

Case File Number: PLN16005

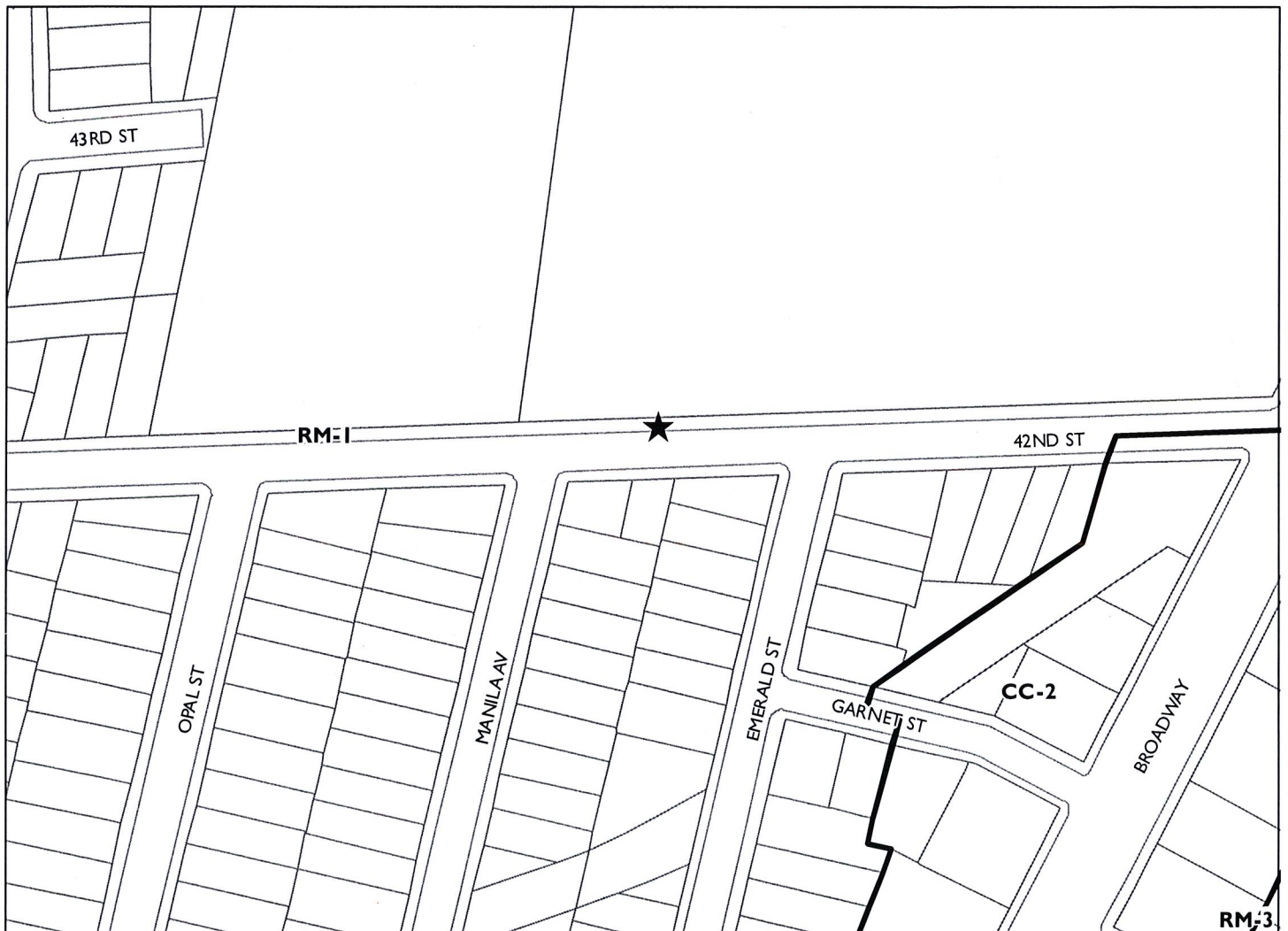
December 21, 2016

Location:	The Public Right-of-Way on 42nd Street. (Adjacent to 345 42nd St.) (See map on reverse)
Assessors Parcel Numbers:	012 -1003-002-00 (nearest lot adjacent to the project site.)
Proposal:	The installation of an unmanned wireless telecommunication facility on a new public utility pole in the right-of-way on 42 nd Street. The proposal includes one panel antenna mounted at an approximately 50-foot pole height and one equipment box (approximately 5'-8" tall by 1'-10" wide) to be mounted onto the pole at approximately 10 feet above the public right-of-way. All public utilities will remain on the pole.
Applicant:	Verizon Wireless, c/o Modus Corp.
Contact Person/ Phone Number:	Susan Zaca (209)275-8698
Owner:	City of Oakland
Case File Number:	PLN16005
Planning Permits Required:	Regular Design Review (non-residential) to install a wireless Macro Telecommunications Facility (17.136.050 (B)(2); Additional Findings for a Macro Facility (OMC Sec. 17.128.070(B)(C).
General Plan:	Mixed Housing Type Residential
Zoning:	RM-1 Mixed Housing Type Residential 1 Zone
Environmental Determination:	Exempt, Section 15303 of the State CEQA Guidelines (small facilities or structures; installation of small new equipment and facilities in small structures), and none of the exceptions to the exemption in CEQA Guidelines Section 15300.2 apply to the proposal. Exempt, Section 15183 of the State CEQA Guidelines; projects consistent with a community plan, general plan or zoning.
Historic Status:	Not a Potential Designated Historic Property; Survey rating: N/A
Service Delivery District:	1
City Council District:	1
Date Filed:	January 6 th , 2016
Finality of Decision:	Appealable to City Council within 10 Days
For Further Information:	Contact case planner Jose M. Herrera-Preza at (510) 238-3808 or jherrera@oaklandnet.com

SUMMARY

The proposal is to install an unmanned wireless Telecommunications Macro Facility on a replacement public utility pole located in the public right-of-way on 42nd Street adjacent to Oakland Technical High School. Modus Corporation for Verizon Wireless is proposing to install one panel antenna mounted on top of a replacement utility pole, resulting in a new height of 50 feet to the top of the antenna. The proposal includes an associated equipment box mounted onto the pole.

CITY OF OAKLAND PLANNING COMMISSION



Case File: PLN16005

Applicant: Verizon Wireless, c/o Modus Corp

Address: The Public Right-of-Way adjacent to 345 42nd Street

Zone: RM-1

A Major Design Review permit is required to install a new Telecommunications Facility located within 100 feet of a residential zone. As detailed below, the project meets all of the required findings for approval. Therefore, staff recommends approval of the project subject to the attached Conditions of Approval.

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.

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 FCC standards in this regard. See, 47 U.S.C. 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. 47 U.S.C.332(c)(7)(B)(ii). See 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, contact Steve Markendorff, Chief of the Broadband Branch, Commercial Wireless Division, Wireless Telecommunications Bureau, at (202) 418-0640 or e-mail "smarkend@fcc.gov".

SITE DESCRIPTION

The existing 40 foot tall wooden public utility pole is located mid-block in the public right-of-way, across the street from 345 42nd Street and directly in front of tennis courts and other athletic facilities associated with Oakland Technical High School. The surrounding urban neighborhood contains single- and multi-family residences. The existing pole has communications lines attached at 19'-4" above the right-of-way, CATV lines at 23 feet above the right-of-way, a cobra head street light at about 27' above the right-of-way and power lines at 33'-2" above ground. All of these elements will be relocated to the new replacement pole.

PROJECT DESCRIPTION

The applicant (Modus Corp. for Verizon Wireless) is proposing to install a small unmanned wireless Telecommunications Macro Facility on a replacement utility pole located in the public right-of-way along 42nd Street near Oakland Technical High School. The project consists of swapping an existing 40 foot public utility pole with another pole of equal height. The total height of the facility would be 50 feet after the panel antennae is installed at the top of the pole.

In order to reduce visual clutter, the associated equipment box will be mounted onto the pole in a screened enclosure approximately 10 feet above the public right-of-way. (See Attachment A for project plans).

GENERAL PLAN ANALYSIS

The subject property is located within the Mixed Housing Type Residential Area of the General Plan Land Use & Transportation Element (LUTE). The Mixed Housing Type Residential Classification is intended *"to create, maintain, and enhance residential areas typically located near the City's major arterials and characterized by a mix of single family homes, townhouses, small multi-unit buildings, and neighborhood businesses where appropriate"*.

The proposed small unmanned telecommunication facilities will be mounted on a new wood public utility pole intended to resemble other utility poles within the public right-of-way. Visual impacts will be minimal because the antenna will be mounted 50 feet above the right-of-way. The equipment cabinets will be housed within a single box and painted to match the existing utility pole. The facility will neither be directly in front of a home nor near an intersection and will visually blend into the facilities that are associated with the athletic fields at Oakland Technical High School. Therefore, the proposed unmanned wireless telecommunication facility will not adversely affect or detract from the residential characteristics of the neighborhood.

The proposal is consistent with the following LUTE objective:

Objective N2: Encourage adequate civic, institutional and educational facilities located within Oakland, appropriately designed and sited to serve the community.

Staff finds the proposal to be in conformance with the objectives of the General Plan by servicing the community with enhanced telecommunications capability.

ZONING ANALYSIS

The proposed project is located in RM-1 Mixed Housing Type Residential 1 Zone. The intent of the RM-1 Zone is: *"to create, maintain, and enhance residential areas characterized by a mix of single family homes and duplexes, and neighborhood businesses where appropriate"*. The project requires Regular Design Review per Section 17.136.040 of the Planning Code and must meet the standard Design Review Findings contained in Section 17.136.050. Section 17.128.070 states that Macro Telecommunications Facilities that are both in the public right of way and within 100 feet from a residential zone must meet special findings to ensure that the facility is concealed to the greatest extent possible. As discussed in the Findings section, below, the project meets each of these required findings.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines lists the projects that qualify as categorical exemptions from environmental review. Staff finds that the proposed project is categorically exempt from the environmental review requirements pursuant to Section 15301, (additions and alterations to existing facilities), and Section 15303 (small facilities or structures; installation of small new equipment and facilities in small structures), and that none of the exceptions to the exemption in CEQA Guidelines Section 15300.2 are not triggered by the proposal, and 15183 (projects consistent with a General Plan or Zoning) further applies.

KEY ISSUES AND IMPACTS

1. Regular Design Review

As mentioned, the project meets all the required Design Review findings contained in Sections 17.136.050 and 17.128.070 of the City of Oakland Planning Code. The required findings, and the reasons this project meets them, are listed and included in the Required Findings section of this report.

2. Project Site

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

- A. Co-located on an existing structure or facility with existing wireless antennas.
- B. City-owned properties or other public or quasi-public facilities.
- C. Existing commercial or industrial structures in non-residential zones (excluding all HBX Zones and the D-CE-3 and D-CE-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 located on an A, B or C ranked preferences do not require a site alternatives analysis. Since the proposed project involves locating the installation of new antennas and associated equipment cabinets on an existing utility pole, the proposed project meets: (B) quasi-public facilities on for a new wood public utility pole in the public right-of-way. The applicant has also provided a statement on site alternative analysis to indicate a public necessity for telecommunication services in the area and to show a number of alternative sites that were considered.

3. Project Design

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

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

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

- a. 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).

City of Oakland Planning staff, along with the applicant, completed an on-site site design analysis and determined that the site selected conforms to all other telecommunication regulation requirements. The project meets design criteria (C) since the antennas will be mounted on a new wood utility pole resembling existing PG&E wood poles in the area, in addition to locating the new pole in an area where the new facility is surrounded by utility poles and the equipment cabinet box and battery backup box will be housed within a single equipment box mounted onto the pole and painted to match the color of an existing PG&E utility pole to minimize potential visual impacts from public view. In addition, the applicant conducted an extensive site design alternative analysis of various alternative sites (See attachment C) where significant gaps in coverage exist and was visually the least obtrusive.

4. Project Radio Frequency Emissions Standards

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

- a. With the initial application, a RF emissions report, prepared by a licensed professional engineer or other expert, indicating that the proposed site will operate within the current acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.
- b. Prior to commencement of construction, a RF emissions report indicating the baseline RF emissions condition at the proposed site.
- c. Prior to final building permit sign off, an RF emissions report indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.

The RF-EME Electromagnetic Energy Compliance Report, prepared by William F. Hammett, P.E. for Hammett & Edison Inc. Consulting Engineers, indicates that the proposed project meets the radio frequency (RF) emissions standards as required by the regulatory agency. The report states that the proposed project will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not cause a significant impact on the environment. Additionally, staff recommends as a condition of approval that, prior to the issuance of a final building permit, the applicant submits a certified RF emissions report stating that the facility is operating within acceptable thresholds established by the regulatory federal agency.

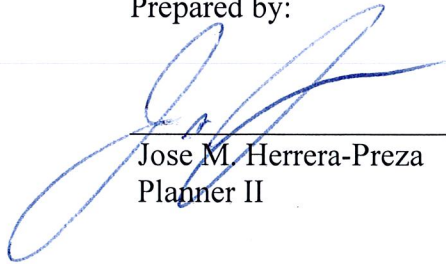
CONCLUSION

The proposed project meets all of the required findings for approval. Therefore, staff recommends approval of the project subject to the attached conditions.

RECOMMENDATIONS:

- 1. Affirm staff's environmental determination
- 2. Approve Design Review application
PLN16005 subject to the attached findings
and conditions of approval

Prepared by:



Jose M. Herrera-Preza
Planner II

Reviewed by:



Scott Miller
Zoning Manager

Approved for forwarding to the
City Planning Commission:



Darin Ranelletti, Interim Director
Department of Planning and Building

ATTACHMENTS:

- A. Project Plans & Photo simulations & Alternative Site Analysis
- B. Hammett & Edison, Inc., Consulting Engineering RF Emissions Report
- C. Site Alternative Analysis
- D. Correspondence

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 proposed small unmanned telecommunication facilities will be mounted on a new wood public utility pole intended to resemble other utility poles within the public right-of-way. Visual impacts will be minimal because the antenna will be mounted 50 feet above the right-of-way. The equipment cabinets will be housed within a single box and painted to match the existing utility pole. The facility will neither be directly in front of a home nor near an intersection and will visually blend into the athletic facilities at Oakland Technical High School that are adjacent to the site. Therefore, the proposed unmanned wireless telecommunication facility will not adversely affect or detract from the visual quality 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;

See Finding 1.

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.

See General Plan Analysis section, above.

17.128.070(B) DESIGN REVIEW CRITERIA FOR MACRO FACILITIES

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

The proposed antennas will be painted to match the utility pole and blend with the surroundings.

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 will not be mounted on any building or architecturally significant structure, but rather on a utility pole.

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 mounted on a new public utility pole (to replace an existing public pole in the same location) and painted to match the pole, which will be further camouflaged by the High School Tennis Courts in the backdrop.

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 equipment will be located within a single equipment box mounted 10' above the public right-of-way and painted to match the pole and blend with the surroundings. The site will be across the street from nearby residences adjacent to Oakland Technical High School.

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

The proposed equipment cabinets will be compatible with the existing utility related equipment.

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, anti-climbing measures and anti-tampering devices.

The antennas will be mounted onto a new public utility pole. They will not be accessible to the public due to their location. The equipment accommodation and battery backup boxes will also be located inside a single equipment box located 10' above ground and will be secured to the greatest extent possible from the public and vehicles.

CONDITIONS OF APPROVAL
PLN16005

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 **PLN16005**, and the plans dated **September 19, 2016** submitted on **October 11, 2016**, as amended by the following conditions of approval and mitigation measures, if applicable (“Conditions of Approval” or “Conditions”).

2. Effective Date, Expiration, Extensions and Extinguishment

This Approval shall become effective immediately, unless the Approval is appealable, in which case the Approval shall become effective in ten calendar days unless an appeal is filed. Unless a different termination date is prescribed, this Approval shall expire **two years** from the Approval date, or from the date of the final decision in the event of an appeal, unless within such period all necessary permits for construction or alteration have been issued, or the authorized activities have commenced in the case of a permit not involving construction or alteration. Upon written request and payment of appropriate fees submitted no later than the expiration date of this Approval, the Director of City Planning or designee may grant a one-year extension of this date, with additional extensions subject to approval by the approving body. Expiration of any necessary building permit or other construction-related permit for this project may invalidate this Approval if said Approval has also expired. If litigation is filed challenging this Approval, or its implementation, then the time period stated above for obtaining necessary permits for construction or alteration and/or commencement of authorized activities is automatically extended for the duration of the litigation.

3. Compliance with Other Requirements

The project applicant shall comply with all other applicable federal, state, regional, and local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City’s Bureau of Building, Fire Marshal, and Public Works Department. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition #4.

4. Minor and Major Changes

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

5. Compliance with Conditions of Approval

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

PROJECT SPECIFIC CONDITIONS:

10. Construction Activity in the Public Right-of-Way

a. ***Obstruction Permit Required***

Requirement: The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets and sidewalks.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. ***Traffic Control Plan Required***

Requirement: In the event of obstructions to vehicle or bicycle travel lanes, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic

Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian detours, including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The project applicant shall implement the approved Plan during construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Public Works Department, Transportation Services Division

Monitoring/Inspection: Bureau of Building

c. ***Repair of City Streets***

Requirement: The project applicant shall repair any damage to the public right-of way, including streets and sidewalks caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval

of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.

When Required: Prior to building permit final

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

11. 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.

12. 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.

13. Equipment cabinets

Prior to building permit Issuances.

The applicant shall submit revised elevations showing associated equipment cabinets are concealed within a single equipment box that is painted to match the utility pole, to the Oakland Planning Department for review and approval.

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. Public Works Review

Prior to submitting a building permit application

The plans shall receive a satisfactory review from the Public Works Agency, incorporating any required modifications.

Attachment A

279041 OAKLAND TECH HIGH SCHOOL

IFO 345 42ND. STREET
OAKLAND, CA 94609
JURISDICTION: ALAMEDA COUNTY
PG&E POLE#: 110146235



Prepared for:
verizonwireless
2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Vendor:

149 NATOMA STREET, 3RD FLOOR
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Architect:
**BYERS
ENGINEERING
COMPANY**
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PLEASANTON, CA 94588
Phone: (925) 398-6000

