MILPITAS PLANNING COMMISSION
AGENDA REPORT

PUBLIC HEARING

Meeting Date: October 24, 2012

APPLICATION:	Conditional Use Permit Amendment No. UA12-0009 and Minor Site Development Permit No. MS12-0039, Metro PCS
APPLICATION SUMMARY:	A request to install four new microwave dish antennas and replacement of associated equipment for an existing 90-foot tall wireless telecommunication wireless lattice tower located within a PG&E Utility Station.
LOCATION:	66 Ranch Drive (APN 22-54-020)
APPLICANT:	Karen Lienert for Metro PCS, 1080 Marina Village Pkwy, 4th Fl., Alameda, CA 95035
OWNER:	Pacific Gas & Electric Company, 66 Ranch Dr. Milpitas, CA 95035
RECOMMENDATION:	Staff recommends that the Planning Commission: Adopt Resolution No. 12-038 approving the Conditional Use Permit Amendment No. UA12-009 and Minor Site Development Permit No. MS12-0039 subject to conditions of approval.
PROJECT DATA:	
General Plan/ Zoning Designation:	Highway Services (HWS)/Light Industrial (M1).
Overlay District:	Site and Architectural Overlay (-S)
Specific Plan:	N/A
CEQA Determination:	Categorically Exempt from further environmental review pursuant to Class 1, Section 15301 (Existing Facilities) of the California Environmental Quality Act (CEQA).
PLANNER:	Cindy Hom, Assistant Planner
PJ:	2848
ATTACHMENTS:	A. Resolution No. 12-038 B. Project Plans

C. Project Description
D. Power Density Study
E. Photo Simulations

LOCATION MAP

No Scale

BACKGROUND

In February 2002, the Planning Commission granted a conditional use permit (UP2001-45) and site development permit (SA2002-91) for the installation of a wireless telecommunication facility for Metro PCS which consisted of nine (9) panel antennas and associated ground mounted equipment on an existing 90-foot tall microwave lattice tower.

On August 24, 2012, Karen Lienert with Metro PCS submitted an application to install four new microwave dish antennas and replacement of associated equipment for an existing 90-foot tall wireless telecommunication wireless lattice tower located within a PG&E substation. 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 proposal is a request to install three (3) two-foot new microwave dish antennas and one (1) one-foot microwave dish antenna on an existing 90-foot tall wireless telecommunication wireless lattice tower located within a PG&E Utility Station as well as replacement of associated ground mounted equipment.

The project is located on an approximately 6.3 acre site that is developed as a PG&E substation which consist of multiple buildings, equipment sheds, gas piping area and a 90-foot tall communication lattice tower. Currently, the substation is secured with a combination of steel picket fencing along the frontage and chain link fencing along the side and rear lot lines. The site is zoned Light Industrial and is surrounded by various commercial uses such as but not limited to hotels, retail shops, and restaurants to the west, north, and east as well as State Route 237 to the south. An aerial photo of the project site and vicinity is shown on the previous page.

Development Standards

The project proposal does not propose any modifications to the main building or existing site improvements beyond the installation of four new microwave dishes and associated equipment. The project complies with the Light Industrial District development standards as demonstrated in Table 1.

Table 1
Development Standards for the Light Industrial District

	Zoning Ordinance	***Existing***	***Proposed***
Setbacks (Minimum)			
Front to Primary Structure	Major Street – 35’ All other streets – 25’	145’	No change
Interior Side Yard	None	45’ and 100’	No change

	Zoning Ordinance	*Existing*	*Proposed*
Street Side Yard	Same as Front yard setback		
Rear Yard	None	165’	No change
Floor Area Ratio (Maximum)	40%	23%	No change
Building Height (Maximum)	None, however any structure exceeding 3 stories or 35’ require Planning Commission approval	90	No change

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

Policy	Consistency Finding
Implementing Policies 2.a-G-1 *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.*	**Consistent.** By providing for alternate telecommunications services for commercial and personal business without creating aesthetic disharmony, the project promotes a highly amenable community environment.
Implementing Policy 2.a-I-3 *Encourage economic pursuits which will strengthen and promote development through stability and balance.*	**Consistent.** The project would encourage economic pursuits that will strengthen and promote development through stability and balance by enabling Metro PCS to provide improved coverage, which helps promote their service within the City and benefits Metro PCS customers.

Zoning Ordinance

The project complies with the Milpitas Zoning Ordinance in that wireless telecommunication facilities are conditionally permitted in the Light Industrial (M1) Zoning District. The project complies with the development standards in terms of land use, setbacks, floor area ratio (FAR), and height.

The location and design of the proposed microwave dish antennas on the existing communication lattice tower will add some visual impacts noticeable in the McCarthy Ranch area. Based on staff's site visit of the area surrounding area, there are no on-site opportunities to add landscaping amenities to create or enhance an aesthetic buffer. However, visual offsets could be provided off-site in the immediate area or in the greater McCarthy Ranch Marketplace area to offset the added visual impacts. Since the McCarthy Ranch Marketplace is a regional destination, staff recommends, as a condition of approval that the applicant shall pay a fair share contribution to the McCarthy Boulevard Landscaping and Light Improvement Capitol Improvement Project (CIP 3402). The fair share contribution shall be in the amount of $1,600 to the City that is based on the cost to install four 24-inch box trees at a unit cost of $400.

The project, as conditioned will not be detrimental or injurious to property, improvements, public health, safety and general welfare in that 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 conditionally permitted uses in all zoning districts including the Highway Services District.

Radio Frequency Emissions

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.

The proposed Metro PCS facility would operate at 28,000 MHz and 38,000 MHz frequency. The proposed dish antennas would accommodate a single channel and proposes an effective radiated power level of approximately 15,936 watts for all installations. The composite RF emissions from the proposed Metro PCS facility and existing antennas is at 5.88% of the FCC's general public limit and 1.17% of the FCC's occupational limit at the nearest walking/working surface to each antenna. 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 of Structures). The project entails the installation of four new microwave antenna dishes on an existing lattice tower as well as installation of associated ground mounted equipment.

PUBLIC COMMENT/OUTREACH

Staff publicly noticed the application in accordance with City and State law. As of the time of writing this report, there have been no inquiries from the public.

CONCLUSION

The proposed facility will help provides 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, negative visual impacts or objectionable levels of noise, odors, or dust, as conditioned.

RECOMMENDATION

STAFF RECOMMENDS THAT the Planning Commission close the public hearing and adopt Resolution No. 12-038 approving Conditional Use Permit No. UA12-0009 and Minor Site Development Permit No. MS12-0039, subject to the attached Conditions of Approval.

Attachments:

A. Resolution No. 12-038
B. Project Plans
C. Project Description
D. Power Density Study
E. Photo Simulations

ATTACHMENT A

RESOLUTION NO. 12-038

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF MILPITAS, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT AMENDMENT NO. UP12-0009 AND MINOR SITE DEVELOPMENT PERMIT NO. MS12-0039, METRO PCS, A REQUEST INSTALL FOUR MICROWAVE DISH ANTENNAS AT 66 RANCH ROAD.

WHEREAS, on August 24, 2012 Karen Lienert with Metro PCS submitted a conditional use permit amendment and minor site development permit application to install four new microwave dish antennas and replacement of associated equipment for an existing 90-foot tall wireless telecommunication wireless lattice tower located within a PG&E Utility Station located at 66 Ranch Drive (APN 22-54-020). The property is located within the Light Industrial Zoning District with Site and Architectural Overlay (M1-S); 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 October 24, 2012, 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) in that the project entails the installation of four new microwave antenna dishes on an existing lattice tower as well as installation of associated ground mounted equipment.

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 Highway Service Zoning District with a conditional use permit. The project complies with the development standards in terms setbacks, FAR, 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. As conditioned, the proposed

facility will not create a negative visual impact or detract from the existing architecture and provide for an aesthetic and harmonious development.

Section 6: The Planning Commission of the City of Milpitas hereby approves Conditional Use Permit Amendment No. UA12-0009 and Minor Site Development Permit No. MS12-0039, Metro PCS, 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 October 24, 2012.

_____
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 October 24, 2012, and carried by the following roll call vote:

COMMISSIONER	**AYES**	**NOES**	**ABSENT**	ABSTAIN
Lawrence Ciardella				
John Luk				
Rajeev Madnawat				
Sudhir Mandal				
Zeya Mohsin				
Gurdev Sandhu				
Steve Tao				
Garry Barbadillo				

EXHIBIT 1

CONDITIONS OF APPROVAL
CONDITIONAL USE PERMIT AMENDMENT NO. UA12-0009 AND MINOR SITE DEVELOPMENT PERMIT NO. MS12-0039, METRO PCS
66 Ranch Drive (APN 22-54-020)

Planning Division

1. The owner or designee shall develop the approved project in conformance with the plans approved by the Planning Commission on October 24, 2012, 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. **(P)**

2. Conditional Use Permit Amendment No. UA12-0009 and Minor Site Development Permit No. MS12-0039 shall become null and void if the project is not commenced within two years 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. **(P)**

   Pursuant to Section 64.06(1), the owner or designee shall have the right to request an extension of Conditional Use Permit Amendment No. UA12-0009 and Minor Site Development Permit No. MS12-0039 if said request is made, filed and approved by the Planning Commission prior to expiration dates set forth herein. **(P)**

3. The project shall be operated in accordance with all local, state and federal regulations. **(P)**

4. Private Job Account - If at the time of application for building permit there is a project job account balance due to the City for recovery of review fees, the review of permits will not be initiated until the balance is paid in full and there is at least 25% of the initial account balance maintained. **(P)**

5. Prior to building permit issuance, the applicant shall pay a fair share contribution to the McCarthy Blvd. Landscaping and Light Improvement Capitol Improvement Project (CIP

3402). The fair share contribution shall be in the amount of $1,600 to the City that is based on the cost to install four 24-inch box trees at a unit cost of $400. **(P)**

6. The applicant shall perform annual inspections and perform necessary maintenance to ensure that the project maintains an aesthetic appearance in perpetuity. **(P)**

Planning = (P)
Engineering = (E)
Fire = (F)
Building = (B)

metroPCS

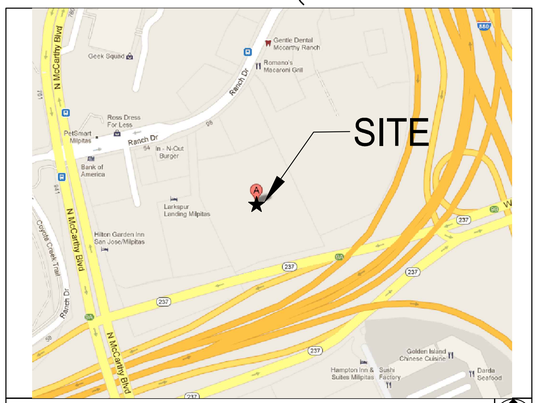
1080 MARINA VILLAGE PKWY, 4TH FLOOR
ALAMEDA, CA. 94501

