verizon

THE CBR GROUP
COMMUNICATIONS BASED RESOURCE GROUP

RECEIVED
APR 18 2018
CITY OF SONOMA

April 18, 2018

Rob Gjestland
City of Sonoma, Planning Dept.
No. 1 the Plaza
Sonoma, CA

RE: Verizon Wireless Small Cell "Sonoma 017" on a new replacement Utility Pole near 342 Arroyo Way.

Dear Rob:

On behalf of Verizon Wireless, this letter provides information and enhanced description to support the application's request to receive Design Review Approval to install a wireless telecommunications small cell node in the public right-of-way near the referenced location.

The following is a detailed **Project Description** of the facility design, the project's purpose and justifications to find support of the application.

Project Purpose:

The purpose of this project is to provide improved wireless voice and data coverage to the surrounding area. These wireless services include mobile telephone, wireless broadband, emergency 911, data transfers, electronic mail, Internet, web browsing, wireless applications, wireless mapping and video streaming. Further radio frequency details are set forth in the attached Radio Frequency Statement, including propagation maps depicting existing and proposed coverage in the vicinity.

Small Cell network consists of a radio access node connected to small telecommunications antenna(s), mounted on existing or replacement wooden utility poles within the public rights-of-way, to distribute wireless telecommunications signals. Small cells provide telecommunications transmission infrastructure for use by wireless services providers.

Our proposal application will greatly benefit the area by improving wireless telecommunications service as further detailed below.

Location:

Verizon Wireless is proposing to install a small cell network in Sonoma on Arroyo Way between 3rd St West and 4th St. West. A small cell network is a set of radio access nodes that deliver wireless signals throughout a given area. Small antennas and remote radio units are located at each node site, and the nodes are linked by fiber optic cable to a central equipment hub. The proposed small cell network consists of several nodes spaced evenly about the service area described above.

The proposed nodes would be located on existing or replacement wooden utility poles in City of Sonoma. Verizon Wireless is the applicant and owner of the proposed small cell network and have rights, as CPUC member, to locate on utility poles.

The proposed location for this site currently consists of an approximate 43-foot-tall wooden utility pole located in the public right-of-way in front of the property near 342 Arroyo Way in Sonoma. Verizon would be installing a new replacement utility pole, adding equipment on the pole, and ground near the pole's base.

Scope of Work:

- Install (1)(N) canister antenna on a (N) 50' replacement wooden utility pole.
- Install (1) new power cabinet on (N) replacement pole.
- Install (3) new RRU-units on (N) replacement pole.
- Install (N) FCC signage on (N) replacement pole.
- Install (N) buss bar on (N) replacement pole.
- Install (2)(N) utility disconnect switches on (N) replacement pole.
- Install (1)(N) electrical meter on (N) replacement pole.
- Install (N) conduit for power, fiber, and coax

Antenna:

The antennas is cylinder in shape, canister type, that is 48 inches high and 14.6 inches in diameter. The antenna would be situated on top of the new pole extension extending the overall structure height to 47.3 feet. The antennas would be painted dark brown to match the pole. The drawings and photographic simulations included with this application depicts the design and its appearance on the pole.

Radio Units:

The radio units will be situated on the pole no higher than 14'-1" tip height, and painted dark brown to match the pole. The radio units are approximately 19.7 inches tall, 17.0 inches wide, and 7.2 inches deep and 27.2 inches tall, 12.1 inches wide and 7.0 inches deep. These units serve to run the equipment that interfaces with the Verizon Wireless communications network.

Power Cabinet:

This project includes the installation of a pole-mounted power cabinet that will be placed on a new replacement pole. The cabinet supplies emergency backup power in the event of a power outage, allowing the facility to provide service during the event.

The design of the site is based on our experiences with how best to integrate a wireless facility into the community. Current technology and demand from subscribers determines the size of our designs. We have worked with jurisdictions to develop the best design to meet our Client's needs as well as the needs of the communities.

Justification:

As the community demands for data area increasing exponentially we are required to go closer into the areas where people are using their phones such as, neighborhoods, urban areas and commercial complexes. Centrally located sites provide the best capacity for the most people in a community. Alternate candidates were assessed to site best possible option that met the coverage objective and aesthetics. See Alternative Siting Analysis for these option considerations. In turn, Verizon Wireless will be siting additional facilities because it is determined based on demand usage and service reports that there is need increased capacity to meet growing demand.

This site will increase the bandwidth needed to access data rich applications like video and internet streaming, uploading and downloading photos and video, applications in the area to serve customers existing and future wireless needs. Please note that as a part of the application Verizon Wireless has provided Coverage Maps to support this need even though California Public Utilities Code section 7901 grants wireless providers the right to place wireless facilities along public rights-of-way without a lease or license.

THE CBR GROUP
841 ARNOLD DRIVE, SUITE A, MARTINEZ, CA 94553
INFO@THECBRGROUP.COM / WWW.THECBRGROUP.COM

Site Selection:

We evaluated many sites before deciding on this one. This site was carefully selected based on this network's maturity, unique coverage and capacity needs. Verizon's placement of cellular facilities also depends on often limited availability of property where the facilities can be built and operated.
Moving the site even a few hundred feet could affect coverage, creating the need for one or more additional sites. An alternative Site Analysis was included in the application to show the alternatives considered and to help demonstrate support for the selected proposed node location.

Construction:

Once all required permits are received the licensed General Contractor will pick up the permit(s) and ensure that City's Municipal Code requirements for construction in the Public Right of Way. Construction will take about a week with minimal disruption to the area.

Maintenance and Monitoring:

After the site construction is complete and the installation is operational, the installation will be an unmanned facility that requires occasional maintenance, about once a month or less, unless the equipment needs repairs. All repair and installation work will comply with Department of Public Works City Requirements for conducting work in the public right of way. Also, all non-emergency work may be done during non-peak traffic hours to alleviate traffic congestion.

Safety Standards:

Please note, that the Federal Communications Commission (FCC) sets safety guidelines for wireless facilities and due to the small size of this type of installation and it being low wattage, the emissions from small cells are a small fraction of FCC permitted levels in any publicly-accessible area. Information about safety from cellular facilities. See FCC website for additional information at: http://www.fcc.gov/oet/rfsafety/rf-faqs.html.
Included with our submittal is documentation from a 3rd party engineer stating how the proposed facility will comply with the FCC safety standards.

In conclusion, based on review of the above information and supporting documents included with our application, it is our hope we have provided substantial information to respectfully request Sonoma Planning support of the Project thereby recommend application approval. Sonoma Planning approval will enhance Verizon Wireless service in the area that will better serve Sonoma Residences, Visitors, and the Emergency Service Providers who rely on the Verizon Wireless network.

If you have questions please feel free to contact me at 415-806-2323 or Christy@TheCBRGroup.com.

Sincerely,
The CBR Group, Inc.

Christy Beltran Roberts
(Authorized Agent for Verizon Wireless)

THE CBR GROUP
861 ARNOLD DRIVE, SUITE A, MARTINEZ, CA 94553
INFO@THECBRGROUP.COM | WWW.THECBRGROUP.COM

COMMUNITY BENEFITS

How Mobile Devices are Used Today

(Mobile Device: Cellular Phones, Tablets, etc..)

- 90% of American households use wireless service with approximately 52% being *wireless only* for telephone service. The average number of connected devices per home is 13. *
  - ➢ Homes are becoming increasingly reliant on their wireless networks for internet usage, voice, data, text, and media streaming,
- Cellular service and home technology capabilities is of major importance to homebuyers. Ranking higher than schools, 76% versus 60%.*
- Global mobile data traffic will increase sevenfold between 2016 and 2021, growing at a compound annual growth rate (CAGR) of 47% from 2016 to 2021. Reaching 49.0 Exabyte's per month by 2021.*

Small Cells help networks deliver best in class speeds, coverage, capacity and reliability.

*Source: Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2016–2021 White Paper (2-17-17)

PUBLIC SAFETY AND THE COMMUNITY

82% of 911 Calls Originate from a Cell Phone

✓ Enhanced network improvements to enable streaming and quick internet access to receive reliable information quickly regarding:

- Fires, floods, earthquakes, mudslides, etc.…
- Be quickly and reliably informed about neighborhoods where loved ones and family are located.

✓ Enhanced capacity for **Reverse 911** allows emergency officials to notify residents and businesses of an emergency and actions they may need to take.

✓ Many First Responders rely on wireless services to conduct emergency and non-emergency communications.

Small Cell facilities support network advances and make communities safer.

SMART CITIES AND THE COMMUNITY

- Enhanced network serves as foundation **support** for smart cities infrastructure to:

  - ✓ Improve internal efficiency and reduce costs of public administration
  - ✓ Extend City services to citizens and improve public safety
  - ✓ IoT Devices (Internet of Things: smart meters, vital infrastructure, connected devices)
  - ✓ Support for autonomous cars
  - ✓ Ensure digital inclusion and spur economic development

- Small cell networks add capacity in a small specific areas to improve in-building coverage, voice quality, reliability, and data speeds for local residents, businesses, first responders, and visitors using the Verizon Wireless network.

Small Cell facilities proposed today are the roadmap for 5G and Smart City deployments

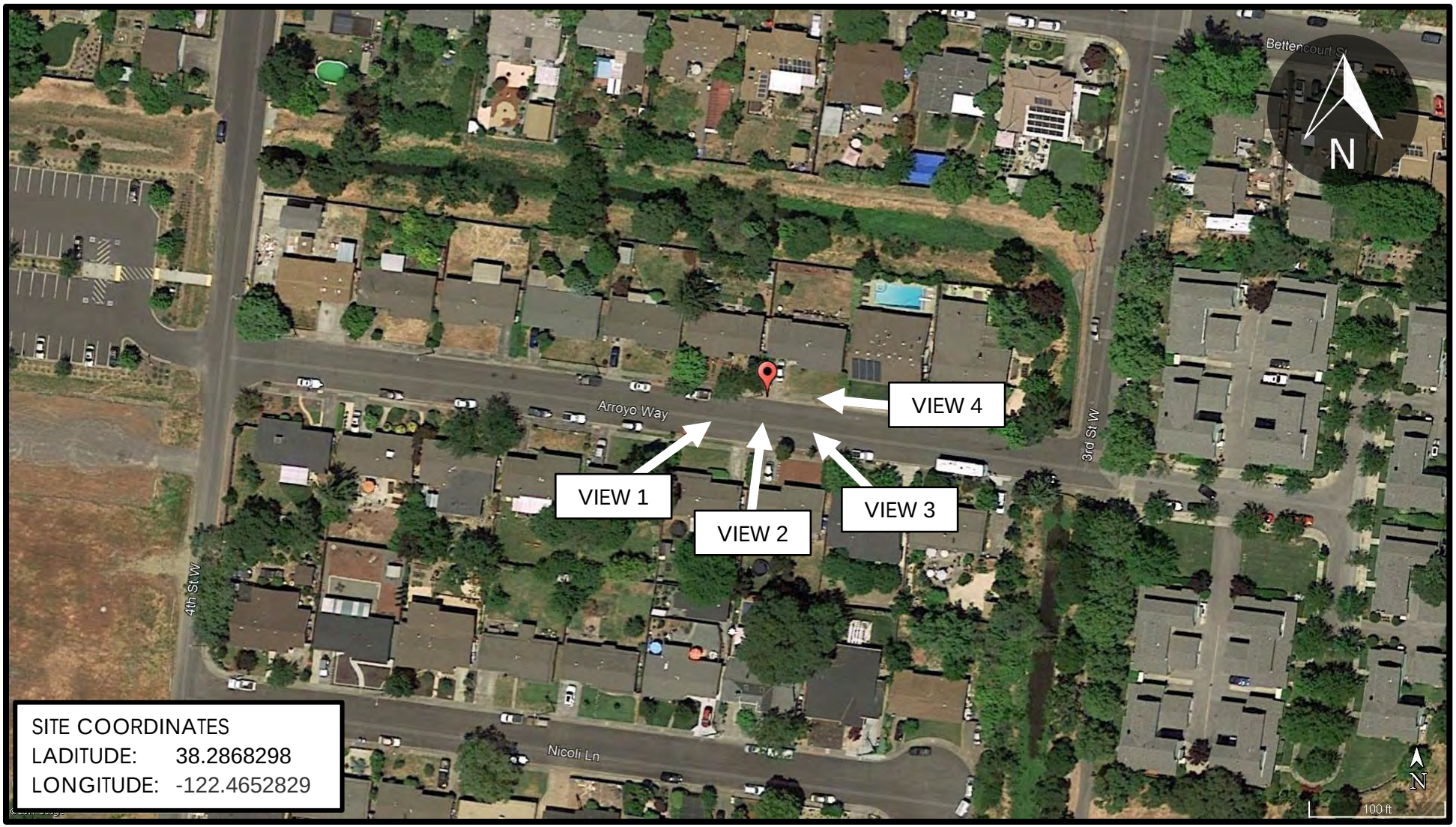
SMART CITIES AND THE COMMUNITY

Cisco Report on Wirless Data Usage

https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html

PROPOSED SITE LOCATION

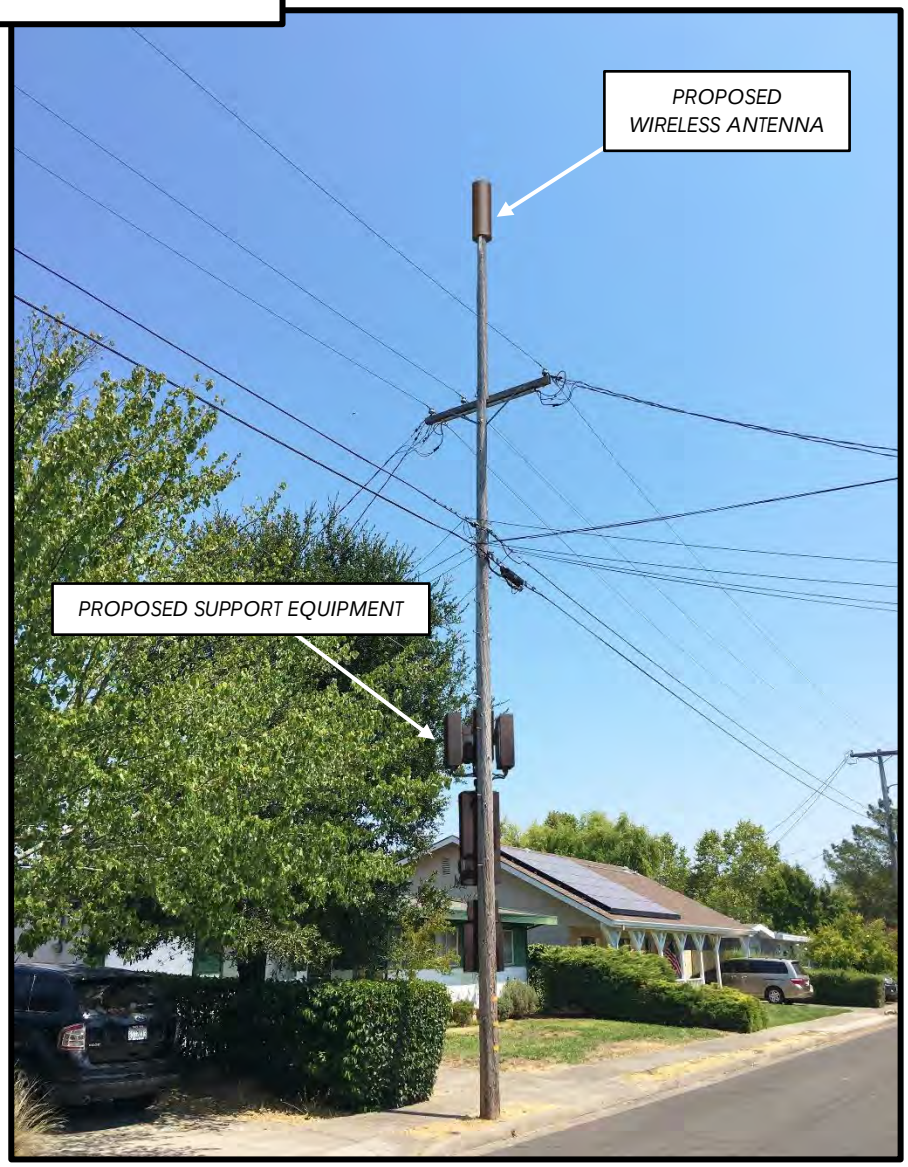
verizon



SONOMA 017 342 Arroyo Way Sonoma, CA 95476 Location Code: 425107	SHOT MAP **VERIZON NODE:** "Sonoma 017" *Verizon Location Code: 425107*	THE CBR GROUP The CBR Group 841 Arnold Dr., Suite A Martinez, CA 94553 info@thecbrgroup.com

EXISTING

PROPOSED



SONOMA 017 342 Arroyo Way Sonoma, CA 95476 Location Code: 425107	VIEW 1: LOOKING NORTHEAST ACROSS Arroyo Way PHOTOSIMS PRODUCED 3/12/2018	The CBR Group 841 Arnold Dr., Suite A Martinez, CA 94553 info@thecbrgroup.com

verizon

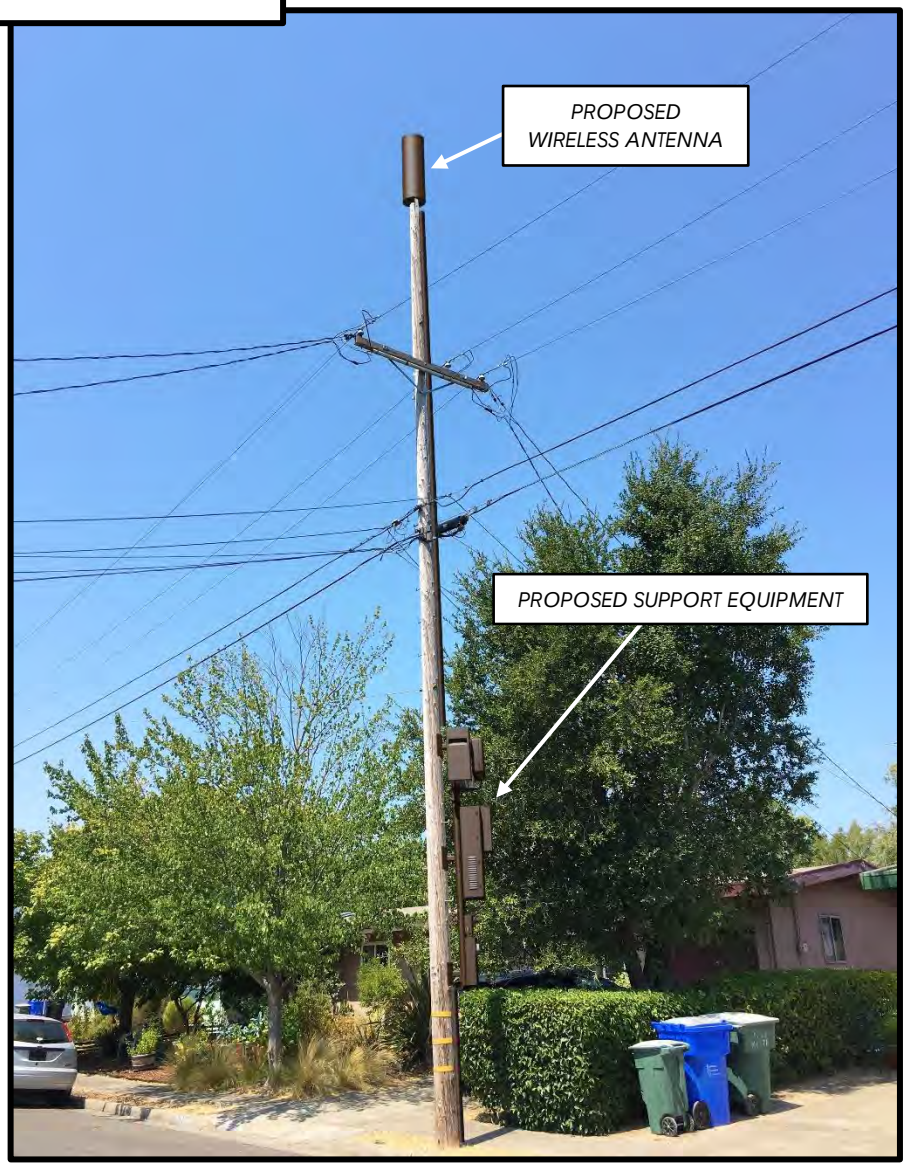
EXISTING

PROPOSED

SONOMA 017 342 Arroyo Way Sonoma, CA 95476 Location Code: 425107	VIEW 2: LOOKING NORTH ACROSS ARROYO WAY PHOTOSIMS PRODUCED 3/12/2018 verizon	The CBR Group 841 Arnold Dr., Suite A Martinez, CA 94553 info@thecbrgroup.com

