COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: January 16, 2020

TO: Zoning Hearing Officer

FROM: Planning Staff

SUBJECT: Consideration of a Use Permit Amendment, pursuant to Sections 6405, 6500, and 6512.6 of the San Mateo County Zoning Regulations, to continue the operation of an existing cellular facility and modify the facility to reuse three (3) 4 ft. antennas enclosed within an existing fiberglass 12-inch diameter cylinder, add three (3) new 8ft. antennas and reuse one (1) gps unit, enclosed within a new 144 sq. ft. fiberglass reinforced plastic square screen on the rooftop of the existing apartment building; and to retain two (2) existing equipment cabinets, upgrade one (1) electrical panel and remove two (2) RRU (remote radio unit) units in a first floor equipment room at 723 Marsh Road in the unincorporated North Fair Oaks area of San Mateo County.

County File Number: PLN 2003-00058 (T-Mobile)

PROPOSAL

The applicant proposes to modify an existing T-Mobile cellular facility located on the rooftop of a three-story apartment building located at 723 Marsh Road. Proposed modifications include reusing three (3) existing antennas, concealed in a new fiberglass 144 sq. ft. square enclosure, adding three (3) new 8 ft. antennas, and relocating one (1) gps antenna on the rooftop of the apartment building. Additionally, the applicant is proposing to retain two (2) existing equipment cabinets, upgrade one (1) electrical panel and remove two (2) RRU units' boxes, located on the first-floor equipment room of the apartment building, which is two floors below the roof mounted antennas. There will be no change in the maximum height or location of the antennas, which measure approximately 38 ft. from grade.

RECOMMENDATION

That the Zoning Hearing Officer approve the Use Permit Renewal and Amendment, County File Number, PLN 2003-00058, by making the required findings and adopting the conditions of approval listed in Attachment A

BACKGROUND

Report Prepared By: Olivia Boo

Applicant: Leah Hernikl, T-Mobile

Owner: Maria Despres

Location: 723 Marsh Road, North Fair Oaks

APN(s): 060-143-320

Size: 9,757 sq. ft.

Existing Zoning: C-1/S-1 (Neighborhood Business/5,000 sq. ft. lot minimum)

General Plan Designation: Neighborhood Commercial

Sphere-of-Influence: Redwood City

Existing Land Use: Three-story (14-unit) multi-family residential apartment building with rooftop telecommunication facilities.

Water Supply: California Water Service

Sewage Disposal: West Bay Sanitary

Flood Zone: Zone X (area of minimal flood hazard); FEMA Panel No. 06081C 0302E, effective October 16, 2012.

Environmental Evaluation: Categorically exempt from California Environmental Quality Act (CEQA) under the provisions of Section 15301, Class 1, for the continued use of an existing facility, and Section 15303, Class 3, for the installation of small structures.

Setting: The project site is located on the west side of Marsh Road between Fair Oaks Avenue and Bay Road. The property is located at the eastern border of the unincorporated North Fair Oaks neighborhood and is adjacent to the Town of Atherton. An automotive detail shop exists immediately to the south of the property and a gas station is located to the north. Single-family residential uses are located in the North Fair Oaks area to the west and in the Town of Atherton to the east (across Marsh Road).

The project site is developed with a 14-unit, three-story apartment building. In addition to the T-Mobile facility, the apartment roof contains three other wireless telecommunication facilities, AT&T, Sprint, and Verizon Wireless. The existing facilities are all partially visible from surrounding public areas; however, they do incorporate

screening features which are painted to match the existing building. The existing T-Mobile facility includes three (3) antennas concealed within a 12-inch diameter cylinder cover on the rooftop of the apartment building. The facility also includes associated equipment cabinets located within an existing equipment room on the ground floor of the apartment building. The equipment room is located at ground level, two floor levels below the antenna location.

Chronology:

Date		Action
August 28, 1998	-	Initial Use Permit Approved, County File number: USE-98-0026.
February 16, 2006	-	Use Permit Renewal approved (County File number updated: PLN 2003-00058).
May 7, 2009	-	Use Permit Amendment submitted. (Withdrawn June 23, 2009.)
October 20, 2016		Use Permit Renewal and Amendment approved.
May 20, 2019		Received Existing Use Permit Amendment.
October 11, 2019		Deemed Complete.
January 16, 2019		Zoning Hearing Officer public hearing.

DISCUSSION

A. KEY ISSUES

1. Compliance with General Plan

Staff has determined that the project complies with all applicable General Plan Policies, specifically:

Visual Quality Policies

Policy 4.36 (*Urban Area Design Concept*) seeks to promote and enhance good design, site relationships, and other aesthetic considerations; maintain and improve upon the appearance and visual character of development in urban areas; and ensure that new development is designed and constructed to contribute to the orderly and harmonious development of the locality. The proposed antenna modifications, which involves reusing three (3) 4 ft. tall antennas (one per sector), adding three (3) 8 ft. tall antennas (one per

sector) on the rooftop, are not expected to create a significant visual impact to the area. The new fiberglass (FRP) (fiberglass reinforced panel) radome will be 10 ft. tall and the exterior color is conditioned to match the existing building.

T-Mobile's existing 120 sq. ft. ground equipment lease area is located in a ground floor storage room of the apartment building and is not visible from the outside. No significant changes are proposed for the equipment cabinet area, two existing (equipment cabinets will remain, one electrical panel will be replaced and two (2) RRU units' boxes will be removed.

T-Mobile's proposed rooftop modification will be more visible due to the increase in antennas and footprint. The fiberglass enclosure will be larger, 144 sq. ft. compared to the existing 3 ft. diameter cylinder. However, the new enclosure has less visual impact, since it appears to be an extension of the building rather than having the appearance of separate mechanical equipment on the roof. Staff has determined the project, as proposed and conditioned, will not have a significant visible impact to the surrounding area.

General Land Use

Policies 8.36 (*Uses*) and 8.39 (*Height, Bulk, and Setbacks*) allow uses in zoning districts that are consistent with the overall land use designation and regulate height, bulk, and setbacks to ensure that the size and scale of development is compatible with parcel size and to ensure public health and safety. Though the parcel is developed with a residential use, the underlying zoning district is commercial with the allowance to build residential use upon approval of a use permit. The continued use of the wireless facility is permitted within this zoning district subject to a use permit. The setbacks of the equipment area and antennas are compliant with the commercial zoning district. A building permit is required for the proposed amendment to ensure public health and safety.

2. Compliance with Zoning Regulations

The project site is located within the C-1/S-1 (Neighborhood Commercial District/S-1 Combining District) Zoning District. The proposed amendment complies with the development criteria set forth by the County Zoning Regulations for the C-1/S-1 District as noted by the following chart:

	Required	Proposed
Minimum Front Yard Setback	0 ft.	5 ft.
Minimum Rear Yard Setback	6 ft.	90 ft.
Minimum Side Yard Setback	0 ft.	6 ft.
Maximum Building Height	36 ft.	38 ft.*
*allowed for wireless telecommunication facility		

The maximum allowed height limit in the C-1/S-1 District is 36 feet. The existing building height is 28 feet as measured from grade to rooftop. The new antennas will exceed the maximum allowed height limit of the zoning district by 3 ft. at the proposed height of 38 feet. Section 6512.2 (I) 3 of the Zoning Regulations (Chapter 24.5 Wireless Telecommunication Facilities) allows facilities to exceed the zoning district height by an additional 5 ft. or 10 percent, whichever is greater. Thus, the T-Mobile facility complies with the maximum height allowance.

3. Conformance with the Wireless Telecommunication Facilities Ordinance

According to Section 6512.6 of the Wireless Telecommunication Facilities Ordinance, existing facilities built prior to January 9, 2009 are subject to the provisions of the Ordinance related to new facilities. Staff has reviewed the project against the provisions of the Wireless Telecommunication Facilities Ordinance and determined that the project complies with the applicable standards discussed below.

