PROJECT SUPPORT STATEMENT

AT&T PROJECT NAME: CONNECT AMERICA FUND II (CAF II) PROJECT

DEVELOPMENT APPLICATION FOR AT&T SITE "GOLD HILL"

AT&T SITE NUMBER: CVL03054

AUTHORIZED AGENT:

EPIC WIRELESS GROUP, LLC

ZONING MANAGER:

JARED KEARSLEY; 916-755-1326; jared.kearsley@epicwireless.net

PROPERTY OWNER: ANNE AND ROGER STROUD, KATHLEEN OCONNOR

LANDOWNER CONTACT: 530-626-4209

APN: 105-110-81-100

6812 Gods Way, Lotus, CA 95651

- **PROJECT'S BACKGROUND AND OBJECTIVES**
- **SEARCH RING'S DESCRIPTION AND OBJECTIVES**
- **POTENTIAL CO-LOCATIONS**
- **ALTERNATIVE SITE ANALYSIS**
- **SUBJECT PARCEL AND SITE DETAILS AND SUPPORTING DOCUMENTS**
- **OPERATIONAL STATEMENT**
- **FIRE SUPPRESSION SYSTEM**
- **OTHER CONSIDERATIONS RELATING TO NEW WIRELESS TELECOMMUNICATION FACILITIES PURSUANT TO 17.14.210 AND 17.22.500 OF THE EL DORADO COUNTY ZONING CODE**

Exhibit J
Site 7 Gold Hill

Project Background and objectives:

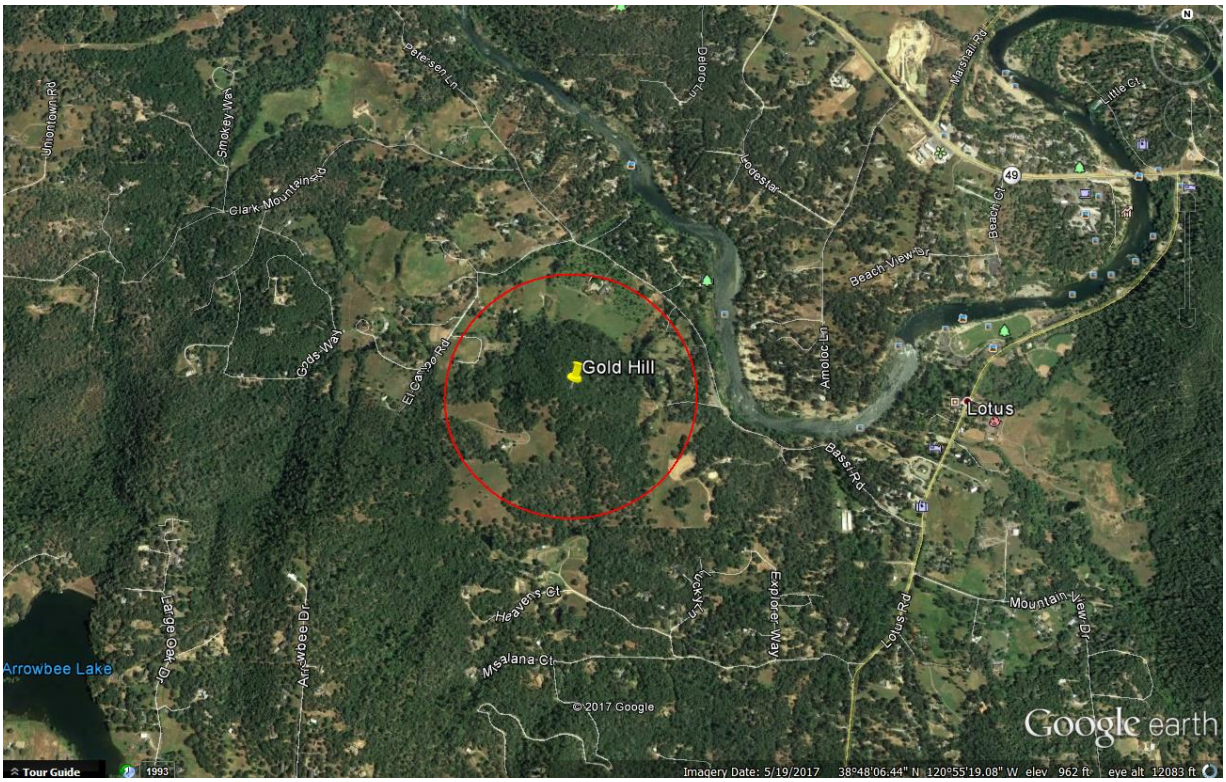
AT&T is participating in a Federal Government funded project called Connect America Fund (CAF) – which is to provide underserved areas throughout the United States in general and throughout El Dorado County in particular with hi-speed broadband internet. The build-up of hi-speed broadband internet throughout rural/underserved areas will not only drive economic growth in rural America, but will expand the online marketplace nationwide, creating jobs, educational and businesses opportunities across the country. The CAF project is required to provide broadband internet services capable of 10 Mbps download and 1 Mbps upload speeds.

