Case File Number: PLN18-307 September 5, 2018

> Location: The public right of way adjacent to 892 Fruitvale Avenue on a JPA

Utility Telephone Pole (See map on reverse)

**Assessor Parcel Numbers:** 025-0608-008-02 (nearest lot adjacent to the project site)

> Installation of a wireless "small cell site" telecommunication facility for Verizon Wireless on an existing 42'-6" wooden utility PG&E pole located in the public right-of-way. The project involves adding a 6' long

Proposal: wood pole extension to install 1) one panel antenna canister shroud

measuring 4' tall at a height of 54'-6" mounted on the top of the existing

pole; 2) two radio units and 3) one cabinet and related equipment

mounted at a height of 7' and 18' above ground.

Applicant:

Nexius Solutions for Verizon Wireless **Contact Person/Phone** Eric Diamond

(510) 917-8352 Number:

> Owner: Pacific Gas & Electric (PG&E)

Case File Number: PLN18-307

**Planning Permits Required:** Major Design Review to install a wireless Macro Telecommunications

Facility on an existing PG&E pole located in the public right -of- way

within 100' of HBX-2 zone.

General Plan: Community Commercial

DCE-3/S-19 Zoning:

Environmental Exempt, Section 15301 of the State CEQA Guidelines: minor additions

and alterations to an existing PG&E utility pole; Section 15303: new Determination:

construction or conversion of small structures, and Section 15183: projects consistent with a community plan, general plan or zoning.

**Historic Status:** No Historic Record – Utility Pole

**City Council District:** 

Date Filed: July 19, 2018

Finality of Decision: Appealable to City Council within 10 Days

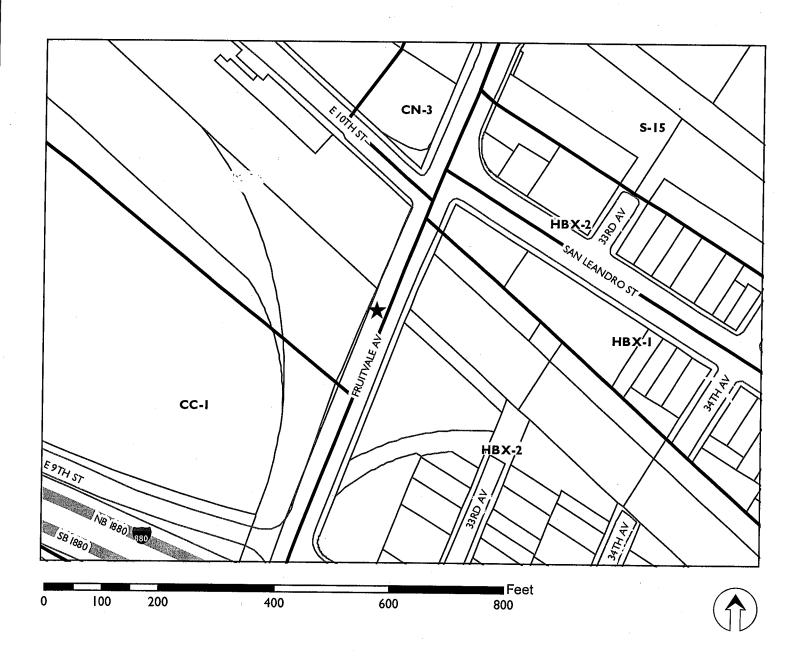
Contact case planner Jason Madani at (510) 238-4790 or For Further Information:

imadani@oaklandnet.com

#### **SUMMARY**

The project applicant (Nexius Solutions for Verizon Wireless) is proposing to install a wireless telecommunication facility on an existing 42'-6" tall wooden utility PG&E pole located in the public right-of-way located across the street from 892 Fruitvale Avenue between E. 9th Street and E. 10th Street and adjacent to the railroad tracks and a shopping center. Across the street is a vacant parcel. The project involves adding a 6' long wood pole extension to the top of the existing pole to install 1) one panel antenna canister shroud measuring 4' tall at a height of 54'-6" mounted to the top; 2) two radio units; and 3) one cabinet and related equipment mounted at a height of 7' and 18' above ground. Major Design Review is required for the installation of a new Macro Telecommunications Facility within 100' of a HBX Housing Business Mix zone. The antenna shroud and associated equipment will be painted grey or brown to match the pole and/or other utilities located on the pole. As result, the proposed telecommunication facility is an appropriate location and would not significantly increase negative visual impacts to adjacent neighboring commercial and residential properties. The project meets all the required findings for approval of the project.

# CITY OF OAKLAND PLANNING COMMISSION



Case File:

PLN 18307

Applicant:

Nexius Solutions for Verizon Wireless

Address:

Public Right of Way adjacent to

892 Fruitvale Ave on a JPA Utility Telephone Pole

Zone:

HBX-2

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#### TELECOMMUNICATIONS BACKGROUND

Limitations on Local Government Zoning Authority under the Telecommunications Act of 1996

Section 704 of the Telecommunications Act of 1996 (TCA) provides federal standards for the siting of "Personal Wireless Services Facilities." "Personal Wireless Services" include all commercial mobile services (including personal communications services (PCS), cellular radio mobile services, and paging); unlicensed wireless services; and common carrier wireless exchange access services. Under Section 704, local zoning authority over personal wireless services is preserved such that the FCC is prevented from preempting local land use decisions; however, local government zoning decisions are still restricted by several provisions of federal law. Specifically:

- Under Section 253 of the TCA, no state or local regulation or other legal requirement can prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.
- Further, Section 704 of the TCA imposes limitations on what local and state governments can do.
  Section 704 prohibits any state and local government action which unreasonably discriminates
  among personal wireless providers. Local governments must ensure that its wireless ordinance
  does not contain requirements in the form of regulatory terms or fees which may have the "effect"
  of prohibiting the placement, construction, or modification of personal wireless services.
- Section 704 also preempts any local zoning regulation purporting to regulate the placement, construction and modification of personal wireless service facilities on the basis, either directly or indirectly, on the environmental effects of radio frequency emissions (RF) of such facilities, which otherwise comply with Federal Communications Commission (FCC) standards in this regard. (See 47 U.S.C. Section 332(c)(7)(B)(iv) (1996)). This means that local authorities may not regulate the siting or construction of personal wireless facilities based on RF standards that are more stringent than those promulgated by the FCC.
- Section 704 mandates that local governments act upon personal wireless service facility siting applications to place, construct, or modify a facility within a reasonable time (See 47 U.S.C.332(c)(7)(B)(ii) and FCC Shot Clock ruling setting forth "reasonable time" standards for applications deemed complete).
- Section 704 also mandates that the FCC provide technical support to local governments to
  encourage them to make property, rights-of-way, and easements under their jurisdiction available
  for the placement of new spectrum-based telecommunications services. This proceeding is
  currently at the comment stage.

For more information on the FCC's jurisdiction in this area, consult the following: Competition & Infrastructure Policy Division (CIPD) of the Wireless Telecommunications Bureau, main division number: (202) 418-1310. <a href="https://www.fcc.gov/general/competition-infrastructure-policy-division-wireless-telecommunications-bureau">https://www.fcc.gov/general/competition-infrastructure-policy-division-wireless-telecommunications-bureau</a>

#### PROPERTY DESCRIPTION

The existing 42'-6" tall wooden PG&E utility pole is located in the City of Oakland public right-of-way across the street from 892 Fruitvale Avenue and is adjacent to the railroad tracks and away from residential buildings.

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#### PROJECT DESCRIPTION

As shown in Attachment C and D, the project applicant proposes to:

- Add a 6' long wood pole extension to the top of the existing pole,
- Install one, 4'tall panel antenna within a canister shroud at a height of 54'-6",
- Install two radio units mounted at a height of 18' above ground,
- Install a meter and related equipment mounted 7' above ground, and
- Paint the proposed antennas and associated equipment grey or brown to match the pole and/or other utilities located on the pole.

No portion of the telecommunication facilities will be located on the ground within City of Oakland public right-of-way. The proposed antenna and associated equipment will not be accessible to the public.

#### **GENERAL PLAN ANALYSIS**

The site is classified Community Commercial per the Oakland General Plan's Land Use and Transportation Element (LUTE). This classification is intended to create, maintain, and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and shopping districts or centers.

The proposed unmanned wireless telecommunication facility will not adversely affect and detract from the characteristics of the neighborhood.

#### ZONING ANALYSIS

The site is located in the DCE-3 zone. The intent of the D-CE-3 Zone is to create, preserve, and enhance areas of the of the Central Estuary that have a mix of industrial and Heavy Commercial and residential development. This zone is intended to promote housing with a strong presence of Commercial and Industrial Activities.

Section 17.136.040 and 17.128.070 of the City of Oakland Planning Code requires a Major Design Review permit for Macro Telecommunication facilities that are attached to utility poles, located within one hundred (100) feet of the boundary of the HBX-2 Zone. Special findings are also required for Design Review approval to ensure that the facility is concealed to the greatest extent possible. The project design is discussed later in the Key Issues section of this report, and the required findings for Major Design Review are listed and included in staff's evaluation later in this report.

#### ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines list the projects that qualify as categorical exemptions from environmental review. The proposed project is categorically exempt from the environmental review requirements pursuant to Section 15301, minor additions and alterations to an existing PG&E utility pole; Section 15303, new construction or conversion of small structures, and Section 15183, projects consistent with the General Plan or Zoning.

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#### **KEY ISSUES AND IMPACTS**

#### **Project Site**

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

- A. Co-located on an existing structure or facility with existing wireless antennas.
- B. City owned properties or other public or quasi-public facilities.
- C. Existing commercial or industrial structures in non-residential zones (excluding all HBX Zones and the D-CE3 and D-C-4 Zones).
- D. Existing commercial or industrial structures in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.
- E. Other non-residential uses in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.
- F. Residential uses in non-residential zones (excluding all HBX Zones and the D-CE-3 and D-CE-4 Zones).
- G. Residential uses in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.

Facilities sited on an A, B, C or ranked preference do not require a site alternatives analysis. Since the proposed project involves the installation of new antennas and radio units within 100' of the HBX-2 Zone, the proposed project meets preference B, and a site alternatives analysis is not required. However, applicant has provided a site alternative analysis (Attachment E).

#### **Alternative Site Analysis:**

The project is located adjacent to a railroad track parcel and more than 100' from a shopping center facility, away from residential buildings. The project applicant considered alternative sites on other utility poles in this area but none of these sites are as desirable from a service coverage perspective or from an aesthetics perspective to minimize visual impacts. The proposed project is in an underserved area. The proposed location is approximately equidistant from other Distributed Antenna Systems (DAS) nodes proposed in the surrounding area so that service coverage can be evenly distributed.

Staff has reviewed the applicant's alternative sites analysis and determined that the site selected conforms to the telecommunication regulation requirements. In addition, staff agrees that no other sites are more suitable.

#### **Project Design**

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

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

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Facilities designed to meet an A and B ranked preference do not require an alternative design analysis. Facilities designed to meet a C through F ranked preference, inclusive, must submit an alternative design analysis as part of the required application materials. The design alternatives analysis shall, at a minimum, consist of:

Written evidence indicating why each 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).

Since the proposed project does not meet preference A and B, an alternative design analysis is required.

#### **Alternative Design Analysis:**

The project applicant submitted an alternative design analysis (Attachment E). The analysis evaluated whether the equipment could be undergrounded and concealed from view. Unfortunately, this is not possible because there is insufficient right-of-way space for the necessary equipment access, and the equipment could be compromised by rainwater saturation. The proposed design is a good option because the facility is located where a signal can be adequately propagated without obstruction, which could not have been the case if the antenna was located on a building and concealed.

Planning staff has reviewed the applicant's alternative design analysis and determined that the site selected conforms to the telecommunication regulation requirements. Specifically, given the flat topography, streamlined equipment design, the facility will blend in with the existing utility apparatus on the existing pole. In addition, the proposed new antenna is located within a shroud screening. The proposed antennas will be within a shroud canister mounted on the top of pole and the radio units will be attached to the utility pole 18' above the ground. The shroud and radio units will be painted grey to match the other utilities or brown to match the pole. Finally, the facility will be located on an existing pole adjacent to a railroad track parcel across street from 892 Fruitvale Avenue near Fruitvale shopping center parking lot.

#### **Project Radio Frequency Emissions Standards**

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

- a. The telecommunications regulations require that the applicant submit written documentation demonstrating that the emission from the proposed project are within the limits set by the Federal Communications Commission.
- b. Prior to final building permit sign off, an RF emissions report indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.

In the analysis prepared by Hammett & Edison, Inc. (Attachment F), the proposed project was evaluated for compliance with appropriate guidelines limiting human exposure to radio frequency electromagnetic fields. According to the report, the project will comply with the prevailing standards for limiting public exposure to radio frequency energy, and therefore, the proposed site will operate within the current acceptable thresholds as established by the Federal government or any such agency that may be subsequently authorized to establish such standards. The RF emissions report, states that the proposed

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project will not cause a significant impact on the environment. Additionally, staff recommends that, prior to the final building permit sign off, the applicant submit a certified RF emissions report stating that the facility is operating within acceptable thresholds established by the regulatory federal agency.

#### **CONCLUSION**

The proposed project meets all the required findings for approval. The proposal will provide an essential telecommunication service to the community and the City of Oakland at large. It will also be available to emergency services such as police, fire department and emergency response teams. Staff believes that the proposal is designed to meet the established zoning and telecommunication regulations and recommends supporting the Major Design Review application.

#### **RECOMMENDATIONS:**

- 1. Affirm staff's environmental determination, and
- 2. Approve Design Review application, subject to the attached findings and conditions of approval.

Prepared by:

Jason Madani

Planner III

Reviewed by:

∠Rőbert Merkamp

Acting Zoning Manager

Approved for forwarding to the City Planning Commission

Ed Manasse, Interim Deputy Director Planning and Building Bureau

#### **ATTACHMENTS:**

- A. Findings
- B. Conditions of Approval
- C. Project Plans
- D. Photo-simulations
- E. Site/Site Design Alternatives Analysis
- F. RF Emissions Report
- G. CPUC Compliance Letter
- H. Proof of public notification posting
- I. Public comments received by date of packet preparation

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#### **ATTACHMENT A: FINDINGS FOR APPROVAL**

#### FINDINGS FOR APPROVAL:

This proposal meets all the required findings under Section 17.136.050(B), of the Non-Residential Design Review criteria and all the required findings under Section 17.128.070(B), of the telecommunication facilities (Macro) Design Review criteria and as set forth below: Required findings are shown in **bold** type; reasons your proposal satisfies them are shown in normal type.

#### 17.136.050(B) - NONRESIDENTIAL DESIGN REVIEW CRITERIA:

1. That the proposal will help achieve or maintain a group of facilities which are well related to one another and which, when taken together, will result in a well-composed design, with consideration given to site, landscape, bulk, height, arrangement, texture, materials, colors, and appurtenances; the relation of these factors to other facilities in the vicinity; and the relation of the proposal to the total setting as seen from key points in the surrounding area. Only elements of design which have some significant relationship to outside appearance shall be considered, except as otherwise provided in Section 17.136.060;

The attachment of small screened antennas and equipment to a non-historic utility pole, painted and texturized to match the pole in appearance for camouflaging, will be the least intrusive design. The subject utility pole is adjacent to the railroad tracks and over 100' from the shopping center buildings, away from the residential structures. Therefore, the facility will not adversely affect and detract from the residential characteristics of the neighborhood.

2. That the proposed design will be of a quality and character which harmonizes with, and serves to protect the value of, private and public investments in the area;

The proposal improves wireless telecommunication service in the residential area. The facility will be camouflaged by the antenna canister, located on top of utility pole and painted grey or brown to blend in with the existing surrounding area. These measures will result in the proposal having minimal visual impacts on public views and protecting the value of private and public investments in the area. Service will also be available to emergency services such as police, fire department and emergency response teams.

3. 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 site is classified Community Commercial per the Oakland General Plan's Land Use and Transportation Element (LUTE). This classification is intended to create, maintain, and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and shopping districts or centers.