EXISTING

PROPOSED

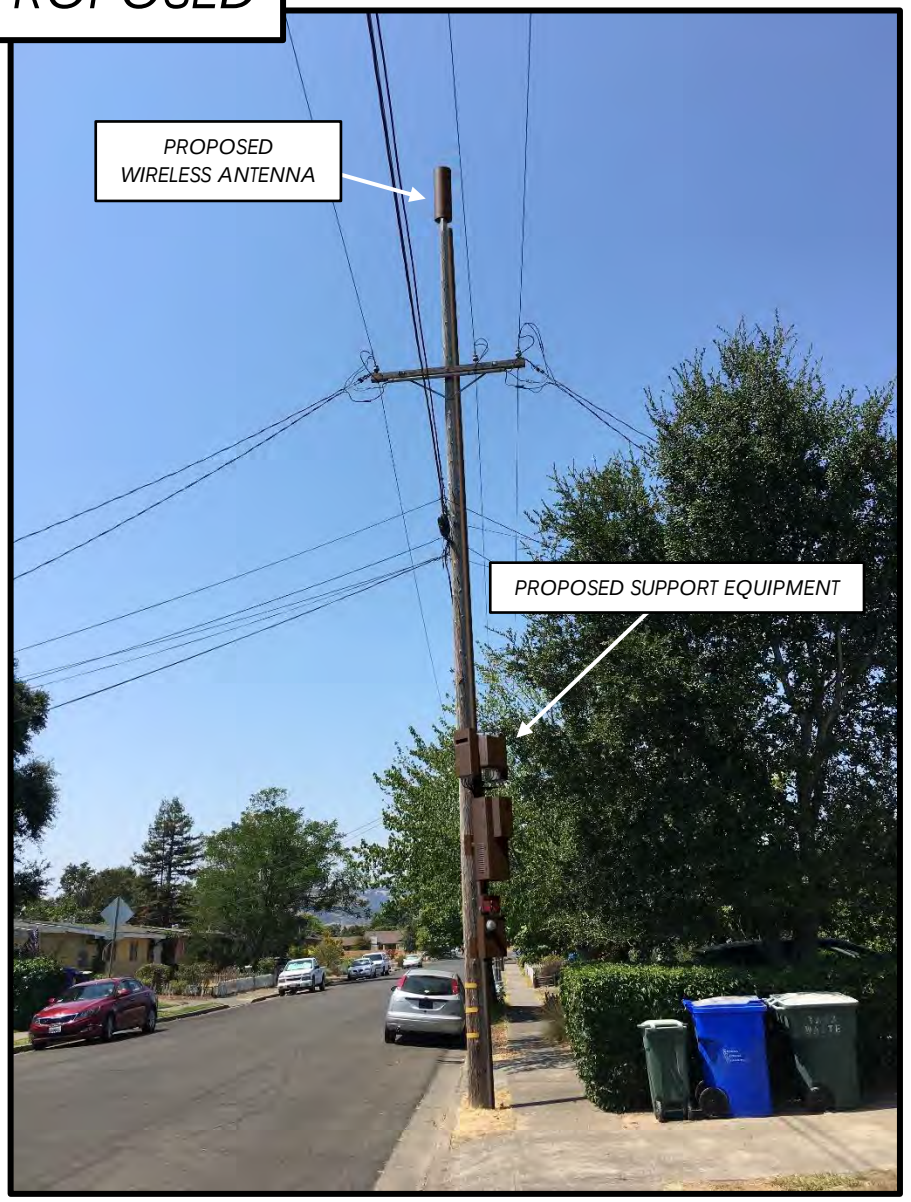


SONOMA 017 342 Arroyo Way Sonoma, CA 95476 Location Code: 425107	VIEW 3: LOOKING NORTHWEST ACROSS ARROYO WAY PHOTOSIMS PRODUCED 3/12/2018	The CBR Group 841 Arnold Dr., Suite A Martinez, CA 94553 info@thecbrgroup.com

verizon

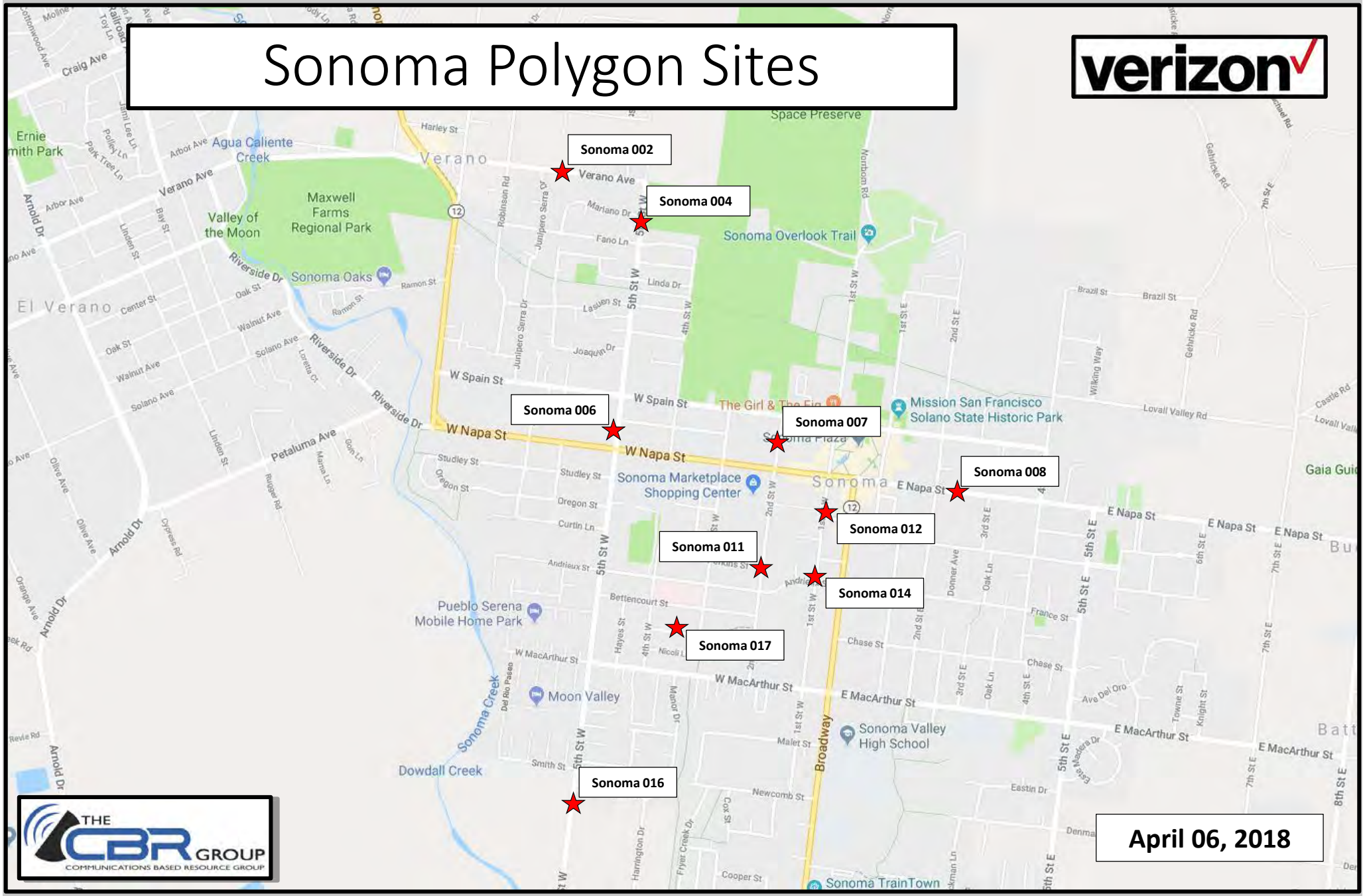
EXISTING

PROPOSED



SONOMA 017 342 Arroyo Way Sonoma, CA 95476 Location Code: 425107	VIEW 4: LOOKING EAST ALONG ARROYO WAY PHOTOSIMS PRODUCED 3/12/2018 verizon	The CBR Group 841 Arnold Dr., Suite A Martinez, CA 94553 info@thecbrgroup.com

Sonoma Polygon Sites

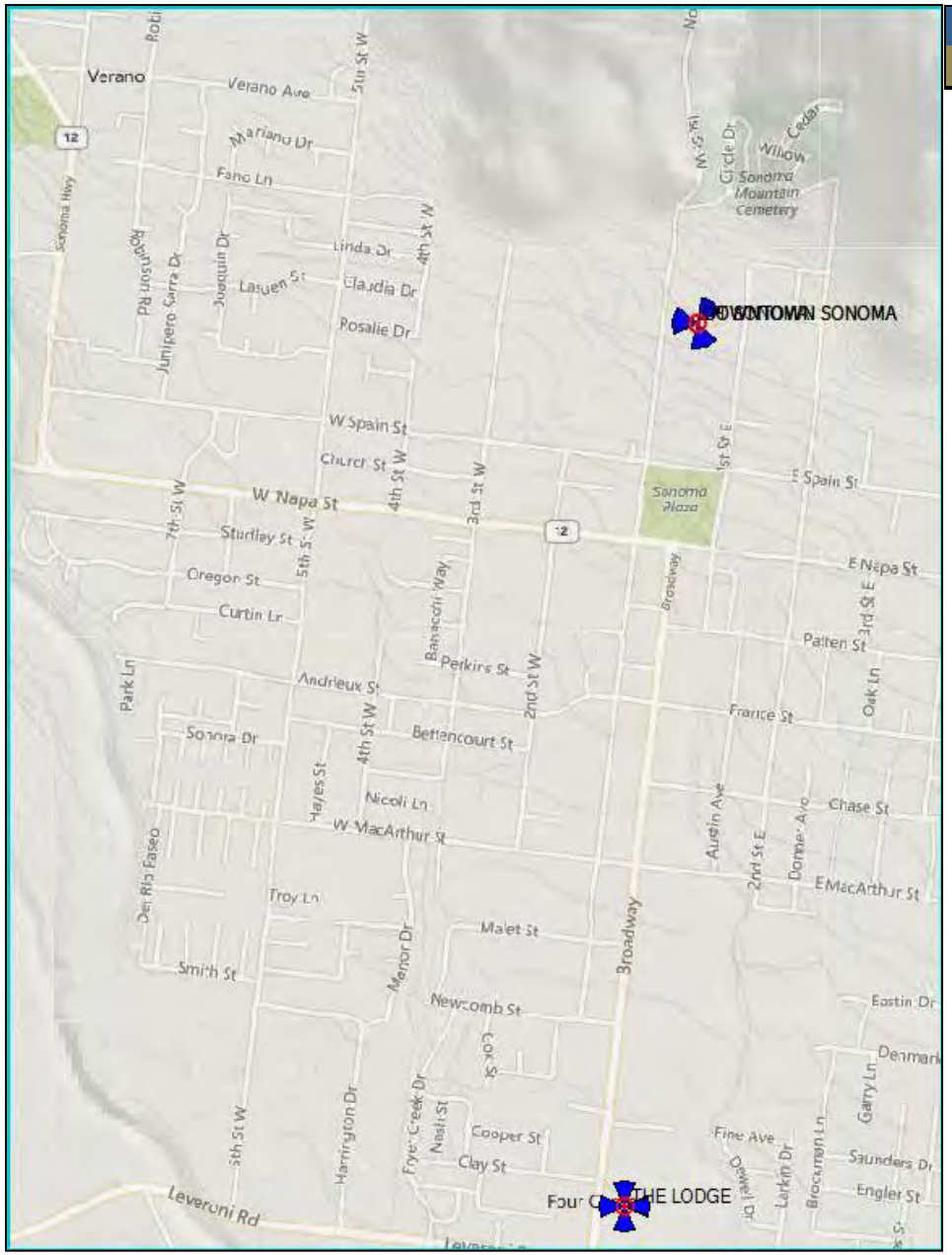


verizon

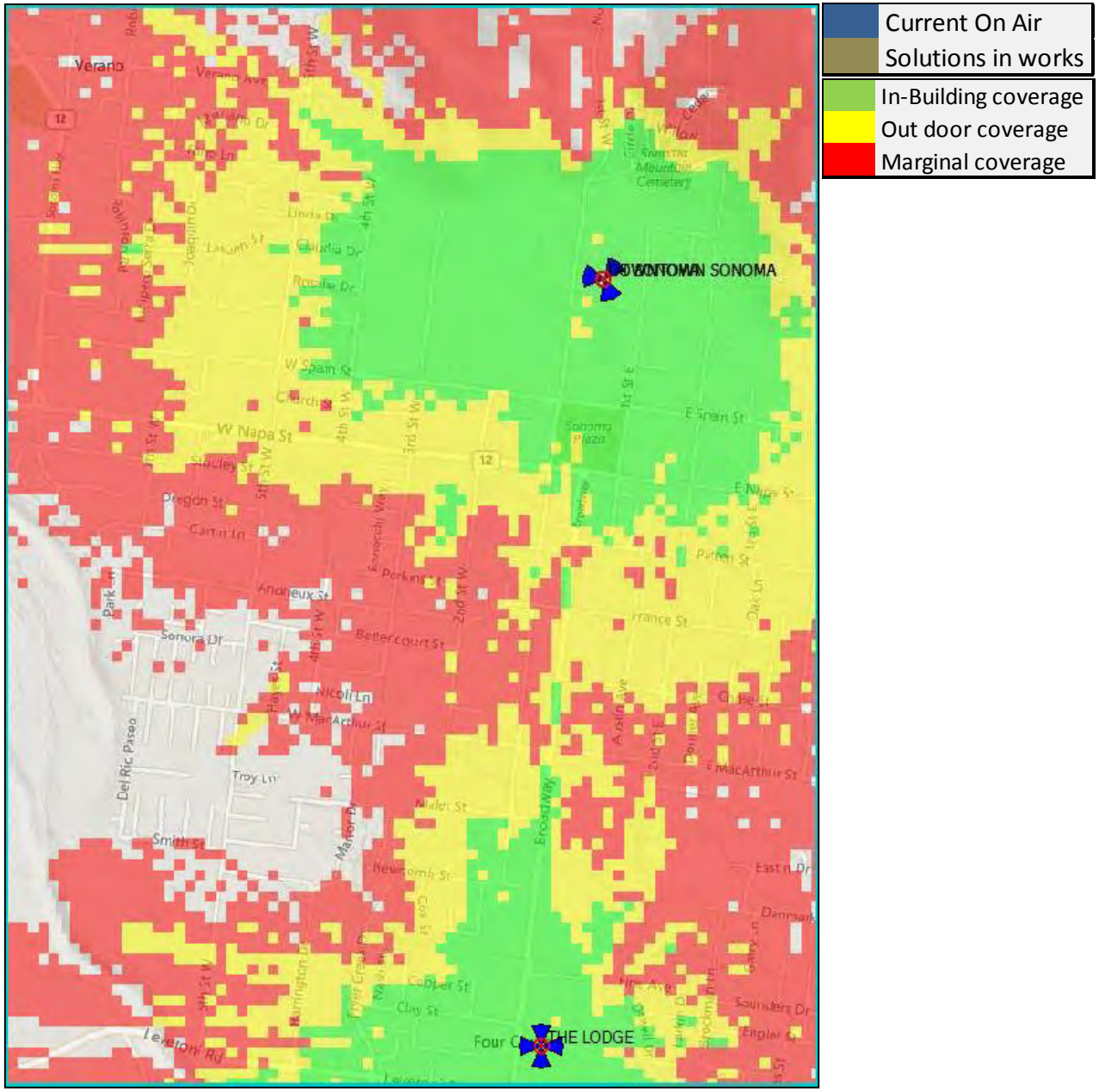
THE CBR GROUP
COMMUNICATIONS BASED RESOURCE GROUP

