Case File Number: PLN17-422 December 6, 2017

Location: The public right of way adjacent to 6898 Chabot Road on a JPA

**Utility Telephone Pole (See map on reverse)** 

Assessor Parcel Numbers: 048A-7093-003-01 (nearest lot adjacent to the project site)

Installation of a wireless telecommunication facility on a wooden utility

pole located in the public right-of-way. The project involves

replacement of an existing 24' tall wood utility pole with 50'-9" tall pole and installation of 1) one antenna within a canister shroud measuring 4'-

9" tall and 2'-6" in diameter at a height of 50'-9"; 2) two radio units mounted at a height of 18'; two diplexers; and 3) one cabinet and related

equipment mounted 14'-9" above ground.

Applicant: On Air for Verizon Wireless

Contact Person/ Phone Aaron Salers

Proposal:

**Number:** (707) 320-7248

Owner: Pacific Gas & Electric (PG&E)

Case File Number: PLN17-422

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

Facility on a replaced PG&E pole located in the public right -of- way in

a residential zone.

General Plan: Hillside Residential

Zoning: RH-3 Hillside Residential-3

Environmental Exempt, Section 15303 of the State CEQA Guidelines; minor additions

**Determination:** and alterations to a replaced PG&E utility pole; Section 15302:

replacement or reconstruction of existing utility systems and/or facilities; Section 15183: projects consistent with a community plan,

general plan or zoning.

Historic Status: No Historic Record - Utility Pole

Service Delivery District: 2

City Council District: 1

Date Filed: October 23, 2017

Finality of Decision: Appealable to City Council within 10 Days

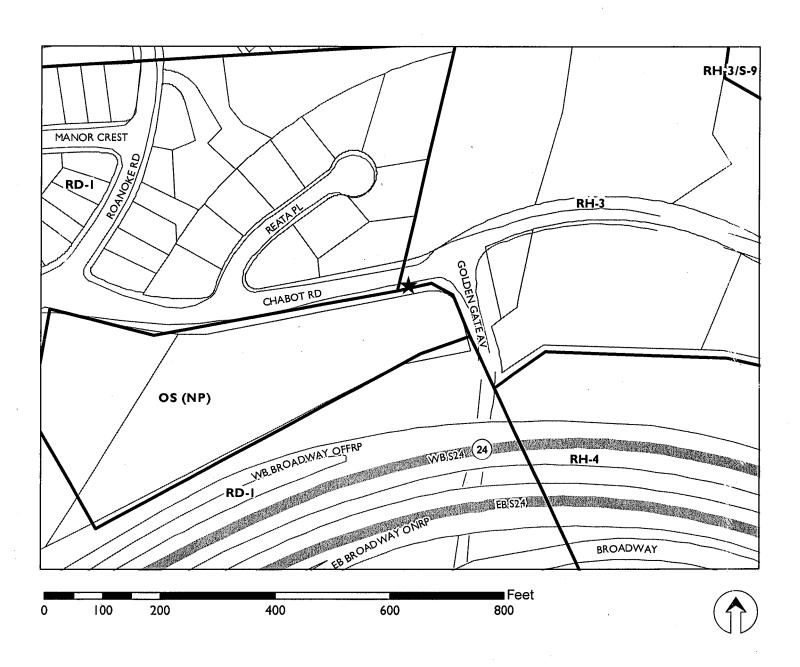
For Further Information: Contact case planner Jason Madani at (510) 238-4790 or

imadani@oaklandnet.com

#### **SUMMARY**

The project applicant (On Air for Verizon Wireless) is proposing to install a wireless telecommunication facility located in the public right-of-way near 6898 Chabot Road. The project involves replacement of an existing 24' tall wood utility pole at the same location with a 50'-9" tall pole and installation of 1) one antenna within a canister shroud measuring 4'-9" tall and 2'-6" in diameter at a height of 50'-9"; 2) two radio units mounted at a height of 17'-9"; 3) two diplexers; and 4) one cabinet and related equipment mounted 14'-9" above ground. Major Design Review is required for the installation of a new Macro Telecommunications Facility in a residential zone. The proposed new pole, antenna and associated equipment are similar to other utility poles and equipment within the same block and around the City. The proposed pole is located adjacent to public tennis courts and is across street from adjacent residences. 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

## CITY OF OAKLAND PLANNING COMMISSION



Case File: PLN 17422

Applicant: On Air for Verizon Wireless

Address: The public right-of-way adjacent to 6898 Chabot Rd

on a JPA Utility Telephone Pole

Zone: RH-3

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would not significantly increase negative visual impacts to adjacent neighboring residential properties. The project meets all the required findings for approval of the project.

## 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 in order 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 24' tall wooden PG&E utility pole is located in the City of Oakland public right-of-way adjacent to tennis courts and is across street from the residence at 6898 Chabot Road.

#### PROJECT DESCRIPTION

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

- Replace an existing 24' tall wooden PG&E utility pole with a new 50'-9" tall wood utility pole in the same location,
- Install one canister antenna within an antenna shroud measuring 4'-9" tall and 2'-6" in diameter mounted at a height of 51',
- Install two radio units measuring 27.2" tall and 12.1" wide mounted at a height of 18' above ground,
- Install two diplexers,
- Install one cabinet and related equipment mounted 14'-9" 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 Hillside Residential per the Oakland General Plan's Land Use and Transportation Element (LUTE). This classification is intended to create, maintain, and enhance neighborhood residential areas typically that are characterized by detached, single unit structures on hillside lots. "Future development within this classification should be primarily residential in character."

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 RH-3 zone. The intent of the RH-3 Zone is to create, maintain, and enhance areas with detached, single unit on lots of at least structures. This classification is intended to create, maintain, and enhance areas for single-family dwellings on hillside lots. "Future development within this classification should be primarily residential in character."

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 in the RH-3 Zone or that are located within one hundred (100) feet of the boundary of any residential 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

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environmental review requirements pursuant to Section 15301, minor additions and alterations to an existing PG&E utility pole; Section 15302, replacement or reconstruction of existing utility systems and/or facilities; Section 15303, new construction or conversion of small structures, and Section 15183, projects consistent with the General Plan or Zoning.

#### **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 or C ranked preference do not require a site alternatives analysis. Since the proposed project involves the replacement of the utility pole and installation of new antenna and radio units within an RH-3 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 in an area with existing residential structures and public tennis courts. 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.

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- D. Building or structure mounted antennas above roof line visible from public right of-way.
- E. Monopoles.
- F. Towers.

Facilities designed to meet an A 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 under grounded 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 and location of the replaced pole at the corner, the facility will blend in with the existing utility apparatus on the replaced pole. In addition, the proposed new antenna is located within a shroud screening. Both the antenna and the radio units will be attached above head height, 17'-9" 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 replaced pole will be taller in order to avoid transmission interference between the PG&E and telecommunication equipment.

#### **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

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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 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
- 2. Approve Design Review application, subject to the attached findings and conditions of approval.

Prepared by:

Jason Madani

Planner II

Reviewed by:

Robert Merkamp Acting Zoning Manage

Approved for forwarding to the City Planning Commission

Darin Ranelletti, 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

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G. CPUC Compliance Letter

H. Proof of public notification posting
I. Public comments received by date of packet preparation

#### **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 project involves replacement of an existing 24' tall wooden utility pole with a new 50'-9" tall PG&E utility pole and installation of one antenna within an antenna shroud and two radio units mounted above the cabinet, breaker box and smart meter. The pole will be similar to other wood PG&E poles found in the area and throughout the City. In addition, the proposed antennas and radio units will be typical of the utility equipment found on these poles, located high up on the pole, oriented toward the street and painted grey or brown to match the pole or other equipment. The replaced pole will be taller than the existing pole but the additional height is necessary to avoid interference between the PG&E and telecommunication equipment. 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 as Hillside Residential per the Oakland General Plan's Land Use and Transportation Element (LUTE). This classification is intended to create, maintain, and enhance neighborhood residential areas typically that are characterized by detached, single unit structures on hillside lots. "Future development within this classification should be primarily residential in character."

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 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

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proposed antenna will be placed on top of the utility pole within public right-of-way and is located across the street from the residence at 6898 Chabot Road and painted to match either the pole or utilities. The replaced pole will be taller than the existing pole but is necessary to avoid interference between the PG&E and telecommunication equipment. As result, the proposal is consistent telecommunication regulation requirements, is in an 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 a replaced 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 a replaced 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.

N/A

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 50'-9" on a replaced PG&E utility pole and will not be accessible to the public due to its location. The radio unit equipment will be attached to the pole more than 17'-9" 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 August 1, 2017 and submitted on October 23, 2017 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

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reconstruction, permit revocation, permit modification, stop work, permit suspension, or other 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

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At least one (1) copy of the stamped approved plans, along with the Approval Letter and Conditions of Approval, shall be available for review at the job site at all times.

## 11. <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

<u>Requirement</u>: 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.

#### **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 Applica	_ nt
Date	

## CHABOT TUNNEL SC1



(NEAR) 6898 CHABOT ROAD OAKLAND, CA 94618

PSL #318887

#### **Attachment C**

#### SITE INFORMATION

PSL #: OWNER: 318887

245 MARKET STREET SAN FRANCISCO, CA 94110 CONTACT: MARK ANDERSON TEL (925) 459-8052

APPLICANT:

VERIZON WIRELESS 2785 MITCHELL DRIVE, SUITE 9 WALNUT CREEK, CA 94598

AGENT:

SUITE 101 SONOMA CA 95476

ON AIR LLC

APN ADJACENCY: SITE ADDRESS:

(NEAR) 6898 CHABOT ROAD OAKLAND, CA 94618

(ADJACENT TO) 048A-7093-003-1

ZONING:

ALAMEDA COUNTY PUBLIC ROW

ZONING JURISDICTION: CITY OF OAKLAND

# VICINITY MAP Claremont Club SITE

#### **CODE COMPLIANCE**

CONSTRUCTION WORKS AND MATERIALS MUST COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY LOCAL JURISDICTION, INCLUDING BUT NOT LIMITED TO:

- CALIFORNIA CODE OF REGULATIONS
- 2016 CALIFORNIA BUILDING CODE
- 2016 CALIFORNIA MECHANICAL CODE
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRIC CODE 2016 GREEN CODE
- 2016 EDITION OF TITLE 24 ENERGY STANDARDS
- ANY LOCAL BUILDING CODE AMENDMENTS TO THE ABOVE
- CITY / COUNTY ORDINANCES
- 2016 CALIFORNIA FIRE CODES WITH ALL LOCAL AMENDMENTS

GO 95

#### **DRIVING DIRECTIONS**

#### **DIRECTIONS FROM VERIZON WIRELESS RF MARKET OFFICE:**

- 1. DEPART MITCHELL DR TOWARD N WIGET LN
- 2. TURN LEFT ONTO N WIGET LN
- 3. TURN RIGHT ONTO YGNACIO VALLEY RD
- 4. PASS SHELL IN 1.0 MI
- 5. ROAD NAME CHANGES TO HILLSIDE AVE
- 6. TAKE RAMP RIGHT FOR CA-24 WEST TOWARD OAKLAND
- 7. TAKE RAMP RIGHT TOWARD COLLEGE AVENUE
- 8. TURN RIGHT ONTO PRESLEY AVE
- 9. TURN RIGHT ONTO CHABOT RD
- 10. KEEP RIGHT TO STAY ON CHABOT RD
- 11. ARRIVE AT CHAROT RD
- 12. THE LAST INTERSECTION IS REATA PL
- 13. IF YOU REACH GOLDEN GATE AVE, YOU'VE GONE TOO FAR

#### **PROJECT TEAM**

#### ON AIR, LLC

SUITE 101 SONOMA, CA 95476

#### PROJECT MGR: AARON SALARS

MOBILE: (707) 320,7248

#### CONSTRUCTION MANAGER: MOHAMMAD A. BASEER

MOBILE: (510) 414,7075

#### SITE ACQUISITION MGR: AARON SALARS

OFFICE: (707) 933.9633

#### ARCHITECT/ENGINEER

PROJECT MANAGER: RODNEY BARNES MERIDIAN MANAGEMENT, INC. MOBILE: (707) 592-5924 EMAIL: rodney@meridian.manager

#### **VERIZON WIRELESS**

VERIZON WIRELESS 2785 MITCHELL DRIVE BUILDING 9 WALNUT CREEK, CA 94598

PROJECT MANAGER:

#### HANDICAP REQUIREMENTS

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
HANDICAPPED ACCESS NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA ADMINISTRATIVE STATE CODE PART 2, TITLE 24, CHAPTER 11B, SECTION 1103B.



#### PROJECT DESCRIPTION

THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE VERIZON WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON A REPLACEMENT WOOD POLE IN THE PUBLIC RIGHT-OF-WAY.

#### SCOPE OF WORK

- INSTALL NEW TELECOMMUNICATIONS EQUIPMENT BOXES ON A NEW 46' HT.
   REPLACEMENT WOOD POLE. ALL POLE-MOUNTED EQUIPMENT TO BE INSTALLED ON A GO95 COMPLIANT STANDOFF BRACKET.
- 2. EQUIPMENT CONSISTS OF (1) ELECTRIC METER, (2) DISCONNECT SWITCHES, (1) BUSSBAR, (1) SMALL CELL CABINET, (2) AWS/PCS DIPLEXERS, (6) HYBRID COMBINERS, (1) CHRISTY PULL BOX, (2) RRUS AND (1) ANTENNA W/ RADOME SHROUD ON TOP OF POLE. INSTALL POLE STEPS AS REQUIRED
- ALL EQUIPMENT TO BE PAINTED SHERWIN WILLIAMS MESA BROWN
- UTILITY SERVICE TO BE FROM EITHER OVERHEAD OR UNDERGROUND.

