Oakland City Planning Commission STAFF REPORT

Case File Number CMDV10048 **July 21, 2010**

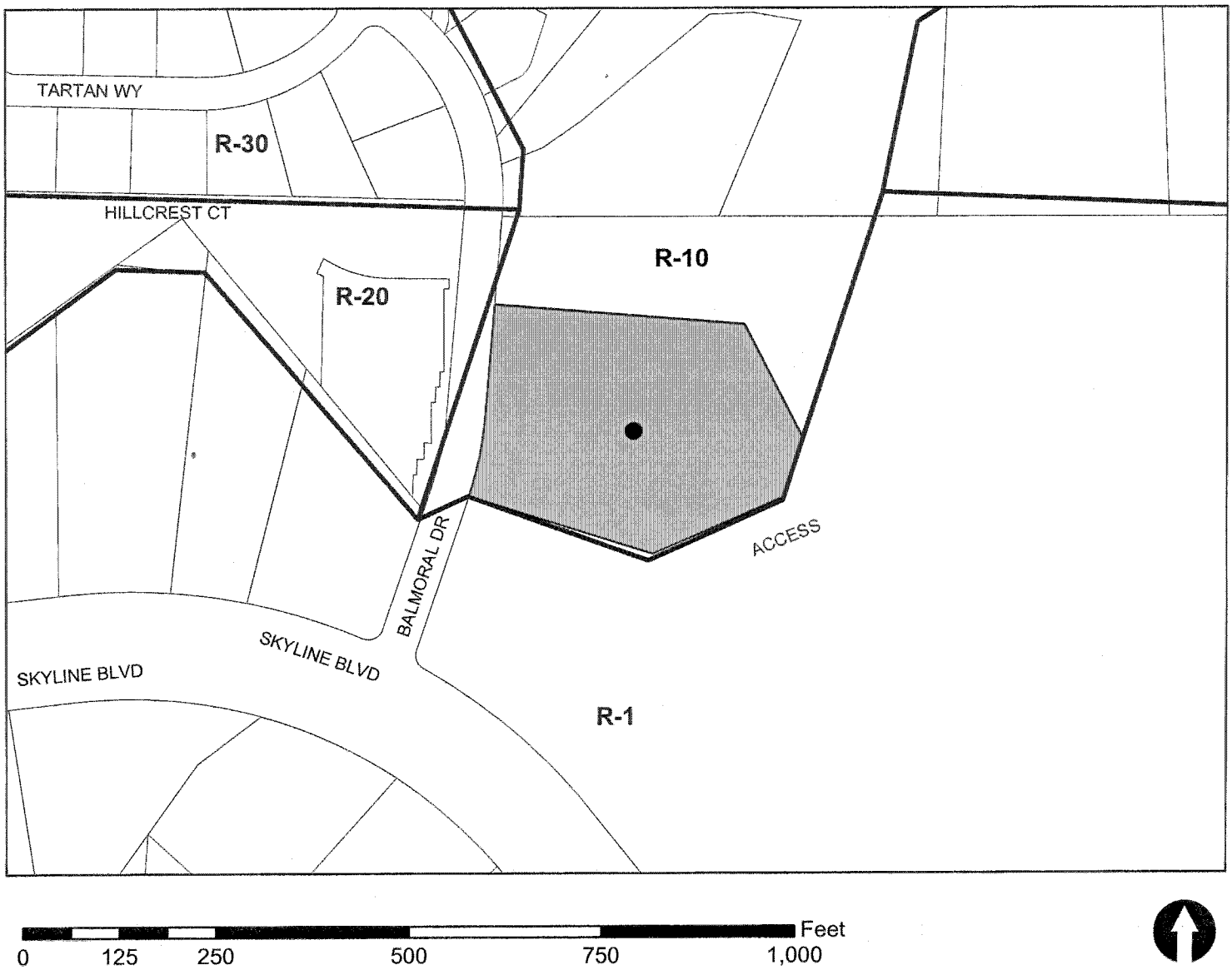
Location:	**Balmoral Drive (located at Balmoral and Skyline Boulevard next to Skyline High School)**
Assessor's Parcel Number:	**085-0102-014-00**
Proposal:	To erect a new 68-foot tall Wireless Telecommunication Monopole Facility stealthed to resemble a tree.
Contact Person/ Phone Number:	Ana Gomez / T-Mobile West Corporation (415) 990-5384
Owner:	East Bay Municipal Utility District
Planning Permits Required:	Major Conditional Use Permit and Design Review to establish a Wireless Telecommunication Monopole in a residential zone, and a Minor Variance to allow for a Monopole taller than 45 feet.
General Plan:	Institutional
Zoning:	R-10
Environmental Determination:	Exempt, Section 15303 of the State CEQA Guidelines: Small Structures, Section 15183 of the State CEQA Guidelines: Projects consistent with a community plan, general plan or zoning
Historic Status:	None; large tree covered lot with a water tank, No Historic Ratings.
Service Delivery District:	4
City Council District:	6
Date Filed:	February 23, 2010
Staff Recommendation:	Approve with the attached conditions
Finality of Decision:	*Appealable to City Council within 10 days*
For Further Information:	Contact case planner **Moe Hackett, Planner II** at **(510) 238-3973** or mhackett@oaklandnet.com

SUMMARY

The applicant Ana Gomez /T-Mobile West Corporation, on behalf of the property owner East Bay Municipal Utility District, requests Planning Commission approval of a Major Conditional Use Permit and Regular Design Review and a Minor Variance to construct a new Monopole Telecommunications Facility designed for stealth to resemble a tree, located on a large vacant lot with existing trees and a large water tank. The project would involve the establishment of one stealth telecom facility located within a faux tree and associated conduits and equipment within a 15 –foot by 25 –foot gated compound. The equipment cabinets located at ground-level compound will be screened by wooden fencing and 5' high shrubs. The request requires Planning Commission review, pursuant to the Planning Code, as it involves the creation of a Telecommunications Facility located within a Residential Zone.

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

CITY OF OAKLAND PLANNING COMMISSION



Case File: CMDV10-048
Applicant: Ana Gomez/T-Mobile West Corporation
Address: Balmoral Drive
Zone: R-10

PROPERTY DESCRIPTION

The property is a 2.42-acre up-slope parcel. The site contains a large East Bay Municipal Utility District water tank, but is otherwise tree covered and in a natural state.

PROJECT DESCRIPTION

The proposal would involve the establishment of one stealth telecom facility designed as a tree, and associated conduits and equipment within a 15 –foot by 25 –foot gated compound. The monopole would be 68 feet tall with an additional height of 5 feet for tree branches (73 feet total). The monopole site is adjacent to Skyline High School (approximately 130 feet from the edge of the parking lot and approximately 330 feet from the edge of the athletic field, and 600 feet from the school campus), and would be sited over 200 feet from the nearest public roadway (Balmoral Drive). The new monopole and equipment compound will not drastically alter the visual appearance of a sylvan open space.

GENERAL PLAN ANALYSIS

The project site is located within a Institutional Use area under the General Plan's Land Use & Transportation Element (LUTE) adopted 1998. The Conformity Guidelines are silent on Telecommunications Facilities. The 'Intent' of the area is: *"to create, maintain, and enhance areas appropriate for educational facilities, cultural and institutional uses, health services and medical uses as well as other uses of similar"* and the 'Desired Character and Uses' is that *"Future uses include educational and cultural facilities, institutions, health services, medical facilities, and commercial development that supports these institutional areas."* The project would meet these descriptions: the changes at the site, located at a tree filled open area (with an existing water tank) would increase telecommunications service at an ideal hillside location. Features would be camouflaged or concealed and the proposal is backed by a satisfactory emissions report.

ZONING ANALYSIS

The site of the proposed monopole is located within Zoned R-10 which is intended to create, preserve, and enhance areas for single-family estate living at very low densities in spacious environments. Telecommunications is a permitted activity with monopoles requiring a Conditional Use Permit. New or expanded Telecommunications Facilities and visible from a Residential Zone require Planning Commission review. Section 17.128.080(A); 4 states that Monopole structures are allowed to a height of 45 feet upon the granting of a Conditional Use Permit. In this case the proposed tree camouflaged pole will require a minor Variance to allow for a height of 73 feet (including the top branch appendages). The proposal meets the requirements and intent of the standard and additional Use Permit, and Design Review, as well as the height Variance Finding. The findings for these criteria is stated in the body of this report. The tree pole is designed to address issues regarding the surrounding topography which would tend to hamper the operational efficiency of the pole, and to mitigate the scenic impacts that a standard monopole would impose of an area intended to provide low densities and spacious environments.

In general, the proposal would minimally alter the character of the tree filled open area. The proposed color, tree design, and texture of the monopole are intended to camouflage the new pole. The fence color, materials, and landscaped features (a 5-foot tall scrub /hedge) will screen the 15' X 25' ground level equipment compound and its related facilities. The proposed equipment cabinets would not be visible easily from the public right of way. Proposed conditions of approval would require that the monopole equipment cabinets and proposed facilities (such as the ice bridge) be painted a dark green to match the surrounding hillsides. The proposal, which includes a satisfactory emissions report are consistent with the

Findings required for approval. The project would improve telecommunications to residents, students and faculty, and freeway users, without being located directly adjacent to residential facilities.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines categorically exempts specific types of projects from environmental review. Section 15303 of the State CEQA Guidelines exempts project involving construction or location of new, small facilities or structures. The proposal to create a new monopole containing 6 antennas and to establish other minor equipment at ground-level adjacent to and connecting to the monopole meets this description: the project would constitute a minor addition only. The project is therefore exempt from Environmental Review.

KEY ISSUES AND IMPACTS

In addition to ensuring this type of request meets required legal findings, proposed wireless telecommunications facilities must meet specific development standards, and site location and design preferences, and possesses a satisfactory radio frequency emissions report.

Following are the standards met by this proposal from these areas of consideration:

> *Site Location Preferences (OMC Sec. 17.128.110)*
> *The proposal adheres to the following Site Location Preferences:*
> *B. City owned properties or other qusi-public facilities.*
> *D. Existing commercial or industrial structures in residential zones.*
> *E. other non-residential uses in residential zones.*
> *Facilities locating on an A, B or C ranked preference do not require a site alternatives analysis.*

The 6 new antennas would be located on a monopole designed to resemble a tall conifer tree.

> *Site Design Preferences (OMC Sec. 17.128.120)*
> *The proposal adheres to the following Site Design Preferences:*
> *A. Building or structure mounted antenna completely consealed from view.*
> *E. monopoles*
> *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. A site design alternatives analysis shall, at a minimum, consist of:*
> *a. Written evidence indicating why each such higher preference design alternative cannot 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 RF sources, inability to cover required area) or for other concerns (e.g. inability to provide utilities, construction or structural impediments).*

The new antennas would be located on a new monopole facility. The site would normally require a site design alternative analysis because the creation of a new monopole and antennas would not be concealed from view from the public right-of-way. However, due to the fact that the site and facility is a designed to be stealth in nature, is located in an isolated portion of a large otherwise tree covered lot, and contain many devices and elements to camouflage the facilities from view, staff has waived the requirement of the applicant to provide this study.

Radio Frequency Emissions Standards (OMC Sec. 17.128.130)
The proposal adheres to the following requirement that safe emissions levels be demonstrated prior to and during operation of the facility:
a. With the initial application, a RF emissions report, prepared by a licensed professional engineer or other expert, indicating that the proposed site will operate within the current acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.
b. Prior to commencement of construction, a RF emissions report indicating the baseline RF emissions condition at the proposed site.
c. 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 applicant has submitted a satisfactory emissions report.

CONCLUSION

The proposed project has been designed to significantly reduce the visual impacts of a new Monopole facility, it's antennas, and other associated ground level equipment. Therefore, staff recommends approval of the requested Major Conditional Use Permit, Regular Design Review, and Minor Variance to allow the creation of a 73' stealth tree Monopole.