PROJECT DESCRIPTION	PROJECT INFORMATION	PROJECT TEAM	SHEET INDEX	REV																																																								
<p>THIS IS AN UNMANNED MICRO WIRELESS TELECOMMUNICATION FACILITY FOR VERIZON WIRELESS CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING WOODEN POLE IN THE PUBLIC RIGHT OF WAY.</p> <p>SCOPE OF WORK</p> <ol style="list-style-type: none"> INSTALL (N) 4' AMPHENOL ANTENNA ON TOP OF (N) WOOD POLE @ 48'-0" RAD CENTER INSTALL (N) (2) RRUS-12 ON (N) WOOD POLE INSIDE IN (N) CHARLES CABINET. INSTALL (N) METER ON (N) WOOD POLE. INSTALL (N) UTILITY DISCONNECT SWITCH ON (N) WOOD POLE. INSTALL (N) FCC SIGNAGE ON (N) WOOD POLE. INSTALL (N) CONDUIT FOR POWER AND TELCO. INSTALL (N) CHARLES CABINET (CUBE-SC30432NE3) ON (N) WOOD POLE. INSTALL (N) U.G. CONDUITS AS REQUIRED FROM (N) WOOD POLE TO PULL BOX, REPLACE SIDEWALK PER CITY SPECIFICATIONS. INSTALL 17"x30" PULL BOX FOR FIBER <p>SITE COMPLETION CHECKLIST</p> <ul style="list-style-type: none"> DURABLE PAINT-ANTENNAS, MOUNTING BRACKETS, POLE EXTENSIONS, PVC CONDUIT, CABLING, METER AND RADIO RELAY UNITS TO BE PAINTED MESA BROWN USING A DURABLE PAINT (E.G. SHERWIN WILLIAMS FRAZEE OR EQUIVALENT) CABLING-CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS. SPACING OF SUPPORT ELEMENTS-SUPPORT EQUIPMENT (E.G. METER, LOAD CENTER AND RRUS) TO BE CLUSTERED (VERTICALLY) AS CLOSE AS IS TECHNICALLY FEASIBLE ON POLE. LOGO REMOVAL-ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION OR SHUTDOWN SIGNAGE) OR PG&E REGULATIONS SHALL BE PAINTED OVER OR REMOVED. RAISED/DEPRESSED LOGOS/TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED FILLED. SIGNAGE-FCC MANDATED RF WARNING SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF, OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW. UTILITY LINES-PROPOSED UTILITY LINES BETWEEN EXISTING POINT OF CONNECTION TO BE OVERHEAD. <p>CODE COMPLIANCE</p> <p>ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.</p> <ol style="list-style-type: none"> 2013 CALIFORNIA BUILDING CODE (CBC) WITH CALIFORNIA AMENDMENTS, BASED ON THE 2009 IBC 2013 CALIFORNIA RESIDENTIAL CODE (CRC) WITH APPENDIX H, PATIO COVERS, BASED ON THE 2009 IRC 2013 CALIFORNIA HISTORICAL BUILDING CODE (CHBC) 2013 CALIFORNIA EXISTING BUILDING CODE (CEBC), BASED ON THE 2009 IEBC 2013 CALIFORNIA GREEN BUILDINGS STANDARDS CODE (CGBSC) 2013 CALIFORNIA FIRE CODE (CFC), BASED ON THE 2009 IFC, WITH CALIFORNIA AMENDMENTS 2013 CALIFORNIA MECHANICAL CODE (CMC), BASED ON THE 2009 UMC 2013 CALIFORNIA PLUMBING CODE (CPC), BASED ON THE 2009 UPC 2013 CALIFORNIA ELECTRICAL CODE (CEC) WITH CALIFORNIA AMENDMENTS, BASED ON THE 2008 NEC 2013 CALIFORNIA ENERGY CODE (CEC) ANSI / EIA-TIA-222-G 2012 NFPA 101, LIFE SAFETY CODE 2012 NFPA 72, NATIONAL FIRE ALARM CODE 2012 NFPA 13, FIRE SPRINKLER CODE 	<p>PROPERTY INFORMATION: SITE NAME: OAKLAND TECH HIGH SCHOOL SITE NUMBER: 279041</p> <p>SITE ADDRESS: IFO 345 42ND. STREET OAKLAND, CA 94609</p> <p>A.P.N. NUMBER: PUBLIC RIGHT OF WAY CURRENT USE: TELECOMMUNICATIONS FACILITY PROPOSED USE: TELECOMMUNICATIONS FACILITY JURISDICTION: ALAMEDA COUNTY LATITUDE: 37° 49' 52.40"N LONGITUDE: 122° 15' 23.06"W GROUND ELEVATION: 101.8±' AMSL</p> <p>PROPERTY OWNER: R.O.W.</p> <p>POWER AGENCY: PG&E 245 MAIN STREET SAN FRANCISCO, CA 94105 (800)-743-5000</p> <p>TELEPHONE AGENCY: AT&T CALIFORNIA 5001 EXECUTIVE PARKWAY SAN RAMON, CA 94583</p>	<p>APPLICANT/LESSEE: VERIZON WIRELESS 2785 MITCHELL DRIVE SUITE 9 WALNUT CREEK, CA 94598 CONTACT: CHRIS MOLLER PHONE: (925) 339-2778 EMAIL: Chris.Moller@VerizonWireless.com</p> <p>SITE ACQUISITION MANAGER: MODUS INC. 149 NATOMA STREET, 3RD FLOOR SAN FRANCISCO, CA 94105 CONTACT: SUSAN ZACA, LAND USE MANAGER PH: (209) 275-8698 WEB SITE: www.modus-corp.com EMAIL: szaca@modus-corp.com</p> <p>CONSTRUCTION: MODUS INC. 149 NATOMA STREET, 3RD FLOOR SAN FRANCISCO, CA 94105 CONTACT: KRESSTON HAYNES, SENIOR CONSTRUCTION MANAGER PH: (209) 938-7251 EMAIL: khaynes@modus-corp.com</p> <p>ARCHITECT: BYERS ENGINEERING COMPANY 4780 CHABOT DRIVE, STE. 104 PLEASANTON, CA 94588 CONTACT: ROGER CABRERA PH: (301) 760-8667 EMAIL: Roger.cabrera@Byers.com</p> <p>RF ENGINEER: VERIZON WIRELESS 2785 MITCHELL DRIVE, SUITE 9 WALNUT CREEK, CA 94598 CONTACT: KATY QIAN EMAIL: Junfang.Qian@VerizonWireless.com PH: (916)508-9382</p>	<table border="1"> <thead> <tr> <th>TITLE SHEET</th> <th>REV</th> </tr> </thead> <tbody> <tr><td>T-1</td><td>4</td></tr> <tr><td>GN-1</td><td>4</td></tr> <tr><td>C-1</td><td>4</td></tr> <tr><td>A-1</td><td>4</td></tr> <tr><td>A-2</td><td>4</td></tr> <tr><td>A-3</td><td>4</td></tr> <tr><td>A-3.1</td><td>4</td></tr> <tr><td>A-4</td><td>4</td></tr> <tr><td>A-4.1</td><td>4</td></tr> <tr><td>A-4.2</td><td>4</td></tr> <tr><td>E-1</td><td>4</td></tr> <tr><td>E-2</td><td>4</td></tr> <tr><td>E-3</td><td>4</td></tr> </tbody> </table>	TITLE SHEET	REV	T-1	4	GN-1	4	C-1	4	A-1	4	A-2	4	A-3	4	A-3.1	4	A-4	4	A-4.1	4	A-4.2	4	E-1	4	E-2	4	E-3	4	<p>VERIZON SITE NO: 279041</p> <p>PROJECT NO:</p> <p>DRAWN BY: FG</p> <p>CHECKED BY: NHP</p> <p>Issued For: CONSTRUCTION</p> <table border="1"> <thead> <tr> <th>REV#</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>REV4</td> <td>09/19/16</td> <td>NEW EQUIPMENT DESIGN</td> <td>RD</td> </tr> <tr> <td>REV3</td> <td>07/07/16</td> <td>NEW EQUIPMENT DESIGN</td> <td>RD</td> </tr> <tr> <td>REV2</td> <td>11/18/15</td> <td>100% CONSTRUCTION</td> <td>FG</td> </tr> <tr> <td>REV1</td> <td>10/21/15</td> <td>PLAN CHECK COMMENTS</td> <td>JA</td> </tr> <tr> <td>REV0</td> <td>09/08/15</td> <td>90% ISSUED FOR REVIEW</td> <td>FG</td> </tr> <tr> <td>REV</td> <td>DATE</td> <td>DESCRIPTION</td> <td>BY</td> </tr> </tbody> </table> <p>Licensors:</p> <p>IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.</p> <p>Project Info: OAKLAND TECH HIGH SCHOOL PUBLIC RIGHT OF WAY ACROSS FROM 345 42ND. STREET OAKLAND, CA 94609</p> <p>Sheet Title: TITLE SHEET</p> <p>Sheet Number: T-1</p>	REV#	DATE	DESCRIPTION	BY	REV4	09/19/16	NEW EQUIPMENT DESIGN	RD	REV3	07/07/16	NEW EQUIPMENT DESIGN	RD	REV2	11/18/15	100% CONSTRUCTION	FG	REV1	10/21/15	PLAN CHECK COMMENTS	JA	REV0	09/08/15	90% ISSUED FOR REVIEW	FG	REV	DATE	DESCRIPTION	BY
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	<p>VICINITY MAP</p>	<p>DRIVING DIRECTIONS</p> <p>DIRECTIONS FROM VERIZON OFFICE AT 2785 MITCHELL DRIVE, WALNUT CREEK, CA</p> <ol style="list-style-type: none"> HEAD NORTHEAST ON MITCHELL OR TOWARD OAK GROVE RD TURN RIGHT ONTO OAK GROVE RD TURN RIGHT ONTO YGNACIO VALLEY YGNACIO VALLEY RD TURNS SLIGHTLY RIGHT AND BECOMES HILLSIDE AVE TURN RIGHT ONTO THE RAMP TO CA-24 W CONTINUE ONTO CA-24 W KEEP LEFT AT THE FORK TO STAY ON CA-24 W TAKE EXIT 48 TO MERGE ONTO BROADWAY MERGE ONTO BROADWAY TURN RIGHT ONTO 42ND. STREET 	<p>APPROVALS</p> <table border="1"> <thead> <tr> <th>APPROVED BY:</th> <th>SIGNATURE</th> <th>DATE:</th> </tr> </thead> <tbody> <tr> <td>VERIZON CONSTRUCTION MANAGER</td> <td></td> <td></td> </tr> <tr> <td>VERIZON RF ENGINEER</td> <td></td> <td></td> </tr> <tr> <td>VERIZON EQUIPMENT ENGINEER</td> <td></td> <td></td> </tr> <tr> <td>PROPERTY OWNER</td> <td></td> <td></td> </tr> <tr> <td>VERIZON REAL ESTATE</td> <td></td> <td></td> </tr> <tr> <td>MODUS CONSTRUCTION MANAGER</td> <td></td> <td></td> </tr> <tr> <td>MODUS LEASING MANAGER</td> <td></td> <td></td> </tr> <tr> <td>MODUS ZONING MANGER</td> <td></td> <td></td> </tr> <tr> <td>MODUS PROJECT MANAGER</td> <td></td> <td></td> </tr> <tr> <td>OTHER (IF APPLICABLE)</td> <td></td> <td></td> </tr> </tbody> </table> <p>RFDS</p> <table border="1"> <thead> <tr> <th>REVISION LEVEL</th> <th>DATE:</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table> <p>GENERAL CONTRACTOR NOTES</p> <p>DO NOT SCALE DRAWINGS</p> <p>THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 24" x 36". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOBSITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME.</p>	APPROVED BY:	SIGNATURE	DATE:	VERIZON CONSTRUCTION MANAGER			VERIZON RF ENGINEER			VERIZON EQUIPMENT ENGINEER			PROPERTY OWNER			VERIZON REAL ESTATE			MODUS CONSTRUCTION MANAGER			MODUS LEASING MANAGER			MODUS ZONING MANGER			MODUS PROJECT MANAGER			OTHER (IF APPLICABLE)			REVISION LEVEL	DATE:																						
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	<p>OCCUPANCY AND CONSTRUCTION TYPE</p> <p>OCCUPANCY : S-2 (UNMANNED)</p> <p>CONSTRUCTION TYPE: IIB</p> <p>HANDICAP REQUIREMENTS FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. ACCESSIBILITY ACCESS AND REQUIREMENTS ARE NOT REQUIRED, IN ACCORDANCE WITH CALIFORNIA STATE ADMINISTRATIVE CODE, PART 2, TITLE 24, SECTION 1103B.1, EXCEPTION 1 & SECTION 1134B.2.1, EXCEPTION 4.</p>																																																											

1. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND NETWORK CARRIER OF ANY ERRORS, OMISSIONS, OR INCONSISTENCIES AS THEY MAY BE DISCOVERED IN PLANS, DOCUMENTS, NOTES, OR SPECIFICATIONS, PRIOR TO STARTING CONSTRUCTION INCLUDING, BUT NOT LIMITED BY, DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ERROR, OMISSION, OR INCONSISTENCY AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF ARCHITECT AND NETWORK CARRIER CONSTRUCTION PROJECT MANAGER AND SHALL INCUR ANY EXPENSES TO RECTIFY THE SITUATION. THE MEANS OF CORRECTING ANY ERROR SHALL FIRST BE APPROVED BY THE ARCHITECT AND THE NETWORK CARRIER CONSTRUCTION PROJECT MANAGER.
2. PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION; AND THE CONTRACTOR HAVING BEEN AWARDED THIS PROJECT, SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION/CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.
3. THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE NETWORK CARRIER PROJECT SCOPE AND THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
4. 11X17 COPIES OF DRAWINGS ARE NOT TO BE SCALED DUE TO DISTORTIONS RESULTING FROM MULTIPLE REPROGRAPHIC COPIES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALES SHOWN ON PLANS.
5. OWNER, CONTRACTOR, AND NETWORK CARRIER REPRESENTATIVE SHALL REVIEW AND CONFIRM THAT PROJECT SCOPE, DESIGN INTENT AND UTILITY COORDINATION ITEMS ARE INCLUDED IN THE DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION.
6. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION FROM NETWORK CARRIER REPRESENTATIVE TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS OR TENANTS.
8. THE CONTRACTOR SHALL PROVIDE NETWORK CARRIER PROPER INSURANCE CERTIFICATES NAMING NETWORK CARRIER AS ADDITIONAL INSURED, AND PROVIDE NETWORK CARRIER PROOF OF LICENSE(S) INCLUDING PE & PD INSURANCE.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
11. ALL WORK PERFORMED ON THE PROJECT ALONG WITH ALL MATERIALS INSTALLED, SHALL COMPLY IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL LIKEWISE ISSUE NOTICE TO ALL SUB-CONTRACTORS THAT THEY SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPALITY, UTILITY COMPANY AND LOCAL/STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
12. A COPY OF THE GOVERNING AGENCY ISSUED AND APPROVED PLANS SHALL BE KEPT IN A PLACE SPECIFIED BY THE GOVERNING AGENCY, AND BY LAW, SHALL BE AVAILABLE AT THE JOB SITE FOR INSPECTION AT ALL TIMES. THE ORIGINAL PERMIT SET PLANS ARE NOT TO BE USED BY THE WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT THE SAME INFORMATION AS GOVERNING AGENCY APPROVED PLANS. THE CONTRACTOR SHALL ALSO MAINTAIN ONE SET OF PLANS, IN GOOD CONDITION, COMPLETE WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES UNDER THE DIRECT CARE OF THE SUPERINTENDENT. THE CONTRACTOR SHALL SUPPLY THE NETWORK CARRIER CONSTRUCTION PROJECT MANAGER WITH A COPY OF ALL REVISIONS, ADDENDA, AND/OR CHANGE ORDERS AT THE CONCLUSION OF THE WORK AS A PART OF THE AS-BUILT DRAWING RECORDS.
13. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
14. THE CONTRACTOR SHALL STUDY THE STRUCTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING PLANS AND CROSS CHECK THEIR DETAILS, NOTES, DIMENSIONS, AND ALL REQUIREMENTS PRIOR TO THE START OF ANY WORK. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE JOB SITE WHILE WORK IS IN PROGRESS UNTIL THE JOB IS COMPLETE.
16. THE CONTRACTOR HAS THE RESPONSIBILITY OF LOCATING ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THE PLANS, ALONG WITH PROTECTING THEM FROM DAMAGE. THE CONTRACTOR AND SUBCONTRACTOR SHALL BEAR THE EXPENSES OF REPAIR AND/OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGE RESULTING FROM OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THE WORK.
17. ALL EXISTING CONSTRUCTION, EQUIPMENT, AND FINISHES NOTED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL BE REMOVED FROM THE SITE WITH THE FOLLOWING EXCEPTIONS:
A. PROPERTY NOTED TO BE RETURNED TO THE OWNER.
B. PROPERTY NOTED TO BE REMOVED BY THE OWNER.
18. THE GOVERNING AGENCIES, CODE AUTHORITIES, AND BUILDING INSPECTORS SHALL PROVIDE MINIMUM STANDARDS FOR CONSTRUCTION TECHNIQUES, MATERIALS, AND FINISHES USED THROUGHOUT THE PROJECT. TRADE STANDARDS AND/OR PUBLISHED MANUFACTURERS SPECIFICATIONS MEETING OR EXCEEDING DESIGN REQUIREMENTS SHALL BE USED FOR INSTALLATION.
19. WHEN ROOF TOP OR TOP FLOOR DECK TEMPORARY STAGING OF IS REQUIRED, MATERIALS SHALL BE EVENLY DISTRIBUTED OVER ROUGH FRAMED FLOORS OR ROOFS SO AS NOT TO EXCEED THE DESIGNED LIVE LOADS FOR THE STRUCTURE. TEMPORARY SHORING AND/OR BRACING IS TO BE PROVIDED WHERE THE STRUCTURE DOESN'T HAVE THE DESIGN STRENGTH FOR ADDITIONAL LOADING.
20. SEAL ALL PENETRATIONS WITHIN FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF APPLICABLE TO THE SUBJECT FACILITY AND OR PROJECT SITE.
21. BUILDING INSPECTORS AND/OR OTHER BUILDING OFFICIALS ARE TO BE NOTIFIED PRIOR TO ANY GROUND DISTURBANCE, CONSTRUCTION, AND ANY OTHER PROJECT EFFORT AS MANDATED BY THE GOVERNING AGENCY.
22. CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
23. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, AND CURBING, DURING CONSTRUCTION UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ADJACENT TO THE PROPERTY.
24. CONTRACTOR SHALL KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION, DISPOSING OF ALL DIRT, DEBRIS, AND RUBBISH. CONTRACTOR SHALL REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
25. NEW CONSTRUCTION INSTALLED ADJACENT EXISTING BUILDINGS OR CONSTRUCTION SHALL ARCHITECTURALLY MATCH THE EXISTING IN TERMS OF COLOR, TEXTURE, FINISH MATERIALS, ETC., EXCEPT AS NOTED IN THE PLANS AND SPECIFICATIONS.
26. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BACKING, BLOCKING, AND/OR OTHER ANCHORAGE DEVICES REQUIRED FOR THE INSTALLATION OF FIXTURES, MECHANICAL EQUIPMENT, PLUMBING, HARDWARE, AND FINISH ITEMS TO INSURE A PROPER AND CODE COMPLIANT INSTALLATION.
27. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING INSTALLATIONS THAT ARE CONSTRUCTED LEVEL, ERECT, EVENLY ALIGNED, PLUMB AND TRUE BASED ON THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL COMPARE EXISTING CONDITIONS WITH THE PROPOSED DESIGN PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES OR INCONSISTENCIES TO THE NETWORK CARRIER'S REPRESENTATIVE AND FURTHER TO THE A&E SUCH THAT THE NEW INSTALLATION WILL LIKEWISE BE LEVEL, ERECT, EVENLY ALIGNED, PLUMB AND TRUE. NETWORK CARRIER SHALL BE NOTIFIED OF ANY ERRORS, OMISSIONS, OR INCONSISTENCIES PRIOR TO ANY CONSTRUCTION.
28. THE CONTRACTOR IS TO PROVIDE PROTECTION FOR ADJOINING PROPERTIES FROM PHYSICAL HARM, NOISE, DUST, DIRT, AND FIRE AS REQUIRED BY THE GOVERNING AGENCIES.
29. WHERE SPECIFIED, MATERIALS TESTING SHALL BE TO THE LATEST STANDARDS AND/OR REVISIONS AVAILABLE AS REQUIRED BY THE GOVERNING AGENCY RESPONSIBLE FOR RECORDING THE RESULTS.
30. THE CONTRACTOR IS RESPONSIBLE FOR THE STORAGE OF ALL MATERIALS AND SHALL NOT STORE OR STAGE MATERIALS ON PUBLIC PROPERTY WITHOUT A PERMIT TO DO SO FROM THE GOVERNING AGENCIES FOR THIS PURPOSE.
31. GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENTS TO BE USED IN ALL CONDITIONS UNLESS ILLUSTRATED AND NOTED OTHERWISE.
32. TRADES INVOLVED IN THE PROJECT SHALL BE RESPONSIBLE FOR THEIR OWN CUTTING, FITTING, PATCHING, ETC., SO AS TO BE PREPARED PROPERLY BY THE WORK OF OTHER TRADES.
33. ALL DEBRIS AND REFUSE SHALL BE REMOVED FROM THE PROJECT PREMISES AND LEFT IN A CLEAN SWEEP CONDITION AT ALL TIMES BY EACH TRADE AS THEY PERFORM THEIR OWN PORTION OF THE WORK.
34. NETWORK CARRIER DOES NOT GUARANTEE ANY PRODUCTS, FIXTURES, AND/OR ANY EQUIPMENT NAMED BY A TRADE OR MANUFACTURER.

1 GENERAL NOTES

35. CAUTION! CALL BEFORE YOU DIG! BURIED UTILITIES EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE ONE-CALL UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
36. WHEN APPLICABLE, CONTRACTOR IS RESPONSIBLE TO CALL, COORDINATE AND MAKE ARRANGEMENTS FOR R.O.W. AND/OR PRIVATE PROPERTY LOCATES BASED ON SPECIFIC SITE REQUIREMENTS.
37. SEE CIVIL DRAWINGS FOR ADDITIONAL SITE INFORMATION.
38. CONTRACTORS TO DOCUMENT ALL WORK PERFORMED WITH PHOTOGRAPHS AND SUBMIT TO NETWORK CARRIER'S REPRESENTATIVE ALONG WITH REDLINED CONSTRUCTION SET.
39. CONTRACTOR SHALL DOCUMENT ALL CHANGES MADE IN THE FIELD BY MARKING UP (REDLINING) THE APPROVED CONSTRUCTION SET AND SUBMITTING THE REDLINED ALONG WITH PHOTOGRAPHS PER NETWORK CARRIER REQUIREMENTS.
40. GENERAL CONTRACTOR SHALL COORDINATE AND SEEK APPROVAL OF ALL POWER DRAW, INSTALLATION AND/OR MODIFICATIONS WITH POWER COMPANY, OWNER AND JURISDICTION AS REQUIRED. CONTRACTOR SHALL REPORT POWER INSTALLATION SOLUTION(S) TO NETWORK CARRIER REPRESENTATIVE, PROJECT CONSTRUCTION MANAGER AND ARCHITECT.
41. ANY SUBSTITUTIONS OF MATERIALS AND/OR EQUIPMENT, MUST BE APPROVED BY NETWORK CARRIER CONSTRUCTION MANAGER.
42. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REMEDY ALL FAULTY, INFERIOR, AND/OR IMPROPER MATERIALS, DAMAGED GOODS, AND/OR FAULTY WORKMANSHIP FOR ONE (1) YEAR AFTER THE PROJECT IS COMPLETE ACCEPTING UNDER THIS CONTRACT BETWEEN THE OWNER AND THE CONTRACTOR. EXCEPTION: THE ROOFING SUBCONTRACTOR SHALL FURNISH A MAINTENANCE AGREEMENT FOR ALL WORK DONE, COSIGNED BY THE GENERAL CONTRACTOR, TO MAINTAIN THE ROOFING IN A WATERTIGHT CONDITION FOR A PERIOD OF TWO (2) YEARS STARTING AFTER THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT, UNLESS OTHERWISE WRITTEN IN THE CONTRACT BETWEEN THE OWNER AND THE CONTRACTOR
43. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION FOR THE SAFETY OF THE OWNER'S EMPLOYEES, AND WORKMEN, AT ALL TIMES DURING THE CONSTRUCTION OF THE PROJECT.
44. THE CONTRACTOR SHALL BE REQUIRED TO PAY FOR ALL NECESSARY PERMITS AND/OR FEES WITH RESPECT TO THE WORK TO COMPLETE THE PROJECT. BUILDING PERMIT APPLICATIONS SHALL BE FILED BY THE OWNER OR HIS REPRESENTATIVE. CONTRACTOR SHALL OBTAIN PERMIT (UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE) AND MAKE FINAL PAYMENT FOR SAID DOCUMENT(S).
45. NETWORK CARRIER'S REPRESENTATIVE SHALL REVIEW AND APPROVE SHOP DRAWINGS AND SAMPLES FOR CONFORMANCE WITH DESIGN CONCEPT. NETWORK CARRIER'S REPRESENTATIVE PROJECT APPROVAL OF A SEPARATE ITEM SHALL NOT INCLUDE APPROVAL OF AN ASSEMBLY IN WHICH THE ITEM FUNCTIONS.
46. ALL ANTENNAS MOUNTED ON ROOF SUPPORT FRAMES TO BE PROVIDED BY NETWORK CARRIER.
47. CONTRACTOR SHALL PROVIDE HEAVY STEEL PLATES AT OPEN TRENCHES FOR SAFETY AND TO PROTECT EXISTING GROUND SURFACES FROM HEAVY EQUIPMENT UTILIZED DURING CONSTRUCTION.
48. CONTRACTOR SHALL PATCH AND REPAIR ALL GROUND SURFACES WITHIN THE CONSTRUCTION AREA AS NECESSARY TO PROVIDE A UNIFORM SURFACE AND MAINTAIN EXISTING SURFACE DRAINAGE SLOPES.
49. CONTRACTOR SHALL REPLACE EXISTING LANDSCAPE VEGETATION DAMAGED DUE TO CONSTRUCTION ACTIVITIES, AND REPAIR, RESTORE AND MODIFY EXISTING IRRIGATION LINES IF NECESSARY, TO OPERATING CONDITION, PROVIDING FULL COVERAGE TO IMPACTED AREAS.
50. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE PENETRATION OF EXISTING ROOFING MATERIALS OCCURS, GENERAL CONTRACTOR SHALL COORDINATE WITH BUILDING OWNER TO OBTAIN CONTACT INFORMATION AND UTILIZE THE EXISTING ROOFING CONTRACTOR OF RECORD FOR INSTALLATION, PATCH, REPAIR OR ANY AUGMENTATION TO THE ROOF, AND HAVE THE WORK GUARANTEED UNDER THE ROOFING CONTRACTOR'S EXISTING WARRANTY ENSURING 100% MOISTURE PROTECTION.
51. IN THE CASE OF ROOFTOP SOLUTIONS WITH THE INSTALLATION OF ANTENNAS WITHIN CONCEALED (SHROUDED) SUPPORT FRAMES OR TRIPODS, GENERAL CONTRACTOR SHALL COORDINATE WITH THE FRP DESIGNER/FABRICATOR TO ENSURE THAT THE FINAL FRP SHROUD IS SIMULATING (IN APPEARANCE) EXISTING EXTERIOR BUILDING FACADE MATERIALS, TEXTURES, AND COLORS. THE CONTRACTOR SHALL FURTHERMORE ENSURE THE USE OF COUNTERSUNK OR FLATHEAD FASTENERS IN ALL FRP CONSTRUCTION. WHEN PHOTOSIMULATIONS ARE PROVIDED, THE CONTRACTOR SHALL ENSURE THAT FINAL CONSTRUCTION REPRESENTS WHAT IS INDICATED IN PHOTOSIMULATION. SHOP DRAWINGS SHALL BE PROVIDED TO THE GENERAL CONTRACTOR, CONSTRUCTION COORDINATOR, AND ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION.
52. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE ANCHORING TO AN EXISTING CONCRETE ROOF SLAB IS REQUIRED, CONTRACTORS SHALL CONFIRM (PRIOR TO SUBMITTING BID) WITH CONSULTING CONSTRUCTION COORDINATOR AND ARCHITECT THE PRESENCE OF POST TENSION TENDONS WITHIN THE ROOF SLAB RESULTING FROM AN UNDOCUMENTED DESIGN CHANGE IN THE EXISTING BUILDING "AS-BUILT DRAWING SET" HAVING INDICATED AN ORIGINAL DESIGN SOLUTION OF REINFORCED CONCRETE W/ EMBEDDED STEEL REBAR. IN THE EVENT POST TENSION SLAB SOLUTION IS PRESENT, CONTRACTOR SHALL INCLUDE PROVISIONS FOR X-RAY PROCEDURES (INCLUDED IN BID) FOR ALL PENETRATION AREAS WHERE ANCHORING OCCURS.
53. GENERAL & SUB CONTRACTORS SHALL USE STAINLESS STEEL METAL LOCKING TIES FOR ALL CABLING TIE DOWNS AND ALL OTHER GENERAL TIE DOWNS (WHERE APPLICABLE). PLASTIC ZIP TIES SHALL NOT BE PERMITTED FOR USE ON TOWER NETWORK CARRIER PROJECTS. RECOMMENDED MANUFACTURE SHALL BE: PANDUIT CORP. METAL LOCKING TIES MODEL NO. MLT4S-CP UNDER SERIES-304 (OR EQUAL). PANDUIT PRODUCT DISTRIBUTED BY TRIARC.
54. GENERAL CONTRACTOR SHALL OBTAIN, REVIEW AND EXECUTE ALL NETWORK CARRIER CONSTRUCTION STANDARDS (MOST RECENT REVISION) AS A PART OF THIS BID AND CONSTRUCTION PROJECT.
55. GENERAL CONTRACTOR SHALL OBTAIN, REVIEW AND EXECUTE ALL NETWORK CARRIER CONSTRUCTION STANDARDS (MOST RECENT REVISION) AS A PART OF THIS BID AND CONSTRUCTION PROJECT.
56. CONTRACTOR SHALL BE RESPONSIBLE TO SET ELECTRONIC TILTS FOR NEWLY INSTALLED ANTENNAS UNDER THE CONDITION THAT THE GC OBTAIN THE MOST RECENT COPY OF THE RF TILT INFORMATION SUCH THAT THE ACCURATE CONTROLLER CAN BE ORDERED AND INSTALLED.
57. A STRUCTURAL ANALYSIS SHALL BE COMPLETED AND SUBMITTED TO THE NETWORK CARRIER REPRESENTATIVE AND GC DEMONSTRATING CAPACITY AT THE EXACT LOCATION OF EXISTING CONDITIONS TO SUSTAIN ADDITIONAL HEAVY BATTERY CABINETS OR OTHER OUT OF SCOPE EQUIPMENT.
58. THE GC SHALL PROVIDE MATERIALS LIST (BOM) TO THE NETWORK CARRIER REPRESENTATIVE PRIOR TO CONSTRUCTION.

