

## Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

<b>Project Information</b>		Staff Assigned Case No.: _____	
Project Name: <b>Axe Handle Canyon Verizon Cell Site</b>			
Project Description: A new freestanding wireless telecommunications facility, including associated ground equipment, within a fenced compound.			
Project Address: 14855 Pyramid Way, Reno NV 89510			
Project Area (acres or square feet): 1,000 sq ft			
Project Location (with point of reference to major cross streets AND area locator): On the west side of NV State Rt 445, 8.5 miles north of the intersection of State Rte 445 and La Posada Drive.			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
076-272-03	79.82		
Indicate any previous Washoe County approvals associated with this application: Case No.(s). WSUP18-0001 (Previously approved, approval has lapsed)			
<b>Applicant Information</b> (attach additional sheets if necessary)			
<b>Property Owner:</b>		<b>Professional Consultant:</b>	
Name: Renia Smith, 14855 Pyramid Way Land Trust		Name: Kevin Gallagher, Complete Wireless Consulting	
Address: P.O. Box 1131		Address: 2009 V St, Sacramento, CA	
Sparks, NV	Zip: 89432-1131		Zip: 95818
Phone: N/A	Fax: N/A	Phone: 916-764-2632	Fax: 916-313-37
Email: Renia_Smith@hotmail.com		Email: kgallagher@completewireless.net	
Cell: 951-488-7573	Other:	Cell:	Other:
Contact Person: Renia Smith		Contact Person: Kevin Gallagher	
<b>Applicant/Developer:</b>		<b>Other Persons to be Contacted:</b>	
Name: Verizon Wireless, c/o Complete Wireles Consulting		Name:	
Address: 2009 V St Sacramento, CA		Address:	
	Zip: 95818		Zip:
Phone: 916-764-2632	Fax:	Phone:	Fax:
Email: kgallagher@gmail.com		Email:	
Cell: 916-764-2632	Other:	Cell:	Other:
Contact Person: Kevin Galalgher		Contact Person:	
<b>For Office Use Only</b>			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

**Special Use Permit Application  
Supplemental Information**  
(All required information may be separately attached)

1. What is the project being requested?

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

Please see enclosed site plans.

3. What is the intended phasing schedule for the construction and completion of the project?

Single phase.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

Please see enclosed project support statement. Location is on a hill screened from public right of way and distant from neighboring residences.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

The project will provide wireless coverage to an area that currently has poor coverage. Please see enclosed coverage maps.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

Please see enclosed project support statement.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being proposed. Show and indicate these requirements on submitted drawings with the application.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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9. Utilities:

a. Sewer Service	N/A. Unmanned facility.
b. Electrical Service	Nevada Energy.
c. Telephone Service	TBD.
d. LPG or Natural Gas Service	N/A. Unmanned facility.
e. Solid Waste Disposal Service	N/A. Unmanned facility.
f. Cable Television Service	N/A. Unmanned facility.
g. Water Service	N/A. Unmanned facility, no water usage.

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #	No water consumption, NA.	acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

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10. Community Services (provided and nearest facility):

a. Fire Station	Sparks Fire Station 2, 15 miles south.
b. Health Care Facility	N/A. Unmanned facility.
c. Elementary School	N/A. Unmanned facility.
d. Middle School	N/A. Unmanned facility.
e. High School	N/A. Unmanned facility.
f. Parks	N/A. Unmanned facility.
g. Library	N/A. Unmanned facility.
h. Citifare Bus Stop	N/A. Unmanned facility.

# VERIZON WIRELESS PROJECT SUPPORT STATEMENT

**Site Name:** Axe Handle Canyon  
**Site Address:** 14855 Pyramid Way, Reno, Nevada  
**APN:** 076-272-03

## INTRODUCTION & FACILITY DESCRIPTION

The demand for wireless and data services continues to grow nationwide. Access to the wireless network has become vital as individuals increasingly rely on handheld and mobile devices as their primary method of communication. Verizon Wireless constantly seeks to improve its wireless network through industry-leading techniques and innovative solutions to respond to high levels of wireless network traffic and increased user demand. This proposal for a new wireless telecommunications facility is an essential part of the effort to continuously improve the Verizon network for future and potential customers. The facility proposal is designed as the least intrusive means of filling a significant gap in coverage along Pyramid Way (Nevada State Route 445).

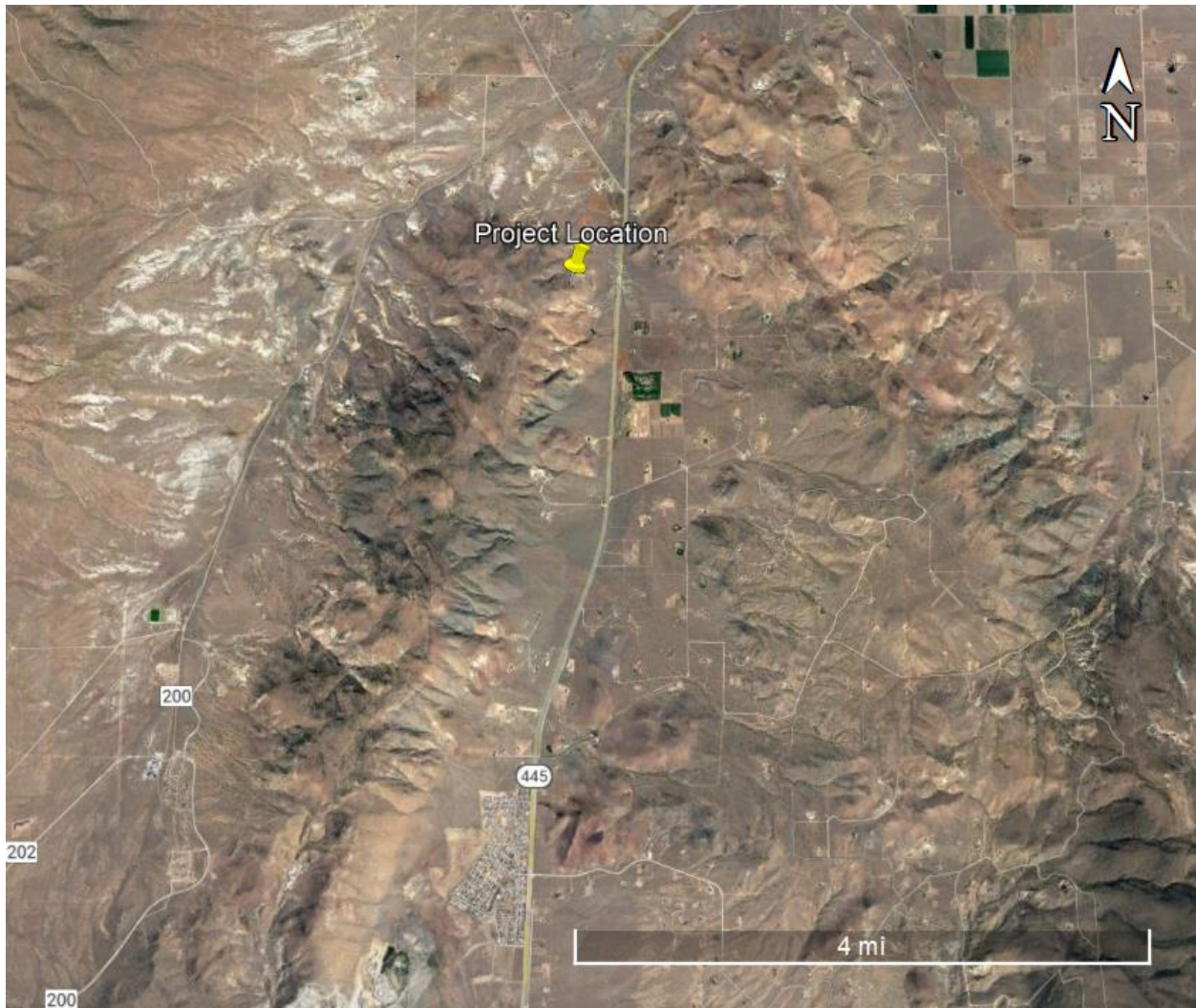
This is a proposal for a new, freestanding wireless telecommunications facility on the above referenced parcel in unincorporated Washoe County. At present, a two mile stretch of Nevada State Route 445 is without coverage. The proposed facility will close that gap for local residents, workers, commuters, and travelers through the area.



### **DESCRIPTION OF COVERAGE AREA**

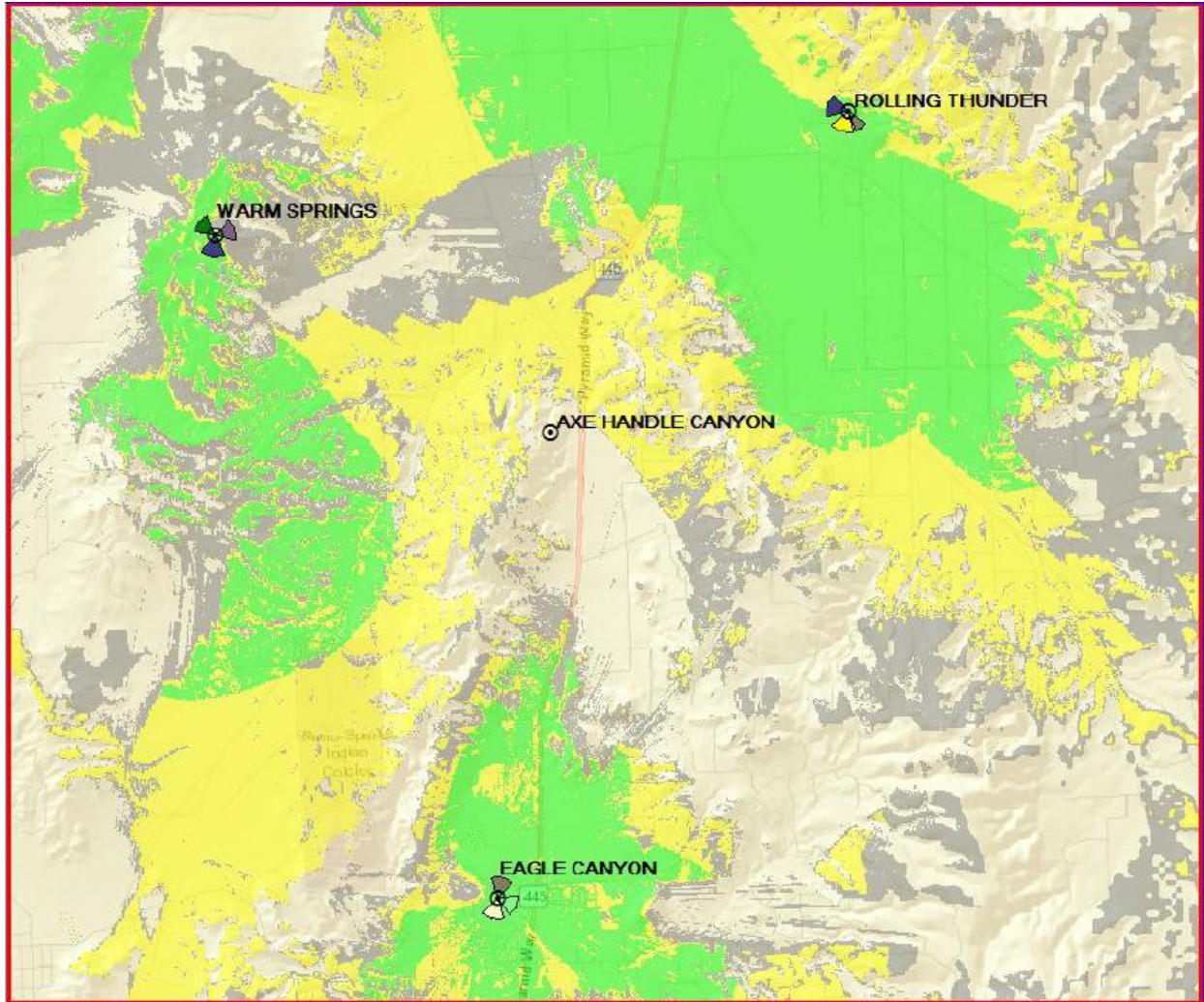
The objective of the proposed facility is to fill a significant gap in coverage located along Pyramid Way, north of Spanish Springs. The gap includes an approximately six mile long stretch along both sides of Nevada State Route 445 where coverage is extremely poor, including a stretch of over two miles along the road where there is no coverage whatsoever. Given the remote character of this stretch of road and the reliance of drivers on mobile devices, this represents a potential safety issue. (As with all wireless telecommunications facilities, the proposed facility would provide 911 service to all wireless users irrespective of carrier.) To achieve this service objective, Verizon identified a potential candidate "Search Area." A Search Area is an area on a map that is determined by Verizon's Radio Frequency Engineer (RF engineer). The area identifies the geographic area within which the proposed telecommunications site must be located to satisfy the intended service objective. In creating the Search Area, the RF engineer considers many factors, such as topography, proximity to existing structures, current coverage areas, existing obstructions, etc. The search area provides initial search parameters - not all locations within the search area will ultimately be suitable for filling the coverage gap.

#### *Arial View of Coverage Area and Surroundings*



### EXISTING COVERAGE GAP

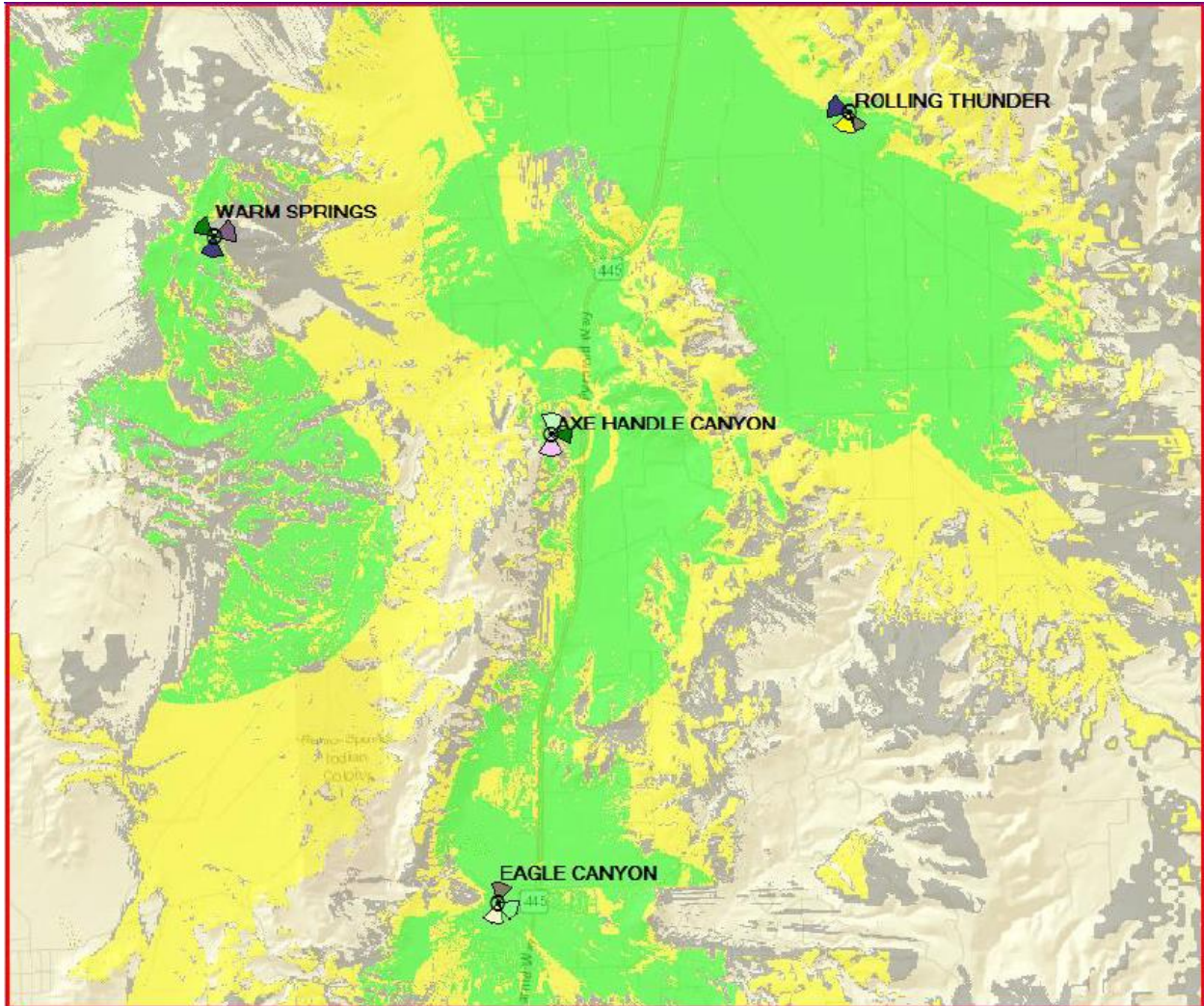
The coverage map below depicts the existing coverage in the area and roughly matches the area depicted in the aerial photo on the preceding page. Green areas represent good indoor service, yellow areas represent in-vehicle service, and gray shaded areas represent outdoor coverage only. Unshaded areas of the map have no coverage. Existing facilities in the surrounding area are depicted by, with the location of the proposed facility marked as “Axe Handle Canyon.” As you can see below, there is a substantial gap in coverage caused by terrain and the distance to existing facilities, including an over two mile stretch of Pyramid Way that currently has no coverage.



**COVERAGE WITH PROPOSED FACILITY**

This is the same map as on the preceding page, depicting coverage with the proposed Axe Handle Canyon facility. The facility would provide good coverage to an approximately 16 square mile area containing business and residences. With the addition of the facility, there would be continual service along Pyramid Way.

A higher resolution copy of the coverages maps has been included with the application materials for the project.



### **PROJECT LOCATION AND AESTHETIC IMPACTS**

The project is located on a 79.82 acre on the west side of Pyramid Way, approximately 1.6 miles north of the intersection of Axe Handle Canyon Road and Pyramid Way, and approximately 0.8 miles south of the intersection of Winnemucca Ranch Road and Pyramid Way. The parcel is General Rural Agriculture (GRA) and is surrounded by similarly zoned parcels. The site would be accessed off of Pyramid Way via a private access road.

#### **Project Location**



#### **Design and Aesthetic Impacts**

The proposed facility is located in a rural area situated between high ridges to the east and west. This makes covering the area extremely difficult, as wireless facilities operate by line of sight. If a facilities antennas are not able to “see” over the existing terrain, they cannot provide coverage beyond it. The area is sparsely populated, with single family residences spread out over large parcels.

In order to cover the area, a facility tall enough to get over the terrain is needed. In an earlier project on the property approved by the County in 2018 but not built, Verizon proposed to solve the problem with a

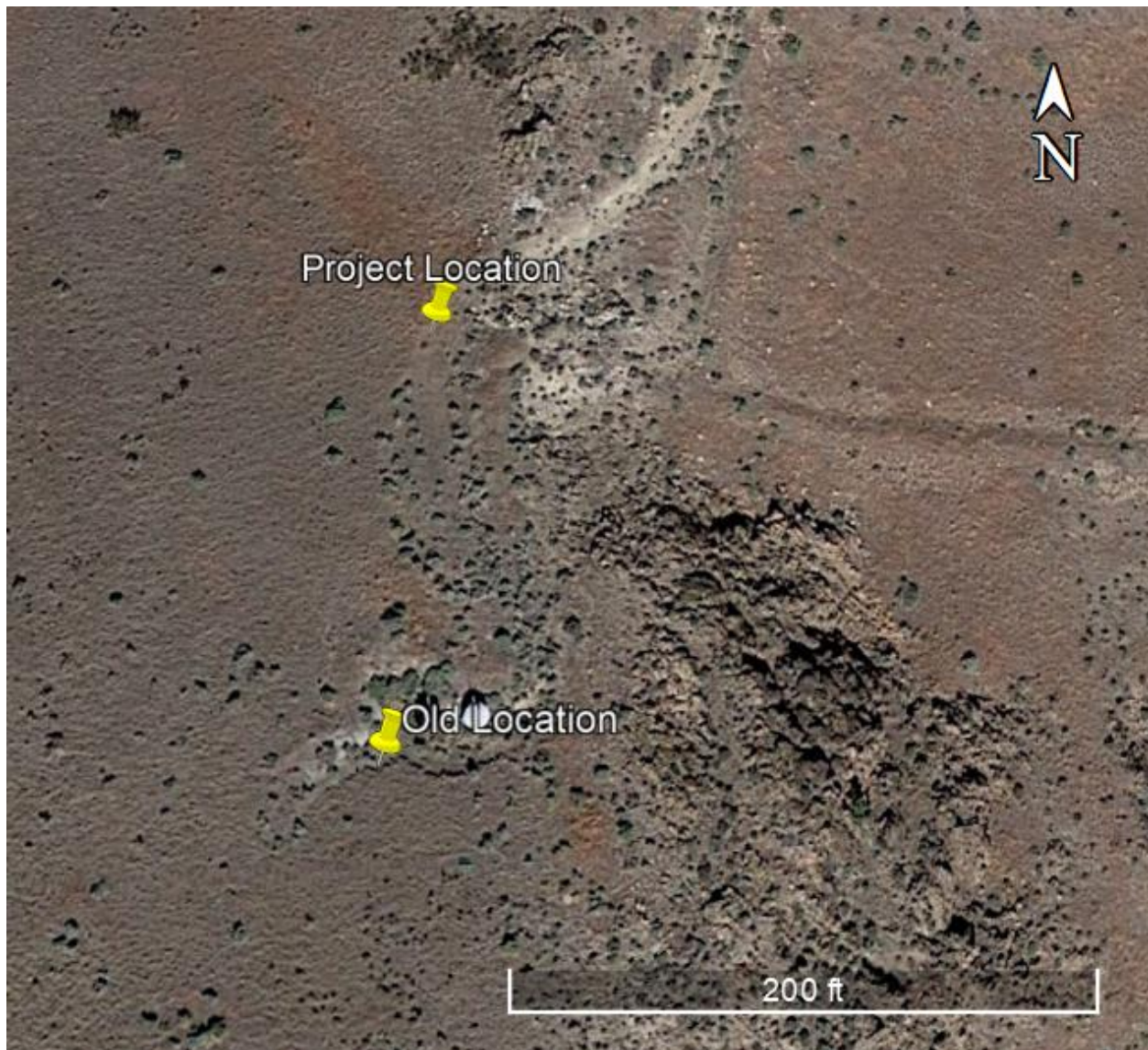


Verizon Wireless Site: Axe Handle Canyon  
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104' tower located at a location approximately 5047' AMSL. Verizon now proposes a similar facility, approximately 140' north on the same property, approximately 1746' from the public right of way. The new proposed facility is a 141' tall monopole (including a 6' tall lightning rod at the top of the facility) located at approximately 4997' AMSL. In other, the top of the facility will be slightly lower AMSL than the previously approved facility. In both instances, only the top of the facility will be visible from the public right of way – no ground equipment will be visible due to terrain.

This change was necessary due to the extreme steepness of the final hundred feet of the original access route. The old facility would have been difficult to build and difficult to maintain. The slight change to the location will no negative visual impacts and help ensure Verizon will be able to keep the facility online reliable to serve the area.

*Aerial View, Original Location vs. Proposed Location.*



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Under the new design, Verizon's proposed monopole would consist of a 141' tall monopole, painted a flat brown to match the terrain. Antennas would be placed at a 131' centerline, with the top of steel at 135' above ground level. (The remainder of the height would consist of a 6' lightning rod).

The monopole would be placed within a 20' by 50' compound surrounded by a 6' tall chain link fence topped with barbed wire. Within the compound would be associated ground equipment, including two equipment cabinets, 30 kW diesel emergency backup generator with 210 gallon fuel tank, and a stepdown transformer. The ground equipment would not be visible from the public right of way due to distance and terrain.

The site was initially proposed as a lattice tower, which is the most efficient way to build a telecommunications facility of this size. Per staff input and County regulations, that was changed to the currently proposed monopole design. Staff also suggested a stealth design for the project. Because of the lack of trees in the area for a facility of this size to blend with, a faux tree style design would only serve to increase the bulk, height, and prominence of the facility.

As an alternative, staff suggested a slimline style monopole. In a slimline pole is different from a standard monopole in that antennas, rather than being mounted on T-arms existing out from the pole itself, they are mounted close in, essentially directly on the pole itself. This limits the separation between antennas to less than is needed. The only way to solve this problem is by splitting the antennas into multiple centerlines. In this case, Verizon needs 12 antennas split between three sectors to cover the area. A slimline pole would mean splitting those antennas into three or four centerlines. This would result in most of the antennas not being at a sufficient height to cover the area and therefore would be rendered useless. Additionally, it would make the facility uncollocatable. (For this latter reason, slimline poles have fallen out of favor in my jurisdictions.) Therefore, there is no viable stealth option for the proposed facility that would reduce the visual impact below that of a painted monopole while still serving the facility's purpose as a telecommunications facility.

A monopole at the proposed location and the proposed height is therefore the least intrusive means on of filling the existing coverage gap.

A full set of photos of the existing site and photo simulations of the proposed site have been included with the application materials. Details from the photo simulations are provided on the following page, along with a photo simulation of the originally approved location for comparison.

Verizon Wireless Site: Axe Handle Canyon  
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*View from Pyramid Way, looking North:*



*View from Pyramid Way, looking West:*



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*View from Winnemucca Ranch Road, looking South:*



*Original site, View from Winnemucca Ranch Road, looking South (shorter facility on higher ground)*



Old Site, View from Pyramid Way, looking North:



Old Site, View from Pyramid Way, looking Northwest:



### **ALTERNATE SITES ANALYSIS**

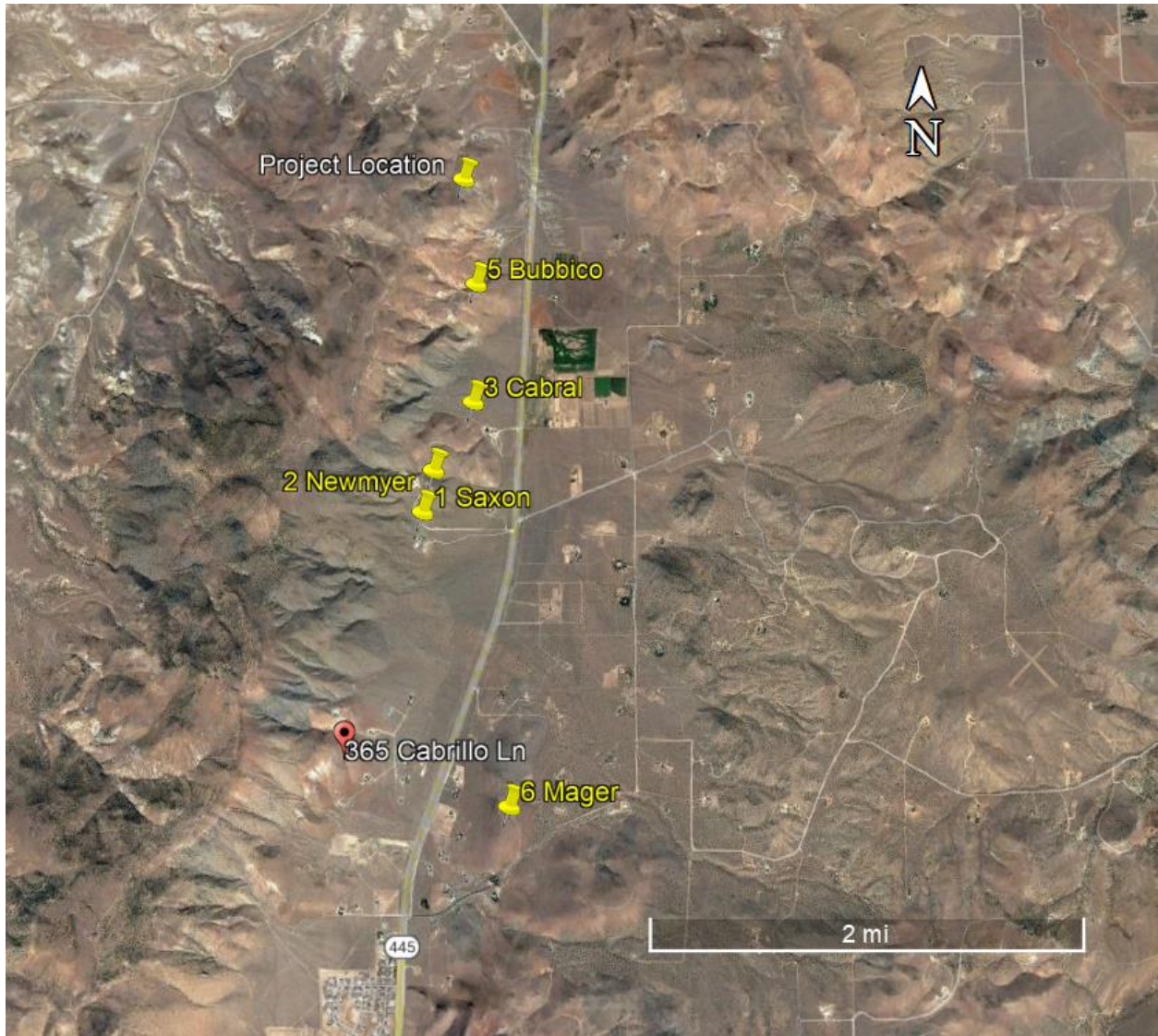
Verizon Wireless strives to minimize visual and noise impacts for each facility and seeks to incorporate ways to preserve the local community character to the greatest extent feasible at all stages of site selection and design process. Part of this involves seeking properties in areas with substandard wireless coverage that provide the ability to meet community needs, zoning standards, and engineering requirements.

