

**COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT**

DATE: June 20, 2024

TO: Zoning Hearing Officer

FROM: Planning Staff

SUBJECT: Consideration of a Use Permit Renewal, pursuant to Section 6500 of the County Zoning Regulations, to allow the continued operation of a wireless telecommunications facility, located at 30 Avenue Portola, in the unincorporated El Granada area of San Mateo County.

County File Number: PLN2005-00520 (T-Mobile)

PROPOSAL

The applicant, Andrea Liu on behalf of T-Mobile West LLC, is applying for a Use Permit Renewal to allow for the continued operation of an existing cellular communications facility. The existing facility is located on the roof of a three-story commercial building and consists of three panel antennas enclosed within a single faux chimney. The existing building is 36 feet in height and the top of the faux chimney extends 7 feet 8 inches from the topmost point of the building for a maximum height of 43 feet 8 inches. The facility also includes a small GPS antenna and cabling that are not visible from the street due to an existing parapet wall on the roof. The associated equipment cabinets are located in an 88-square foot room located on the second floor of the building.

While not yet constructed, a minor modification was approved for the existing facility which includes relocating the existing three panel antennas on to individual poles and enclosing each in an individual faux chimney which will extend 10 feet 6 inches from the topmost point of the building for a new maximum total height of 46 feet 6 inches. The modifications qualify as minor under the Federal Preemption and are not subject to review under this permit.

RECOMMENDATION

That the Zoning Hearing Officer approve the Use Permit Renewal, County File Number PLN2005-00520, by adopting the required findings and conditions of approval identified in Attachment A.

BACKGROUND

Report Prepared By: Jonathan Bruns, Project Planner. Email: jbruns@smcgov.org

Applicant: Andrea Liu, on behalf of T-Mobile West LLC

Owner: Thomas McCaffrey

Public Notification: Ten (10) day advanced notification for the hearing was mailed to property owners within 300 feet of the project parcel and a notice for the hearing posted in a newspaper (San Mateo County Times) of general public circulation.

Location: 30 Avenue Portola, El Granada

APN: 047-231-150

Size: 7,754 sq. ft.

Existing Zoning: C-1/S-3/DR/CD (Neighborhood Business District/5,000 sq. ft. Minimum Parcel Size/Design Review District/Coastal Development District

General Plan Designation: Neighborhood Commercial

Local Coastal Plan Designation: Neighborhood Commercial

Sphere-of-Influence: Half Moon Bay

Existing Land Use: Commercial/Office Building

Water Supply: Coastside County Water District

Sewage Disposal: Granada Sanitary District

Flood Zone: Zone X (Area of minimal flood hazard); FEMA panel 06081C0138F.
Effective date August 2, 2017.

Environmental Evaluation: Categorically exempt pursuant to Section 15301, Class 1 (the permitting of an existing structure)

Setting: The subject property is located on Avenue Portola at the southeast corner of the intersection with Avenue Alhambra. The site is developed with an existing three-story office building. Various commercial uses front on Avenue Portola and Avenue Alhambra, and a mix of single-family and multi-family residential uses are located in the surrounding community to the northeast.

Chronology:

<u>Date</u>	<u>Action</u>
November 3, 2005	- Planning application received to establish a new T-Mobile wireless telecommunications cellular facility at 30 Avenue Portola.
September 7, 2006	- The Zoning Officer approved the Coastal Development Permit and Use Permit to establish the T-Mobile wireless telecommunications facility.
May 3, 2006	- Building Permit, BLD2006-01241, finalized to construct a new T-Mobile wireless telecommunications facility.
February 14, 2012	- Use Permit Renewal application for T-Mobile wireless facility received.
November 1, 2012	- Zoning Hearing Officer approved Use Permit renewal.
August 26, 2016	- Minor modification application approved (BLD2016-01254), to replace existing three antennas, add new storage and battery cabinets, new coax lines, and extend faux chimney upwards.
October 30, 2023	- Use Permit Renewal with minor modification application received.
April 9, 2024	- Use Permit Renewal application deemed complete.
June 20, 2024	- Zoning Hearing Officer public meeting.

DISCUSSION

A. KEY ISSUES

1. Conformance with General Plan

The project continues to conform with the applicable General Plan policies included in Vegetative, Water, Fish, and Wildlife Resources, Soil Resources, Visual Quality, Historical and Archaeological, Rural Land Use, and Geotechnical Hazards sections. The project was constructed in accordance with its last Use Permit renewal and subsequent minor modifications. The current renewal includes changes that qualify as a Minor Modification.

2. Conformance with Zoning Regulations

The project parcel is zoned C-1/S-3/DR/CD (Neighborhood Business Districts/5,000 sq. ft. Minimum Parcel Size/Design Review District/Coastal Development District). The existing wireless telecommunication facility is operating under a previously approved Use Permit and the project was constructed and has been maintained in accordance with approved plans.

3. Compliance with Wireless Telecommunications Facilities Ordinance (WTF)

The project continues to conform with the applicable standards of the Wireless Telecommunication Facilities (WTF) Ordinance, as discussed below:

- a. Development and Design Standards. Section 6512.2 of the WTF ordinance discusses location, minimizing visual impacts, maximum height, and future co-location of wireless facilities. The project parcel is not located within a scenic corridor. The visual impact of the facility is mitigated through the use of a faux-chimney on top of the building, blending into the environment by emulating the real chimney exhaust vents on the building roof.

Based on the radio frequency emissions analysis completed by William F. Hammett of Hammett & Edison, Inc., the project is compliant with the exposure limits set by the Federal Communications Commission (FCC). More specifically, composite exposure levels for a person at ground level would be 27% of the applicable public exposure limit. The maximum calculated level at the balconies of the subject building is 46% of the public exposure limit. The maximum calculated level at any nearby building is 71% of the public exposure limit. There are no other wireless telecommunications carriers present on the site. In addition, there are no pending applications for additional carriers to co-locate at the site and there are no further expansions planned or anticipated at this time.

- b. Performance Standards

The existing facility continues to be compliant with the required performance standards of Section 6512.3 for lighting, licensing, provision of a permanent power source, timely removal of the facility, visual resource protection, and generator use and maintenance. The facility does not include any exterior lighting, proper licenses have been obtained from both the FCC and CPUC, power for the facility is provided by PG&E, there is minimal visual impact, and conditions of approval included in Attachment A of this report, continue to require maintenance and/or removal of the facility when necessary.

4. Use Permit Findings

In order to approve this Use Permit renewal, the Zoning Hearing Officer must make the follow findings:

- a. *That the establishment, maintenance and/or conducting of the use will not, under the circumstances of the particular case, result in significant impacts to coastal resources or be detrimental to the public welfare or injurious to property or improvements in said neighborhood.*

This subject wireless facility has been in operation since 2007 and has not resulted in any adverse impacts to the surrounding area. No complaints have been received regarding this facility. The radio frequency analysis submitted by the applicant indicates that the facility continues to comply with the FCC's current prevailing standards for limiting human exposure to RF energy. As this is an unmanned communication facility, the operation does not create additional traffic, noise, or intensity of use of the property.

- b. *That the telecommunication facility is necessary for the public health, safety, convenience or welfare of the community.*

The continued operation of the cellular facility at this location allows for continued cellular communication coverage for residents, visitors, businesses, and emergency responders. The existing wireless telecommunication facility has been in existence for many years and the community has come to rely on the coverage provided by this site. The site facilitates both routine daily conversation but also provides communication services in emergency situations.

5. Conformance with Conditions of Lase Use Permit Approval

Staff has reviewed the previous Use Permit conditions of approval associated with its 2012 renewal and has determined that the project is in compliance with all previous conditions. The faux chimney concealment measure has been maintained in compliance with previous conditions. Previous conditions that remain relevant are included in Attachment A of this staff report.

B. ENVIRONMENTAL REVIEW

The project is categorically exempt pursuant to Section 15301, Class 1 of the CEQA Guidelines for the continued operation of existing public or private facilities involving negligible alterations or expansion of use as physical changes are proposed.

C. REVIEWING AGENCIES

Coastside Fire Protection District
Midcoast Community Council

ATTACHMENTS

- A. Recommended Findings and Conditions of Approval
- B. Location Map
- C. Plans
- D. RF Report
- E. 2012 Letter of Decision

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN2005-00520

Hearing Date: June 20, 2024

Prepared By: Jonathan Bruns,
Project Planner

For Adoption By: Zoning Hearing Officer

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That the project is categorically exempt under provision of Class 1, Section 15301 of the California Environmental Quality Act Guidelines, Existing Facilities. The proposed project includes the continued operation of an existing facility.

Regarding the Use Permit, Find:

2. That this wireless telecommunications facility is necessary for the public health, safety, convenience or welfare of the community because the FCC has established the desirability and need for mobile and wireless telephone service to facilitate enhanced communication between mobile units. The range of personal communication services provided by this facility enhances telephone services in the area and is a necessary component of public health, safety, convenience, and welfare.
3. That the establishment, maintenance and conducting of the use, as proposed and conditioned, will not result in significant impacts to coastal resources, and will not be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood. Staff has reviewed the project file, referred the project to the responsible agencies for comments, and reviewed previous conditions of approval and found no issues concerning noncompliance with Current Planning Section requirements or issues from neighboring parcels in the vicinity. In addition, Staff has reviewed the Radio Frequency report, and has found that the continued use of the existing facility is in full conformance with the requirements of the Federal Communications Commission.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. This approval applies only to the proposal, documents and plans described in this report as submitted and approved by the Zoning Hearing Officer on June 20, 2024. Minor modifications to the project may be approved by the Director of Planning and Building if they are consistent with the intent of, and in substantial conformance with, this approval.
2. The Use Permit Renewal shall be valid for ten (10) years from the date of final approval. The applicant shall apply for renewal of the Use Permit and pay applicable renewal fees six (6) months prior to expiration.
3. Any change in use or intensity not already approved shall require an amendment to the Use Permit. Amendment to this Use Permit requires an application for amendment, payment of applicable fees, and consideration at a public hearing.
4. The applicant shall receive and maintain all necessary licenses and registrations from the FCC and any other applicable regulatory bodies for the operation of the subject facility at this site. The applicant shall supply the Planning Department with evidence of such licenses and registrations. If any required license is ever revoked, the applicant shall inform the Planning Department of the revocation within ten (10) days of receiving notice of such revocation.
5. If a less visually obtrusive and/or reduced height antennas become available for use prior to the issuance of a building permit, the applicant shall present a redesign incorporating this technology into the project and shall present this to the Director of Planning and Building for review.
6. The applicant shall not enter into a contract with the landowner or lessee which reserves for one company exclusive use of structures on this site for telecommunications facilities.
7. This facility and all equipment associated with it shall be removed in its entirety by the applicant within ninety (90) days if the FCC license and registration are revoked or if the facility is abandoned or no longer needed. The owner and/or operator of the facility shall notify the Planning Department upon abandonment of the facility.
8. There shall be no external lighting associated with this use. Wireless telecommunication facilities shall not be lighted or marked unless required by the FCC or Federal Aviation Administration (FAA).

9. The applicant shall comply with all requirements of the Department of Public Works, Building Inspection Section, and Coastside County Fire Department for the duration of the permit.
10. Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m. weekdays and 9:00 a.m. to 5 p.m. Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo County Ordinance Code Section 4.88.360).
11. The Property Owner is responsible for maintaining the property in a manner consistent with all County regulations, including conditions of approval applied to permits (i.e., use permits) for on-site wireless telecommunication facilities. All use permits shall be maintained in an "active," non-expired status. Non-compliance with any applicable County regulations may result in the initiation of a violation case and referral of the case to the Planning and Building's Department's Code Compliance Section. Per Section 6105.1 (Zoning and Building Violation) of the County Zoning Regulations, except as provided in Sections 6105.2 and 6105.3, no permit for development shall be issued for any lot that has an existing zoning or building violation.
12. The applicant shall provide the name, title, phone number, mailing address, and email address of one or more contact persons at T-Mobile, to which future correspondences from the County should be addressed. These persons(s) will serve as the long-term contact person(s) for this project for the purposes of permit renewal. Should the long-term contact person(s) change, the property owner is responsible for contacting the County to establish new long-term contact person(s).
13. The screening measures associated with the panel antennas shall be maintained as proposed and constructed. Any modifications to the antennas shall incorporate the approved concealment measures.
14. The applicant shall incorporate the site safety measures noted in the submitted RF Report completed by Hammett & Edison, Inc., Consulting Engineers, dated October 16, 2023.

Coastside Fire Protection District

15. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) high with a minimum stroke width of 1/2 inch (12.7 mm). Where required by the fire code official, address identification shall be

provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained. – **CFC 2022 Section 505.1**

16. When required by the Coastside Fire Protection District, a Knox Box of the size and type designated shall be mounted on the building near the main entrance and shall be located a minimum of 60 inches and not higher than 72 inches above the finished floor, in a location approved by the fire code official. Additional Knox Boxes may be required at rear entrances to buildings. Knox padlocks or Knox Gate Switches may be required at any access as specified by the fire code official.– **CFC 2022 Section 506.1.3**
17. Gates shall be a minimum of 2 feet wider than the roadway they serve. Overhead gate structures shall have a minimum of 15½ feet of vertical clearance. – **CFPD Standard R-001**
18. Locked gates shall be provided with a Knox Box or Knox Padlock for fire department access. Electric gates shall be provided with a Knox Gate Switch and automatically open during power failures, unless equipped with manual override capability that is approved by Coastside Fire Protection District. Gates providing Fire access to a driveway or other roadway shall be located at least 35 feet from the primary road or street and shall open to allow a vehicle to stop without obstructing traffic on the adjoining roadway. – **CFPD Standard R-001**
19. Weeds, grass, vines or other growth that is capable of being ignited and endangering property, shall be cut down and removed by the owner or occupant of the premises. Vegetation clearance requirements in wildland-urban interface areas shall be in accordance with Chapter 49. – **CFC 2022 Section 304.1.2**
20. Hazardous vegetation and fuels shall be managed to reduce the severity of potential exterior wildfire exposure to buildings and to reduce the risk of fire spreading to buildings as required by applicable laws and regulations. Defensible space will be managed around all buildings and structures in State Responsibility Areas (SRA) as required in Public Resources Code 4291. – **CFC 2022 Section 4907.1**



COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT B



COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT C

T-Mobile®

APPROVED
By Edward Rollins at 2:54 pm, Oct 26, 2023

SITE NUMBER: SF71571M - ANCHOR
SITE NAME: SF1571 LIBERTY COURT
SITE TYPE: ROOFTOP

CITY: EL GRANADA
COUNTY: SAN MATEO
JURISDICTION: COUNTY OF SAN MATEO

T-Mobile®

PLANS PREPARED BY:

CDG

22431 ANTONIO PKWY
SUITE B160-131
RANCHO SANTA MARGARITA CA 92688
dconnell@connelldesigngroup.com
949-306-4644

CONSULTING GROUP:



1511 E. ORANGETHORPE, SUITE D
FULLERTON, CA 92831

NO.	DATE	DESCRIPTION	BY:
0	08/01/23	90% CD'S	LE
1	08/12/23	90% CD'S	LE
2	10/26/23	100% CD'S	DC

SITE INFORMATION:

SF1571 LIBERTY COURT

SF71571M

30 AVENUE PORTOLA,
EL GRANADA, CA 94018

SEAL:



