIREMENTS FOR CELLULAR ANTENNA SITES

REFERENCE: 2010 SFBC, 2010 SFFC, 2010 SFMC AND FCC OET BULLETIN 65 (97-01)

1. PROVIDE A DESCRIPTION OF WORK ON THE PLANS.
   - **PROVIDED. PLEASE SEE SHEET T-1-PROJECT DESCRIPTION**

2. PLANS SHALL INCLUDE PLAN VIEWS AND ELEVATIONS SHOWING ALL EQUIPMENT LOCATIONS AND CABLE RUNS.
   - **PROVIDED. PLEASE SEE SHEETS A-1, A-2, A-3, A-4 AND A-5.**

3. PLANS SHALL INCLUDE ANTENNA CUT-SHEETS AND EQUIPMENT LIST ON A DRAWING SHEET.
   - **PROVIDED. PLEASE SEE SHEET D-3.**

4. INCLUDE A COPY OF THE SIGNED AND STAMPED RF REPORT ON A DRAWING SHEET AS A REFERENCE TO IDENTIFY THE EXCLUSION AREA REQUIRED TO PREVENT OCCUPATIONAL EXPOSURES IN EXCESS OF THE FCC GUIDELINES (47CFR1.1310 AND FCC OET BULLETIN 65 EDITION 97-01).
   - **PROVIDED. PLEASE SEE SHEET T-2 RF REPORT.**

5. THE RF REPORT SHALL INDICATE WHETHER OR NOT THE SITE UNDER REVIEW IS A PART OF A MULTIPLE TRANSMITTER SITE AND SHALL SHOW COMPLIANCE WITH FCC 47CFR1.1307(B)(3), AS AMENDED - ALL TRANSMITTERS SHALL NOT EXCEED 5% OF THE POWER DENSITY EXPOSURE LIMIT.
   - **PROVIDED. PLEASE SEE SHEET T-2 RF REPORT.**

6. DRAWINGS SHALL REFLECT THE STRIPED/EXCLUSION AREAS FOR WORKERS PER THE ABOVE RF REPORT WITH A MINIMUM RADIUS OF 1 FOOT.
   - **PROPOSED PROJECT ENTAILS REPLACEMENT OF EXISTING ROOF MOUNTED ANTENNAS. EXISTING RF STRIPING NOT NEEDED FOR THIS SITE. ANTENNAS ARE MOUNTED ON BUILDING WALL AWAY FROM RF EXPOSURE**

7. PLANS SHALL INCLUDE A QUANTITATIVE THREE-DIMENSIONAL IMAGE OF THE RF LEVELS FROM EACH ANTENNA LOCATED NEAR AN EGRESS POINT (E.G. PENTHOUSE STAIR; FIRE ESCAPE, ROOF WALKING PATHS; SKYLIGHTS, ETC.).
   - **PLEASE SEE RF REPORT ON SHEET2 T-2**

8. "NOTICE TO WORKERS" WARNING SIGNAGE, AS APPLICABLE PER THE ABOVE RF REPORT, SHALL BE PERMANENTLY MOUNTED AT THE STAIRWELL SIDE OF THE ROOF-ACCESS DOOR (ANSI C95.2-1982 (REFERENCE [3]) -YELLOW OR MORE DURABLE COLOR FOR OUTDOOR LONGEVITY)
   - **RF WARNING SIGNAGE TO WORKERS ALREADY EXIST ON ROOF ACCESS DOOR**

9. CAMOUFLAGED ANTENNAS SHALL HAVE 4INCH X 4INCH SIGNAGE PERMANENTLY MOUNTED TO THE EXTERIOR OF THE RF SCREEN AS PROVIDED BELOW. THE SIGN SHALL BE WEATHERPROOF WITH CONTRASTING BACKGROUND COLOR AND SHALL CONTAIN THE YELLOW TRIANGLE AROUND THE ANTENNA SYMBOL (ANSI C95.2-1982 (REFERENCE [3]) -YELLOW OR MORE DURABLE COLOR FOR OUTDOOR LONGEVITY). SIGNAGE LOCATION(S) AND DETAIL OF THE SIGN SHALL BE INCLUDED ON THE PLANS.
   - **NO CAMOUFLAGED ANTENNAS ARE PROPOSED.**

10. CABLES/WIRING SHALL NOT BE ALLOWED IN EXIT ENCLOSURES, SMOKE-PROOF TOWERS, ELEVATOR SHAFTS, OR IN FRONT OF DRY STANDPIPES. 2010 CFC 1022.4 AND 509.2
    - **ANTENNA CABLES ARE ROOF MOUNTED ON SLEEPERS. PLEASE SEE SHEET A-1 AND A-2.**

11. ANTENNAS SHALL NOT BE MOUNTED CLOSER THAN THE EXCLUSION ZONE PLUS 4 FEET FOR INSTALLATIONS NEAR FIRE ESCAPES, STAIR PENTHOUSE DOORS, EXTERIOR STANDPIPE OUTLETS, SKYLIGHTS, OR OTHER FIRE DEPARTMENT OPERATIONS CONSIDERATION.
    - **NOT APPLICABLE.**

12. THERE IS NO GUARANTEE THAT THE FIRE DEPARTMENT WILL NOT SHUT DOWN THE POWER TO THE SITE IN AN EMERGENCY SITUATION ALTHOUGH IN ORDER TO REDUCE THE SITE OPERATOR'S POSSIBLE LOSS OF SERVICE THE FOLLOWING INFORMATION MAY BE PROVIDED AT THE EQUIPMENT ROOM ENTRANCE:
    - PROVIDE EMERGENCY SHUTDOWN PROCEDURE SIGNAGE. THE SIGN SHALL INCLUDE THE FOLLOWING:

      1. EMERGENCY 24 HOUR/7 DAY A WEEK NOC / FIELD TECHNICIAN TELEPHONE NUMBER FOR RF SHUT-DOWN
      2. CELL SITE IDENTIFICATION NUMBER
      3. MAP TO LOCATION OF ELECTRICAL MAIN -ELECTRICAL MAIN SHALL BE CLEARLY IDENTIFIED WITH A PERMANENT RED LABEL AND WHITE LETTERING.
      4. MAP TO LOCATION OF BATTERY CABINETS AND BREAKERS -CABINETS AND BREAKERS SHALL BE CLEARLY IDENTIFIED WITH A PERMANENT RED LABEL AND WHITE LETTERING.
      5. ANY OTHER RELEVANT INFORMATION OR PROCEDURES AS REQUIRED FOR THE INDIVIDUAL CELLULAR SITE.

    - THE SIGN SHALL BE CLEARLY LABELED IN A PHENOLIC LABEL WITH A WHITE BACKGROUND AND BLACK LETTERING. THE TITLE BLOCK SHALL BE A RED BACKGROUND AND 1" HIGH WHITE LETTERING. MULTIPLE SIGNS MAY NEED TO BE INSTALLED BASED UPON THE CELLULAR SITE CONFIGURATION.
    - A COPY OF THE SIGNAGE SHALL BE INCLUDED ON A DRAWING SHEET.

    - **PROVIDED. PLEASE SEE SIGNAGE DETAILS ON SHEET GS-1.**

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SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
FIRE DEPARTMENT CHECKLIST

SHEET NUMBER
T-3

GENERAL CONSTRUCTION NOTES

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING CODE, THE LATEST EDITION AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
2. CONTRACTOR SHALL CONSTRUCT SITE IN ACCORDANCE WITH THESE DRAWINGS AND CONSTRUCTION SPECIFICATIONS 80-T1196-1 REV H. THE SPECIFICATION IS THE RULING DOCUMENT AND ANY DISCREPANCIES BETWEEN THE SPECIFICATION AND THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION
3. CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OF FIELD CONDITIONS
4. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS. OWNER PROVIDED MATERIALS WILL INCLUDE THE FOLLOWING, UNLESS NOTED OTHERWISE:
   A) TRANSMITTER
   B) RF FILTER
   C) MFTS RACK
   D) AUXILIARY EQUIPMENT IN MFTS RACK
   E) PUMP ASSEMBLY
   F) HEAT EXCHANGER
   G) HOSE AND HOSE MANIFOLDS (ANY COPPER OR STEEL SECTIONS PROVIDE BY CONTRACTOR)
   H) UHF ANTENNA AND MOUNTING BRACKETS, GPS ANTENNAS AND KU ANTENNAS
   I) UHF COAX AND HANGERS
   K) 480-208 & 208-400 ELECTRICAL TRANSFORMERS (RE: E-2 FOR SPECIALIZED TRANSFORMERS PROVIDED BY CONTRACTOR)
   L) AUTOMATIC TRANSFER SWITCH AND GENERATOR
   M) EQUIPMENT SHELTER (SHELTERS FURNISHED IN FACTORY W/ HVAC EQUIPMENT AND ELECTRICAL DISTRIBUTION PANEL)
   N) INTEGRATED LOAD CENTER
5. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE WORK.
6. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
7. CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
8. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.
10. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE SUPERINTENDENT OF BUILDINGS & GROUNDS AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
12. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
13. MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING ETC. AND IMMEDIATELY REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
14. IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., MUST BE CLEARLY UNDERSTOOD THAT REINFORCING STEEL SHALL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES (UNLESS NOTED OTHERWISE). LOCATIONS OF REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT.
15. REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND IN WITH ADJACENT SURFACES.
16. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS.
17. KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
18. MINIMUM BEND RADIUS OF ANTENNA CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURERS RECOMMENDATIONS.
19. 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 APPLICABLE REGULATORY AUTHORITIES
20. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION SHALL BE IN CONFORMANCE WITH JURISDICTIONAL OR STATE AND LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL AND COORDINATED WITH LOCAL REGULATORY AUTHORITIES.
21. ALL CONSTRUCTION IS TO ADHERE TO T-MOBILE'S INTEGRATED CONSTRUCTION STANDARDS UNLESS CALIFORNIA CODE IS MORE STRINGENT.
22. THE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PERFORM THE CONSTRUCTION IN ACCORDANCE WITH THE CALIFORNIA BUILDING STANDARDS CODE, TITLES 19 AND 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE APPROVED PLANS AND SPECIFICATIONS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE JURISDICTION BEFORE PROCEEDING WITH THE WORK.

ELECTRICAL NOTES

1. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE W/DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
2. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL EXISTING CONDITIONS OF ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTING OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER & TELEPHONE COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:
   C - NATIONAL FIRE CODES
   A. UL - UNDERWRITERS LABORATORIES
   B. NEC - NATIONAL ELECTRICAL CODE
   C. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
   D. OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT
   E. SBC - STANDARD BUILDING CODE
4. DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WHEN NEEDED.
5. EXISTING SERVICES: CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
6. CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING EQUIPMENT.
7. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
8. CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC... ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
9. MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING, UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THWN INSULATION.
10. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
11. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
12. ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATIONS, SET FORTH BY T-MOBILE.
13. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.
14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
15. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
16. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
17. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
18. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
19. DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO NOTES AND REQUIREMENTS 'EXCAVATION, AND BACKFILLING.
20. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IECE.
21. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURES CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
22. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE.
23. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
24. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
25. ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
26. RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC MEETING OR EXCEEDING NEMA TC2 - 1990. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 2 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'GOLD GALV'.
27. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
28. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER WITH TYPE THWN INSULATION, 600 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.
29. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
30. SERVICE: 240/120V, SINGLE PHASE, 3 WIRE CONNECTION AVAILABLE FROM UTILITY COMPANY. OWNER OR OWNERS AGENT WILL APPLY FOR POWER.
31. TELEPHONE SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.
32. ELECTRICAL AND TELCO RACEWAYS TO BE BURIED A MINIMUM OF 2' DEPTH.
33. CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELCO SERVICE CONDUITS. CAUTIONS TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOMM".
34. ALL BOLTS SHALL BE STAINLESS STEEL

GROUNDING NOTES

1. COMPRESSION CONNECTIONS (2), 2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. EC SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "N", "I") WITH 1" HIGH LETTERS.
3. ALL HARDWARE 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER.
4. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND BOLTED ON THE BACK SIDE.
6. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
7. WHEN THE SCOPE OF WORK REQUIRES THE ADDITION OF A GROUNDING BAR TO AN EXISTING TOWER,THE SUBCONTRACTOR SHALL OBTAIN APPROVAL FROM THE TOWER OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER.
8. ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.

ADDITIONAL NOTES:

9. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
10. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING #2 GROUND WIRES AND CONNECT TO SURFACE MOUNTED GROUND BUS BARS AS SHOWN. FOLLOW ANTENNA AND BTS MANUFACTURER'S PRACTICES FOR GROUNDING REQUIREMENTS. GROUND COAX SHIELD AT BOTH ENDS USING MANUFACTURERS PRACTICES. ALL UNDERGROUND WATER PIPES, METAL CONDUITS AND GROUNDS THAT ARE A PART OF THIS SYSTEM SHALL BE BONDED TOGETHER.
11. ALL GROUND CONNECTIONS SHALL BE #2 AWG U.N.O. ALL WIRES SHALL BE COPPER THHN/THWN. ALL GROUND WIRE SHALL BE SOLID TIN COATED OR STRANDED GREEN INSULATED WIRE.
12. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE, 5 OHMS MAXIMUM. PROVIDE SUPPLEMENT GROUNDING RODS AS REQUIRED TO ACHIEVE SPECIFIED OHMS READING. GROUNDING AND OTHER OPTIONAL TESTING WILL BE WITNESSED BY THE T-MOBILE REPRESENTATIVE.
13. NOTIFY ARCHITECT/ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
14. BARE GROUNDING CONDUCTOR SHALL BE HARD DRAWN TINNED COPPER SIZES AS NOTED ON PLAN.
15. ALL HORIZONTALLY RUN GROUNDING CONDUCTORS SHALL BE INSTALLED MINIMUM 12" BELOW GRADE/FROST-LINE IN TRENCH, U.N.O., AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY ARCHITECT.
16. ALL GROUND CONDUCTORS SHALL BE RUN AS STRAIGHT AND SHORT AS POSSIBLE, WITH A MINIMUM 12" BENDING RADIUS NOT LESS THAN 90 DEGREES.
17. ALL SUPPORT STRUCTURES, CABLE CHANNEL WAYS OR WIRE GUIDES SHALL BE BONDED TO GROUND SYSTEM AT A POINT NEAREST THE MAIN GROUNDING BUS "MGB" (OR DIRECTLY TO GROUND-RING).
18. ACCEPTABLE CONNECTIONS FOR GROUNDING SYSTEM SHALL BE:
   a. BURNDY, HY-GRADE U.L. LISTED CONNECTORS FOR INDOOR USE OR AS APPROVED BY T-MOBILE PROJECT MANAGER.
   b. CADWELD, EXOTHERMIC WELDS (WELDED CONNECTIONS).
   c. TWO -(2) HOLE TINNED COPPER COMPRESSION (LONG BARREL) FITTINGS (BUS BAR CONNECTIONS).
19. ALL CRIMPED CONNECTIONS SHALL HAVE EMBOSSED MANUFACTURER'S DIEMARK VISIBLE AT THE CRIMP (RESULTING FROM USE OF PROPER CRIMPING DEVICES).
20. PRIOR TO ANY LUG-BUSSBAR CONNECTIONS, THE BUSSBAR SHALL BE CLEANED BY USE OF "SCOTCH-BRITE" OR PLAIN STEEL WOOL AS TO REMOVE ALL SURFACE OXIDATION AND CONTAMINANTS. A COATING OF "NO-OX-ID" SHALL BE APPLIED TO THE CONNECTION SURFACES.
21. ALL CONNECTION HARDWARE SHALL BE TYPE 316 SS (NOT ATTRACTED TO MAGNETS).
22. THE GROUND RING SHALL BE INSTALLED 24" MINIMUM BEYOND ANY BUILDING DRIP LINE.
23. ELECTRICAL SERVICE EQUIPMENT GROUNDING SHALL COMPLY WITH NEC, ARTICLE 250-82 AND SHALL BOND ALL EXISTING AND NEW GROUNDING ELECTRODES. NEW GROUNDING ELECTRODE SHALL INCLUDE BUT NOT LIMITED TO GROUND RODS, GROUND RING IF SERVICE IS WITHIN THE RADIO EQUIPMENT LOCATION, BUILDING STEEL IF APPLICABLE, COLD WATER CONNECTIONS MUST BE MADE ON THE STREET SIDE OF MAIN SHUT-OFF VALVE.