PG&E MILPITAS TERMINAL SF0170

SAP TOWER #314,702

COMMUNICATION ANTENNA UPGRADE ON EXISTING TOWER

66 RANCH DRIVE
MILPITAS, COUNTY OF SANTA CLARA, CA 95035
(LAT. 37° 25' 32.66"N, LON. 121° 55' 16.30"W)



VICINITY MAP

DIRECTIONS FROM THE METRO PCS OFFICE:

1. HEAD NORTHWEST ON MARINA VILLAGE PKWY TOWARD MARINER SQUARE DR – GO 0.4 MI
2. TURN LEFT ONTO MARINER SQUARE LOOP – GO 0.3 MI
3. TURN LEFT ONTO WILLIE STARGELL AVE – GO 0.2 MI
4. TURN LEFT ONTO CA–260 N/CA–61 N/WEBSTER ST (CONTINUE TO FOLLOW CA–260 N/CA–61 N) – GO 1.1 MI
5. TAKE THE 1ST RIGHT ONTO 7TH ST – GO 0.1 MI
6. TURN RIGHT ONTO MADISON ST – GO 0.1 MI
7. TURN LEFT AT THE 2ND CROSS STREET ONTO 5TH ST. – GO 377 FT
8. MERGE ONTO I–880 S VIA THE RAMP TO SAN JOSE – GO 32.6 MI
9. TAKE EXIT 8B FOR CA–237 E/CALAVERAS BLVD TOWARD MCCARTHY BLVD – GO 0.3 MI
10. TURN RIGHT ONTO CA–237 W – GO 0.3 MI
11. TAKE THE 1ST RIGHT ONTO N MCCARTHY BLVD – GO 0.1 MI
12. TAKE THE 1ST RIGHT ONTO RANCH DR (DESTINATION WILL BE ON THE RIGHT) – GO 0.1 MI

DRIVING DIRECTIONS

THIS IS AN APPLICATION FOR AN: UNMANNED WIRELESS DATA FACILITY CONSISTING OF NEW COMMUNICATION ANTENNAS AND COAX CABLE UPGRADES.

PROJECT DESCRIPTION

ALL WORK AND MATERIALS SHALL BE PERFORMED AND 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.

1. CALIFORNIA BUILDING CODE 2010
2. CALIFORNIA FIRE CODE 2010
3. CALIFORNIA PLUMBING CODE 2010
4. CALIFORNIA ELECTRICAL CODE 2010
5. CALIFORNIA MECHANICAL CODE 2010

CODE COMPLIANCE

SHEET	DESCRIPTION	REV.
T-1	COVER SHEET	
G-1	GENERAL NOTES	
C-1	OVERALL SITE PLAN AND PARCEL PLAN	
C-2	ENLARGED SITE PLAN	
C-3	TOWER ELEVATION AND ANTENNA DETAILS	
C-4	ANTENNA DISH SPECIFICATION	
E-1	ELECTRICAL SITE PLAN & RISER DIAGRAM	

SHEET INDEX

ISSUED FOR: 100% ZONING DRAWINGS
DATE: JULY 31, 2012

APPLICANT/LESSEE

MDCMC NAME: MetroPCS, INC
PROJECT MANAGER: JOHN KORCH
PHONE: (925) 451–1590

PROPERTY INFORMATION

OWNER: PG & E (FEE)

ADDRESS: P.O. BOX 770000 SAN FRANCISCO CA, 94177–0001

HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. DISABLED ACCESS NOT REQUIRED.

JURISDICTION: --

PARCEL ID: 135–43–002A

PROJECT INFORMATION

EQUIPMENT LOCATION: ☒ OUTDOOR ☐ INDOOR

ANTENNA LOCATION:
- ☐ GUY TOWER
- ☐ SELF SUPPORT TOWER
- ☒ MONOPOLE
- ☐ ROOF TOP
- ☐ NEW TOWER
- ☐ OTHER

PROJECT SUMMARY

CIVIL ENGINEER:

KIMLEY–HORN AND ASSOCIATES, INC.
765 THE CITY DRIVE
SUITE 400
ORANGE, CA 92868
DAVE BOSSU
(714) 705–1347

STRUCTURAL ENGINEER:

N/A

ELECTRICAL ENGINEER:

N/A

SURVEYOR:

N/A

TOWER ENGINEER:

N/A

PROJECT TEAM

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Drawing name: K:\ORA_LDEV\Metro PCS\MetroPCS Projects\SF0170\CAD\Sheet\SF0170-1-T1.dwg SF0170-1-T1 Jul 31, 2012 7:02pm by: david.bossu

metroPCS
1080 MARINA VILLAGE PKWY, 4TH FLOOR
ALAMEDA, CA 94501

PROJECT INFORMATION:
PG&E MILPITAS TERMINAL
SF0170
66 RANCH DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

CURRENT ISSUE DATE:
JULY 2012

ISSUED FOR:
COMMUNICATION ANTENNA UPGRADE

REV.:	DATE:	DESCRIPTION:

SEAL:

REGISTERED PROFESSIONAL ENGINEER
DAVE M. BOSSU
RCE NO. 78103
CIVIL
STATE OF CALIFORNIA

PLANS PREPARED BY:
Kimley-Horn and Associates, Inc.
© 2012 KIMLEY–HORN AND ASSOCIATES, INC.
765 THE CITY DRIVE, SUITE 400
ORANGE, CA 92868
(714) 939–1030
FBPE CA00000696

DRAWN BY:	CHK.:	APV.:
MS	DB	DB

LICENSURE:
DAVE BOSSU PE 78103

SHEET TITLE:
COVER SHEET

SHEET NUMBER:	REVISION:
T-1	0

KHA Job #:
094718002

STANDARD PROVISIONS

INTENT

A. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE PERFORMED AND THE MATERIALS TO BE FURNISHED FOR THE CONSTRUCTION OF THE METRO PCS SITE.

B. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND COMPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED ON BOTH.

C. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS INDICATED IN THE DOCUMENTS.

D. THE PURPOSE OF THE SPECIFICATIONS IS TO SUPPLEMENT THE INTENT OF THE DRAWINGS AND TO DESIGNATE A PROCEDURE, TYPE OR QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.

E. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK HOWEVER, NO CHANGES THAT ALTER THE CHARACTER INTENT OF THE DESIGN WILL BE MADE OR PERMITTED BY METRO PCS, WITHOUT A CHANGE ORDER.

CONFLICTS

A. THE CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR PERFORMING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY INADVERTENTLY OCCUR SHALL BE SUBMITTED TO THE METRO PCS CONSTRUCTION PROJECT MANAGER (CPM) FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREA.

B. THE CONTRACTOR, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING ABOUT WHICH THE CONTRACTOR MIGHT NOT HAVE FULLY INFORMED HIMSELF PRIOR TO BIDDING.

CONTRACTS AND WARRANTIES

A. EACH CONTRACTOR IS RESPONSIBLE FOR HELPING TO OBTAIN THE BUIDING PERMIT AT THE LOCAL JURISDICTION AS THE CONTRACTOR OF RECORD, AND PROVIDE SAID JURISDICTION WITH ALL PROOF REQUIRED TO OPERATE AS A CONTRACTOR IN THAT JURISDICTION.

STORAGE:

A. DO NOT USE THE EXISTING BUILDING SPACE FOR STORAGE OF TOOLS OR MATERIALS WITHOUT THE CONSTRUCTION PROJECT MANAGER AND/OR BUILDING OWNER APPROVAL.

B. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY LOCATION AND IN A MANNER THAT WILL NOT OBSTRUCT THE FLOW OF OTHER WORK. ANY EQUIPMENT OR MATERIAL STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE MANUFACTURER.

PROTECTION:

A. PROTECT FINISHED SURFACES, INCLUDING JAMBS AND HEADS OF OPENINGS USED AS PASSAGEWAYS THROUGH WHICH EQUIPMENT AND MATERIALS WILL PASS.

B. PROVIDE PROTECTION FOR EQUIPMENT ROOM SURFACES PRIOR TO ALLOWING EQUIPMENT OR MATERIALS TO BE MOVED OVER SUCH SURFACES.

C. MAINTAIN FINISHED SURFACES CLEAN, UNMARRED AND SUITABLY PROTECTED UNTIL JOB SITE IS ACCEPTED BY CPM.

REPAIRS AND REPLACEMENTS:

A. IN EVENT OF DAMAGE, THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS AND REPAIRS AND AT NO ADDITIONAL COST TO METRO PCS AND/OR BUILDING OWNER.

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TEMPORARY FACILITIES:

A. WATER:
WATER IS NOT AVAILABLE TO THE CONTRACTORS ON SITE.

B. TELEPHONE:
EACH CONTRACTOR TO PROVIDE HIS OWN TELEPHONE ACCESS IF REQUIRED.

C. IF PERMANENT POWER IS COMPLETED, ALL CONTRACTORS MAY USE THE SERVICE CONNECTION FOR PRODUCTION WORK ONLY, PROVIDED THAT ELECTRICAL CORDS AND CONNECTIONS ARE FURNISHED BY THE CONTRACTORS AND ARE DISCONNECTED AND PROPERLY STORED DURING NON-WORKING HOURS.

CLEAN UP:

A. THE CONTRACTORS SHALL AT ALL TIMES KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK, AND AT THE COMPLETION OF THE WORK, THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING, INCLUDING ALL TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND SHALL LEAVE THE WORK CLEAN AND READY FOR USE.

B. EXTERIOR: VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WATER MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.

1. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.

C. INTERIOR: VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.

1. REMOVE ALL TRACES OF SPLASHED MATERIAL FROM ADJACENT SURFACES.
2. REMOVE PAINT DROPPINGS, SPOTS, STAINS AND DIRT FROM FINISHED SURFACES.

D. CONTRACTOR SHALL WASH AND WAX FLOOR PRIOR TO FINAL ACCEPTANCE. FLOOR WAX SHALL BE OF THE ANTI-STATIC TYPE.

CHANGE ORDER PROCEDURE:

A. CHANGE ORDER MAY BE INITIATED BY THE CPM, AND/OR THE CONTRACTOR. THE CONTRACTOR, UPON VERBAL REQUEST FROM THE CPM SHALL PREPARE A WRITTEN PROPOSAL DESCRIBING THE CHANGE IN WORK OR MATERIALS AND ANY CHANGES IN THE CONTRACT AMOUNT AND PRESENT TO THE CPM FOR APPROVAL. SUBMIT REQUESTS FOR SUBSTITUTIONS IN THE FORM AND IN ACCORDANCE WITH PROCEDURES REQUIRED FOR CHANGE ORDER PROPOSALS. ANY CHANGES TO THE SCOPE OF WORK OR MATERIALS WHICH ARE PERFORMED BY THE CONTRACTOR WITHOUT A WRITTEN CHANGE ORDER AS DESCRIBED AND APPROVED BY THE CPM, SHALL BECOME THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

RELATED DOCUMENTS AND COORDINATION:

A. GENERAL CARPENTRY, ELECTRICAL, AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, EACH CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

SHOP DRAWINGS:

A. CONTRACTORS TO SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS THROUGH THE GENERAL CONTRACTOR TO THE CPM, FOR REVIEW.

B. ALL SHOP DRAWINGS TO BE REVIEWED, CHECKED, CORRECTED, STAMPED AND SIGNED BY GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE CPM.