Development and Design Standards

a. **Section 6512.2 A prohibits location in a Sensitive Habitat as defined by Policy 1.8 of the General Plan for facilities proposed outside the Coastal Zone.**

The site of existing T-Mobil facility is not near a sensitive habitat.

b. **Section 6512.2.B prohibits wireless facilities to be located in residential-zoned areas, unless the applicant demonstrates that no other site allows feasible or adequate capacity and coverage. Evidence shall include an alternative site analysis within 2.5 miles of the proposed facility.**

Although the existing T-Mobile site is located on an apartment building, the property is zoned C-1/S-1 and not in a residentially zoned district. The rear property line abuts a residentially-zoned district. The T-Mobile site has been in operation at this site since 1998. The facility was originally owned and operated by Pacific Bell Mobile Services and subsequently purchased by Cingular, then purchased by T-Mobile.

c. **Section 6512.2.C prohibits wireless telecommunication facilities to be located in areas where co-location on existing facilities would provide equivalent coverage with less environmental impact.**

The facility was established under a use permit approval in 1998 and has been in operation since. T-Mobile is proposing to upgrade an existing facility without proposing a new site. If a different location were proposed, there would be the potential for environmental impacts depending on the location of a new site location, demolition of the existing facility, and reconstruction of this facility elsewhere. Maintaining and upgrading the current location minimizes potential environmental impacts while continuing to provide consistent coverage.

d. **Section 6512.2.D requires wireless telecommunication facilities to be constructed so as to accommodate and be made available for co-location unless technologically infeasible.**

All of the larger cellular service providers (AT&T Wireless, Sprint PCS, and Verizon Wireless) are already co-located on this parcel. No new carriers are expected to request co-location at this site at this time.

e. **Sections 6512.2.E-G seek to minimize and mitigate visual impacts from public views by ensuring that appropriate vegetative screening, painting of equipment, or other methods of blending equipment in with the surrounding environment are implemented and requiring facilities to be constructed of non-reflective materials.**

The new enclosure will be 10 ft. in height, for a maximum height of 38 ft., is conditioned to be painted to match the building and be of non-reflective materials and/or colors. The final proposed paint color shall be reviewed and approved by the Planning Department.

f. **Section 6512.2.H requires compliance with the underlying zoning district.**

Refer to Section A.2 above (Zoning Regulations).

g. **Section 6512.2.I(3) requires building mounted telecommunication facilities to comply with the maximum height allowed for structures allowed in the zoning district or 16 feet above the building roofline, whichever is higher.**

The maximum allowed height limit in the C-1/S-1 District is 36 feet. The new antennas proposed height of 39 ft. does not comply with the maximum allowed height, however, the telecommunication facility will comply with the 16 ft. height allowance permitted for telecommunication facilities.

h. **Section 6512.2.K requires the overall footprint of a facility to be as minimal as possible and not cover more than 15 percent in area of the lot or an area greater than 1,600 sq. ft.**

This policy applies to ground mounted towers in the R-1 single-family zoning district. This policy does not apply to the subject proposal. The project is a building and located in a commercial district, C-1.

4. Compliance with Conditions of the Last Approval

The conditions from the approval of the Use Permit in 2016 are assessed below width regard to compliance and if the conditions should be either retained or revised. Staff recommends that some conditions, as indicated, be removed in instances where the condition: (1) has been complied with, or (2) is no longer deemed feasible or necessary.

Planning Department

a. This permit shall be valid for ten (10) years until September 15, 2026. The applicant shall file for a renewal of this permit six months prior to expiration with the County Planning Department, 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 for consideration at a public hearing.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes, but modified to: This permit shall be valid for ten (10) years until January 16, 2030. The applicant shall file for a renewal of this permit six months prior to expiration with the County Planning Department, 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 separate Use Permit amendment or minor modification and building permit, as determined by the Planning Department. If an amendment is requested, the applicant shall submit the necessary documents and fees for consideration at a public hearing.

b. This approval applies only to the proposal as described in this report and materials dated October 20, 2016. Minor amendments to the project may be approved by the Community Development Director if they are consistent with the intent of and in substantial conformance with this approval.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes, but modified to: This approval applies only to the proposal as described in this report and approved on January 16, 2020. Minor amendments to the project may be approved by the Community Development Director if they are consistent with the intent of and in substantial conformance with this approval.

c. A building permit shall be issued prior to the start of any construction work associated with this amendment approval.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

d. The components of the facility that are visible or partially visible from the public right-of-way shall maintain the approved paint color to match the building. Furthermore, all associated facility equipment shall be of non-reflective materials and/or colors. Any proposal to change the colors shall be reviewed and approved by the Community Development Director prior to painting. The applicant shall submit photos to the Current Planning Section for color verification after the applicant has painted the antennas and equipment the approved colors, but before a final building inspection is scheduled.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

e. If a less visually obtrusive/reduced antenna technology becomes available for use during the life of this project, the applicant shall present a redesign incorporating this technology into the project for review by the Community Development Director and any parties that have expressed an interest.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

f. Maintenance for the roof antennas shall only be performed between 9:00 a.m. and 5:00 p.m.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

g. 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).

Compliance with Condition? Yes

Recommend to Retain Condition? Yes

h. 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.

Compliance with Condition? Yes. The use has been in continuous operation since construction.

Recommend to Retain Condition? Yes.

i. There shall be no cabling, wiring, or peripheral infrastructure affixed to the vertical sides of the apartment building. Any physical connections made between the antenna pole and the equipment cabinet shall be done in the interior of the building or on the roof, not visible from the public view.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

j. The applicant shall maintain all necessary licenses and registrations from the Federal Communications Commission (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.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

k. The applicant shall not enter into a contract with the landowner or lessee which reserves for one company exclusive use of the tower structure or the site for telecommunications facilities.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

l. 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.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

m. 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 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

n. Any necessary utilities leading to, or associated with, the facility shall be placed underground.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

o. Any future modifications to the approved facility or amendments to the use permit for this facility shall require written authorization from the property owner.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

p. This permit does not allow for the removal of any trees. Removal of any tree with a diameter equal to or greater than 12 inches as measured 4.5 feet above the ground shall require a separate tree removal permit.

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

5. Conformance with Use Permit Findings

Under the provisions of Section 6500 (Use Permits), wireless telecommunications facilities are permitted in the C-1 Zoning District after issuance of a use permit. In order to continue the operation of this facility, the following use permit findings are necessary:

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

The impacts from this project are minimal. The radio frequency report prepared by Comtech Communications Technologies LTD accounts for total cumulative emission limit at ground level for all four carriers calculated to be at 11.3 percent, below Maximum Permissible Exposure (MPE). The report concludes, therefore, that the operation of all existing and proposed wireless facilities will meet emission criteria as required by the California Public Utilities Commission and the Federal Communications Commission.

The installation will not interfere with household appliances or disturb existing telecommunications equipment. Because the system will be unmanned and require approximately two service visits per month, it will not generate additional traffic, noise, or intensity of use of the property. The proposed antennas will continue to be enclosed within a fiberglass enclosure and will be conditioned to be painted to match the existing building.

b. **That the use is necessary for the public health, safety, convenience or welfare.**

The use is for the continued operation of a wireless telecommunications facility. The FCC has established the desirability and need for wireless telecommunications facilities to enable communication between mobile units and the existing wire-dependent

telephone system. This facility contributes to an enhanced wireless network for increased clarity, range, and system capacity, and therefore is a benefit to both public and private users. The wireless network is considered necessary for public health, safety, convenience, and welfare.

B. ENVIRONMENTAL REVIEW

The proposed renewal is categorically exempt from the California Environmental Quality Act (CEQA) under Section 15301, Class 1: Continued Operation of an Existing Facility, and Section 15302, Class 2: Replacement or Reconstruction of an Existing Structure.

C. REVIEWING AGENCIES

Building Inspection Section
Menlo Park Fire District

ATTACHMENTS

A. Recommended Findings and Conditions of Approval
B. Vicinity Map and Location Map
C. Site Plan
D. Roof Plan
E. Elevations
F. Equipment Cabinet Plan
G. Radio Frequency Report
H. Photo Simulations

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COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT A

Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2003-00058 Hearing Date: January 16, 2020

Prepared By: Olivia Boo, Project Planner For Adoption By: Zoning Hearing Officer

RECOMMENDED FINDINGS

1. For the Environmental Review, Find:

   That the proposed renewal is categorically exempt from environmental review pursuant to the California Environmental Quality Act (CEQA), Section 15301, Class 1: Continued Operation of an Existing Facility, and Section 15302, Class 2: Replacement or Reconstruction of an Existing Structure.

