Oakland City Planning Commission STAFF REPORT

Case File Number CMD10-072 **January 19, 2011**

Location:	**5914 Telegraph Avenue (APN: 016-1386-012-03)**
Proposal:	Installation of a wireless telecommunication facility consisting of: eight (8) panel antennas at a height of approximately 66'-2" above grade and attached to an existing 76'-7" tall Monopole with eight (8) existing antennas for a total of 16 telecommunication antennas, and 4 accompanying ground-mounted equipment cabinets within a chain link enclosure.
Applicant/ Phone Number:	Steven J. Christenson-RS&L Consulting Services (T-Mobile Wireless) (530) 368-0730
Owner:	Crown Castle/Bautista Emilio
Planning Permits Required:	Major Conditional Use Permit with special findings to allow co-location on an existing Monopole Facility within 100' of a Residential Zone (OMC Sec. 17.16.070, 17.128.080(C), 17.134.020(A)(3)(i)); Regular Design Review with special findings to allow the expansion of a Monopole Facility (OMC Sec. 17.16.030, 17.128.080(B), 17.136.040(A)(10))
General Plan:	Urban Residential
Zoning:	C-28 Commercial Shopping District Zone and within 100' of R-35 Special-One Family Residential Zone
Environmental Determination:	Exempt, Section 15301(e) of the State CEQA Guidelines: Existing Facilities (Additions to existing structures); Section 15183 of the State CEQA Guidelines: Projects Consistent with a Community Plan, General Plan, or Zoning
Historic Status:	Non-Historic Property; no survey rating
Service Delivery District:	2
City Council District:	1
Date Filed:	August 11th 2010
Support/Opposition:	**Support:** Steven J. Christenson/RS& L Consulting Services (for: T-Mobile Wireless Co.) and Vivek Bhatia Oakland resident. **Opposition:** Neighbors: Cory & Megan Borovicka, Nicole M. Aruda, Michael Krajac, Patricia Smith, Carlo & Mary Busby, Tamar Carson, and Robert Wiles
Summary, Commission Action on October 6, 2010:	On October 6, 2010, item #1 on consent calendar; the Planning Commission held a Public Hearing, and the Commission took a straw vote to deny the Planning approval recommendation, and requested Planning staff prepare findings for denial of Telecommunication co-location project (CMD10-072). On December 1, 2010, the Commission granted a continuance, at the applicant's request, to the Planning Commission meeting on January 19, 2011.
Finality of Decision:	Appealable to City Council within 10 Days
For Further Information:	Contact case planner **Jason Madani, Planner II** at **(510) 238-4790** or **jsmadani@oaklandnet.com**

CITY OF OAKLAND PLANNING COMMISSION

0 125 250 500 750 1,000 Feet

Case File: CMD10-072
Applicant: RS & L Consulting Services/T-Mobile Wireless
Address: 5914 Telegraph Avenue
Zone: C-28

SUMMARY

On October 6th 2010, The Planning Commission held a Public Hearing and considered the application for co-location of additional antennas on an existing Monopole Telecommunications Facility for T-Mobile Wireless Company. The proposal is to add eight (8) new wireless antennas to an existing 76-7" foot tall monopole with eight (8) existing antennas for a total of 16 telecommunication antennas and four (4) accompanying ground mounted equipment cabinets located on a concrete pad. The site is located in the C-28 Community Commercial Shopping District Zone and within 100' of R-35 Special–One Family Residential Zone.

On the October 6, 2010 Planning Commission meeting consent calendar #1 CMD10-72, The neighboring property owner expressed their concern in writing that the additional size and number of the antennas on the existing monopole and equipment cabinets will increase negative visual impact and is inappropriate from an aesthetic point of view for the existing home on the site and close residential homes in this vicinity.

After the close of public testimony at the October 6, 2010 Planning Commission hearing, the Commission decided that the proposed project was not appropriate for the subject and recommended that T-Mobile wireless must find a different site for their project. The Commission took a straw vote to deny the project and directed Planning staff to prepare findings for denial of the project for final action at the December 1st , 2010 public hearing. On December 1st 2010, the Commission granted a continuance, at the applicant's request, to the Planning Commission meeting on January 19, 2011.

RECOMMENDATIONS: Deny proposed Major Conditional Use Permit and Design Review Pursuant to Planning Commission direction on October 6, 2010 attached findings (see attachment A).

Prepared by:

Jason Madani
Planner II

Approved by:

SCOTT MILLER
Zoning Manager

Approved for forwarding to the
City Planning Commission:

Eric Angstadt
Deputy Director
Community and Economic Development Agency

ATTACHMENTS:

A. Denial finding for CMD10-072
B. Staff Report from October 6, 2010
C. Plans and photo-simulations

ATTACHMENT A: FINDINGS FOR DENIAL

This proposal does not meet all the required findings under General Use Permit Criteria (OMC Sec. 17.134.050), Conditional Use Permit Criteria for Monopoles (OMC Sec. 17.128.080(C)), Regular Design Review Criteria for Non-Residential Facilities (OMC Sec. 17.136.050(B)), and Design Review Criteria for Monopoles (OMC Sec. 17.128.080(B)), as set forth below. Required findings are shown in bold type; explanations as to why these findings can be made are in normal type.

A legislative body of a City or County shall deny a recommendation of Planning Approval of a Major Conditional Use Permit and Design review for a proposed co-location of T-Mobile wireless antennas and related equipment cabinets on existing monopole telecommunication site which was required, If it makes any of the following findings:

GENERAL USE PERMIT CRITERIA (OMC SEC. 17.134.050):

A. That the location, size, design, and operating characteristics of the proposed development will be compatible with and will not adversely affect the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to harmony in scale, bulk, coverage, and density; to the availability of civic facilities and utilities; to harmful effect, if any, upon desirable neighborhood character; to the generation of traffic and the capacity of surrounding streets; and to any other relevant impact of the development.

The proposal is to expand an existing 76'-7" tall Monopole Wireless Telecommunications Facility that is located in close proximity to residential facilities. The proposed eight (8) new antennas panels are 4' larger in size than existing antennas attached to the existing monopole. The proposal will create a significant change in the aesthetics of the existing monopole structure and result in negative visual impacts on adjacent residential properties. The proposed equipment shelters located within an 8' high chain link fence enclosure (approximately 240 square feet) will eliminate one or more parking stalls that exist for an adjacent Laundromat facility. This could force customers to park on the streets and impact surrounding street parking demands. The proposed location of the new equipment cabinet enclosure will also block the view of the existing house from the street. The proposed project will create negative visual impacts and adversely affect the existing parking conditions for neighboring residential and commercial properties.

B. That the location, design, and site planning of the proposed development will provide a convenient and functional living, working, shopping, or civic environment, and will be as attractive as the nature of the use and its location and setting warrant.

See above findings for "A"

C. That the proposed development will enhance the successful operation of the surrounding area in its basic community functions, or will provide an essential service to the community or region.

See finding for "A"

D. That the proposal conforms to all applicable design review criteria set forth in the design review procedure at Section 17.136.070.

The proposal does not conforms with all significant aspects of the design review criteria set forth in Chapter 17.136 of the Oakland Planning Code, as outlined below. See finding for "A"

E. **That the proposal conforms in all significant respects with the Oakland Comprehensive Plan and with any other applicable plan or development control map which has been adopted by the City Council.**

The project site is located within C-28 Zone and Urban Residential area under the General Plan's Land Use designation adopted 1998. The Intent of the area is: "to create, maintain, and enhance areas of the City that are appropriate for multi-unit, mid rise residential structures in locations with good access to transportation and other services". The General Plan Conformity Guidelines is silent on Telecommunications Facilities in Institutional areas. The C-28 Commercial Shopping District is intended to create, preserve, and enhance major boulevards of medium scale retail establishments featuring some specified higher density nodes in attractive settings oriented to pedestrian comparison shopping, and to encourage mixed-use residential and non-residential developments, and is typically appropriate along major thoroughfares near residential communities. However; in this case, the proposed equipment cabinet's location and new 8 antennas which are 4' larger than existing antennas will increase significant negative visual impacts on the neighboring residential and commercial properties. In addition, the proposed telecommunication facility is an unmanned telecommunication facility and is not compatible with Commercial Shopping District which encourages pedestrian oriented ground floor uses.

CONDITIONAL USE PERMIT CRITERIA FOR MONOPOLES (OMC SEC. 17.128.080(C))

1. The project must meet the special design review criteria listed in subsection B of this section.

The proposed project will have significant view impacts on adjacent residential and commercial properties.

2. Monopoles should not be located any closer than one thousand five hundred (1,500) feet from existing monopoles unless technologically required or visually preferable.

This finding is not applicable; the project involves an existing monopole.

3. The proposed project must not disrupt the overall community character.

The project is located within 100' of R-35 Residential Zone. The proposed equipment cabinet enclosure located in the parking lot and the proposed new large antennas will increase negative visual impacts on neighboring properties. The proposal will crate an industrial image in the existing commercial and residential zone.

4. If a major conditional use permit is required, the Planning Director or the Planning Commission may request independent expert review regarding site location, collocation and facility configuration. Any party may request that the Planning Commission consider making such request for independent expert review.

N/A

REGULAR DESIGN REVIEW CRITERIA FOR NON-RESIDENTIAL FACILITIES (OMC SEC. 17.136.050(B)):

1. **That the proposed design will create a building or set of buildings that are well related to the surrounding area in their setting, scale, bulk, height, materials, and textures:**

   The monopole and accompany cabinets looks out of plane in the subject neighborhood.

2. **That the proposed design will protect, preserve, or enhance desirable neighborhood characteristics;**

Not only does the existing monopole work out of plane, the proposed additional eight (8) new antennas panels which are 4' larger in size than existing antennas attached to the existing monopole makes a bad situation worse. The proposal will have a significant impact on the adjacent residential properties.

3. **The project will provide a necessary function without negatively impacting surrounding open space and hillside residential properties.**

   N/A

4. **That the proposed design will be sensitive to the topography and landscape.**

   N/A

5. **That, if situated on a hill, the design and massing of the proposed building relates to the grade of the hill.**

   N/A

6. **That the proposed design conforms in all significant respects with the Oakland General Plan and with any applicable design review guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council.**

   See findings above "E"

DESIGN REVIEW CRITERIA FOR MONOPOLES (OMC SEC. 17.128.080(B))

In addition to the design review criteria listed in Chapter 17.136, the following specific additional criteria must be met when design review is required before an application can be granted:

1. **Collocation is to be encouraged when it will decrease visual impact and collocation is to be discouraged when it will increase negative visual impact.**

   The proposed project will add 8 additional larger antennas which result in a significant change in the aesthetics of the existing monopole. This will increase visual impacts, and therefore co-location will be inappropriate in this case.

