



# MILPITAS PLANNING COMMISSION AGENDA REPORT

**PUBLIC HEARING**

Meeting Date: December 8, 2010

**APPLICATION:** **Conditional Use Permit No. UP09-0030 and Site Development Permit Amendment No. SA09-0011, T-Mobile Wireless Communication Facility**

**APPLICATION SUMMARY:** A request to locate a 35-foot tall monopole wireless telecommunication facility consisting of six panel antennae and associated ground mounted equipment.

**LOCATION:** 15 Wilson Way (APN: 022-01-011)  
**APPLICANT:** Leah Hernikl for T-Mobile, 1755 Creekside Oaks, Suite 190, Sacramento, CA 95833  
**OWNER:** John Petrafini, D&M Associates, P.O. Box 611827, San Jose, CA 95161

**RECOMMENDATION:** **Staff recommends that the Planning Commission: Adopt Resolution No. 10-046 approving the project subject to conditions of approval.**

**PROJECT DATA:**  
General Plan/  
Zoning Designation: Retail Sub Center (RSC)/Neighborhood Commercial (C1)  
Overlay District: Site and Architectural Overlay (-S)  
Specific Plan: N/A

Site Area: 2.46 Acre  
Proposed Equipment Enclosure Area: 240 square feet  
Proposed Monopole Height: 35-Feet

**CEQA Determination:** Categorically Exempt from further environmental review pursuant to Section 15301 (Existing Facilities) of the California Environmental Quality Act.

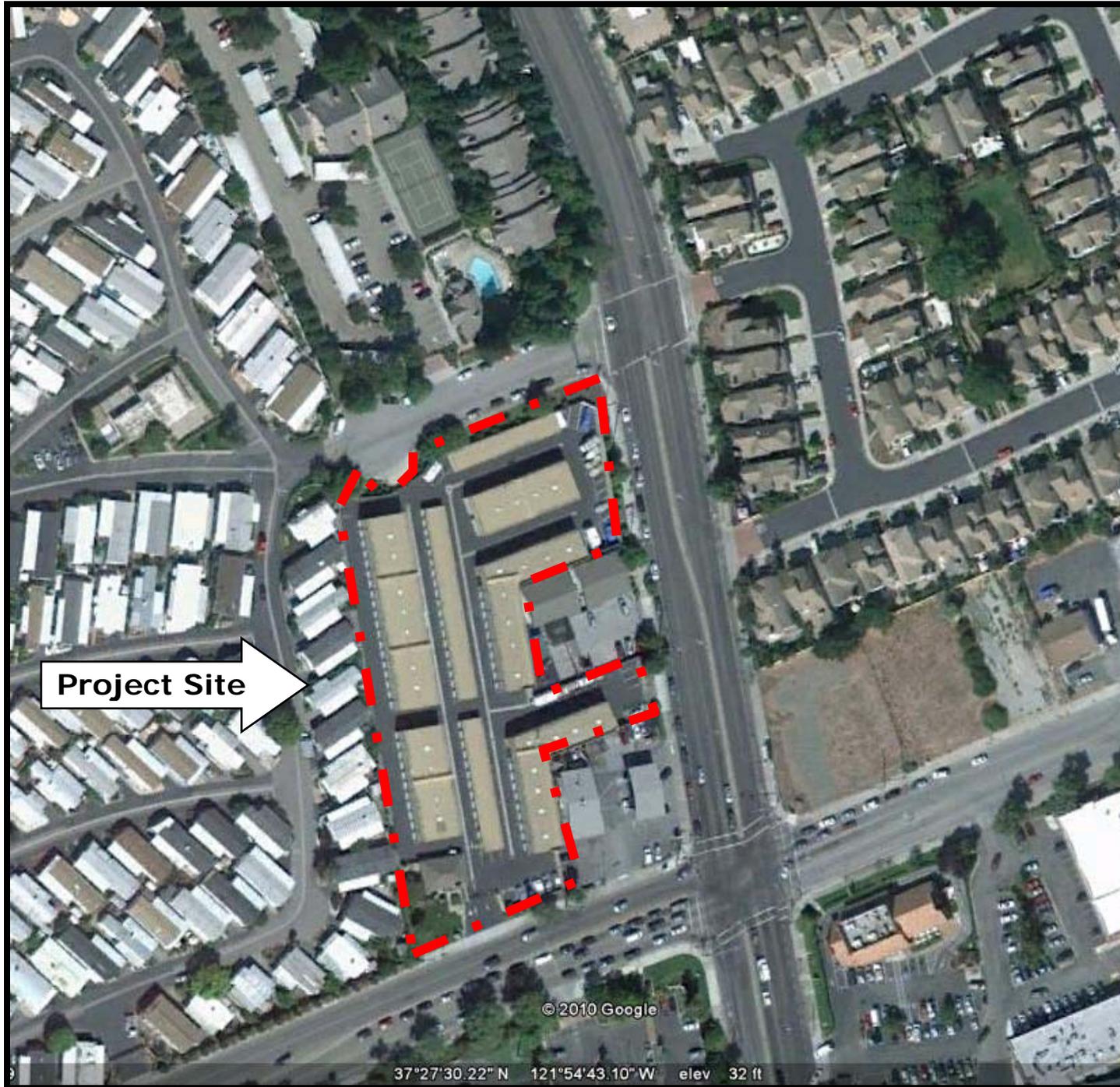
**PLANNER:** Cindy Hom, Assistant Planner

**PJ:** 2591

**ATTACHMENTS:**  
A. Resolution No. 10-046  
B. Project Plans  
C. Project Description

- D. Photo Simulations
- E. Telecommunication Questionnaire
- F. FFC License.
- G. Build Out Map
- H. Power Density Study

# LOCATION MAP



No scale

**BACKGROUND**

In November 1996, the Planning Commission approved a conditional use permit (UP No. 1370) for a wireless communication facility consisting of a 15-foot tall roof mounted pole with six panel antennae and installation of a new chain-link enclosure for associated equipment cabinets on a site developed with an existing mini-storage facility.

On June 19, 2009, Leah Hernikl, with T-Mobile, submitted a conditional use permit and site development permit amendment application to locate a new 35-foot tall wireless communication monopole that includes six new panel antennas that will be concealed within a 36-inch diameter radome and installation of associated ground mounted equipment with an 240 square foot enclosure. The application is submitted pursuant to Milpitas Municipal Code (MMC) XI-10-13.09 (Wireless Communication Facilities). Wireless communication facilities and structures that are not considered stealth by definition require Planning Commission review and approval.

**PROJECT DESCRIPTION**

The project site is a 2.45-acre parcel improved with eight one and two-story buildings, 25 parking spaces, landscaping, and 8-foot tall concrete block perimeter fence. The project site is bounded by Dixon Landing Road to the South, N. Milpitas Boulevard to the east, a mobile home park to the west, and multifamily homes to the north. Surrounding land uses consist of residential uses the west and north, a gas service station, preschool and commercial retail centers to the east and south. A vicinity map of the subject site location is included on the previous page.

*Development Standards*

**Table 1**  
**Development Standards**

	<i>Zoning Ordinance</i>	<i>Existing</i>	<i>Proposed</i>
<u>Setbacks</u> (Minimum)			
Front to Primary Structure	20'	47'	
Interior Side	15'	23'	
Street Side	0'	13'	
Rear	15'	61'	
<u>Lot Coverage</u> (Maximum)	None	35%	
<u>Floor Area Ratio</u> (Maximum)	.35	.59	.59
<u>Height Limit</u> (Maximum)	35'	18'	
<u>Telecommunication Monopole(s)</u>	May exceed height limit with CUP approval.	23'	35'
<u>Parking</u> (Minimum) may be discussed in T&C/P section below include additional table	14		

	<i>Zoning Ordinance</i>	<i>Existing</i>	<i>Proposed</i>
<u>Landscaping</u> (Minimum)	None	Front and Street frontage	Rehabilitate existing

#### Floor Area Ratio (FAR)

The existing FAR is a legal, nonconforming condition. At the time of Site and Architectural approval for the mini-storage facility, there was not an FAR limitation. Although, the project proposes to add 240 square feet of floor area, it is insignificant in that the FAR but would remain the same at 59%. The Milpitas Zoning Ordinance can allow for increases above the maximum FAR in any district with an approval of a conditional use permit provided the project can demonstrate that the proposed use will generate low peak-hour traffic and will not create a visual prominence. The primary use of the site is a mini-storage facility that generates low peak hour traffic. The height of the existing buildings is one and two stories which are in keeping with the height of surrounding buildings. The existing and proposed wireless telecommunication facility consist of equipment installations that do not require any parking and would not create a visual prominence in that the structure are within the maximum light limit and are painted to match the buildings.

#### Architecture

The mini-storage facility consists of rectangle shaped buildings that are one or two stories tall. The storage buildings consist of precast concrete block walls with plywood siding and trim with a flat roof. The caretaker's unit consists of a typical residential design with a hipped wood shake roof and vertical siding walls to match and complement the other storage buildings.

#### Aesthetics

Given the existing flat roof and architectural theme of the buildings, there were no opportunities to incorporate a stealth design that would not detract from the existing architecture or introduce a new visual impact on N. Milpitas Boulevard or Dixon Landing Road street frontages with a tree or flag monopole alternative due to the proposed height that meets the project's objectives of providing adequate service.

Currently, there is an existing wireless communication facility (Sprint PCS) that is a monopole facility mounted on the roof of a storage building. The proposed project would mimic this existing condition with a new monopole installation. However, the proposed T-Mobile facility would be concealed within a 36-inch diameter radome that would be painted to match the building. Furthermore, the proposed chain link equipment shelter is located behind the 8-foot tall perimeter wall and will not be visible from public view.

#### Landscaping

Because of some limitations in the design of the facility, staff and the applicant looked at landscaping opportunities to enhance the site in a manner that offset the visual impacts of the project. Based on staff site visit, the landscaping along the N. Milpitas Boulevard and Wilson Way street frontage is very sparse and limited to low lying shrubbery. The applicant proposes to enhance these two street frontages with new landscaping and irrigation that would improve the aesthetics at this major gateway intersection into the city. The project proposes nine 24-inch box Dwarf Carolina Cherry trees, additional shrubbery consisting of Dwarf Bottlebruck and Dwarf Black Pittosporum shrubs, Star

Jasmine ground cover, and Creeping Fig vines that would soften the existing 8-foot concrete wall at the pedestrian level. Staff recommends as a condition of approval that the applicant install all landscaping and irrigation as shown on plans dated October 23, 2010 prior to building permit final.

Parking

There are currently 25 on-site parking spaces. The project would remove three parking spaces to accommodate the proposed 240 square foot equipment enclosure. The remaining 22 parking spaces on-site satisfy the 14 parking spaces that are required for the mini-storage facility and care-taker’s unit.

Circulation

The project proposes no changes to site circulations. Primary vehicle access into the site is provided by a two-way driveway on Dixon Landing Road. There are two other driveways, however, they are use for emergency vehicle access only and are located on N. Milpitas Blvd. and Wilson Way. Internal circulation consists of 20-foot drive aisles between buildings.

**ADOPTED PLANS AND ORDINANCES CONSISTENCY**

**General Plan**

The table below outlines the project’s consistency with applicable General Plan Guiding Principles and Implementing Policies:

**Table 2**  
**General Plan Consistency**

<b>Policy</b>	<b>Consistency Finding</b>
<p><b><i>Implementing Policies 2.a-G-1</i></b> <i>Maintains land use program that balances Milpitas’s regional and local roles by providing a highly amendable community environment and a thriving regional industrial center.</i></p>	<p>Consistent. By providing for alternate telecommunications services for commercial and personal business without creating aesthetic disharmony, it promotes a highly amenable community environment.</p>
<p><b><i>Implementing Policy 2.a-I-3</i></b> <i>Encourage economic pursuits which will strengthen and promote development through stability and balance.</i></p>	<p>Consistent. The project would encourage economic pursuits that will strengthen and promote development through stability and balance by enabling T-Mobile to provide improved coverage, which helps promote their service within the City and benefits T-Mobile customers.</p>

**Zoning Ordinance**

Federal law preserves the City’s authority to regulate the placement, construction, and modification of personal wireless service facilities, so long as such regulations do not impose a blanket prohibition on the construction of such facilities or intrude into the regulation of radio frequency emissions, which are

the sole province of the Federal Communications Commission and certain state regulations. Thus, the City has the power to conduct a limited review of wireless communication facilities for compliance with zoning and land use requirements. (47 U.S.C. 332((c)(7)(A).) Here, the proposed project complies with the City's Zoning Ordinance. Wireless telecommunications facilities are conditional uses in all zoning districts. The project is also consistent with the development standards for the Neighborhood Commercial Zone.

The project is not anticipated to create any negative impacts to surrounding land uses in terms of noise, odors, or radio frequency emissions. The proposed facility will not create a negative visual impact or detract from the existing architecture in that the equipment cabinet will be screened behind the mechanical screen and the panel antennas and microwave dishes will be painted to match the building.

### ***Radio Frequency Emissions***

The City is prohibited by federal law from regulating the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of RF emissions to the extent the facilities comply with the Federal Communications Commission's (FCC) regulations concerning such emissions. (47 U.S.C. 332(c)(7)(B)(iv).

The FCC has established guidelines that place limits on human exposure to RF fields generated by personal wireless service facilities. These guidelines have been endorsed by the U.S. Environmental Protection Agency and the Food and Drug Administration. The FCC requires all personal wireless facilities to comply with these guidelines.

T-Mobile facility would operate between 1920 to 1960 MHz on a PCS network. The site will accommodate one channel per sector with three sectors for an effective radiated power level of approximately 2,490 watts. The RF emissions from the proposed facility will be at a level of .32% of the applicable public exposure limit. The operations of both carriers are calculated at 1.8% of the public exposure limit. The project would operate within the FCC limits for RF emissions.

### **ENVIRONMENTAL REVIEW**

The Planning Division conducted an initial environmental assessment of the project in accordance with the California Environmental Quality Act (CEQA). Staff determined that the project is categorically exempt from further environmental review pursuant to Section 15301 (Existing Facilities) of the California Environmental Quality Act in that the project is a negligible expansion beyond the existing use. The project would also be categorically exempt under Section 15303 (New Construction or Conversion of Small Structures). The roof top already houses other wireless telecommunication facilities and the new equipment cabinet would be placed inside an existing communications and industrial equipment enclosure area.

### ***Conclusion***

The proposed facility will help provide for a reliable high speed wireless network that will enable businesses and individuals to access to the internet. The project will not be detrimental to public health or safety of persons working or residing in the neighborhood or materially injurious to public improvements and private properties in that it does not generate traffic, objectionable levels of noise, odors, or dust. The facility falls significantly below all state and federal regulations for emission of non-ionizing radiation.

**RECOMMENDATION**

**STAFF RECOMMENDS THAT** the Planning Commission adopt Resolution No. 10-046 approving Conditional Use Permit No. UP09-0030 and Site Development Permit Amendment No. SA09-0011, T-Mobile, subject to the attached Conditions of Approval.