PRODUCTS AND SUBSTITUTIONS:

A. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST IDENTIFY THE PRODUCT FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS, AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.

B. ALL NECESSARY PRODUCT DATA AND CUT SHEETS SHALL PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS, AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE CPM, SUBMIT ACTUAL SAMPLES TO THE CPM FOR APPROVAL IN LIEU OF CUT SHEETS.

COMPLIANCE

A. ALL MATERIALS, DESIGN, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES (SOME OF WHICH ARE LISTED BELOW), ORDINANCES, AND AUTHORITIES HAVING JURISDICTION OVER THE WORK. UPON THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROVIDE METRO PCS WITH A CERTIFICATE OF OCCUPANCY (IF REQUIRED) AND OTHER LEGAL DOCUMENTS TO VERIFY SUCH COMPLIANCE. WHERE NO CODES EXIST, THE WORK SHALL CONFORM WITH THE 2010 CALIFORNIA BUILDING CODE, AND/OR THE SPECIFICATIONS HEREIN, WHICHEVER IS MORE STRINGENT, AND A DOCUMENT STATEMENT SHALL BE FURNISHED TO THIS EFFECT.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY COMPLIANCE WITH THE GOVERNING CODES AND TO NOTIFY THE CPM OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.

REFERENCE TO ANY STANDARD OR CODE OF PRACTICE IN THIS SPECIFICATION SHALL BE DEEMED TO MEAN THE EDITION CURRENT AT THE TIME OF AWARD OF THE CONTRACT. THE CONTRACTOR SHALL COMPLY WITH ALL ZONING AND SITE ACQUISITION SPECIAL STIPULATIONS AS OUTLINED IN THE JOB SPECIFICATIONS, OR AS DIRECTED BY THE CPM.

ANSI/TIA/EIA - 222 - F
2010 CALIFORNIA BUILDING CODE
BUILDING OFFICIALS & CODE ADMINISTRATORS
2010 CALIFORNIA ELECTRICAL CODE (NEC 2008)
UNDERWRITERS LABORATORIES (U.L.) APPROVED ELECTRICAL PRODUCTS
AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATIONS (AISC)
LIFE SAFETY CODE NFPA - 101-2006
FEDERAL AVIATION REGULATIONS
2010 CALIFORNIA FIRE CODE (IFC 2009)

PERMITS AND LICENSES

A. THE SITE ACQUISITION SPECIALIST SHALL OBTAIN, AT HIS OWN EXPENSE, ALL REQUIRED LOCAL, STATE, AND/OR COUNTY CONSTRUCTION PERMITS AND LICENSES. COPIES OF ALL PERMITS SHALL BE SENT TO CPM. APPROVALS FROM RELEVANT PLANNING BOARDS, ENVIRONMENTAL BOARDS, AND/OR OTHER COMMITTEES WILL BE SUPPLIED BY OTHERS, BUT MUST BE CONFIRMED BY THE SITE ACQUISITION SPECIALIST PRIOR TO THE APPLICATION FOR CONSTRUCTION PERMITS.

FAA APPROVAL WILL BE SUPPLIED BY OTHERS, BUT MUST BE CONFIRMED BY THE CONTRACTOR WITH THE CPM PRIOR TO THE COMMENCEMENT OF WORK.

B. PRIOR TO COMMENCING THE WORK, THE CPM SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES TO THE PROJECT. THIS WOULD INCLUDE (THOUGH NOT LIMITED TO) THE DESIGNATED ELECTRICIAN, LOCAL TELEPHONE COMPANY, CARPENTRY FOREMAN (IF SUBCONTRACTED), A REPRESENTATIVE FROM THE LOCAL SPECIFIED WAREHOUSE AND CPM OR HIS DESIGNATED REPRESENTATIVE.

C. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ENGINEER FOR RESOLUTION AND INSTRUCTION AND NO FURTHER WORK SHALL BE PERFORMED UNTIL DISCREPANCY IS CHECKED AND CORRECTED BY THE ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS OWN RISK AND EXPENSE.

D. THE CONTRACTOR SHALL BE EQUIPPED WITH A MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A CELLULAR PHONE OR A PAGER.

E. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SITE SAFETY INCLUDING BUT NOT LIMITED TO PROTECTION OF ALL SITE PERSONNEL AND THE GENERAL PUBLIC DURING THE ENTIRE SITE CONSTRUCTION PERIOD. HE SHALL TAKE ALL REASONABLE PRECAUTIONS TO PLACE AND MAINTAIN BARRICADES, LAMPS, SIGNS, AND THE LIKE IN ACCORDANCE WITH OSHA SAFETY ACT AND ANSI OCCUPATIONAL GUIDELINES.

F. PROVIDE DAILY UPDATES ON SITE PROGRESS, EITHER VERBAL OR WRITTEN TO CPM.

G. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.

H. COORDINATION WITH PUBLIC UTILITY AUTHORITIES

THE CONTRACTOR SHALL COORDINATE WITH RELEVANT AUTHORITIES THE WORKS THEY ARE TO BE CARRIED OUT. HE SHALL CONDUCT HIS OPERATIONS SO AS TO NOT INTERFERE WITH THE OPERATIONS OF PUBLIC AND/OR PRIVATE UTILITY AUTHORITIES, INSTALLING SERVICES ON THE SITE.

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROTECTION OF SUCH FACILITIES AND STRUCTURES DURING CONSTRUCTION OF THIS SITE.

I. INSPECTIONS

THE CONTRACTOR SHALL NOTIFY THE CPM AT LEAST 24 HOURS IN ADVANCE OF REQUIRED INSPECTIONS. INSPECTIONS THAT WILL BE REQUIRED BY THE CPM OR OTHER DESIGNATED METRO PCS REPRESENTATIVE ARE:

1. INSPECTION OF GROUNDING SYSTEM
2. PRACTICAL COMPLETION

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ENSURING THAT ALL RELEVANT AUTHORITY INSPECTIONS ARE CARRIED OUT IN A TIMELY MANNER. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF ALL INSPECTIONS.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH METRO PCS' DESIGNATED ENGINEERING FIRM TO OBTAIN ALL REQUIRED INSPECTIONS AND TESTING. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF ALL INSPECTIONS.

J. ENVIRONMENTAL PROTECTION

NOISE LEVEL: THE CONTRACTOR SHALL ENSURE THAT STATE AND LOCAL REGULATIONS ARE COMPLIED WITH IN REGARD TO NOISE LEVELS PRODUCED BY HIS OR HIS SUB-CONTRACTOR'S EQUIPMENT OR METHODS OF CONSTRUCTION.

DUST CONTROL: THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO LIMIT THE CREATION OF ANY DUST NUISANCE THAT MIGHT ARISE DURING CONSTRUCTION TO THE SATISFACTION OF THE LOCAL AUTHORITIES AND THE BUILDING OWNER. THE CPM MAY DIRECT THAT WORK CEASE UNTIL SUCH TIME AS ANY PARTICULAR DUST NUISANCE IS CONTROLLED TO THE SATISFACTION OF THE CPM, LOCAL AUTHORITIES, AND BUILDING OWNERS.

K. REINSTATEMENT

ANY PAVEMENT, FOOTPATH, CURB, GUTTERS, WALLS, FLOORS, SERVICES, AND EXISTING FEATURES OR OTHER PROPERTIES, DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE REINSTATED TO A CONDITION AT LEAST EQUAL TO THAT EXISTING BEFORE COMMENCEMENT OF OPERATIONS.

L. AS-BUILTS DRAWINGS

THE CONTRACTOR SHALL PREPARE A RED LINED SET OF AS-BUILT DRAWINGS. THE FORM OF MARKED UP CONSTRUCTION PLANS SHALL BE STANDARD ACCEPTABLE TO THE METRO PCS. SUCH DRAWINGS SHALL BE SUBMITTED TO METRO PCS WITHIN TWO WEEKS FROM PRACTICAL COMPLETION AND PRIOR TO APPROVAL OF THE CONTRACTOR'S FINAL INVOICE.

M. PRACTICAL COMPLETION

THE FOLLOWING DOCUMENTATION SHALL BE PROVIDED TO METRO PCS WIRELESS PRIOR TO THE DATE OF PRACTICAL COMPLETION:

1. ALL QUALITY ASSURANCE CHECKLISTS AS OUTLINED IN THE PREVIOUS SECTIONS
2. WARRANTIES AND MAINTENANCE MANUALS, IF APPLICABLE
3. GROUND SYSTEM RESISTANCE TEST
4. CERTIFICATE OF OCCUPANCY

INSURANCE AND BONDS:

A. EACH CONTRACTOR SHALL AT HIS OWN EXPENSE CARRY AND MAINTAIN FOR THE DURATION OF THE PROJECT ALL INSURANCE AS REQUIRED AND LISTED AND SHALL NOT COMMENCE WITH HIS WORK UNTIL HE HAS PRESENTED A CERTIFICATE OF INSURANCE STATING ALL COVERAGES TO THE GENERAL CONTRACTOR WHO SHALL, IN TURN, FORWARD A COPY OF ALL CERTIFICATES TO THE CPM.

metroPCS
1080 MARINA VILLAGE PKWY, 4TH FLOOR
ALAMEDA, CA 94501

PROJECT INFORMATION:
PG&E MILPITAS TERMINAL
SF0170
66 RANCH DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

CURRENT ISSUE DATE:
JULY 2012

ISSUED FOR:
COMMUNICATION ANTENNA UPGRADE

REV.:	DATE:	DESCRIPTION:

SEAL:
REGISTERED PROFESSIONAL ENGINEER
DAVID M. BOSSU
RCE NO. 78103
CIVIL
STATE OF CALIFORNIA

PLANS PREPARED BY:
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765 THE CITY DRIVE, SUITE 400
ORANGE, CA 92868
(714) 939-1030
FBPE CA00000696