Section 17.128.120 of the City of Oakland Telecommunications Regulations describes the design criteria for wireless facilities. In general, these facilities should either be concealed from view or not visible from the public right of way. Since the project did not meet either of the top ranked criteria, but did meet criteria C as described above, an alternative site design study needed to be undertaken. The proposed antenna and associated related equipment are compatible with and typical of utility equipment on these poles. The proposed antenna will be placed on top of the utility pole within public right-of-way, adjacent to area railroad track parcel and commercial buildings of shopping center and painted to match either the pole or utilities. As result, the proposal is consistent telecommunication regulation requirements, is in an

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appropriate location, and of an appropriate design that would not significantly increase negative visual impacts to adjacent neighboring residential properties

#### 17.128.070(B) DESIGN REVIEW CRITERIA FOR MACRO FACILITIES

1. Antennas should be painted and/or textured to match the existing structure:

The antennas and equipment will be painted grey to match the existing utility equipment or brown to match the proposed wooden utility pole in order to minimize the potential visual impact.

2. Antennas mounted on architecturally significant structures or significant architectural details of the building should be covered by appropriate casings which are manufactured to match existing architectural features found on the building:

The proposed antennas and equipment will not be mounted onto an architecturally significant structure but onto an existing wooden utility pole similar to other poles in the City and on the block.

3. Where feasible, antennas can be placed directly above, below or incorporated with vertical design elements of a building to help in camouflaging:

The proposed antennas will be placed above head height, and vertically in line with the proposed utility pole. The equipment will be painted to match the pole or utility equipment and blend with the surroundings.

4. Equipment shelters or cabinets shall be screened from the public view by using landscaping, or materials and colors consistent with surrounding backdrop:

The associated antenna will be located within a shroud attached to an existing utility pole and painted to match the proposed wooden pole or the other utilities in order to minimize visual impacts on the neighboring properties.

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

See above finding # 4

6. For antennas attached to the roof, maintain a 1:1 ratio for equipment setback; screen the antennas to match existing air conditioning units, stairs, or elevator towers; avoid placing roof mounted antennas in direct line with significant view corridors.

This finding is not applicable as the project is proposing to attach to an existing PG&E pole.

7. 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, anticlimbing measures and anti-tampering devices.

The proposed screened antenna will be mounted at a height of 54'-6" on an existing PG&E utility pole and will not be accessible to the public due to its location. The radio units and other equipment will be attached to the pole more than 18' above the ground.

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#### **ATTACHMENT B: STANDARD CONDITIONS:**

#### 1. Approved Use

The project shall be constructed and operated in accordance with the authorized use as described in the approved application materials, and the approved plans dated **June 28, 2018** and submitted on **July 19, 2018** as amended by the following conditions of approval and mitigation measures, if applicable ("Conditions of Approval" or "Conditions").

#### 2. Effective Date, Expiration, Extensions and Extinguishment

This Approval shall become effective immediately, unless the Approval is appealable, in which case the Approval shall become effective in ten calendar days unless an appeal is filed. Unless a different termination date is prescribed, this Approval shall expire **two years** from the Approval date, or from the date of the final decision in the event of an appeal, 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 Approval, 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 or other construction-related permit for this project may invalidate this Approval if said Approval has also expired. If litigation is filed challenging this Approval, or its implementation, then the time period stated above for obtaining necessary permits for construction or alteration and/or commencement of authorized activities is automatically extended for the duration of the litigation.

#### 3. Compliance with Other Requirements

The project applicant shall comply with all other applicable federal, state, regional, and local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Bureau of Building, Fire Marshal, and Public Works Department. 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 #4.

#### 4. Minor and Major Changes

- a. Minor changes to the approved project, plans, Conditions, facilities, or use may be approved administratively by the Director of City Planning
- b. Major changes to the approved project, plans, Conditions, facilities, or use shall be reviewed by the Director of City Planning to determine whether such changes require submittal and approval of a revision to the Approval by the original approving body or a new independent permit/approval. Major revisions shall be reviewed in accordance with the procedures required for the original permit/approval. A new independent permit/approval shall be reviewed in accordance with the procedures required for the new permit/approval.

#### 5. Compliance with Conditions of Approval

- a. The project applicant and property owner, including successors, (collectively referred to hereafter as the "project applicant" or "applicant") shall be responsible for compliance with all the Conditions of Approval and any recommendations contained in any submitted and approved technical report at his/her sole cost and expense, subject to review and approval by the City of Oakland.
- b. The City of Oakland reserves the right at any time during construction to require certification by a licensed professional at the project applicant's expense that the as-built project conforms to all applicable requirements, including but not limited to, approved maximum heights and minimum setbacks. Failure to construct the project in accordance with the Approval may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension, or other

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corrective action.

c. Violation of any term, Condition, or project description relating to the Approval 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 Approval 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 Approval or Conditions.

#### 6. Signed Copy of the Approval/Conditions

A copy of the Approval letter and Conditions shall be signed by the project applicant, attached to each set of permit plans submitted to the appropriate City agency for the project, and made available for review at the project job site at all times.

#### 7. Blight/Nuisances

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

#### 8. Indemnification

- a. To the maximum extent permitted by law, the project applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the Oakland Redevelopment Successor Agency, the Oakland City Planning Commission, and their respective agents, officers, employees, and volunteers (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 this Approval or implementation of this Approval. The City may elect, in its sole discretion, to participate in the defense of said Action and the project 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 project applicant shall execute a Joint Defense Letter of Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Joint Defense Letter of Agreement shall survive termination, extinguishment, or invalidation of the Approval. Failure to timely execute the Letter of Agreement does not relieve the project applicant of any of the obligations contained in this Condition or other requirements or Conditions of Approval that may be imposed by the City.

#### 9. Severability

The Approval 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.

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# 11. <u>Special Inspector/Inspections, Independent Technical Review, Project Coordination and Management</u>

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

The project applicant may be required to pay for on-call special inspector(s)/inspections as needed during the times of extensive or specialized plan check review, or construction. The project applicant may also be required to cover the full costs of independent technical 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. Public Improvements

The project applicant shall obtain all necessary permits/approvals, such as encroachment permits, obstruction permits, curb/gutter/sidewalk permits, and public improvement ("p-job") permits from the City for work in the public right-of-way, including but not limited to, streets, curbs, gutters, sidewalks, utilities, and fire hydrants. Prior to any work in the public right-of-way, the applicant shall submit plans for review and approval by the Bureau of Planning, the Bureau of Building, and other City departments as required. Public improvements shall be designed and installed to the satisfaction of the City.

#### 13. Days/Hours of Construction Operation

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.

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

#### 14. Radio Frequency Emissions

#### Prior to the final building permit sign off.

The applicant shall submit a certified RF emissions report stating the facility is operating within the acceptable standards established by the regulatory Federal Communications Commission.

#### 15. Camouflage

Requirement: The antenna shall be painted, texturized, and maintained matte silver, and the equipment and any other accessory items including cables matte brown, to better camouflage the facility to the utility pole and attached power line posts.

When Required: Prior to a final inspection

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

#### 16. Operational

#### 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.

#### 17. Possible District Undergrounding PG&E Pole

#### Ongoing

Should the PG &E utility pole be voluntarily removed for purposes of district undergrounding or otherwise, the telecommunications facility can only be re-established by applying for and receiving approval of a new application to the Oakland Planning Department as required by the regulations.

#### 18. Graffiti Control

#### Requirement:

- a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation:
  - a. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following:
    - i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system.
  - ii. For galvanized poles, covering with new paint to match the color of the surrounding surface.
  - iii. Replace pole numbers.

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When Required: Ongoing Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

## **Applicant Statement**

I have read and accept responsibility for the Conditions of Approval. I agree to abide by and conform to the Conditions of Approval, as well as to all provisions of the Oakland Planning Code and Oakland Municipal Code pertaining to the project.

Name of Project Applicant	
Signature of Project Applicant	t
 Date	

# Verizon

SITE NAME:

**OAKLAND 233** 

LOCATION:

446744

SITE ADDRESS: 892 FRUITVALE AVE

OAKLAND, CA 94601

**COUNTY:** 

**ALAMEDA** 

#### PROJECT DESCRIPTION

THIS IS AN UNMANNED WIRELESS TELECOMMUNICATION FACILITY FOR VERIZON WIRELESS CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING UTILITY POLE IN THE PUBLIC RIGHT OF WAY

#### SCOPE OF WORK & SITE COMPLETION CHECKLIST

- ANTENNA & ASSOCIATED EQUIPMENT BOXES INSTALL A NEW TELECOMMUNICATION ANTENNA AND EQUIPMENT BOXES ON AN EXISTING WOOD UTILITY POLE ON GO95 COMPLIANT STANDOFF BRACKET. INSTALLATION CONSISTS OF (1) CYLINDRICAL ANTENNA ON POLE TOP EXTENSION, (2) RRUS-32 W/PSU-08, (1) ELECTRICAL METER, (1) DISCONNECT SWITCH, (1) FIBER DEMARCATION BOX, ASSOCIATED GROUNDING
- CABLING CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS
- SPACING OF SUPPORT ELEMENTS SUPPORT EQUIPMENT (e.g.: RRUS) TO BE CLUSTERED (VERTICALLY) AS CLOSE AS TECHNICALLY FEASIBLE ON POLE.
- LOGO REMOVAL ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (e.g.: NODE IDENTIFICATION) SHALL BE PAINTED OVER OR REMOVED. RAISED OR DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, SHALL BE SANDED OFF OR SIMILARLY REMOVED / FILLED.
- SIGNAGE FCC MANDATED RF WARNING SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF, OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD A BUILDING IF THERE IS NO
- ALL CABLING, ANTENNAS, AND EQUIPMENT TO BE PAINTED TO MATCH POLE

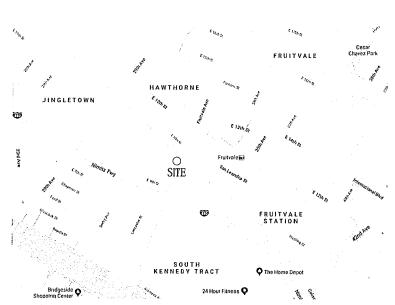
#### CODE COMPLIANCE

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

- 1) 2016 CALIFORNIA ADMINISTRATIVE CODE, CHAPTER 10, PART 1, TITLE 24 CODE OF REGULATIONS
- 2) 2016 CALIFORNIA BUILDING CODE (CBC) WITH CALIFORNIA AMENDMENTS, BASED ON THE 2015 IBC (PART 2, VOL 1-2)

  3) 2016 CALIFORNIA RESIDENTIAL CODE (CRC) WITH APPENDIX H, PATIO COVERS, BASED ON THE 2015 IRC (PART 2.5)
- 4) 2016 CALIFORNIA FIRE CODE (CFC), BASED ON THE 2015 IFC, WITH CALIFORNIA
- 2016 CALIFORNIA FIRE CODE (CFC), BASED ON THE 2015 IFC, WITH CALIFORNIA AMENDMENTS (PART 4)
  2016 CALIFORNIA MECHANICAL CODE (CMC), BASED ON THE 2015 UMC (PART 4)
  2016 CALIFORNIA ELECTRICAL CODE (CEC) WITH CALIFORNIA AMENDMENTS,
- BASED ON THE 2015 NEC (PART 3) 2016 CALIFORNIA ENERGY CODE (CEC)
- ANSI / EIA-TIA-222-H
- GENERAL ORDER 95 RULES FOR OVERHEAD ELECTRIC LINE CONSTRUCTION

#### VICINITY MAP



#### OCCUPANCY AND CONSTRUCTION TYPE

OCCUPANCY: N/A CONSTRUCTION TYPE: G.O. 128 AND 2009 AASHTO 5TH EDITION STANDARD

#### **GENERAL CONTRACTOR NOTES** DO NOT SCALE DRAWINGS

VINGS ARE FORMATTED TO BE FULL SIZE AT 36" x 24" (D1). CONTRACTOR SHAL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOBSITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECTIENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK'OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME.

#### PROJECT INFORMATION

Property Inf	ormation:
Site Name:	OAKLAND 233
Pole Number:	110138814
Location Code :	446744
Site Address:	892 FRUITVALE AVE
	OAKLAND, CA 94601
Current Zoning:	N/A - PUBLIC RIGHT OF V
Jurisdiction:	CITY OF OAKLAND
Latitude:	37.774641

Telephone Agency: -122 227452

Property Owner: N/A - PUBLIC RIGHT OF WAY

#### PROJECT TEAM

Site Aquisition Manager:
Nexius Site Acquisition Management
ph: (972) 581-9888

Verizon Project Manager: 2785 Mitchell Drive, Suite #9 Walnut Creek, CA 94598

Power Agency:

1 MARKET STREET, SPEAR

SAN FRANCISCO, CA 94105-1126

Construction Manager: Nexius Construction Manage ph: (972) 581-9888

Design Professional: Borges Architectural Group, Inc. 1478 Stone Point Drive, Suite 350 Roseville, CA 95661 ph: (916) 782-7200

#### CHEET MIDES

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
GN-1	GENERAL NOTES
C-1	SURVEY
C-2	POLE DETAILS
A-1	SITE PLAN
A-2	ENLARGED SITE PLAN & ANTENNA PLAN
A-3.1	ELEVATIONS
A-3.2	ELEVATIONS
A-4	DETAILS
A-5	DETAILS
E-1	SINGLE LINE DIAGRAM & PANEL SCHEDULE
E-2	POLE GROUND & RISER DIAGRAM & DETAILS
TP-1	TRAFFIC CONTROL NOTES AND DETAILS
TP-2	TRAFFIC CONTROL PLAN

SHE	ET TITLE
TITL	E SHEET
GEN	IERAL NOTES
SUR	VEY
POL	E DETAILS
SITE	PLAN
ENL	ARGED SITE PLAN & ANTENNA PLAN
ELE.	VATIONS
ELE:	VATIONS
DET	AILS
DET	AILS
SING	BLE LINE DIAGRAM & PANEL SCHEDULE
POL	E GROUND & RISER DIAGRAM & DETAILS
TRA	FFIC CONTROL NOTES AND DETAILS
TRA	FFIC CONTROL PLAN

Oakland 233

446744

POLE NUMBER

LOCATION CODE:

110138814

SITE ADDRESS:

892 Fruitvale Ave Oakland, CA 94601

06/28/18 100% CD SUBMITTAL

PREPARED FOR

**verizon** 

VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598

NEXIUS 2595 DALLAS PARKWAY, SUITE 300 FRISCO, TEXAS 75034

1478 STONE POINT DRIVE, SUITE 350 ROSEVILLE CA 95661

916 782 7200 TEL 916 773 3037 FAX

DRAWN BY: DAG BORGES PROJECT NO .: T-17511-233 CHECK BY: B.K.W SHEET TITLE

TITLE SHEET

SHEET NO

#### **DISABLED ACCESS REQUIREMENTS**

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, ACCESSIBILITY REQUIREMENTS ARE NOT REQUIRED. IN ACCORDANCE WITH CALIFORNIA BUILDING CODE, CODE OF REGULATIONS, TITLE 24, PART 2, VOLUME 1, CHAPTER 11B, DIVISION 2, SECTION 11B-203.5