AT&T has the necessary technology that allows them to build out their territory in El Dorado County with the much demanded hi-speed broadband internet to help improve the county's rural infrastructure. AT&T's basis for transmitting and receiving hi-speed broadband internet to residences is executed by providing one site with either a microwave fiber hop or a direct fiber line to the site and transferring the high speeds of fiber to each Living Unit (LU) via wireless signals. Each LU being provided with the service will have a small square antenna located in a vantage point on the property where it has a direct line of site to the tower. The square antenna will send and receive wireless broadband internet providing the LU with a minimum of 10/1 Mbps download and upload speeds, respectively.

AT&T's secondary objective is to provide and enhance AT&T's Wireless Telecommunications services (cellular services) to underserved areas. Cellular services go hand in hand with building the internet infrastructure throughout these underserved areas. People today rely on their mobile devices not only for educational and business purposes, but also for emergency services. Increasing AT&T's cellular coverage and capacity throughout El Dorado County's rural areas while providing wireless broadband internet will greatly assist with enhancing the county's economic growth and the area's infrastructure.

Given the need for direct line of site to residences, a taller than typical tower will be necessary in order to provide wireless broadband internet services to as many homes in the targeted areas as possible. During the tower design phase, the Radio Frequency (RF) engineer study many variables including surrounding tree heights, tree densities, population densities, and surrounding hill tops, in order to properly design a sufficient tower height with the goal of achieving the FCC's track census block mandates of reaching specific LU coverage objectives per area. Living Unit (LU) coverage objectives are provided by the RF engineer using density maps and are based on the area's approximate population. AT&T's goal is not only to reach the coverage objective, but to outperform the coverage objective to ensure that the maximum amount of homes are being provided this service while taking into consideration a small margin of error during the simulation process.

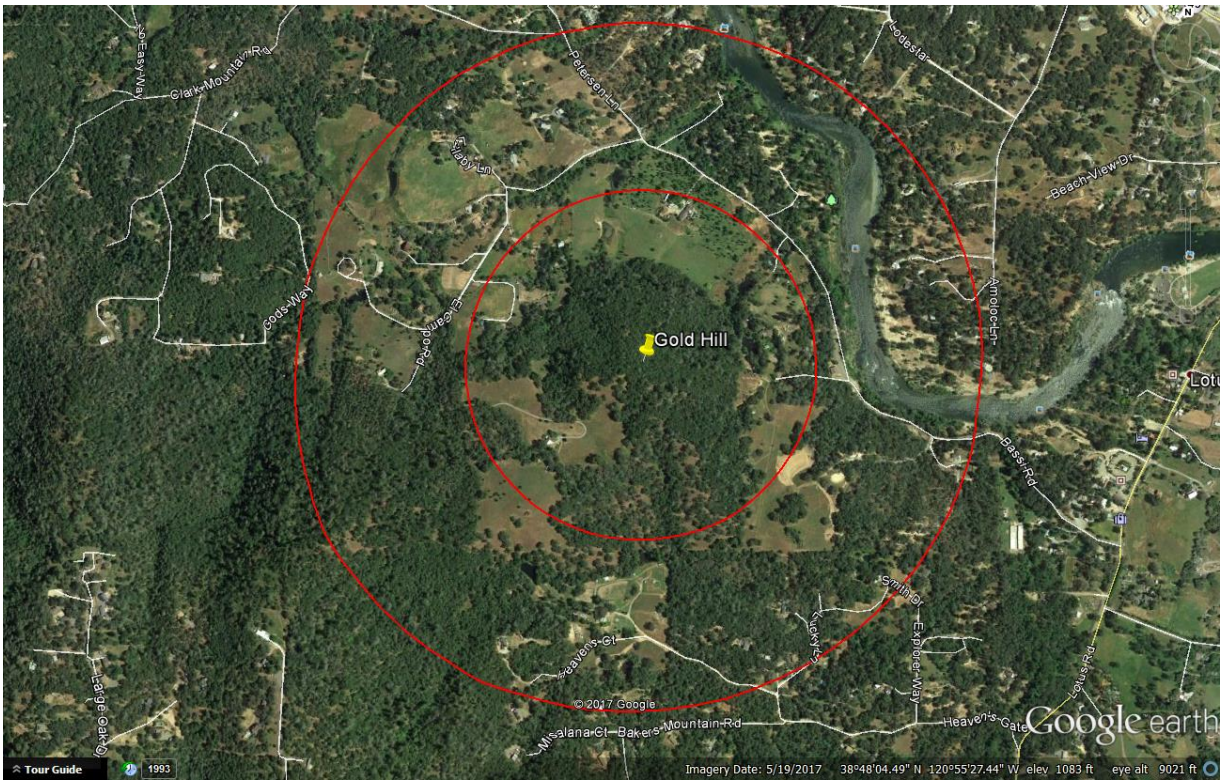
Search Ring's Description and Objectives:



AT&T Mobility is proposing to build and maintain an unmanned wireless telecommunication facility consisting of a 35' x 40' (1,400) square foot enclosed compound (lease area). The compound will include a 112 foot Stealth Monopine tower, one equipment shelter, one 35kw standby propane generator, and one 500 gallon propane tank. This facility will be located at 6812 Gods Way, Lotus, within El Dorado County's jurisdiction in a 10 acre RL-10 zone. The site is approximately 0.5 miles South of Jacobs Creek and the area consists of evergreen trees, and rolling hills with rocky terrain.