In identifying the location of a wireless telecommunication facility to fulfill the above referenced service objectives a variety of factors are evaluated. These factors include: a willing landlord, compliance with local zoning requirements, topography, existing structures, colocation opportunities, available utilities, and road access. Verizon conducted an exhaustive search for alternative sites, after which it determined that the proposed site is the best available location for a wireless telecommunications facility to meet the desired coverage objective.

Due to the extreme terrain, the proposed location was ultimately the only property with sufficient elevation and location with good views of both the north and the south to provide coverage. There were no existing wireless telecommunications facilities in the area, or other structures tall enough on which to mount antennas, so a colocation or rooftop/façade site was determined not to be viable.

1. Saxon - 14155 Pyramid Way, Reno, NV 89510. RF engineer determined this location was not viable due to terrain line of sight issues.
2. Newmyer - 14175 Pyramid Way, Reno, NV 89510. RF engineer determined this location was not viable due to terrain line of sight issues.
3. Cabral - 14455 Pyramid Way, Reno, NV 89510. RF engineer determined this location was not viable due to terrain line of sight issues.
4. (Project Location.)
5. Bubbico, 14655 Pyramid Way, Reno, NV 89510. RF engineer determined this location was not viable due to terrain line of sight issues.
6. Mager, 400 Descano Lane, Sparks, NV 89441. RF engineer determined this location was not viable due to terrain line of sight issues.

Map of Alternate Sites Considered



After this thorough investigation, Verizon concluded the proposed location is the least intrusive, viable means of filling the existing coverage gap and improving service in the area.

## WASHOE COUNTY CODE REQUIREMENTS

### General Requirements for a Special Use Permit

The project satisfies all Washoe County Code Section 110.810.30, all applications for special use permits must satisfy the following findings:

1. Consistency. The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Warm Springs Area Plan. *The facility meets this requirement, as it is the least intrusive means of filling an existing coverage gap, as required.*
2. Improvements. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven. *The site complies with this requirement. Adequate power exists onsite and will be brought to the subject location. A microwave dish will meet all network backhaul requirements, and no other utilities will be needed, as the facility is unmanned.*
3. Site Suitability. The site is physically suitable for the type of development and for the intensity of development. *The facility meets this finding. The facility is well screened, well removed from offsite residences and the public right of way, designed to blend with the ridgeline behind, and there is no less intrusive means of filling the coverage gap.*
4. Issuance Not Detrimental. Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area. *The facility complies with all FCC EME standards. An independent 3<sup>rd</sup> party EME report has been provided with this application. A noise study has also been provide.*
5. Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation. *There are no military facilities in the area. This project therefore meets this requirements.*

### Requirements for the approval of a Wireless Telecommunications Facility

Under Washoe County code Article 110.324.75, all applications for special use permits for monopoles and lattice towers must meet the findings below:

1. That the communications facility meets all the standards of Sections 110.324.40 through 110.324.60 as determined by the Director of Community Development and/or his/her authorized representative
  - a. 110.324.40 Wireless Communication/Cellular Facilities: Definitions. *There are no applicable requirements laid out in this subsection.*
  - b. Section 110.324.45 Wireless Communication/Cellular Facilities Preferred Placement. *Verizon satisfies these standards. The more preferred options to a new monopole – façade mounted antenna, rooftop mounted antenna, collocation, specialty pole mounted antennas, commercial signage antenna, and slimline antenna are not viable options. As noted elsewhere, they either do not exist in the search or would not be technically viable.*
  - c. Section 110.324.50 Wireless Communication/Cellular Facilities Placement Standards. *The facility does not comply with the height requirements for this section, as it is only 1700'+ from the nearest public right of way and no stealthing is proposed. For reasons stated above, the proposed stealthing option of a slimline pole is not technically feasible.*



*Because there is no alternate less intrusive means of filling the significant coverage gap, under Federal law and FCC regulations this rule in this instance constitutes an effective prohibition of service and must be set aside. The site complies with all other requirements in this section.*

- d. Section 110.324.53 Emergency Service Communication Facilities. *There are no applicable requirements in this section.*
  - e. Section 110.324.55 Significant Gap Coverage. *As noted above regarding section 50, the facility as proposed exceeds the height allowed under the "bonus height" provisions of this section. As above, these height restrictions must be set aside under federal, as this is the least intrusive means of filling a significant gap in coverage and any regulation barring such a facility constitutes an effective prohibition of service.*
  - f. Section 110.324.60 Wireless Communication/Cellular Facilities Permitting Requirements. *All required materials under this section have been included with this application.*
2. That public input was considered during the public hearing review process. *A neighborhood meeting was noticed and held per Washoe County requirements. Two members of the public attended with questions. No objections were made to the project as sited and designed.*
  3. That the monopole or lattice tower will not unduly impact the adjacent neighborhoods or the vistas and ridgelines of the County. *The site complies with these requirements*

#### Miscellaneous Washoe County Code Requirements

The following additional items are warranted under the Washoe County Code:

1. 110.410.10 Required Parking Spaces. *As the facility is unmanned, with only approximately monthly visits from a Verizon cell technician, Verizon requests any parking requirements be waived for this project.*
2. 110.410.10. Landscaping. *As nothing at ground level will be visible from the public right of way*
3. 110.410.14 Noise and Lighting: *No lighting is proposed except for downward titled work lights on a timer. In the event FAA lighting is required, Verizon would request the County waive any requirements. A noise study has been provided with this application.*
4. 110.35 Major Grading Permit Not Needed. *The original facility did not exceed the requirements for Special Use Permit for grading. Verizon's grading plan is pending but has been planned to be less grading intensive.*

#### **ADDITIONAL INFORMATION**

##### Safety Benefits of Improved Wireless Service

Verizon Wireless offers its customers multiple services such as voice calls, text messaging, mobile email, picture/video messaging, mobile web, navigation, broadband access, V CAST, and E911 services. Mobile phone use has become an extremely important tool for first responders and serves as a back-up system in the event of a natural disaster. Verizon will install a standby generator at this facility to ensure quality communication for the surrounding community in the event of a natural disaster or catastrophic event. This generator will be fully contained within the equipment shelter and will provide power to the facility if local power systems are offline.

##### Maintenance

Verizon installs standby generators and backup batteries at all its cell sites. The batteries play a vital role in Verizon's emergency and disaster preparedness plan. In the event of a power outage, the back-up generator will automatically start and continue to run the site for up to 24 hours. The standby generator

Verizon Wireless Site: Axe Handle Canyon  
14855 Pyramid Way, Reno, NV 89510, APN 076-272-03

will operate for approximately 15 minutes per week for maintenance purposes and will only be tested during the daytime. Back-up generators allow Verizon's sites to continue providing valuable communications services in the event of a power outage, natural disaster or other emergency. Following construction, a small sign indicating the facility owner and a 24-hour emergency telephone number will be provided on site.

#### Parking & Traffic

The facility is unmanned and will operate 24 hours a day, seven days a week. A technician will occasionally visit the facility to service the equipment, approximately once a month. There will no other visitors or guests associated with the facility.

#### Construction Schedule

The construction of the facility will follow all local rules and regulations. The crew size will range from two to ten individuals. The construction phase of the project will last approximately two months and will not exceed acceptable noise levels.

#### Compliance with FCC Standards

This project will not interfere with any TV, radio, telephone, satellite, or other signals. Any interference would be against federal law and a violation of Verizon's FCC license. An RF report verifying compliance with FCC guidelines is included with this submittal.

#### Airports

There are no airports or airstrips within five miles of the proposed facility.

#### Water Usage

As the facility is unmanned and no landscaping is proposed, there will be no impact on water usage on the property.

#### Notice of Actions Affecting Development Permit

Verizon requests notice of any proposal to adopt or amend the: general plan, specific plan, zoning ordinance, ordinance(s) affecting building or grading permits that would in any manner affect this development permit. Any such notice may be sent to 2009 V Street, Sacramento, CA 95818.



# AXE HANDLE CANYON

14855 PYRAMID WAY, RENO, NV 89510

MDG LOCATION ID: 5000344470

PROJECT ID: 17126591

Issued For:

**AXE HANDLE CANYON**

14855 PYRAMID WAY  
RENO, NV 89510

PREPARED FOR



295 PARKSHORE DRIVE  
FOLSOM, CA 95630

Vendor:



MDG LOCATION ID: 5000344470

PROJECT ID: 17126591

DRAWN BY: -

CHECKED BY: S. SAVIG

APPROVED BY: -

ISSUE STATUS			
REV	DATE	DESCRIPTION	CAD
3	08/10/23	CLIENT REV	C.T.C
2	07/12/23	CLIENT REV	A.A.
1	06/16/23	ZD 100%	A.A.
0	05/15/23	ZD 90%	-

Licensee:

**PRELIMINARY:  
NOT FOR  
CONSTRUCTION**

KEVIN R. SORENSEN  
S4469

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.

ENGINEER:

8445 Sierra College Blvd, Suite E Granite Bay, CA 95746  
Contact: Kevin Sorenson Phone: 916-660-1930  
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

THESE PLANS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF STREAMLINE ENGINEERING AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF STREAMLINE ENGINEERING AND DESIGN INC. ALL RIGHTS RESERVED.

SHEET TITLE:

**TITLE SHEET**

SHEET NUMBER:

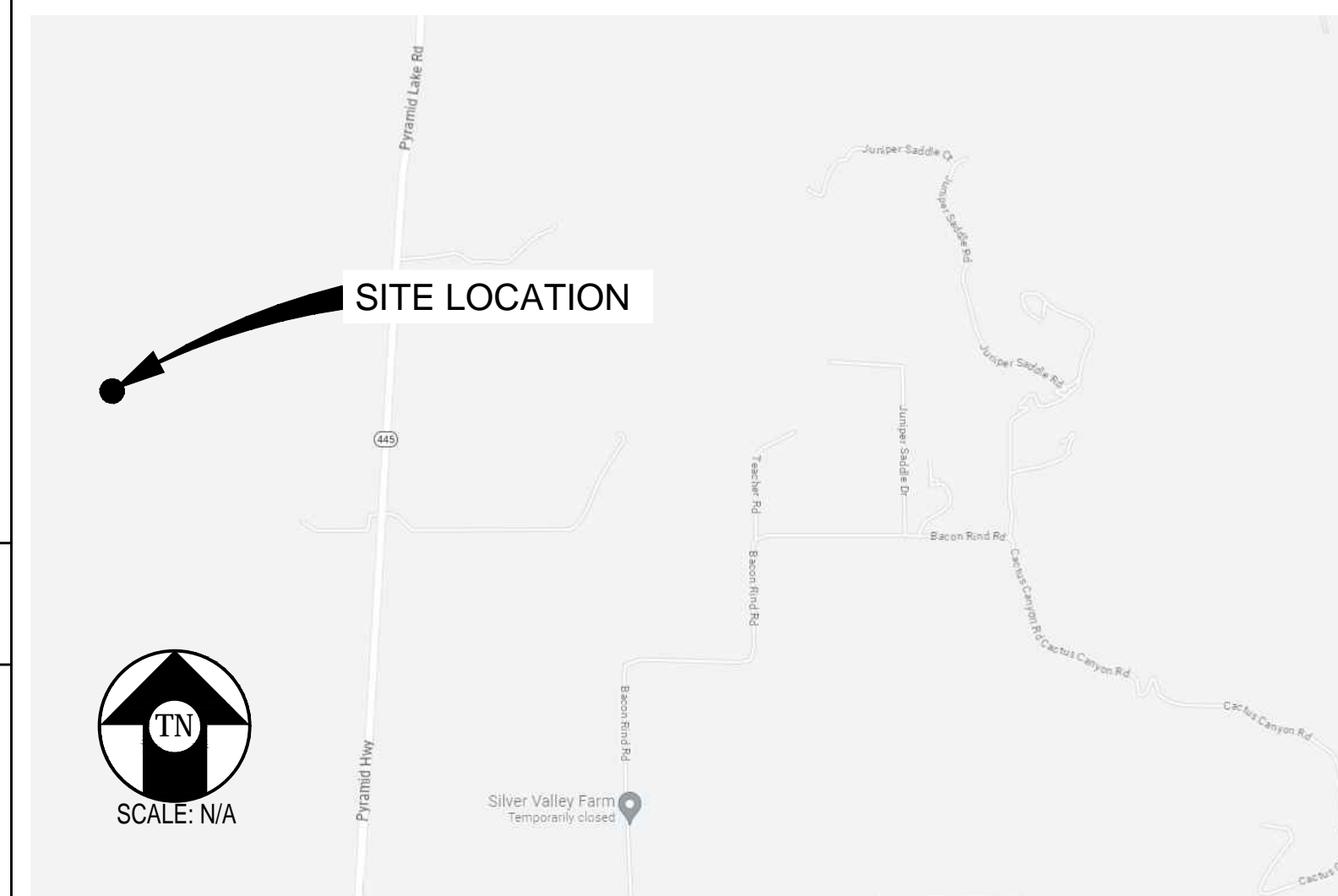
**T-1.1**

## PROJECT DESCRIPTION

A (N) VERIZON WIRELESS UNMANNED TELECOMMUNICATION FACILITY CONSISTING OF INSTALLING:

- (N) LEASE AREA W/ (N) GROUND MOUNTED EQUIPMENT CABINETS & (N) DIESEL GENERATOR & (N) UTILITIES TO (N) SITE LOCATION
- (N) ANTENNAS & ANTENNA EQUIPMENT ON (N) MONOPOLE

## VICINITY MAP



## CODE COMPLIANCE

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

- 2018 INTERNATIONAL BUILDING CODE AND NECESSARY ADMINISTRATIVE PROVISIONS
- 2018 INTERNATIONAL RESIDENTIAL CODE AND NECESSARY ADMINISTRATIVE PROVISIONS
- 2018 INTERNATIONAL EXISTING BUILDING CODE AND NECESSARY ADMINISTRATIVE PROVISIONS
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE
- 2018 INTERNATIONAL FUEL GAS CODE
- 2018 INTERNATIONAL MECHANICAL CODE AND NECESSARY ADMINISTRATIVE PROVISIONS
- 2018 UNIFORM PLUMBING CODE AND NECESSARY ADMINISTRATIVE PROVISIONS
- 2018 UNIFORM MECHANICAL CODE AND NECESSARY ADMINISTRATIVE PROVISIONS
- 2017 NATIONAL ELECTRICAL CODE
- 2018 INTERNATIONAL FIRE CODE
- 2012 WILDLAND URBAN INTERFACE CODE
- 2018 NORTHERN NEVADA AMENDMENTS
- CITY/COUNTY ORDINANCES
- ANSI/EIA-TIA-222-H

ALONG WITH ANY OTHER APPLICABLE LOCAL & STATE LAWS AND REGULATIONS.

## PROJECT INFORMATION

SITE NAME:	AXE HANDLE CANYON	SITE ACQUISITION COMPANY:	COMPLETE WIRELESS CONSULTING 2009 V STREET SACRAMENTO, CA 95818
MDG LOCATION ID: :	5000344470	LEASING CONTACT:	ATTN: ROCKY CORDOVA RCORDOVA@COMPLETEWIRELESS.NET
COUNTY:	WASHOE	ZONING CONTACT:	ATTN: KEVIN GALLAGHER (916) 764-2632 KGALLAGHER@COMPLETEWIRELESS.NET
JURISDICTION:	WASHOE COUNTY	CONSTRUCTION CONTACT:	ATTN: SEAN WALLIN SWALLIN@COMPLETEWIRELESS.NET
APN:	076-272-03		
SITE ADDRESS:	14855 PYRAMID WAY RENO, NV 89510		
CURRENT ZONING:	GRA (GENERAL RURAL AGRICULTURAL)		
CONSTRUCTION TYPE:	V-B		
OCCUPANCY TYPE:	U, (UNMANNED COMMUNICATIONS FACILITY)		
POWER:	NV ENERGY		
LATITUDE:	N 39° 45' 30.85" NAD 83 N 39.758570° NAD 83		
LONGITUDE:	W 119° 41' 35.24" NAD 83 W 119.693121° NAD 83		
GROUND ELEVATION:	4992' AMSL		
PROPERTY OWNER:	14866 PYRAMID WAY TRUST P.O. BOX 17283 RENO, NV 89511		
APPLICANT:	VERIZON WIRELESS 295 PARKSHORE DRIVE FOLSOM, CA 95630		

## SHEET INDEX

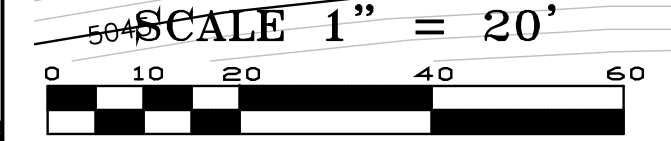
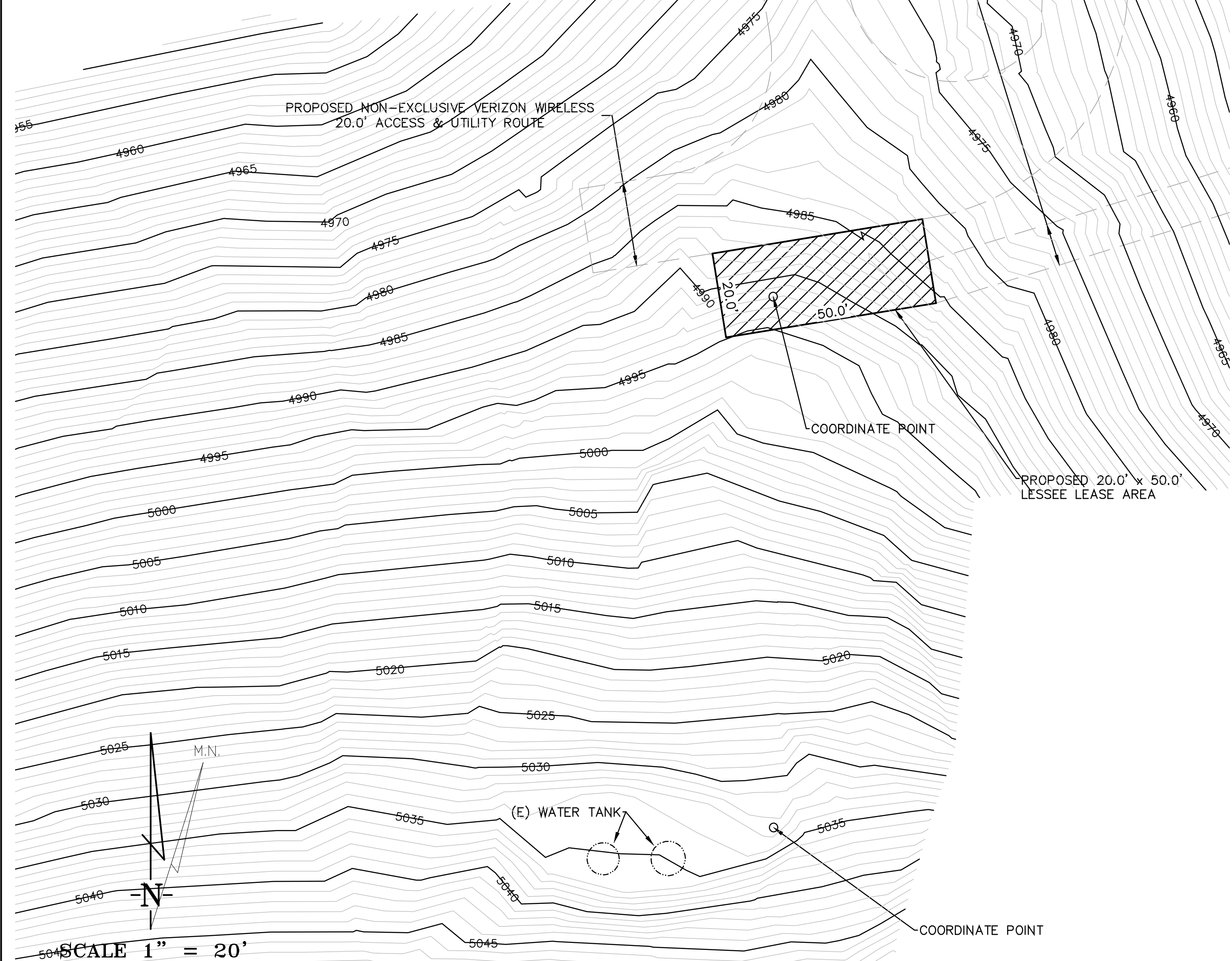
SHEET	DESCRIPTION	REV
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C-1	TOPOGRAPHIC SURVEY	-
C-2	TOPOGRAPHIC SURVEY	-
C-3	TOPOGRAPHIC SURVEY	-
A-1.1	OVERALL SITE PLAN	-
A-1.2	ENLARGED SITE PLAN	-
A-1.3	EQUIPMENT PLAN	-
A-2.1	ANTENNA PLAN	-
A-3.1	ELEVATIONS	-
A-4.1	DETAILS	-
E-1.1	ELECTRICAL PLAN	-

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BOUNDARY SHOWN IS BASED ON MONUMENTATION FOUND AND RECORD INFORMATION. THIS IS NOT A BOUNDARY SURVEY. THIS IS A SPECIALIZED TOPOGRAPHIC MAP WITH PROPERTY LINES AND EASEMENTS BEING A GRAPHIC DEPICTION BASED ON INFORMATION GATHERED FROM VARIOUS SOURCES OF RECORD AND AVAILABLE MONUMENTATION FOUND DURING THE FIELD SURVEY. NO EASEMENTS WERE RESEARCHED OR PLOTTED. PROPERTY LINES AND LINES OF TITLE WERE NOT INVESTIGATED NOR SURVEYED. NO PROPERTY MONUMENTS WERE SET.

**LEGEND**

- PARCEL BOUNDARY
- NEIGHBORING PARCEL BOUNDARY
- LEASE AREA BOUNDARY
- UTILITIES
- (E) EASEMENTS
- (P) EASEMENTS
- FENCE LINE
- JP JOINT UTILITY POLE
- TP TELEPHONE POLE
- EP ELECTRICAL POLE
- 6" OAK TREE WITH DIAMETER BREAST HEIGHT (DBH)
- W WATER VALVE
- W WATER BOX
- SSMH SANITARY SEWER MANHOLE
- SDMH STORM DRAIN MANHOLE
- DI DROP INLET



**LEASE AREA DETAIL**

**Axe Handle Canyon  
Lease Area Description**

All that certain lease area being a portion Parcel 24-2-0-5 as shown on Record of Survey 986 Document No. 425174 Official Records of Washoe County, Nevada being more particularly described as follows:

**Equipment Lease Area**  
Commencing at a T-Bar fence post set for the Southeast corner of said parcel of land which bears South 04°05'29" West 1333.36 feet from a T-Bar post set for the Northeast corner of said parcel; thence along the South boundary thereof North 89°43'10" West 1728.66 feet; thence leaving said South boundary North 00°16'50" East 697.79 feet to the True Point of Beginning; thence from said point of beginning South 80°42'57" West 25.00'; thence North 09°17'03" West 20.00 feet; thence North 80°42'57" East 50.00 feet; thence South 09°17'03" East 20.00 feet; thence South 80°42'57" West 25.00 feet to the point of beginning.

Together with an easement for utility purposes, ten feet in width, the centerline of which is described as follows: Beginning at a point which bears North 09°17'03" West 5.05 feet from the Southeast corner of the above described Equipment Lease Area; thence from said point of beginning North 72°51'03" East 473.18 feet more or less to an existing electrical pole said point hereafter referred to as Point B; thence along said pole line South 38°04'25" East 656.0 feet and South 12°02'15" East 347.1 feet to an existing public utility easement; thence along said public utility easement South 89°43'10" 773 feet more or less to the public right of way.

Also together with an easement for access and utility purposes, over and across the East 6.0 feet of the South 220.0 feet of the aforementioned parcel of land.

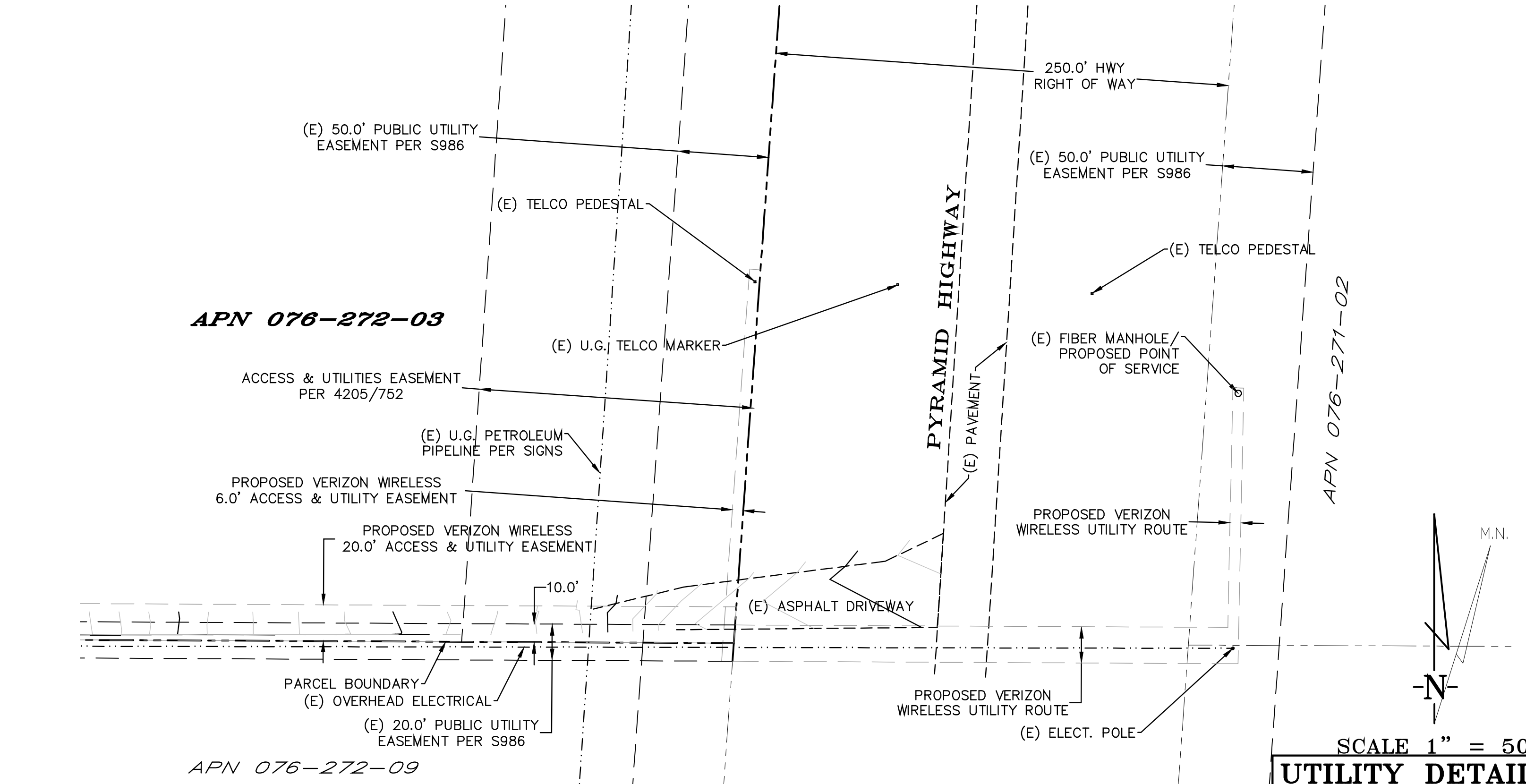
Also together with an easement for access and utility purposes, six feet in width, from the aforementioned Point B and running thence North 18°24'10" East 48.0 feet to an existing electrical meter.

Also together with an easement for access purposes, twenty feet in width the centerline of which is described as follows: Commencing at a point on the East boundary of the aforementioned parcel of land which bears North 04°05'29" East 10.02 feet from the Southeast corner thereof; thence along an existing traveled way North 89°43'10" West, 638.57 feet; thence along a tangent curve to the West, having a radius of 250.00 feet and a central angle of 102°52'19"; thence along said curve a distance of 448.86 feet; thence North 13°09'09" East, 301.26 feet; thence along a tangent curve to the North, having a radius of 525.00 feet and a central angle of 35°29'36"; thence along said curve a distance of 325.22 feet; thence North 22°20'27" West, 83.12 feet; thence along a tangent curve to the North, having a radius of 200.00 feet and a central angle of 33°32'13"; thence along said curve a distance of 117.07 feet; thence North 11°11'46" East, 96.73 feet; thence along a tangent curve to the North, having a radius of 25.00 feet and a central angle of 158°53'50"; thence along said curve a distance of 69.33 feet; thence South 32°17'56" West, 143.96 feet; thence along a tangent curve to the Southwest, having a radius of 300.00 feet and a central angle of 31°47'09"; thence along said curve a distance of 166.43 feet; thence South 03°04'47" West, 106.31 feet; thence along a tangent curve to the South, having a radius of 55.00 feet and a central angle of 151°31'19"; thence along said curve a distance of 145.45 feet; thence North 27°57'54" West, 83.36 feet; thence along a tangent curve to the Northwest, having a radius of 150.00 feet and a central angle of 23°20'40"; thence along said curve a distance of 61.12 feet; thence North 51°18'34" West, 140.42 feet; thence along a tangent curve to the Northwest, having a radius of 125.00 feet and a central angle of 73°54'18"; thence along said curve a distance of 161.24 feet; thence South 54°47'08" West, 46.42 feet; thence along a tangent curve to the Southwest, having a radius of 50.00 feet and a central angle of 101°58'08"; thence along said curve a distance of 88.98 feet; thence North 23°14'44" West, 20.39 feet; thence along a tangent curve to the Northwest, having a radius of 25.00 feet and a central angle of 147°56'22"; thence along said curve a distance of 64.55 feet; thence South 8°48'53" West, 141.67 feet; thence South 12°3'07" West, 122.53 feet; thence along a tangent curve to the South, having a radius of 45.00 feet and a central angle of 79°19'50"; thence along said curve a distance of 62.31 feet; thence South 80°42'57" West, 20.69 feet to a point hereafter referred to as Point A; thence continuing South 80°42'57" West, 60.00 feet.