DATE STAMPED: 10/26/2023

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T-1

PROJECT SUMMARY:

SITE ADDRESS: 30 AVENUE PORTOLA, EL GRANADA, CA 94018
GEODETTIC COORDINATES (NAD 83): LATITUDE: 37.502258° LONGITUDE: -112.469658°

PROPERTY OWNER: NICHOLAS DAMER, P.O. BOX 321, EL GRANADA, CA, 94018

APPLICANT: T-MOBILE WEST LLC, 1200 CONCORD AVE., SUITE 500, CONCORD, CA 94520

PROJECT DESCRIPTION: THIS PROJECT INCLUDES THE MODIFICATIONS TO AN EXISTING T-MOBILE WIRELESS FACILITY, INCLUDING:

- ANTENNA SCOPE OF WORK:**
- INSTALL (3) AIR6419 ANTENNAS, (1) PER SECTOR
 - INSTALL (3) APXVAALL18_43-U-NA20 ANTENNAS, (1) PER SECTOR
 - INSTALL (3) RADIO 4460, (1) PER SECTOR
 - INSTALL (3) RADIO 4480, (1) PER SECTOR
 - REMOVE (3) EXISTING PANEL ANTENNAS, (1) PER SECTOR
 - REMOVE (3) EXISTING DIPLEXERS
 - REMOVE (1) EXISTING FAUX CHIMNEY
 - INSTALL (3) NEW FRP SCREEN BOXES

- EQUIPMENT SCOPE OF WORK:**
- ADD (1) 6160 BASE STATION CABINET
 - ADD (1) B160 BATTERY CABINET
 - ADD (2) RP 6651
 - ADD (1) CSR IXRE V2 ROUTER IN (N) 6160
 - ADD (2) 6/24 HYBRID TRUNK CABLES - 4AWG 30m
 - REMOVE (1) EXISTING RBS 6201 ODE CABINET
 - REMOVE (1) EXISTING RBS 6101 CABINET
 - REMOVE (1) EXISTING PTS8003
 - REMOVE (3) (E) RUS01 B2, (6) (E) RUS01 B4 FROM (E) RBS 6102
 - REMOVE (3) (E) RUS01 B12 FROM (E) RBS 6101
 - REMOVE (E) RF CABLING

BUILDING SUMMARY:
OCCUPANCY CLASSIFICATION: B (TELEPHONE EXCHANGE)
TYPE OF CONSTRUCTION: V-B
ZONING: C-1
TOTAL LEASE AREA: ADD 55 SQ.FT. AT ANTENNA AREA.
ASSESSORS PARCEL NUMBER: 047-231-150
TOTAL ANTENNA LEASE AREA: 64 SQ.FT.

CONSULTING TEAM:

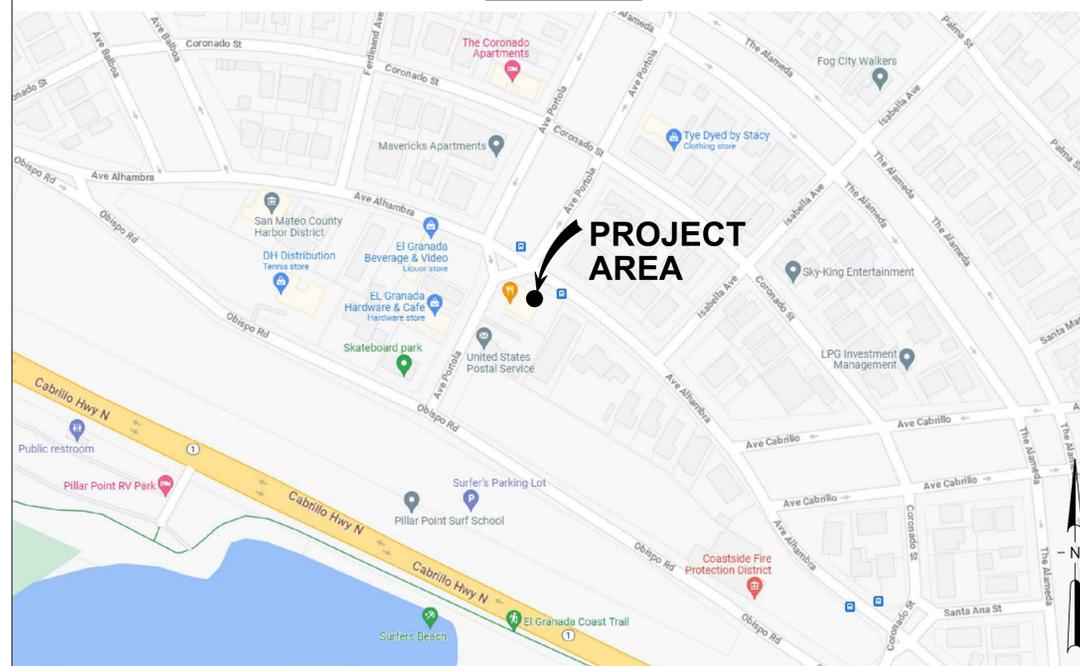
SAC/ZONING/PERMITTING: BUTLER AMERICA TELECOM LLC, 1511 E. ORANGETHORPE AVE., SUITE D, FULLERTON, CA 92831
CONTACT: DEREK TURNER - PROJECT MANAGE
PHONE: (415) 420-4922
EMAIL: dturner@butlertelecomllc.com

DESIGN ENGINEERING: CONNELL DESIGN GROUP INC, 22431 ANTONIO PKWY, SUITE B160-131, RANCHO SANTA MARGARITA, CA 92688
CONTACT: DAN CONNELL
PHONE: (949) 306-4644
EMAIL: dconnell@connelldesigngroup.com

SHEET INDEX:

SHEET NUMBER:	DESCRIPTION:
T-1	TITLE SHEET
T-2	ABBREVIATIONS, SYMBOLS, GENERAL NOTES & SPECIFICATIONS
A-1	SITE PLAN
A-2	ENLARGED SITE PLAN, EQUIPMENT LAYOUTS
A-3	ANTENNA SCHEDULE & ANTENNA LAYOUTS
A-4	ELEVATIONS
A-5	ELEVATIONS
D-1	DETAILS
D-2	DETAILS
E-1	SINGLE LINE DIAGRAM AND PANEL SCHEDULE
E-2	GROUNDING DETAILS
S-1	GENERAL NOTES
S-2	ISOMETRIC VIEWS
S-3	PLAN VIEWS AND ELEVATION VIEWS
S-4	DETAILS

VICINITY MAP:



APPROVALS:

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

	PRINT NAME	SIGNATURE	DATE
LANDLORD			
DEVELOP. MGR			
CONST. MGR			
ZONING MGR			
RF ENGINEER			
OPERATIONS			
SAC REP.			
UTILITIES			

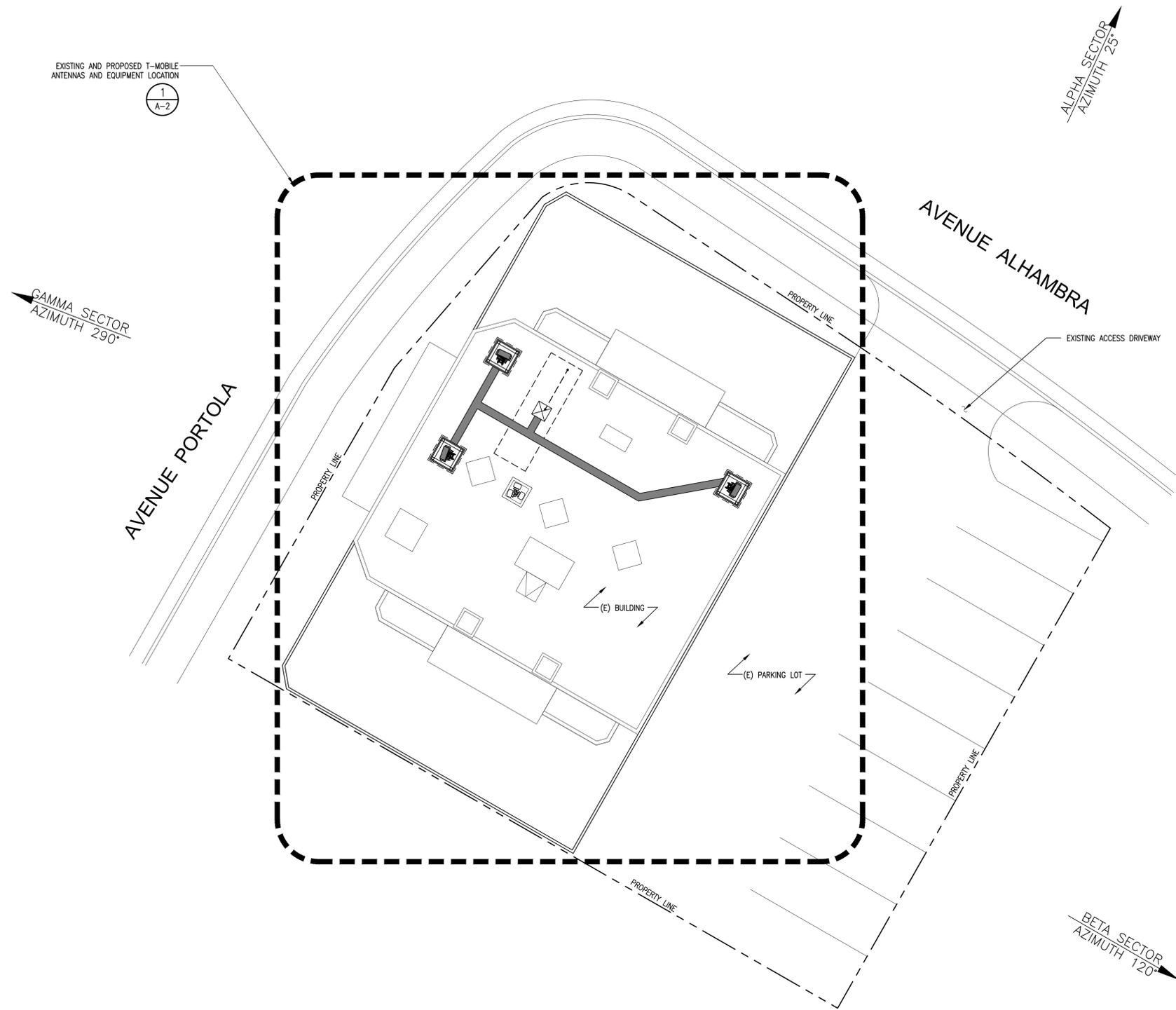
DRIVING DIRECTIONS:

- DIRECTIONS FROM THE LOCAL T-MOBILE OFFICE:**
1. HEAD NORTH TOWARD CONCORD AVE
 2. CONTINUE ONTO NEW DRIVE
 3. TURN LEFT ONTO CONCORD AVE
 4. TURN RIGHT ONTO CONTRA COSTA BLVD
 5. TURN RIGHT TO MERGE ONTO I-680 S
 6. MERGE ONTO I-680 S
 7. USE THE RIGHT 3 LANES TO TAKE EXIT 46 FOR CA-24 TOWARD LAFAYETTE/OAKLAND
 8. CONTINUE ONTO CA-24 W. KEEP LEFT TO STAY ON CA-24 W
 9. TAKE EXIT 2B TO MERGE ONTO I-580 W TOWARD SAN FRANCISCO
 10. USE THE LEFT 3 LANES TO TAKE EXIT 19A TO MERGE ONTO I-80 W TOWARD SAN FRANCISCO
 11. KEEP RIGHT AT THE FORK TO STAY ON I-80 W. MERGE ONTO US-101 S
 12. USE THE RIGHT 2 LANES TO TAKE EXIT 431 TO MERGE ONTO I-280 S TOWARD DALY CITY
 13. KEEP RIGHT AT THE FORK TO CONTINUE ON CA-1 S, FOLLOW SIGNS FOR PACIFICA
 14. TURN LEFT ONTO CAPISTRANO RD
 15. TURN RIGHT ONTO AVE ALHAMBRA
 16. TURN RIGHT TOWARD OBISPO RD. SLIGHT LEFT ONTO OBISPO RD
 17. TURN LEFT ONTO AVE PORTOLA
 18. DESTINATION WILL BE ON THE RIGHT

APPLICABLE CODES

- BUILDING CODE REFERENCE:**
- ALL WORK IS TO COMPLY WITH THE THE 2022 CALIFORNIA BUILDING STANDARDS CODE (CAL. CODE REGS., TITLE 24):
- 2022 CALIFORNIA BUILDING CODE
 - 2022 CALIFORNIA TITLE 24
 - 2022 CALIFORNIA FIRE CODE
 - 2022 CALIFORNIA ENERGY CODE
 - 2022 CALIFORNIA MECHANICAL CODE
 - TIA/EIA-222-H OR LATEST EDITION

NOTE:
SITE PLAN IS PRELIMINARY
AND DONE WITHOUT THE
BENEFIT OF A LAND SURVEY.



T-Mobile

PLANS PREPARED BY:

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CONSULTING GROUP:

BUTLER
America Telecom
LLC
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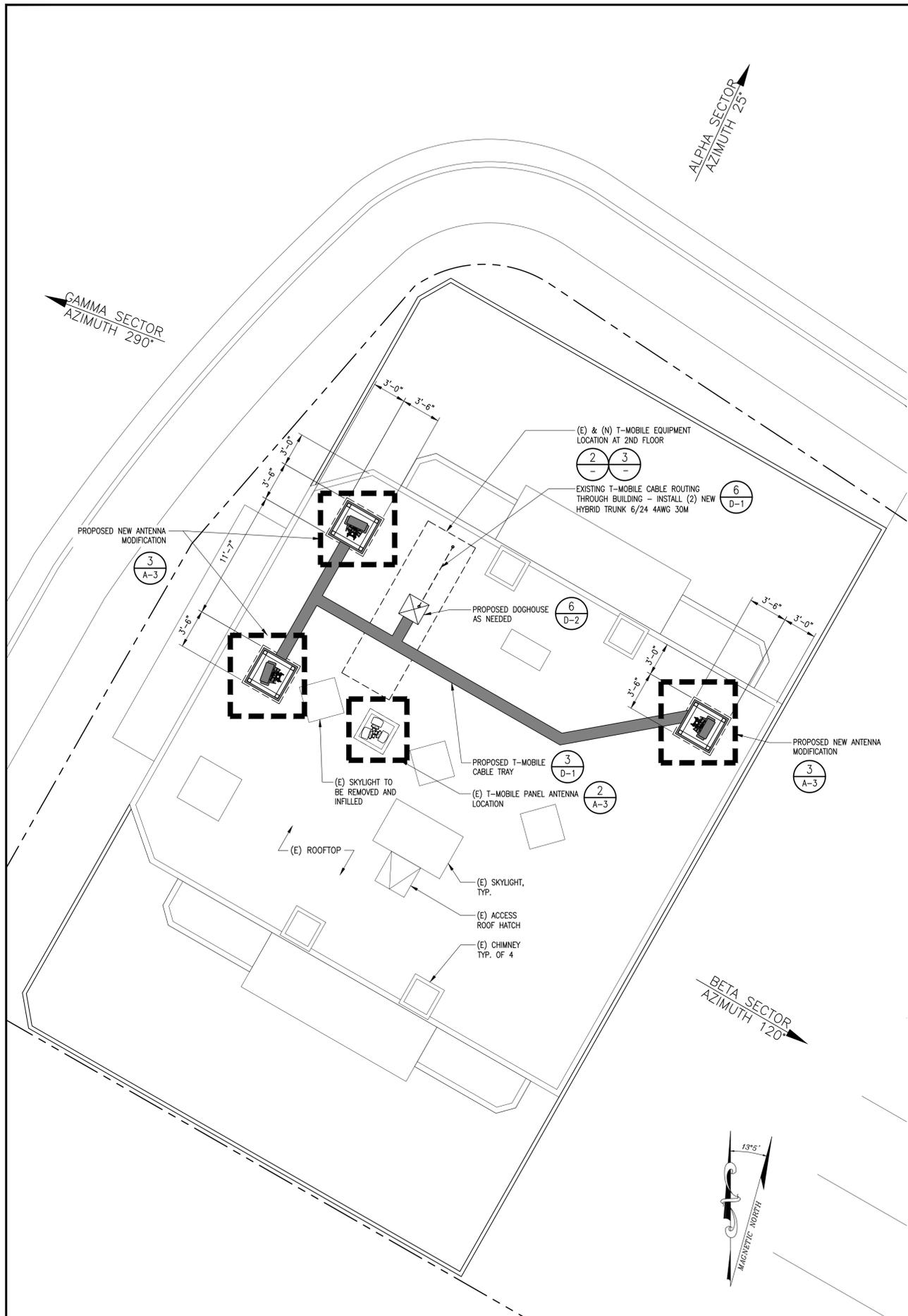