2. For the Use Permit, Find:

   That the establishment, maintenance, and conducting of the proposed use will not, under the circumstances of the particular case, result in a significant adverse impact, or be detrimental to the public welfare or injurious to property or improvements in said neighborhood. The radio frequency (RF) report concludes that the operation of all existing and proposed wireless facilities will meet emission criteria as required by the California Public Utilities Commission and the Federal Communications Commission.

3. That the use is necessary for the public health, safety, convenience, or welfare. This facility contributes to an enhanced wireless network for increased clarity, range, and system capacity, and therefore is a benefit to both public and private users. The wireless network is considered necessary for public health, safety, convenience, and welfare.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. This permit shall be valid for ten (10) years until January 16, 2030. The applicant shall file for a renewal of this permit six months prior to expiration with the County Planning Department, 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 for consideration at a public hearing.

2. This approval applies only to the proposal as described in this report and approved on January 16, 2020. Minor amendments to the project may be approved by the Community Development Director if they are consistent with the intent of and in substantial conformance with this approval.

3. A building permit shall be issued prior to the start of any construction work associated with this amendment approval.

4. The components of the facility that are visible or partially visible from the public right-of-way shall maintain the approved paint color to match the building. Furthermore, all associated facility equipment shall be of non-reflective materials and/or colors. Any proposal to change the colors shall be reviewed and approved by the Community Development Director prior to painting. The applicant shall submit photos to the Current Planning Section for color verification after the applicant has painted the antennas and equipment the approved colors, but before a final building inspection is scheduled.

5. If a less visually obtrusive/reduced antenna technology becomes available for use during the life of this project, the applicant shall present a redesign incorporating this technology into the project for review by the Community Development Director and any parties that have expressed an interest.

6. Maintenance for the roof antennas shall only be performed between 9:00 a.m. and 5:00 p.m.

7. 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).

8. 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.

9. There shall be no cabling, wiring, or peripheral infrastructure affixed to the vertical sides of the apartment building. Any physical connections made between the antenna pole and the equipment cabinet shall be done in the interior of the building or on the roof, not visible from the public view.

10. The applicant shall maintain all necessary licenses and registrations from the Federal Communications Commission (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 revocation.

11. The applicant shall not enter into a contract with the landowner or lessee which reserves for one company exclusive use of the tower structure or the site for telecommunication facilities.

12. 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.

13. 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 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).

14. Any necessary utilities leading to, or associated with, the facility shall be placed underground.

15. Any future modifications to the approved facility or amendments to the use permit for this facility shall require written authorization from the property owner.

16. This permit does not allow for the removal of any trees. Removal of any tree with a diameter equal to or greater than 12 inches as measured 4.5 feet above the ground shall require a separate tree removal permit.

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COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT B

San Mateo County

County San Mateo, CA

0.04 0 0.02 0.04 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

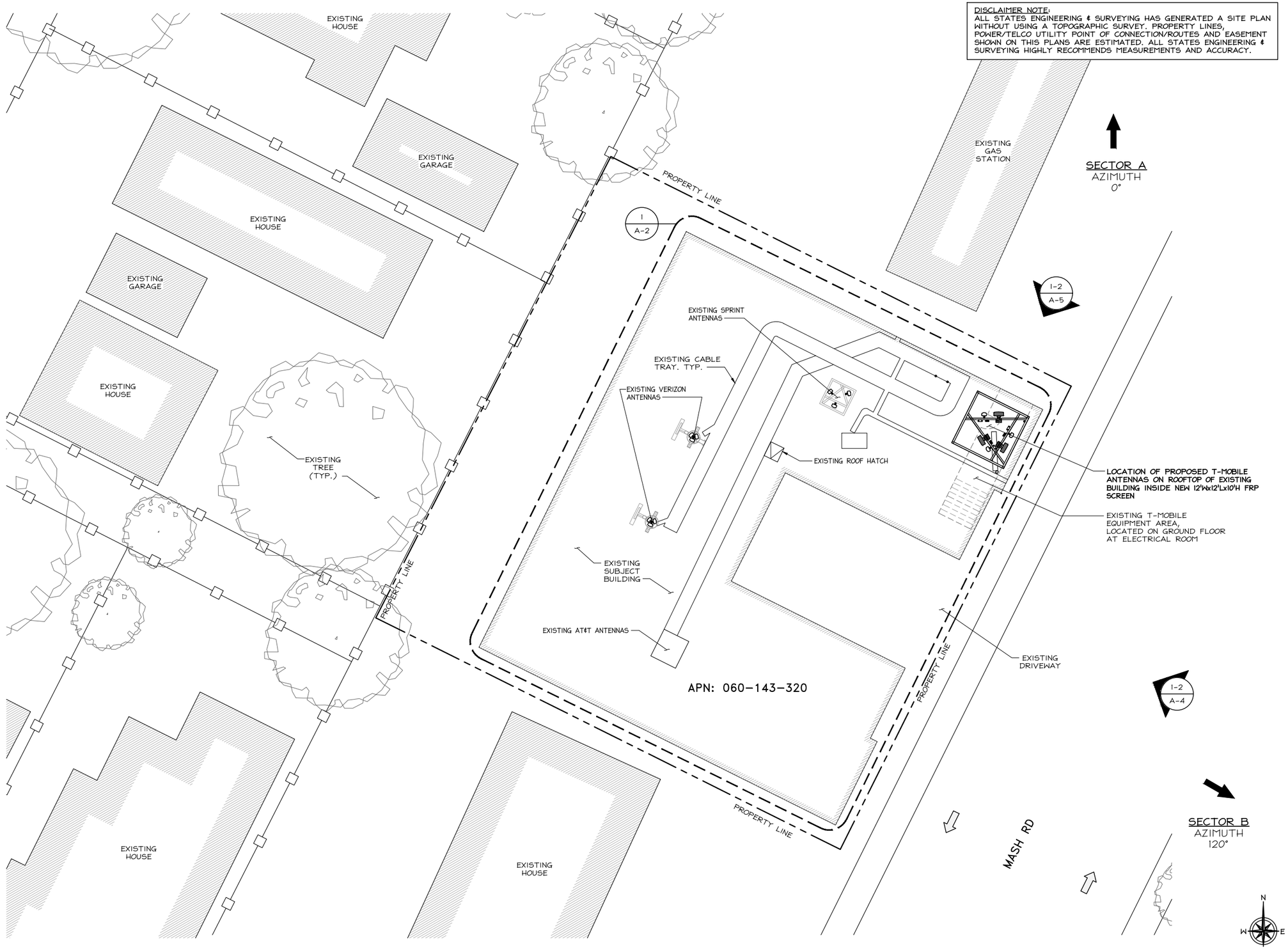
1: 1,128

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT C



OVERALL SITE PLAN

24"x36" SCALE: 1" = 10'-0"
11"x17" SCALE: 1" = 20'-0"

10' 5' 0' 10'

1

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

JS INFRASTRUCTURE PARTNERS
AZ - CA - CO - ID - NM - NV - TX - UT
2030 MAIN STREET, STE 200
IRVINE, CALIFORNIA 92614

ALLSTATES ENGINEERING & SURVEYING
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630

PROJECT NO:	SF03143A
DRAWN BY:	MA
CHECKED BY:	SS

REV	DATE	DESCRIPTION	
0	07/18/2019	100% CD's FOR SUBMITTAL	SS
B	06/21/2019	100% CD's FOR APPROVAL	MA
A	04/13/2019	90% CD's FOR REVIEW	MA

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

SF03143A
SF143 MARSH MADNESS
723 MARSH RD.
MENLO PARK, CA 94025
L600 PROJECT

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
A-1

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT D

E TO CONTRACTOR:

RACTOR IS TO REFER TO T-MOBILE's MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION

PROPOSED ANTENNA KEY

TATUS	ANTENNA NUMBER	BEAM WIDTH	ANTENNA VENDOR	ANTENNA MODEL	AZIMUTH	ELECTRICAL DOWNTILT	MECHANICAL DOWNTILT	RAD CENTER	TYPE	COAXIAL FEEDER		FIBER/HYBRID CABLE FEEDER	
										SIZE	LENGTH	SIZE	LENGTH
XISTING	A-1	65°	RFS	APXVFWW18X-C-NA20	0°	5/5	0	35'-0"	L2100 U1900/G1900	(4) 7/8" COAX	32 FT	–	–
OPOSED	A-2	65°	RFS	APXVAARR24_43-U-NA20	0°	5/5	0	34'-0"	L700/L600	(4) COAX JUMPER	10 FT.	(2) FIBER JUMPER	9 FT.
XISTING	B-1	65°	RFS	APXVFWW18X-C-NA20	120°	4/4	0	35'-0"	L2100 U1900/G1900 L700	(4) 7/8" COAX	32 FT	–	–
OPOSED	B-2	65°	RFS	APXVAARR24_43-U-NA20	120°	4/4	0	34'-0"	L700/L600	(4) COAX JUMPER	10 FT.	(2) FIBER JUMPER	9 FT.
XISTING	C-1	65°	RFS	APXVFWW18X-C-NA20	240°	2/2	0	35'-0"	L2100 U1900/G1900 L700	(4) 7/8" COAX	32 FT	–	–
OPOSED	C-2	65°	RFS	APXVAARR24_43-U-NA20	240°	2/2	0	34'-0"	L700/L600	(4) COAX JUMPER	10 FT.	(2) FIBER JUMPER	9 FT.

PROPOSED RRU KEY - ON TOWER

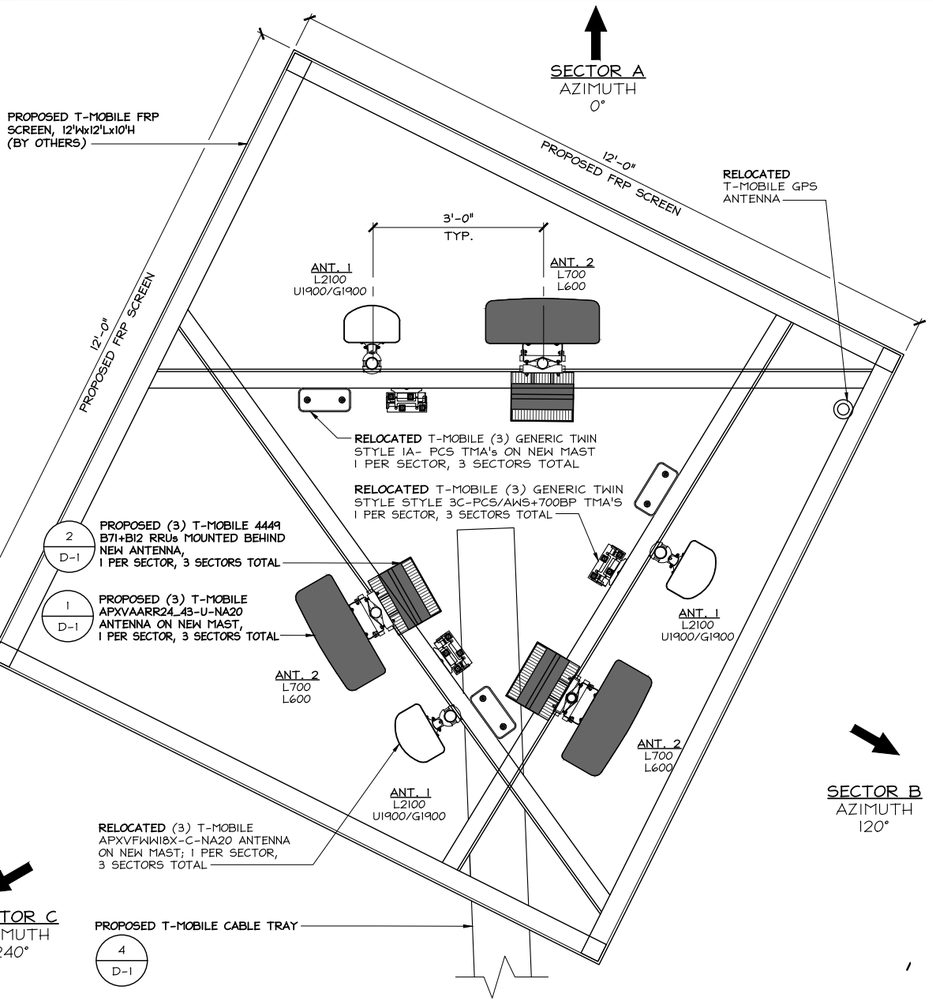
	RRU VENDOR	EQUIP.	MODEL NO.	EQUIP. CENTER	QTY	STATUS
	ERICSSON	RRU	4449 B71+B12	ANTENNAS	3	PROPOSED
	–	TMA	GENERIC TWIN STYLE 1A – PCS	ANTENNAS	3	EXISTING
	–	TMA	GENERIC TWIN STYLE 3C – PCS/AWS+700BP	ANTENNAS	3	EXISTING

EXISTING ANTENNA KEY

SECTOR	STATUS	ANTENNA NUMBER	BEAM WIDTH	ANTENNA VENDOR	ANTENNA MODEL	AZIMUTH	ELECTRICAL DOWNTILT	MECHANICAL DOWNTILT	RAD CENTER	TYPE	COAXIAL FEEDER		FIBER/HYBRID CABLE FEEDER	
											SIZE	LENGTH	SIZE	LENGTH
ALPHA	EXISTING	A-1	65°	RFS	APXVFWW18X-C-NA20	0°	5/5/5	0	35'-8"	L2100 U1900/G1900 L700	(4) 7/8" COAX	32 FT	–	–
BETA	EXISTING	B-1	65°	RFS	APXVFWW18X-C-NA20	120°	4/4/4	0	35'-8"	L2100 U1900/G1900 L700	(4) 7/8" COAX	32 FT	–	–
GAMMA	EXISTING	C-1	65°	RFS	APXVFWW18X-C-NA20	240°	2/2/2	0	35'-8"	L2100 U1900/G1900 L700	(4) 7/8" COAX	32 FT	–	–

EXISTING RRU KEY - ON TOWER

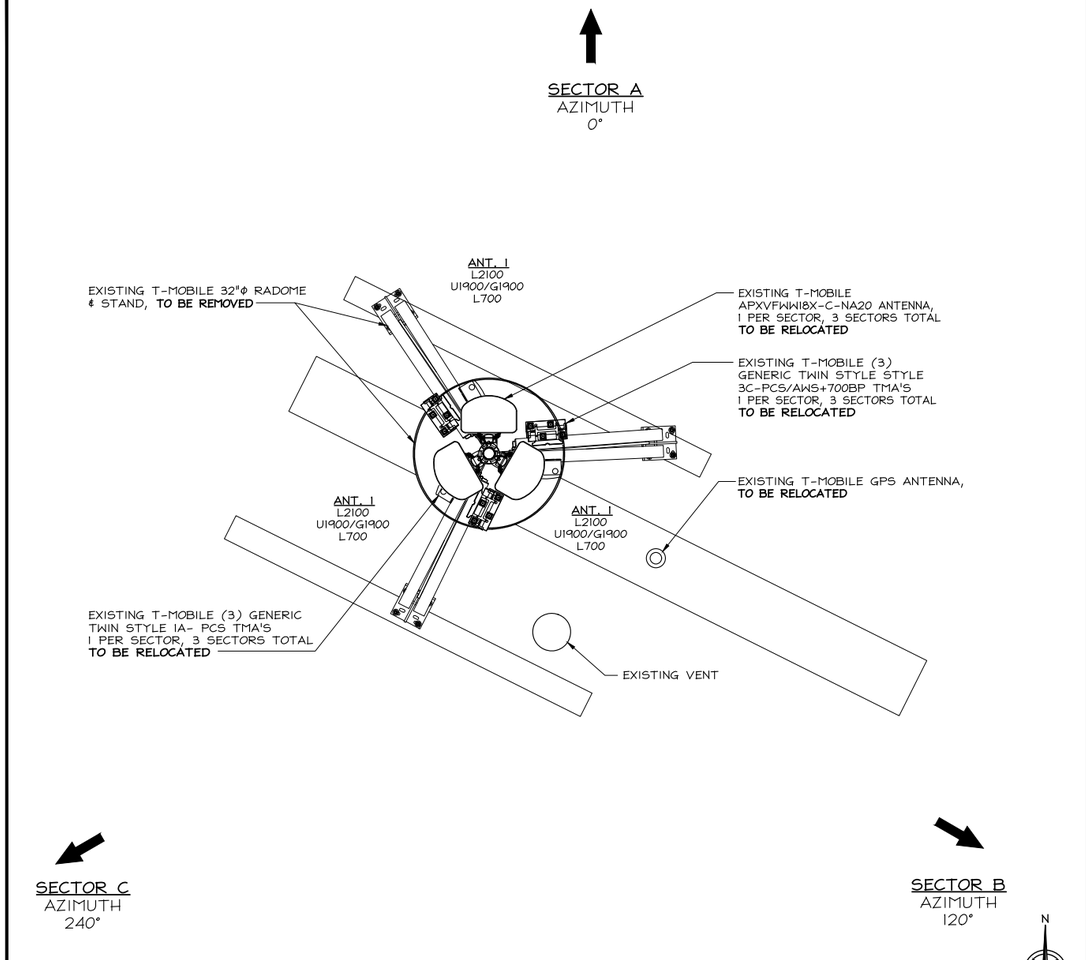
RRU SECTOR	RRU VENDOR	EQUIP.	MODEL NO.	EQUIP. CENTER	QTY	STATUS
1-3	–	TRIPLEXER	PCS/AWS	EQUIPMENT	3	EXISTING
1-3	–	TMA	GENERIC TWIN STYLE 1A – PCS	ANTENNAS	3	EXISTING
1-3	–	TMA	GENERIC TWIN STYLE 3C – PCS/AWS+700BP	ANTENNAS	3	EXISTING
1-3	ERICSSON	RRUS	RRUS11 B12	EQUIPMENT	3	EXISTING