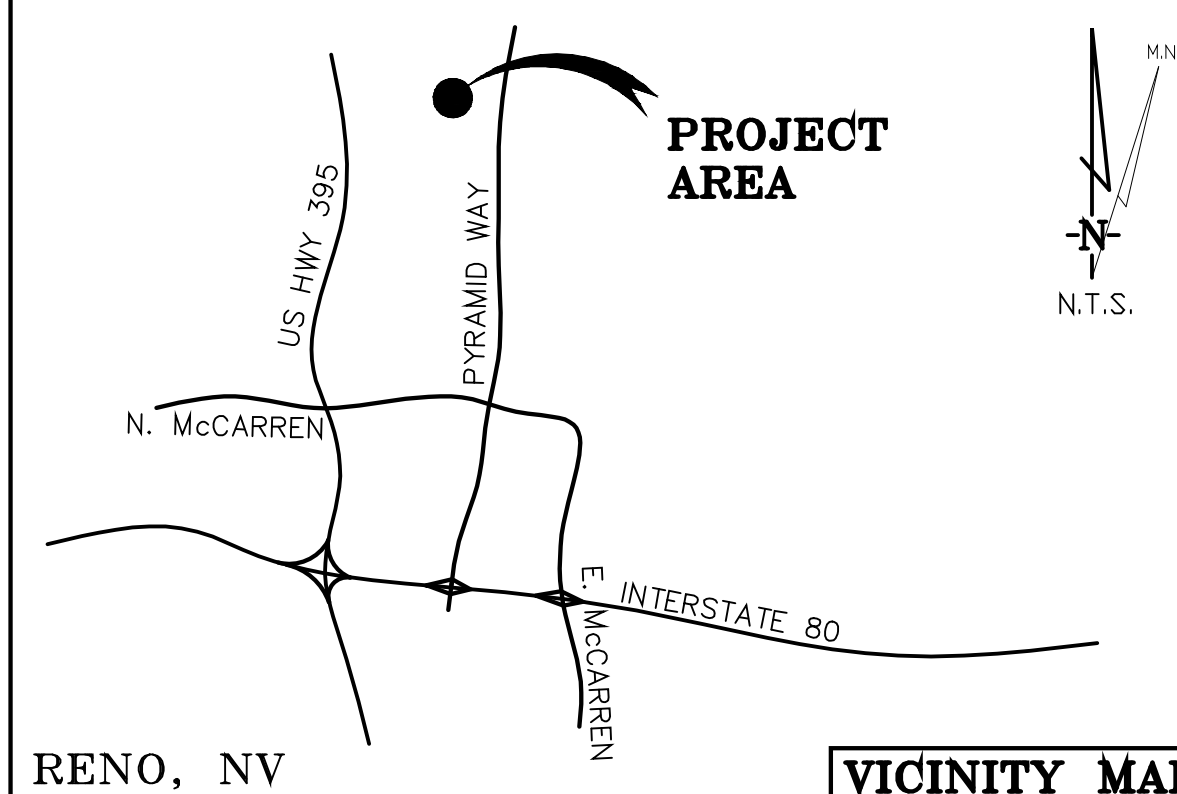
Also together with an easement for access purposes, twenty feet in width the centerline of which is described as follows: beginning at the aforementioned Point A; thence South 09°17'03" East 10.0 feet more or less to the above described Equipment Lease Area.

Also together with an easement for access purposes, twenty feet in width the centerline of which is described as follows: beginning at the aforementioned Point A; thence North 09°17'03" West 60.0 feet and as necessary for fire safe turn around.

Also together with an easement for utility purposes, ten feet in width, the centerline of which is described as follows: Beginning at the above described Point B; thence from said point of beginning North 0°00'00" East, 45.85 feet; thence North 20°43'53" East, 52.16 feet; thence North 80°42'57" East, 8.65 feet more or less to the above described equipment lease area.



**UTILITY DETAIL**



DATE OF SURVEY: 08-27-15  
SURVEYED BY OR UNDER DIRECTION OF: KENNETH D. GEIL, PLS 13385 LOCATED IN THE COUNTY OF WASHOE, STATE OF NEVADA

CONTRACTOR IS RESPONSIBLE TO VERIFY LEASE AREA PRIOR TO CONSTRUCTION.

BEARINGS SHOWN ARE BASED UPON MONUMENTS FOUND AND RECORD INFORMATION. THIS IS NOT A BOUNDARY SURVEY.

ELEVATIONS SHOWN ON THIS PLAN ARE BASED UPON U.S.G.S. N.A.V.D. 88 DATUM. ABOVE MEAN SEA LEVEL UNLESS OTHERWISE NOTED.

N.G.V.D. 1929 CORRECTION: SUBTRACT 3.53' FROM ELEVATIONS SHOWN.

CONTOUR INTERVAL: 1 FT.  
FLOOD ZONE PER FIRM

ASSESSOR'S PARCEL NUMBER: 076-272-03  
LANDLORD(S): 14855 PYRAMID WAY TRUST  
P.O. BOX 17283  
RENO, NV 89511

Project Name: Axe Handle Canyon  
Project Site Location: 14855 Pyramid Way  
Reno, NV 89510  
Washoe County

Date of Observation: 08-27-15

Equipment/Procedure Used to Obtain Coordinates: Trimble GeoXT post processed with Pathfinder Office software.

Type of Antenna Mount: Proposed Monopole  
Coordinates:

Latitude: N 39°45'30.85" (NAD83) N 39°45'31.18" (NAD27)  
Longitude: W 119°41'35.24" (NAD83) W 119°41'31.56" (NAD27)

Latitude: N 39.758570° (NAD83) N 39.758660° (NAD27)  
Longitude: W 119.693121° (NAD83) W 119.692101° (NAD27)

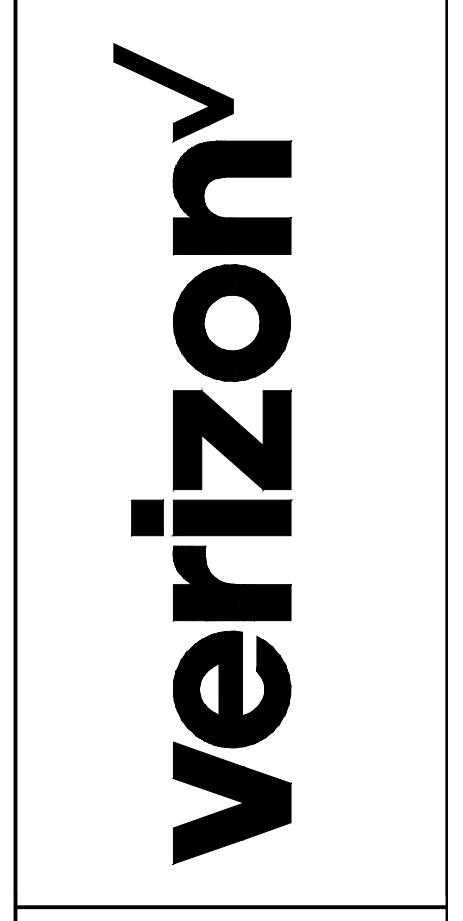
ELEVATION of Ground at Structure (NAVD88) 4992' AMSL

DEPT	APPROVED	DATE
ARC		
RE		
RF		
INT		
EE/VN		
OPS		
EE/OUT		

Surveyor

**GEIL ENGINEERING**  
ENGINEERING • SURVEYING • PLANNING  
1528 HIGH STREET  
AUBURN, CALIFORNIA 95603  
Phone: (916) 485-0426  
Fax: (916) 485-1498

Project Name: Axe Handle Canyon  
Project Site Location: 14855 Pyramid Way  
Reno, NV 89510  
Washoe County

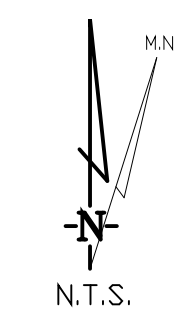


**Axe Handle Canyon  
14855 Pyramid Way  
Reno, NV 89510**

**PLOT PLAN AND  
SITE TOPOGRAPHY**

REVISIONS	DG
09-06-15 Preliminary Drawing	DG
09-16-15 rev. lease area	DG
11-12-15 redlines	DG
05-05-16 rev. lease area	DG
05-10-16 redlines	DG
0-09-17 Sheet C-3 added	DG
12-07-17 rev. esmts.	DG
06-16-23 rev. lease areas	DG

Sheet  
**C-1**



DEPT	APPROVED	DATE
A&C		
RE		
RF		
INT		
EE\IN		
OPS		
EE\OUT		

Surveyor  
**GEIL ENGINEERING**  
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 1528 HIGH STREET  
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 Phone: (530) 885-1245  
 Fax: (530) 885-1209

**verizon**

**Axe Handle Canyon**  
 14855 Pyramid Way  
 Reno, NV 89510

**PLOT PLAN AND  
 SITE TOPOGRAPHY**

Sheet  
**C-2**

APN 076-272-07

2566.3'

(E) 20.0' PUBLIC UTILITY  
 EASEMENT PER S986

(E) GARAGE  
 (E) RESIDENCE

SEE LEASE AREA DETAIL  
 SHEET C-1

SEE UTILITY AREA DETAIL  
 SHEET C-3

APN 076-272-03

PROPOSED VERIZON WIRELESS  
 10.0' UTILITY EASEMENT

PROPOSED VERIZON WIRELESS 20.0'  
 ACCESS & UTILITY EASEMENT OVER  
 EXISTING ASPHALT DRIVEWAY

ACCESS & UTILITIES EASEMENT  
 PER 4205/752

PYRAMID HIGHWAY

250.0' HWY  
 RIGHT OF WAY

(E) 50.0' PUBLIC UTILITY  
 EASEMENT PER S986

(E) 50.0' PUBLIC UTILITY  
 EASEMENT PER S986

(E) U.G. TELCO MARKER

(E) TELCO PEDESTAL

PROPOSED VERIZON WIRELESS  
 6.0' ACCESS & UTILITY EASEMENT

(E) U.G. PETROLEUM  
 PIPELINE PER SIGNS

PROPOSED VERIZON WIRELESS  
 20.0' ACCESS & UTILITY EASEMENT

(E) FIBER MANHOLE/  
 PROPOSED POINT  
 OF SERVICE

PROPOSED VERIZON  
 WIRELESS UTILITY ROUTE

PROPOSED VERIZON  
 WIRELESS UTILITY ROUTE

(E) ELECT. POLE

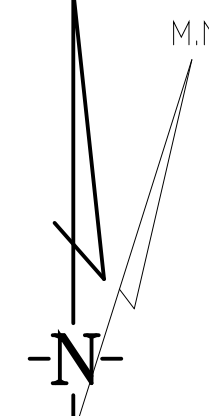
SEE UTILITY DETAIL  
 SHEET C-1

APN 076-272-08

2518.3'

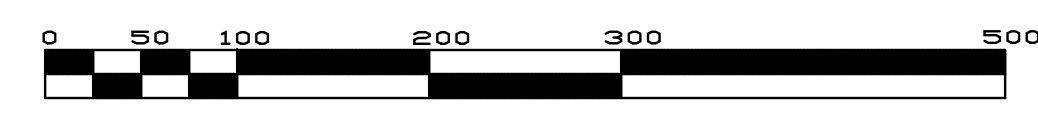
APN 076-272-09

1047.4'



SCALE 1" = 100'  
 CONTOUR INTERVAL 5.0'

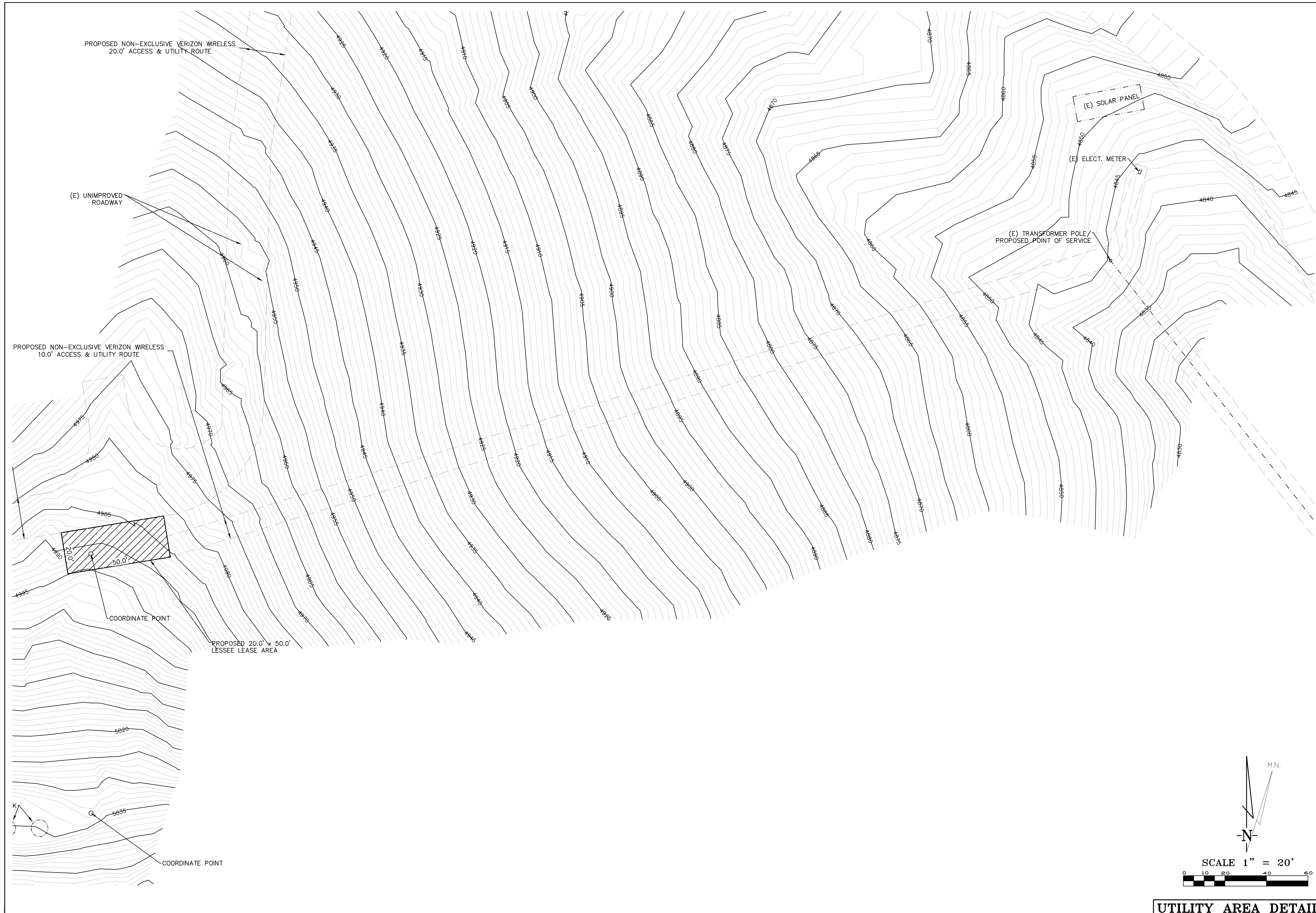
**OVERALL PROJECT AREA**



APN 076-272-05

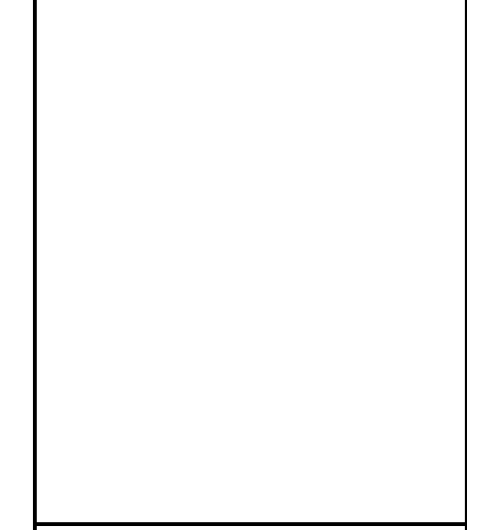
1327.6'

APN 076-271-02



DEPT	APPROVED	DATE
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RE		
RF		
INT		
EE\IN		
OPS		
EE\OUT		

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 1526 HIGH STREET  
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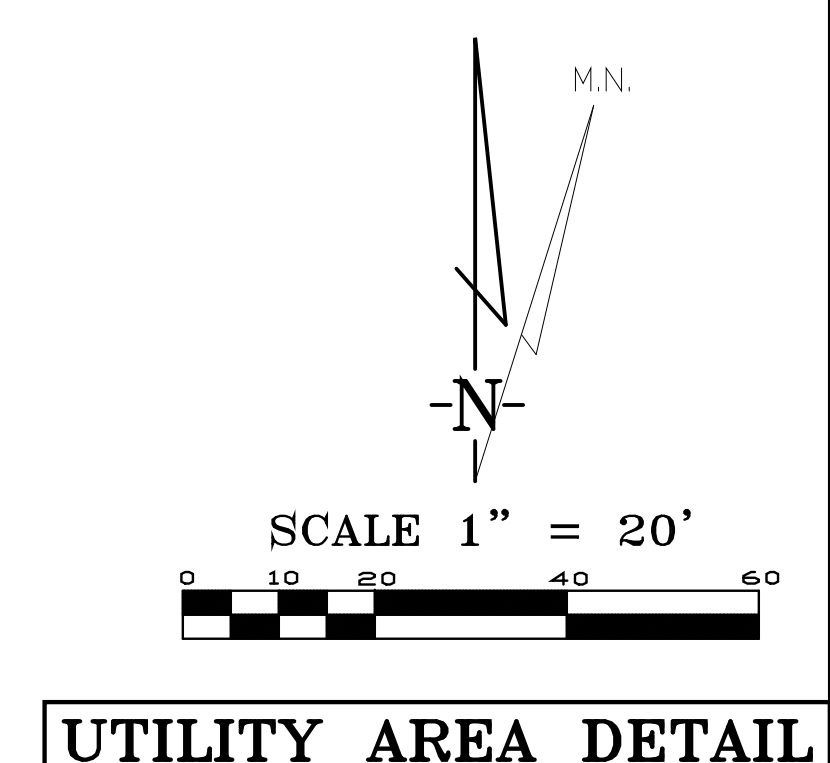


**verizon**

**Axe Handle Canyon**  
 14855 Pyramid Way  
 Reno, NV 89510  
**PLOT PLAN AND**  
**SITE TOPOGRAPHY**

Sheet

**C-3**



**UTILITY AREA DETAIL**

Issued For:  
**AXE HANDLE CANYON**  
 14855 PYRAMID WAY  
 RENO, NV 89510

PREPARED FOR  
**verizon**  
 295 PARKSHORE DRIVE  
 FOLSOM, CA 95630


Vendor:  
  
**COMPLETE**  
 Wireless Consulting, Inc.

MDG LOCATION ID: 5000344470  
 PROJECT ID: 17126591  
 DRAWN BY: -  
 CHECKED BY: S. SAVIG  
 APPROVED BY: -

ISSUE STATUS			
REV	DATE	DESCRIPTION	CAD
3	08/10/23	CLIENT REV	C.T.C
2	07/12/23	CLIENT REV	A.A.
1	06/16/23	ZD 100%	A.A.
0	05/15/23	ZD 90%	-

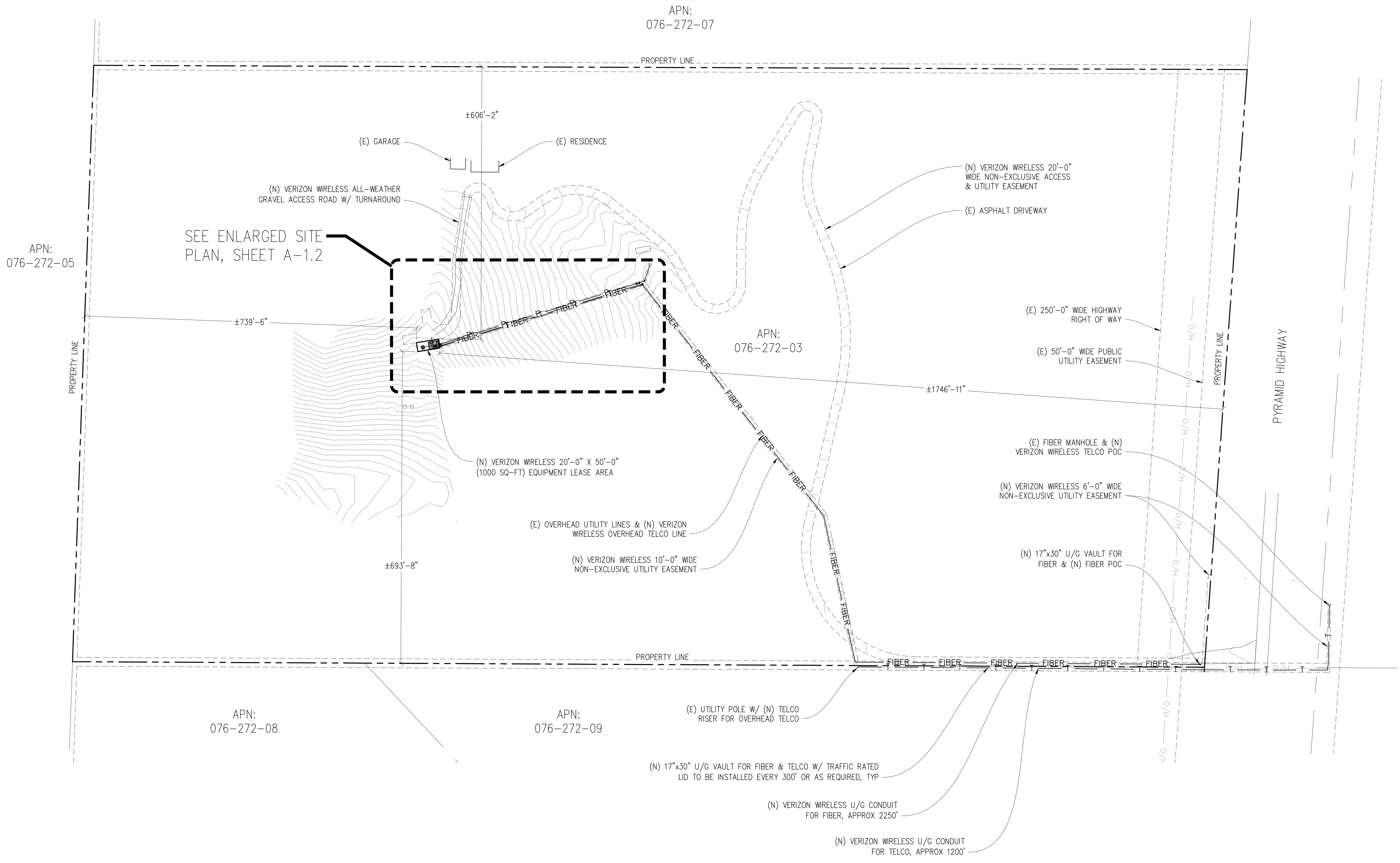
Licensee:  
**PRELIMINARY:  
 NOT FOR  
 CONSTRUCTION**  
 KEVIN R. SORENSEN  
 S4469

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ENGINEER:  
  
 8445 Sierra College Blvd, Suite E Granite Bay, CA 95746  
 Contact: Kevin Sorenson Phone: 916-660-1930  
 E-Mail: kevin@streamlineeng.com Fax: 916-660-1941  
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SHEET TITLE:  
**OVERALL  
 SITE PLAN**

SHEET NUMBER:  
**A-1.1**



APN:  
076-272-05

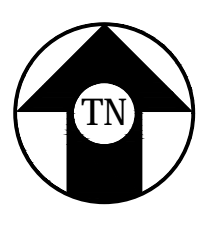
APN:  
076-272-07

APN:  
076-272-03

SEE ENLARGED SITE  
PLAN, SHEET A-1.2

APN:  
076-272-08

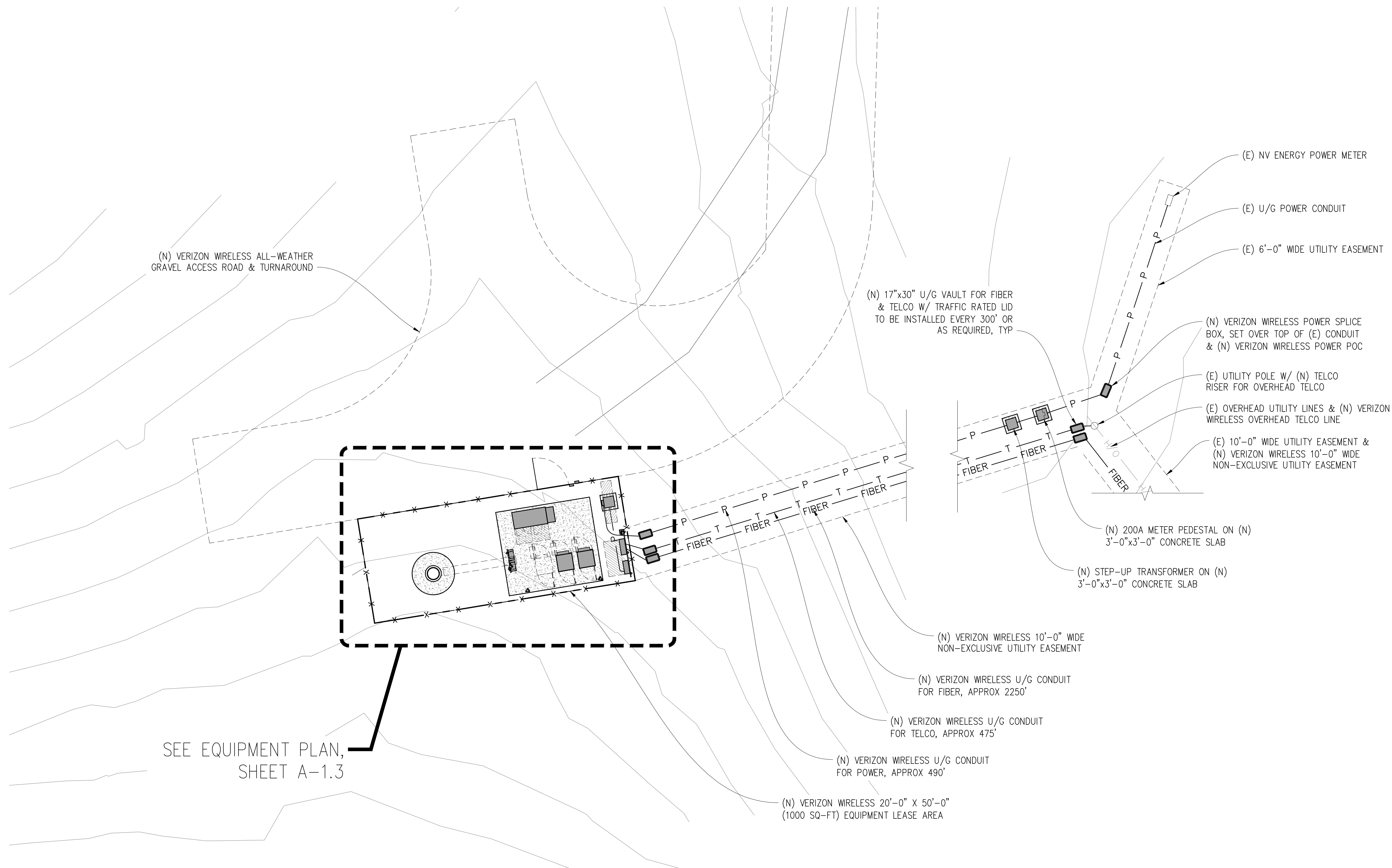
APN:  
076-272-09



**OVERALL SITE PLAN**

1"=100'-0"





(N) VERIZON WIRELESS ALL-WEATHER GRAVEL ACCESS ROAD & TURNAROUND

(N) 17'x30' U/G VAULT FOR FIBER & TELCO W/ TRAFFIC RATED LID TO BE INSTALLED EVERY 300' OR AS REQUIRED, TYP

(E) NV ENERGY POWER METER

(E) U/G POWER CONDUIT

(E) 6'-0" WIDE UTILITY EASEMENT

(N) VERIZON WIRELESS POWER SPLICE BOX, SET OVER TOP OF (E) CONDUIT & (N) VERIZON WIRELESS POWER POC

(E) UTILITY POLE W/ (N) TELCO RISER FOR OVERHEAD TELCO

(E) OVERHEAD UTILITY LINES & (N) VERIZON WIRELESS OVERHEAD TELCO LINE

(E) 10'-0" WIDE UTILITY EASEMENT & (N) VERIZON WIRELESS 10'-0" WIDE NON-EXCLUSIVE UTILITY EASEMENT

(N) 200A METER PEDESTAL ON (N) 3'-0"x3'-0" CONCRETE SLAB

(N) STEP-UP TRANSFORMER ON (N) 3'-0"x3'-0" CONCRETE SLAB

(N) VERIZON WIRELESS 10'-0" WIDE NON-EXCLUSIVE UTILITY EASEMENT

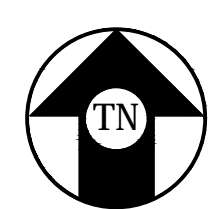
(N) VERIZON WIRELESS U/G CONDUIT FOR FIBER, APPROX 2250'

(N) VERIZON WIRELESS U/G CONDUIT FOR TELCO, APPROX 475'

(N) VERIZON WIRELESS U/G CONDUIT FOR POWER, APPROX 490'

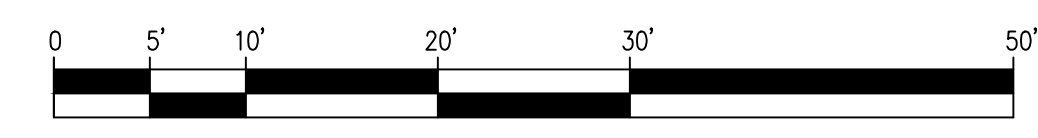
(N) VERIZON WIRELESS 20'-0" X 50'-0" (1000 SQ-FT) EQUIPMENT LEASE AREA

SEE EQUIPMENT PLAN, SHEET A-1.3



ENLARGED SITE PLAN

1"=10'-0"



Issued For:  
**AXE HANDLE CANYON**  
14855 PYRAMID WAY  
RENO, NV 89510

PREPARED FOR  
**verizon**  
295 PARKSHORE DRIVE  
FOLSOM, CA 95630

Vendor:  
**COMPLETE**  
Wireless Consulting, Inc.