2. **Monopoles should not be sited to create visual clutter or negatively affect specific views.**

   The proposed eight (8) new larger antennas will be co-located with eight (8) existing antennas for total of 16 antennas on an existing 76'-7" tall monopole structure at 66'-2" high elevation and will have a significant visual impact to the adjacent residential neighborhood. The proposal will be creating a significant change in the aesthetics of the existing monopole.

3. **Monopoles shall be screened from the public view wherever possible.**

   The project involves an existing monopole; however the proposed additional antennas will not be screened. Therefore, the proposal will increase potential visual impact from public view.

4. **The equipment shelter or cabinet must be concealed from public view or made compatible with the architecture of the surrounding structures or placed underground. The shelter or cabinet must be regularly maintained.**

   The new equipment cabinet's enclosure is not compatible with the architectural of the surrounding residential structures.

5. **Site location and development shall preserve the preexisting character of the surrounding buildings and land uses and the zone district as much as possible. Wireless communication towers shall be integrated through location and design to blend in with the existing characteristics of the site to the extent practical. Existing on-site vegetation shall be preserved or improved, and disturbance of the existing topography shall be minimized, unless such disturbance would result in less visual impact of the site to the surrounding area.**

   See finding #1

6. **That all reasonable means of reducing public access to the antennas and equipment has been made, including, but not limited to, placement in or on buildings or structures, fencing, anti-climbing measures and anti-tampering devices.**

   N/A

DENIED BY:
City Planning Commission:_____(date)_____ (vote)

Oakland City Planning Commission STAFF REPORT

Case File Number CMD10-072 **October 6, 2010**

Location:	**5914 Telegraph Avenue (APN.016-1386-012-03)**
Proposal:	Installation of a wireless telecommunication facility consisting of: eight (8) panel antennas at approximately 66'-2" high above grade and attached to an existing 76'-7" high Monopole with eight (8) existing antennas for total of 16 telecommunication antennas, and 4 accompanying ground mounted equipment cabinets within a chain link enclosure.
Applicant/ Phone Number:	Steven J. Christenson/RS&L Consulting Services (for: T-Mobile Wireless Co.) (530) 368-0730
Owner:	Crown Castle/Bautista Emilio
Planning Permits Required:	Major Conditional Use Permit with special findings to allow co-location on a Monopole Facility within 100' of a Residential Zone (OMC Sec. 17.16.070, 17.128.080(C), 17.134.020(A)(3)(i)); and Regular Design Review with special findings to allow the expansion of a Monopole Facility (OMC Sec. 17.16.030, 17.128.080(B), 17.136.040(A)(10))
General Plan:	Urban Residential
Zoning:	C-28 Commercial Shopping District Zone and within 100' of R-35 Special-One Family Residential Zone
Environmental Determination:	Exempt, Section 15301(e) of the State CEQA Guidelines: Existing Facilities (Additions to existing structures); Section 15183 of the State CEQA Guidelines: Projects Consistent with a Community Plan, General Plan, or Zoning
Historic Status:	Non-Historic Property; no survey rating
Service Delivery District:	2
City Council District:	1
Date Filed:	August 11th 2010
Action to be Taken:	Decision based on staff report
Finality of Decision:	*Appealable to City Council within 10 days*
For Further Information:	Contact case planner Jason Madani, **Planner II** at **(510) 238-4790** or **jsmadani@oaklandnet.com**

SUMMARY

The following staff report addresses the proposal to co-locate additional antennas on an existing Monopole Telecommunications Facility for T-Mobile Wireless Company. The proposal is to add eight (8) new wireless antennas to an existing 76-7" foot high Monopole Telecommunication facility with eight (8) existing antennas for a total of 16 telecommunication antennas and four (4) accompanying ground mounted equipment cabinets located on a concrete pad adjacent to the existing Crown Castle Monopole. The request a Major Conditional Use Permit and Design Review pursuant to the Planning Code, as it entails the expansion of a Monopole facility located within 100' of a Residential Zone. The site is located within a commercial District along Telegraph Avenue adjacent to a residential commercial neighborhood. The site is located in the C-28 Community Commercial Shopping District Zone and within 100' of R-35 Special–One Family Residential Zone. The project is a co-location on an existing monopole.

Staff recommends approval of the requested permits, subject to Findings for Approval and Conditions of Approval.

ATTACHMENT B

PROJECT DESCRIPTION

The applicant (RS&L Consulting Services for T-Mobile wireless) is proposing a co-location for the installation of eight (8) wireless telecommunication antennas mounted at approximately 66'-2" high above grade on an existing 76'-7" high Monopole structure with eight (8) existing antennas, for a total of 16 telecommunication antennas located on the Crown Castle Monopole facility.
The proposed equipment shelters within enclosed 8' high chain link fence will be occupy one parking install of approximately 240 square feet adjacent to an existing single family dwelling and the monopole structure. The proposed antennas and associated equipment will not be accessible to the public. (See attachment A).

PROPERTY DESCRIPTION

The subject property is approximately a 5,607 square foot lot, with one principal single family dwelling building fenced in at the rear portion of the lot and a parking lot at the front portion of the lot. There is an existing 76'-7" high Monopole Telecommunication Facility on the parcel and associated equipment cabinets are adjacent to the existing one-story residential building. The property is bounded: by a one story Laundromat building at the corner of Telegraph Avenue and 59th Street; a two story duplex and single family dwelling facing 59th street; and a residential complex to the north of the site. The front parking lot serves the adjacent Laundromat facility customers which is located on a separate parcel listed under same ownership. Currently Verizon telecommunication facility has eight (8) antennas attached to the existing monopole with enclosed equipment shelter located beneath the existing monopole.

GENERAL PLAN ANALYSIS

The project site is located within the Urban Residential General Plan's Land Use designation. The Intent of the GP is: "to create, maintain, and enhance areas of the City that are appropriate for muti-unit, mid rise residential structures in locations with good access to transportation and other services". The General Plan Conformity Guidelines are silent on Telecommunications Facilities under the Urban Residential. The antennas will be mounted on an existing monopole structure and visual impacts will be minimal since the antennas will be painted to match existing monopole structure. Staff finds the proposal with appropriate conditions of approval to conform to the General Plan.

ZONING ANALYSIS

The project site is located within the C-28 Commercial Shopping District Zone and within 100' of a residential zone. The C-28 Commercial Shopping District is intended to create, preserve, and enhance major boulevards of medium scale retail establishments featuring some specified higher density nodes in attractive settings oriented to pedestrian comparison shopping, and to encourage mixed-use residential and non-residential developments, and is typically appropriate along major thoroughfares near residential communities. The R-35 zone is intended to create, preserve, and enhance areas containing a mixture of single-and two-family dwellings in desirable setting for urban living, and is typically appropriate to areas of existing lower or lower-medium density residential development. The project requires a Major Conditional Use Permit and a Regular Design Review, each with special findings, to allow the expansion of an existing Monopole Facility located within 100' of a Residential Zone. Special findings required to approve the Conditional Use Permit ensure the facility is compatible with surroundings and does not constitute an over-concentration of facilities in the area. Special findings required to approve the Design Review ensure the facility is co-located and components are concealed to the extent possible. These

findings are met by this proposal. Since the proposal is to co-locate on an existing telecommunication monopole facility and not to establish a new telecommunication site, Staff finds the proposal to be consistent with the Planning Code.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines lists the projects that qualify as Categorical Exemptions from environmental review. The proposed project is Categorically Exempt from the environmental review requirements pursuant to 15301(e), additions and alterations to existing facilities, and 15183, projects consistent with a community plan, general plan or zoning. The project is therefore exempt from Environmental Review.

KEY ISSUES AND IMPACTS

1. Conditional Use Permit

Section 17.16.070 of the City of Oakland Planning Code requires a Major Conditional Use Permit to install or to expand a Monopole Telecommunication facility within 100' of the R-35 Special One-Family Residential Zone. Furthermore, Section 17.134.020 defines a Major and Minor Conditional Use Permit. Subsections (A) (3) (i) lists a Major Conditional Use Permit: "Any telecommunication facility in or within one hundred (100) feet of the boundary of any residential zone". The required findings for a Major Conditional Use Permit are listed and included in staff's evaluation as part of this report.

2. Project Site

Section 17.128.110 of the City of Oakland Telecommunication Regulations indicate that new wireless facilities shall generally be located on designated properties or facilities in the following order of preference:

A. Co-located on an existing structure or facility with existing wireless antennas;
B. City owned properties or other public or quasi-public facilities;
C. Existing commercial or industrial structures in non-residential zones;
D. Existing commercial or industrial structures in residential zones;
E. Other non-residential uses in residential zones;
F. Residential uses in non-residential zones;
G. Residential uses in residential zones.

*Facilities locating on an A, B or C ranked preference do not require a site alternatives analysis.

Since the proposed project involves co-locating the installation of new antennas and associated equipment cabinets on an existing facility, the proposed project meets: (A) co-locating on an existing structure or facility with existing wireless antennas.

3. Project Design

Section 17.128.120 of the City of Oakland Telecommunications Regulations indicates that new wireless facilities shall generally be designed in the following order of preference:

A. Building or structure mounted antennas completely concealed from view;
B. Building or structure mounted antennas set back from roof edge, not visible from public right-of way;
C. Building or structure mounted antennas below roof line (facade mount, pole mount) visible from public right-of-way, painted to match existing structure;
D. Building or structure mounted antennas above roof line visible from public right of-way;
E. Monopoles;
F. Towers.

* Facilities designed to meet an A or B ranked preference does not require a site design alternatives analysis. Facilities designed to meet a C through F ranked preference, inclusive, must submit a site design alternatives analysis as part of the required application materials. (see attachment A) Site design alternatives analysis shall, at a minimum, consist of:

a. Written evidence indicating why each higher preference design alternative can not be used. Such evidence shall be in sufficient detail that independent verification could be obtained if required by the City of Oakland Zoning Manager. Evidence should indicate if the reason an alternative was rejected was technical (e.g. incorrect height, interference from existing Radio Frequency (RF) sources, inability to cover required area) or for other concerns (e.g. inability to provide utilities, construction or structural impediments).