ABBREVIATIONS:				
А.В.	ANCHOR BOLT			
NBV.	ABOVE			
ACCA ADD'L	ANTENNA CABLE COVER ASSEMBLY ADDITIONAL			
A.F.F.	ABOVE FINISHED FLOOR			
A.F.G.	ABOVE FINISHED GRADE			
ALUM. ALT.	ALUMINUM ALTERNATE			
NT.	ANTENNA			
PPRX.	APPROXIMATE(LY)			
RCH.	ARCHITECT(URAL)			
WG. LDG.	AMERICAN WIRE GAUGE BUILDING			
LK.	BLOCK			
LKG.	BLOCKING			
iM. i.N.	BEAM BOUNDARY NAILING			
TCW.	BARE TINNED COPPER WIRE			
.O.F.	BOTTOM OF FOOTING			
/U :AB.	BACK-UP CABINET CABINET			
ANT.	CANTILEVER(ED)			
I.I.P.	CAST IN PLACE			
LG.	CEILING			
ILR. IOL.	CLEAR COLUMN			
ONC.	CONCRETE			
ONN.	CONNECTION(OR)			
ONST.	CONSTRUCTION CONTINUOUS			
	PENNY (NAILS)			
BL.	DOUBLE			
EPT. .F.	DEPARTMENT DOUGLAS FIR			
iA.	DIAMETER			
IAG.	DIAGONAL			
IM. WG.	DIMENSION DRAWING(S)			
WL.	DOWEL(S)			
Α.	EACH			
L. LEC.	ELEVATION ELECTRICAL			
LEV.	ELEVATOR			
MT.	ELECTRICAL METALLIC TUBING			
.N. NG.	EDGE NAIL ENGINEER			
Q.	EQUAL			
XP.	EXPANSION			
XST.(E) XT.	EXISTING EXTERIOR			
AB.	FABRICATION(OR)			
F.	FINISH FLOOR			
.G. N.	FINISH GRADE FINISH(ED)			
LR.	FLOOR			
DN. O.C.	FOUNDATION FACE OF CONCRETE			
	FACE OF CONCRETE FACE OF MASONRY			
O.S.	FACE OF STUD			
	FACE OF WALL FINISH SURFACE			
	FOOT (FEET)			
rĠ.	FOOTING			
A.	GROWTH (CABINET) GAUGE			
	GALVANIZE(D)			
.F.I.	GROUND FAULT CIRCUIT INTERRUPTER			
LB. (GLU-LAM) PS	GLUE LAMINATED BEAM GLOBAL POSITIONING SYSTEM			
RND.	GROUND			
DR.	HEADER			
GR. T.	HANGER HEIGHT			
	ISOLATED COPPER GROUND BUS			

LAG BOLTS LINEAR FEET (FOOT) LONG(ITUDINAL)

MACHINE BOLT

MECHANICAL MANUFACTURER

MINIMUM MISCELLANEOUS METAL

PRECAST CONCRETE

PLYWOOD

PERSONAL COMMUNICATION SERVICES

POWER PROTECTION CABINET

POUNDS PER SQUARE FOOT

QUANTITY
RADIUS
REFERENCE
REINFORCEMENT(ING)
REQUIRED
RIGID GALVANIZED STEEL

SPECIFICATIONS SQUARE STAINLESS STEEL

THICK(NESS)
TOE NAIL
TOP OF ANTENNA
TOP OF CURB
TOP OF FOUNDATION
TOP OF PLATE (PARAP
TOP OF STEEL
TOP OF WALL

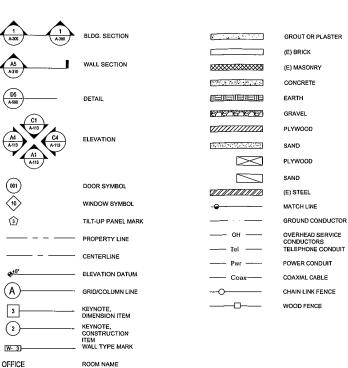
UNDER GROUND UNDERWRITERS LABORATORY

WOOD WEATHERPROOF

WEIGHT CENTERLINE PLATE, PROPERTY LINE

UNLESS NOTED OTHERWISE VERIFY IN FIELD WIDE (WIDTH)

#### SYMBOL LEGEND:



#### **GENERAL NOTES:**

- 1. THESE NOTES SHALL BE CONSIDERED A PART OF THE WRITTEN SPECIFICATIONS, CONTRACT AND CONSTRUCTION DOCUMENTS.
- THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE PLANS AND IN THE CONTRACT DOCUMENTS.
- 3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR(S) SHALL VISIT THE JOB SITE(S) AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRM THE WORK MAY BE ACCOMPLISHED PER THE CONTRACT DRAWINGS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND APPLIED OF LEGISLED PRIOR TO BID SUBMITTAL. ARCHITECT / ENGINEER PRIOR TO BID SUBMITTAL.
- 4. THE CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED ON ANY WORK NOT CLEARLY DEFINED OR IDENTIFIED IN THE CONTRACT AND CONSTRUCTION DOCUMENTS BEFORE STARTING ANY WORK
- 5. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES REGULATIONS, AND ORDINANCES, INCLUDING APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATION
- 6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. IF THE RECOMMENDATIONS ARE IN CONFLICT WITH THE CONTRACT AND CONSTRUCTION DOCUMENTS AND/OR APPLICABLE CODES OR REGULATIONS, REVIEW AND RESOLVE THE CONFLICT WITH DIRECTION FROM THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER OF RECORD PRIOR TO PROCEEDING.
- 7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATION OF ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTACT AND COORDINATION WITH THE IMPLEMENTATION ENGINEER AND WITH THE AUTHORIZED REPRESENTATIVE OF ANY OUTSIDE POLE OR
- 8. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO PAVING, CURBS, VEGETATION, GALVANIZED SURFACE OR OTHER EXISTING ELEMENTS AND UPON COMPLETION OF THE WORK, REPAIR AND DAMAGE THAT OCCURRED DURING CONSTRUCTION TO THE SATISFACTION OF VERIZON WIRELESS.
- CONTRACTOR IS TO KEEP THE GENERAL AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION DAILY.
- 10. PLANS ARE INTENDED TO BE DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED UNLESS OTHERWISE NOTED. RELY ONLY ON ANNOTATED DIMENSIONS AND REQUEST INFORMATION IF ADDITIONAL DIMENSIONS ARE REQUIRED.
- 11. THE EXISTENCE AND LOCATION OF UTILITIES AND OTHER AGENCY'S FACILITIES WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. OTHER FACILITIES MAY EXIST. CONTRACTOR SHALL VERIEY LOCATIONS PRIOR TO START OF CONSTRUCTION AND USE EXTREME CARE AND PROTECTIVE MEASURES TO PREVENT DAMAGE TO THE FACILITIES. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF UTILITIES OR OTHER AGENCY'S FACILITIES WITHIN THE LIMITS OF THE WORK, WHETHER THEY ARE IDENTIFIED IN
- 12. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (800) 227-2600, AT LEAST TWO WORKING DAYS PRIOR TO START OF ANY EXCAVATION.

#### **DEFINITIONS:**

- 1. "TYPICAL" OR "TYP" MEANS THAT THIS ITEM IS SUBSTANTIALLY THE SAME ACROSS SIMILAR CONDITIONS, "TYP" SHALL BE UNDERSTOOD TO MEAN "TYPICAL WHERE OCCURS" AND SHALL NOT BE CONSIDERED AS WITHOUT EXCEPTION OR CONSIDERATION OF SPECIFIC CONDITIONS.
- 2. "SIMILAR" MEANS COMPARABLE TO CHARACTERISTICS FOR THE CONDITION NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLAN
- "AS REQUIRED" MEANS AS REQUIRED BY REGULATORY REQUIREMENTS, BY REFERENCES STANDARDS, BY EXISTING CONDITIONS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICE, OR BY THE CONTRACT DOCUMENTS.
- 4. "ALIGN" MEANS ACCURATELY LOCATE FINISH FACES OF MATERIALS IN THE SAME PLANE.
- 5. THE TERM "VERIFY" OF "V.I.F." SHALL BE UNDERSTOOD TO MEAN "VERIFY IN FIELD WITH ENGINEER" AND REQUIRES THAT THE CONTRACTOR CONFIRM INTENTION REGARDING NOTED CONDITION AND PROCEED ONLY AFTER RECEIVING DIRECTION.
- 6. WHERE THE WORDS "OR EQUAL" OR WORDS OF SIMILAR INTENT FOLLOW A MATERIAL SPECIFICATION, THEY SHALL BE UNDERSTOOD TO REQUIRE SIGNED APPROVAL OF ANY DEVIATION TO SAID SPECIFICATION PRIOR TO CONTRACTOR'S ORDERING OR INSTALLATION OF SUCH PROPOSED EQUAL PRODUCT.
- 7. "FURNISH" MEANS SUPPLY ONLY, OTHERS TO INSTALL.
- 8. "INSTALL" MEANS INSTALL ITEMS FURNISHED BY OTHERS.
- 9. "PROVIDE" MEANS FURNISH AND INSTALL.

PREPARED FOR



VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598



NEXIUS 2595 DALLAS PARKWAY, SUITE 300 FRISCO, TEXAS 75034



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ROSEVILLE C	A 95661
916 782 7200 916 773 3037	

0	06/28/18	100% CD SUBMITTAL

DESCRIPTION

SITE NAME:

REV DATE

Oakland 233

LOCATION CODE: 446744

POLE NUMBER: 110138814

SITE ADDRESS:

892 Fruitvale Ave

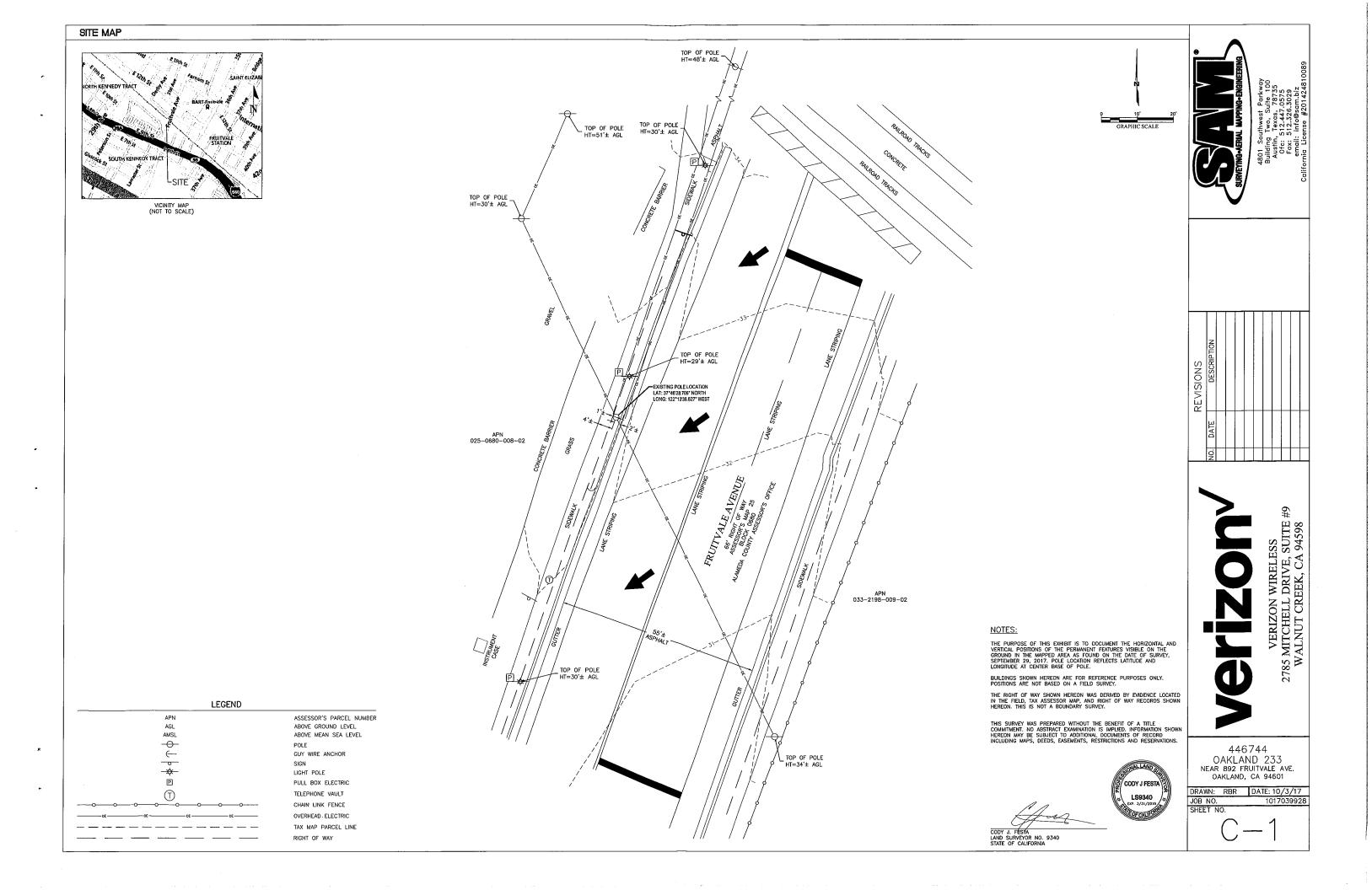
Oakland, CA 94601

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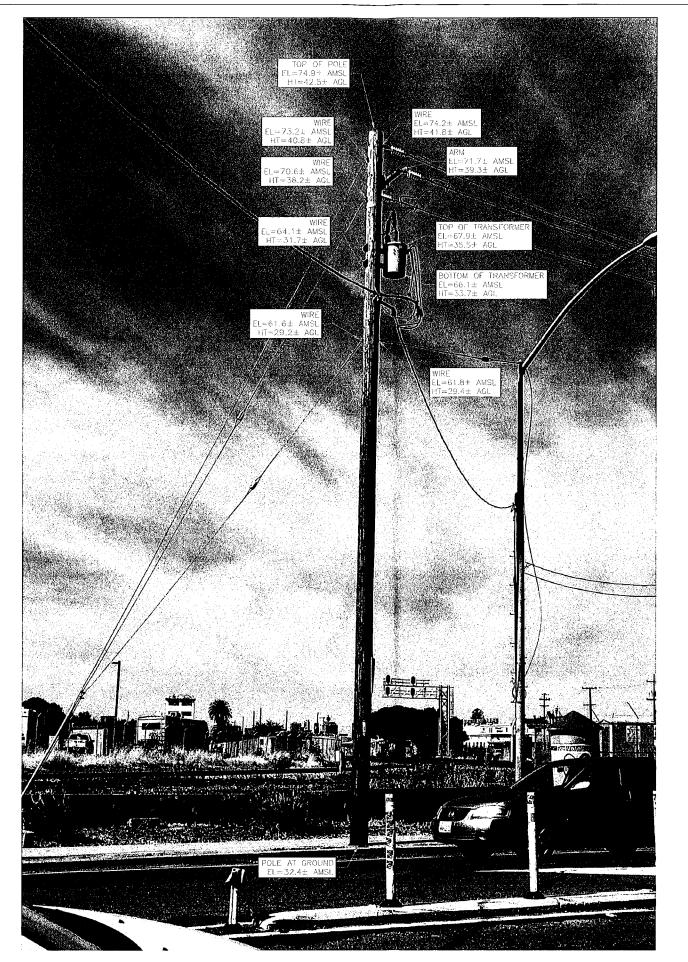
BORGES PROJECT NO.: T-17511-233

CHECK BY: B.K.W. SHEET TITLE

**GENERAL NOTES** 



POLE DETAIL NOT TO SCALE





446744 OAKLAND 233 NEAR 892 FRUITVALE AVE. OAKLAND, CA 94601

DRAWN: RBR DATE: 10/3/17

JOB NO. 1017039928

SHEET NO.