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PROJECT NO:	SF03024A
DRAWN BY:	RF
CHECKED BY:	KM

REV	DATE	DESCRIPTION	
2	07/12/2017	PER PLANNING COMMENTS	RA
1	01/14/2016	PER PLANNING COMMENTS	KM
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A	04/14/2015	90% CD'S FOR REDLINE	RF

REGISTERED PROFESSIONAL ENGINEER
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L700/L1900 PROJECT

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

SITE WORK NOTES

1. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
2. DO NOT SCALE BUILDING DIMENSIONS FROM DRAWING.
3. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS-BUILT DRAWINGS BY GENERAL CONTRACTOR AND ISSUED TO ARCHITECT/ENGINEER AT COMPLETION OF PROJECT.
4. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
5. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE. CONTRACTOR SHALL CALL LOCAL DIGGER HOT LINE FOR UTILITY LOCATIONS 48 HOURS PRIOR TO START OF CONSTRUCTION.
6. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
7. GRADING OF THE SITE WORK AREA IS TO BE SMOOTH AND CONTINUOUS IN SLOPE AND IS TO FEATHER INTO EXISTING GRADES AT THE GRADING LIMITS.
8. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
9. STRUCTURAL FILLS SUPPORTING PAVEMENTS SHALL BE COMPACTED TO 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY.
10. NEW GRADES NOT IN BUILDING AND DRIVEWAY IMPROVEMENT AREA TO BE ACHIEVED BY FILLING WITH APPROVED CLEAN FILL AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
11. ALL FILL SHALL BE PLACED IN UNIFORM LIFTS. THE LIFTS THICKNESS SHOULD NOT EXCEED THAT WHICH CAN BE PROPERLY COMPACTED THROUGHOUT ITS ENTIRE DEPTH WITH THE EQUIPMENT AVAILABLE.
12. ANY FILLS PLACED ON EXISTING SLOPES THAT ARE STEEPER THAN 10 HORIZONTAL TO 1 VERTICAL SHALL BE PROPERLY BENCHED INTO THE EXISTING SLOPE AS DIRECTED BY A GEOTECHNICAL ENGINEER.
13. CONTRACTOR SHALL CLEAN ENTIRE SITE AFTER CONSTRUCTION SUCH THAT NO PAPERS, TRASH, WEEDS, BRUSH OR ANY OTHER DEPOSITS WILL REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE DISPOSED OF OFF-SITE BY THE GENERAL CONTRACTOR.
14. ALL TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH THE IMPROVEMENTS SHALL BE PROTECTED BY THE GENERAL CONTRACTOR.
15. ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY GENERAL CONTRACTOR WITH LOCAL UTILITY COMPANY, TELEPHONE COMPANY, AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS LOCATION.

ENVIRONMENTAL NOTES

1. ALL WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH ISSUED PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF FINES AND PROPER CLEAN UP FOR AREAS IN VIOLATION.
2. CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS AND WATERWAYS AND SHALL BE MAINTAINED IN PLACE THROUGH FINAL JURISDICTIONAL INSPECTION & RELEASE OF SITE.
3. CONTRACTOR SHALL INSTALL/CONSTRUCT ALL NECESSARY SEDIMENT/SILT CONTROL FENCING AND PROTECTIVE MEASURES WITHIN THE LIMITS OF SITE DISTURBANCE PRIOR TO CONSTRUCTION.
4. NO SEDIMENT SHALL BE ALLOWED TO EXIT THE PROPERTY. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ADEQUATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL FENCING MAY BE REQUIRED IN ANY AREAS SUBJECT TO EROSION.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES WITH SILT AND EROSION CONTROL MEASURES MAINTAINED ON THE DOWNSTREAM SIDE OF SITE DRAINAGE. ANY DAMAGE TO ADJACENT PROPERTY AS A RESULT OF EROSION WILL BE CORRECTED AT THE CONTRACTORS EXPENSE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS OF ALL SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT REMOVAL AS NECESSARY.
7. CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE HELD TO A MINIMUM. ONLY TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED.
8. SEEDING AND MULCHING AND/OR SODDING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE PROJECT FACILITIES AFFECTING LAND DISTURBANCE.
9. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS, AND CHECK DAMS.
10. RIP RAP OF SIZES INDICATED SHALL CONSIST OF CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY STONE FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCES

FOUNDATION, EXCAVATION AND BACKFILL NOTES

1. ALL FINAL GRADED SLOPES SHALL BE A MAXIMUM OF 3 HORIZONTAL TO 1 VERTICAL.
2. ALL EXCAVATIONS PREPARED FOR PLACEMENT OF CONCRETE SHALL BE OF UNDISTURBED SOILS, SUBSTANTIALLY HORIZONTAL AND FREE FROM ANY LOOSE, UNSUITABLE MATERIAL OR FROZEN SOILS, AND WITHOUT THE PRESENCE OF POUNDING WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED WHEN REQUIRED. COMPACTION OF SOILS UNDER CONCRETE PAD FOUNDATIONS SHALL NOT BE LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR THE SOIL IN ACCORDANCE WITH ASTM D1557.
3. CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC OR UNSUITABLE MATERIAL. IF INADEQUATE BEARING CAPACITY IS REACHED AT THE DESIGNED EXCAVATION DEPTH, THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE SAME TYPE SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. ANY STONE SUB BASE MATERIAL, IF USED, SHALL NOT SUBSTITUTE FOR REQUIRED THICKNESS OF CONCRETE.
4. ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH PRIOR TO BACK FILLING. BACK FILL SHALL CONSIST OF APPROVED MATERIALS SUCH AS EARTH, LOAM, SANDY CLAY, SAND AND GRAVEL, OR SOFT SHALE, FREE FROM CLODS OR LARGE STONES OVER 2 1/2" MAX DIMENSIONS. ALL BACK FILL SHALL BE PLACED IN COMPACTED LAYERS.
5. ALL FILL MATERIALS AND FOUNDATION BACK FILL SHALL BE PLACED IN MAXIMUM 6"THICK LIFTS BEFORE COMPACTION. EACH LIFT SHALL BE WETTED IF REQUIRED AND COMPACTED TO NOT LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR SOIL IN ACCORDANCE WITH ASTM D1557.
6. NEWLY PLACED CONCRETE FOUNDATIONS SHALL CURE A MINIMUM OF 72 HRS PRIOR TO BACK FILLING.
7. FINISHED GRADING SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AND PREVENT STANDING WATER. THE FINAL (FINISH) ELEVATION OF SLAB FOUNDATIONS SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE CENTER. FINISH GRADE OF CONCRETE PADS SHALL BE A MAXIMUM OF 4 INCHES ABOVE FINAL FINISH GRADE ELEVATIONS. PROVIDE SURFACE FILL GRAVEL TO ESTABLISH SPECIFIED ELEVATIONS WHERE REQUIRED.
8. NEWLY GRADED SURFACE AREAS TO RECEIVE GRAVEL SHALL BE COVERED WITH GEOTEXTILE FABRIC TYPE: TYPAR-3401 AS MANUFACTURED BY "CONSTRUCTION MATERIAL 1-800-239-3841" OR AN APPROVED EQUIVALENT, SHOWN ON PLANS. THE GEOTEXTILE FABRIC SHALL BE BLACK IN COLOR TO CONTROL THE RECURRENCE OF VEGETATIVE GROWTH AND EXTEND TO WITHIN 1 FOOT OUTSIDE THE SITE FENCING OR ELECTRICAL GROUNDING SYSTEM PERIMETER WHICH EVER IS GREATER. ALL FABRIC SHALL BE COVERED WITH A MINIMUM OF 4" DEEP COMPACTED STONE OR GRAVEL AS SPECIFIED. I.E. FDOT TYPE No. 57 FOR FENCED COMPOUND; FDOT TYPE No. 67 FOR ACCESS DRIVE AREA.
9. IN ALL AREAS TO RECEIVE FILL, REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE. PLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SUCH THAT FILL MATERIAL WILL BIND WITH EXISTING/PREPARED SOIL SURFACE.
10. WHEN SUB GRADE OR PREPARED GROUND SURFACE HAS A DENSITY LESS THAN THAT REQUIRED FOR THE FILL MATERIAL, SCARIFY THE GROUND SURFACE TO DEPTH REQUIRED, PULVERIZE, MOISTURE-CONDITION AND/OR AERATE THE SOILS AND RECOMPACT TO THE REQUIRED DENSITY PRIOR TO PLACEMENT OF FILLS.
11. IN AREAS WHICH EXISTING GRAVEL SURFACING IS REMOVED OR DISTURBED DURING CONSTRUCTION OPERATIONS, REPLACE GRAVEL SURFACING TO MATCH ADJACENT GRAVEL SURFACING AND RESTORED TO THE SAME THICKNESS AND COMPACTION AS SPECIFIED. ALL RESTORED GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES.
12. EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED WITH THE CONDITION THAT ANY UNFAVORABLE AMOUNTS OF ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ANY ADDITIONAL GRAVEL RESURFACING MATERIAL AS NEEDED TO PROVIDE A FULL DEPTH COMPACTED SURFACE THROUGHOUT SITE.
13. GRAVEL SUB SURFACE SHALL BE PREPARED TO REQUIRED COMPACTION AND SUB GRADE ELEVATIONS BEFORE GRAVEL SURFACING IS PLACED AND/OR RESTORED. ANY LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED AND ANY DEPRESSIONS IN THE SUB GRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL. GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUB GRADE.
14. PROTECT EXISTING GRAVEL SURFACING AND SUB GRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING 'MATTS' OR OTHER SUITABLE PROTECTION DESIGNED TO SPREAD EQUIPMENT LOADS AS MAY BE NECESSARY. REPAIR ANY DAMAGE TO EXISTING GRAVEL SURFACING OR SUB GRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTORS OPERATIONS.
15. DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES RESULTING FROM CONTRACTORS NEGLIGENCE SHALL BE REPAIRED AND/ OR REPLACED TO THE OWNERS SATISFACTION AT NO ADDITIONAL COST TO THE CONTRACT.
16. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES AT NO ADDITIONAL COST TO THE CONTRACT.

STRUCTURAL STEEL NOTES

1. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW:
   - W-SHAPES: ASTM A992, 50 KSI
   - ANGLES, BARS CHANNELS: ASTM A36, 36 KSI
   - HSS SECTIONS: ASTM 500, 46 KSI
   - PIPE SECTIONS: ASTM A53-E, 35 KSI
2. ALL EXTERIOR EXPOSED STEEL AND HARDWARE SHALL BE HOT DIPPED GALVANIZED.
3. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC.WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
4. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE 3/4"ϕ CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
5. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A307 BOLTS UNLESS NOTED OTHERWISE.
6. FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT.

CONCRETE MASONRY NOTES

1. CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-1, (F'M=1,500 PS). MEDIUM WEIGHT (115 PCF).
2. MORTAR SHALL BE TYPE "S" (MINIMUM 1,800 PSI AT 28 DAYS).
3. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.
4. ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED.
5. ALL HORIZONTAL REINFORCEMENT SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS.
6. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT.
7. ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS.
8. PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT.
9. ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.
10. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.
11. REINFORCING BARS - SEE NOTES UNDER "REINFORCING STEEL" FOR REQUIREMENTS.
12. PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
13. LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET.
14. HIGH LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 2104A.5.1.2.3 OF U.B.C.
15. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.
16. CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH CORES CONTAINING REINFORCING STEEL.
17. REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.
18. SAND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, SHALE, ALKALI OR ORGANIC MATERIAL.
19. BRICK SHALL CONFORM TO ASTM C-62 AND SHALL BE GRADE MW OR BETTER.

STRUCTURAL CONCRETE NOTES

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301-10, ACI 318-08 AND THE SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH fc'=2,500 PSI AT 28 DAYS UNLESS NOTED OTHERWISE.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL HOOKS SHALL BE STANDARD UNLESS NOTED OTHERWISE.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.

   CONCRETE EXPOSED TO EARTH OR WEATHER:
   - #6 AND LARGER.....2 IN.
   - #5 AND SMALLER & WWF .....1-1/2 IN.

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   - SLAB AND WALL .....3/4 IN.
   - BEAMS AND COLUMNS.....1-1/2 IN.
5. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE U.N.O. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWEL OR ROD AND SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. LOCATE AND AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN ELEVATED CONCRETE SLABS.
7. USE AND INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER ICC ER# & MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.

FIRE DEPARTMENT NOTES

1. THE T-MOBILE PROJECT MANAGER'S DIRECTION, THE CONTRACTOR SHALL PROVIDE "HILTI" HIGH PERFORMANCE FIRE STOP SYSTEM # FS601 AT ALL FIRE RATED PENETRATION INSTALLED PER MANUFACTURE'S LATEST INSTALLATION SPECIFICATION.
2. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE CONSTRUCTED SO AS TO MAINTAIN AN EQUAL OR GREATER FIRE RATING.
3. BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE IN ACCORDANCE WITH CFC ARTICLE 87. [CFC 8701]
4. ADDRESS SHALL BE PROVIDED FOR ALL NEW AND EXISTING BUILDINGS IN A POSITION AS TO BE PLAINLY SEEN VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY [CFC 901.4.4, FHPS POLICY P-00-6]
5. DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME-RETARDANT CONDITION. [CALIF. CODE OF REGS., TITLE 19, 3.08, 3.21, CEC 2501.5]
6. ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEM AND WATER-FLOW SWITCHES ON AL SPRINKLER SYSTEMS SHALL BE ELECTRICALLY MONITORED WHERE THE NUMBER OF SPRINKLERS IS A 100 OR MORE. [CBC 904.3.1, CFC 1003.3.1]
7. INSTALLATION OF FIRE ALARM SYSTEMS SHALL BE IN ACCORDANCE WITH CFC 1007.
8. AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2A-10BC SHALL BE PROVIDED WITHIN 75 FT. MAXIMUM TRAVEL DISTANCE FOR EACH 6,000 SQ. FT. OR PORTION THEREOF ON EACH FLOOR [CFC 1002, UFC STANDARD 10-1, CALIF. CODE OF REGS., TITLE 19, 3.29]
9. CONTRACTOR SHALL VERIFY IN FIELD THE EXISTENCE OR INSTALLATION OF A FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2A-10BC, WITH A CHARGE STATUS ACCEPTABLE TO THE LOCAL FIRE AUTHORITY HAVING JURISDICTION.
10. COMPLETE PLANS AND SPECIFICATIONS FOR ALARM SYSTEMS: FIRE-EXTINGUISHING SYSTEMS, INCLUDING AUTOMATIC SPRINKLERS AND OTHER FIRE-PROTECTION SYSTEMS SHALL BE SUBMITTED TO FIRE AND LIFE SAFETY FOR REVIEW AND APPROVAL TO INSTALLATION. [CFC 100.3]

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A	04/14/2015	90% CD'S FOR REDLINE	RF

REGISTERED PROFESSIONAL ENGINEER
WISAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-2

NOT USED

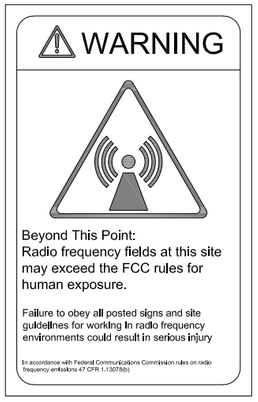
24"x36" SCALE: NTS
11"x17" SCALE: NTS

8

SITE SIGNAGE

24"x36" SCALE: NTS
11"x17" SCALE: NTS

5

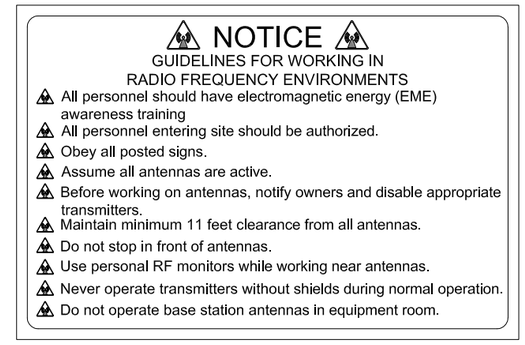


NOTES:

1. WARNING SIGN TO BE PERMANENTLY MOUNTED AT ANTENNA LOCATIONS, STAIRWELL SIDE OF THE ROOF ACCESS STAIRWELL, ROOF ACCESS DOOR, IN THE FIR CONTROL ROOM WITHIN PROXIMITY OF THE SHUT-DOWN SIGNAGE AND AS NOTED IN THE PLANS.
2. SIGN SHALL COMPLY WITH ANSI C95.2 COLOR, SYMBOL AND CONTENT CONVENTIONS.
3. SIGNAGE SHALL BE CLEARLY LABELED IN A PHENOLIC LABEL WITH WITH BACKGROUND AND BLACK LETTERING AND SHALL BE READABLE FROM AT LEAST (15) FEET FROM SIGN.
4. CONTRACTOR TO VERIFY WITH THE CARRIER THE CORRECT CONTACT PHONE NUMBER PRIOR TO SIGN FABRICATION AND INSTALLATION.

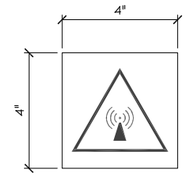
IN CASE OF EMERGENCY
CALL
1-888-662-4662 X3231
Site No: SF03024A

UNLESS OTHERWISE SPECIFIED
TO BE PLACED IN A CLEAR AND VISIBLE LOCATION AT:
-INSIDE FACE OF ROOF ACCESS DOOR
-BTS CABINET
CONTRACTOR TO VERIFY CORRECT CONTACT NUMBER PRIOR TO FABRICATION



NOTE:

1. RICHARD TELL & ASSOCIATES PART #8X12RFSGPM



4"x4" SIGNAGE NOTE

1. 4"x4" WARNING SIGN SHALL BE PERMANENTLY MOUNTED TO EXTERIOR OF CAMOFLAGED ANTENNAS RF SCREENS.

PVC PLASTIC SIGN

NOTES:

1. WARNING SIGN TO BE PERMANENTLY MOUNTED AT ANTENNA LOCATIONS, STAIRWELL SIDE OF THE ROOF ACCESS DOOR AND AS NOTED IN THE PLANS.
2. SIGN SHALL COMPLY WITH ANSI C95.2-1982 COLOR, SYMBOL AND CONTENT CONVENTIONS.
3. SIGNAGE SHALL BE CLEARLY LABELED IN A PHENOLIC LABEL WITH WHITE BACKGROUND AND BLACK LETTERING AND SHALL BE READABLE FROM AT LEAST (15) FEET FROM SIGN.
4. CONTRACTOR TO VERIFY WITH THE CARRIER THE CORRECT CONTACT PHONE NUMBER PRIOR TO SIGN FABRICATION AND INSTALLATION.