April 06, 2018

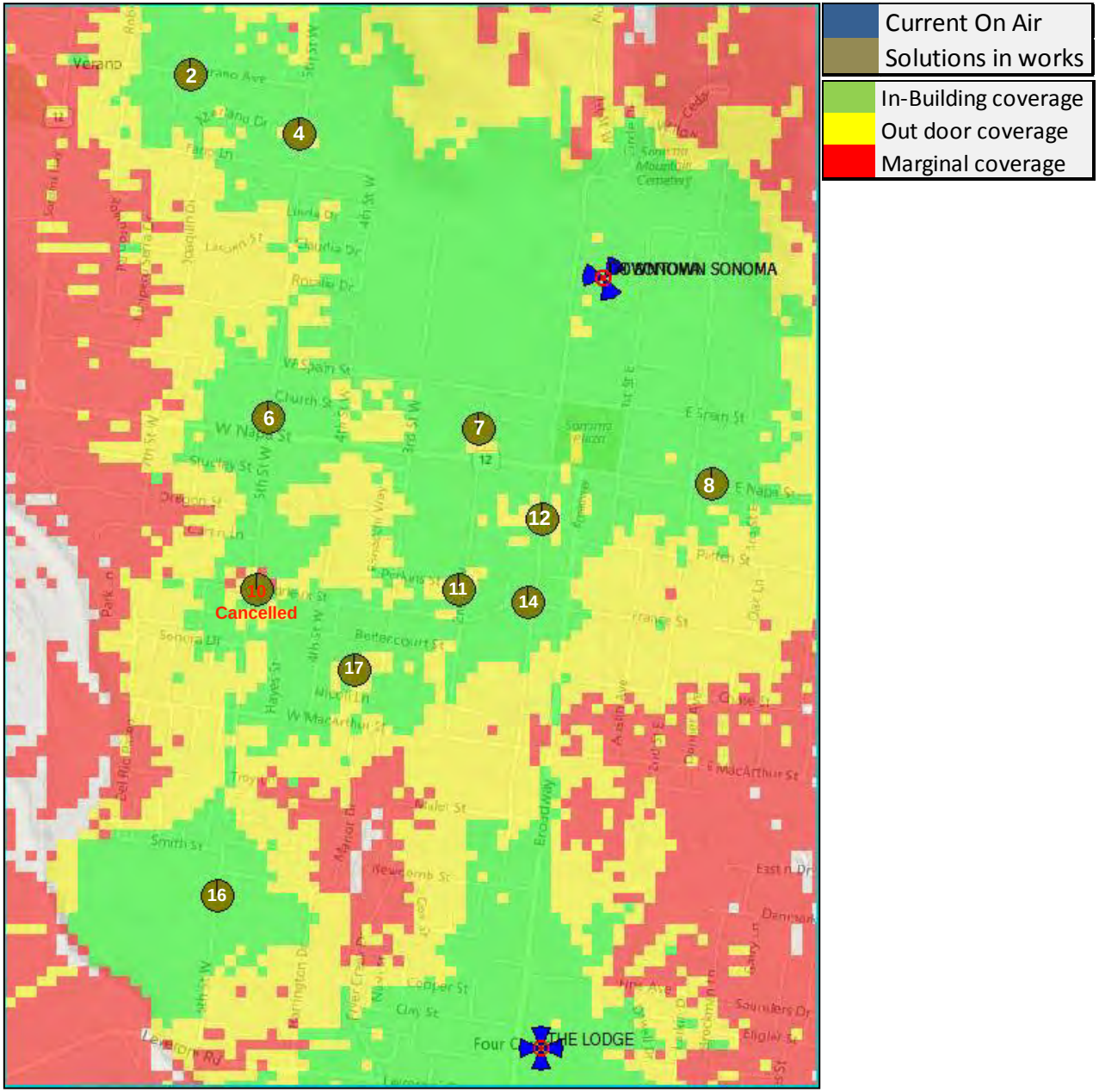
Coverage Area



Without Small cell_ AWS Coverage



With Small cell_AWS_Coverage



SONOMA 017

342 ARROYO WAY
SONOMA, CA 95476
STRUCTURE TYPE: PG&E POLE
LOCATION CODE: 425107

PROJECT DESCRIPTION

THIS IS AN UNMANNED WIRELESS TELECOMMUNICATION FACILITY FOR VERIZON WIRELESS SYSTEMS CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT. SCOPE OF WORK CONSISTS OF THE FOLLOWING:

1. INSTALL (1) (N) CANISTER ANTENNA ON (N) 50' REPLACEMENT POLE. (43'-0" ABOVE GROUND LEVEL, 7'-0" UNDERGROUND EMBEDMENT)
2. INSTALL (1) (N) POWER CABINET ON (N) REPLACEMENT POLE.
3. INSTALL (3) (N) RRU UNITS ON (N) REPLACEMENT POLE.
4. INSTALL (N) FCC SIGNAGE ON (N) REPLACEMENT POLE.
5. INSTALL (N) BUSS BAR ON (N) REPLACEMENT POLE.
6. INSTALL (N) CONDUIT FOR POWER, FIBER AND COAX.
7. INSTALL (2) (N) UTILITY DISCONNECT SWITCH ON (N) REPLACEMENT POLE.
8. INSTALL (1) (N) ELECTRICAL METER ON (N) REPLACEMENT POLE.

SITE COMPLETION CHECKLIST

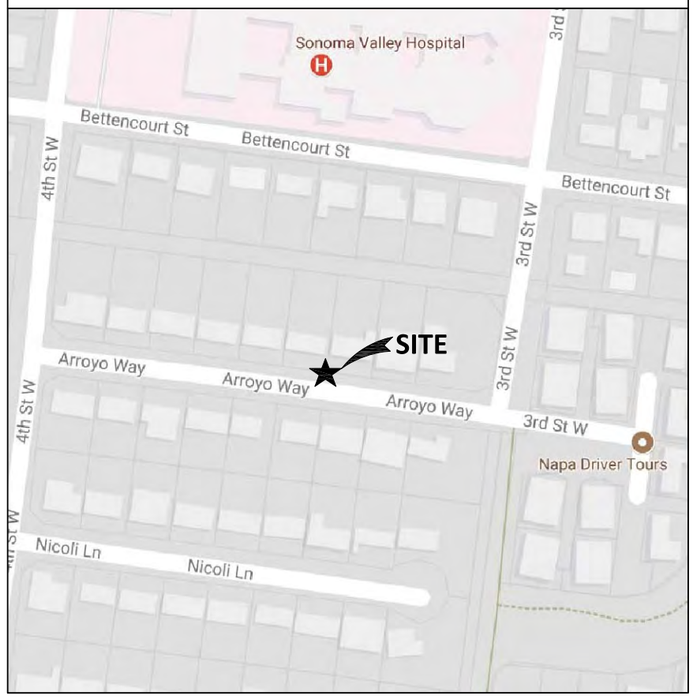
- ANTENNAS, MOUNTING BRACKETS, POLE EXTENSIONS, PVC CONDUIT, CABLING, METER AND RADIO RELAY UNITS PAINTED TO MATCH UTILITY POLE.
- CABLING-CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS.
- SPACING OF SUPPORT ELEMENTS-SUPPORT EQUIPMENT (E.G. METER, LOAD CENTER AND RRUS) TO BE CLUSTERED (VERTICALLY) AS CLOSE AS IS TECHNICALLY FEASIBLE ON POLE.
- 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.

CODE COMPLIANCE

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

1) 2016 CALIFORNIA BUILDING CODE (CBC) WITH CALIFORNIA AMENDMENTS, BASED ON THE 2009 IBC
2) 2016 CALIFORNIA RESIDENTIAL CODE (CRC) WITH APPENDIX H, PATIO COVERS, BASED ON THE 2009 IRC
3) 2016 CALIFORNIA HISTORICAL BUILDING CODE (CHBC)
4) 2016 CALIFORNIA EXISTING BUILDING CODE (CEBC), BASED ON THE 2009 IEBC
5) 2016 CALIFORNIA GREEN BUILDINGS STANDARDS CODE (CGBSC)
6) 2016 CALIFORNIA FIRE CODE (CFC), BASED ON THE 2009 IFC, WITH CALIFORNIA AMENDMENTS
7) 2016 CALIFORNIA MECHANICAL CODE (CMC), BASED ON THE 2009 UMC
8) 2016 CALIFORNIA PLUMBING CODE (CPC), BASED ON THE 2009 UPC
9) 2016 CALIFORNIA ELECTRICAL CODE (CEC) WITH CALIFORNIA AMENDMENTS, BASED ON THE 2008 NEC
10) 2016 CALIFORNIA ENERGY CODE (CEC)
11) ANSI / EIA-TIA-222-G
12) 2015 NFPA 101, LIFE SAFETY CODE
13) 2015 NFPA 72, NATIONAL FIRE ALARM CODE
14) 2015 NFPA 13, FIRE SPRINKLER CODE
15) G.O. 95

VICINITY MAP



RADIO FREQUENCY DATA PLAN

REVISION LEVEL	DATE:
-	XX/XX/XXXX

GENERAL CONTRACTOR NOTES

DO NOT SCALE DRAWINGS

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.

CALL 811 BEFORE YOU DIG 811 SAFE DIGGING PARTNER

PROJECT TEAM

APPLICANT/LESSEE:

VERIZON WIRELESS
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598
CONTACT: NICKI DEARMON
PH: (925) 448-7063
EMAIL: Nicki.Dearmon@VerizonWireless.com

SITE ACQUISITION MANAGER:

THE CBR GROUP
841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
CONTACT: CHRISTY BELTRAN
PH: (415) 806-2323
EMAIL: christy@thecbrgroup.com

CONSTRUCTION:

VERIZON WIRELESS
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598
CONTACT: DENNIS RAINES
PH: (707) 514-5700
EMAIL: DennisR@AllCommLLC.com

ENGINEER:

THE CBR GROUP
841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
CONTACT: MATT FREEDMAN
PH: (925) 798-2100
EMAIL: matt@thecbrgroup.com

RF ENGINEER:

VERIZON WIRELESS
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598
CONTACT: BEN SANTA MARIA
PH: (925) 239-9186
EMAIL: Benjamin.SantaMaria@VerizonWireless.com

PROJECT INFORMATION

SITE INFORMATION:

SITE NUMBER:	425107
SITE NAME:	SONOMA 017
SITE ADDRESS:	342 ARROYO WAY SONOMA, CA 95476
A.P.N. NUMBER:	R.O.W.
CURRENT USE:	WOODEN UTILITY POLE
PROPOSED USE:	WOODEN UTILITY POLE TELECOMMUNICATIONS FACILITY
JURISDICTION:	CITY OF SONOMA
LATITUDE:	38.2868298
LONGITUDE:	-122.4652829
GROUND ELEVATION:	68.13±' AMSL

PROPERTY OWNER:
R.O.W.

POWER AGENCY:
PG&E
77 BEALE STREET
SAN FRANCISCO, CA 94109
PH: (800) 743-5000

TELEPHONE AGENCY:
AT&T CALIFORNIA
5001 EXECUTIVE PARKWAY
SAN RAMON, CA 94583

SHEET INDEX

		REV
T-1	TITLE SHEET	C
LS-1	SITE SURVEY (UTILITY POLE EXHIBIT)	C
A-1	OVERALL SITE PLAN	C
A-2	EXISTING AND PROPOSED EQUIPMENT AND ANTENNA PLANS	C
A-3	EXISTING AND PROPOSED EAST ELEVATIONS	C
A-4	EXISTING AND PROPOSED SOUTH ELEVATIONS	C
A-5	EQUIPMENT AND CONSTRUCTION DETAILS	C
A-6	EQUIPMENT AND CONSTRUCTION DETAILS	C
E-1	ELECTRICAL GROUND DIAGRAMS, SINGLE LINE DIAGRAM	C
E-2	ELECTRICAL DETAILS	C
TCP	TRAFFIC CONTROL PLAN	C

OCCUPANCY AND CONSTRUCTION TYPE

OCCUPANCY : S-2 (UNMANNED)

CONSTRUCTION TYPE: IIB

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.

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

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:
THE CBR GROUP
841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

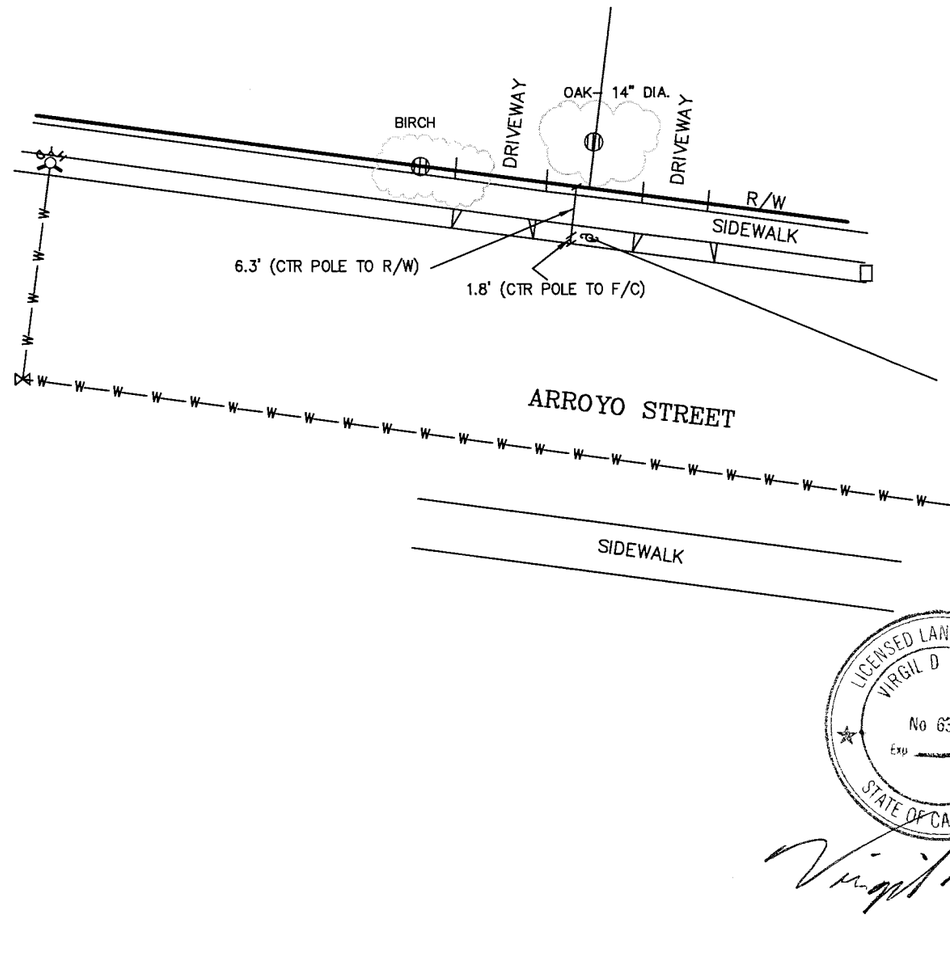
Licensor:
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title:
TITLE SHEET

Sheet Number:
T-1



0' 10' 20'

SCALE IN FEET 1"=20'

LEGEND

- – JPOLE
- – LIGHT POLE
- Ⓢ – SANITARY SEWER MANHOLE
- □ – WATER METER
- R/W – RIGHT OF WAY
- ——— – RIGHT OF WAY

DATE:	JULY, 2017
DRAWN BY:	G.ESQ
SCALE:	1"= 20'
CHECKED:	VC
PROJ. MGR: VC	DC FILE: 365900
PROJ. NO. 365900	CAD FILE: 365900

UTILITY POLE EXHIBIT
SITE (017)
LOCATION CODE: 425107
ARROYO WAY (betw. 3rd & 4th St. W.)
SONOMA, CA

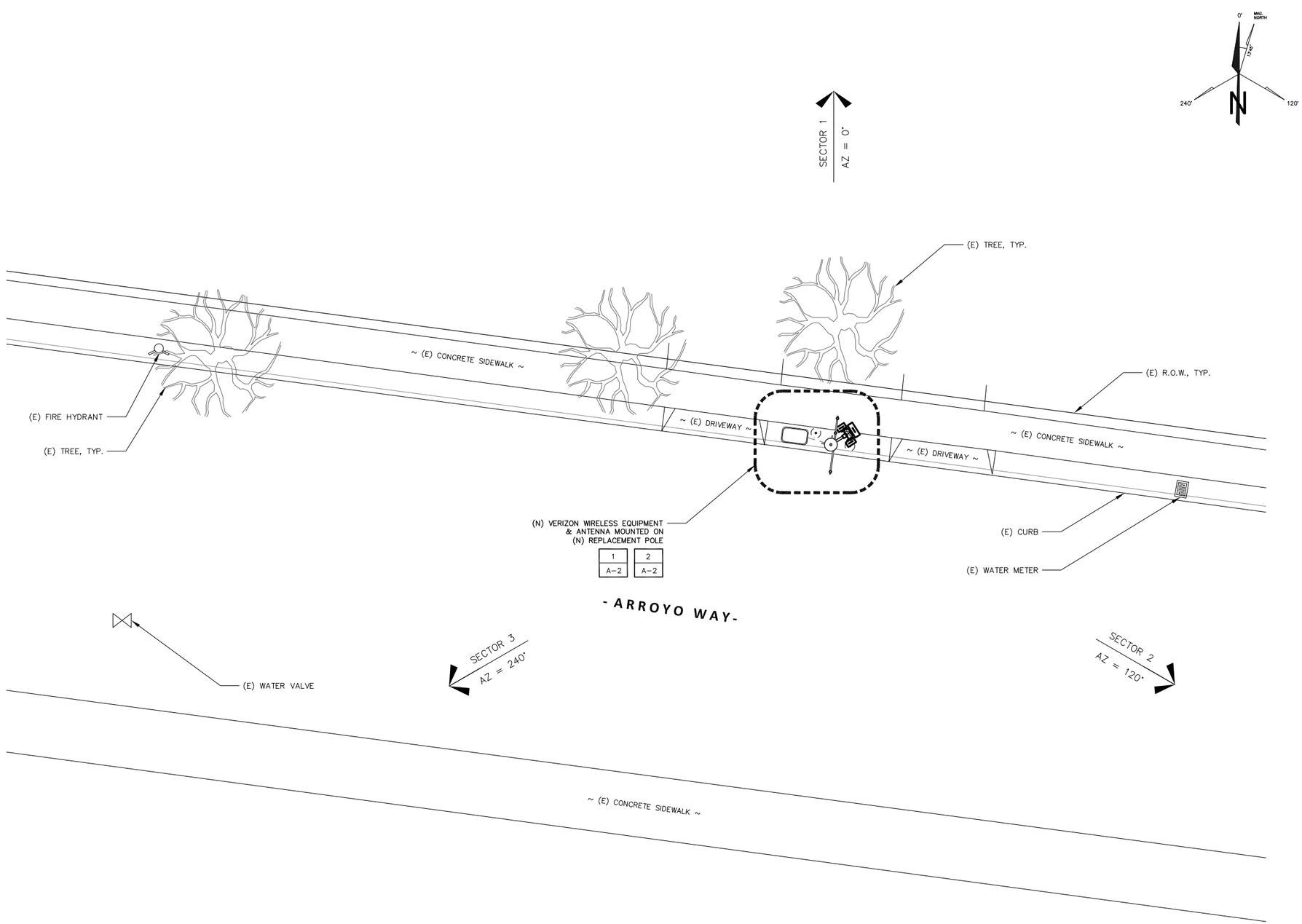
VIRGIL CHAVEZ LAND SURVEYING

721 TUOLUMNE STREET, VALLEJO, CA. 94590
PHONE: (707) 553-2476

SHEET NO.
1
OF
1 SHEETS

2	GRID REFERENCE
1 / A–2	DETAIL REFERENCE
X / X–X	ELEVATION REFERENCE
X / X–X	SECTION REFERENCE
	CENTERLINE
	PROPERTY/LEASE LINE
	MATCH LINE
	WORK POINT
	GROUND CONDUCTOR
T	TELEPHONE CONDUIT
E	ELECTRICAL CONDUIT
A	COAXIAL CABLE
O/H	OVERHEAD SERVICE CONDUCTORS
	GROUT OR PLASTER
	(E) BRICK
	(E) MASONRY
	CONCRETE
	EARTH
	GRAVEL
	PLYWOOD
	SAND
	WOOD CONTINUOUS
	WOOD BLOCKING
	STEEL
(N)	NEW
(E)	EXISTING
	NEW ANTENNA
	EXISTING ANTENNA
	GROUND ROD
	GROUND BUS BAR
	MECHANICAL GRND. CONN.
	CADWELD
	GROUND ACCESS WELL
E	ELECTRIC BOX
T	TELEPHONE BOX
	LIGHT POLE
	FND. MONUMENT
	SPOT ELEVATION
	SET POINT
1	REVISION