RECOMMENDATIONS:

1. Affirm staff's environmental determination.
2. Approve the Major Conditional Use Permit, Regular Design Review, and the Minor Variance subject to the attached Findings and Conditions.

Prepared by:

Moe Hackett
Planner II

Approved by:

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. Findings for Approval
B. Conditions of Approval
C. Plans & Antenna Details
D. Applicant's Site Photo-Simulations
E. Radio Frequency Analysis

Attachment A: Findings for Approval

This proposal meets the required findings under Section 17.134.050, General Use Permit Criteria; Section 17.128.070(C), Conditional Use Permit Criteria for Monopole Facilities; Section 17.136.040(A), Regular Design Review; and Section 17.128.070(B), Design Review Criteria for Monopole Facilities, as set forth below. Required findings are shown in bold type; explanations as to why these findings can be made are in normal type.

SECTION 17.134.050 – GENERAL USE PERMIT CRITERIA:

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 involves the establishment of a wireless telecommunications "stealth tree" monopole facility located in a large lot sited next to an existing water tank, and located within a residential zone. Specifically, it would provide for six new (attached) antennas to the middle and upper portions of a new monopole camouflaged to resemble a tree. The proposal would also result in the creation of new screened, secured, and camouflage equipment cabinets and associated facilities located at ground level. The project will be compatible with the neighborhood: it meets special findings and will not pose a hazard to the public.

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.

The creation of a stealth tree wireless telecommunications facility in a residential zone, at a location surrounding by existing trees, open space, will provide a convenient and functional living, working, and civic environment without generating negative aesthetic impacts to the area. The inclusion of tree camouflaging, paint, screening, and landscaping will lessen the impacts of the proposed facilities as seen from street level.

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.

The creation of a stealth wireless telecommunications site will increase service for resident, students, Faculty, and visitors.

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 conforms to Design Review findings which are included in that section of this attachment of Findings for Approval.

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 is consistent with the following Policy of the Oakland General Plan's Land Use & Transportation Element (adopted 1998):

> ***Policy N1.5 Designing Commercial Development***
> *Commercial development should be designed in a manner that is sensitive to surrounding residential uses.*

The proposal will expand wireless telecommunications facility and capabilities at an Institutional site located within a Residential Zone by establishing a stealthy monopole designed to resemble a large conifer tree. The stealthy monopole (tree pole) and its associated equipment will not create functional issues for the area and the project possesses a satisfactory emissions report.

SECTION 17.128.070(C) – CONDITIONAL USE PERMIT CRITERIA FOR MONOPOLE FACILITIES.

In addition to the conditional use criteria listed in Chapter 17.134, the following specific additional criteria must be met before a conditional use permit can be granted:

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

The proposal conforms to Design Review findings which are included in that section of this attachment of Findings for Approval.

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.

No additional monopoles were identified as being within 1,500 feet of the proposal. Due to the request to expand an existing wireless telecommunications facility (Monopole) by collocation of additional antennas will not require the creation of a new monopole. Due to the stealthy tree the proposal will not substantially alter the surrounding area. The "tree pole" approach offers the most preferable and technologically sound design, utility potential, and facility.

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

The addition of a monopole that will appear as a large conifer tree will not alter or disrupt the current overall character of the community.

SECTION 17.136.050.A - REGULAR DESIGN REVIEW CRITERIA:

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 proposed monopole is designed to resemble a large conifer tree and is located near the center of a large lot that contains a large water tank and a large number of well established trees. The equipment cabinets and other associated facilities are located within a 15-foot by 25-foot screened and fenced area surrounded by shrubs that are designed to reach a height of 5 feet. Per specific condition #34 all of the related equipment and facilities will be painted in a color that will help to further conceal ground level apparatus.

The design is compatible with the existing water tower and site. The stealthy color and design of the monopole I such that it will be less visible as viewed from the surrounding residential neighborhoods and civic activities.

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

The proposed design will protect the desirable neighborhood characteristics by utilizing camouflaging (paint) and concealment (stealth tree pole design)so that the project will not be noticeable.

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

The proposed design will would be painted and designed to blend in with the existing surrounding tree lines.

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

The project site is at a building located at a previously graded area of an upslope lot, and would not alter existing topography.

5. 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.

The proposal adheres to all site design requirements under the Telecommunications Regulation of the Planning Code.

SECTION 17.128.080(B) – DESIGN REVIEW CRITERIA FOR MONOPOLE FACILITIES

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 new monopole will be designed to resemble a large tree. The entire facility would be painted and landscaped to match in color the surrounding area and tree line.

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

The Monopole and the entire Facility would be painted and designed to fade into the surrounding open space when viewed from the surrounding area.

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

The Monopole and the entire Facility would be painted and designed to fade into the surrounding hillside and tree line when viewed from the surrounding area. The existing water tower represents an established visual element at this location and would not be altered as part of this proposal.

4. 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 Equipment cabinets or shelters would be painted green and landscaped to match in color the surrounding area and tree line.

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. Equipment shelters or cabinets shall be consistent with the general character of the area.

The proposal calls for a monopole designed to resemble a large conifer tree and is located near the center of a large lot that contains a large water tank and a large number of well established trees. The equipment cabinets and other associated facilities are located within a screened and fenced area surrounded by shrubs. The entire Facility would be painted and designed to fade into the surrounding open space when viewed from the surrounding area.

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.

Monopole compound will be sited within a large lot that is surrounded by existing chain link fence. The compound site areas will also be surrounded by a 15-foot by 25-foot wood fence and screening.

17.148.050 - VARIANCE CRITERIA:

A) Strict compliance with the specified regulations would result in practical difficulty or unnecessary hardship inconsistent with the purpose of the Zoning Regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance:

The proposed design will create a new monopole on a large upslope lot in the Skyline District of Oakland hills. The proposed pole would be 73 feet tall (68 feet to the top of the pole and 73 feet to the top of the camouflaging tree branch elements), where 45 feet is allowable upon the granting of a Conditional Use Permit. The proposed height of 73 feet allowed the proposed stealth tree camouflaged monopole to better integrate into the tree line at this location. The necessity of a seemly blended stealthy design is vital in maintaining the aesthetic values of the upper hills area and neighborhood in with the monopole is located. As this area is zoned specifically for estate sized residential development, a tree lined sylvan setting with views unobstructed by mechanical apparatus is necessary and desirable. Standard monopole designs

that may be suitable for commercial or industrial areas would not be compatible with the development or ongoing viability of this area.

The proposed monopole is sited in a large (2.42 acre) upslope lot that is currently utilized for Institutional activities. It contains a 30-foot tall large water tank owned by the East Bay Municipal Water District (EBMUD), and a large number of trees that range in size from medium height to legacy height. The proposed pole would be 73 feet tall (68 feet to the top of the pole and 73 feet to the top of the camouflaging tree branch elements), where 45 feet is allowed upon the granting of a Conditional Use Permit. The variance request in this case is supportable due to the surrounding topography and its stealth design. In order for the wireless telecommunication facility to achieve optimal operational efficiency it (the antennas) must located slightly above the 45-foot allowance that a Conditional Use Permit would allow. The proposed height of the functional pole above 45 feet is reasonable as a design solution which precludes the necessity for multiple monopoles in order to clear topographic obstacles in the area. The requested 5 feet of height beyond 68 feet is made necessary to allow for the maximum camouflaging effect provided by the branch of the stealth tree design.

B) Strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation:

The restrictions of a 45-foot height would create an in effective design at this location due to the requirements of the telecommunication equipment to operate with out obstruction of signal by topographic contour. Although the problem could possible be solved by the placement of multiple monopoles the creation of a single pole creates less visual impacts to the surrounding area. In this case a single more effective and highly camouflaged tree offers the best design solution and fulfills the intent of the regulation by disguising the otherwise large and obtrusive visual impact that monopoles generally create. The design will enhance the neighborhood character by maintaining the appearance of the wooded hillside.

C) The variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy:

The project will utilize extensive camouflaging techniques and will create a single monopole that will stealthily blend in with the character of the surrounding area. This proposal will enhance telecommunications uses in the area while not changing the defined residential character of Balmoral Drive. It will be consistent with the adopted development policies and plans for the area. Its stealth design elements will and location will not adversely affect the abutting properties or surrounding area.

D) The variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the Zoning Regulations:

The proposed stealth monopole is in character with the open tree filled nature of the area. The creation of a single pole is preferable to multiple poles as an obvious alternative solution. In this case a heath variance is a suitable to maintain otherwise untouched open appearances along Balmoral Drive. As such, this proposal is consistent with the R-10 Estates Sized Residential Zone regulations and does not constitute any special privilege.

E) That the elements of the proposal requiring the variance (e.g. elements such as buildings, walls, fences, driveways, garages and carports, etc.) conform with Regular Design review Criteria set forth in the design review procedures at section 17.136.050:

The proposed design will create a new monopole and ground level equipment compound that will be screened from view. All of the proposed facilities are located at least 130 feet from the nearest perimeter fences and 180 feet from Balmoral Drive. The proposal has been designed to match the tree line and to be concealed at ground level. It is sufficiently set back from the front and side property line to reduce the visual mass and bulk of the structure (tree monopole), and to complement the surrounding area. The design uses the same evergreen trees (conifers) style as those that are common to the area. The proposed stealth Monopole structure conforms in all aspects with the intent and criteria set forth in section 17.136.050 and 17.128.080(B) of the design review procedures.

F) <u>For proposals involving one or two residential dwelling units on a lot</u>: That, if the variance would relax a regulation governing maximum height, minimum yards, maximum lot coverage or building length along side lot lines, the proposal also conforms with <u>at least one</u> of the following criteria:

The proposal when viewed in its entirety will not adversely impact abutting residences to the side, rear, or directly across the street with respect to solar access, view blockage and privacy to a degree greater than that which would be possible if the residence were built according to the applicable regulation and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height:

-OR-

Over 60 percent of the lots in the immediate vicinity are already developed and the proposal does not exceed the corresponding as-built condition on these lots and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by additional height. The immediate context shall consist of the five closest lots on each side of the project site, plus ten closest lots on the opposite side of the street (see illustration I-4b); however, the Director of City Planning may make an alterative determination of immediate context based on specific site conditions. Such determination shall be in writing and included as part of any decision on any variance.

The proposed is not for a residential structure. This finding does not apply.

Attachment B: Conditions of Approval

1. **Approved Use**
   Ongoing
   a) The project shall be constructed and operated in accordance with the authorized use as described in the application materials, staff report, and the plans dated May 5, 2010 and as amended by the following conditions. Any additional uses or facilities other than those approved with this permit, as described in the project description and the approved plans, will require a separate application and approval. Any deviation from the approved drawings, Conditions of Approval or use shall required prior written approval from the Director of City Planning or designee.

   b) This action by the City Planning Commission ("this Approval") includes the approvals set forth below **To establish a Monopole Telecommunications Facility**

2. **Effective Date, Expiration, Extensions and Extinguishment**
   Ongoing
   Unless a different termination date is prescribed, this Approval shall expire **two calendar years** from the approval date, unless within such period all necessary permits for construction or alteration have been issued, or the authorized activities have commenced in the case of a permit not involving construction or alteration. Upon written request and payment of appropriate fees submitted no later than the expiration date of this permit, the Director of City Planning or designee may grant a one-year extension of this date, with additional extensions subject to approval by the approving body. Expiration of any necessary building permit for this project may invalidate this Approval if the said extension period has also expired.

3. **Scope of This Approval; Major and Minor Changes**
   Ongoing
   The project is approved pursuant to the **Planning Code** only. Minor changes to approved plans may be approved administratively by the Director of City Planning or designee. Major changes to the approved plans shall be reviewed by the Director of City Planning or designee to determine whether such changes require submittal and approval of a revision to the approved project by the approving body or a new, completely independent permit.