PROPOSED ANTENNA LAYOUT

24"x36" SCALE: 3/4" = 1'-0"
11"x17" SCALE: 3/8" = 1'-0"
1' 6" 0" 1'

2



EXISTING ANTENNA LAYOUT

24"x36" SCALE: 3/4" = 1'-0"
11"x17" SCALE: 3/8" = 1'-0"
1' 6" 0" 1'

1

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

JS INFRASTRUCTURE PARTNERS
AZ - CA - CO - ID - NM - NV - TX - UT
2030 MAIN STREET, STE 200
IRVINE, CALIFORNIA 92614

ALLSTATES ENGINEERING & SURVEYING
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630

PROJECT NO:	SF03143A
DRAWN BY:	MA
CHECKED BY:	SS

REV	DATE	DESCRIPTION	
0	07/18/2019	100% CD's FOR SUBMITTAL	SS
B	06/21/2019	100% CD's FOR APPROVAL	MA
A	04/13/2019	90% CD's FOR REVIEW	MA

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

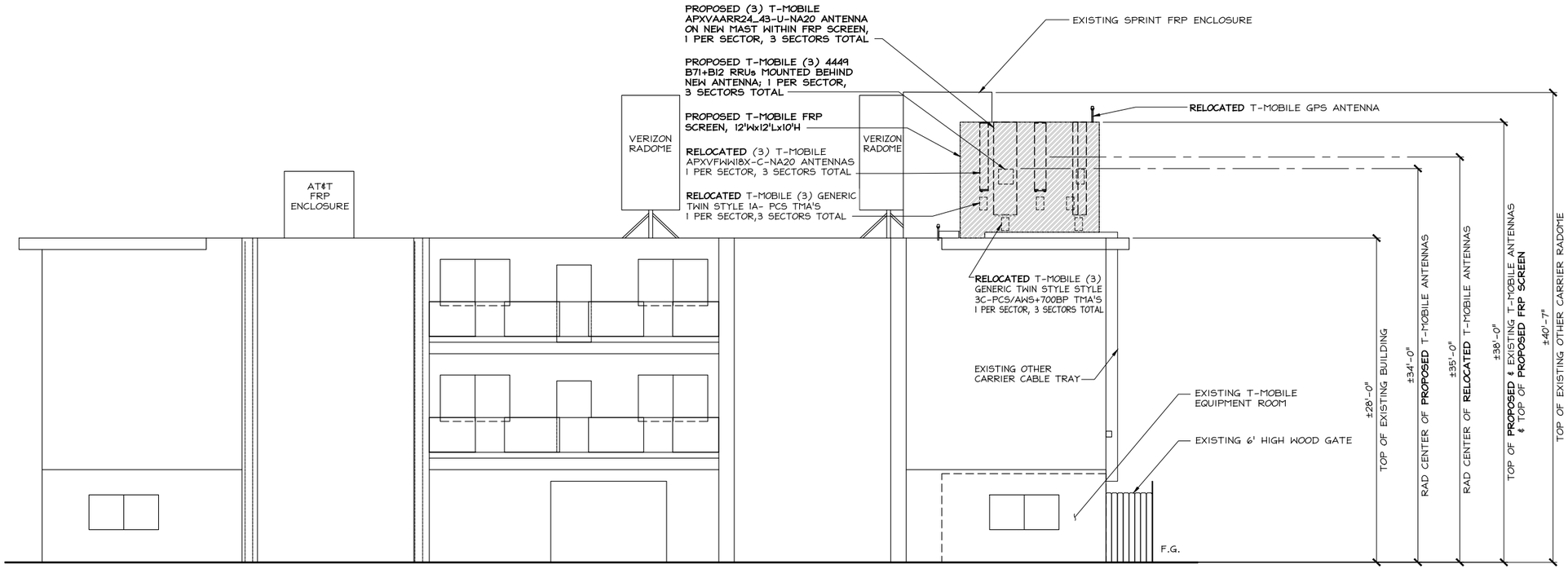
SF03143A
SF143 MARSH MADNESS
723 MARSH RD.
MENLO PARK, CA 94025
L600 PROJECT

SHEET TITLE
ANTENNA LAYOUT PLANS & SCHEDULE

SHEET NUMBER
A-3

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

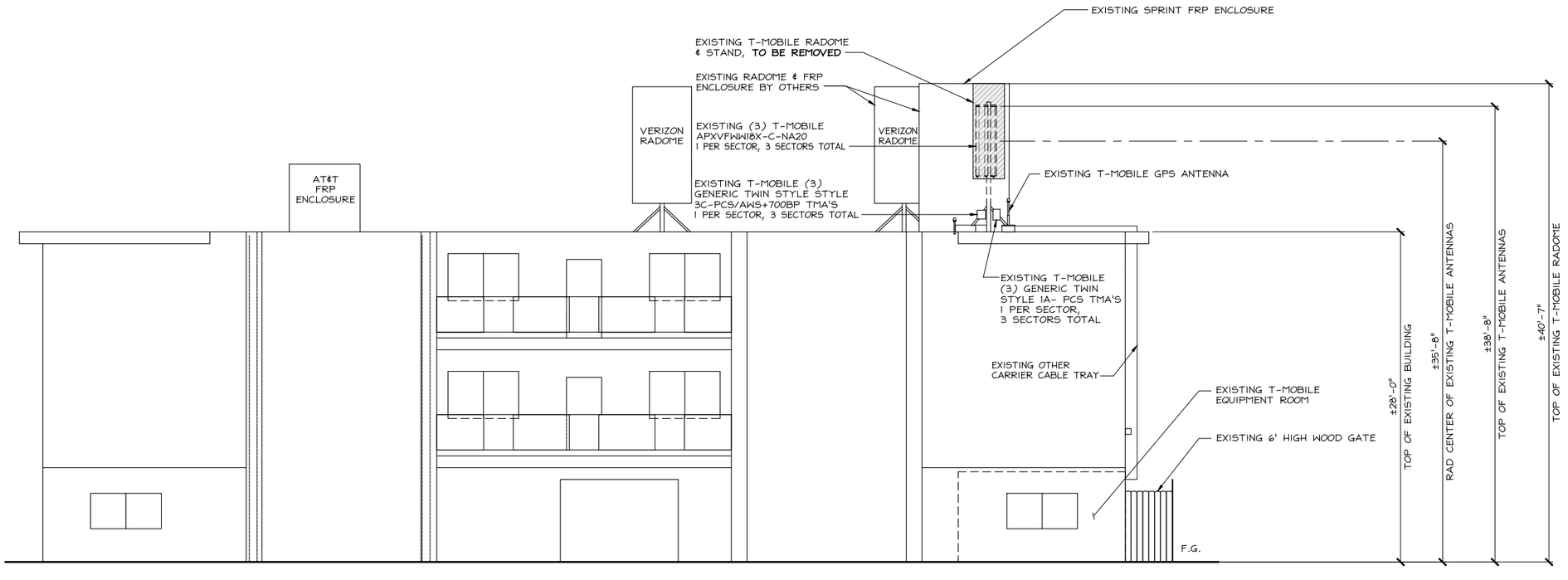
ATTACHMENT E



PROPOSED SOUTHEAST ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"
4' 2' 0" 4'