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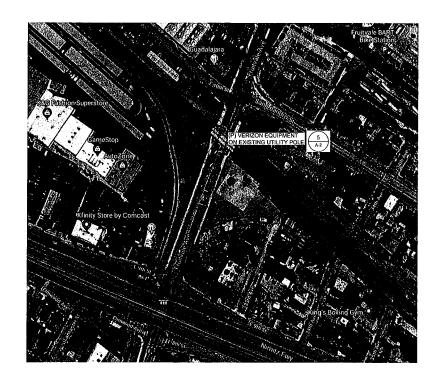
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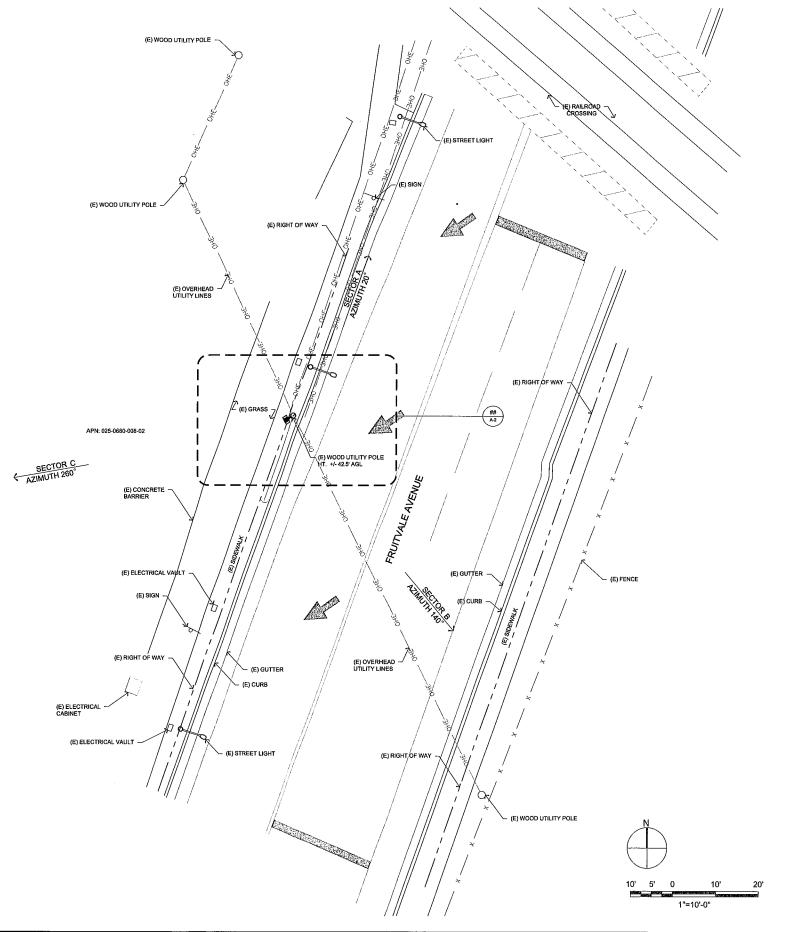
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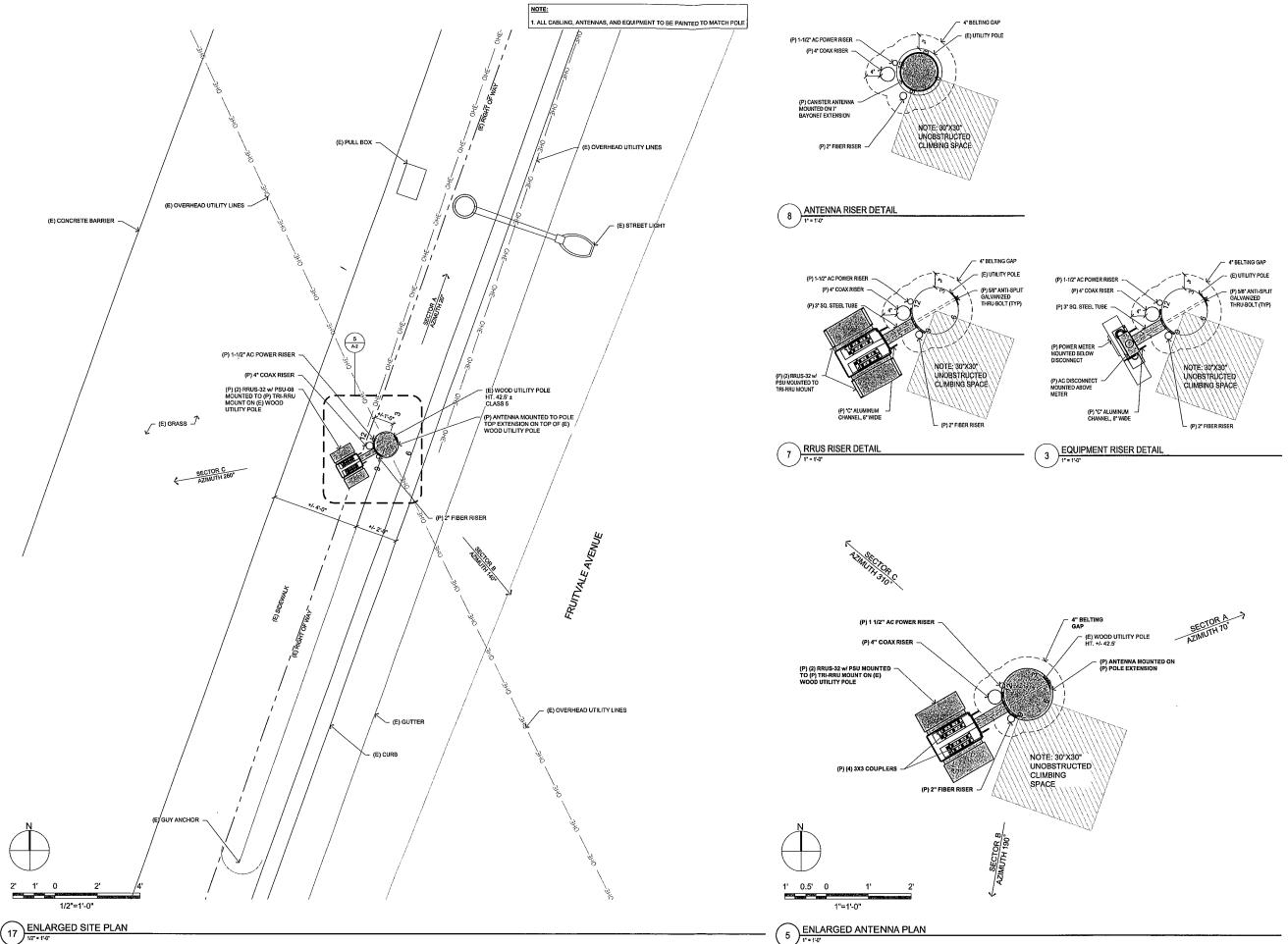
SITE PLAN

SHEET NO.



AERIAL PHOTO
NOT TO SCALE





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# **NEXIUS**

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 06/28/18
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 REV
 DATE
 DESCRIPTION

SITE NAME:

Oakland 233

LOCATION CODE:

446744

POLE NUMBER:

110138814 SITE ADDRESS:

892 Fruitvale Ave

Oakland, CA 94601

STAMP

DRAWN BY: DAG CHECK BY: B,K,W, BORGES PROJECT NO.: T-17511-233

SHEET TITLE

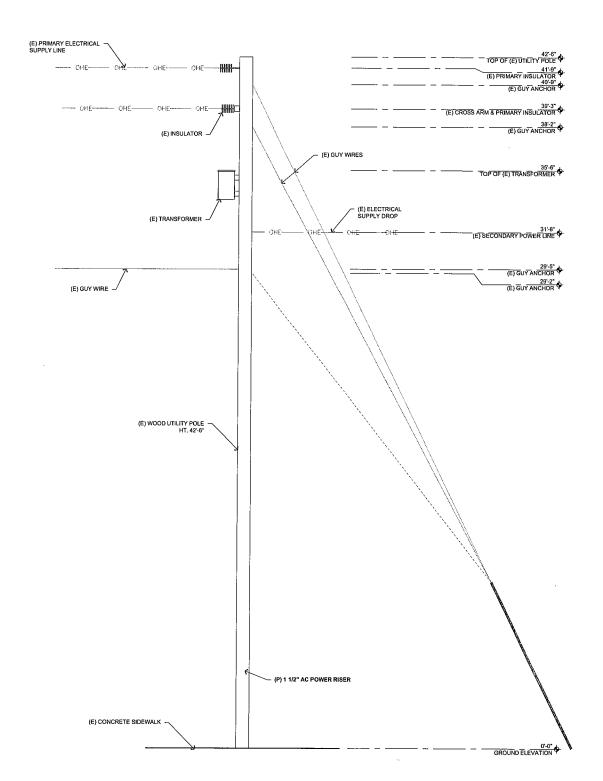
ENLARGED SITE PLAN & ANTENNA

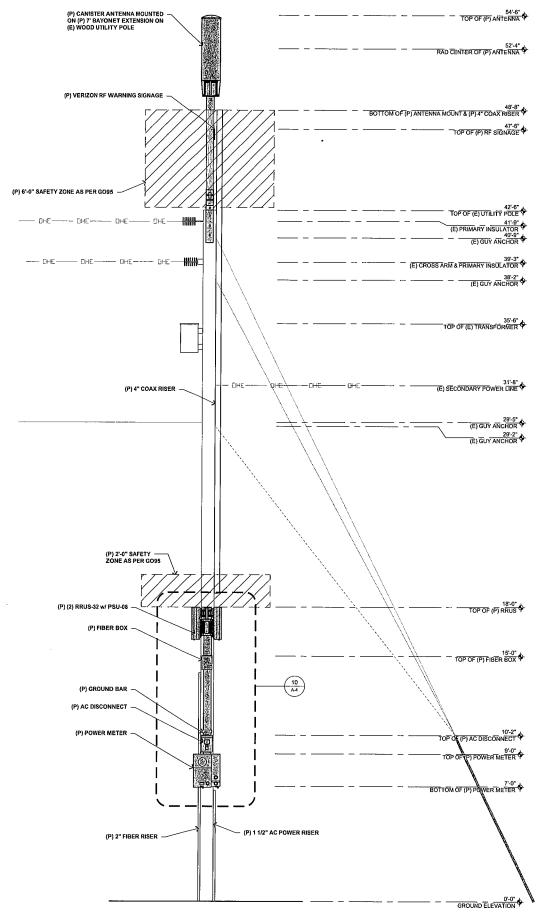
PLAN

**A-2** 

1. REPLACE 5' SECONDARY ARM W/ 8 ' ARM, MOVE CENTER PHASE TO ROAD SIDE OF ARM TO CLEAR CLIMBING SPACE

2. ALL CABLING, ANTENNAS, AND EQUIPMENT TO BE PAINTED TO MATCH POLE





9 PROPOSED FRONT ELEVATION

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VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598

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110138814

SITE ADDRESS:

892 Fruitvale Ave Oakland, CA 94601

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T-17511-233 SHEET TITLE

**ELEVATIONS** 

A-3.1

NOTE: 1. REPLACE 5' SECONDARY ARM W/ 8' ARM, MOVE CENTER PHASE TO ROAD SIDE OF ARM TO CLEAR CLIMBING SPACE

2. ALL CABLING, ANTENNAS, AND EQUIPMENT TO BE PAINTED TO MATCH POLE

(E) PRIMARY INSULATOR (E) INSULATOR (E) CROSS ARM & PRIMARY INSULATOR (E) GUY ANCHOR • (E) CROSS ARM TOP OF (E) TRANSFORMER - (E) ELECTRICAL SUPPLY DROP (E) SECONDARY POWER LINE 29'-5" • (E) GUY ANCHOR (E) GUY WIRE ANCHOR (TYP) (E) WOOD UTILITY POLE — HT. 42'-6" (E) RIGHT OF WAY (E) CONCRETE SIDEWALK GROUND ELEVATION • +/- 1'-0" +/- 4'-0" CENTER OF POLE TO EDGE OF SIDEWALK +/- 2'-0" CENTER OF POLE TO FACE OF CURB

RAD CENTER OF (P) ANTENNA • 48'-8" \$

BOTTOM OF (P) ANTENNA MOUNT & (P) 4" COAX RISER \$ TOP OF (P) RF SIGNAGE \* (P) 6'-0" SAFETY ZONE AS PER GO95 -TOP OF (E) UTILITY POLE \$ (E) PRIMARY INSULATOR 40'-9" (E) GUY ANCHOR — (E) CROSS ARM & PRIMARY INSULATOR + 38'-2" (E) GUY ANCHOR TOP OF (E) TRANSFORMER • (E) SECONDARY POWER LINE \* (P) 4" COAX RISER -(E) GUY ANCHOR • (P) 2'-0" SAFETY — ZONE AS PER GO95 TOP OF (P) RRUS • (P) EQUIPMENT ------MOUNTING BRACKET TOP OF (P) FIBER BOX (P) GROUND BAR -(P) AC DISCONNECT TOP OF (P) AC DISCONNECT \$ BOTTOM ÖF (P) POWER METER ♦ (P) 2" FIBER RISER -- (P) 1 1/2" AC POWER RISER (E) RIGHT OF WAY -GROUND ELEVATION +/- 4'-0" CENTER OF POLE TO EDGE OF SIDEWALK +/- 2'-0" CENTER OF POLE TO FACE OF CURB 9 PROPOSED SIDE ELEVATION

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VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598

**NEXIUS** 

NEXIUS 2595 DALLAS PARKWAY, SUITE 300 FRISCO, TEXAS 75034



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892 Fruitvale Ave Oakland, CA 94601

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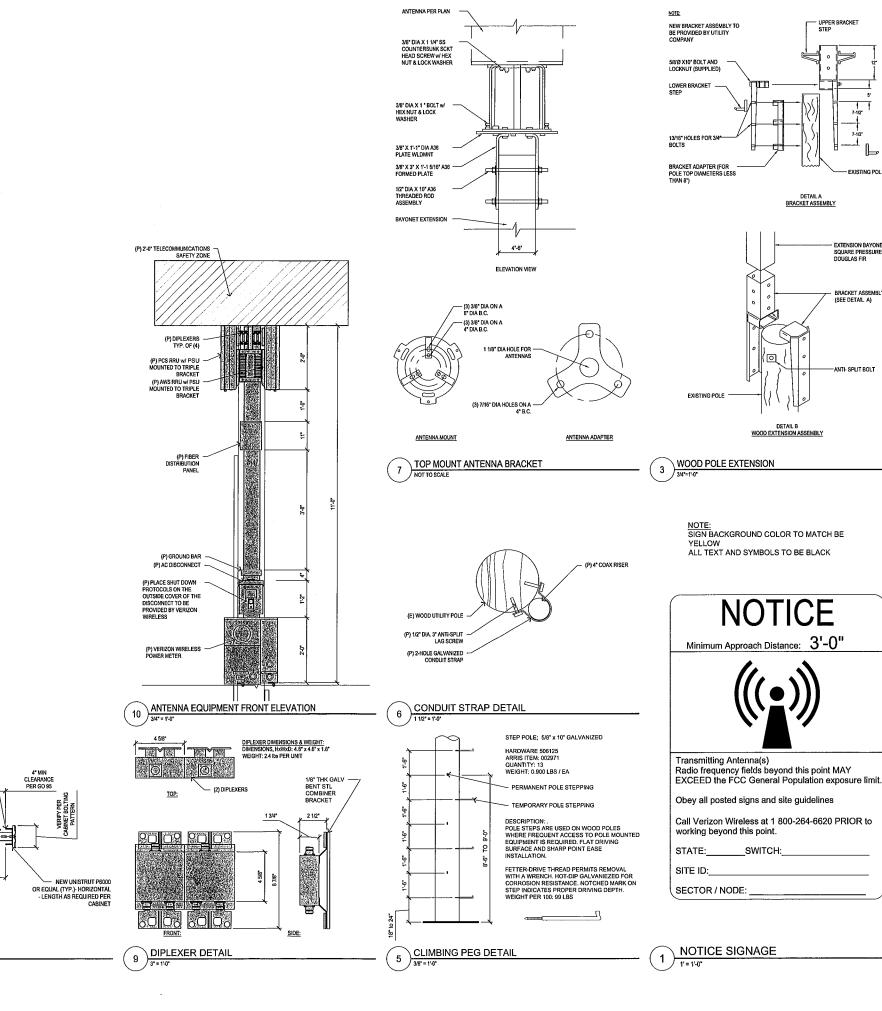
SHEET TITLE

BORGES PROJECT NO.: T-17511-233

**ELEVATIONS** 

A-3.2

EXISTING SIDE ELEVATION



8 3/4\* MIN NOTE:
ALL CABINETS MOUNTED TO UTILITY POLE SHALL HAVE A MINIMUM TOP & BOTTOM CLEARANCE OF 7\*.

APPROVED EQUIVALENT MOUNT ALSO ACCEPTABLE FOR USE.

NEW 1/2\*Ø MOUNTING BOLT (CONTRACTOR TO VERIFY WITH CABINET MFG. SPEC.)