MDG LOCATION ID: 5000344470  
PROJECT ID: 17126591  
DRAWN BY: -  
CHECKED BY: S. SAVIG  
APPROVED BY: -

ISSUE STATUS				
REV	DATE	DESCRIPTION	CAD	
3	08/10/23	CLIENT REV	C.T.C	
2	07/12/23	CLIENT REV	A.A.	
1	06/16/23	ZD 100%	A.A.	
0	05/15/23	ZD 90%	-	

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KEVIN R. SORENSEN  
S4469

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**Streamline Engineering**  
8445 Sierra College Blvd, Suite E Granite Bay, CA 95746  
Contact: Kevin Sorenson Phone: 916-660-1930  
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941  
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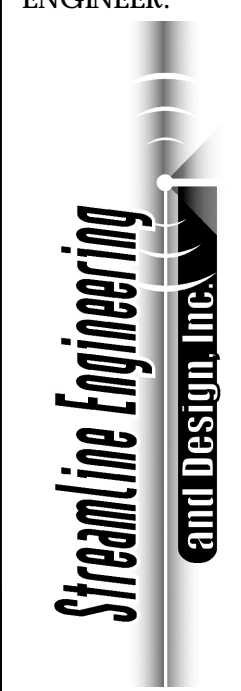
SHEET TITLE:  
**ENLARGED SITE PLAN**

SHEET NUMBER:  
**A-1.2**



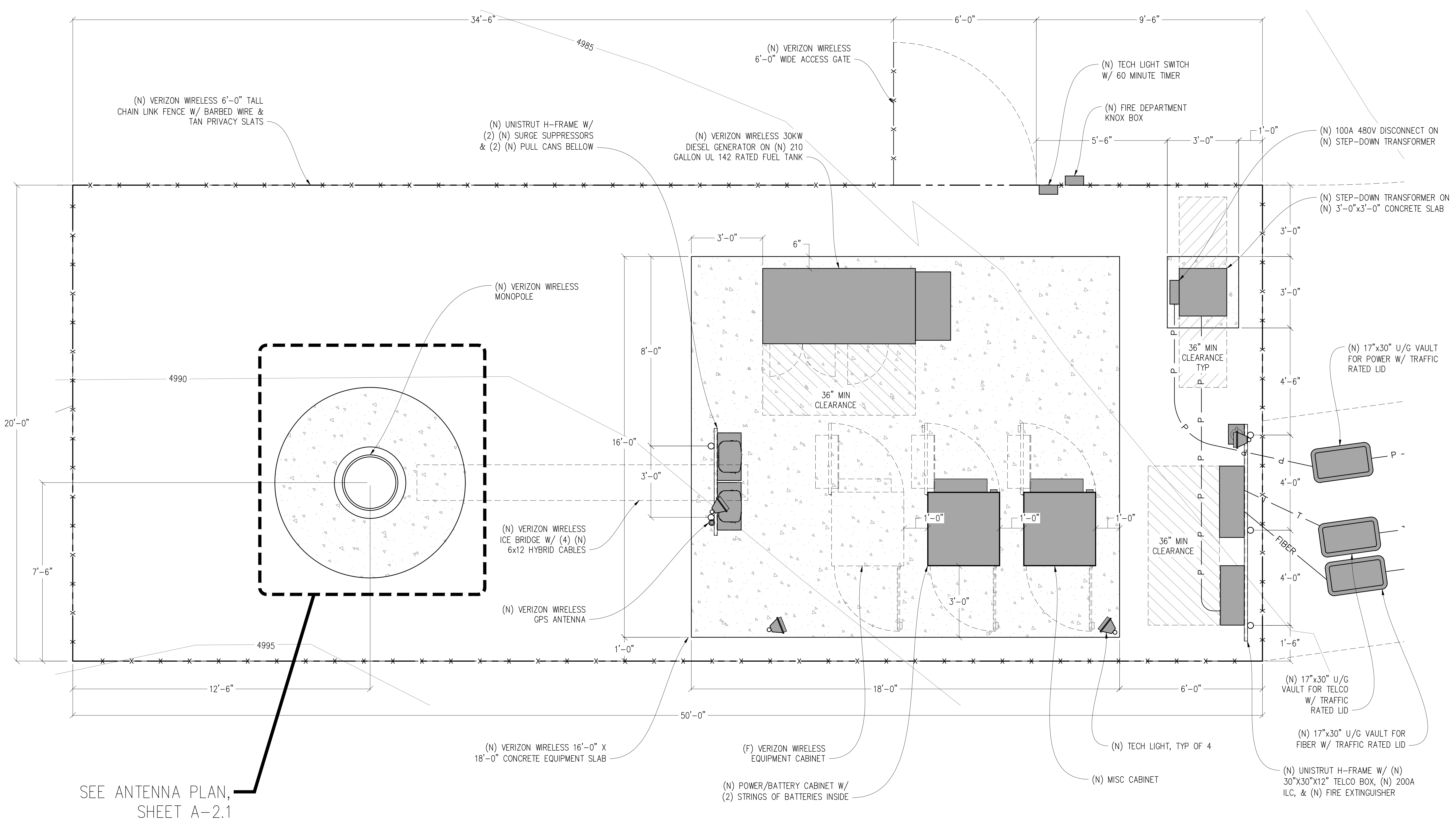
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REV	DATE	DESCRIPTION	CAD	
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2	07/12/23	CLIENT REV	A.A.	
1	06/16/23	ZD 100%	A.A.	
0	05/15/23	ZD 90%		

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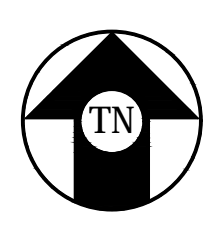
ENGINEER:  
  
 8445 Sierra College Blvd, Suite E Granite Bay, CA 95746  
 Contact: Kevin Sorenson Phone: 916-660-1930  
 E-Mail: kevin@streamlineeng.com Fax: 916-660-1941  
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SHEET TITLE:  
**EQUIPMENT PLAN**

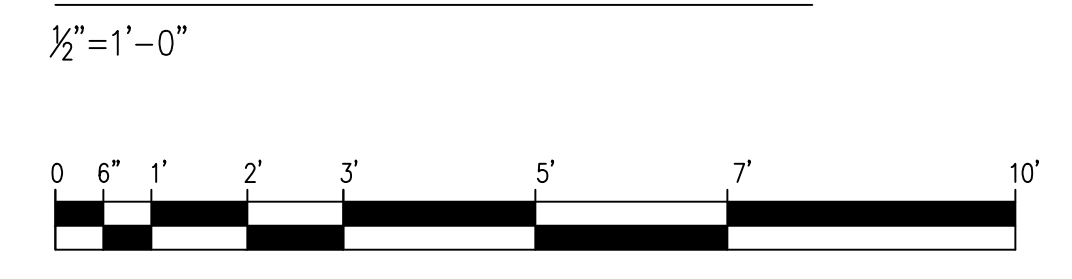
SHEET NUMBER:  
**A-1.3**



SEE ANTENNA PLAN,  
 SHEET A-2.1



**EQUIPMENT PLAN**



Issued For:

# AXE HANDLE CANYON

14855 PYRAMID WAY  
RENO, NV 89510

PREPARED FOR



295 PARKSHORE DRIVE  
FOLSOM, CA 95630

Vendor:



MDG LOCATION ID: 5000344470

PROJECT ID: 17126591

DRAWN BY: -

CHECKED BY: S. SAVIG

APPROVED BY: -

### ISSUE STATUS

REV	DATE	DESCRIPTION	CAD
3	08/10/23	CLIENT REV	C.T.C
2	07/12/23	CLIENT REV	A.A.
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0	05/15/23	ZD 90%	-

REV	DATE	DESCRIPTION	CAD
3	08/10/23	CLIENT REV	C.T.C
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1	06/16/23	ZD 100%	A.A.
0	05/15/23	ZD 90%	-

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ENGINEER:

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Contact: Kevin Sorenson Phone: 916-660-1930  
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

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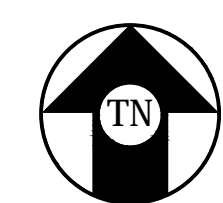
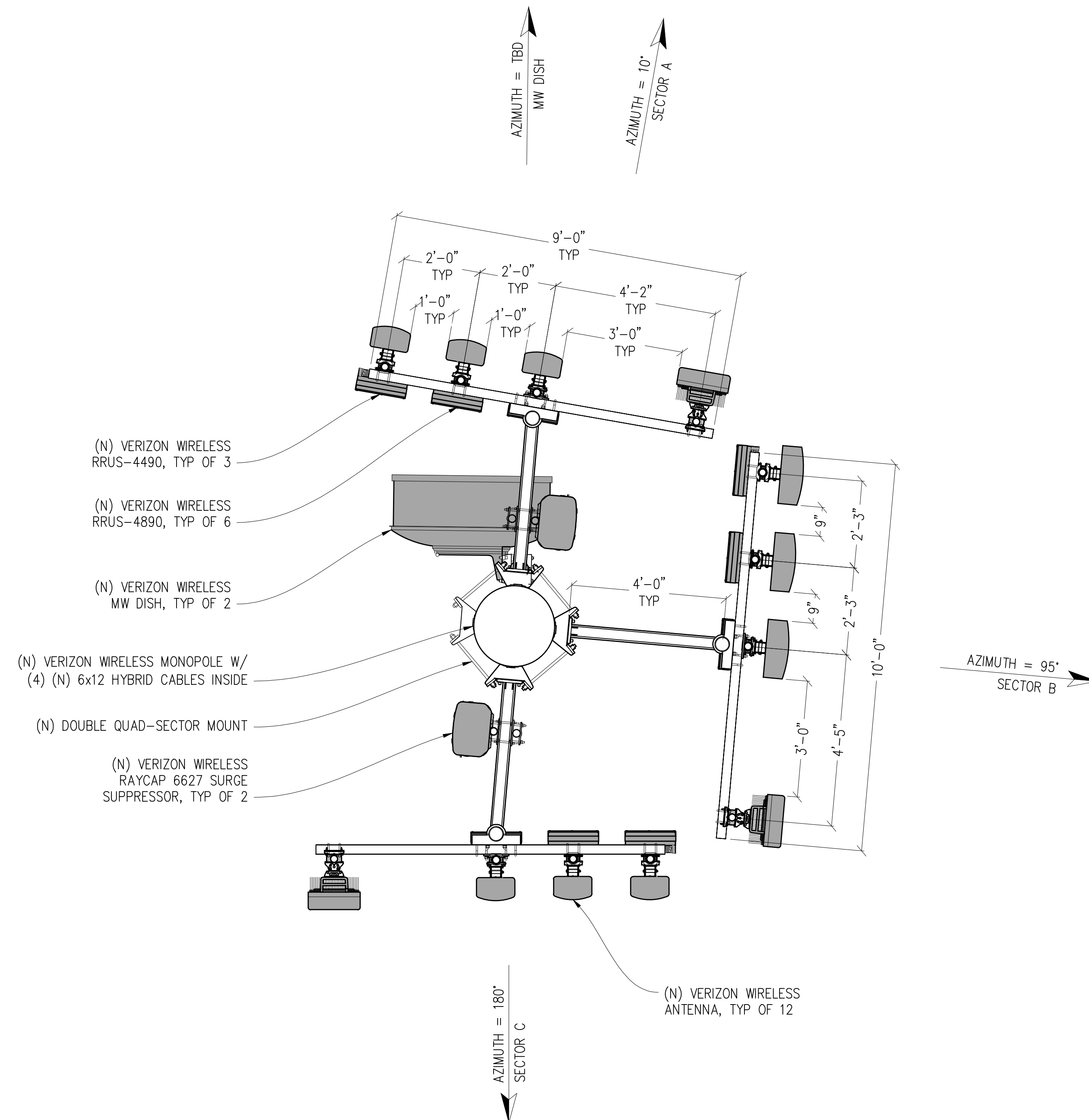
ANTENNA PLAN

SHEET NUMBER:

A-2.1

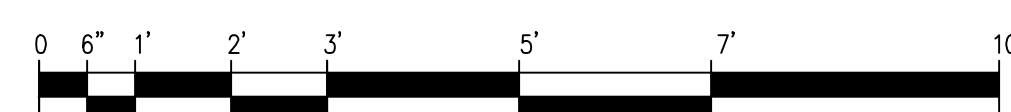
ANTENNA & CABLE SCHEDULE (PRELIMINARY & SUBJECT TO CHANGE)								
SECTOR	ANTENNA MODEL NO.	AZIMUTH	CENTERLINE	RRU NO'S & MODEL #	# OF HYBRID CABLES	LENGTH OF CABLES	SURGE SUPPRESSOR	
ALPHA	A1	COMMSCOPE NHH-65B-R2B	10°	±131'-0"	(1) RRU-4490	SHARED	-	SHARED
	A2	COMMSCOPE NHH-65B-R2B	10°	±131'-0"	(1) RRU 4890	SHARED	-	SHARED
	A3	COMMSCOPE NHH-65B-R2B	10°	±131'-0"	(1) RRU 4890	(2) 6x12	±170'	(1) 6627
	A4	AIR 6449	10°	±131'-0"	-	SHARED	-	SHARED
BETA	B1	COMMSCOPE NHH-45B-R2B	95°	±131'-0"	(1) RRU-4490	SHARED	-	SHARED
	B2	COMMSCOPE NHH-45B-R2B	95°	±131'-0"	(1) RRU 4890	(2) 6x12	±170'	(1) 6627
	B3	COMMSCOPE NHH-45B-R2B	95°	±131'-0"	(1) RRU 4890	SHARED	-	SHARED
	B4	AIR 6449	95°	±131'-0"	-	SHARED	-	SHARED
GAMMA	C1	COMMSCOPE NHH-65B-R2B	180°	±131'-0"	(1) RRU-4490	SHARED	-	SHARED
	C2	COMMSCOPE NHH-65B-R2B	180°	±131'-0"	(1) RRU 4890	SHARED	-	SHARED
	C3	COMMSCOPE NHH-65B-R2B	180°	±131'-0"	(1) RRU 4890	SHARED	-	SHARED
	C4	AIR 6449	180°	±131'-0"	-	SHARED	-	SHARED

NOTE:  
1. ANTENNA POSITIONS ARE LEFT TO RIGHT FROM BACK OF SECTOR.  
2. EQUIPMENT IS PRELIMINARY & SUBJECT TO CHANGE.



## ANTENNA PLAN

1/2" = 1'-0"



NOTE:  
1. ALL (N) ANTENNAS, ANTENNA MOUNTS, ANTENNA EQUIPMENT, & EXPOSED CABLES TO BE PAINTED OR WRAPPED IN AN RF APPROVED FILM MATTE TAN.

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**AXE HANDLE CANYON**  
 14855 PYRAMID WAY  
 RENO, NV 89510

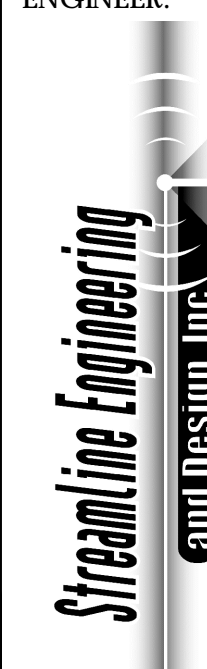
PREPARED FOR  
**verizon**  
 295 PARKSHORE DRIVE  
 FOLSOM, CA 95630

Vendor:  
  
**COMPLETE**  
 Wireless Consulting, Inc.

MDG LOCATION ID: 5000344470  
 PROJECT ID: 17126591  
 DRAWN BY: -  
 CHECKED BY: S. SAVIG  
 APPROVED BY: -

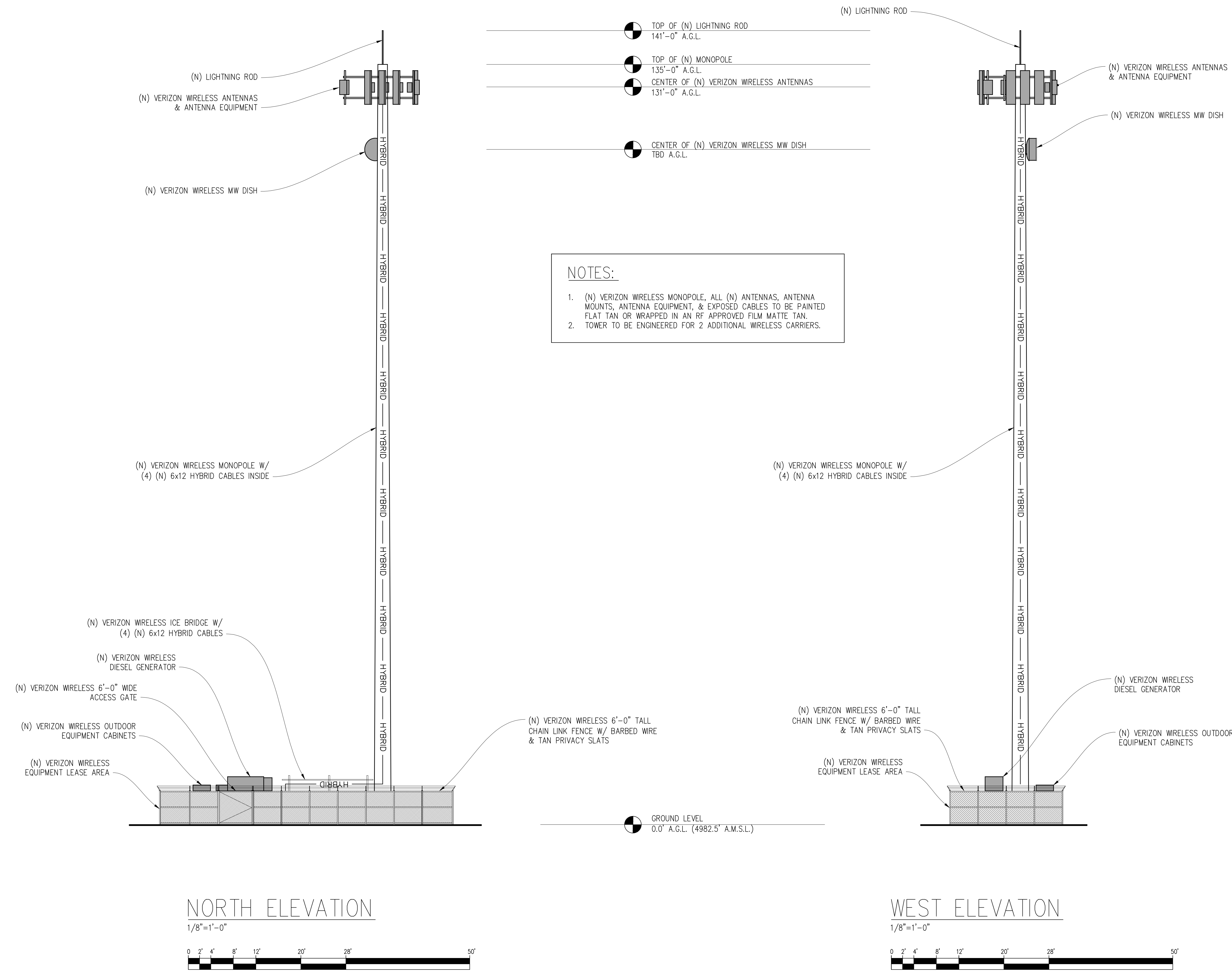
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REV	DATE	DESCRIPTION	CAD
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2	07/12/23	CLIENT REV	A.A.
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SHEET TITLE:  
**ELEVATIONS**

SHEET NUMBER:  
**A-3.1**



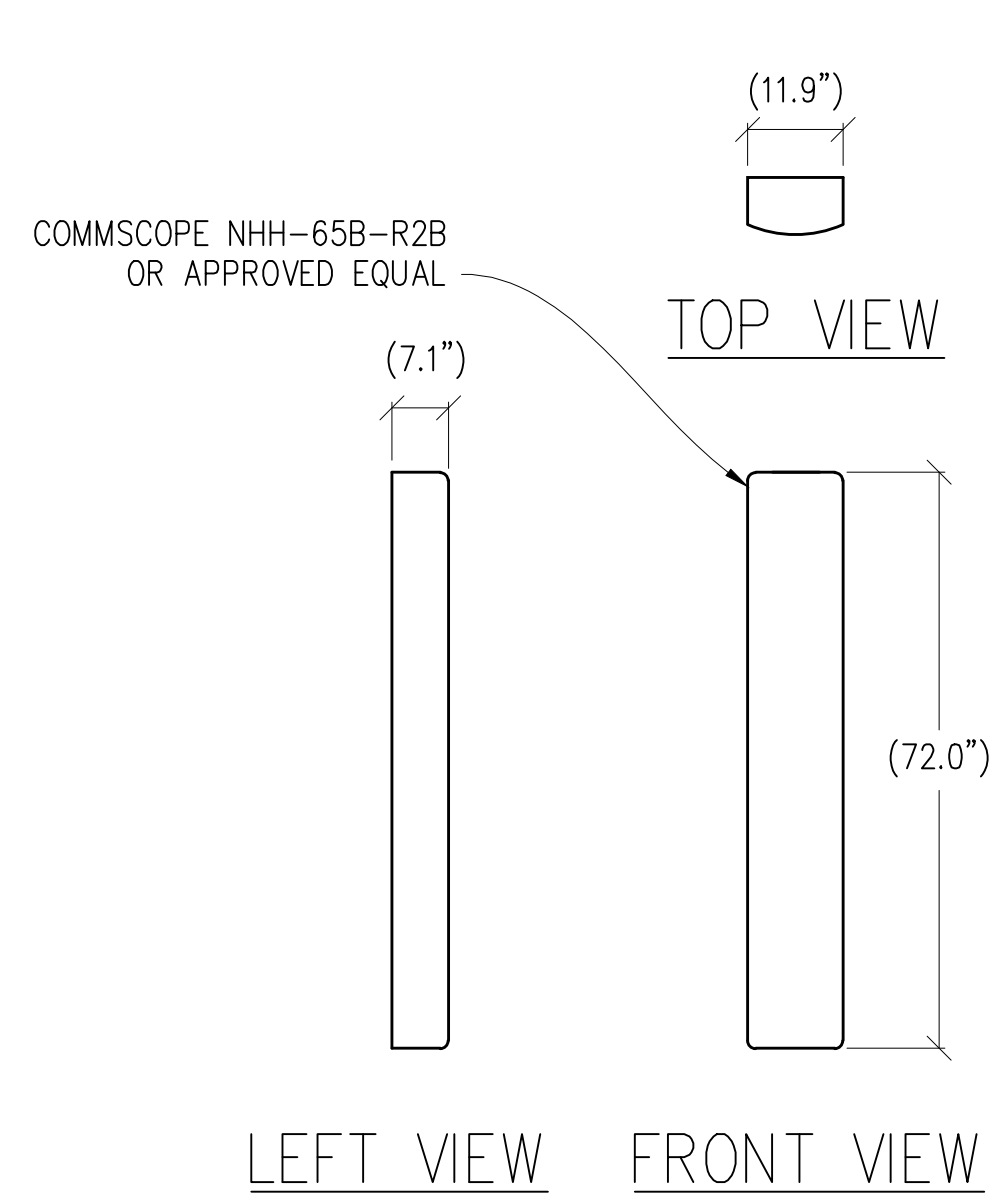
- TOP OF (N) LIGHTNING ROD  
141'-0" A.G.L.
- TOP OF (N) MONOPOLE  
135'-0" A.G.L.
- CENTER OF (N) VERIZON WIRELESS ANTENNAS  
131'-0" A.G.L.
- CENTER OF (N) VERIZON WIRELESS MW DISH  
TBD A.G.L.

**NOTES:**

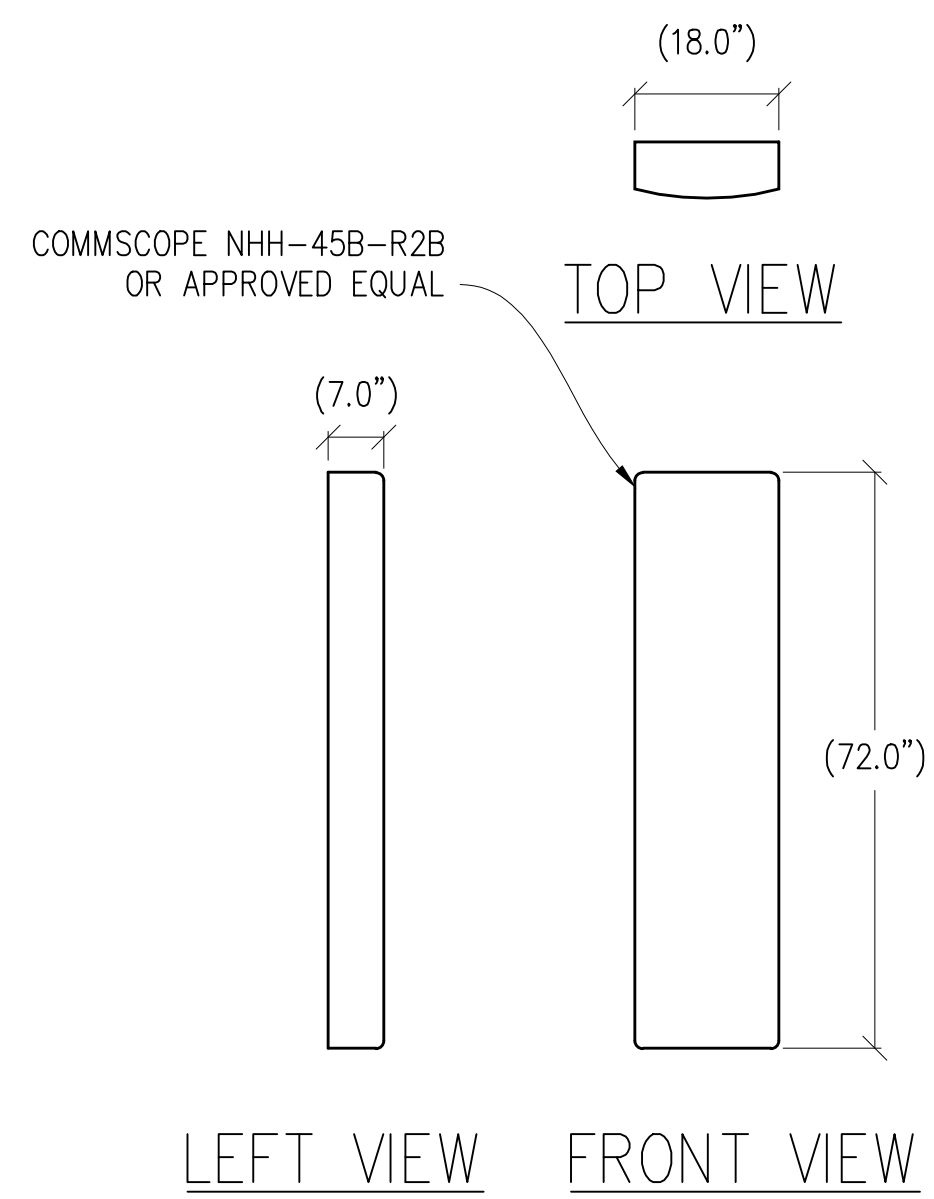
- (N) VERIZON WIRELESS MONOPOLE, ALL (N) ANTENNAS, ANTENNA MOUNTS, ANTENNA EQUIPMENT, & EXPOSED CABLES TO BE PAINTED FLAT TAN OR WRAPPED IN AN RF APPROVED FILM MATTE TAN.
- TOWER TO BE ENGINEERED FOR 2 ADDITIONAL WIRELESS CARRIERS.