*Attachments:*

- A. Resolution/Conditions of Approval
- B. Project Plans
- C. Project Description
- D. Photo Simulations
- E. Telecommunication Questionnaire
- F. FFC License.
- G. Build Out Map
- H. Power Density Study

**RESOLUTION NO. 010-046**

**A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF MILPITAS, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT NO. UP09-0030 AND SITE DEVELOPMENT PERMIT AMENDMENT NO. SA09-0011, T-MOBILE COMMUNICATIONS LLC, A REQUEST TO A WIRELESS TELECOMMUNICATION FACILITY AT AN EXISTING STORAGE FACILITY AT 15 WILSON WAY.**

**WHEREAS**, on June 19, 2009, a conditional use permit application was submitted by Leah Hernikl for T-Mobile Communications LLC, to locate a wireless telecommunication facility on an existing storage facility located at 15 Wilson Way (APN 22-01-011). The property is located within the Neighborhood Commercial Zoning District; and

**WHEREAS**, the Planning Division completed an environmental assessment for the project in accordance with the California Environmental Quality Act (CEQA), and recommends that the Planning Commission determine this project is categorically exempt; and

**WHEREAS**, on December 8, 2010, the Planning Commission held a duly noticed public hearing on the subject application, and considered evidence presented by City staff, the applicant, and other interested parties.

**NOW THEREFORE**, the Planning Commission of the City of Milpitas hereby finds, determines and resolves as follows:

**Section 1:** The recitals set forth above are true and correct and incorporated herein by reference.

**Section 2:** The project is categorically exempt from further environmental review pursuant to Class 1, Section 15301 (Existing Facilities) and Class 3, Section 15303 (New Construction or Conversion of Small Structures) in that the project entails a negligible expansion of telecommunication uses beyond those currently in existence at the project site. The project site has an existing wireless telecommunication facility that includes an existing roof mounted monopole with panel antennas and equipment enclosure area to an existing storage facility. The project would also co-locate with the existing Sprint PCS facility.

**Section 3:** The project is consistent with the Milpitas General Plan in that the project provides updated technology that improves wireless service that supports surrounding businesses, residents, and facilitates communication.

**Section 4:** The project conforms to the Milpitas Zoning Ordinance in that the project is permitted in the Neighborhood Commercial District with a conditional use permit. The project complies with the development standards in terms setbacks and height. No additional parking is required considering the facility will be unmanned.

**Section 5:** The project will not be injurious or detrimental to property, improvements or to public health and safety in that it will not generate noise, odors, and will be within the

allowable radio frequency emissions threshold under federal law. The proposed facility will not create a negative visual impact or detract from the existing architecture in that the proposed wireless telecommunication facility will be screened within a 36-inch radome and the site will be enhanced with new landscaping.

**Section 6:** The Planning Commission of the City of Milpitas hereby approves Conditional Use Permit No. UP09-0030 and Site Development Permit Amendment No. SA09-0011, T-Mobile, subject to the above Findings, and Conditions of Approval attached hereto as Exhibit 1.

**PASSED AND ADOPTED** at a regular meeting of the Planning Commission of the City of Milpitas on December 8, 2010

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Chair

**TO WIT:**

**I HEREBY CERTIFY** that the following resolution was duly adopted at a regular meeting of the Planning Commission of the City of Milpitas on December 8, 2010, and carried by the following roll call vote:

<b>COMMISSIONER</b>	<b>AYES</b>	<b>NOES</b>	<b>ABSENT</b>	<b>ABSTAIN</b>
Cliff Williams				
Lawrence Ciardella				
Steve Tao				
Sudhir Mandal				
Gurdev Sandhu				
Noella Tabladillo				
Mark Tiernan				
John Luk				

**EXHIBIT 1**

**CONDITIONS OF APPROVAL  
CONDITIONAL USE PERMIT NO. UP09-0030 and SITE DEVELOPMENT PERMIT  
AMENDMENT NO. SA09-0011, T-MOBILE COMMUNICATIONS LLC.**

**Planning Division**

1. The owner or designee shall develop the approved project in conformance with the plans approved by the Planning Commission on December 8, 2010, in accordance with these Conditions of Approval.

Any deviation from the approved site plan, floor plans, elevations, materials, colors, landscape plan, or other approved submittal shall require that, prior to the issuance of building permits, the owner or designee shall submit modified plans and any other applicable materials as required by the City for review and obtain the approval of the Planning Director or Designee. If the Planning Director or designee determines that the deviation is significant, the owner or designee shall be required to apply for review and obtain approval of the Planning Commission, in accordance with the Zoning Ordinance.

2. Conditional Use Permit No. UP09-0030 and Site Development Permit Amendment No. SA09-0011 shall become null and void if the project is not commenced within 18 months from the date of approval, pursuant to Section 64.06(2) of the Zoning Ordinance of the City of Milpitas. If the project requires the issuance of a building permit, the project shall be deemed to have commenced when the date of the building permit is issued and/or a foundation is completed, if a foundation is a part of the project. If the project does not require the issuance of a building permit, the project shall be deemed to have commenced when dedication of any land or easement is required or complies with all legal requirements necessary to commence the use, or obtains an occupancy permit, whichever is sooner.

Pursuant to Section 64.06(1), the owner or designee shall have the right to request an extension of Conditional Use Permit No. UP09-0030 and Site Development Permit Amendment No. SA09-0011 if said request is made, filed and approved by the Planning Commission prior to expiration dates set forth herein.

3. The project shall be operated in accordance with all local, state and federal regulations.
4. The radome shall be painted to match the building. Building permit plans shall indicate the existing building materials and colors to ensure consistency and compatibility with proposed materials and colors.
5. Associated mechanical equipment shall be fully shielded behind a screen wall and shall not be visible from any surrounding worst-case view points.
6. Prior to building permit final, the applicant shall install all landscaping and irrigation as shown on approved plans dated December 8, 2010.
7. Landscaping and irrigation shall be maintained in perpetuity.

8. If at the time of application for building permit or at the time of certificate of occupancy there is a project job account balance due to the city for recovery of review fees, review of permits or any permit issuance shall be commenced or issued until the balance is paid in full.

T-MOBILE WEST CORPORATION



1755 CREEKSIDE OAKS SUITE 190  
SACRAMENTO, CA 95833

LOCK IT UP STORAGE

BA52677

ATTACHMENT B

LOCK IT UP STORAGE

BA52677

15 DIXON LANDING RD  
(AKA 60 WILSON WAY)  
MILPITAS, CA 95035

ISSUE STATUS

Δ	DATE	DESCRIPTION	BY
	05-06-09	ZD 90%	-
	08-31-09	ZD 100%	-
	12-02-09	ZD 100%	CL
	04-06-10	ZD 100%	CL
	10-18-10	ZD 100%	CL
	-	-	-

DRAWN BY: K. SANSONO

CHECKED BY: L. HOUGHTBY

APPROVED BY: M. FLEMING

DATE: 10-18-10

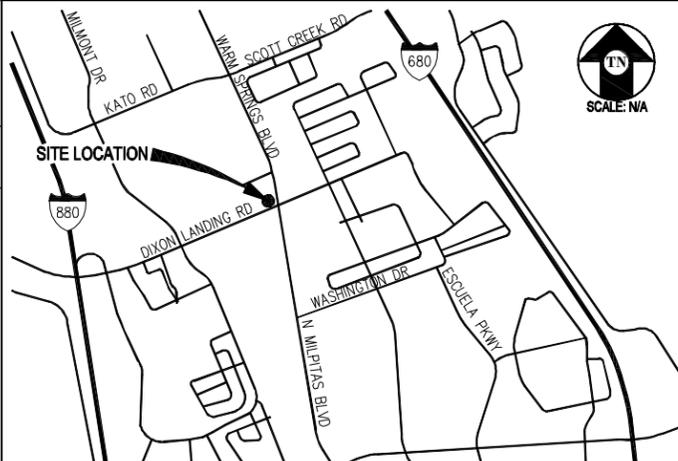
Streamline Engineering and Design, Inc.  
3288 Penryn Rd, Suite 200 Loomis, CA 95660  
Contact: Larry Houghtby Phone: 916-275-4180  
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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PROJECT DESCRIPTION

A (P) UNMANNED TELECOMMUNICATION FACILITY CONSISTING OF A (P) 15'X16' LEASE AREA W/ (4) (P) EQUIPMENT CABINETS & (6) (P) ANTENNAS IN A (P) Ø36" RADOME PAINTED TO MATCH (E) BUILDING.

VICINITY MAP



CODE COMPLIANCE

ALL WORK & MATERIALS SHALL BE PERFORMED & INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

- 2007 CALIFORNIA ADMINISTRATIVE CODE (INCL. TITLES 24 & 25)
- 2007 CALIFORNIA BUILDING CODE
- 2007 CALIFORNIA ELECTRICAL CODE
- 2007 CALIFORNIA MECHANICAL CODE
- 2007 CALIFORNIA PLUMBING CODE
- 2007 CALIFORNIA FIRE CODE
- LOCAL BUILDING CODES
- CITY/COUNTY ORDINANCES
- ANSI/EIA-TIA-222-F

ALONG WITH ANY OTHER APPLICABLE LOCAL & STATE LAWS AND REGULATIONS

HANDICAP REQUIREMENTS

THIS FACILITY IS UNMANNED & NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS & REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA STATE ADMINISTRATIVE CODE, TITLE 24 PART 2, SECTION 1105B.3.4.2, EXCEPTION 1

PROJECT INFORMATION

SITE NAME: LOCK IT UP STORAGE SITE #: BA52677  
 COUNTY: SANTA CLARA JURISDICTION: CITY OF MILPITAS  
 APN: 022-01-011 POWER: PG&E  
 SITE ADDRESS: 15 DIXON LANDING RD (AKA 60 WILSON WAY) MILPITAS, CA 95035 TELEPHONE: AT&T  
 CURRENT ZONING: CI NEIGHBORHOOD/COMMERCIAL  
 CONSTRUCTION TYPE: II  
 OCCUPANCY TYPE: U  
 PROPERTY OWNER: JOHN PETRAFINI D&M ASSOCIATES PO BOX 611827 SAN JOSE, CA 95161  
 APPLICANT: T-MOBILE 1755 CREEKSIDE OAKS SUITE 190 SACRAMENTO, CA 95833  
 LEASING CONTACT: ATTN: LORRIE BILLALON (510) 825-8889  
 ZONING CONTACT: ATTN: LEAH HERNIKL (408) 799-1182  
 CONSTRUCTION CONTACT: ATTN: JORDAN ABAD (206) 351-4009  
 LATITUDE: N 37°27'28.24" NAD 83  
 LONGITUDE: W 121°54'44.06" NAD 83  
 AMSL: ±30.7'

DRIVING DIRECTIONS

- FROM: 1755 CREEKSIDE OAKS SUITE 190, SACRAMENTO, CA 95833  
 TO: 15 DIXON LANDING RD, MILPITAS, CA 95035
- HEAD EAST ON CREEKSIDE OAKS DR TOWARD MILLCREEK DR 0.1 MI
  - TURN LEFT AT MILLCREEK DR 0.3 MI
  - TURN LEFT AT W EL CAMINO AVE 0.6 MI
  - TAKE THE RAMP ONTO I-5 S 2.9 MI
  - TAKE THE US-50/CA-99/I-80 BUS EXIT TOWARD SAN FRANCISCO/FRESNO 0.4 MI
  - KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-80/SAN FRANCISCO AND MERGE ONTO I-80 BUS W/US-50 W 3.6 MI
  - CONTINUE ON I-80 W 41.1 MI
  - TAKE EXIT 40 TO MERGE ONTO I-680 S TOWARD SAN JOSE/BENICIA 60.7 MI
  - TAKE EXIT 10 FOR SCOTT CREEK RD 0.2 MI
  - KEEP RIGHT AT THE FORK TO CONTINUE TOWARD SCOTT CREEK RD AND MERGE ONTO SCOTT CREEK RD 0.5 MI
  - TURN LEFT AT N MAIN ST/WARM SPRINGS BLVD, CONTINUE TO FOLLOW N MAIN ST 0.4 MI
  - TURN RIGHT AT DIXON LANDING RD, DESTINATION WILL BE ON THE RIGHT 46 FT
- END AT 15 DIXON LANDING RD, MILPITAS, CA 95035  
 ESTIMATED TIME: 1 HOUR 40 MINUTES ESTIMATED DISTANCE: 111 MILES

SHEET INDEX

SHEET	DESCRIPTION	REV
T-1	TITLE	-
LS-1	TOPOGRAPHIC SURVEY	-
A-1	OVERALL SITE PLAN	-
A-2	SITE PLAN	-
A-3	EQUIPMENT PLAN & DETAILS	-
A-4	ANTENNA PLAN & DETAIL	-
A-5	ELEVATIONS	-
L-1	IRRIGATION PLAN	-
L-2	IRRIGATION PLAN	-
L-3	IRRIGATION DETAILS	-
L-4	IRRIGATION SPECIFICATIONS	-
L-5	PLANTING PLAN	-
L-6	PLANTING PLAN	-
L-7	PLANTING DETAILS	-
L-8	PLANTING SPECIFICATIONS	-

APPROVAL

RF
LEASING
ZONING
CONSTRUCTION
T-MOBILE

T-MOBILE WEST CORPORATION

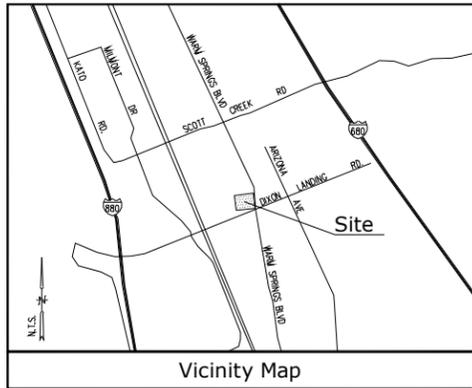
1755 CREEKSIDE OAKS SUITE 190  
SACRAMENTO, CA 95833

SHEET TITLE:

TITLE

SHEET NUMBER:

T-1



### Title Report

PREPARED BY: NORTH AMERICAN TITLE COMPANY  
 ORDER NO.: 56901-927019-09  
 DATED: APRIL 07, 2009

### Legal Description

REAL PROPERTY IN THE CITY OF MILPITAS, COUNTY OF SANTA CLARA, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS DISTANT NORTH 8°56'14" WEST 526.764 FEET FROM THE INTERSECTION OF THE WESTERLY LINE OF MAIN STREET, ALSO KNOWN AS MILPITAS-WARM SPRINGS STATE HIGHWAY, WITH THE NORTHERLY LINE OF DIXON LANDING ROAD (40.00 FEET IN WIDTH) AS SAID MAIN STREET AND DIXON LANDING ROAD ARE SHOWN UPON THAT CERTAIN MAP ENTITLED, "RECORD OF SURVEY FOR PIONEER PARKS, INC.", WHICH MAP WAS FILED FOR RECORD IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA, ON APRIL 24, 1962 IN BOOK 146 OF MAPS, AT PAGE 8, SAID POINT BEING THE EASTERMOST CORNER OF THAT CERTAIN 20.809 ACRE TRACT OF LAND SHOWN AS PARCEL 1 ON THE RECORD OF SURVEY MAP ABOVE REFERRED TO; THENCE ALONG THE BOUNDARY LINE OF SAID PARCEL 1 FOR THE TWO FOLLOWING COURSES AND DISTANCES; SOUTH 67°32'32" WEST 308.107 FEET TO A 3/4 INCH PIPE AND SOUTH 8°56'14" EAST, 501.084 FEET TO THE FUTURE NORTHERLY LINE OF DIXON LANDING ROAD (PROPOSED WITH 90.00 FEET); THENCE ALONG SAID FUTURE NORTHERLY LINE OF SAID DIXON LANDING ROAD, ALONG THE ARC OF A CURVE TO THE RIGHT FROM A TANGENT WHICH BEARS N67°52'32"E, WITH A RADIUS OF 4219.95 FEET, THROUGH A CENTRAL ANGLE OF 2°03'29" FOR AN ARC DISTANCE OF 151.58 FEET; THENCE CONTINUING ALONG SAID FUTURE NORTHERLY LINE OF DIXON LANDING ROAD NORTH 69°58'01" EAST, 8.35 FEET TO THE SOUTHWESTERLY CORNER OF THAT CERTAIN 0.399 ACRE PARCEL OF LAND DESCRIBED AS PARCEL 1 IN THE DEED DATED JUNE 11, 1965 AND RECORDED JULY 2, 1965 IN BOOK 7018 OF OFFICIAL RECORDS, PAGE 302 FROM BARRY SPIVAK, ET AL, TO GULF OIL CORPORATION OF CALIFORNIA A DELAWARE CORPORATION; THENCE NORTH 8°56'14" WEST ALONG THE WESTERLY LINE OF SAID PARCEL 1 AS DESCRIBED IN SAID DEED OF GULF OIL CORPORATION, 140.00 FEET TO THE NORTHWESTERLY CORNER THEREOF; THENCE NORTH 69°58'01" EAST, 127.00 FEET TO THE

NORTHEASTERLY CORNER THEREOF; SAID POINT BEING DISTANT WESTERLY 52.00 FEET AT RIGHT ANGLES FROM THE CENTER LINE OF MAIN STREET; THENCE NORTH 8°56'14" WEST FOR A DISTANCE OF 60.19 FEET TO THE SOUTHEASTERLY CORNER OF THAT CERTAIN PARCEL OF LAND DESCRIBED IN PARCEL 1 IN DEED DATED DECEMBER 28, 1965 AND RECORDED JANUARY 6, 1966 IN BOOK 7238 OF OFFICIAL RECORDS, AT PAGE 688 FROM PATTER P. BOLLINGER, ET AL TO E.F. HUGHES, ET UX; THENCE SOUTH 69°56'00" WEST ALONG THE SOUTHERLY LINE OF SAID LAND DESCRIBED AS PARCEL 1 IN SAID DEED TO HUGHES, 127.00 FEET TO THE SOUTHWESTERLY CORNER THEREOF; THENCE NORTH 8°56'14" WEST ALONG THE WESTERLY LINE OF SAID PARCEL 1 IN SAID DEED TO HUGHES, 110.00 FEET TO THE NORTHWESTERLY CORNER THEREOF; THENCE NORTH 69°56'00" EAST ALONG THE NORTHERLY LINE OF SAID LAST MENTIONED DEED 127.00 FEET TO THE NORTHEASTERLY CORNER THEREOF; THENCE NORTH 81°03'00" EAST FOR A DISTANCE OF 19.00 FEET TO A POINT ON THE WESTERLY LINE OF SAID MAIN STREET; SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF SAID LAND DESCRIBED AS PARCEL 2 IN THE LAST ABOVE MENTIONED DEED; THENCE NORTH 8°56'14" WEST ALONG SAID WESTERLY LINE OF MAIN STREET FOR A DISTANCE OF 204.151 FEET.

EXCEPTING THEREFROM ALL THAT PORTION THEREOF AS CONVEYED TO THE CITY OF MILPITAS, A MUNICIPAL CORPORATION, BY DEED DATED MAY 17, 1962 AND RECORDED MAY 20, 1963 IN BOOK 6030 OF OFFICIAL RECORDS, AT PAGE 122.  
 ALSO EXCEPTING THEREFROM ALL THAT PORTION THEREOF AS GRANTED TO THE CITY OF MILPITAS, A MUNICIPAL CORPORATION, BY DEED RECORDED APRIL 25, 1963 IN BOOK 1498, PAGE 184, OFFICIAL RECORDS.

### Assessor's Parcel No.

022-001-011

### Easements

(6) EASEMENT TO MILPITAS SANITARY DISTRICT FOR SEWER PIPELINES RECORDED DECEMBER 4, 1962 IN BOOK 5815, PAGE 515, D.R. (PLOTTED HEREON)

### Access Route/Lease Area/Utility Easement

ACCESS ROUTE:  
 BEING A STRIP OF LAND 12.00 IN WIDTH, WITHIN PORTION OF PARCEL 1 AS SHOWN ON RECORD OF SURVEY FILED IN BOOK 146, PAGE 8 IN THE OFFICE OF THE COUNTY RECORDER OF ALAMEDA COUNTY, STATE OF CALIFORNIA, LYING 6.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCING AT THE CENTERLINE INTERSECTION OF DIXON LANDING ROAD AND MAIN STREET AS SHOWN ON SAID RECORD OF SURVEY; THENCE ALONG THE CENTERLINE OF SAID MAIN STREET N08°58'05"W 198.45 FEET; THENCE S81°01'55"W 62.00 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY OF SAID MAIN STREET AND TO THE POINT OF BEGINNING; THENCE S69°54'10"W 23.62 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 10.00 FEET; THENCE NORTHWESTERLY 17.66 FEET ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 101°11'05"; THENCE N08°54'45"W 16.88 FEET; THENCE N70°10'00", 6.11 FEET TO A POINT HEREAFTER REFERRED TO AS POINT "A" AND THE END OF SAID STRIP.

THE SIDELINES OF SAID STRIP SHOULD BE PROLONGED OR SHORTENED TO SAID WESTERLY RIGHT-OF-WAY OF MAIN STREET.

### LEASE AREA:

BEGINNING AT POINT "A" AS DESCRIBED ABOVE; THENCE N08°54'45"W 7.51 FEET; THENCE N70°10'00"E 16.04 FEET; THENCE S08°54'45"E 15.02 FEET; THENCE S70°10'00"W 14.37 FEET TO A POINT HEREAFTER REFERRED TO AS POINT "B"; THENCE CONTINUING S70°10'00"W 0.14 FEET TO A POINT HEREAFTER REFERRED TO AS POINT "C"; THENCE CONTINUING S70°10'00"W 1.53 FEET; THENCE N08°54'45"W 7.51 FEET TO THE POINT OF BEGINNING.

CONTAINING 236 SQUARE FEET OF LAND, MORE OR LESS.

### UTILITY EASEMENTS:

BEING 2 STRIPS OF LAND 30.00 FEET IN WIDTH, LYING 1.5 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINES:

STRIP 1:  
 BEGINNING AT POINT "B"; THENCE S45°37'30"W 35.64 FEET TO THE END OF SAID STRIP.

STRIP 2:  
 BEGINNING AT POINT "C" AS DESCRIBED ABOVE; THENCE S08°54'45"E 1.53 FEET; THENCE N70°10'00"E 12.99 FEET; THENCE S08°54'45"E 6.26 FEET; THENCE N84°09'08"E 5.72 FEET TO THE END OF SAID STRIP.

### Date of Survey

MAY 1, 2009

### Basis of Bearings

THE STATE PLANE COORDINATE SYSTEM OF 1983 (NAD 83), CALIFORNIA ZONE 1.

### Bench Mark

THE CALIFORNIA SPATIAL REFERENCE CENTER C.O.R.S. "MONB", ELEVATION = 2569.07 FEET (NAVD 88).

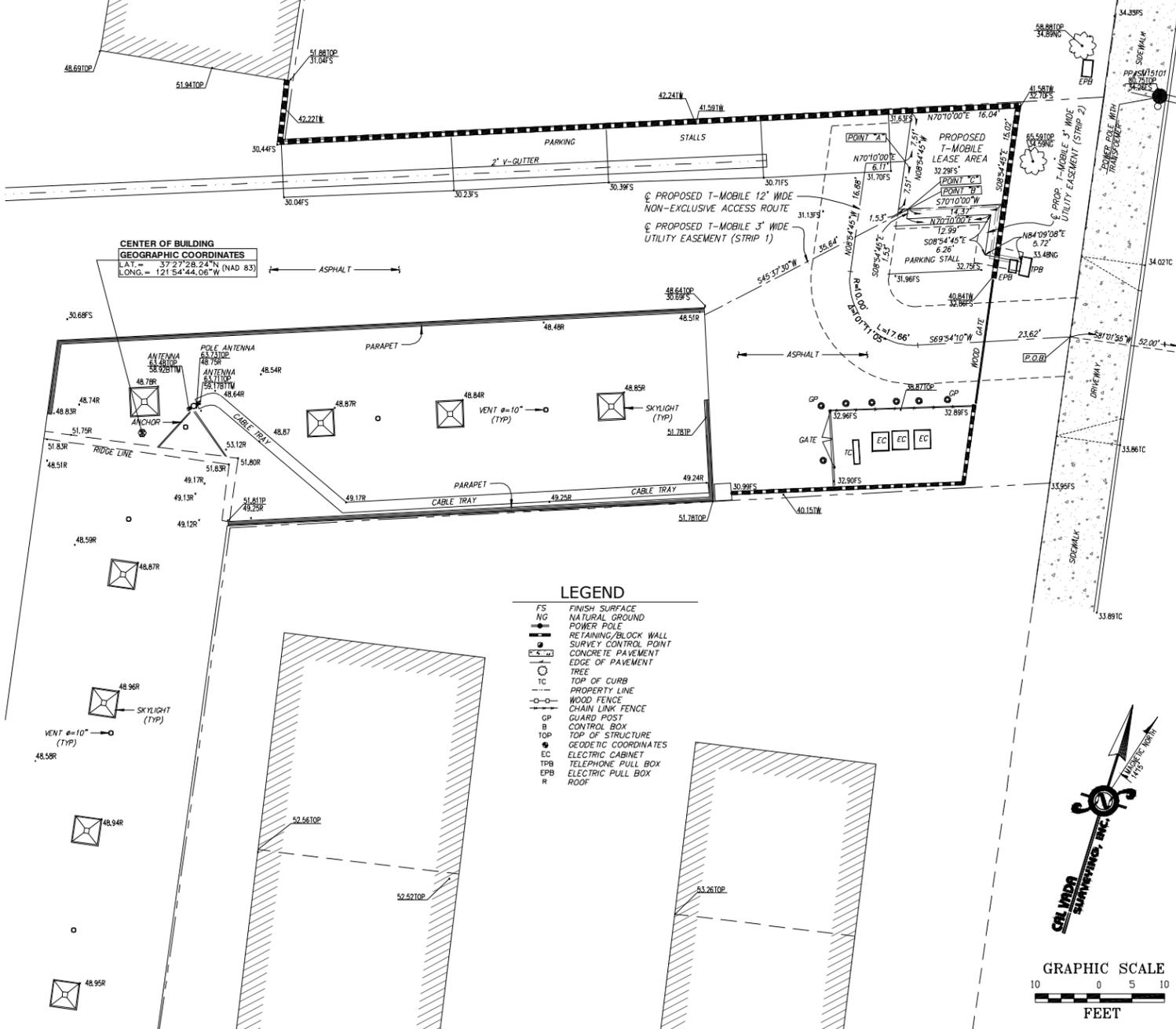
### Geographic Coordinates at Building

1983 DATUM, LATITUDE 37° 27' 28.24" N, LONGITUDE 121° 54' 44.06" W, ELEVATION = 50.7 FEET ABOVE MEAN SEA LEVEL.

CERTIFICATION:  
 THE LATITUDE AND LONGITUDE SHOWN ABOVE ARE ACCURATE TO WITHIN +/- 15 FEET HORIZONTALLY AND THAT THE ELEVATIONS SHOWN ABOVE ARE ACCURATE TO WITHIN +/- 3 FEET VERTICALLY. THE HORIZONTAL DATUM (GEOGRAPHIC COORDINATES) IS IN TERMS OF THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND IS EXPRESSED IN DEGREES (°), MINUTES (') AND SECONDS ("). TO THE NEAREST HUNDREDTH OF A SECOND. THE VERTICAL DATUM (ELEVATIONS) IS IN TERMS OF THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND IS DETERMINED TO THE NEAREST TENTH OF A FOOT.

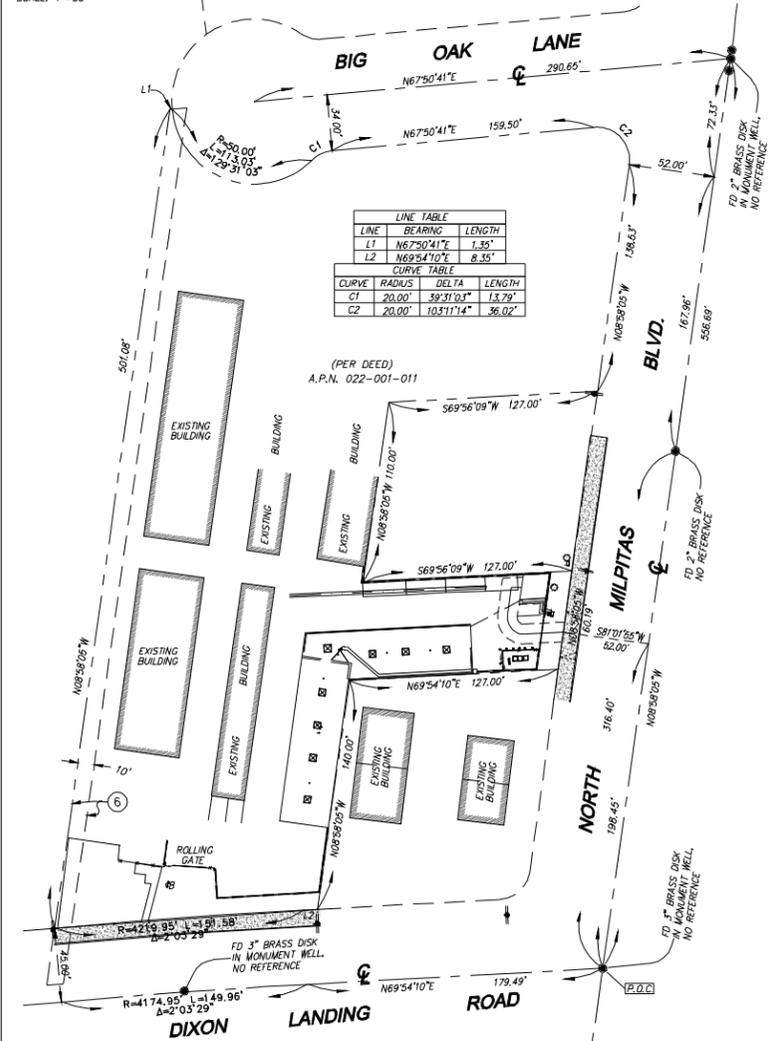
### Overall Site Detail

SCALE: 1"=10'



### Boundary Detail

SCALE: 1"=50'



**T-Mobile**  
 Stick Together  
 1755 CREEKSIDE OAKS SUITE 190  
 SACRAMENTO, CA 95833

PLANS PREPARED BY:

CONSULTING GROUP:

**CAL VADA**  
**SURVEYING, INC.**  
 411 Jenks Cir., Suite 205, Corona, CA 92880  
 Phone: 951-280-9960 Fax: 951-280-9748  
 Toll Free: 800-CALVADA www.calvada.com  
 JOB NO. 06241

NO.	DATE	DESCRIPTION	BY
	05/01/09	PRELIMINARY	HN
1	05/04/09	TITLE REPORT	RAS
2	05/18/09	ACCESS ROUTE, LEASE AREA & UTILITY/FINAL	RG

SITE INFORMATION:

**LOCK IT UP STORAGE**  
**BA52677**  
 15 DIXON LANDING ROAD (AKA 60 WILSON WAY)  
 MILPITAS, CA 95035  
 SANTA CLARA COUNTY

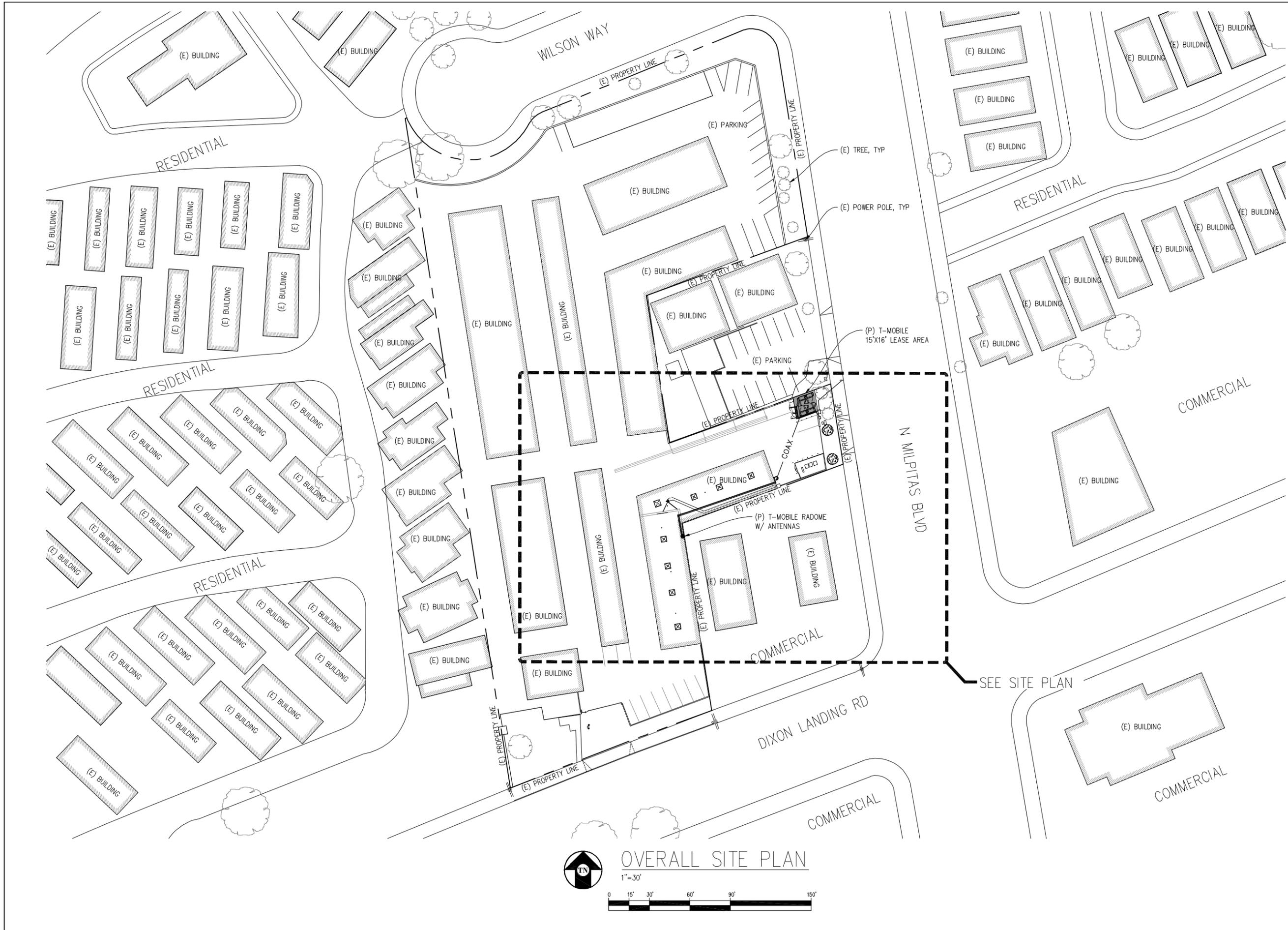
SEAL:

SHEET TITLE:

**TOPOGRAPHIC SURVEY**

SHEET NUMBER:

**LS-1**  
 SHEET 1 OF 1



OVERALL SITE PLAN  
 1" = 30'  
 0 15' 30' 60' 90' 150'

**LOCK IT UP STORAGE**

**BA52677**  
 15 DIXON LANDING RD  
 (AKA 60 WILSON WAY)  
 MILPITAS, CA 95035

**ISSUE STATUS**

Δ	DATE	DESCRIPTION	BY
	05-06-09	ZD 90%	-
	08-31-09	ZD 100%	-
	12-02-09	ZD 100%	CL
	04-06-10	ZD 100%	CL
	10-18-10	ZD 100%	CL
	-	-	-

DRAWN BY: K. SANSO  
 CHECKED BY: L. HOUGHTBY  
 APPROVED BY: M. FLEMING  
 DATE: 10-18-10

**Streamline Engineering**



3268 Pentyn Rd, Suite 200 Loomis, CA 95650  
 Contact: Larry Houghtby Phone: 916-275-4180  
 E-Mail: larry@streamline.com Fax: 916-660-1941

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**T-Mobile**

T-MOBILE WEST CORPORATION

1755 CREEKSIDE OAKS SUITE 190  
 SACRAMENTO, CA 95833

SHEET TITLE:  
 OVERALL SITE PLAN  
 SHEET NUMBER:  
**A-1**



# LOCK IT UP STORAGE

BA52677

15 DIXON LANDING RD  
(AKA 60 WILSON WAY)  
MILPITAS, CA 95035

## ISSUE STATUS

Δ	DATE	DESCRIPTION	BY
	05-06-09	ZD 90%	-
	08-31-09	ZD 100%	-
	12-02-09	ZD 100%	CL
	04-06-10	ZD 100%	CL
	10-18-10	ZD 100%	CL
	-	-	-

DRAWN BY: K. SANSO

CHECKED BY: L. HOUGHTBY

APPROVED BY: M. FLEMING

DATE: 10-18-10

**Streamline Engineering**  
and Design, Inc.

3288 Penryn Rd, Suite 200 Loomis, CA 95660  
Contact: Larry Houghtby Phone: 916-275-4180  
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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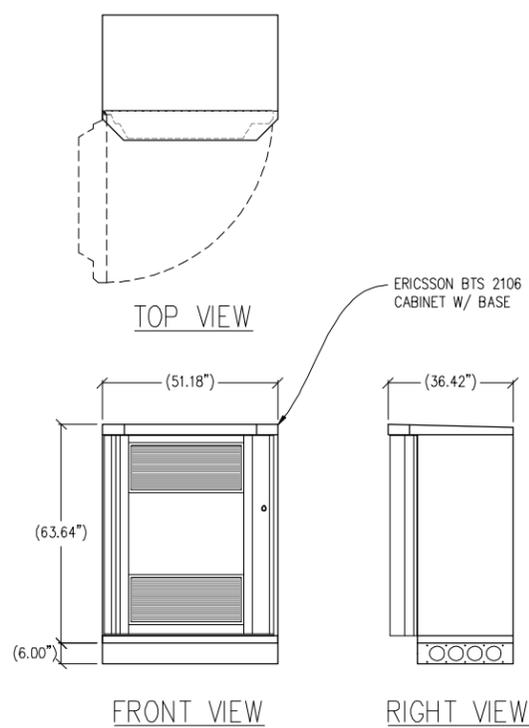


T-MOBILE WEST CORPORATION  
**T-Mobile**

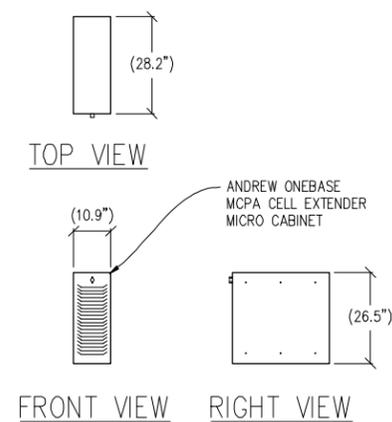
1755 CREEKSIDE OAKS SUITE 190  
SACRAMENTO, CA 95833

SHEET TITLE:  
EQUIPMENT PLAN  
& DETAILS

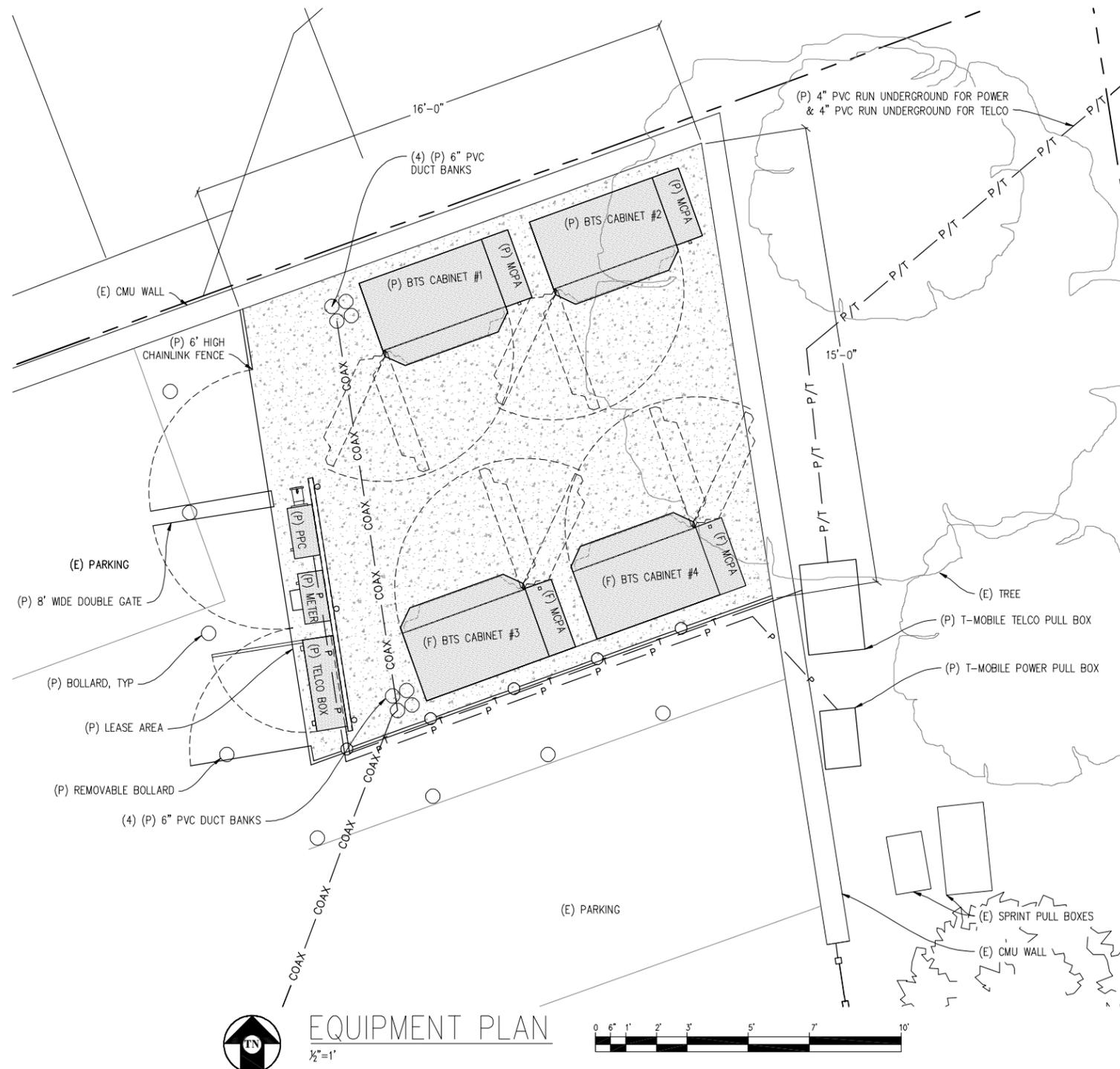
SHEET NUMBER:  
**A-3**



1 BTS DETAIL  
1/2"=1'

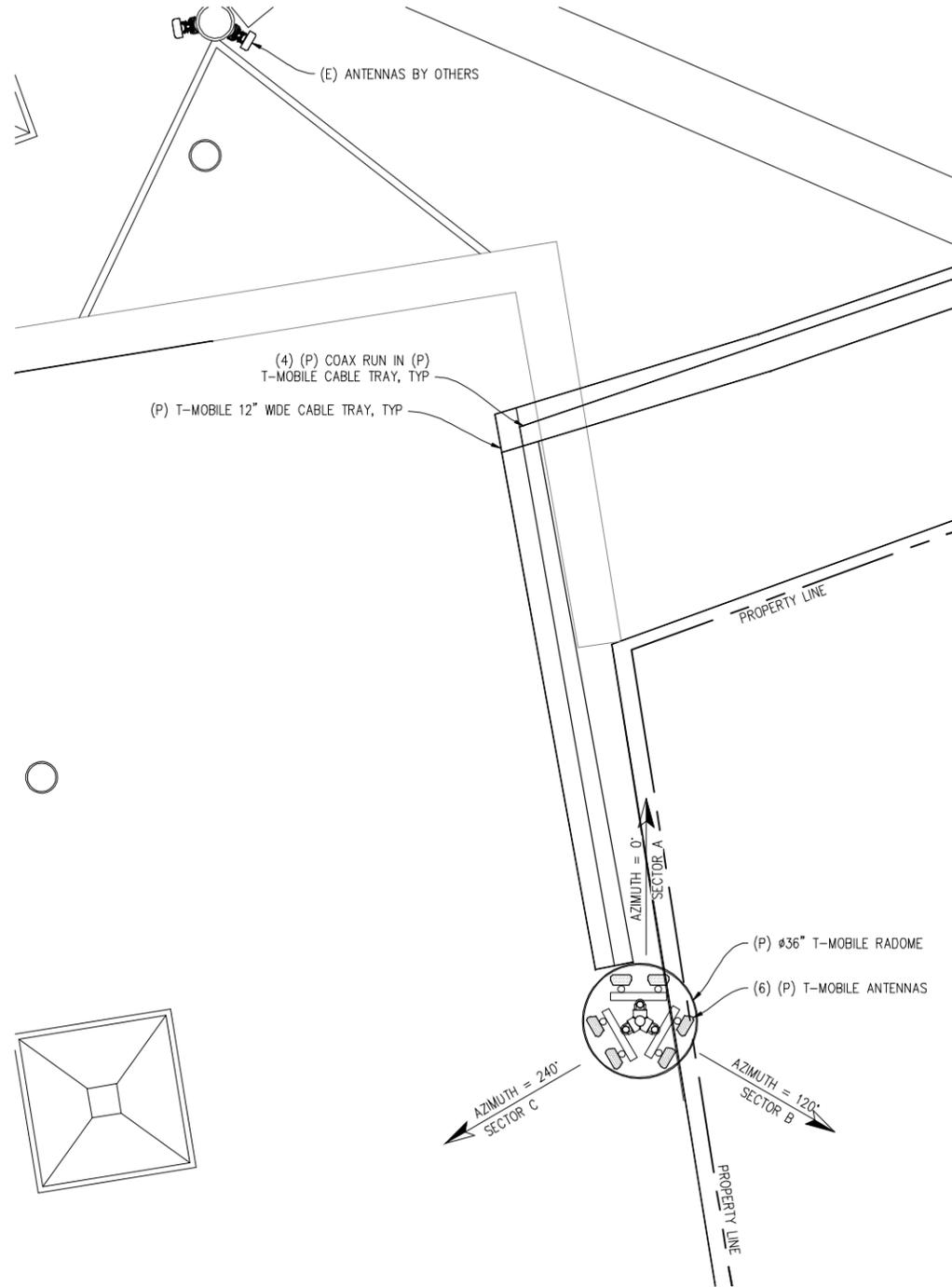
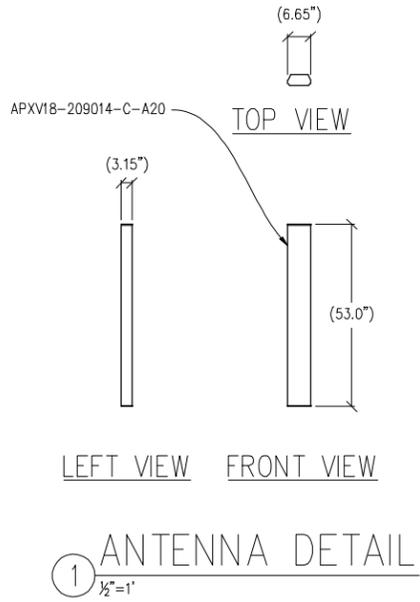