AT&T's objective for the Gold Hill site is to provide wireless hi-speed broadband internet and cellular services to the nearby residences. This site is to provide hi-speed internet and enhanced cellular coverage & capacity to the Lotus area, in all directions of the search ring which is a relatively dense underserved area. The site location's elevation is approximately 1,105 feet while the surrounding community's elevation averages around 850 feet, giving the homes within the community great potential for line of site to the tower. After running a coverage simulation at the site location, AT&T is anticipating meeting their FCC objective for this Search Ring.

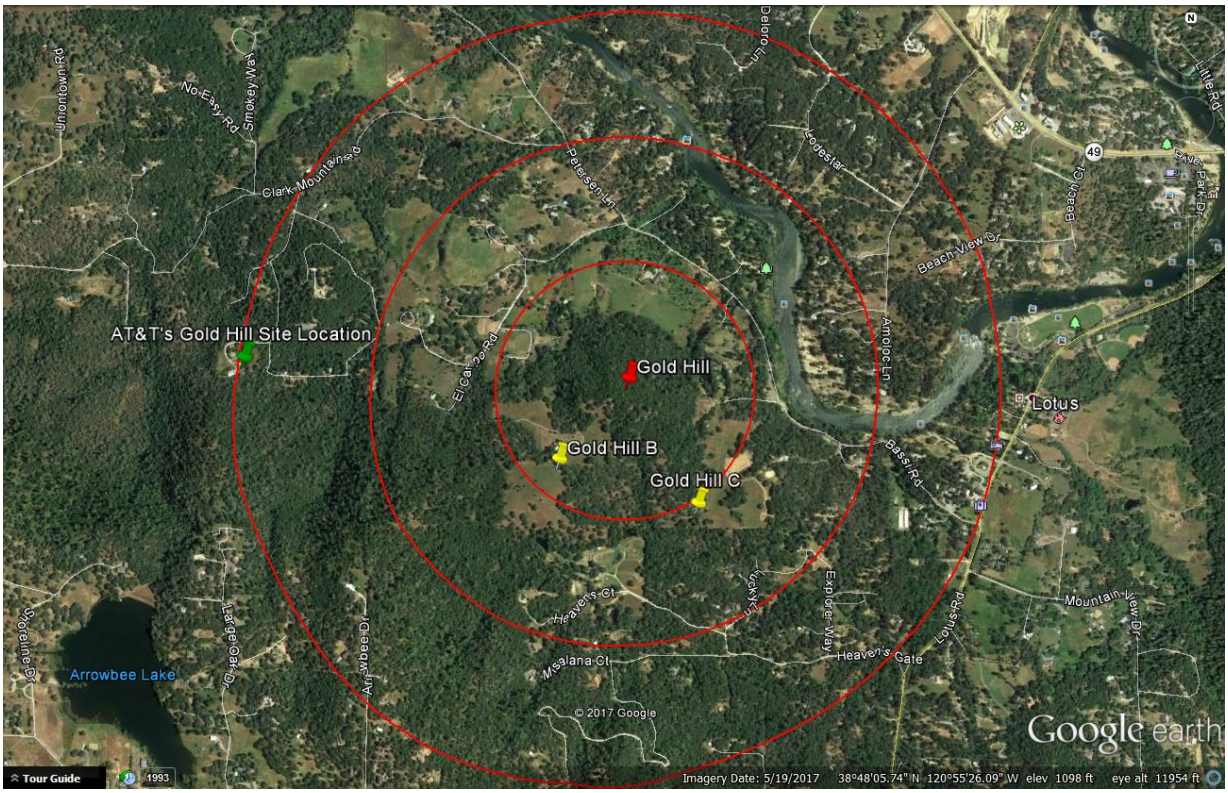
Potential Co-locations:



There are no potential Co-location opportunities in the near vicinity of the provided Search Ring. The targeted area is a relatively low populated area, therefore, typical cellular services are less prone to be present.

The nearest wireless facility is located approximately 2.5 miles northeast on a hill top in the Coloma area. The tower is owned by American Tower Co. (ATC) and was designed to cover the Coloma area. The existing ATC tower does not support CAF II coverage for AT&T's targeted area in for their Search Ring Gold Hill.

Alternative Site Analysis pursuant to 17.14.210 (B) (1):



Above is a map showing the Search Ring (center is the red pin), Proposed Site (green pin) and the two alternative sites (yellow pins) that were considered for placement of the telecommunications facility. Each Alternative Site is discussed below:

Gold Hill Alternative Candidate B:

1111 El Campo Road, Lotus, CA 95651

Latitude/Longitude: 38.799644, -120.926345

Proposal – New Tower

Considerations:

Candidate B is located approximately 1,095 feet south-west of the center of AT&T's search ring. The proposed tower would be located on an 89.52 acre, RE-5 zoned property owned by Charles and Susan Tryson. The property is located at the end of El Campo Road and the site was proposed on the south side of the property. Candidate B was selected as AT&T's third candidate as the site yielded approximately 20% few LU's than the subject property located on Gods Way. The nearest home to the site was approximately 1,100 feet away resulting an a very unobtrusive site location. No oak woodlands were anticipated needing to be removed. The surrounding Land Uses for the area are RR, LDR, and OS. After the initial primary candidate became disqualified, Epic reached out to both the Stroud's on Gods Way and Candidate B, and unfortunately, Candidate B was no longer interested. AT&T found this information permissible given the chosen candidate on God's Way produced 20% more LUs than Candidate B.