City of Oakland Planning staff has reviewed and determined that the site selected is conforming to all other telecommunication regulation requirements. The project has met design criteria (E), since the antennas will be mounted on an existing monopole structure and painted to match the color of the existing monopole metal structure and equipment cabinet will be within 8' high chain link fence enclosure (see conditions of approval #14) to minimize visual impacts.

4. Project Radio Frequency Emissions Standards

Section 17.128.130 of the City of Oakland Telecommunication Regulations requires that the applicant submit the following verifications including requests for modifications to existing facilities:

a. The telecommunications regulations require that the applicant submit written documentation demonstrating that the emission from the proposed project are within the limits set by the Federal Communications Commission. In the document (attachment B) prepared by Hammett & Edison, Inc., Consulting engineers, the proposed project was evaluated for compliance with appropriate guidelines limiting human exposure to radio frequency electromagnetic fields. According to the report on the proposal, the project will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, the proposed site will operate within the current acceptable thresholds as established by the Federal government or any such agency that may be subsequently authorized to establish such standards.
b. Prior to final building permit sign off, an RF emissions report indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.

The information submitted with the initial application was an RF emissions report Dated March 22nd 2010, prepared by Hammett & Edison, Inc., Consulting Engineers (attachment B). The report states that the proposed project will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not cause a significant impact on the environment. Additionally, staff recommends that prior to the final building permit sign off; the applicant submit a certified RF

emissions report stating that the facility is operating within acceptable thresholds established by the regulatory federal agency.

CONCLUSION

The City of Oakland planning staff finds that the proposed project and subject property can be developed to meet the established zoning and telecommunication regulations that were created and adopted for similar types of developments. Staff believes that the findings for approval can be made with appropriate conditions of approval to support the Conditional Use Permit and Design Review.

Staff recommends Planning Commission approval of the requested Major Conditional Use Permit and Regular Design Review to allow the expansion of a Monopole Wireless Telecommunications Facility.

RECOMMENDATIONS:

1. Affirm staff's environmental determination.
2. Approve the Major Conditional Use Permit and Design Review application CMD10-072, subject to the attached findings and Conditions of approval.

Prepared by: Jason Madani

Jason Madani
Planner II

Approved by:

Scott Miller

SCOTT MILLER
Zoning Manager

Approved for forwarding to the
City Planning Commission:

Scott Miller, for

Eric Angstadt, Deputy Director
Community and Economic Development Agency

ATTACHMENTS:

A. Project Plans and related documents & Photo simulations
B. Hammett & Edison, Inc., Engineering RF Emission

RS&L Consulting Services

Site Acquisition, Planning, Environmental, Project Management

RECEIVED
AUG 11 2010
City of Oakland
Planning & Zoning Division

August 10, 2010

Mr. Jason Madani
City of Oakland Community & Economic Development Agency
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, California 94612

Dear Jason,

RS&L Consulting, on behalf of T-Mobile West Corporation, requests your review of the enclosed Design Review and Use Permit application. The application materials are in reference to a proposal and installation of an unmanned wireless telecommunications facility located at 5914 Telegraph Avenue. The proposal consists of eight (8) panel antennas in stealth design mirroring what staff has requested of the existing antenna configuration. Associated ground equipment will be placed at the eastern portion of the property within a fenced enclosure.

The proposed site is part of T-Mobile's Personal Communications Services (PCS) network in the Bay area. PCS fundamentally changes the telecommunications of mobile phones as there calls go to people versus places. PCS services allow for instant access and communicative services by providing a wider spectrum of wireless options at a lower consumer cost. Services include voice, wireless computer connectivity, text and digital data networking.

Site Information:

Property address: 5914 Telegraph Avenue Oakland, California 95605

Property Owner: Crown Castle International (tower owner and Lessee)
5914 Telegraph Avenue
Oakland, California 95605

Assessor's Parcel Number: 016-1386-012-01

Proposed Site Design

The proposed design consists of eight (8) panel antennas shall be setback to be in line with the existing antennas attached to the monopole facility.

The facility will be unmanned and therefore will not create any additional vehicle traffic and reconfiguration of one (1) parking spaces at the telecommunications faciltiy. Monthly visits by T-Mobile technicians for routine maintenance will occur.

Alternative Site Analysis

To begin our search we are provided a search ring by the T-Mobile radio frequency engineer determining where they would like us to research for potential coverage collocations. The height and

number antennas are determined by this team to provide optimal coverage to overlay into the existing T-Mobile coverage in the area. New facilities must have line of sight to adjacent facilities with minimal blockage by surrounding trees, building and site topography. This site was chosen to fill a coverage hole and provide services

3771 Copper Penny Lane Auburn, CA 95602
E-Mail: stevechristenson@sbcglobal.net **Mobile: (530) 368-0730**

in the residential community surrounding Telegraph and 24th street. There is nothing in the vicinity that would allow for the height that T-Mobile's RF Engineering team would accept. The surrounding area of residential and

commercial buildings do not support the height of fifty-eight feet (58'). Originally, we considered other candidates to provide this coverage, however they were rejected by RF for the following reasons:

1) JPA Pole top –near 5554 Claremont Avenue, Oakland
   This design was on an existing PG&E utility pole from which we would mount the antennas to the top of the utility pole A screen wall CAN NOT be placed around the antennas. The equipment would be mounted to the side of the pole. This structurally was not acceptable by RF or PG&E. The visual blithe would also be an eye sore.
2) Billboard in front -5914 Telegraph Avenue Oakland. This did not allow for the height required by the T-Mobile RF Engineering team as the equipment would not be secure and in the general location of the proposed lease area. This structurally was not acceptable by RF or Clear Channel the billboard owner .
3) There were no other commercial or industrial buildings within the search ring area that propose a height designed and acceptable to meet the coverage objectives of T-Mobile's RF Engineering team.

Site Design Analysis

The proposed project works because of topography, height of the existing monopole and its geographic location of existing T-Mobile sites. The current monopole is being configured and designed to mirror the existing antennas at a lower elevation and not only meets the coverage needs for T-Mobile but would enhance coverage within the community. The neighborhood is almost entirely comprised of smaller residential buildings and low level commercial establishments and it's difficult to find a building that is tall enough to meet our requirements. This property and the land owners is willing to lease space to us, is geographically and topographically in an area that meets or coverage needs. In addition, this location allows for the mirroring of the existing approved design.

There are no buildings in the vicinity that meet the T-Mobile coverage objectives and still allow us to conceal the antennas or receive the height required to meet our coverage objectives. The alternatives would need structural modifications and be visible from surrounding residential properties. This design meets the City of Oakland's Chapter 17.134, and Planning Code 17.128.080 (A) (B) and (C) as additional findings.

If you have any questions or need further clarification, please feel free to call me at (530) 368-0730.

Sincerely,

Steven J. Christenson
Authorized Agent of T-Mobile West Corporation

3771 Copper Penny Lane Auburn, CA 95602
E-Mail: stevechristenson@sbcglobal.net Mobile: (530) 368-0730

T-Mobile West Corp. • Proposed Base Station (Site No. BA22569A)
5914 Telegraph Avenue • Oakland, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of T-Mobile West Corp., a personal wireless telecommunications carrier, to evaluate the base station (Site No. BA22569A) proposed to be located at 5914 Telegraph Avenue in Oakland, 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^2	1.00 mW/cm^2
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

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 zoning drawings by Streamline Engineering and Design, Inc., dated February 15, 2010, it is proposed to mount eight RFS Model APX16DWV-16DWV-S-E-A20 directional panel antennas on an existing 76½-foot pole sited at the rear of the parking lot for the building located at 5914 Telegraph Avenue in Oakland. The antennas would be mounted with no downtilt at an effective height of about 66 feet above ground and would be oriented in pairs at about 90° spacing, to provide service in all directions. The maximum effective radiated power in any direction would be 580 watts, representing the simultaneous operation of two channels at 290 watts each.

Presently mounted at the top of the pole are similar directional panel antennas for use by Verizon Wireless, and there are two omnidirectional antennas mounted on the side of the pole, presumed to be in low-power paging service. For the limited purposes of this study, those transmitting facilities are assumed to be as follows:

Carrier	Service	Maximum ERP	Antenna Model	Height
Verizon	PCS	640 watts	Antel BXA185063/12	74½ ft
	Cellular	1,200	Antel BXA80063/8	74½
	LTE	400	Antel BXA70063/8	74½
Paging		100	Andrew DB586	36

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 0.00011 mW/cm^2, which is 0.011% of the applicable public limit. The maximum calculated cumulative level at ground, for the simultaneous operation of all three services, is 0.29% of the public exposure limit; the maximum calculated cumulative level at the second-floor elevation of any nearby building is 0.52% 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.

No Recommended Mitigation Measures

Due to their mounting location, the T-Mobile antennas would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that the several carriers will, as FCC licensees, take adequate steps to ensure that their employees or contractors comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the base station proposed by T-Mobile West Corp. at 5914 Telegraph Avenue in Oakland, 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.

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, 2011. 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.

March 22, 2010

REGISTERED PROFESSIONAL ENGINEER
WILLIAM F. HAMMETT
E-13026
M-20676
Exp. 6-30-2011
ELECTRICAL
MECHANICAL
STATE OF CALIFORNIA

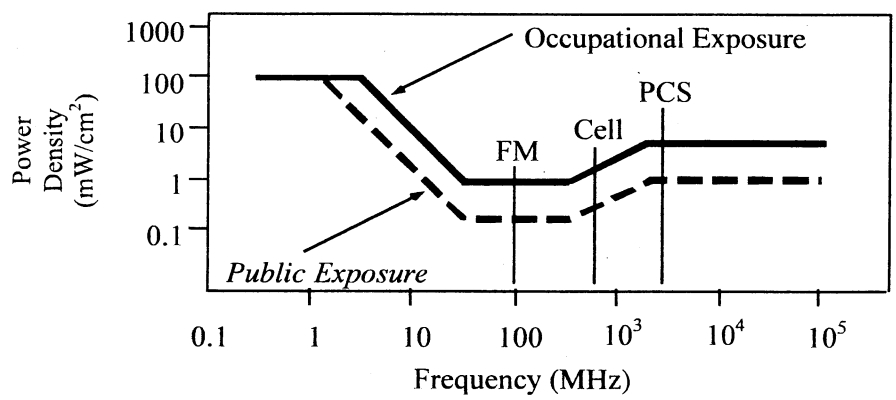
William F. Hammett, P.E.