DRAWN BY:	CHK.:	APV.:
MS	DB	DB

LICENSURE:
DAVE BOSSU PE 78103

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: G-1
REVISION: 0

KHA Job #:
094718002

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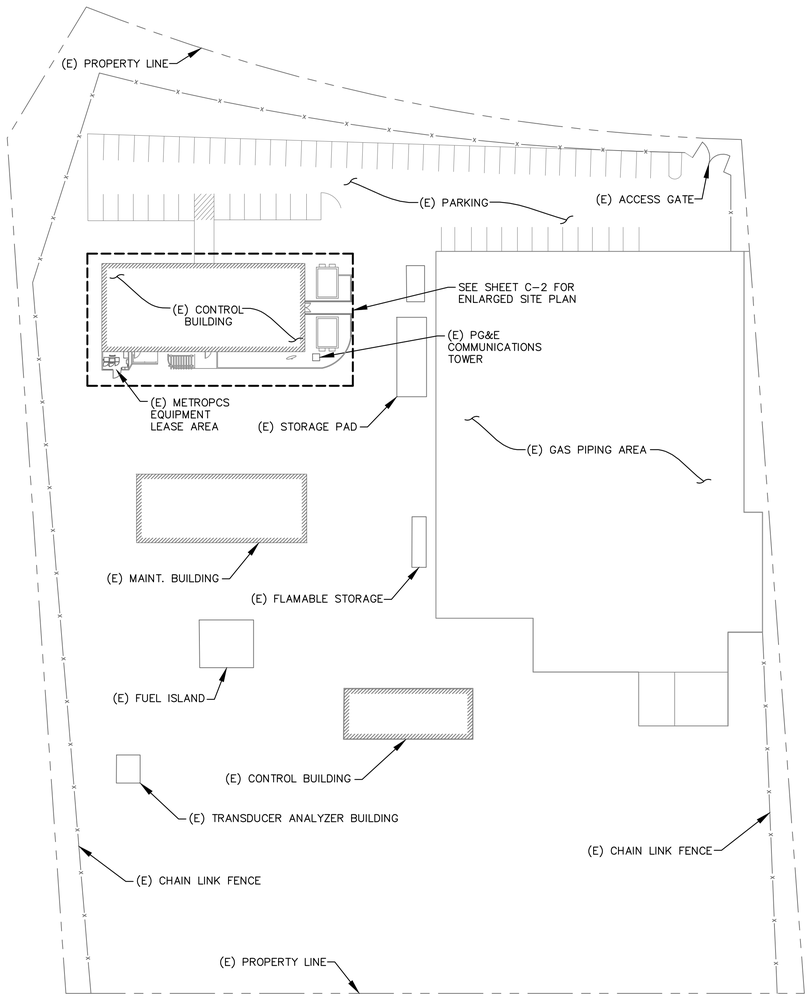
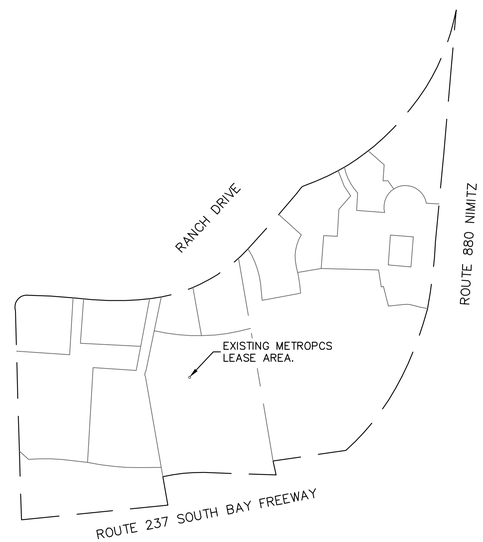


NORTH

OVERALL SITE PLAN
SCALE: N.T.S.



NORTH

PARCEL PLAN
SCALE: N.T.S.

NOTE: SITE PLAN AND ROOF PLAN BASE INFORMATION PROVIDED BY OTHERS. EXISTING AND PROPOSED CONDITIONS BASED ON FIELD OBSERVATIONS.

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ALAMEDA, CA 94501

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66 RANCH DRIVE
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SANTA CLARA COUNTY

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RCE NO. 78103
CIVIL
STATE OF CALIFORNIA

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765 THE CITY DRIVE, SUITE 400
ORANGE, CA 92868
(714) 939-1030
FBPE CA00000696

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MS	DB	DB

LICENSURE:

DAVE BOSSU PE 78103

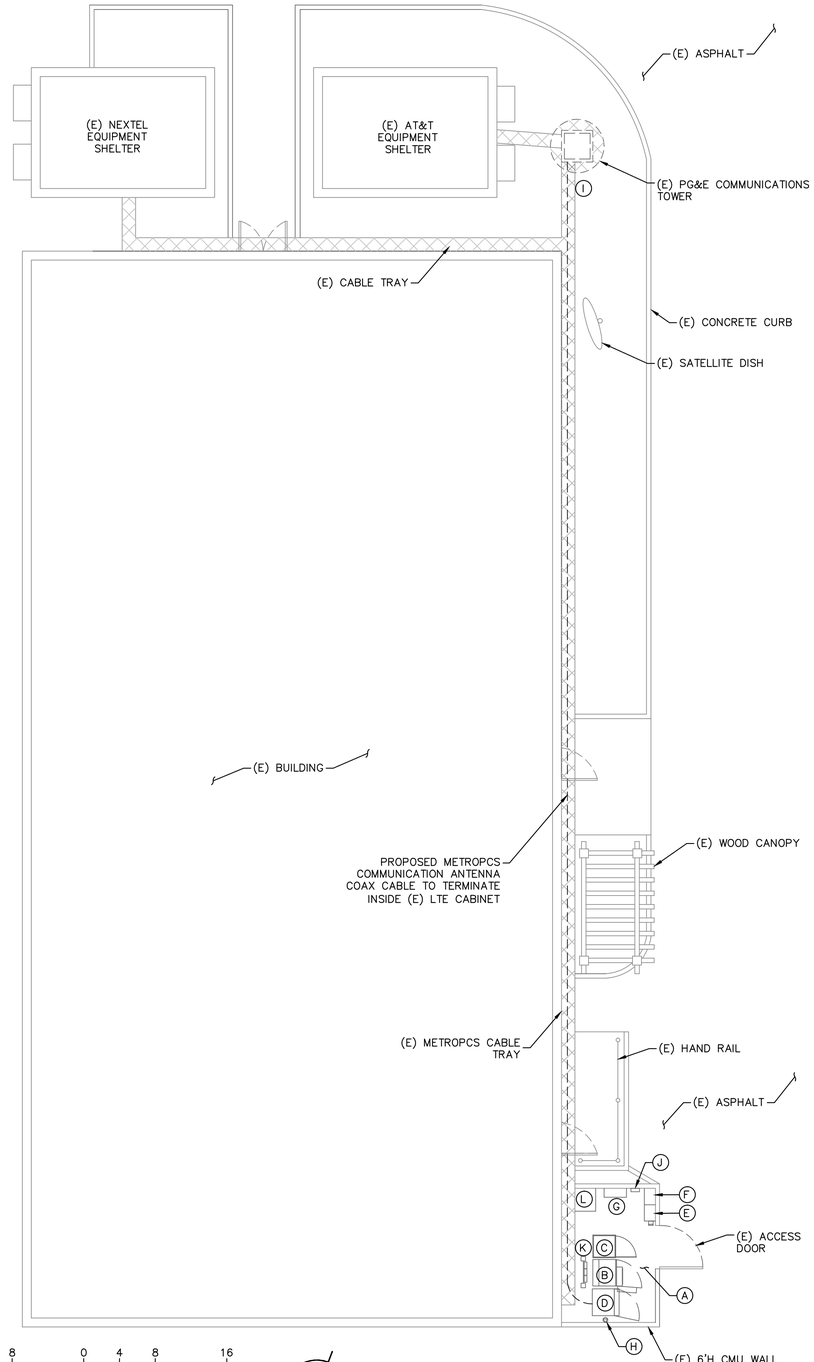
SHEET TITLE:

OVERALL SITE PLAN AND PARCEL PLAN

SHEET NUMBER: C-1

REVISION: 0

KHA Job #: 094718002



LEGEND

- (A) (E) 10'-6" X 15' METROPCS EQUIPMENT PAD
- (B) (E) COMPACT RADIO CABINET TO REMAIN
- (C) (E) EZBFO BATTERY CABINET TO REMAIN
- (D) (E) LTE CABINET TO REMAIN
- (E) (E) PPC CABINET TO REMAIN
- (F) (E) TELCO BOX TO REMAIN
- (G) (E) FIBERNET BOX TO REMAIN
- (H) (E) GPS ANTENNA TO REMAIN
- (I) (E) WAVEGUIDE BRIDGE TO REMAIN
- (J) (E) EMERGENCY SHUTOFF BUTTON TO REMAIN
- (K) (E) DUPLEXER FRAME TO REMAIN
- (L) (E) TRANSFORMER TO REMAIN

8 0 4 8 16
GRAPHIC SCALE (IN FEET)

NORTH

ENLARGED SITE PLAN
SCALE: 1"=8'

NOTE: SITE PLAN AND ROOF PLAN BASE INFORMATION PROVIDED BY OTHERS. EXISTING AND PROPOSED CONDITIONS BASED ON FIELD OBSERVATIONS.

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DAVID M. BOSSU
RCE NO. 78103
CIVIL
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ORANGE, CA 92868
(714) 939-1030
FBPE CA00000696

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MS	DB	DB

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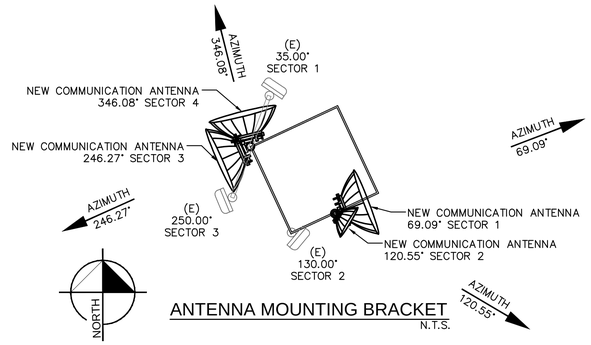
SHEET TITLE:
ENLARGED SITE PLAN

SHEET NUMBER:	REVISION:
C-2	0

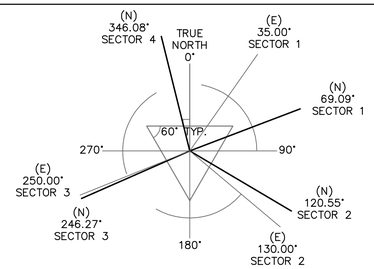
KHA Job #:
094718002



ANTENNA MOUNTING BRACKET

N.T.S.

NOTE: EXISTING ANTENNA MOUNT BRACKET TO REMAIN. STRUCTURAL ANALYSIS BY OTHERS.



CONTRACTOR SHALL USE SURVEY INFORMATION TO ALIGN ORIENTATION OF ANTENNA SUPPORT STRUCTURE(S) WITH BEARINGS SHOWN IN DIAGRAM ABOVE.

ANTENNA ORIENTATION DIAGRAM

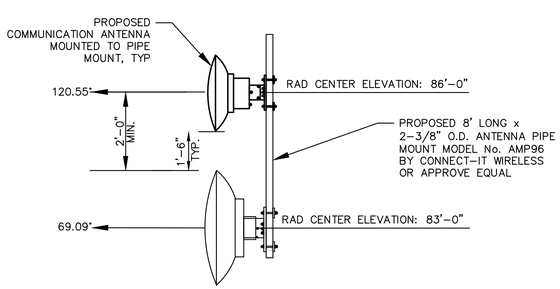
N.T.S.