Gold Hill Alternative Candidate C:

105-090-03-100; Placerville, CA 95667 (Property does not have a physical address)

Latitude/Longitude: 38.798162, -120.920812

Proposal – New Tower

Considerations:

Candidate C is located approximately 1,460 feet south-east of the center of AT&T's search ring. The proposed tower would be located on a 15.34 acre, RE-5 zoned property owned by Robert and Denise Hansen. The property is located on the south side of Bassie Rd and the site was proposed on the south side of the property. Candidate C was originally chosen as AT&T's primary candidate as the RF Engineer's simulation yielded 6% more LU's than the subject site located at 6812 Gods Way (Subject Parcel). However, the site location was disqualified after further due diligence and found the adjacent dwelling unit's septic system interfered with AT&T's access route. An alternative access route was entertained, however, the cost was too high given the great amount of ground disturbance required for said new access route. For those reasons, the candidate was disqualified indefinitely. The other site's qualities became irrelevant given the site was not feasible any longer.

Additional alternative sites considered and letters of interest sent out but received either no response by landlords or uninterested landlords included the following parcels:

5500 Bassi Road, Lotus, CA 95651 – APN: 105-080-27; Owner: Edward & Theresa Markie

4890 Heavens Court, Lotus, CA 95651 – APN: 105-150-09; Owner: Greg and Stephanie Spangler

6920 Gods Way, Lotus, CA 95651 – APN: 105-110-60; Owner: Kevin Barchers

1988 Lullaby Lane, Lotus, CA 95651 – APN: 105-080-88; Owner: Danny and Deanna Lulla

4400 Baker Road, Placerville, CA 95667 – APN: 105-150-16; Owner: Thoren and Anna Tivol

Actual View of the Proposed Location:

The proposed lease area is located on the south-east side of the subject property. The site will not interfere with the existing Land Use of the property (RR). Access will be directly off of Gods Way. The site is elevated above the surrounding area and has great potential for line of site to the communities down below the subject parcel. The nearest home to the site location is approximately 470 feet to the east which is substantially below grade of the site location. The next nearest home is approximately 730 feet due northeast and is also substantially below grade of the site. Dense foliage is present between the site location and both residences that will naturally stealth their view to the tower. No Oak Woodlands are required to be removed and no oaks will be significantly impacted. No Special Species or animals will be affected by the installation, per Sycamore Environmental Consultants, Inc.

Planning Services

Home > Government > Planning

PARCEL DATA INFORMATION

7/31/2017

Enter Another Parcel

Assessor's Parcel Number: 105-110-81

PROPERTY INFORMATION:

STATUS	JURISDICTION	TAX RATE	MAP	ACREAGE
ON ASSESSMENT ROLL AND TAXED	COUNTY OF EL DORADO	72 - 36	RS 30/127/1	10.065

2015 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS	COMMUNITY REGIONS	RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME
RR			IBC						

2015 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
RL-10			

2004 GENERAL PLAN LAND USE INFORMATION:

LAND USE DES.	AG DIST.	ECOLOGICAL PRESERVES	IMPORTANT BIOLOGICAL CORRIDOR	MINERAL RESOURCES	PLATTED LANDS	COMMUNITY REGIONS	RURAL CENTERS	SPECIFIC PLANS	ADOPTED PLAN NAME
RR			IBC						

2004 ZONING INFORMATION:

ZONING DESIGNATION	DESIGN CONTROL	PLANNED DEVELOPMENT	OTHER OVERLAYS
RE-10			

DISTRICTS:

FIRE	CSD	SCHOOL	WATER
EL DORADO COUNTY FPD		GOLD TRAIL UNION	UNASSIGNED

FLOOD ZONE INFORMATION (See Note below):

FIRM PANEL NUMBER & REVISION	PANEL REVISION DATE	FLOOD ZONE	FLOOD ZONE BUFFER	FLOODWAY
06017C0475E	09/26/2008	X		

MISCELLANEOUS DATA:

SUPERVISORIAL DISTRICT		AG PRESERVE	RARE PLANT MITIGATION AREA	MISSOURI FLAT MC&FP
4	MICHAEL RANALLI			No

REMARKS:

Eligibility Review Required

NOTE: The flood zone information presented here is based solely on data derived from the FEMA Flood Information Rate Maps, and does not include data from any other flood studies.