RF WARNING SIGN

24"x36" SCALE: NTS
11"x17" SCALE: NTS

7

NOTICE SIGN

24"x36" SCALE: NTS
11"x17" SCALE: NTS

4

RF WARNING SIGN

24"x36" SCALE: NTS
11"x17" SCALE: NTS

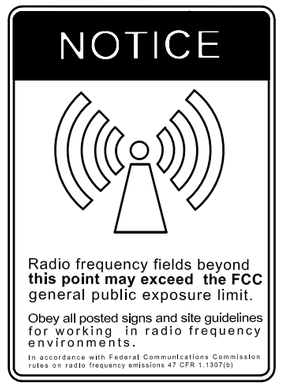
2

'CAUTION' TYPE TO BE INSTALLED AT ANTENNA LOCATION AS PER EMF ENGINEER'S REPORT

NOTES:

1. CAUTION SIGN TO BE PERMANENTLY MOUNTED AT ANTENNA LOCATIONS, STAIRWELL SIDE OF THE ROOF ACCESS STAIRWELL, ROOF ACCESS DOOR, IN THE FIR CONTROL ROOM WITHIN PROXIMITY OF THE SHUT-DOWN SIGNAGE AND AS NOTED IN THE PLANS.
2. SIGN SHALL COMPLY WITH ANSI C95.2 COLOR, SYMBOL AND CONTENT CONVENTIONS.
3. SIGNAGE SHALL BE CLEARLY LABELED IN A PHENOLIC LABEL WITH WITH BACKGROUND AND BLACK LETTERING AND SHALL BE READABLE FROM AT LEAST (15) FEET FROM SIGN.
4. CONTRACTOR TO VERIFY WITH THE CARRIER THE CORRECT CONTACT PHONE NUMBER PRIOR TO SIGN FABRICATION AND INSTALLATION.

'NOTICE' TYPE TO BE INSTALLED ON ROOFTOP ENTRY POINT AS PER EMF ENGINEER'S REPORT



NOTES:

1. NOTICE SIGN TO BE PERMANENTLY MOUNTED AT ANTENNA LOCATIONS, STAIRWELL SIDE OF THE ROOF ACCESS STAIRWELL, ROOF ACCESS DOOR, IN THE FIR CONTROL ROOM WITHIN PROXIMITY OF THE SHUT-DOWN SIGNAGE AND AS NOTED IN THE PLANS.
2. SIGN SHALL COMPLY WITH ANSI C95.2 COLOR, SYMBOL AND CONTENT CONVENTIONS.
3. SIGNAGE SHALL BE CLEARLY LABELED IN A PHENOLIC LABEL WITH WITH BACKGROUND AND BLACK LETTERING AND SHALL BE READABLE FROM AT LEAST (15) FEET FROM SIGN.
4. CONTRACTOR TO VERIFY WITH THE CARRIER THE CORRECT CONTACT PHONE NUMBER PRIOR TO SIGN FABRICATION AND INSTALLATION.

NOTES:

1. SIGN SHALL BE A PHENOLIC LABEL WITH WHITE BACKGROUND AND BLACK LETTERING. THE TITLE BLOCK SHALL BE RED BACKGROUND AND 1" HIGH WHITE LETTERING.
2. CONTRACTOR TO PLACE SIGNS IN THE FOLLOWING LOCATIONS:
   a. CELL SITE EQUIPMENT DOOR
   b. BATTERY LOCATION WITHIN PROXIMITY OF BATTERY DISCONNECT
   c. FCC ROOM WITH PROXIMITY OF THE FIRE ALARM PANEL
   d. BUILDING'S MAIN ELECTRICAL ROOM WITHIN PROXIMITY OF THE MAIN SHUT-OFF AND/OR AT THE CELL SITE MAIN ELECTRICAL DISCONNECT.

RF CAUTION SIGN

24"x36" SCALE: NTS
11"x17" SCALE: NTS

6

RF NOTICE SIGN

24"x36" SCALE: NTS
11"x17" SCALE: NTS

3

EMERGENCY SHUT DOWN SIGN

24"x36" SCALE: NTS
11"x17" SCALE: NTS

1

T-Mobile
1855 GATEWAY BLVD., 9th FLOOR
CONCORD, CA 94520

240 STOCKTION ST., 3RD FLOOR
SAN FRANCISCO, CA 94108

ALL STATES ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630
PHONE: (949) 273-0996

PROJECT NO:	SF03024A
DRAWN BY:	RF
CHECKED BY:	KM

REV	DATE	DESCRIPTION	
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1	01/14/2016	PER PLANNING COMMENTS	KM
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SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
GENERAL SIGNAGE

SHEET NUMBER
GS-1

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115

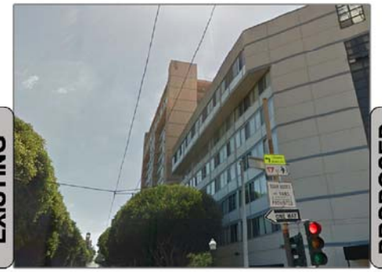
T-Mobile

VIEW #: 1

JULY 20, 2017

LOCATION

EXISTING



PROPOSED

The illustration above is a representation of the proposed project based on information provided by the client. Actual construction may vary dependent on construction plans and therefore the A&E firm will not be held responsible for any post production design changes.

T-MOBILE
1855 GATEWAY BOULEVARD, STE. 900
CONCORD, CA 94520

ALL STATES ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DR.
LAKE FOREST, CA 92630
949.273.0996
949.606.7222 (FAX)

REV: 2

BASED ON FILE: SF03024A - El Bethel Arms_CD100_Rev1_Planning Comments_06082017 (MW)

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115

T-Mobile

VIEW #: 2

JULY 20, 2017

LOCATION

EXISTING

PROPOSED

The illustration above is a representation of the proposed project based on information provided by the client. Actual construction may vary dependent on construction plans and therefore the A&E firm will not be held responsible for any post production design changes.

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LAKE FOREST, CA 92630
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949.606.7222 (FAX)

REV: 2

BASED ON FILE: SF03024A - El Bethel Arms_CD100_Rev1_Planning Comments_06082017 (MW)

T-Mobile
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MOBILE
240 STOCKTION ST., 3RD FLOOR
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ALL STATES
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PHONE: (949) 273-0996

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STATE OF CALIFORNIA

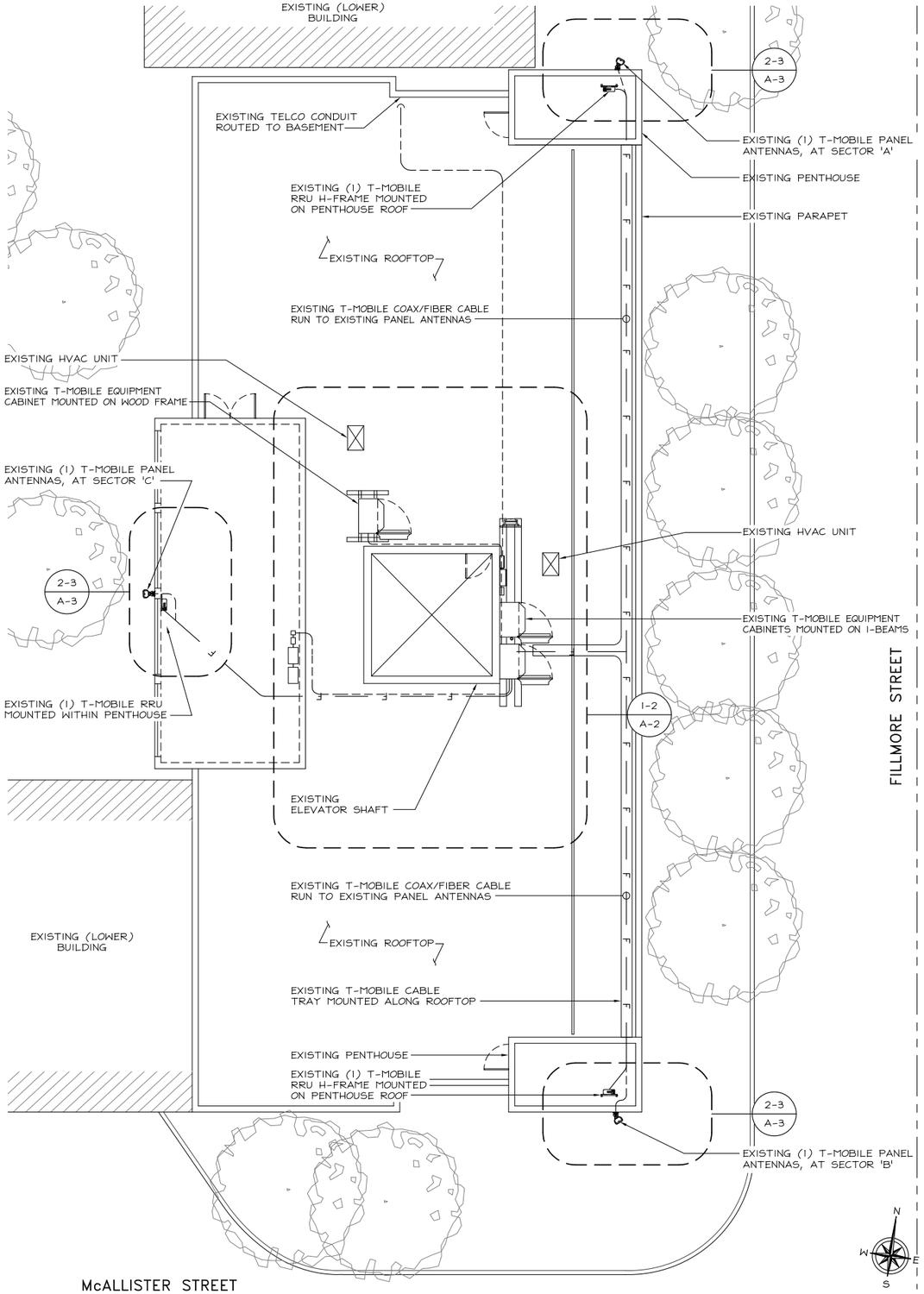
SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE

PHOTOSIMULATION

SHEET NUMBER

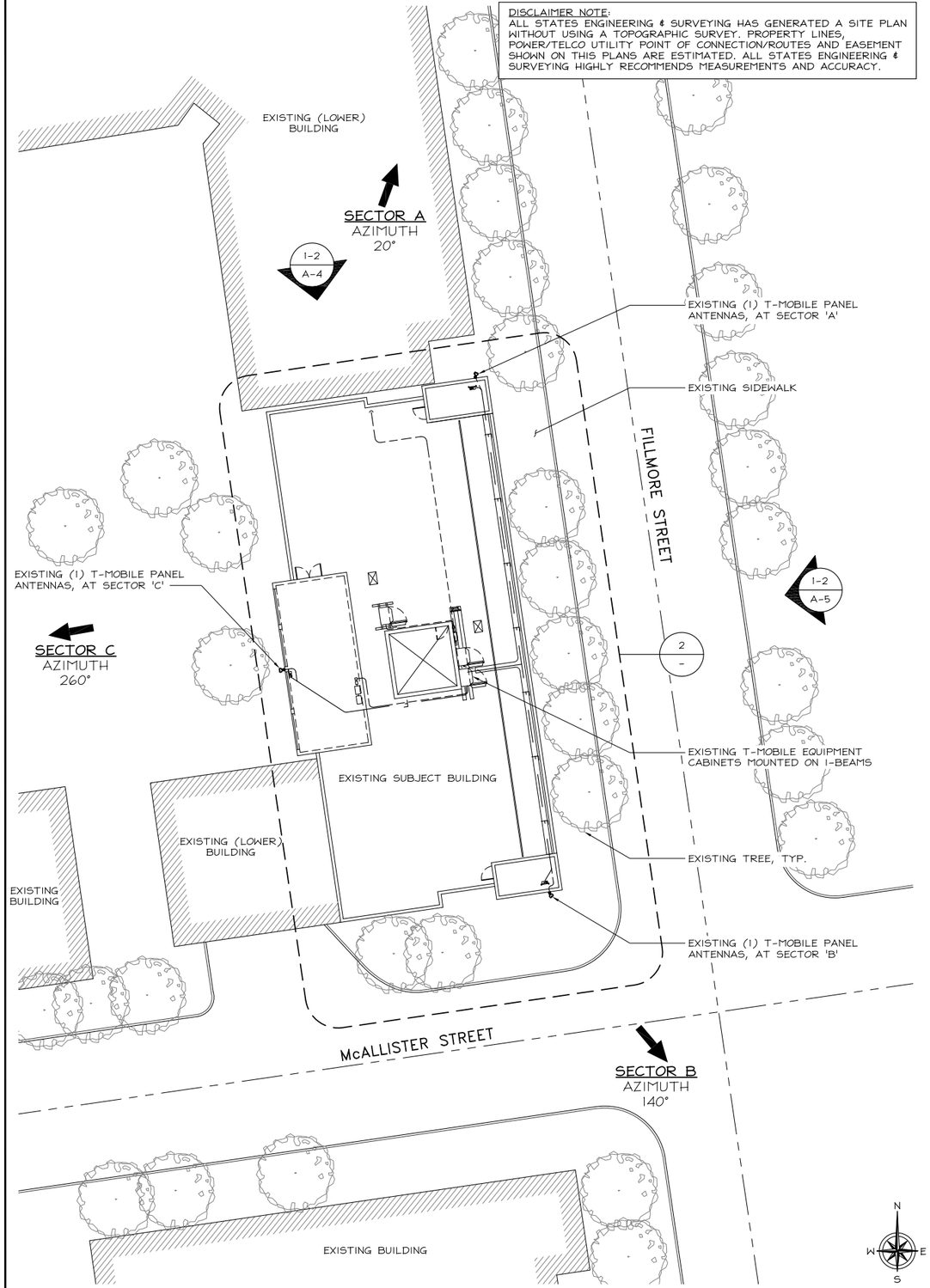
PS-1



ROOF PLAN

24"x36" SCALE: 1/8" = 1'-0"
11"x17" SCALE: 1/16" = 1'-0"
8' 6' 4' 2' 0" 8'

2



SITE PLAN

24"x36" SCALE: 1/16" = 1'-0"
11"x17" SCALE: 1/32" = 1'-0"
16' 12' 8' 4' 0" 16'

1

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REGISTERED PROFESSIONAL ENGINEER
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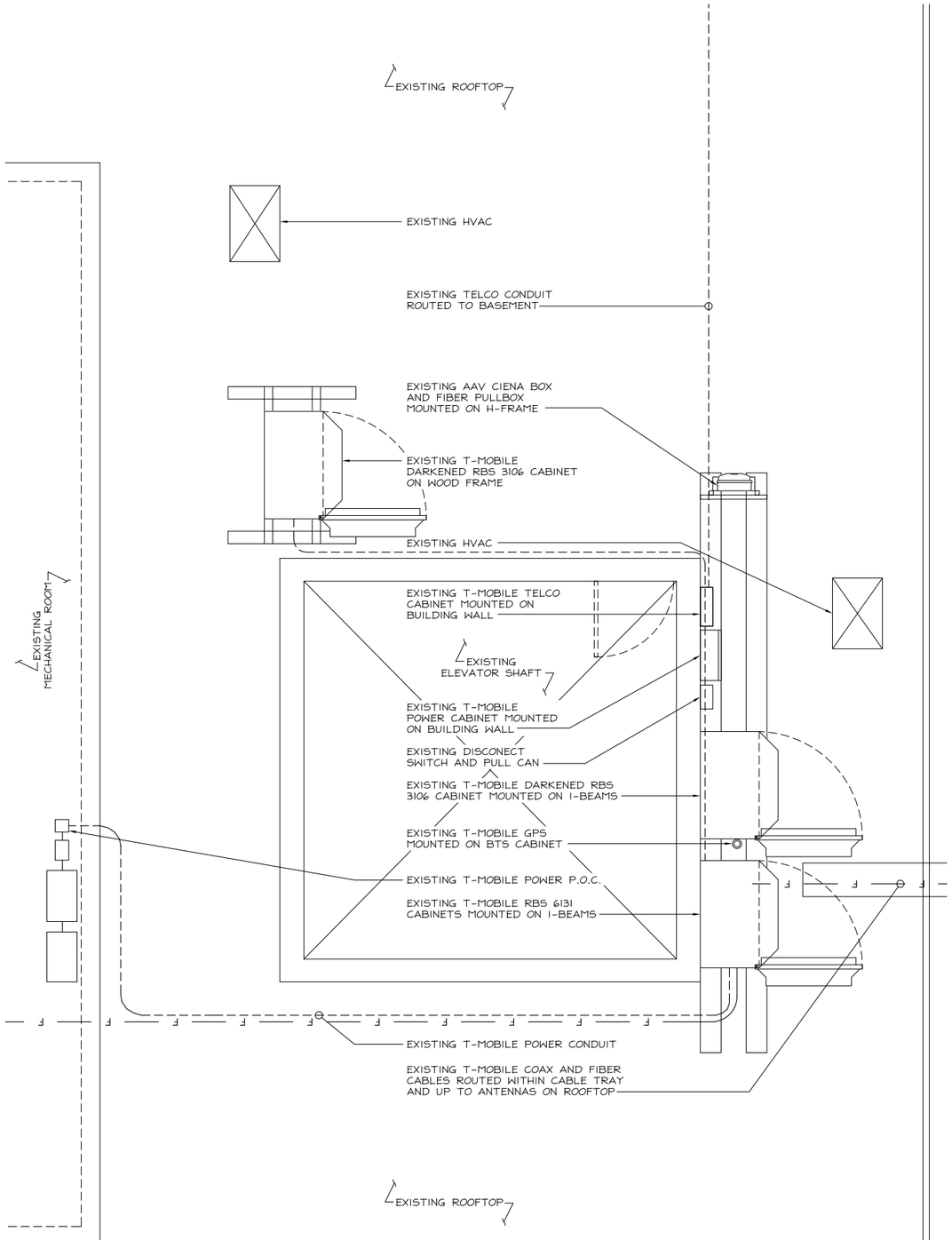
CIVIL
STATE OF CALIFORNIA