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



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^2,

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^2,

where θ_{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
η = 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.

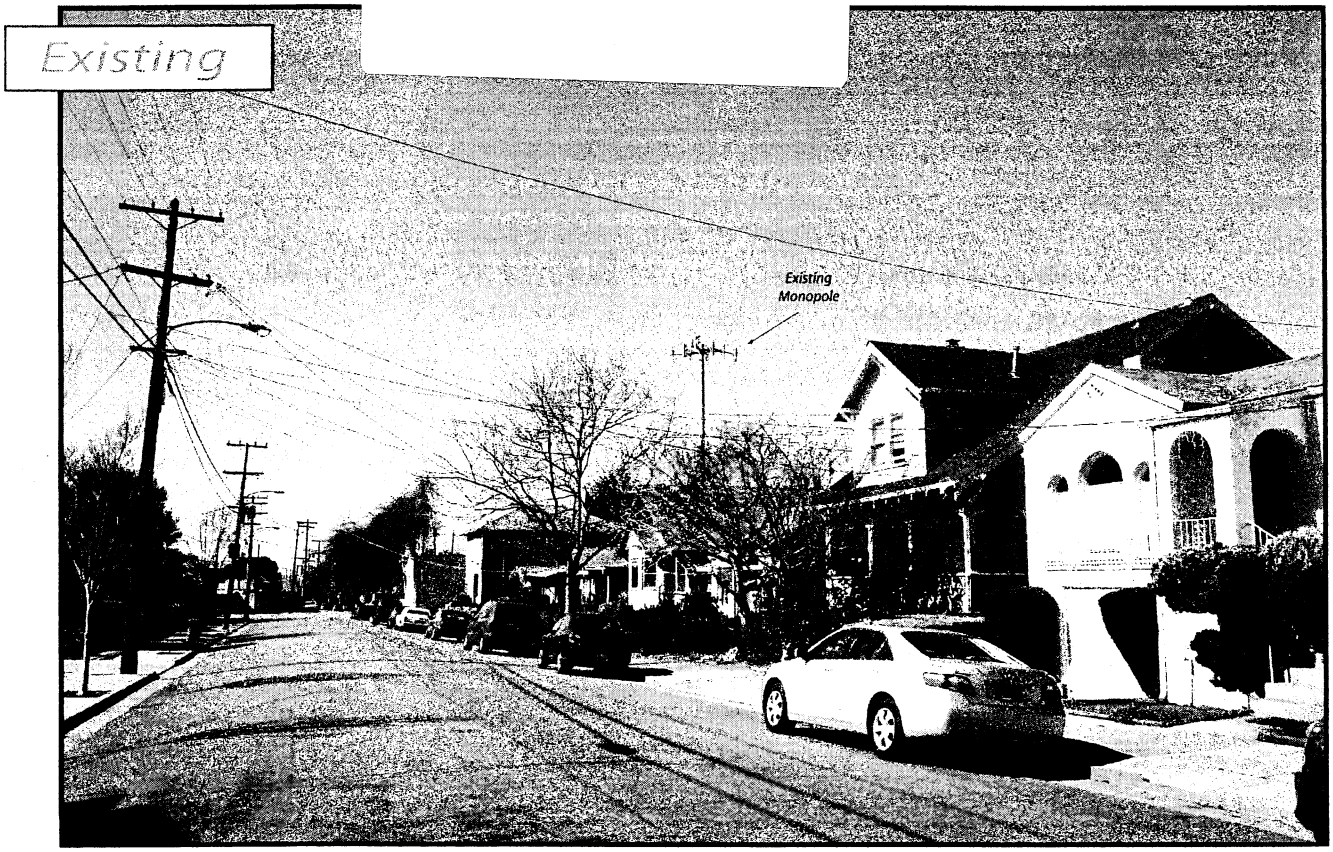
OET-65 gives this formula for calculating power density in the far field of an individual RF source:

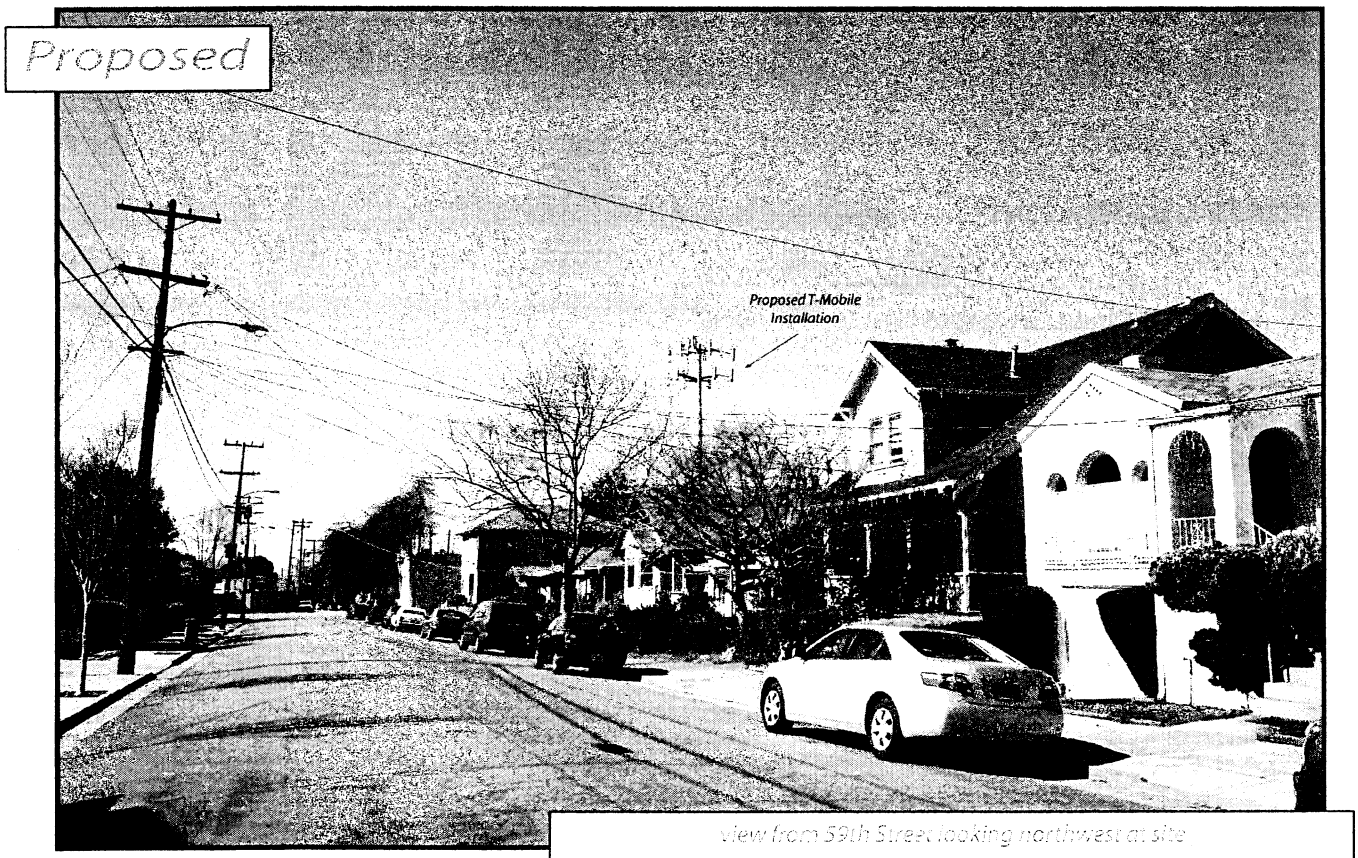
$$\text{power density } S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}, \text{ in } mW/cm^2,$$

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.