SHEET TITLE:

SITE PLAN

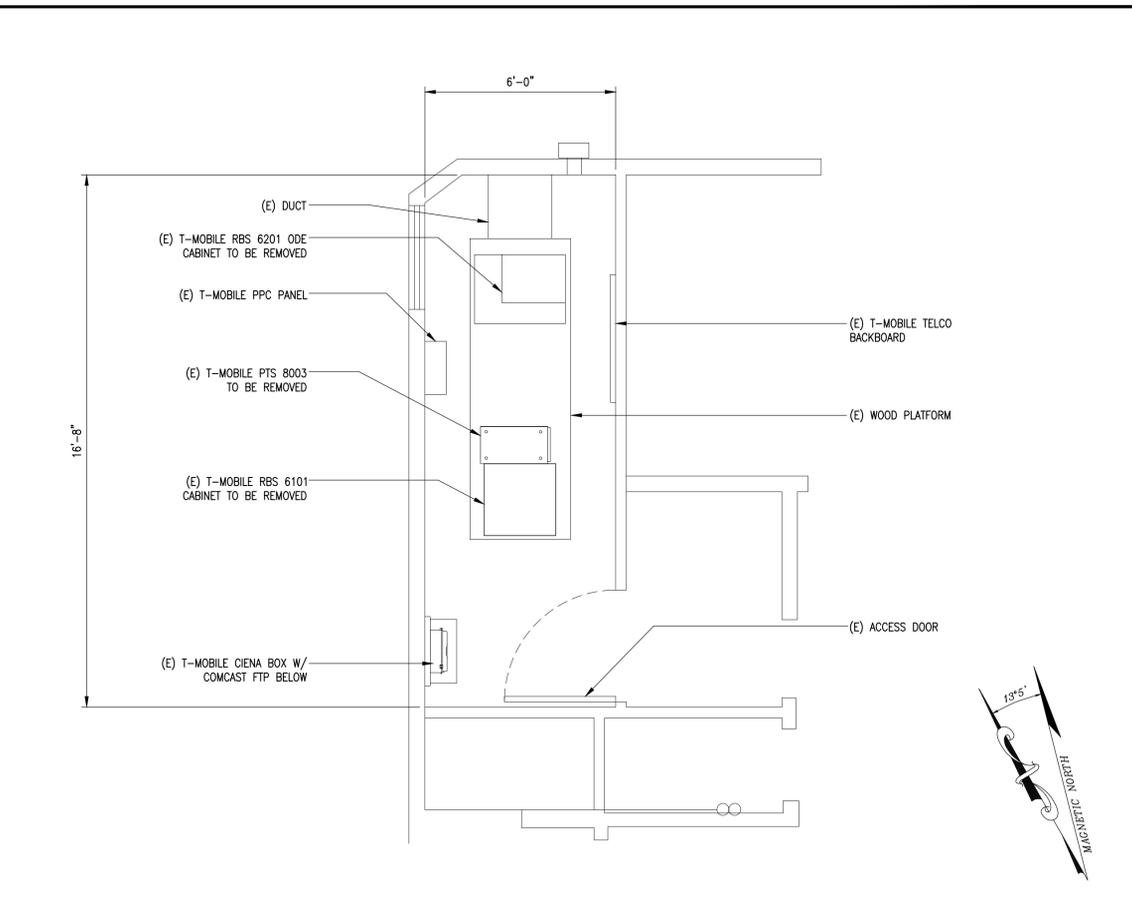
SHEET NUMBER:

A-1



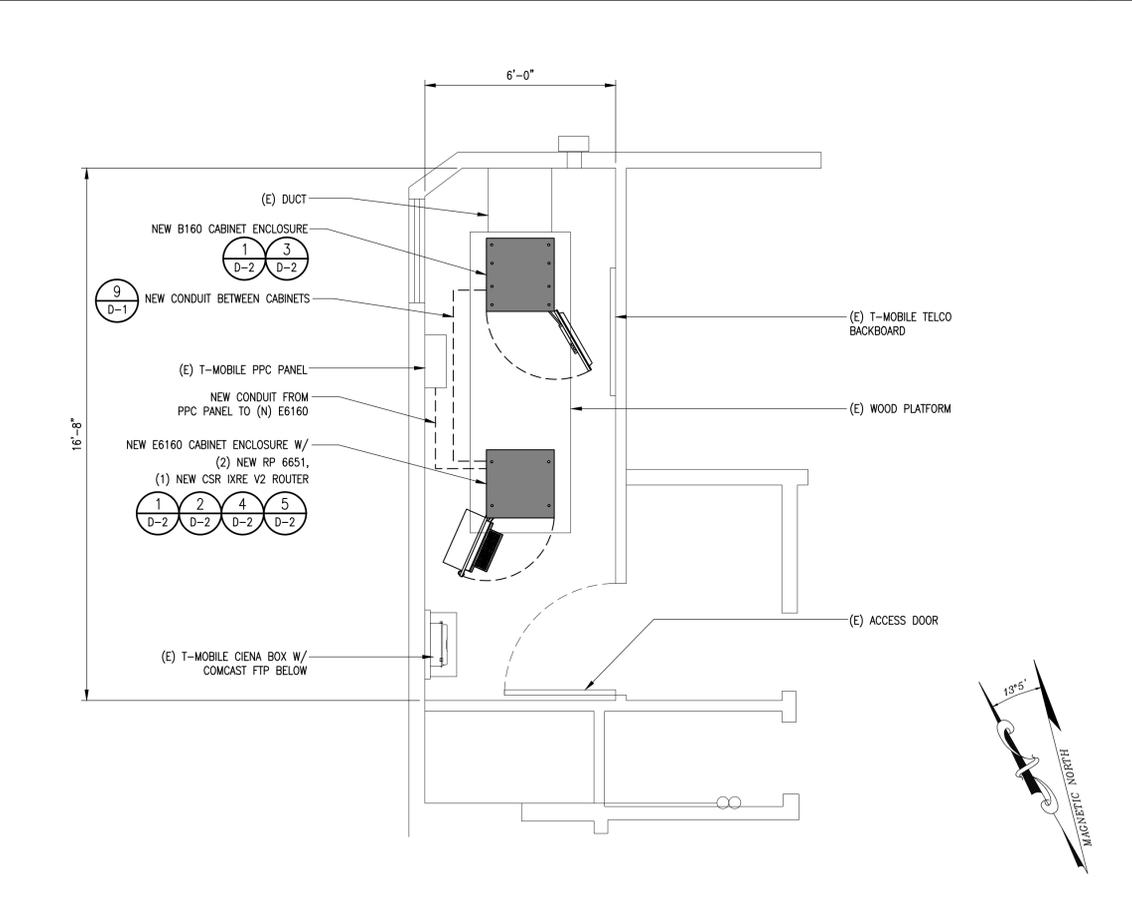
ENLARGED SITE PLAN

SCALE: 3/16"=1'-0" 0 2' 4' 6' 1



(E) EQUIPMENT LAYOUT

SCALE: 3/8"=1'-0" 0 1' 2' 3' 2



NEW EQUIPMENT LAYOUT

SCALE: 3/8"=1'-0" 0 1' 2' 3' 3



PLANS PREPARED BY:



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SUITE B160-131
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30 AVENUE PORTOLA,
EL GRANADA, CA 94018

SEAL:



DATE STAMPED: 10/26/2023

SHEET TITLE:

ENLARGED SITE PLAN,
EQUIPMENT LAYOUTS

SHEET NUMBER:

A-2

EXISTING ANTENNA SCHEDULE									
SECTOR	TECHNOLOGY	ANTENNA			ANTENNA AZIMUTH	RAD CENTER OF ANTENNA	RRU/TMA/DIPLEXER	CABLE TYPE	CABLE LENGTH
		MODEL	SIZE	WEIGHT LBS					
SECTOR "A"	A1	L2100/ U1900 L700	APXVFWW18X-C-NA20	72"	63.9	25'	39'-0"	(1) ERICSSON AWS/PCS - KRF 102 267/1 DIPLEXER (AT CABINET)	(2) 1/2" COAX 30'
SECTOR "B"	B1	L2100/ U1900 L700	APXVFWW18X-C-NA20	72"	63.9	120'	39'-0"	(1) ERICSSON AWS/PCS - KRF 102 267/1 DIPLEXER (AT CABINET)	(2) 1/2" COAX 30'
SECTOR "C"	C1	L2100/ U1900 L700	APXVFWW18X-C-NA20	72"	63.9	290'	39'-0"	(1) ERICSSON AWS/PCS - KRF 102 267/1 DIPLEXER (AT CABINET)	(2) 1/2" COAX 30'

PROPOSED ANTENNA SCHEDULE									
SECTOR	TECHNOLOGY	ANTENNA			ANTENNA AZIMUTH	RAD CENTER OF ANTENNA	RADIO	CABLE TYPE	CABLE LENGTH
		MODEL	SIZE	WEIGHT LBS					
SECTOR "A"	A1	L700/N600 L2100/L1900 N1900	APXVAALL18_43-U-NA20	72"	107.9	25'	39'-0"	(1) RADIO 4480 B71+B85 (1) RADIO 4460 B25+B66	(4) 6FT SUREFLEX 4.3-10 (4) 8FT SUREFLEX 4.3-10 (6) FIBER JUMPER
	A2	N2500	AIR6419 B41	36.3"	83.3	25'	45'-0"	-	(2) FIBER JUMPER
SECTOR "B"	B1	L700/N600 L2100/L1900 N1900	APXVAALL18_43-U-NA20	72"	107.9	120'	39'-0"	(1) RADIO 4480 B71+B85 (1) RADIO 4460 B25+B66	(4) 6FT SUREFLEX 4.3-10 (4) 8FT SUREFLEX 4.3-10 (6) FIBER JUMPER
	B2	N2500	AIR6419 B41	36.3"	83.3	120'	45'-0"	-	(2) FIBER JUMPER
SECTOR "C"	C1	L700/N600 L2100/L1900 N1900	APXVAALL18_43-U-NA20	72"	107.9	290'	39'-0"	(1) RADIO 4480 B71+B85 (1) RADIO 4460 B25+B66	(4) 6FT SUREFLEX 4.3-10 (4) 8FT SUREFLEX 4.3-10 (6) FIBER JUMPER
	C2	N2500	AIR6419 B41	36.3"	83.3	290'	45'-0"	-	(2) FIBER JUMPER



PLANS PREPARED BY:

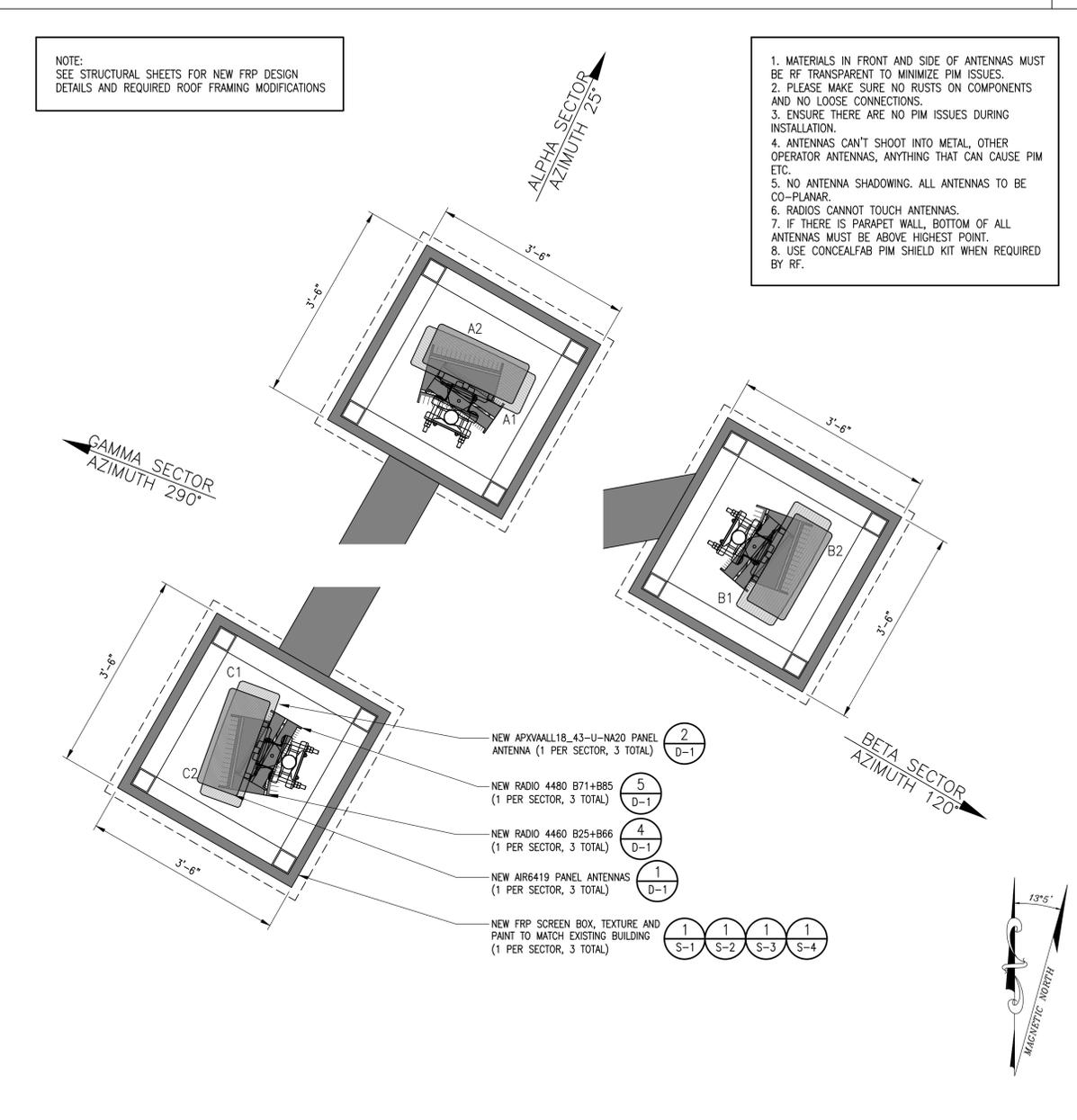
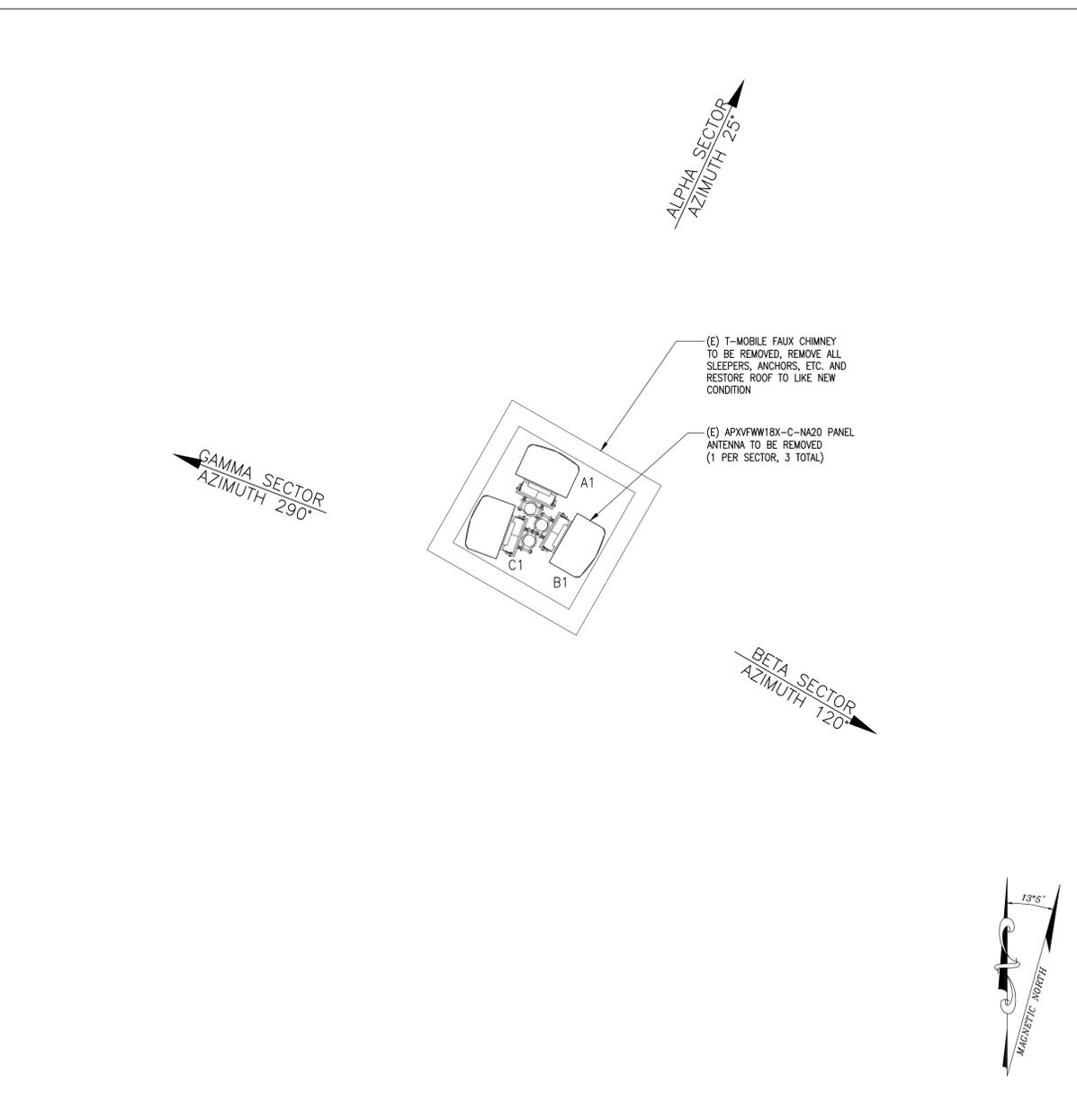
CDG
 22431 ANTONIO PKWY
 SUITE B160-131
 RANCHO SANTA MARGARITA CA 92688
 dconnell@connelldesigngroup.com
 949-306-4644

CONSULTING GROUP:

BUTLER
 America Telecom
 LLC
 1511 E. ORANGETHORPE, SUITE D
 FULLERTON, CA 92831

ANTENNA SCHEDULE

1



NO.	DATE	DESCRIPTION	BY:
0	08/01/23	90% CD'S	LE
1	08/12/23	90% CD'S	LE
2	10/26/23	100% CD'S	DC

SITE INFORMATION:

SF1571 LIBERTY COURT

SF71571M

30 AVENUE PORTOLA,
 EL GRANADA, CA 94018



SHEET TITLE:

ANTENNA SCHEDULE & ANTENNA LAYOUTS

SHEET NUMBER:

A-3

PLANS PREPARED BY:



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CONSULTING GROUP:



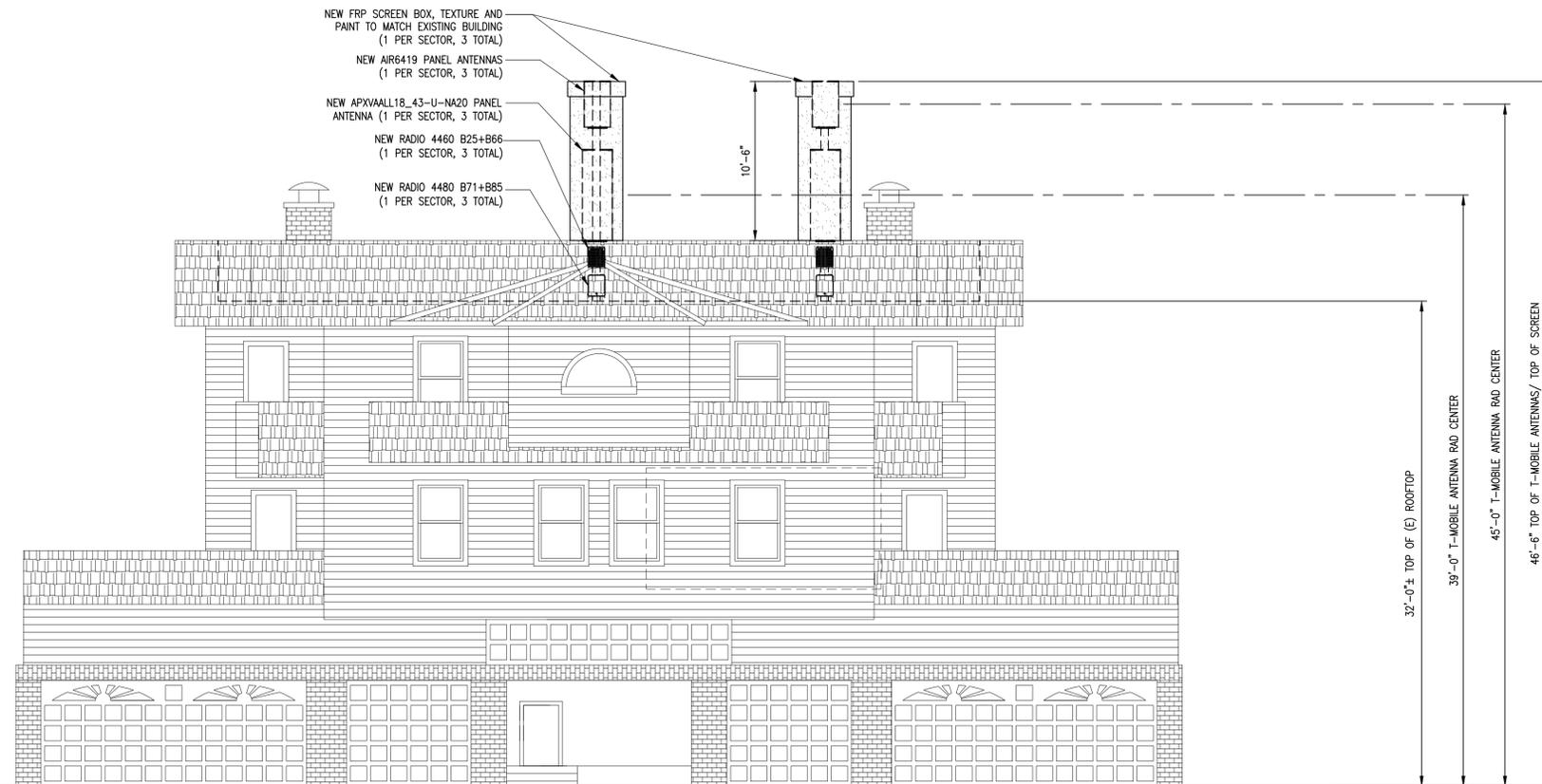
1511 E. ORANGETHORPE, SUITE D
FULLERTON, CA 92831

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0	08/01/23	90% CD'S	LE
1	08/12/23	90% CD'S	LE
2	10/26/23	100% CD'S	DC



EXISTING SOUTHEAST ELEVATION

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



NEW SOUTHEAST ELEVATION

SCALE: 3/16" = 1'-0" 2

SITE INFORMATION:

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SF71571M

30 AVENUE PORTOLA,
EL GRANADA, CA 94018

SEAL:



DATE STAMPED: 10/26/2023

SHEET TITLE:

**ARCHITECTURAL
ELEVATIONS**

SHEET NUMBER:

A-4

PLANS PREPARED BY:



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FULLERTON, CA 92831

NO.	DATE	DESCRIPTION	BY:
0	08/01/23	90% CD'S	LE
1	08/12/23	90% CD'S	LE
2	10/26/23	100% CD'S	DC



EXISTING SOUTHWEST ELEVATION

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



NEW SOUTHWEST ELEVATION

SCALE: 3/16"=1'-0" 2

SITE INFORMATION:

SF1571 LIBERTY COURT

SF71571M

30 AVENUE PORTOLA,
EL GRANADA, CA 94018

SEAL:



DATE STAMPED: 10/26/2023

SHEET TITLE:

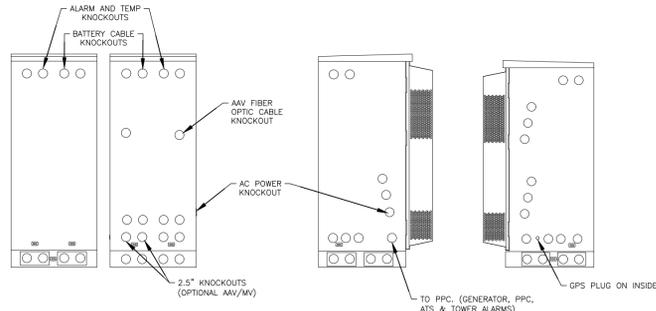
ARCHITECTURAL
ELEVATIONS

SHEET NUMBER:

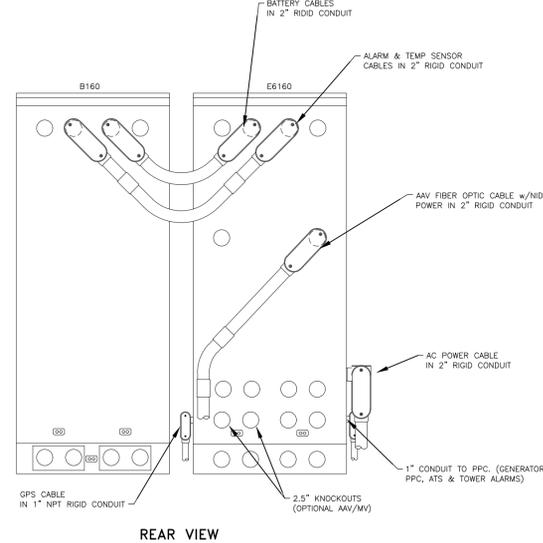
A-5

NOTE:

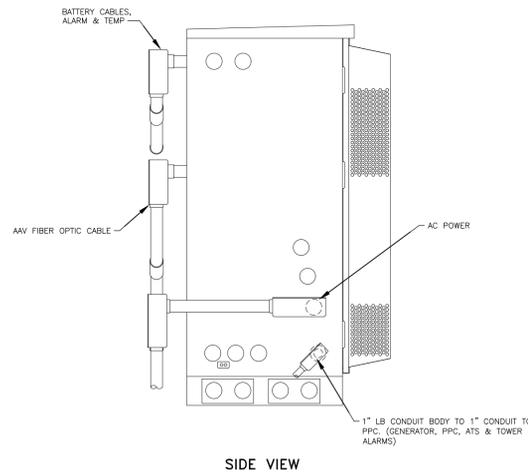
1. ALL CONDUIT AND FITTING ENTRANCES INTO CABINETS AND ENCLOSURES MUST UTILIZE MYERS OR EQUIVALENT HUBS OR SEALING WASHERS TO PREVENT WATER ENTRY/SEEPAGE INTO CABINETS AND ENCLOSURES.
2. (LIQUIDFLEX) FLEXIBLE METALLIC CONDUIT (LFMC) & ASSOCIATED FITTINGS CAN BE USED AS NEEDED BUT ONLY FOR TIGHT CONDUIT BENDS AND RUNS SUBJECT TO UL AND NEC LIMITATIONS. 6" MAX PER CONDUIT RUN.
3. POWER CONDUIT BODY ATTACHED WITH SHORT NIPPLE AND SEALING WASHER INSIDE & OUT. (FOR DOOR HOOD CLEARANCE)
4. PULLING ELBOWS MAY BE USED IN LIEU OF A CONDUIT BODIES WHEN CLEARANCE IS LIMITED.
5. ALL EXTERNAL ALARM CONDUITS ARE TO TERMINATE AT THE PPC WITH A SINGLE 1" ALARM CONDUIT TO THE 6160.



CONDUIT LOCATIONS



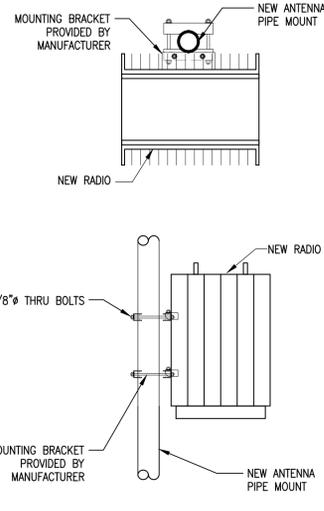
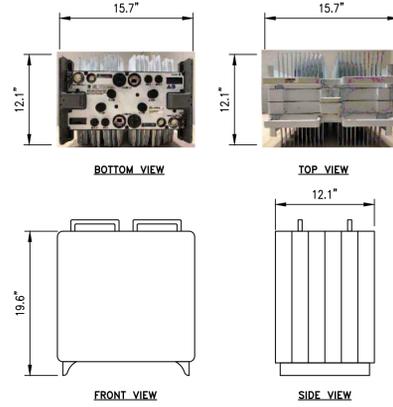
REAR VIEW



SIDE VIEW

ERICSSON RADIO 4460

DIMENSIONS, WxDxH: 15.7"x12.1"x19.6"
 TOTAL WEIGHT: 109 lbs
 TEMPERATURE: -40° TO 55° C

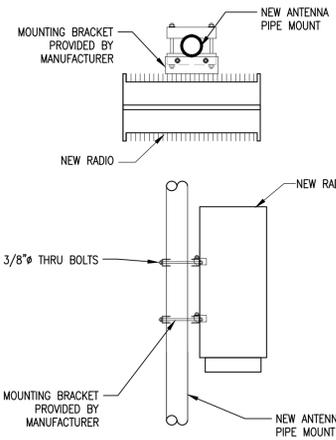
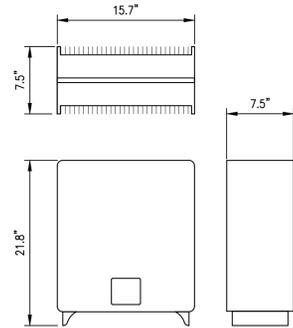


RADIO 4460 DETAIL

SCALE: 4
 N.T.S.