- NEW UNISTRUT P 6000 OR EQUAL (TYP.)- HORIZONTAL -LENGTH AS REQUIRED PER

- 5/8" X 24" CARIDGE HDG BOLT (TYP.)

**ELEVATION VEW** 

EQUIPMENT MOUNTING DETAIL

3/4" = 1'-0"

NEW 6" WIDE ALUMINUM C CHANNEL

NEW 6" WIDE ALUMINUM C CHANNEL.

NEW TS 3"X3"X 9 1/2" TYP OF 3

(N) 4° COAX CONDUIT

5/8" X 24" CARIDGE HDG -BOLT (TYP.)

(E) 1 1/2" CONDUIT

UTILITY POLE

4"X4" CURVED

1/4" X 4" X8" CURVED MOUNTING PLATE OVER 1/4" X 4" X 8" NEOPRENE PAD

8 3/4" MIN

PLAN VIEW

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VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598

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EXTENSION BAYONET 5 3/4\*
 SQUARE PRESSURE TREATED DOUGLAS FIR



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06/28/18 100% CD SUBMITTAL REV DATE

SITE NAME: Oakland 233

LOCATION CODE: 446744

POLE NUMBER:

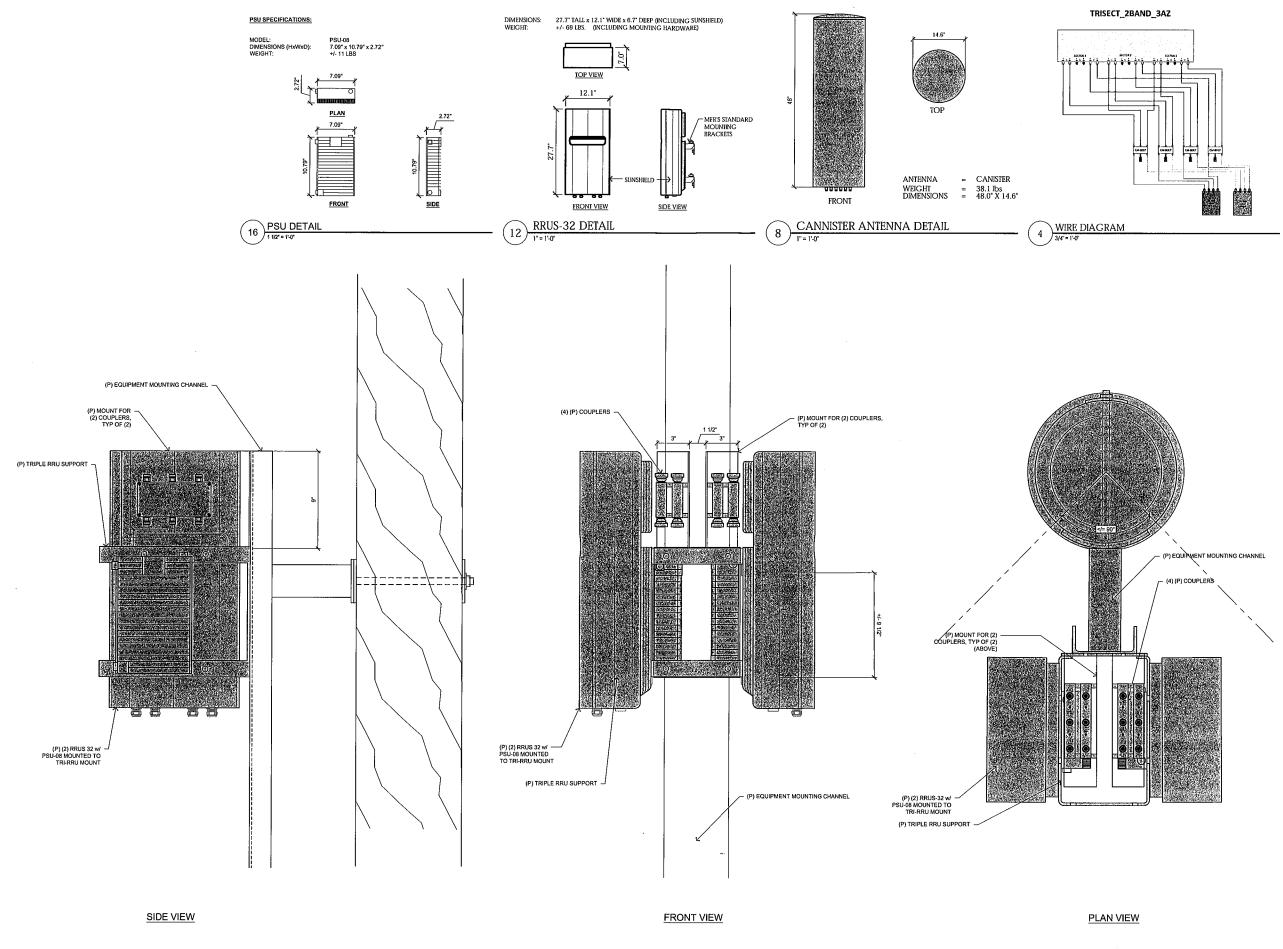
110138814 SITE ADDRESS:

892 Fruitvale Ave Oakland, CA 94601

DRAWN BY: DAG T-17511-233 CHECK BY: B.K.W.

DETAILS

SHEET TITLE



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VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598



NEXIUS 2595 DALLAS PARKWAY, SUITE 300 FRISCO, TEXAS 75034



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0 06/28/18 100% CD SUBMITTAL

REV DATE DE

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Oakland, CA 94601

STAMP

DRAWN BY: DAG BORGES PROJECT NO.: CHECK BY: B.K.W. T-17511-233

SHEET TITLE

DETAILS

SHEET NO.

**A-5** 

#### ELECTRICAL NOTES

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES. NOTHING: IN THESE PLANS OR SPECIFICATIONS SHALL BE CONSTRUED AS TO PERMIT WORK NOT CONFORMING TO THE MOST STRINGENT OF THESE CODES. SHOULD CHANCES BE NECESSARY IN THE DRAWNIGS OR SPECIFICATIONS TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS. THE CONTRACTOR SHA MMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND CEASE WORK ON PARTS OF THE CONTRACT WHICH ARE AFFECTED.
- THE CONTRACTOR SHALL MAKE A SITE VISIT PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES, THE CONTRACTOR ASSUMES ALL LIABILITY FOR FAILURE TO COMPLY WITH THIS
- 3. THE EXTENT OF THE WORK IS INDICATED BY THE DRAWINGS, SCHEDULES, AND SPECIFICATIONS AND IS SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT. THE WORK SHALL CONSIST OF FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND SUPPLIES NECESSARY FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. THE WORK SHALL ALSO INCLUDE THE COMPLETION OF ALL ELECTRICAL WORK NOT MENTIONED OR SHOWN WHICH IS NECESSARY FOR SUCCESSFUL OPERATION OF ALL SYSTEMS.
- THE CONTRACTOR SHALL PREPARE A BID FOR A COMPLETE AND OPERATIONAL SYSTEM, WHICH INCLUDES THE COST FOR MATERIAL AND LABOR.
- 5. WORKMANSHIP AND NEAT APPEARANCE SHALL BE AS IMPORTANT AS THE OPERATION. DEFECTIVE OR DAMAGED MATERIALS SHALL BE REPLACED OR REPAIRED PRIOR TO FINAL ACCEPTANCE IN A MANNER ACCEPTABLE TO OWNER AND
- 6. COMPLETE THE ENTIRE INSTALLATION AS SOON AS THE PROGRESS OF THE WORK WILL PERMIT, ARRANCE ANY OUTAGE OF SERVICE WITH THE OWNER AND BUILDING MANAGER IN ADVANCE. MINIMIZE DOWNTIME ON THE BUILDING ELECTRICAL.
- 7. THE ENTIRE ELECTRICAL SYSTEM INSTALLED UNDER THIS CONTRACT SHALL BE DELIVERED IN PROPER WORKING ORDER. REPLACE, WITHOUT ADDITIONAL COST TO HE OWNER, ANY DEFECTIVE MATERIAL AND EQUIPMENT WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
- 8. ANY ERROR, OMISSION OR DESIGN DESCREPANCY ON THE DRWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION OR CORRECTION BEFORE CONSTRUCTION.
- 9. "PROVIDE" INDICATES THAT ALL ITEMS ARE TO BE FURNISHED, INSTALLED AND CONNECTED IN PLACE.
- 10. CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES.

- 1. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE DESIRED LOCATIONS OR THE DRAWINGS NOTCATE DIACAMMATICALY THE DESIRED TOCATIONS OR ARRANCEMENTS OF CONDUIT RUINS, OUTLIETS, EQUIPMENT, ETC., AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE. PROPER JUDGEMENT MUST BE EXECUTION THE WORK SO AS TO SECURE THE BEST POSSIBLE INSTALLATION IN THE VAILABLE SPACE LIMITATIONS OR INTERFERENCE OF STRUCTURE CONDITIONS
- 2. IN THE EVENT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY, DIE TO FIELD CONDITIONS IN THE BUILDING CONSTRUCTION OR REARRANGEMENT OF FURNISHINGS OR EQUIPMENT, SUCH CHANGES SHALL BE MADE WITHOUT COST, PROVIDING THE CHANGE IS ORDERED BEFORE THE CONDUIT RUNS, ETC., AND WORK DIRECTLY CONNECTED TO THE SAME IS INSTALLED AND NO EXTRA MATRIALS ARE REQUIRED.
- LIGHTING FIXTURES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY.
  COORDINATE THE FIXTURE LOCATION WITH MECHANICAL EQUIPMENT TO AVOID INTERFERENCE.
- 4. COORDINATE THE WORK OF THIS SECTION WITH THAT OF ALL OTHER TRADES. WHERE CONFLICTS OCCUR, CONSULT WITH THE RESPECTIVE CONTRACTOR AND COME TO AGREEMENT AS TO CHANGES NECESSARY, OBTAIN WRITTEN ACCEPTANCE FROM ENGINEER FOR THE PROPOSED CHANGES BEFORE

#### SHOP DRAWINGS:

1. N/A UNLESS NOTED OTHERWISE.

#### SUBSTITUTIONS

1. NO SUBSTITUTIONS ARE ALLOWED

 BEFORE FINAL ACCEPTANCE OF WORK, THE CONTRACTOR SHALL INSURE THAT ALL EQUIPMENT, SYSTEMS, FIXTURES, ETC., ARE WORKING SATISFACTORILY AND TO THE INTENT OF THE DRAWINGS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING OUT AND PAYING FOR ALL REQUIRED PERMITS, INSPECTION AND EXAMINATION WITHOUT ADDITIONAL

#### GROUNDING:

- THE CONTRACTOR SHALL PROVIDE A COMPLETE, AND APPROVED GROUNDING SYSTEM INCLUDING ELECTRODES, ELECTRODE CONDUCTOR, BONDING CONDUCTORS, AND EQUIPMENT CONDUCTORS AS REQUIRED BY ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- 2. CONDUITS CONNECTED TO EQUIPMENT AND DEVICES SHALL BE METALICALY JOINED TOGETHER TO PROVIDE EFFECTIVE ELECTRICAL CONTINUITY.
- 3. FEEDERS AND BRANCH CIRCUIT WIRING INSTALLED IN A NONMETALLIC CONDUIT SHALL INCLUDE A CODE SIZED GROUNDING CONDUCTOR HAVING GREEN INSULATION. THE GROUND CONDUCTOR SHALL BE PROPERLY CONNECTED AT BOTH ENDS TO MAINTAIN ELECTRICAL CONTINUIT
- 4. REFER TO GROUND BUS DETAILS. PROVIDE NEW GROUND SYSTEM COMPLETE WITH CONDUCTORS, GROUND ROD AND DESCRIBED TERMINATIONS.
- 5. ALL GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2
- 6. ALL NON-DIRECT BURIED TELEPHONE EQUIPMENT GROUND CONDUCTORS SHALL BE #2 STRANDED THIN (GREEN) INSULATION.
- ALL GROUND CONNECTIONS SHALL BE MADE WITH 'HYGROUND' COMPRESSION SYSTEM BURNDY CONNECTORS EXCEPT WHERE NOTED OTHERWISE.
- 8. PAINT AT ALL GROUND CONNECTIONS SHALL BE REMOVED,
- GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE OWNER FOR FUTURE INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE. SUBMIT TEST REPORTS AND FURNISH TO SMART SMR ONE COMPLETE SET OF PRINTS SHOWING INSTALLED WORK.

#### UTILITY SERVICE

1. TELEPHONE AND ELECTRICAL METERING FACILITIES SHALL CONFORM TO THE REQUIREMENTS OF THE SERVING UTILITY COMPANIES. CONTRACTOR SHALL VERIFY SERVICE LOCATIONS AND REQUIREMENTS. SERVICE INFORMATION WILL BE

#### FURNISHED BY THE SERVING UTILITIES.

#### PRODUCINFORM TO ALL REQUIREMENTS OF THE SERVING UTILITY COMPANIES.

- ALL MATERIALS SHALL BE NEW, CONFORMING WITH NEC, ANSI, NEMA, AND THEY SHALL BE U.L. LISTED AND LABELED.
- - DUIT:
    A) RICID CONDUIT SHAIL BE U.L LABEL GALVANIZED ZINC COATED WITH ZINC
    INTERIOR AND SHAIL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS,
    IN CONTACT WITH THE ARTHI, LUNDER PUBLIC ROADWAYS, IN MASONRY WALLS
    OR EXPOSED ON BUILDING EXTERIOR, RICID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
  - B) ELECTRICAL METALLIC TUBING SHALL U.L. LABEL. FITTINGS SHALL BE COMPRESSION TYPE, EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
  - C) FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE, FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT, ALL CONDUIT EXCESS OF SIX FEET IN LENGTH SHALL
  - D) CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILING OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERPY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH ARCHITECT PRIOR TO INSTALLING.
  - E) ALL UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 (UNLEES NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24\* BELOW GRADE

#### F) ALL CONDUIT ONLY (C.O.) SHALL HAVE PULL ROPE.

- G) CONDUITS RUN ON ROOFS SHALL BE INSTALLED ON 4x4 REDWOOD SLEEPERS, 6'-0' ON CENTER, SET IN NON-HARDENING MASTIC.
- 3. ALL WIRE AND CABLE SHALL BE COPPER, 600 VOLT, #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. TYPE THINI NISULATION USED UNLESS CONDUCTORS INSTALLED IN CONDUIT EXPOSED TO WEATHER, IN WHICH CASE TYPE THINN INSULATION SHALL BE USED.
- PROVIDE GALVANIZED COATED STEEL BOXES AND ACCESSORIES SIZED PER CODE TO ACCOMMODATE ALL DEVICES AND WIRING.
- 5. DUPLEX RECEPTACLES SHALL BE SPECIFICATION GRADE WITH WHITE FINISH (LINLESS NOTED BY ENGINEER), 20 AMP, 125 VOLT, THERE WIRE GROUNDING TYPE, NEMA 5-20R, MOUNT RECEPTACLE AT 12'-2 AROVE PRINISHED FLOOR URINESS OTHERWISE RUINCATED ON DRAWINGS OR IN DETAILS. WEATHERPROOF RECEPTACLES SHALL BE GROUND FAULT
- 6. TOGGLE SWITCHES SHALL BE 20 AMP, 120 VOLT AC. SPECIFICATION GRADE WHITE (UNLESS NOTED OTHERWISE) FINISH. MOUNT SWITCHES AT +48\* ABOVE FINISHED FLOOR
- 7. PANELBOARDS SHALL BE DEAD FRONT SAFETY TYPE WITH ANTI-BURN SOLDERLESS COMPRESSION APPROVED FOR COPPER CONDUCTORS, COPPER BUS BARS, FULL SIZED NEUTRAL BUS, GROUND BUS AND EQUIPPED WITH QUICK-MAKE QUICK-BREAK BOLT-IN TYPE THERMAL MAGNETIC CIRCUIT BREAKERS. MOUNT TOP OF THE PANELBOARDS AT 6-3\* ABOVE FINISHED FLOOR. PROVIDE TYPE WRITTEN CIRCUIT DIRECTORY.
- 8. ALL CIRCUIT BREAKERS, MAGNETIC STARTERS AND OTHER ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
- GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8\* ROUND AND 10' LONG. COPPERWELD OR APPROVED EQUAL.