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
SITE PLAN &
ROOF PLAN

SHEET NUMBER
A-1



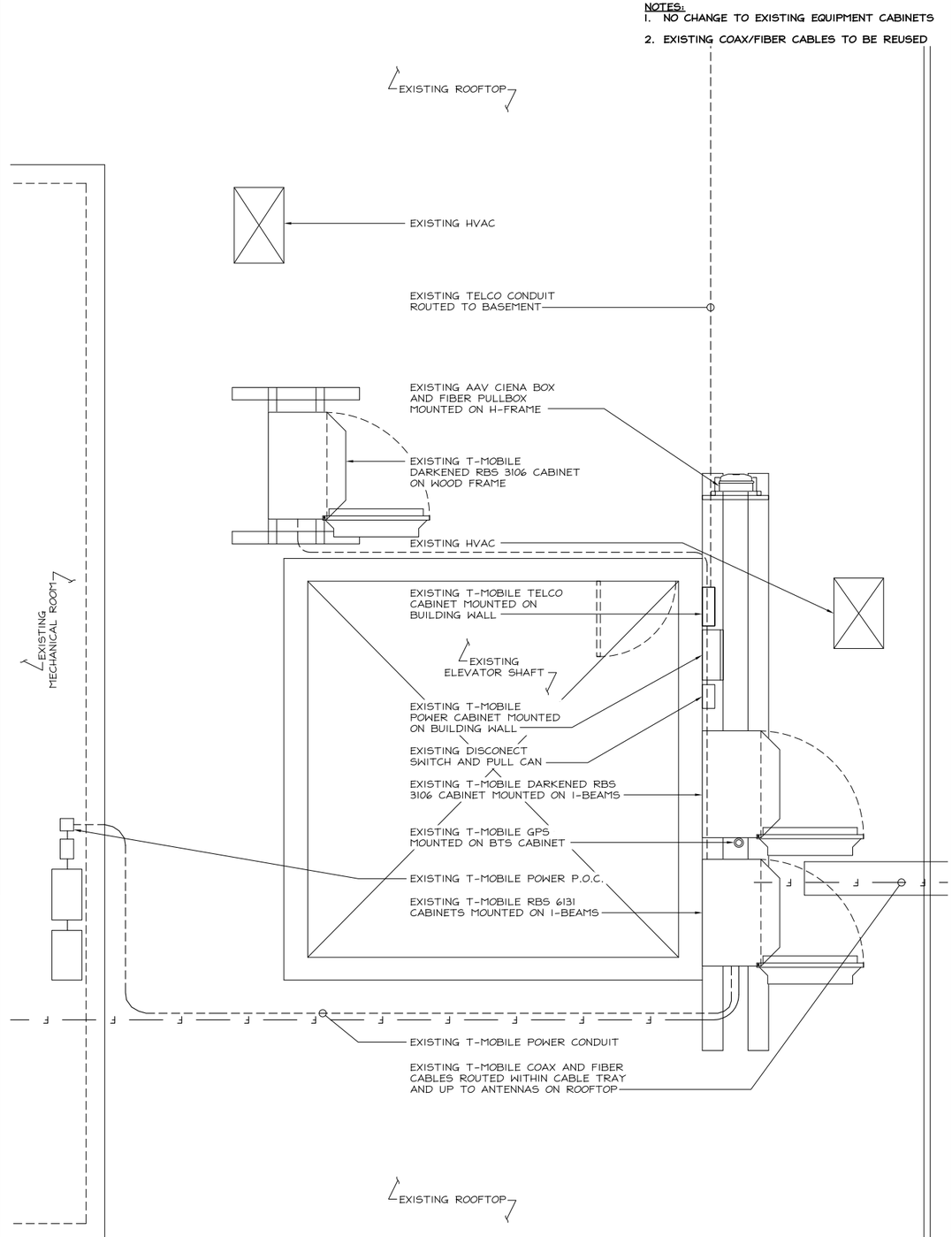
EXISTING EQUIPMENT LAYOUT PLAN

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

2' 1' 0" 2'

2

NOTES:
1. NO CHANGE TO EXISTING EQUIPMENT CABINETS
2. EXISTING COAX/FIBER CABLES TO BE REUSED



PROPOSED EQUIPMENT LAYOUT PLAN

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

2' 1' 0" 2'

1

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CONCORD, CA 94520

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240 STOCKTION ST., 3RD FLOOR
SAN FRANCISCO, CA 94108

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ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DRIVE
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REGISTERED PROFESSIONAL ENGINEER
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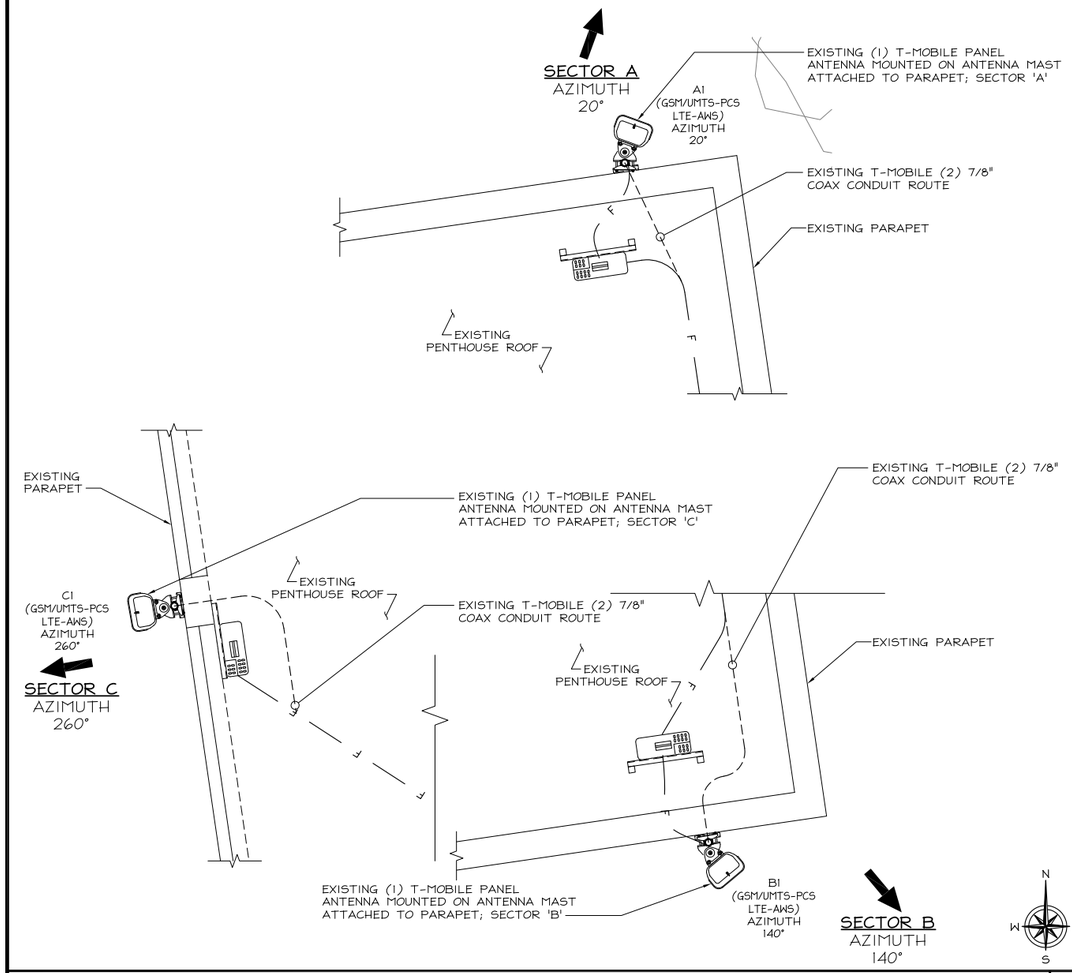
71655
CIVIL
STATE OF CALIFORNIA

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
EQUIPMENT LAYOUT PLAN

SHEET NUMBER
A-2



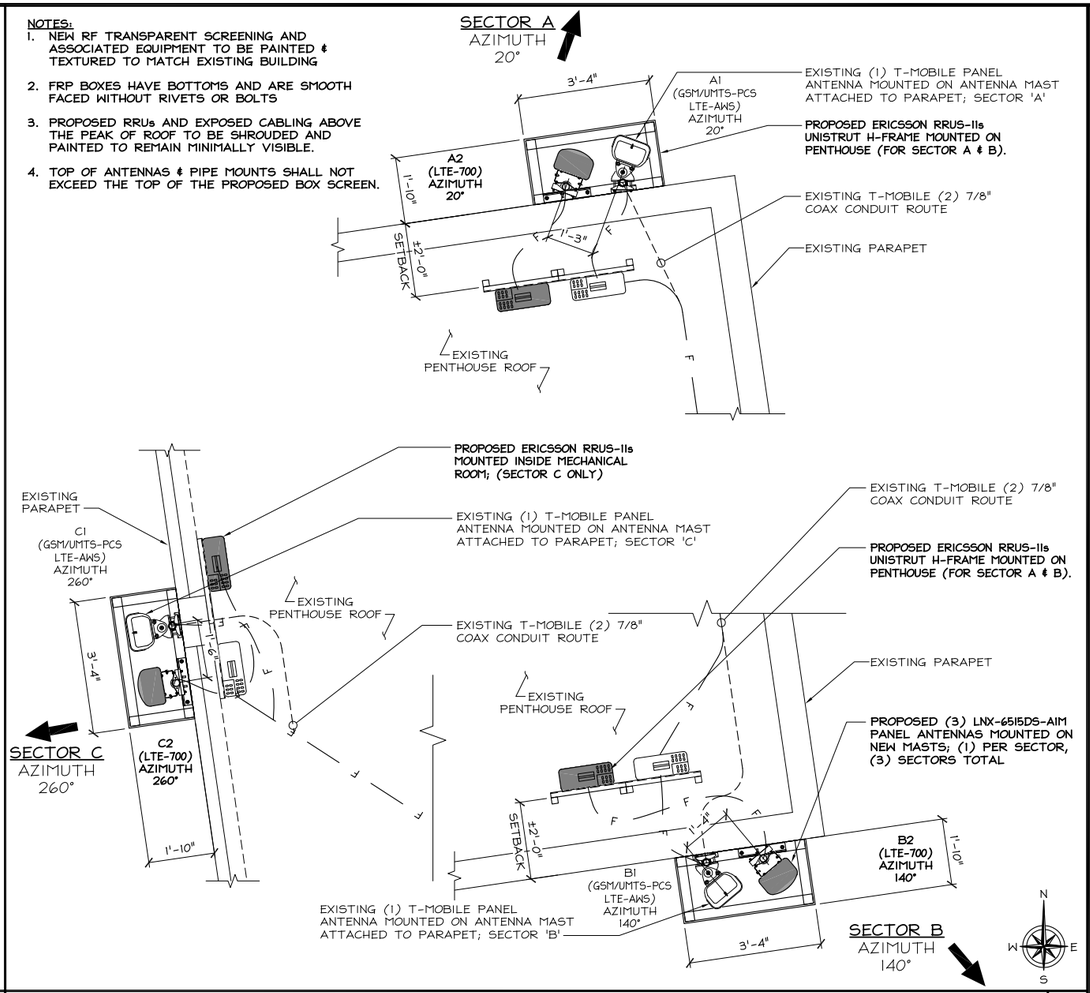
EXISTING ANTENNA LAYOUT

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

3

NOTES:

1. NEW RF TRANSPARENT SCREENING AND ASSOCIATED EQUIPMENT TO BE PAINTED & TEXTURED TO MATCH EXISTING BUILDING
2. FRP BOXES HAVE BOTTOMS AND ARE SMOOTH FACED WITHOUT RIVETS OR BOLTS
3. PROPOSED RRUs AND EXPOSED CABLING ABOVE THE PEAK OF ROOF TO BE SHROUDED AND PAINTED TO REMAIN MINIMALLY VISIBLE.
4. TOP OF ANTENNAS & PIPE MOUNTS SHALL NOT EXCEED THE TOP OF THE PROPOSED BOX SCREEN.



PROPOSED ANTENNA LAYOUT

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

2

NOTES TO CONTRACTOR:

1. CONTRACTOR IS TO REFER TO T-MOBILE'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION
2. CABLE LENGTHS WERE DETERMINED BASED ON VISUAL INSPECTION DURING SITE-WALK. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK

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

	ANTENNA	TECHNOLOGY		ANTENNA MODEL		ANTENNA AZIMUTH		RAD CENTER		TRANSMISSION LINE	
		EXISTING	**PROPOSED**	EXISTING	**PROPOSED**	EXISTING	**PROPOSED**	EXIST	PROP	LENGTH	PART NUMBER
SECTOR A	A1	GSM/UMTS-PCS LTE-AWS	GSM/UMTS-PCS LTE-AWS	ERICSSON AIR 21 B2A/B4P	ERICSSON AIR 21 B2A/B4P	20°	20°	113'-6"	113'-6"	±100'	EXISTING HYBRID CABLE & (2) 7/8" COAX CABLES
	A2	-	LTE 700MHz	-	COMMSCOPE LNX-6515DS-A1M	-	20°	-	111'-9"	±100'	(N) #8 AWG DC + FIBER TO RRU; (N) 1/2"ø COAX JUMPER
	-	-	-	-	-	-	-	-	-	-	-
SECTOR B	B1	GSM/UMTS-PCS LTE-AWS	GSM/UMTS-PCS LTE-AWS	ERICSSON AIR 21 B2A/B4P	ERICSSON AIR 21 B2A/B4P	140°	140°	113'-6"	113'-6"	±120'	EXISTING HYBRID CABLE & (2) 7/8" COAX CABLES
	B2	-	LTE 700MHz	-	COMMSCOPE LNX-6515DS-A1M	-	140°	-	111'-9"	±120'	(N) #8 AWG DC + FIBER TO RRU; (N) 1/2"ø COAX JUMPER
	-	-	-	-	-	-	-	-	-	-	-
SECTOR C	C1	GSM/UMTS-PCS LTE-AWS	GSM/UMTS-PCS LTE-AWS	ERICSSON AIR 21 B2A/B4P	ERICSSON AIR 21 B2A/B4P	260°	260°	113'-6"	113'-6"	±100'	EXISTING HYBRID CABLE & (2) 7/8" COAX CABLES
	C2	-	LTE 700MHz	-	COMMSCOPE LNX-6515DS-A1M	-	260°	-	111'-9"	±100'	(N) #8 AWG DC + FIBER TO RRU; (N) 1/2"ø COAX JUMPER
	-	-	-	-	-	-	-	-	-	-	-

REMOTE RADIO UNITS (RRU'S)

	ANTENNA	RRU TYPE	QTY.		RRU LOCATION (DISTANCE FROM ANTENNA)	RRU MINIMUM CLEARANCES			DC CABLE	
			(E)	(N)		ABOVE	BELOW	SIDES	LENGTH	AWG
SECTOR A	A1	ERICSSON RRUS01IB4 LTE	1		±10'-0"	16"	8"	8"	±15'	8
	A2	**ERICSSON RRUS-11 B12 LTE (700MHz)**		**1**	**±10'-0"**	**16"**	**8"**	**8"**	**±15'**	**8**
	-	-	-		-	-	-	-	-	-
SECTOR B	B1	ERICSSON RRUS01IB4 LTE	1		±10'-0"	16"	8"	8"	±15'	8
	B2	**ERICSSON RRUS-11 B12 LTE (700MHz)**		**1**	**±10'-0"**	**16"**	**8"**	**8"**	**±15'**	**8**
		-	-		-	-	-	-	-	-
SECTOR C	C1	ERICSSON RRUS01IB4 LTE	1		±10'-0"	16"	8"	8"	±15'	8
	C2	**ERICSSON RRUS-11 B12 LTE (700MHz)**		**1**	**±10'-0"**	**16"**	**8"**	**8"**	**±15'**	**8**
		-	-		-	-	-	-	-	-

ANTENNA & EQUIPMENT SCHEDULES

24"x36" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"
4' 3' 2' 1' 0" 4'

1

T-Mobile
1855 GATEWAY BLVD., 9th FLOOR
CONCORD, CA 94520

MOBILE
240 STOCKTION ST., 3RD FLOOR
SAN FRANCISCO, CA 94108

ALL STATES
ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630
PHONE: (949) 273-0996