2 SYMBOLS
N.T.S.



1 OVERALL SITE PLAN
SCALE: 3/16" = 1'–0"
0' 2' 4' 6' 12' 16'

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

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:
THE CBR GROUP
841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

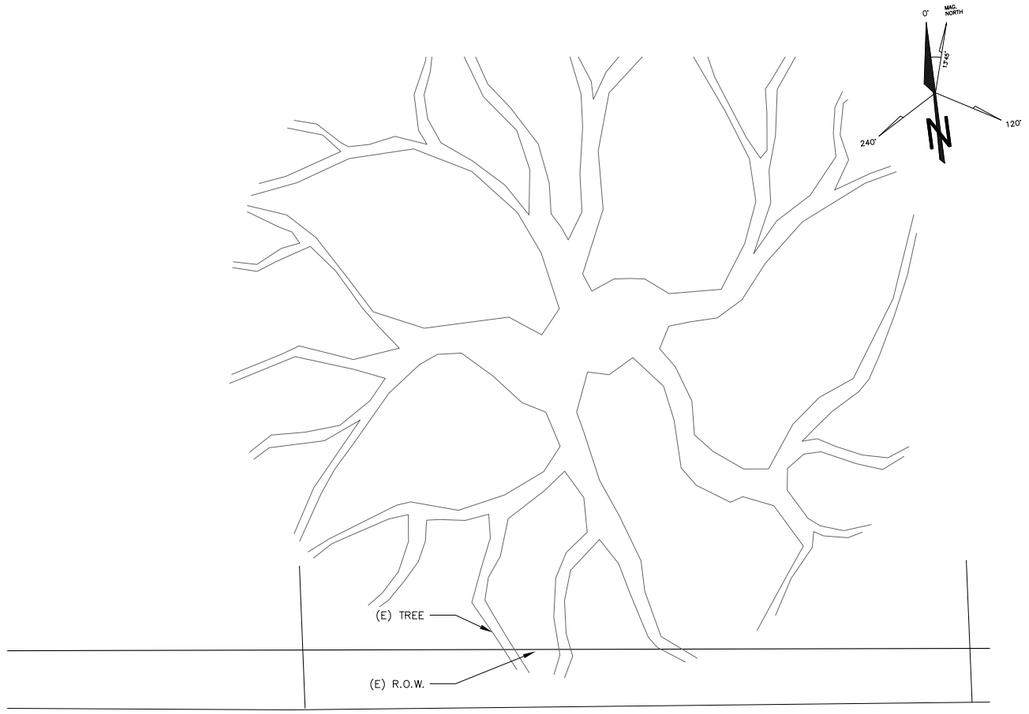
Licensor:
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title:
OVERALL SITE PLAN

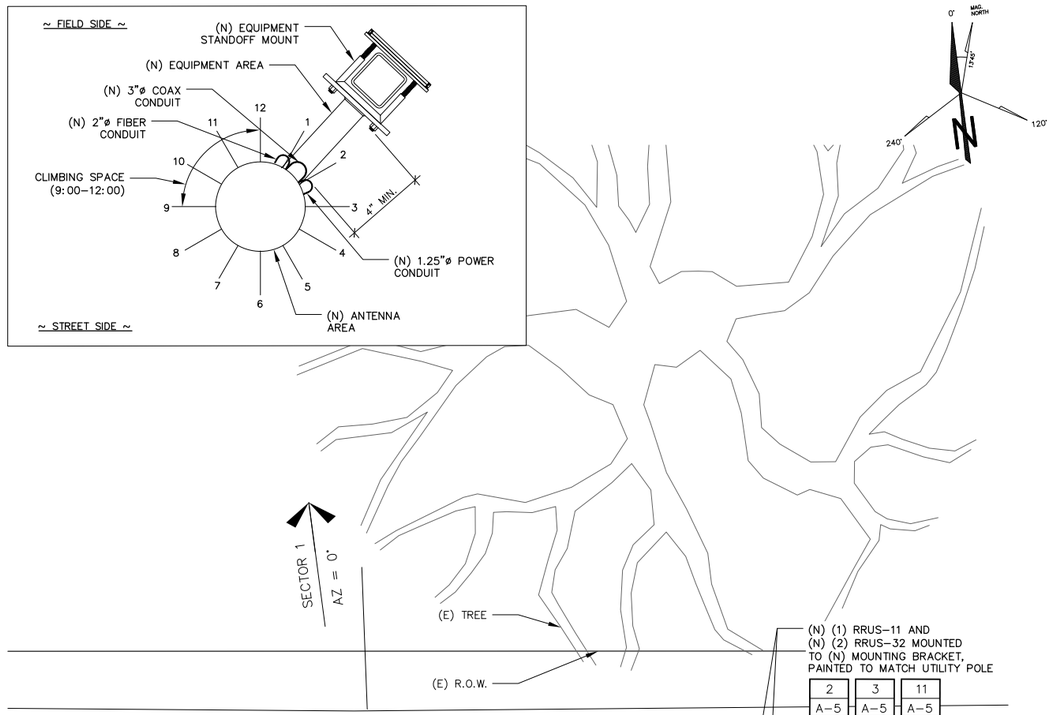
Sheet Number:
A-1



1 EXISTING EQUIPMENT AND ANTENNA PLAN

SCALE: 3/4" = 1'-0"

0' 1' 2' 3' 4'



2 PROPOSED EQUIPMENT AND ANTENNA PLAN

SCALE: 3/4" = 1'-0"

0' 1' 2' 3' 4'

Prepared For:

verizon

2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:

THE CBR GROUP

841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

Licensor:

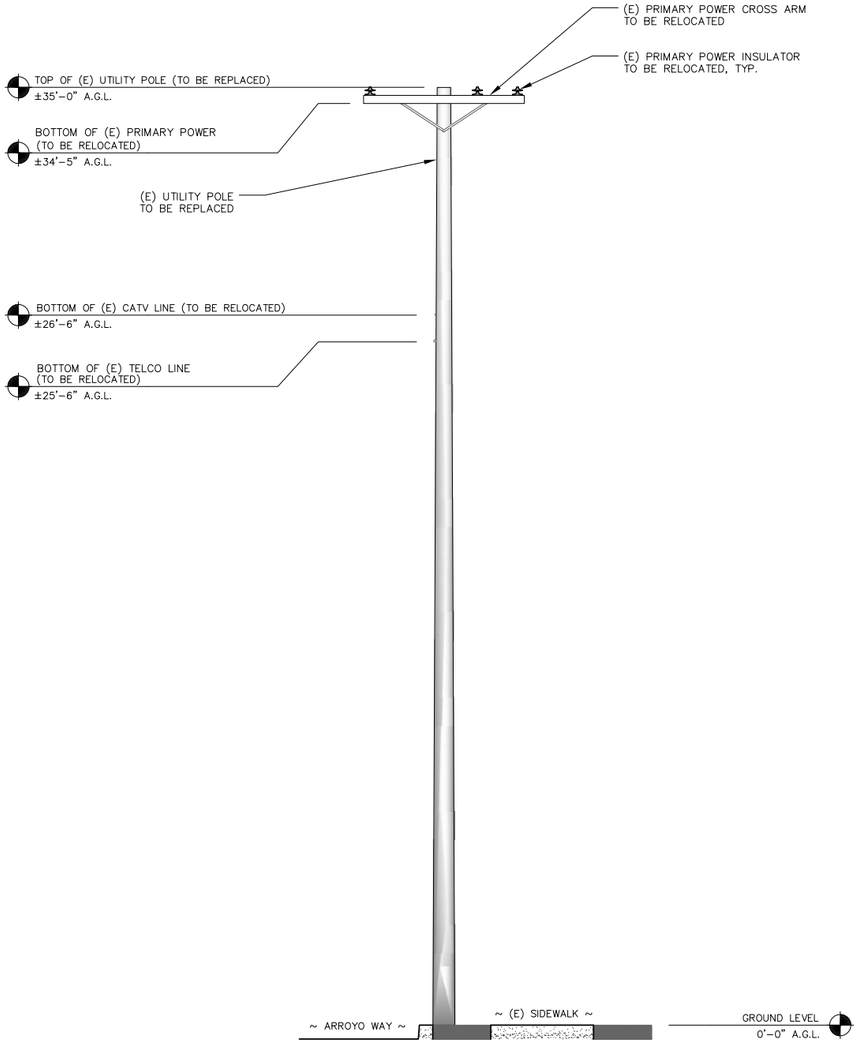
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title:
EXISTING AND PROPOSED EQUIPMENT AND ANTENNA PLANS

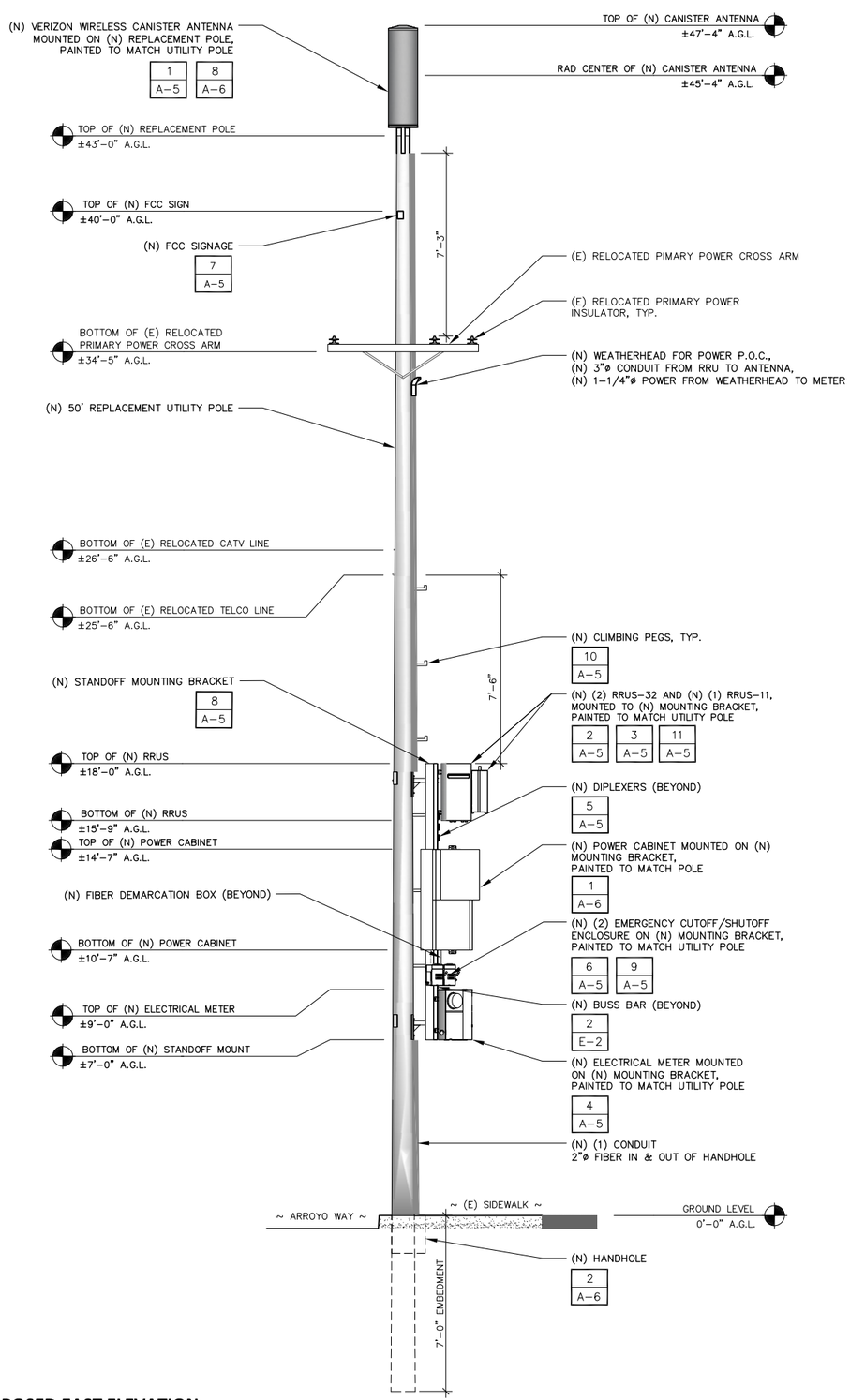
Sheet Number:
A-2



1 **EXISTING EAST ELEVATION**

SCALE: 3/8" = 1'-0"

0' 2' 4' 8'



2 **PROPOSED EAST ELEVATION**

SCALE: 3/8" = 1'-0"

0' 2' 4' 8'

Prepared For:

verizon

2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:

THE CBR GROUP

841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

Licensor:

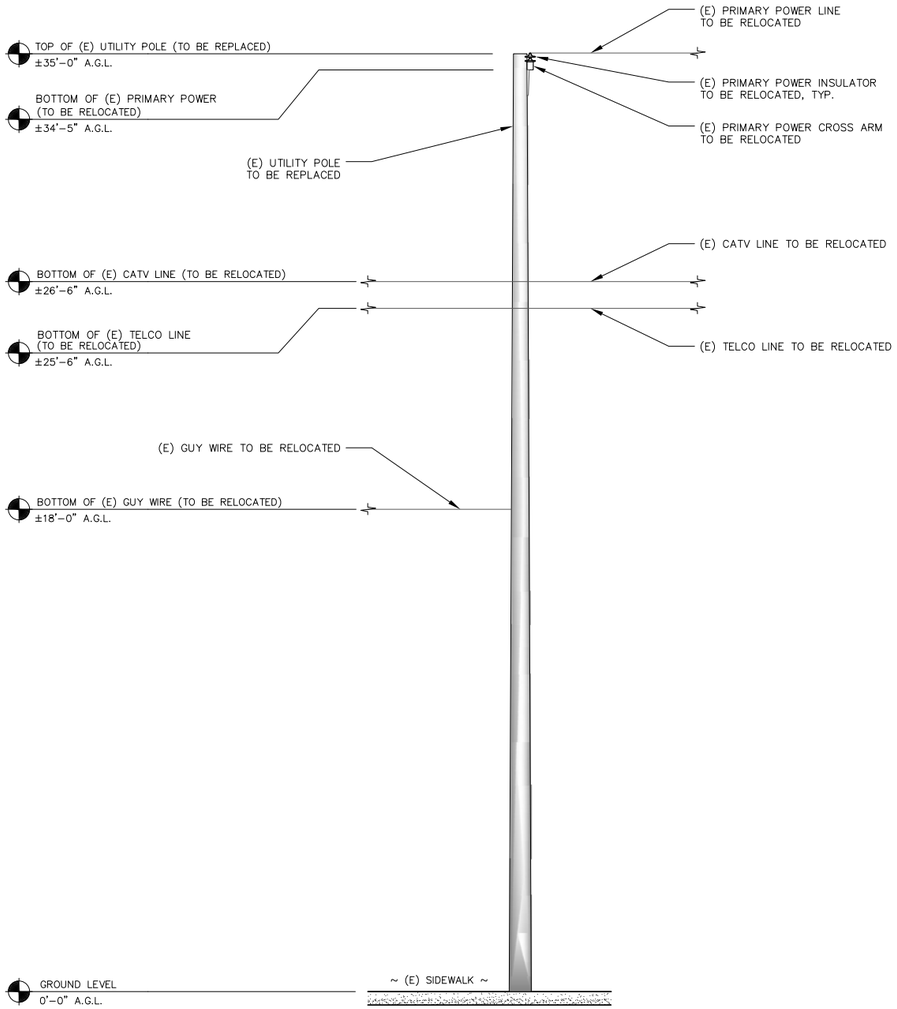
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title:
EXISTING AND PROPOSED EAST ELEVATIONS

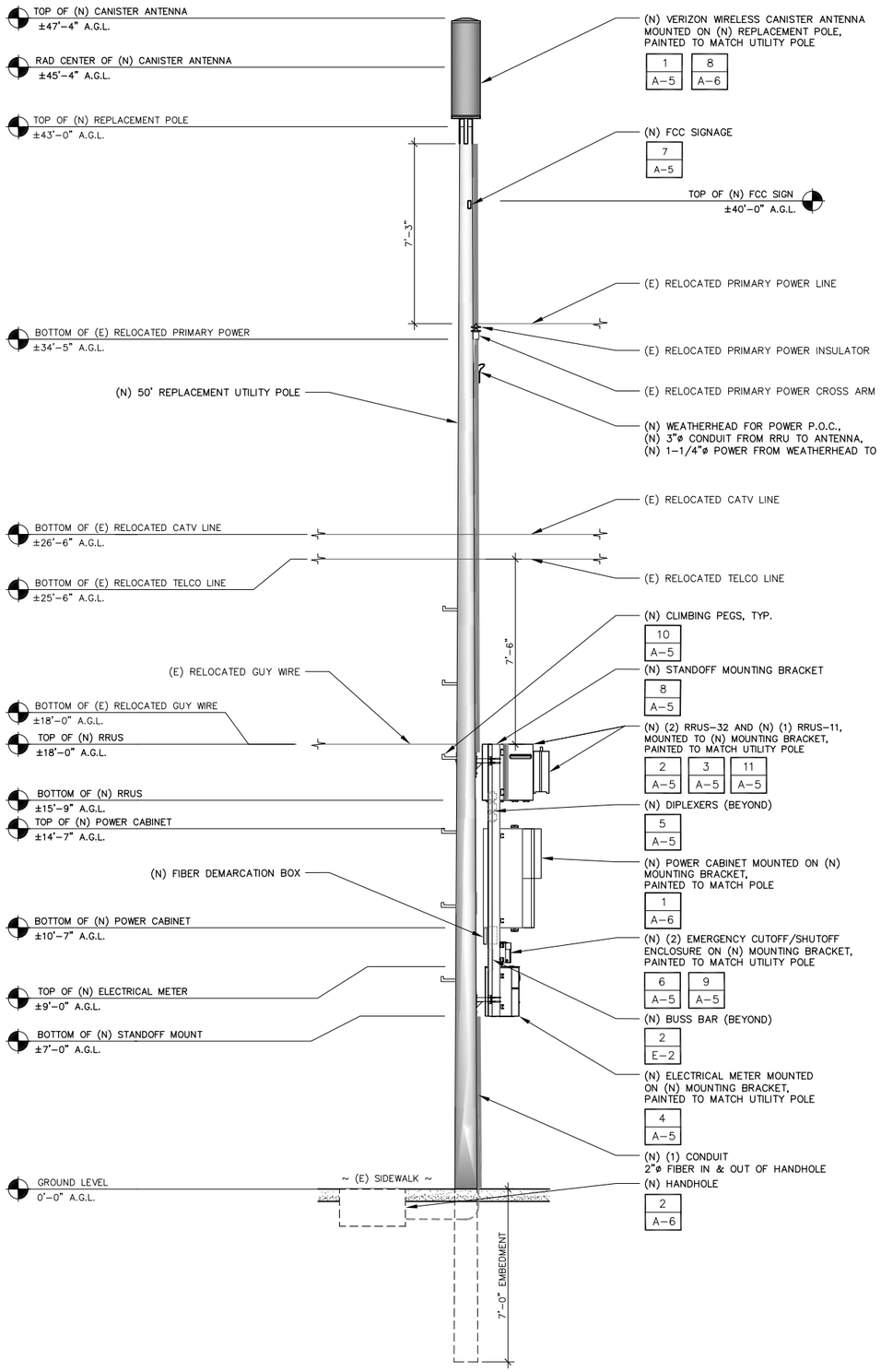
Sheet Number:
A-3



1 **EXISTING SOUTH ELEVATION**

SCALE: 3/8" = 1'-0"