#### INSTALLATION:

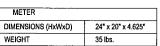
- PROVIDE SUPPORTING DEVICES FOR ALL ELECTRICAL EQUIPMENT, FIXTURES, BOXES. PANEL, ETC., SUPPORT JUMINARIES FROM UNDERSIDE OF STRUCTURAL CEILING, EQUIPMENT SHALL BE BRACED TO WITHSTAND HORIZONTAL FORCES IN ACCORDANCE WITH STATE AND LOCAL CODE REQUIREMENTS. PROVIDE PRIOR AUGMMENT AND LEVELING OF ALL DEVICES AND FIXTURES.
- 2. CUTING, PATCHING, CHASES, OPENINGS: PROVIDE LAYOUT IN ADVANCE TO EUMINATE UNNECESSARY CUTING OR DRILLING OF WALLS, FLOORS CRILINGS, AND ROOFS, ANY DAMAGE TO BUILDING STRUCTURE OR EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR. OBTAIN PERMISSION FROM THE ENCINEER BEFORE CORNIC.
- IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RINS, PPE RUNS, ETC., IT MUST BE CLEARLY UNDERSTOOD THAT ISMOONS AND/OR REINFORCING STEEL WILL NOT BE DRILLED INTO, CUT OR DAMAED UNDER THE CIRCUMSTANCES.
- 4. LOCATION OF TENDONS AND/OR REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE, MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING AND/OR
- 5. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE

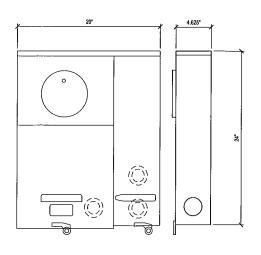
#### PROJECT CLOSEOUT:

- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS FOR APPROVAL SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAP PREMISES OF ALLS DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
- 2. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED DRAWNIGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS AND CIRCUITS.
- 3. ALL BROCHURES, OPERATING MANUALS, CATALOG, SHOP DRAWINGS, ETC., SHALL BE TURNED OVER TO OWNER AT TOR COMPLETION

- 3. GROUND BAR LOCATED IN BASE OF EQUIPMENT WILL BE PROVIDED, FURNISHED AND
- 5. GROUND RING SHALL BE LOCATED A MINIMUM OF 24" BELOW GRADE OR 6" MINIMUM
- INSTALL GROUND CONDUCTORS AND GROUND ROD MINIMUM OF 1'-0' FROM EQUIPMENT CONCRETE SLAB, SPREAD FOOTING, OR FENCE.
- EXOTHERMIC WELD GROUND CONNECTION TO FENCE POST; TREAT WITH A COLD GALVANIZED SPRAY.
- - IND BARS:
    A) EQUIPMENT GROUND BUS BAR (EGB) LOCATED AT THE BOTTOM OF ANTENNA POLEMAST FOR MAKING GROUNDING JUMPER CONNECTIONS TO COAX FEEDER CABLES SHALL BE FURNISHED AND INSTALLED BY LECTRICAL CONTRACTOR. JUMPERS (FURNISHED BY COWNERS) SHALL BE INSTALLED AND
- 9. ALL GROUNDING INSTALLATIONS AND CONNECTIONS SHALL BE MADE BY ELECTRICAL
- 10. OBSERVE N.E.C. AND LOCAL UTILITY REQUIREMENTS FOR ELECTRICAL SERVICE
- 12. IF EQUIPMENT IS IN A C.L. FENCE ENCLOSURE, GROUND ONLY CORNER POSTS AND SUPPORT POSTS OF GATE. IF CHAIN LINK LID IS USED, THEN GROUND LID ALSO.
- 13. GROUNDING AT PPC CABINET SHALL BE VERTICALLY INSTALLED
- 14. ALL GROUNDING FOR ANTENNAS SHALL BE CONNECTED SO THAT IT WILL BY-PASS MAIN
- 16. USE SEPARATE HOLES FOR GROUNDING AT BUSS BAR. NO "DOUBLE-UP" OF LUGS.

- PROVIDE STAINLESS STEEL CLAMP AND BRASS TAGS ON COAX AT ANTENNAS AND DOGHOUSE.







POWER METER DETAIL

#### GROUNDING NOTES:

- ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION REQUIREMENTS AND CONSTRUCTION ACCORDING TO SITE CONDITIONS.
- ALL GROUNDING CONDUCTORS: #2 AWG SOLID BARE TINNED COPPER WIRE UNLESS
- 4. ALL BELOW GRADE CONNECTIONS: EXOTHERMIC WELD TYPE, ABOVE GRADE CONNECTIONS: EXOTHERMIC WELD TYPE,
- - CONNECTED BY ELECTRICAL CONTRACTOR.

- 11. GROUNDING ATTACHMENT TO TOWER SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS OR AT GROUNDING POINTS PROVIDED (2 MINIMUM).

- 15. ALL EMT RUNS SHALL BE GROUNDED AND HAVE A BUSHING, NO PVC ABOVE GROUND.
- 17. POWER AND TELCO CABINETS SHALL BE GROUNDED (BONDED) TOGETHER.



O/H FIBER COAX CABLES TO RUN WITHIN NEW 4" DIA -- FIBER IN 2" UV RATED CONDUIT TO ANTENNAS PVC RISER PCS AWS FIBER Splice Box RRUs-32 RRUs-32 RRUS PER PLAN · #12 AWG AC POWER JUMPERS #12 AWG AC POWER JUMPERS IN 3/4" FLEX CONDUIT IN 3/4" FLEX CONDUITS EXISTING POWER SOURCE PSU-08 & ACCU PSU-08 & ACCU 120/240V 3W, 1PH PER PLAN NEW 1 1/2" SCH. 80 PVC CONDUIT WITH PULL ROPE, RUN UP EXISTING POLE VERIZON 100A, 120/240V, 1PH, 3W, 42 KAIC METER AC DISCONNECT WITH TEST BYPASS SWITCH #2 AWG IN 1-1/2" SCH, 80 PVC CONDUIT TO 5/8" DIA. X 10' GROUND ROD PER N.E.C. ARTICLE 250 #12 AWG IN 3/4° FLEX CONDUITS REFER-TO MANUFACTURER'S

VERIZON SMALL-CELL 100A AC POWER PANEL (POLE-MOUNTED CABINET)

SYSTEM VOLTAGE (V): 240
POSN BKR vinc VA DESCRIPTION

CONNECTED LOAD (kVA): 5.0

BI ANK

SPARE (OFF)

PSU#2 (RRUS-32)

BLANK

PROPOSED CANISTER ANTENNA

AC POWER PANEL (NEW) 120/240 VOLTS, 1-PHASE, 3-WIRE, 100A

1 0 2 2 3 3 3 0 4 5 0 6 20

CABINET MOUNTED TO POLE WHICH CONTAINS DC RECTIFIERS. THE RECTIFIERS WITHIN THE CABINET WILL CABINET MOUNTED TO POLE WHICH CONTAINS DE RECTIFIERS. THE RECTIFIERS WITHIN THE CABINET WILL PROVIDE DE POWER TO THE RRUSS2 RADIO, RECTIFIERS ARE GENERAL ELECTRIC #EP1000-UTEZ, HAVING AN OUTPUT RATING OF 48v/120A @ 240V INPUT. THE RRUSS2 (AWS) RADIO WILL BE POWERED FROM DE POWER WITHIN THE CABINET. THE RRUSS2 (PCS) AND RRUSS11 (700) RADIOS WILL BE POWERED FROM PSUS. THE PSUS RECIEVE AN AC INPUT AND PERFORM DC CONVERSION FOR RRUSS2 (PCS) AND RRUSS11 (700) RADIOS.

11 1000 12 15 C 1000 13 0 14

CURRENT PER PHASE (A): 8.33 8.33 AMPERES/PHASE CANNOT EXCEED MAIN BREAKER RATING

100

MAIN BREAKER RATING (A):

DESCRIPTION VA one BKR POSN

PANEL LOADING (100% non-cont, load) (kVA): 0.0

PANEL LOADING (125% continuous load) (kVA): PANEL LOADING (TOTAL) (kVA)

PANEL TOTAL (VA):

PANEL CAPACITY (kVA): 24.0

BLANK

BLANK

BLANK

PSU#1 (RRUS-32)

SPECS FOR ADDITIONAL INFORMATION INCLUDING WIRING INSTRUCTIONS &

GROUNDING REQUIREMENTS

ELECTRICAL NOTES

PREPARED FOR

verizon<sup>v</sup>

2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598

**NEXIUS** 

2595 DALLAS PARKWAY, SUITE 300 FRISCO, TEXAS 75034



1478 STONE POINT DRIVE, SUITE 359 ROSEVILLE CA 95661

916 782 7200 TEL 916 773 3037 FAX

06/28/18 100% CD SUBMITTAL

DESCRIPTION

SITE NAME:

Oakland 233

LOCATION CODE: 446744

> POLE NUMBER: 110138814

SITE ADDRESS: 892 Fruitvale Ave Oakland, CA 94601

DRAWN BY: DAG

BORGES PROJECT NO.: T-17511-233 CHECK BY: R K W

SINGLE LINE **DIAGRAM & PANEL** SCHEDULE



VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598

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1478 STONE POINT DRIVE, SUITE 350 ROSEVILLE CA 95661 916 782 7200 TEL 916 773 3037 FAX

06/28/18 100% CD SUBMITTAL REV DATE DESCRIPTION

SITE NAME:

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892 Fruitvale Ave Oakland, CA 94601

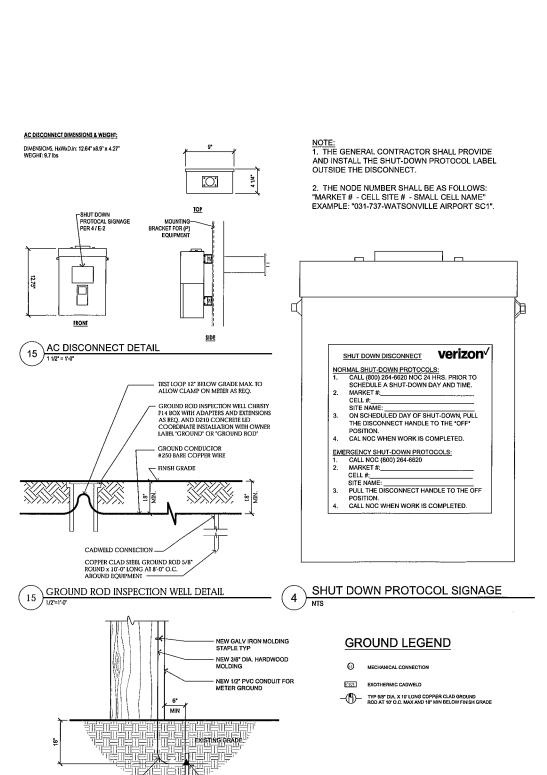
DRAWN BY: DAG СНЕСК ВУ: В.К.W.

BORGES PROJECT NO.: T-17511-233

POLE GROUND & RISER DIAGRAM & DETAILS

(P) 5/8° X 10° GROUNDING ROD

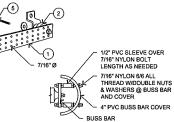
**E-2** 



LEGEND

1 HOT DIPPED GALV. STELL GROUND BAR, 1/4" x 4" x 24", HOLE
CENTER TO MATCH NEMA DOUBLE LUG CONFIGURATION
INSULATORS
3 39" LOCK WASHERS
4 WALL MOUNTING BRACKET
3 49"

GROUND BAR DETAIL



GROUND DETAIL

5 GROUNDING ELEVATION

<del>|||||||</del>

###

- TYP MECHANICAL CONNECTION

TRAFFIC CONTROL NOTES:

- 1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING WORK ON A PUBLIC STREET TO INSTALL AND MAINTAIN THE TRAFFIC CONTROL DEVICES AS SHOWN HEREIN, AS WELL AS ANY ADDITIONAL TRAFFIC CONTROL DEVICES THAT MAY BE REQUIRED TO INSURE THE SAFE MOVEMENT OF TRAFFIC AND PEDESTRIANS THROUGH OR AROUND THE WORK AREA AND PROVIDE MAXIMUM PROTECTION AND SAFETY TO CONSTRUCTION WORKERS.
- 2. ALL DELINEATORS SHALL BE EQUIPPED WITH REFLECTIVE BOND AT NIGHT
- 3. THE CONTRACTOR SHALL NOTIFY THE CITY/COUNTY OF THE RECORD AND CALTRANS PERMIT INSTRUCTOR AT LEAST FIVE WORKING DAYS IN ADVANCE OF IMPLEMENTING ANY CONSTRUCTION DETOLIR
- 4. ALL SIGNS, DELINEATORS, BARRICADES, ETC. AND THEIR INSTALLATION SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) AND THE MUTCD CALIFORNIA SUPPLEMENT, STATE OF CALIFORNIA STANDARDS SPECIFICATIONS, SPECIAL PROVISIONS, AND STAMPED PLANS
- 5.THE CITY/COUNTY OF RECORD AND CALTRANS RESERVE THE RIGHT TO OBSERVE THESE TRAFFIC CONTROL PLANS IN USE AND TO MAKE ANY NECESSARY CHANGES AS FIELD CONDITIONS WARRANT. ANY CHANGES SHALL SUPERSEDE THESE PLANS. EXACT LOCATION OF ALL EQUIPMENT AND TRAFFIC CONTROL DEVICE SHALL BE DETERMINED BY THE ENGINEER.
- 6.ALL TRAFFIC CONTROL DEVICES, STRIPES, MARKINGS, LEGENDS AND RAISED PAVEMENT MARKERS SHALL CONFORM TO THE MUTCD AND THE CALIFORNIA SUPPLEMENT (LATEST EDITION), THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS (LATEST EDITION). SPECIAL PROVISIONS AND STAMPED PLANS 7. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS
- NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY

  8. ALL TRAFFIC LANES SHALL HAVE A MINIMUM OF 5 FEET CLEARANCE FROM OPEN EXCAVATIONS AND A MINIMUM OF 2 FEET FROM VERTICAL OBSTRUCTIONS
- 9.CONTRACTOR SHALL PROVIDE FLAGGERS AS DEEMED NECESSARY BY THE CITY/COUNTY INSPECTOR OR CALTRANS PERMIT INSPECTOR
- 10. ALL ADVANCED WARNING SIGNS SHALL BE EQUIPED WITH FLAGS 11.TRAFFIC SIGNALS SHALL REMAIN IN OPERATION AT ALL TIMES. SIGNALS OPERATION DURING EACH CONSTRUCTION PHASE SHALL BE COORDINATED WITH AND APPROVED BY THE CITY/COUNTY OF RECORD AND/OR CALTRANS INSPECTOR
- 11.TRAFFIC SIGNALS SHALL REMAIN IN OPERATION AT ALL TIMES, SIGNALS OPERATION DURING EACH CONSTRUCTION PHASE SHALL BE COORDINATED WITH AND APPROVED BY THE CITY/COUNTY OF RECORD AND/OR CALTRANS INSPECTOR
- 12.PLACE ADDITIONAL " LANE CLOSED", (C30) SIGN ON TYPE II BARRICADES AT 100 FOOT INTERVALS THROUGHOUT EXTENDED WORK AREAS IN EACH LANE THAT IS CLOSED. INSTALL "OPEN THENCH" (C27) SIGNS WHENEVER AN OPEN EXCAVATION AREA EXISTS ADJACENT TO THE TRAVELED WAY 13. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED
- 13. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FOLLOWING COMPLETION OF EACH CONSTRUCTION STAGE AND THE PERMANENT TRAFFIC CONTROL DEVICES SHALL BE RESTORED BY THE CONTRACTOR UPON COMPLETION OF PROJECT
- 14. CONTRACTOR SHALL REPLACE/REPAIR ALL DAMAGED STRIPING AT THE END OF EACH WORKING DAY
- 15. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN DISABILITY ACT AS RELATED TO PEDESTRIAN ACCESS AND SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES PER ADA REQUIREMENTS. SIDEWALK CLOSURE/DETOUR SHALL COMPLY WITH THE WATCH STANDARDS AND MUST OBTAIN APPROVAL FROM THE CITY/COUNTY OF RECORD 16. WORK HOURS SHALL COMPLY WITH SMC 16.08.030
- 17. RESIDENTS TO BE NOTIFIED OF DATES AND TIMES OF CONSTRUCTION (2) WEEKS PRIOR TO THE START OF WORK
- 18. A 5-0" MIN. PEDESTRIAN CLEARANCE TO BE MAINTAINED @ EXISTING SIDEWALKS
- 19. SIDEWALKS AT THE CONSTRUCTION LOCATION MAY BE CLOSED WITH ADEQUATE DETOURS. SIDEWALKS MAY ONLY BE CLOSED TO THROUGH TRAFFIC AND SHALL NOT PREVENT LOCAL PEDESTRIANS ACCESS. DETOURS SHALL NOT INCREASE THE PATH OF TRAVEL BY MORE THAN 500 FT. DETOUR ROUTES SHALL BE LIMITED TO EXISTING SIDEWALKS, PRIVATE PROPERTIES (SEE BELOW REQUIREMENTS) AND CROSSINGS AT ROADWAY INTERSECTIONS. TO THE MAXIMUM EXTENT FEASIBLE, THE ALTERNATE CIRCULATION PATH SHALL BE PROVIDED ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE. WHERE IT IS FEASIBLE TO PROVIDE A SAME-SIDE ALTERNATE CIRCULATION PATH AND PEDESTRIANS WILL BE DETOURED, SECTION 6D.02 OF THE CA 2014 MUTCO (REVISION 2) SPECIFIES THAT THE ALTERNATE PATH PROVIDE A SIMILAR LEVEL OF ACCESSIBILITY TO THAT OF THE EXISTING DISRUPTED ROUTE. THIS MAY INCLUDE THE INCORPORATION OF ACCESSIBLE PEDESTRIAN SIGNALS (APS), CURB RAMPS, OR OTHER ACCESSIBILITY FEATURES.
- 20. PEDESTRIANS MAY BE DETOURED ONTO PRIVATE PROPERTY ONLY IF WRITTEN PERMISSION FROM THE PROPERTY OWNER IS OBTAINED ALONG WITH DOCUMENTATION INDICATING THAT THE CITY WOULD NOT BE LIABLE (HOLD HARMLESS) IN THE EVENT OF AN ACCIDENT.
- 21. DURING WORK HOURS, AT LEAST ONE WORKER SHALL BE ASSIGNED WITH THE RESPONSIBILITY TO ESCORT ELDERLY, DISABLED OR ANY OTHER PEDESTRIANS IN NEED OF ASSISTANCE THROUGH THE CONSTRUCTION SITE. A WORKER ASSIGNED WITH THIS RESPONSIBILITY MAY ALSO PARTICIPATE IN OTHER CONSTRUCTION ACTIVITIES; HOWEVER, THE ASSIGNED WORKER SHALL BE AWARE OF HIS OR HER RESPONSIBILITIES FOR PROVIDING THIS ASSISTANCE. MEASURES THAT SIMPLY CLOSE THE SIDEWALK WITH THE EXCEPTION THAT PEDESTRIANS WILL CROSS SOMEWHERE ELSE DOES NOT ADEQUATELY SATISFY PEDESTRIAN ACCESS. PEDESTRIANS SHOULD NEVER BE DIRECTED/EXPECTED TO CROSS A MULTI-LANE ROADWAY AT ANY LOCATION OTHER THAT AT A SIGNAL (OR ALL-WAY STOP). ACCOMMODATIONS SHOULD BE MADE ON THE SAME SIDE OF ROADWAY AS WORK

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING							
	DOWNGRADE Min D ***						
SPEED *	Min. D **	-3%	-6%	-9%			
MPH	FT	FT	FT	FT			
20	115	116	120	126			
25	155	158	165	173			
30	200	205	215	227			
35	250	257	271	287			
40	305	315	333	354			
45	360	378	400	427			
50	425	446	474	507			
55	495	520	553	593			
60	570	598	638	686			
65	645	682	728	785			
70	730	771	825	891			

\* - SPEED IS POSTED SPEED LIMIT, OFF-PEAK 85-TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

866

927

1003

\*\* - LONGITUDINAL BUFFER SPACE OR FLAGGER STATION SPACING

820

75

\*\*\* - USE ON SUSTAINED DOWNGRADE STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE

LEGEND:	
TRAFFIC CONE:	0
TRAFFIC SIGN:	þ
TYPE 2 BARRICADE:	
WORK AREA :	
FLAGGER:	
"ROAD WORK AHEAD" SIGN:	ROAD WORK AHEAD
"LANE CLOSED AHEAD" SIGN	LANE
"RIGHT LANE CLOSED AHEAD" SIGN	RIGHT LANE CLOSED AHEAD
"MERGING TRAFFIC AHEAD" SIGN	
"SIDEWALK CLOSED AHEAD, WAIT FOR ESCORT" SIGN	SIDEWALK CLOSED AHEAD WAIT FOR ESCORE

	TABLES CHART - 2014 MUTCD							
		MINIMUM TAPER LENGTH FOR WIDTH OF OFFSET 12 FEET			MAXIMUM CHANNELIZING DEVICE SPACING			
;	SPEED (S)				X	Y	Z**	
		TANGENT	MERGING	SHIFTING	SHOULDER			
L		2L	L	L/2	L/3	TAPER	TANGENT	CONFLICT
V	/IPH	FT	FT	FT	FT	FT	FT	FT
Г	20	160	80	40	27	20	40	10
Г	25	250	125	63	42	25	50	12
	30	360	180	90	60	30	60	15
	35	490	245	123	82	35	70	17
Γ	40	640	320	160	107	40	80	20
Γ	45	1080	540	270	180	45	90	22
Г	50	1200	600	300	200	50	100	25
	55	1320	660	330	220	50	100	25
	60	1440	720	360	240	50	100	25
	65	1560	780	390	260	50	100	25
	70	1680	840	420	280	50	100	25
	75	1800	900	450	300	50	100	25

\* - FOR OTHER OFFSETS, USE THE FOLLOWING MERGING TAPER LENGTH FORMULA FOR L:

FOR SPEED OF 40 MPH OR LESS,  $L = WS^2 / 60$ 

FOR SPEED OF 45 MPH OR MORE, L = WS

WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING,

OR THE ANTICIPATED OPERATING SPEED IN MPH

\*\* - USE FOR TAPER AND TANGENT SECTIONS WHERE THERE ARE NO PAVEMENT MARKING OR WHERE THERE IS A CONFLICT BETWEEN EXISTING PAVEMENT MARKINGS AND CHANNELIZERS (CA).

# CA MUTCD 2014 TABLE 6C-1

#### MEANING OF LETTER CODES ON TYPICAL APPLICATION DIAGRAMS **DISTANCE BETWEEN SIGN \* ROAD TYPE** В FT FT FT **URBAN - 25 MPH OR LESS** 100 100 100 URBAN - MORE THAN 25 MPH TO 40 MPH 250 250 250 350 URBAN - MORE THAN 40 MPH 350 350 500 500 500 RURAL EXPRESSSWAY / FREEWAY 1000 1500

\* - THE DISTANCES ARE APPROXIMATE, ARE INTENDED FOR GUIDANCE PURPOSES ONLY, AND SHOULD BE APPLIED WITH ENGINEERING JUDGMENT. THESE DSTANCE SHOULD BE ADJUSTED BY THE ENGINEER FOR FIELD CONDITIONS, IF NECESSARY, BY INCREASING OR DECREASING THE RECOMMENDED DISTANCES

PREPARED FOR



2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598



2595 DALLAS PARKWAY, SUITE 300



orgesarcn.con

1478 STONE POINT DRIVE, SUITE 350 ROSEVILLE CA 95661 916 782 7200 TEL 916 773 3037 FAX

	06/28/18	100% CD SUBMITTA
REV	DATE	DESCRIPTION

SITE NAME:

Oakland 233

LOCATION CODE:

446744

POLE NUMBER:

110138814

site address: 892 Fruitvale Ave

Oakland, CA 94601

STAMP

DRAWN BY: DAG CHECK BY: B,K,W, BORGES PROJECT NO.: 7-17511-233

TRAFFIC CONTROL NOTES & DETAILS

SHEET NO

TP-1

17 TRAFFIC CONTROL PLAN

PREPARED FOR



VERIZON WIRELESS 2785 MITCHELL DRIVE WALNUT CREEK, CALIFORNIA 94598

**NEXIUS** 

NEXIUS 2595 DALLAS PARKWAY, SUITE 300 FRISCO, TEXAS 75034



borgesarch.com

1478 STONE POINT DRIVE, SUITE 350 ROSEVILLE CA 95661 916 762 7200 TEL 916 773 3037 FAX

0 06/28/18 100% CD SUBMITAL

REV DATE DESCRIPTION

SITE NAME:

Oakland 233

LOCATION CODE:

446744
POLE NUMBER:

110138814

SITE ADDRESS:

892 Fruitvale Ave Oakland, CA 94601

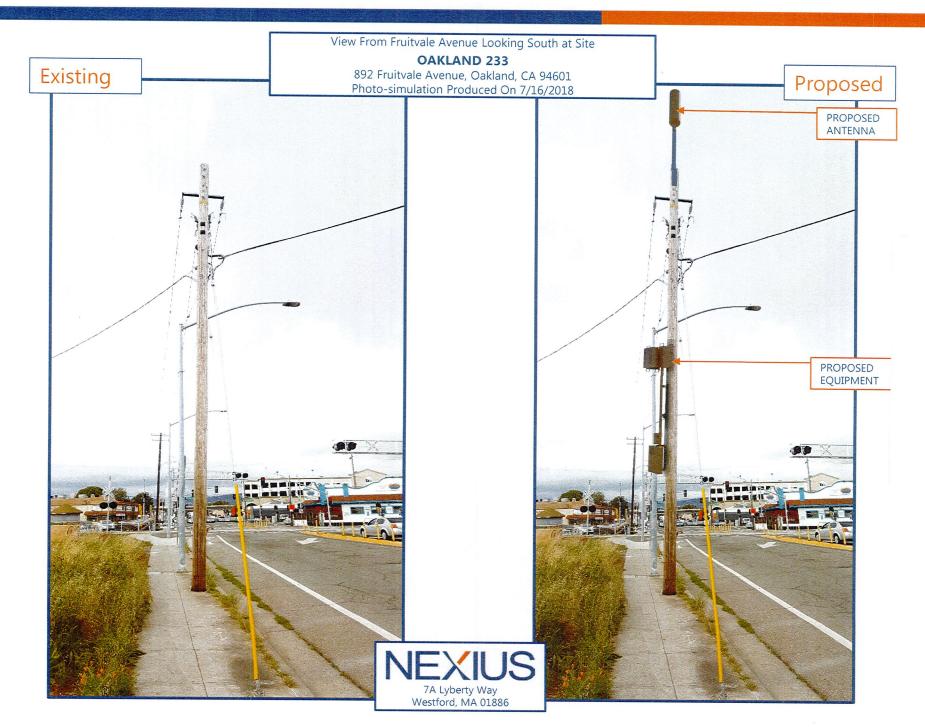
STAMP

DRAWN BY: DAG CHECK BY: B.K.W. BORGES PROJECT NO.: T-17511-233

TRAFFIC CONTROL PLAN

SHEET N

**TP-2** 



# **Attachment E**

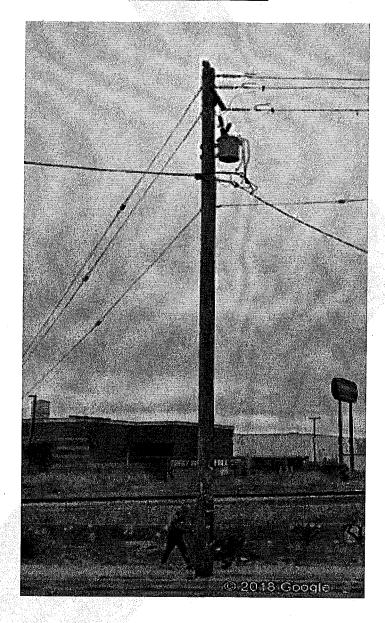
# **NEXIUS**

On behalf of **verizon** 

# **Alternative Site Analysis**

Verizon Site Name: Oakland 233/PLN18-307 Site Address: <u>892 Fruitvale Ave</u>

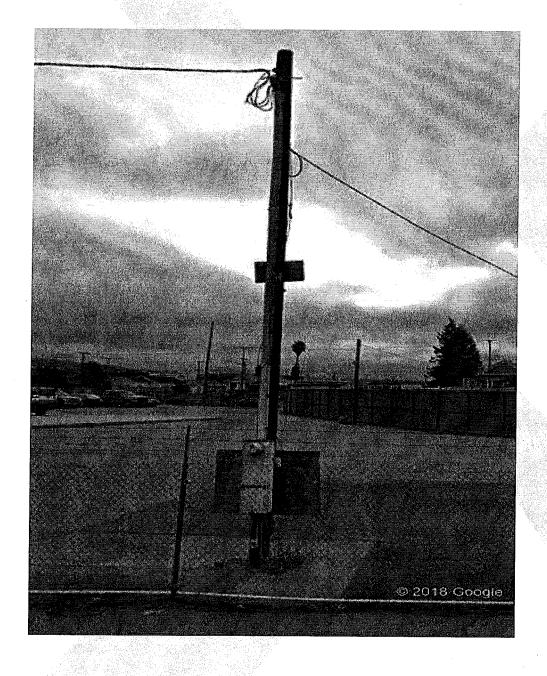
## **Preferred Candidate**



# **Attachment E**

# **NEXIUS**

Alternate #2: Coordinates 37°46'27.24"N/ 122°13'38.65"W Rejected due to age, height and site does not have room for wireless equipment.



# Verizon Wireless • Proposed Small Cell (No. 446746 "Oakland 235") 520 Peterson Street • Oakland, California

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

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate its small cell (No. 446746 "Oakland 235") proposed to be sited in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

## **Executive Summary**

Verizon proposes to install a cylindrical antenna on a utility pole sited in the public right-of-way near 520 Peterson Street in Oakland. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

#### **Prevailing Exposure Standard**

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's human 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 FCC limit for exposures of unlimited duration to radio frequency energy for various wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5-80 GHz	$5.00 \text{ mW/cm}^2$	$1.00 \text{ mW/cm}^2$
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

Power line frequencies (60 Hz) are well below the applicable range of this standard, and there is considered to be no compounding effect from simultaneous exposure to power line and radio frequency fields.

#### **General Facility Requirements**

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios") 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 typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to



# Verizon Wireless • Proposed Small Cell (No. 446746 "Oakland 235") 520 Peterson Street • Oakland, California

guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use, be provided to all authorized personnel who have access to the antenna. No access within 4 feet at the same height as the Verizon antenna, such as might occur during certain maintenance activities at the top of the pole, should be allowed while the small cell is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that an explanatory sign\* be posted at the antenna and/or on the pole below the antenna, readily visible from any angle of approach to persons who might need to work within that distance.

#### Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by Verizon Wireless near 520 Peterson Street 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 small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

#### **Authorship**

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2019. 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.

June 13, 2018

<sup>\*</sup> Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required. Signage may also need to comply with the requirements of California Public Utilities Commission General Order No. 95.



## RFR.CALC<sup>™</sup> Calculation Methodology

## Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

#### Near Field.

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

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

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

where  $\theta_{BW}$  = half-power beamwidth of the antenna, in degrees, and

P<sub>net</sub> = net power input to the antenna, in watts,

D = distance from antenna, in meters,

h = aperture height of the antenna, in meters, and

 $\eta$  = aperture efficiency (unitless, typically 0.5-0.8).