#### DRAWING INDEX

SHEET NO:	SHEET TITLE
T.1	TITLE SHEET
T.2	GENERAL NOTES, LEGENDS, AND ABBREVIATIONS
C.1	SITE SURVEY
C.2	SITE SURVEY
A.1	OVERALL SITE PLAN
A.2	POLE PLAN ENLARGEMENT, POLE SECTIONS
A.3	ELEVATIONS
A.4	ELEVATIONS
A.5	EQUIPMENT DETAILS
E.1	ELECTRICAL SPECS, NOTES, LEGENDS, AND ABBREVIATIONS
E.2	SINGLE LINE DIAGRAM, BUSS DIAGRAM, PANEL SCHEDULE
E.3	POLE GROUNDING, ELECTRICAL DETAILS

#### **ADMINISTRATIVE REQUIREMENTS**

CONTRACTOR SHALL VERIFY ALL PLANS & (E) DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME IF USING 11"X17" PLOT, DRAWINGS WILL BE HALF SCALE

## verizon/

Verizon Wireless 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598



Project Architect:



100% Construction

**CHABOT TUNNEL SC1** (near) 6898 Chabot Road Oakland, CA 94618

Drawings

PSL# 318887

Site Name:

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

Rev.	Date	Description
01	03/19/17	Constr. Dwgs 90%
02	05/05/17	Constr. Dwgs 100%
03	05/24/17	Constr. Dwgs 100%
04	08/01/17	Constr. Dwgs 100%

Project No.:

Date: 08/01/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

TITLE SHEET

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#### GENERAL CONSTRUCTION NOTES

- PLANS ARE INTENDED TO BE DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL CONTACT USA (UNDERGROUND SERVICE ALERT) AT (800) 227-2600, FOR UTILITY LOCATIONS, 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS
  SPECIFICALLY INDICATED OTHERWISE, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CBC / UBC'S REQUIREMENTS REGARDING EARTHQUAKE RESISTANCE, FOR, BUT NOT LIMITED TO, PIPING, LIGHT EXTURES, CEILING GRID, INTERIOR PARTITIONS, AND MECHANICAL EQUIPMENT, ALL WORK MUST COMPLY WITH LOCAL EARTHQUAKE CODES AND REQUILATIONS.
- 6. REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWINGS, SHALL NOT BE USED TO IDENTIFY OR NOT RECEIVED FOR THE MORTH AT THE SIRE. THE CONTRACTOR SHALL RELY SOLE ELEMENTS OF SURVEY DRAWINGS, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH BEARING OF TRUE NORTH AT THE SIRE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SIRE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT, TE RIGHER PRIOR TO PROCEEDING WITH THE WORKING DRAWING AND THE THE MORTH OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPCIED ON THE CIVIL SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ACCHITECT, CARCHITECT.
- 7. THE BUILDING DEPARTMENT ISSUING THE PERMITS SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK, OR AS OTHERWISE STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
- 8. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
- 9. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON THE PLAN HAVE BEEN PLOTTED FROM AVAILABLE RECORDS ALL CASHING ORDINES, PACLIDIES, CUMPIONS, AND THE WINDERSONS SHOWN ON THE PLAN HAVE BEEN PLOTTED FROM AVAILABLE RECOR THE ARCHIECT / ENGINEER AND THE OWNER ASSIME NO RESPONSIBILITY WHATSOEVER AT 10 THE SUFFICIENCY OF THE INFORMATION SHOWN ON THE PLANS, OR THE MANNER OF THEIR REMOVAL OR AD JUSTIMENT, CONTRACTORS SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND DECLINES PRIOR TO START OF CONSTRUCTION, CONTRACTORS SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADMINISTRACTIVES UTILITY.
- 10. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES. BOTH HORIZONTAL AND VERTICALLY, PRIOR TO THE START OF CONSTRUCTION, ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT / ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT / ENGINEER, FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIGHER OWN RISK AND
- 11. ALL (N) AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
- 12. ANY DRAIN AND/OR FIELD TILE ENCOUNTERED / DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO IT'S ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE. LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON "AS-BUILT" DRAWINGS BY GENERAL CONTRACTOR, AND ISSUED TO THE ARCHITECT / ENGINEER AT COMPLETION OF PROJECT.

GROUT OR PLASTER

(E) BRICK

CONCRETE

EARTH

PLYWOOD

WOOD CONT

WOOD BLOCKING

PROPERTY/LEASE LINE

OVERHEAD SERVICE CONDUCTORS

OVERHEAD ELEPHONE/OVERHEAD POWER

OVERHEAD TELEPHONE LINE

OVERHEAD POWER LINE

POWER RUN

SAND

STEFL

CENTERLINE

MATCH LINE

- · · - GROUND CONDUCTOR

- - A - - - COAXIAI CABIE

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- 13. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
- 14. INCLUDE MISC. ITEMS PER VERIZON WIRELESS SPECIFICATIONS

(N) ANTENNA

GROUND ROD

ELECTRIC BOX

LIGHT POLE

END MONIMENT

SPOT ELEVATION

DETAIL REFERENCE

**ELEVATION REFERENCE** 

SECTION REFERENCE

SET POINT

REVISION

**GROUND BUS BAR** 

MECHANICAL GRND. CONN.

GROUND ACCESS WELL

**GENERAL NOTES** 

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#### GENERAL NOTES FOR EXISTING CELL SITES

- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK, ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWNINGS MUST BE VERIFED, SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERENT MATERIAL OF PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION, ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHIDTOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER, PRESONAR RE-PROSOURE NEWEST.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL WILLE EXISTING TRAYS AND/OR SHALL ADD (N) TRAYS AS NECESSARY, SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

#### APPLICABLE CODES, REGULATIONS AND STANDARDS:

TELCO RUN

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EXIT

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T/E — POWER/TELCO RUN

- GROUNDING CONDUCTOR

— — — CONDUIT UNDERGROUND

#WSW232T

#TWSM232T

FUSE, SIZE AND TYPE AS INDICATED.

AFETY SWITCH, 2P-240V-60A W/60A FUSES, NEMA 3R NCLOSURE, SQ D CATALOG NO. H222NRB

MANUAL TRANSFER SWITCH, 2P-240V-200A, NO FUSE, NEMA 3R ENCLOSURE

LIGHTING FIXTURE, FLUORESCENT, 10.94" x 4'-0", 2/40W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG

LIGHTING FIXTURE, FLUORESCENT, 10.94" x 8'-0", 2/95W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG

LIGHTING FIXTURE, HIGH PRESSURE SODIUM, 1/70W, WALL

EXIT SIGN, THERMOPLASTIC LED. SINGLE FACE, UNIVERSAL

MOUNTING, W/BATTERY PACK, HUBBELL LIGHTING CATALOG

EMERGENCY LIGHTING, 2/50W, HUBBELL LIGHTING CATALOG #HE6-50-2-R91

OR 1/50W, HUBBELL LIGHTING CATALOG #NRG-121

COMBINATION, EXIT SIGN & EMERGENCY LIGHTING,

MOUNTING TYPE, HUBBELL LIGHTING CATALOG #NRG-307

— G — GROUNDING CONDUCTOR

- SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION.
- THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN,
- 3. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
- AMERICAN CONCRETE INSTITUTE (ACI) 318 BUILDING CODE PEQUIPEMENTS FOR STRUCTURAL CONCRETE - AMERICAN HANDLE IN STILL THE THIN THE FLAT JIS. BUILDING COUR REJUIREMENTS FOR STRUCTURAL CONCRETE
  - AMERICAN HANDLE OF STEEL CONSTRUCTION JASO, MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
  - TELECOMMUNICATIONS INDUSTRY ASSOCIATION [11A] 222-5. STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA
  SUPPORTING STRUCTURES
  - SUPPORTING STRUCTURES
  - STRUCTURE
- ELECTRICAL EQUIPMENT.
  -IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND
- 5. TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS TELCORDIA GR-63 NETWORK. EQUIPMENT-BUILDING SYSTEM (NESS): PHYSICAL PROTECTION TELCORDIA GR-347 CENTRAL OFFICE POWER WIRING TELCORDIA GR-132 GENERAL INSTALLATION REQUIREMENTS TELCORDIA GR-132 GONALIA CABLE CONNECTIONS
- 6. ANY AND ALL OTHER LOCAL & STATE LAWS AND REGULATIONS
- FOR ANY CONFLICTS BETWEEN SECTIONS OF USED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN, WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

#### GENERAL TRENCHING NOTES

- MAINTAIN 40" MINIMUM COVER FOR ALL ELECTRICAL CONDUITS.

  MAINTAIN 30" MINIMUM COVER FOR ALL TELECOMMUNICATIONS CONDUITS.

  MINIMUM IT SAND SHADING BEGING CONDUITS AND 5" COVERING ON TOP OF CONDUITS REQUIRED.

  ALL ELECTRICAL CONDUITS ROOM FOWER COMPANY FROM ANY POLE, TRANSFORMER OR OTHER LOCATIONS WILL BE SLURRY BACKFILLED.

  IN STREET SLURRY 10 GRADE AND MILL DOWN 1-12" FOR ACCAP.
- IN DIRT SLURRY 18" FROM GRADE AND FILL 95% COMPACTION NATIVE SOIL FOR BALANCE WARNING TAPE TO BE PLACED IN TRENCH 12" ABOVE ALL CONDUITS AND #18 WARNING TAPE ABOVE RING.

#### GENERAL GROUNDING NOTES

- 5/8" x 8" ROD, CAD WELD BELOW GRADE GROUND TESTED AT 5 OHMS OR LESS.
- #5 GROUND AND BOND WIRE
- #5 GROUND AND BOND WIRE.
  GROUNDS 3" FROM POLE.
  PLACE 3 #10 GA WIRES FROM TESCO BREAKER TO PBMD OR STRONG BOX.
  WOOD MOLDING, STAPLED EVERY 3" AND AT EACH END.

#### GENERAL CONDUIT NOTES

- ALL CONDUITS WILL BE MANDRELED AND EQUIPPED WITH 3/8" PULL ROPE. 
  SCHEDULE 40 CONDUIT FOR ROBERGROUND USE. 
  SCHEDULE 80 CONDUIT FOR RAFE USE. 
  2" CALVANUED STEEL CONDUIT FOR ANY CONDUIT UNDER 3", STUB UP 10" THEN CONVERT TO SCHEDULE 80. 
  CONVERT 4" CONDUIT 10" 3" THASE OF POLE.
- CONTRACTOR TO STUB UP POLE 10" w/ 3" POWER CONDUIT. POWER COMPANY TO CONVERT FROM 3" STUB SCHEDULE 80 TO 2"

#### TYPICAL R.O.W. POLE CONSTRUCTION NOTES

AMPERE
ANCHOR BOLT
ANCHOR BOLT
ANTENNA CABLE COVER ASSEMBLY
ADDICIONAL
ABOVE FINISHED FLOOR
ABOVE FINISHED GRADE
ABOVE FINISHED GRADE
ALUMINUM
ALTERNATE
AMPERS TEIN
AMPERS TEIN
AMPERS TEIN
BOARD
BOARD
BOARD
BOARD
BOARD
BOARD
BOARD
BOARD
BOARD
BLOCKING
BLOCKING
BEAM

BRANCH
CABINET
CARINET
CONCERT
CO

GENCY GENERATOR RECEPTACLE

BEAM BOUNDARY NAILING BRANCH

- CABLE NOT TO IMPEDE 15" CLEAR SPACE OFF POLE FACE.

- CABLE NOT TO IMPEDE 15 'CLEAK SPACE OF POLE PACE.

  ALL CLIMS STEPS NETT O CONDIT SHALL HAVE SETENDED STEPS.

  NO BOLT HIREADS TO PROTRUDE MORE THAN 1-1/2'

  ALL HOLES IN POLE LEFT FROM BEARRANGEMENT OF CLIMS STEPS TO BE FILLED.

  90' SHORT SWEEPS UNDER ANTENNA ARM, ALL CABLES MUST TRANSITION ON THE INSIDE OR BOTTOM OF THE ARM (NO CABLE ON ACCOUNTY OF THE ARM ON THE ACCOUNTY OF THE ARM ON THE ACCOUNTY OF THE ACCOUN
- TO GO ARM.

  SET ON CONNECTOR AT CABLE CONNECTION FOR OMNI DOWN ANTENNAS.

  USE 90° CONNECTOR AT CABLE CONNECTION FOR OMNI DOWN ANTENNAS.

  SEE CABLE CLAMPS TO SECURE CABLE TO ARMS, PLACE 2" VERICON WIRELESS CABLE LD. TAGS ON BOTH SIDES OF ARMS.

  USE 1/2" DIA. CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.

  PLACE GPS ON ARM OF SOUTHERN SYST EXPOSURE AT MINIMUM 6" FROM TRANSMIT ANTENNA WHICH IS 24" AWAY FROM CENTER OF

HEIGHT
ISOLATED COPPER GROUND BUS
INCHES)
INCHES)
POUND(S)
LAG BOLTS
LINEAR FEET (FOOT)
LENGTH JOHNAL)
LONG(INDAL)
LONG(INDAL)
LONG(INDAL)
MASONER
MASONER
MASONER
MANUM
MACHINE BOLT
MECHANICAL
MANUM

NUAL TRANSFER SWITCH

PHASE
PLYWOOD
PANELBOARD
POWER PROTECTION CABINET
PRIMARY RADIO CABINET

PRIMARY
POUNDS PER SQUARE FOOT
POUNDS PER SQUARE INCH

SIMILAR
SOLID NEUTRAL
SPECIFICATION(S)
SQUARE
STAINLESS STEEL
STANDARD
STEEL
STRUCTURAL
SURFACE
SWITCH
TELEPHONE
TEMPORARY
HICK(INESS)
TOE NAIL

TYPICAL
UNDER GROUND
UNDERWRITERS LABORATORY INC.
UNLESS NOTED OTHERWISE
VOLT
VOLT ALTERNATING CURRENT
VERIFY IN FIELD

PPC PPLY DPPRC PPLY DP

NATIONAL ELECTRICAL MANUFACTURERS ASSOC. NUMBER NOT 10 SCALE OVERHEAD

- POLE.