4. **Conformance with other Requirements**
   Prior to issuance of a demolition, grading, P-job, or other construction related permit
   a) The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition of Approval 3.

   b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

5. **Conformance to Approved Plans; Modification of Conditions or Revocation**

Ongoing

a) Site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60-90 days of approval, unless an earlier date is specified elsewhere.

b) The City of Oakland reserves the right at any time during construction to require certification by a licensed professional that the as-built project conforms to all applicable zoning requirements, including but not limited to approved maximum heights and minimum setbacks. Failure to construct the project in accordance with approved plans may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension or other corrective action.

c) Violation of any term, **Conditions** or project description relating to the Approvals is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approvals or alter these **Conditions** if it is found that there is violation of any of the **Conditions** or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Conditions of Approval.

6. Signed Copy of the Conditions

With submittal of a demolition, grading, and building permit

A copy of the approval letter and **Conditions** shall be signed by the property owner, notarized, and submitted with each set of permit plans to the appropriate City agency for this project.

7. Indemnification

Ongoing

a) To the maximum extent permitted by law, the applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the City of Oakland Redevelopment Agency, the Oakland City Planning Commission and its respective agents, officers, and employees (hereafter collectively called City) from any liability, damages, claim, judgment, loss (direct or indirect)action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul, (1) an approval by the City relating to a development-related application or subdivision or (2) implementation of an approved development-related project. The City may elect, in its sole discretion, to participate in the defense of said Action and the applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.

b) Within ten (10) calendar days of the filing of any Action as specified in subsection A above, the applicant shall execute a Letter Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Letter of Agreement shall survive termination, extinguishment or invalidation of the approval. Failure to timely execute the Letter Agreement does not relieve the applicant of any of the obligations contained in this condition or other requirements or conditions of approval that may be imposed by the City.

8. Compliance with Conditions of Approval

Ongoing
The project applicant shall be responsible for compliance with the recommendations in any submitted and approved technical report and all the Conditions of Approval set forth below at its sole cost and expense, and subject to review and approval of the City of Oakland.

9. **Severability**
Ongoing
Approval of the project would not have been granted but for the applicability and validity of each and every one of the specified conditions, and if one or more of such conditions is found to be invalid by a court of competent jurisdiction this Approval would not have been granted without requiring other valid conditions consistent with achieving the same purpose and intent of such Approval.

10. **Job Site Plans**
Ongoing throughout demolition, grading, and/or construction
At least one (1) copy of the stamped approved plans, along with the Approval Letter and Conditions of Approval, shall be available for review at the job site at all times.

11. **Special Inspector/Inspections, Independent Technical Review, Project Coordination and Management**
Prior to issuance of a demolition, grading, and/or construction permit
The project applicant may be required to pay for on-call third-party special inspector(s)/inspections as needed during the times of extensive or specialized plancheck review or construction. The project applicant may also be required to cover the full costs of independent technical review and other types of peer review, monitoring and inspection, including without limitation, third party plan check fees, including inspections of violations of Conditions of Approval. The project applicant shall establish a deposit with the Building Services Division, as directed by the Building Official, Director of City Planning or designee.

12. **Dust Control**
Prior to issuance of a demolition, grading or building permit
During construction, the project applicant shall require the construction contractor to implement the following measures required as part of Bay Area Air Quality Management District's (BAAQMD) basic and enhanced dust control procedures required for construction sites. These include:
a) Water all active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
c) Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
d) Sweep daily (with water sweepers using reclaimed water if possible) all paved access roads, parking areas and staging areas at construction sites.
e) Sweep streets (with water sweepers using reclaimed water if possible) at the end of each day if visible soil material is carried onto adjacent paved roads.
f) Limit the amount of the disturbed area at any one time, where feasible.
g) Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.

h) Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

i) Replant vegetation in disturbed areas as quickly as feasible.

j) Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).

k) Limit traffic speeds on unpaved roads to 15 miles per hour.

l) Clean off the tires or tracks of all trucks and equipment leaving any unpaved construction areas.

13. <u>Construction Emissions</u>

Prior to issuance of a demolition, grading or building permit

To minimize construction equipment emissions during construction, the project applicant shall require the construction contractor to:

a) Demonstrate compliance with Bay Area Air Quality Management District (BAAQMD) Regulation 2, Rule 1 (General Requirements) for all portable construction equipment subject to that rule. BAAQMD Regulation 2, Rule 1 provides the issuance of authorities to construct and permits to operate certain types of portable equipment used for construction purposes (e.g., gasoline or diesel-powered engines used in conjunction with power generation, pumps, compressors, and cranes) unless such equipment complies with all applicable requirements of the "CAPCOA" Portable Equipment Registration Rule" or with all applicable requirements of the Statewide Portable Equipment Registration Program. This exemption is provided in BAAQMD Rule 2-1-105.

b) Perform low- NOx tune-ups on all diesel-powered construction equipment greater than 50 horsepower (no more than 30 days prior to the start of use of that equipment). Periodic tune-ups (every 90 days) shall be performed for such equipment used continuously during the construction period.

14. <u>Days/Hours of Construction Operation</u>

Ongoing throughout demolition, grading, and/or construction

The project applicant shall require construction contractors to limit standard construction activities as follows:

a) Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.

b) Any construction activity proposed to occur outside of the standard hours of 7:00 am to 7:00 pm Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.

c) Construction activity shall not occur on Saturdays, with the following possible exceptions:

i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the

overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.

ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.

d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

e) No construction activity shall take place on Sundays or Federal holidays.

f) Construction activities include but are not limited to: truck idling, moving equipment (including trucks, elevators, etc) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.

g) Applicant shall use temporary power poles instead of generators where feasible.

15. Noise Control

Ongoing throughout demolition, grading, and/or construction

To reduce noise impacts due to construction, the project applicant shall require construction contractors to implement a site-specific noise reduction program, subject to the Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:

a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).

b) Except as provided herein, Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

c) Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.

d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

16. Noise Complaint Procedures

Ongoing throughout demolition, grading, and/or construction

Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the Building Services Division a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

a) A procedure and phone numbers for notifying the Building Services Division staff and Oakland Police Department; (during regular construction hours and off-hours);

b) A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);

c) The designation of an on-site construction complaint and enforcement manager for the project;

d) Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity; and

e) A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

17. <u>Interior Noise</u>

Prior to issuance of a building permit and Certificate of Occupancy

If necessary to comply with the interior noise requirements of the City of Oakland's General Plan Noise Element and achieve an acceptable interior noise level, noise reduction in the form of sound-rated assemblies (i.e., windows, exterior doors, and walls), and/or other appropriate features/measures, shall be incorporated into project building design, based upon recommendations of a qualified acoustical engineer and submitted to the Building Services Division for review and approval prior to issuance of building permit. Final recommendations for sound-rated assemblies, and/or other appropriate features/measures, will depend on the specific building designs and layout of buildings on the site and shall be determined during the design phases. Written confirmation by the acoustical consultant, HVAC or HERS specialist, shall be submitted for City review and approval, prior to Certificate of Occupancy (or equivalent) that:

(a) Quality control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and

(b) Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.

(c) Inclusion of a Statement of Disclosure Notice in the CC&R's on the lease or title to all new tenants or owners of the units acknowledging the noise generating activity. Potential features/measures to reduce interior noise could include, but are not limited to, the following:

a) Installation of an alternative form of ventilation in all units identified in the acoustical analysis as not being able to meet the interior noise requirements due to adjacency to a noise generating activity, filtration of ambient make-up air in each unit and analysis of ventilation noise if ventilation is included in the recommendations by the acoustical analysis.

b) Prohibition of Z-duct construction.

18. <u>Operational Noise-General</u>

Ongoing.

Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall

be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

19. Construction Traffic and Parking

Prior to the issuance of a demolition, grading or building permit

The project applicant and construction contractor shall meet with appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. The plan shall include at least the following items and requirements:

a) A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.

b) Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.

c) Location of construction staging areas for materials, equipment, and vehicles at an approved location.

d) A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. Planning and Zoning shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.

e) Provision for accommodation of pedestrian flow.

20. Erosion and Sedimentation Control

Ongoing throughout demolition grading, and/or construction activities

The project applicant shall implement Best Management Practices (BMPs) to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. Plans demonstrating the Best Management Practices shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division. At a minimum, the project applicant shall provide filter materials deemed acceptable to the City at nearby catch basins to prevent any debris and dirt from flowing into the City's storm drain system and creeks.

21. Hazards Best Management Practices

Prior to commencement of demolition, grading, or construction

The project applicant and construction contractor shall ensure that construction of Best Management Practices (BMPs) are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

a) Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;

b) Avoid overtopping construction equipment fuel gas tanks;

c) During routine maintenance of construction equipment, properly contain and remove grease and oils;

d) Properly dispose of discarded containers of fuels and other chemicals.

e) Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of

potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.

f) If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

22. Waste Reduction and Recycling

The project applicant will submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.

Prior to issuance of demolition, grading, or building permit

Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction, renovations/alterations/modifications with construction values of $50,000 or more (except R-3), and all demolition (including soft demo).The WRRP must specify the methods by which the development will divert C&D debris waste generated by the proposed project from landfill disposal in accordance with current City requirements. Current standards, FAQs, and forms are available at **www.oaklandpw.com/Page39.aspx** or in the Green Building Resource Center. After approval of the plan, the project applicant shall implement the plan.

Ongoing

The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current diversion of solid waste generated by operation of the proposed project from landfill disposal in accordance with current City requirements. The proposed program shall be in implemented and maintained for the duration of the proposed activity or facility. Changes to the plan may be re-submitted to the Environmental Services Division of the Public Works Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

23. Lighting Plan

Prior to the issuance of an electrical or building permit

The proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Plans shall be submitted to the Planning and Zoning Division and the Electrical Services Division of the Public Works Agency for review and approval. All lighting shall be architecturally integrated into the site.

24. Archaeological Resources

Ongoing throughout demolition, grading, and/or construction

a) Pursuant to CEQA Guidelines section 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Oakland. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

b) In considering any suggested measure proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measure for historical resources or unique archaeological resources is carried out.

c) Should an archaeological artifact or feature be discovered on-site during project construction, all activities within a 50-foot radius of the find would be halted until the findings can be fully investigated by a qualified archaeologist to evaluate the find and assess the significance of the find according to the CEQA definition of a historical or unique archaeological resource. If the deposit is determined to be significant, the project applicant and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate measure, subject to approval by the City of Oakland, which shall assure implementation of appropriate measure measures recommended by the archaeologist. Should archaeologically-significant materials be recovered, the qualified archaeologist shall recommend appropriate analysis and treatment, and shall prepare a report on the findings for submittal to the Northwest Information Center.

25. <u>Human Remains</u>

Ongoing throughout demolition, grading, and/or construction

In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

26. <u>Paleontological Resources</u>

Ongoing throughout demolition, grading, and/or construction

In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 1995,1996)). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.

27. Erosion and Sedimentation Control Plan

Prior to any grading activities

a) The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.660 of the Oakland Municipal Code. The grading permit application shall include an erosion and sedimentation control plan for review and approval by the Building Services Division. The erosion and sedimentation control plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading operations. The plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the Director of Development or designee. The plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.

Ongoing throughout grading and construction activities

b) The project applicant shall implement the approved erosion and sedimentation plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Building Services Division.

28. Vegetation Management Plan
http://www.oaklandnet.com/wildfirePrevention/WildfirePreventionAssessmentDistrictMap.pdf

Prior to issuance of a demolition, grading, and/or construction and Ongoing

a) The project applicant shall submit a vegetation management plan to the Planning and Zoning Division and Fire Services Division that includes if deemed appropriate, but not limited to the, following measures:
   i. Removal of dead vegetation overhanging roof and chimney areas;
   ii. Removal of leaves and needles from roofs;
   iii. Planting and placement of fire-resistant plants around the house and phasing out flammable vegetation;
   iv. Trimming back vegetation around windows;

v. Removal of flammable vegetation on hillside slopes greater than 20%;
vi. Pruning the lower branches of tall trees;
vii. Clearing out ground-level brush and debris;
viii. Stacking woodpiles away from structures.

b) The project applicant shall enter into a maintenance agreement with the City that ensures that landscaping will be maintained and adhere to measures listed above.