PROJECT NO:	SF03024A
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CHECKED BY:	KM

REV	DATE	DESCRIPTION	
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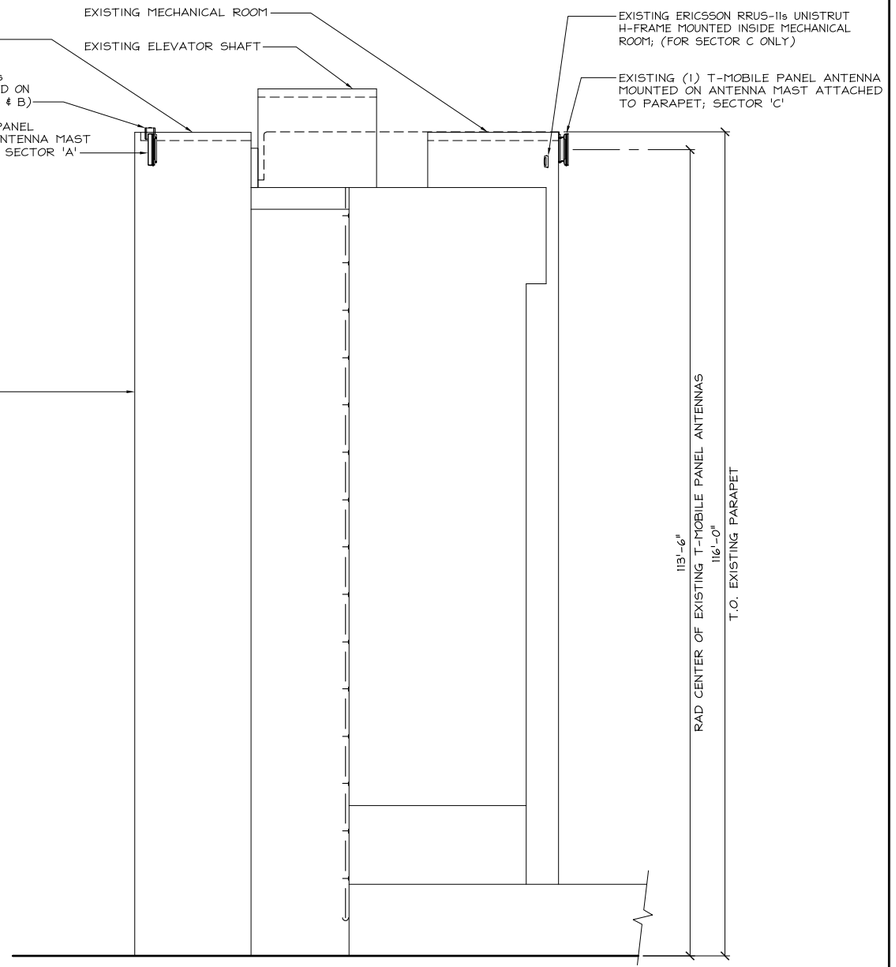
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
ANTENNA LAYOUT
& SCHEDULE

SHEET NUMBER
A-3

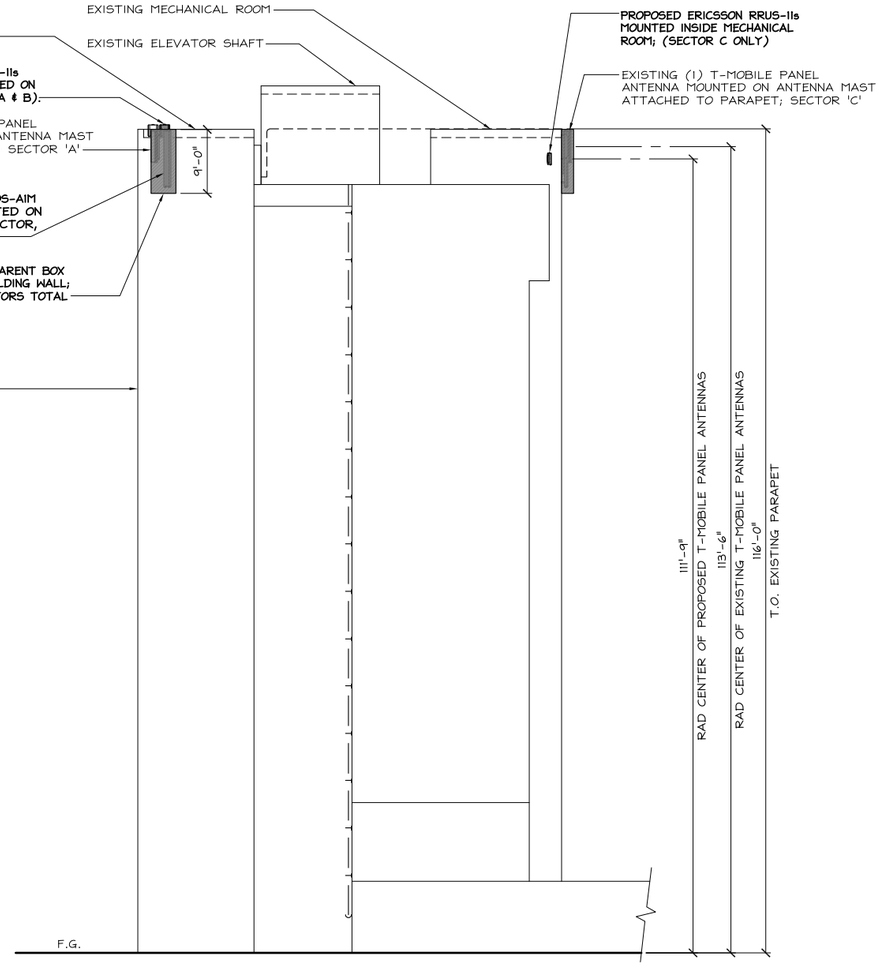


EXISTING NORTH ELEVATION

24"x36" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"
8' 4' 0" 8'

2

NOTES:
1. NEW RF TRANSPARENT SCREENING AND ASSOCIATED EQUIPMENT TO BE PAINTED & TEXTURED TO MATCH EXISTING BUILDING
2. FRP BOXES HAVE BOTTOMS AND ARE SMOOTH FACED WITHOUT RIVETS OR BOLTS
3. PROPOSED RRUs AND EXPOSED CABLING ABOVE THE PEAK OF ROOF TO BE SHROUDED AND PAINTED TO REMAIN MINIMALLY VISIBLE.
4. TOP OF ANTENNAS & PIPE MOUNTS SHALL NOT EXCEED THE TOP OF THE PROPOSED BOX SCREEN.



PROPOSED NORTH ELEVATION

24"x36" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"
8' 4' 0" 8'

1

T-Mobile
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MODUS
240 STOCKTION ST., 3RD FLOOR
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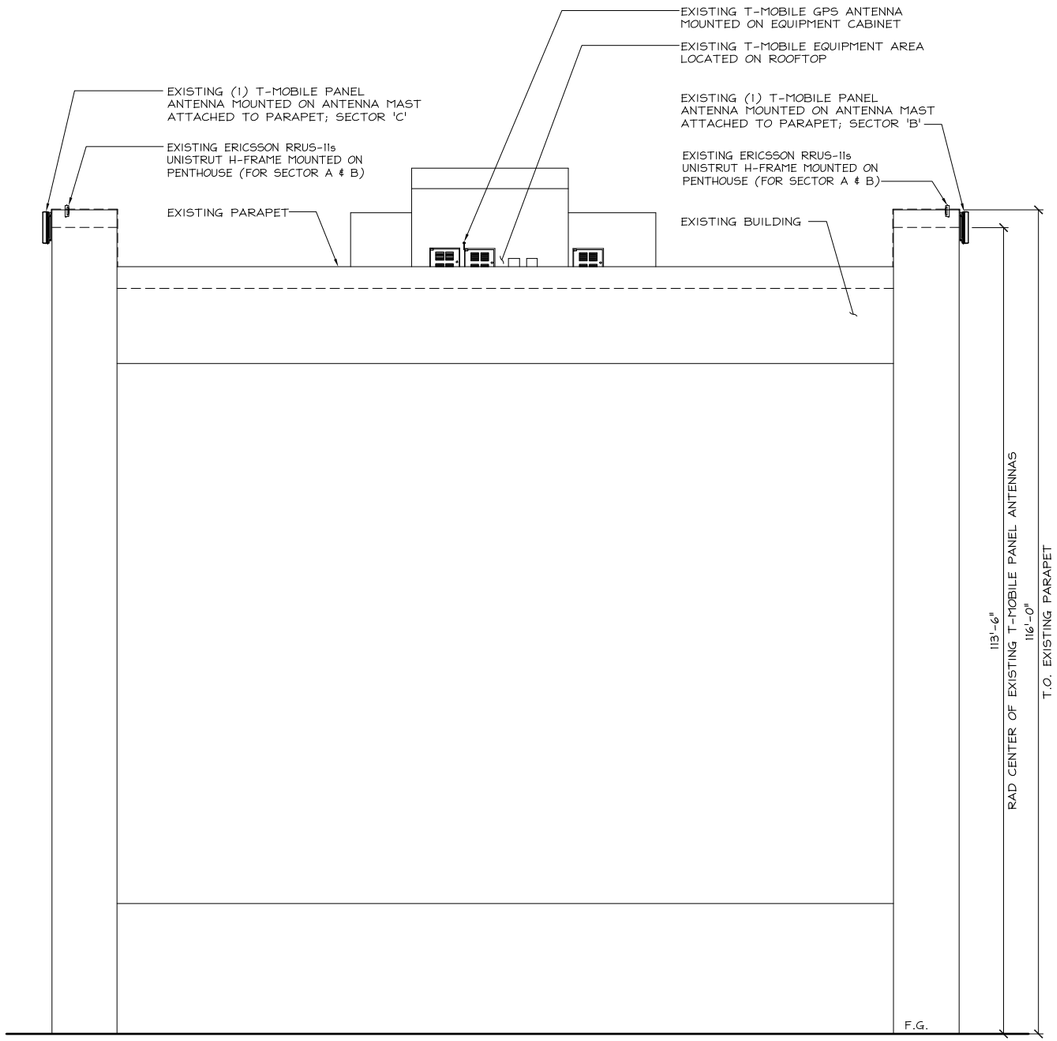
STATE OF CALIFORNIA

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-4



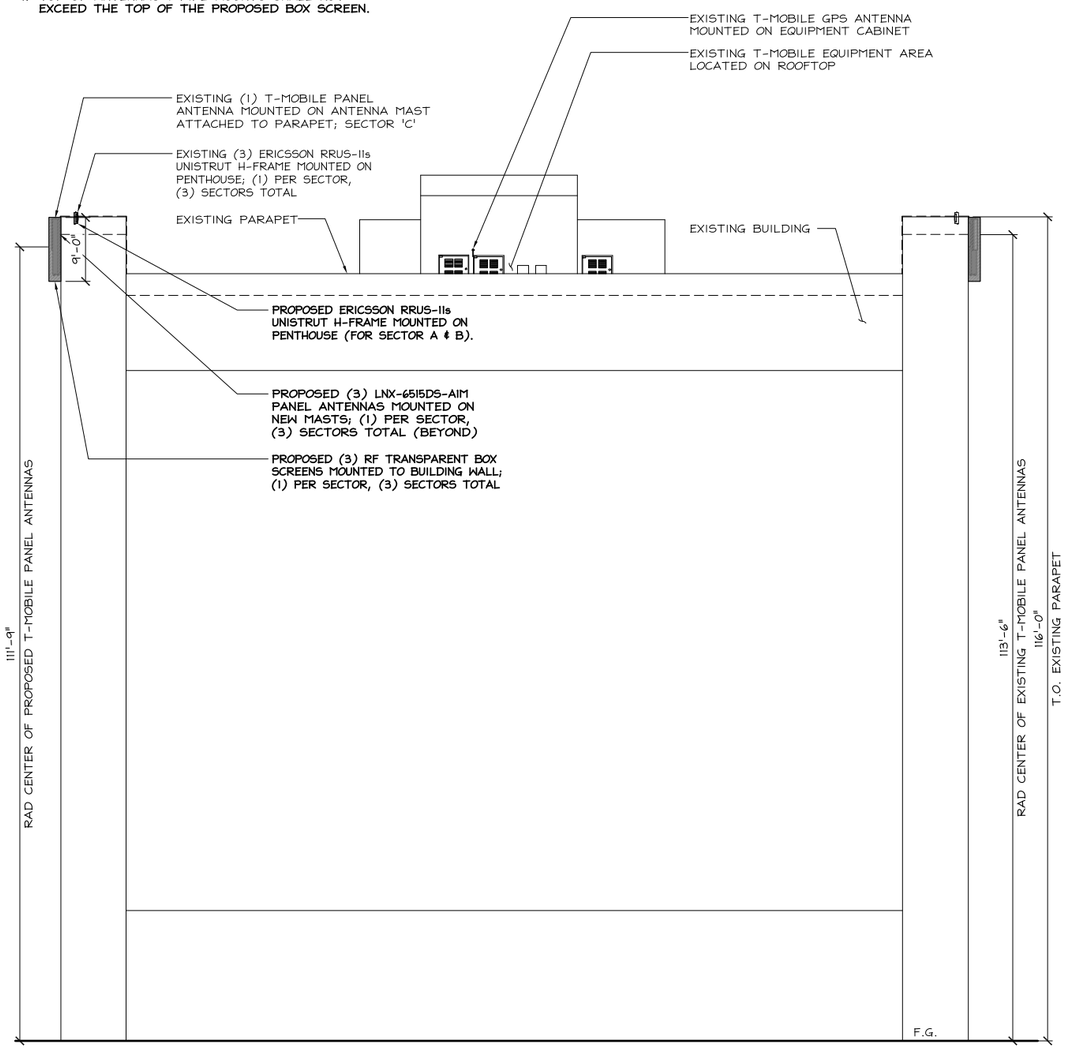
EXISTING EAST ELEVATION

24"x36" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"
8' 4' 0" 8'

2

NOTES:

1. NEW RF TRANSPARENT SCREENING AND ASSOCIATED EQUIPMENT TO BE PAINTED & TEXTURED TO MATCH EXISTING BUILDING
2. FRP BOXES HAVE BOTTOMS AND ARE SMOOTH FACED WITHOUT RIVETS OR BOLTS
3. PROPOSED RRUs AND EXPOSED CABLING ABOVE THE PEAK OF ROOF TO BE SHROUDED AND PAINTED TO REMAIN MINIMALLY VISIBLE.
4. TOP OF ANTENNAS & PIPE MOUNTS SHALL NOT EXCEED THE TOP OF THE PROPOSED BOX SCREEN.



PROPOSED EAST ELEVATION

24"x36" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"
8' 4' 0" 8'

1

T-Mobile
1855 GATEWAY BLVD., 9th FLOOR
CONCORD, CA 94520

240 STOCKTION ST., 3RD FLOOR
SAN FRANCISCO, CA 94108

ALL STATES ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630
PHONE: (949) 273-0996

PROJECT NO:	SF03024A
DRAWN BY:	RF
CHECKED BY:	KM

REV	DATE	DESCRIPTION	
2	07/12/2017	PER PLANNING COMMENTS	RA
1	01/14/2016	PER PLANNING COMMENTS	KM
0	06/26/2015	100% CD'S FOR SUBMITTAL	KM
B	06/15/2015	100% CD'S FOR REVIEW	RF
A	04/14/2015	90% CD'S FOR REDLINE	RF

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

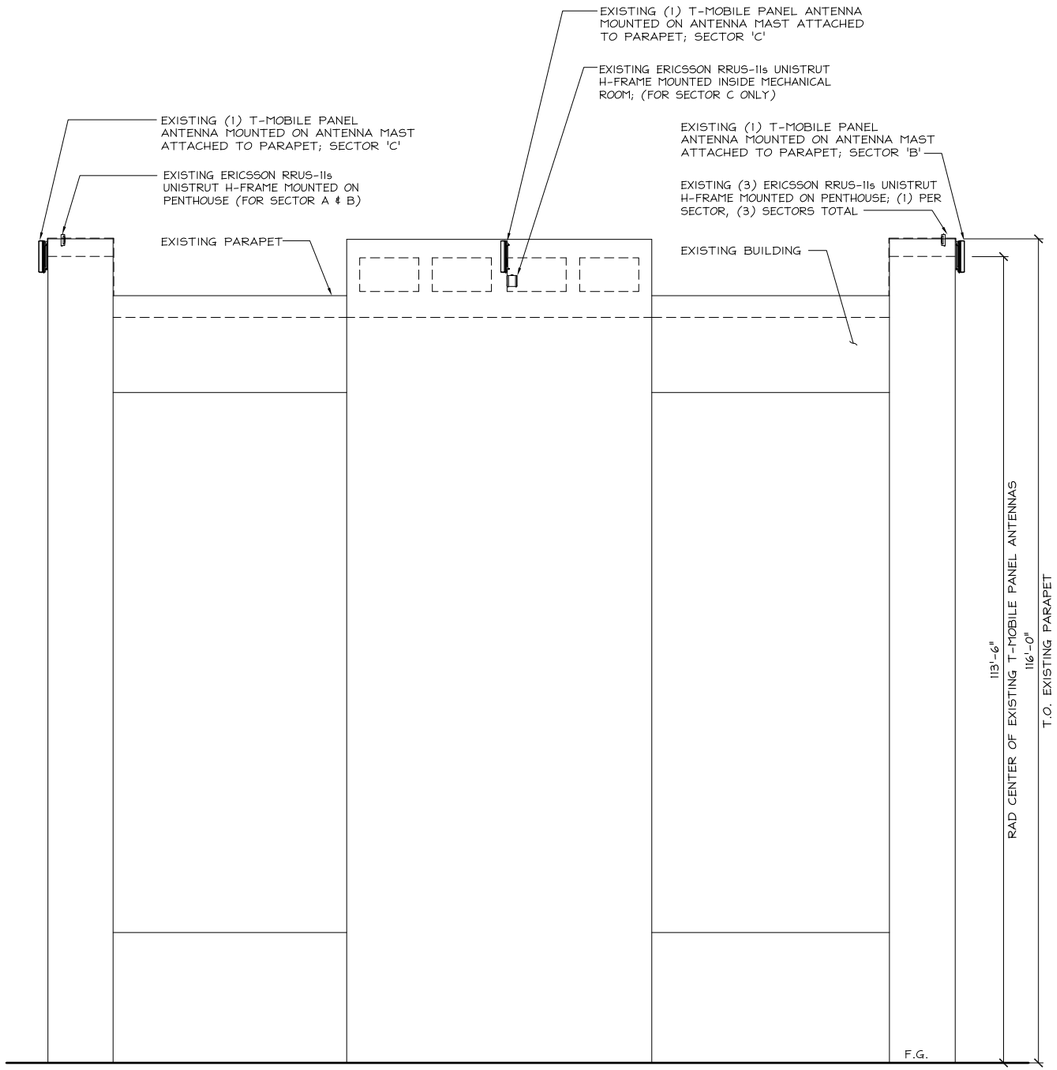
SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE

ELEVATIONS

SHEET NUMBER

A-5



EXISTING WEST ELEVATION

24"x36" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"
8' 4' 0" 8'

2

NOTES:

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3. PROPOSED RRUs AND EXPOSED CABLING ABOVE THE PEAK OF ROOF TO BE SHROUDED AND PAINTED TO REMAIN MINIMALLY VISIBLE.
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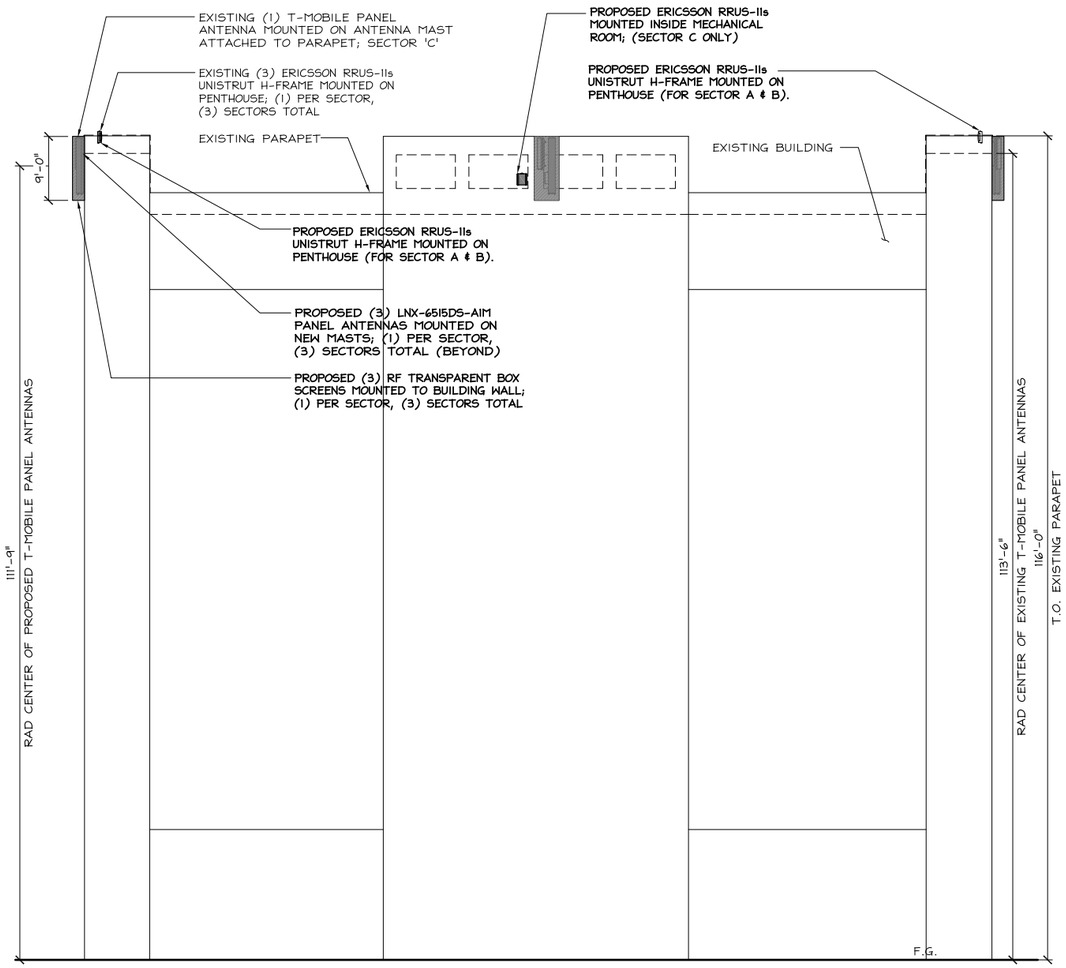

PROPOSED WEST ELEVATION

24"x36" SCALE: 3/32" = 1'-0"
11"x17" SCALE: 3/64" = 1'-0"
8' 4' 0" 8'

1

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L700/L1900 PROJECT

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-6

NOT USED

24"x36" SCALE: NTS
11"x17" SCALE: NTS

9

NOT USED

24"x36" SCALE: NTS
11"x17" SCALE: NTS

6

ERICSSON RRUS-11 REMOTE RADIO UNIT

24"x36" SCALE: NTS
11"x17" SCALE: NTS

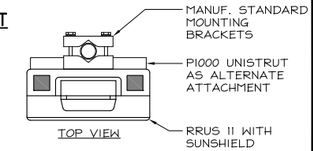
3

ERICSSION RRUS-11 REMOTE RADIO UNIT

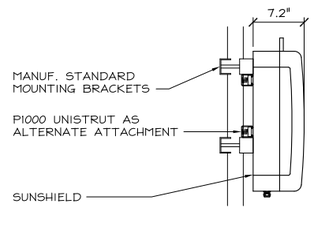
COLOR: GRAY

DIMENSIONS: 19.67" TALL X 16.97" WIDE X 7.2" DEEP (INCLUDING SUNSHIELD & HANDLE)

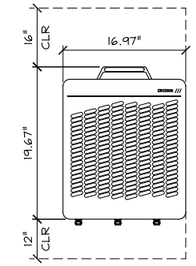
WEIGHT, INCLUDING MOUNTING HARDWARE: 50.7 lbs



TOP VIEW



SIDE VIEW



FRONT VIEW

NOT USED

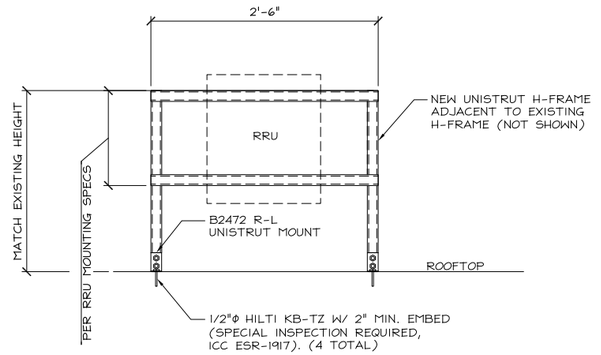
24"x36" SCALE: NTS
11"x17" SCALE: NTS

8

H-FRAME DETAIL

24"x36" SCALE: NTS
11"x17" SCALE: NTS

5

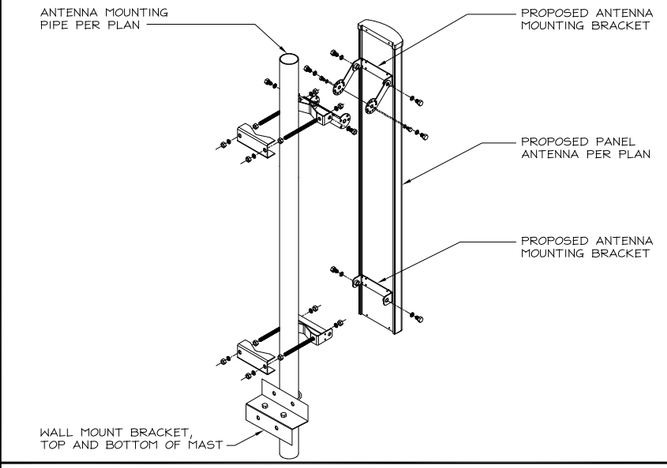


ELEVATION VIEW

ANTENNA MOUNTING DETAIL

24"x36" SCALE: NTS
11"x17" SCALE: NTS

2



NOT USED

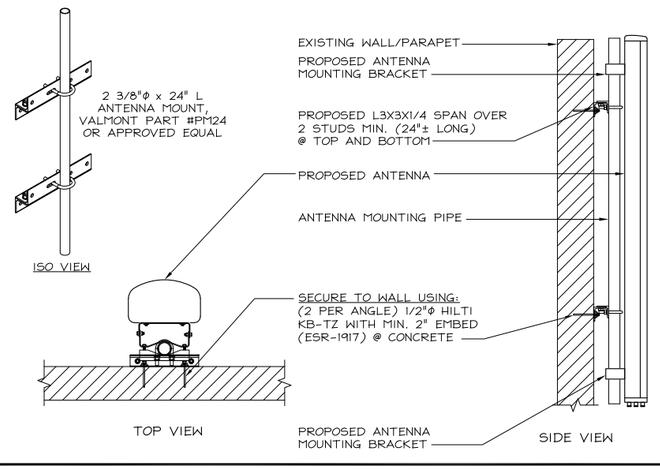
24"x36" SCALE: NTS
11"x17" SCALE: NTS

7

ANTENNA MOUNTING DETAIL

24"x36" SCALE: NTS
11"x17" SCALE: NTS

4



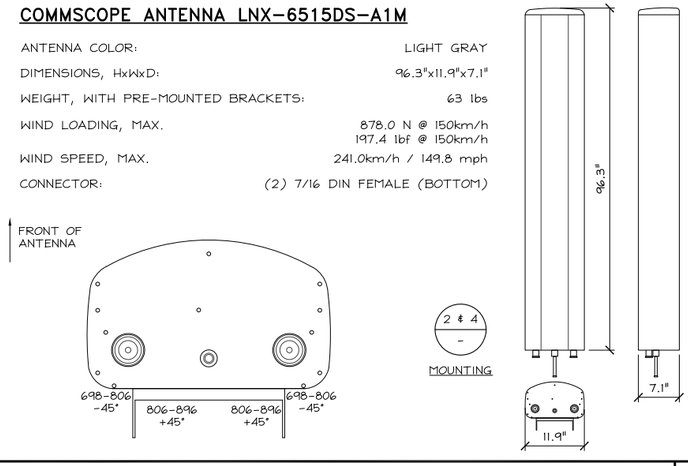
ANTENNA SPECIFICATION

24"x36" SCALE: NTS
11"x17" SCALE: NTS

1

COMMSCOPE ANTENNA LNX-6515DS-A1M

ANTENNA COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96.3"x11.9"x7.1"
WEIGHT, WITH PRE-MOUNTED BRACKETS:	63 lbs
WIND LOADING, MAX.	878.0 N @ 150km/h 197.4 lbf @ 150km/h
WIND SPEED, MAX.	241.0km/h / 149.8 mph
CONNECTOR:	(2) 7/16 DIN FEMALE (BOTTOM)



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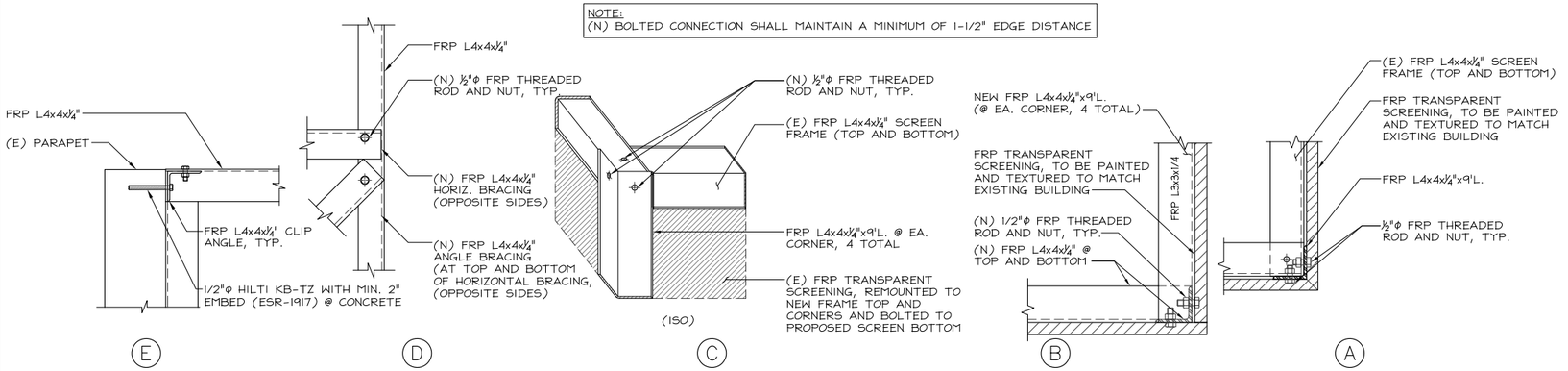
L700/L1900 PROJECT

SHEET TITLE

DETAILS

SHEET NUMBER

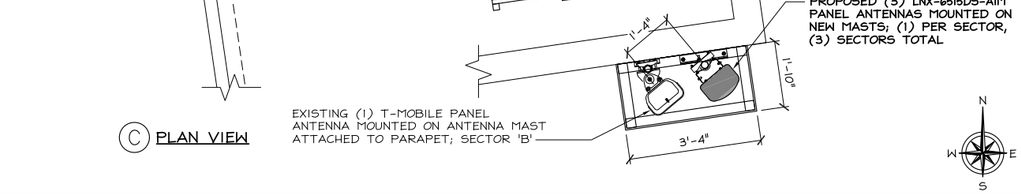
D-1



FRAME CONNECTIONS

24"x36" SCALE: NTS
11"x17" SCALE: NTS

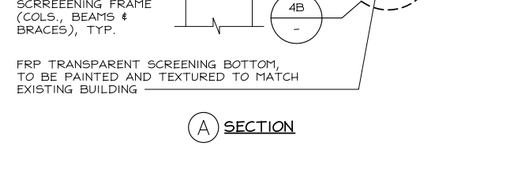
4



SCREENING PLAN VIEW & SECTION (TYP.)