0' 2' 4' 8'



2 **PROPOSED SOUTH ELEVATION**

SCALE: 3/8" = 1'-0"

0' 2' 4' 8'

Prepared For:

verizon

2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:

THE CBR GROUP

841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

Licensor:

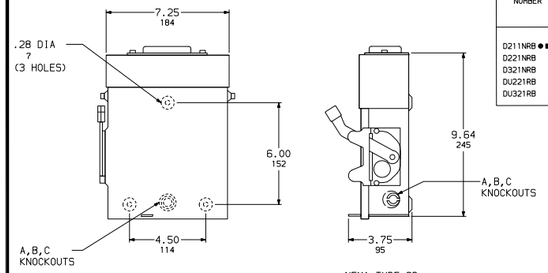
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title:
EXISTING AND PROPOSED SOUTH ELEVATIONS

Sheet Number:
A-4



NEMA TYPE 3R
ILLUSTRATED

CATALOG NUMBER	VOLTAGE RATINGS	WIRING DIAG.	HORSEPOWER RATINGS 120VAC STD. 1 Ø	120VAC MAX. 1 Ø	240VAC STD. 1 Ø	240VAC STD. 3 Ø	240VAC MAX. 1 Ø	240VAC MAX. 3 Ø
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
DU221RB	240VAC	C	-	-	-	-	3	-
DU321RB	240VAC	D	-	-	-	-	3	7 1/2

WIRING DIAGRAMS

FUSIBLE	NOT FUSIBLE
A, B	C, D

DUAL DIMENSIONS, INCHES
MILLIMETERS

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

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

NOTES: FINISH - GRAY BAKED ENAMEL ELECTRODEPOSITED OVER CLEANED PHOSPHATIZED STEEL.
UL LISTED - FILE E-2875
ALL NEUTRALS - INSULATED GROUNDABLE
SUITABLE FOR USE AS SERVICE EQUIPMENT
TOP OF NEMA TYPE 3R SWITCHES HAVE PROVISIONS FOR MAXIMUM 2 1/2" BOLT-ON HUB.
SHORT CIRCUIT CURRENT RATINGS:
● 10,000 AMPERES.
10,000 AMPERES WHEN USED WITH OR PROTECTED BY CLASS H OR K FUSES.
100,000 AMPERES WITH CLASS R FUSES.
✱ FOR CORNER GROUNDED DELTA SYSTEM.
■ PLUG FUSES
‡ LUGS SUITABLE FOR 60°C OR 75°C CONDUCTORS.

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

SQUARE D COMPANY

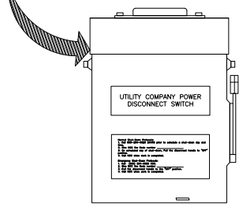
DWG. NO. 1852

SHUTDOWN DISCONNECT SWITCH

SCALE: N.T.S | 9

Normal Shut-Down Protocols:
1. Call 800-264-6620 24HRS prior to schedule a shut-down day and time.
2. Give NOC the Node number _____
3. On scheduled day of shut-down, Pull the disconnect handle to "OFF" position.
4. Call NOC when work is completed.

Emergency Shut-Down Protocols:
1. Call (800) 264-6620 NOC.
2. Give NOC the Node number _____
3. Pull the disconnect handle to the "OFF" position.
4. Call NOC when work is completed.



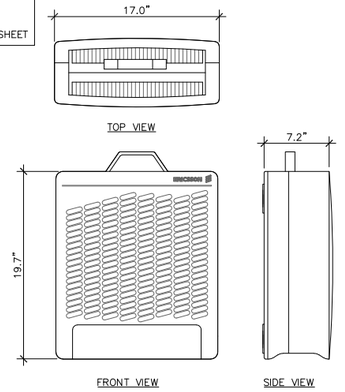
OUTSIDE PANEL DOOR SHOWING
DISCONNECT SWITCH ID ON 2"X6" PLAQUE AND
SHUT DOWN PROTOCOL ON 6'X7" LABEL

NOTE:
CONTRACTOR TO INPUT SITE ID / SITE NAME / MARKET ID

SHUTDOWN DISCONNECT BOX

SCALE: N.T.S | 6

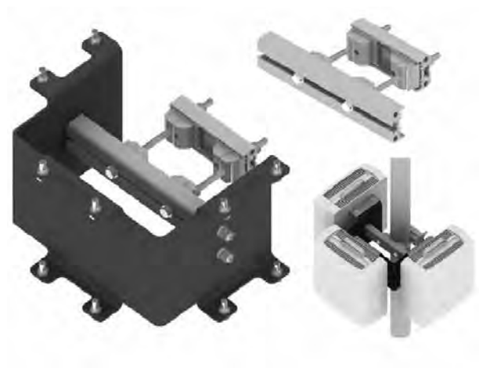
MANUFACTURER: ERICSSON
MODEL: RRUS-11
DEPTH: 182 mm / 7.2 in.
LENGTH: 500 mm / 19.7 in.
WIDTH: 431 mm / 17.0 in.
WEIGHT: 23 kg / 60.0 lb.
FREQUENCY: REFER TO RF DATA SHEET



RRUS-11 DETAIL

SCALE: N.T.S | 3

MANUFACTURER: CUE DEE
MODEL/PROD NO.: 7294
WEIGHT: 25.0 lb.
OR APPROVED EQUIVALENT

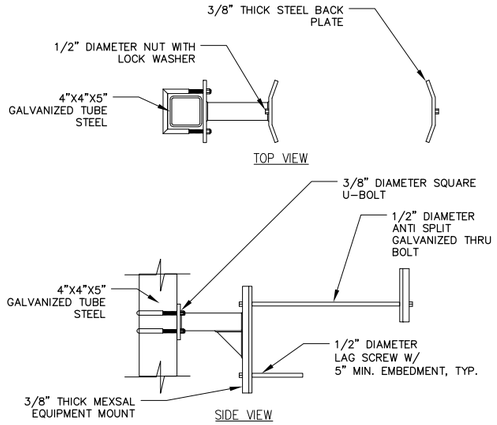


RRU SUPPORT (OR APPROVED EQUIVALENT)

SCALE: N.T.S | 11

WEIGHT: 24LBS
PAINT: TO MATCH UTILITY POLE
DESIGN LOAD CAPACITY: 1,500LBS

MEXSAL DESIGN GROUP
1990 NORTH CALIFORNIA BLVD.
WALNUT CREEK, CA 94596
(510) 500-9999
OR APPROVED EQUIVALENT



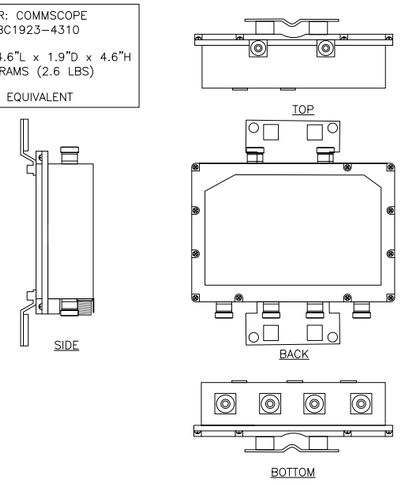
EQUIPMENT MOUNT DETAIL

SCALE: N.T.S | 8

MANUFACTURER: COMMSCOPE
MODEL #: CBC1923-4310

DIMENSIONS: 4.6"L x 1.9"D x 4.6"H
WEIGHT: 28 GRAMS (2.6 LBS)

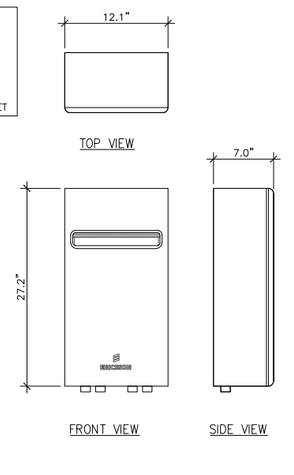
OR APPROVED EQUIVALENT



DIPLEXER (OR APPROVED EQUIVALENT)

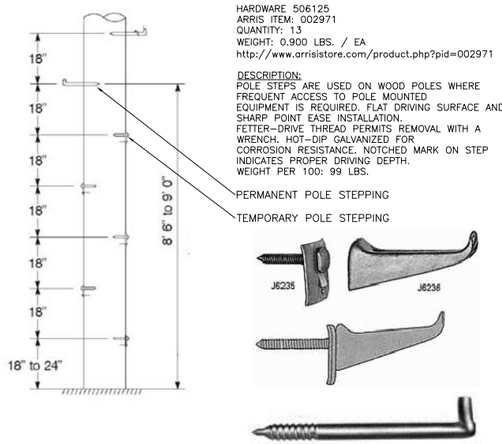
SCALE: N.T.S | 5

MANUFACTURER: ERICSSON
MODEL: RRUS-32
DEPTH: 178 mm / 7.0 in.
LENGTH: 690 mm / 27.2 in.
WIDTH: 306 mm / 12.1 in.
WEIGHT: 23 kg / 60.0 lb.
(EXCLUDING HARDWARE)
FREQUENCY: REFER TO RF DATA SHEET



RRUS-32 DETAIL

SCALE: N.T.S | 2



STEP; POLE 5/8 X 10 INCH GALVANIZED

HARDWARE 506125
ARRIS ITEM: 002971
QUANTITY: 13
WEIGHT: 0.900 LBS. / EA
http://www.arrisistore.com/product.php?pid=002971

DESCRIPTION:
POLE STEPS ARE USED ON WOOD POLES WHERE FREQUENT ACCESS TO POLE MOUNTED EQUIPMENT IS REQUIRED. FLAT DRIVING SURFACE AND SHARP POINT EASE INSTALLATION.
FETTER-DRIVE THREAD PERMITS REMOVAL WITH A WRENCH. HOT-DIP GALVANIZED FOR CORROSION RESISTANCE. NOTCHED MARK ON STEP INDICATES PROPER DRIVING DEPTH.
WEIGHT PER 100: 99 LBS.

PERMANENT POLE STEPPING
TEMPORARY POLE STEPPING

POLE STEPPING DETAILS

SCALE: N.T.S | 10

⚠ CAUTION

Transmitting Antenna(s)

Radio frequency fields beyond this point MAY EXCEED the FCC Occupational exposure limit. Obey all posted signs and site guidelines.
Call Verizon Wireless at 1-800-264-6620 prior working beyond this point.

STATE:_____ SWITCH: _____
SITE ID:_____
SECTOR/NODE:_____

RSI 6404.5D

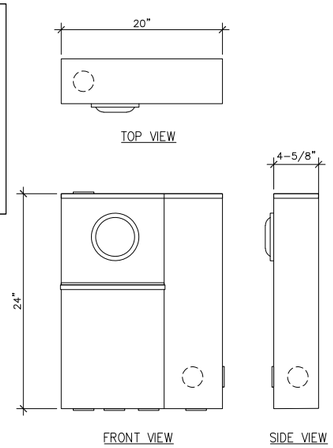
CAUTION SIGN

SCALE: N.T.S | 7

U214 TB MTB SOCKET
ONLY/SELF-CONTAINED
SINGLE METER PROTECTION
SURFACE MOUNT
TOP OR BOTTOM LOAD EXIT
TYPE 3R CONSTRUCTION
SNAP TYPE SEALING RING
PADLOCK PROVISION
RING STYLE
UL 414, COMPLIES WITH ANSI C12.7

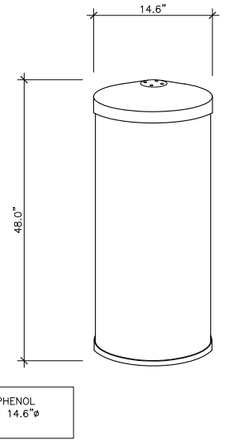
OVERALL DIMENSIONS

HEIGHT: 24"
WIDTH: 20"
DEPTH: 4-5/8"



U214TB METER DETAILS

SCALE: N.T.S | 4



MANUFACTURER: AMPHENOL
DIMENSIONS: 48"h x 14.6"ø
WEIGHT: 53 LBS

ANTENNA DETAIL

SCALE: N.T.S | 1

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

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:
THE CBR GROUP
841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

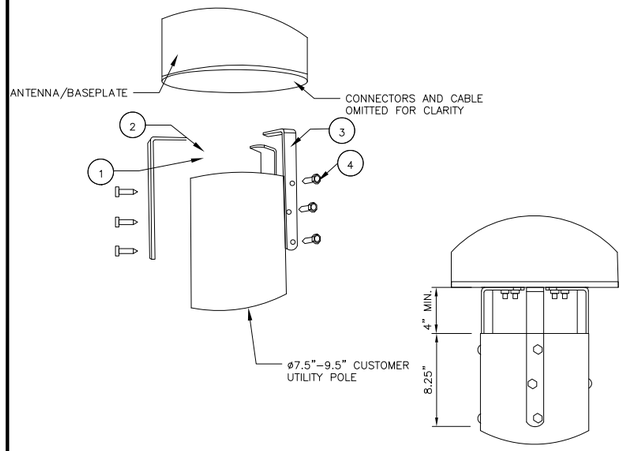
Licensor:
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title:
EQUIPMENT AND CONSTRUCTION DETAILS

Sheet Number:
A-5



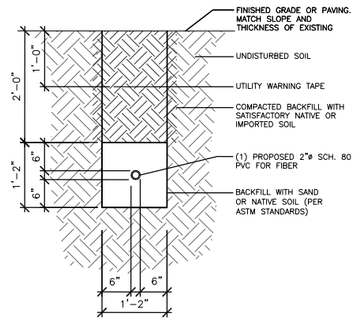
WB3X-MKS-01

UTILITY POLE MOUNTING KIT FOR CYLINDRICAL ANTENNAS

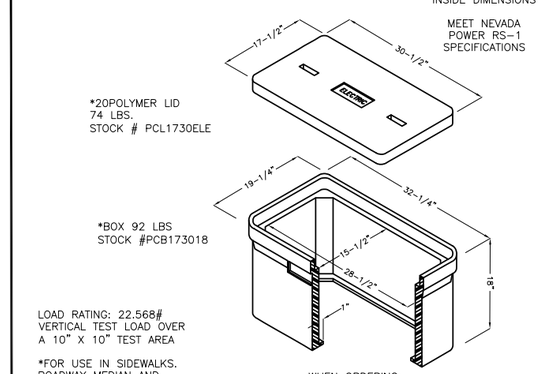
STEP 1	ATTACH POLE MOUNT BRACKETS (ITEMS 3) TO ANTENNA/BASE PLATE USING FASTENERS (ITEMS 1 AND 2). TIGHTEN TO 15 N(11 FT–LBS)
STEP 2	ATTACH POLE MOUNT BRACKETS (ITEM 3) ANTENNA ASSEMBLY TO CUSTOMER UTILITY POLE USING LAG SCREWS (ITEMS 4)
STEP 3	MAKE ALL ELECTRICAL CONNECTIONS WEATHERPROOF WITH SELF–AMALGAMATING TAPE

PARTS LIST	DESCRIPTON	QUANTITY
ITEM – 1	NUT HEX, 3/8– 16 HDG	6
ITEM – 2	LOCK WASHER 3/8 HDG	6
ITEM – 3	POLE MOUNT BRACKET	3
ITEM – 4	GALVANIZED HEX LAG SCREW (1/2x2" LONG	9
MECHANICAL CHARACTERISTICS		
WEIGHT	2.7 KG (6LBS)	

WB3X-MKS-01 ANTENNA MOUNT DETAIL — SCALE: N.T.S — 8



TRENCH DETAIL — SCALE: N.T.S — 3



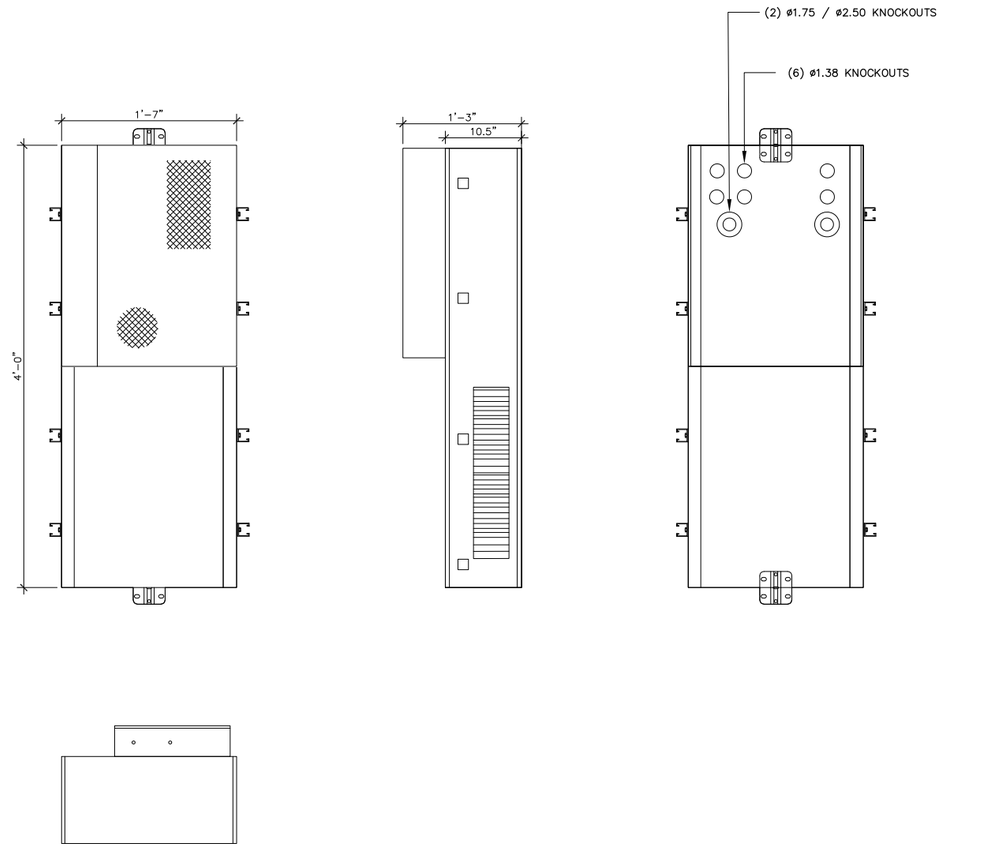
HANDHOLE DETAIL — SCALE: N.T.S — 2

NOT USED — SCALE: N.T.S — 7

NOT USED — SCALE: N.T.S — 5

NOT USED — SCALE: N.T.S — 6

NOT USED — SCALE: N.T.S — 4



POWER CABINET (CUBE-SC104NNN3) DETAIL — SCALE: N.T.S — 1

Prepared For:

verizon

2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Prepared For:

Site Number: 425107

Site Name: SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County: SONOMA COUNTY

Engineer:
THE CBR GROUP
841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

Licensor:
REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

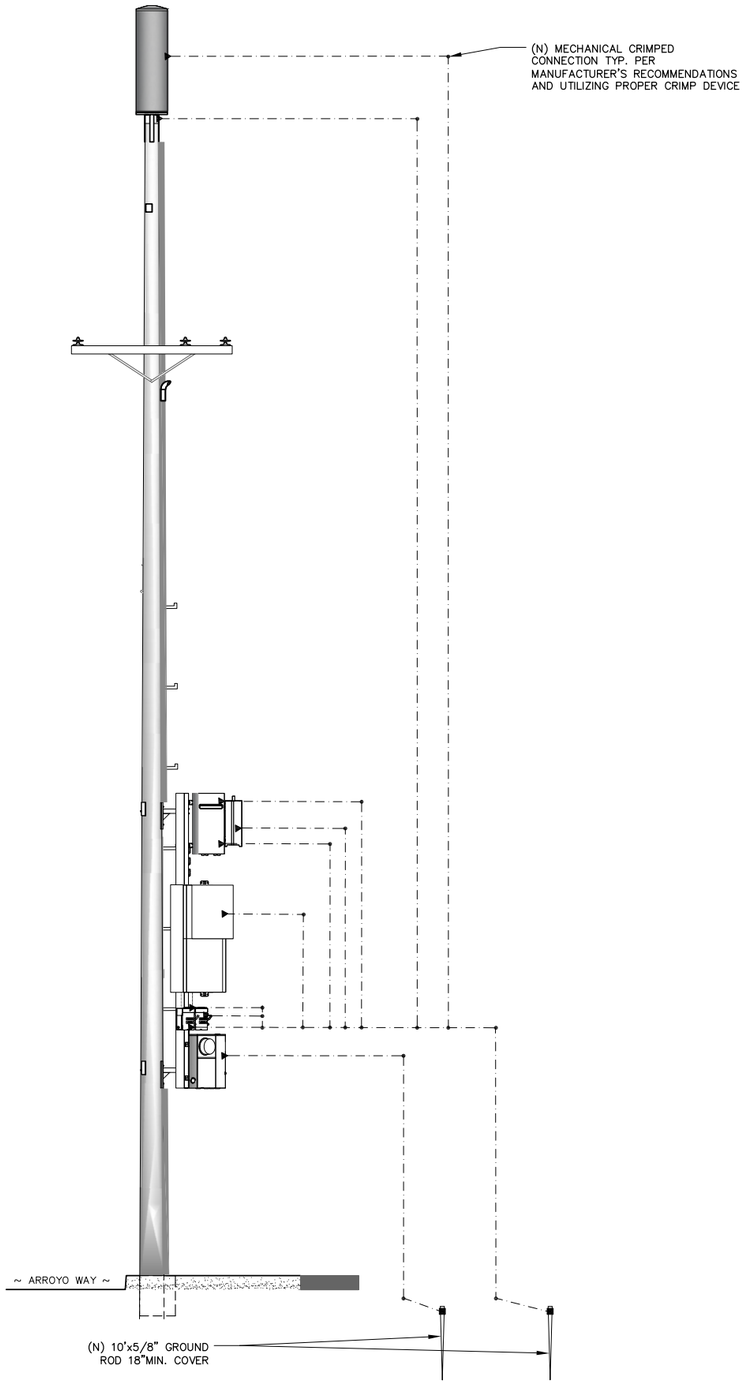
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

Issued For: CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title: EQUIPMENT AND CONSTRUCTION DETAILS

Sheet Number: **A-6**



1 POLE GROUNDING DIAGRAM

SCALE: 3/8" = 1'-0"

0' 2' 4' 6' 8'

POWER AND TELCO CONNECTIONS:

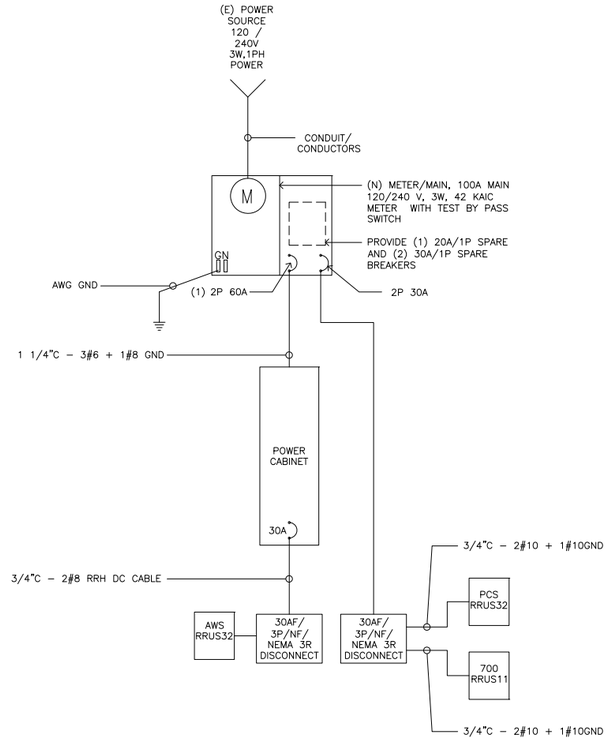
1. POWER AND TELCO POINT OF CONNECTION AND ROUTE ARE PRELIMINARY AND SUBJECT TO CHANGE TO CONFIRMATION BY THE UTILITY COMPANIES RESPECTIVELY.
2. CONTRACT SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK/MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY ENGINEERING PLAN AND SPECIFICATIONS ONLY WHERE APPLICABLE PRE PROJECT SCOPE OF WORK.
3. CONTRACT SHALL FURNISH AND INSTALL CONDUIT, PULL WIRES, CABLE PULL BOXES, CONCRETE ENCASEMENT OF CONDUIT, TRANSFORMER PAD, BARRIERS, RISER TRENCHING, BACK FILL AND UTILITY FEES, AND INCLUDE REQUIREMENTS IN THE SCOPE.
4. CONTRACTOR SHALL LABEL ALL MAIN DISCONNECT SWITCHES AS REQUIRED BY CODE.

POWER AND TELCO CONNECTIONS:

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

GENERAL ELECTRICAL NOTES:

1. PROVIDE ALL ELECTRICAL WORK & MATERIALS AS SHOWN ON THE DWGS, AS CALLED FOR HEREIN, & AS IS NECESSARY TO FURNISH A COMPLETE INSTALLATION.
2. THE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ADOPTED CALIFORNIA ELECTRICAL CODE, STATE OF CALIFORNIA TITLE24, ALL OTHER APPLICABLE CODES AND ORDINANCES & THE REQUIREMENTS OF THE FIRE MARSHALL. ALL EQUIPMENT & WIRING SHALL BEAR THE APPROVAL STAMP OF UNDERWRITERS LABORATORY (UL) OR AN APPROVED TESTING LABORATORY, PAYMENT FOR ALL INSPECTION FEES AND PERMITS ARE PART OF THIS CONTRACT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY AND GOOD CONDITION OF ALL MATERIALS & EQUIPMENT FOR THE ENTIRE INSTALLATION & UNIT COMPLETION OF WORK, ERECT & MAINTAIN APPROVED & SUITABLE BARRIERS, PROTECTIVE DEVICES & WARNING SIGNS, BE FULLY RESPONSIBLE FOR ANY LOSS OR INJURY TO PERSONS OR PROPERTY RESULTING FROM NEGLIGENCE AND/OR ENFORCEMENT OF ALL SAFETY PRECAUTIONS & WARNINGS.
4. COORDINATE THE ELECTRICAL INSTALLATION WITH ALL OTHER TRADES.
5. ALL SAW CUTTING, TRENCHING, BACK FILLING & PATCHING SHALL BE PART OF THIS CONTRACT.
6. FINALIZE ALL ELECTRICAL SERVICE ARRANGEMENTS, INCLUDING VERIFICATION OF LOCATIONS, DETAILS, COORDINATION OF THE INSTALLATION & PAYMENT OF ACCRUED CHARGES WITH LOCAL POWER COMPANY, VERIFY LOCATION FOR FACILITIES & DETAILS WITH POWER UTILITY, IN ADDITION TO THE REQUIREMENTS SHOWN IN THE CONTRACT DOCUMENTS, WORK SHALL COMPLY WITH CONSTRUCTION STANDARDS & SERVICE REQUIREMENTS OF THE RESPECTIVE UTILITIES, INCLUDING ANY SUPPLEMENTAL DWGS ISSUED & SHALL BE SUBJECT TO APPROVAL OF THESE UTILITIES.
7. ALL WIRING SHALL BE COPPER. INSULATION FOR BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE "THWN" CONDUCTORS LARGER AND #6 AWG MAY BE TYPE "THWN" OR "TWN".
8. PROVIDE CONDUIT SEALS FOR ALL CONDUITS PENETRATING WEATHERPROOFING OR WEATHERPROOF ENCLOSURE ENVELOPE. MASTIC SEAL ALL CONDUIT OPENING PENETRATIONS COMPLETELY WATERTIGHT.
9. UNLESS SHOWN OTHERWISE, FUSED DISCONNECT SWITCHES SHALL BE PROVIDED WITH LOW-PEAK, S\DUAL ELEMENT FUSES SIZED TO EQUIPMENT NAMEPLATE FUSE CURRENT RATING. MOTOR STARTERS SHALL BE PROVIDED WITH SIMILARLY SIZED FUSIBLE ELEMENTS, SWITCHES AND OTHER OUTDOOR EQUIPMENT SHALL BE RATED NEMA 3R AND/OR UL LISTED FOR WET ENVIRONMENT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING THE GROUNDING SYSTEM AND ENSURING A 5 OHM OR LESS GROUNDING PATH, ADDITIONAL GROUND RODS AND/OR CHEMICAL ROD SYSTEM SHALL BE USED TO ACHIEVE THIS REQUIREMENT.



2 SINGLE LINE DIAGRAM

N.T.S.

LOAD CALCULATIONS-VERIZON WIRELESS

EXISTING LOAD: 0 AMPS
NEW LOAD: 10.0 AMPS MAX
NEW TOTAL LOAD: 10.0 AMPS MAX

POWER AND TELCO DESIGN IS BASED ON INITIAL 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 ELEC. METER IS BRACED FOR ACTUAL FAULT CURRENT.

Prepared For:

verizon

2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:

THE CBR GROUP

841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

Licensor:

REGISTERED PROFESSIONAL ENGINEER JAMES DRUMMOND No E-19043 Exp. 3/31/18 ELECTRICAL STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

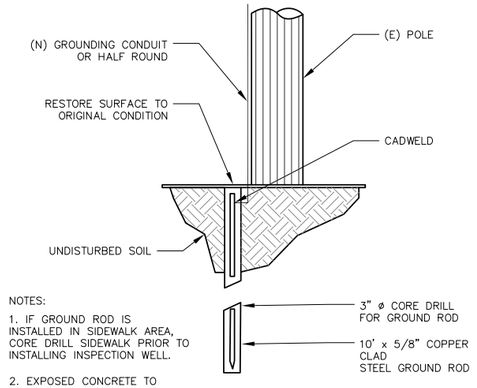
Sheet Title:
ELECTRICAL GROUND DIAGRAMS, SINGLE LINE DIAGRAM

Sheet Number:
E-1

NOT USED — SCALE: N.T.S — 10

NOT USED — SCALE: N.T.S — 7

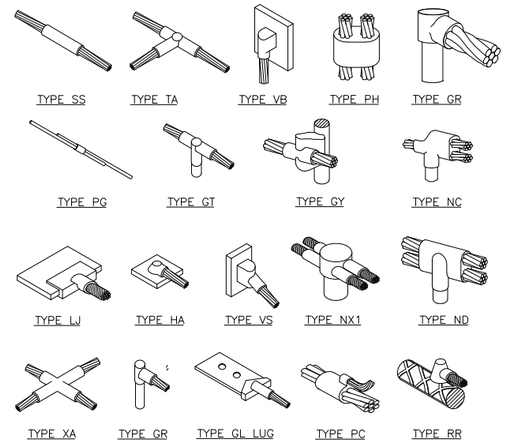
POLE GROUNDING ROD — SCALE: N.T.S — 4



NOTES:

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

EXOTHERMIC WELD CONNECTION — SCALE: N.T.S — 3



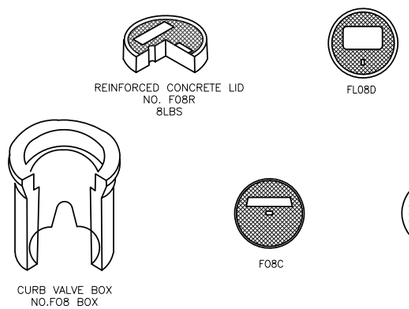
NOT USED — SCALE: N.T.S — 11

NOT USED — SCALE: N.T.S — 8

F08 BOX GROUND WELL DETAIL — SCALE: N.T.S — 5

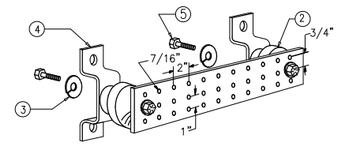
NOTES:

- ETCHED POLYPROPYLENE FACE
- FACE ANCHORED IN CONCRETE
- ULTRA–VIOLET INHIBITOR
- EXCEEDS ASTM–D1693 STANDARDS
- FOR ENVIRONMENTAL STRESS CRACKING RESISTANCE



F08BOX	BOX	34LBS F08 CURB VALVE BOX (8" I.D. X 12" HIGH) – 48 PER PALLET
F08BR	LID	8LBS REINFORCED CONCRETE LID WITH PLASTIC RING
F08BC	LID	8LBS CAST IRON LID.
FL08D	LID	2LBS FIBRELYTE LID, NON–CONCRETE
V01–71C	LID	12LBS COST IRON GRATE ADA COMPLIANT

BUSS BAR — SCALE: N.T.S — 2



NOTES:

1. GALVANIZED STEEL 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)
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061–4 OR EQUAL
3. 5/8" LOCKWASHER, NEWTON INSTRUMENT CO. CAT. NO. 3015–8 OR EQUAL
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A–6056 OR EQUAL
5. 5/8–11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012–1 OR EQUAL
6. 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

NOT USED — SCALE: N.T.S — 12

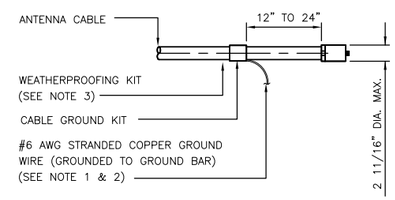
NOT USED — SCALE: N.T.S — 9

NOT USED — SCALE: N.T.S — 6

CONNECTION OF CABLE GND. KIT TO ANTENNA — SCALE: N.T.S — 1

NOTES:

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



Prepared For:

verizon

2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Prepared For:

Site Number: 425107

Site Name: SONOMA 017

Site Address: 342 ARROYO WAY SONOMA, CA 95476

County: SONOMA COUNTY

Engineer:

THE CBR GROUP

841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

Licensor:

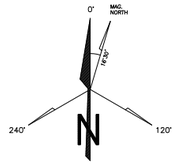
REGISTERED PROFESSIONAL ENGINEER JAMES DRUMMOND No E-19043 Exp. 3/31/18 ELECTRICAL STATE OF CALIFORNIA

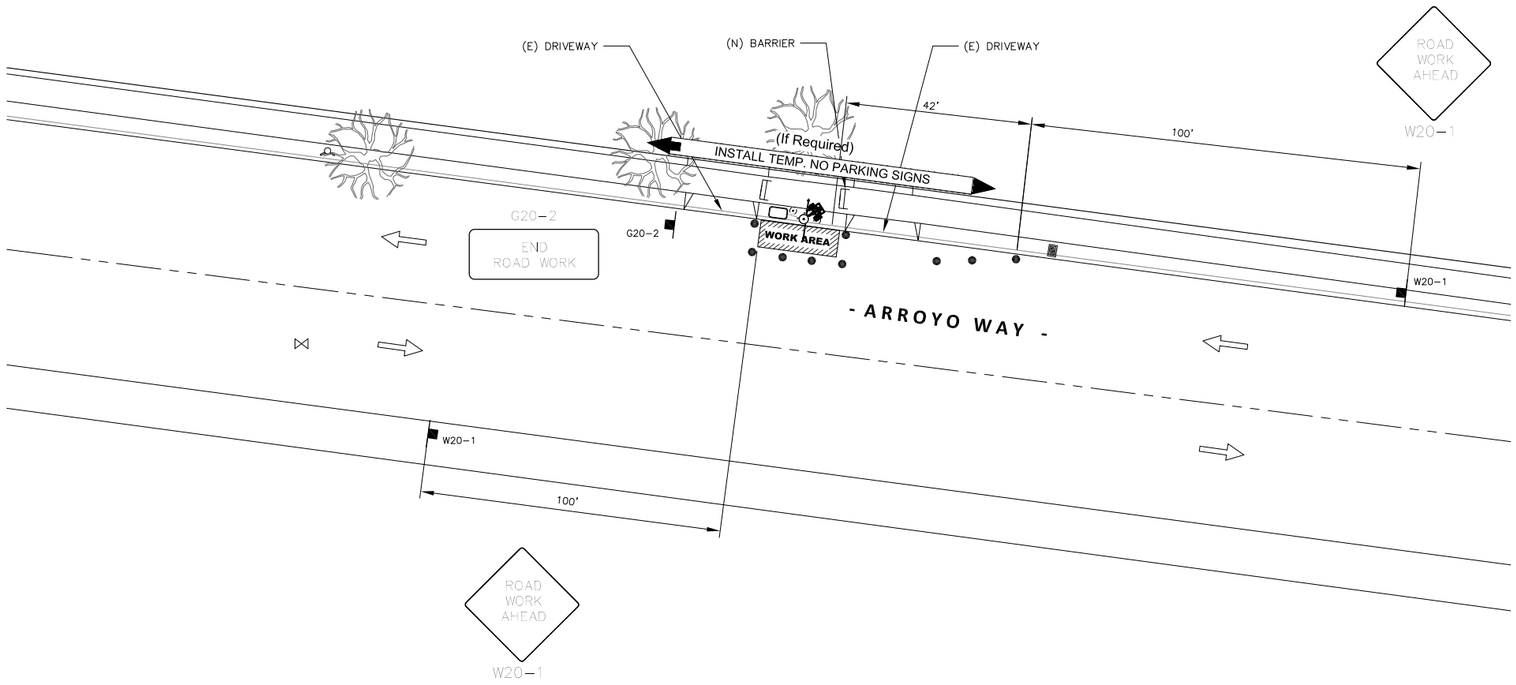
Issued For: CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title: ELECTRICAL DETAILS

Sheet Number: **E-2**





1 **TRAFFIC CONTROL PLAN**
N.T.S.