2 MCPA DETAIL  
1/2"=1'



SECTOR	RF CONFIGURATION										
	COAX			ANTENNA							
	#	LENGTH	SIZE	MODEL	#	TMA	MDT	EDT	RET	RAD	AZIMUTH
ALPHA	2	175'	15/8"	APXV18-209014-C-A20	2	2	0'	2'	YES	33'-0"	0°
BETA	2	175'	15/8"	APXV18-209014-C-A20	2	2	0'	2'	YES	33'-0"	120°
GAMMA	2	175'	15/8"	APXV18-209014-C-A20	2	2	0'	2'	YES	33'-0"	240°

NOTE: CONTRACTOR TO VERIFY LATEST RF DESIGN



ANTENNA PLAN  
1/2"=1'

**LOCK IT UP STORAGE**

**BA52677**

15 DIXON LANDING RD  
(AKA 60 WILSON WAY)  
MILPITAS, CA 95035

**ISSUE STATUS**

Δ	DATE	DESCRIPTION	BY
	05-06-09	ZD 90%	-
	08-31-09	ZD 100%	-
	12-02-09	ZD 100%	CL
	04-06-10	ZD 100%	CL
	10-18-10	ZD 100%	CL
	-	-	-

DRAWN BY: K. SANSO

CHECKED BY: L. HOUGHTBY

APPROVED BY: M. FLEMING

DATE: 10-18-10

**Streamline Engineering and Design, Inc.**

3288 Penryn Rd, Suite 200 Loomis, CA 95660  
 Contact: Larry Houghtby Phone: 916-275-4180  
 E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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T-MOBILE WEST CORPORATION

**T-Mobile**

1755 CREEKSIDE OAKS SUITE 190  
SACRAMENTO, CA 95833

SHEET TITLE:  
ANTENNA PLAN & DETAIL

SHEET NUMBER:  
**A-4**

# LOCK IT UP STORAGE

BA52677

15 DIXON LANDING RD  
(AKA 60 WILSON WAY)  
MILPITAS, CA 95035

## ISSUE STATUS

Δ	DATE	DESCRIPTION	BY
	05-06-09	ZD 90%	-
	08-31-09	ZD 100%	-
	12-02-09	ZD 100%	CL
	04-06-10	ZD 100%	CL
	10-18-10	ZD 100%	CL
	-	-	-

DRAWN BY: K. SANSO

CHECKED BY: L. HOUGHTBY

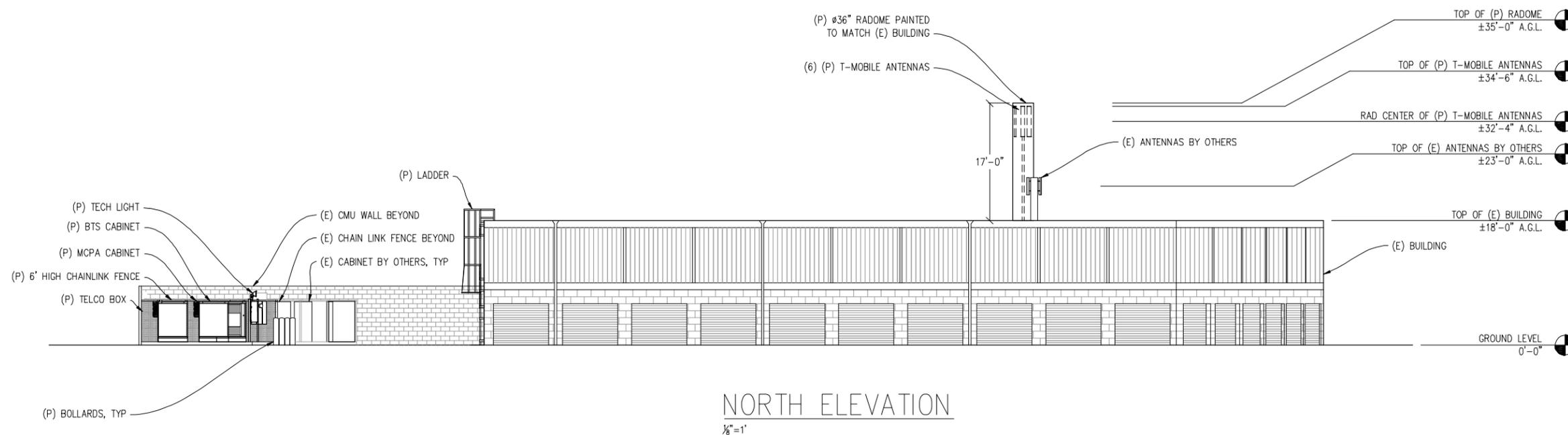
APPROVED BY: M. FLEMING

DATE: 10-18-10

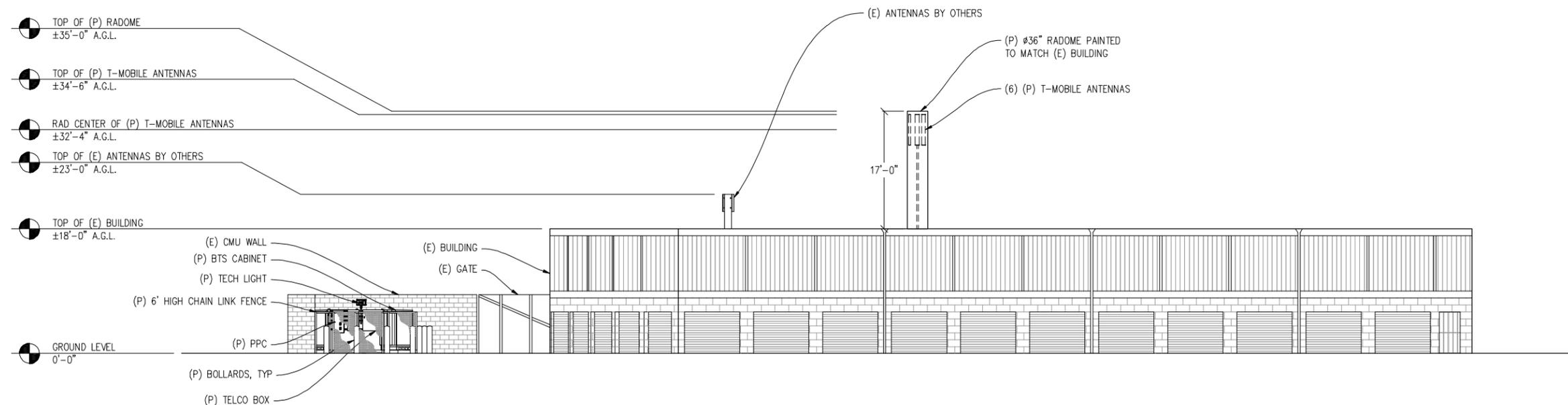
**Streamline Engineering**  
and Design, Inc.

3268 Penryn Rd, Suite 200 Loomis, CA 95660  
Contact: Larry Houghtby Phone: 916-275-4180  
E-Mail: lahm@streamlineeng.com Fax: 916-660-1941

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NORTH ELEVATION  
1/8" = 1'



WEST ELEVATION  
1/8" = 1'

T-MOBILE WEST CORPORATION  
**T-Mobile**

1755 CREEKSIDE OAKS SUITE 190  
SACRAMENTO, CA 95833

SHEET TITLE:

ELEVATIONS

SHEET NUMBER:

A-5



### LETTER OF EXPLANATION

T-Mobile is a telecommunications carrier with an established and growing network in the Bay Area. Although coverage is widely available, there are still areas where the quality of the signal is weak, resulting in dropped calls, or poor to non-existent coverage indoors.

As shown in the accompanying coverage maps, the area surrounding Dixon Landing Road and North Milpitas Boulevard currently experiences adequate coverage for outdoor phone use, but has compromised quality for in-vehicle use, and even worse for in-building use. This new facility is intended to enhance call quality in the vicinity, and prevent dropped calls for travelers along North Milpitas Boulevard and Dixon Landing Road.

### PROJECT DESCRIPTION

The facility will consist of:

1. Four (4) equipment cabinets located within a 15' x 16' fenced area within the storage yard grounds. Two sides of the enclosure will use the existing 8' tall wall that encloses Lock It Up Storage; the other two sides will be secured by a 6' high chain link fence. The equipment will not be visible from off site.
2. Six (6) panel antennas, each measuring 53" (H) x 6.7" (W) x 3.2" (D) will be installed within a 36" diameter cylinder called a radome. The top of the radome would be 17 feet above the roof, with a total height of 35 feet above ground. Constructed of radio frequency transparent materials, the radome is simply a screening device to give the facility a cleaner, uncluttered appearance.

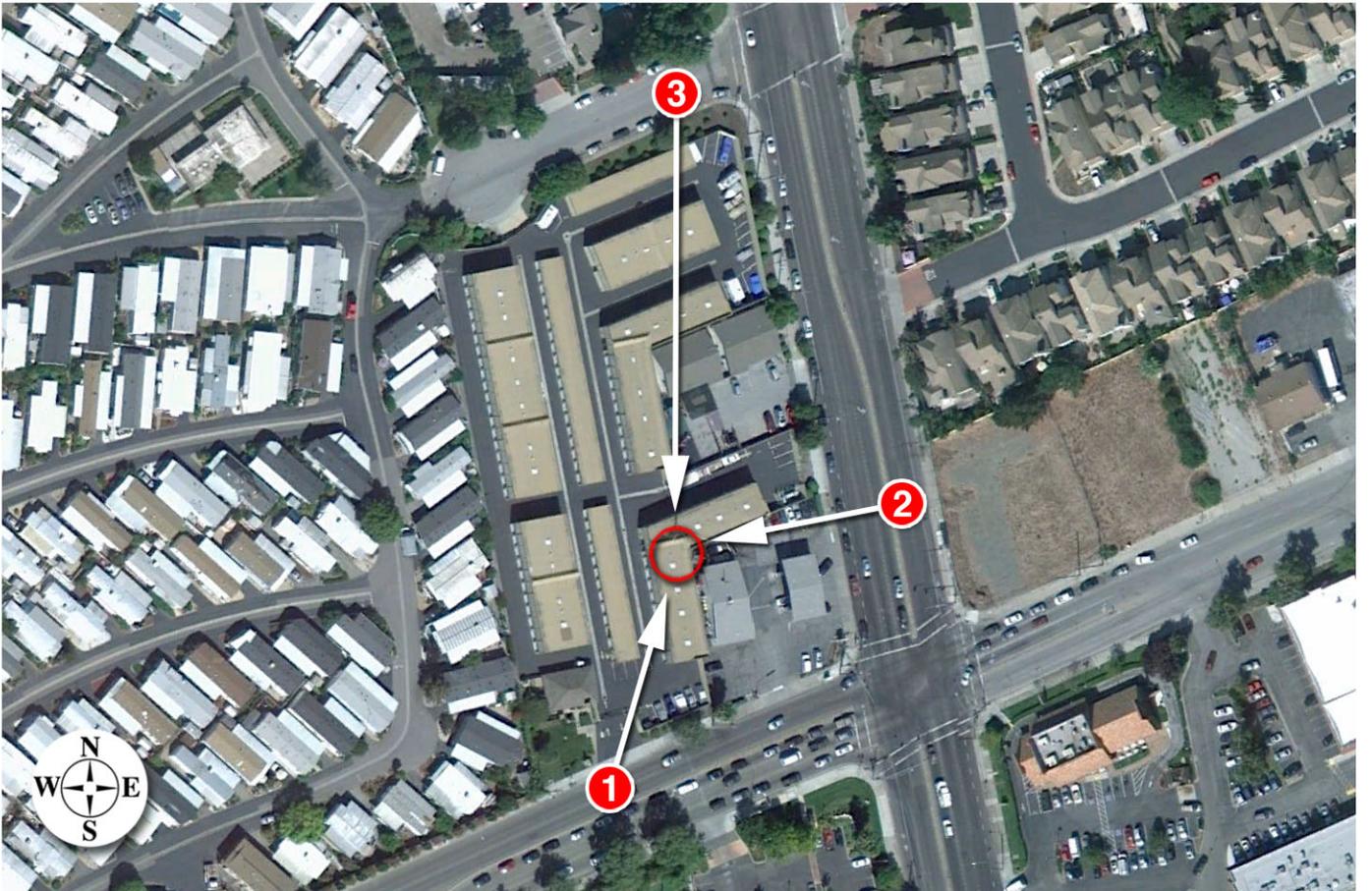
Due to the coverage needs of the site, the antennas need to be side by side, rather than stacked.

None of the telecommunications equipment will be visible from off-site. Coaxial cable will run down the side of the building within a cable tray, and be routed to the equipment enclosure via an underground trench. Power and telephone connections will also be underground.

### ALTERNATIVE SITE ANALYSIS

T-Mobile selected this site as it needs coverage improvements in the area. The site is non-residential and is a co-location. Other location options considered were:

1. Church at 159 Dixon Road: This location was considered with the possibility of achieving the required antenna height by adding a steeple or other tall element appropriate to a church facility. Calls to the church to solicit interest were not returned (Contact: Dr. Jones, (408) 957-8730)
2. Utility pole at corner of 159 Dixon Landing Road and 60 Wilson Way: Using this existing utility pole was considered as a backup, but it would only be viable for a micro-cell site, which uses very small equipment cabinets mounted directly to the pole. However, the coverage of a micro-cell is limited and it could not accomplish the intended service improvements. The subject site at Lock It Up Storage was considered superior in that space was available, and the antennas could be screened on a rooftop.