**NORTH ELEVATION**  
 1/8"=1'-0"  
 0 2' 4' 8' 12' 20' 28' 50'

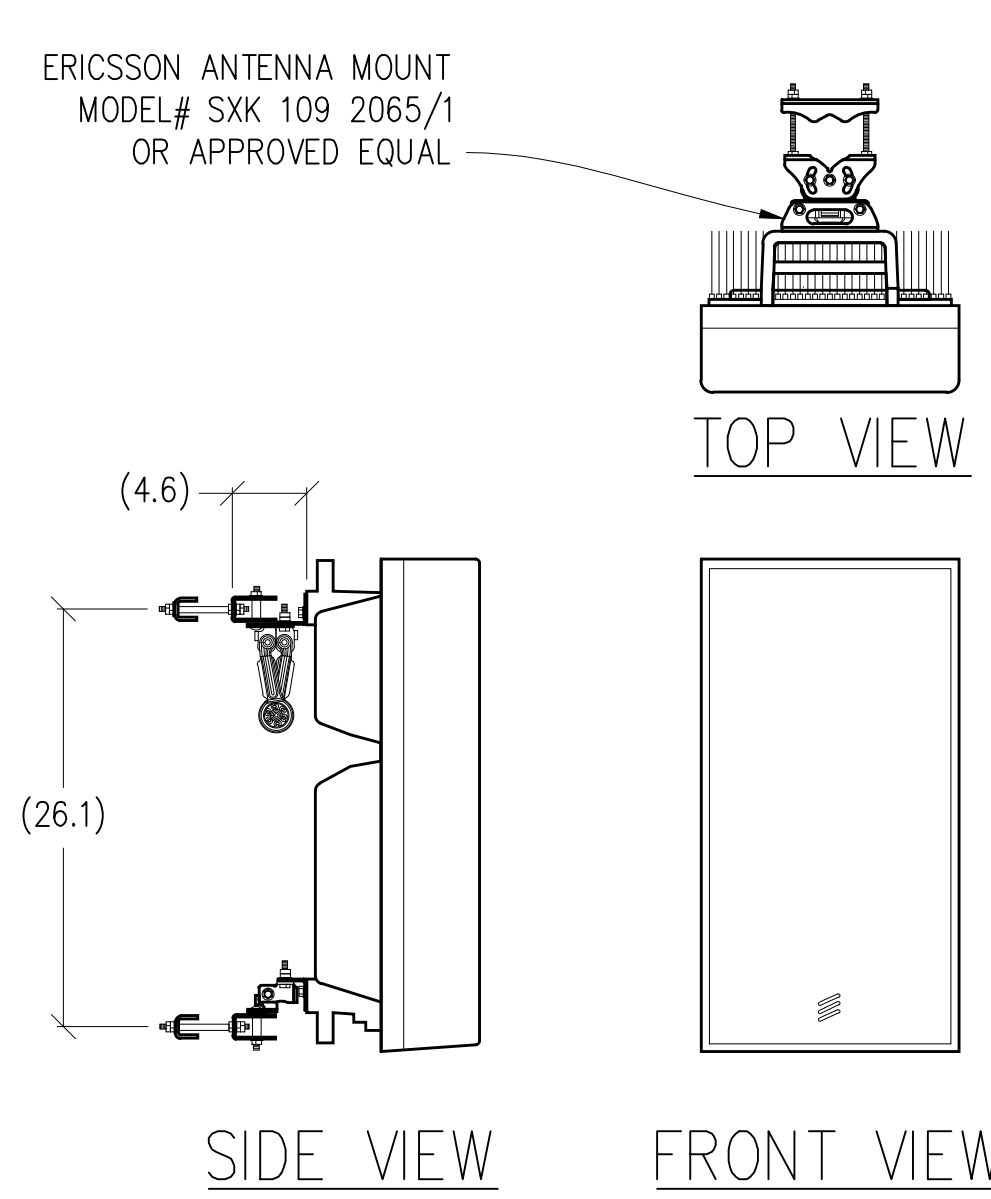
**WEST ELEVATION**  
 1/8"=1'-0"  
 0 2' 4' 8' 12' 20' 28' 50'



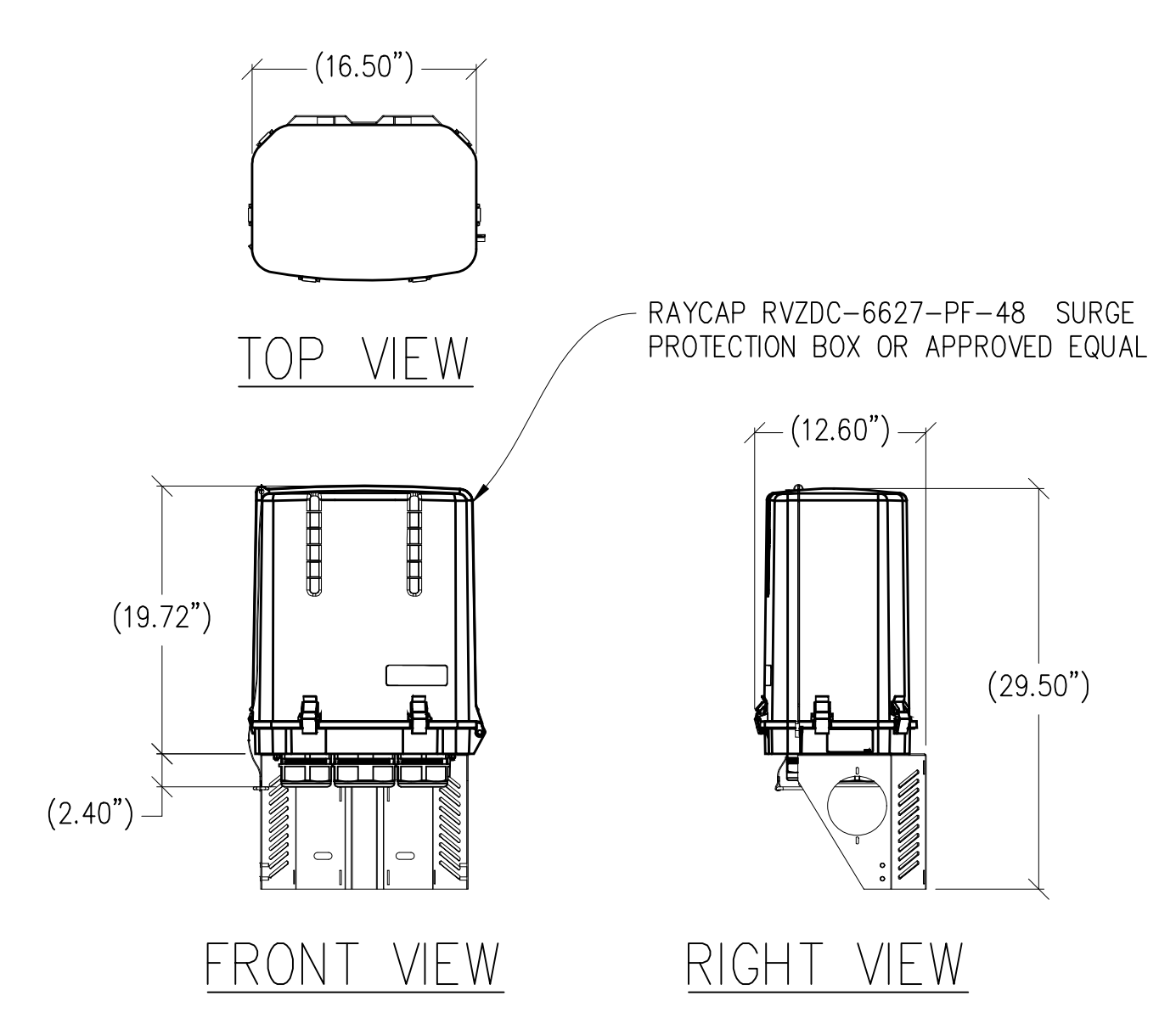
1 ANTENNA DETAIL  
1/2"=1" MAX WEIGHT: 43.7 LBS



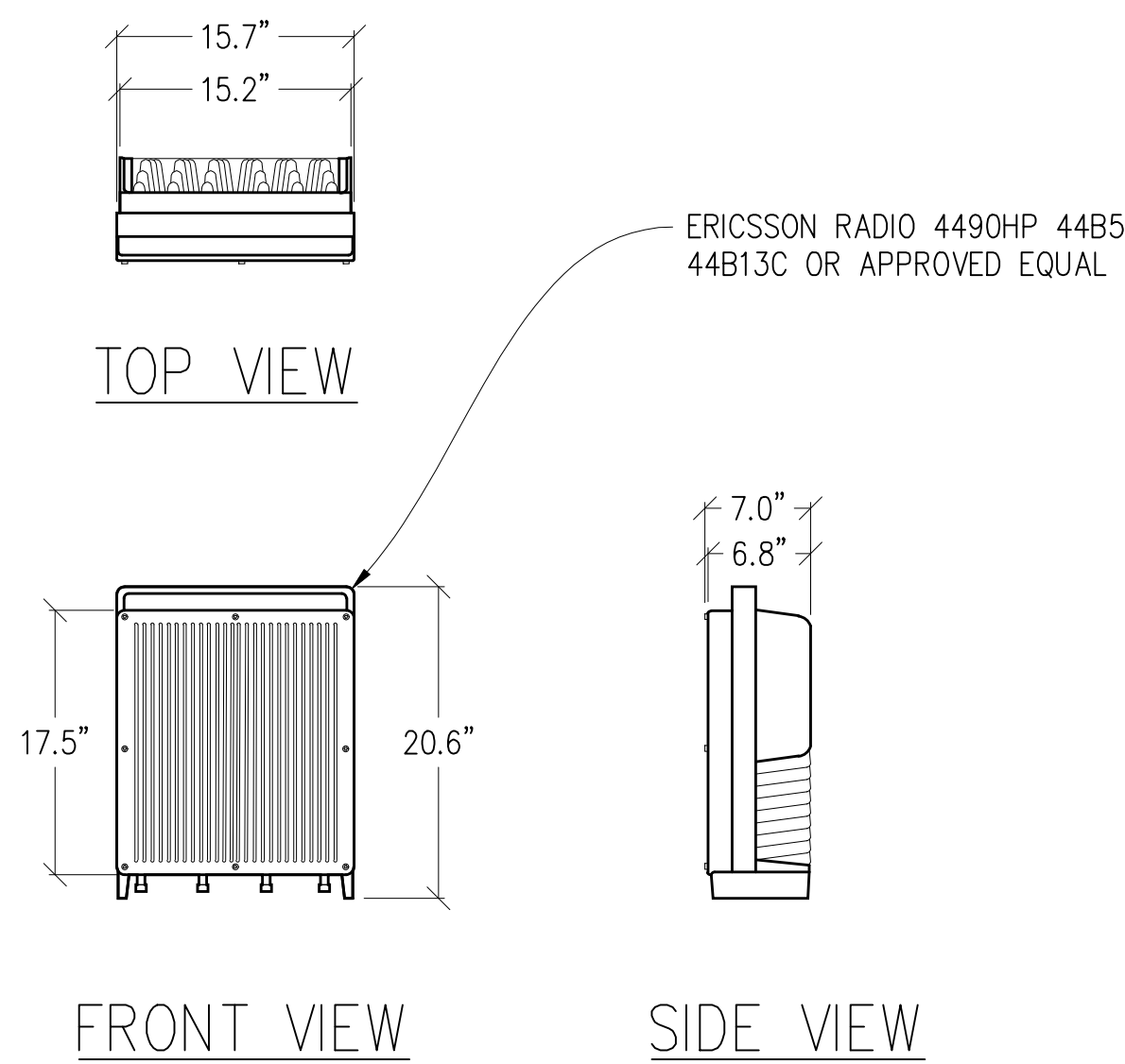
2 ANTENNA DETAIL  
1/2"=1" MAX WEIGHT: 73.6 LBS



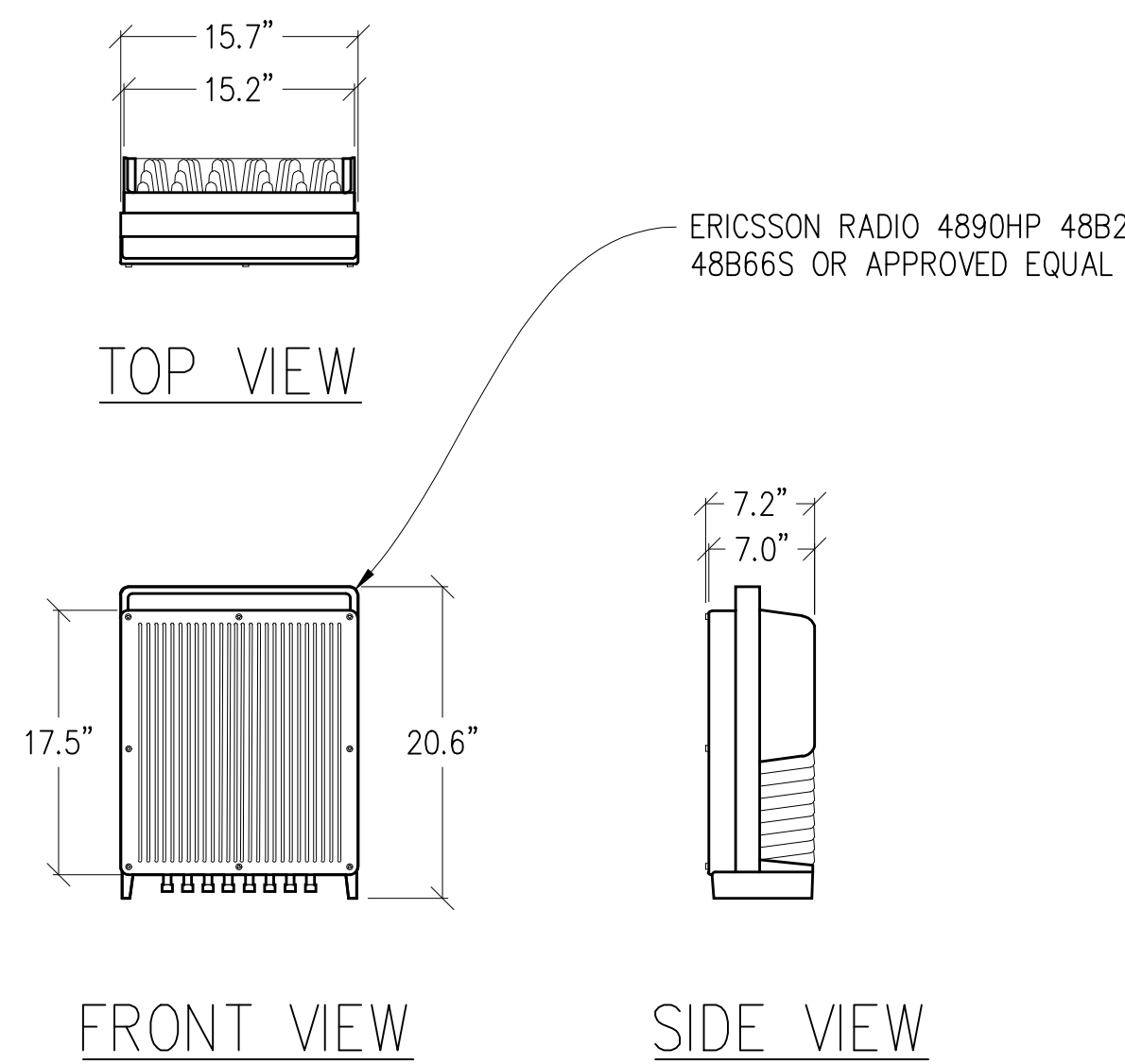
3 ANTENNA MOUNT DETAIL  
1"=1'-0"



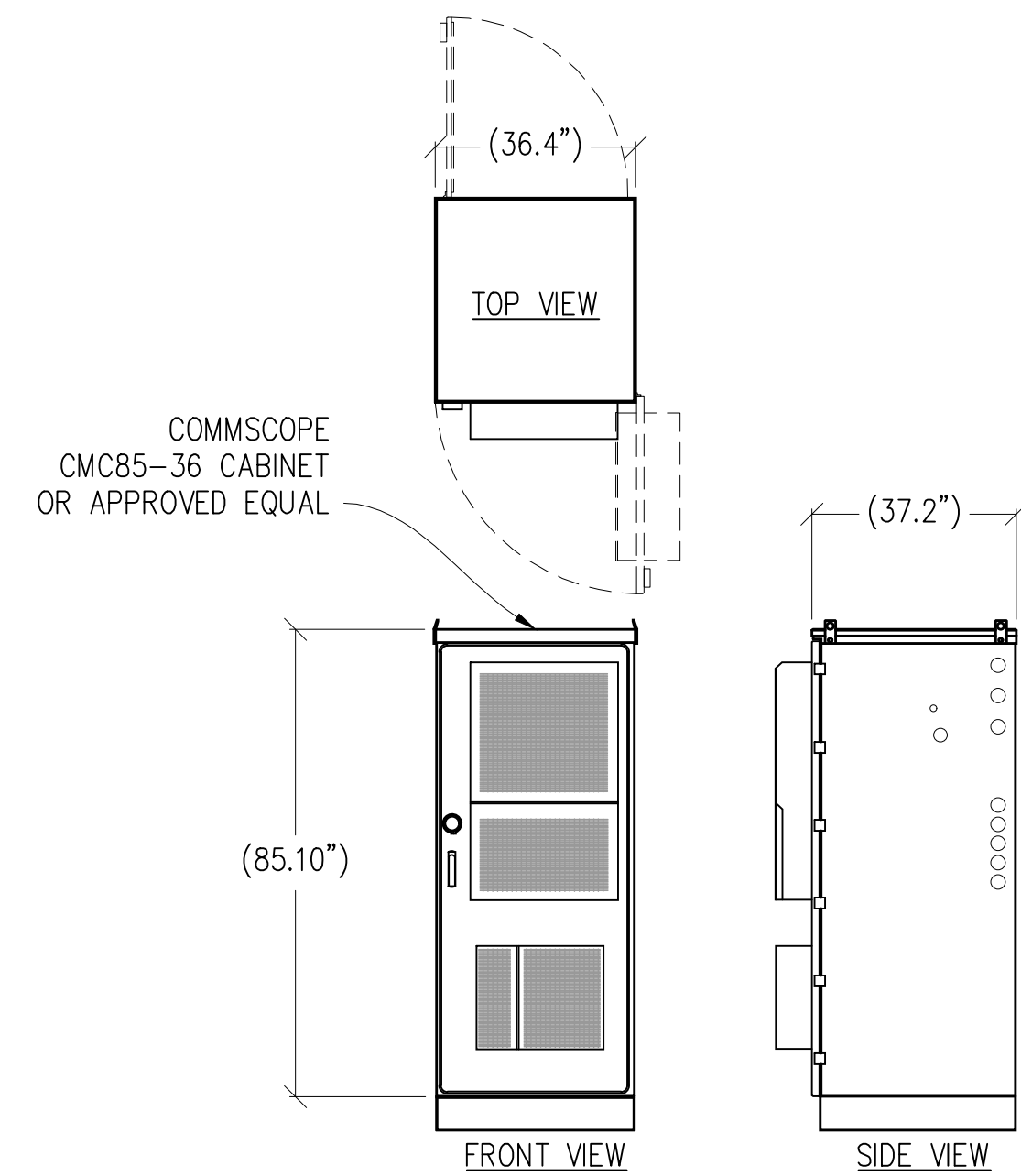
4 SURGE PROTECTION BOX  
1"=1'-0" MAX WEIGHT: 32.0 LBS



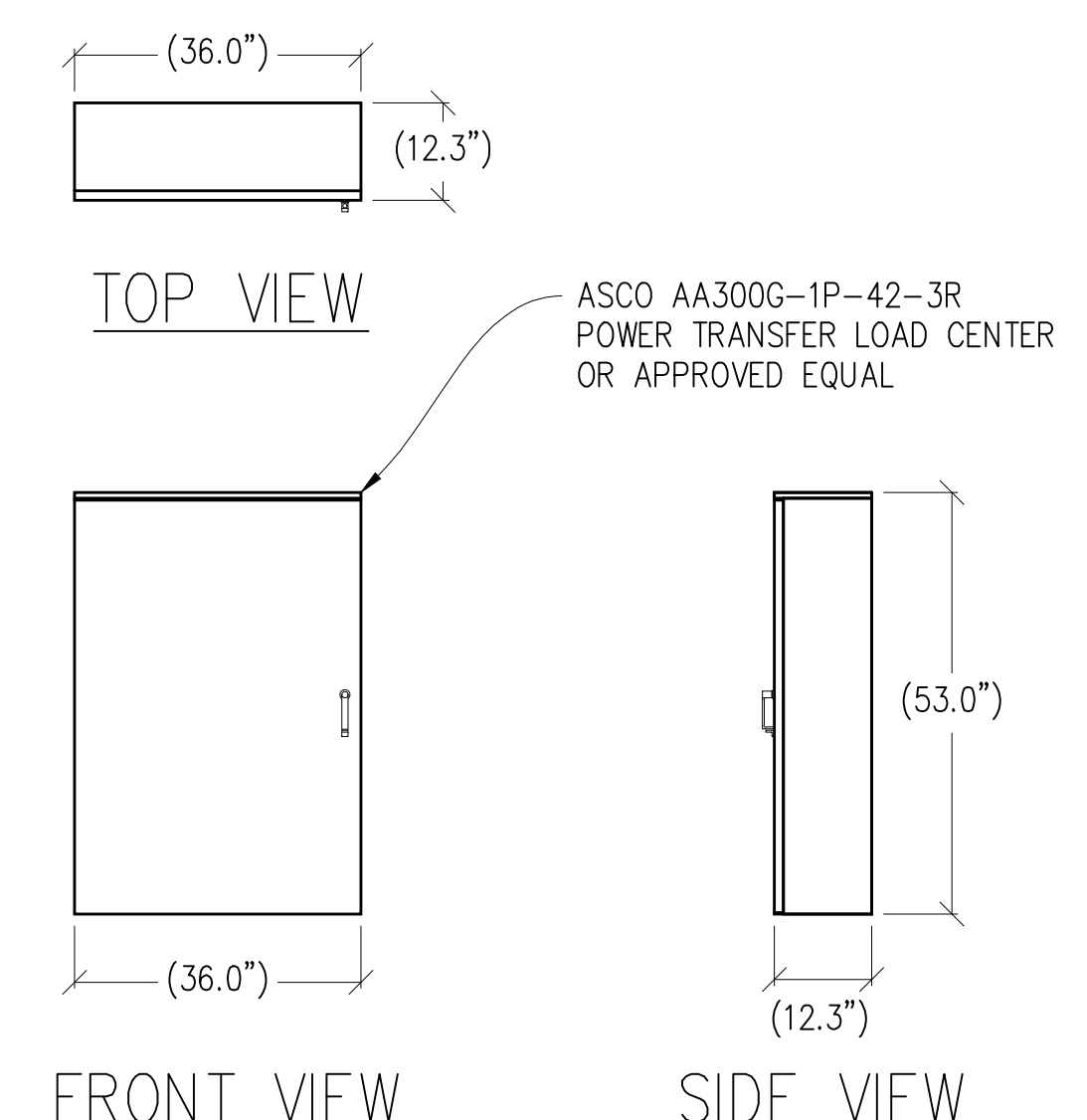
5 RADIO 4490HP DETAIL  
1"=1'-0" MAX WEIGHT: 68.4 LBS



6 RADIO 4890HP DETAIL  
1"=1'-0" MAX WEIGHT: 69.5 LBS



7 CABINET DETAIL  
3/8"=1'-0" MAX WEIGHT: 2352 LBS



8 ILC CABINET DETAIL  
1/2"=1'-0" MAX WEIGHT: 210 LBS

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CANYON**  
14855 PYRAMID WAY  
RENO, NV 89510

PREPARED FOR  
**verizon**  
295 PARKSHORE DRIVE  
FOLSOM, CA 95630

Vendor:  
**COMPLETE**  
Wireless Consulting, Inc.

MDG LOCATION ID: 5000344470  
PROJECT ID: 17126591  
DRAWN BY: -  
CHECKED BY: S. SAVIG  
APPROVED BY: -

ISSUE STATUS				
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1	06/16/23	ZD 100%	A.A.	
0	05/15/23	ZD 90%	-	

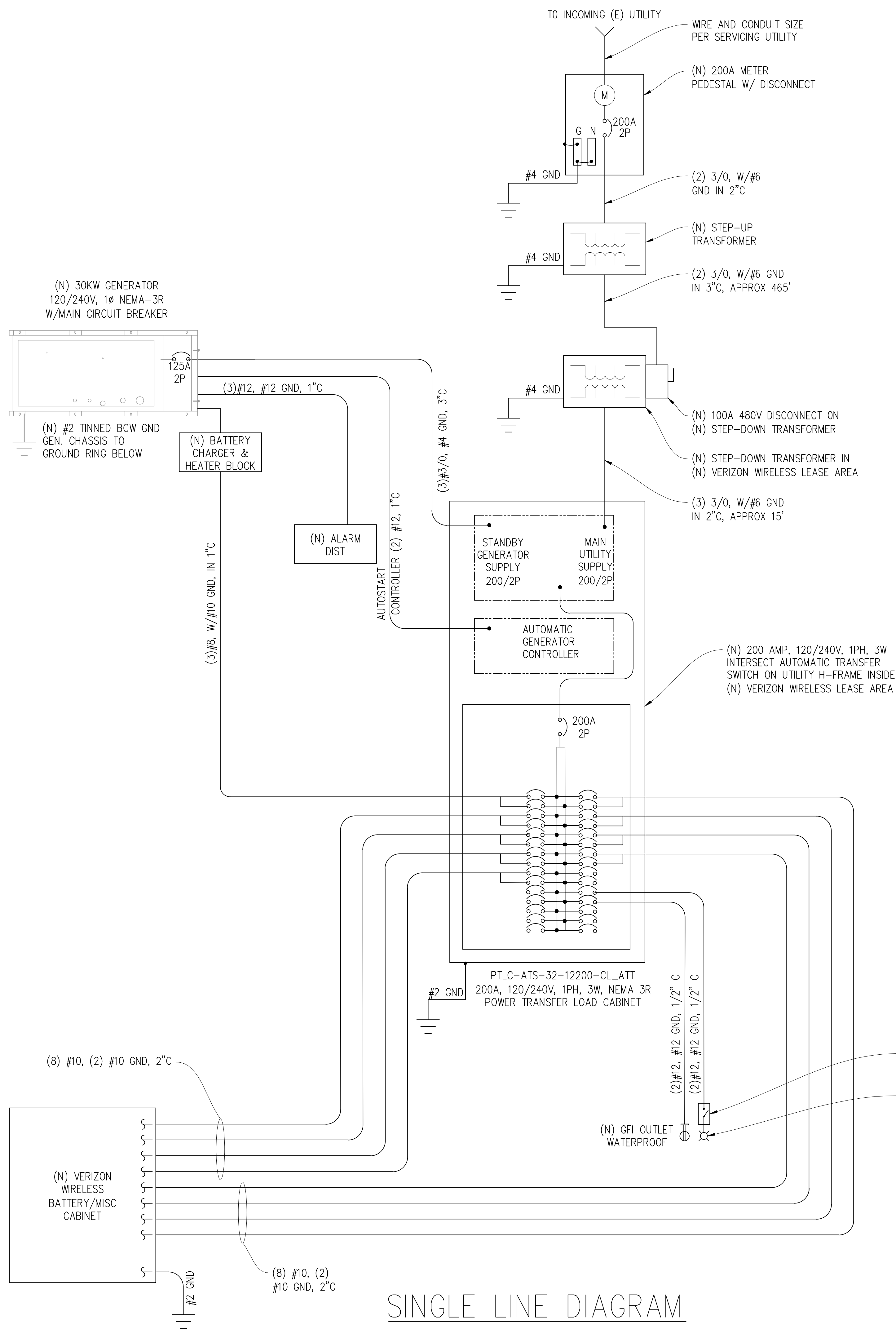
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SHEET TITLE:  
**DETAILS**

SHEET NUMBER:  
**A-4.1**



SINGLE LINE DIAGRAM

ELECTRICAL LABELING REQUIREMENTS

1. CONTRACTOR SHALL LABEL ALL ELECTRICAL DEVICES INSTALLED OR ALTERED PURSUANT TO THIS CONTRACT PER THE FOLLOWING. LABELS SHALL BE PERMANENT BLACK ON WHITE PEEL & STICK LABEL MAKER TYPE FOR ALL SWITCH & OUTLET PLATES, CONDUITS AND CEILING FIXTURES, AND SHALL BE PHENOLIC TAG TYPE FOR PANELS, XFMR'S, PULL BOXES, ETC.; PHENOLIC TAGS SHALL BE RED IN COLOR WHERE BACKED UP BY GENERATOR
2. ALL PANELS, XFMR'S AND PULL BOXES SHALL BE LABELED WITH DEVICE 'NAME', VOLTAGE(S), RATING FOR XFMR'S, AND "FED FROM" DATA.
3. ALL SWITCH & OUTLET PLATES SHALL BE LABELED WITH "FED FROM" CIRCUIT DATA (PANEL NAME & CIRCUIT#); ALL GANG SWITCHES SHALL BEAR SWITCH NUMBERS BEGINNING W/#1 ON LEFT OF THE MAIN LIGHTING SWITCH FOR EACH ROOM FOR COORDINATION W/FIXTURE LABELS.
4. ALL (N) OR RETROFITTED LIGHTING FIXTURES SHALL BE LABELED WITH THE "FED FROM" DATA (SWITCH#)
5. ALL CONDUITS EXITING A PANEL BOARD SHALL BE LABELED "CIRCUIT(S) 'X...'" WHERE X IS/ARE THE BREAKER#(S). CONDUITS EXITING XFMR'S SHALL BE LABELED "FEEDER TO <PANEL, DEVICE>". E.G. "FEEDER TO PANEL <panel name>". CONDUITS ENTERING/EXITING A ROOM OR FLOOR SHALL BE LABELED AT THE ENTRY & EXIT (OR IN A SINGLE LOCATION IF OBVIOUS) W/"FED FROM..." & "TO PANEL/XFMR/..." DATA.
6. "FED FROM: DATA = <panel name> <brkr#> EG: "PANEL X/1,3,5"

ELECTRIC LEGEND

- (M) METER
- (C) CIRCUIT BREAKER
- (GND) SERVICE GROUND
- (—) WIRED CONNECTION
- (T) TIMER SWITCH, WATERPROOF
- (L) OUTDOOR LIGHT
- (GFI) GFI OUTLET, WATERPROOF

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE 2017 IEC AS WELL AS ALL ADOPTED STANDARDS, APPLICABLE STATE AND LOCAL CODES.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, CONDUCTORS, PULL BOXES, TRANSFORMER PADS, POLE RISERS, AND PERFORM ALL TRENCHING AND BACKFILLING REQUIRED IN THE PLANS.
3. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER PLAN SPECIFICATIONS.
4. ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTION RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED WITH A MINIMUM OF 10,000 A.I.C. OR AS REQUIRED.
5. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
6. ELECTRICAL WIRING SHALL BE COPPER #12 AWG MIN WITH TYPE THHN, THWN-2 OR THW-2, INSULATION RATED FOR 90°C DRY OR 70°C WET.
7. ALL OUTDOOR EQUIPMENT SHALL HAVE NEMA 3R ENCLOSURE.
8. ALL BURIED WIRE SHALL RUN THROUGH SCHEDULE 40 PVC CONDUIT UNLESS OTHERWISE NOTED.
9. A GROUND WIRE IS TO BE PULLED IN ALL CONDUITS.
10. WHERE ELECTRICAL WIRING OCCURS OUTSIDE A STRUCTURE AND HAS THE POTENTIAL FOR EXPOSURE TO WEATHER, WIRING SHALL BE IN WATERTIGHT GALVANIZED RIGID STEEL OR FLEXIBLE CONDUIT.
11. WHERE PLANS CALL FOR A NEW ELECTRICAL SERVICE, PRIOR TO SUBMITTING BID, CONTRACTOR SHALL VERIFY PLAN DETAILS WITH THE UTILITY'S SERVICE PLAN & REQ'TS INCLUDING SERVICE VOLTAGE, METER LOCATION, MAIN DISCONNECTING MEANS, AND AIC REQ'T, AND SHALL OBTAIN CLARIFICATION FROM THE PROJECT ENGINEER ON ANY DEVIATIONS FOUND IN THESE PLANS.
12. WHERE THESE PLANS SHOW A DC POWER PLANT, THE INSTALLATION OPERATING AT LESS THAN 50 VDC UNGROUNDED, 2-WIRE, SHALL COMPLY WITH ARTICLE 720, AS FOLLOWS:
  - A. POWER PLANT SHALL BE SUPPLIED BY THE WIRELESS CARRIER AS A PULL-TAG ITEM AND INSTALLED BY THE CONTRACTOR.
  - B. CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG COPPER MIN, CONDUCTORS FOR BRANCH CIRCUITS SUPPLYING MORE THAN ONE APPLIANCE SHALL BE 10 AWG CU MIN; CONTRACTOR SHALL SIZE CONDUCTORS BASED ON MFG'S DATA FOR THE APPLIANCES SERVED.
  - C. THERE ARE NO DC RECEPTACLES OR LUMINARIES ALLOWED ON THIS PROJECT. ALL CIRCUITS SHALL ORIGINATE AT AN INTEGRATED DOUBLE LUG TAP OR SOCKET TERMINATION ON AN INTEGRATED DC CIRCUIT BREAKER AT AN INDIVIDUAL RECTIFIER MODULE AND TERMINATE AT THE SPECIALIZED LUG ON THE RESPECTIVE APPLIANCE AS A SINGLE RUN OF WIRE WITHOUT SPLICES. ALL DC WIRING SHALL BE LABELED AT THE DC PLANT WITH THE APPLIANCE SERVED AND THE DC VOLTAGE.
  - D. ALL CABLING SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND SUPPORTED BY BUILDING STRUCTURE, EG. (N) CABLE TRAY OVERHEAD, IN SUCH A MANNER THAT THE CABLE WILL NOT BE DAMAGED BY NORMAL USE.