GENERAL TRAFFIC CONTROL NOTES
TRAFFIC SHALL CONFORM TO THE 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE 2012 WATCH HANDBOOK.
ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES
ONE LANE OF TRAFFIC IN EACH DIRECTION AND ALL HIGH VOLUME TURNING LANES SHALL BE MAINTAINED AT ALL TIMES ON ALL STREETS AT A MINIMUM LANE WIDTH OF 10 FEET.
ANY CONFLICTING SIGNS, STRIPING AND PAVEMENT MARKINGS SHALL BE REMOVED OR COVERED BEFORE TRAFFIC CONTROL IS IN PLACE. ANY SIGN, STRIPING OR PAVEMENT MARKING REMOVED OR COVERED SHALL BE REPLACED WHEN TRAFFIC CONTROL IS NO LONGER NECESSARY.
SAFE PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES.

NOTES:

- 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.
- STREET SIDE PARKING AVAILABLE ON BOTH SIDES OF THE STREET.

TABLE 6H-3 & 6H-4 - FROM THE 2014 CALIFORNIA MUTCD

POSTED SPEED LIMIT - MPH	*MERGING TAPER LENGTH "L" - FEET*	*SHIFTING TAPER LENGTH "L/2" - FEET*	*SHOULDER TAPER LENGTH "L/3" - FEET*	*SIGN SPACING ADVANCE OF TAPER & BETWEEN SIGNS - FEET*
20	*80*	*40*	*27*	*100*
25	*125*	*63*	*42*	*100*
30	*180*	*90*	*60*	*250*
35	*245*	*123*	*82*	*250*
40	*320*	*160*	*107*	*250*
45	*540*	*270*	*180*	*350*
50	*600*	*300*	*200*	*350*
55	*660*	*330*	*220*	*350*

MAINTAIN DRIVEWAY ACCESS
AT ALL TIME

LEGEND

- TYPE III BARRICADE W/ SIGN
- TYPE II BARRICADE W/ SIGN
- CHANNELIZING DEVICE
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- ARROW PANEL (FLASHING ARROW) (WHERE REQUIRED)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS — TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT — TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- (A) — ROADWAY DESIGNATION (A THROUGH D)
- SITE

Prepared For:

verizon

2785 MITCHELL DRIVE, SUITE 9
WALNUT CREEK, CA 94598

Prepared For:

Site Number:
425107

Site Name:
SONOMA 017

Site Address:
342 ARROYO WAY
SONOMA, CA 95476

County:
SONOMA COUNTY

Engineer:

THE CBR GROUP

841 ARNOLD DRIVE, SUITE A
MARTINEZ, CA 94553
www. TheCBRGroup.com

Licensor:

REGISTERED PROFESSIONAL ENGINEER
MATTHEW J. FREEDMAN
No C-86844
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

Issued For:
CONSTRUCTION

REV	DATE	DESCRIPTION	BY
C	03/16/18	PLANNING COMMENTS	JG
B	09/07/17	100% CD'S FOR REVIEW	WM
A	08/03/17	90% CD'S FOR REVIEW	ALR

Sheet Title:
TRAFFIC CONTROL PLAN

Sheet Number:
TCP

VERIZON SMALL CELL FOR SONOMA POLYGON ALTERNATIVE SITE ANALYSIS

verizon

Verizon Small Cell Node "Sonoma 017" (near 342 Arroyo Way.)

Prepared September 08, 2017

THE CBR GROUP
COMMUNICATIONS BASED RESOURCE GROUP

OVERVIEW

- Verizon is proposing to install a small cell standalone project in the area to improve network coverage and capacity.

- A small cell is just like the name implies. A small cell augments Verizon's capacity in a given area. It consists of a radio, antenna, power and a fiber connection. Small Cells are short range mobile cell sites used to complement larger macro cells (or cell towers). Small cells enable the Verizon network team to strategically add capacity to high traffic areas.

- Demand for wireless data services has nearly doubled over the last year, and is expected to grow 650% between 2013 and 2018 according to Cisco. It's part of Verizon's network strategy to provide reliable service and to stay ahead of this booming demand for wireless data.

ALTERNATIVE ANALYSIS

- In addition to the proposed existing wooden utility pole location for this Node, Verizon considered poles immediately adjacent to the proposed pole to explain why it was selected.

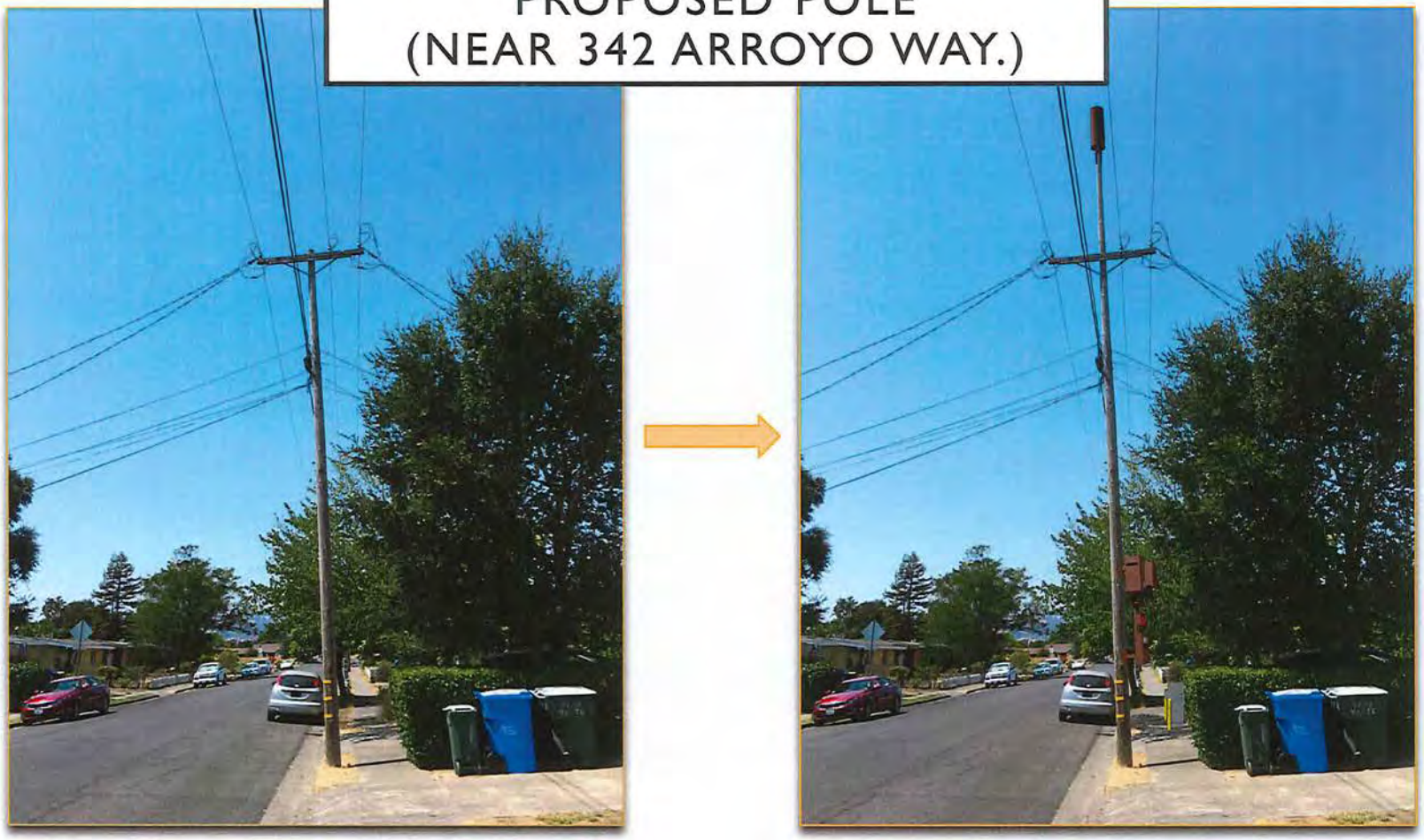
- Existing antenna towers, monopoles, and rooftops located more than 150 feet from the proposed location are not viable alternatives for the small cell network because they do not meet Radio Frequency Coverage requirements, i.e., network objectives.

- The Node site is low in height, has low power, and is a reduced size antenna site that provides coverage to small areas.

- Cells interact with each other, and are laid out in a logical pattern to provide optimal coverage conditions to address service, capacity, reliability, and access for users. This network architecture in Small Cells is geographically very tight, and precludes alternative locations at greater distances.

SHOT MAP OF PROPOSED SITE LOCATION AND ALTERNATIVES CONSIDERED

PROPOSED POLE
(NEAR 342 ARROYO WAY.)



ALTERNATE SITE #1
(322 ARROYO WAY)

Node - Alternative Site #1

This alternative location is a wood utility pole located in the Public ROW. The nearest address is 322 Arroyo Way.

Pole Elimination Justification:

This pole is a possible candidate however the equipment would be more visually obtrusive at this location as opposed to the proposed location given the tall trees and shrubs that surround the selected pole to help screen the equipment.

Additionally this pole is location would not provide optimal spacing between the nodes in the polygon.

ALTERNATE SITE #2
(352 ARROYO WAY)

Node - Alternative Site #2

This alternative location is a wood utility pole located in the Public ROW. This pole is located near 352 Arroyo Way.

Pole Elimination Justification:

This pole was eliminated as it requires the pole to be replaced. Using an existing pole is least impact to the area during construction.

Additionally this pole is location would not provide optimal spacing between the nodes in the polygon.

ALTERNATE SITE #3
(372 ARROYO WAY)

Node - Alternative Site #3

This alternative location is a wood utility pole located in the Public ROW. The nearest address is 372 Arroyo Way.

Pole Elimination Justification:

This pole is a possible candidate however the equipment would be more visually obtrusive at this location as opposed to the proposed location given the tall trees and shrubs that surround the selected pole to help screen the equipment.

Additionally this pole is location would not provide optimal spacing between the nodes in the polygon.

LEAST INTRUSIVE MEANS

Small Cell facilities are small form factor, smaller radio frequency footprint base stations that allow carriers to place appropriate facilities in areas where full size radio base stations are not appropriate. Some equipment is located in a switch or Hub facility some miles away, further reducing the scale and quantity of equipment on site. This proposal is consistent with the least intrusive means to provide coverage for current generation of service within a residential district.

Typical Macro facility – industry standard sized colocateable facility with full compliment of radios

Small Cell example similar to this proposal

THANK YOU

The CBR Group, Inc.

Christy Beltran

415.806.2323

Christy@thecbrgroup.com

Radio Frequency - Electromagnetic Energy (RF-EME) Jurisdictional Report

Site No. 425107
Sonoma 017
342-332 Arroyo Way
Sonoma, California 95476
Sonoma County
38° 17' 12.59" N, -122° 27' 55.02" W NAD83

EBI Project No. 6217003699
August 31, 2017

Prepared for:

Verizon Wireless
c/o The CBR Group Inc.
841 Arnold Drive Suite A & B
Martinez, CA 94553

Prepared by:

EBI Consulting
environmental | engineering | due diligence

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1
1.0 INTRODUCTION 2
2.0 SITE DESCRIPTION 2
3.0 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS 3
4.0 WORST-CASE PREDICTIVE MODELING 5
5.0 MITIGATION/SITE CONTROL OPTIONS 6
6.0 SUMMARY AND CONCLUSIONS 6
7.0 LIMITATIONS 6

APPENDICES

APPENDIX A CERTIFICATIONS
APPENDIX B RADIO FREQUENCY ELECTROMAGNETIC ENERGY SAFETY / SIGNAGE PLANS
APPENDIX C ROOFVIEW® EXPORT FILES

EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Verizon Wireless to conduct radio frequency electromagnetic (RF-EME) modeling for Verizon Site 425107 located at 342-332 Arroyo Way in Sonoma, California to determine RF-EME exposure levels from proposed Verizon wireless communications equipment at this site. As described in greater detail in Section 2.0 of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

Statement of Compliance

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

As presented in the sections below, based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site. Additionally, there are areas where workers who may be elevated above the ground may be exposed to power densities greater than the occupational limits. Therefore, workers should be informed about the presence and locations of antennas and their associated fields.

At the nearest walking/working surfaces to the Verizon antennas, the maximum power density generated by the Verizon antennas is approximately **6.50** percent of the FCC's general public limit (**1.30** percent of the FCC's occupational limit).

Recommended control measures are outlined in Section 5.0 and within a Site Safety Plan (attached); this plan includes instructions to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol.

1.0 INTRODUCTION

Radio frequency waves are electromagnetic waves from the portion of the electromagnetic spectrum at frequencies lower than visible light and microwaves. The wavelengths of radio waves range from thousands of meters to around 30 centimeters. These wavelengths correspond to frequencies as low as 3 cycles per seconds (or hertz [Hz]) to as high as one gigahertz (one billion cycles per second).

Personal Communication (PCS) facilities used by Verizon in this area operate within a frequency range of 700-2100 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed a distance above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of in areas in the immediate vicinity of the antennas.

MPE limits do not represent levels where a health risk exists, since they are designed to provide a substantial margin of safety. 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.

2.0 SITE DESCRIPTION

This project site includes one (1) tri-sector wireless telecommunication antenna on a utility pole located at 342-332 Arroyo Way in Sonoma, California.

Verizon Antenna Information (proposed Configuration)									
Antenna# and Model	Frequency (MHz)	# of Transmitters	Transmit Power (Watts)	Azimuth	Gain (dBd)	Feet above Ground (CL)	X	Y	Z
A1 Amphenol CUUT070X12Fxyz0	700 1900 2100	1 1 1	40 40 40	0°/120°/240°	9.85 14.35 14.85	45.33 ft AGL	50	50	43.33

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general population/uncontrolled exposure limits for members of the general public that may be exposed to antenna fields. While access to this site is considered uncontrolled, the analysis has considered exposures with respect to both controlled and uncontrolled limits as an untrained worker may access adjacent rooftop locations. Additional information regarding controlled/uncontrolled exposure limits is provided in Section 3.0. Appendix B presents a site safety plan that provides a plan view of the utility pole with antenna locations.

3.0 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table 1 and Figure 1 (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm^2). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm^2) and an uncontrolled MPE of 1 $mW/cm2$ for equipment operating in the 1900 MHz frequency range. For the Verizon equipment operating at 700 MHz or 850 MHz, the FCC's occupational MPE is 2.83 mW/cm^2 and an uncontrolled MPE of 0.57 mW/cm^2. These limits are considered protective of these populations.

Table 1: Limits for Maximum Permissible Exposure (MPE)

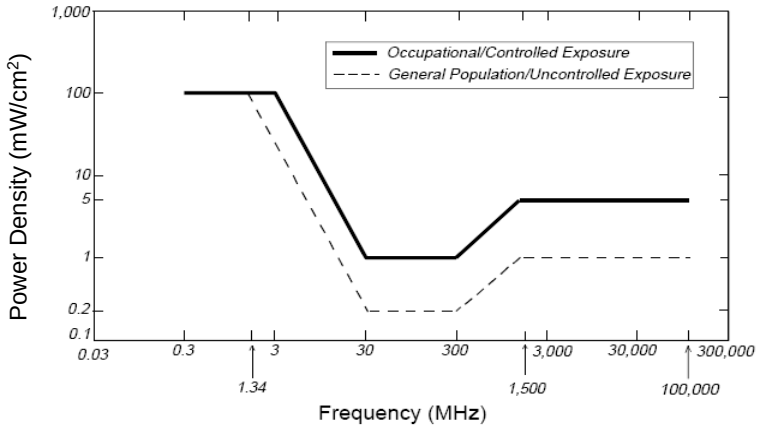
(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $[E]^2$, $[H]^2$, or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)
* Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Cellular Telephone	870 MHz	2.90 mW/cm^2	0.58 mW/cm^2
Specialized Mobile Radio	855 MHz	2.85 mW/cm^2	0.57 mW/cm^2
Most Restrictive Freq, Range	30-300 MHz	1.00 mW/cm^2	0.20 mW/cm^2

MPE limits are designed to provide a substantial margin of safety. 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.

Personal Communication (PCS) facilities used by Verizon in this area operate within a frequency range of 700-2100 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

4.0 WORST-CASE PREDICTIVE MODELING

EBI has performed theoretical modeling using RoofView® software to estimate the worst-case power density at the site ground-level and nearby roof-tops resulting from operation of the antennas. RoofView® is a widely-used predictive modeling program that has been developed by Richard Tell Associates to predict both near field and far field RF power density values for roof-top and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

The modeling is based on worst-case assumptions for the number of antennas and transmitter power. The modeling assumes a maximum 3-radio configuration for the antenna with a power level of 40 watts per transmitter for the 700, 1900, and 2100 MHz frequencies, in order to provide a worst-case evaluation of predicted MPE levels. The assumptions used in the modeling are based upon information provided by Verizon, and information gathered from other sources. The parameters used for the modeling are summarized in the RoofView® export files presented in Appendix C.

There are no other wireless carriers with equipment installed at this site.

Based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed Verizon antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the Verizon antennas, the maximum power density generated by the Verizon antennas is approximately 6.50 percent of the FCC's general public limit (1.30 percent of the FCC's occupational limit).

The Site Safety Plan also presents areas where Verizon Wireless antennas contribute greater than 5% of the applicable MPE limit for a site. A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix C. A graphical representation of the RoofView® modeling results is presented in Appendix B. It should be noted that RoofView is not suitable for modeling microwave dish antennas; however, these units are designed for point-to-point operations at the elevations of the installed equipment rather than ground level coverage.

5.0 MITIGATION/SITE CONTROL OPTIONS

EBI's modeling indicates that there are no areas in front of the Verizon antennas that exceed the FCC standards for occupational or general public exposure at ground level. All exposures above the FCC's safe limits require that individuals be elevated above the ground. In order to alert people accessing the pole, CAUTION signs are recommended for installation on opposite sides of the pole, 11' below the bottom of the antenna.