29. <u>Drainage Plan for Projects on Slopes Greater than 20%</u>
Prior to issuance of building permit (or other construction-related permit)
The project drawings submitted for a building permit (or other construction-related permit) shall contain a drainage plan to be reviewed and approved by the Building Services Division. The drainage plan shall include measures to reduce the post-construction volume and velocity of stormwater runoff to the maximum extent practicable. Stormwater runoff shall not be augmented to adjacent properties or creeks. The drainage plan shall include and identify the following:
i. All proposed impervious surface on the site;
ii. Anticipated directional flows of on-site stormwater runoff;
iii. Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces;
iv. Source control measures to limit the potential for stormwater pollution; and
v. Stormwater treatment measures to remove pollutants from stormwater runoff.

30. <u>Erosion, Sedimentation, and Debris Control Measures</u>
Prior to issuance of demolition, grading, or construction-related permit
The project applicant shall submit an erosion and sedimentation control plan for review and approval by the Building Services Division. All work shall incorporate all applicable "Best Management Practices (BMPs) for the construction industry, and as outlined in the Alameda Countywide Clean Water Program pamphlets, including BMP's for dust, erosion and sedimentation abatement per Chapter Section 15.04 of the Oakland Municipal Code. The measures shall include, but are not limited to, the following:

a) On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric; silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the street, gutters, stormdrains.
b) In accordance with an approved erosion control plan, the project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.
c) Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.
d) Install filter materials acceptable to the Engineering Division at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in

order to retain any debris flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

e) Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains.

f) Direct and locate tool and equipment cleaning so that wash water does not discharge into the street, gutters, or stormdrains.

g) Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site.

h) Gather all construction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.

i) Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

j) Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the street, gutter, stormdrains.

k) All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Board (RWQB).

l) All erosion and sedimentation control measures shall be monitored regularly by the project applicant. The City may require erosion and sedimentation control measures to be inspected by a qualified environmental consultant (paid for by the project applicant) during or after rain events. If measures are insufficient to control sedimentation and erosion then the project applicant shall develop and implement additional and more effective measures immediately

SPECIFIC CONDITIONS

31. Telecommunications Facility Removal Agreement ("Sinking Fund")
Prior to issuance of a building permit
The applicant shall file a Telecommunications Facility Removal Agreement and bond with the City as is standard practice to ensure that the facility be removed from the site should it cease to be operated.

32. Emissions Report
Prior to a final inspection

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 that may be subsequently authorized to establish such standards.

33. <u>Monopole Tree Camouflaging</u>

Prior to a final inspection

The Monopole tree stealth /camouflaging facilities and application (branches, bark texture, paint etc.) shall be maintained in good condition and replaced as needed. The monopoles condition shall be periodically monitored and evaluated at the discretion of the Zoning Manager. Furthermore, the tree monopole shall be partially repaired, or wholly repainted or replaced at the Zoning Manager's request, should it fall into disrepair.

34. <u>Equipment Cabinets, Fence and Landscaping</u>

Prior to a final inspection

The equipment cabinets, enclosure fencing (wood) shall be maintained in good condition and partially or wholly repainted or treated (different colors) at the Zoning Managers discretion or request. All landscaping elements (hedges / shrubs) shall be maintained in good condition and replaced as needed. The area surrounding the equipment and monopole fence compound shall be kept clear of weeds for a distance of 10 feet.

APPROVED BY:

City Planning Commission:_____(July 21, 2010)_____(vote)

CONDITIONS OF APPROVAL

ATTACHMENT C

T-MOBILE WEST CORPORATION

T-Mobile

1755 CREEKSIDE OAKS DR, SUITE 190
SACRAMENTO, CA 95833

SKYLINE WATER TANK

BA42628C

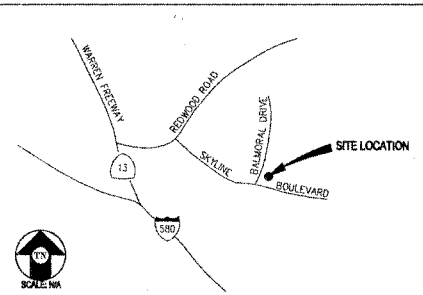
PROJECT DESCRIPTION

A (P) UNMANNED TELECOMMUNICATION FACILITY TO SUPPORT EXISTING T-MOBILE CUSTOMERS LIVING AND VISITING WITHIN THE VICINITY OF SKYLINE WATER. WILL CONSIST OF A (P) 15' X 23' LEASE AREA W/ (3) (P) COMMUNICATION CABINETS, (1) BBU CABINET, (2) (P) 2308 RBS CABINETS, (2) (P) 3308 BTS CABINETS, A (P) EXTRANET DAS CABINET & A (P) 68' HIGH MONOPINE W/ (6) (P) ANTENNAS PAINTED GREEN TO MATCH (E) WATER TANK.

PROJECT INFORMATION

SITE NAME:	SKYLINE WATER TANK	SITE #:	BA42628C
COUNTY:	ALAMEDA	JURISDICTION:	CITY OF OAKLAND
APN:	085-0102-014	POWER:	PG&E
		TELEPHONE:	AT&T
SITE ADDRESS:	12250 SKYLINE BOULEVARD OAKLAND, CA 94619		
CURRENT ZONING:	R-10		
CONSTRUCTION TYPE:	II		
OCCUPANCY TYPE:	U		
PROPERTY OWNER:	EAST BAY MUNICIPAL 375 11TH STREET OAKLAND, CA 94607		
APPLICANT:	T-MOBILE 1755 CREEKSIDE OAKS DR, SUITE 190 SACRAMENTO, CA 95833		
LEASING CONTACT:	ATTN: ANNA GOMEZ (415) 990-5384		
ZONING CONTACT:	ATTN: ANNA GOMEZ (415) 990-5384		
CONSTRUCTION CONTACT:	ATTN: TONY PINO (415) 760-4921		
LATITUDE: LONGITUDE:	N 37° 47' 57.70" NAD 83 W 122° 09' 49.23" NAD 83		
AMSL:	±1155'		

VICINITY MAP



DRIVING DIRECTIONS

FROM: 1755 CREEKSIDE OAKS DR, SACRAMENTO, CA 95833
TO: 12250 SKYLINE BOULEVARD, OAKLAND, CA 94619

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	46.4 MI
7.	SLIGHT RIGHT AT I-680 S (SIGNS FOR I-680/BENICIA/SAN JOSE)	24.4 MI
8.	TAKE THE STATE ROUTE 24 EXIT TOWARD OAKLAND/LAFAYETTE	1.3 MI
9.	MERGE ONTO CA-24 W	9.6 MI
10.	TAKE THE EXIT ONTO CA-13 S TOWARD HAYWARD	4.5 MI
11.	TAKE THE REDWOOD RD EXIT TOWARD CARSON ST	358 FT
12.	MERGE ONTO ALISO AVE	46 FT
13.	TURN LEFT AT REDWOOD RD	1.3 MI
14.	TURN RIGHT AT SKYLINE BLVD	0.6 MI
15.	MAKE A U-TURN	0.1 MI
16.	END AT 12250 SKYLINE BLVD OAKLAND, CA 94619-2425	

ESTIMATED TIME: 1 HOUR 31 MINUTES ESTIMATED DISTANCE: 89.7 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	A
LS-1	SURVEY	–
A-1	SITE PLAN	A
A-2	EQUIPMENT PLAN & DETAILS	A
A-3	ANTENNA PLAN & DETAILS	A
A-4	ELEVATIONS	A
A-5	ELEVATIONS	A

APPROVAL

RF

LEASING

ZONING

CONSTRUCTION

T-MOBILE

SKYLINE WATER TANK
BA42628C
12250 SKYLINE BOULEVARD
OAKLAND, CA 94619

ISSUE STATUS

△	DATE	DESCRIPTION	BY
	06-13-09	ZD 90%	
	02-22-10	ZD 100%	–
A	05-05-10	ZD 100%	PC
	–	–	–
	–	–	–
	–	–	–
	–	–	–

DRAWN BY: C. CODY
CHECKED BY: C. MATHISEN
APPROVED BY: B. McCOMB
DATE: 05/05/10

Streamline Engineering and Design, Inc.
11786 Atwood Rd, Suite 20 Auburn, CA 95603
Contact: Larry Berry Phone: 530-823-4583
E-Mail: larry@streamlineeng.com Fax: 530-823-8783

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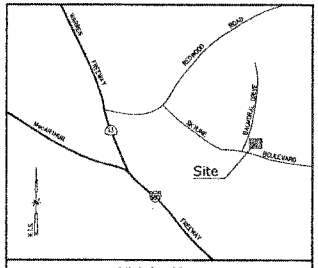
T-MOBILE WEST CORPORATION
T-Mobile
1755 CREEKSIDE OAKS DR, SUITE 190
SACRAMENTO, CA 95833

SHEET TITLE:
TITLE

SHEET NUMBER:
T-1



Vicinity Map

Title Report

THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A TITLE REPORT.
PREPARED BY:
ORDER NO.:
DATED:

Legal Description

PORTION OF THE SOUTHWEST 1/4 OF THE SECTION 35, TOWNSHIP 1 SOUTH, RANGE 3 WEST, MOUNT DIABLO BASE AND MERIDIAN IN THE CITY OF OAKLAND, COUNTY OF ALAMEDA.

Assessor's Parcel No.

085-0102-014

Easements

NOT AVAILABLE

Access Easement/Lease Area

TO BE DETERMINED

Geographic Coordinates at Proposed Monopole

1983 DATUM: LATITUDE: 37° 47' 57.70"N LONGITUDE 122° 09' 49.23"
ELEVATION = 1154.95 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

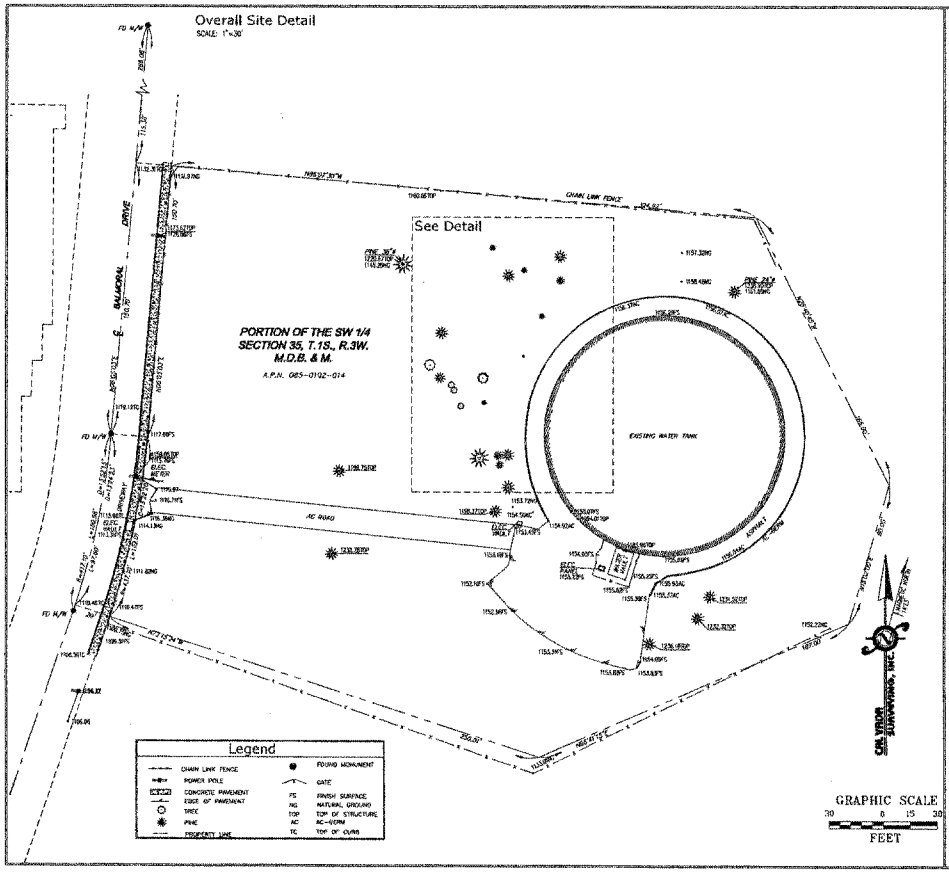
THE STATE PLANE COORDINATE SYSTEM OF 1983 (NAD 83), CALIFORNIA ZONE 3.