Ref ID: Gold Hill

Property Detail Report

For Property Located At :
6812 GODS WAY, LOTUS, CA 95651-9719

CoreLogic RealQuest Professional

Owner Information

Owner Name:	STROUD ANNE L & A L
Mailing Address:	6812 GODS WAY, LOTUS CA 95651-9719 H001
Vesting Codes:	/ A / TR

Location Information

Legal Description:	RS 30/127/1		
County:	EL DORADO, CA	APN:	105-110-81-100
Census Tract / Block:	309.01 / 1	Alternate APN:	105-110-81-100
Township-Range-Sect:		Subdivision:	
Legal Book/Page:		Map Reference:	/
Legal Lot:		Tract #:	
Legal Block:		School District:	EL DORADO UN
Market Area:		School District Name:	
Neighbor Code:		Munic/Township:	

Owner Transfer Information

Recording/Sale Date:	10/06/2015 / 09/29/2015	Deed Type:	TRUSTEE'S DEED(TRANSFER)
Sale Price:		1st Mtg Document #:	
Document #:	46447		

Last Market Sale Information

Recording/Sale Date:	07/21/2006 / 07/11/2006	1st Mtg Amount/Type:	$266,000 / CONV
Sale Price:	$512,500	1st Mtg Int. Rate/Type:	/
Sale Type:	FULL	1st Mtg Document #:	49173
Document #:	49172	2nd Mtg Amount/Type:	/
Deed Type:	GRANT DEED	2nd Mtg Int. Rate/Type:	/
Transfer Document #:		Price Per SqFt:	$333.01
New Construction:		Multi/Split Sale:	
Title Company:	PLACER TITLE CO.		
Lender:	WASHINGTON MUTUAL BK FA		
Seller Name:	APGAR BOB & DIANA TRUST		

Prior Sale Information

Prior Rec/Sale Date:	06/27/2000 / 06/21/2000	Prior Lender:	LENDER SELLER
Prior Sale Price:	$52,000	Prior 1st Mtg Amt/Type:	$42,000 / CONV
Prior Doc Number:	31503	Prior 1st Mtg Rate/Type:	/ FIX
Prior Deed Type:	GRANT DEED		

Property Characteristics

Gross Area:		Parking Type:		Construction:	
Living Area:	1,539	Garage Area:		Heat Type:	
Tot Adj Area:		Garage Capacity:		Exterior wall:	
Above Grade:		Parking Spaces:		Porch Type:	
Total Rooms:	6	Basement Area:		Patio Type:	
Bedrooms:	3	Finish Bsmnt Area:		Pool:	
Bath(F/H):	2 /	Basement Type:		Air Cond:	
Year Built / Eff:	2001 / 2001	Roof Type:		Style:	
Fireplace:	/	Foundation:		Quality:	GOOD
# of Stories:	1.00	Roof Material:		Condition:	AVERAGE
Other Improvements:					

Site Information

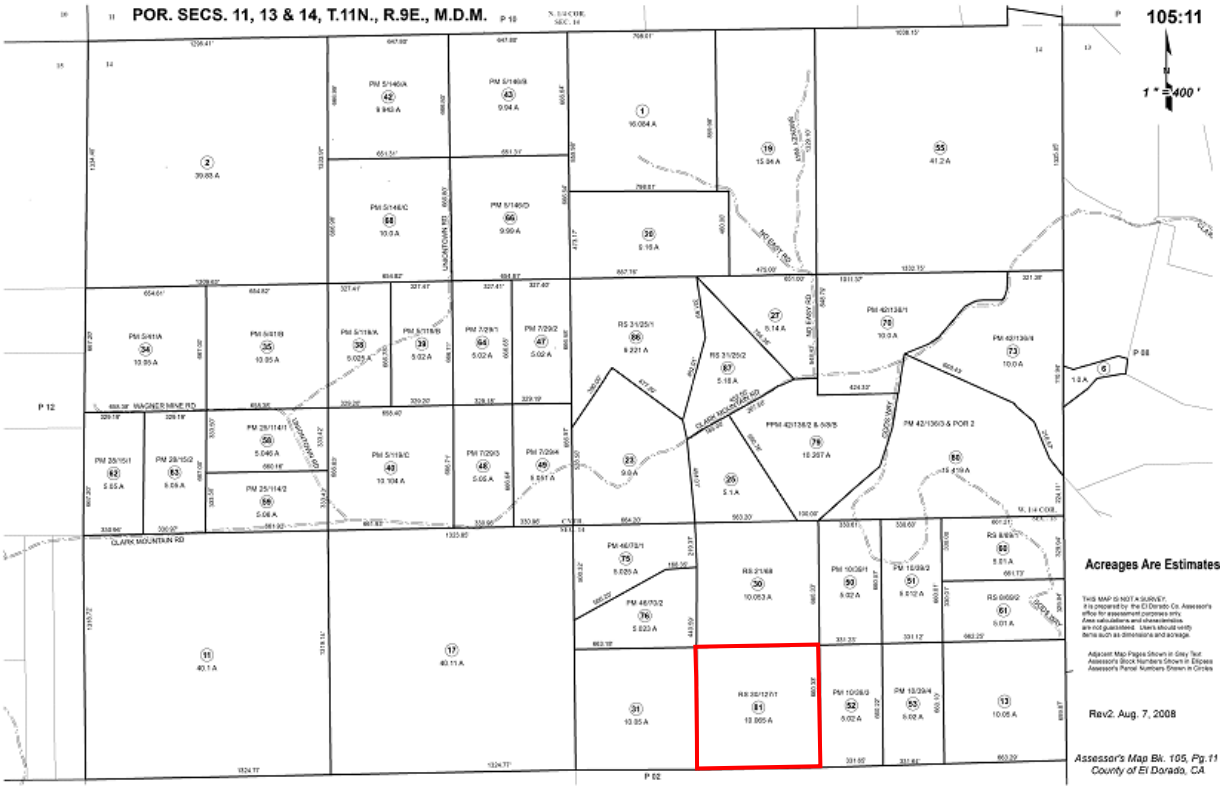
Zoning:	RE-10	Acres:	10.06	County Use:	MOBILE HOME ON 2.5+ AC (28)
Lot Area:	438,431	Lot Width/Depth:	x	State Use:	
Land Use:	MOBILE HOME	Res/Comm Units:	2 /	Water Type:	
Site Influence:				Sewer Type:	