ATTACHMENT C



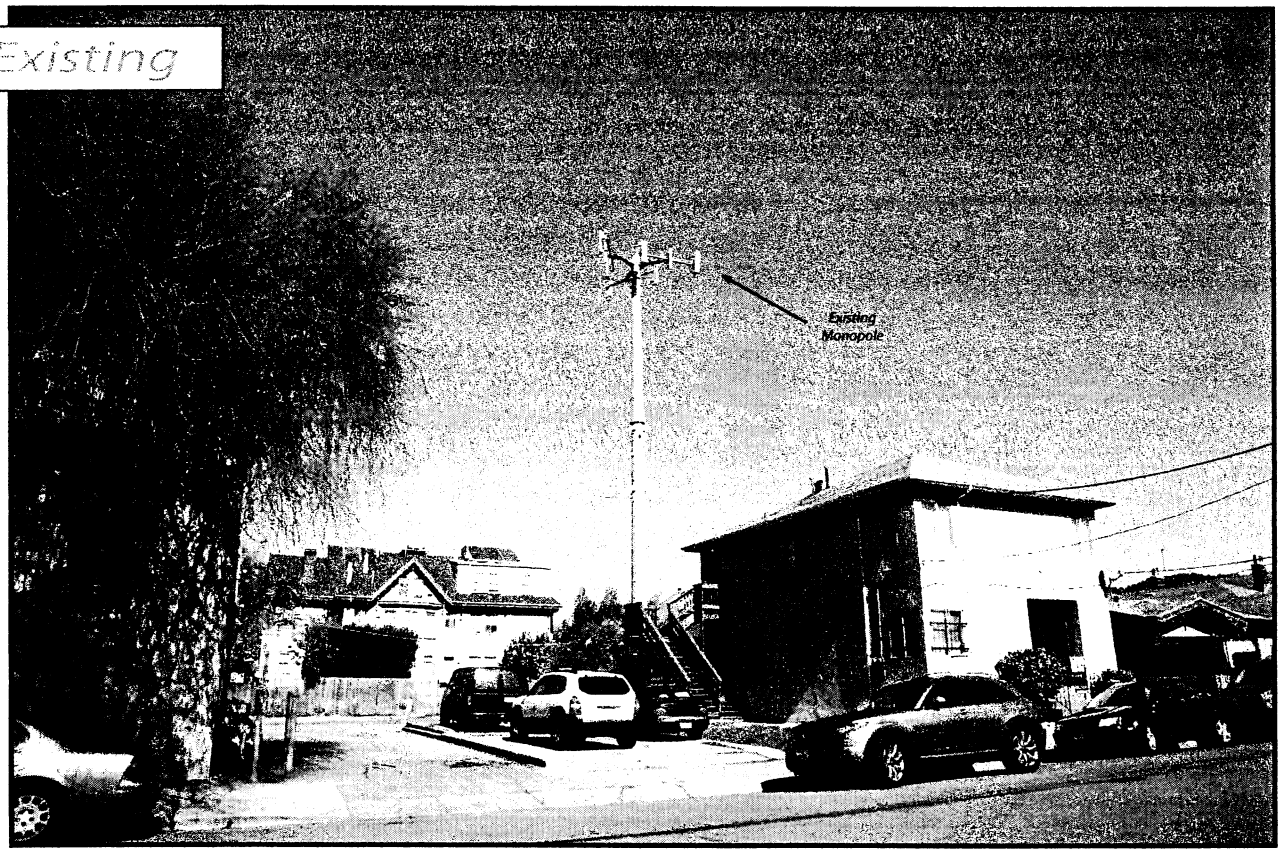


view from 59th Street looking northwest at site

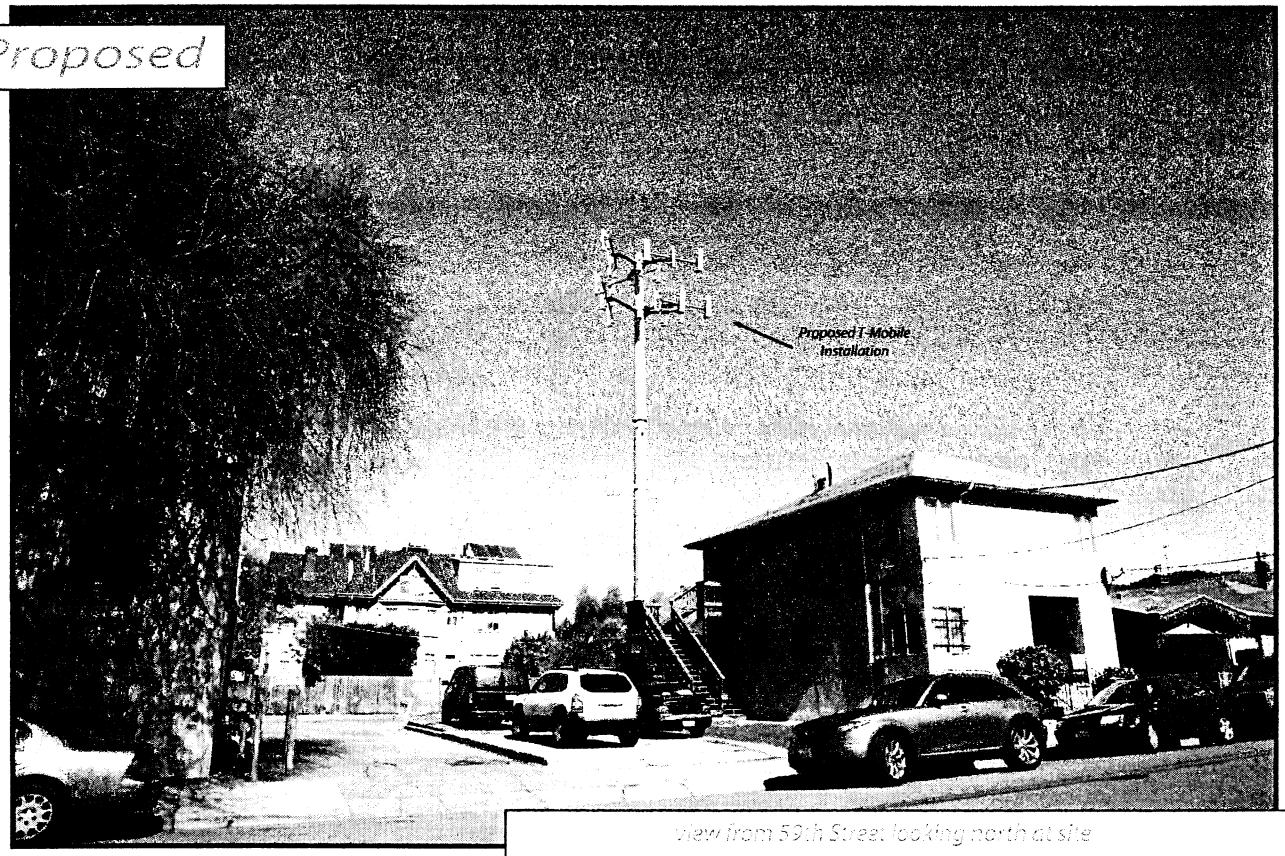
T

BA22559 Telegraph & Highway 24
5914 Telegraph Avenue, Oakland, CA

Existing



Proposed

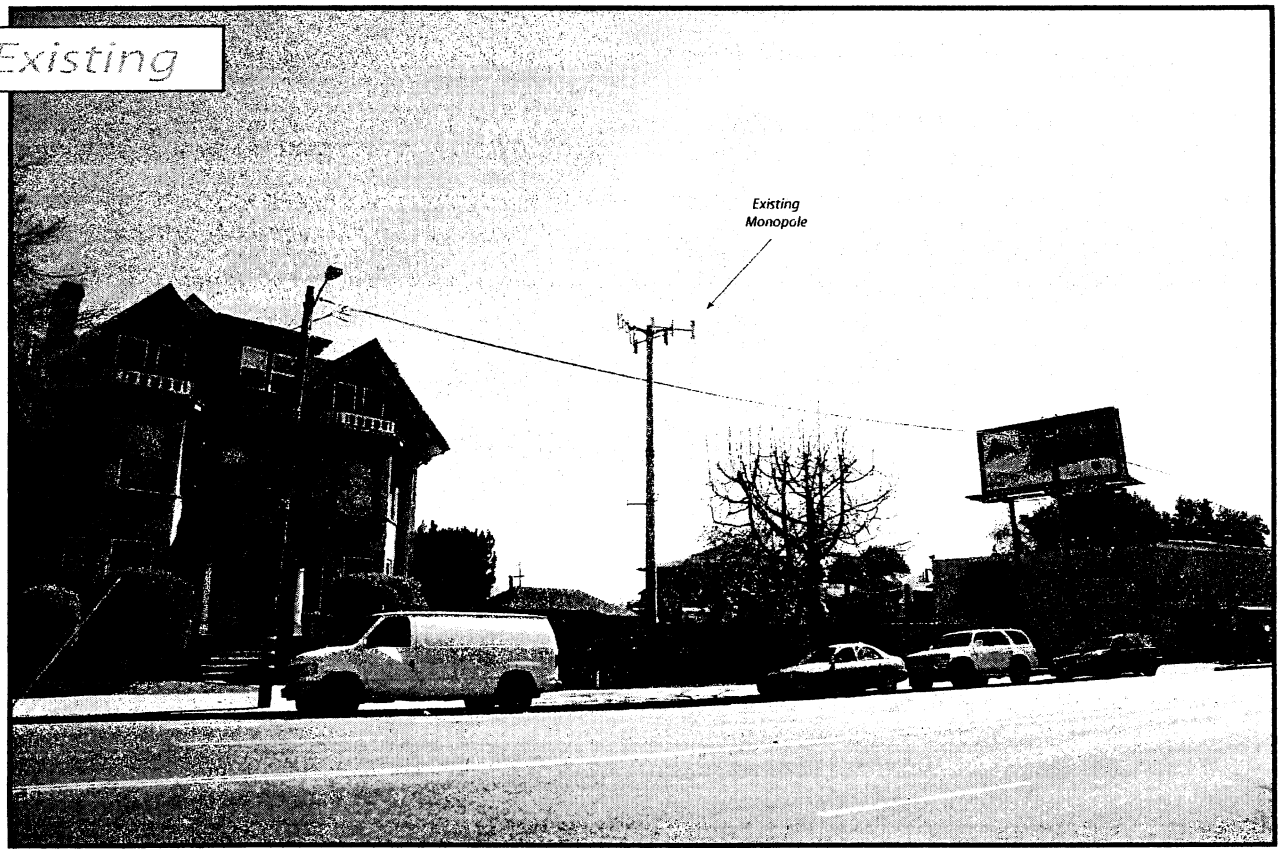


View from 59th Street, looking north at site

T

RA2235 Telegraph & Highway 24
5914 Telegraph Avenue, Oakland, CA

Existing



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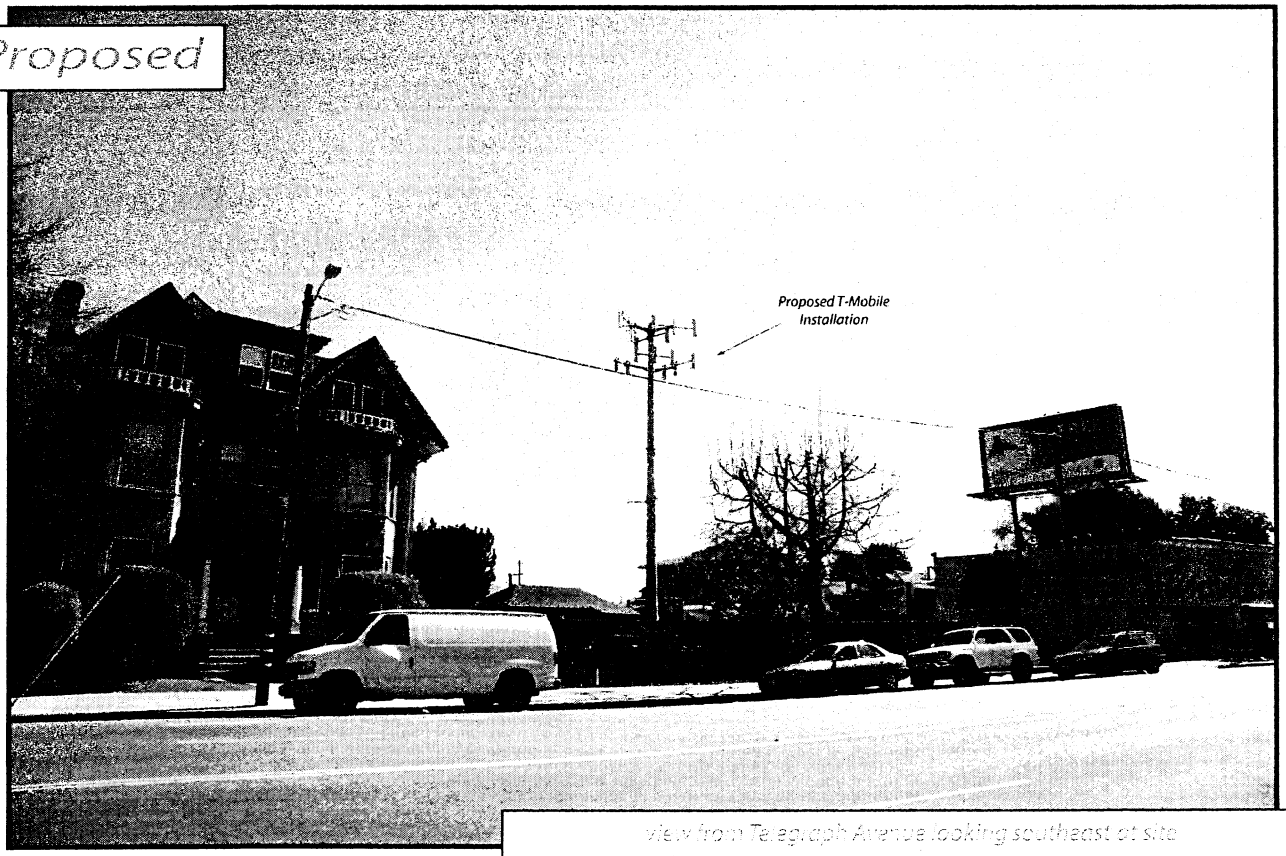