	GRID REFERENCE
	DETAIL REFERENCE
	ELEVATION REFERENCE
	SECTION REFERENCE
---	CENTERLINE
---	PROPERTY/LEASE LINE
- -	MATCH LINE
●	WORK POINT
---	GROUND CONDUCTOR
---	TELEPHONE CONDUIT
---	ELECTRICAL CONDUIT
---	COAXIAL CABLE
---	OVERHEAD SERVICE CONDUCTORS
---	GROUT OR PLASTER
	(E) BRICK
	(E) MASONRY
	CONCRETE
	EARTH
	GRAVEL
	PLYWOOD
	SAND
	WOOD CONTINUOUS
	WOOD BLOCKING
	STEEL
	NEW
(N)	EXISTING
(E)	NEW ANTENNA
	EXISTING ANTENNA
	GROUND ROD
	GROUND BUS BAR
	MECHANICAL GRND. CONN.
	CADWELD
	GROUND ACCESS WELL
	ELECTRIC BOX
	TELEPHONE BOX
	LIGHT POLE
	FND. MONUMENT
	SPOT ELEVATION
	SET POINT
	REVISION

2 SYMBOLS

CALIFORNIA SPECIFIC CODE COMPLIANCE NOTES:

1. WHEN COMPLETED, THE SUBJECT PROJECT SHALL COMPLY WITH LOCAL SECURITY CODES.
2. WHEN COMPLETED, THE SUBJECT PROJECT SHALL COMPLY WITH THE CALIFORNIA ENERGY CODE TITLE-24 ENERGY CONSERVATION REQUIREMENTS.
3. WHEN GLASS OR GLAZING REPLACEMENT IS A PART OF THE SCOPE OF THE PROJECT, GLASS AND GLAZING SHALL COMPLY WITH CHAPTER 54 OF THE U.S. CONSUMER SAFETY COMMISSION STANDARDS FOR ARCHITECTURAL GLAZING MATERIALS (PER 42 FR 1428, CFR PART 1201 & LOCAL SECURITY REQUIREMENTS).

Prepared for:
verizon wireless
 2785 MITCHELL DRIVE, SUITE 9
 WALNUT CREEK, CA 94598

Vendor:

 149 NATOMA STREET, 3RD FLOOR
 SAN FRANCISCO, CA 94105

Architect:

 4780 CHABOT DRIVE, SUITE 104
 PLEASANTON, CA 94588
 Phone: (925) 398-6000

VERIZON SITE NO: 279041
 PROJECT NO:
 DRAWN BY: FG
 CHECKED BY: NHP

Issued For:
CONSTRUCTION

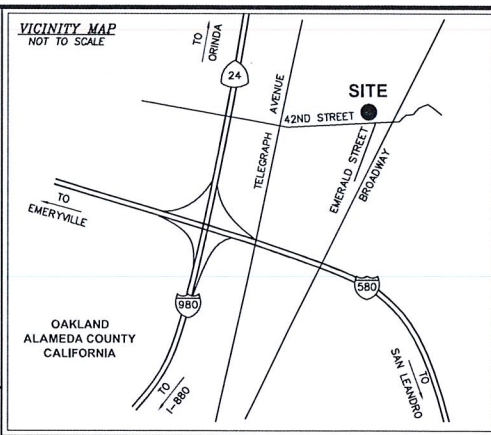
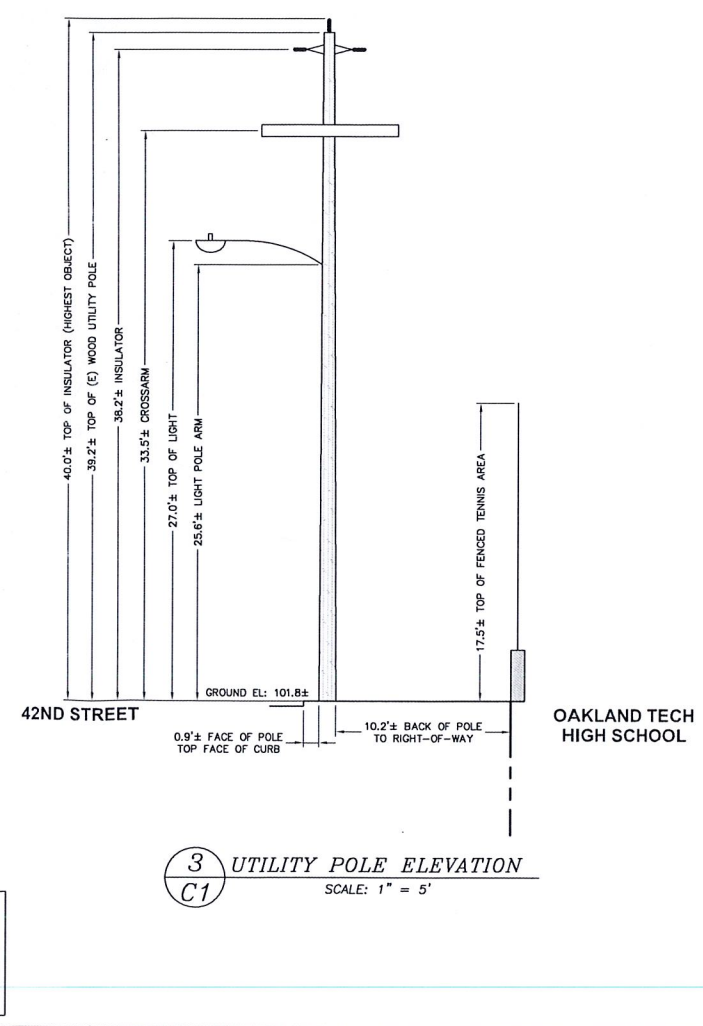
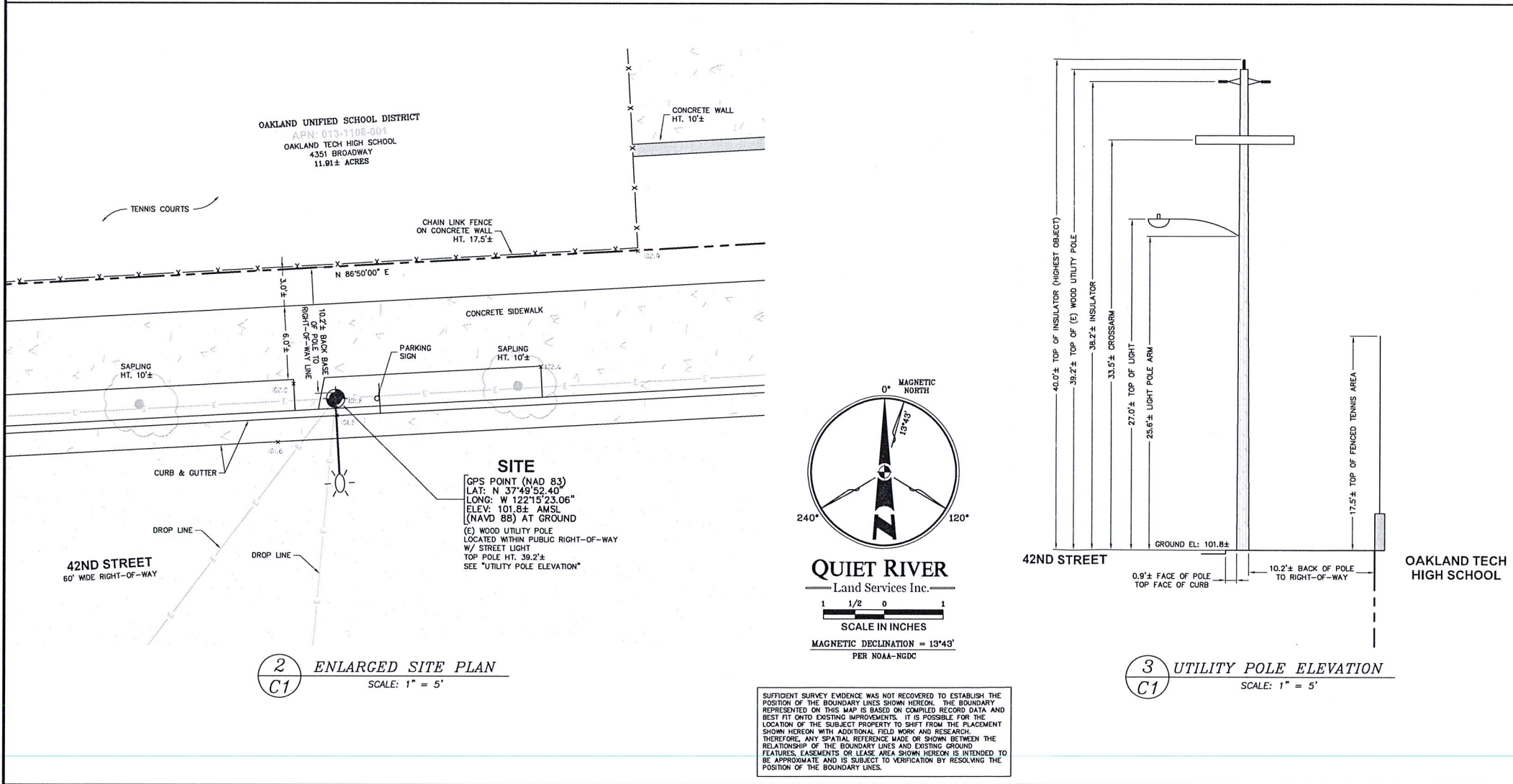
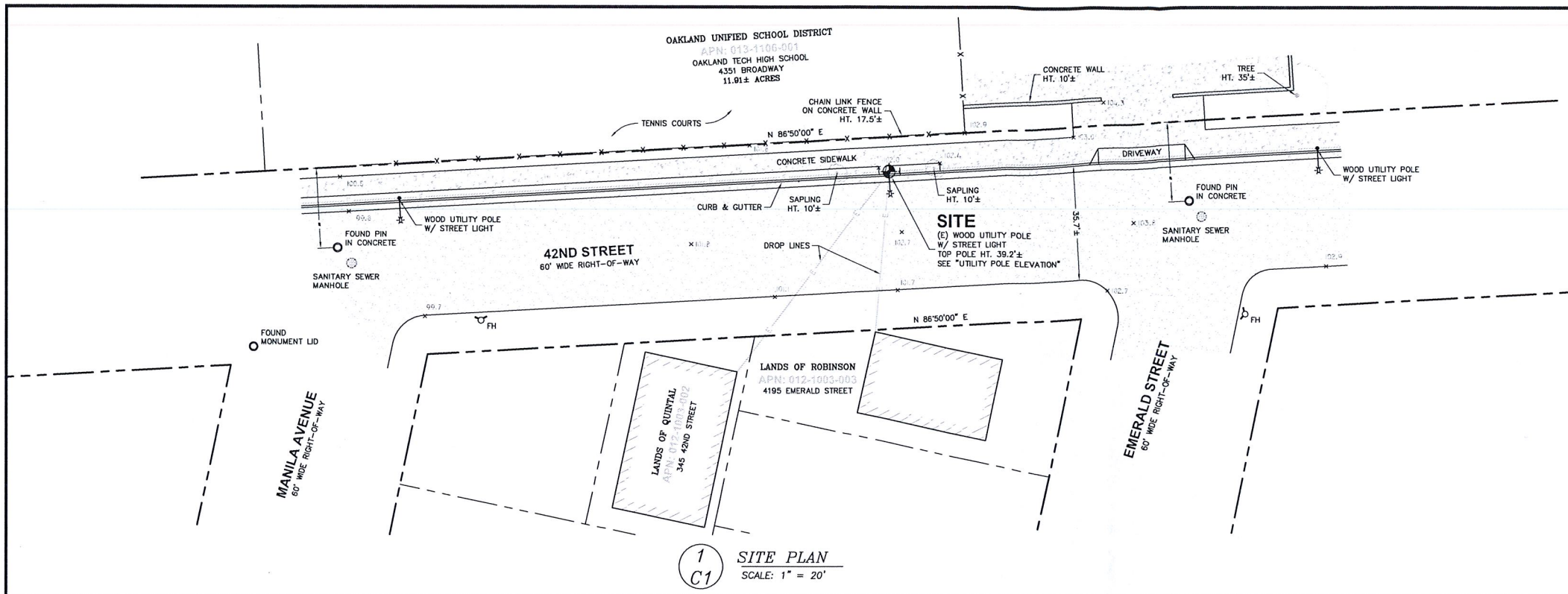
REV	DATE	DESCRIPTION	BY
REV4	09/19/16	NEW EQUIPMENT DESIGN	RD
REV3	07/07/16	NEW EQUIPMENT DESIGN	RD
REV2	11/18/15	100% CONSTRUCTION	FG
REV1	10/21/15	PLAN CHECK COMMENTS	JA
REV0	09/08/15	90% ISSUED FOR REVIEW	FG

Licenser:
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Project Info:
OAKLAND TECH HIGH SCHOOL
 PUBLIC RIGHT OF WAY
 ACROSS FROM 345
 42ND. STREET
 OAKLAND, CA 94609

Sheet Title:
GENERAL NOTES AND SYMBOLS

Sheet Number:
GN-1



PROPERTY INFORMATION

Owner: OAKLAND PUBLIC RIGHT-OF-WAY
Address: _____

Site: OAKLAND TECH HIGH SCHOOL
Address: ACROSS FROM 345 42ND STREET
OAKLAND, CA 94609

Assessor's Parcel Number: PUBLIC RIGHT-OF-WAY
Height of Building/Tower: 39.2'± A.G.L. TO TOP OF WOOD UTILITY POLE.

Title Report:
NO TITLE REPORT FURNISHED. EXCEPTIONS TO THE TITLE AND RESERVATIONS THEREFROM COULD NOT BE DETERMINED. BOUNDARY INFORMATION SHOWN IS COMPILED FROM AVAILABLE RECORD DATA.

Legal Description:
PROPERTY SITUATED IN THE CITY OF OAKLAND, COUNTY OF ALAMEDA, STATE OF CALIFORNIA.

FEMA FLOOD ZONE DESIGNATION National Flood Insurance Program

County: ALAMEDA Effective Date: AUGUST 3, 2009
Community-Panel Number: 06001C-0059-G
The Flood Zone Designation for this site as plotted by scale is:

ZONE X - Areas determined to be outside the 0.2% annual chance floodplain.

SURVEY DATA

NAD 83 Datum:
Lat: N 37°49'52.40" Long: W 122°15'23.06"
Datum Base: NAD 83 Equipment Used: Topcon Hiperlite Receiver
(See Note 2)

Site Ground Elevation: 101.8± AMSL (NAVD88) AT BASE OF UTILITY POLE

Basis of Elevations:
GLOBAL POSITIONING SYSTEM (GPS)
(SEE NOTE 2)

Basis of Bearings:
42ND STREET ASSUMED TO BE NORTH 86°50'00" EAST (PER ASSESSOR'S MAP),
AND BEST FIT WITH EXISTING IMPROVEMENTS.

Date of Field Survey: AUGUST 18, 2015

NOTES

- This is not a boundary survey. This is a specialized topographic map with property lines and easements being a graphic depiction of various information gathered from preliminary title reports, back-up documents of record, maps and available monuments found during the field survey. No property monuments were set. No title research was performed by Quiet River Land Services, Inc.
- The latitude, longitude and elevation shown herein were derived from post-processed L1/L2 data collected using Novatel Global Positioning System (GPS) and a Topcon Hiperlite Receiver. Topcon specifications report declimeter level accuracy (horizontally) when data is properly collected and processed. (Elevation = ±3.0 feet).
- Unless otherwise noted, no underground utility locating service company was contacted prior to this map being prepared; therefore, there may be non-visible or obscure utilities existing on the property not shown on this map - so CALL BEFORE YOU DIG.
- Any electronic digital media provided by Quiet River Land Services, Inc. to our client is a courtesy and is not to be reproduced, distributed, sold, altered, revised, edited or conveyed without the express written consent of an Officer of Quiet River Land Services, Inc. Further, only the final stamped, signed and dated original "hard copy" version of our survey or map is considered to be our legally recognized product.

SURVEYOR'S STATEMENT

I, the undersigned, a Registered Professional Land Surveyor licensed under the laws of the State of California do hereby state that the information, measurements, easements, record boundary lines, bearings and distances as shown herein are based upon a field survey as dated above and upon items of public record and data contained in a title report, as referenced. Furthermore, the latitude and longitude coordinates are reported in NAD 83 Datum and are accurate to within ±1.0 feet horizontally, and the ground elevation, reported in NAVD 1988 Datum, is within ±3 feet vertically. The coordinate values and elevations are within the 1-sigma Accuracy Code designation as listed in the A.S.A.C. Information Sheet 91:003 and are accurate to the best of my knowledge and belief.

SIGNATURE _____ DATE _____

LEGEND

APN:	ASSESSOR'S PARCEL NUMBER	ASPHALT
CP:	CONTROL POINT	CONCRETE
EL:	ELEVATION	CONTROL POINT
FH:	FIRE HYDRANT	FOUND MONUMENT
FND:	FOUND	GPS POINT
HT:	HEIGHT	PARAPET/ROOF ELEVATIONS
MON:	MONUMENT	SPOT ELEVATION
(M-W)	MONUMENT TO MONUMENT	TEMPORARY BENCHMARK
P.O.B.	POINT OF BEGINNING	
P.O.C.	POINT OF COMMENCEMENT	
PP:	POWER POLE	
(TYP.)	TYPICAL	

DATE: AUGUST 20, 2015

DRAWN BY: MAS

FILE NO.: BYER1533

REVISIONS

DATE	DESCRIPTION	INITIAL
8/20/15	100% COMPLETE	MAS

verizon wireless

2785 MITCHELL DRIVE
WALNUT CREEK, CA 94598
TEL: (925) 279-6329 FAX: (925) 279-6365

QUIET RIVER
Land Services Inc.

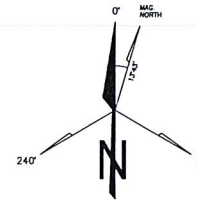
11501 Dublin Boulevard, Suite 200
Dublin, CA 94568
(925) 734-6786 Phone

EXISTING SITE CONDITIONS


279041
OAKLAND TECH HIGH SCHOOL
ACROSS FROM 345 42ND STREET
OAKLAND, CA 94609


C1
OF 1 SHEET

SUFFICIENT SURVEY EVIDENCE WAS NOT COVERED TO ESTABLISH THE POSITION OF THE BOUNDARY LINES SHOWN HEREON. THE BOUNDARY REPRESENTED ON THIS MAP IS BASED ON COMPILED RECORD DATA AND BEST FIT ONTO EXISTING IMPROVEMENTS. IT IS POSSIBLE FOR THE LOCATION OF THE SUBJECT PROPERTY TO SHIFT FROM THE PLACEMENT SHOWN HEREON WITH ADDITIONAL FIELD WORK AND RESEARCH. THEREFORE, ANY SPATIAL REFERENCE MADE OR SHOWN BETWEEN THE RELATIONSHIP OF THE BOUNDARY LINES AND EXISTING GROUND FEATURES, EASEMENTS OR LEASE AREA SHOWN HEREON IS INTENDED TO BE APPROXIMATE AND IS SUBJECT TO VERIFICATION BY RESOLVING THE POSITION OF THE BOUNDARY LINES.