2



EXISTING SOUTHEAST ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"
4' 2' 0" 4'

1

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

J5 INFRASTRUCTURE PARTNERS
AZ - CA - CO - ID - NM - NV - TX - UT
2030 MAIN STREET, STE 200
IRVINE, CALIFORNIA 92614

ALLSTATES ENGINEERING & SURVEYING
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630

PROJECT NO:	SF03143A
DRAWN BY:	MA
CHECKED BY:	SS

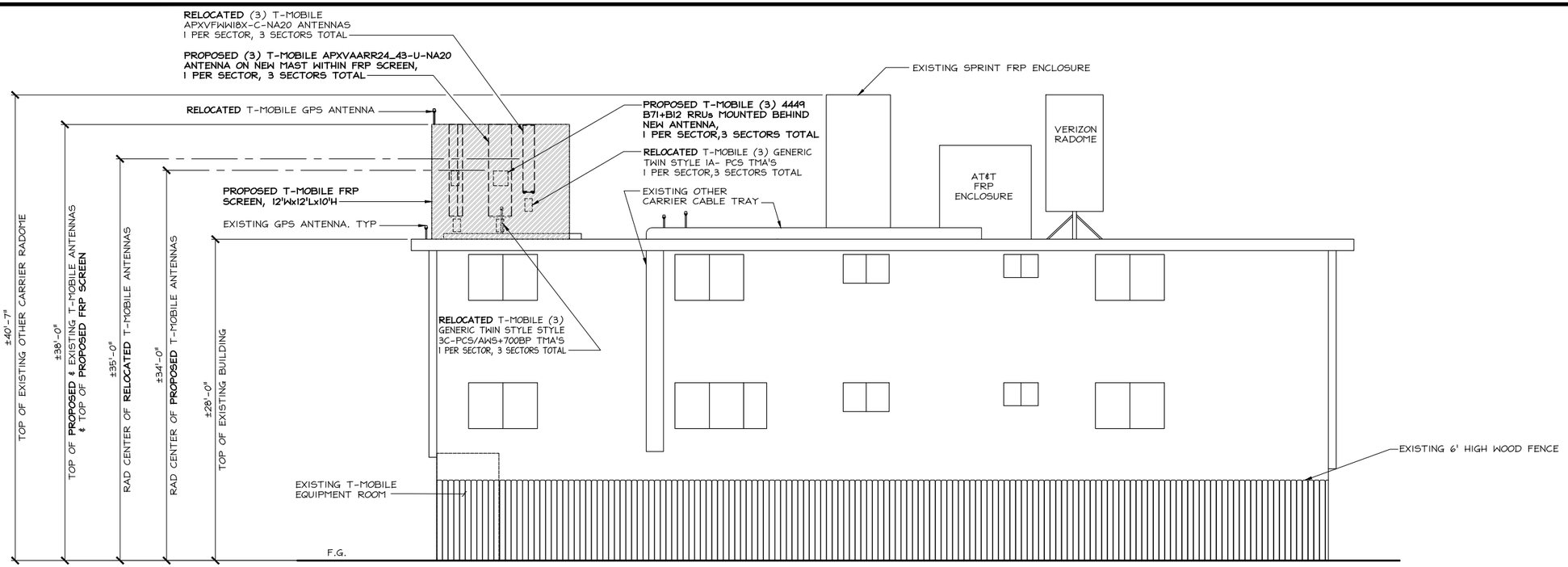
REV	DATE	DESCRIPTION	
0	07/18/2019	100% CD's FOR SUBMITTAL	SS
B	06/21/2019	100% CD's FOR APPROVAL	MA
A	04/13/2019	90% CD's FOR REVIEW	MA

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

SF03143A
SF143 MARSH MADNESS
723 MARSH RD.
MENLO PARK, CA 94025
L600 PROJECT

SHEET TITLE
ELEVATIONS

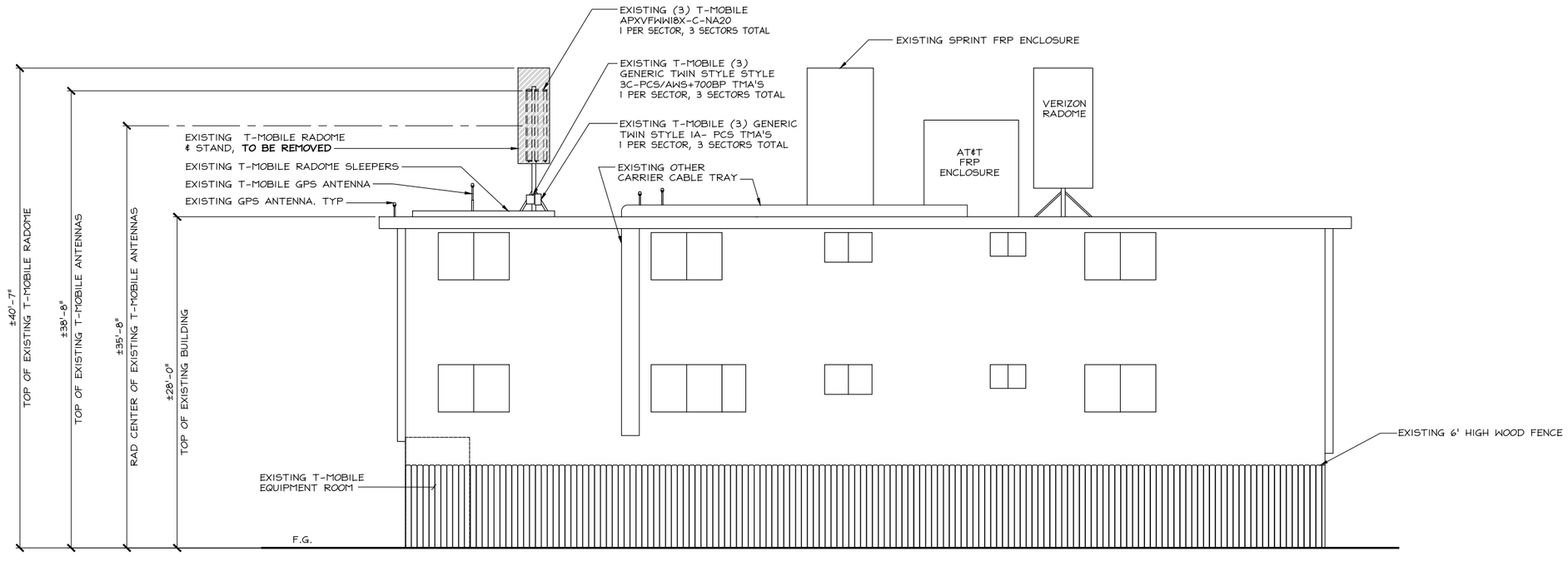
SHEET NUMBER
A-4



PROPOSED NORTHEAST ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"
4' 2' 0" 4'

2



EXISTING NORTHEAST ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"
4' 2' 0" 4'

1

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

J5 INFRASTRUCTURE PARTNERS
AZ - CA - CO - ID - NM - NV - TX - UT
2030 MAIN STREET, STE 200
IRVINE, CALIFORNIA 92614

ALLSTATES ENGINEERING & SURVEYING
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630