ANTENNA SECTOR	AZIMUTH IN DEGREES	ANTENNA CONFIGURATION	RADIO MODEL	ANTENNA MODEL	COMPOSITION CABLES			END SITE
					LENGTH	SIZE	QTY.	
(E) SECTOR 1	35°	–	–	RFS APXV18–206516H–C	87'±	7/8"ø	1	–
(E) SECTOR 2	130°	–	–	RFS APXV18–206516H–C	87'±	7/8"ø	1	–
(E) SECTOR 3	250°	–	–	RFS APXV18–206516H–C	87'±	7/8"ø	1	–
(N) SECTOR 1	69.09°	1+0	TN38/2X 182T/256X–70	ANT2 0.6 38 HP (TR)	212'±	1/2'ø	1	SF0323
(N) SECTOR 2	120.55°	1+0	2010 28 064T/16–20	ANT2 0.3 28 HP (TR)	215'±	1/2'ø	1	SF0643
(N) SECTOR 3	246.27°	1+0	TN28/2X 225T/128X–88	ANT2 0.6 28 HP (TR)	212'±	1/2'ø	1	SF0648
(N) SECTOR 4	346.08°	1+0	TN38/2X 107T/128X–30	ANT2 0.6 38 HP (TR)	215'±	1/2'ø	1	SF0323

NOTES:
1. ALL COAX CABLE LENGTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY EXACT LENGTH IN THE FIELD PRIOR TO CONSTRUCTION
2. REFER TO C–4 FOR COMMUNICATION ANTENNA SPECIFICATIONS

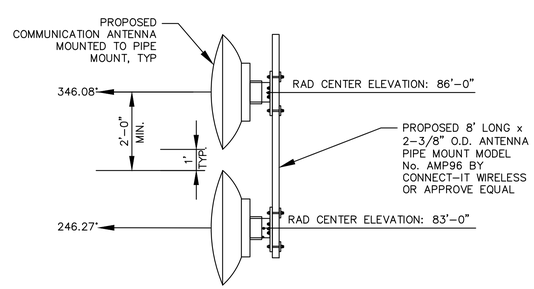
COAXIAL CABLE COLOR CODE
SECTOR 1: RX – RED
TX/RX – RED & WHITE
SECTOR 2: RX – BLUE
TX/RX – BLUE & WHITE
SECTOR 3: RX – GREEN
TX/RX – GREEN & WHITE
SECTOR 4: RX – RED
TX/RX – RED & WHITE

ANTENNA SCHEDULE



ANTENNA DETAIL

N.T.S.



ANTENNA DETAIL

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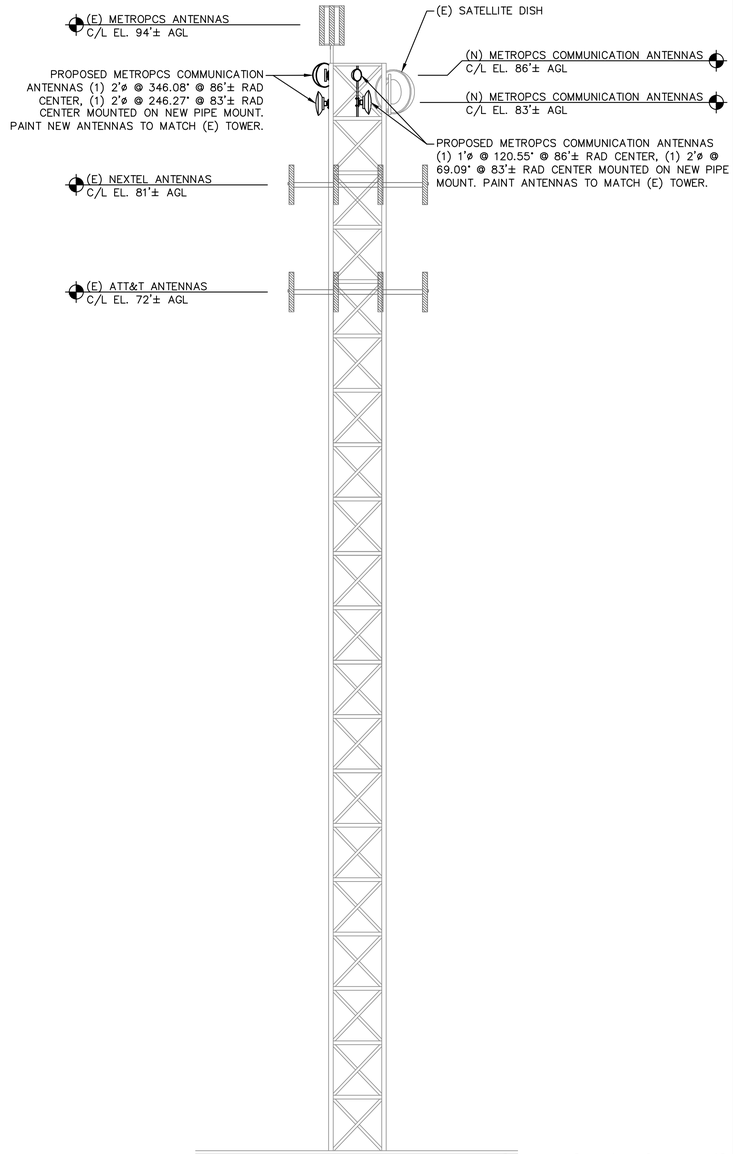

SOUTH TOWER ELEVATION

SCALE: 1"=6'

6 0 4 6 12
GRAPHIC SCALE (IN FEET)

NOTES:
1. ALL EXISTING & PROPOSED ATTACHMENTS TO TOWER BASED ON STRUCTURAL ANALYSIS BY OTHERS.
2. FOR CLARITY, EXISTING GROUND EQUIPMENT FOR OTHER CARRIERS NOT SHOWN.
3. CONTRACTOR TO COORDINATE ANTENNA MOUNTS W/ METROPCS CPM.
4. CONTRACTOR TO REFER TO STRUCTURAL ANALYSIS (BY OTHERS)

NOTE: SITE PLAN AND ROOF PLAN BASE INFORMATION PROVIDED BY OTHERS. EXISTING AND PROPOSED CONDITIONS BASED ON FIELD OBSERVATIONS.

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PG&E MILPITAS TERMINAL
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66 RANCH DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

CURRENT ISSUE DATE:
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COMMUNICATION ANTENNA UPGRADE

REV.:	DATE:	DESCRIPTION:

SEAL:
REGISTERED PROFESSIONAL ENGINEER DAVID M. BOSSU RCE NO. 78103 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:
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ORANGE, CA 92868
(714) 939–1030
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DRAWN BY: MS | CHK.: DB | APV.: DB

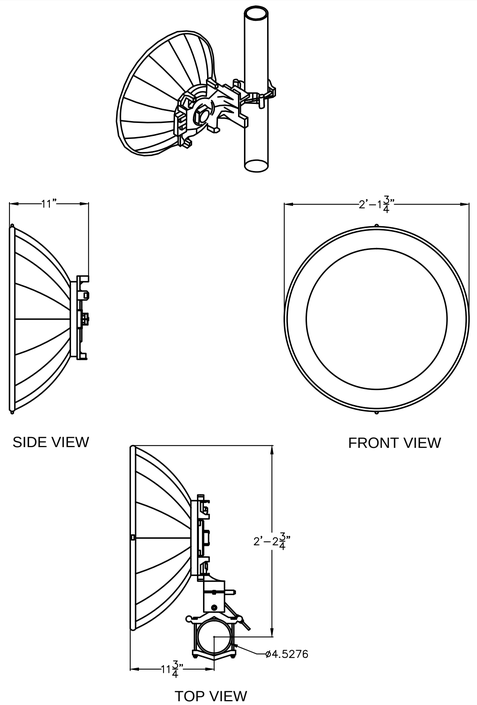
LICENSURE:
DAVE BOSSU PE 78103

SHEET TITLE:
TOWER ELEVATION AND ANTENNA DETAILS

SHEET NUMBER: C-3
REVISION: 0

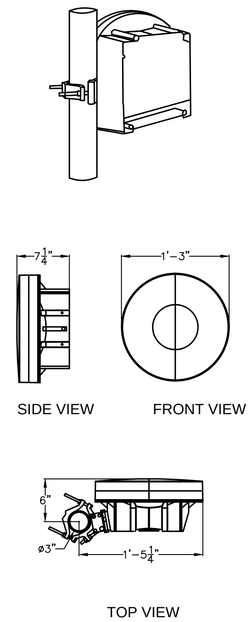
KHA Job #: 094718002

Drawing name: K:\ORA_LDEV\Metro PCS\MetroPCS Projects\SF0170\CAD\Sheet1\SF0170–3.4.5–C1.C2.C3.dwg SF0170–4–C2 Jul 31, 2012 7:03pm by: david.bossu



ERICSSON ANT2 0.6 HP (7-42 GHz) SPECIFICATION

SCALE: N.T.S. | 2



ERICSSON ANT2 0.3 HP SPECIFICATION

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DAVID M. BOSSU
REG NO. 78103
CIVIL
STATE OF CALIFORNIA

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ORANGE, CA 92868
(714) 939-1030
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LICENSURE:

DAVE BOSSU PE 78103

SHEET TITLE:

ANTENNA DISH SPECIFICATION

SHEET NUMBER:	REVISION:
C-4	0

KHA Job #:

094718002

GROUNDING CONNECTION METHODS:

- ► MECHANICAL CONNECTION (DOUBLE HOLE LUG)
- ■ CADWELD (EXOTHEMIC WELD) CONNECTION
- ● CONNECT PER MANUFACTURER'S SPECIFICATIONS
- GROUNDING BAR

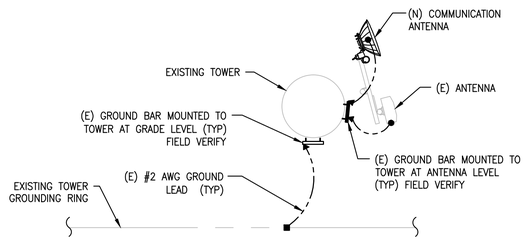
SYMBOLS

- ⊠ 3/4" X10'-0" COPPERCLAD GRND. ROD W/INSPECTION SLEEVE TEST WELL
- ⊗ 3/4" X10'-0" COPPERCLAD GRND. ROD W/ INSPECTION SLEEVE

ABBREVIATIONS

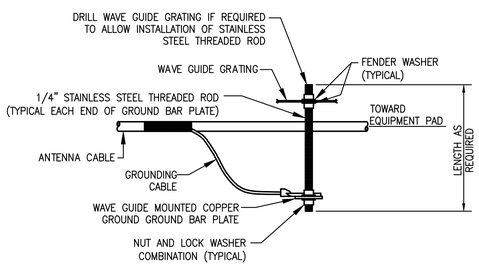
CU – COPPER

AL – ALUMINUM



ANTENNA GROUNDING PLAN

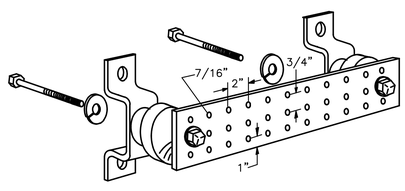
N.T.S.



NOTE: SEE CIVIL SHEET FOR CONSTRUCTION SPECIFICATIONS FOR WAVEGUIDE SUPPORT

ANTENNA CABLE GROUNDING DETAIL

N.T.S.