Prepared for:
verizon wireless
 2785 MITCHELL DRIVE, SUITE 9
 WALNUT CREEK, CA 94598

Vendor:

 149 NATOMA STREET, 3RD FLOOR
 SAN FRANCISCO, CA 94105

Architect:

 4780 CHABOT DRIVE, SUITE 104
 PLEASANTON, CA 94588
 Phone: (925) 398-6000

VERIZON SITE NO: 279041
 PROJECT NO:
 DRAWN BY: FG
 CHECKED BY: NHP

Issued For:
CONSTRUCTION

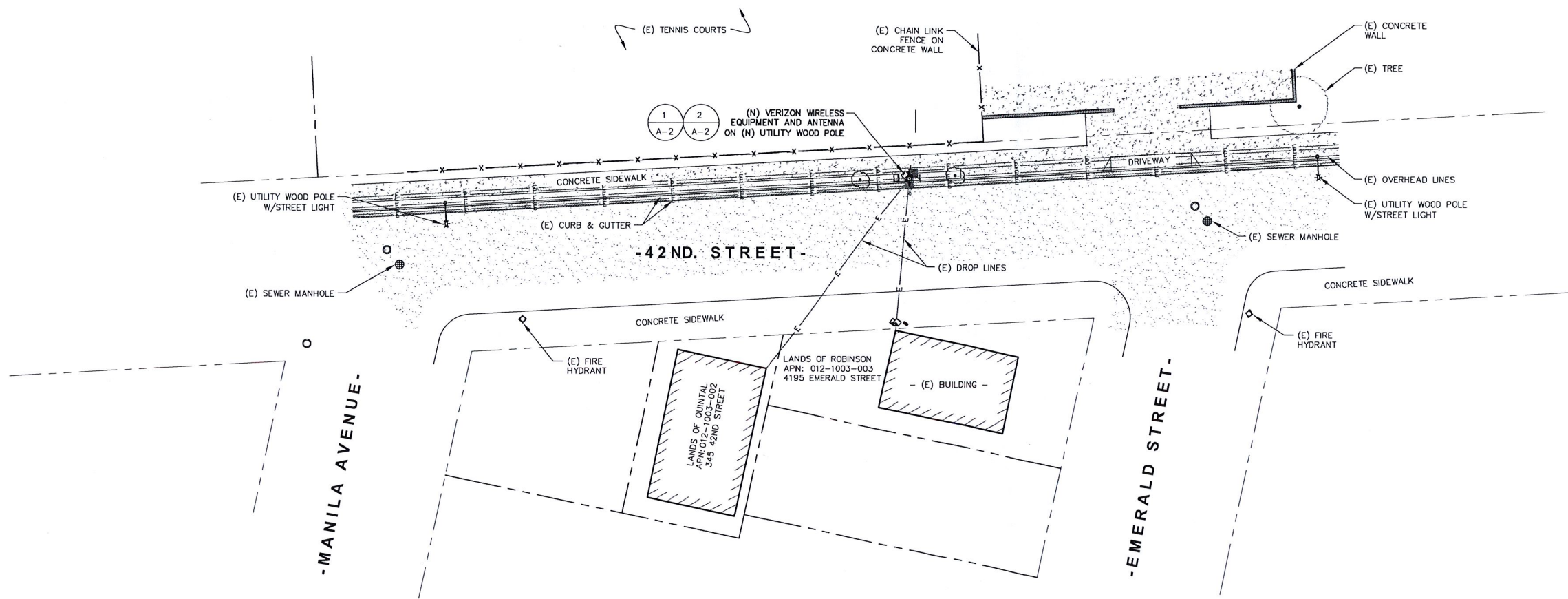
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REV3	07/07/16	NEW EQUIPMENT DESIGN	RD
REV2	11/18/15	100% CONSTRUCTION	FG
REV1	10/21/15	PLAN CHECK COMMENTS	JA
REV0	09/08/15	90% ISSUED FOR REVIEW	FG

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Project Info:
OAKLAND TECH HIGH SCHOOL
 PUBLIC RIGHT OF WAY ACROSS FROM 345 42ND STREET
 OAKLAND, CA 94609

Sheet Title:
OVERALL SITE PLAN

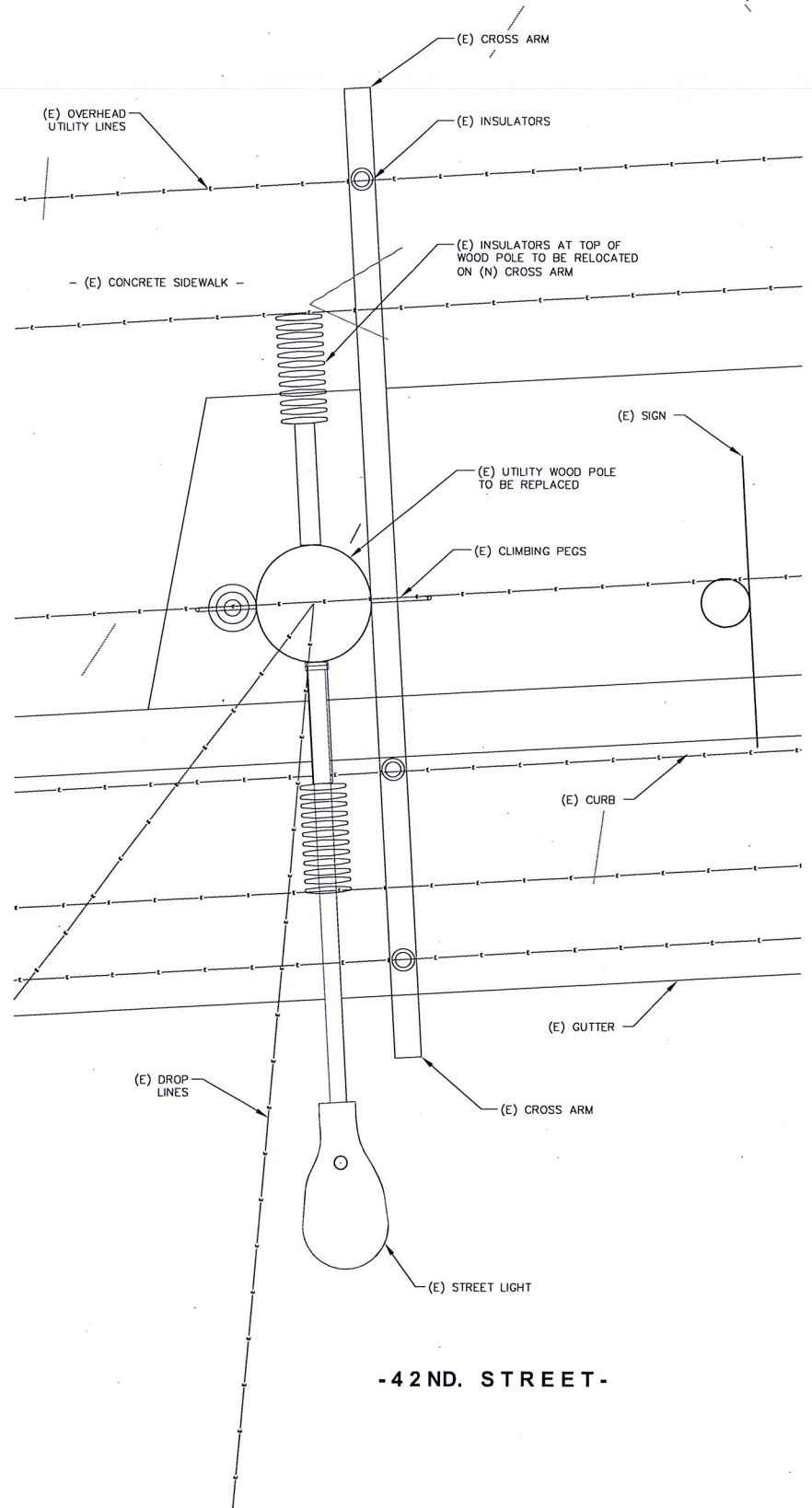
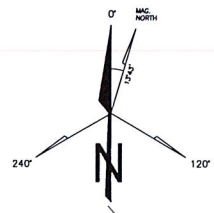
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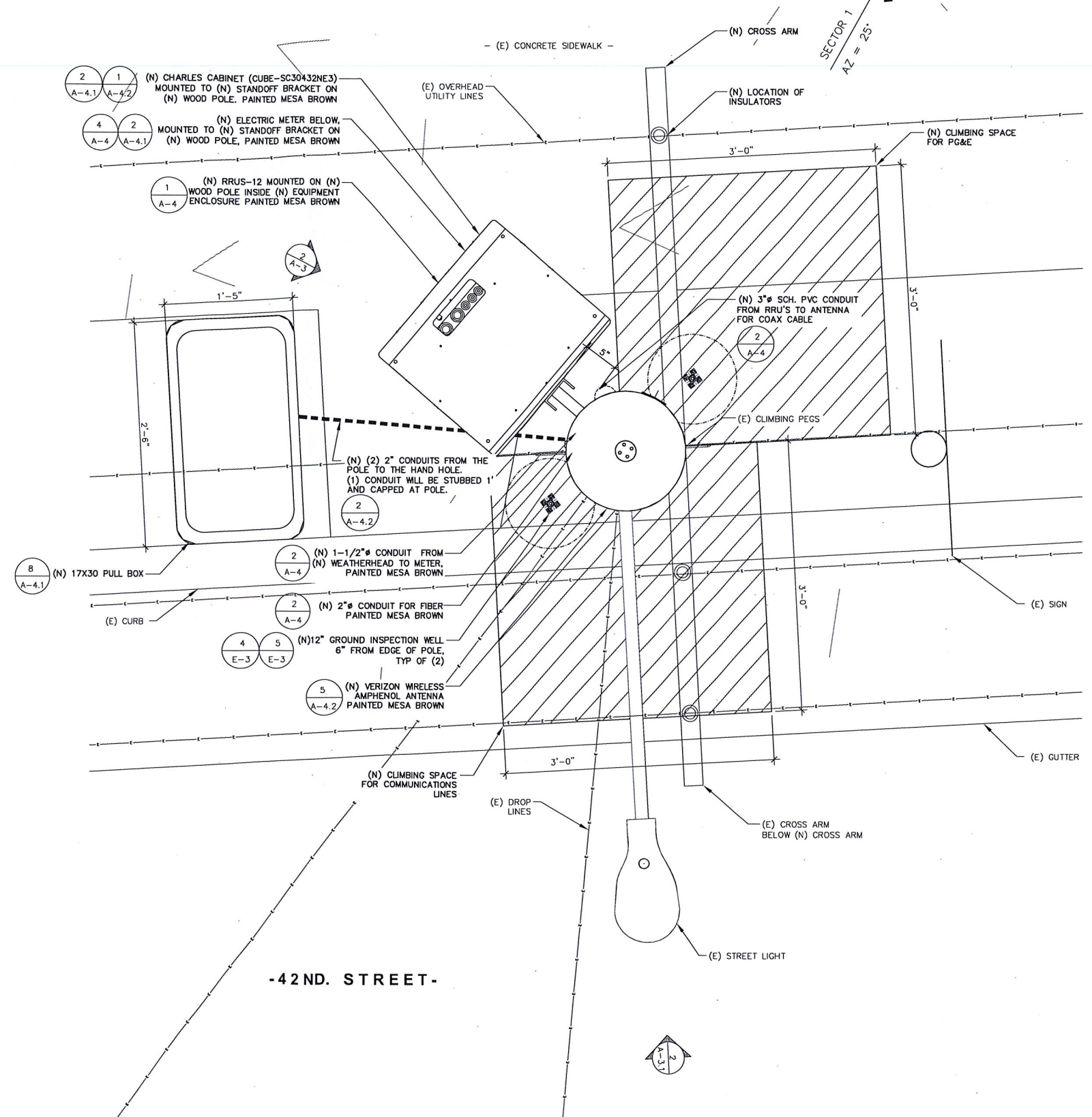
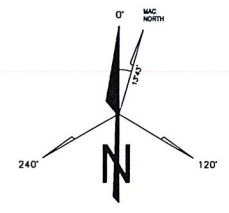
1 OVERALL SITE PLAN

SCALE: 1" = 20'-0"
 0' 20' 40' 60'

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1 EXISTING PROJECT AREA PLAN
 SCALE: 1-1/2" = 1'-0"
 0' 1' 2'



2 PROPOSED EQUIPMENT PLAN
 SCALE: 1-1/2" = 1'-0"
 0' 1' 2'

Prepared for:
verizonwireless
 2785 MITCHELL DRIVE, SUITE 9
 WALNUT CREEK, CA 94598

Vendor:

 149 NATOMA STREET, 3RD FLOOR
 SAN FRANCISCO, CA 94105

Architect:
BYERS ENGINEERING COMPANY
 4780 CHABOT DRIVE, SUITE 104
 PLEASANTON, CA 94588
 Phone: (925) 398-6000

VERIZON SITE NO: 279041
 PROJECT NO:
 DRAWN BY: FG
 CHECKED BY: NHP

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CONSTRUCTION

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Project Info:
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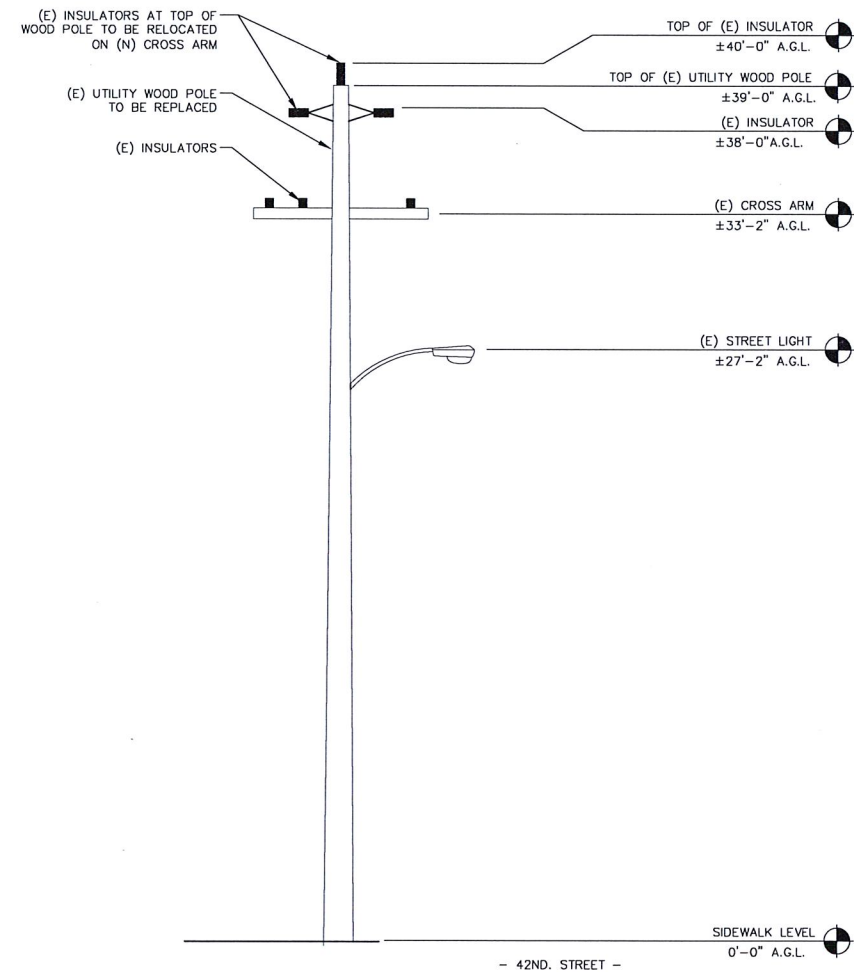
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EQUIPMENT PLANS

Sheet Number:
A-2

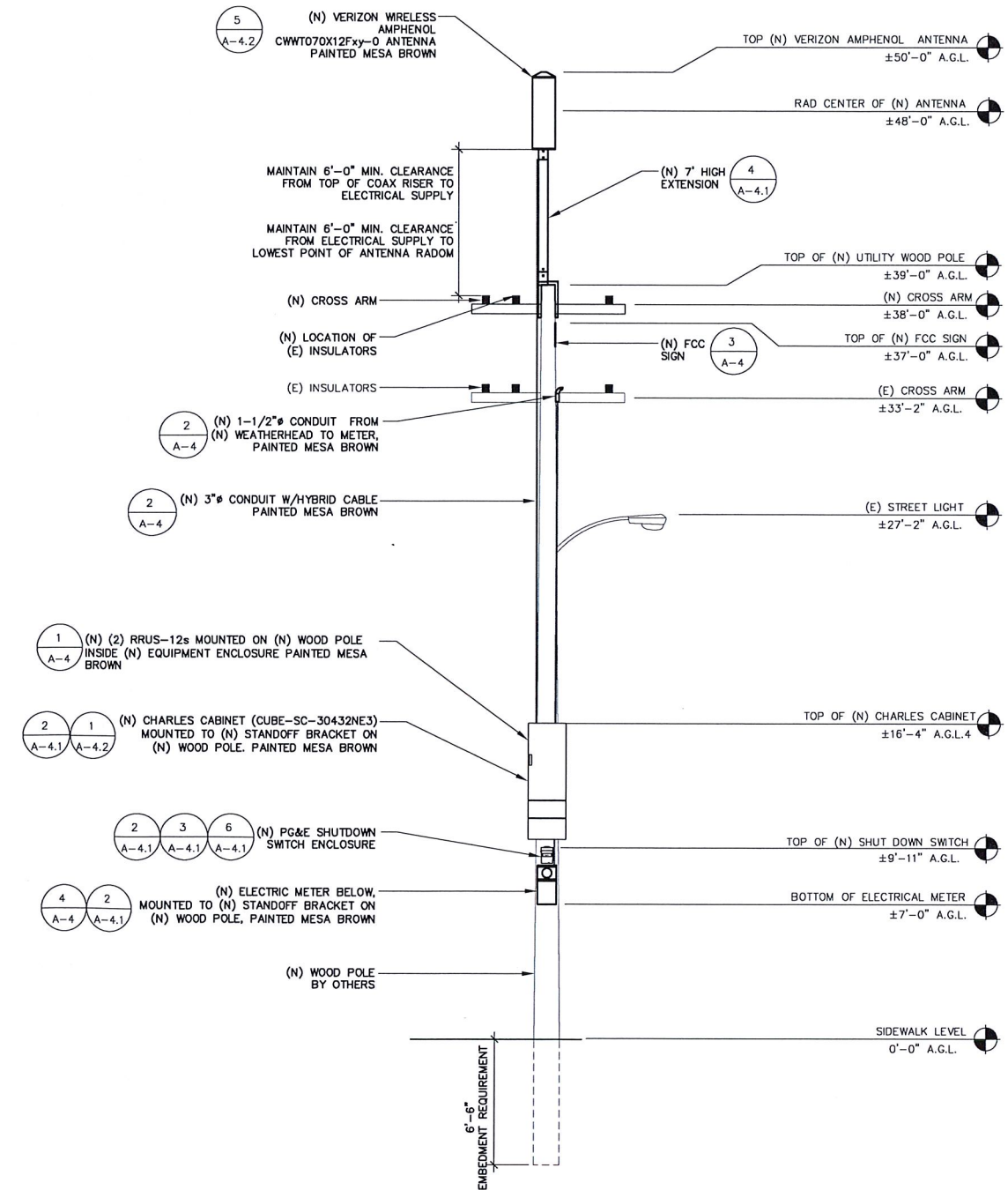
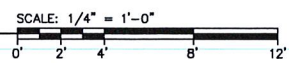
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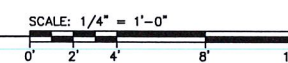
NOTE:
ALL ANTENNAS, RRH'S, MOUNTING HARDWARE, AND CONDUIT TO BE PAINTED MESA BROWN



1 EXISTING NORTHWEST ELEVATION



2 PROPOSED NORTHWEST ELEVATION



Prepared for:
verizon wireless
2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Vendor:
MODUS
149 NATOMA STREET, 3RD FLOOR
SAN FRANCISCO, CA 94105

Architect:
BYERS ENGINEERING COMPANY
4780 CHABOT DRIVE, SUITE 104
PLEASANTON, CA 94588
Phone: (925) 398-6000

VERIZON SITE NO: 279041
PROJECT NO:
DRAWN BY: FG
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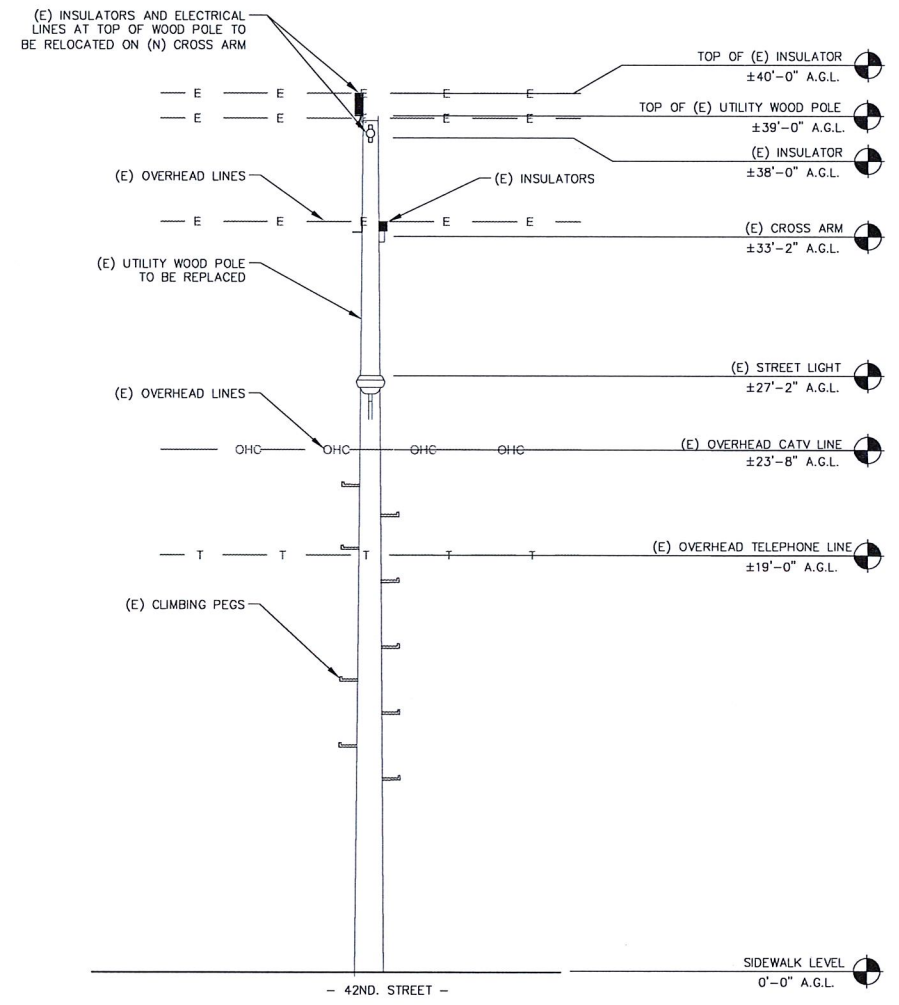
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OAKLAND TECH HIGH SCHOOL
PUBLIC RIGHT OF WAY
ACROSS FROM 345
42ND. STREET
OAKLAND, CA 94609

Sheet Title:
NORTHWEST ELEVATIONS

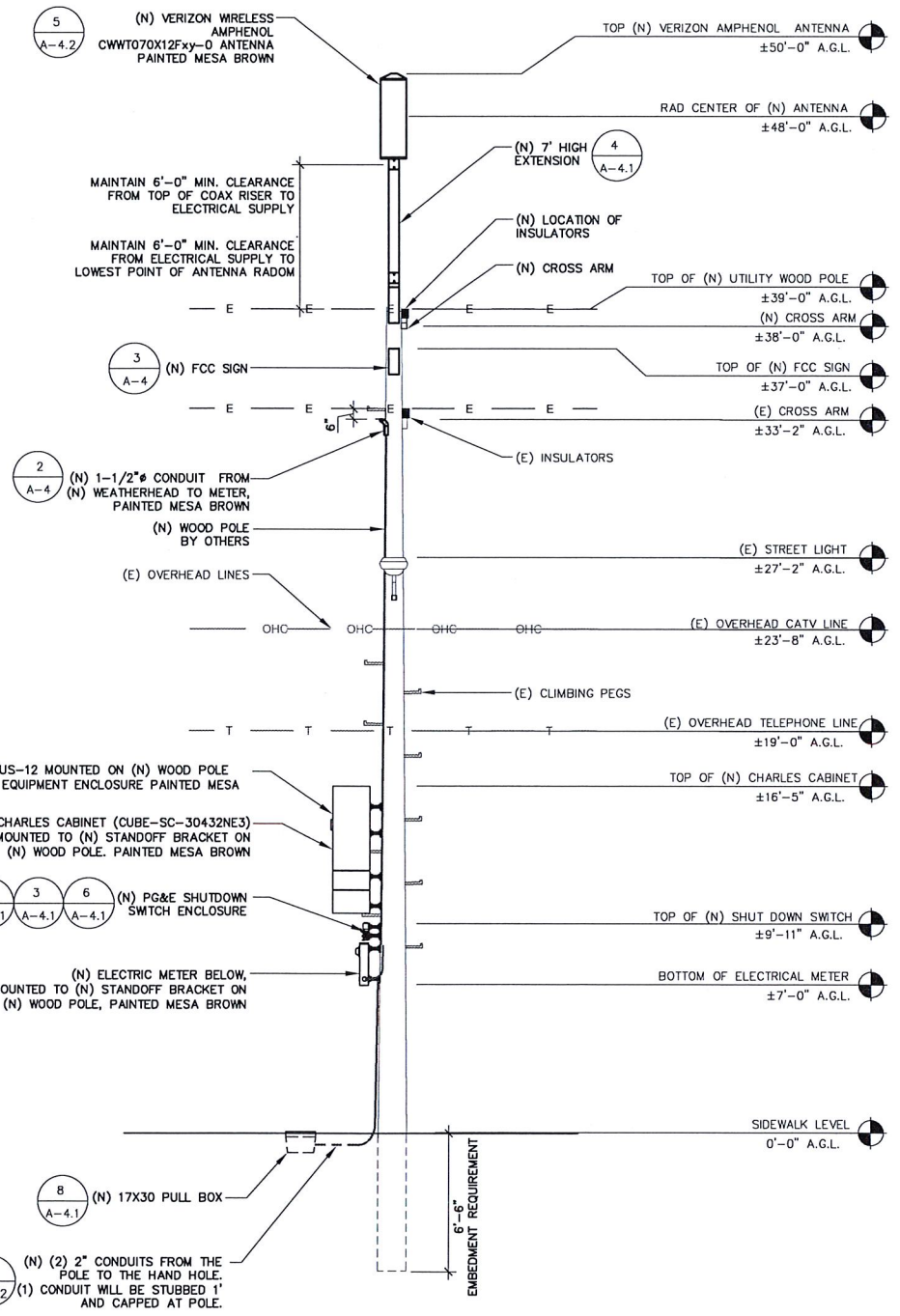
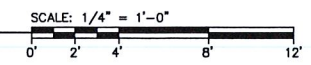
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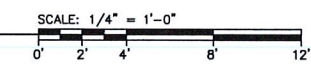
NOTE:
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1 EXISTING SOUTH ELEVATION



2 PROPOSED SOUTH ELEVATION



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verizonwireless
2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Vendor:
modus
149 NATOMA STREET, 3RD FLOOR
SAN FRANCISCO, CA 94105

Architect:
BYERS
ENGINEERING
COMPANY
4780 CHABOT DRIVE, SUITE 104
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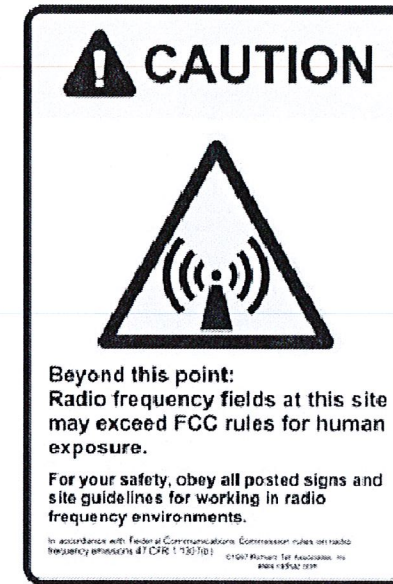
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Project Info:
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42ND. STREET
OAKLAND, CA 94609

Sheet Title:
SOUTH
ELEVATIONS

Sheet Number:
A-3.1



FCC SIGN

SCALE: N.T.S. 3

GUARDS & STRAPS, CABLE

Protect telephone and power lines where circuits lead from underground to overhead. Guards are 1/4-gauge hot dip galvanized steel, formed into "U" shape. Straps are made from hot dip galvanized flat steel, shaped to fit the guards.