PROJECT NO:	SF03143A
DRAWN BY:	MA
CHECKED BY:	SS

REV	DATE	DESCRIPTION	
0	07/18/2019	100% CD's FOR SUBMITTAL	SS
B	06/21/2019	100% CD's FOR APPROVAL	MA
A	04/13/2019	90% CD's FOR REVIEW	MA

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

SF03143A
SF143 MARSH MADNESS
723 MARSH RD.
MENLO PARK, CA 94025
L600 PROJECT

SHEET TITLE

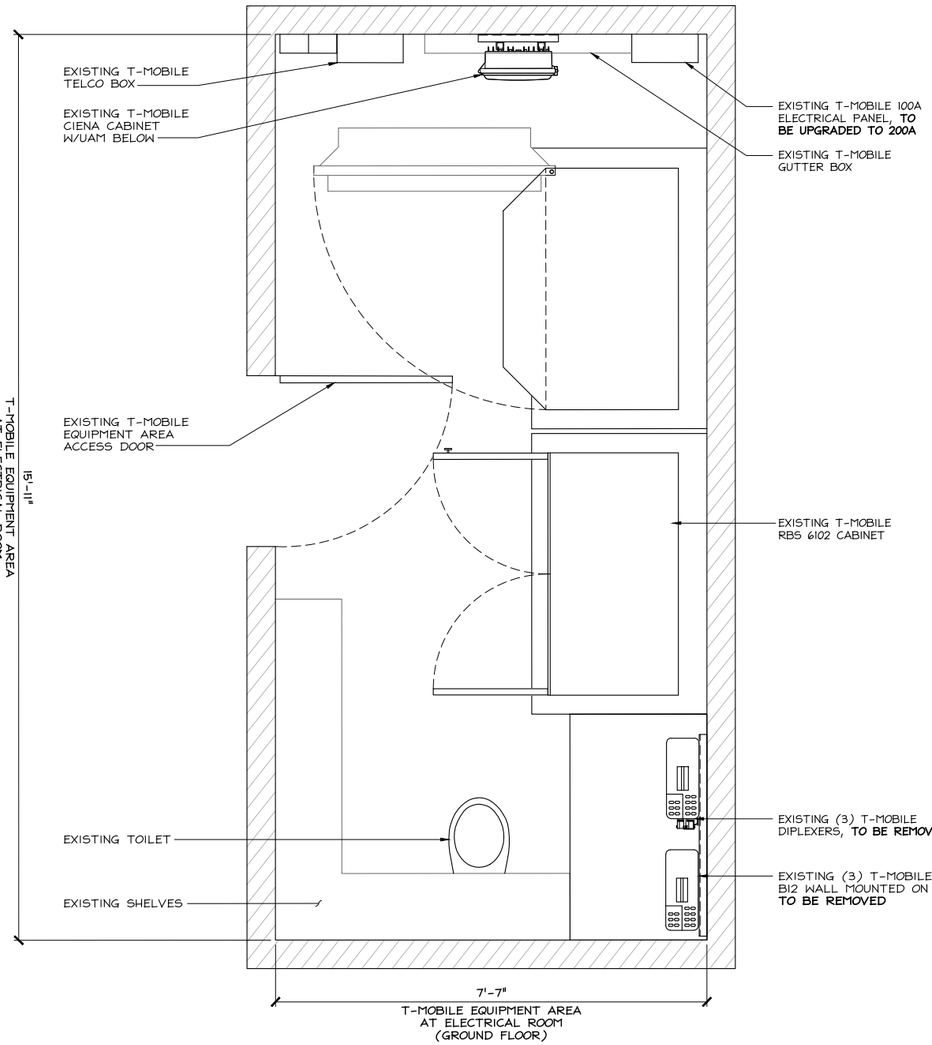
ELEVATIONS

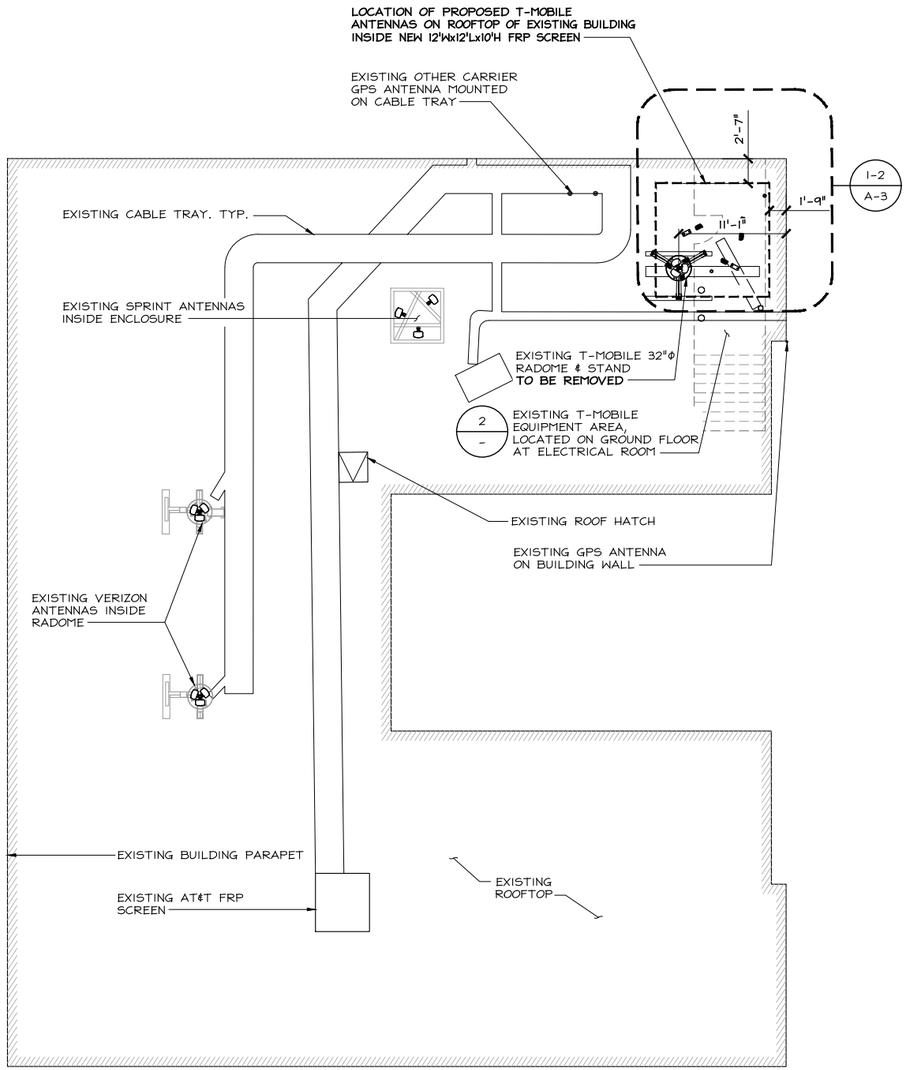
SHEET NUMBER

A-5

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT F





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

J5 INFRASTRUCTURE PARTNERS
AZ - CA - CO - ID - NM - NV - TX - UT
2030 MAIN STREET, STE 200
IRVINE, CALIFORNIA 92614

ALLSTATES ENGINEERING & SURVEYING
23675 BIRTCHER DRIVE
LAKE FOREST, CA 92630

PROJECT NO:	SF03143A
DRAWN BY:	MA
CHECKED BY:	SS

REV	DATE	DESCRIPTION	
0	07/18/2019	100% CD's FOR SUBMITTAL	SS
B	06/21/2019	100% CD's FOR APPROVAL	MA
A	04/13/2019	90% CD's FOR REVIEW	MA

REGISTERED PROFESSIONAL ENGINEER
WISSAM ZALZALI
71655
CIVIL
STATE OF CALIFORNIA

SF03143A
SF143 MARSH MADNESS
723 MARSH RD.
MENLO PARK, CA 94025
L600 PROJECT

SHEET TITLE
ROOF PLAN &
EQUIPMENT LAYOUT PLAN

SHEET NUMBER
A-2

EQUIPMENT LAYOUT PLAN

24"x36" SCALE: 3/4" = 1'-0"
11"x17" SCALE: 3/8" = 1'-0"
1' 6" 0" 1'