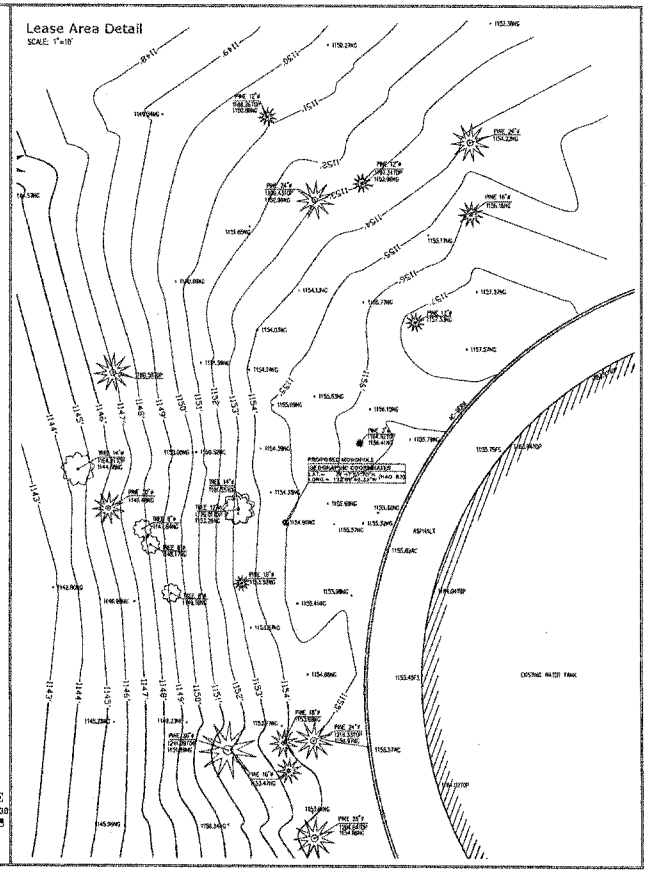
Bench Mark

THE CALIFORNIA SPATIAL REFERENCE C.O.R.S "CVAS", ELEVATION = 909.75 FEET (NAVD 88).

Date of Survey

JUNE 3, 2009





T··Mobile·
Stick Together®
1755 CREEKSIDE OAKS, SUITE 190
SACRAMENTO, CA 95833

PLANS PREPARED BY:
Streamline Engineering and Design Inc.
51768 Alvarez Rd. Suite 20 Auburn, CA 95603
Contact: Larry Houghley Phone: 916/275-4100
E-Mail: larry@streamlineeng.com Fax: 530-323-6753

CONSULTANT:
CAL VADA SURVEYING, INC.
411 Jenks Cir., Suite 208, Corona, CA 92880
Phone: 951-280-9000 Fax: 951-280-9769
Toll Free: 800-CALVADA www.calvada.com
JOB NO. 08232

NO.	DATE:	DESCRIPTION:	BY:
	06/05/09	PRELIMINARY	HP

SITE INFORMATION:

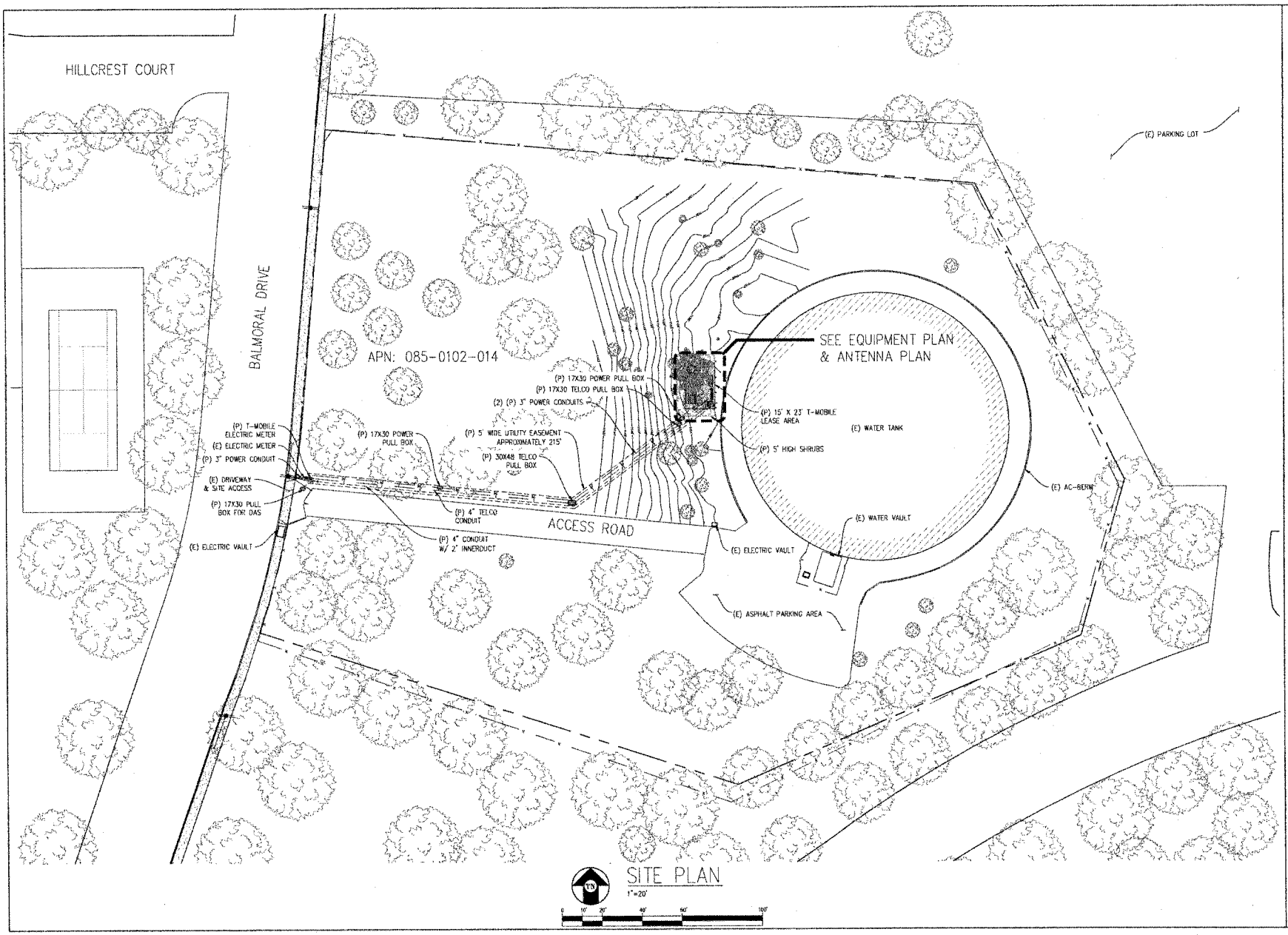
BA42628-C
SKYLINE WATER TANK

±12250 SKYLINE BOULEVARD
OAKLAND, CA 94619
ALAMEDA COUNTY

SEAL:

SHEET TITLE:
TOPOGRAPHIC SURVEY

SHEET NUMBER:
LS-1
SHEET 1 OF 1



SKYLINE WATER TANK

BA42628C
12250 SKYLINE BOULEVARD
OAKLAND, CA 94619

ISSUE STATUS

△	DATE	DESCRIPTION	BY
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	02-22-10	ZD 100%	-
A	05-05-10	ZD 100%	PC
	-	-	-
	-	-	-
	-	-	-

DRAWN BY: C. CODY
CHECKED BY: C. MATHISEN
APPROVED BY: B. McCOMB
DATE: 05/05/10

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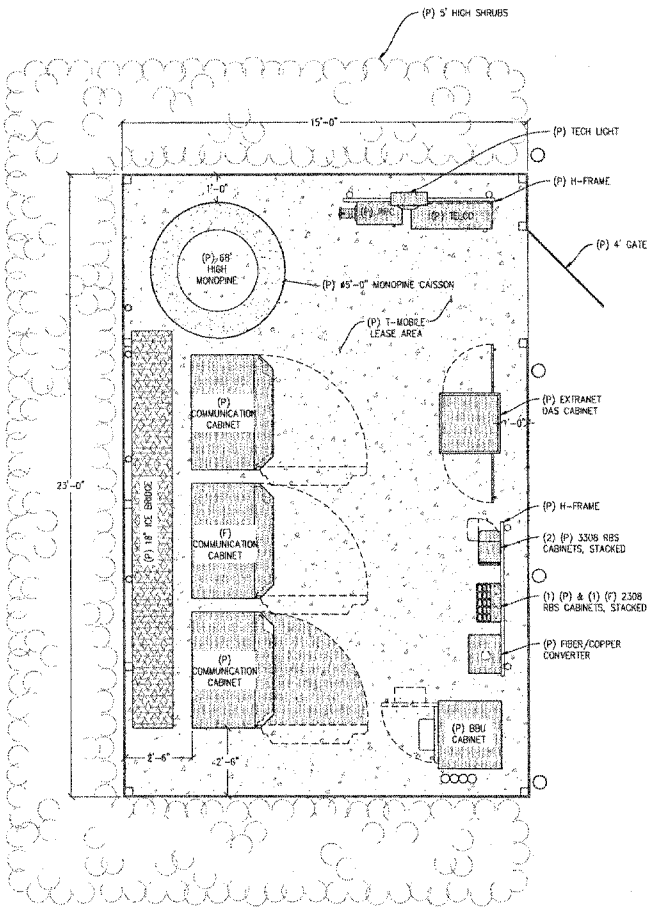
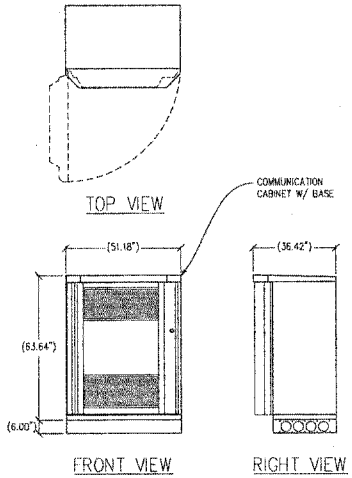
T-MOBILE WEST CORPORATION
T-Mobile
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:
SITE PLAN

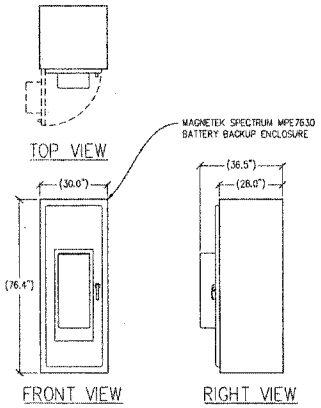
SHEET NUMBER:
A-1



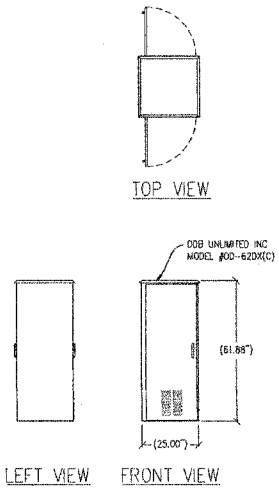
EQUIPMENT PLAN
1/8"=1'



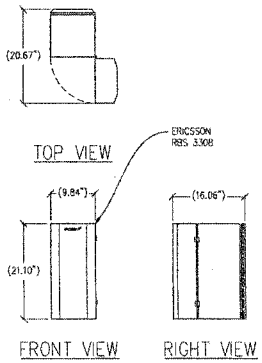
1 BTS DETAIL
1/2"=1'