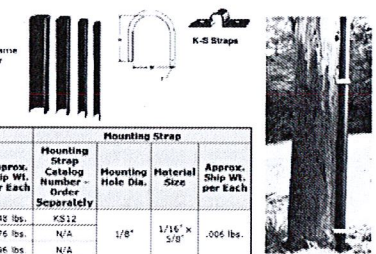
Cable Guards			Mounting Straps		
Catalog Number	Inside Dia.	Approx. Length Ship Wt. per Each	Mounting Strap Catalog Number - Order Separately	Mounting Hole Dia.	Approx. Steel Size Ship Wt. per Each
6530452*	3/4"	5' 2.76 lbs.	C2030455	3/32" x 3/4"	0.66 lbs.
65311*	1-1/8"	5' 4.80 lbs.	65304	9/32"	0.13 lbs.
653112*	1-1/8"	5' 5.60 lbs.	65304*	3/8" x 3/4"	0.24 lbs.
65312*	2-3/16"	5' 8.60 lbs.	65304*	1 1/32"	0.64 lbs.
65313*	3-3/16"	5' 12.60 lbs.	6540*	3/16" x 1"	0.69 lbs.
65314*	3-3/16"	5' 16.60 lbs.	C2030456		



Click on Catalog Number to view sales drawing
* 240-6755 Specification

GUARDS, PLASTIC MOLDING

ROVLER-GARD® molding protects surface ground wires, lead wires, and conductors. Flame retardant and easy to install. Makes wood or metal molding obsolete.



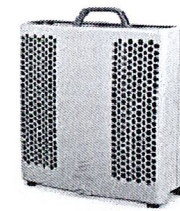
Cable Guards			Mounting Strap		
Catalog Number	Inside Dia.	Approx. Length Ship Wt. per Each	Mounting Strap Catalog Number - Order Separately	Mounting Hole Dia.	Approx. Steel Size Ship Wt. per Each
96K512	1/2"	5.42 lbs.	K512	1/8"	1/16" x 5/8"
96K534	3/4"	5.76 lbs.	N/A		
96K61	1"	6.06 lbs.	N/A		

RISER GUARD DETAILS

SCALE: N.T.S. 2

RRUS 12

- 2x60 Watts
- GSM, WCDMA & LTE
- Frequencies:
 - Band 2 (PCS, KRC 161 299/2)
 - Band 4 (AWS, KRC 161 349/2)
 - Band 5 (850MHz, KRC 161 321/2)
- IBW: 40 MHz (B2, B4), 25 MHz (B5)
- Up to 4 carriers WCDMA or LTE
- 2.5 Gbps CPRI
- 6 external alarms
- DC supply (AC as an option)
- Dimensions (HxWxD): 20.4"x18.5"x7.5" (including sun shield and handle)
- Weight: 50 lbs, excluding mounting hardware
 - 58 lbs in Extranet description, applicable to heaviest (non-AT&T) frequency model



SCALE: N.T.S. 1

Prepared for:
verizonwireless
2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Vendor:
MODUS
149 NATOMA STREET, 3RD FLOOR
SAN FRANCISCO, CA 94105

Architect:
BYERS ENGINEERING COMPANY
4780 CHABOT DRIVE, SUITE 104
PLEASANTON, CA 94588
Phone: (925) 398-6000

VERIZON SITE NO: 279041
PROJECT NO:
DRAWN BY: FG
CHECKED BY: NHP

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
REV4	09/19/16	NEW EQUIPMENT DESIGN	RD
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REV2	11/18/15	100% CONSTRUCTION	FG
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PUBLIC RIGHT OF WAY
ACROSS FROM 345
42ND. STREET
OAKLAND, CA 94609

Sheet Title:
EQUIPMENT DETAILS

Sheet Number:
A-4

NOT USED SCALE: N.T.S. 7

NOT USED SCALE: N.T.S. 5

Test Block Bypass TB Series

100 Amp, 600 Volt Socket Only / Self-Contained

Applications:

- Single meter port
- Designed to receive split-core meters that meet ANSI C12.10
- Overhead/underground feed
- Surface mount
- Top or bottom load exit

Construction:

- Type 2R construction
- Safety socket with factory installed test bypass facilities
- Snap type scaling ring for load cell
- 200 amp provision at time of order - 11 TB only
- Provisions for 2 AW base caps or hub-kits on top
- Padlock provision
- Ring style

Standards:

- UL 414 listed, complies with ANSI C12.7

Finish:

- ANSI 61 gray epoxy electrocoat finish

Accessories:

- FBT's pass kit - catalog #50371
- Control and offset pole mounting brackets
- Bussed gaskets, see page 68
- AW tools
- Screw type scaling ring - catalog #25916D
- Steel or clear resin covers for socket opening

Overhead/Underground-Surface Mount										Overhead Use Only				Surface Mount Only			
Order No.	AC Bus	Socket Config	Mount	Depth	Socket Dia	Socket In	Socket Out	Blk. Prot.	Blk. Fin.	Power Capacity (kW)	Power Capacity (kVA)	Approx. Weight (lbs)	Approx. Dimensions (HxWxD)	Approx. Weight (lbs)	Approx. Dimensions (HxWxD)	Approx. Weight (lbs)	Approx. Dimensions (HxWxD)
1000	1	W	12	12	3.75	3.75	3.75	AA	AA	7500	10000	12.5	12" x 12" x 7.5"	12.5	12" x 12" x 7.5"	12.5	12" x 12" x 7.5"
1001	1	W	12	12	3.75	3.75	3.75	AA	AA	7500	10000	12.5	12" x 12" x 7.5"	12.5	12" x 12" x 7.5"	12.5	12" x 12" x 7.5"
1002	1	W	12	12	3.75	3.75	3.75	AA	AA	7500	10000	12.5	12" x 12" x 7.5"	12.5	12" x 12" x 7.5"	12.5	12" x 12" x 7.5"

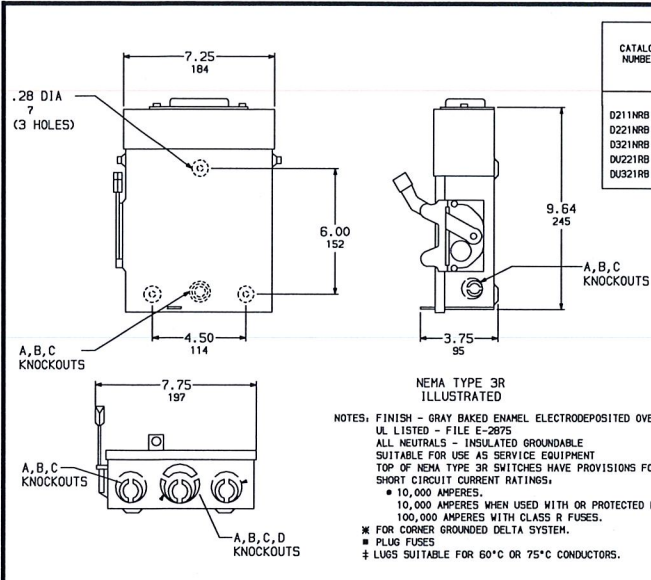
1 - 60 in. bus supply recommended for better scaling out
2 - 60 in. bus supply may cause socket offset contact strip, which may affect scaling out. See the scaling out page 72.
Note: For 200 amp, 10 TB systems, order 4-pole unit 1004.

CIRCLE 46 in Reader Service
Data subject to change without notice. Contact local sales for area representative. All dimensions in inches.

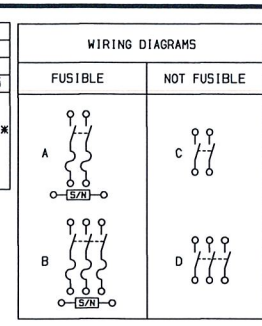
NOT USED SCALE: N.T.S. 6

114 TB B-LINE METER SOCKET DETAIL SCALE: N.T.S. 4

RRUS-12 DETAIL SCALE: N.T.S. 1



CATALOG NUMBER	VOLTAGE RATINGS	WIRING DIAG.	HORSEPOWER RATINGS					
			120VAC			240VAC		
			STD.	MAX.	STD.	MAX.	STD.	MAX.
D211NRB	240VAC	A	1/2	2	1 1/2	-	3	-
D221NRB	240VAC	A	-	-	1 1/2	3	3	7 1/2
D321NRB	240VAC	B	-	-	1 1/2	3	3	7 1/2
D2221NRB	240VAC	C	-	-	-	-	3	-
D3221NRB	240VAC	D	-	-	-	-	3	7 1/2



TERMINAL LUGS				
AMPERES	MAX. WIRE #	MIN. WIRE	TYPE	AL.
30	# 6 AWG	# 12 AWG	AL	
	# 6 AWG	# 14 AWG	CU	

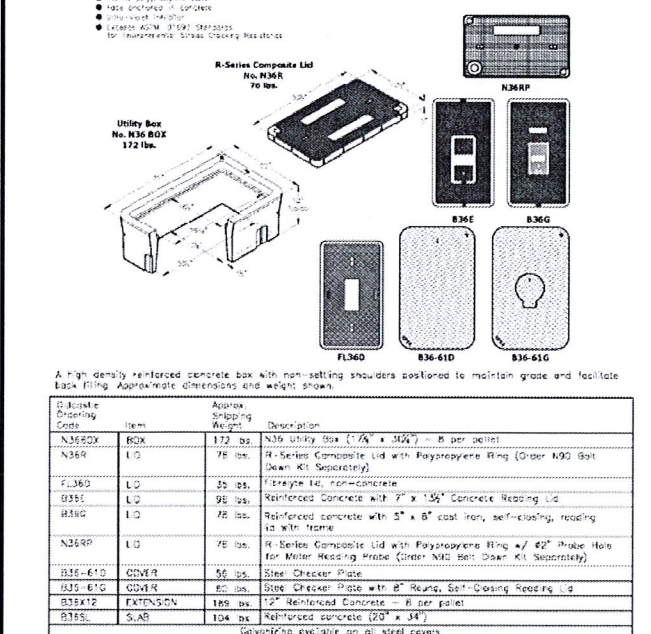
KNOCKOUTS				
SYMBOL	A	B	C	D
CONDUIT SIZE	.50	.75	1	1.25

GENERAL DUTY SAFETY SWITCHES
VISIBLE BLADE TYPE
30 AMPERE
ENCLOSURE - NEMA TYPE 3R RAINPROOF



SHUTDOWN DISCONNECT SWITCH

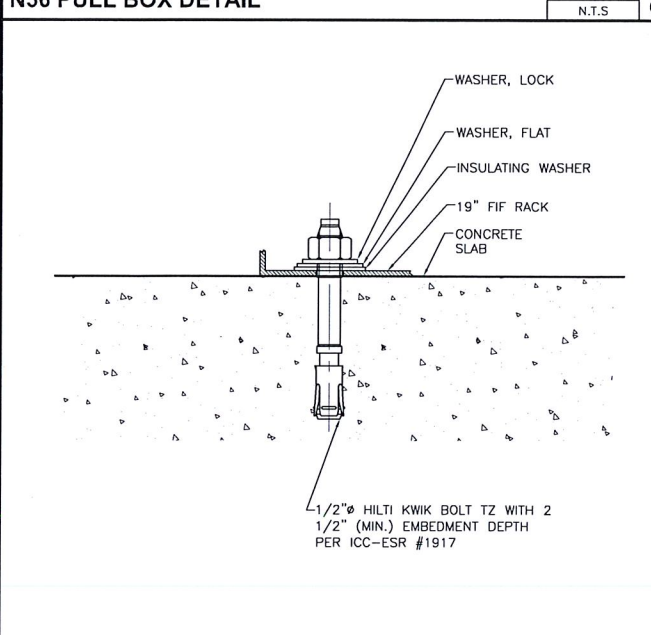
SCALE: N.T.S. 6



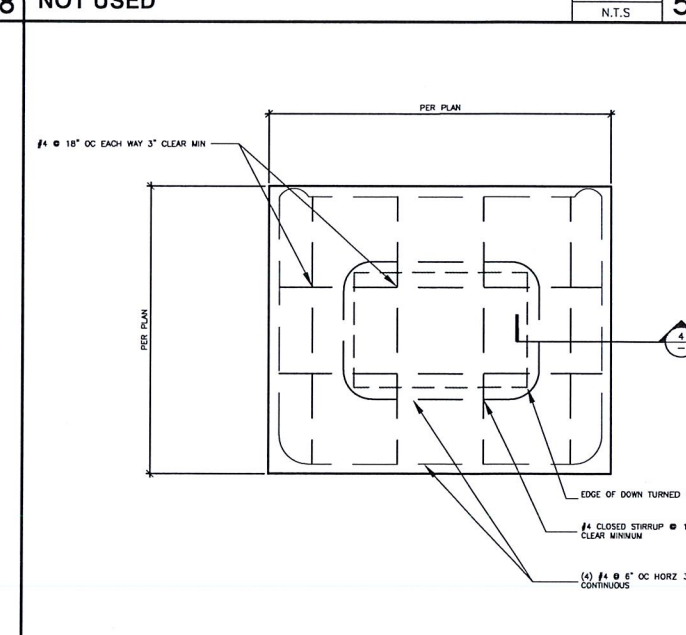
Item	Approx. Shipping Weight	Description
N36BX	172 lbs.	N36 utility box (7'6" x 36") - 8 per pallet
N36R	78 lbs.	R-Series Composite Lid with Polypropylene Ring (Order N36 Bolt Down Kit Separately)
FL36D	35 lbs.	Fiberglass lid, non-conductive
DR36	95 lbs.	Reinforced concrete with 2" x 1/2" concrete rebar lid
RL36D	78 lbs.	Reinforced concrete with 2" x 1/2" cast iron, self-closing, reading lid with frame
N36RP	78 lbs.	R-Series Composite Lid with Polypropylene Ring w/ 42" Probe Hole for Meter Reading Probe (Order N36 Bolt Down Kit Separately)
B36-61G	55 lbs.	Steel Checker Plate
B36-61G	81 lbs.	Steel Checker Plate with R-Series, Self-Closing Reading Lid
B36-61E	189 lbs.	12" Reinforced Concrete - 8 per pallet
B36-61F	104 lbs.	Reinforced concrete (24" x 34")
B36-61S		Self-closing enclosure on all steel covers

SCALE: N.T.S. 8

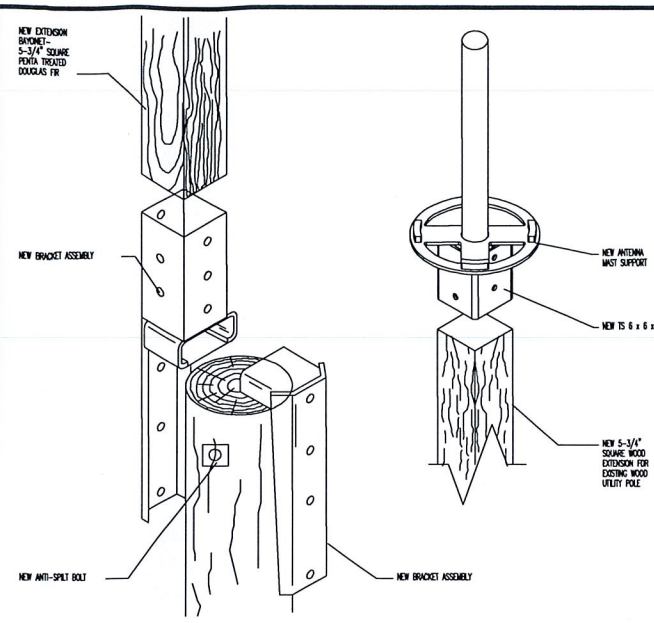
NOT USED



SCALE: N.T.S. 7

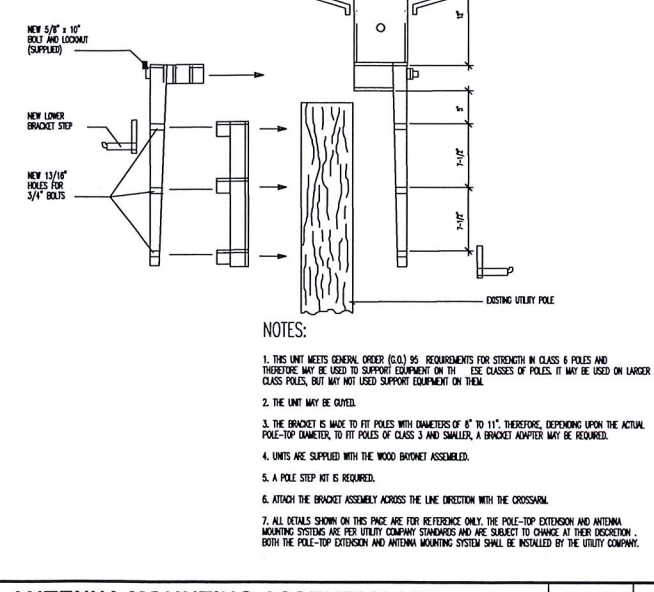


SCALE: N.T.S. 1



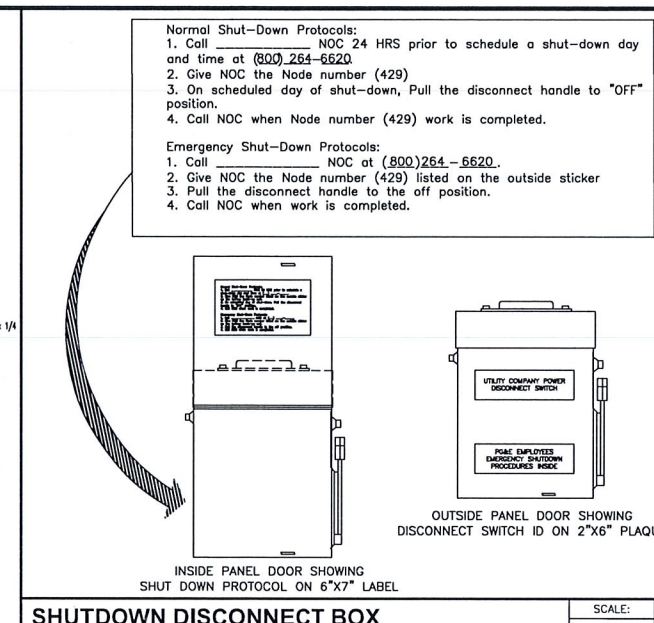
ANTENNA MOUNTING ASSEMBLY AND POLE EXTENSION DETAIL

SCALE: N.T.S. 4



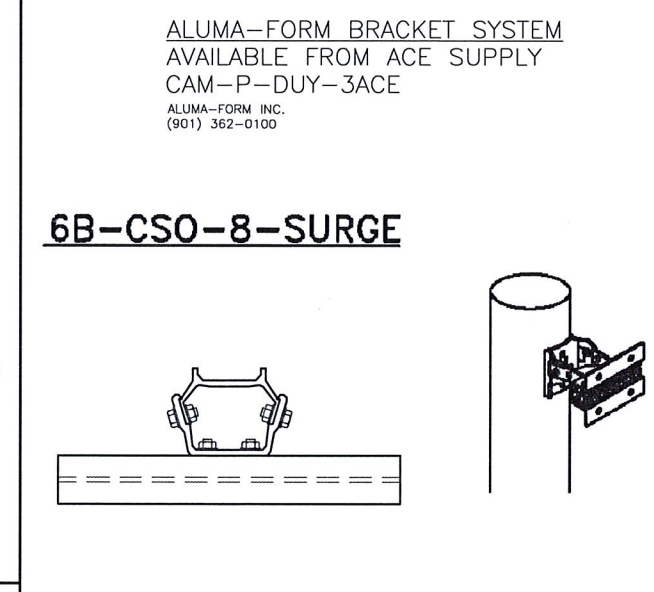
TYPICAL EQUIPMENT STANDOFF DETAIL

SCALE: N.T.S. 2



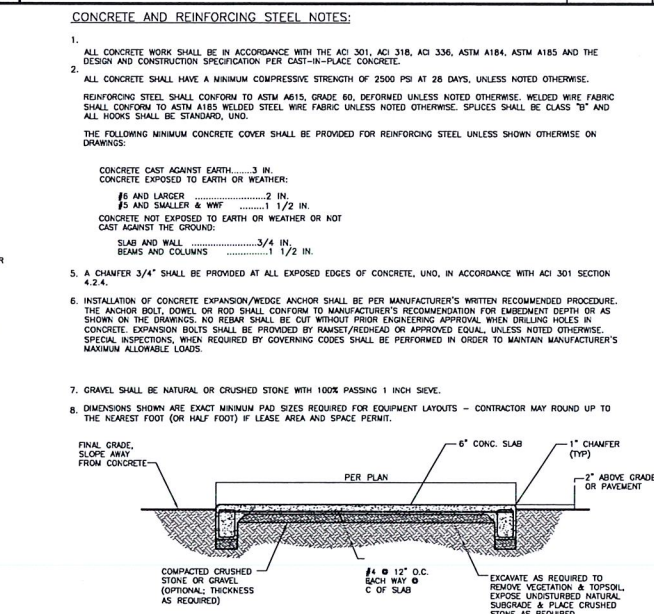
SHUTDOWN DISCONNECT BOX

SCALE: N.T.S. 3



ALUMA-FORM BRACKET SYSTEM AVAILABLE FROM ACE SUPPLY CAM-P-DUY-3ACE

ALUMA-FORM INC. (901) 362-0100



SCALE: N.T.S. 1

Prepared for:
verizon wireless
2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94588

Vendor:
MODUS
149 NATOMA STREET, 3RD FLOOR
SAN FRANCISCO, CA 94105

Architect:
BYERS ENGINEERING COMPANY
4780 CHABOT DRIVE, SUITE 104
PLEASANTON, CA 94588
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REV4	10/21/15	PLAN CHECK COMMENTS	JA
REV5	09/28/15	ROR ISSUED FOR REVIEW	FG
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A-4.1



696-960 / 1695-2180 / 1695-2180 MHz

CWWT070X12Fxy-0

Tri Band | Tri Sector Cylindrical Antenna | 300% Pol | 70° / 70° / 70° | 13.0 / 17.0 / 17.0 dBi | Fixed Tilt

- Tri band, cylindrical antenna
- Tri sector configuration, 120° spacing with TB connectors
- Ideal for Small Cell / DAS applications
- Can be ordered with a variety of different mounting options
- Also available with internal diplexer and/or GPS system

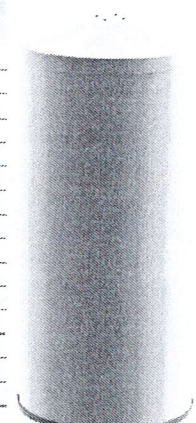
Ordering Options

Option A: Mounting Kit and Painting Options

The CWWT070X12Fxy-0 can be ordered with 48 hours mounting kit options and can be painted to blend with the structure to which it's mounted.