Existing



proposed antennas

Proposed



Existing



proposed antennas

Proposed



Existing



Proposed

**City of Milpitas**  
 Planning Division  
 455 E. Calaveras Blvd.  
 Milpitas, CA 95035  
 (408) 586-3279

**Questionnaire for Telecommunication Facility Providers**

All applicants requesting to install telecommunications facilities within the City of Milpitas must complete this questionnaire as part of their use permit application submittal.

Applicant Name: T-MOBILE WEST CORPORATION c/o LEAH HERNIKL  
 Applicant Address: 1755 CREEKSIDE OAKS, SACRAMENTO, CA 95833  
 Applicant Phone: (408) 799-1182 Applicant Fax: (831) 688-4719  
 Applicant e-mail address: HERNIKL@SBCGLOBAL.NET  
 Location of Project: 15 DIXON LANDING RD  
 Is this an existing facility or a Co-Location?  Yes  No Previous Owner: SPRINT SITE  
 If yes, are you using the same technology?  Yes  No IS EXISTING  
 Date previously approved by the Telecommunications Commission: UNKNOWN  
 Provide a brief description of project (Telecommunications Facility): INSTALL 6 NEW  
ANTENNAS ON ROOFTOP INSIDE 36" DIAMETER  
RADOME

1. Please indicate below the frequency range you plan to use?

- VHF Low-Band (30-50 Mhz or 72-76 Mhz)  
 VHF High-Band (136-174 Mhz or 220-222 Mhz)  
 UHF or T-Band (406-420 Mhz or 450-470 Mhz or 470-512 Mhz)  
 800 or 900 Mhz Band (800-960 except 900 Mhz Spread Spectrum)  
 900 Mhz Spread Spectrum (902-928 Mhz)  
 Other than specified above (State frequency band in Mhz). Describe: SEE ATTACHED

2. Please indicate below the channel/system proposed for use?

- A single channel  
 Multiple channel  
 A frequency agile system  
 A spread spectrum system  
 Other: \_\_\_\_\_

3. Please indicate below the frequency range you plan to use?

- Narrow band ( $\pm 5$  KHz or less deviation)  
 Broad band (greater than  $\pm 5$  KHz deviation)  
 Spread Spectrum  
 Other: SEE ATTACHED

Questionnaire for Telecommunication Facility Providers

Question 1

GSM		
PCS Block	UL (MHz)	DL (MHz)
B3	1880-1885	1960-1965
E	1885-1990	1965-1970
F	1990-1995	1970-1975

UMTS		
AWS Block	UL (MHz)	DL (MHz)
A	1710-1720	2110-2120
F	1745-1755	2145-2155

Question 3

GSM		
PCS Block	UL (MHz)	DL (MHz)
B3	1880-1885 (5 MHz)	1960-1965 (5 MHz)
E	1885-1990 (5 MHz)	1965-1970 (5 MHz)
F	1990-1995 (5 MHz)	1970-1975 (5 MHz)

UMTS		
AWS Block	UL (MHz)	DL (MHz)
A	1710-1720 (10 MHz)	2110-2120 (10 MHz)
F	1745-1755 (10 MHz)	2145-2155 (10 MHz)

4. What will the effective radiated power (ERP) be when all channels at your proposed site are radiating?  
GSM: 55 dBm, UMS: 48 dBm
- 
5. Will the site be in compliance with current ANSI radiation health standards?  Yes  No
6. What horizontal radiation pattern is planned for this project?  
 Omnidirectional  
 Sectored  
 Directional (provide half power beam width) \_\_\_\_\_
- 
7. What will the vertical radiation angle (half power beam width) be for your proposed antenna(s)?  
5 DEGREES
- 
8. How high above the local terrain (e.g., surrounding structures) will the center of radiation of your proposed antenna(s) be? 32' 4" feet
9. How close to your proposed project is the nearest roadway 145' +/- feet/miles and, if elevated, what is the roadway's height above the local terrain? N/A feet
10. How close to your proposed project is the nearest regularly occupied building and how high is the top floor above local terrain? 35' +/- SINGLE STORY BUILDING
11. What is the distance to the nearest existing radio communications or broadcast antenna(s) if less than 1/2 mile? 30' feet/miles. If known, identify owner/operator: SPRINT
- 
12. What is the status of your FCC license grant? CURRENT (ATTACHED)  
 (Include a \*copy of the license with submittal of this questionnaire.)

**NOTE:** The below listed items are required by the applicant as part of this submittal if required to go to the Telecommunications Commission:

- a) Provider's build-out map\* showing all sites anticipated within Milpitas (see question no. 2)
- b) Photo simulations\*\* of antenna(s) as viewed from at least three surrounding view points. Show "worst case" vantage points.
- c) List of all sites that were investigated\*\* for a particular search ring and the reasons why they were discarded. Include names and phone numbers of persons contacted regarding potential sites.
- d) Copy of applicants Power Density Study\* (see item no. 4).

\* 20 copies (Telecommunication Commission)

\*\* 35 copies (Telecommunication Commission & Planning Commission)

Back of  
Telecommunication Questionnaire



# Universal Licensing System

[FCC](#) > [WTB](#) > [ULS](#) > [Online Systems](#) > License Search

[FCC Site Map](#)

License Search

## Search Results

[? HELP](#)

[New Search](#) [Refine Search](#) [Printable Page](#) [Query Download](#) [Map License](#)

### Specified Search

STREET = **15 dixon landing**  
 City = **milpitas**  
 State = **California**  
 Zip Code = **95035**  
 Radius = **3 Kilometers**

Matches **31- 40** (of **677**)

**PA** = Pending Application(s)  
**TP** = Termination Pending  
**L** = Lease

[PREVIOUS](#)

Page [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#)

[NEXT](#)

Call Sign/Lease ID	Name	FRN	Radio Service	Status	Expiration Date
<a href="#">31</a> <b>PA</b> <a href="#">KNLF208</a>	WIRELESSCO, L.P.	0002316545	CW	Active	06/23/2015
<a href="#">32</a> <a href="#">KNLF209</a>	NEW CINGULAR WIRELESS PCS, LLC	0003291192	CW	Active	06/23/2015
<a href="#">33</a> <a href="#">KNLF566</a>	MetroPCS California, LLC	0014512891	CW	Active	01/27/2017
<a href="#">34</a> <a href="#">KNLG542</a>	New Cingular Wireless PCS, LLC	0003291192	CW	Active	04/28/2017
<a href="#">35</a> <b>PA</b> <a href="#">KNLG833</a>	T-Mobile License LLC	0001565449	CW	Active	04/28/2017
<a href="#">36</a> <b>PA</b> <a href="#">KNLH200</a>	T-Mobile License LLC	0001565449	CW	Active	04/28/2017
<a href="#">37</a> <a href="#">KNNU355</a>	SANTA CLARA, COUNTY OF	0001539824	PW	Active	05/10/2011
<a href="#">38</a> <a href="#">KNNX230</a>	ACI 900, Inc.	0005523642	YD	Active	08/12/2016
<a href="#">39</a> <a href="#">KNNX231</a>	ACI 900, Inc.	0005523642	YD	Active	08/12/2016
<a href="#">40</a> <a href="#">KNNX232</a>	ACI 900, Inc.	0005523642	YD	Active	08/12/2016

Call Sign/Lease ID	Name	FRN	Radio Service	Status	Expiration Date
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**Federal Communications Commission  
Wireless Telecommunications Bureau  
Radio Station Authorization**

LICENSEE NAME: T-Mobile License LLC

DAN MENSER  
T-MOBILE LICENSE LLC  
12920 SE 38TH ST.  
BELLEVUE WA 98006

<b>FCC Registration Number (FRN)</b> 0001565449	
<b>Call Sign</b> KNLG833	<b>File Number</b> 0002902215
<b>Radio Service</b> CW - PCS Broadband	

<b>Grant Date</b> 04-25-2007	<b>Effective Date</b> 04-25-2007	<b>Expiration Date</b> 04-28-2017	<b>Print Date</b> 04-26-2007
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<b>Market Number</b> BTA404	<b>Channel Block</b> E	<b>Sub-Market Designator</b> 0
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**Market Name:** San Francisco-Oakland-San Jose

<b>1st Build-out Date</b> 04-28-2002	<b>2nd Build-out Date</b>	<b>3rd Build-out Date</b>	<b>4th Build-out Date</b>
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**SPECIAL CONDITIONS OR WAIVERS/CONDITIONS**

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

("Special Conditions or Waivers/Conditions" continued on next page ...)

**Conditions:**  
Pursuant to Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. Section 309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. Section 310(d). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended. See 47 U.S.C. Section 606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at <http://wireless.fcc.gov/uls> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: T-Mobile License LLC

Call Sign  
KNLG833

File Number  
0002902215

Print Date  
04-26-2007

Special Conditions or Waivers/Conditions

Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948) if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.



Federal Communications Commission  
Wireless Telecommunications Bureau  
Radio Station Authorization

LICENSEE NAME: T-Mobile License LLC

DAN MENSER  
T-MOBILE LICENSE LLC  
12920 SE 38TH ST.  
BELLEVUE WA 98006

FCC Registration Number (FRN) 0001565449	
Call Sign KNLH200	File Number 0002902115
Radio Service CW - PCS Broadband	

Grant Date 04-26-2007	Effective Date 04-26-2007	Expiration Date 04-28-2017	Print Date 04-27-2007
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Market Number BTA404	Channel Block F	Sub-Market Designator Q
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Market Name: San Francisco-Oakland-San Jose

1st Build-out Date 03-31-2004	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
----------------------------------	--------------------	--------------------	--------------------

**SPECIAL CONDITIONS OR WAIVERS/CONDITIONS**

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

("Special Conditions or Waivers/Conditions" continued on next page ...)

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To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at <http://wireless.fcc.gov/uls> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: T-Mobile License LLC

Call Sign  
KNLH200

File Number  
0002902115

Print Date  
04-27-2007

Special Conditions or Waivers/Conditions

Grant of this license is subject to the conditions stated in the Memorandum Opinion and Order, DA 97-328 (rel. Feb. 14, 1997).

This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.716 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

Pursuant to Order DA 03-617 (rel. March 3, 2003), the designated entity holding period for this license is extended by 703 days, or until the licensee meets its five-year construction requirement, whichever is sooner.

List of Sites Investigated for Search Ring

## 1) Dixon Church, 159 Dixon Road / Contact, Dr. Jones, (408) 957-8730

This location was considered for the potential of erecting a steeple or other use-appropriate structure to conceal the antennas at the necessary height of at least 35 feet. However, the property contact did not return calls.

The subject site was ultimately selected because of:

- Commercial setting
- Existing cell site/co-location
- Cost and feasibility of construction
- Lack of property owner interest at this alternate site

## 2) Utility pole at 159 Dixon Landing Road / Joint Pole Association (T-Mobile is a member)

This pole west on Dixon Landing Road west of Milpitas Boulevard was considered as a least desirable alternative. It would be limited to a micro-site, with no opportunity for future expansion of cabinets.

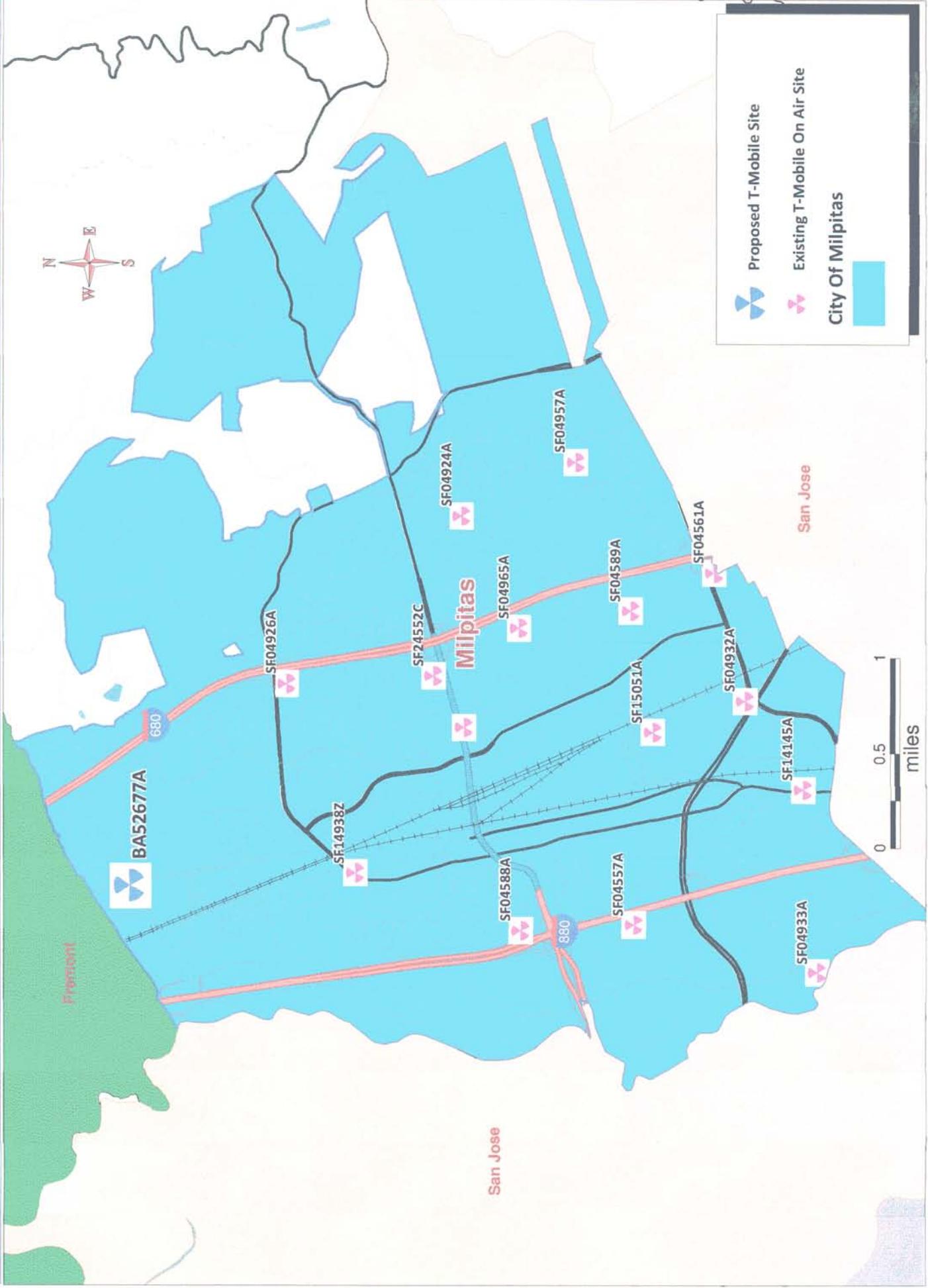
The subject site was selected because of:

- Space available for full size cabinets and antenna array
- Opportunity for future expansion of ground equipment
- Greater height for antennas

## 3) Commercial centers on south side of Dixon Landing Road

These sites were rejected by the RF engineer for being too far south of the search ring. The subject site is already on the southern edge of the search ring. The shopping centers were determined to be too far south to satisfy the coverage objective without excessive antenna height.