NEW PANEL SCHEDULE

NAMEPLATE : PANEL A		SC LEVEL : 65,000		VOLTS: 120V/240V, 1Ø				
LOCATION : OUTSIDE		MOUNTING : H-FRAME		BUS AMPS: 200A				
				MAIN CB: 200A				
ØA	ØB	LOAD DESCRIPTION	BKR AMP/ POLE	CIRCUIT NO	BKR AMP/ POLE	LOAD DESCRIPTION	ØA	ØB
				1	2	(N) BATTERY/MISC CABINET	1320	
				3	4	" "		1320
3840	3840	(N) BATTERY CHARGER & HTR	40/2	5	6	" "	1320	1320
		" "	" "	7	8	" "		1320
1320		(N) BATTERY/MISC CABINET	30/2	9	10	" "	1320	
	1320	" "	" "	11	12	" "		1320
1320		" "	30/2	13	14	" "	1320	
	1320	" "	" "	15	16	" "		1320
1320		" "	30/2	17	18	BLANK		
	1320	" "	" "	19	20	" "		
1320		" "	30/2	21	22	" "		
	1320	" "	" "	23	24	" "		
		BLANK	-	25	26	" "		
		" "	-	27	28	LIGHT		300
		" "	-	29	30	GFI RECEPTACLE		180
9120	9120	PHASE TOTALS				PHASE TOTALS	5460	5580
TOTAL VA =	29280	TOTAL AMPS =	122					

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14855 PYRAMID WAY  
RENO, NV 89510

PREPARED FOR



295 PARKSHORE DRIVE  
FOLSOM, CA 95630

Vendor:



MDG LOCATION ID: 5000344470

PROJECT ID: 17126591

DRAWN BY: -

CHECKED BY: S. SAVIG

APPROVED BY: -

ISSUE STATUS

REV	DATE	DESCRIPTION	CAD
3	08/10/23	CLIENT REV	C.T.C
2	07/12/23	CLIENT REV	A.A.
1	06/16/23	ZD 100%	A.A.
0	05/15/23	ZD 90%	-

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ENGINEER:

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ELECTRICAL  
PLAN

SHEET NUMBER:

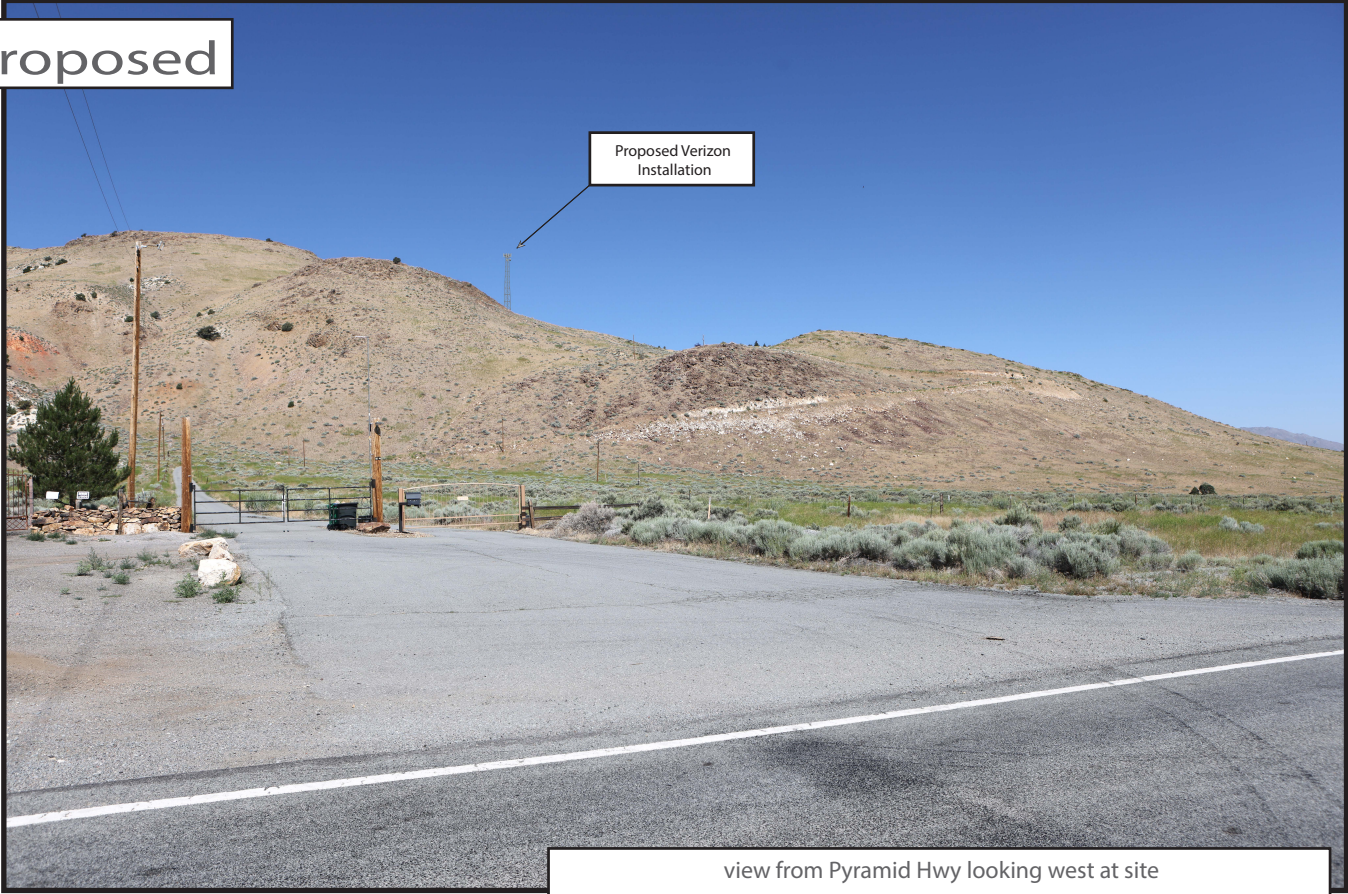
E-1.1



Existing



Proposed



Proposed Verizon Installation

view from Pyramid Hwy looking west at site

Existing



Proposed



view from Pyramid Hwy looking north at site



Existing



Proposed

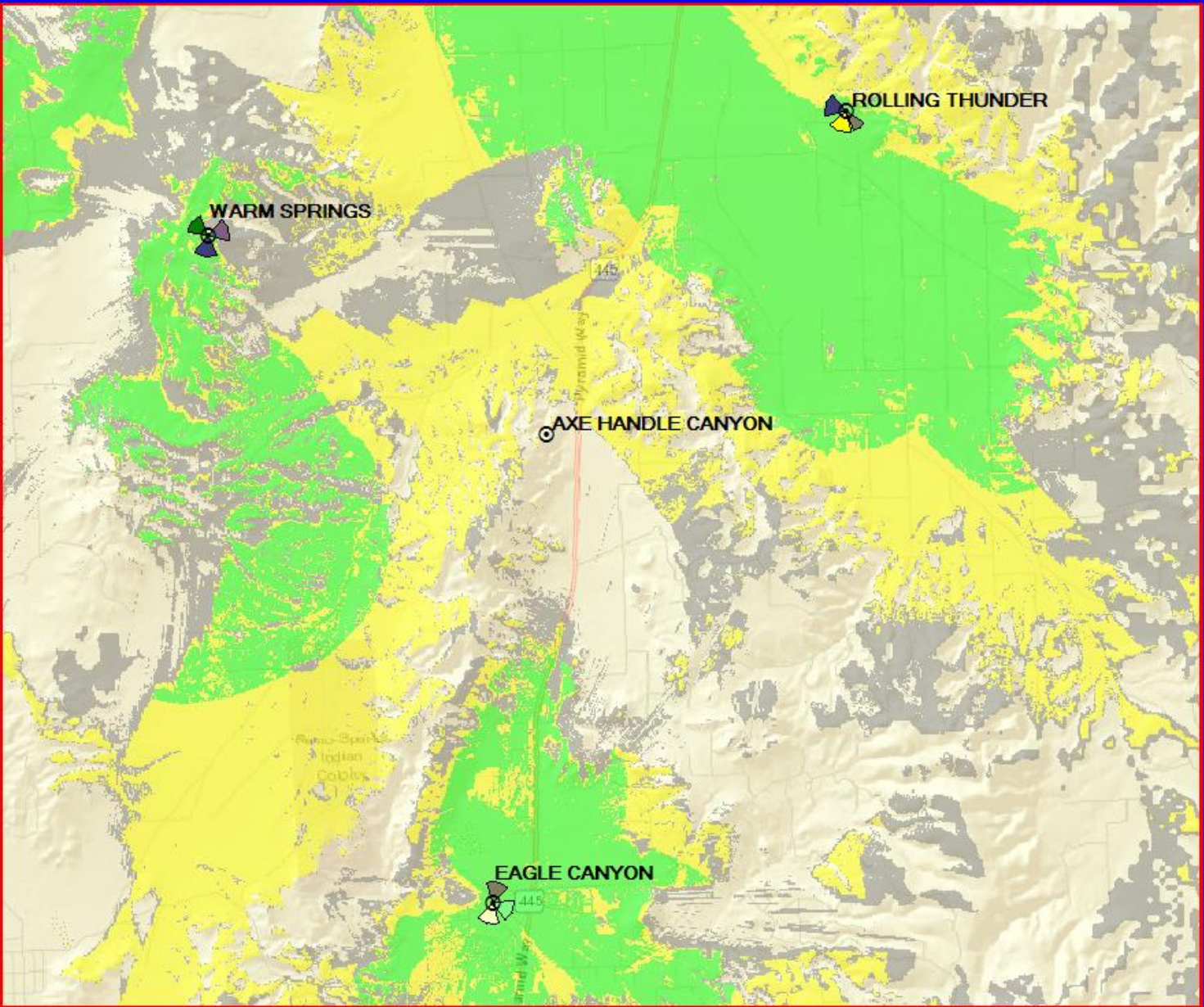


view from Winnamucca Ranch Road looking south at site

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# AXE HANDLE CANYON

# Existing Coverage Map Prediction - AWS



**Legend**

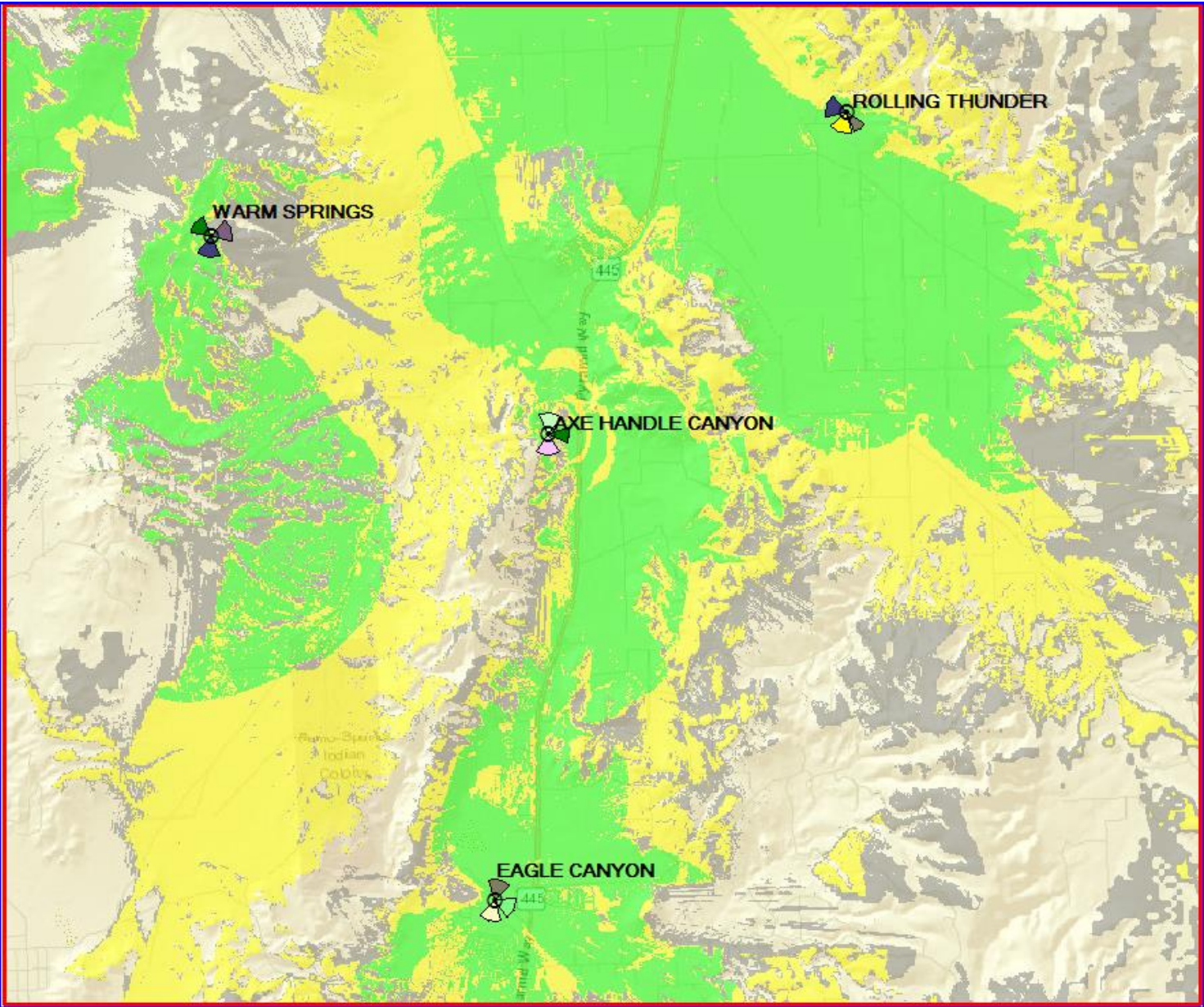
**LTE: RSRP - Coverage**

- In-Building Coverage
- Vehicular Coverage
- Outdoor Coverage



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# Proposed Coverage Map Prediction - AWS



**Legend**

**LTE: RSRP - Coverage**

- In-Building Coverage
- Vehicular Coverage
- Outdoor Coverage

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

Site No. 296901  
Axe Handle Canyon  
14855 Pyramid Way  
Reno, Nevada 89510  
Washoe County  
39° 45' 30.85" N, -119° 41' 35.24" W NAD83

EBI Project No. 6223002742  
July 13, 2023



Prepared for:  
Verizon Wireless  
c/o Complete Wireless Consulting, Inc.  
2009 V Street  
Sacramento, CA 95818

Prepared by:  
 **EBI Consulting**  
environmental | engineering | due diligence

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>1.0 INTRODUCTION</b> .....	<b>2</b>
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<b>3.0 WORST-CASE PREDICTIVE MODELING</b> .....	<b>4</b>
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## APPENDICES

- APPENDIX A CERTIFICATIONS**
- APPENDIX B RADIO FREQUENCY ELECTROMAGNETIC ENERGY SAFETY / SIGNAGE PLANS**
- APPENDIX C FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS**

## EXECUTIVE SUMMARY

### Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Verizon Wireless (“Verizon”) to conduct radio frequency electromagnetic (RF-EME) modeling for Verizon Site 296901 located at 14855 Pyramid Way in Reno, Nevada to determine RF-EME exposure levels from proposed Verizon communications equipment at this site. As described in greater detail in Appendix C of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for the general public and for occupational activities. 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 water tank and 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 water tank or 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 **23.03** percent of the FCC’s general public limit (**4.61** percent of the FCC’s occupational limit).

The composite exposure level from all carriers on this site is approximately **23.03** percent of the FCC’s general public limit (**4.61** percent of the FCC’s occupational limit) at the nearest walking/working surface to each antenna.

Recommended control measures are outlined in Section 4.0 and within the Site Safety Plan (attached); Verizon should also provide procedures to shut down and lockout/tagout this wireless equipment in accordance with Verizon’s standard operating protocol. Non-telecom workers who will be working in areas of exceedance are required to contact Verizon since only Verizon has the ability to lockout/tagout the facility, or to authorize others to do so.

## 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 second (or hertz [Hz]) to as high as one gigahertz (one billion cycles per second).

Personal Communication (PCS) facilities used by Verizon in this area will potentially operate within a frequency range of 700 to 5000 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 the following proposed wireless telecommunication antennas on a lattice tower located at 14855 Pyramid Way in Reno, Nevada.

Ant #	Sector	Operator	Antenna Make	Antenna Model	Technology and Frequency (MHz)	Azimuth (Degrees)	Mechanical Downtilt (Degrees)	Horizontal Beamwidth (Degrees)	Aperture (feet)	Total Power Input (Watts)	Transmitter Count	Antenna Gain (dBd)	Total ERP (Watts)	Total EIRP (Watts)
1	Alpha	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0700	LTE 700	10	0	65	6.0	120	2	12.33	2052.02	3365.31
1	Alpha	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0850	LTE/5G 850	10	0	60	6.0	120	2	12.7	2234.50	3664.59
1	Alpha	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-07DT 2100	LTE 2100	10	0	64	6.0	240	4	16.48	10671.15	17500.69
2	Alpha	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0700	LTE 700	10	0	65	6.0	120	2	12.33	2052.02	3365.31
2	Alpha	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0850	LTE/5G 850	10	0	60	6.0	120	2	12.7	2234.50	3664.59
2	Alpha	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-07DT 1900	LTE 1900	10	0	69	6.0	240	4	15.77	9061.73	14861.24
3	Alpha	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-07DT 2100	LTE 2100	10	0	64	6.0	240	4	16.48	10671.15	17500.69
4	Alpha	Verizon	ERICSSON	SON_AIR6449 NR TB 03.24.21 3700 VZW	LSUB6 3700	10	0	11	2.8	320	1	23.55	72468.62	118848.53
5	Beta	Verizon	COMMSCOPE	SON_NHH-45B-R2B 02DT - 14DT 0700	LTE 700	95	0	48	6.0	120	2	14.17	3134.59	5140.73
5	Beta	Verizon	COMMSCOPE	SON_NHH-45B-R2B 02DT - 14DT 0850	LTE/5G 850	95	0	43	6.0	120	2	15.27	4038.14	6622.55
5	Beta	Verizon	COMMSCOPE	SON_NHH-45B-R2B 00DT - 08DT 2100	LTE 2100	95	0	41	6.0	240	4	18.04	15283.09	25064.27
6	Beta	Verizon	COMMSCOPE	SON_NHH-45B-R2B 02DT - 14DT 0700	LTE 700	95	0	48	6.0	120	2	14.17	3134.59	5140.73
6	Beta	Verizon	COMMSCOPE	SON_NHH-45B-R2B 02DT - 14DT 0850	LTE/5G 850	95	0	43	6.0	120	2	15.27	4038.14	6622.55
6	Beta	Verizon	COMMSCOPE	SON_NHH-45B-R2B 00DT - 08DT 1900	LTE 1900	95	0	43	6.0	240	4	17.52	13558.49	22235.92
7	Beta	Verizon	COMMSCOPE	SON_NHH-45B-R2B 00DT - 08DT 2100	LTE 2100	95	0	41	6.0	240	4	18.04	15283.09	25064.27



Ant #	Sector	Operator	Antenna Make	Antenna Model	Technology and Frequency (MHz)	Azimuth (Degrees)	Mechanical Downtilt (Degrees)	Horizontal Beamwidth (Degrees)	Aperture (feet)	Total Power Input (Watts)	Transmitter Count	Antenna Gain (dBd)	Total ERP (Watts)	Total EIRP (Watts)
8	Beta	Verizon	ERICSSON	SON_AIR6449 NR TB 03.24.21 3700 VZW	LSUB6 3700	95	0	11	2.8	320	1	23.55	72468.62	118848.53
9	Gamma	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0700	LTE 700	180	0	65	6.0	120	2	12.33	2052.02	3365.31
9	Gamma	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0850	LTE/5G 850	180	0	60	6.0	120	2	12.7	2234.50	3664.59
9	Gamma	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-07DT 2100	LTE 2100	180	0	64	6.0	240	4	16.48	10671.15	17500.69
10	Gamma	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0700	LTE 700	180	0	65	6.0	120	2	12.33	2052.02	3365.31
10	Gamma	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-14DT 0850	LTE/5G 850	180	0	60	6.0	120	2	12.7	2234.50	3664.59
10	Gamma	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-07DT 1900	LTE 1900	180	0	69	6.0	240	4	15.77	9061.73	14861.24
11	Gamma	Verizon	COMMSCOPE	SON_NHH-65B-R2B 00DT-07DT 2100	LTE 2100	180	0	64	6.0	240	4	16.48	10671.15	17500.69
12	Gamma	Verizon	ERICSSON	SON_AIR6449 NR TB 03.24.21 3700 VZW	LSUB6 3700	180	0	11	2.8	320	1	23.55	72468.62	118848.53

• Note there are 4 Verizon antennas per sector at this site. For clarity, the different frequencies for each antenna are entered on separate lines.

Ant #	NAME	X	Y	Antenna Radiation Centerline	Z-Height Water Tank	Z-Height Upper Ground	Z-Height Ground
1	Verizon	41.3	0.8	131.0	61.0	76.0	131.0
2	Verizon	43.4	1.2	131.0	61.0	76.0	131.0
3	Verizon	45.5	1.2	131.0	61.0	76.0	131.0
4	Verizon	47.1	1.2	131.0	61.0	76.0	131.0
5	Verizon	52.5	5.8	131.0	61.0	76.0	131.0
6	Verizon	52.9	7.9	131.0	61.0	76.0	131.0
7	Verizon	52.9	9.9	131.0	61.0	76.0	131.0
8	Verizon	52.9	11.6	131.0	61.0	76.0	131.0
9	Verizon	45.0	14.5	131.0	61.0	76.0	131.0
10	Verizon	43.4	14.9	131.0	61.0	76.0	131.0
11	Verizon	41.3	14.9	131.0	61.0	76.0	131.0
12	Verizon	38.8	14.9	131.0	61.0	76.0	131.0

• Note the Z-Height represents the distance from the antenna centerline.

The above tables contain an inventory of proposed Verizon Antennas and other carrier antennas if sufficient information was available to model them. Note that EBI uses an assumed set of antenna specifications and powers for unknown and other carrier antennas for modeling purposes. 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 controlled, 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 Appendix C. Appendix B presents a site safety plan that provides a plan view of the lattice tower with antenna locations.

### 3.0 WORST-CASE PREDICTIVE MODELING

EBI has performed theoretical MPE modeling using RoofMaster™ software to estimate the worst-case power density at the site's nearby broadcast levels resulting from operation of the antennas. RoofMaster™ is a widely-used predictive modeling program that has been developed by Waterford Consultants to predict RF power density values for rooftop and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. Using the computational methods set forth in Federal Communications Commission (FCC) Office of Engineering & Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" (OET-65), RoofMaster™ calculates predicted power density in a scalable grid based on the contributions of all RF sources characterized in the study scenario. At each grid location, the cumulative power density is expressed as a percentage of the FCC limits. Manufacturer antenna pattern data is utilized in these calculations. RoofMaster™ models consist of the Far Field model as specified in OET-65 and an implementation of the OET-65 Cylindrical Model (Sula9). 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.

For this report, EBI utilized antenna and power data provided by Verizon and compared the resultant worst-case MPE levels to the FCC's occupational/controlled exposure limits outlined in OET Bulletin 65. The assumptions used in the modeling are based upon information provided by Verizon and information gathered from other sources. The parameters used for modeling are summarized in the Site Description antenna inventory table in Section 2.0.

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 water tank and 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 23.03 percent of the FCC's general public limit (4.61 percent of the FCC's occupational limit). The composite exposure level from all carriers on this site is approximately 23.03 percent of the FCC's general public limit (4.61 percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna.

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 Site Description antenna inventory table in Section 2.0. A graphical representation of the RoofMaster™ modeling results is presented in Appendix B. Microwave dish antennas are designed for point-to-point operations at the elevations of the installed equipment rather than ground level coverage. The maximum power density generated by all carrier antennas, including microwaves and panel antennas, is included in the modeling results presented within this report.

#### **4.0 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. All exposures above the FCC's safe limits require that individuals be elevated above the ground. In accordance with the official Verizon Wireless Signage and Demarcation Policy for tower structures, no signage is recommended at this site.

Barriers are recommended for installation when possible to block access to the areas in front of the antennas that exceed the FCC general public and/or occupational limits. Barriers may consist of rope, chain, or fencing. Painted stripes should only be used as a last resort. There are no barriers recommended on this site.

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 lattice tower 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.

To reduce the risk of exposure, EBI recommends that access to areas associated with the active antenna installation be restricted and secured where possible. All workers and individuals, including arborists and landscapers, accessing the lattice tower along with nearby elevated structures or trees within areas exceeding the general public MPE must be made aware of the presence and locations of antennas and their associated fields, where applicable.

#### **5.0 SUMMARY AND CONCLUSIONS**

EBI has prepared a Radiofrequency – Electromagnetic Energy (RF-EME) Compliance Report for telecommunications equipment installed by Verizon Site Number 296901 located at 14855 Pyramid Way in Reno, Nevada 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 water tank and 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 4.0 and within the Site Safety Plan (attached); Verizon should also provide procedures to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol. Non-telecom workers who will be working in areas of exceedance are required to contact Verizon since only Verizon has the ability to lockout/tagout the facility, or to authorize others to do so.

#### **6.0 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**

## Preparer Certification

I, Nathaniel Boucher, 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 fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation.
- 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.



A rectangular box containing a handwritten signature in cursive script that reads "Nathaniel Boucher".