Select from the Mounting Kit and Painting Option combinations shown at right.

Painting Options	Mounting Kit Options	Model Number	Includes Mounting Kit
Unpainted (33)pt	Antenna only, no mounting kit	CWWT070X12Fxy-0	—
	with Side Mounting Pipe Mtg Kit	CWWT070X12Fxy-0T	CWT-MKS-SIDE
	with Top Mounting Pipe Mtg Kit	CWWT070X12Fxy-0T	CWT-MKS-TOP
Painted White	with Utility Pole Mounting Kit	CWWT070X12Fxy-0U	WPK-MKS-01
	Antenna only, no mounting kit	CWWT070X12Fxy-0WB	—
	with Side Mounting Pipe Mtg Kit	CWWT070X12Fxy-0WB	CWT-MKS-SIDE
Painted White	with Top Mounting Pipe Mtg Kit	CWWT070X12Fxy-0WB	CWT-MKS-TOP
	with Utility Pole Mounting Kit	CWWT070X12Fxy-0WB	WPK-MKS-01
	Antenna only, no mounting kit	CWWT070X12Fxy-0WBH	—
Painted Black	with Side Mounting Pipe Mtg Kit	CWWT070X12Fxy-0WB	CWT-MKS-SIDE
	with Top Mounting Pipe Mtg Kit	CWWT070X12Fxy-0WB	CWT-MKS-TOP
	with Utility Pole Mounting Kit	CWWT070X12Fxy-0WB	WPK-MKS-01



Option B: Electrical Downfalls

When ordering, replace the "x" in the model number with the value of electrical downfall for the low band (696-960 MHz) and replace the "y" in the model number with the value of the electrical downfall for the high band (1695-2180 MHz). Select from the options listed below under Electrical Downfall.

Additional Antenna Options	Description	Model Number
Antenna with Internal Diplexer	Antenna with Internal Diplexer	CWWT070X12Fxy-1
Antenna with GPS System	Antenna with GPS System	CWWT070X12Fxy-0
Antenna with Internal Diplexer and GPS System	Antenna with Internal Diplexer and GPS System	CWWT070X12Fxy-1

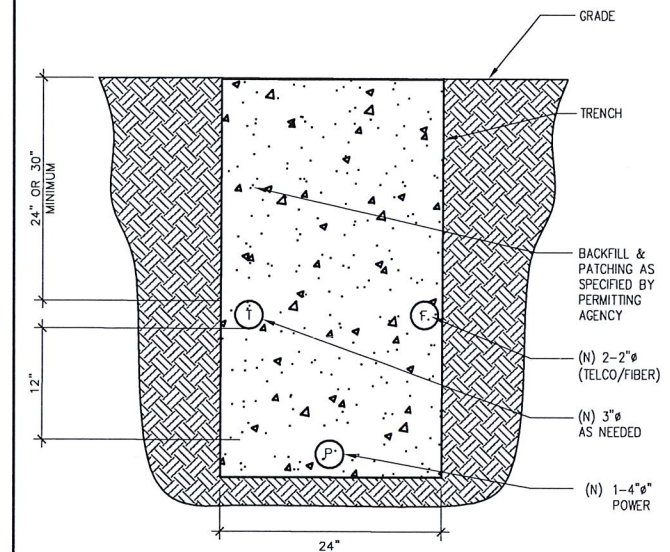
Electrical Characteristics	696-960 MHz			(2x) 1695-2180 MHz		
	Frequency Range (MHz)	696-960	800-960	1695-1695	1695-1995	1995-2180
Dimension	±0.5"					
Horizontal Beamwidth	70°	60°	70°	60°	60°	60°
Vertical Beamwidth	20°	15°	15°	15°	15°	15°
Gain	12.0 dBi	13.0 dBi	16.0 dBi	16.5 dBi	17.0 dBi	
Physical Downfall (°)	0, 2, 4, 6, 8, 10, 12			0, 2, 4, 6, 8, 12		
Impedance	50Ω					
VSWR	≤ 1.5:1					
Upper Sideband Suppression	> 15 dB			> 15 dB		

Claimed performance parameters are provided as either typical, peak or worst values only and may vary as a result of normal manufacturing and operational conditions. Downfall parameters are based on the antenna's maximum gain and may vary slightly from the stated values. All dimensions are in inches unless otherwise specified. Dimensions are subject to change without notice. Performance is based on the antenna's maximum gain.

REV042615R www.amphenol-antennas.com 1 of 5

NOT USED SCALE: N.T.S 8

NOT USED SCALE: N.T.S 3



NOT USED SCALE: N.T.S 7

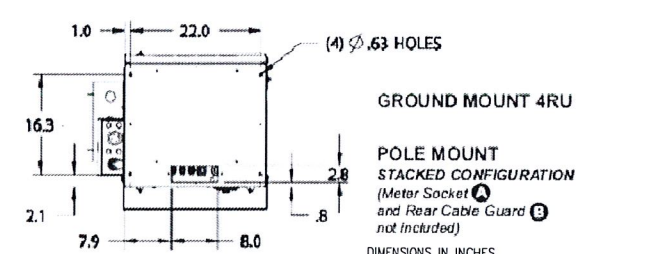
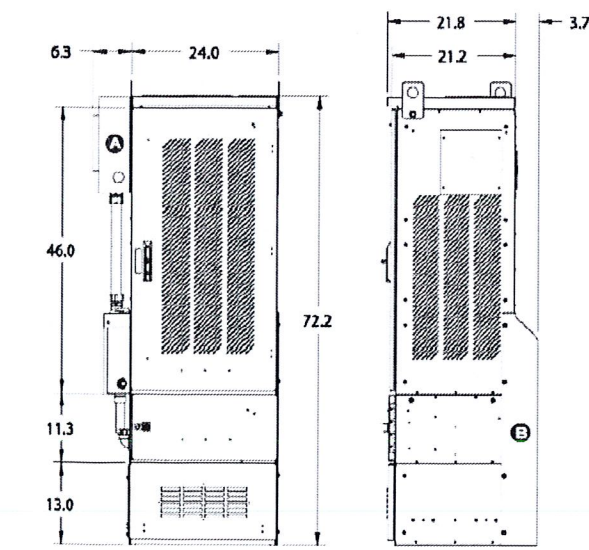
AMPHENOL CWWT070X12Fxy-0

SCALE: N.T.S 5 JOINT TRENCH DETAIL SCALE: N.T.S 2

NOT USED SCALE: N.T.S 6

NOT USED

SCALE: N.T.S 4 CUBE-SC30432NE3



Prepared for:

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Vendor:

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Architect:

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ELECTRICAL NOTES

GENERAL REQUIREMENTS:

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES. NOTHING IN THESE PLANS OR SPECIFICATIONS SHALL BE CONSTRUED AS TO PERMIT WORK NOT CONFORMING TO THE MOST STRINGENT OF THESE CODES. SHOULD CHANGES BE NECESSARY IN THE DRAWINGS OR SPECIFICATIONS TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND CEASE WORK ON PARTS OF THE CONTRACT WHICH ARE AFFECTED.
2. THE CONTRACTOR SHALL MAKE A SITE VISIT PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES. THE CONTRACTOR ASSUMES ALL LIABILITY FOR FAILURE TO COMPLY WITH THIS PROVISION.
3. THE EXTENT OF THE WORK IS INDICATED BY THE DRAWINGS, SCHEDULES, AND SPECIFICATIONS AND IS SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT. THE WORK SHALL CONSIST OF FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND SUPPLIES NECESSARY FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. THE WORK SHALL ALSO INCLUDE THE COMPLETION OF ALL ELECTRICAL WORK NOT MENTIONED OR SHOWN WHICH IS NECESSARY FOR SUCCESSFUL OPERATION OF ALL SYSTEMS.
4. THE CONTRACTOR SHALL PREPARE A BID FOR A COMPLETE AND OPERATIONAL SYSTEM, WHICH INCLUDES THE COST FOR MATERIAL AND LABOR.
5. WORKMANSHIP AND NEAT APPEARANCE SHALL BE AS IMPORTANT AS THE OPERATION. DEFECTIVE OR DAMAGED MATERIALS SHALL BE REPLACED OR REPAIRED PRIOR TO FINAL ACCEPTANCE IN A MANNER ACCEPTABLE TO OWNER AND ENGINEER.
6. 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.
7. 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.
8. ANY ERROR, OMISSION OR DESIGN DISCREPANCY ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION OR CORRECTION BEFORE CONSTRUCTION.
9. "PROVIDE" INDICATES THAT ALL ITEMS ARE TO BE FURNISHED, INSTALLED AND CONNECTED IN PLACE.
10. CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES.

EQUIPMENT LOCATION:

1. 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 JUDGEMENT MUST BE EXERCISED IN EXECUTING THE WORK SO AS TO SECURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE. LIMITATIONS OR INTERFERENCE OF STRUCTURE CONDITIONS ENCOUNTERED.
2. IN THE EVENT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY, DUE TO FIELD CONDITIONS IN THE BUILDING CONSTRUCTION OR REARRANGEMENT OF FURNISHINGS OR EQUIPMENT, SUCH CHANGES SHALL BE MADE WITHOUT COST, PROVIDING THE CHANGE IS ORDERED BEFORE THE CONDUIT RUNS, ETC., AND WORK DIRECTLY CONNECTED TO THE SAME IS INSTALLED AND NO EXTRA MATERIALS ARE REQUIRED.
3. LIGHTING FIXTURES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. COORDINATE THE FIXTURE LOCATION WITH MECHANICAL EQUIPMENT TO AVOID INTERFERENCE.
4. COORDINATE THE WORK OF THIS SECTION WITH THAT OF ALL OTHER TRADES, WHERE CONFLICTS OCCUR, CONSULT WITH THE RESPECTIVE CONTRACTOR AND COME TO AGREEMENT AS TO CHANGES NECESSARY. OBTAIN WRITTEN ACCEPTANCE FROM ENGINEER FOR THE PROPOSED CHANGES BEFORE PROCEEDING.

SHOP DRAWINGS:

1. N/A UNLESS NOTED OTHERWISE.

SUBSTITUTIONS:

1. NO SUBSTITUTIONS ARE ALLOWED

TESTS:

1. 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.

PERMITS:

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

GROUNDING:

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

UTILITY SERVICE:

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

PRODUCTS:

1. ALL MATERIALS SHALL BE NEW, CONFORMING WITH NEC, ANSI, NEMA, AND THEY SHALL BE U.L. LISTED AND LABELED.
2. CONDUIT:
 - A) 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 BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
 - B) ELECTRICAL METALLIC TUBING SHALL U.L. LABEL, FITTINGS SHALL BE COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
 - C) FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE. SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
 - D) CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILING OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH ARCHITECT PRIOR TO INSTALLING.
 - E) ALL UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24" BELOW GRADE
 - F) ALL CONDUIT ONLY (C.O.) SHALL HAVE PULL ROPE.
 - G) CONDUITS RUN ON ROOFS SHALL BE INSTALLED ON 4x4 REDWOOD SLEEPERS, 6"-0" ON CENTER, SET IN NON-HARDENING MASTIC.
3. ALL WIRE AND CABLE SHALL BE COPPER, 600 VOLT, #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. TYPE THHN INSULATION USED UNLESS CONDUCTORS INSTALLED IN CONDUIT EXPOSED TO WEATHER, IN WHICH CASE TYPE THWN INSULATION SHALL BE USED.
4. PROVIDE GALVANIZED COATED STEEL BOXES AND ACCESSORIES SIZED PER CODE TO ACCOMMODATE ALL DEVICES AND WIRING.
5. DUPLEX RECEPTACLES SHALL BE SPECIFICATION GRADE WITH WHITE FINISH (UNLESS NOTED BY 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 COVER PLATES.
6. TOGGLE SWITCHES SHALL BE 20 AMP, 120 VOLT AC, SPECIFICATION GRADE WHITE (UNLESS NOTED OTHERWISE) FINISH. MOUNT SWITCHES AT +48" ABOVE FINISHED FLOOR.
7. PANEL BOARDS SHALL BE DEAD FRONT SAFETY TYPE WITH ANTI-BURN SOLDERLESS COMPRESSION APPROVED FOR COPPER CONDUCTORS. COPPER BUS BARS, FULL SIZED NEUTRAL BUS, GROUND BUS AND EQUIPPED WITH QUICK-MAKE QUICK-BREAK BOLT-IN TYPE THERMAL MAGNETIC CIRCUIT BREAKERS. MOUNT TOP OF THE PANEL BOARDS AT 6"-3" ABOVE FINISHED FLOOR. PROVIDE TYPE WRITTEN CIRCUIT DIRECTORY.
8. ALL CIRCUIT BREAKERS, MAGNETIC STARTERS AND OTHER ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
9. GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" ROUND AND 10' LONG. COPPERWELD OR APPROVED EQUAL.

1. PROVIDE SUPPORTING DEVICES FOR ALL ELECTRICAL EQUIPMENT, FIXTURES, BOXES, PANEL, ETC., SUPPORT LUMINARIES FROM UNDERSIDE OF STRUCTURAL CEILING. EQUIPMENT SHALL BE BRACED TO WITHSTAND HORIZONTAL FORCES IN ACCORDANCE WITH STATE AND LOCAL CODE REQUIREMENTS. PROVIDE PRIOR ALIGNMENT AND LEVELING OF ALL DEVICES AND FIXTURES.
2. 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 OR EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR. OBTAIN PERMISSION FROM THE ENGINEER BEFORE CORING.
3. 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 THE CIRCUMSTANCES.
4. LOCATION OF TENDONS AND/OR REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE, MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING AND/OR STEEL TENDONS.
5. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE REQUIREMENTS OF THE C.B.C.

INSTALLATION:

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

PROJECT CLOSURE:

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











GROUNDING NOTES:

1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION REQUIREMENTS AND CONSTRUCTION ACCORDING TO SITE CONDITIONS.
2. ALL GROUNDING CONDUCTORS: #2 AWG SOLID BARE TINNED COPPER WIRE UNLESS OTHERWISE NOTED.
3. GROUND BAR LOCATED IN BASE OF EQUIPMENT WILL BE PROVIDED, FURNISHED AND INSTALLED BY THE VENDOR.
4. ALL BELOW GRADE CONNECTIONS: EXOTHERMIC WELD TYPE, ABOVE GRADE CONNECTIONS: EXOTHERMIC WELD TYPE.
5. GROUND RING SHALL BE LOCATED A MINIMUM OF 24" BELOW GRADE OR 6" MINIMUM BELOW THE FROST LINE.
6. INSTALL GROUND CONDUCTORS AND GROUND ROD MINIMUM OF 1'-0" FROM EQUIPMENT CONCRETE SLAB, SPREAD FOOTING, OR FENCE.
7. EXOTHERMIC WELD GROUND CONNECTION TO FENCE POST: TREAT WITH A COLD GALVANIZED SPRAY.
8. GROUND BARS:
 - A) EQUIPMENT GROUND BUS BAR (EGB) LOCATED AT THE BOTTOM OF ANTENNA POLE/MAST FOR MAKING GROUNDING JUMPER CONNECTIONS TO COAX FEEDER CABLES SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. JUMPERS (FURNISHED BY OWNERS) SHALL BE INSTALLED AND CONNECTED BY ELECTRICAL CONTRACTOR.
9. ALL GROUNDING INSTALLATIONS AND CONNECTIONS SHALL BE MADE BY ELECTRICAL CONTRACTOR.
10. OBSERVE N.E.C. AND LOCAL UTILITY REQUIREMENTS FOR ELECTRICAL SERVICE GROUNDING.
11. GROUNDING ATTACHMENT TO TOWER SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS OR AT GROUNDING POINTS PROVIDED (2 MINIMUM).
12. IF EQUIPMENT IS IN A C.L. FENCE ENCLOSURE GROUND ONLY CORNER POSTS AND SUPPORT POSTS OF GATE. IF CHAIN LINK LID IS USED, THEN GROUND LID ALSO.
13. GROUNDING AT PPC CABINET SHALL BE VERTICALLY INSTALLED.
14. ALL GROUNDING FOR ANTENNAS SHALL BE CONNECTED SO THAT IT WILL BY-PASS MAIN BUSS BAR.
15. ALL EMT RUNS SHALL BE GROUNDED AND HAVE A BUSHING, NO PVC ABOVE GROUND.
16. USE SEPARATE HOLES FOR GROUNDING AT BUSS BAR. NO "DOUBLE-UP" OF LUGS.
17. POWER AND TELCO CABINETS SHALL BE GROUNDED (BONDED) TOGETHER.
18. NO LB'S ALLOWED ON GROUNDING.
19. PROVIDE STAINLESS STEEL CLAMP AND BRASS TAGS ON COAX AT ANTENNAS AND DOGHOUSE.


























ELECTRICAL SYMBOLS

(NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.)











LIGHTING

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







DEVICES

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















POWER

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WIRE/CONDUIT

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SINGLE-LINE DIAGRAM

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ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	AMPS/AMPERES	IG	ISOLATED GROUND
AFC	AVAILABLE FAULT CURRENT	KCML	1000 CIRCULAR MILS (MCM)
AFI	ABOVE FINISHED FLOOR	LFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT
AFG	ABOVE FINAL GRADE	LFNC	LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT
AWG	AMERICAN WIRE GAUGE	N	NEW
C	CONDUIT	NT	NEMA 1.
CU	COPPER MATERIAL	N3R	NEMA 3R.
DED	DEDICATED	NL	NIGHT LIGHT, BYPASS LOCAL SWITCHING.
EF	EXHAUST FAN	RNC	RIGID NONMETALLIC CONDUIT
EMT	ELECTRICAL METALLIC TUBING	UNO	UNLESS NOTED OTHERWISE.
ENT	ELECTRICAL NON-METALLIC TUBING	WP	WEATHERPROOF.
ER	EXISTING TO BE RELOCATED AS INDICATED.	XP	EXPLOSION PROOF.
EX	EXISTING TO REMAIN.	XR	EXISTING TO BE REMOVED.
FMC	FLEXIBLE METAL CONDUIT		
GEC	GROUNDING ELECTRODE CONDUCTOR AT THE SES		
GFI	GROUND FAULT CURRENT INTERRUPTER.		
GND	GROUND		
IMC	INTERMEDIATE METAL CONDUIT		


Prepared for:

verizonwireless
2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Vendor:


149 NATOMA STREET, 3RD FLOOR
SAN FRANCISCO, CA 94105

Architect:


4780 CHABOT DRIVE, SUITE 104
PLEASANTON, CA 94588
Phone: (925) 398-6000

VERIZON SITE NO: 279041

PROJECT NO:

DRAWN BY: FG

CHECKED BY: NHP

Issued For:

CONSTRUCTION

REV	DATE	DESCRIPTION	BY
REV4	09/19/16	NEW EQUIPMENT DESIGN	RD
REV3	07/07/16	NEW EQUIPMENT DESIGN	RD
REV2	11/18/15	100% CONSTRUCTION	FG
REV1	10/21/15	PLAN CHECK COMMENTS	JA
REV0	09/28/15	90% ISSUED FOR REVIEW	FG
REV	DATE	DESCRIPTION	BY

License:

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Project Info:

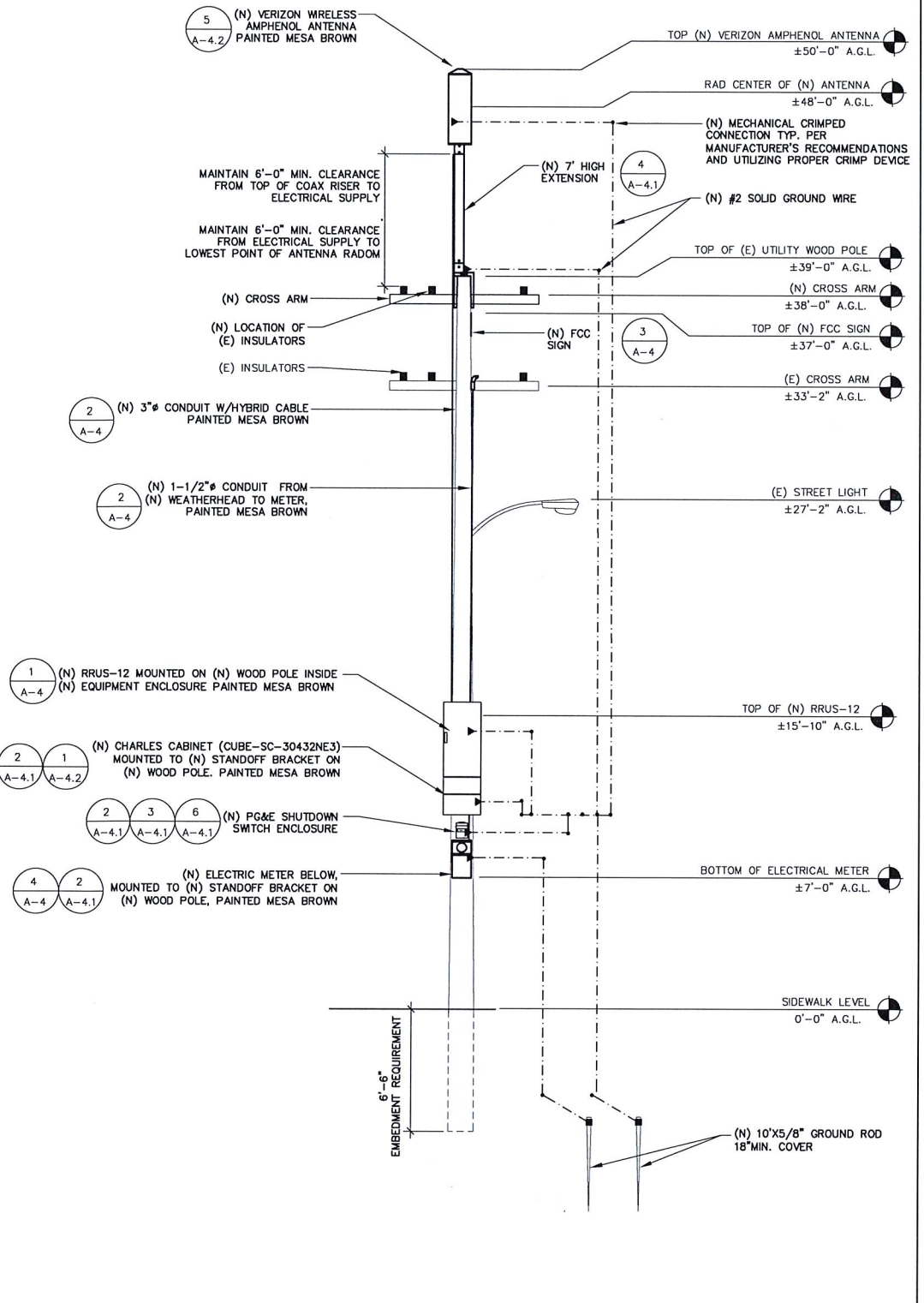
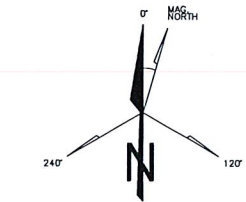
**OAKLAND TECH
HIGH SCHOOL**
PUBLIC RIGHT OF WAY
ACROSS FROM 345
42ND. STREET
OAKLAND, CA 94609