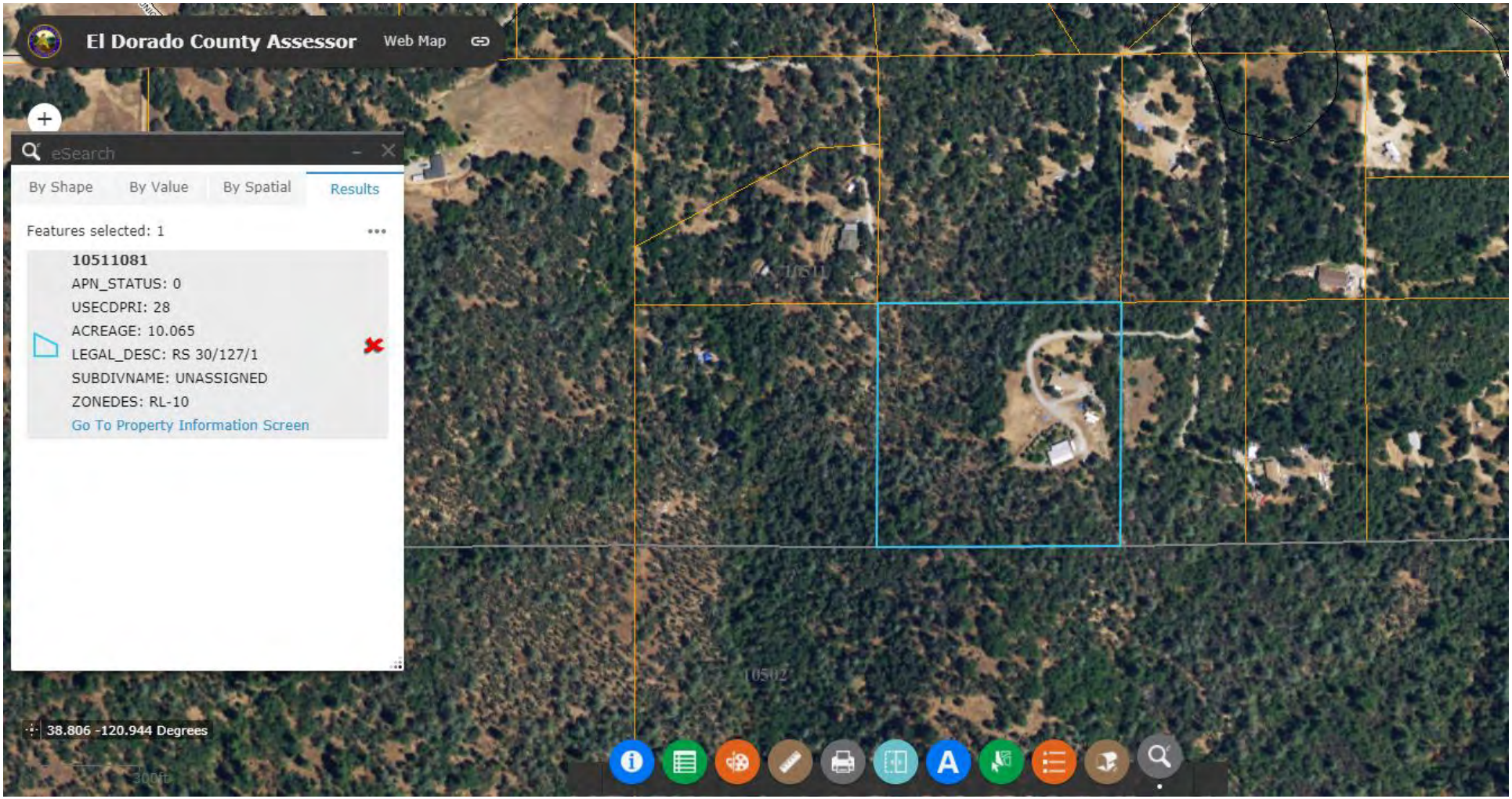
Tax Information

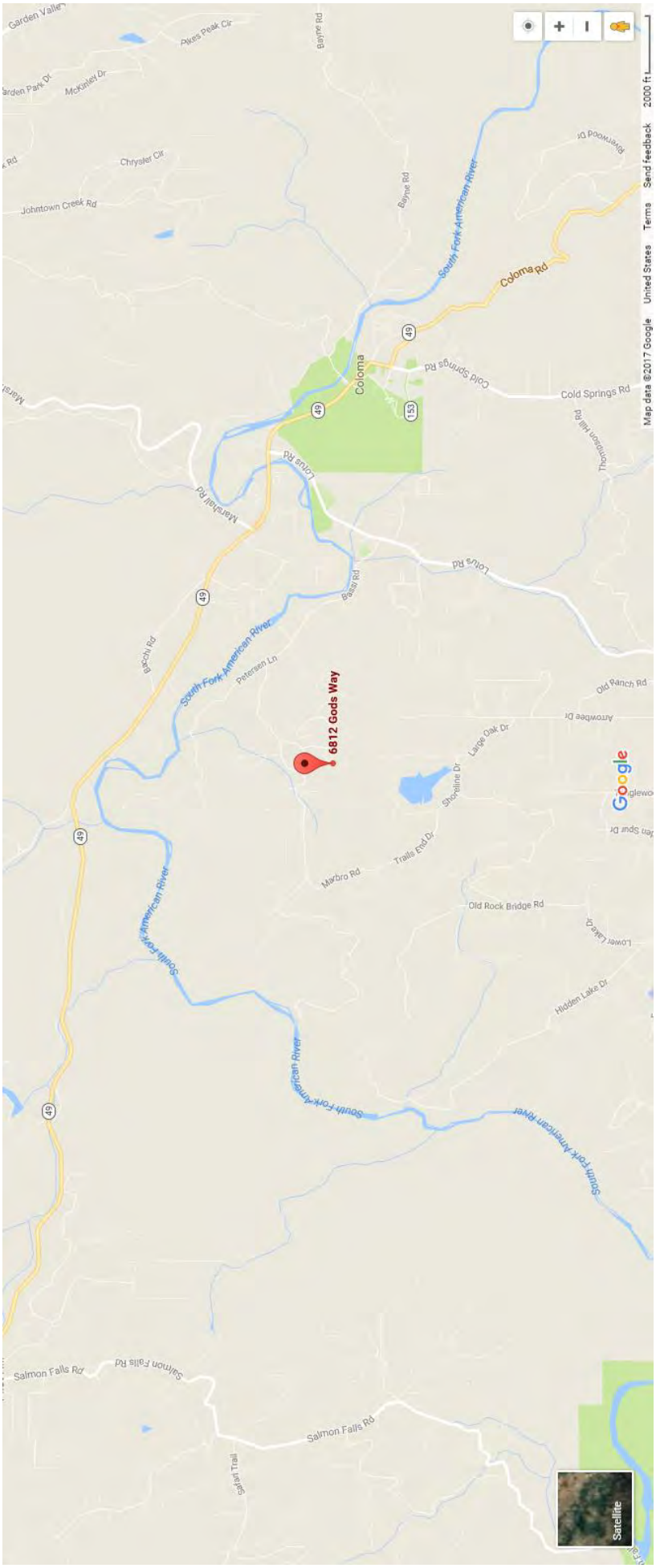
Total Value:	$324,500	Assessed Year:	2016	Property Tax:	$3,361.62
Land Value:	$123,500	Improved %:	62%	Tax Area:	072036
Improvement Value:	$201,000	Tax Year:	2016	Tax Exemption:	HOMEOWNER
Total Taxable Value:	$317,500				