2

ROOF PLAN

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

1

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT G

COMTECH
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FEDERAL COMMUNICATIONS COMMISSION (FCC) COMPLIANCE STUDY ON ELECTROMAGNETIC FIELDS EXPOSURE

Prepared for:

T-Mobile

T-Mobile West LLC

Base Station SF03143A

SF143 MARSH MADNESS
723 MARSH ROAD
MENLO PARK
CA 94025

August 12th 2019

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www.comtech.ca

SITE DESCRIPTION:

Carrier:	T-Mobile
Site Address:	723 Marsh Road, Menlo Park, CA 94025
Type of Service:	i) GSM ii) UMTS iii) LTE
Sectors:	3 (0°, 120°, 240°)
Antenna Type:	RFS APXVAARR24_43-U-NA20 RFS APXVFWW18X-C-NA20
Number of Antennas:	6
Frequencies *(MHz)*:	i) 1900 ii) 1900 iii) AWS/700/600
Maximum Power *(ERP)*:	i) 354W ii) 354W iii) 9230/204/204W
Antenna Height:	34'±, 35'± *(radiation center AGL)*

Table 1. T-Mobile RF summary

T-Mobile is proposing to further enhance the LTE service for its wireless communication facility at the above noted address (Fig. 1). Three panel antennas inside a canister on the building roof will be removed. Six new antennas will be installed inside a new FRP screen at the same location.

Figure 1. Facility and surrounding area

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There are also existing wireless facilities with antennas shielded in enclosures mounted on the same rooftop. The RF information of the facilities for worst-case analysis is summarized as follows:

Carrier:	AT&T
Frequencies *(MHz)*:	i) LTE 700, ii) UMTS 850 iii) LTE 1900, iv) LTE AWS v) LTE WCS vi) UMTS 1900
Maximum Power *(ERP)*:	i) 1000 W, ii) 2000 W, iii) 3000 W, iv) 1500 W v) 2000 W vi) 2000W
Antenna Height:	33'± *(radiation center AGL)*

Table 2. AT&T RF summary

Carrier:	Sprint			
Frequencies *(MHz)*:	i) LTE 800	ii) PCS 1900	iii) LTE 1900	iv) LTE 2500
Maximum Power *(ERP)*:	i) 1000 W	ii) 2000 W	iii) 2000 W	iv) 2000 W
Antenna Height:	35'± *(radiation center AGL)*			

Table 3. Sprint RF summary

Carrier:	Verizon			
Frequencies *(MHz)*:	i) 700	ii) cellular 870	iii) PCS 1900	iv) AWS
Maximum Power *(ERP)*:	i) 1000 W	ii) 2000 W	iii) 2000 W	iv) 2000 W
Antenna Height:	35'± *(radiation center AGL)*			

Table 4. Verizon RF summary

The RF power density contributions due to the operation of these facilities will be included in the calculations of the maximum total RF exposure level.

PROTOCOL:

This study, and the calculations performed therein, is based on OET Bulletin 65[1] which adopts ANSI C95.1-1992 and NCRP standards. In particular, equation 10 from section 2 of the guideline is used as a model (in conjunction with known antenna radiation patterns) for calculating the power density at different points of interest. This information will be used to judge the RF exposure level incident upon the general population, and any employee present in the area. It should be noted that ground reflection of RF waves has been taken into account.

---

[1] Cleveland, Robert F, et al. Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields.. OET Bulletin 65, Edition 97-01, August 1997.

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FCC'S MAXIMUM PERMISSIBLE EXPOSURE (MPE) LIMIT:

In order to evaluate the RF exposure level, the power densities at different locations of interest have been examined. Equation 10 from Bulletin 65 is reproduced here as equation 1:

$$S = \frac{33.4\, F^2\, ERP}{R^2} \qquad (1)$$

Where: S = *Power density [μW/cm²]*
ERP = *Effective radiated power [W]*
R = *Distance [m]*
F = *Relative field factor (relative numeric gain)*

Scenario 1: Standing near the facility on street level

The RF exposure level of a six-foot tall person standing on ground level close to the building is evaluated. For worst-case scenario, we assume that all the antennas from each carrier within a sector are transmitting the maximum number of channels at the same time, with each channel at its maximum power level. The azimuths of the antennas are assumed to be in the direction of the studied location.

The Maximum Permissible Exposure (MPE) limit for 1900 MHz (PCS), and 2100 MHz (AWS) facilities [2] for general population/uncontrolled exposure is 1000μW/cm², 400μW/cm² for 600 MHz, and 467μW/cm² for 700 MHz facilities. The maximum cumulative power density in the surrounding area is calculated to be 11.3% of the MPE limit.

Scenario 2: Nearby buildings

There are various types of buildings in the surrounding area of the T-mobile facility. The RF exposure levels on these nearby buildings are evaluated. We assume again, the antennas are transmitting with maximum power level. The highest exposure level on a nearby building is calculated to be approximately 15% of the MPE limit.

Conclusions:

Under "worst-case" conditions, the calculations predict that the maximum RF exposure is 15% of the MPE limit for general population/uncontrolled exposure in the surrounding area of the facility.

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2 Ibid., page 67. are shown

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There is a relatively low level of RF energy directed either above or below the horizontal plane of the antennas, and there are no locations in the surrounding area near the T-Mobile facility will have RF exposure levels close to the MPE limit.

Scenario 3: *Facility rooftop*

Access to the roof is restricted to authorized personnel only. The radiation center of the T-Mobile antennas is approximately 6' from the roof deck. There are areas in front of the antenna assembly where a person may be partially exposed within the main beam path of an antenna. In this situation, the occupational/controlled exposure limits will apply, provided that the person has been made fully aware of the potential for the exposure.

Under worst-case circumstances, the calculated maximum power density will exceed the FCC occupational/controlled MPE limit if a person stands close to a T-Mobile antenna.

MITIGATION MEASURES:

Due to the mounting locations of the T-Mobile antennas, they would not be accessible to the general public. In order to establish access control, and raise awareness of RF exposure to a person who needs to work on the main roof, or near the antennas, control measures including the use of signage should be maintained:

- Notice: to provide information and notify workers that there are active antennas installed and provide guidelines for working in RF environments. It should be posted at the first point of access to the site.
- In Case of Emergency: to provide T-Mobile emergency contact information. It should also be posted at the first point of access to the site.
- Warning: to alert individuals that they are entering an area where the power density emitted from transmit antennas would exceed the FCC's maximum permissible exposure limit for the general public, or the occupational exposure limit. It should be posted near the antennas.

In order to ensure compliance with occupational exposure limitations, explanatory warning signs should be posted near the antennas on the FRP screen. They should be readily visible from any angle of approach to persons who might need to work near the antennas.

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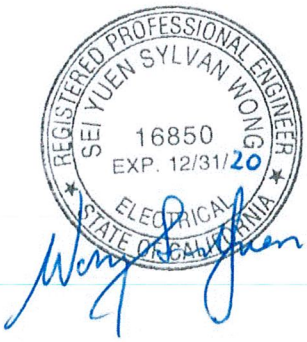
FCC COMPLIANCE:

Based on the information provided by J5 Infrastructure Partners and the analysis above, the proposed modifications to the T-Mobile facility at 723 Marsh Road, Menlo Park, California, will comply with the prevailing standards for public exposure limit on RF energy. The general population/uncontrolled exposure near the facility, including persons on ground level, in nearby open areas, and inside or on existing nearby buildings will have RF exposure much lower than the "worst-case" scenario, which is well below the MPE limit.



Sei Yuen Sylvan Wong, PE
California PE Reg. No. E 16850

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT H

Existing

Proposed

view from Fair Oaks Avenue looking northeast at site

T··Mobile·

SF03143A SF143 Marsh Madness
723 Marsh Road, Menlo Park, CA
Photosims Produced on 4-25-2019

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

Existing

Proposed

view from Marsh Road looking southwest at site

T··Mobile·

SF03143A SF143 Marsh Madness
723 Marsh Road, Menlo Park, CA
Photosims Produced on 4-25-2019

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

Existing

Proposed

view from 18th Avenue looking south at site

T··Mobile·

SF03143A SF143 Marsh Madness
723 Marsh Road, Menlo Park, CA
Photosims Produced on 4-25-2019

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507