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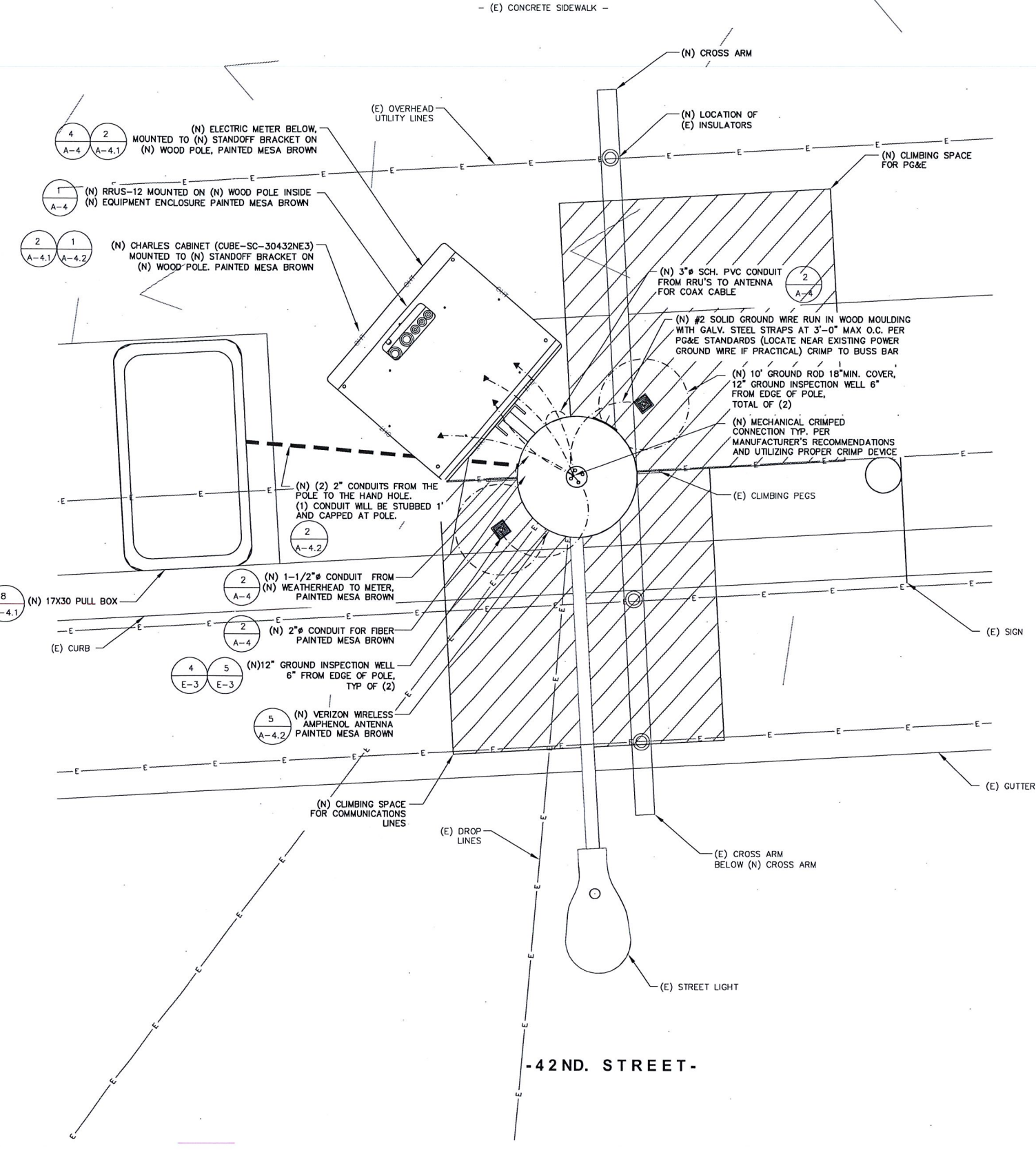
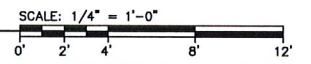
**GENERAL ELECTRICAL
NOTES & SYMBOLS**

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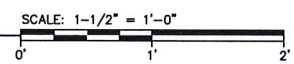
E-1



1 POLE GROUNDING DIAGRAM




2 GROUNDING PLAN



Prepared for:
verizon wireless
 2785 MITCHELL DRIVE, SUITE 9
 WALNUT CREEK, CA 94598

Vendor:

 149 NATOMA STREET, 3RD FLOOR
 SAN FRANCISCO, CA 94105

Architect:

 4780 CHABOT DRIVE, SUITE 104
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VERIZON SITE NO: 279041
 PROJECT NO:
 DRAWN BY: FG
 CHECKED BY: NHP

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
REV4	09/19/16	NEW EQUIPMENT DESIGN	RD
REV3	07/07/16	NEW EQUIPMENT DESIGN	RD
REV2	11/18/15	100% CONSTRUCTION	FG
REV1	10/21/15	PLAN CHECK COMMENTS	JA
REV0	09/08/15	POS ISSUED FOR REVIEW	FG
REV	DATE	DESCRIPTION	BY

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Project Info:
OAKLAND TECH HIGH SCHOOL
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 OAKLAND, CA 94609

Sheet Title:
ELECTRICAL GROUND DIAGRAMS

Sheet Number:
E-2

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POWER AND TELCO NOTES:

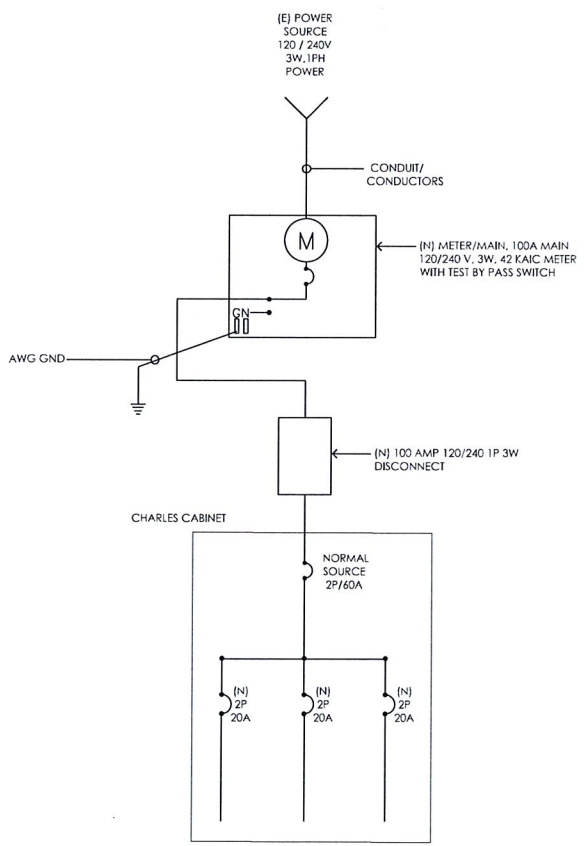
- POWER AND TELCO POINTS OF CONNECTION AND ANY EASEMENTS ARE PRELIMINARY AND SUBJECT TO CHANGE BY THE UTILITY COMPANIES.
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK/MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY ENGINEERING PLANS AND SPECIFICATIONS ONLY WHERE APPLICABLE PER PROJECT SCOPE OF WORK.
- CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, PULL WRES, CABLE PULL BOXES, CONCRETE ENCASMENT OF CONDUIT, TRANSFORMER PAD, BARRIERS, POLE RIGGING, BACKFILL, 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 BUS UNITS AND THE UTILITY CABINET.
- ALL SERVICE EQUIPMENT AND INSTALLATIONS SHALL COMPLY WITH THE N.E.C. AND UTILITY COMPANY AND LOCAL CODE REQUIREMENTS.
- SUBCONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE ENTRANCE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
- FIELD ROUTE CONDUIT TO CABINETS AS REQUIRED.
- MAXIMUM ONE WAY CIRCUIT RUN NOT TO EXCEED 75 FEET.

GENERAL ELECTRICAL NOTES:

- 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 TITLE 24, ALL OTHER APPLICABLE CODES AND ORDINANCES & THE REQUIREMENTS OF THE FIRE MARSHALL. ALL EQUIPMENT & WIRING SHALL BEAR THE APPROVAL STAMP OF UNDERWRITERS LABORATORY (UL) OR AN APPROVED TESTING LABORATORY. PAYMENT FOR ALL INSPECTION FEES AND PERMITS ARE PART OF THIS CONTRACT.
- 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 PRECAUTIONS & WARNINGS.
- COORDINATE THE ELECTRICAL INSTALLATION WITH ALL OTHER TRADES.
- ALL SAW CUTTING, BENCHING, BACK FILING & PATCHING SHALL BE PART OF THIS CONTRACT.
- 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 CONTRIBUTION 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 THHN CONDUCTORS LARGER AND #6 AWG MAY BE TYPE THWN OR TWN.
- PROVIDE CONDUIT SLABS FOR ALL CONDUITS PENETRATING WEATHERPROOFING OR WEATHERPROOF ENCLOSURE ENVELOPEL. MASTIC SEAL ALL CONDUIT OPENING PENETRATIONS COMPLETELY VERTICAL.
- UNLESS SHOWN OTHERWISE, FUSED DISCONNECT SWITCHES SHALL BE PROVIDED WITH LOW-PLEAK, SENSITIVE ELEMENT FUSES SIZED TO EQUIPMENT NAMEPLATE FUSE CURRENT RATINGS. MOTOR STARTERS SHALL BE PROVIDED WITH SIMILARLY SIZED FUSE ELEMENTS. SWITCHES AND OTHER OUTDOOR EQUIPMENT SHALL BE RATED NEMA 3R AND/OR LISTED FOR WET ENVIRONMENT.
- 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.



LOAD CALCULATION

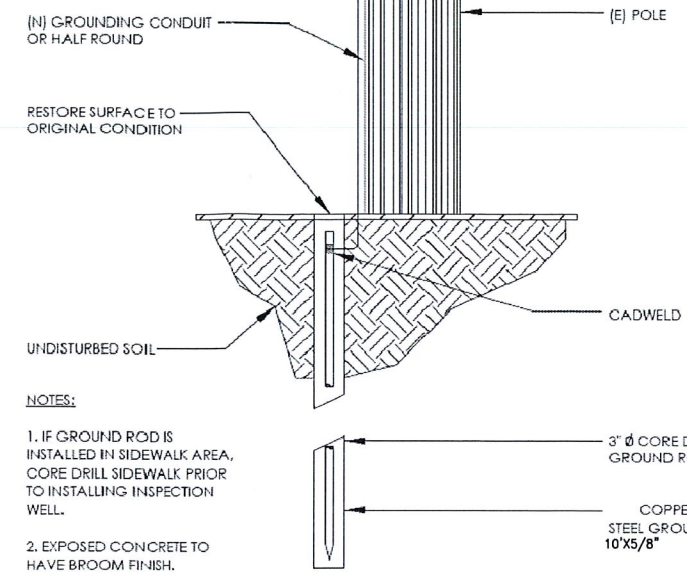
EXISTING LOAD : 0 AMPS
 NEW LOAD: 60 AMPS MAX.
 NEW TOTAL LOAD: 60 AMPS MAX

POWER AND TELCO DESIGN BASED ON SITE VISIT.

CONTRACTOR SHALL OBTAIN CURRENT UTILITY COORDINATOR PLANS PRIOR TO START OF CONSTRUCTION.

AVAILABLE FAULT CURRENT PER UTILITY.

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



NOTES:

- IF GROUND ROD IS INSTALLED IN SIDEWALK AREA, CORE DRILL SIDEWALK PRIOR TO INSTALLING INSPECTION WELL.
- EXPOSED CONCRETE TO HAVE BROOM FINISH.

POLE GROUNDING ROD

SCALE: N.T.S. 5

● Etched polypropylene face
 ● Face anchored in concrete
 ● Ultra-violet inhibitor
 ● Exceeds ASTM-211993 Standards for Environmental Stress Cracking Resistance

Reinforced Concrete Lid No. F08R 8 lbs.

Curb Valve Box No. F08 BOX 34 lbs.

F08D
F08C
V01-71C

A high density reinforced concrete box with non-settling shoulders positioned to maintain grade and facilitate back filling. Approximate dimensions and weight shown.

Oldcastle Ordering Code	Item	Approx. Shipping Weight	Description
F08BOX	BOX	34 lbs.	F08 Curb Valve Box (8" I.D. x 12" High) - 48 per pallet
F08R	LID	8 lbs.	Reinforced Concrete Lid with Plastic Ring
F08C	LID	8 lbs.	Cast Iron Lid
FL850	LID	2 lbs.	Fiberglass Lid, Non-Concrete
V01-71C	LID	12 lbs.	Cast Iron Grate ADA Compliant

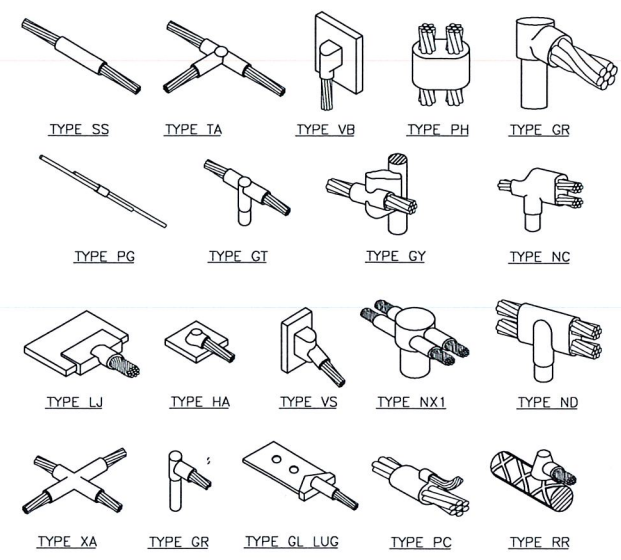
Oldcastle Enclosure Solutions
 F08 BOX
 FILE NAME: F08_150
 ISSUE DATE: January, 2011
 www.oldcastleprecast.com

F08 CURB VALVE BOX 8" I.D. x 12"
CHRISTY

Phone: (800) 486-7070 Fax: (800) 486-6034
 Copyright © 2011, Oldcastle Enclosure Solutions

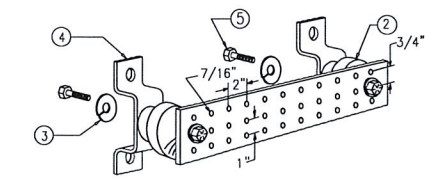
GROUND INSPECTION WELL DETAIL

SCALE: N.T.S. 6



EXOTHERMIC WELD CONNECTION

SCALE: N.T.S. 3



NOTES:

- COPPER GROUND BAR, "X 1/4" X 20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION. (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)
- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4 OR EQUAL
- 5/8" LOCKWASHER, NEWTON INSTRUMENT CO. CAT. NO. 3015-B OR EQUAL
- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056 OR EQUAL
- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1 OR EQUAL
- INSULATORS SHALL BE ELIMINATED WHEN BONDING DIRECTLY TO TOWER/MONOPOLE STRUCTURE. CONNECTION TO TOWER/MONOPOLE STRUCTURE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

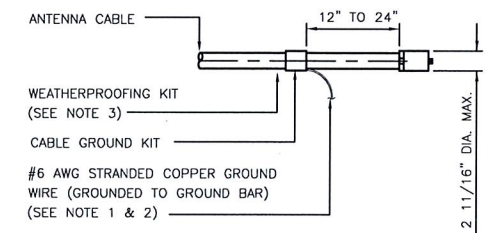
NOTE: ALL HARDWARE SHALL BE STAINLESS STEEL.

BUSS BAR

SCALE: N.T.S. 2

NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
- WEATHER PROOFING SHALL BE (TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.)



CONNECTION OF CABLE GND. KIT TO ANTENA

SCALE: N.T.S. 1

Prepared for:
verizon wireless
 2785 MITCHELL DRIVE, SUITE 9
 WALNUT CREEK, CA 94598

Vendor:

 149 NATOMA STREET, 3RD FLOOR
 SAN FRANCISCO, CA 94105

Architect:

 4780 CHABOT DRIVE, SUITE 104
 PLEASANTON, CA 94588
 Phone: (925) 398-6000

VERIZON SITE NO: 279041
 PROJECT NO:
 DRAWN BY: FG
 CHECKED BY: NHP

Issued For:
CONSTRUCTION

REV#	DATE	DESCRIPTION	BY
REV4	09/19/16	NEW EQUIPMENT DESIGN	RD
REV3	07/07/16	NEW EQUIPMENT DESIGN	RD
REV2	11/18/15	100% CONSTRUCTION	FG
REV1	10/21/15	PLAN CHECK COMMENTS	JA
REV0	09/08/15	90% ISSUED FOR REVIEW	FG
REV	DATE	DESCRIPTION	BY

Licensor:
 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

Project Info:
OAKLAND TECH HIGH SCHOOL
 PUBLIC RIGHT OF WAY
 ACROSS FROM 345
 42ND. STREET
 OAKLAND, CA 94609

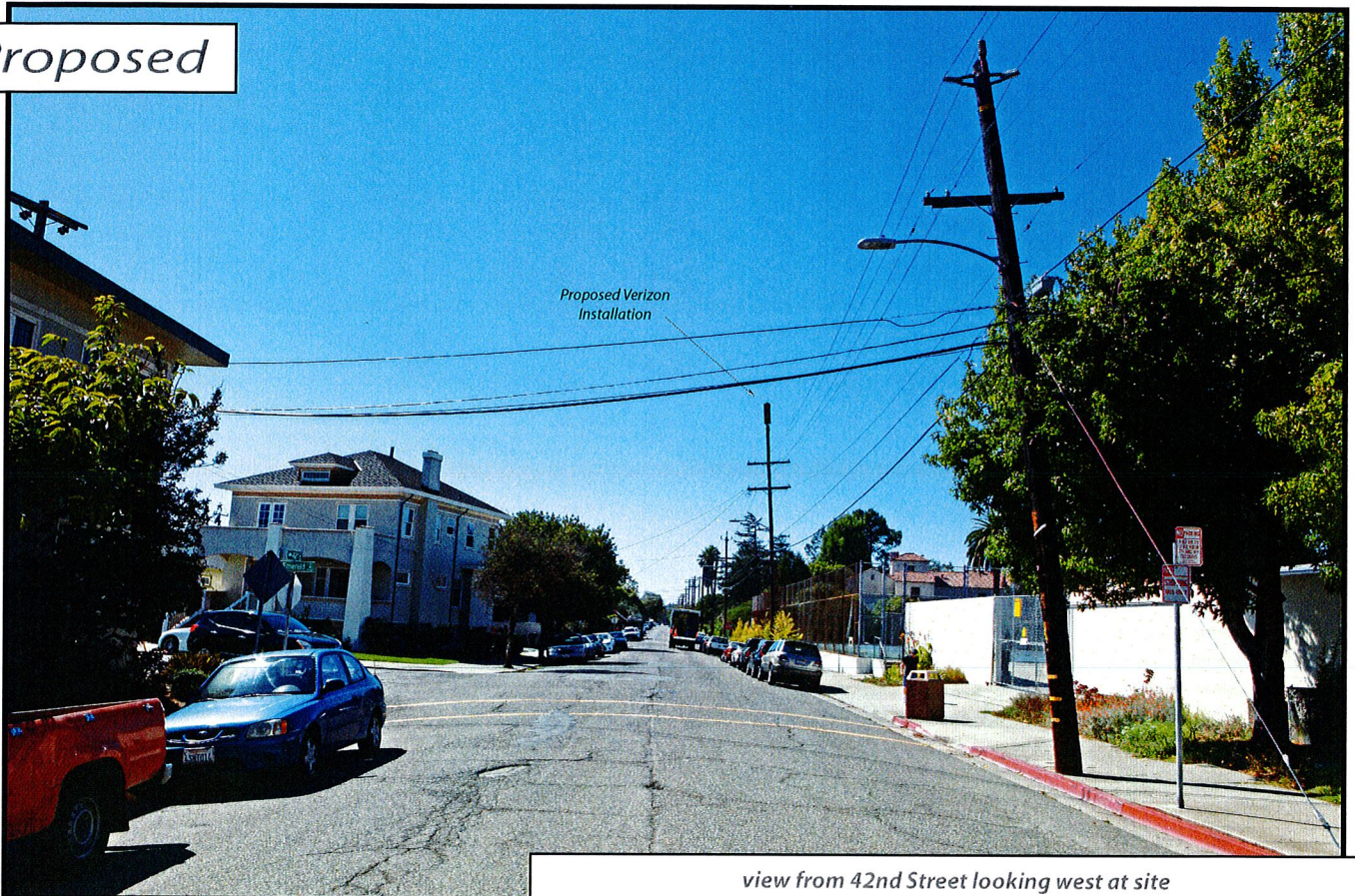
Sheet Title:
PANEL SCHEDULE, SINGLE LINE DIAGRAM & ELECTRICAL DETAILS

Sheet Number:
E-3

Existing

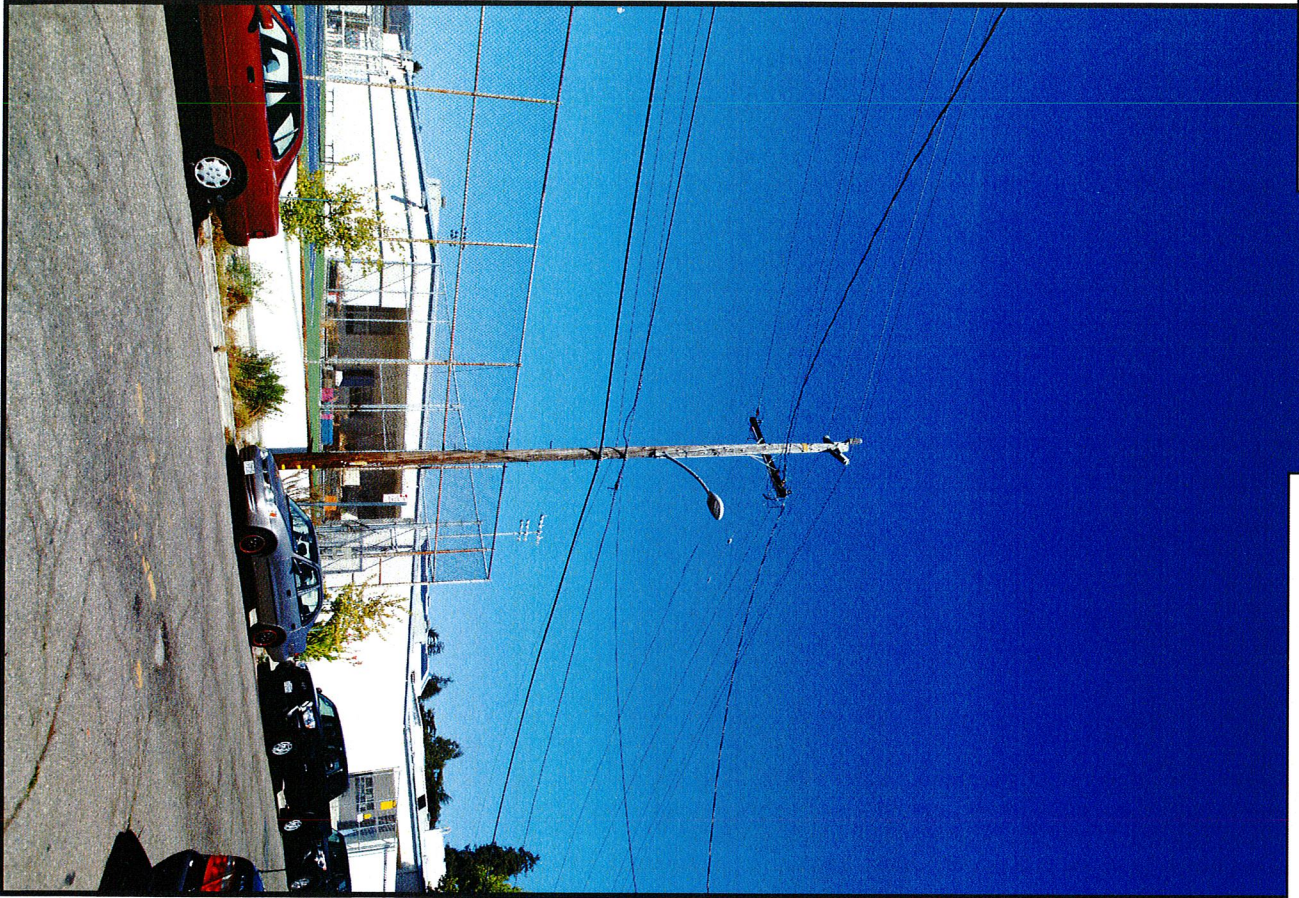


Proposed



view from 42nd Street looking west at site

Existing



view from 42nd Street looking northeast at site

279041 Oakland Tech Highschool
345 42nd Street, Oakland, CA
Photosims Produced on 9-21-2015

Proposed





September 21, 2016

To: ATTN:
City of Oakland
Zoning Division
250 Frank H. Ogawa Plaza
Oakland, CA 94612

From: Verizon Wireless, c/o Modus Corp
Susan Zaca
240 Stockton St, 3rd Floor
San Francisco, CA 94109

RE: Verizon Wireless application to install a new unmanned telecommunications facility on an existing PG&E utility pole located in the public right of way in front of 345 42nd St. Broadway.