view from Telegraph Avenue looking southeast at site

BA22519 Telegraph & Highway 24
5514 Telegraph Avenue, Oakland, CA

T-MOBILE WEST CORPORATION

T-Mobile

RECEIVED
AUG 11 2010
City of Oakland
Planning & Zoning Division

1755 CREEKSIDE OAKS DR, SUITE 190
SACRAMENTO, CA 95833

TELEGRAPH & HIGHWAY 24

BA22569A

CROWN CASTLE SITE ID: 816118
CROWN CASTLE SITE NAME: UC BERKELEY REV

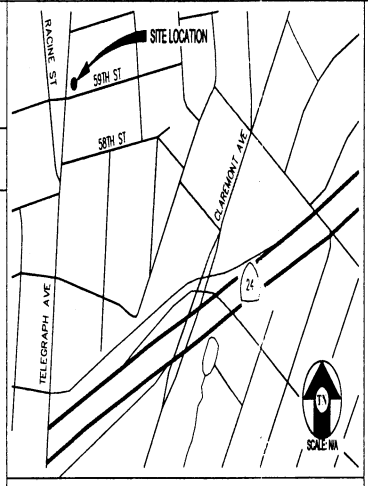
PROJECT DESCRIPTION

T-MOBILE IS PROPOSING A (P) UNMANNED TELECOMMUNICATION FACILITY CONSISTING OF A (P) 12'X20' LEASE AREA W/ (3) (P) BTS CABINETS, A (P) BBU CABINET & (8) (P) T-MOBILE ANTENNAS TO PROVIDE SERVICE TO T-MOBILE CUSTOMERS LIVING AND VISITING THE AREA AROUND 5914 TELEGRAPH AVENUE IN OAKLAND, CA. THE (P) ANTENNAS WILL BE MOUNTED ON AN (E) 77' MONOPOLE.

PROJECT INFORMATION

SITE NAME:	TELEGRAPH & HIGHWAY 24	SITE #:	BA22569A
COUNTY:	ALAMEDA	JURISDICTION:	CITY OF OAKLAND
APN:	016-1386-11 & 016-1386-12-3	POWER:	PG&E
SITE ADDRESS:	5914 TELEGRAPH AVE OAKLAND, CA 94609	TELEPHONE:	AT&T
CURRENT ZONING:	C28 COMMERCIAL/SHOPPING		
CONSTRUCTION TYPE:	II		
OCCUPANCY TYPE:	U		
PROPERTY OWNER:	CROWN CASTLE 58520 STONE RIDGE MALL RD#300 PLEASANTON, CA 94588 ATTN: JOANNE GUNDERMANN (925) 737-1007		
APPLICANT:	T-MOBLE 1755 CREEKSIDE OAKS, DR SUITE 190 SACRAMENTO, CA 95833		
LEASING CONTACT:	ATTN: STEVE CHRISTENSON (530) 368-0730		
ZONING CONTACT:	ATTN: STEVE CHRISTENSON (530) 368-0730		
PROPERTY SPECIALIST:	ATTN: LAURA FAZZINI (925) 737-1069		
CONSTRUCTION MANAGER:	ATTN: TED CONGER (925) 980-0098		
CONSTRUCTION CONTACT:	ATTN: TONY PINO (415) 760-4921		
LATITUDE: LONGITUDE:	N 37° 50' 43.28" NAD 83 W 122° 15' 38.55" NAD 83		
AMSL:	±35.2'		

VICINITY MAP



DRIVING DIRECTIONS

FROM: 1755 CREEKSIDE OAKS DR, SACRAMENTO, CA 95833
TO: 5914 TELEGRAPH AVE, OAKLAND, CA 94609

1.	HEAD WEST ON MILLCREEK DR TOWARD CAPITAL PARK DR	187 FT
2.	TAKE THE 1ST LEFT ONTO CAPITAL PARK DR	0.1 MI
3.	TURN LEFT AT NATOMAS PARK DR	0.1 MI
4.	TAKE THE 1ST RIGHT ONTO GARDEN HWY	0.2 MI
5.	TAKE THE RAMP ONTO I-5 N	1.0 MI
6.	TAKE THE EXIT ONTO I-80 W TOWARD SAN FRANCISCO	78.3 MI
7.	CONTINUE ONTO I-580 E	1.3 MI
8.	TAKE THE CA-24 E EXIT TOWARD BERKELEY/WALNUT CREEK	0.9 MI
9.	KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR 51ST ST	0.6 MI
10.	TURN RIGHT AT 52ND ST	203 FT
11.	TAKE THE 1ST LEFT ONTO SHATTUCK AVE	0.4 MI
12.	TURN RIGHT AT 58TH ST	0.2 MI
13.	TURN LEFT AT TELEGRAPH AVE	0.2 MI

END AT: 5914 TELEGRAPH AVE, OAKLAND, CA 94609

ESTIMATED TIME: 1 HOUR 21 MINUTES ESTIMATED DISTANCE: 83.2 MILES

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:

1. 2007 CALIFORNIA ADMINISTRATIVE CODE (INCL. TITLES 24 & 25)
2. 2007 CALIFORNIA BUILDING CODE
3. 2007 CALIFORNIA ELECTRICAL CODE
4. 2007 CALIFORNIA MECHANICAL CODE
5. 2007 CALIFORNIA PLUMBING CODE
6. 2007 CALIFORNIA FIRE CODE
7. LOCAL BUILDING CODES
8. CITY/COUNTY ORDINANCES
9. ANSI/EIA-TIA-222-G

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

SHEET INDEX

SHEET	DESCRIPTION	REV
T-1	TITLE SHEET	-
LS-1	TOPOGRAPHIC SURVEY	-
A-1	SITE PLAN	-
A-2	EQUIPMENT PLAN, ANTENNA PLAN, & DETAILS	-
A-3	ELEVATIONS	-

APPROVAL

RF

LEASING

ZONING

CONSTRUCTION

T-MOBILE

TELEGRAPH & HIGHWAY 24

BA22569A
5914 TELEGRAPH AVE
OAKLAND, CA 94609

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	10-11-09	ZD 90%	-
	03-10-10	ZD 100%	-
	07-25-10	ZD 100%	CL
	07-30-10	CLIENT REV	GT
	-	-	-
	-	-	-

DRAWN BY: C. CODY
CHECKED BY: L. HOUGHTBY
APPROVED BY: M. FLEMING
DATE: 07/30/10

Streamline Engineering and Design, Inc.
3266 Penryn Rd, Suite 200 Loomis, CA 95650
Contact Larry Houghtby Phone: 916-275-4180
E Mail: larry@streamlineeng.com Fax: 916-660-1941

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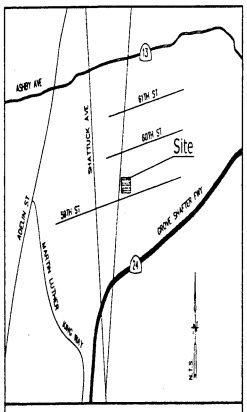
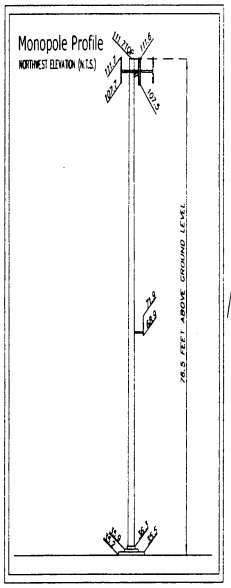
T-MOBILE WEST CORPORATION
T-Mobile
1755 CREEKSIDE OAKS DR, SUITE 190
SACRAMENTO, CA 95833