ERICSSON RADIO 4480 B71+B85

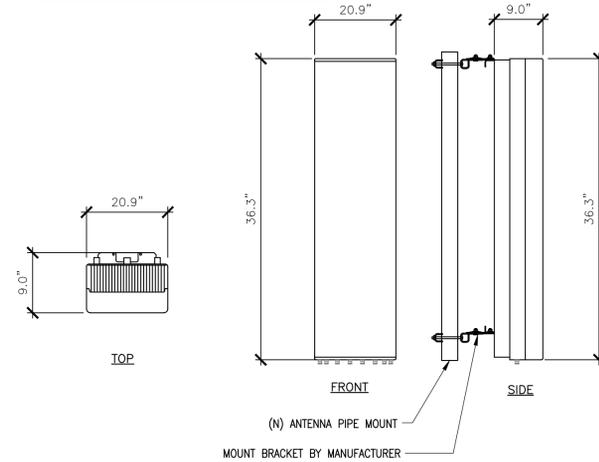
DIMENSIONS, WxDxH: 15.2"x7.5"x19.2"
 TOTAL WEIGHT: 92.5 lbs
 TEMPERATURE: -40° TO 55° C



RADIO 4480 DETAIL

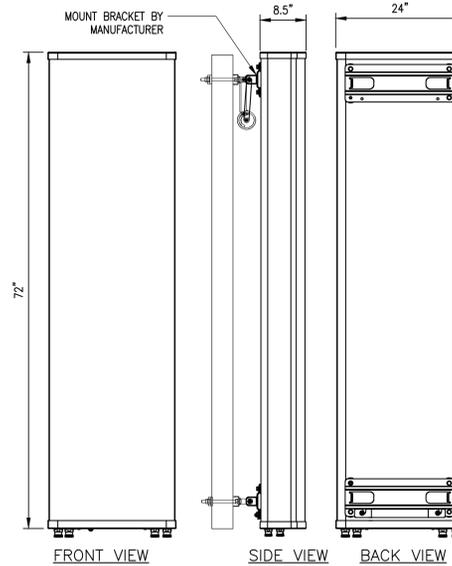
SCALE: 5
 N.T.S.

MANUFACTURER: ERICSSON
 MODEL: AIR6419 B41
 WEIGHT: 83.3 LBS
 DIMENSIONS: 36.3"H. X 20.9"W. X 9.0"D.

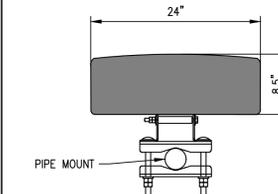


AIR6419 B41 ANTENNA DETAIL

SCALE: 1
 N.T.S.

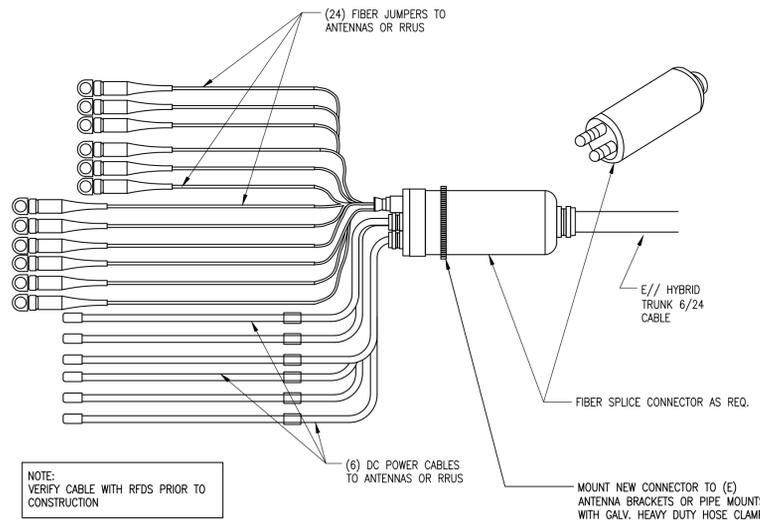


ANTENNA DETAIL	
MODEL	WEIGHT (lb)
APXVAALL18_43-U-NA20	92.6
WEIGHT OF MOUNTING HARDWARE (lb):	25.3
TOTAL WEIGHT	107.9



APXVAALL18_43-U-NA20 DETAIL

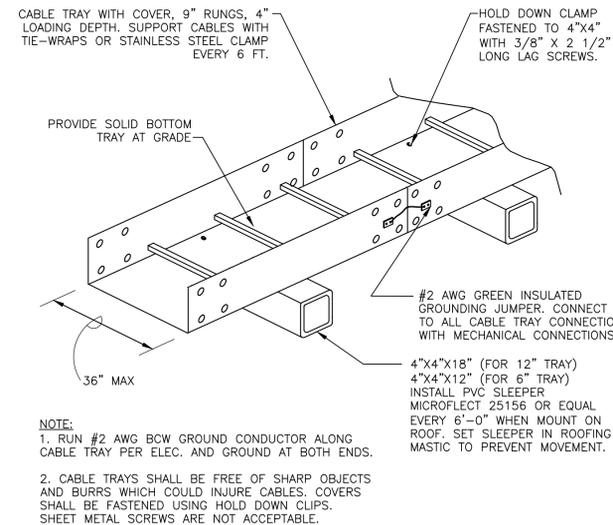
SCALE: 2
 N.T.S.



NOTE:
 VERIFY CABLE WITH RFDS PRIOR TO CONSTRUCTION

HYBRID CABLE DETAIL

SCALE: 6
 N.T.S.



NOTE:
 1. RUN #2 AWG BCW GROUND CONDUCTOR ALONG CABLE TRAY PER ELEC. AND GROUND AT BOTH ENDS.
 2. CABLE TRAYS SHALL BE FREE OF SHARP OBJECTS AND BURRS WHICH COULD INJURE CABLES. COVERS SHALL BE FASTENED USING HOLD DOWN CLIPS. SHEET METAL SCREWS ARE NOT ACCEPTABLE.

CABLE TRAY DETAIL

SCALE: 3
 N.T.S.

CABINET CONDUIT CONNECTIONS

SCALE: 9
 N.T.S.



PLANS PREPARED BY:



CONSULTING GROUP:



NO.	DATE	DESCRIPTION	BY:
0	08/01/23	90% CD'S	LE
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SITE INFORMATION:

SF1571 LIBERTY COURT

SF71571M

30 AVENUE PORTOLA,
 EL GRANADA, CA 94018

SEAL:

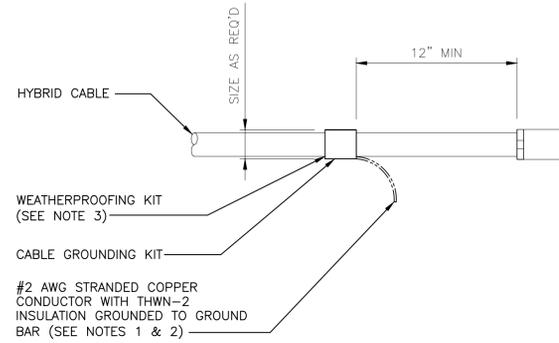


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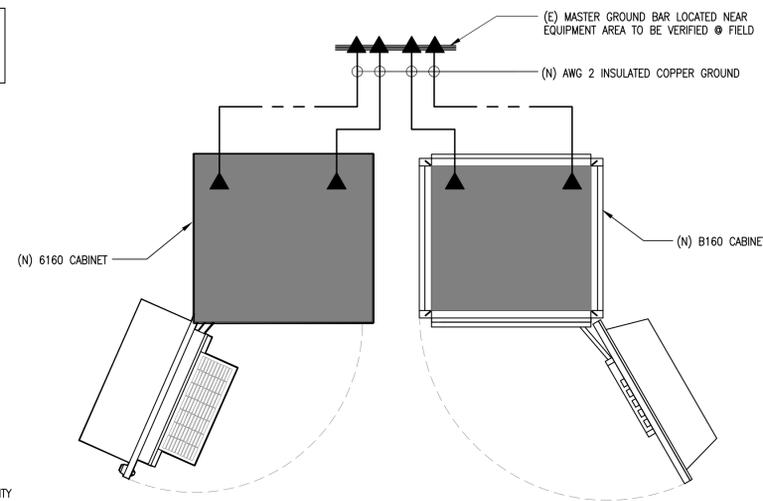
DETAILS

SHEET NUMBER:

D-1



SYMBOL LEGEND
 ■ EXOTHERMIC CONNECTION
 ▲ MECHANICAL CONNECTION



- GENERAL NOTES:**
1. PLAN DRAWINGS SHOWN HEREIN ARE DIAGRAMMATIC AND DOES NOT NECESSARILY DEPICT THE EXACT EQUIPMENT QUANTITIES, LOCATION, LAYOUT AND CONFIGURATION. REFER TO ARCHITECTURAL PLANS FOR EXACT EQUIPMENT LOCATION, LAYOUT AND CONFIGURATION.
 2. PLAN DRAWINGS SHOWN HEREIN DO SHOW THE NECESSARILY DEPICT ELECTRICAL REQUIREMENTS OF INDIVIDUAL EQUIPMENT AND DEVICES SUCH AS THE EQUIPMENT GROUNDING REQUIREMENTS, POWER REQUIREMENTS AND TELCO RACEWAY REQUIREMENTS.
 3. REFER TO ARCHITECTURAL PLANS FOR THE LOCATION OF POWER AND TELCO POINT OF CONNECTIONS, THE DISTANCE OF THE RUN AND THE SUGGESTED CONDUIT ROUTING. FIELD VERIFY EXISTING CONDITIONS SPECIFICALLY FOR CONDUIT ROUTING PRIOR TO BID.
 4. CONTRACTOR TO HAVE INSPECTION AND TESTING OF EXISTING GROUNDING SYSTEM (INCLUDING ROOF GROUNDS TO EARTH) TO ENSURE IT MEETS CURRENT STANDARDS.

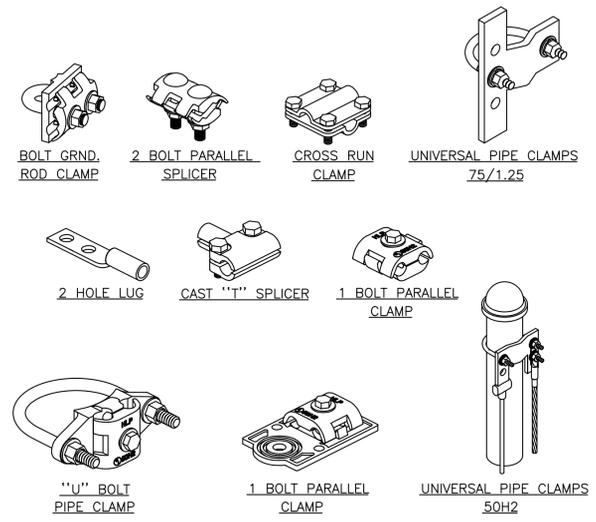
NOTE: (E) GROUND WIRES ARE NOT SHOWN FOR CLARITY

HYBRID CABLE GROUNDING

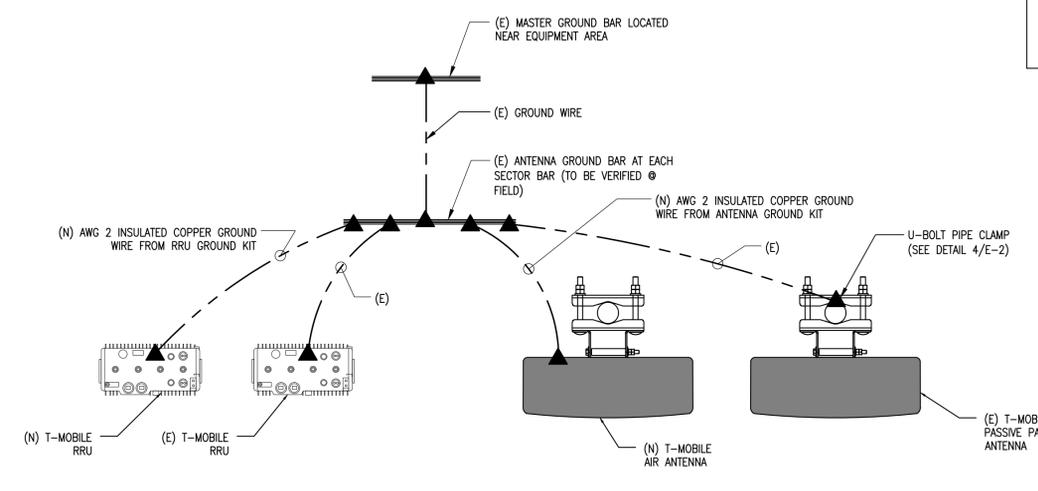
SCALE: 1
N.T.S.

CABINET GROUNDING

SCALE: 3
N.T.S.



SYMBOL LEGEND
 ■ EXOTHERMIC CONNECTION
 ▲ MECHANICAL CONNECTION



NOTE:
REFER TO PROPOSED ANTENNA PLAN FOR ACTUAL NUMBER OF ANTENNAS AND RRU

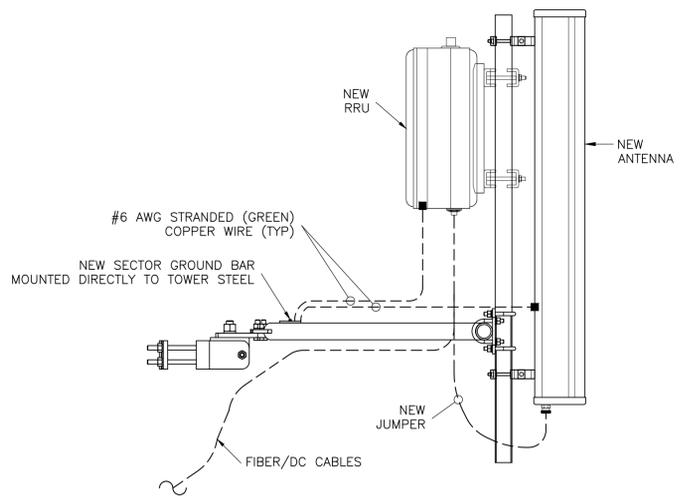
NOTE: (E) GROUND WIRES ARE NOT SHOWN FOR CLARITY

MECHANICAL CONNECTIONS

SCALE: 4
N.T.S.