# CITY OF MILPITAS EXISTING and PROPOSED T-MOBILE SITE LOCATIONS



**T-Mobile • Proposed Base Station (Site No. BA52677A)  
15 Dixon Landing Road • Milpitas, California**

**Statement of Hammett & Edison, Inc., Consulting Engineers**

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of T-Mobile, a personal wireless telecommunications carrier, to evaluate the base station (Site No. BA52677A) proposed to be located at 15 Dixon Landing Road in Milpitas, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

**Prevailing Exposure Standards**

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. In Docket 93-62, effective October 15, 1997, the FCC adopted the human exposure limits for field strength and power density recommended in 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 and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” includes similar exposure limits. 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 FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Personal Wireless Service	Approx. Frequency	Occupational Limit	Public Limit
Broadband Radio (“BRS”)	2,600 MHz	5.00 mW/cm <sup>2</sup>	1.00 mW/cm <sup>2</sup>
Advanced Wireless (“AWS”)	2,100	5.00	1.00
Personal Communication (“PCS”)	1,950	5.00	1.00
Cellular Telephone	870	2.90	0.58
Specialized Mobile Radio (“SMR”)	855	2.85	0.57
Long Term Evolution (“LTE”)	700	2.33	0.47
[most restrictive frequency range]	30–300	1.00	0.20

**General Facility Requirements**

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to the traditional wired telephone lines, and the passive 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

**T-Mobile • Proposed Base Station (Site No. BA52677A)  
15 Dixon Landing Road • Milpitas, California**

about 1 inch thick. 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. Along with the low power of such facilities, 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 attached 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"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

**Site and Facility Description**

Based upon information provided by T-Mobile, including drawings by Streamline Engineering and Design, Inc., dated May 22, 2009, it is proposed to install six Andrew Model APX16DWV-16DWV-S-E-A20 directional panel antennas behind screen enclosures to be erected above the roof of the two-story storage building located at 15 Dixon Landing Road in Milpitas. The antennas would be mounted with up to 2° downtilt at an effective height of about 27<sup>1</sup>/<sub>2</sub> feet above ground, 14<sup>1</sup>/<sub>2</sub> feet above the roof, and would be oriented at about 120° spacing, to provide service in all directions. The maximum effective radiated power in any direction would be 2,490 watts, representing simultaneous operation at 980 watts for PCS and 1,510 watts for AWS.

Presently located on the roof of the subject building are similar antennas for use by Sprint Nextel, another wireless telecommunications carrier. For the limited purposes of this study, it is assumed that Sprint Nextel has installed EMS Model RR9017 PCS antennas mounted at an effective height of about 21 feet above ground and operates at a maximum effective radiated power of 1,500 watts.

**Study Results**

For a person anywhere at ground, the maximum ambient RF exposure level due to the proposed T-Mobile operation by itself is calculated to be 0.0032 mW/cm<sup>2</sup>, which is 0.32% of the applicable public exposure limit. The maximum calculated cumulative level at ground, for the simultaneous

**T-Mobile • Proposed Base Station (Site No. BA52677A)  
15 Dixon Landing Road • Milpitas, California**

operation of both carriers, is 1.8% of the public exposure limit; the maximum calculated cumulative level at the second-floor elevation of any nearby building\* is 8.2% 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.

**Recommended Mitigation Measures**

Due to their mounting locations, the T-Mobile antennas are not accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, no access within 3 feet directly in front of the T-Mobile antennas themselves, such as might occur during maintenance work on the roof, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. Posting explanatory warning signs† at roof access locations and on the screens in front of the antennas, such that the signs would be readily visible from any angle of approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines.

**Conclusion**

Based on the information and analysis above, it is the undersigned’s professional opinion that the base station proposed by T-Mobile at 15 Dixon Landing Road in Milpitas, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Posting of explanatory signs is recommended to establish compliance with occupational exposure limitations.

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\* Another storage building located about 45 feet away, based on aerial photographs from Google Maps.

† Warning signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required.

**T-Mobile • Proposed Base Station (Site No. BA52677A)  
15 Dixon Landing Road • Milpitas, California**

**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, 2009. 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.



*William F. Hammett*  
William F. Hammett, P.E.

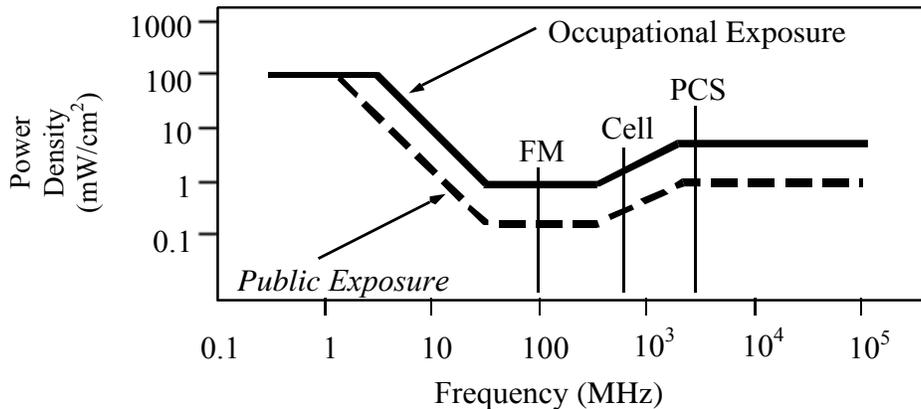
June 23, 2009

## 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 and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz 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 <sup>2</sup> )	
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/f<sup>2</sup></i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f <sup>2</sup>	<i>180/f<sup>2</sup></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. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

## RFR.CALC™ Calculation Methodology

### Assessment by Calculation of Compliance with FCC Exposure Guidelines

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 maximum permissible exposure limits adopted by the FCC (see Figure 1) 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. 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.

#### Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density  $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$ , in mW/cm<sup>2</sup>,

and for an aperture antenna, maximum power density  $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$ , in mW/cm<sup>2</sup>,

where  $\theta_{BW}$  = half-power beamwidth of the antenna, in degrees, and  
 $P_{net}$  = net power input to the antenna, in watts,  
 $D$  = distance from antenna, in meters,  
 $h$  = aperture height of the antenna, in meters, and  
 $\eta$  = aperture efficiency (unitless, typically 0.5-0.8).

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

#### Far Field.

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

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

where ERP = total ERP (all polarizations), in kilowatts,  
RFF = relative field factor at the direction to the actual point of calculation, and  
D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). 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. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

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**SITE ANALYSIS**  
**OF**  
**RADIO FREQUENCY ELECTROMAGNETIC FIELDS**



**For Base Station: BA52677A**

MPE Analysis Tool v2.6.07

ANTENNA SYSTEM 1 GSM CELL: **BA52677A\_A**

- **THIS CELL IS NOT CATEGORICALLY EXCLUDED FROM THE REQUIREMENT FOR AN MPE ANALYSIS**
- **PASS: 5% of GENERAL POPULATION/UNCONTROLLED EXPOSURE LIMITS**
- **PASS: GENERAL POPULATION/UNCONTROLLED EXPOSURE LIMITS**
- **PASS: OCCUPATIONAL/CONTROLLED EXPOSURE LIMITS**

ANTENNA SYSTEM 1 GSM CELL: **BA52677A\_B**

- **THIS CELL IS NOT CATEGORICALLY EXCLUDED FROM THE REQUIREMENT FOR AN MPE ANALYSIS**
- **PASS: 5% of GENERAL POPULATION/UNCONTROLLED EXPOSURE LIMITS**
- **PASS: GENERAL POPULATION/UNCONTROLLED EXPOSURE LIMITS**
- **PASS: OCCUPATIONAL/CONTROLLED EXPOSURE LIMITS**

ANTENNA SYSTEM 1 GSM CELL: **BA52677A\_C**

- **THIS CELL IS NOT CATEGORICALLY EXCLUDED FROM THE REQUIREMENT FOR AN MPE ANALYSIS**
- **PASS: 5% of GENERAL POPULATION/UNCONTROLLED EXPOSURE LIMITS**
- **PASS: GENERAL POPULATION/UNCONTROLLED EXPOSURE LIMITS**
- **PASS: OCCUPATIONAL/CONTROLLED EXPOSURE LIMITS**

**Name:**

Region: Unknown, Market: Unknown, Site: BA52677A

**Site Address:**

[15 DIXON LANDING RD MILPITAS CA 95035](#)

**Submitted By:**

MELVIN BACCAY

**Date:**

Monday, May 04, 2009

**FCC:**

COMPLIANT

**REPORT SUMMARY**

This report was generated based on Engineering and Design data provided by **MELVIN BACCAY**, on behalf of T-Mobile, USA, for the cell site located at **15 DIXON LANDING RD MILPITAS CA 95035**. The report's technical data was derived in part by the [FCC OET68B FCC Exposure Guidelines](#) for measuring Maximum Permissible Exposure (MPE) on PCS Networks.

Based on the output power, number of radios and antenna height for this site:

## Sector 'A' Antenna System(s):

- Meets 5% of the FCC general population/uncontrolled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.
- Meets 100% of the FCC general population/uncontrolled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.
- Meets 100% of the FCC occupational/controlled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.

## Sector 'B' Antenna System(s):

- Meets 5% of the FCC general population/uncontrolled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.
- Meets 100% of the FCC general population/uncontrolled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.
- Meets 100% of the FCC occupational/controlled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.

## Sector 'C' Antenna System(s):

- Meets 5% of the FCC general population/uncontrolled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.
- Meets 100% of the FCC general population/uncontrolled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.
- Meets 100% of the FCC occupational/controlled exposure limit at a horz distance of **3 ft** (0.91 m) from the nearest access point.

For Occupational/Controlled personnel who may come in closer proximity to the antenna than **3 ft** (0.91 m) precautions must be exercised. For example, all personnel should have appropriate training on exposure limits. All T-Mobile personnel should wear exposure detecting equipment. Proper signage must be posted. Due to the mounting methods used by T-Mobile, USA, public access to the face of an antenna would be difficult.

- RF warning signs should be posted at the entrance of this site or at the entrance of the antenna locations.

**Analysis Overview**

T-Mobile, USA has conducted an analysis for determining the MPE compliance for the cell site located at **15 DIXON LANDING RD MILPITAS CA 95035** (Latitude: 37.45795000, Longitude: -

121.91119300). This analysis consists of the actual site design parameters, the number of radios transmitting and the resulting calculation of the estimated RF field strength from the antennas. The output is then compared to the FCC recommended guidelines for human exposure to RF electromagnetic fields (OET65b).

## **Site Description**

Based on the Engineering and Design Data provided by **MELVIN BACCAY**, the proposed site will have the following parameters:

### **Site Type:**

Rooftop (antenna face is accessible, roof access elevation: 25 ft AGL)

### **Collocation:**

YES

### **Controlled/Uncontrolled Access to Antenna Face:**

YES

### **Antenna Make:**

System **1** (GSM), Sector **A**: RFS; Sector **B**: no make given; Sector **C**: no make given

### **Antenna Model:**

System **1** (GSM), Sector **A**: APX16DWV\_16DWVL\_00; Sector **B**: APX16DWV\_16DWVL\_00; Sector **C**: APX16DWV\_16DWVL\_00

### **Frequency:**

System **1** (GSM), Sector **A**: 1920 MHz; Sector **B**: 1960 MHz; Sector **C**: 1960 MHz

### **Max Antenna Gain:**

System **1** (GSM), Sector **A**: 18 dBi; Sector **B**: 18 dBi; Sector **C**: 18 dBi

### **Max ERP<sub>Chan</sub> into Ant:**

System **1** (GSM), Sector **A**: 0.0006 Watts; Sector **B**: 0.0006 Watts; Sector **C**: 0.0006 Watts

### **Max ERP<sub>Chan</sub>:**

System **1** (GSM), Sector **A**: 0.0006 Watts; Sector **B**: 0.0006 Watts; Sector **C**: 0.0006 Watts

### **Total EIRP (ERP\*1.64\*Channels\*Activity\_factor):**

(activity factor equals .65 for GSM and .95 for UMTS)

Sector **A**: 0.002 Watts; Sector **B**: 0.002 Watts; Sector **C**: 0.001 Watts;

### **No. of Channels:**

System **1** (GSM), Sector **A**: 3, Sector **B**: 3, Sector **C**: 2

### **Antenna Mounting:**

[Unknown]

### **Distributed Antenna System (DAS):**

NO

### **Radiation Centerline:**

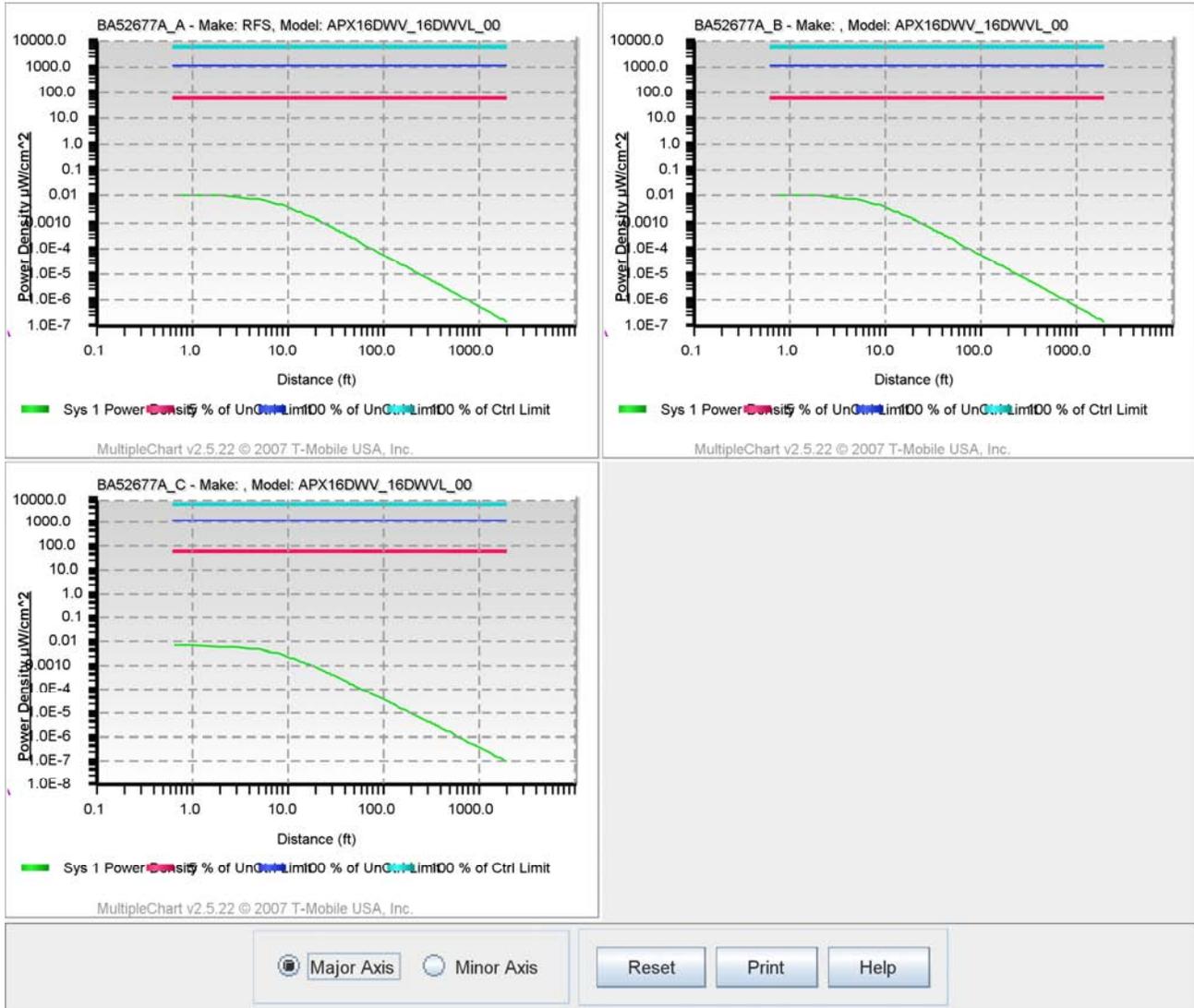
38 ft (11.6 m) AGL

**Sector Orientation:**

System **1**, Sector **A**: 0°, Sector **B**: 120°, Sector **C**: 240°

**Additional comments:**

No comments for system 1. No comments for system 2.