  10. FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

## verizon<sup>v</sup>

Verizon Wireless 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598



Project Architect:



100% Construction Drawings

Drawing Phase:

**CHABOT TUNNEL SC1** (near) 6898 Chabot Road Oakland, CA 94618

PSL# 318887

Site Name:

Professional Seal:

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional

Rev.	Date	Description
01	03/19/17	Constr. Dwgs 90%
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Project No.:

Date: 08/01/17 Job No.: Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

GENERAL NOTES, LEGENDS, AND ABBREVIATIONS

Sheet No.

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5/8" X 10'-0" ,CU. GND ROD IN TEST WELL 30" MIN. BELOW GRADE. 0 A

CADWELD CONNECTION

MECHANICAL CONNECTION HALO GROUND CONNECTION

CIRCUIT BREAKER

UTILITY METER BASE

RECEPTACLE, 2P-3W-125V-15A, DUPLEX GROUND TYPE, HUBBEL CATALOG #5362

TOGGLE SWITCH, 1P-125V-15A

TOGGLE SWITCH, 1P-120V-15A, 'WP' IONIZATION SMOKE DETECTOR W/AI ARM

HORN & AUXILIARY CONTACT, 120 VAC. GENTEX PART NO. 7100F

(N) POLE MOUNTED XFMER

(N) PAD MOUNTED XFMER

(E) PAD MOUNTED XFMER

5/8" X 10'-0" ,CU. GND ROD 30" MIN. BELOW GRADE.

LIGHTING FIXTURE, HALOGEN, QUARTZ, 1/300W, HUBBELL

LIGHTING FIXTURE, 1/175W. METAL HALIDE, HUBBELL CAT #MIC-0175H-336

LIGHTING CATALOG #QL-505

8 TRANSFORMER  $\ominus$ S  $S_{w_P}$ (3)

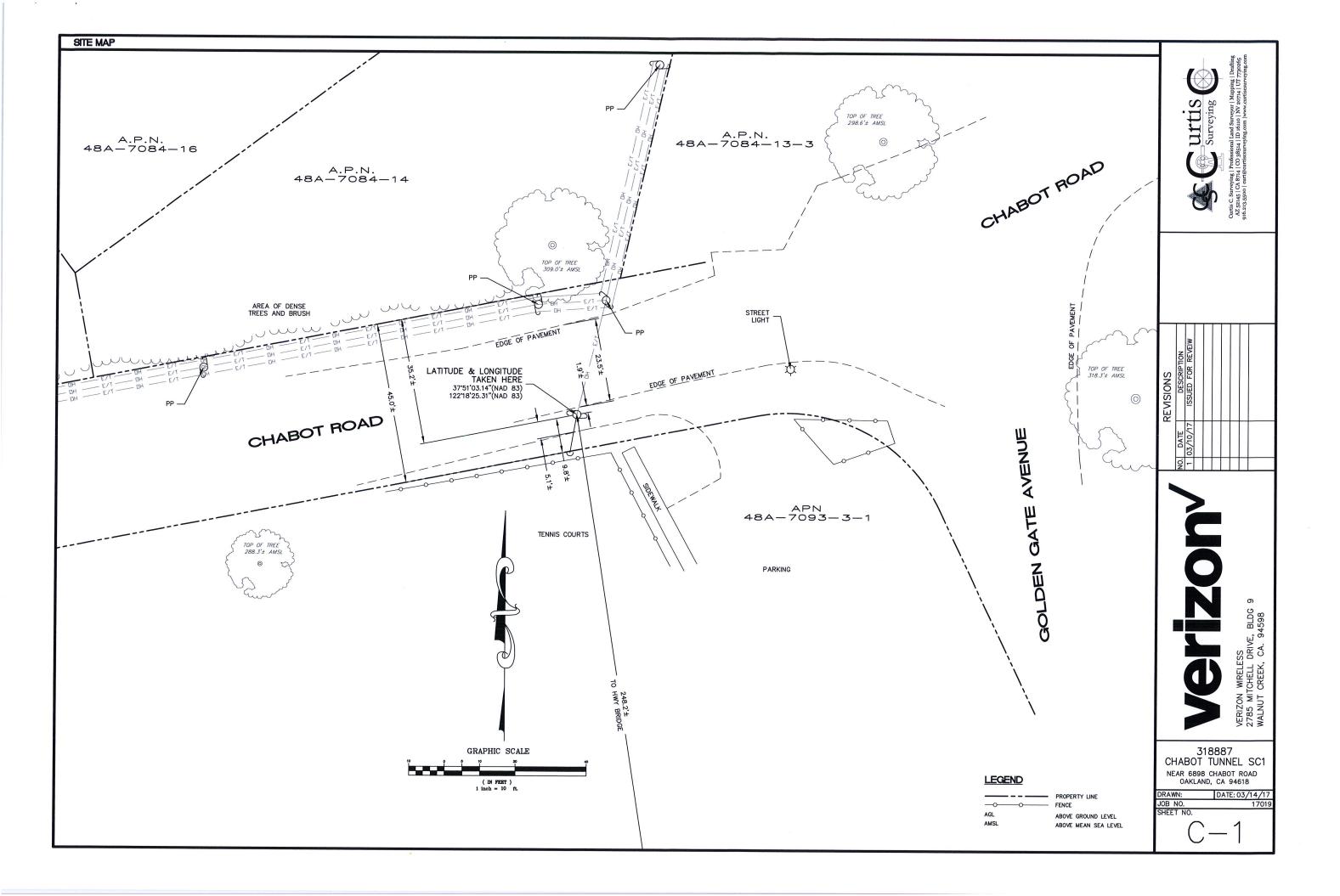
0

 $\triangle$ (E) POLE MOUNTED XFMR

**LEGEND** 

**ABBREVIATIONS** 

A SEV. CLOSE AND A SET OF THE SET



POLE DETAIL TOP OF POLE -EL=280.0'± AMSL HT=24.2'± AGL TOP OF INSULATOR FL=277.2'± AMSL HT=21.4'± AGL



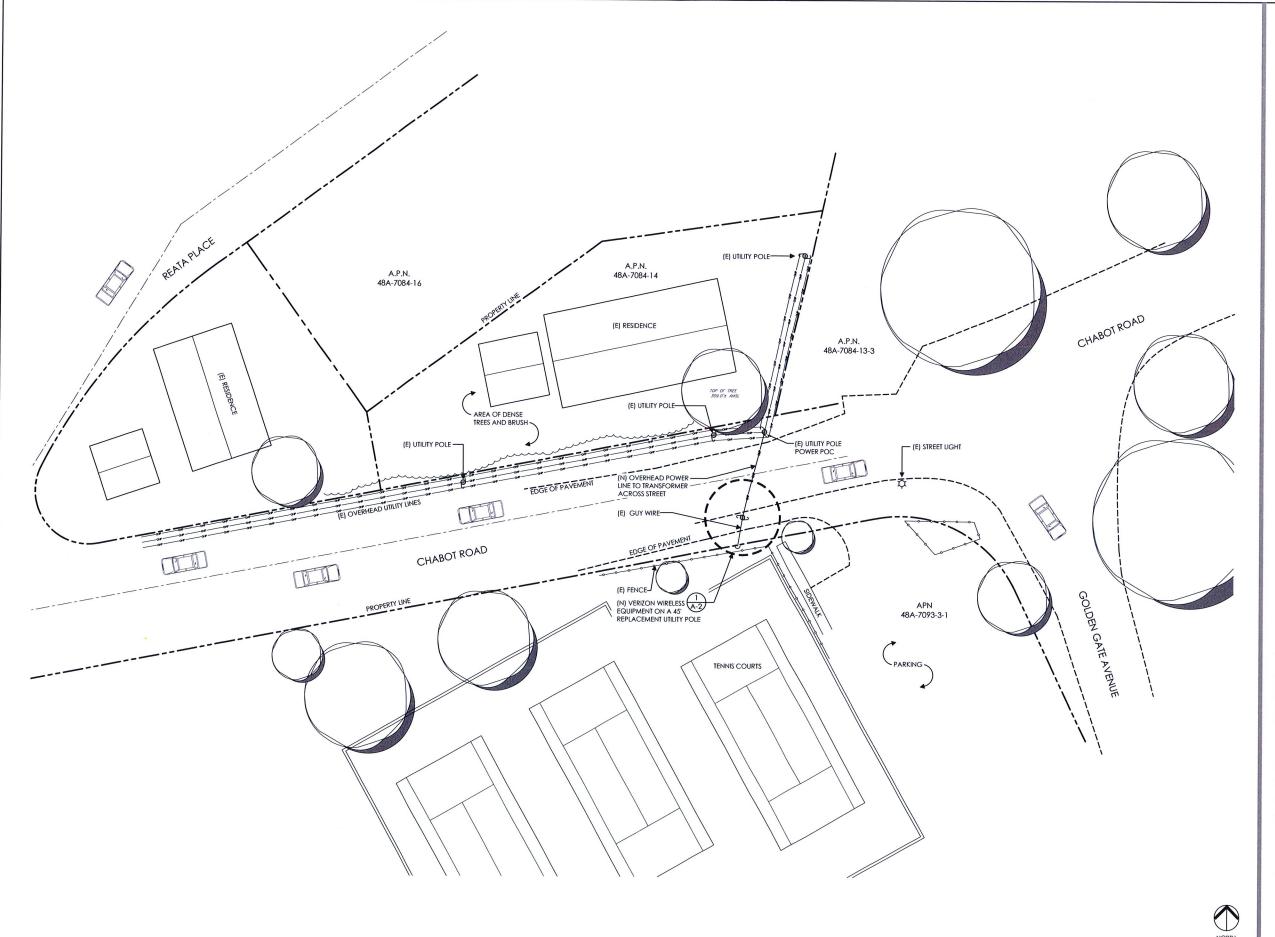
Verizon

**LEGEND** 

AGL AMSL ABOVE GROUND LEVEL ABOVE MEAN SEA LEVEL 318887 CHABOT TUNNEL SC1 NEAR 6898 CHABOT ROAD OAKLAND, CA 94618

DRAWN: DATE: 03/14/17
JOB NO. 17019
SHEET NO.

C-2



OVERALL SITE PLAN



Verizon Wireless 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598

Clie



Project Architect:



485 First St. West, St. Sonome, CA 954 Phone: 707-933-9 Fey: 707-933-96

Site Agen

100% Construction
Drawings
(E) LIGHT POLE
Drawing Phase:

CHABOT TUNNEL SC1 (near) 6898 Chabot Road Oakland, CA 94618

PSL# 318887

Site Name:

Professional Se

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

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Project No.:

Date: 08/01/17 Job No.:

V-12-CA2039

Scale: AS SHOWN CAD File:

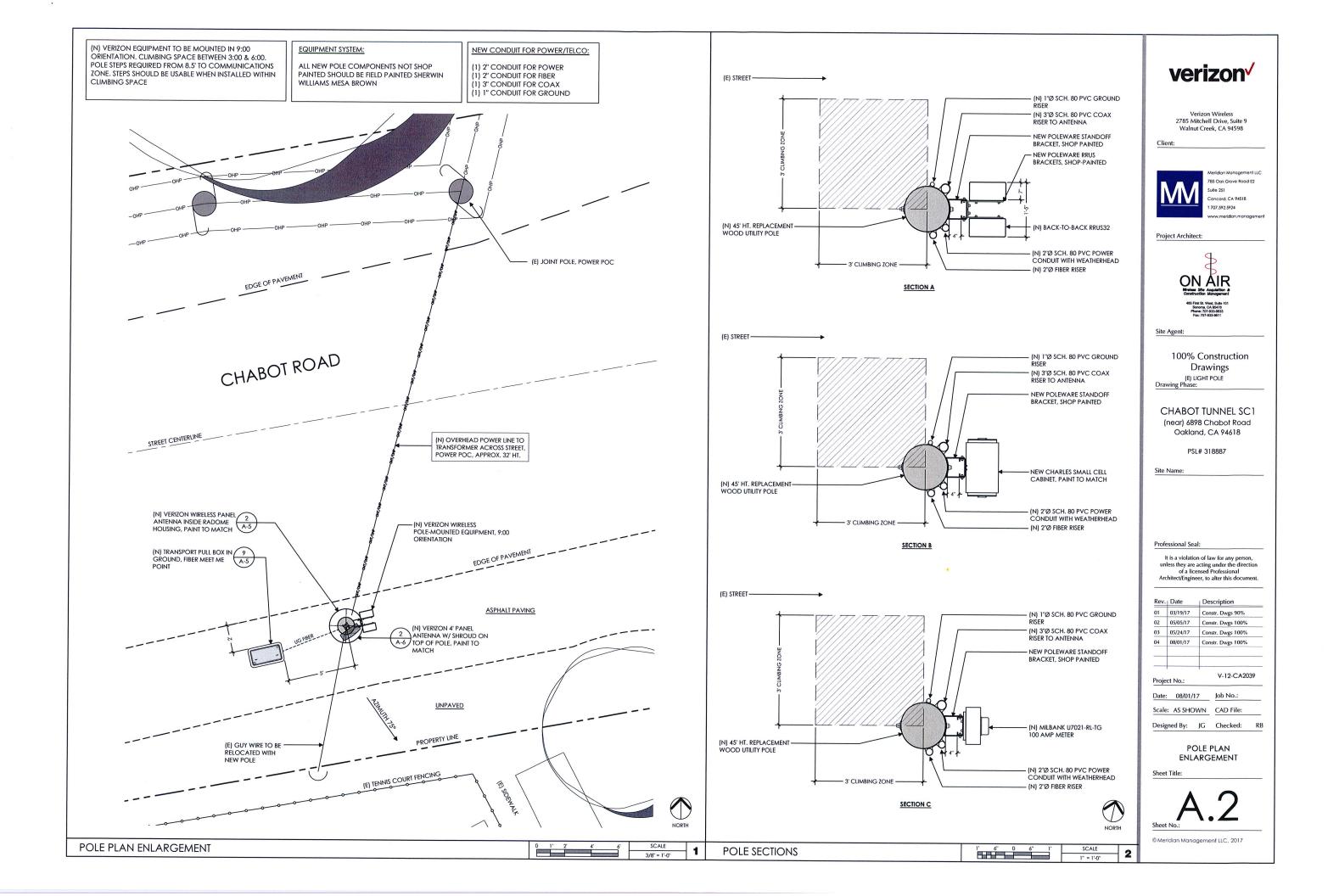
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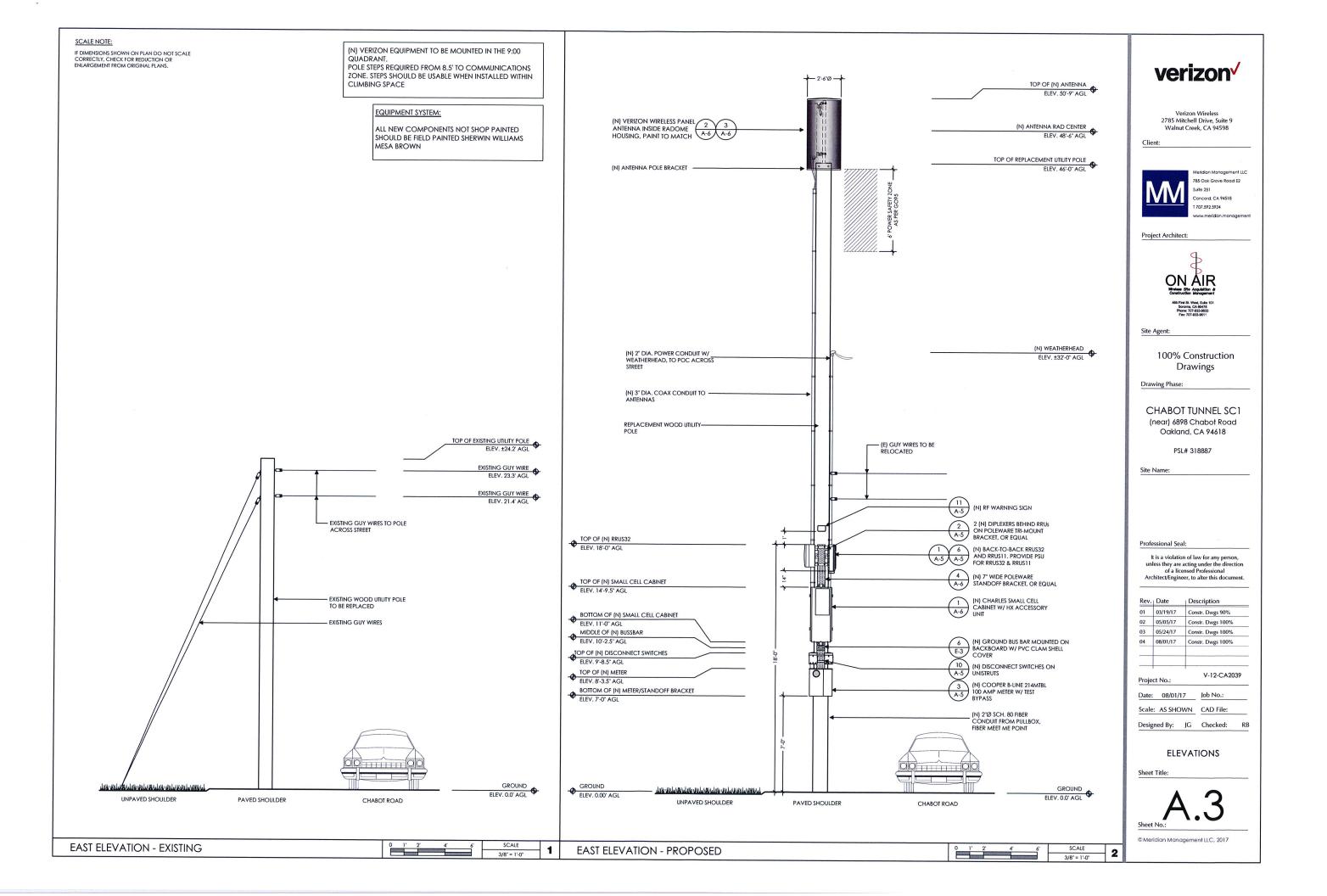
OVERALL SITE PLAN

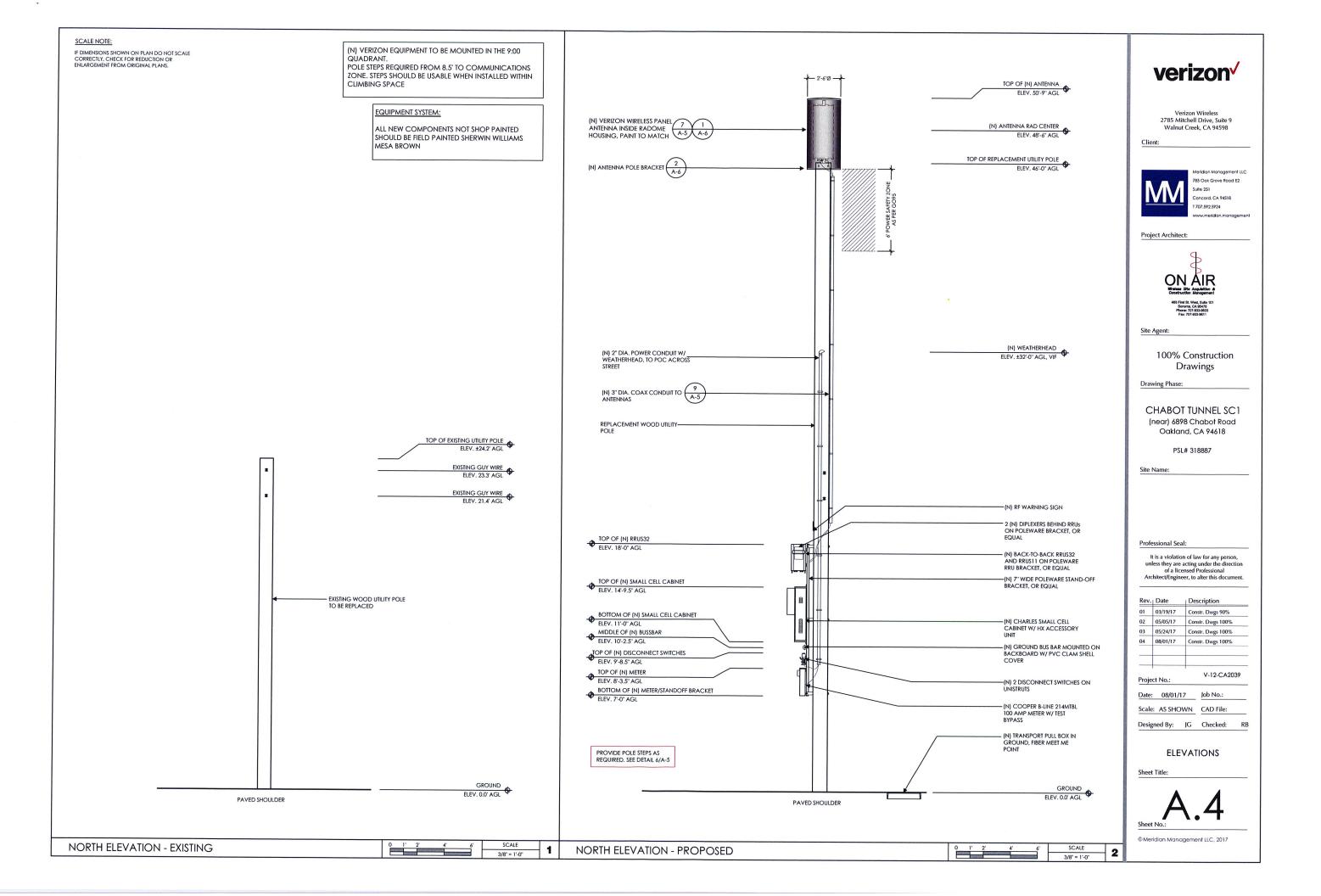
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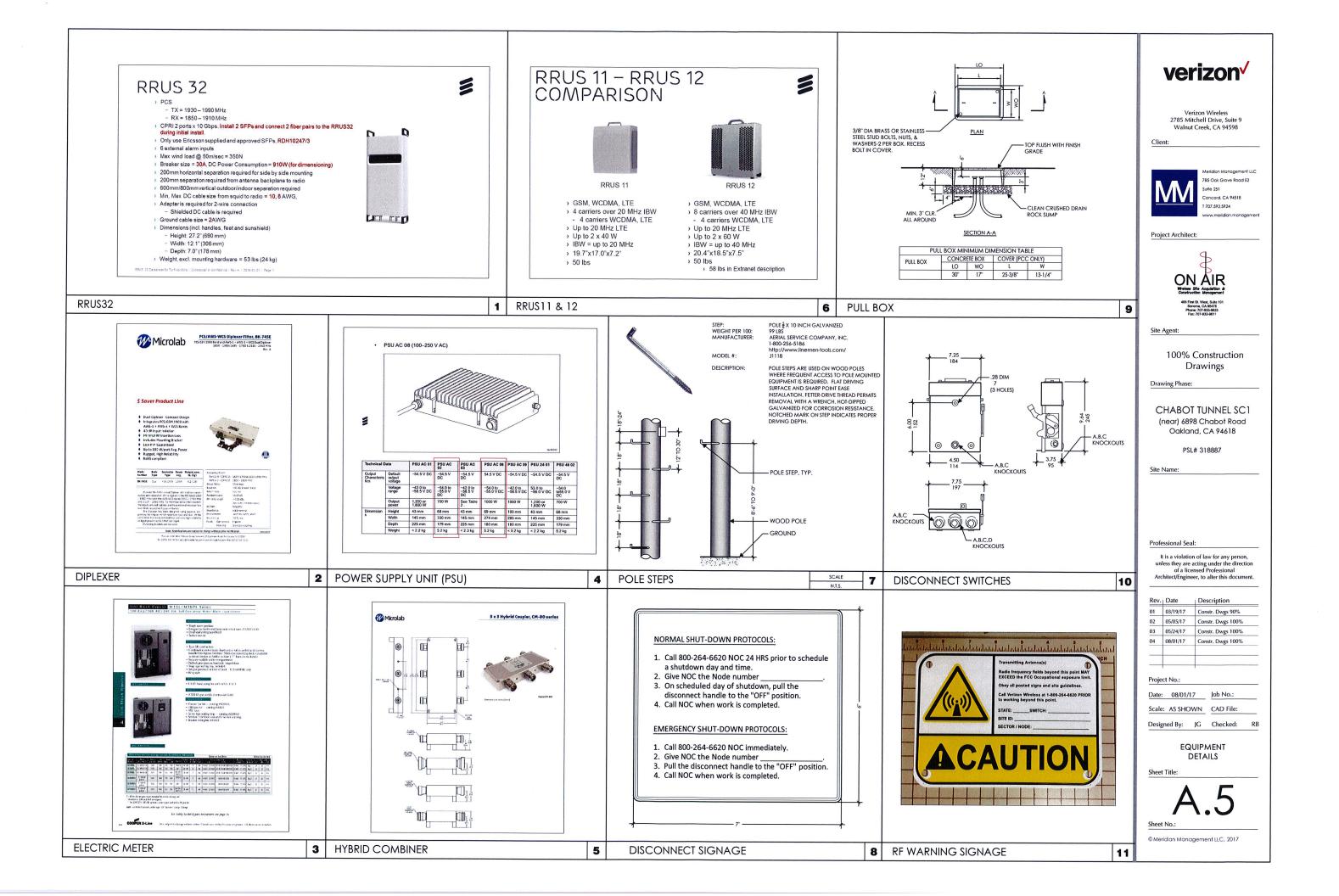


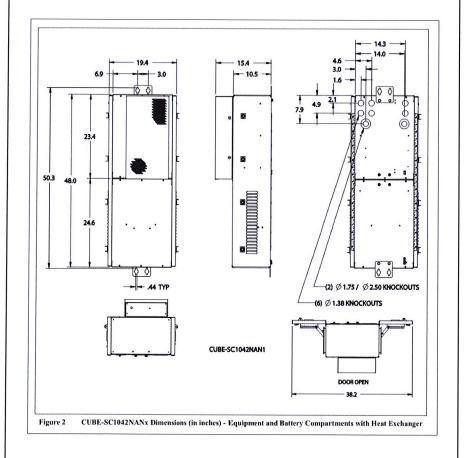
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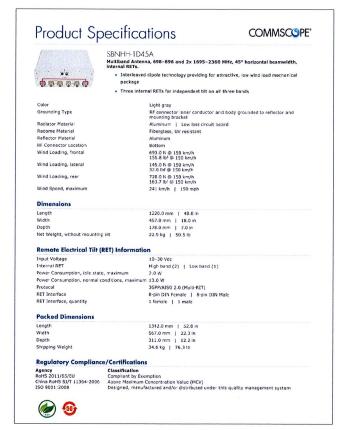