Reviewed and Approved by:



sealed 13jul2023 mike@h2dc.com  
H2DC PLLC NV CoA#: 24139

---

Michael McGuire  
Electrical Engineer  
[mike@h2dc.com](mailto:mike@h2dc.com)

coordinates prevail for site address 39° 45' 30.85" N, -119° 41' 35.24" W

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.

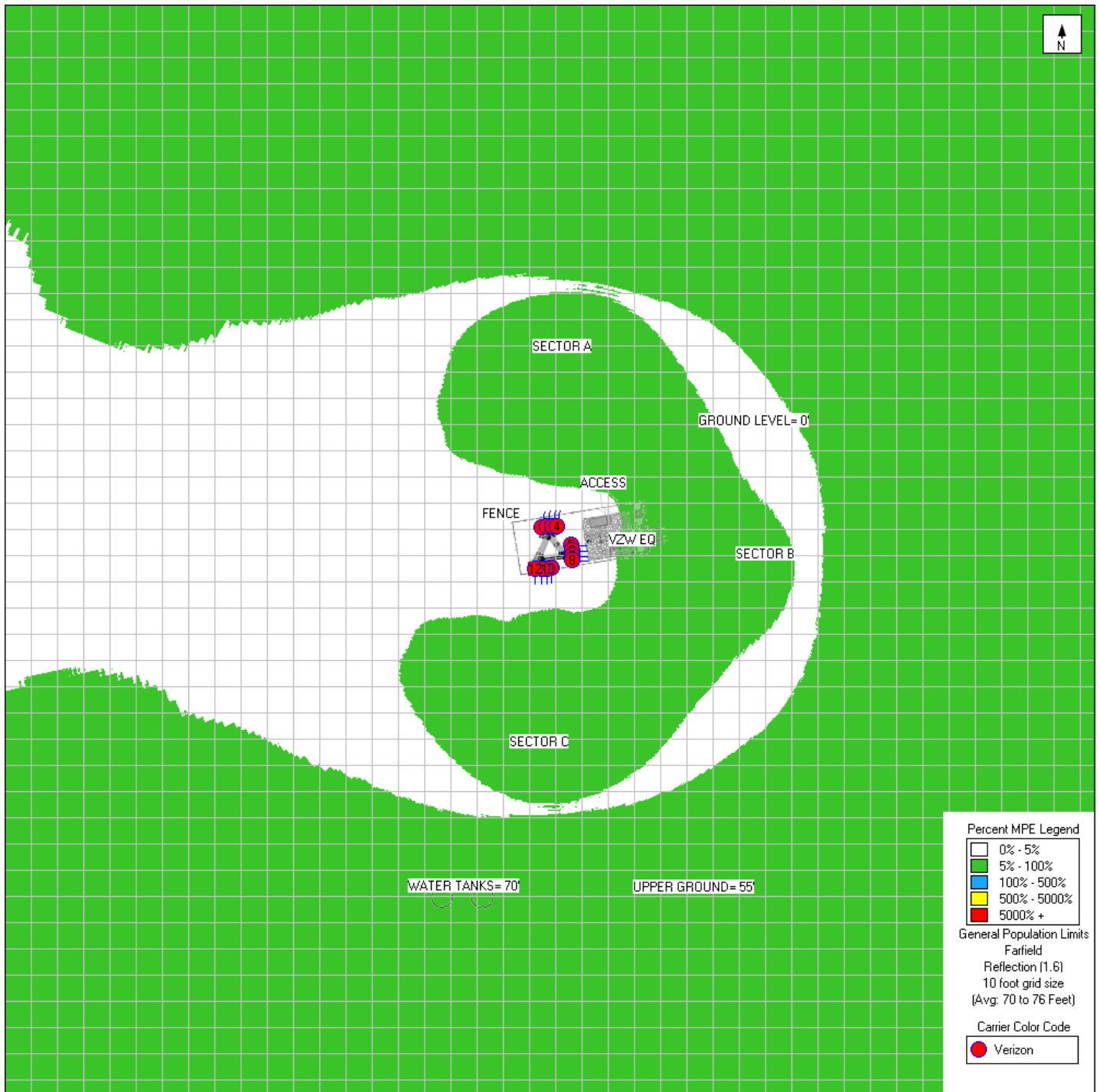
**Appendix B**

**Radio Frequency Electromagnetic Energy**

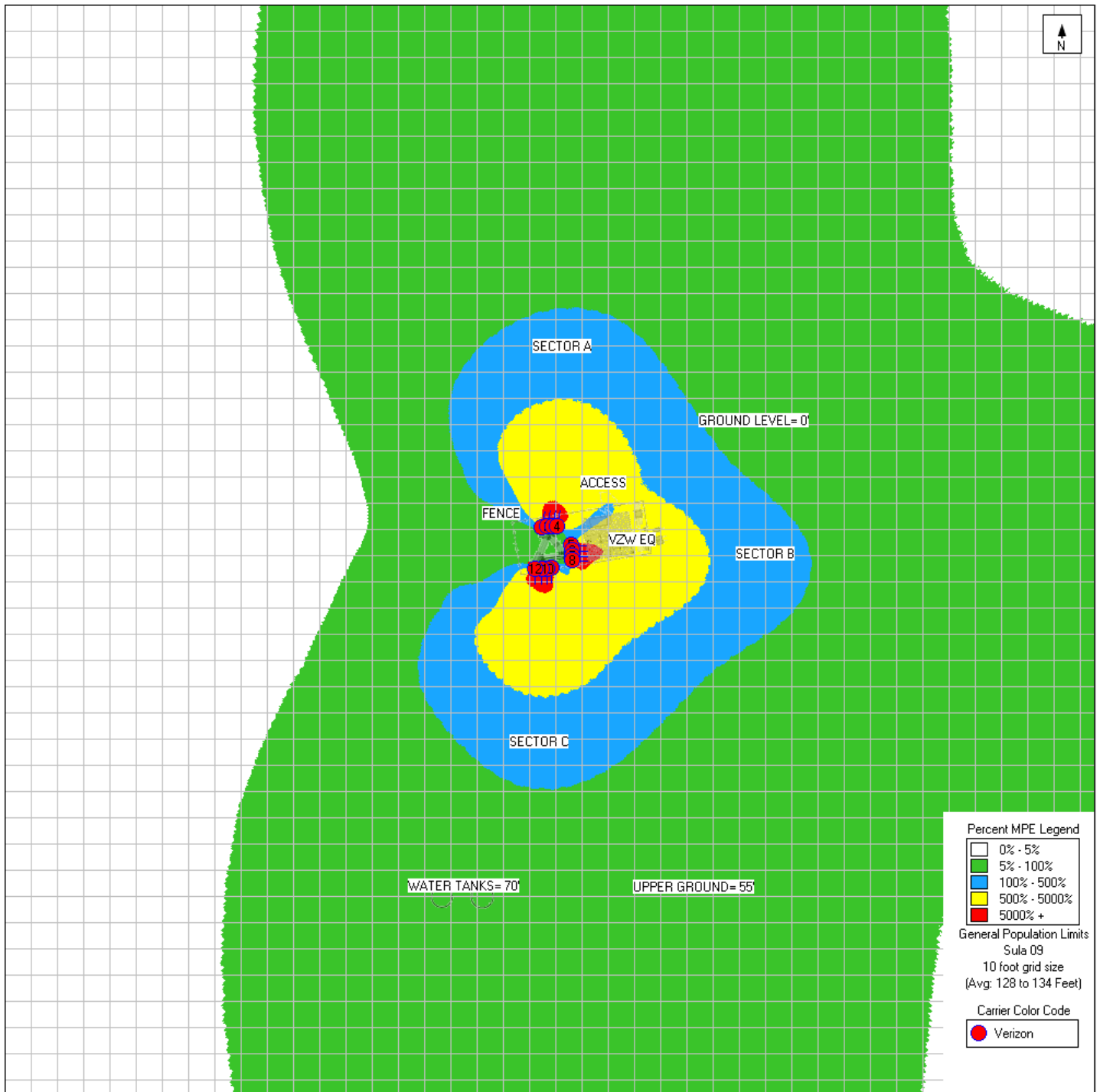
**Safety Information and Signage Plans**



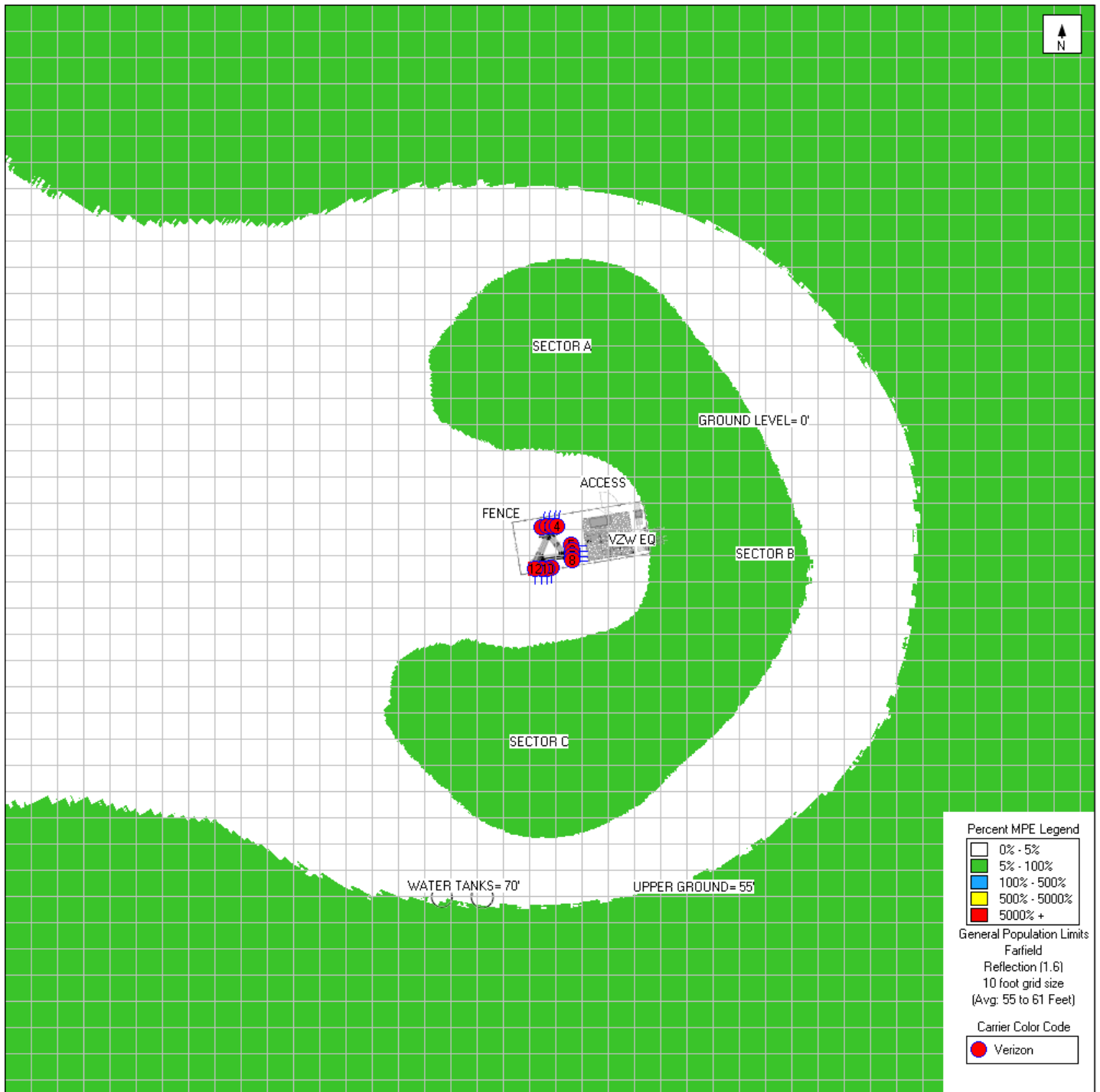
### Nearest Walking Surface (Adjacent Water Tank Level)



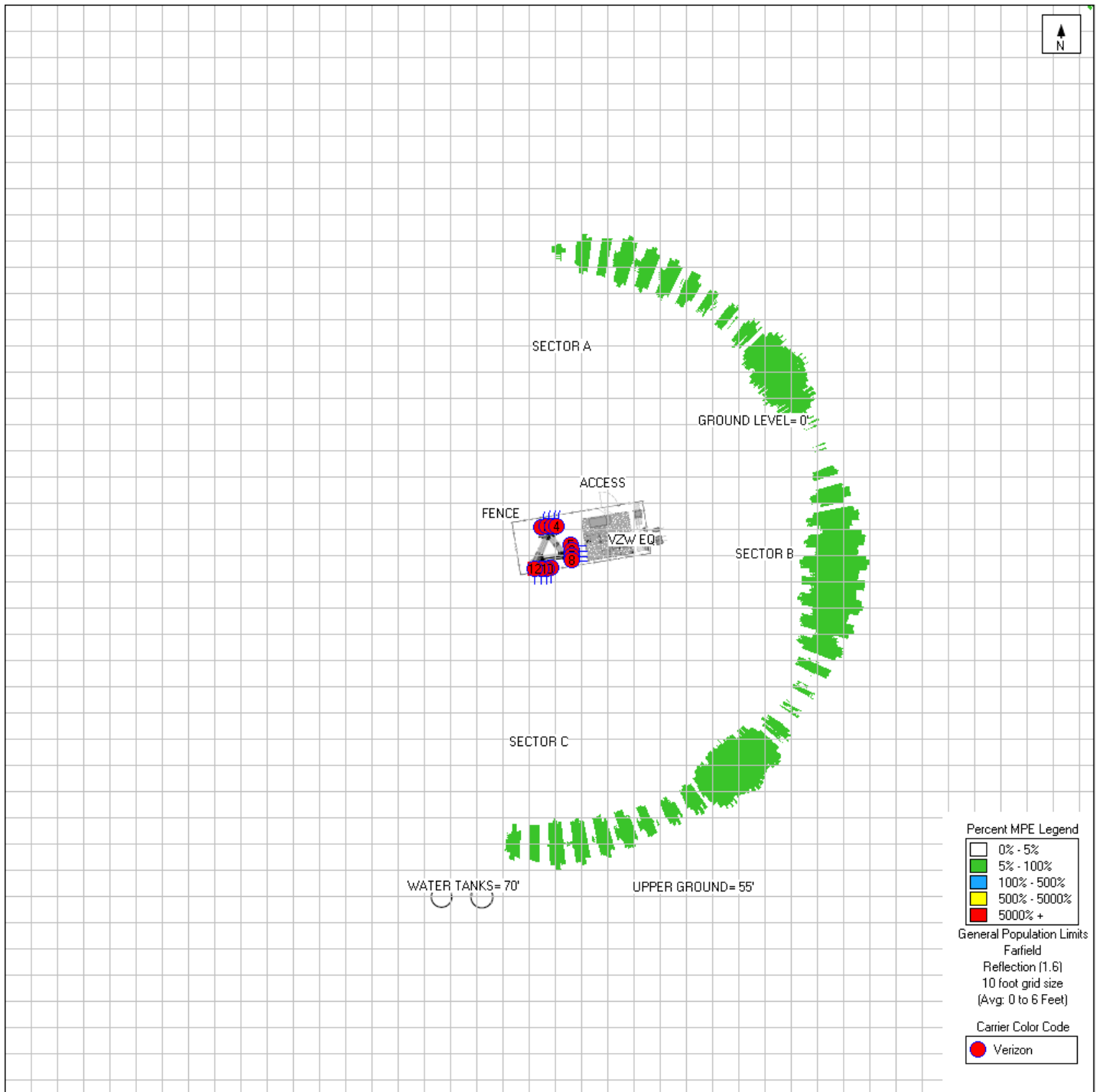
### Antenna Face Level



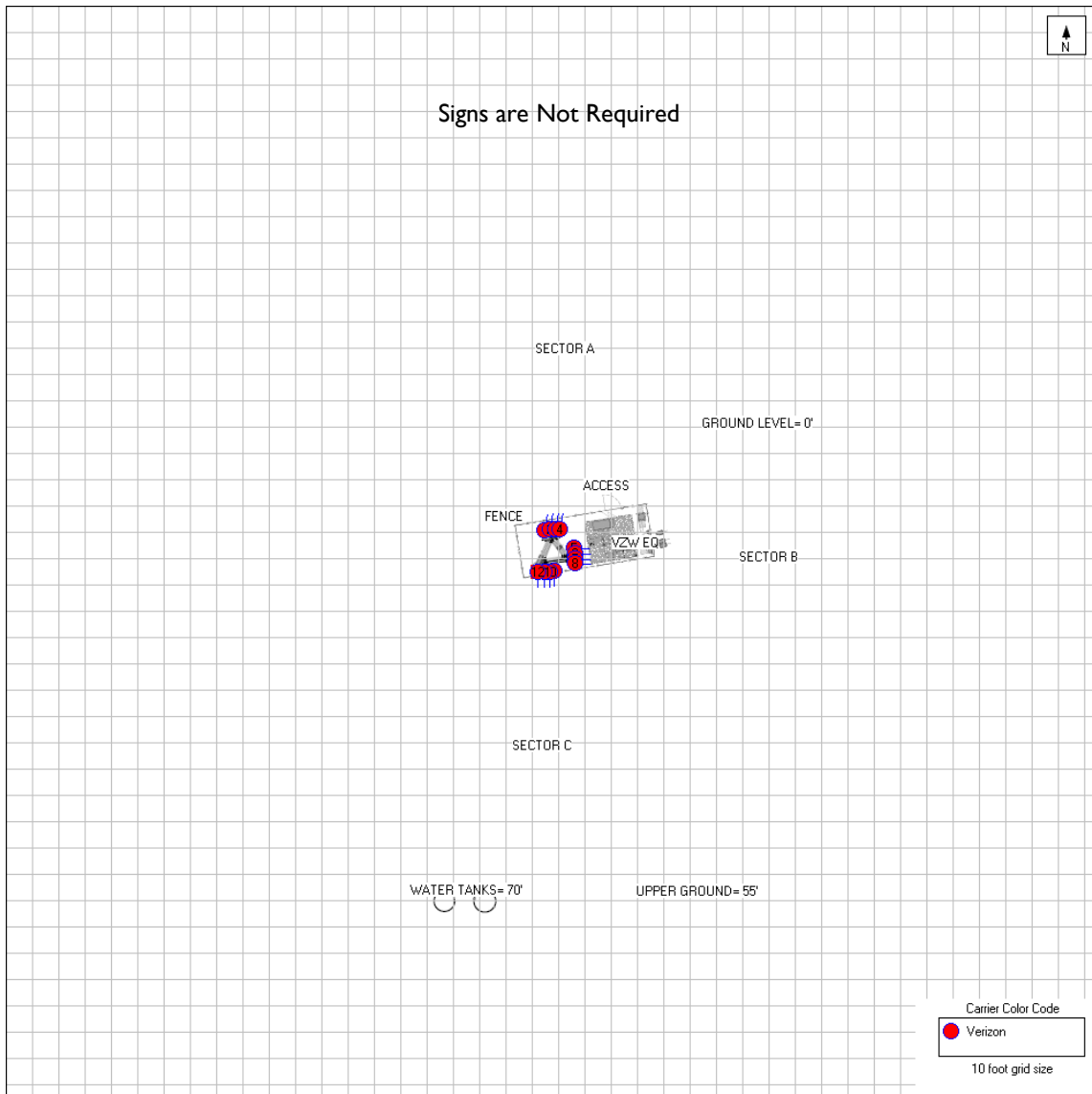
## Upper Ground Level



### Ground Level



## Verizon Signage Plan

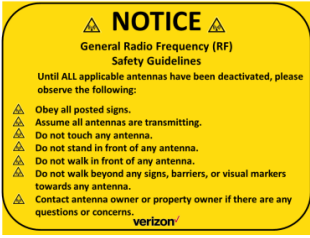
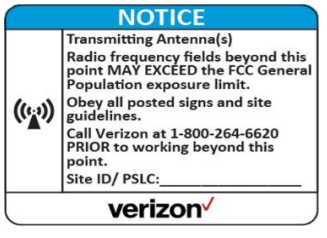
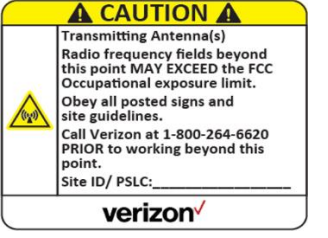
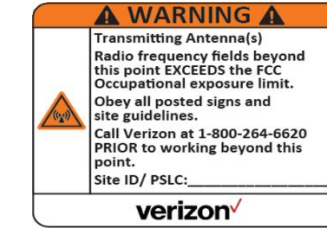



Sign	Posting Instructions	Required Signage / Mitigation
	Securely post at every point of access to the site in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	Signage not required.
	Securely post at every point of access to the site in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	Signage not required.
	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	Signage not required.
	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	Signage not required.
	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	Signage not required.

## RF Signage and Safety Information

### RF Signage

Areas or portions of any transmitter site may be susceptible to high power densities that could cause personnel exposures in excess of the FCC guidelines. These areas must be demarcated by conspicuously posted signage that identifies the potential exposure. Signage **MUST** be viewable regardless of the viewer's position.

GUIDELINES	Category Two - Notice	Category Three - Caution	Category Four - Warning
This sign will inform anyone of the basic precautions to follow when entering an area with transmitting radiofrequency equipment.	This sign indicates that RF emissions may exceed the FCC General Population MPE limit. • Sign Color Blue • Sign Signal Word "Notice"	This sign indicates that RF emissions may exceed the FCC Occupational MPE limit. • Sign Color Yellow • Sign Signal Word "Caution"	This sign indicates that RF emissions may exceed at least 10x the FCC Occupational MPE limit. • Sign Color Orange for Warning • Sign Signal Word "Warning"
			

Category One - Information
Information signs are used as a means to provide contact information for any questions or concerns. They will include specific cell site identification information and the Verizon Wireless Network Operations Center phone number. • Sign Color Green • Sign Signal Word "Information"


### Physical Barriers

Physical barriers are control measures that require awareness and participation of personnel. Physical barriers are employed as an additional administration control to complement RF signage and physically demarcate an area in which RF exposure levels may exceed the FCC General Population limit. **Example:** chain-connected stanchions

### Indicative Markers

Indicative markers are visible control measures that require awareness and participation of personnel, as they cannot physically prevent someone from entering an area of potential concern. Indicative markers are employed as an additional administration control to complement RF signage and visually demarcate an area in which RF exposure levels may exceed the FCC General Population limit. **Example:** paint stripes

### Occupational Safety and Health Administration (OSHA) Requirements

A formal adopter of FCC Standards, OSHA stipulates that those in the Occupational classification must complete training in the following: RF Safety, RF Awareness, and Utilization of Personal Protective Equipment. OSHA also provides options for Hazard Prevention and Control:

Hazard Prevention	Control
<ul style="list-style-type: none"> <li>Utilization of good equipment</li> <li>Enact control of hazard areas</li> <li>Limit exposures</li> <li>Employ medical surveillance and accident response</li> </ul>	<ul style="list-style-type: none"> <li>Employ Lockout/Tag out</li> <li>Utilize personal alarms &amp; protective clothing</li> <li>Prevent access to hazardous locations</li> <li>Develop or operate an administrative control program</li> </ul>

# **Appendix C**

## **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 I and Figure I (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<sup>2</sup>). Known as the power density, the FCC has established for equipment operating at frequencies range from 300 Mhz to 1,500 Mhz the Occupational/Controlled limit of  $(f/300)$  mW/cm<sup>2</sup> where f is the Frequency in (MHz) and the General Population / Uncontrolled limit of  $(f/1500)$  mW/cm<sup>2</sup> where f is the Frequency in (MHz). For equipment operating at frequency ranges from 1900 MHz to 100,000 MHz, the FCC's occupational MPE is 5.0 mW/cm<sup>2</sup> and an uncontrolled MPE limit of 1.0 mW/cm<sup>2</sup>. These limits are considered protective of these populations.

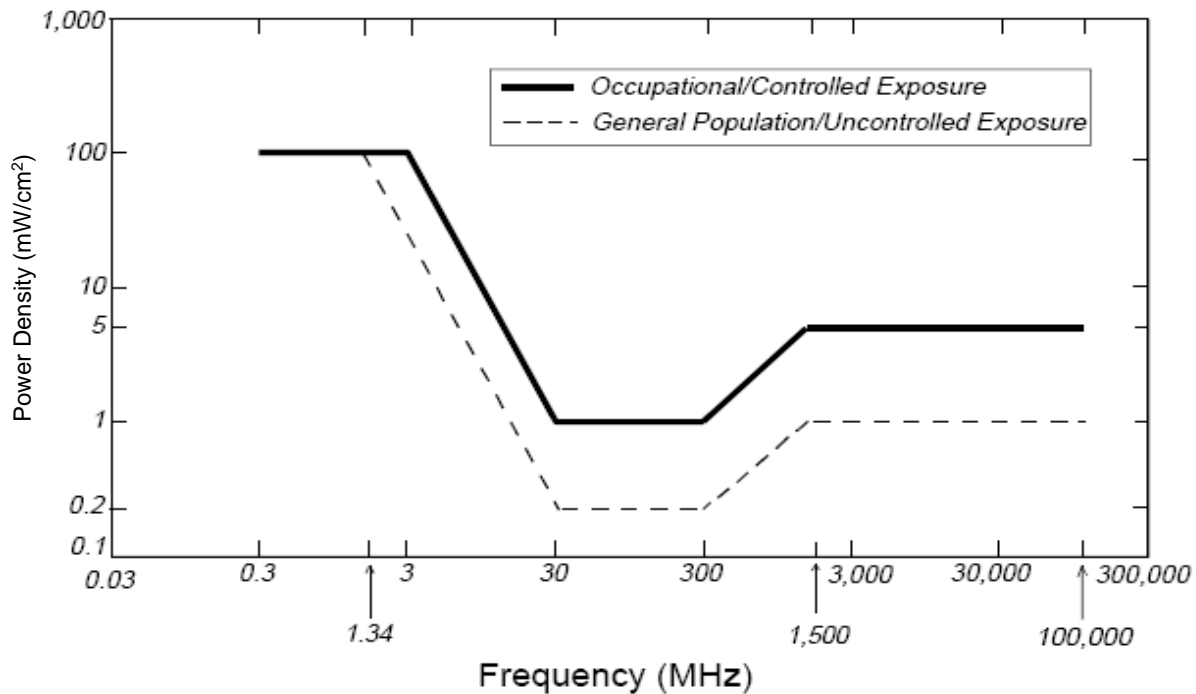


Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time [E] <sup>2</sup> , [H] <sup>2</sup> , or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
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 <sup>2</sup> )	Averaging Time [E] <sup>2</sup> , [H] <sup>2</sup> , or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	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



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 will potentially operate within a frequency range of 700 to 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.

### **FCC Compliance Requirement**

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.

# Environmental Noise Assessment

## Axe Handle Canyon Verizon Cellular Facility

Washoe County, Nevada

BAC Job # 2023-084

Prepared For:

Complete Wireless Consulting

Attn: Steve Proo  
2009 V Street  
Sacramento, CA 95818

Prepared By:

**Bollard Acoustical Consultants, Inc.**



Dario Gotchet, Principal Consultant

August 22, 2023



## Introduction

The Axe Handle Canyon Verizon Wireless Unmanned Telecommunications Facility (project) proposes the installation of cellular equipment within a lease area located at 14855 Pyramid Way in Washoe County, Nevada (APN: 076-272-03). The outdoor equipment cabinets and an emergency standby diesel generator have been identified as the primary noise sources associated with the project. The project location with aerial imagery is shown in Figure 1. The studied site drawings are dated June 16, 2023.

Bollard Acoustical Consultants, Inc. has been contracted by Complete Wireless Consulting, Inc. to complete an environmental noise assessment regarding the proposed project cellular equipment operations. Specifically, the following assessment addresses daily noise production and exposure associated with operation of the project outdoor equipment cabinets and emergency generator. Please refer to Appendix A for definitions of acoustical terminology used in this report. Appendix B illustrates common noise levels associated with various sources.

## Criteria for Acceptable Noise Exposure

### Washoe County Development Code

Section 110.414.05(b) of the Washoe County Development Code establishes a day-night average noise level (DNL) standard of 65 dB for determining compatibility of noise sources affecting residential uses, applied at the property line of the receiving land use.

## Project Noise Generation



As discussed previously, there are two project noise sources which are considered in this evaluation: the equipment cabinet cooling systems and the emergency generator. The evaluation of potential noise impacts associated with the operation of each noise source is evaluated separately as follows:

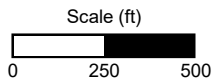
### Equipment Cabinet Noise Source and Reference Noise Levels

The project proposes the installation of two (2) equipment cabinets within the lease area illustrated in Figure 1. Based on the provided site plans, the cabinets assumed for the project are one (1) Charles Industries 48V Power Plant and one (1) miscellaneous cabinet cooled by a McLean Model T-20 air conditioner. The cabinets and their respective reference noise levels are provided in Table 1. The manufacturer's noise level data specification sheets for the proposed equipment cabinets are provided as Appendix C.