GSM Cell: BA52677A_A	Power Density		@ Horz Dist
Maximum Power Density:	$0.009 \mu\text{W}/\text{cm}^2$	0.001 % of limit	0.656 ft (0.2 m)
110234.0764 times lower than the MPE limit for an uncontrolled environment			
Power:	0.001 Watts (ERP), 0.002 Watts (EiRP)		
UMTS Cell:	Power Density		@ Horz Dist
Maximum Power Density:	$0 \mu\text{W}/\text{cm}^2$	0 % of limit	0 ft (0 m)
110234.0764 times lower than the MPE limit for an uncontrolled environment			
Power:	0 Watts (ERP), 0 Watts (EiRP)		

GSM Cell: BA52677A_B	Power Density		@ Horz Dist
Maximum Power Density:	0.009 $\mu\text{W}/\text{cm}^2$	0.001 % of limit	0.656 ft (0.2 m)
110234.0764 times lower than the MPE limit for an uncontrolled environment			
Power:	0.001 Watts (ERP), 0.002 Watts (EiRP)		
UMTS Cell:	Power Density		@ Horz Dist
Maximum Power Density:	0 $\mu\text{W}/\text{cm}^2$	0 % of limit	0 ft (0 m)
110234.0764 times lower than the MPE limit for an uncontrolled environment			
Power:	0 Watts (ERP), 0 Watts (EiRP)		

GSM Cell: BA52677A_C	Power Density		@ Horz Dist
Maximum Power Density:	0.006 $\mu\text{W}/\text{cm}^2$	0.001 % of limit	0.656 ft (0.2 m)
165351.1146 times lower than the MPE limit for an uncontrolled environment			
Power:	0.001 Watts (ERP), 0.001 Watts (EiRP)		
UMTS Cell:	Power Density		@ Horz Dist
Maximum Power Density:	0 $\mu\text{W}/\text{cm}^2$	0 % of limit	0 ft (0 m)
165351.1146 times lower than the MPE limit for an uncontrolled environment			
Power:	0 Watts (ERP), 0 Watts (EiRP)		

## **RF Field Strength Calculation Methodology**

A generally accepted method is used to calculate the expected RF field strength. The method uses the FCC's recommended equation (*Reference Federal Communication Commission [Office of Engineering Technology Bulletin 65](#)*) which predicts field strength on a worst case basis by doubling the predicted field strength.

The power density at any distance from an isotropic antenna is simply the transmitter power  $P_t$  divided by the surface area of a sphere ( $4 \times \pi \times R^2$ ) at that distance. The surface area of the sphere increases by the square of the radius, therefore the power density,  $P_D$  (watts/square meter), decreases by the square of the radius. For a directional antenna with a gain  $G$  (*max radiation intensity of directional antenna / radiation intensity of isotropic antenna with same power input*), the power density at a distant point is the gain of the antenna multiplied by the power density of an isotropic radiator,  $P_D = (P_t \times G_t) / (4 \times \pi \times R^2)$ . This is the basis of the far-field and near-field power density equations used in this report.

The far-field power density equation used here is:

$$S = \frac{2.56 \times N \times 1.64 \times \text{ERP}_{\theta}/\text{chan} \times 10^6}{4 \times \pi \times R^2}$$

Where:

S = power density

2.56 = reflection coefficient

N = number of RF channels

1.64  $\times$  ERP $_{\theta}$ /chan = EIRP per channel at the angle for the calculation point

R = horizontal distance to the center of radiation

The far-field power density is then adjusted for any miscellaneous attenuation specified by the engineer.

The near-field power density equation used is:

$$S = \frac{N \times P_{IN}/\text{chan} \times 10^6}{2 \times \pi \times R \times h \times \alpha/360}$$

Where:

S = power density

N = number of RF channels

$P_{IN}/\text{chan}$  = Max power input to the antenna per channel =  $\text{Max\_ERP}_{\text{ch}} / 10^{(\text{Max\_Gain} / 10)}$

R = horizontal distance to the center of radiation

h = vertical aperture of the antenna

$\alpha/360$  = 3 dB horizontal beamwidth of the antenna pattern divided by 360

If the antenna aperture is less than 6.56 feet, the near-field power density is multiplied by the aperture height and divided by 6.56. The near-field power density is then multiplied by the cosine of the angle from the horizon to the calculation point. Finally, the power density is adjusted for any miscellaneous attenuation.

Whether the near-field or far-field equation is used depends on the distance formula  $d = 1.28 \times (1.64 \times \text{Antenna Gain}) \times \text{Height of Antenna Aperture} \times (3\text{dB Beamwidth}/360)$ , **note: EIRP = 1.64 x ERP**. If the distance from the face of the antenna is greater than **d** then the lesser result of the near-field and far-field equations is used. If the vertical distance from calculation point to bottom (or top) of the antenna is greater than 0.25 times the aperture height, then the lesser of the near-field / far-field equations is used. Otherwise the near-field value is used. **Note: All lengths are converted from feet to centimeters during calculations.**

#### **Final analysis for Antenna System 1, Cell BA52677A\_A**

Using **3** channels and a maximum effective radiated power (ERP) of **0 Watts** (-2.22 dBm), and a downtilt of **0°**, the calculated power density for this site at the nearest controlled access point of **3 ft** (0.91 m) is **0.01  $\mu\text{W}/\text{cm}^2$** . The calculated power density for the site at the nearest uncontrolled access point of **3 ft** (0.91 m) is **0.01  $\mu\text{W}/\text{cm}^2$** . Using this result, the maximum calculated field strength at the nearest accessible point is **0%** of the applicable public limit for uncontrolled exposure.

- The 5% FCC general population/uncontrolled exposure minimum distance is **0 ft** (0 m).
- The 100% FCC general population/uncontrolled exposure minimum distance is **0 ft** (0 m).
- The 100% FCC occupational/controlled exposure minimum distance is **0 ft** (0 m).

#### **Final analysis for Antenna System 1, Cell BA52677A\_B**

Using **3** channels and a maximum effective radiated power (ERP) of **0 Watts** (-2.22 dBm), and a downtilt of **0°**, the calculated power density for this site at the nearest controlled access point of **3 ft** (0.91 m) is **0.01  $\mu\text{W}/\text{cm}^2$** . The calculated power density for the site at the nearest uncontrolled access point of **3 ft** (0.91 m) is **0.01  $\mu\text{W}/\text{cm}^2$** . Using this result, the maximum calculated field strength at the nearest accessible point is **0%** of the applicable public limit for uncontrolled exposure.

- The 5% FCC general population/uncontrolled exposure minimum distance is **0 ft** (0 m).
- The 100% FCC general population/uncontrolled exposure minimum distance is **0 ft** (0 m).
- The 100% FCC occupational/controlled exposure minimum distance is **0 ft** (0 m).

### **Final analysis for Antenna System 1, Cell BA52677A\_C**

Using **2** channels and a maximum effective radiated power (ERP) of **0 Watts** (-2.22 dBm), and a downtilt of **0°**, the calculated power density for this site at the nearest controlled access point of **3 ft** (0.91 m) is **0.01  $\mu\text{W}/\text{cm}^2$** . The calculated power density for the site at the nearest uncontrolled access point of **3 ft** (0.91 m) is **0.01  $\mu\text{W}/\text{cm}^2$** . Using this result, the maximum calculated field strength at the nearest accessible point is **0%** of the applicable public limit for uncontrolled exposure.

- The 5% FCC general population/uncontrolled exposure minimum distance is **0 ft** (0 m).
- The 100% FCC general population/uncontrolled exposure minimum distance is **0 ft** (0 m).
- The 100% FCC occupational/controlled exposure minimum distance is **0 ft** (0 m).

See Table 1 for the FCC's guidelines on Maximum Permissible Exposure (MPE). Note that the RF range referenced for this analysis is the range of 1500 – 100,000 MHz shown in Table 1, which is included in Appendix A.

### **Signage Guidelines**

Due to the type of access for this site, the following signage is required:



**Posted at or near the site entrance or rooftop access**

In some locations, the standard sign may create problems with landowners or the public. The intent of the signage policy is to provide reasonable notice to the public of the presence of RF emissions in a non-secure location. Other signage alternatives that provide notice of emissions – at a point which a person approaching the antennas can see the sign before entering within 3' of an antenna – can be used. Please contact T-Mobile Regulatory Compliance (<http://sys.eng.t-mobile.com/regcom/toc.html>) to discuss the content and placement of alternative signs.

## **Current RF Signs Posted & Narda Survey Status**

- Notice sign posted: **NO**
- Caution sign posted: **NO**
- Warning sign posted: **NO**
- Employee Notice sign posted: **NO**
- Narda Survey Completed: **NO**

## **Exposure Environments**

The FCC guidelines incorporate two separate tiers of exposure limits that are dependant on the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. The decision as to which tier applies in a given situation should be based on the application of the following definitions.

**Occupational/controlled** exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below) as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his/her exposure by leaving the area or by some other appropriate means.

**General population/uncontrolled** exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

For purposes of applying these definitions, awareness of the potential for RF exposure in a workplace or similar environment can be provided through specific training as part of a RF safety program. Warning signs and labels can also be used to establish such awareness as long as they provide information, in a prominent manner, on risk of potential exposure and instructions on methods to minimize such exposure risk.

For example, a sign warning of RF exposure risk and indicating that individuals should not remain in the area for more than a certain period of time could be acceptable.

Another important point to remember concerning the FCC's exposure guidelines is that they constitute **exposure** limits (not **emission** limits), and they are relevant only to locations that are **accessible** to workers or members of the public. Such access can be restricted or controlled by appropriate means such as the use of fences, warning signs, etc., as noted above. For the case of occupational/controlled exposure, procedures can be instituted for working in the vicinity of RF sources that will prevent exposures in excess of the guidelines. An example of such procedures would be restricting the time an individual could be near an RF source or requiring that work on or near such sources be performed while the transmitter is turned off or while power is appropriately reduced.

Signed: \_\_\_\_\_

Date: *Monday, May 04, 2009*

## Appendix A

### **Term Definitions**

**GSM** – Global System for Mobile communications is the most popular standard for mobile phones in the world. Its promoter, the GSM Association, estimates that 82% of the global mobile market uses the standard. GSM is used by over 2 billion people across more than 212 countries and territories. Its ubiquity makes international roaming very common between mobile phone operators, enabling subscribers to use their phones in many parts of the world. GSM differs from its predecessors in that both signaling and speech channels are digital call quality, and so is considered a second generation (2G) mobile phone system. This has also meant that data communication were built into the system using the 3rd Generation Partnership Project (3GPP).

**UMTS** – Universal Mobile Telecommunications System is one of the third-generation (3G) cell phone technologies. Currently, the most common form of UMTS uses W-CDMA as the underlying air interface. It is standardized by the 3GPP, and is the European answer to the ITU IMT-2000 requirements for 3G cellular radio systems.

**Isotropic Antenna** – a theoretical point source of waves which exhibits the same magnitude or properties when measured in all directions. It has no preferred direction of radiation. It radiates uniformly in all directions over a sphere centred on the source. It is a reference radiator with which other sources are compared.

**Exposure** – Exposure occurs whenever and wherever a person is subjected to electric, magnetic or electromagnetic fields other than those originating from physiological processes in the body and other natural phenomena.

**Exposure, partial body** - Partial-body exposure results when RF fields are substantially non-uniform over the body. Fields that are non-uniform over volumes comparable to the human body may occur due to highly directional sources, standing-waves, re-radiating sources or in the near field.

**General population/uncontrolled exposure** – For FCC purposes, applies to human exposure RF fields when the general public is exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

**Maximum permissible exposure (MPE)** – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with an acceptable safety factor.

**Occupational/controlled exposure** – For FCC purposes, applies to human exposure to RF fields when persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see definition above), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his/her exposure by leaving the area or by some other appropriate means.

## Appendix B

### **Collocation Sites**

Special rules apply at sites with multiple transmitters on buildings. Regardless of the categorical exemption rules detailed about for single carriers, if a T-Mobile, USA site's emissions:

1. are more than 5% above the emissions limits in an "accessible area;" and
2. contribute at least 5% of all the emissions at any site which together result in an overall effect of more than 100% of the emission limits then we, and each carrier meeting this definition, are individually and collectively responsible for compliance. The FCC expects each carrier to make a good faith effort to consider emissions from other carriers and make the determination.

That said, the FCC Office of Engineering and Technology has supported the following exception:

- Within a controlled environment at a multi-transmitter site, if a carrier can physically elevate its antenna so that, as a practical matter, the volume of space where the RF field exceeds 5 percent of the controlled environments limits in Table of Section 1.1310 is 2 meters or more above any rooftop walkways (i.e., the volume where the fields exceed 5 percent of the limit are practically inaccessible), that carriers would be relieved of any responsibility for ensuring compliance of all transmitters at the site. This assumes, of course, that the carrier does not exceed 5 percent of the general public exposure limit in any uncontrolled areas.

Regulatory Compliance recommends conducting the routine environmental analysis whenever collocating on a rooftop. Although the need for analysis usually arises when we are first installing equipment or upgrading a site, we are responsible for total emissions at the site even when a new carrier collocates at our existing site. If after the analysis, the total emissions exceed 100% of the limit, all carriers on the site should be contacted to work out a joint solution to the problem [however, if the last carrier pushes the site over the limit, there is support in the rules that the last carrier should bear the burden of addressing compliance].

### **Professionally Managed Sites**

As noted above, the carrier is always responsible for the RF compliance of its equipment. The FCC OET, however, does realize that some site managers undertake the responsibility for RF compliance (and that carriers likewise may rely on consultants to document compliance. The OET has stated that:

- As with other licensee responsibilities, while ultimate responsibility for compliance rests with the licensee, compliance with the RF exposure regulations can be delegated to specialized consultants, site managers, or specific individuals within a company, and, as long as the delegation itself is reasonable a licensee may certify compliance on the basis of the delegate's report.

In either case, a copy of the site manager or RF consultant's report should be maintained in the site file.

### **Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

**(A) Limits for Occupational/Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

**(B) Limits for General Population/Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

NOTE 1: **Occupational/controlled** limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he/she is made aware of the potential for exposure.

NOTE 2: **General population/uncontrolled** exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

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