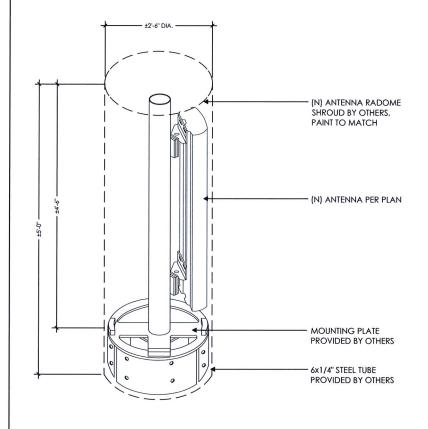














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Project Architect:



Site Agent:

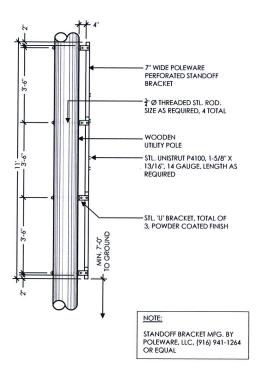
100% Construction Drawings

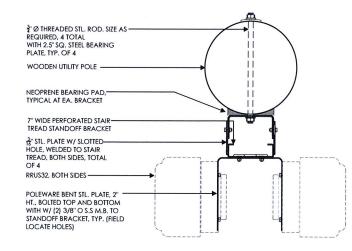
CHABOT TUNNEL SC1 (near) 6898 Chabot Road Oakland, CA 94618

PSL# 318887

Site Name:

SMALL CELL CABINET SCALE NOT TO SCALE 3 PANEL ANTENNA 2 ANTENNA MOUNTING DETAIL





THE ADED STL. ROD. SIZE AS — REQUIRED, 4 TOTAL WITH 2.5" SQ. STEEL BEARING PLATE, TYP. OF 4 WOODEN UTILITY POLE TYPICAL AT EA. BRACKET 7" WIDE PERFORATED STAIR -TREAD STANDOFF BRACKET ਤੂੰ" STL. PLATE W/ SLOTTED-HOLE, WELDED TO STAIR TREAD, BOTH SIDES, TOTAL OF 4 STL. UNISTRUT P4100, 1-5/8" X 13/16", 14-GAUGE, LENGTH AS REQUIRED PER CABINET. FASTEN W/ (2) 3/8" O S.S M.B. TO STANDOFF BRACKET, TYP. (FIELD LOCATE HOLES) TYPICAL PLAN

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

Rev.	Date	Description
01	03/19/17	Constr. Dwgs 90%
02	05/05/17	Constr. Dwgs 100%
03	05/24/17	Constr. Dwgs 100%
04	08/01/17	Constr. Dwgs 100%

V-12-CA2039 Project No.:

Date: 08/01/17

Scale: AS SHOWN CAD File:

Job No.:

Designed By: JG Checked: RB

**EQUIPMENT SPECIFICATIONS** 



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PLAN @ RRU SUPPORT

STANDOFF BRACKET

SCALE NOT TO SCALE

#### 1. GENERAL REQUIREMENTS

- A LL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRIC 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 CHANGES BE NECESSARY IN THE DRAWINGS OR SPECIFICATIONS TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS, THE CONTRACTORS SHALL IMMEDIATELY NOTIFY THE ARCHITECT CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITEC IN WRITING AND CEASE WORK ON PARTS OF THE CONTRACT WHICH ARE AFFECTED.
- B. THE CONTRACTOR SHALL MAKE A SITE VISIT PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY ALL EXISTING
  CONDITIONS AND SHALL NOTIFY THE ARCHITECT
  IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES. THE CONTRACTOR ASSUMES ALL LIABILITY FOR FAILURE TO COMPLY WITH THIS PROVISION.
- C. 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 ARE NECESSARY FOR SUCCESSFUL OPERATION OF ALL SYSTEMS
- D. THE CONTRACTOR SHALL PREPARE A BID FOR A COMPLETE ND OPERATIONAL SYSTEM, WHICH INCLUDES THE COST FOR MATERIAL AND LABOR
- E. 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
- . COMPLETE THE ENTIRE INSTALLATION AS SOON AS THE PROGRESS OF THE WORK WILL PERMIT. ARRANGE ANY OUTAGE OF SERVICE WITH THE OWNER AND BUILDING MANAGER IN ADVANCE, MINIMIZE DOWNTIME ON THE BUILDING ELECTRICAL SYSTEM.
- G. THE ENTIRE ELECTRICAL SYSTEM INSTALLED UNDER THIS CONTRACT SHALL BE DELIVERED IN PROPER WORKING ORDER. REPLACE, WITHOUT ADDITIONAL COST TO THE OWNER, ANY DEFECTIVE MATERIAL AND EQUIPMENT WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE
- H. ANY FRROR, OMISSION OR DESIGN DISCREPANCY ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR CLARIFICATION OR CORRECTION BEFORE CONSTRUCTION.
- I. "PROVIDE": INDICATES THAT ALL ITEMS ARE TO BE FURNISHED, INSTALLED AND CONNECTED IN PLACE
- J. CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES.

#### 2. EQUIPMENT LOCATION

- A. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE DESIRED LOCATIONS OR ARRANGEMENTS OF CONDUIT RUNS OUTLETS, EQUIPMENT, ETC., AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE. PROPER JUDGMENT MUST BE AS CLOSELY AS POSSIBLE. PROPER JUDGMENT MUST BE EXERCISED IN EXECUTING THE WORK SO AS TO SECURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF STRUCTURE
- B. IN THE EVENT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY, DUE TO FIELD CONDITIONS IN THE BUILDING CONSTRUCTION OR REARRANGEMENT OF PURINISHINGS OR EQUIPMENT, SUCH CHANGES SHALL BE MADE WITHOUT COST, PROVIDING THE CHANGES CONDECED RECORD FUR. CONDITIONS OF THE CHANGES OF REDEED RECORD FUR. CONDITIONS OF THE CHANGES OF REDEED RECORD FUR. THE CHANGE IS ORDERED BEFORE THE CONDUIT RUNS ETC., AND WORK DIRECTLY CONNECTED TO THE SAME IS INSTALLED AND NO EXTRA MATERIALS ARE REQUIRED
- C. LIGHTING FIXTURES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. COORDINATE THE FIXTURE LOCATION WITH MECHANICAL EQUIPMENT TO AVOID INTERFERENCE
- D. 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 ARCHITECT/ENGINEER FOR THE (N) CHANGES BEFORE PROCEEDING.

#### 3. SHOP DRAWINGS

A. SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR APPROVA SUBMITS TOP DRAWINGS TO HEARCHIELD FOR APPROVAL WITHIN 35 DAYS OF AWARD OF CONTRACT, SHOP DRAWINGS SHALL BE SUBMITTED IN A COMPLETE BOUND MANUAL INCLUDING LIGHT FIXTURES, SERVICE METERING, TRANSFER SWITCH, PANELBOARD, AND DISCONNECT SWITCHES. THE CONTRACTOR SHALL VERIFY DIMENSIONS OF EQUIPMENT TO INSURE THAT THEY FIT IN THE DESIGNATED AREA AND COMPLY WITH REQUIREMENTS OF ALL APPLICABLE CODES FOR REQUIRED WORKING CLEARANCES ABOUT ELECTRICAL EQUIPMENT PRIOR TO SUBMITTING SHOP DRAWINGS FOR APPROVAL DEPARTUR FROM THE ABOVE WILL RESULT IN RE-SUBMITTAL AND DELAY

#### 4. SUBSTITUTIONS

A. NO SUBSTITUTIONS ARE ALLOWED.

#### 5. TESTS

A. 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.

#### 6. PERMITS

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

#### 7. GROUNDING

- A. 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 NATIONAL ELECTRICAL CODE.
- B. CONDUITS CONNECTED TO EQUIPMENT AND DEVICES SHALL BE METALLICALLY JOINED TOGETHER TO PROVIDE
- C. 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
- D. REFER TO GROUND BUS DETAILS, PROVIDE NEW GROUND SYSTEM COMPLETE WITH CONDUCTORS. GROUND ROD AND DESCRIBED TERMINATIONS
- E. ALL GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2 UNLESS NOTED OTHERWISE.
- F. ALL NON-DIRECT BURIED TELEPHONE EQUIPMENT GROUND CONDUCTORS SHALL BE #2 STRANDED, THHN (GREEN) INSULATION.
- G. ALL GROUND CONNECTIONS SHALL BE MADE WITH "HYGROUND" COMPRESSION SYSTEM BURNDY CONNECTORS EXCEPT WHERE NOTED OTHERWISE.
- H. 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 VERIZON ONE COMPLETE SET OF PRINTS SHOWING "INSTALLED

#### 8. UTILITY SERVICE

- A. TELEPHONE AND ELECTRICAL METERING FACILITIES SHALL CONFORM TO THE REQUIREMENTS OF THE SERVING UTILITY COMPANIES, CONTRACTOR SHALL PERIFY SERVICE LOCATIONS AND REQUIREMENTS SERVICE INFORMATION WILL BE FURNISHED BY THE SERVING LITHTIES
- B. CONFORM TO ALL REQUIREMENTS OF THE SERVING

#### 9. PRODUCTS

- A. ALL MATERIALS SHALL BE NEW, CONFORMING WITH THE NEC, ANSI, NEMA, AND THEY SHALL BE U.L. LISTED AND LABELED
- B. CONDUIT:
- . CONDUIT:

  1. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS. IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS. IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR, RIGID CONDUIT IN CONTACT WITH EARTH SHALL BELL SHALL S WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
- 2. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR
- 3. 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 IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
- 4. 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 VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH ARCHITECT PRIOR TO INSTALLING
- 5. ALL UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24" BELOW GRADE.
- 6. ALL CONDUIT ONLY (C.O.) SHALL HAVE PULL ROPE.
- CONDUITS RUN ON ROOFS SHALL BE INSTALLED ON 4 X 4 REDCHAINLINK SLEEPERS, 6'-0" ON CENTER, SET IN NON-HARDENING MASTIC

- C. 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 #B AWG AND SMALLER SHALL BE STRANDED. TYPE THIN INSULATION USED UNIESS CONDUCTORS INSTALLED IN CONDUIT EXPOSED TO WEATHER, IN WHICH CASE TYPE THWN INSULATION
- D. PROVIDE GALVANIZED COATED STEEL BOXES AND ACCESSORIES SIZED PER CODE TO ACCOMMODATE ALL DEVICES AND WIRING
- E. DUPLEX RECEPTACLES SHALL BE SPECIFICATION GRADE WITH WHITE FINISH (UNLESS NOTED BY ARCHITECT/ENGINEER), 20 AMP, 125 VOLT, THREE WIRE GROUNDING TYPE, NEMA 5-20R. MOUNT RECEPTACLE AT +12" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED ON DRAWINGS OR IN DETAILS. WEATHERPROOF RECEPTACLES SHALL BE GROUND FAULT INTERRUPTER TYPE WITH SIERRA #WPD-8 LIFT COVERPLATES
- F. TOGGLE SWITCHES SHALL BE 20 AMP, 120 VOLT AC, SPECIFICATION GRADE WHITE (UNLESS NOTED OTHERWISE) FINISH. MOUNT SWITCHES AT +48" ABOVE FINISHED
- G. PANELBOARDS SHALL BE DEAD FRONT SAFETY TYPE WITH ANTI-BURN SOLDERLESS COMPRESSION APPROVED FOR COPPER CONDUCTORS, COPPER BUS BARS, FULL SIZED COPPER CONDUCTORS, COPPER BUS BARS, FULL SIZED NEUTRAL BUS, GROUND BUS AND FOUIPPED WITH QUICK-MAKE QUICK-BREAK BOLT-IN TYPE THERMAL MAGNETIC CIRCUIT BREAKERS. MOUNT TOP OF THE PANELBOARDS AT 6-3" ABOVE FINISHED FLOOR, PROVIDE TYPEWRITTEN CIRCUIT DIRECTORY.
- H. 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.
- I. GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" ROUND AND 10' LONG. COPPERWELD OR APPROVED EQUA

#### 10. INSTALLATION

- A. PROVIDE SUPPORTING DEVICES FOR ALL ELECTRICAL EQUIPMENT, FIXTURES, BOXES, PANEL, ETC., SUPPORT LUMINARIES FROM UNDERSIDE OF STRUCTURAL CEILING, EQUIPMENT SHALL BE BRACED TO WINTSTAND HORIZONTAL FORCES IN ACCORDANCE WITH STATE AND LOCAL COOR EPOLIUME LATER PROPULOE BRIDGING. LOCAL CODE REQUIREMENTS. PROVIDE PRIOR ALIGNMENT AND LEVELING OF ALL DEVICES AND FIXTURES.
- B. CUTTING, PATCHING, CHASES, OPENINGS: PROVIDE LAYOUT IN ADVANCE TO ELIMINATE UNNECESSARY CUTTING OR DRILLING OF WALLS, FLOORS CEILINGS. AND ROOFS, ANY DAMAGE TO BUILDING STRUCTURE OF EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR. OBTAIN PERMISSION FROM THE ARCHITECT/ENGINEER
- C. IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., IT MUST BE CLEARLY UNDERSTOOD THAT TENDONS AND/OR REINFORCING STEEL WILL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES.
- D. 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 STEEL
- E. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE REQUIREMENTS OF THE C.B.C.