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

5



SCREENING FRAME

24"x36" SCALE: NTS
11"x17" SCALE: NTS

3

GENERAL REQUIREMENTS

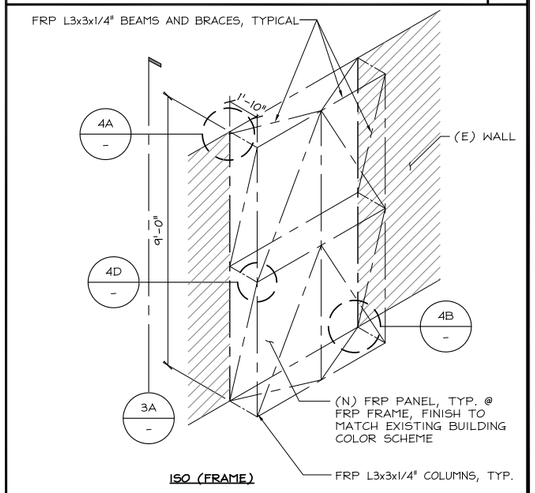
1. CONSTRUCTION SHALL BE IN CONFORMITY WITH THE 2013 EDITION OF THE CALIFORNIA BUILDING CODE (CBC) AND ALL APPLICABLE LOCAL AND STATE CODES AND ORDINANCES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE PRIOR TO ORDERING ANY MATERIAL AND/OR COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT.
3. CONTRACTOR SHALL FULLY PROTECT ALL ADJACENT PROPERTIES BEFORE COMMENCING ANY WORK.
4. CONTRACTOR SHALL PROVIDE BARRICADES AND PEDESTRIAN PROTECTION AS REQUIRED BY STATE AND LOCAL CODES.
5. CONTRACTOR SHALL CONSULT WITH REPRESENTATIVES OF CITY AND UTILITY COMPANIES CONCERNING AVAILABLE FACILITIES BEFORE COMMENCING WORK OR CONNECTING TO SEWER, PIPING OR WIRING, ETC., AND REPORT ANY PROBLEMS TO THE ENGINEER.
6. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
7. CONTRACTOR SHALL INSTALL TEMPORARY TOILETS BEFORE START OF JOB.
8. DRAWINGS TAKE PRECEDENCE OVER SPECIFICATIONS. DETAILED DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE OVER GENERAL DRAWINGS AND SPECIFICATIONS.
9. TYPICAL DETAILS SHOWN SHALL APPLY WHERE NO SPECIAL DETAIL IS SHOWN.
10. WRITTEN DIMENSIONS, NOT SCALED DIMENSIONS, SHALL BE USED.
11. WHERE A DETAIL, TYPICAL DETAIL, SECTION, TYPICAL SECTION, OR A NOTE IS SHOWN FOR ONE CONDITION, IT SHALL ALSO APPLY FOR ALL LIKE OR SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
12. TEMPORARY ERECTION BRACING AND SHORING SHALL BE PROVIDED AS REQUIRED ON ALL BEAMS, WALLS, ETC., ADEQUATE TO PROVIDE FULL STRUCTURAL STABILITY AND SAFETY. BRACING SHALL NOT BE REMOVED UNTIL THE ELEMENTS ARE FULLY CONNECTED AND ARE CAPABLE OF SUPPORTING THE DESIGN LOADS. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE
13. RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
14. ALL A.S.T.M. SPECIFICATIONS NOTED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE A.S.T.M.
15. OBSERVATION VISITS TO THE PROJECT SITE BY THE ENGINEER SHALL NOT BE CONSTRUED AS ANY INSPECTION AS REQUIRED BY CODE.
16. EQUIPMENT WEIGHTS, WHERE SHOWN ON THE STRUCTURAL DRAWINGS, ARE MAXIMUM OPERATING WEIGHTS, INCLUDING CURBS AND ACCESSORIES. THE CONTRACTOR SHALL VERIFY THE EQUIPMENT SPECIFICATIONS AND BRING ANY DEVIATIONS TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

FRP

1. ALL FIBERGLASS STRUCTURAL SHAPES MUST BE FIBERGRATE OR APPROVED EQUAL, AND CANNOT BE PUNCHED OR SHEARED. ALL CUTS INCLUDING BOLT HOLES MUST BE SEALED WITH EPOXY.
2. ALL FIBERGLASS NEEDS TO BE PROTECTED WITH UV COATING, IF EXPOSED TO DIRECT SUNLIGHT.
3. ALL METALLIC PARTS (STRUCTURAL STEEL SHAPES, BOLTS, ETC.) MUST BE KEPT BEHIND THE ANTENNAS.
4. USE ⅝" DIA. FRP THREADED ROD (LARR#25536) FASTENERS FOR ALL FIBERGRATE CONNECTEROS, UNLESS NOTED OTHERWISE. (OR APPROVED EQUAL)
5. MINIMUM FASTENER EDGE, DISTANCE AND SPACING, UNLESS OTHERWISE NOTED:
   END EDGE DISTANCE - 3 X DB
   SIDE EDGE DISTANCE - 2 X DB
   PITCH (SPACING) - 5 X DB
6. ALL FABRICATED IS GOVERNED BY FIBERGRATE DESIGN MANUAL.
7. FIBERGLASS SKIN IS 2-1/4" THICK, WITH FACING ⅛" THICK MIN.
8. FIBERGLASS SKIN FLEXTURAL CAPACITY = 800 LB-IN / FT MIN.
9. BOND (CHEMICAL OR MECHANICAL) BETWEEN FIBERGRATE AND FIBERGLASS SKIN TO BE SUFFICIENT FOR THE MATERIALS TO ACT COMPOSITELY.

SCREENING CONST. NOTES

2



(P) SCREEN FRAME ISO ELEVATION

1

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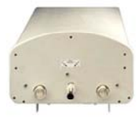
SHEET TITLE
SCREENING DETAILS

SHEET NUMBER
D-2

Product Specifications

COMMSCOPE®

POWERED BY ANDREW.



LNX-6515DS-VTM

Andrew® Antenna, 698–896 MHz, 65° horizontal beamwidth, RET compatible

- Excellent choice to maximize both coverage and capacity in suburban and rural applications
- Fully compatible with Andrew remote electrical tilt system for greater OpEx savings
- Exceptional horizontal pattern roll-off and strong front-to-back ratio
- Extended bandwidth allows one antenna to serve multiple frequency allocations
- Great solution to maximize network coverage and capacity
- The RF connectors are designed for IP67 rating and the radome for IP56 rating

Electrical Specifications

Frequency Band, MHz	698–806	806–896
Gain, dBi	16.7	17.6
Beamwidth, Horizontal, degrees	65	64
Beamwidth, Vertical, degrees	9.7	8.6
Beam Tilt, degrees	0–8	0–8
USLS, dB	17	17
Front-to-Back Ratio at 180°, dB	32	27
CPR at Boresight, dB	24	27
CPR at Sector, dB	15	13
Isolation, dB	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153
Input Power per Port, maximum, watts	400	400
Polarization	±45°	±45°
Impedance	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896
Gain by all Beam Tilts, average, dBi	16.6	16.9
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.3
Gain by Beam Tilt, average, dBi	0 ° | 16.6 4 ° | 16.6 8 ° | 16.4	0 ° | 17.0 4 ° | 17.0 8 ° | 16.8
Beamwidth, Horizontal Tolerance, degrees	±1	±0.9
Beamwidth, Vertical Tolerance, degrees	±0.6	±0.4
USLS, dB	18	18
Front-to-Back Total Power at 180° ± 30°, dB	25	23
CPR at Boresight, dB	24	27
CPR at Sector, dB	15	13

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol®
Band	Single band
Brand	DualPol® | Teletilt®

Product Specifications

COMMSCOPE®

POWERED BY ANDREW.

Operating Frequency Band	698 – 896 MHz

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Aluminum
Radome Material	Fiberglass, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	2
Wind Loading, maximum	878.0 N @ 150 km/h 197.4 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h | 149.8 mph

Dimensions

Depth	181.0 mm | 7.1 in
Length	2438.0 mm | 96.0 in
Width	301.0 mm | 11.9 in
Net Weight	19.8 kg | 43.7 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator	LNX-6515DS-A1M
RET System	Teletilt®

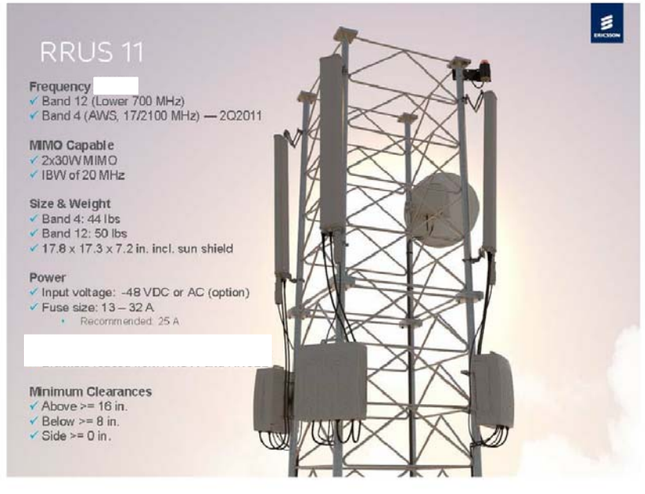
Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

DB380-3 — Pipe Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Used for wide panel antennas. Includes three clamp sets.

DB5083D — Downtilt Mounting Kit for 2.4"-4.5" (60-115 mm) OD round members. Consists of two DB5083 heavy-duty, galvanized steel downtilt mounting brackets. This kit is compatible with the DB380-3 pipe mount for panel antennas with three mounting points.



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SHEET TITLE

SPEC. SHEETS

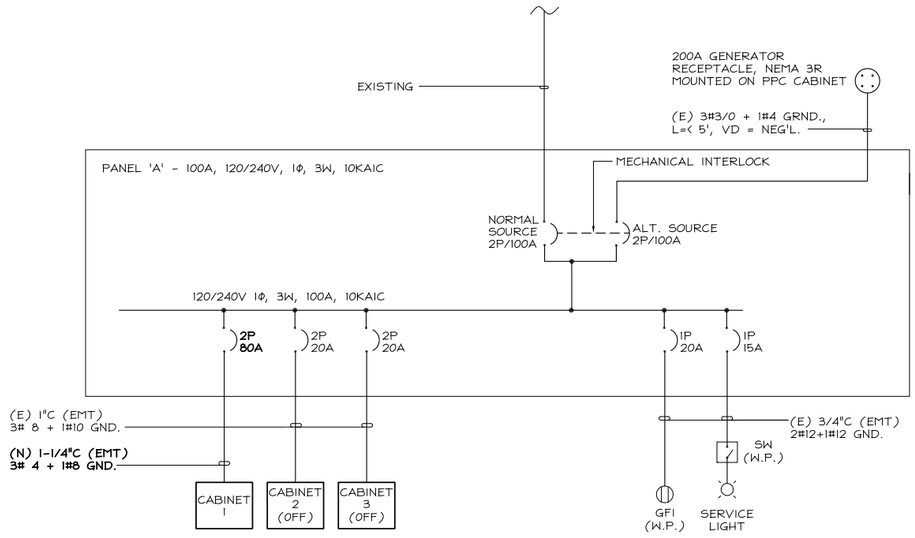
SHEET NUMBER

D-3

NOTES:

1. SUBCONTRACTOR SHALL PROVIDE "200"AMP, SINGLE PHASE, 120/240 VAC, 60HZ SERVICE FOR T-MOBILE SITE.
2. SUBCONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY BEFORE THE START OF CONSTRUCTION. POWER AND TELEPHONE CONDUIT SHALL BE PROVIDED AND INSTALLED PER UTILITY REQUIREMENTS
3. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY PPC MANUFACTURER.
4. ALL SERVICE EQUIPMENT AND INSTALLATIONS SHALL COMPLY WITH THE N.E.C. AND UTILITY COMPANY AND LOCAL CODE REQUIREMENTS
5. SUBCONTRACTOR SHALL INSTALL 36" OF FLEX CONDUIT WITH ALL CONDUIT FITTINGS (NUTS, REDUCING BUSHINGS, ELBOWS, COUPLINGS, ETC.) NECESSARY FOR CONNECTION TO THE BTS CABINET
6. SUBCONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
7. POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT. SHALL BE SINGLE CONDUCTOR (#14 AWG AND LARGER), 600V, OIL RESISTANT. THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED.

NOTES | 4



ONE LINE DIAGRAM | 3

PANEL 'A'

SITE NAME: SF03024A - El Bethel Arms

PANEL DESIGNATION: AC PANEL 'A'

VOLTAGE: 120/240 V
PHASE: 1
WIRE: 3
MAIN BREAKER: 100 AMP
BUSS RATING: 225 AMP
LOCATION:

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	BTS #1	80	2	ON	5000	1.25	6250		0				OFF	2	20	BTS #2	2
3					5000	1.25		6250		0							4
5	BTS #3	20	2	OFF			0		0							SPACE	6
7								0		0						SPACE	8
9	SPACE						0		0							SPACE	10
11	SPACE							0		0						SPACE	12
13	SPACE						0		0							SPACE	14
15	SPACE							0		0						SPACE	16
17	SPACE						0		0							SPACE	18
19	GFCI W.P. RECEP.	20	1		180	1.00		180		0			ON	2	100	MAIN	20

PHASE A TOTAL VA	6250
PHASE B TOTAL VA	6430
TOTAL KVA	12.68
TOTAL AMPS	52.83

NOTES:

- REPLACE EXISTING 50A BREAKER W/ NEW 80A BREAKER

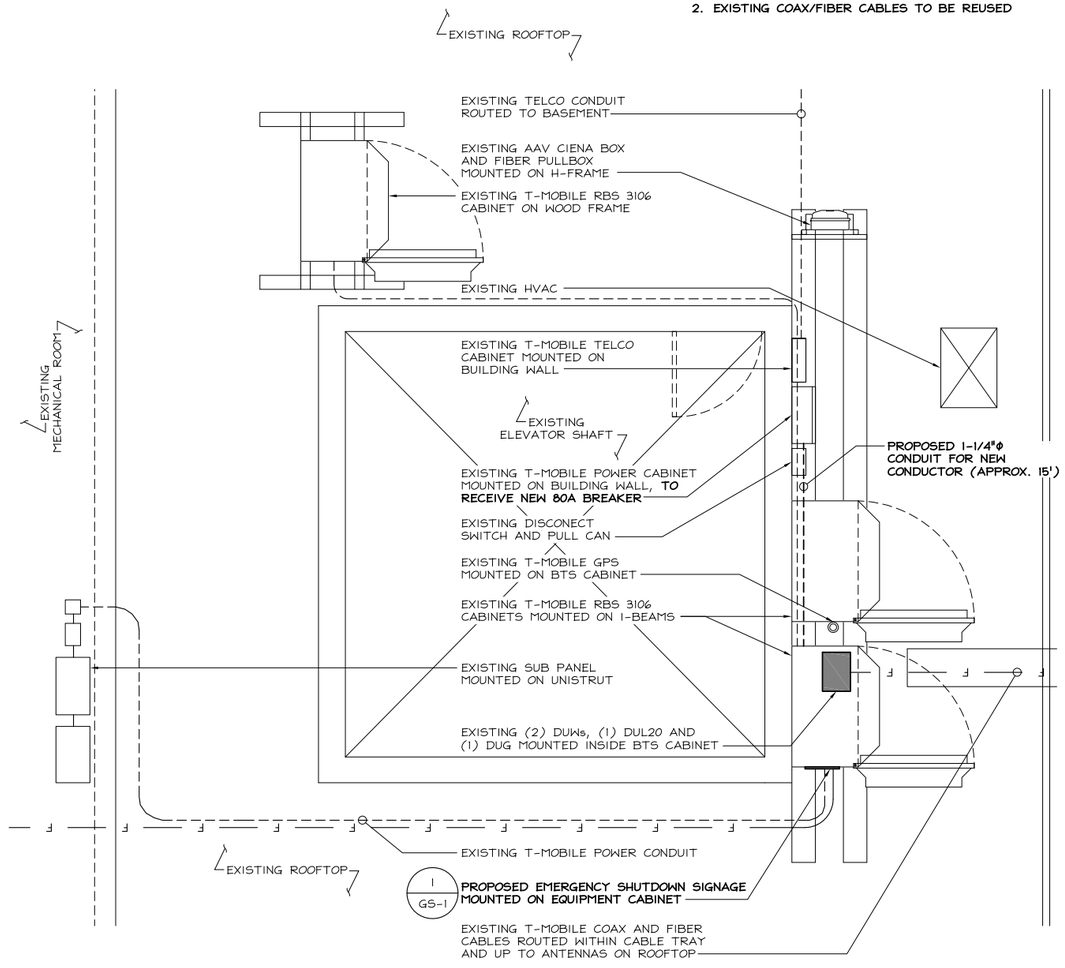
PANEL SCHEDULE | 2

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
2. SERVICE TO EQUIPMENT CABINETS SHALL BE 120/240VAC, 200A, 1-PHASE.
3. SUBCONTRACTOR SHALL CALL DIG ALERT AT 1-800-227-2600 FOR UNDERGROUND UTILITY MARKOUT PRIOR TO CONSTRUCTION.
4. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
5. ALL CONDUCTORS SHALL BE THWN, COPPER 600V. 75° C; U.G. CONDUCTORS SHALL BE WET-RATED
6. REFER TO PANEL SCHEDULE PROVIDED BY SHELTER MANUFACTURER FOR CIRCUIT ARRANGEMENT & WIRING CONNECTION.
7. LIGHTING INSIDE SHELTER WILL BE DESIGNED & INSTALLED BY SHELTER MANUFACTURER.
8. TITLE 24 FOR LIGHTING SHALL BE PROVIDED BY SHELTER MANUFACTURER.
9. ALL WORK TO COMPLY WITH NFPA 70E AND OSHA TITLE 29

NOTES:

1. NO CHANGE TO EXISTING EQUIPMENT CABINETS
2. EXISTING COAX/FIBER CABLES TO BE REUSED



ELECTRICAL PLAN | 1

24"x36" SCALE: 3/8" = 1'-0"
11"x17" SCALE: 3/16" = 1'-0"
2' 1' 0" 2'

T-Mobile
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CONCORD, CA 94520

MOBILITY
240 STOCKTION ST., 3RD FLOOR
SAN FRANCISCO, CA 94108

ALL STATES ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630
PHONE: (949) 273-0996

PROJECT NO:	SF03024A
DRAWN BY:	RF
CHECKED BY:	KM

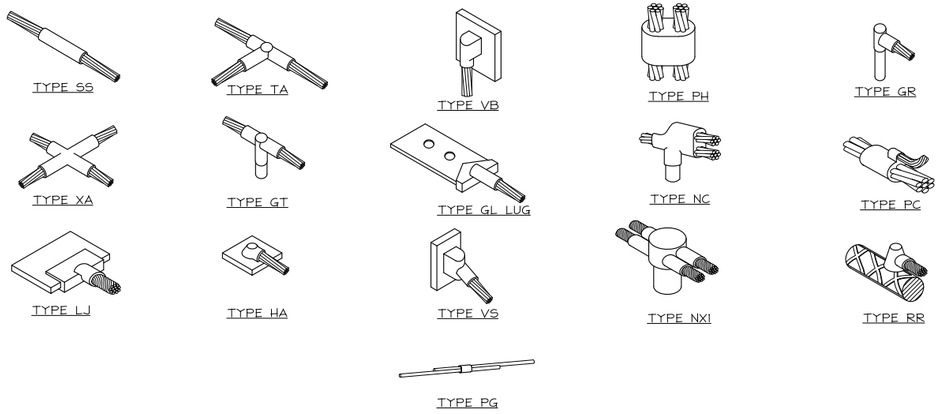
REV	DATE	DESCRIPTION	
2	07/12/2017	PER PLANNING COMMENTS	RA
1	01/14/2016	PER PLANNING COMMENTS	KM
0	06/26/2015	100% CD'S FOR SUBMITTAL	KM
B	06/15/2015	100% CD'S FOR REVIEW	RF
A	04/14/2015	90% CD'S FOR REDLINE	RF