1. GROUND BUS BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. CAT. NO. 0030560010 OR EQUIVALENT. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION

GROUND BAR DETAIL

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ELECTRICAL NOTES

1. GENERAL
   - 1.1. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR A COMPLETE SYSTEM SHALL BE INCLUDED.
   - 1.2. THE CONTRACTOR SHALL COORD. CPM FOR PERMITS & INSPECTIONS.
   - 1.3. ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, CALIFORNIA BUILDING CODE AND THE LOCAL BUILDING CODES. ALL COMPONENTS SHALL BE U.L. APPROVED.
   - 1.4. THE CONTRACTOR SHALL BEFORE SUBMITTING HIS BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM
   - 1.5. EXACT LOCATION OF ALL EQUIPMENT SHALL BE COORDINATED WITH CPM, THE BUILDING OWNER AND OTHER TRADES.
   - 1.6. WHERE EQUIPMENT IS SPECIFIED BY MANUFACTURER AND TYPE, SUBSTITUTION SHALL ONLY BE MADE WITH THE APPROVAL OF THE ENGINEER.

2. SCOPE OF WORK--THE CONTRACTOR SHALL PROVIDE ALL ELECTRICAL WIRING AND EQUIPMENT UNLESS OTHERWISE INDICATED. MAIN COMPONENTS ARE AS FOLLOWS:
   - 2.1. VERIFY POWER CAPACITY WITH UTILITY PROVIDER PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO CONSTRUCTION IF AVAILABLE CAPACITY IS INSUFFICIENT.
   - 2.2. PROVIDE SERVICE EQUIPMENT MOUNTED AS INDICATED ON DRAWINGS.
   - 2.3. INSTALL WIRE AND CONDUIT AS INDICATED.
   - 2.4. PROVIDE GROUNDING AS INDICATED ON DRAWINGS.
   - 2.5. RESTORE ALL AREAS TO ORIGINAL CONDITION AFTER INSTALLATION OF CONDUIT. CUT AND PATCH CONCRETE AND/OR ASPHALT AS REQUIRED.

3. CONDUIT
   - 3.1. CONDUIT SIZES AS SHOWN ON THE DRAWINGS ARE A MINIMUM. THE CONTRACTOR MAY INCREASE AS REQUIRED FOR EASE OF PULLING.
   - 3.2. CONDUIT TYPES AS FOLLOWS:
     - 3.2.1. ALL ABOVE GRADE CONDUIT SHALL BE RIGID GALVANIZED STEEL.
     - 3.2.2. ALL CONDUIT BELOW GRADE SHALL BE SCHEDULE 40 PVC.
     - 3.2.3. CONCEALED CONDUIT IN WALLS OR ABOVE CEILING MAY BE EMT.
   - 3.3. ALL EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL. CONDUITS SHALL HAVE BURRS REMOVED WITH A REAMER. CONDUITS ENTERING CABINETS SHALL HAVE LOCK NUTS INSIDE AND OUT UNLESS ENTRANCE IS THREADED. NYLON INSULATED BUSHINGS SHALL BE USED ON ALL CONDUIT TERMINATIONS.
   - 3.4. FLEX CONDUIT SHALL BE LIQUID TIGHT FLEXIBLE METALLIC CONDUIT.

4. CONDUCTORS
   - 4.1. CONDUCTORS SHALL BE COPPER STRANDED TYPE THWN OR XHHW WITH 75 DEGREE C RISE INSULATION OR AS INDICATED ON DRAWINGS.

GROUNDING PROTECTION SYSTEM NOTES:

5. GROUNDING: PROVIDE GROUND SYSTEM AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY THE NATIONAL ELECTRIC CODE AND RADIO EQUIPMENT MANUFACTURER.
6. PROVIDE GROUND BAR AND CABLE GROUND KITS TO BOND COAX CABLES TO GROUND RING AT ANTENNA AND AT CABINET IF CABLE HAS METAL JACKET.
7. BOND NEW ANTENNA GROUND TO (E) #2 AWG TINNED COPPER GROUND RING
8. VERIFY THAT BOND DISCONNECT SWITCH, METER, TELEPHONE CABINET, EQUIPMENT CABINET(S) AND SERVICE CONDUITS TO BURIED GROUND RING IS PRESENT.
9. EACH LEG OF THE WAVEGUIDE STRUCTURE SHALL BE INDIVIDUALLY BONDED TO THE BURIED GROUND RING. EXOTHERMICALLY WELD CONNECTIONS AT POST FOR WAVEGUIDE STRUCTURE AND BURIED GROUND RING. PLACE 5/8"X10' COPPERCLAD GROUND ROD AT 10' INTERVALS ALONG WAVEGUIDE PATH.
10. PROVIDE BONDING CONDUCTOR(S) FROM THE BURIED GROUND RING TO THE TRANSMISSION CABLE BUS BAR AT POINT OF ENTRANCE TO THE COMMUNICATION STRUCTURE. VERIFY EXACT LOCATION OF COPPER BUS BAR FOR PROPER CONDUCTOR LENGTH(S).
11. PROVIDE COPPER BUS BAR AT THE ANTENNA AT 1'-0" ABOVE PAD AND BOND TO BURIED GROUND RING. EXOTHERMICALLY WELD BONDING CONDUCTOR TO COMMUNICATION STRUCTURE LEG. CONNECT BUS BAR TO BURIED GROUND RING USING EXOTHERMIC WELDS. MECHANICAL CONNECTION MAY BE USED TO CONNECT GROUND CABLE TO BUS BAR, AS REQUIRED.
12. BOND ALL GROUND BUS BARS AND EQUIPMENT SUPPORT TO BURIED GROUND RING VIA 2 PATHS UNLESS SPECIFIED DIFFERENTLY (TYPICAL).
13. ELECTRICAL CONTRACTOR SHALL TAKE MEGGER READINGS OF GROUND. THE RESULTS SHALL NOT BE GREATER THAN 5 OHMS.
14. ALL CONNECTIONS TO GROUND SYSTEM SHALL BE MADE IN LINE WITH BENDS NOMINAL 12" RADIUS IN THE DIRECTION OF CURRENT FLOW. T-CONNECTIONS WILL NOT BE ALLOWED.
15. ALL BENDS IN GROUND WIRES SHALL BE NOMINAL 12" RADIUS.
16. ANTENNA CABLES SHALL BE BONDED AT EACH END AND NEAR CENTER FOR RUNS GREATER THAN 150'. COORDINATE LOCATION WITH CPM.
17. ALL #2 AWG GROUNDING WIRE SHALL BE TINNED COPPER UNLESS OTHERWISE NOTED

metroPCS

1080 MARINA VILLAGE PKWY, 4TH FLOOR
ALAMEDA, CA 94501

PROJECT INFORMATION:

PG&E MILPITAS TERMINAL
SF0170
66 RANCH DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

CURRENT ISSUE DATE:

JULY 2012

ISSUED FOR:

COMMUNICATION ANTENNA UPGRADE

REV.:	DATE:	DESCRIPTION:

SEAL:

REGISTERED PROFESSIONAL ENGINEER — DAVID M. BOSSU — RCE NO. 78103 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY:

Kimley-Horn and Associates, Inc.

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765 THE CITY DRIVE, SUITE 400
ORANGE, CA 92868
(714) 939-1030
FBPE CA00000696

DRAWN BY:	CHK.:	APV.:
MS	DB	DB

LICENSURE:

DAVE BOSSU PE 78103

SHEET TITLE:

ELECTRICAL SITE PLAN & RISER DIAGRAM

SHEET NUMBER:	REVISION:
E-1	0

KHA Job #:

094718002

Drawing name: K:\ORA_LDEV\Metro PCS\MetroPCS Projects\SF0170\CAD\Sheet\SF0170-7-E1.dwg SF0161-6-E1 Jul 31, 2012 7:03pm by: david.bossu

August 24, 2002

City of Milpitas
Planning Department
455 East Calaveras Blvd.
Milpitas, CA 95035

Re: Request for approval to install 4 microwave antennas
66 Ranch Drive, Milpitas, CA
APN: # 022-540-020

MetroPCS is currently optimizing its wireless communications network in the bay area to improve coverage and reliability to our customers. MetroPCS is currently adding microwave antennas throughout our network to improve system reliability and to provide redundancy within our network.

MetroPCS respectfully requests approval to add three 2' microwave antennas and one 1' microwave antenna on an existing lattice communication tower located at 66 Ranch Drive in Milpitas. This tower is approximately 90' in height and there are currently three wireless carriers installed on this tower. MetroPCS currently has three panel antennas extending above this tower at a height of 94'. Two of the 2' dishes will be installed at 83' and one 2' antenna and one 1' antenna will be installed at 86'.

This proposal for MetroPCS to add four microwave antennas will have negligible impacts to the surrounding areas. This proposal will not be detrimental to the health, safety, and general welfare of the surrounding community.

Please contact me at (916) 834-0834 or at landmarkconsulting@sbcglobal.net with any questions or to further discuss the project.

Thank you for your consideration and assistance.

Sincerely,

Karen Lienert

RECEIVED

AUG 2 4 2012

CITY OF MILPITAS
PLANNING DIVISION

Radio Frequency – Electromagnetic Energy (RF-EME) Compliance Report

Prepared for:
MetroPCS
1080 Marina Village Parkway
4th Floor
Alameda, CA 94501

Site No. SF0170
PG&E Milpitas Tower
66 Ranch Drive
Milpitas, California 95035
Santa Clara County
37.425700; -121.921000 NAD83
Lattice Tower

EBI Project No. 62122889
July 30, 2012

EBI CONSULTING
Creating Value for Your Business

EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by MetroPCS to conduct radio frequency electromagnetic (RF-EME) modeling for MetroPCS Site SF0170 located at 66 Ranch Drive in Milpitas, California to determine RF-EME exposure levels from existing and proposed MetroPCS wireless communications equipment at this site. As described in greater detail in Section 11.0 of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

This report contains a detailed summary of the RF EME analysis for the site.

This document addresses the compliance of MetroPCS's proposed transmitting facilities independently and in relation to all collocated facilities at the site.

1.0 LOCATION OF ALL EXISTING ANTENNAS AND FACILITIES AND EXISTING RF LEVELS

This project involves the installation of four (4) MetroPCS microwave dishes on a lattice tower located at 66 Ranch Drive in Milpitas, California. There are also three (3) MetroPCS wireless telecommunication panel antennas on the lattice tower. There are three Sectors (A, B, and C) of panel antennas existing at the site, with one (1) antenna that is installed per sector.

Based on a site sketch provided by MetroPCS and aerial photography review, Nextel and AT&T also have wireless antennas on the lattice tower. These antennas were included in the modeling analysis.

2.0 LOCATION OR ALL APPROVED (BUT NOT INSTALLED) ANTENNAS AND FACILITIES AND EXPECTED RF LEVELS FROM THE APPROVED FACILITIES

There are no antennas or facilities that are approved and not installed based on information provided to EBI and MetroPCS at the time of this report.

3.0 NUMBER AND TYPES OF WTS WITHIN 100 FEET OF THE PROPOSED SITE AND ESTIMATES OF CUMULATIVE EMR EMISSIONS AT THE PROPOSED SITE

With the exception of the antennas mentioned in Section 1.0, there are no other Wireless Telecommunication Service (WTS) sites observed within 100 feet of the proposed site.