SHEET TITLE:
TITLE

SHEET NUMBER:
T-1

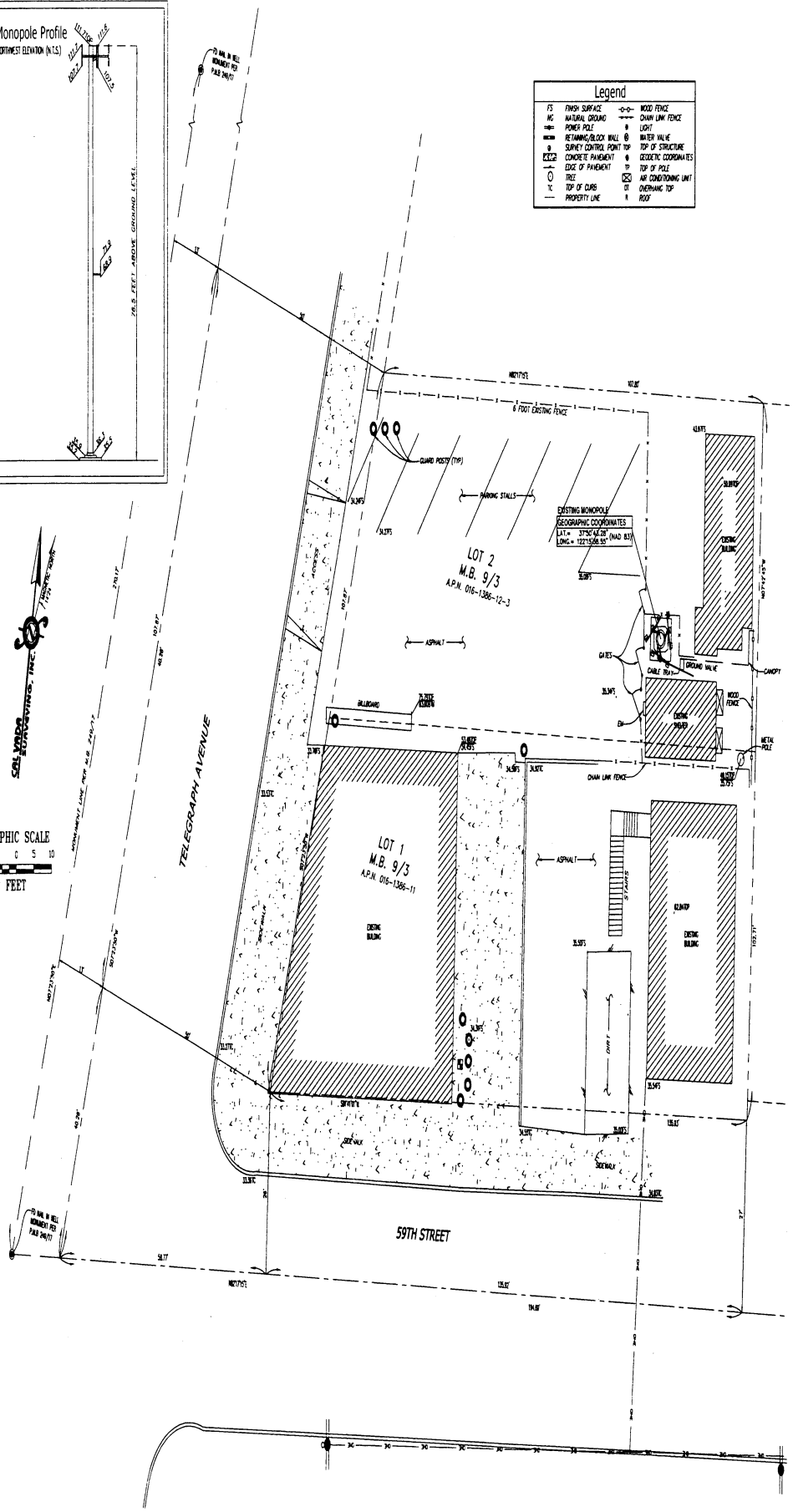


Vicinity Map



Legend

FS	FINISH SURFACE		WOOD FENCE
NG	NATURAL GROUND		CHAIN LINK FENCE
	POWER POLE		LIGHT
	RETAINING/BLOCK WALL		WATER VALVE
	SURVEY CONTROL POINT	TOP	TOP OF STRUCTURE
	CONCRETE PAVEMENT		GEODETIC COORDINATES
	EDGE OF PAVEMENT	TP	TOP OF POLE
	TREE		AIR CONDITIONING UNIT
TC	TOP OF CURB	ST	OVERHANG TOP
	PROPERTY LINE	R	ROOF



Title Report

PREPARED BY:NORTH AMERICAN TITLE COMPANY
ORDER NO.:BA22569A/TM 94-2900247/PO#4550534146
DATED: MAY 01, 2009

Legal Description

LOTS 3 AND 4 IN BLOCK "F", MAP SHOWING RESUBDIVISION OF A PORTION OF ROBERTS & WOLFSKILL TRACT, FILED AUGUST 24, 1899 IN BOOK 10 OF MAPS, PAGE 55, ALAMEDA COUNTY RECORDS.

Assessor's Parcel Nos.

016-1366-012-03

Easements

NOT AVAILABLE

Access Easement/Lease Area

TO BE DETERMINED

Geographic Coordinates At Existing Monopole

1983 DATUM: LATITUDE 37°50'42.28" LONGITUDE 122°15'06.55"
ELEVATION = 35.1 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 HUNDRETH 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.

Basis of Bearings

THE STATE PLANE COORDINATE SYSTEM OF 1983 (NAD 83), CALIFORNIA ZONE 3.

Bench Mark

THE CALIFORNIA SPATIAL REFERENCE C.O.R.S "P181", ELEVATION =344.62 FEET (NAVD 88).

Date of Survey

JUNE 10, 2009

T··Mobile·
Stick Together®

1755 CREEKSIDE OAKS, SUITE 190
SACRAMENTO, CA 95833

PLANS PREPARED BY:

Streamline Engineering
and Design, Inc.

11758 Atwood Rd. Suite 20 Auburn, CA 95603
Contact: Larry Haughtby Phone 916-275-4182
E-Mail: larry@streamlineeng.com Fax: 530-823-6183

CONSULTANT:

CALVADA SURVEYING, INC.
411 Janis Ct., Suite 205, Corona, CA 92880
Phone: 951-280-9960 Fax: 951-280-8746
Toll Free: 800-CALVADA www.calvada.com

JOB NO. 09353

NO.	DATE:	DESCRIPTION:	BY:
	06/15/09	PRELIMINARY	GBM
	10/23/09	TITLE REPORT FINAL	DM

SITE INFORMATION:

BA22569

TELEGRAPH AND HIGHWAY 24

5914 TELEGRAPH AVE.
OAKLAND, CA 94609
ALAMEDA COUNTY

SEAL:

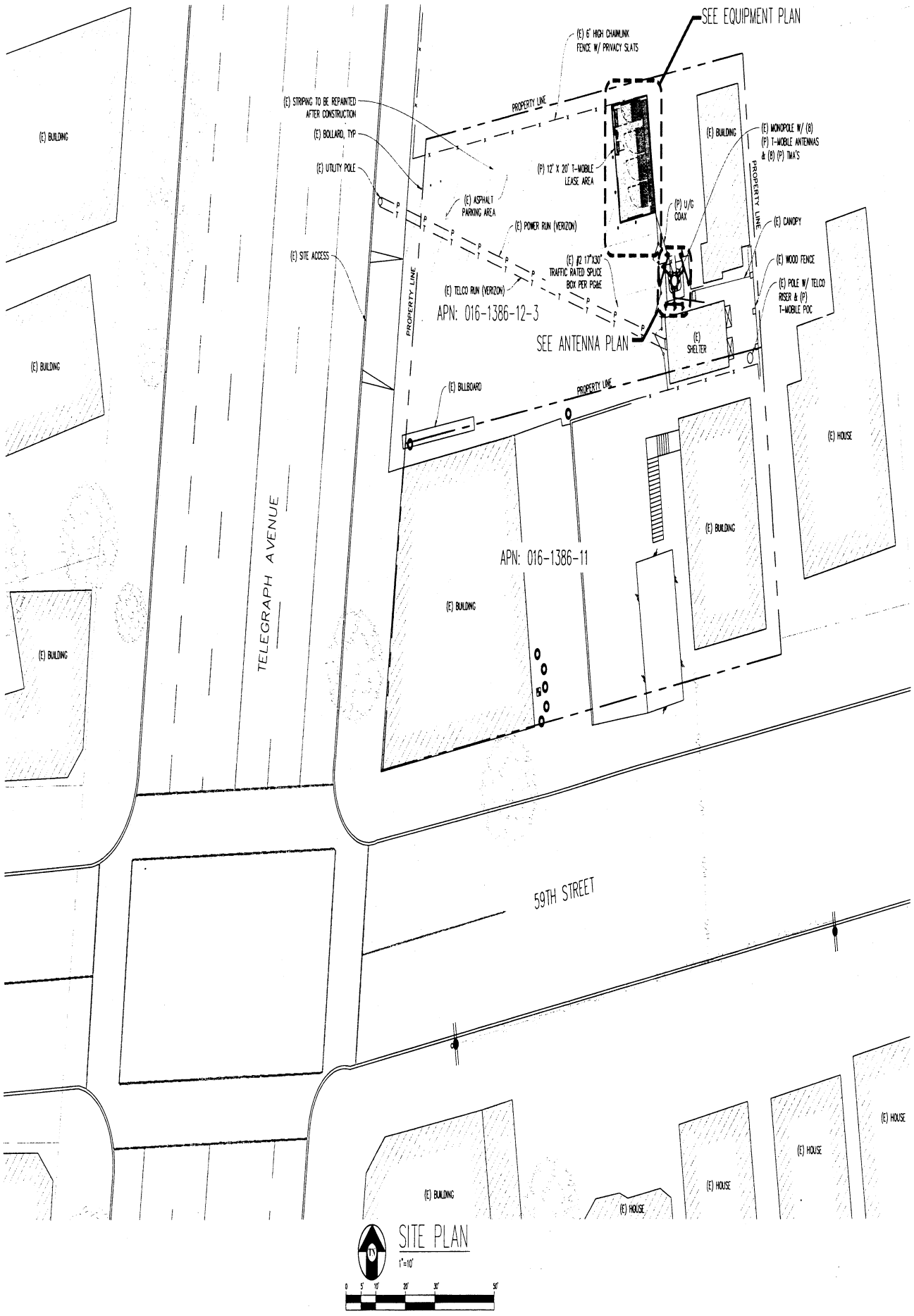
SHEET TITLE:

TOPOGRAPHIC SURVEY

SHEET NUMBER:

LS-1

SHEET 1 OF 1



TELEGRAPH & HIGHWAY 24

BA22569A
5914 TELEGRAPH AVE
OAKLAND, CA 94609

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	10-11-09	ZD 90%	-
	03-10-10	ZD 100%	-
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	-	-	-
	-	-	-

DRAWN BY: C. CODY
CHECKED BY: L. HOUGHTBY
APPROVED BY: M. FLEMING
DATE: 07/30/10

Streamline Engineering and Design, Inc.
3268 Penryn Rd. Suite 200 Loomis, CA 95650
Contact: Larry Houghtby Phone: 916-275-4160
E-Mail: larry@streamlineseng.com Fax: 916-652-1941