#### 11. PROJECT CLOSEOUT

- A. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS FOR APPROVAL, SUBMIT TEST REPORTS TO PROJECT MANAGER, CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND LINDAMAGED CONDITION
- B. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS AND CIRCUITS.
- DRAWINGS, ETC., SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.

- 1. SERVICE POWER SHALL BE 100A. 1Ø, 3W. 120/208 OR 120/240V.
- 2. UTILITY RECEPTACLE IS A GECLIDUPLEX OUTLET INSTALLED IN THE DEADFRONT OF
- 3. NOT USED
- 4. PROVIDE A MIN. 36" WORK CLEARANCE
- 5. ALL BREAKERS IN THE ELEC. PANEL ARE RATED 10,000 RMS SYMMETRICAL AMPS, 240V MAX. 75° C.

- 6. ALL WIRING SHALL BE COPPER 75° C U.N.O.
- 7. CONDUIT REQUIREMENTS (TYP., U.N.O.): UNDERGROUND: PVC (SCHED 40 OR 80) INDOOR: EMT (RGS IN TRAFFIC AREAS) OUTDOOR (ABOVE GRADE): RGS.
- 8. APPLETON EMERGENCY GENERATOR PLUG AT 36" A.F.F. CONTRACTOR TO VERIFY EXACT LOCATION WITH LANDLORD AND UTILITY COORDINATOR.
- PLACE 'TRUE TAPE" AND PULL ROPE IN THE CONDUITS AS REQUIRED.

A	AMPERE	ELEC	ELECTRICAL	MFR	MANUFACTURER	SAF	SAFETY
ACCA	ANTENNA CABLE COVER ASSEMBLY	EMT	ELECTRICAL METALLIC TUBING	MIN	MINIMUM	SDBC	SOFT DRAWN BARE COPPER
		ENCL	ENCLOSURE	MLO	MAIN LUGS ONLY	SEC	SECONDARY
AIC	AMPERE INTERRUPTING	EXIST	EXISTING	MID	MOUNTED	S.N.	SOLID NEUTRAL
	CAPACITY	FAC	FACTOR	MTG	MOUNTING	SURF	SURFACE
APPROX	APPROXIMATELY	F/A	FIRE ALARM	MTS	MANUAL TRANSFER SWITCH	sw	SWITCH
AT	AMPERE TRIP	FLUOR	FLUORESCENT	N	NEUTRAL	TEL	TELEPHONE
AWG	AMERICAN WIRE GAGE	FT	FOOT/FEET	(N)	NEW	TYP	TYPICAL
BATT	BATTERY	FU	FUSE	NEMA	NATIONAL ELECTRICAL	U/G	UNDERGROUND
BD	BOARD	G	GROUND		MANUFACTURERS ASSOC.	U.L.	UNDERWRITER'S LABORATORY INC.
BR	BRANCH	GEN	GENERATOR	ОН	OVERHEAD		
BRKR	BREAKER	GFCI	GROUND FAULT CIRCUIT	P	POLE	U.N.O.	UNLESS NOTED OTHERWISE
BTCW	BARE TINNED COPPER WIRE		INTERRUPTER	PCS	PERSONAL COMMUNICATION	V	VOLT
BTS	BASE TRANSMISSION SYSTEM	GND	GROUNDING		SYSTEM	VAC	VOLT ALTERNATING CURRENT
С	CONDUIT	GPS	GLOBAL POSITIONING SYSTEM	PH	PHASE	w	WATT OR WIRE
CAB	CABINET	GR	GROWTH	PNLBD	PANELBOARD	W/	WITH
СВ	CIRCUIT BREAKER	HDBC	HARD DRAWN COPPER WIRE	PPC	POWER PROTECTION CABINET	W/O	WITHOUT
CKT	CIRCUIT	HPS	HIGH PRESSURE SODIUM	PRC	PRIMARY RADIO CABINET	XFER	TRANSFER
CONT	CONTINUOUS	LG	LENGTH	PRI	PRIMARY	XFMR	TRANSFORMER
DEM	DEMAND	LPS	LOW PRESSURE SODIUM	PWR	POWER	XLPE	CROSS-LINK POLYETHYLENE
(E)	EXISTING	MAX	MAXIMUM	RCPT	RECEPTACLE	1	
EGR	EMERGENCY GEN. RECEPTACLE	MECH	MECHANICAL	RGS	RIGID GALVANIZED STEEL		

	OVERHEAD TELEPHONE/OVERHEAD POWER	ю	LIGHTING FIXTURE, 1/175W. METAL HALIDE, HUBBELL CAT #MIC-0175H-336
	OVERHEAD TELEPHONE LINE	•	5/8" X 10"-0" ,CU, GND ROD 30" MIN. BELOW GRADE.
	OVERHEAD POWER LINE	0	5/8" X 10"-0" ,CU. GND ROD IN TEST WELL 30" MIN. BELOW GRADE.
— Е —	POWER RUN	8	CHEMICAL GROUND ROD (XIT GROUND ROD)
	TELCO RUN		CADWELD CONNECTION
T/E	POWER/TELCO RUN	•	MECHANICAL CONNECTION
	GROUNDING CONDUCTOR	•	HALO GROUND CONNECTION
	GROUNDING CONDUCTOR		CIRCUIT BREAKER
	CONDUIT UNDERGROUND	<b>∞</b>	UTILITY METER BASE
	FUSE, SIZE AND TYPE AS INDICATED.	<del>&gt;&gt;&gt;</del>	TRANSFORMER
	SAFETY SWITCH, 2P-240V-60A W/60A FUSES, NEMA 3R ENCLOSURE, SQ D CATALOG NO. H222NRB	<b>Ø</b>	POLE
	MANUAL TRANSFER SWITCH, 2P-240V-200A, NO FUSE, NEMA 3R ENCLOSURE	<b>A</b>	(N) POLE MOUNTED XFMER
		Δ	(E) POLE MOUNTED XFMR



Verizon Wireless 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598



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Project Architect:



Site Agent:

100% Construction Drawings

**Drawing Phase:** 

CHABOT TUNNEL SC1 (near) 6898 Chabot Road Oakland, CA 94618

PSL# 318887

Site Name

Professional Seal:

unless they are acting under the direction of a licensed Professional

01	03/19/17	Constr. Dwgs 90%
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Project No.:

V-12-CA2039

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

Date: 08/01/17 Job No.:

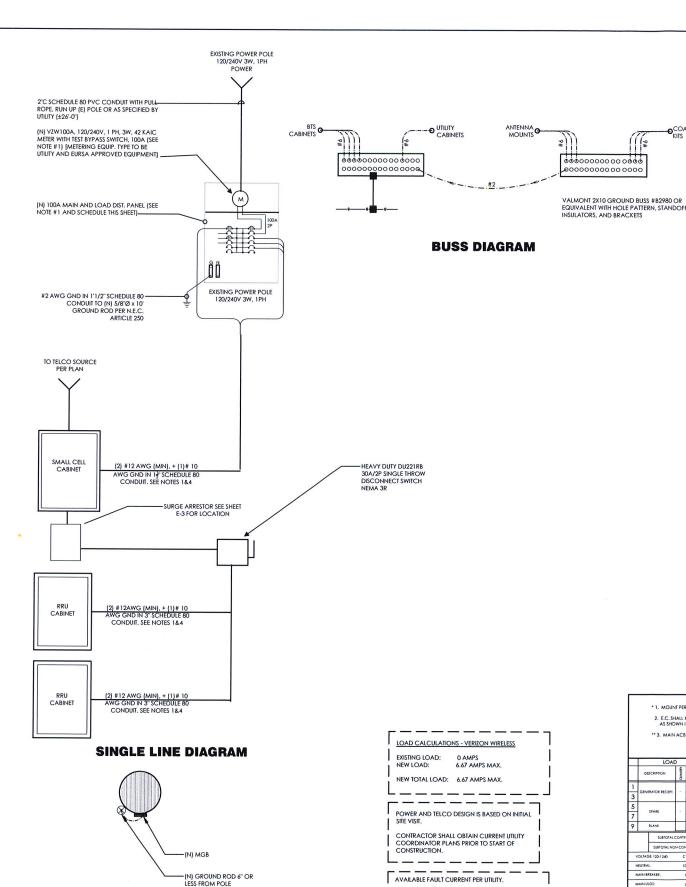
ELECTRICAL SPECIFICATIONS, NOTES, LEGEND, **ABBREVIATIONS** 

Sheet Title:

Sheet No.

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2



**GROUNDING PLAN** 

NOTE: CONTRACTOR TO CHECK WITH UTILITY TO ENSURE ELEC. METER IS BRACED FOR ACTUAL FAULT CURRENT.

#### POWER AND TELCO NOTES:

•COAX GND KITS

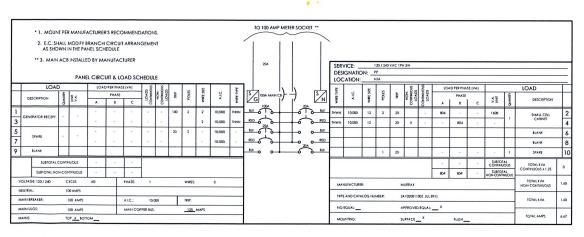
- POWER AND TELCO POINTS OF CONNECTION AND ANY EASEMENTS
   ARE PRELIMINARY AND SUBJECT TO CHANGE BY THE UTILITY
   COMPANIES.
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK/MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY ENGINEERING PLANS AND SPECIFICATIONS ONLY WHERE APPLICABLE PER PROJECT SCOPE OF WORK.
- CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, PULL WIRES, CABLE PULL BOXES, CONCRETE ENCASEMENT OF CONDUIT, TRANSFORMER PAD, BARRIERS, POLE RISER TRENCHING, BACK FILL, AND UTILITY FEES, AND INCLUDE REQUIREMENTS IN SCOPE.
- CONTRACTOR SHALL LABEL ALL MAIN DISCONNECT SWITCHES AS REQUIRED BY CODE.

#### NOTES:

- SUBCONTRACTOR SHALL PROVIDE METER WITH DIST, PANEL AND BREAKERS FOR POWER TO THE BTS UNITS AND THE BTS/UTILITY CABINET.
- 2. ALL SERVICE EQUIPMENT AND INSTALLATIONS SHALL COMPLY WITH THE N.E.C. AND UTILITY COMPANY AND LOCAL CODE PEOULIPMENT.
- 3. SUBCONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE ENTRANCE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
- 4. FIELD ROUTE CONDUIT TO CABINETS AS REQUIRED.
- 5. MAXIMUM ONE WAY CIRCUIT RUN NOT TO EXCEED 75 FEET.

#### GENERAL ELECTRICAL NOTES:

- 1. PROVIDE ALL ELECTRICAL WORK & MATERIALS AS SHOWN ON THE DWGS, AS CALLED FOR HEREIN, & AS IS NECESSARY TO FURNISH A COMPLETE INSTALLATION.
- THE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ADOPTED CALIFORNIA ELECTRICAL CODE, STATE OF CALIFORNIA
  TITLE24, ALL OTHER APPLICABLE CODES AND ORDINANCES & THE REQUIREMENTS OF THE FIRE MARSHALL. ALL EQUIPMENT & WIRING SHALL BEAR
  THE APPROVAL STAMP OF UNDERWRIBES LABORATORY (UL) OR AN APPROVED TESTING LABORATORY, PAYMENT FOR ALL INSPECTION FEES AND
  PERMITS ARE PART OF THIS CONTRACT.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY AND GOOD CONDITION OF ALL MATERIALS & EQUIPMENT FOR THE ENTIRE INSTALLATION & UNIT COMPLETION OF WORK, ERECT & MAINTAIN APPROVED & SUITABLE BARRIERS, PROTECTIVE DEVICES & WARNING SIGNS, BE FULLY RESPONSIBLE FOR ANY LOSS OR INJURY TO PERSONS OR PROPERTY RESULTING FROM NEGLIGENCE AND/OR ENFORCEMENT OF ALL SAFETY PERSONIONS & WARNINGS
- 4. COORDINATE THE ELECTRICAL INSTALLATION WITH ALL OTHER TRADES.
- 5. ALL SAW CUTTING, TRENCHING, BACK FILLING & PATCHING SHALL BE PART OF THIS CONTRACT.
- 6. FINALIZE ALL ELECTRICAL SERVICE ARRANGEMENTS, INCLUDING VERIFICATION OF LOCATIONS, DETAILS, COORDINATION OF THE INSTALLATION & PAYMENT OF ACCRUED CHARGES WITH LOCAL POWER COMPANY, VERIFY LOCATION FOR FACILITIES & DETAILS WITH POWER UTILITY, IN ADDITION TO THE REQUIREMENTS SHOWN IN THE CONTRACT DOCUMENTS, WORK SHALL COMPLY WITH CONTRICTION STANDARDS & SERVICE REQUIREMENTS OF THE RESPECTIVE UTILITIES, INCLUDING ANY SUPPLEMENTAL DWGS ISSUED & SHALL BE SUBJECT TO APPROVAL OF THESE UTILITIES.
- ALL WIRING SHALL BE COPPER. INSULATION FOR BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE "THWN" CONDUCTORS LARGER AND #6 AWG MAY BE TYPE "THWN" OR "TWN".
- 8. PROVIDE CONDUIT SEALS FOR ALL CONDUITS PENETRATING WEATHERPROOFING OR WEATHERPROOF ENCLOSURE ENVELOPE. MASTIC SEAL ALL CONDUIT OPENING PENETRATIONS COMPLETELY WATERTIGHT.
- UNLESS SHOWN OTHERWISE, FUSED DISCONNECT SWITCHES SHALL BE PROVIDED WITH LOW-PEAK, S\DUAL ELEMENT FUSES SIZED TO EQUIPMENT NAMEPIATE FUSE CURRENT RATING. MOTOR STARTERS SHALL BE PROVIDED WITH SIMILARLY SIZED FUSIBLE ELEMENTS, SWITCHES AND OTHER OUTDOOR EQUIPMENT SHALL BE RATED NEMA 3R AND/OR UL LISTED FOR WET ENVIRONMENT.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING THE GROUNDING SYSTEM AND ENSURING A 5 OHM OR LESS GROUNDING PATH, ADDITIONAL GROUND RODS AND/OR CHEMICAL ROD SYSTEM SHALL BE USED TO ACHIEVE THIS REQUIREMENT IF THE GIVEN DESIGN CANNOT BE MADE TO ACHIEVE THIS REQUIREMENT.