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

SHEET TITLE
ELECTRICAL PLAN

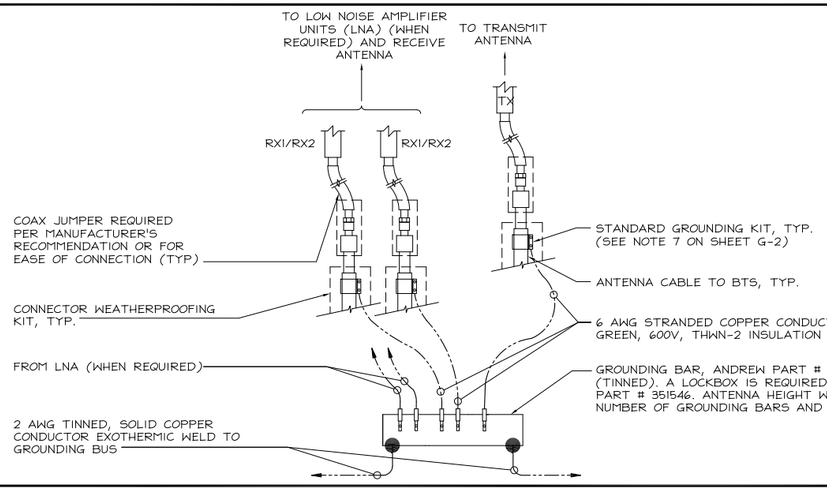
SHEET NUMBER
E-1



TYPICAL CADWELD TYPES

24"x36" SCALE: NTS
11"x17" SCALE: NTS

4



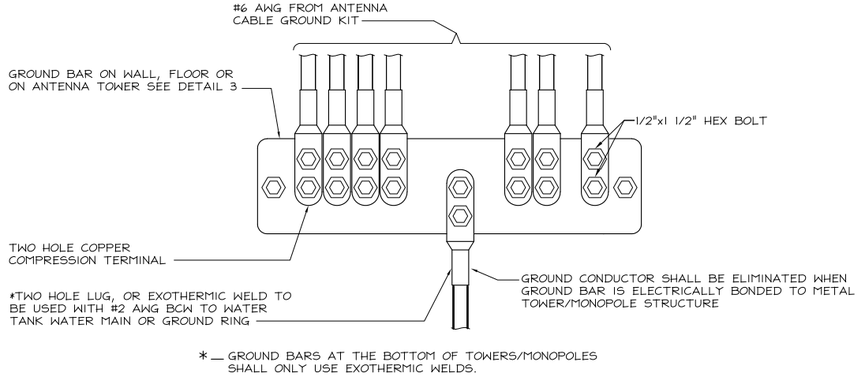
GROUNDING BAR CONNECTION

24"x36" SCALE: NTS
11"x17" SCALE: NTS

3

NOTES:

1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS AND TO BE APPLIED PRIOR TO ADDING HARDWARE.



WIRE TO GROUND BAR CONNECTION

24"x36" SCALE: NTS
11"x17" SCALE: NTS

2

1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.

2. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING #2 GROUND WIRES AND CONNECT TO SURFACE MOUNTED GROUND BUS BARS AS SHOWN. FOLLOW ANTENNA AND BTS MANUFACTURER'S PRACTICES FOR GROUNDING REQUIREMENTS. GROUND COAX SHIELD AT BOTH ENDS USING MANUFACTURERS PRACTICES. ALL UNDERGROUND WATER PIPES, METAL CONDUITS AND GROUNDS THAT ARE A PART OF THIS SYSTEM SHALL BE BONDED TOGETHER.

3. ALL GROUND CONNECTIONS SHALL BE #2 AWG U.N.O. ALL WIRES SHALL BE COPPER THHN/THWN. ALL GROUND WIRE SHALL BE SOLID TIN COATED OR STRANDED GREEN INSULATED WIRE.

4. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE, 5 OHMS MAXIMUM. PROVIDE SUPPLEMENT GROUNDING RODS AS REQUIRED TO ACHIEVE SPECIFIED OHMS READING. GROUNDING AND OTHER OPTIONAL TESTING WILL BE WITNESSED BY THE T-MOBILE REPRESENTATIVE.

5. NOTIFY ARCHITECT/ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.

6. BARE GROUNDING CONDUCTOR SHALL BE HARD DRAWN TINNED COPPER SIZES AS NOTED ON PLAN.

7. ALL HORIZONTALLY RUN GROUNDING CONDUCTORS SHALL BE INSTALLED MINIMUM 12" BELOW GRADE/FROST-LINE IN TRENCH, U.N.O., AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY ARCHITECT.

8. ALL GROUND CONDUCTORS SHALL BE RUN AS STRAIGHT AND SHORT AS POSSIBLE, WITH A MINIMUM 12" BENDING RADIUS NOT LESS THAN 90 DEGREES.

9. ALL SUPPORT STRUCTURES, CABLE CHANNEL WAYS OR WIRE GUIDES SHALL BE BONDED TO GROUND SYSTEM AT A POINT NEAREST THE MAIN GROUNDING BUS "MGB" (OR DIRECTLY TO GROUND-RING).

10. ACCEPTABLE CONNECTIONS FOR GROUNDING SYSTEM SHALL BE:
    a. BURNDY, HY-GRADE U.L. LISTED CONNECTORS FOR INDOOR USE OR AS APPROVED BY T-MOBILE PROJECT MANAGER.
    b. CADWELD, EXOTHERMIC WELDS (WELDED CONNECTIONS).
    c. TWO -(2) HOLE TINNED COPPER COMPRESSION (LONG BARREL) FITTINGS (BUS BAR CONNECTIONS).

11. ALL CRIMPED CONNECTIONS SHALL HAVE EMBOSSED MANUFACTURER'S DIEMARK VISIBLE AT THE CRIMP (RESULTING FROM USE OF PROPER CRIMPING DEVICES).

12. PRIOR TO ANY LUG-BUSSBAR CONNECTIONS, THE BUSSBAR SHALL BE CLEANED BY USE OF "SCOTCH-BRITE' OR PLAIN STEEL WOOL AS TO REMOVE ALL SURFACE OXIDATION AND CONTAMINANTS. A COATING OF "NO-OX-ID" SHALL BE APPLIED TO THE CONNECTION SURFACES.

13. ALL CONNECTION HARDWARE SHALL BE TYPE 316 SS (NOT ATTRACTED TO MAGNETS).

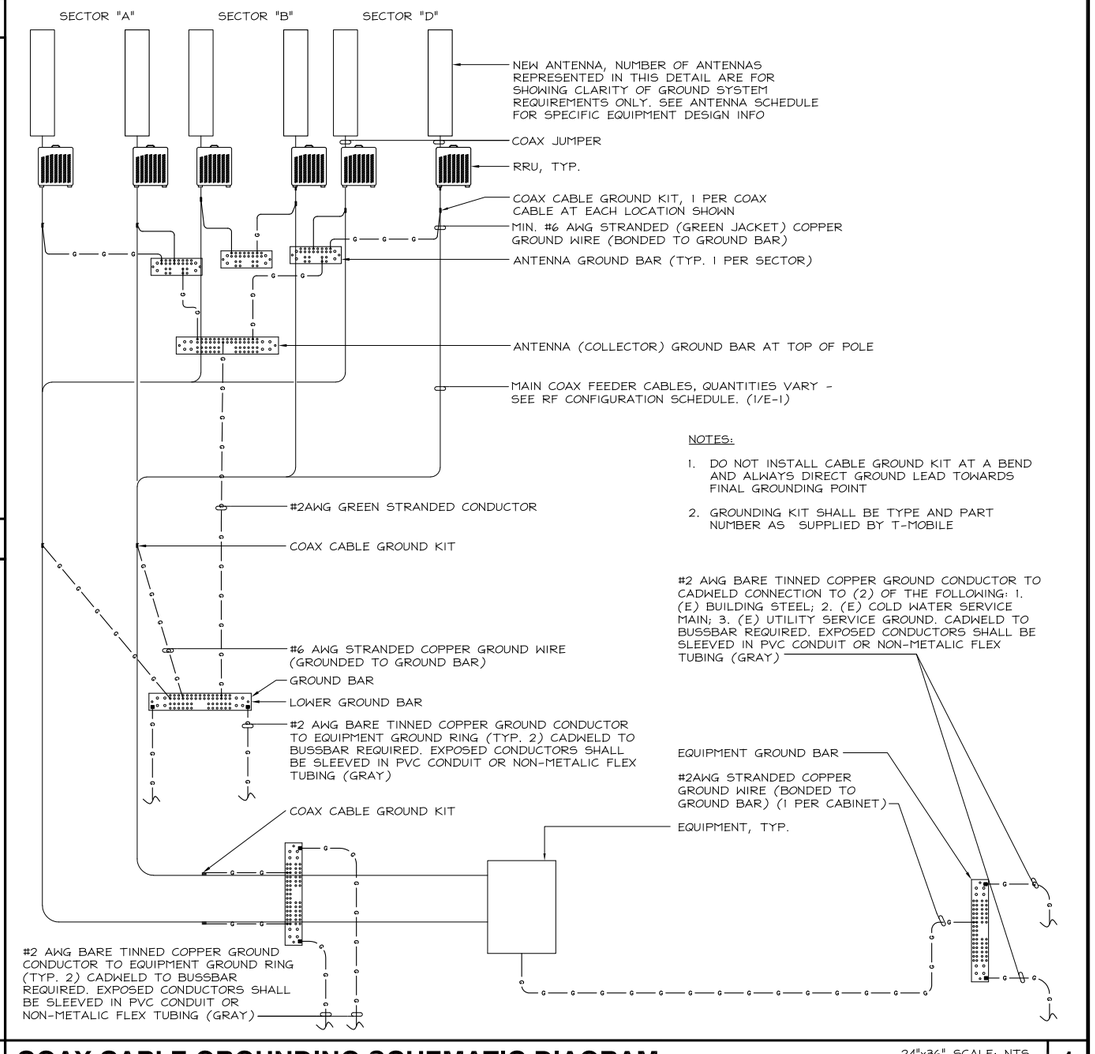
14. THE GROUND RING SHALL BE INSTALLED 24" MINIMUM BEYOND ANY BUILDING DRIP LINE.

15. ELECTRICAL SERVICE EQUIPMENT GROUNDING SHALL COMPLY WITH NEC, ARTICLE 250-82 AND SHALL BOND ALL EXISTING AND NEW GROUNDING ELECTRODES. NEW GROUNDING ELECTRODE SHALL INCLUDE BUT NOT LIMITED TO GROUND RODS, GROUND RING IF SERVICE IS WITHIN THE RADIO EQUIPMENT LOCATION, BUILDING STEEL IF APPLICABLE, COLD WATER CONNECTIONS MUST BE MADE ON THE STREET SIDE OF MAIN SHUT-OFF VALVE.

GROUNDING NOTES

24"x36" SCALE: NTS
11"x17" SCALE: NTS

2



COAX CABLE GROUNDING SCHEMATIC DIAGRAM

24"x36" SCALE: NTS
11"x17" SCALE: NTS

1

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23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630
PHONE: (949) 273-0996

PROJECT NO:	SF03024A
DRAWN BY:	RF
CHECKED BY:	KM

REV	DATE	DESCRIPTION	
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A	04/14/2015	90% CD'S FOR REDLINE	RF

REGISTERED PROFESSIONAL ENGINEER
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71655
CIVIL
STATE OF CALIFORNIA

SF03024A
EL BETHEL ARMS
1025 FILLMORE STREET
SAN FRANCISCO, CA 94115
L700/L1900 PROJECT

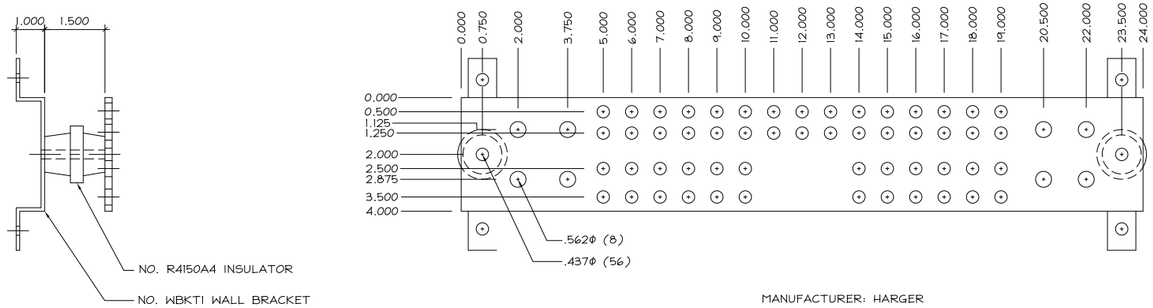
SHEET TITLE
GROUNDING SCHEMATIC & GROUNDING DETAILS

SHEET NUMBER
G-1

NOT USED

24"x36" SCALE: NTS
11"x17" SCALE: NTS

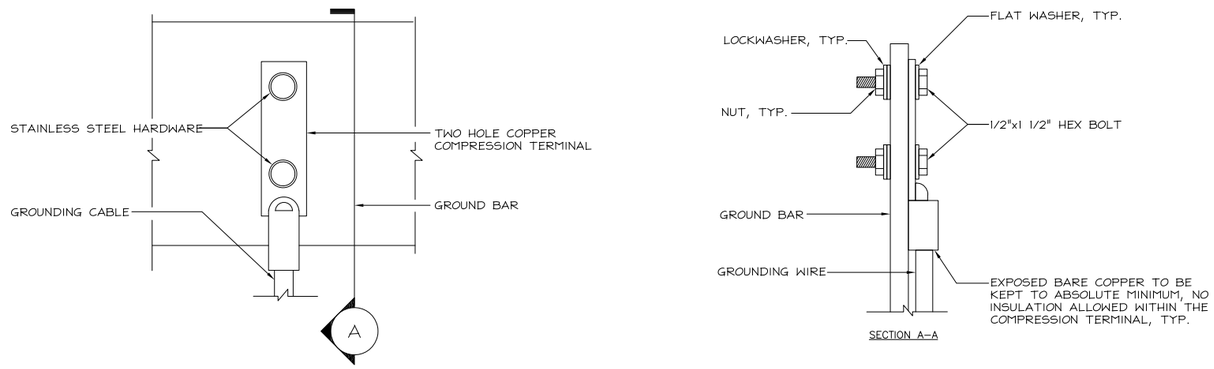
6



24" GROUND BAR

24"x36" SCALE: NTS
11"x17" SCALE: NTS

5



NOTES:

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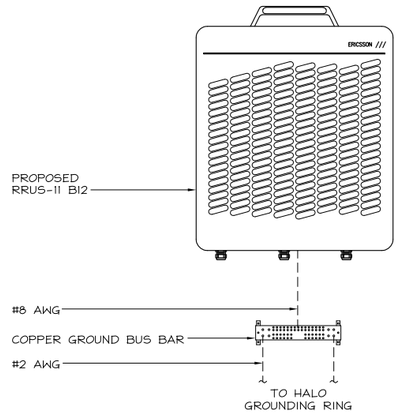
TYPICAL GROUND BAR CONNECTION

24"x36" SCALE: NTS
11"x17" SCALE: NTS

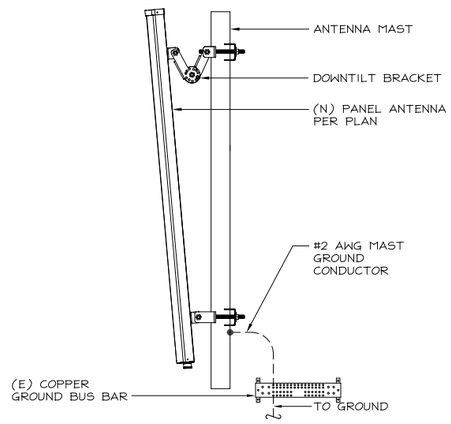
4



RRU GROUNDING DETAIL

24"x36" SCALE: NTS
11"x17" SCALE: NTS

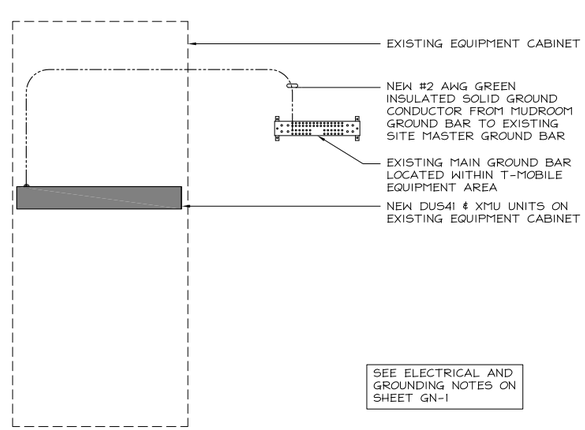
3



ANTENNA/RRU GROUNDING

24"x36" SCALE: NTS
11"x17" SCALE: NTS

2



EQUIPMENT GROUNDING DETAIL

24"x36" SCALE: NTS
11"x17" SCALE: NTS

1

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SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

G-2