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

#### Far Field.

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

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

where ERP = total ERP (all polarizations), in kilowatts,

RFF = relative field factor at the direction to the actual point of calculation, and

D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 ( $1.6 \times 1.6 = 2.56$ ). 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.



#### 8 of 8 DOCUMENTS

Application of GTE Mobilnet of California, Inc. for a certificate to resell cellular mobile telecommunications service

Decision No. 85-04-008, Application No. 85-02-021 (Filed February 5, 1985; amended March 12, 1985)

California Public Utilities Commission

1985 Cal. PUC LEXIS 157; 17 CPUC2d 492

April 3, 1985

**PANEL:** [\*1]

Donald Vial, President; Victor Calvo, Priscilla C. Grew, William T. Bagley, Frederick R. Duda, Commissioners

**OPINION: OPINION** 

Summary

GTE Mobilnet of California, Inc. (GTEM-California), a subsidiary of GTE Mobilnet (GTEM) is granted a certificate to resell cellular mobile radiotelephone service, subject to restrictions on separation of functions between applicant and its parent.

Background

Applicant's parent corporation, GTEM, was awarded a certificate to provide wireline cellular mobile radiotelephone service in the San Francisco-Oakland and San Jose Metropolitan areas. (GTE Mobilnet, Decision 84-11-029, November 7, 1984, Application 83-07-04.)

The decision established wholesale rates only and denied GTEM retail rates because of problems discussed in that decision. Ordering paragraph eight of that decision reads as follows:

"On or after the effective date of this decision, GTEM is authorized to apply for authority to conduct business as a reseller of cellular mobile radiotelephone service through a separate subsidiary."

This application is in response to that order. It should be well noted that this application requests for reseller authority throughout California and not just for [\*2] the San Francisco-Oakland and San Jose cellular geographic service area (CGSA). We have to date issued resellers statewide certificates, with the exception that we have not permitted a reseller which is an affiliate of a carrier to resell in the same CGSA when that carrier has its own retail department.

Qualifications of Applicant

For the present, applicant proposes strictly a resale operation and has no present plans to construct its own communications facilities.

In its first amendment to the application, it estimates its year-end customers as 3,679 for the first year, increasing to 7,807 for the fifth year. It anticipates revenues from those customers of approximately \$ 294,000 for the first year, increasing to slightly in excess of \$ 1.4 million for the fifth year. Its total operating expenses are estimated at approximately \$ 415,000 for the first year, growing to in excess of \$ 1.3 million for the fifth year. Based upon those figures, it estimates its net loss as \$ 656,000 for the first year, and a net income of \$ 540,000 for the fifth year. The first year figures mentioned are for a partial year.

With the amended application, GTEM-California also furnished a pro forma [\*3] balance sheet estimating total liability and shareholders' equity remaining constant at \$19,000 for the first five years, with assets increasing from \$565,000 to \$1,493,000 by the fifth year. We note that \$1,235,000 of the fifth year projection is accounts receivable. This is a large percentage but is traceable to the fact that it would be normal for a reseller of telecommunications services to have a revolving amount of accounts receivable from its customers.

Applicant has demonstrated financial fitness and, by its affiliation with its parent, has the technical proficiency to operate the proposed business.

#### Separation of Functions

In GTE Mobilnet, supra, we stated that there might possibly be certain exceptions to full separation. The decision noted that in General Telephone Company (D.84-07-108, July 18, 1984, A.83-07-02) we faced the problem of cost allocations for that company's customer premises equipment, and that after ordering structural separation, we allowed sharing of resources for:

- 1. Corporate officers, directors, and headquarters support staff.
- 2. Legal and accounting support for a period of two years.
- 3. Customer billing.

We did not specifically approve [\*4] those separations before the fact, and stated (GTE Mobilnet, mimeo p. 39):

"We are uncertain at this time whether such exceptions are equally appropriate for the standalone reseller business. We will make that decision when the reseller application is filed, but we wish full separation (physical and financial) for working level or operational activities, and if the applicant proposes any cost-sharing at the executive level or for specific support services, it will bear the task of showing that exemptions from full separation will not burden the Commission with exactly the kind of cost allocation and cross-subsidization issues which we are attempting to avoid."

## (Emphasis added.)

In this application, GTEM-California proposes sharing consisting of three categories. The first appears to be the same as the first item listed above. The second is legal and accounting support with no time limit. The third is customer service. The application contains the following language in support of this proposal:

"The GTE Mobilnet Incorporated headquarters staff, located in Houston, will support both the Applicant and the Partnerships, as it does its subsidiaries and partnerships in other markets [\*5] in which GTE Mobilnet Incorporated has a presence. This support is provided by the legal, regulatory, accounting, marketing support and customer service functions. Any headquarters costs directly incurred for a particular entity will be charged directly; the residual headquarters costs will

be allocated on a basis that reflects San Francisco-Oakland and San Jose activities relative to total activity levels. GTE Mobilnet Incorporated believes that such a sharing arrangement is essential in order to allow the Applicant to achieve economics of scale, to draw upon the significant level of expertise based in Houston and, most importantly, to compete effectively with other retailers of cellular mobile radio telecommunications service in California."

The first item (corporate headquarters, directors, and headquarters support staff) is an acceptable exception and essential to GTEM-California's functioning as a subsidiary rather than as an independent company, but in the regulatory context of which this application is a part, the remaining exceptions are not, and allowing them would make GTEM-California simply a branch of GTEM, rather than a separated subsidiary -- the very result the [\*6] language in GTE Mobilnet sought to avoid.

It is clear that the second item mentioned in General Telephone (legal and accounting) was transitional. Here, there is no purpose served by starting a new operation with transitional sharing. Further, it is not in the public interest because (1) a carrier and a separate reseller may at times have interests adverse to each other, and sharing legal support can cause conflicts of interest, and (2) sharing accounting support would commingle cost and revenue data of two entities which should not share it on such a day-to-day basis.

Regarding the third item, it can be readily seen that customer service is not the same as customer billing. Customer service should not be shared because it will lead to the problem of determining whether cross-subsidy exists in the use of personnel and equipment at the operational level. We believe the same is true for customer billing and, in any case, GTEM should not have operational-level access to GTEM-California's billing information, and vice-versa. n1

n1 We are appreciative of applicant's concerns about economies of scale. If it chooses to do so, applicant may contract with outside companies specializing in billing and other functions, and the above discussion should not be construed as abridging management's discretion in this regard.

[\*7]

In making these determinations, we understand that corporate headquarters must function as a conduit for general, management-level information from both "sides," and such information may be commingled or integrated at that level. The Commission has no desire to prevent top management from acquiring data necessary to make intelligent corporate decisions. But below executive level there must be a real separation (see the emphasized language from GTE Mobilnet, supra) or our ruling in GTE Mobilnet, stemming from the problems discussed in that decision, will become meaningless.

Rates and Tariffs

GTEM-California proposes the following retail rates:

Monthly access charge\$ 45.00Peak minute usage0.45Off-peak minute usage0.20

These rates are, on their face, reasonable, and will be allowed to go into effect. Other competing resellers have proposed similar or identical rates. As we have stated in previous decisions, we consider the business of reselling cellular mobile communications service to be

competitive and look primarily to the marketplace for rate regulation. The fact that, at the outset, basic rates are identical or similar should not be taken as our adopting [\*8] a "model" rate structure.

In Decision (D.) 84-04-014, concerning the Los Angeles SMSA Limited Partnership (Partnership), we did review in detail retail tariff provisions, and, as we have stated in other decisions concerning resellers which we are today issuing along with this decision, it is our intent that such tariff provisions be used as a model for other resellers in California. Consequently, we will require the filing of retail tariffs generally similar to the retail provisions authorized by D.84-04-014 and filed by the Partnership.

We recognize that the tariffs as a whole may be somewhat abbreviated from those of the Partnership; however, they must include the usual Table of Contents, Preliminary Statement, Rate Schedules, List of Contracts and Deviations, Rules, and Sample Forms, as prescribed in Section II of General Order (GO) Series 96. We will permit an initial filing to contain only the Preliminary Statement, Table of Contents, and Rate Schedules, to be effective on five days' notice; the remaining material will be prepared promptly and transmitted to the Commission staff by advice letter for review and filing per GO SEries 96. We will authorize GTE-California to [\*9] deviate from the page numbering system prescribed by GO Series 96, Section II.C(1)(b), and to substitute the system generally employed by the major wireline exchange carriers at its election. n2

n2 The alternate system is described in Commission Resolutions U-275 (March 25, 1947) and T-4886 (February 26, 1962).

Applicant and other resellers of cellular services have asked that the Commission exempt them from requirements of GO Series 96, Sections IV, V, and VI.

There is merit to the arguments presented by resellers that the Commission consider some modifications of GO Series 96. The basic purpose of Sections IV, V, and VI of GO Series 96 is to provide an orderly procedure to control the rates and services of a monopoly utility. These rules are subject to revision where the Commission deems necessary.

In this case, we are not dealing with a monopoly situation. At this time, it appears that the cellular market will be a highly competitive one. The basic scheme established by the Federal Communications Commission allowing two major carriers, one wireline and one nonwireline, to operate in the same territory, coupled with the provisions for the wholesale marketing of this service, [\*10] is designed to promote vigorous competition in cellular markets.

Under these circumstances, our traditional tariff filing requirement of a 30-day review period should not be necessary. Indeed, in a new and dynamic market such as cellular telephone, this requirement could impede the provisions of rates and schedules which are responsive to customer needs. We will of course monitor the cellular market and if we find abusive or unfair practices by resellers, we will take corrective action aimed at eliminating such practices. Therefore, we will permit all resellers to make the requested tariff changes on 15 days' notice.

Copies of the application were served on potential competitors within California and no protests were received.

Upon certification by this Commission, GTEM-California will be subject to reporting requirements deemed appropriate by this Commission. One of these requirements is the manner in which records are kept.

The Commission is currently developing a Uniform System of Accounts for cellular communications companies. Until a uniform accounting system for cellular companies has been prescribed, the Commission will not issue detailed account instructions. Each [\*11] cellular communications company will, however, be expected to maintain its books in such detail that financial data relating to its operations can be assembled upon request:

- 1. Revenue and expenses of utility operations should be segregated from nonutility operations.
- 2. Charges from affiliates should be broken down so that each kind of charge can be identified.
- 3. Revenue accounts should be appropriately subdivided (access, peak, off-peak, service order charges, custom calling, directory listing, etc.).
- 4. Expense accounts should be grouped to provide a total for sales and marketing expense. This would include, in subaccounts, advertising, promotion and incentives, sales salaries and commissions, sales vehicle expense, etc.
- 5. General and administrative expenses should be subdivided to identify rent and lease expense, billing expense, salaries, insurance, and other appropriate subdivisions.
  - 6. Other significant costs, such as unsold numbers inventory, should be separately identified.

GTEM-California will be directed to file an annual report with the Commission, in a form prescribed by the Commission. Although GTEM-California will be expected to have detailed operating [\*12] information available in its records, for competitive reasons it may not be required to disclose such detail in its filed annual reports.

D.85-01-008 (January 3, 1985, A.84-03-92) granted resellers exemption from Public Utilities (PU) Code §§ 816-830 (issuance of stocks and bonds). We continued our regulation of acquisition of controlling interests under PU Code §§ 851-855, and further proceedings in that application will decide what regulation will apply to certain other transactions governed by §§ 851-855. This applicant will be treated the same as other resellers in this regard.

GTEM-California is subject to the fee system set forth in  $PUCode \S\S 401$ , et seq. n3 By Resolution M-4735, the Commission set the fee level for telephone corporations at 0.10 of 1% (0.0010) of revenue subject to the fee, prescribed the method of remitting the fee, and directed the application of a billing surcharge of 0.10% to customer billings. Applicant will be ordered to provide in its tariff rules for the imposition of this surcharge.

n3 In D.84-04-014 in A.83-01-012, we determined that resellers of cellular service area telephone corporations under PU §§ 216(b), 233, and 234, and are subject to our jurisdiction. [\*13]

Findings of Fact

- 1. GTEM-California has the ability, experience, equipment, and financial resources to perform the proposed service.
  - 2. Public convenience and necessity require the service proposed by GTEM-California.
- 3. GTEM-California should file a set of tariffs similar in scope to the retail tariffs set forth in D.84-04-014 for the Partnership.

- 4. The time constraints of Sections IV, V, and VI of GO Series 96 are unduly restrictive at this time.
  - 5. At this time, it appears that the cellular market will be a highly competitive one.
- 6. GTEM-California's proposed operations will provide competition in the cellular radio service market which will benefit the public at large.
- 7. While it is reasonable to allow headquarters functions of GTEM and GTEM-California to be combined, it is unreasonable and not in the interest of equal competition among resellers to allow the combining of certain operational-level functions as proposed in the application.
- 8. It can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.
- 9. GTEM-California should keep its records in the detail described in the opinion [\*14] section of this decision.
  - 10. There are no protests and a public hearing is not necessary.

#### Conclusions of Law

- 1. The application should be granted as provided in the order which follows.
- 2. GTEM-California should be exempt from the provisions of Sections IV, V, and VI of this Commission's GO Series 96 and may file tariff revisions to become effective on 15 days' notice.
  - 3. GTEM-California is subject to the fee set forth in PU Code §§ 401, et seq.
  - 4. Applicant should be exempted from the requirements of PU Code §§ 816-830.
- 5. The appropriate surcharge pursuant to Conclusion of Law 3 is 0.1% for the fiscal year 1984-1985.
  - 6. Because of the immediate need for the service, the order should become effective today.

The certificate hereinafter granted is subject to the provision of law that the Commission shall have no power to authorize the capitalization of this CPC&N or the right to own, operate, or enjoy such CPC&N in excess of the amount (exclusive of any tax or annual charge) actually paid to the State as the consideration for the issuance of such CPC&N or right.

#### **ORDER**

#### IT IS ORDERED that:

- 1. A certificate of public convenience and necessity is granted to GTE Mobilnet [\*15] of California, Inc. (GTEM-California) to operate as a reseller of cellular radio telecommunications services within California.
- 2. On or after the effective date of this order, GTEM-California is authorized to file tariff schedules for the resale of cellular mobile radiotelephone service in California. Service may not be offered until tariffs are on file. This filing shall comply with General Order (GO) Series 96, except that GTEM-California is authorized to employ the alternate method of page numbering described in Resolutions U-275 and T-4886 at its election. The initial filing shall contain at least the Preliminary Statement, Table of Contents, and Rate Schedules, the rates and charges to be those requested by GTEM-California in its application, together with the remaining retail rates and charges authorized

to the Los Angeles SMSA Limited Partnership by Decision 84-04-014, the filing to be effective on not less than five days' notice. GTEM-California shall file the remaining tariff schedules, to include rules and forms as prescribed by GO Series 96, no later than 10 days following the effective date of this order, to be effective on not less than five days' notice. The [\*16] tariff shall provide for a user fee surcharge of 0.10% for the fiscal year 1984-1985. Failure to file the tariff may result in revocation of the authority granted here.

- 3. GTEM-California shall keep its records as detailed on pages 7 and 8 of this decision.
- 4. GTEM-California shall maintain separate operational and working-level functions as discussed in the opinion.
  - 5. GTEM-California is granted exemption from the requirements of PU Code §§ 816-830.
- 6. The certificate of public convenience and necessity is granted as set forth above; GTEM-California is exempted, in part, from the provisions of Sections IV, V, and VI of GO Series 96. The certificate granted and the authority to render service under the rates, rules, and charges authorized will expire if not exercised within 12 months after the effective date of this order.
- 7. Within 10 days after this order is effective GTEM-California shall file a written acceptance of the certificate granted in this proceeding.
  - 8. The application is granted as set forth above, and otherwise denied.

This order is effective today.

Dated April 3, 1985, [\*17] at San Francisco, California.

## **Legal Topics:**

For related research and practice materials, see the following legal topics: Communications LawResale of ServicesCommunications LawTelephone ServicesCellular ServicesEnergy & Utilities LawUtility CompaniesGeneral Overview