Modus Corp, on behalf of Verizon Wireless respectfully submits a Planning application to install a new unmanned telecommunications facility on the existing building rooftop located at 4270 Broadway. The scope of work is as follows:

INSTALL NEW TELECOMMUNICATIONS FACILITY ON AN EXISTING UTILITY POLE CONSISTING OF (1) EQUIPMENT CABINET, (1) NEW ACTIVE CANISTER ANTENNAS and (2) RRUS.

Please find the following contents detailed below:

- CUP Application
- 2 sets of full-sized drawings, size 24" X 36"
- 2 sets of reduced drawings, size 11"x17"
- 1 copy of an EMF report particular to this project
- 1 copy of photosimulations
- 1 copy of alternative design
- 1 copy of a project description/alternative site analysis prepared in support of the application

Project Description

Verizon Wireless is requesting approval of a Conditional Use Permit application to locate and operate an unmanned wireless telecommunication facility including the installation of an equipment cabinet and ONE antenna mounted to the top of an existing utility. A Major Conditional Use permit is required for this project because the facility is located within 100 feet of a residential zone.

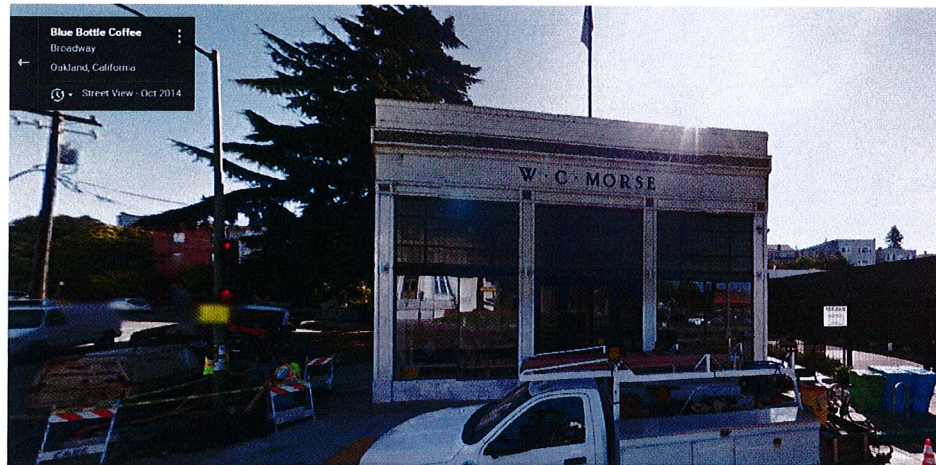
Site Justification/Coverage Area

The proposed project would help to expand the wireless coverage and capacity in an area where there is currently poor coverage within Verizon Wireless' wireless communication network in Oakland. Serving Oakland Tech High School, the proposed project would address the high amount of pedestrian traffic and students with mobile devices causing a coverage gap in the carrier's network. This project would provide improved reliability and call volume for wireless subscribers and may also boost the economic activity within the City. In addition to voice-call services, the proposed equipment will also facilitate features such as mobile web for handheld devices, laptop internet service, as well as text, picture, and video messaging. The proposed project also provides improved emergency-reporting communications facilities.

Other sites were considered for locating the wireless telecommunication facility on their structure. However, due to the lack of landlord interest from adjacent properties, locating on their site is not feasible. **Furthermore, due to the facility type – Small Cell – the range of antenna coverage has a very small radius, therefore locating the antenna on properties that are far away from the coverage objective is not feasible.**

Alternative Sites

1. WC Morse Building



Verizon pursued a telecommunications facility on this building and had applied for a Conditional Use Permit. From the review process, however, the City's Historic Preservation and Planning department suggested a design in which the landlord of the building would not agree to and in turn, decided to drop out of the project. Therefore this candidate had to be abandoned.

2. Oakland Tech High School



Other candidates for this project included locating the site the High School itself. After reaching out to them, however, the school district was resistant to the idea of installing an antenna on their facility.

3. Cuts & Stuff – 4350 Broadway



This candidate was also explored as a possible co-location site. This building is located at 4350 Broadway. This site was investigated and was found to provide acceptable RF coverage. However, the Landlord became disinterested and would not accept the wireless facility that was proposed. The landlord then denied any further negotiation.

4. O'Reilly Auto Parts – 4400 Broadway



The site would potentially meet Verizon's service objective; however, the respective property owner declined Verizon's request to install the wireless facility. Therefore, this alternative was not a feasible candidate.

5. Prima Vera Restaurant – 4800 Broadway



The site would also potentially meet Verizon's service objective; however, the respective property owner declined Verizon's request to install the wireless facility. Therefore, this alternative was not a feasible candidate.

6. Various JPA poles in the area

While other JPA poles were explored, PG&E specifically identified our candidate to be selected to house Verizon equipment and antenna. The other poles had difficulties/problems with power and telco routes, or could not be selected due to PG&E's inability to lease them out (if AT&T was already on the pole, for example).

It is my opinion that none of the sites just described would be more suitable to host the single sector of coverage proposed by Verizon Wireless because of either greater project visibility, or unacceptably deficient or no effective radio frequency visibility to Verizon's target area.

If you require anything additional for this application, please do not hesitate to contact me at (209) 275-8698 or szaca@modus-corp.com

Sincerely,
Susan Zaca, Land-Use Manager Agent for Verizon Wireless
Modus Corp
240 Stockton St, 3rd Floor
San Francisco, CA 94109

**Proposed Base Station (Site No. 279041 “Oakland Tech High School”)
Verizon Wireless • 345 42nd Street • Oakland, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 279041 “Oakland Tech High School”) proposed to be located near 345 42nd Street in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

Verizon proposes to install one antenna on the tall utility pole located near 345 42nd Street 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 mW/cm ²	1.00 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.



**Proposed Base Station (Site No. 279041 “Oakland Tech High School”)
Verizon Wireless • 345 42nd Street • Oakland, California**

Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. 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 Byers Engineering Company, dated October 21, 2015, it is proposed to install one directional panel antenna on top of the 39½-foot utility pole sited in the public right-of-way on the north side of 42nd Street in Oakland, near the easternmost tennis court on the campus of Oakland Tech High School, across the street from the two-story residence located at 4195 Emerald Street. The antenna would be mounted at an effective height of about 49 feet above ground and would be oriented toward 25°T. For the limited purpose of this study, it is assumed that the antenna would be an Andrew Model SBNHH-1D65A, employing 2° downtilt, and that the maximum effective radiated power in any direction would be 7,420 watts, representing simultaneous operation at 3,070 watts for AWS, 3,020 watts for PCS, and 1,330 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 0.018 mW/cm², which is 2.6% of the applicable public exposure limit. The maximum calculated level at any of the tall buildings on campus is 2.3% of the public exposure limit. The maximum calculated level inside any of the single-story buildings on campus is 1.7% of the public exposure limit. The maximum calculated level inside the main building on campus is 0.70% of the public exposure limit. The maximum calculated level at the third-floor elevation of any nearby



**Proposed Base Station (Site No. 279041 “Oakland Tech High School”)
Verizon Wireless • 345 42nd Street • Oakland, California**

residence* is 0.17% 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.

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 to the pole, including employees and contractors of Verizon and of the utilities companies. No access within 19 feet directly in front of the antenna itself, such as might occur during certain maintenance activities, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antenna and/or on the pole below the antenna, readily visible from any angle of approach to persons who might need to work within that distance.

Conclusion

Based on the information and analysis above, it is the undersigned’s professional opinion that operation of the base station proposed by Verizon Wireless near 345 42nd Street in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

* Located at least 50 feet away, based on photographs from Google Maps.

† Signs complied with OET-65 color and symbol recommendations. Contact information was provided in English to arrange for access to restricted areas (the choice of language(s) is not an engineering matter). Signage may also need to comply with the requirements of PUC GO95.



**Proposed Base Station (Site No. 279041 "Oakland Tech High School")
Verizon Wireless • 345 42nd Street • 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, 2017. 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.



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

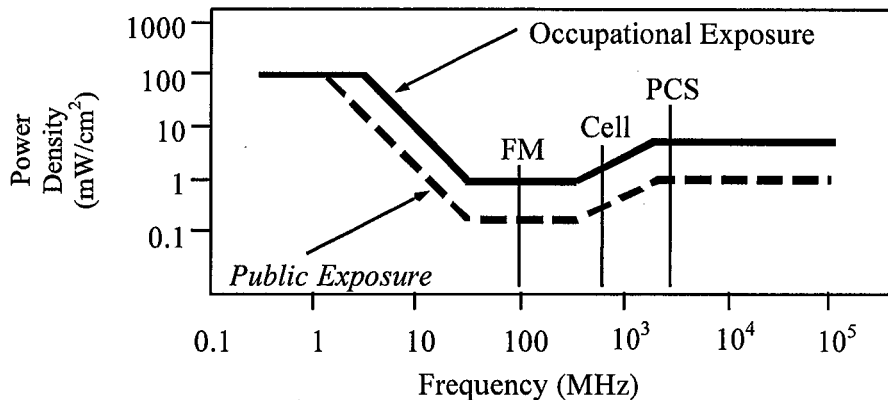
January 7, 2016

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 Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



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



RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

Near Field.

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

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

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/cm²,

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

P_{net} = net power input to the antenna, in watts,

D = distance from antenna, in meters,

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

η = aperture efficiency (unitless, typically 0.5-0.8).

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

Far Field.

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

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm²,

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

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

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

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.



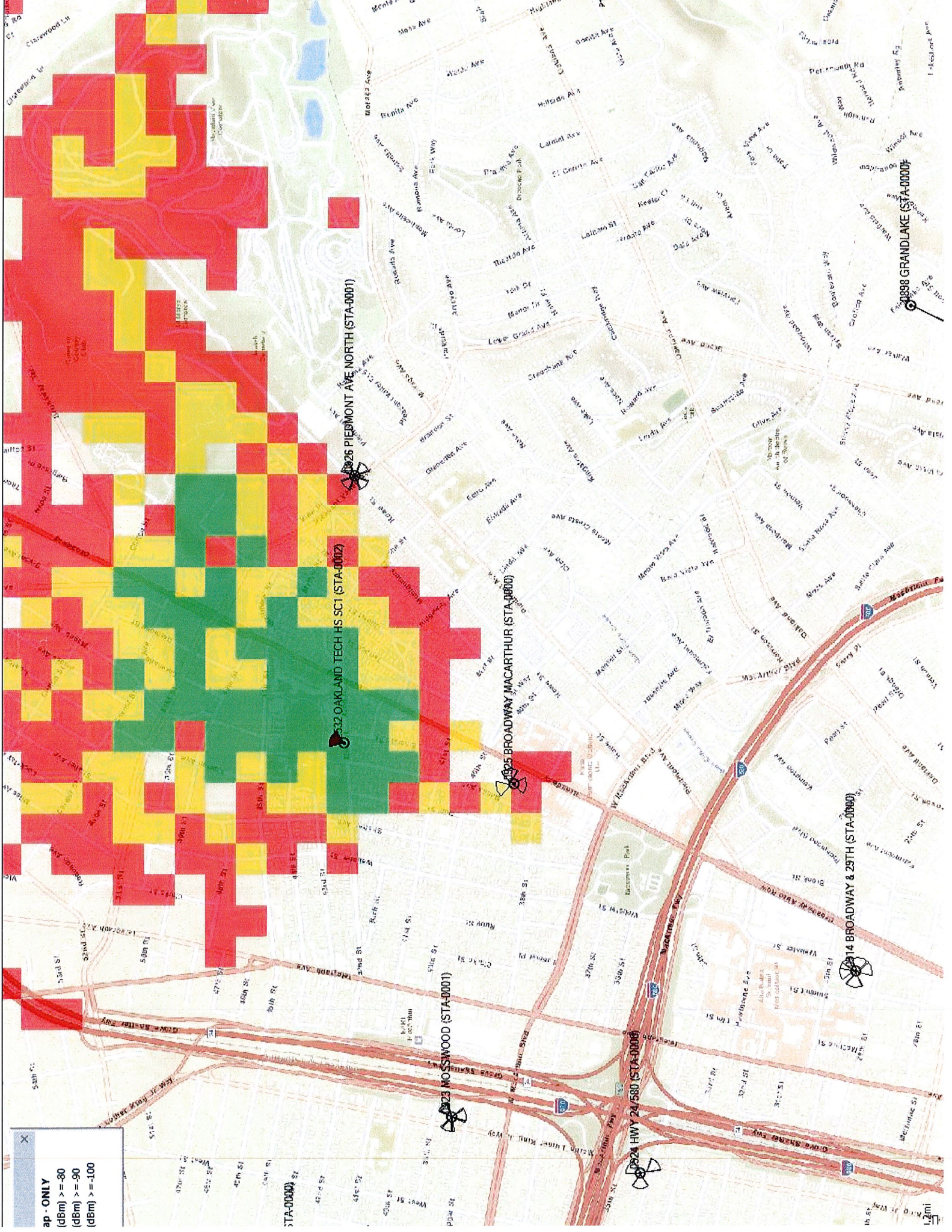
ATTACHMENT C

Coverage Maps for Verizon Wireless Cell Installation / PG&E Pole:

Only: Shows coverage if the new site was the only site in the area

Before: Shows coverage without the new site

After: Shows coverage with the new site installed



ap - ONLY
 (dBm) >= -80
 (dBm) >= -90
 (dBm) >= -100


0026 PIEDMONT AVE NORTH (STA-0001)


0032 OAKLAND TECH HS SCI (STA-0002)


0025 BROADWAY MACARTHUR (STA-0000)


0023 MOSSWOOD (STA-0001)

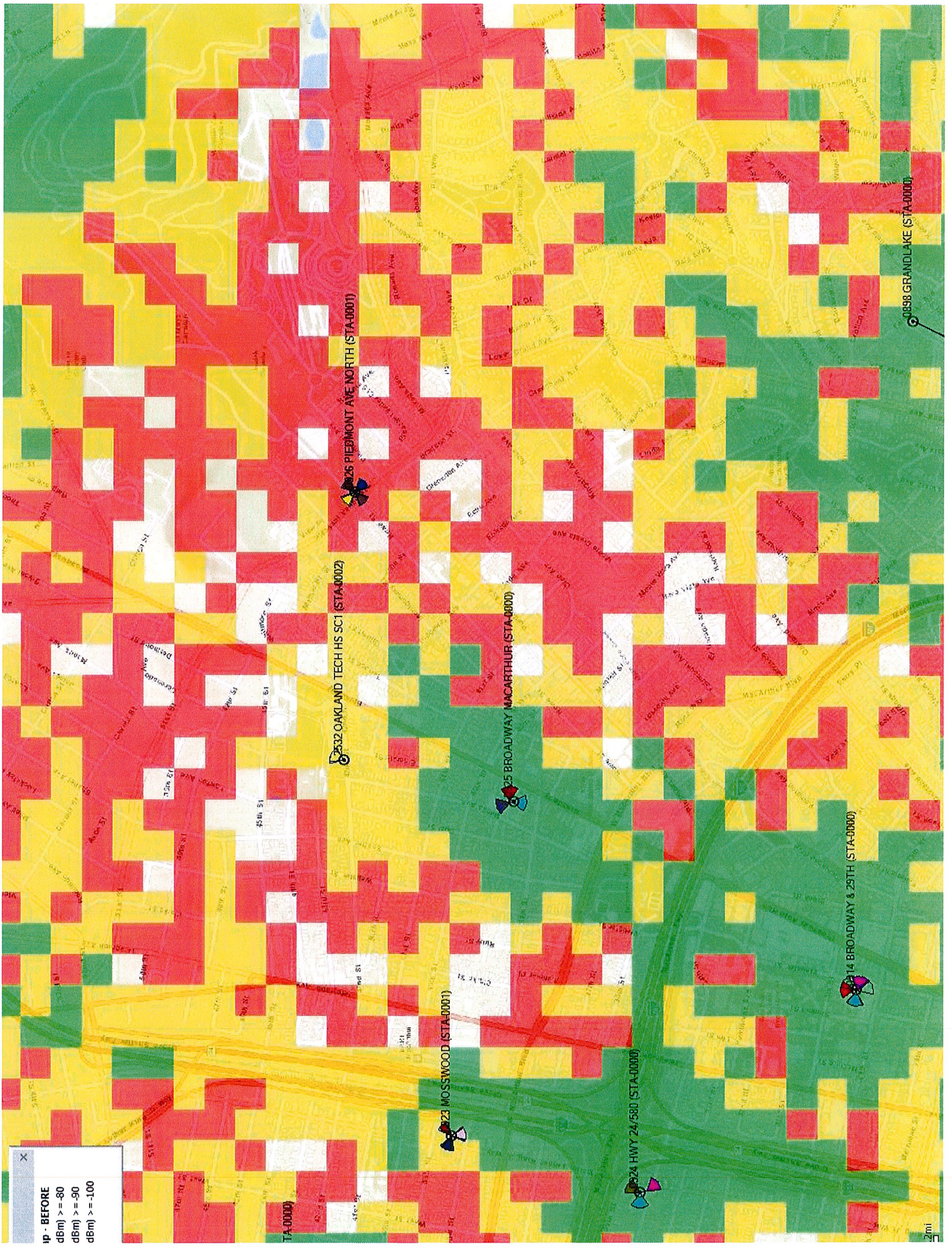

0024 HWY 24/580 (STA-0006)

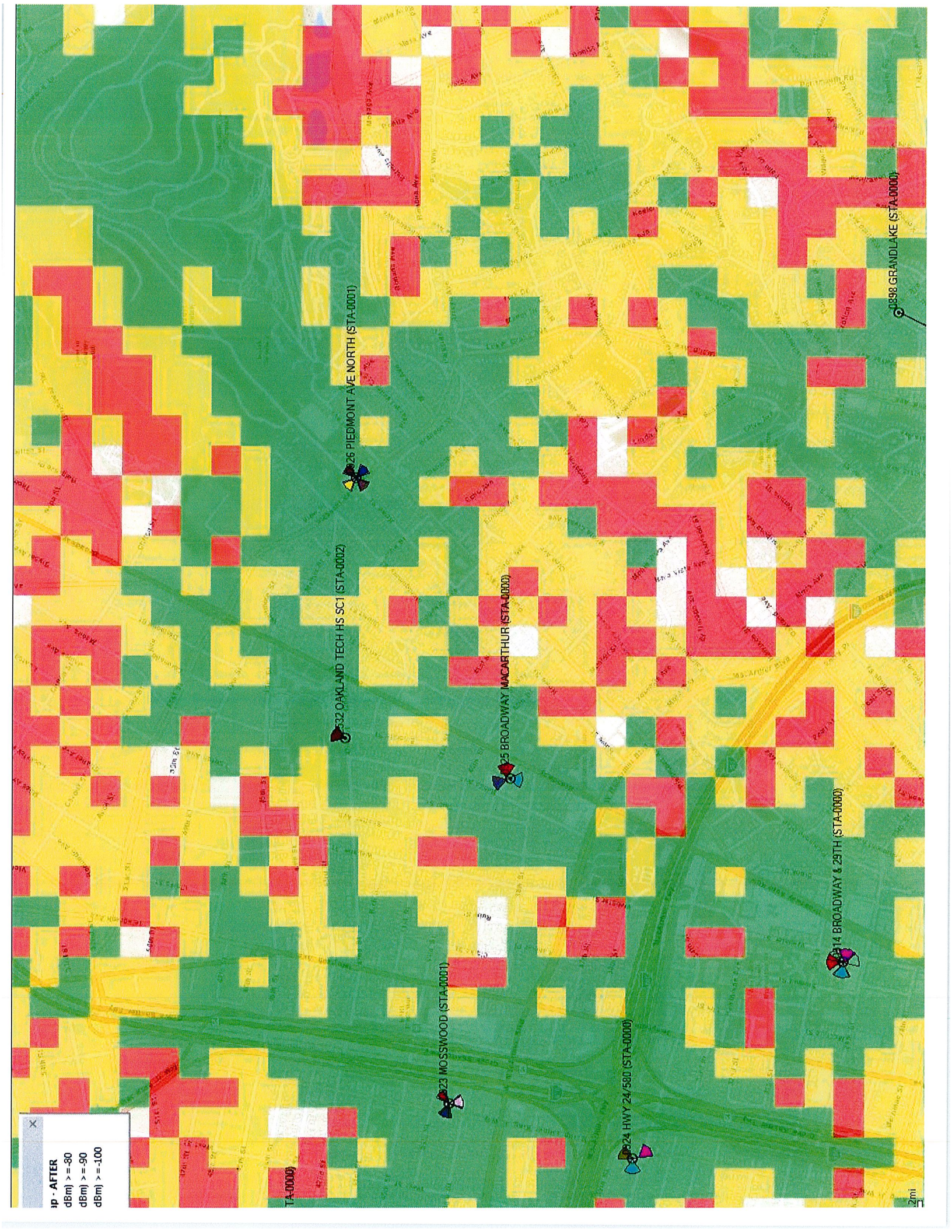

0014 BROADWAY & 29TH (STA-0000)


0088 GRANDLAKE (STA-0000)


1.2mi

ip - BEFORE
dBm) > = -80
dBm) > = -90
dBm) > = -100





X
 ID - AFTER
 dBm) >= -80
 dBm) >= -90
 dBm) >= -100

TA-0000

226 PIEDMONT AVE NORTH (STA-0001)

332 OAKLAND TECH HS SCI (STA-0002)

25 BROADWAY MACARTHUR (STA-0003)

223 MOSSWOOD (STA-0001)

224 HWY 24/580 (STA-0000)

214 BROADWAY & 29TH (STA-0000)

0898 GRAND LAKE (STA-0000)

2mi

Herrera, Jose

ATTACHMENT D

From: Jack Dwyer <dwyerjl@gmail.com>
Sent: Monday, December 05, 2016 10:23 AM
To: Herrera, Jose
Subject: PLN 16005 (42nd St. Utility pole)

I reside across the street from this proposed site; I have following Q's & concerns:

Is this a new wooden pole, the same size as existing adjacent poles? Electronics are what magnitude in size?

We have 7 street trees (trident maples) planted with assistance of Sierra Club, that are almost three years in place, in this right of way, and we'd like assurance that installation of new pole/equipment will not in any way cause issues with these trees, and no disturbances to surrounding soil & subsoil, and no introduction of chemical or toxic substances to planting strip? (High school staff damaged area previously with weed killer; trees survived.) No disturbance to immediate environment by work crew or heavy equipment? No retaining wires or other additional structures not present on site now?

When will this work commence?

We've been maintaining these trees for three years now & consider them a valuable community asset, and a hedge against urban blight. Work crews can be ignorant, careless & devastating. Hoping the city will ensure minimal disturbance and that utmost care will be taken. Thanks for your assistance & response to these questions.

Jack Dwyer

860.754.4597

Sent from my Xonos X-19.

Sent from my Xonos X-19.