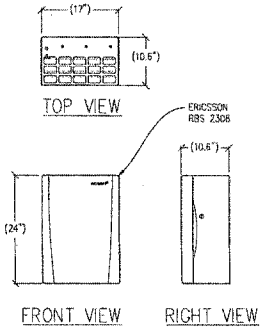
2 BBU DETAIL
1/2"=1'



3 CABINET DETAIL
1/2"=1'



4 RBS DETAIL
1"=1'



5 CABINET DETAIL
1"=1'

SKYLINE WATER TANK

BA42628C
12250 SKYLINE BOULEVARD
OAKLAND, CA 94619

ISSUE STATUS

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A	05-05-10	ZD 100%	PC
	-	-	-
	-	-	-
	-	-	-

DRAWN BY:	C. CODY
CHECKED BY:	C. MATHISEN
APPROVED BY:	B. McCOMB
DATE:	05/05/10

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11798 Atwood Rd, Suite 20 Auburn, CA 95603
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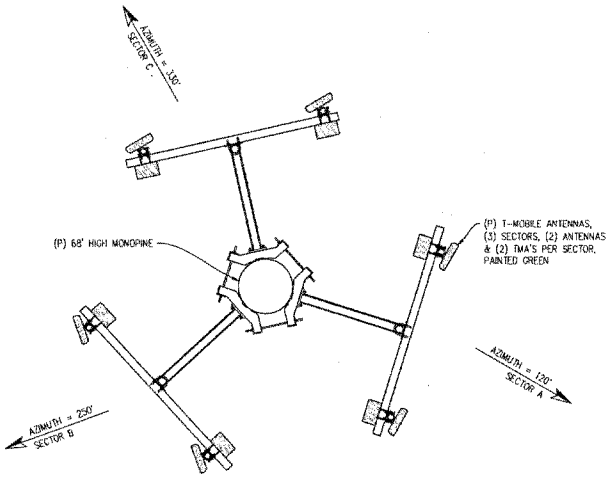
T-MOBILE WEST CORPORATION
T-Mobile
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:
EQUIPMENT PLAN & DETAILS

SHEET NUMBER:
A-2

	RF CONFIGURATION				RFDS VERSION C: DATED 06-01-09						
	COAX			ANTENNA							
SECTOR	#	LENGTH	SIZE	MODEL	#	TMA	MDT	EDT	RET	RAD	AZIMUTH
ALPHA	4	80'	7/8"	REFER TO RFDS	2	2	0'	0'	YES	65'	120'
BETA	4	80'	7/8"	REFER TO RFDS	2	2	0'	0'	YES	65'	250'
GAMMA	4	80'	7/8"	REFER TO RFDS	2	2	0'	0'	YES	65'	330'

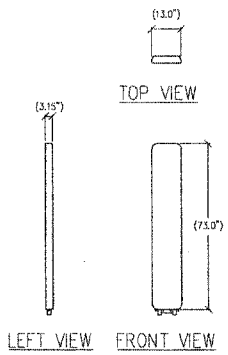
NOTE: CONTRACTOR TO VERIFY LATEST RF DESIGN



ANTENNA PLAN

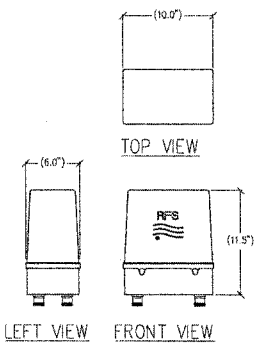
1/2"=1'

NOTE: MONOPINE BRANCHES NOT SHOWN FOR CLARITY



1 ANTENNA DETAIL

1/2"=1'



2 TMA DETAIL

1"=6"

SKYLINE WATER TANK

BA42628C

12250 SKYLINE BOULEVARD
OAKLAND, CA 94619

ISSUE STATUS

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A	05-05-10	ZD 100%	PC
	-	-	-
	-	-	-
	-	-	-
	-	-	-

DRAWN BY: C. CODY

CHECKED BY: C. MATHISEN

APPROVED BY: B. McCOMB

DATE: 05/05/10

Streamline Engineering and Design, Inc.
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T-MOBILE WEST CORPORATION

T-Mobile

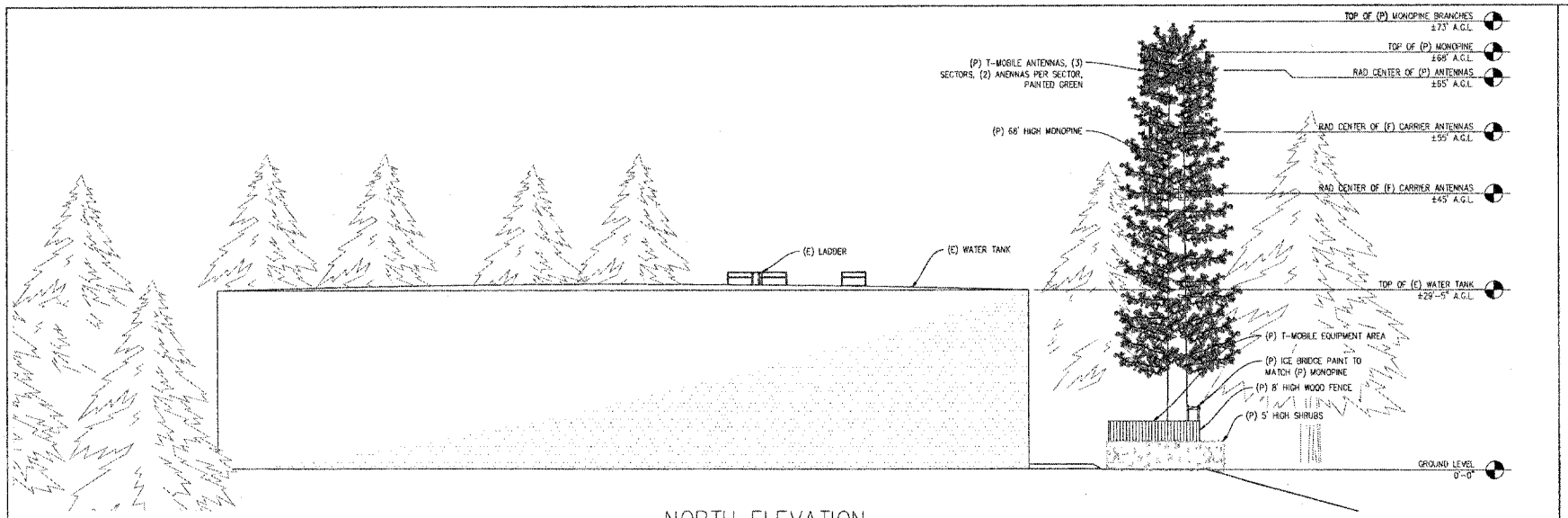
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:

ANTENNA PLAN & DETAILS

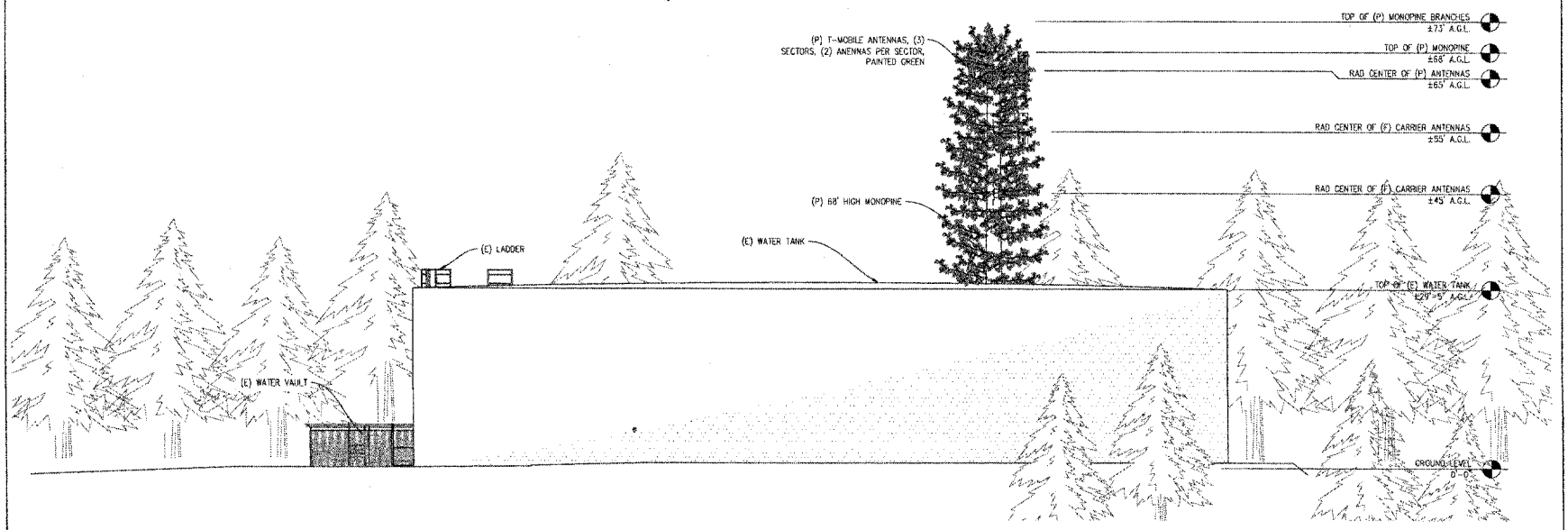
SHEET NUMBER:

A-3



NORTH ELEVATION

1/8"=1'



EAST ELEVATION

1/8"=1'

SKYLINE WATER TANK

BA42628C

12250 SKYLINE BOULEVARD
OAKLAND, CA 94619

ISSUE STATUS

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A	05-05-10	ZD 100%	PC
	-	-	-
	-	-	-
	-	-	-

DRAWN BY:	C. CODY
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Streamline Engineering and Design Inc.
11768 Atwood Rd, Suite 20 Auburn CA 95603
Contact: Larry Hoyuelitby Phone: 916-276-4190
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T-MOBILE WEST CORPORATION

T-Mobile

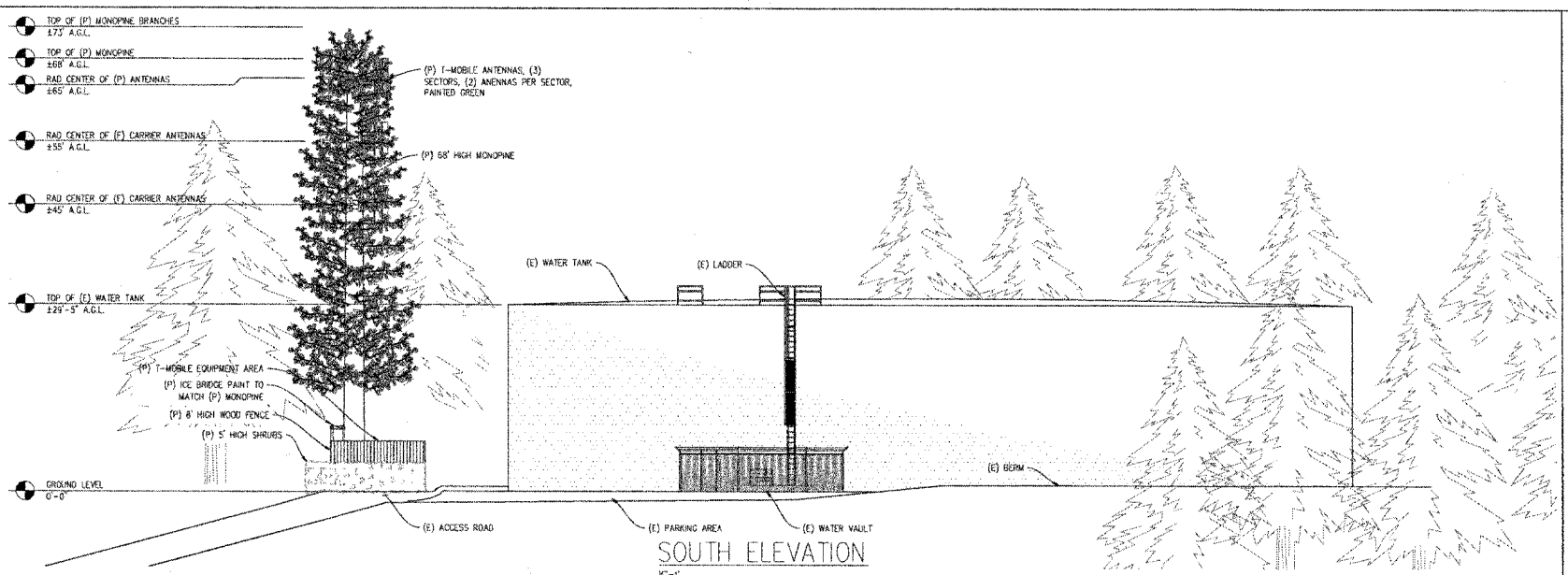
1855 GATEWAY BLVD 6TH FLOOR
CONCORD, CA 94520