4.0 LOCATION AND NUMBER OF THE METROPCS ANTENNAS AND BACK-UP FACILITIES PER BUILDING AND NUMBER AND LOCATION OF OTHER TELECOMMUNICATION FACILITIES ON THE PROPERTY

This project involves the installation of four (4) MetroPCS microwave dishes on a lattice tower located at 66 Ranch Drive in Milpitas, California. There is proposed to be two (2) microwaves transmitting in the 28000 MHz frequency range and two (2) microwaves transmitting in the 38000 MHz frequency range. The microwaves will be installed at two levels on the lattice tower. The bottoms of the microwaves will be 82 feet, 85 feet and 85.5 feet above ground level. The microwaves will be oriented 346.08° from true north, 246.27° from true north, 120.55° from true north and 69.09° from true north.

There are also three (3) MetroPCS wireless telecommunication panel antennas on the lattice tower. There are three Sectors (A, B, and C) of panel antennas existing at the site, with one (1) antenna that is installed per sector. The MetroPCS antennas will be transmitting in the 1975-1985 MHz and 2135-2140 MHz frequency ranges. To be conservative for modeling purposes, it was assumed that the MetroPCS antennas will be transmitting at 1975 MHz and 2135 MHz. The Sector A antenna is oriented 330° from true north. The Sector B antenna is oriented 90° from true north. The Sector C antenna is oriented 220° from true north. The bottoms of the antennas are 91.5 feet above ground level.

Based on a site sketch provided by MetroPCS and aerial photography review, Nextel and AT&T also have wireless antennas on the lattice tower. These antennas were included in the modeling analysis using information provided to EBI and generally accepted industry standards.

5.0 POWER RATING FOR ALL EXISTING AND PROPOSED BACKUP EQUIPMENT SUBJECT TO THE APPLICATION

The operating power for modeling purposes was assumed to be 20 Watts per transmitter for the 1975 MHz panel antenna and there will be two (2) transmitters operating at this frequency per sector. The

operating power for modeling purposes was assumed to be 60 Watts per transmitter for the 2135 MHz panel antenna and there will be one (1) transmitter operating at this frequency per sector.

6.0 TOTAL NUMBER OF WATTS PER INSTALLATION AND THE TOTAL NUMBER OF WATTS FOR ALL INSTALLATIONS ON THE BUILDING

The effective radiated power (ERP) for the 1975 MHz transmitters combined on-site is 2,187 Watts. The effective radiated power (ERP) for the 2135 MHz transmitters combined on-site is 3,765 Watts. The combined ERP for the microwaves transmitting in the 28000 MHz on-site is 2,240 Watts. The combined ERP for the microwaves transmitting in the 38000 MHz on-site is 2,978 Watts. The combined ERP for the Nextel transmitters combined on this site is assumed to be 2,383, while the combined ERP for the AT&T transmitters combined on this site is assumed to be 2,383.

7.0 PREFERRED METHOD OF ATTACHMENT OF PROPOSED ANTENNA WITH PLOT OR ROOF PLAN INCLUDING: DIRECTIONALITY OF ANTENNAS, HEIGHT OF ANTENNAS ABOVE NEAREST WALKING SURFACE, DISCUSS NEARBY INHABITED BUILDINGS

Based on the information provided to EBI, the information indicates that the proposed microwaves are to be pipe-mounted to the lattice tower and operating in the directions, frequencies, and heights mentioned in section 4.0 above. The proposed site is located on a lattice tower that is right next to a one story building that appears to be office space.

8.0 ESTIMATED AMBIENT RADIO FREQUENCY FIELDS FOR THE PROPOSED SITE

Based on worst-case predictive modeling, there are no predicted areas on any accessible ground-level walking/working surface related to the proposed MetroPCS microwave dishes and existing panel antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the proposed MetroPCS antennas, the maximum power density is 3.58 percent of the FCC's general public limit (0.71 percent of the FCC's occupational limit). The composite exposure level from modeling all other carriers existing on this site combined with MetroPCS's proposed microwaves and existing panel antennas is 5.88 percent of the FCC's general public limit (1.17 percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna. The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix B. Roofview® was used for modeling the panel antennas however RoofView® is not suitable for modeling microwave dishes. Therefore formulas from OET Bulletin 65 were used to calculate a worst-case prediction of the maximum power density (MPE) at ground level and nearest walking surface for the microwave dishes. Power density estimates used for the microwave dishes proposed for installation at this site are included in Appendix C.

There are no modeled areas on the ground that exceed the FCC's limits for general public or occupational exposure in front of the other carrier antennas.

9.0 SIGNAGE AT THE FACILITY IDENTIFYING ALL WTS EQUIPMENT AND SAFETY PRECAUTIONS FOR PEOPLE NEARING THE EQUIPMENT AS MAY BE REQUIRED BY THE APPLICABLE FCC ADOPTED STANDARDS (DISCUSS SIGNAGE FOR THOSE WHO SPEAK LANGUAGES OTHER THAN ENGLISH)

Signs are the primary means for control of access to areas where RF exposure levels may potentially exceed the MPE. It is recommended that additional signage be installed for the new antennas making people aware of the antennas locations. Also workers elevated above the roof or ground level should be

made aware of the antennas locations. There are no fields in front of the proposed MetroPCS antennas and therefore barriers are not recommended.

Additionally, there are areas where workers elevated above the ground may be exposed to power densities greater than the general population and occupational limits. Workers and the general public should be informed about the presence and locations of antennas and their associated fields.

Access to this site is accomplished via approaching the lattice tower at ground level. However, workers must be elevated to access the antennas and as such, the site is not considered to be accessible to the general public.

10.0 STATEMENT ON WHO PRODUCED THIS REPORT AND QUALIFICATIONS

Please see the certifications attached in Appendix A below.

11.0 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

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 public/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 or her exposure by leaving the area or by some other appropriate means.

General public/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 would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table 1 and Figure 1 (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

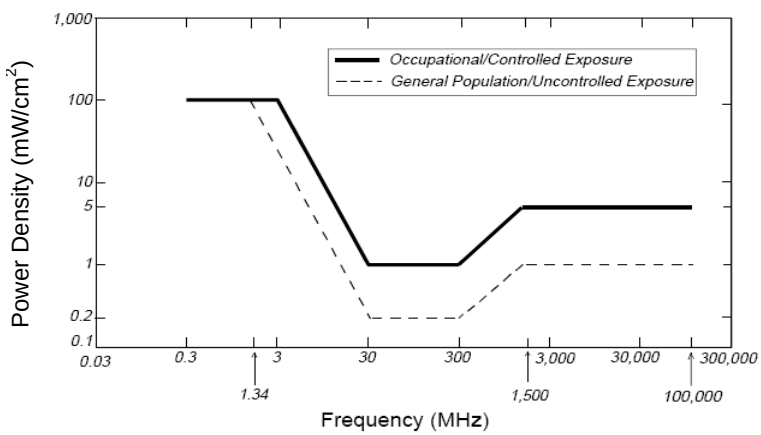
The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm^2). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter

(mW/cm^2) and an uncontrolled MPE of 1 mW/cm2 for equipment operating in the 1975 MHz – 18000 MHz frequency ranges. These limits are considered protective of these populations.

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^2)**	**Averaging Time [E]^2, [H]^2, or S (minutes)**
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f^2)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time [E]^2, [H]^2, or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f^2)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)
* Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Cellular Telephone	870 MHz	2.90 mW/cm^2	0.58 mW/cm^2
Specialized Mobile Radio	855 MHz	2.85 mW/cm^2	0.57 mW/cm^2

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Most Restrictive Freq, Range	30-300 MHz	1.00 mW/cm^2	0.20 mW/cm^2

MPE limits are designed to provide a substantial margin of safety. 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.

Personal Communication (PCS) facilities used by MetroPCS in this area operate within a frequency range of 1975-2140 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

Statement of Compliance

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

12.0 LIMITATIONS

This report was prepared for the use of MetroPCS. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

13.0 SUMMARY AND CONCLUSIONS

EBI has prepared this Radiofrequency Emissions Compliance Report for the proposed MetroPCS telecommunications equipment at the site located at 66 Ranch Drive in Milpitas, California.

EBI has conducted theoretical modeling to estimate the worst-case power density from MetroPCS antennas and the other carriers' existing antennas to document potential MPE levels at this location and ensure that site control measures are adequate to meet FCC and OSHA requirements. As presented in the preceding sections, based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level walking/working surface related to proposed equipment in the area that exceed the FCC's occupational and general public exposure limits at this site. As such, the proposed MetroPCS project is in compliance with FCC rules and regulations.

Signage is recommended at the site as presented in Section 9.0. Posting of the signage brings the site into compliance with FCC rules and regulations.

Appendix A

Certifications

Preparer Certification

I, James K. Speed, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

Appendix B

Roofview® Export File

StartMapDefinition

Roof Max Y	Roof Max X	Map Max Y	Map Max X	Y Offset	X Offset	Number of envelope			List Of Area
170	160	180	170	10	10	1	$U$41:$FX	$U$41:$FX$210	$U$41:$FX

StartSettingsData

Standard	Method	Uptime	Scale Facto	Low Thr	Low Color	Mid Thr	Mid Color	Hi Thr	Hi Color	Over Color	Ap Ht Mult	Ap Ht Method
4	2	3	1	100	1	500	4	5000	2	3	1.5	1