PANEL SCHEDULE -- PANEL " PP "



Verizon Wireless 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598

Client:



Meridian Management LLC 785 Oak Grove Road E2 Suite 251 Concord, CA 94518 T 707.592.5924 www.meridian.manageme

Project Architect:



465 First St. West, Su Sonoma, CA 954 Phone: 707-933-96 Fax: 707-933-96

Site Agent:

100% Construction Drawings

Drawing Phase:

CHABOT TUNNEL SC1 (near) 6898 Chabot Road Oakland, CA 94618

PSL# 318887

Site Name:

Professional Seal:

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

01	03/19/17	Constr. Dwgs 90%
02	05/05/17	Constr. Dwgs 100%
03	05/24/17	Constr. Dwgs 100%
04	08/01/17	Constr. Dwgs 100%

Project No.:

Date: 08/01/17 Job No.:

V-12-CA2039

Scale: AS SHOWN CAD File:

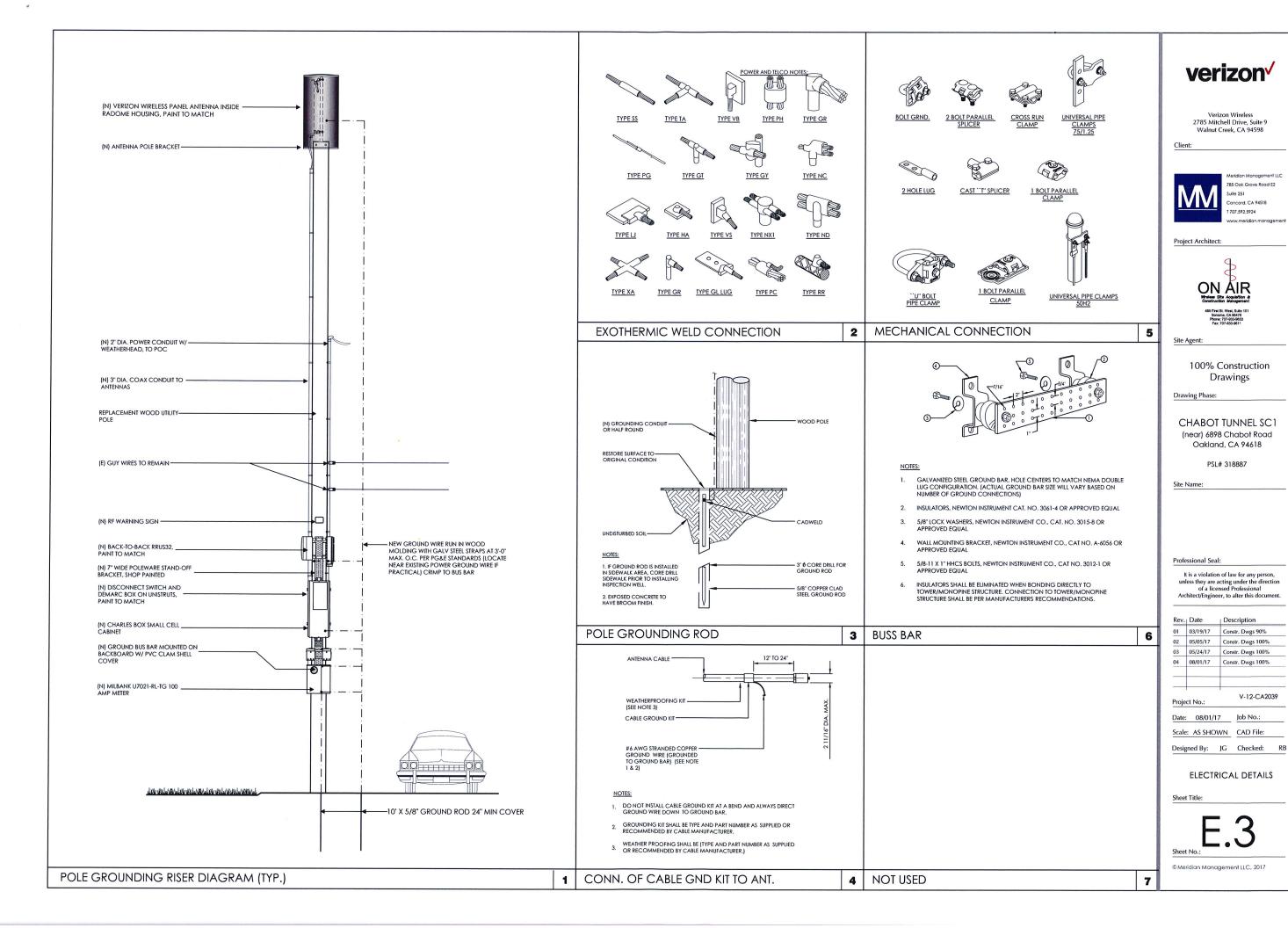
Designed By: JG Checked: RB

SINGLE LINE DIAGRAM BUSS DIAGRAM PANEL SCHEDULE

Sheet Title:

E.2

© Meridian Management LLC, 2017



#### **Attachment D**



## **Chabot Tunnel SC1**

## **Site Photo Simulations**

Includes:

1 Shot Location Map2 Simulated Views







verizon√

Chabot Tunnel SC1 Site # 318887

**Aerial Map** 





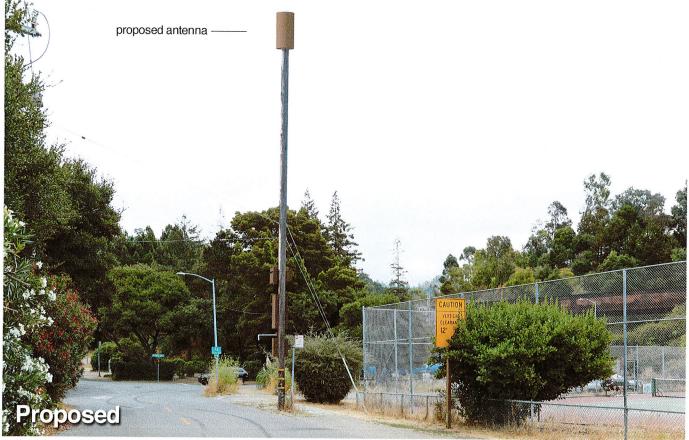
verizon√

Chabot Tunnel SC1 Site # 318887

Looking Southwest from Chabot Road

View #1
Applied Imagination 510 914-0500





verizon /

Chabot Tunnel SC1 Site # 318887

Looking Southeast from Chabot Road

View #2

(near) 6898 Chabot Road Oakland, CA

#### Attachment E

# verizon/

## **Alternative Sites Analysis**

Verizon Wireless - "Chabot Tunnel SC1" Near 6898 Chabot Road, Oakland, CA 94618

The objective of this search ring is to find a site that will improve the coverage in and along Chabot Road near the Chabot Tennis Courts and Recreation Center. There were several sites reviewed before Verizon Wireless decided to develop this location. Through careful analysis we believe the subject site provides the least intrusive way to fill the significant coverage gap.

At the bottom of this page is an aerial view of the four (4) alternative sites discussed in this report. It is important to understand that these micro cell sites are lower powered and do not cover the area that a full macro site would. Due to that the Verizon Wireless Radio Frequency Engineer (RF Engineer) has little flexibility in location of this site. Also the RF Engineer has to make sure that the site will be located in a position that it works well with the other existing and proposed sites in the local vicinity.

In addition to the constraint from the RF engineer, Verizon has constraints on what they believe the county can legally require them to analyze as far as the type of technology Verizon should use. Verizon has chosen to use their microcell technology in the Right of Way (ROW) to cover the significant gap in coverage/capacity. Therefore this report reviews only the poles in the ROW. Furthermore, California courts have determined that local jurisdictions have a limited right to regulate aesthetics in the ROW for wireless facilities. As part of their aesthetic review, a local jurisdiction may evaluate alternate poles in the ROW that have less aesthetic impact. In our analysis we have found no pole in the ROW that would have less visual impact than the proposed location. The design would be identical to the subject design on the poles that are available and feasible to use.

## Aerial Map of the Alternatives



### 1) Alternate Site #1

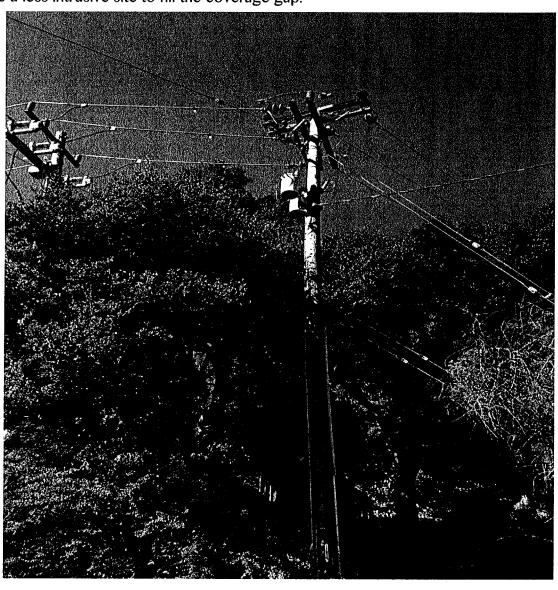
Address: Near 6885 Chabot Rd ROW

Lat: 37.850952°N

Long: -122.240376°W

Reason (s) did not work:

This location is just across Chabot Road to the north of the subject pole. The pole is owned by PG&E. It not feasible to build a site on this pole due to General Order 95 requiring that at least one quadrant of the pole be free of equipment and be designed as climbing space. This pole has too much existing equipment on the pole so that there is no way add the needed Verizon equipment and also be able to have one quadrant of the pole remain free for climbing space. In addition, this pole was not selected as it is closer to the residence than the subject pole and therefore could not be determined to be a less intrusive site to fill the coverage gap.



## 2) Alternate Site #2

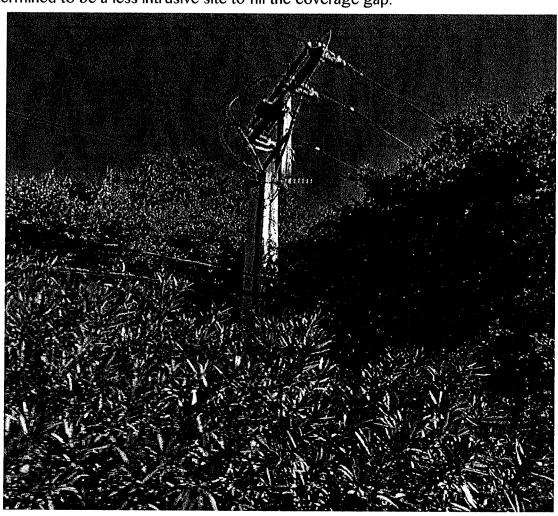
Address: Also Near 6885 Chabot Rd ROW

Lat: 37.850925°N

Long: -122.240446°W

Reason (s) did not work:

This location is just across Chabot Road to the north of the subject pole and very close to Alternative Site #1. The pole is owned by PG&E. It not feasible to build a site on this pole due to General Order 95 requiring that at least one quadrant of the pole be free of equipment and be designed as climbing space. This pole has too much existing equipment on the pole so that there is no way add the needed Verizon equipment and also be able to have one quadrant of the pole remain free for climbing space. In addition, this pole was not selected as it is closer to the residence than the subject pole. Also this pole would require significant tree trimming or possibly removal where the subject pole has no tree trimming issues and therefore, for these reasons this pole could not be determined to be a less intrusive site to fill the coverage gap.

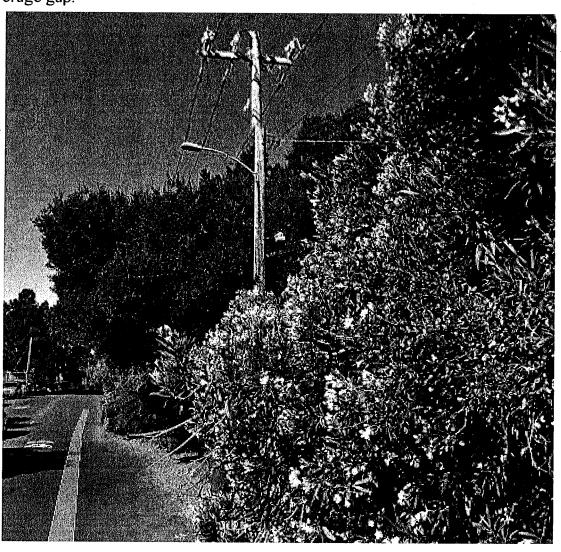


## 3) Alternate Site #3

Address: Chabot Road ROW near Reata Pl. intersection

Lat: 37.850907° N Long: -122.240757° W Reason (s) did not work:

This location is also on the north side of Chabot Road, but slightly west of the other two previous alternative site locations. The pole is owned by PG&E. It not feasible to build a site on this pole due to General Order 95 requiring that at least one quadrant of the pole be free of equipment and be designed as climbing space. This pole has too much existing equipment on the pole so that there is no way add the needed Verizon equipment and also be able to have one quadrant of the pole remain free for climbing space. In addition, this pole was not selected as it is closer to the residence than the subject pole and therefore could not be determined to be a less intrusive site to fill the coverage gap.