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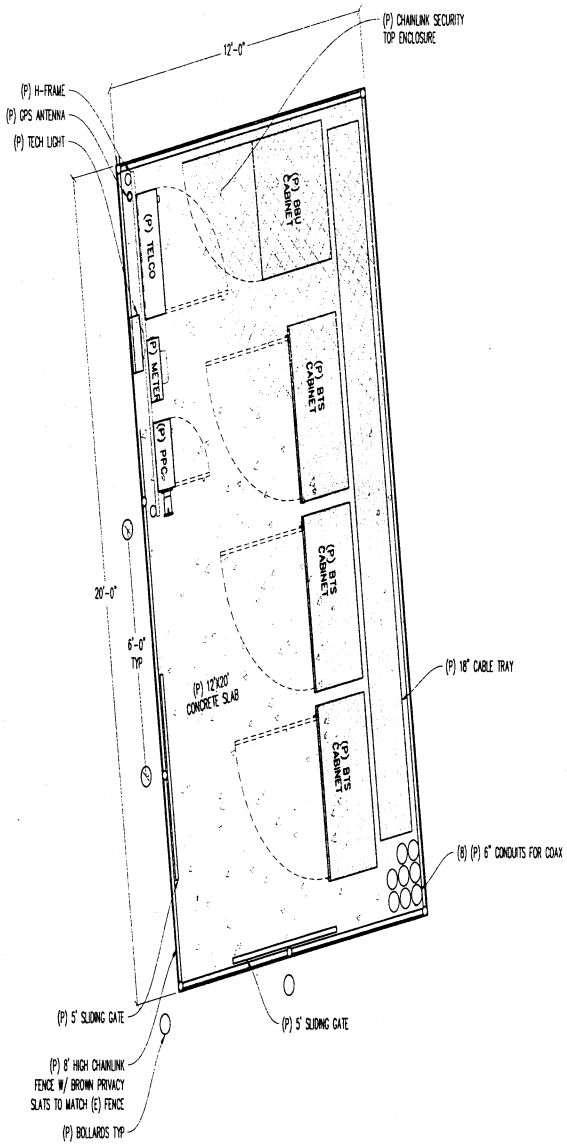
T-MOBILE WEST CORPORATION
T-Mobile
1755 CREEKSIDE OAKS DR. SUITE 190
SACRAMENTO, CA 95833

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1

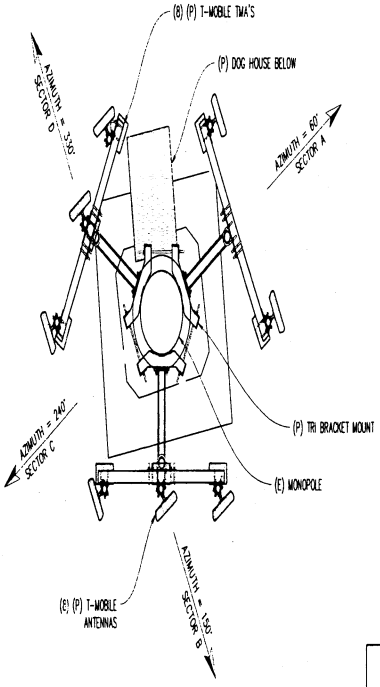
	RF CONFIGURATION										VERSION: DRAFT DATED: 04-24-09
	COAX			ANTENNA							
SECTOR	#	LENGTH	SIZE	MODEL	#	TMA	MDT	EDT	RET	RAD	AZIMUTH
ALPHA	4	105'	7/8"	APX16DWV-16DWV-S-E-A20	2	2	0'	TBD	NO	66'-2"	60'
BETA	4	105'	7/8"	APX16DWV-16DWV-S-E-A20	2	2	0'	TBD	NO	66'-2"	150'
GAMMA	4	105'	7/8"	APX16DWV-16DWV-S-E-A20	2	2	0'	TBD	NO	66'-2"	240'
DELTA	4	105'	7/8"	APX16DWV-16DWV-S-E-A20	2	2	0'	TBD	NO	66'-2"	330'

NOTE: CONTRACTOR TO VERIFY LATEST RF DESIGN



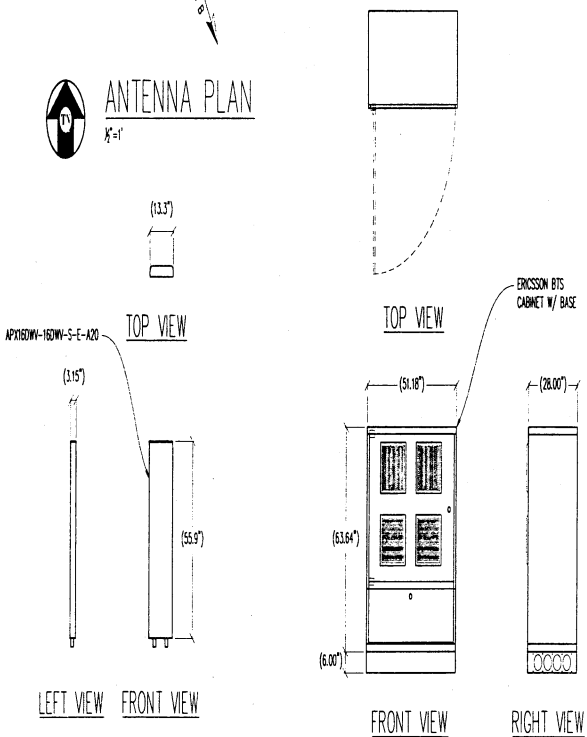
EQUIPMENT PLAN

1/8"=1'



ANTENNA PLAN

1/8"=1'



1 ANTENNA DETAIL

1/2"=1'

2 BTS DETAIL

1/2"=1'

TELEGRAPH & HIGHWAY 24

BA22569A

5914 TELEGRAPH AVE
OAKLAND, CA 94609

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	10-11-09	ZD 90%	-
	03-10-10	ZD 100%	-
	07-25-10	ZD 100%	CL
	07-30-10	CLIENT REV	GT
	-	-	-
	-	-	-

DRAWN BY: C. CODY

CHECKED BY: L. HOUGHTBY

APPROVED BY: M. FLEMING

DATE: 07/30/10

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3268 Penryn Rd. Suite 200 Loomis, CA 95650
Contact: Larry Houghtby Phone: 916-375-4180
E-Mail: larry@streamlinedesigninc.com Fax: 916-660-0941

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T-Mobile

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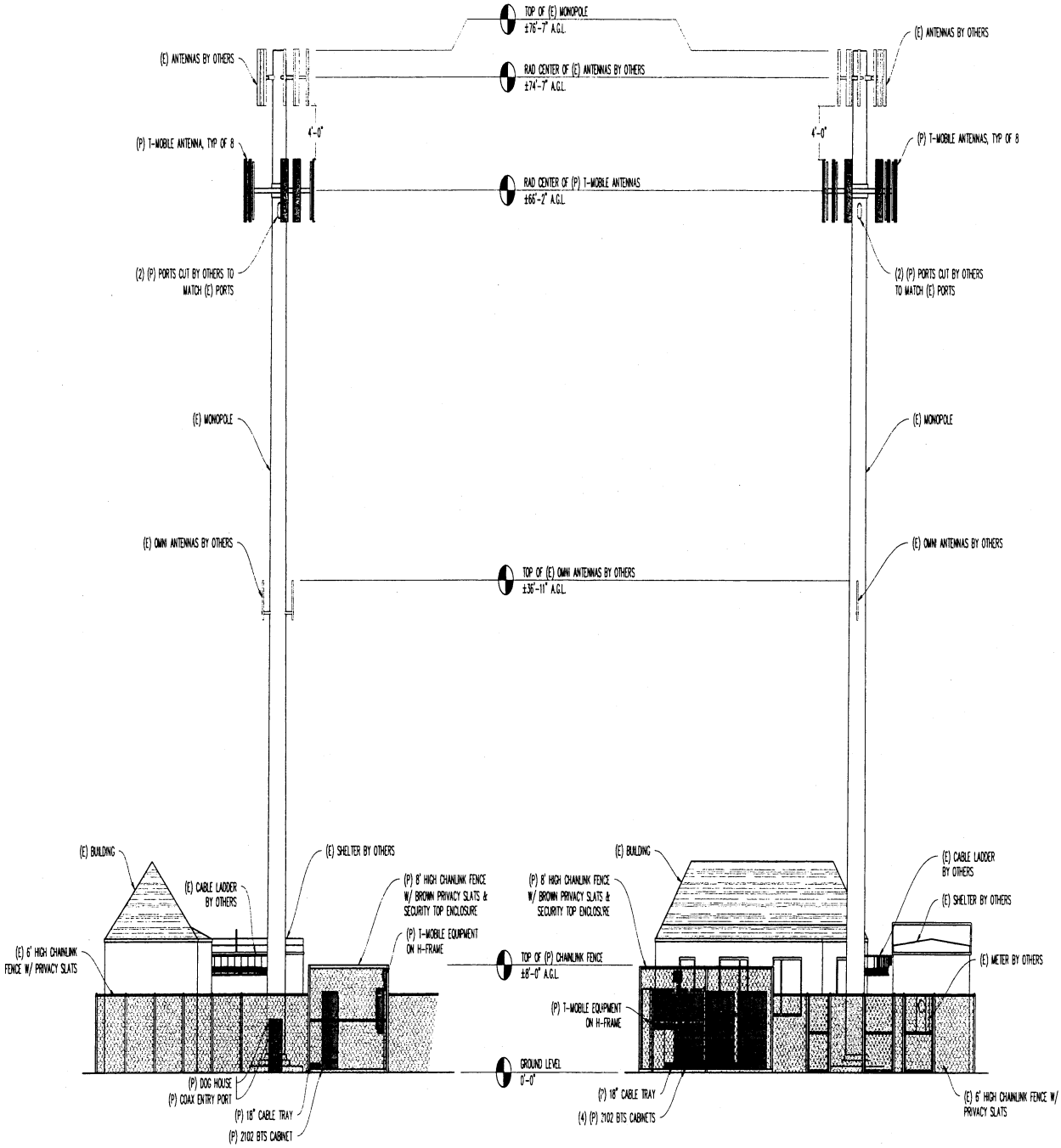
SACRAMENTO, CA 95833

SHEET TITLE:

EQUIPMENT PLAN, ANTENNA PLAN, & DETAILS

SHEET NUMBER:

A-2



NORTH ELEVATION

1/8"=1'

WEST ELEVATION

1/8"=1'

TELEGRAPH & HIGHWAY 24

BA22569A

5914 TELEGRAPH AVE
OAKLAND, CA 94609

ISSUE STATUS

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SACRAMENTO, CA 95833

SHEET TITLE:

ELEVATIONS

SHEET NUMBER:

A-3