**Legend**

-  Proposed Verizon Cellular Equipment Lease Area (Approximate)
-  Noise-Sensitive Receivers (Residences)



**Axe Handle Canyon Verizon Cellular Facility**  
Washoe County, Nevada

Proposed Cellular Facility Lease Area  
& Nearest Noise-Sensitive Uses

**Figure 1**



**Table 1**  
**Reference Noise Level Data of Proposed Equipment Cabinets**

<b>Equipment</b>	<b>Number of Cabinets</b>	<b>Reference Noise Level (dB)</b>	<b>Reference Distance (ft)</b>
Charles Industries 48V Power Plant	1	60	5
McLean T-20	1	66	5
<i>Note: Manufacturer specification sheets provided as Appendix C.</i>			

### **Generator Noise Sources and Reference Noise Level**

The project also proposes the installation of an emergency standby diesel generator within the lease area to maintain cellular service during emergency power outages. Based on the provided site plans, the generator assumed for installation at this site is a Generac Industrial Power Systems Model SD030. It is further assumed that the proposed generator will be equipped with the Level 2 Acoustic Enclosure resulting in a reference noise level of 68 dB at a distance of 23 feet. The manufacturer's noise level data specification sheet for the proposed generator and acoustical enclosure is provided as Appendix D.

The generator which is proposed at this site would only operate during emergencies (power outages) and brief daytime periods for periodic maintenance/lubrication. According to the project applicant, testing of the generator would occur twice per month on weekdays only, during daytime hours, for a duration of approximately 15 minutes. The emergency generator would not operate at night, except during power outages. It is expected that nighttime operation of the project emergency generator would be exempt from the County's noise exposure criteria due to the need for continuous cellular service provided by the project equipment.

### **Predicted Facility Noise Levels at the Nearest Noise-Sensitive Uses**

The nearest noise-sensitive uses have been identified as residences, identified as receivers 1 and 2 in Figure 1. Assuming standard spherical spreading loss (-6 dB per doubling of distance from a stationary noise source), project-equipment noise exposure at the nearest noise-sensitive uses (residences) was calculated and the results of those calculations are presented in Table 2. For the purposes of this analysis, project noise level exposure was conservatively assessed at the property lines of the parcels containing the closest residences.

To calculate project-related noise generation relative to the County Development Code day-night average (DNL) noise level standard, the number of hours the equipment is in operation must be known. For the purpose of this analysis, the outdoor equipment cabinets were conservatively assumed to be operating continuously for 24 hours. Additionally, the proposed generator was assumed to be operating continuously for a one-hour period during daytime hours for routine testing and maintenance. The project applicant has indicated that routine testing and maintenance of generator is limited to daytime hours, twice per month, for a duration of less than 15 minutes. As a result, the assumption of one hour of generator operation during daytime hours is considered conservative.

**Table 2**  
**Predicted Equipment Noise Levels at Nearest Noise-Sensitive Uses**

Receiver <sup>1</sup>	Distance from Lease Area (ft) <sup>2</sup>	Predicted Equipment Noise Levels, DNL (dB)		
		Cabinets <sup>3</sup>	Generator <sup>4</sup>	Combined
1 – Residence	600	32	26	33
2 – Residence	695	31	25	32

<sup>1</sup> Receiver locations shown in Figure 1.  
<sup>2</sup> Equipment cabinet DNL was calculated by conservatively assuming 24 continuous hours of operation.  
<sup>3</sup> Generator DNL was calculated by conservatively assuming 1 hour of operation during daytime hours for testing/maintenance.  
<sup>4</sup> Distances scaled from equipment lease area to receiver property lines using the provided site plans.

Source: BAC 2023.

As indicated in Table 2, the predicted combined project equipment noise levels of 32-33 dB DNL at the property lines of the parcels containing the nearest noise-sensitive receivers (residences) would satisfy the applicable Washoe County 60 dB DNL noise level standard by a wide margin. As a result, no further consideration of equipment noise mitigation measures would be warranted for the project.

## Conclusions

Based on the equipment noise level data and analyses presented above, project-related equipment noise exposure is expected to satisfy the applicable Washoe County noise level criteria at the closest noise-sensitive uses. As a result, no further consideration of project equipment noise mitigation measures would be warranted for this project.

This concludes our environmental noise assessment for the proposed Axe Handle Canyon Verizon Cellular Facility in Washoe County, Nevada. Please contact BAC at (530) 537-2328 or [darioq@bacnoise.com](mailto:darioq@bacnoise.com) with any questions or requests for additional information.

## Appendix A Acoustical Terminology

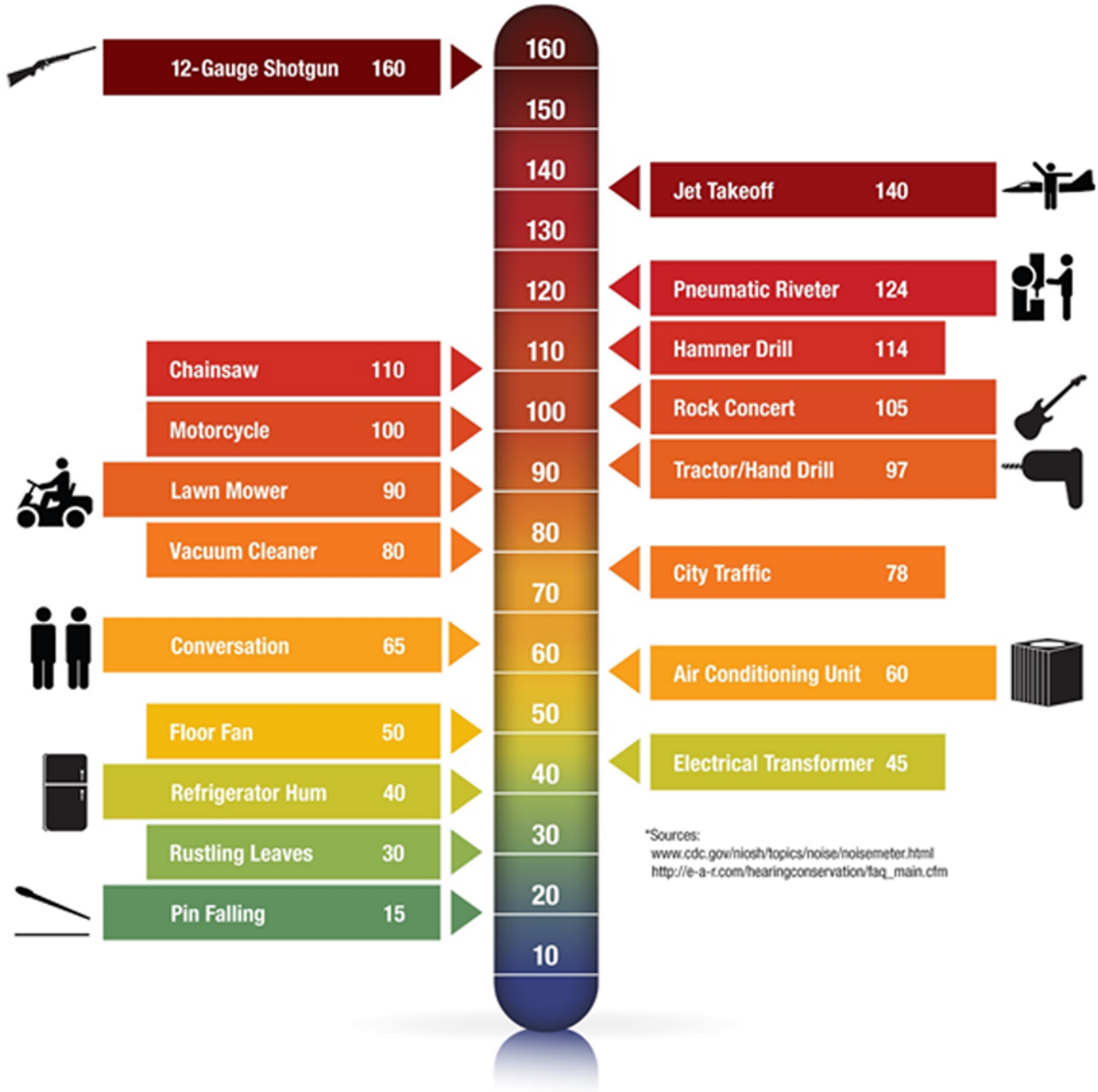
<b>Acoustics</b>	The science of sound.
<b>Ambient Noise</b>	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
<b>Attenuation</b>	The reduction of an acoustic signal.
<b>A-Weighting</b>	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
<b>Decibel or dB</b>	Fundamental unit of sound. A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
<b>CNEL</b>	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
<b>Frequency</b>	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
<b>IIC</b>	Impact Insulation Class (IIC): A single-number representation of a floor/ceiling partition's impact generated noise insulation performance. The field-measured version of this number is the FIIC.
<b>L<sub>dn</sub></b>	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
<b>Leq</b>	Equivalent or energy-averaged sound level.
<b>L<sub>max</sub></b>	The highest root-mean-square (RMS) sound level measured over a given period of time.
<b>Loudness</b>	A subjective term for the sensation of the magnitude of sound.
<b>Masking</b>	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
<b>Noise</b>	Unwanted sound.
<b>Peak Noise</b>	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.
<b>RT<sub>60</sub></b>	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
<b>STC</b>	Sound Transmission Class (STC): A single-number representation of a partition's noise insulation performance. This number is based on laboratory-measured, 16-band (1/3-octave) transmission loss (TL) data of the subject partition. The field-measured version of this number is the FSTC.





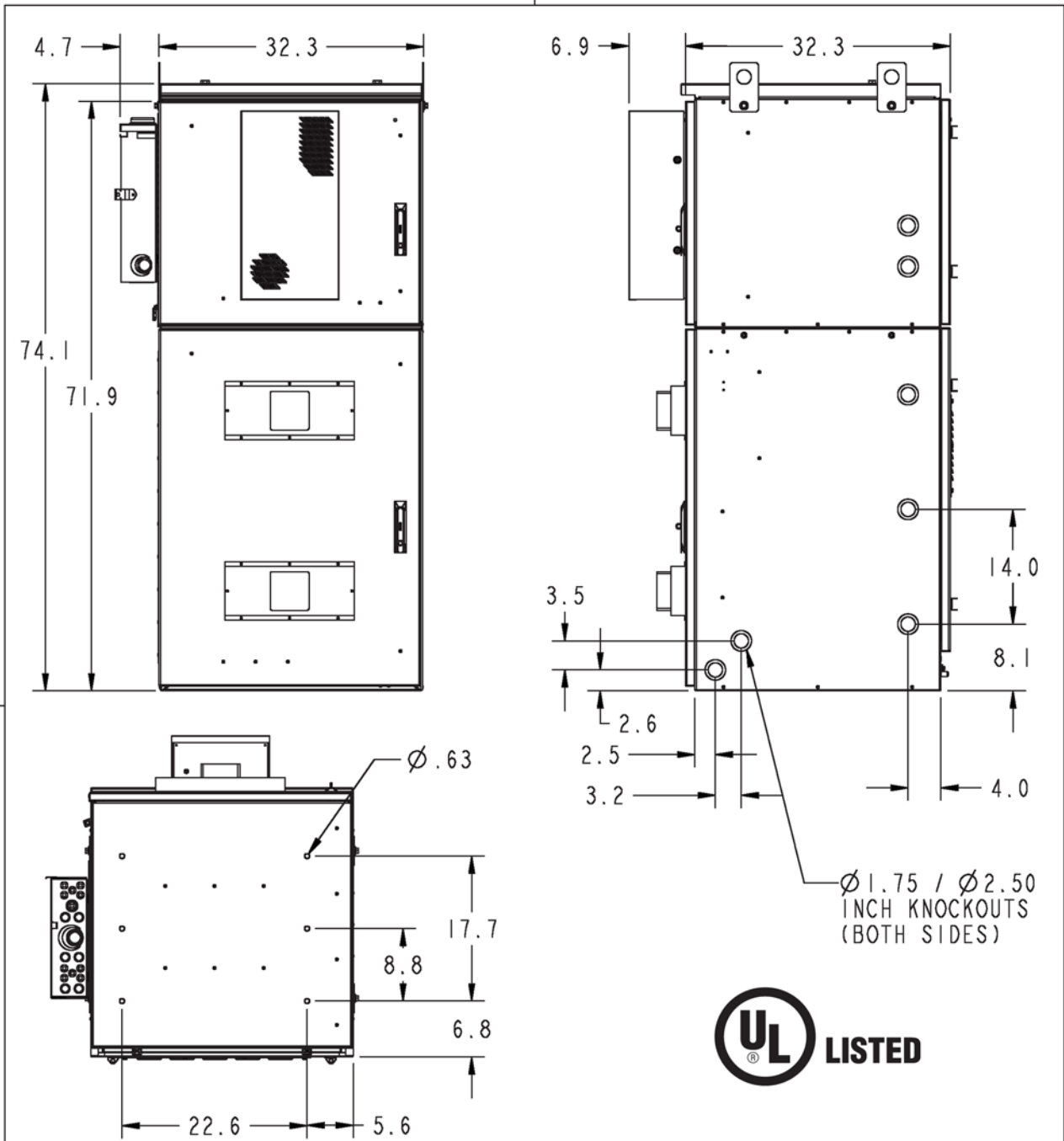
# Appendix B

## Typical A-Weighted Sound Levels of Common Noise Sources Decibel Scale (dBA)\*



\*Sources:  
[www.cdc.gov/niosh/topics/noise/noisemeter.html](http://www.cdc.gov/niosh/topics/noise/noisemeter.html)  
[http://e-a-r.com/hearingconservation/faq\\_main.cfm](http://e-a-r.com/hearingconservation/faq_main.cfm)

# Appendix C-1



**WEIGHT WITH BATTERIES:**  
2296 LBS.

**WEIGHT WITHOUT BATTERIES:**  
760 LBS.

**MAX NOISE LEVEL:**  
55-60dB

NorthStar NSB-170FT batteries  
at 128 lbs each, Qty 12

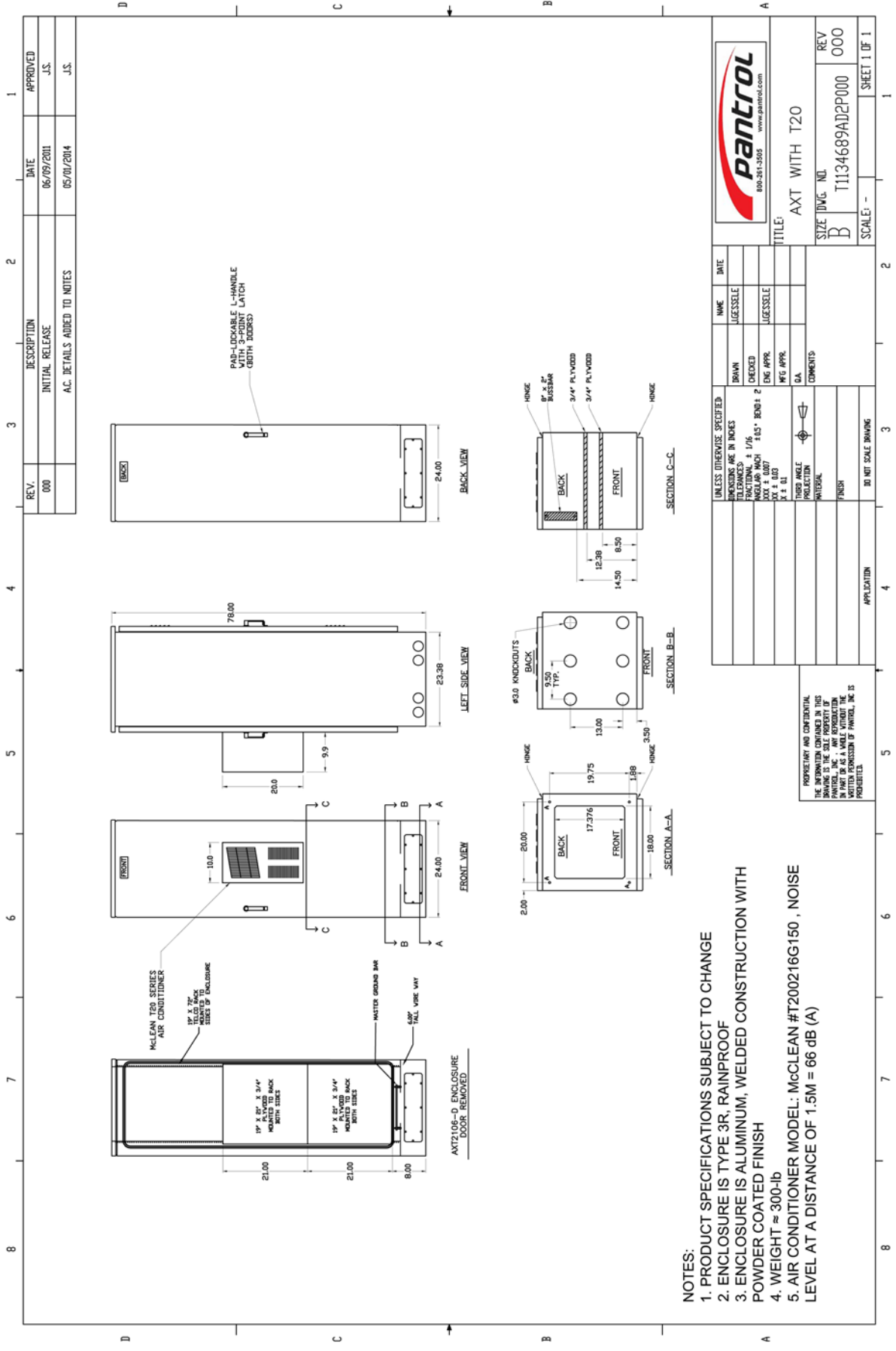
**CHARLES PART #**  
**CUBE-SS4C215XC1**

**Charles**  
Charles Industries Ltd.  
Telecommunications Group  
Charles Center, 5600 Apollo Drive  
Rolling Meadows, IL 60008  
Telephone: 847-808-6300

THIS IS THE PROPERTY OF CHARLES INDUSTRIES LTD. AND SHALL NOT BE REPRODUCED, COPIED OR USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.

**Verizon Wireless**  
**Large Site Support Enclosure**

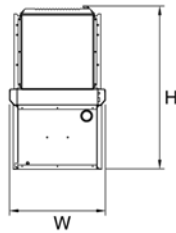
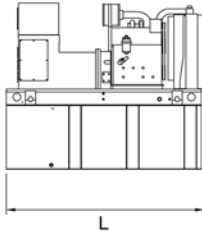
# Appendix C-2



# Appendix D

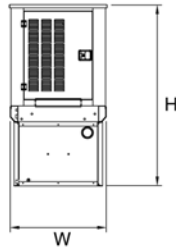
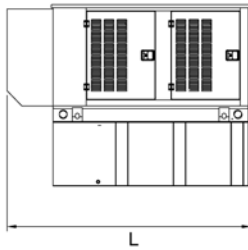
## SD030

## dimensions, weights and sound levels



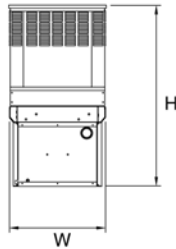
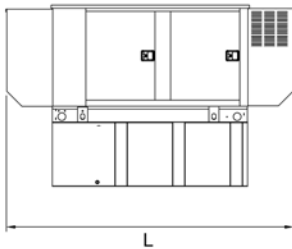
### OPEN SET

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	76	38	46	2060	82
20	54	76	38	59	2540	
48	132	76	38	71	2770	
77	211	76	38	83	2979	
109	300	93	38	87	3042	



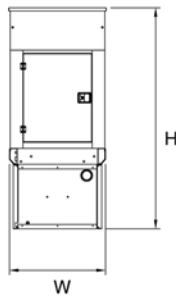
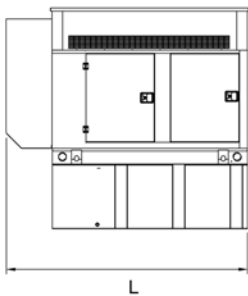
### STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	95	38	50	2362	77
20	54	95	38	63	2842	
48	132	95	38	75	3072	
77	211	95	38	87	3281	
109	300	95	38	91	3344	



### LEVEL 1 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	113	38	50	2515	70
20	54	113	38	63	2995	
48	132	113	38	75	3225	
77	211	113	38	87	3434	
109	300	113	38	91	3497	



### LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	95	38	62	2520	68
20	54	95	38	75	3000	
48	132	95	38	87	3230	
77	211	95	38	99	3439	
109	300	95	38	103	3502	

\*All measurements are approximate and for estimation purposes only. Weights are without fuel in tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

- Tank Options
- MDEQ OPT
  - Florida DERM/DEP OPT
  - Chicago Fire Code OPT
  - IFC Certification CALL
  - ULC CALL

Other Custom Options Available from your Generac Industrial Power Dealer

**YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER**

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.



**WASHOE COUNTY**  
**COMMUNITY SERVICES DEPARTMENT**  
 Planning and Building

1001 EAST 9<sup>TH</sup> STREET  
 PO BOX 11130  
 RENO, NEVADA 89520-0027  
 PHONE (775) 328-3600  
 FAX (775) 328.6133

**Board of Adjustment Action Order**

**Special Use Permit Case Number WSUP18-0001**

Decision: Approval with Conditions

Decision Date: April 5, 2018

Mailing/Filing Date: April 9, 2018

Applicant: Sacramento Valley LP  
 dba Verizon Wireless

Assigned Planner: Eva Krause, Planner  
 Washoe County Community Services Department  
 Planning and Building Division

Phone: 775.328.3628

E-Mail: [ekrause@washoecounty.us](mailto:ekrause@washoecounty.us)

**Special Use Permit Case WSUP18-0001 (Ax Handle Canyon Wireless)** – For possible action, hearing, and discussion to approve a special use permit for the installation and operation of a 104-foot tall monopole telecommunication facility with all necessary appurtenances/supporting equipment and facilities, for major grading (cut and fill of more than 1,000 cubic yards of material) to extend the utility access road an additional ±500 feet from the existing 1,700 foot driveway terminus at the residence on the property to the facility’s leased area, and to vary development code requirements for landscaping and parking for a commercial use by waiving them for this project.

- Applicant: Sacramento Valley LP  
 d/b/a Verizon Wireless
- Property Owner: 14855 Pyramid Highway Land Trust
- Location: 14855 Pyramid Highway
- APN: 076-272-03
- Parcel Size: 79.82 acres
- Master Plan: Rural (R)
- Regulatory Zone: General Rural Agriculture (GRA)
- Area Plan: Warm Springs
- Citizen Advisory Board: Warm Springs/Rural
- Development Code: Authorized in Article 810, Special Use Permits, Article 438  
 Grading Standards, Article 324 Communication Facilities
- Commission District: 5 – Commissioner Herman
- Section/Township/Range: Section 24, T22N, R20E, MDM,  
 Washoe County, NV

Notice is hereby given that the Washoe County Board of Adjustment granted approval with conditions for the above referenced case number based on the findings in accordance with Washoe County Development Code Article 810, Special Use Permits. If no appeals have been filed within 10 calendar days from the Mailing/Filing Date shown on this Action Order, the approval by the Washoe County Board of Adjustment is final. If filed, an



INTEGRITY



EFFECTIVE  
 COMMUNICATION



QUALITY  
 PUBLIC SERVICE

To: Sacramento Valley LP dba Verizon Wireless  
Subject: Special Use Permit Case WSUP18-0001  
(Ax Handle Canyon Wireless)  
Date: April 9, 2018  
Page: 2

appeal stays any further action on the decision until final resolution of the appeal. An appeal shall be filed in accordance with the provisions found in Article 912 of the Washoe County Development Code.

The action was based on the following findings in accordance with Washoe County Code Section 110.810.30:

1. Consistency. That the proposed use is consistent with the Warm Springs Area Plan;
2. Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;
3. Site Suitability. That the site is physically suitable for a telecommunications monopole with all necessary appurtenances and for the intensity of such a development;
4. Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area;
5. Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation;

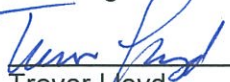
**Findings required by Section 110.324.75, for a telecommunications facility:**

6. Sections 110.324.40 through 110.324.60 Requirements;
7. Public input was considered; and,
8. Will not unduly impact the adjacent neighborhoods or the vistas and ridgelines of the County.

This Action Order is issued subject to the attached conditions and Washoe County development standards. Please contact the planner assigned to your project at the above-referenced phone number within 7 days of receipt of this Order to review the steps necessary to satisfy the Conditions of Approval. Any business license, certificate of occupancy, or final approval shall not be issued until all of the Conditions of Approval are satisfied. Additionally, compliance shall be required with all federal, state, and local statutes, ordinances, and regulations applicable to the approved project.

**This Action Order does not authorize grading or building without issuance of the necessary permits from the Washoe County Planning and Building Division.**

Washoe County Community Services Department  
Planning and Building Division

  
\_\_\_\_\_  
Trevor Lloyd  
Secretary to the Board of Adjustment

TL/EK/df

Attachments: Conditions of Approval

To: Sacramento Valley LP dba Verizon Wireless  
Subject: Special Use Permit Case WSUP18-0001  
(Ax Handle Canyon Wireless)  
Date: April 9, 2018  
Page: 3

Applicant: Sacramento Valley LP d/b/a Verizon Wireless  
Attn: CWC  
2009 V Street  
Sacramento CA 95818  
[bmerritt@completewireless.net](mailto:bmerritt@completewireless.net)

Owner: 14855 Pyramid Way Land Trust  
c/o Renia Smith  
PO Box 17283  
Reno NV 89510-7283  
[renia\\_smith@hotmail.com](mailto:renia_smith@hotmail.com)

Action Order xc: Nathan Edwards, District Attorney's Office; Keirsten Beck, Assessor's Office; Cori Burke, Assessor's Office; Leo Vesely, Engineering and Capital Projects; Denise Reynolds, Truckee Meadows Fire Protection District; Warm Springs/Rural Citizen Advisory Board, Chair







# Conditions of Approval

Special Use Permit Case Number WSUP18-0001

The project approved under Special Use Permit Case Number WSUP18-0001 shall be carried out in accordance with the Conditions of Approval granted by the Board of Adjustment on April 5, 2018. Conditions of Approval are requirements placed on a permit or development by each reviewing agency. These Conditions of Approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act.

**Unless otherwise specified**, all conditions related to the approval of this Special Use Permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Building Division.

Compliance with the conditions of approval related to this Special Use Permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the Special Use Permit may result in the institution of revocation procedures.

Washoe County reserves the right to review and revise the conditions of approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, “may” is permissive and “shall” or “must” is mandatory.

Conditions of Approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some “Conditions of Approval” are referred to as “Operational Conditions.” These conditions must be continually complied with for the life of the project or business.

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

## **Washoe County Planning and Building Division**

1. The following conditions are requirements of the Planning and Building Division, which shall be responsible for determining compliance with these conditions.

**Contact Name – Eva Krause, (775) 328-3628 [ekrause@washoecounty.us](mailto:ekrause@washoecounty.us)**

- a. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit.
- b. The applicant shall submit complete construction plans and building permits shall be issued within two years from the date of approval by Washoe County. The applicant shall complete construction within the time specified by the building permits.
- c. In addition to the requirements of the Building Program, the building permit application shall include all information specified in **WWC Section 110.324.60 Wireless Communication/Cellular Facilities Permitting Requirements**. Including Property Owner's assurances that the structure shall be removed if the use of the facility is discontinued for 12 months.
- d. All equipment, monopole and walls enclosing the lease sites shall be painted/stained or tinted by other means, to be a color of tan or brown to blend with the surrounding landscape.
- e. The applicant shall agree to waive any claims against Washoe County, as well as the Truckee Meadows Fire Protection District, for damages to Verizon property or equipment arising out of a longer response time due to design of the access road.
- f. The Board of Adjustment finds that due to the physical conditions of the site, including the unavailability of water for commercial use and the distance from any public road or private residence the requirement for commercial landscaping is excessive and unnatural. Therefore the Board waives all requirements for commercial landscaping surrounding the lease areas.
- g. The Board of Adjustment finds that due to the nature of the use, that the site is not accessible to the public, and the limited number of vehicles and minimal number of site visits required by facility technicians, the requirements of the commercial parking standards is excessive. The Board waives all requirements for paved parking for the facility as proposed.
- h. A note shall be placed on all construction drawings and grading plans stating:

NOTE

Should any cairn or grave of a Native American be discovered during site development, work shall temporarily be halted at the specific site and the Sheriff's Office as well as the State Historic Preservation Office of the Department of Conservation and Natural Resources shall be immediately notified per NRS 383.170.

- i. The following **Operational Conditions** shall be required for the life of the development:
  - i. Failure to comply with the conditions of approval shall render this approval null and void.
  - ii. The lease holder for the facility shall maintain the appearance of the facility and the lease area. Maintenance shall include replace and repair of fencing, screening walls and equipment; repainting or staining of walls, tower and equipment as needed to blend with the surrounding; the removal of weeds and debris around and inside the lease areas.
  - iii. The applicant and any successors shall direct any potential purchaser and/or the special use permit to meet with the Planning and Building Division to review Conditions of Approval prior to the final sale of the site and/or the special use permit. Any subsequent purchaser/operator of the site and/or the special use

permit shall notify the Planning and Building Division of the name, address, telephone number, and contact person of the new purchaser/operator within 30 days of the final sale.

**Washoe County Engineering and Capital Projects**

2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

**Contact Name – Leo Vesely (775) 328-2313, [ivesely@washoecounty.us](mailto:ivesely@washoecounty.us)**

- a. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, to include revegetation and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. All grading shall comply with County Code Article 438, Grading Standards. Silts shall be controlled on-site.
- b. The applicant shall provide proof of easements for the lease area, access and utilities. A copy of the recorded easements shall be submitted to the Engineering Division prior to issuance of a building permit.
- c. All existing and proposed easements shall be shown on the site and/or grading plan. The County Engineer shall determine compliance with this condition.
- d. Slopes in excess of, or steeper than, three horizontal to one vertical (3:1) may be permitted at the discretion of the County Engineer for the utility access road, as provided for in WCC 110.438.35.

\*\*\* End of Conditions \*\*\*