ANTENNA / RRU GROUNDING

SCALE: 5
N.T.S.



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 MANUFACTURER'S 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.

ANTENNA/RRU GROUNDING

SCALE: 6
N.T.S.

GROUNDING NOTES

SCALE: 8
N.T.S.



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CONSULTING GROUP:

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 FULLERTON, CA 92831

NO.	DATE:	DESCRIPTION:	BY:
0	08/01/23	90% CD'S	LE
1	08/12/23	90% CD'S	LE
2	10/26/23	100% CD'S	DC

SITE INFORMATION:
SF1571 LIBERTY COURT
SF71571M
 30 AVENUE PORTOLA,
 EL GRANADA, CA 94018



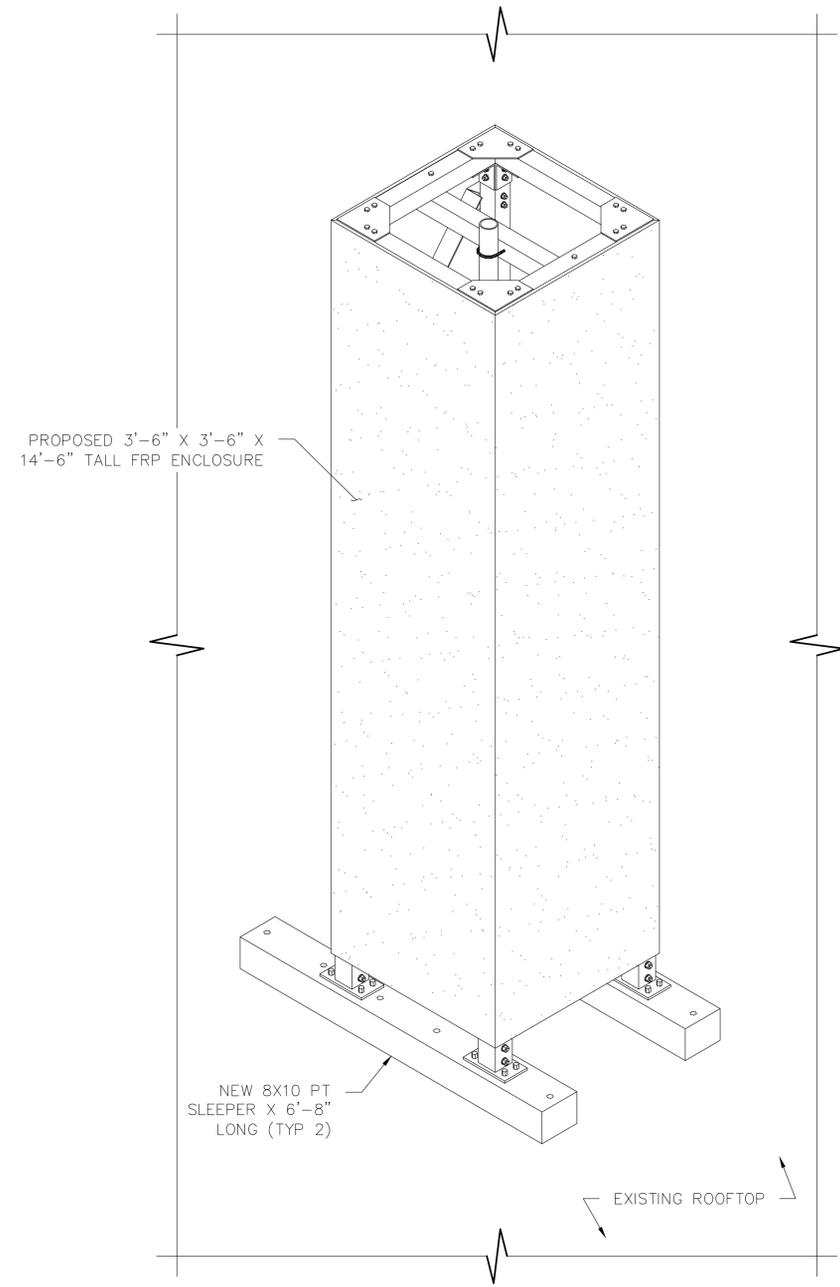
SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:
E-2

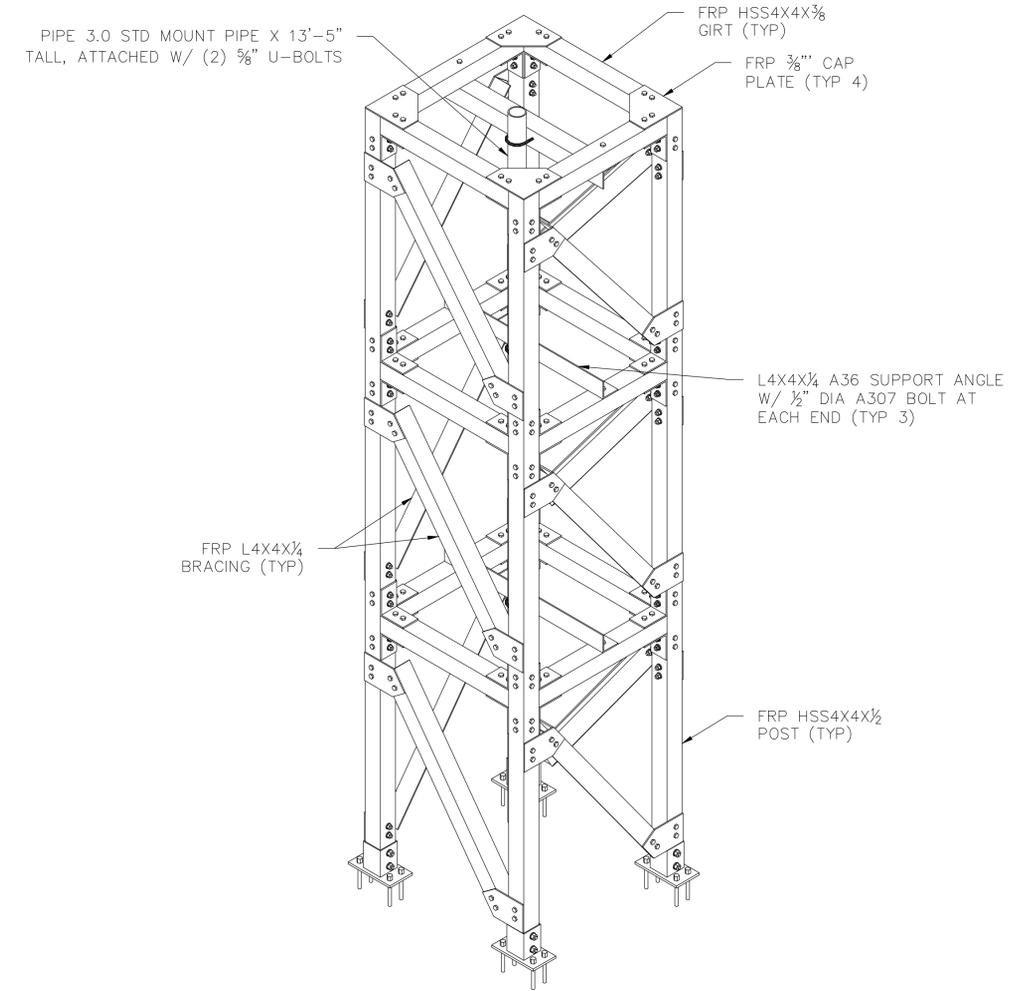
PANEL ANTENNAS AND RADIO UNITS ARE NOT SHOWN FOR CLARITY

GC TO FIELD VERIFY ALL EXISTING INFORMATION INCLUDING DIMENSIONS AND ANTENNA PLACEMENTS PRIOR TO THE START OF CONSTRUCTION

1/4" FRP PANELS COVERS ALL (4) SIDES OF PROPOSED ENCLOSURE. PANELS TO BE ATTACHED W/ 3/8" DIA FRP THREADED RODS W/ FIBER REINFORCED THERMOPLASTIC NUTS @ 12" O.C. MAX



1 ISOMETRIC VIEW
SCALE: NOT TO SCALE



2 FRP ENCLOSURE
SCALE: NOT TO SCALE



PLANS PREPARED BY:

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 ENGINEERING@LADERAEG.COM

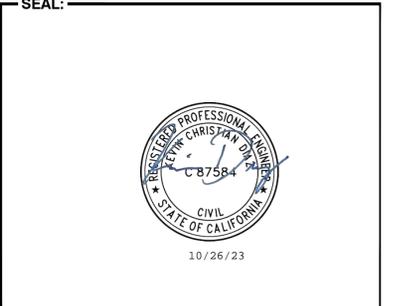
CONSULTING GROUP:

 1511 E. ORANGETHORPE, SUITE D
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NO.	DATE:	DESCRIPTION:	BY:
0	10/25/23	FOR CONSTRUCTION	MK

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SHEET TITLE:
ISOMETRIC VIEWS

SHEET NUMBER:
S-2

NO.	DATE	DESCRIPTION	BY
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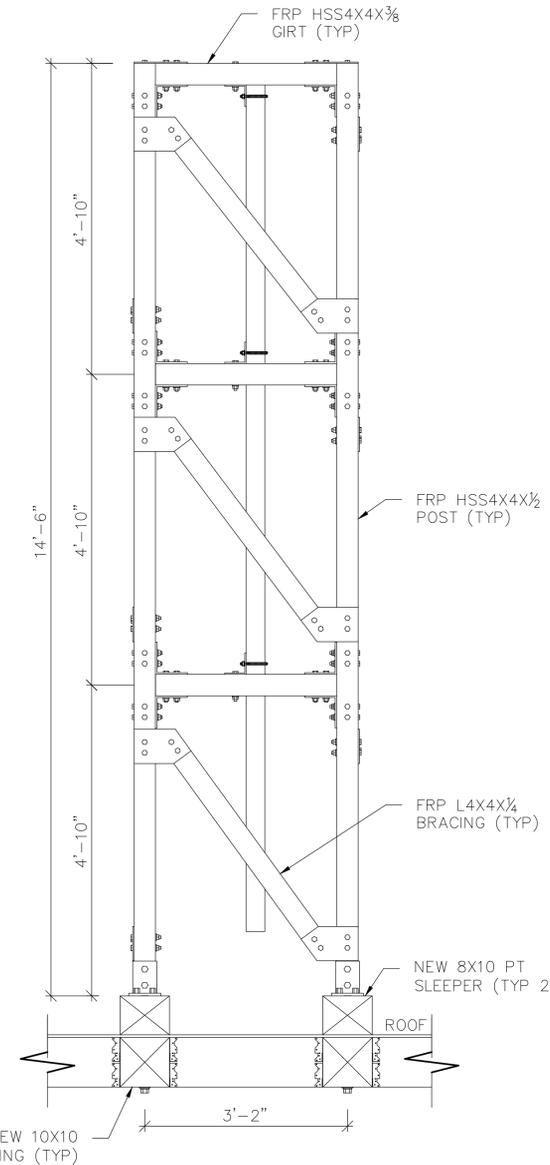
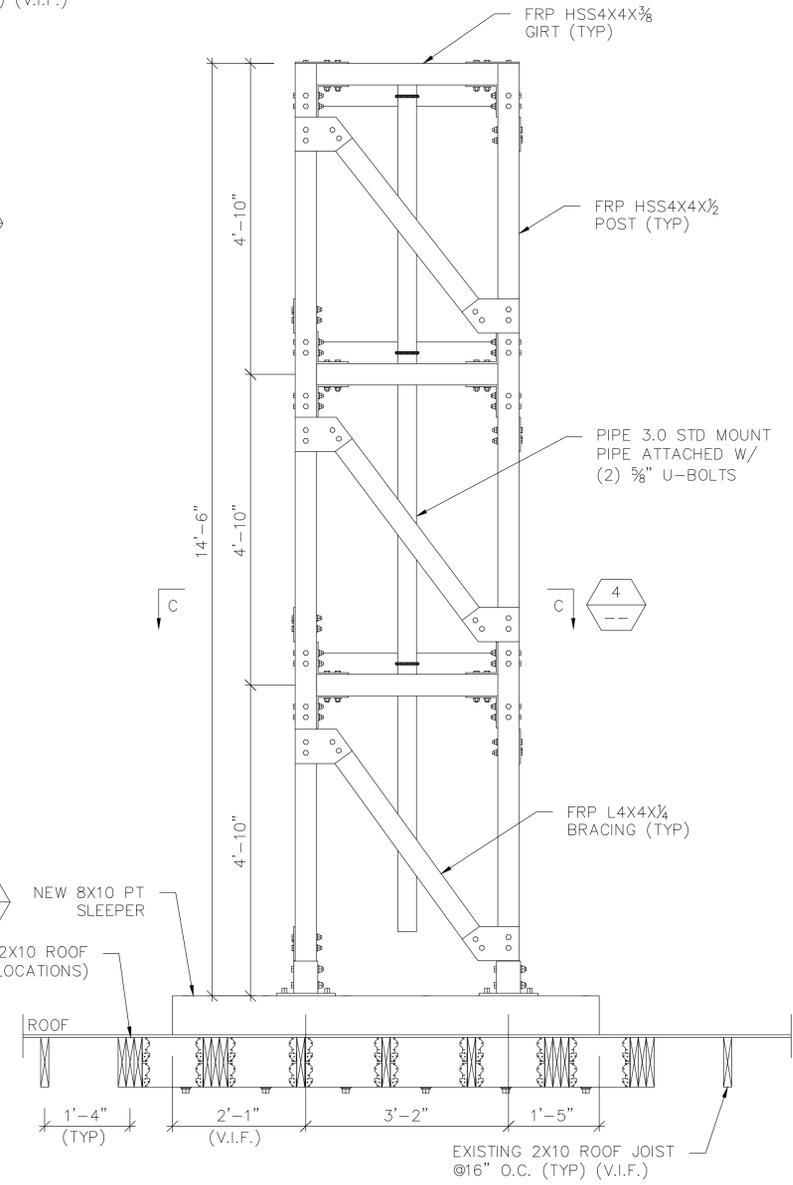
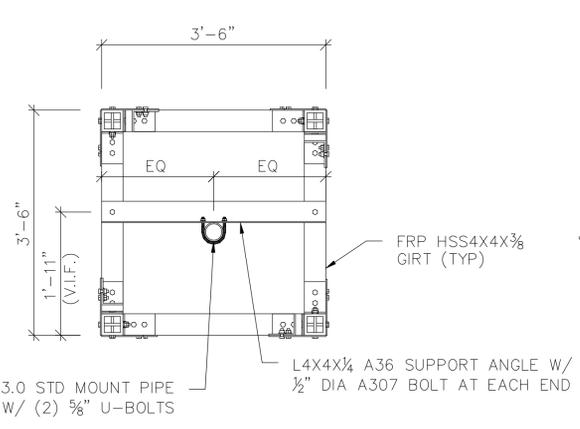
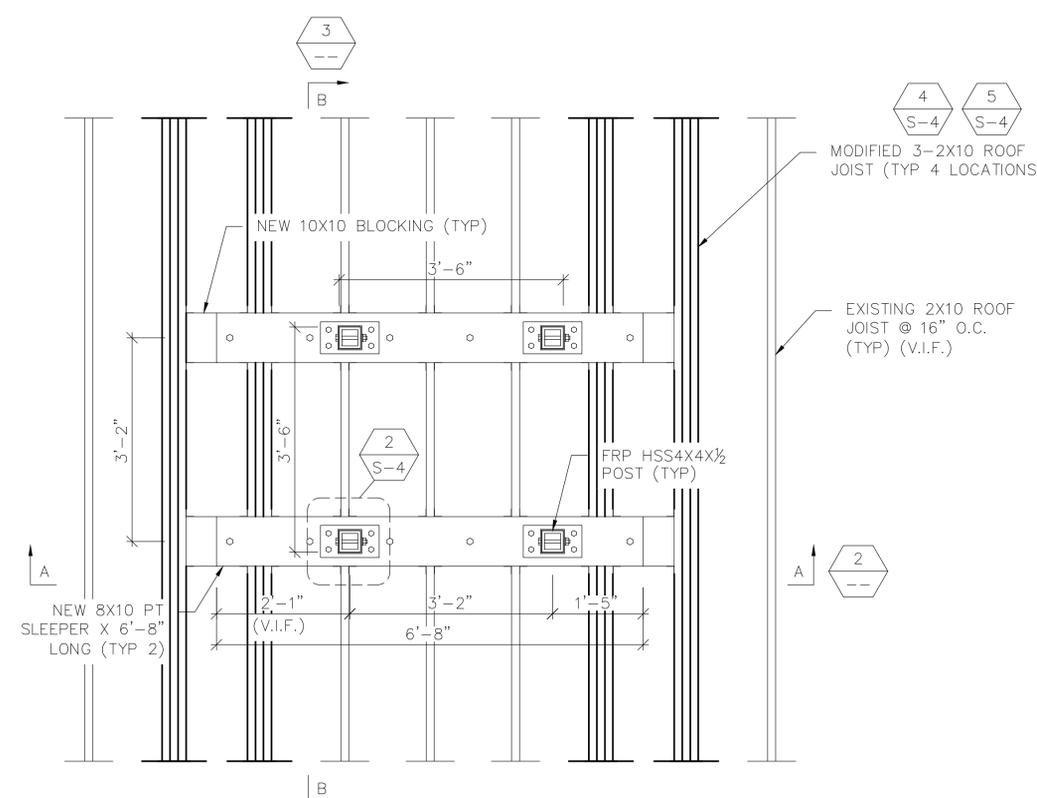
SITE INFORMATION:
SF1571 LIBERTY COURT
SF71571M
 30 AVENUE PORTOLA,
 EL GRANADA, CA 94018