SHEET TITLE:

ELEVATIONS

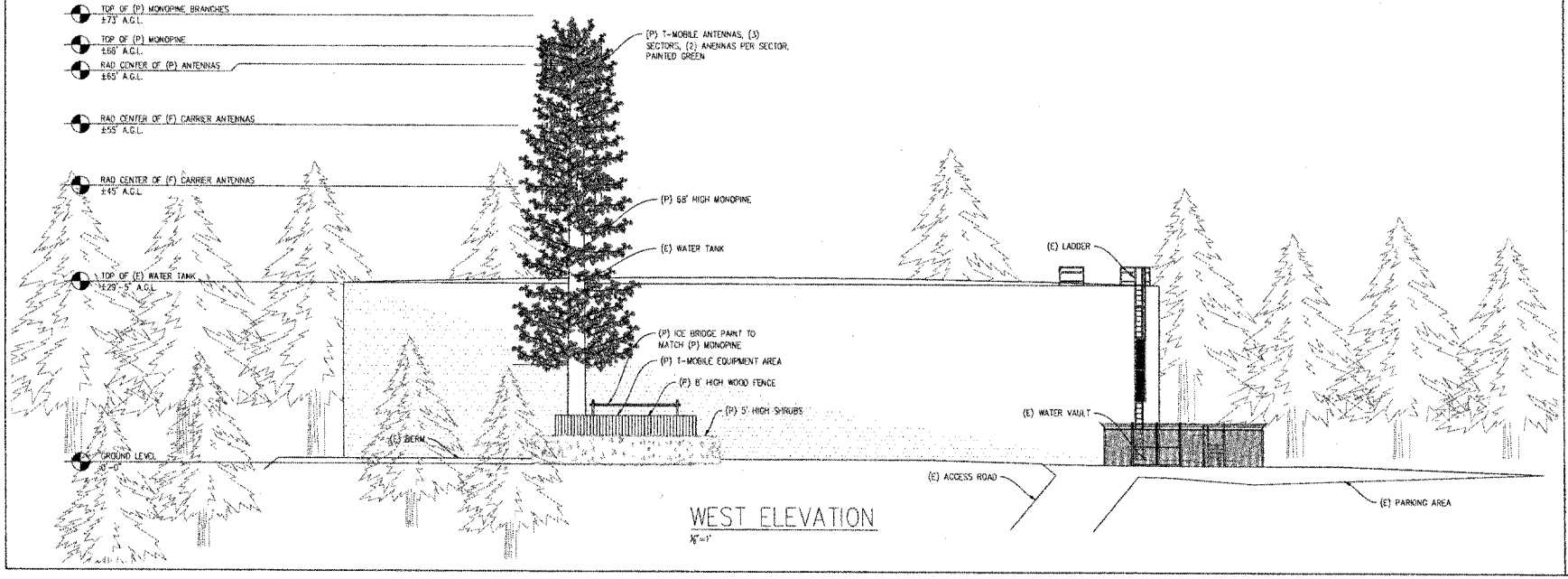
SHEET NUMBER:

A-4



SOUTH ELEVATION

1/8"=1'



WEST ELEVATION

1/8"=1'

SKYLINE WATER TANK

BA42628C

12250 SKYLINE BOULEVARD
OAKLAND, CA 94619

ISSUE STATUS

Δ	DATE	DESCRIPTION	BY
	06-13-09	ZD 90%	
	02-22-10	ZD 100%	--
A	05-05-10	ZD 100%	PC
	--	--	--
	--	--	--
	--	--	--

DRAWN BY:	C. CODY
CHECKED BY:	C. MATHISEN
APPROVED BY:	B. McCOMB
DATE:	05/05/10

Streamline Engineering
and Design, Inc.
11756 Atwood Rd, Suite 20 Auburn, CA 95603
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T-MOBILE WEST CORPORATION

T-Mobile

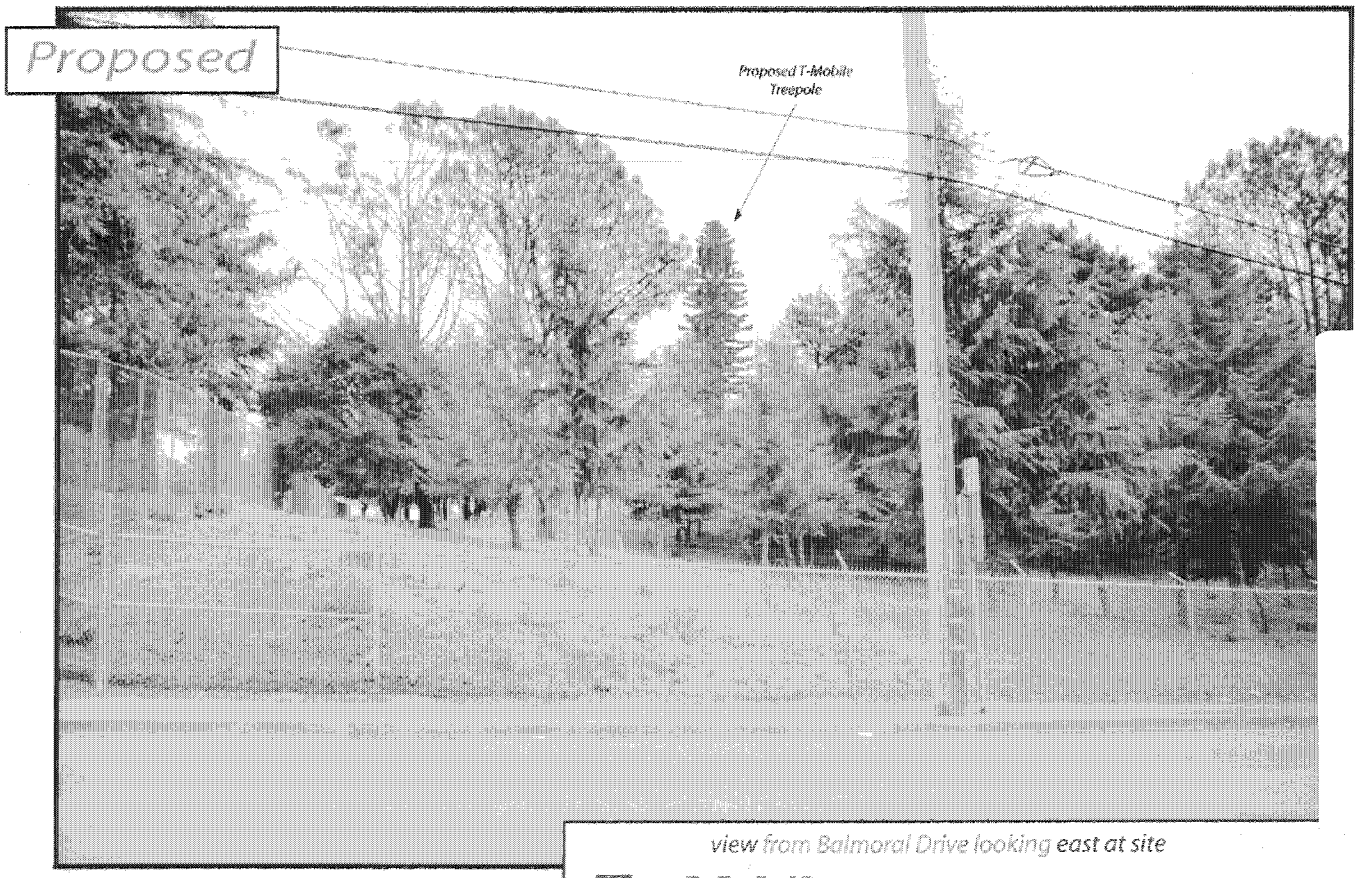
1855 GATEWAY BLVD 9TH FLOOR
CONCORD, CA 94520

SHEET TITLE:

ELEVATIONS

SHEET NUMBER:

A-5

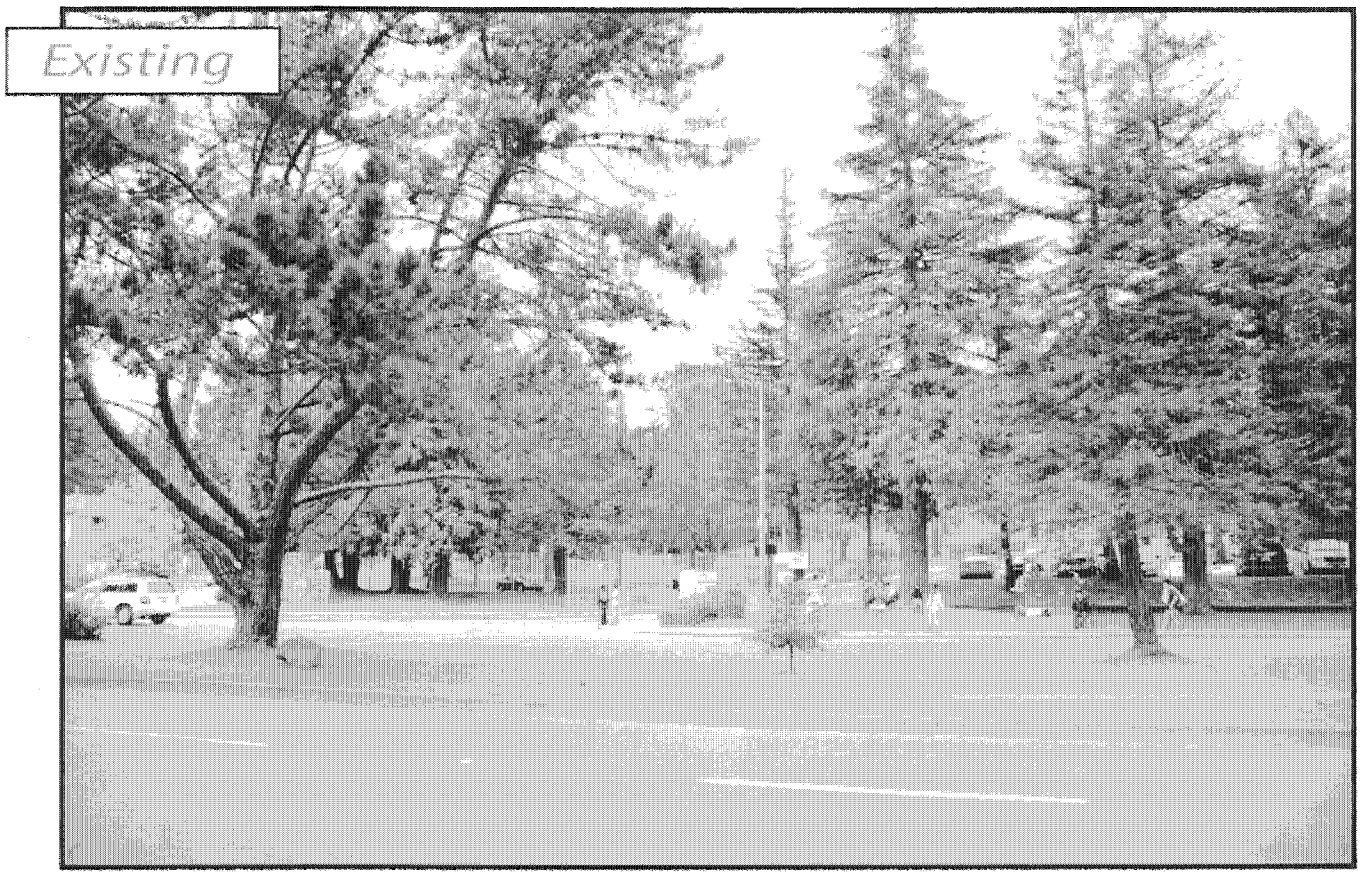


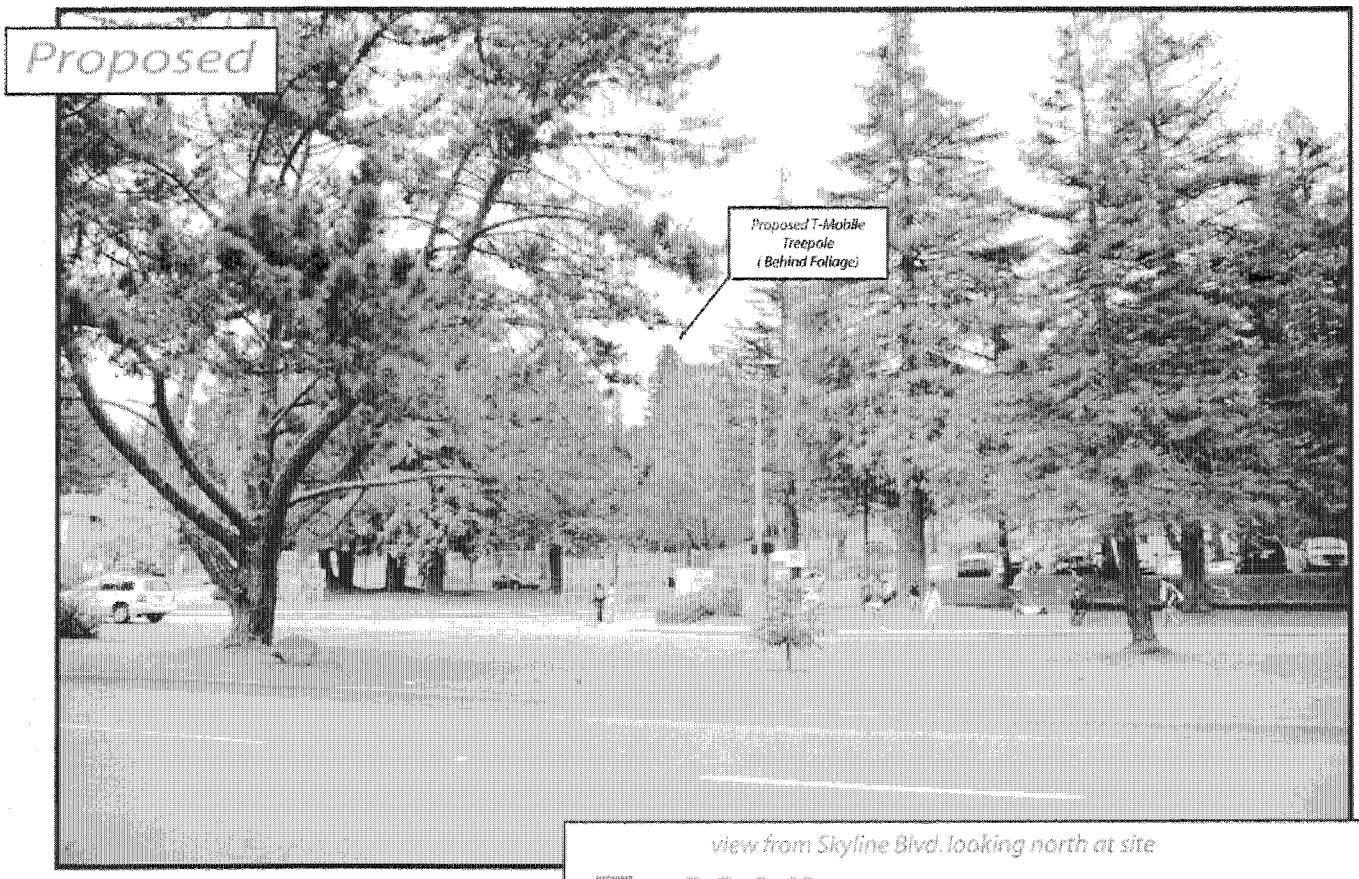
view from Balmoral Drive looking east at site

T · ·Mobile · BA42628 Skyline Water Tank
12250 Skyline Boulevard, Oakland, CA

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

ATTACHMENT D

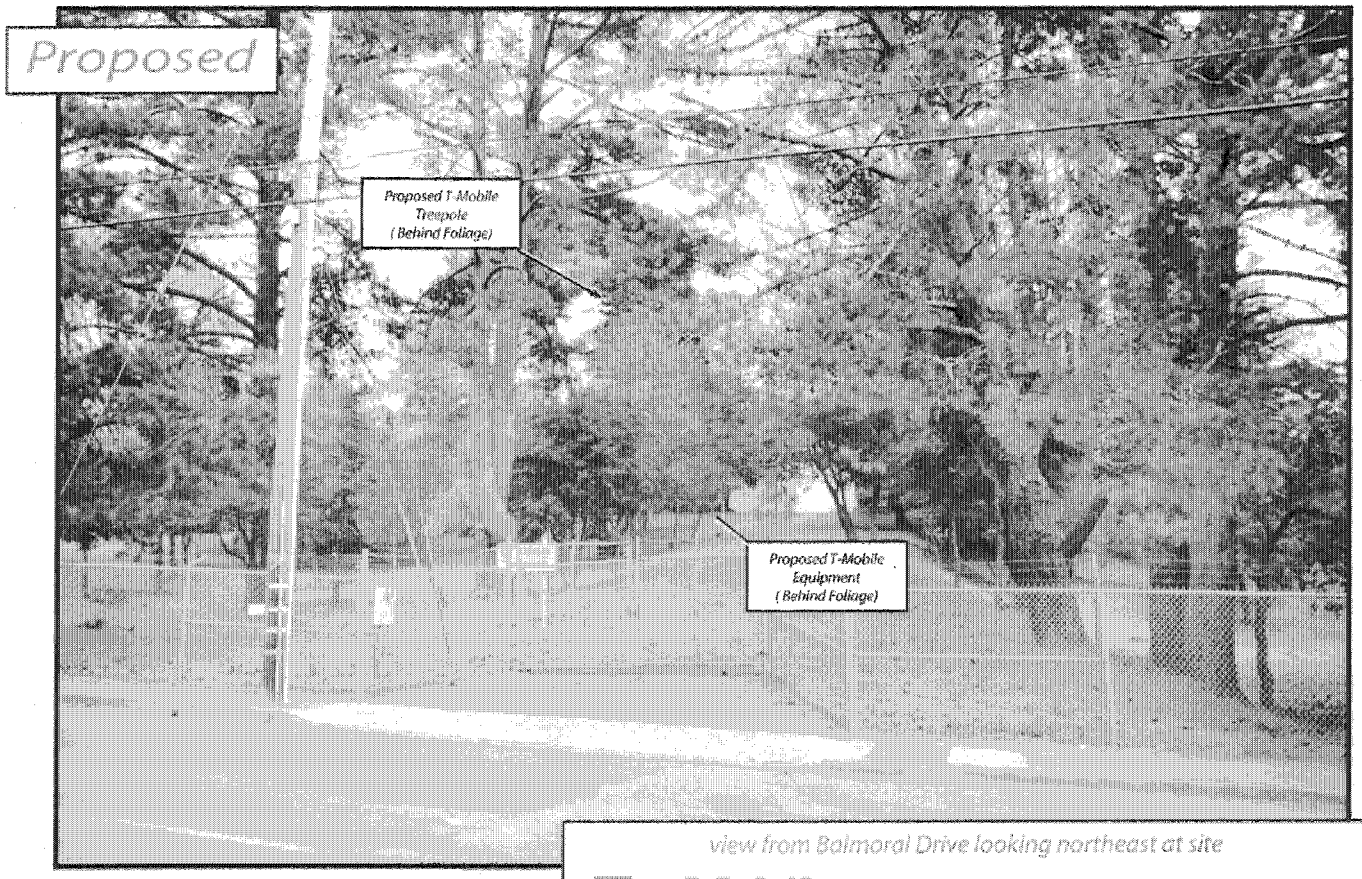




view from Skyline Blvd. looking north at site

T · · Mobile · BA42628 Skyline Water Tank
12250 Skyline Boulevard, Oakland, CA

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507



view from Balmoral Drive looking northeast at site

T · · Mobile · BA42628 Skyline Water Tank
12250 Skyline Boulevard, Oakland, CA

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

T-Mobile West Corp. • Proposed Base Station (Site No. BA42628C)
12250 Skyline Boulevard • 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. BA42628C) proposed to be located at 12250 Skyline Boulevard 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 West Corp., including drawings by Streamline Engineering and Design Inc., dated June 13, 2009, it is proposed to install six RFS Model APX17DWV-17DWV-S-E-A20 dualband directional panel antennas on a 68-foot pole to be sited next to an existing water tank located at 12250 Skyline Boulevard in Oakland. The antennas would be mounted with 2° downtilt at an effective height of about 65 feet above ground level and would be oriented in pairs toward 140°T, 250°T, and 330°T. The maximum effective radiated power in any direction would be 2,000 watts, representing simultaneous operation at 1,000 watts each for PCS and for AWS. There are reported no other wireless telecommunications base stations located nearby.

Study Results

For a person anywhere at ground, the maximum ambient level of RF exposure due to the proposed T-Mobile operation is calculated to be 0.00084 mW/cm^2, which is 0.084% of the applicable public limit. The maximum calculated level at the top of the water tank is 0.18% of the public limit. The maximum calculated level at the second-floor elevation of any nearby building* is 0.12% of the

* Located at least 290 feet away, based on aerial photographs from Google Maps.

applicable public 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 locations, 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 T-Mobile will, as an FCC licensee, take adequate steps to ensure that its 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 12250 Skyline Boulevard 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.

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William F. Hammett, P.E.

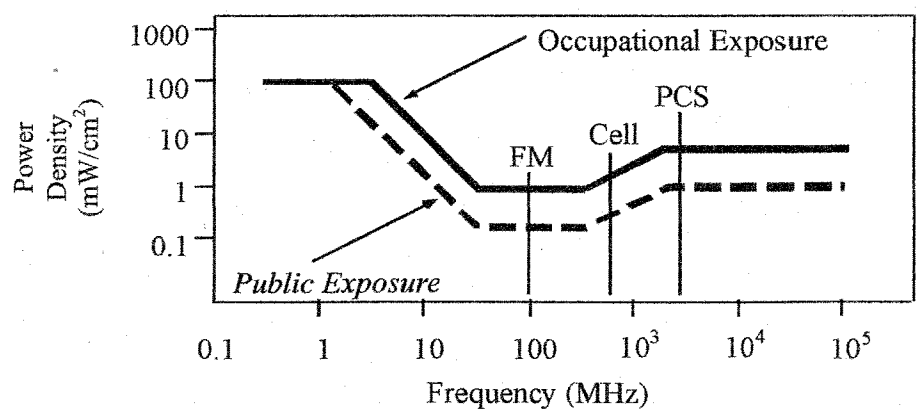
August 3, 2009

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

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

Frequency	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/f²*
3.0 – 30	1842/ f	*823.8/f*	4.89/ f	*2.19/f*	900/ f²	*180/f²*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	3.54√f	*1.59√f*	√f/106	*√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.