### 4) Alternate Site #4

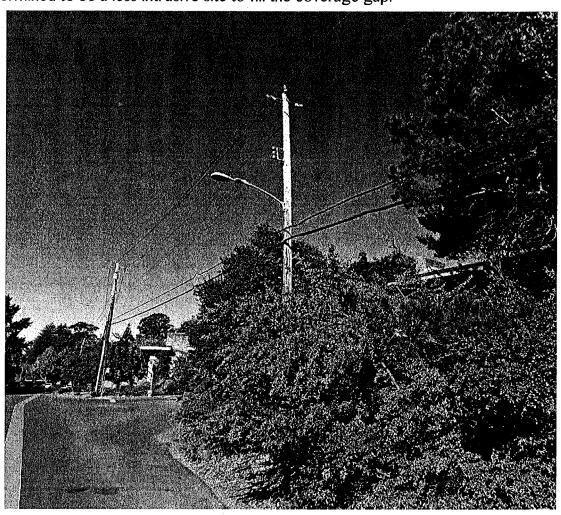
Address: Chabot Road ROW near Reata Pl. intersection

Lat: 37.850840°N

Long: -122.241175°W

Reason (s) did not work:

This alternative pole, while feasible to build a micro cell on with similar design that is being proposed on the subject pole, it was not selected as it is closer to several residences both on Chabot Road and Reata Place than the subject pole. Also this pole would require significant tree trimming or possibly removal where the subject pole has no tree trimming issues and therefore, for these reasons, this pole could not be determined to be a less intrusive site to fill the coverage gap.



### **Summary**

There is relatively small vicinity that the Verizon Wireless Radio Frequency Engineer would allow the facility to be placed so that it would integrate into the existing and proposed site that make up the Verizon network in the local vicinity. There has been a thorough search and analysis of the poles in this area. Three of the four alternative sites cannot be used as candidate due to the amount of equipment and risers already on the poles. In addition, the one alternative pole that has been identified as feasible to build a microcell facility on would all be closer to home(s) than the subject pole. Significant tree trimming would be needed at every alternative pole, even if they were all feasible, and therefore bringing them more into the public view than ever before. Thus, Verizon has concluded that of all the alternative poles, it <u>could not</u> determined than any of them would be less intrusive than the subject pole. Therefore Verizon believes that the subject site is the least intrusive means to fill the known coverage gap.

# Verizon Wireless • Proposed Base Station (Site No. 318887 "Chabot Tunnel SC1") 6989 Chabot Road • 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 the base station (Site No. 318887 "Chabot Tunnel SC1") proposed to be located at 6989 Chabot Road in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

### **Executive Summary**

Verizon proposes to install directional panel antennas on the utility pole sited on Chabot Road at Golden Gate Avenue in Oakland. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

### **Prevailing Exposure Standards**

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 exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

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

### **General Facility Requirements**

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the



HAMMETT & EDISON, INC. CONSULTING ENGINEERS

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## Verizon Wireless • Proposed Base Station (Site No. 318887 "Chabot Tunnel SC1") 6989 Chabot Road • Oakland, California

antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

### **Computer Modeling Method**

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

### **Site and Facility Description**

Based upon information provided by Verizon, including construction drawings by On Air, dated May 24, 2017, it is proposed to install one CommScope Model SBNHH-1D45A directional panel antenna on top of a new 46-foot utility pole to replace the existing pole sited on the south side of Chabot Road about 100 feet west of Golden Gate Avenue in Oakland, near the north corner of the tennis courts at the Chabot Recreation Center. The antenna would employ up to 2° downtilt, would be mounted at an effective height of about 48½ feet above ground, and would be oriented toward 75°T, northeast along Chabot Road. The maximum effective radiated power in that direction would be 9,120 watts, representing simultaneous operation at 6,960 watts for AWS and 2,160 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

#### **Study Results**

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.017 mW/cm<sup>2</sup>, which is 2.1% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby residence\* is 0.0061% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

<sup>\*</sup> Located at least 50 feet away, based on photographs from Google Maps.



# Verizon Wireless • Proposed Base Station (Site No. 318887 "Chabot Tunnel SC1") 6989 Chabot Road • Oakland, California

### **Recommended Mitigation Measures**

Due to its mounting location and height, the Verizon antenna would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access high on the pole, including employees and contractors of Verizon and of the utility companies. No access within 22 feet directly in front of the Verizon antenna itself, such as might occur during certain maintenance activities, should be allowed while the antenna is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs<sup>†</sup> be posted on the pole at or 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 base station proposed by Verizon Wireless at 6989 Chabot Road in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

<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.



# Verizon Wireless • Proposed Base Station (Site No. 318887 "Chabot Tunnel SC1") 6989 Chabot Road • Oakland, California

### **Authorship**

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 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.

E-13026
M-20676
Exp. 6-30-2019

William F. Hammett, P.E. 707/996-5200

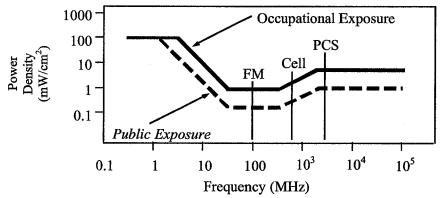
August 24, 2017

### **FCC Radio Frequency Protection Guide**

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

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

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Field S	ctric trength /m)	Field S	netic trength /m)	Power	t Far-Field Density /cm²)
0.3 - 1.34	614	614	1.63	1.63	100	100
1.34 - 3.0	614	823.8/f	1.63	2.19/f	100	180/f²
3.0 - 30	1842/ f	823.8/f	4.89/ f	2.19/f	900/f <sup>2</sup>	$180/f^2$
30 - 300	61.4	27.5	0.163	0.0729	1.0	0.2
300 - 1,500	3.54 <b>√</b> f	1.59 <b>√</b> f	<b>√</b> f/106	<b>√</b> f/238	f/300	f/1500
1,500 - 100,000	137	61.4	0.364	0.163	5.0	1.0



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.



HAMMETT & EDISON, INC. CONSULTING ENGINEERS

SAN FRANCISCO

### 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 
$$S = \frac{180}{\theta_{\text{RW}}} \times \frac{0.1 \times P_{\text{net}}}{\pi \times D \times h}$$
, 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  $mW/cm^2$ ,

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.



### Attachment G



### To Whom It May Concern:

PG&E entered into a Master License Agreement (MLA) with Verizon Wireless in October 2016. The MLA allows Verizon to attach their equipment and antennas to PG&E distribution poles, subject to PG&E approval. Verizon had already been authorized to attach their equipment below the primary and secondary power lines in the "communications zone". Under the MLA, Verizon is now licensed to use the "power zone" space owned by PG&E. The power zone is at the pole top, above the power lines. California Public Utilities Commission (CPUC) General Order 95, Rule 94 established that the antennas can be installed at the pole top position.

PG&E will comply with CPUC regulations and standards with regard to its distribution poles and reviews of proposed attachments.

However, Verizon is solely liable and responsible for complying with all applicable requirements, including CPUC General Order 95, with regard to its attachments on distribution poles.

Please call me at (925) 270-2729 if you have any questions or concerns regarding this matter.

Regards.

Lee Vaughan ilvf@pge.com

Sr. Electric Program Manager

PG&E Joint Utilities

## Exhibit A - JPA and CPUC Information

### APPENDIX A **PARTIES**

08/15/06

PARTIES TO THE NCJPA AGREEMENT dated October 10, 1960 Reference Recital B: 1. EFFECTIVE DATE January 1, 1998

AT&T Wireless (BAY AREA CELLULAR TELEPHONE COMPANY)	05/14/98
FRONTIER, A CITIZENS COMMUNICATIONS COMPANY	03/11/98
ALAMEDA POWER & TELECOM (CITY OF ALAMEDA/BUREAU OF ELECTRICITY)	05/19/98
CITY OF GRIDLEY	06/15/98
CITY OF SHASTA LAIKE	02/09/98
COMCAST COMMUNICATIONS	01/01/98
EVANS TELEPHONE COMPANY	01/02/98
VERIZON CALIFORNIA, INC (GTE CALIFORNIA, INC)	06/11/98
HAPPY VALLEY TELEPHONE COMPANY	03/16/98
ICG TELECOM GROUP	06/25/98
LASSEN MUNICIPAL UTILITY DISTRICT	02/04/98
MCImetro ACCESS TRANSMISSION SERVICES, INC.	04/10/98
MCI Telecommunications, Inc.	04/10/98
MODESTO IRRIGATION DISTRICT	01/27/98
PACIFIC BELL WEST/SBC	01/16/98
CINGULAR WIRELESS (PACIFIC BELL MOBILE SERVICES)	04/24/98
PG&E	12/30/97
ROSEVILLE TELEPHONE COMPANY	03/12/98
SACRAMENTO MUNICIPAL UTILITY DISTRICT	03/30/98
SIERRA TELEPHONE COMPANY	01/09/98
SISKIYOU TELEPHONE COMPANY	01/26/98
TRINITY COUNTY PUBLIC UTILITY DISTRICT	04/30/98
VOLCANO TELEPHONE COMPANY	06/08/98
NEW PARTIES	EFFECTIVE
	DATE
CITY OF LODI, ELECTRIC UTILITY DEPARTMENT	
	05/01/98
MERCED IRRIGATION DISTRICT	05/01/98 05/01/98
RCN of California, Inc.	
	05/01/98
RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS	05/01/98 01/01/99
RCN of California, Inc. GEYSERS POWER COMPANY, LLC	05/01/98 01/01/99 07/01/99
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RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01
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RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS WESTERN STATES TELEPORT CORPORATION VERIZON WIRELESS	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01 07/01/01
RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS WESTERN STATES TELEPORT CORPORATION VERIZON WIRELESS NEXTG NETWORKS, INC.	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01 07/01/01 08/01/01
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RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS WESTERN STATES TELEPORT CORPORATION VERIZON WIRELESS NEXTG NETWORKS, INC. TURLOCK IRRIGATION DISTRICT NEXTG NETWORKS INC.	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01 07/01/01 08/01/01 01/01/02 02/01/02
 RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS WESTERN STATES TELEPORT CORPORATION VERIZON WIRELESS NEXTG NETWORKS, INC. TURLOCK IRRIGATION DISTRICT	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01 07/01/01 08/01/01 01/01/02 02/01/02 04/10/03 11/01/03
RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS WESTERN STATES TELEPORT CORPORATION VERIZON WIRELESS NEXTG NETWORKS, INC. TURLOCK IRRIGATION DISTRICT NEXTG NETWORKS INC. METRO PCS T-MOBILE	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01 07/01/01 08/01/01 01/01/02 02/01/02 04/10/03 11/01/03
RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS WESTERN STATES TELEPORT CORPORATION VERIZON WIRELESS NEXTG NETWORKS, INC. TURLOCK IRRIGATION DISTRICT NEXTG NETWORKS INC. METRO PCS T-MOBILE NEW PATH NETWORKS	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01 07/01/01 08/01/01 01/01/02 02/01/02 04/10/03 11/01/03 05/01/04
RCN of California, Inc. GEYSERS POWER COMPANY, LLC SPRINT PCS SCHLUMBERGER RESOURCES MGMT SVCS. (CELLNET DATA SERVICES (CA) INC.) UBIQUITEL CELLULAR ONE OF SAN LUIS OBISPO NEXTEL COMMUNICATIONS WESTERN STATES TELEPORT CORPORATION VERIZON WIRELESS NEXTG NETWORKS, INC. TURLOCK IRRIGATION DISTRICT NEXTG NETWORKS INC. METRO PCS T-MOBILE NEW PATH NETWORKS CROWN CASTLE SOLUTIONS CORPORATION , CA-CLEC LLC, a wholly owned subsidiary	05/01/98 01/01/99 07/01/99 07/01/99 12/17/99 02/01/01 07/01/01 08/01/01 01/01/02 02/01/02 04/10/03 11/01/03 05/01/04 01/01/05
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Verizon Wireless was added to the JPA in 2002

CALAVERAS TELEPHONE COMPANY

from: Robles, Felix V. telix nobles@cgrac.covgos Subject: GTE Mobilinet (U-3002-C) Bate: January 27, 2015 at 2:55 PM To: January 27, 2015 at 2:55 PM To: January 48, January 48, January 58, January 59, January 5



#### Mr. Aaron Salars-

This email confirms that GTE Mobilnet (U-3002-C) is authorized as a public utility to offer telecommunications services in the state of California.

Felix Robles Program and Project Supervisor Communications Division, High-Cost Support and Surcharge Section Carrier Oversight and Programs Branch California Public Utilities Commission 505 Van Ness Ave 3rd Floor San Francisco, CA 94102 Phone: (415) 703-2801

Fax: (415) 703-2200

Verizon Wireless is the dba for GTE Mobilnet

## ATTACHMENT H