These protocols and recommended control measures have been summarized and included with a graphic representation of the antennas and associated signage and control areas in a RF-EME Site Safety Plan, which is included as Appendix B. Individuals and workers accessing the roof should be provided with a copy of the attached Site Safety Plan, made aware of the posted signage, and signify their understanding of the Site Safety Plan.

Implementation of the signage recommended in the Site Safety Plan and in this report will bring this site into compliance with the FCC's rules and regulations.

6.0 SUMMARY AND CONCLUSIONS

EBI has prepared a Radiofrequency – Electromagnetic Energy (RF-EME) Compliance Report for telecommunications equipment installed by Verizon Site Number 425107 located at 342-332 Arroyo Way in Sonoma, California to determine worst-case predicted RF-EME exposure levels from wireless communications equipment installed at this site. This report summarizes the results of RF-EME modeling in relation to relevant Federal Communications Commission (FCC) RF-EME compliance standards for limiting human exposure to RF-EME fields.

As presented in the sections above, based on the FCC criteria, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site. Workers should be informed about the presence and locations of antennas and their associated fields. Recommended control measures are outlined in Section 5.0 and within a Site Safety Plan (attached); this plan includes procedures to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol.

7.0 LIMITATIONS

This report was prepared for the use of Verizon Wireless. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

Appendix A

Certifications

Reviewed and Approved by:

sealed 1sep2017

Michael McGuire
Electrical Engineer

Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the building and related structures, as well as the impact of the antennas and broadcast equipment on the structural integrity of the building, are specifically excluded from EBI's scope of work.

Preparer Certification

I, Christopher Ilgenfritz, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

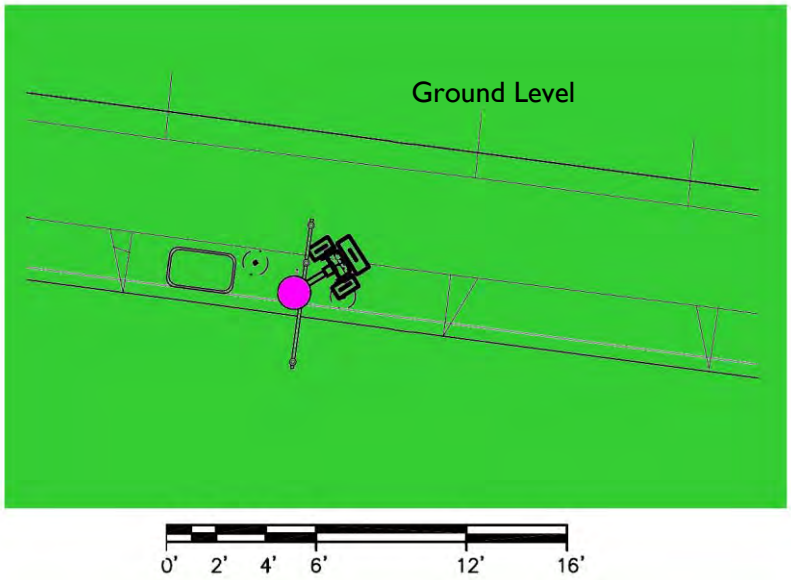
Appendix B

Radio Frequency Electromagnetic Energy

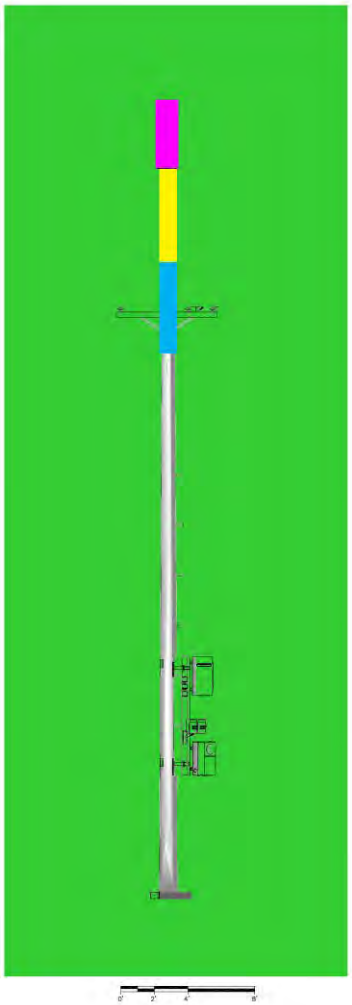
Safety / Signage Plans

% FCC Public Exposure Limit	
	Exposure Level ≥ 5,000
	500 < Exposure Level ≤ 5,000
	100 < Exposure Level ≤ 500
	Exposure Level ≤ 100

Ground Level



Down Pole



Verizon Antennas

Roofview: Composite Exposure Levels

Facility Operator: Verizon Wireless

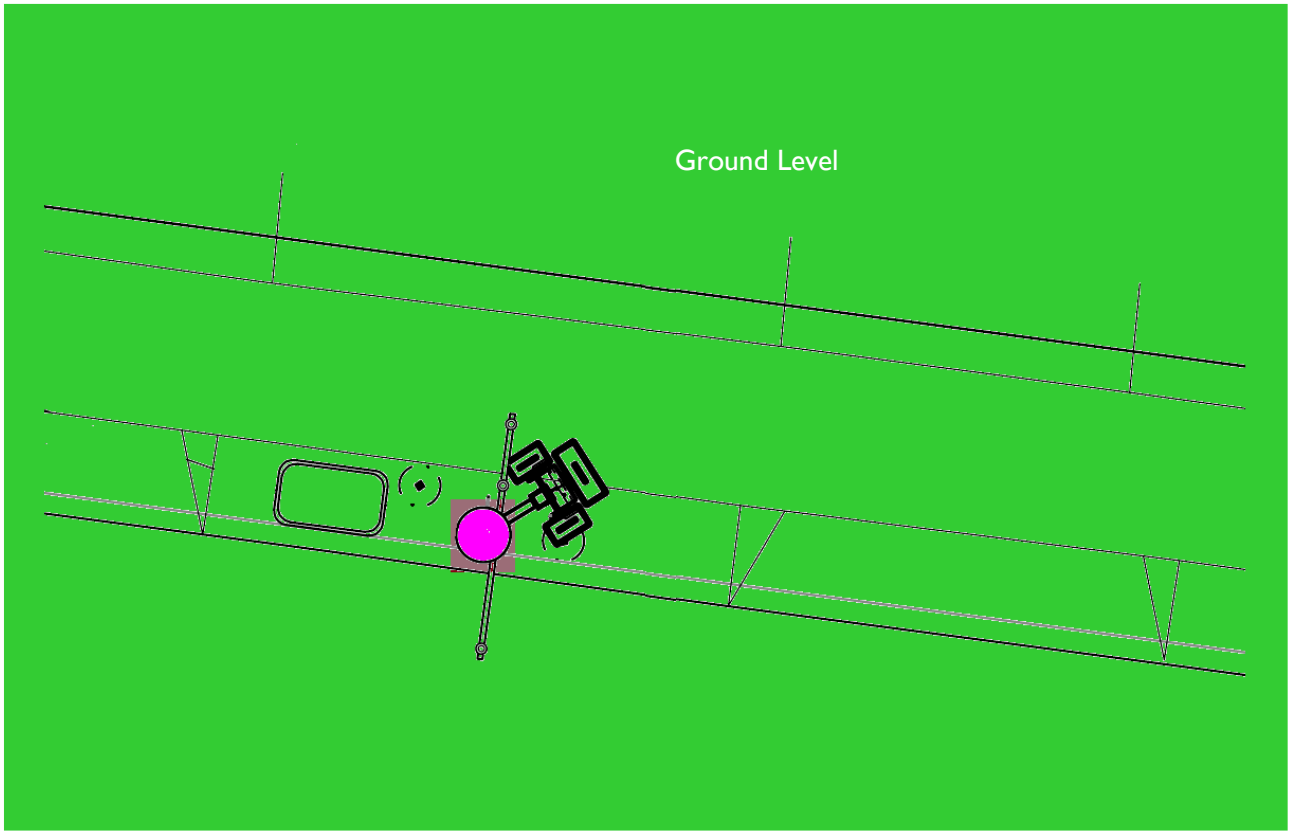
Site Name: Sonoma 017

Verizon Site Number: 425107

Report Date: 08-31-17

EBI Consulting
environmental | engineering | due diligence

% FCC Public Exposure Limit	
	Exposure Level > 5
	Exposure Level ≤ 5



Verizon Antennas

Roofview: Verizon Exposure Levels

Facility Operator: Verizon Wireless

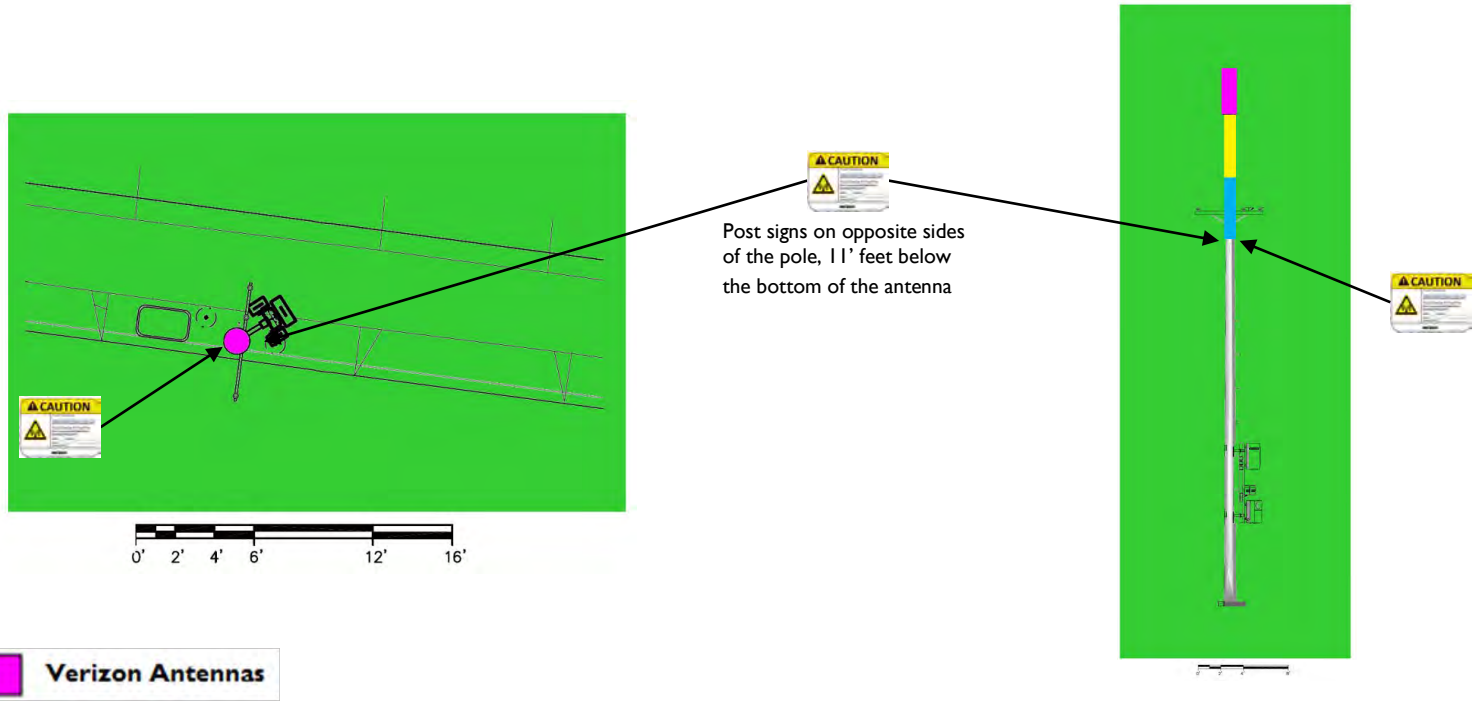
Site Name: Sonoma 017

Verizon Site Number: 425107

Report Date: 08-31-17

EBI Consulting
environmental | engineering | due diligence

Verizon Signage Plan



Sign Image	Description	Posting Instructions	Required Signage
	**Yellow Caution Sign** Used to alert individuals that they are entering an area where the power density emitted from transmitting antennas may exceed the FCC's maximum permissible exposure limit for the general public and the occupational exposure limit.	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	Post two (2) signs on opposite sides of the pole, 11' feet below the bottom of the antenna

Appendix C

Roofview® Export File

StartMapDefinition

Roof Max Y	Roof Max X	Map Max Y	Map Max X	Y Offset	X Offset	Number of envelope			List Of Areas
120	120	140	140	20	20	1	$AE$81:$E	$AE$81:$ET$200	$AE$81:$ET$200

StartSettingsData

Standard	Method	Uptime	Scale Facto	Low Thr	Low Color	Mid Thr	Mid Color	Hi Thr	Hi Color	Over Color	Ap Ht Mult	Ap Ht Method
4	2	1	1	100	1	500	4	5000	2	3	1.5	1

StartAntennaData It is advisable to provide an ID (ant 1) for all antennas

ID	Name	(MHz) Freq	Trans Power	Trans Count	Coax Len	Coax Type	Other Loss	Input Power	Calc Power	Mfg	Model	(ft) X	(ft) Y	(ft) Z	Type	(ft) Aper	dBd Gain	BWdth Pt Dir	Uptime Profile	ON flag
VNZ A1	LTE	700	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	9.85	70;0		ON•
VNZ A1	LTE	1900	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	14.35	68;0		ON•
VNZ A1	LTE	2100	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	14.85	65;0		ON•
VNZ A1	LTE	700	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	9.85	70;120		ON•
VNZ A1	LTE	1900	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	14.35	68;120		ON•
VNZ A1	LTE	2100	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	14.85	65;120		ON•
VNZ A1	LTE	700	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	9.85	70;240		ON•
VNZ A1	LTE	1900	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	14.35	68;240		ON•
VNZ A1	LTE	2100	13.33333	1	0	0	1			Amphenol	CUUT070X12Fxyz0	50	50	43.33		4	14.85	65;240		ON•

StartSymbolData

Sym	Map Marke	Roof X	Roof Y	Map Label	Description (notes for this table only)
Sym		5	35	AC Unit	Sample symbols
Sym		14	5	Roof Access	
Sym		45	5	AC Unit	
Sym		45	20	Ladder	

City of Sonoma

Planning Department
Revised 04/25/17

RECEIVED
SEP 12 2017
CITY OF SONOMA

Uniform Application

Before submitting your application, have you checked with:

✓ Planning Department? ✓ Building Department? ✓ Public Works Department? ✓ Fire Department?

Applicant Information

Name Verizon Wireless C/O The CBR Group agent

Address 841 Arnold Dr., Suite A, Martinez, CA, 94553

Phone (415-806-2323) Christy@thecbrgroup.com

Owner Information

Name N/A, Pole is located in Public R.O.W.

Address _____

Phone _____

Type of Application

- ☐ **Environmental Review**
- ☐ **Conditional Use Permit**
- ☐ **Conditional Use Permit (Minor)**
- ☐ **Tentative Subdivision Map (5+ lots)**
- ☐ **Tentative Parcel Map (4 or fewer lots)**
- ☐ **Planned Unit Development**
- ☐ **Prezoning/Annexation**
- ☐ **Rezoning: from_____to_____**
- ☐ **General Plan Amendment: from _____to _____**
- ☐ **Variance**
- ☐ **Exception**
- ☑ **Design Review**
- ☐ **Demolition Permit**
- ☐ **Certificate of Compliance**
- ☐ **Lot Line Adjustment/Merger**
- ☐ **Public Notice**
- ☐ **Other: _____**

Notice of special fees: The following special fees may also apply to your application:

1) **Public Notice Fee:** To cover costs associated with required newspaper and mailed public notices.
2) **County Processing Fee:** Applies to environmental review. Collected at application submittal.
3) **Fish and Game Fee:** Negative Declaration and EIR. Collected at application submittal. May be waived if project meets specific criteria.

Project Location (by address or nearest cross-street) 342 Arroyo Way, Sonoma, CA 95476

Assessor's Parcel Number (s) R.O.W.

General Plan Land Use Designation R.O.W. Zoning _____

Brief Project Description Install Antenna With RRUS, Cables and associated Equipment on a Replacement Utility pole as well as a cabinet at ground level in ROW adjacent to pole.

Submittal Requirements: SEE ATTACHED SHEET

I, the undersigned ("Applicant"), hereby state that I am the owner of record of the affected property or a duly authorized agent of the Property owner(s) (An agent must submit a letter of authorization signed by the property owner) and that all information submitted as part of this application is true and accurate.

I agree to the terms, conditions and obligations set forth in this Application.

I agree that I will provide written notice to the Planning Department in the event that there is a change in Applicant's interest in the property, the project, or the billing address or contact person for said project. Said Notice shall be mailed first class, postage paid, certified mail to: Planning Department, No. 1 The Plaza, Sonoma, CA 95476. Applicant shall remain responsible for all outstanding costs incurred by City.

I agree to indemnify and hold City harmless for all costs and expenses, including attorney's fees, incurred by City or held to be the liability of the City in connection with City's defense of its actions in any proceeding brought in any State or Federal court challenging the City's actions with respect to the Applicant's project.

Signature _____ Date _____

DATE STAMP WITH APPLICATION AND RETURN COPY TO:

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

Attn: Small Cell Real Estate Manager

PLEASE DATE STAMP TOGETHER WITH VERIZON WIRELESS APPLICATION

Verizon Wireless
Reservation of Rights

We have attached Verizon Wireless's use permit application to install a wireless facility in the public right-of-way as more particularly described in the application. Please be advised that Verizon Wireless reserves all of its rights under California Public Utilities Code § 7901, the federal Telecommunications Act, Section 6409 of *the Spectrum Act* (codified at 47 U.S.C. § 1455(a)), the Federal Communications Commission ("FCC") ruling *In Re: Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review, Etc.*, the FCC order *In Re: Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, Etc.*, FCC 14-153 (FCC October 17, 2014) and associated rules codified at 47 C.F.R. §1.40001, the licenses granted to it by the FCC, and all of its other rights that arise under any federal or state statute, regulation, or other legal authority (collectively, "Federal and State Rights"). Among other Federal and State Rights, California Public Utilities Code § 7901 grants a statewide franchise to telephone corporations such as Verizon Wireless to place telephone equipment in the public rights-of-way, and the use of the rights-of-way by telephone corporations is a matter of statewide concern that is not subject to local regulation except where such use incommodes the public use of a road or highway. In addition, the Telecommunications Act limits the authority of local jurisdictions by, among other restrictions, requiring final action within a reasonable period of time. In submitting this application, Verizon Wireless expressly reserves all of its Federal and State Rights, including, without limitation, its rights under federal and state law to challenge the requirement for a use permit for its proposed installation in the public right-of-way. Neither the act of submitting the application nor anything contained therein shall be construed as a waiver of any such rights.