SEAL:

 10/26/23

SHEET TITLE:
PLAN VIEWS & ELEVATION VIEWS

SHEET NUMBER:
S-3



PLANS PREPARED BY:



CONSULTING GROUP:



NO.	DATE	DESCRIPTION	BY
0	10/25/23	FOR CONSTRUCTION	MK

SITE INFORMATION:

SF1571 LIBERTY COURT

SF71571M

30 AVENUE PORTOLA,
EL GRANADA, CA 94018

SEAL:

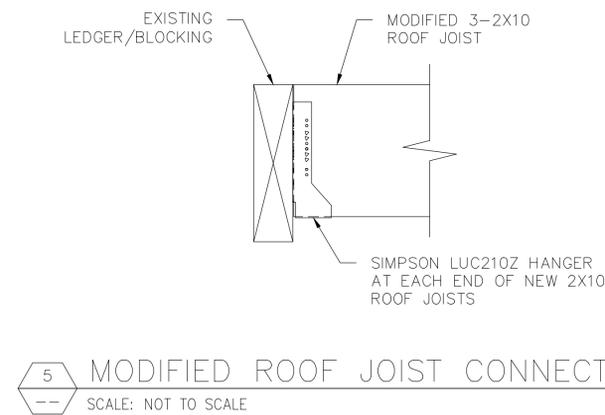
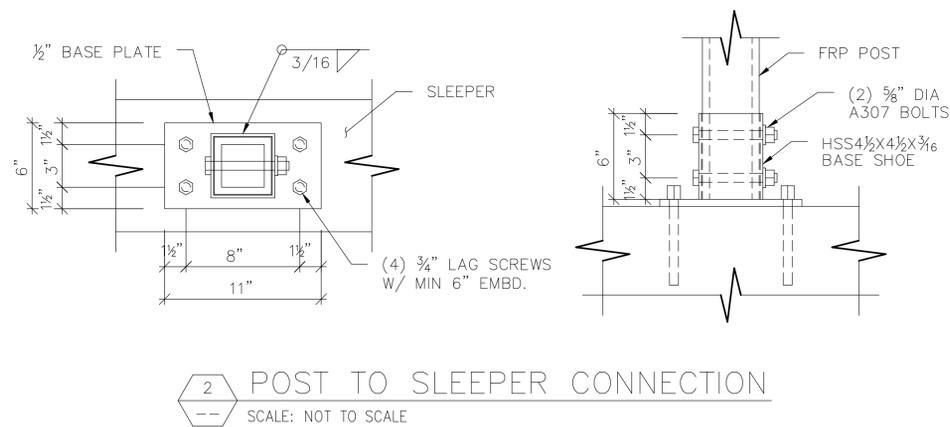
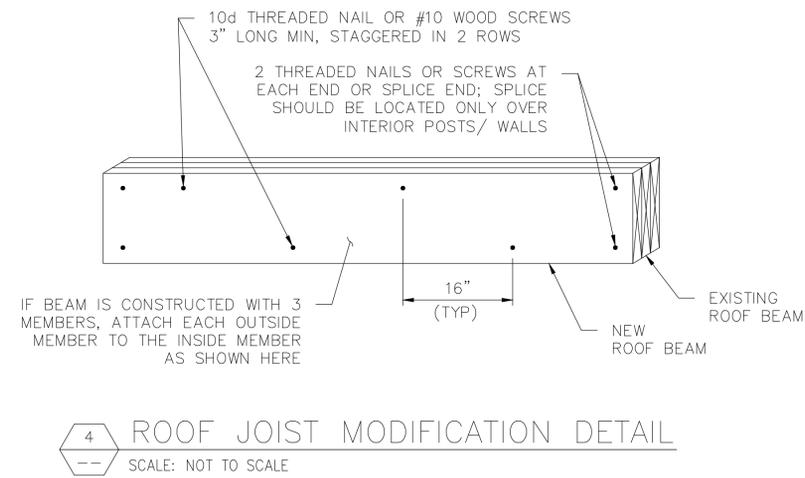
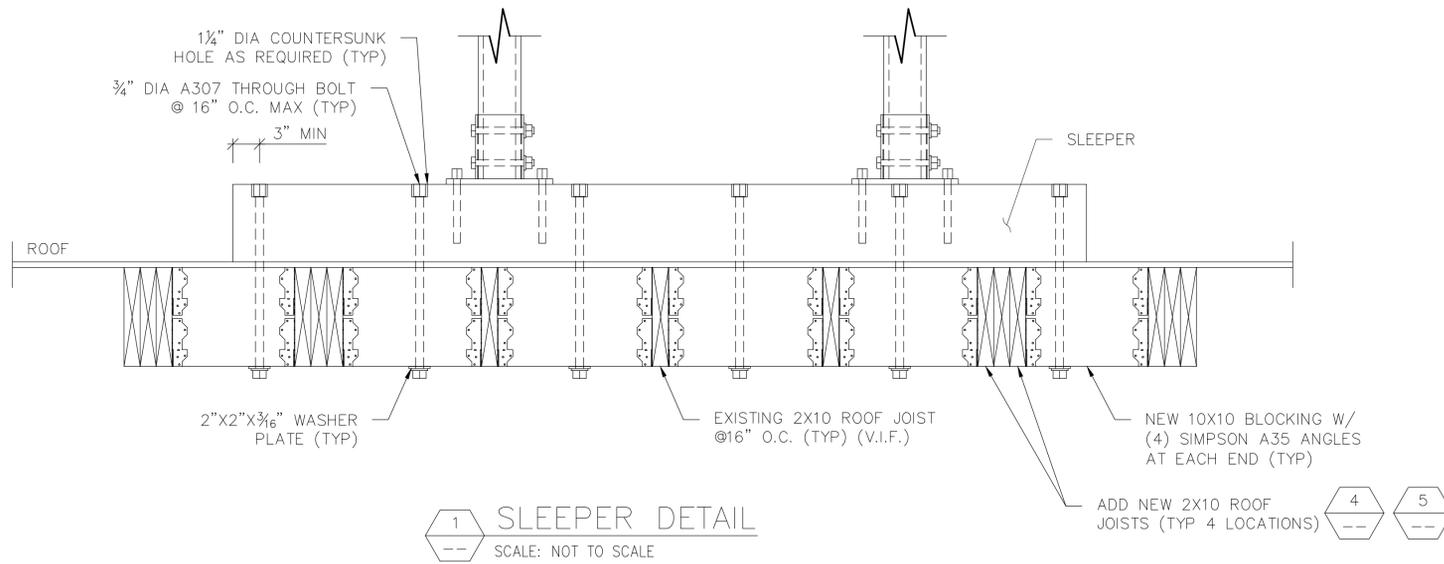


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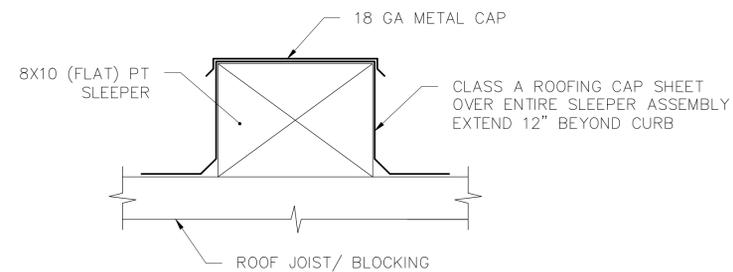
DETAILS

SHEET NUMBER:

S-4



GC TO PROVIDE PROPER FLASHING WITH SEALER AROUND THE NEW SLEEPER TO ROOF CONNECTIONS TO ENSURE WATERPROOFING CONNECTIONS



ALL SIMPSON HARDWARE MUST BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS



COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT D

**T-Mobile West LLC • Base Station No. SF71571M
30 Avenue Portola • El Granada, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of T-Mobile West LLC, a wireless telecommunications carrier, to evaluate proposed modifications to its existing base station (Site No. SF71571M) located at 30 Avenue Portola in El Granada, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

T-Mobile proposes to replace its directional panel antennas above the roof of the three-story commercial building located at 30 Avenue Portola in El Granada. The proposed operation can comply with the FCC guidelines limiting public exposure to RF energy; certain mitigation measures are recommended to comply with FCC occupational guidelines.

Prevailing Exposure Standard

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. A summary of the FCC’s exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	“Uncontrolled” Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm ²	5.0 mW/cm ²
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
C-Band	3,700 MHz	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550	1.0	5.0
BRS (Broadband Radio)	2,490	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0



**T-Mobile West LLC • Base Station No. SF71571M
30 Avenue Portola • El Granada, California**

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios”) that are connected to the traditional wired telephone lines, and the antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, “Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation,” dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna’s radiation pattern is not fully formed at locations very close by (the “near-field” effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the “inverse square law”). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

Site and Facility Description

Based upon information provided by T-Mobile, including construction drawings by Connell Design Group, Inc., dated August 1, 2023, that carrier presently has three directional panel antennas installed within a view screen enclosure, configured to resemble a chimney, above the roof of the three-story commercial building located at 30 Avenue Portola in El Granada. T-Mobile proposes to remove those antennas and to install six directional panel antennas – three each RFS Model APXVAALL18_43-U-NA20 and Ericsson Model AIR6419 – within a larger view screen enclosure to be constructed at the same location. The RFS and Ericsson antennas would employ up to 12°* and up to 19° downtilt, respectively, would be mounted at effective heights of about 40½ and 42 feet above ground, 8½ and 10 feet above the roof, respectively, and would be oriented in identical pairs toward 25°T, 120°T, and 290°T. The maximum effective radiated power in any direction would be 25,090 watts, representing

* The downtilt for the RFS antenna oriented toward 120°T is limited to 4°.

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simultaneous operation at 8,900 watts for BRS,[†] 5,920 watts for AWS, 7,780 watts for PCS, 700 watts for 700 MHz, and 1,790 watts for 600 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed T-Mobile operation is calculated to be 0.22 mW/cm², which is 27% of the applicable public exposure limit. The maximum calculated level at the balconies of the subject building is 46% of the public exposure limit. The maximum calculated level at any nearby building[‡] is 71% of the public exposure limit. It should be noted that these results include several “worst-case” assumptions and therefore are expected to overstate actual power density levels from the proposed operation. Levels are calculated to exceed the applicable FCC limits on the main roof and on the sloped roof sections of the subject building, as shown in Figure 3.

Recommended Mitigation Measures

It is recommended that the roof access hatch be kept locked, so that the T-Mobile antennas are not accessible to unauthorized persons.

It is presumed that T-Mobile, as an FCC licensee, takes adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC exposure guidelines whenever work is required near the antennas themselves. It is recommended that boundary lines be marked on the roof with blue and yellow paint to identify areas within which exposure levels are calculated to exceed the public and occupational FCC limits, respectively, as shown in Figure 3. No work within 30 feet in front of the antennas, such as might occur during certain maintenance activities on the roof and/or on the sloped roof sections, 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 roof access hatch, at the boundary lines, and on the screens in front of the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

It is recommended that T-Mobile coordinate with the landlord for prior antenna shutdown when other workers, including employees or contractors of the landlord, need access to the roof and the sloped roof sections.

[†] T-Mobile reports maximum effective radiated power in this band of 37,100 watts, to which a duty cycle of 75% is applied; a statistical factor of 32% is also included, to account for spatial distribution of served users, based on the United Nations International Telecommunication Union ITU-T Series K, Supplement 16, dated May 20, 2019.

[‡] Located at least 50 feet away, based on photographs from Google Maps.

[§] Signs should comply with FCC Rules 47 CFR §1.1307(b)(4)(vi) color, symbol, and content recommendations.



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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 30 Avenue Portola in El Granada, California, can comply with the prevailing standards for limiting human exposure to radio frequency energy and, therefore, need 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. Locking the roof access hatch and coordinating with the landlord are recommended to establish compliance with public exposure limits; marking roof areas and posting explanatory signs are recommended to establish compliance with FCC guidelines.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2025. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

October 16, 2023



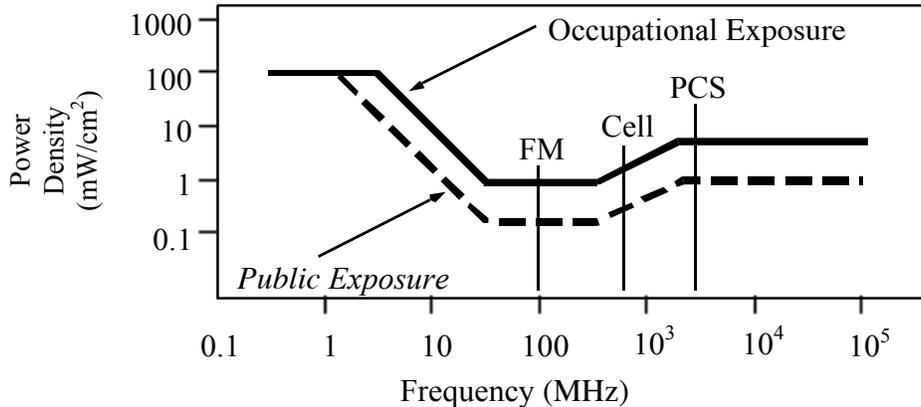
William F. Hammett
William F. Hammett, P.E.
707/996-5200

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers IEEE C95.1-2019, “Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz,” includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. Hammett & Edison has incorporated conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.