StartAntennaData It is advisable to provide an ID (ant 1) for all antennas

ID	Name	(MHz) Freq	Trans Power	Trans Count	Coax Len	Coax Type	Other Loss	Input Power	Calc Power	Mfg	Model	(ft) X	(ft) Y	(ft) Z	Type	(ft) Aper	dBd Gain	BWdth Pt Dir	Uptime Profile	ON flag
MTO A1	MetroPCS	1975	20	2	93	7/8 LDF	1.46		21.26767	RFS	APXV18-206516H-C-A20	33	35	91.54583		4.908333	15.35	67;330		ON•
MTO A1	MetroPCS	2135	60	1	93	7/8 LDF	1.46		31.90151	RFS	APXV18-206516H-C-A20	33	35	91.54583		4.908333	15.95	65;330		ON•
MTO B1	MetroPCS	1975	20	2	93	7/8 LDF	1.46		21.26767	RFS	APXV18-206516H-C-A20	38	32	91.54583		4.908333	15.35	67;90		ON•
MTO B1	MetroPCS	2135	60	1	93	7/8 LDF	1.46		31.90151	RFS	APXV18-206516H-C-A20	38	32	91.54583		4.908333	15.95	65;90		ON•
MTO C1	MetroPCS	1975	20	2	93	7/8 LDF	1.46		21.26767	RFS	APXV18-206516H-C-A20	32	29	91.54583		4.908333	15.35	67;210		ON•
MTO C1	MetroPCS	2135	60	1	93	7/8 LDF	1.46		31.90151	RFS	APXV18-206516H-C-A20	32	29	91.54583		4.908333	15.95	65;210		ON•
NXT A1	Nextel	850	25	1			3		12.52968	Unknown	Unknown	27	32	79		4	12	90;330		ON•
NXT A2	Nextel	850	25	1			3		12.52968	Unknown	Unknown	30	34	79		4	12	90;330		ON•
NXT A3	Nextel	850	25	1			3		12.52968	Unknown	Unknown	35	36	79		4	12	90;330		ON•
NXT A4	Nextel	850	25	1			3		12.52968	Unknown	Unknown	38	38	79		4	12	90;330		ON•
NXT B1	Nextel	850	25	1			3		12.52968	Unknown	Unknown	38	38	79		4	12	90;90		ON•
NXT B2	Nextel	850	25	1			3		12.52968	Unknown	Unknown	38	34	79		4	12	90;90		ON•
NXT B3	Nextel	850	25	1			3		12.52968	Unknown	Unknown	38	30	79		4	12	90;90		ON•
NXT B4	Nextel	850	25	1			3		12.52968	Unknown	Unknown	38	26	79		4	12	90;90		ON•
NXT C1	Nextel	850	25	1			3		12.52968	Unknown	Unknown	38	26	79		4	12	90;210		ON•
NXT C2	Nextel	850	25	1			3		12.52968	Unknown	Unknown	35	28	79		4	12	90;210		ON•
NXT C3	Nextel	850	25	1			3		12.52968	Unknown	Unknown	30	30	79		4	12	90;210		ON•
NXT C4	Nextel	850	25	1			3		12.52968	Unknown	Unknown	27	32	79		4	12	90;210		ON•
ATT A1	ATT	850	25	1			3		12.52968	Unknown	Unknown	27	32	69.75		4.5	12	65;330		ON•
ATT A2	ATT	850	25	1			3		12.52968	Unknown	Unknown	30	34	69.75		4.5	12	65;330		ON•
ATT A3	ATT	850	25	1			3		12.52968	Unknown	Unknown	35	36	69.75		4.5	12	65;330		ON•
ATT A4	ATT	850	25	1			3		12.52968	Unknown	Unknown	38	38	69.75		4.5	12	65;330		ON•
ATT B1	ATT	850	25	1			3		12.52968	Unknown	Unknown	38	38	69.75		4.5	12	65;90		ON•
ATT B2	ATT	850	25	1			3		12.52968	Unknown	Unknown	38	34	69.75		4.5	12	65;90		ON•
ATT B3	ATT	850	25	1			3		12.52968	Unknown	Unknown	38	30	69.75		4.5	12	65;90		ON•
ATT B4	ATT	850	25	1			3		12.52968	Unknown	Unknown	38	26	69.75		4.5	12	65;90		ON•
ATT C1	ATT	850	25	1			3		12.52968	Unknown	Unknown	38	26	69.75		4.5	12	65;210		ON•
ATT C2	ATT	850	25	1			3		12.52968	Unknown	Unknown	35	28	69.75		4.5	12	65;210		ON•
ATT C3	ATT	850	25	1			3		12.52968	Unknown	Unknown	30	30	69.75		4.5	12	65;210		ON•
ATT C4	ATT	850	25	1			3		12.52968	Unknown	Unknown	27	32	69.75		4.5	12	65;210		ON•

StartSymbolData

Sym	Map Marker	Roof X	Roof Y	Map Label	Description (notes for this table only)
Sym		5	35	AC Unit	Sample symbols
Sym		14	5	Roof Access	
Sym		45	5	AC Unit	
Sym		45	20	Ladder	

Appendix C

Microwave Modeling

Estimation of Power Density from Microwave Dishes

Site Number: SF0170

Total Number of

4	#
Tower	Are the antennas installed on a roof or a tower?
Ground	Nearest Walking Surface

Model/Description	Frequency (MHz)	AGL/ARL (ft)	ERP (Watts)	Gain (dBd)	Diameter (ft)	Power Density Inside Column (mW/cm2)	Power Density Ground (mW/cm2)	Gen Pop Limit (mW/cm2)	Occ Limit (mW/cm2)	Uncontrolled Outside Column (% MPE)	Controlled Outside Column (% MPE)	Min Dist from Atenna (ft)
ANT2 0.6 38 HP (TR)	38000	82	1659.59	43.05	2	0.184810	0.001848	1.000000	5.000000	0.18481%	0.037%	2
ANT2 0.6 28 HP (TR)	28000	85	1445.44	40.45	2	0.292903	0.002929	1.000000	5.000000	0.29290%	0.059%	2
ANT2 0.3 28 HP (TR)	28000	85.5	794.33	35.85	1	1.856885	0.018569	1.000000	5.000000	1.85688%	0.371%	2
ANT2 0.6 38 HP (TR)	38000	82	1318.26	43.05	2	0.146800	0.001468	1.000000	5.000000	0.14680%	0.029%	2
						TOTAL	**0.02481398**			**2.48140%**	**0.50%**	**2**

Maximum Power into Microwave Antenna Input Ports

Diameter (ft)	Diameter (cm)	Power (W)
1	30.5	0.017
2	61.0	0.7
3	91.4	1.6
4	121.9	2.9
5	152.4	4.5
6	182.9	6.5
7	213.4	8.8
8	243.8	11.6
9	274.3	14.7
10	304.8	18.2
11	335.3	22.0
12	365.8	26.2
13	396.2	30.7
14	426.7	35.6
15	457.2	40.9

$$\frac{0.01 * 4 * P}{A}$$

outside of transmitting column, power is ~ 1% of that inside column

" Summary of Nearfield Power Density Calculations for EBI Consulting", July 21, 2006

ATTACHMENT E

PG&E MILPITAS TOWER

SITE ID: SF0170

SITE LOCATION

PROSPECTIVE LOOKING NORTH

EXISTING

PROPOSED

VINCULUMS
10 PASTEUR, SUITE 100 - IRVINE, CA 92618
PHONE: 949.783.3553 - FAX: 949.242.2579

metroPCS

NOTE:

PLANS, PHOTOS, AND EQUIPMENT CONFIGURATIONS BASED ON PRELIMINARY CONSTRUCTION DRAWINGS, SATELLITE IMAGERY, AND RECENT SITE PHOTOS. ACTUAL CONDITIONS SUBJECT TO CHANGE.

SITE ID:	SF0170
SITE NAME:	PG&E MILPITAS TOWER
PROJECT:	METRO-PHOTO- SIMS
ADDRESS:	66 RANCH DR MILPITAS, CA
PHOTOS:	
SIMS BY:	P GRIMSLEY

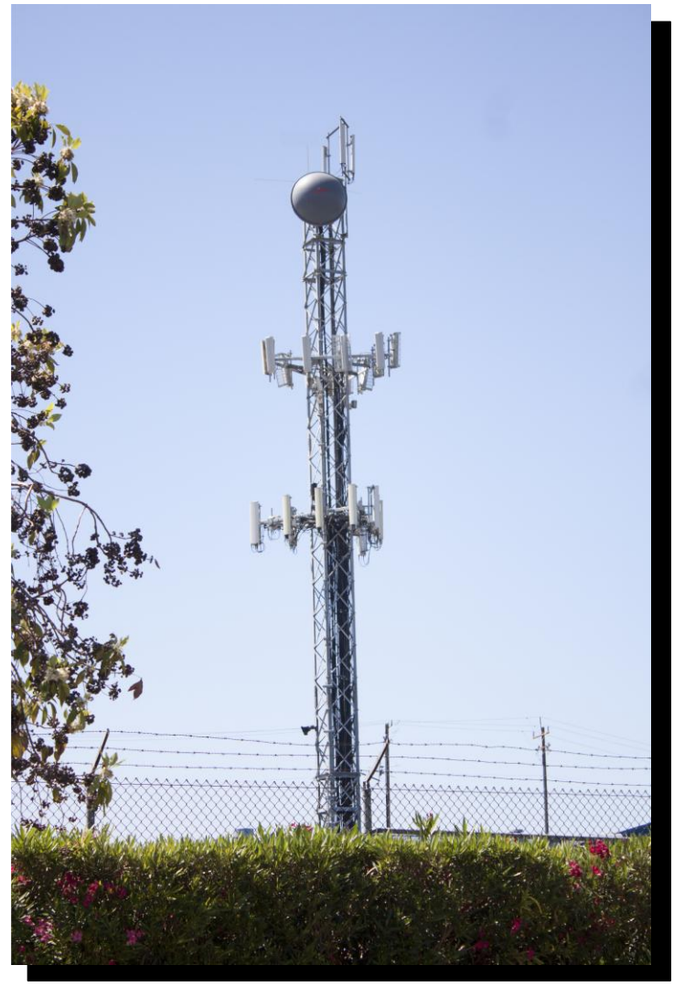
TE-0.0

PG&E MILPITAS

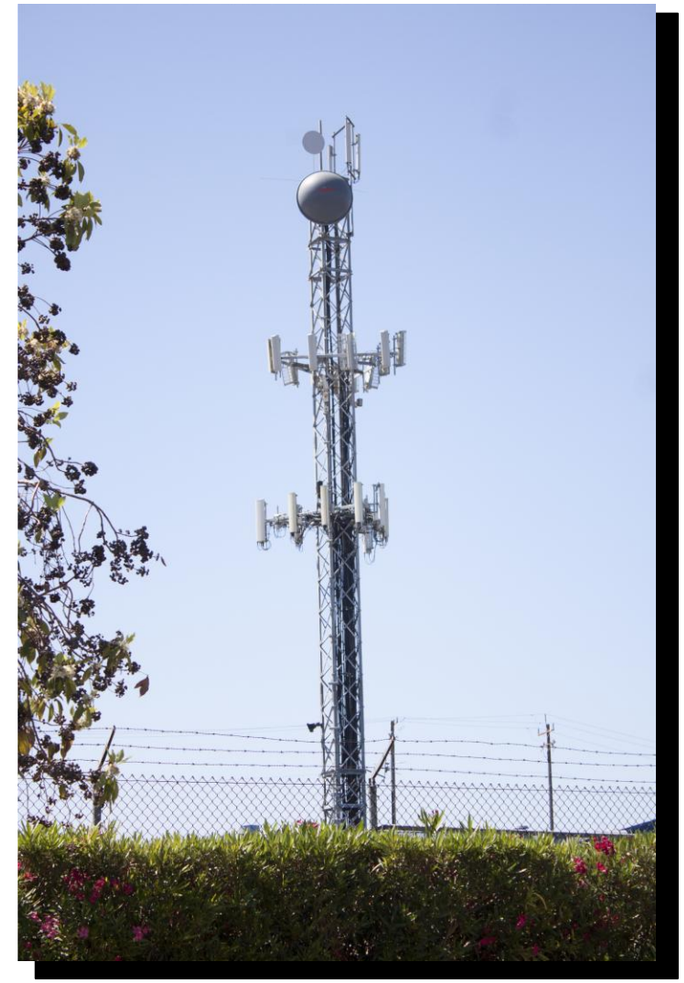
SITE ID: SF0170

SITE LOCATION

PROSPECTIVE LOOKING SOUTH



EXISTING



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SITE ID:	SF0170
SITE NAME:	PG&E MILPITAS TOWER
PROJECT:	METRO-PHOTO- SIMS
ADDRESS:	66 RANCH DR MILPITAS, CA
PHOTOS:	
SIMS BY:	P GRIMSLEY

TE-0.1