RFE.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

Hammett & Edison has incorporated the FCC Office of Engineering and Technology Bulletin No. 65 (“OET-65”) formulas (see Figure 1) in a computer program that calculates, at millions of locations on a grid, the total expected power density from any number of individual radio frequency sources. The program uses the specific antenna patterns from the manufacturers and allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain accurate projections of RF exposure levels. The program can account for spatial-averaging when antenna patterns are sufficiently narrow, and time-averaging is typically considered when operation is in single-frequency bands, which require time-sharing between the base station and the subscriber devices.

OET-65 provides this formula for calculating power density in the far-field from an individual RF source:

$$\text{power density} \quad S = \frac{2.56 \times 1.64 \times 100 \times \text{RFF}^2 \times \text{ERP}}{4 \times \pi \times D^2} \quad \text{in mW/cm}^2$$

where ERP = total Effective Radiated Power (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to reflections, assuming a reflection coefficient of 1.6 ($1.6 \times 1.6 = 2.56$). This factor is typically used for all sources unless specific information from FCC filings by the manufacturer indicate that a different reflection coefficient would apply. The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density.

Because antennas are not true “point sources,” their signal patterns may not be fully formed at close distances and so exposure levels may be lower than otherwise calculated by the formula above. OET-65 recommends the cylindrical model formula below to account for this “near-field effect”:

$$\text{power density} \quad S = \frac{180}{\theta_{\text{BW}}} \times \frac{0.1 \times P_{\text{net}}}{\pi \times D \times h} \quad \text{in mW/cm}^2$$

where P_{net} = net power input to antenna, in watts,
 θ_{BW} = half-power beamwidth of antenna, in degrees,
D = distance from antenna effective height to point of calculation, in meters, and
h = aperture height of antenna, in meters.

The factor of 0.1 in the numerator converts to the desired units of power density.

OET-65 confirms that the “crossover” point between the near- and far-field regions is best determined by finding where the calculations coincide from the two different formulas, and the program uses both formulas to calculate power density.

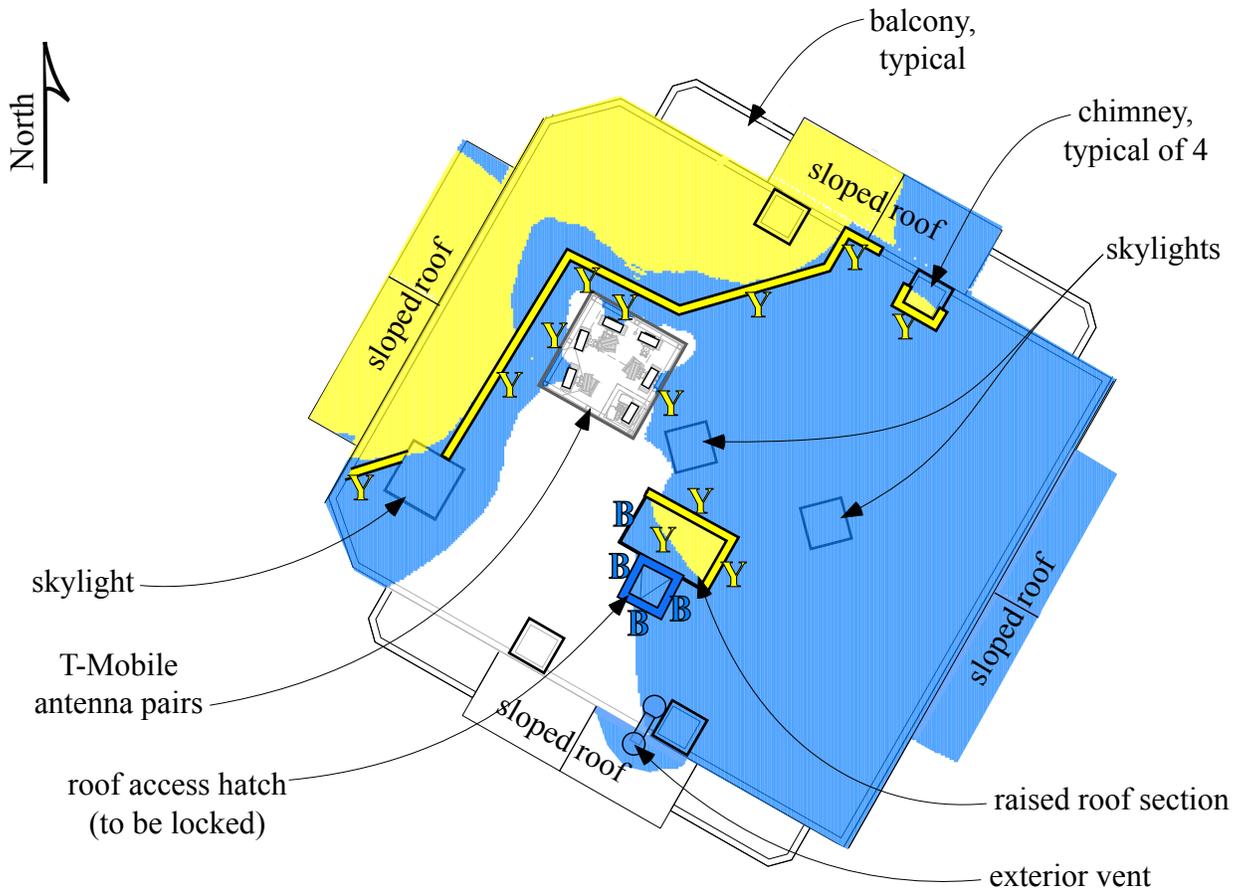


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Calculated RF Exposure Levels on Roof

Recommended Mitigation Measures

It is recommended that the roof access hatch be kept locked, so that the T-Mobile antennas are not accessible to unauthorized persons. It is presumed that T-Mobile, as an FCC licensee, takes adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC exposure guidelines whenever work is required near the antennas themselves. It is recommended that boundary lines be marked on the roof with blue and yellow paint to identify areas within which exposure levels are calculated to exceed the public and occupational FCC limits, respectively, as shown. No work within 30 feet in front of the antennas, such as might occur during certain maintenance activities on the roof and/or on the sloped roof sections, 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 roof access hatch, at the boundary lines, and on the screens in front of the antennas, readily visible from any angle of approach to persons who might need to work within that distance. It is recommended that T-Mobile coordinate with the landlord for prior antenna shutdown when other workers, including employees or contractors of the landlord, need access to the roof and the sloped roof sections.

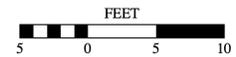


Notes: See text.

Base image from drawing by Connell Design Group, Inc., dated August 1, 2023.

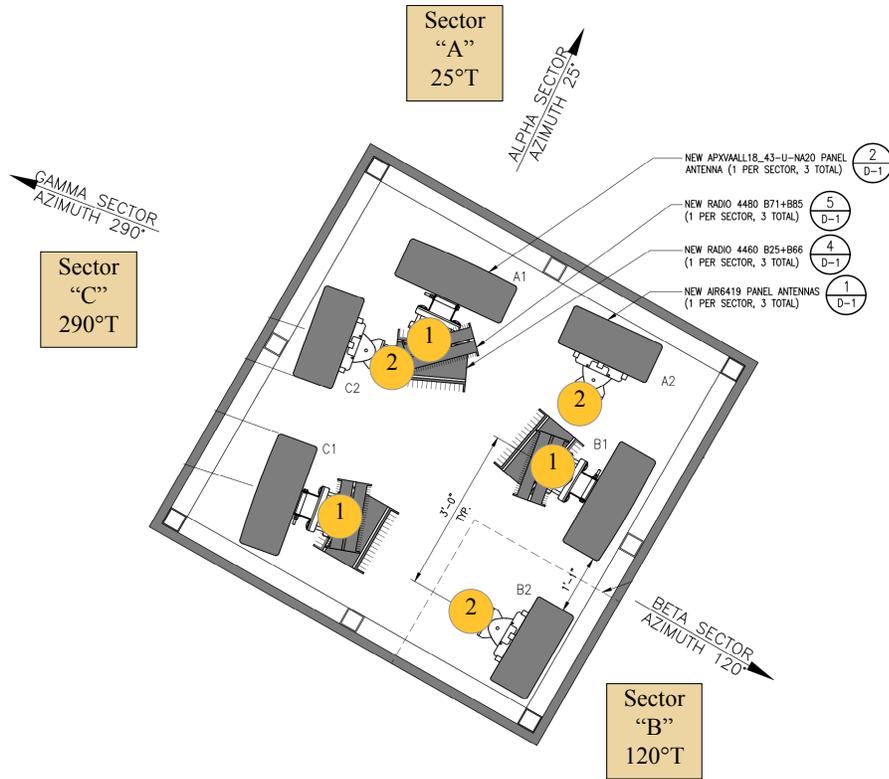
Calculations performed according to OET Bulletin 65, August 1997.

Legend:	Less Than Public	Exceeds Public	Exceeds Occupational	Exceeds 10x Occupational
Shaded color	blank			
Boundary marking	N/A			
Sign type	N/A	B - Blue NOTICE	Y - Yellow CAUTION	O - Orange WARNING



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Proposed Antenna Layout



T-Mobile Antenna Schedule

SECTOR	TECHNOLOGY	ANTENNA			ANTENNA AZIMUTH	RAD CENTER OF ANTENNA
		MODEL	SIZE	WEIGHT LBS		
SECTOR "A"	L700/N600 L2100/L1900 N1900	APXVAALL18_43-U-NA20	72"	107.9	25°	40'-8"
	N2500	AIR6419 B41	36.3"	83.3	25°	42'-0"
SECTOR "B"	L700/N600 L2100/L1900 N1900	APXVAALL18_43-U-NA20	72"	107.9	120°	40'-8"
	N2500	AIR6419 B41	36.3"	83.3	120°	42'-0"
SECTOR "C"	L700/N600 L2100/L1900 N1900	APXVAALL18_43-U-NA20	72"	107.9	290°	40'-8"
	N2500	AIR6419 B41	36.3"	83.3	290°	42'-0"

Images are excerpts from Sheet A-3 of drawing by Connell Design Group, Inc., dated August 1, 2023.





COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT E



County of San Mateo

Planning & Building Department

455 County Center, 2nd Floor
Redwood City, California 94063
650/363-4161 Fax: 650/363-4849

Mail Drop PLN122
plngbldg@smcgov.org
www.co.sanmateo.ca.us/planning

Letter of Decision

November 1, 2012

Metro PCS
Attn: Ms. Miller-Novak
231 Marlow Drive
Oakland, CA 94605

PROJECT FILE

Dear Ms. Miller-Novak

Location: 30 Avenue Portola, El Granada
Assessor's Parcel No.: 047-231-150
File Number: PLN 2005-00520

On November 1, 2012, the Zoning Hearing Officer considered your request for a Use Permit renewal, pursuant to Sections 6500 and 6510 of the County Zoning Regulations, to allow the continuing use of a wireless communications facility consisting of three panel antennas with a maximum height of 43 feet and an equipment room located at 30 Avenue Portola in the unincorporated El Granada area of San Mateo County.

The Zoning Hearing Officer made the findings and approved this project subject to the conditions of approval as attached.

Any interested party aggrieved by the determination of the Zoning Hearing Officer may appeal this decision to the Planning Commission within ten (10) working days from such date of determination. The appeal period for this project will end on **November 16, 2012, at 5:00 p.m.**

If you have any questions concerning this item please contact PROJECT PLANNER, Steven Rosen at 650-363-1814 or by e-mail at srosen@smcgov.org.

Very truly yours,

Matthew Seubert
Zoning Hearing Officer
zhd1101w_3_dr

cc: Assessor's Office
Building Inspection Section
Public Works Department

Nicholas Damer
Midcoast Community Council

Enclosure: San Mateo County Survey.

An online version of our Customer Survey is available at: <http://www.co.sanmateo.ca.us/planning/survey>

Attachment A

County of San Mateo
Planning and Building Department**FINDINGS AND CONDITIONS OF APPROVAL**

File Number: PLN 2005-00520

Hearing Date: November 1, 2012

Prepared By: Steven Rosen, Project Planner

Adopted By: Zoning Hearing Officer

FINDINGS**For the Environmental Review, Found:**

1. That this project is exempt from environmental review pursuant to the California Environmental Quality Act (CEQA), Section 15301, Class 1, relating to the permitting of existing facilities.

For the Use Permit, Found:

2. That the establishment, maintenance, and conducting of the proposed use does not result in a significant adverse impact and is not detrimental to the public welfare or injurious to property or improvements in said neighborhood, in that it complies with State and Federal radio frequency emissions standards and does not present a significant visual impact.
3. That the approval of this wireless telecommunications addition is necessary for the public health, safety, convenience or welfare because the project provides increased clarity, range and capacity of the existing wireless network and enhances service for the general public.
4. That the exception to the height limit of the zoning district, as allowed under Section 6405, is necessary for the proper functioning of the existing equipment.

CONDITIONS OF APPROVAL**Current Planning Section**

1. This use permit shall be valid for ten (10) years until November 1, 2022. The applicant shall file for a renewal of this permit six (6) months prior to expiration with the Current Planning Section, by submitting the applicable application forms and paying the applicable fees, if continuation of this use is desired. Any modifications to this facility will require a use permit amendment. If an amendment is requested, the applicant shall submit the necessary documents and fees required for consideration of the amendment at a public hearing. An administrative review of the project for conformance to conditions of approval will be required in November 2017.
2. This approval applies only to the proposal, documents, and plans dated February 14, 2012 described in this staff report and approved by the Zoning Hearing Officer on November 1, 2012. Minor revisions or modifications to the project may be made if they are consistent with the intent of and in substantial conformance with this approval, subject to the review and approval of the Community Development Director.

3. The faux chimney shall be maintained in the originally-approved colors and materials. Any proposal to change the colors or materials shall be reviewed and approved by the Current Planning Section.
4. This installation shall be removed in its entirety at that time when this technology becomes obsolete or this facility is discontinued for 180 consecutive days.
5. The applicant shall not enter into a contract with the landowner or lessee that reserves for one company exclusive use of structures on this site for telecommunication facilities.
6. Construction hours shall be Monday through Friday, 8:00 a.m. to 6:00 p.m., Saturday, 9:00 a.m. to 5:00 p.m., and no construction will be allowed on Sundays or national holidays. Noise levels produced by construction and maintenance activity shall not exceed 80-dBA level at any one moment.
7. An encroachment permit shall be obtained from the Department of Public Works prior to any construction or other work within the public right-of-way.
8. Locked gates shall be provided with a Knox Box or Knox Padlock.
9. Provide a 2A10BC Extinguisher at site.
10. Any electrical panel subject to back feed shall have an additional permanent sign, red in color, stating the location of alternate power source. The lettering shall be contrasting to the red background and be a minimum 1/2-inch tall and shall be permanently affixed on each electrical panel subject to back feed from the alternate power source.