on Behalf of

Assessor's Parcel Map

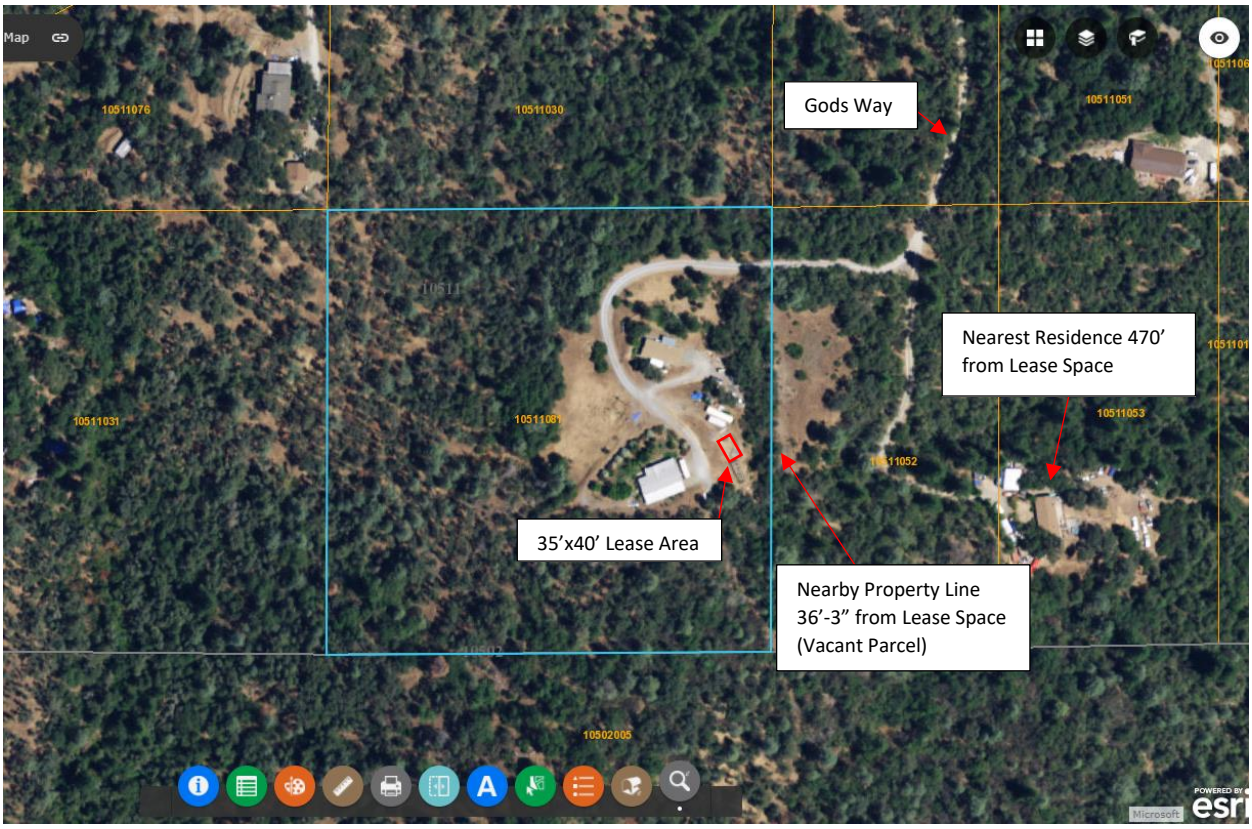



El Dorado County Assessor
Web Map
eSearch
By Shape
By Value
By Spatial
Results
Features selected: 1
10511081
APN_STATUS: 0
USECDPRI: 28
ACREAGE: 10.065
LEGAL_DESC: RS 30/127/1
SUBDIVNAME: UNASSIGNED
ZONEDES: RL-10
Go To Property Information Screen
38.806 -120.944 Degrees


6812 Gods Way
Coloma
Coloma Rd
Cold Springs Rd
South Fork American River
Johntown Creek Rd
Chrysler Cir
Bayne Rd
Marshall Rd
Lotus Rd
Petersen Ln
Old Ranch Rd
Large Oak Dr
Shoreline Dr
Trails End Dr
Marbro Rd
Old Rock Bridge Rd
Hidden Lake Dr
Salmon Falls Rd
Satellite
Google
Map data ©2017 Google
United States
Terms
Send feedback
2000 ft

on Behalf of

Overhead View of Lease Area and Distances to nearby residences:



Emergency 35kw Propane Generator and 4 Ton HVAC Noise Analysis:

- **Equation and Calculation Method:**

The sound analysis methods and results are hypothetical only, using Sound Level and Distance calculations. These calculations do not take outside sounds, trees, hills, buildings, and other sound dampening variables into consideration, but, only raw sound levels after specific traveled distances which results in the worst case scenario for the sounds of the onsite backup generator and HVAC systems.

The use of emergency equipment is exempted from these limits per section 130.37.20(B).

Formulas to calculate the sound level L in dB (sound pressure level or sound intensity level) in dependence of the distance r.

Sound level L and Distance r

$$L_2 = L_1 - |20 \cdot \log\left(\frac{r_1}{r_2}\right)| \qquad L_2 = L_1 - |10 \cdot \log\left(\frac{r_1}{r_2}\right)^2|$$

$$r_2 = r_1 \cdot 10^{\left(\frac{|L_1 - L_2|}{20}\right)} \qquad r_1 = \frac{r_2}{10^{\left(\frac{|L_1 - L_2|}{20}\right)}}$$

Sound pressure level (dB)	=	Sound intensity level (dB)
$L_2 = L_1 - \|20 \cdot \log\left(\frac{r_1}{r_2}\right)\|$		$L_2 = L_1 - 10 \cdot \lg\left(\frac{r_1}{r_2}\right)^2$

Sound Specifications:

- Emergency Generator Model: SG035 Generac
  - Average decibel (dBa) level at 23 feet = 64.9 dBa
- HVAC Model: ASDCA48
  - Average decibel (dBa) level at 50 feet = 57 dBa

Sound Specifications while taking the Sound Blanket into consideration:

- Emergency Generator Model: SG035 Generac
  - Average decibel (dBa) level at 23 feet = 58.11 dBa
- HVAC Model: ASDCA48
  - Average decibel (dBa) level at 50 feet = 46.36 dB

Findings:

1. Distance to the nearest property line = 36'-3"
   a. Generator Decibel level at 36'-3" = 54.16 dBa
   b. HVAC Decibel level at 36'-3" = 49.15 dBa
2. Distance to a nearest residence = 470'
   a. Generator Decibel level at 470' = 31.9 dBa
   b. HVAC Decibel level at 470' = 26.9 dBa

Conclusion:

After calculating all decibel levels at each nearby residence's property line and actual residence, the onsite Emergency Backup Generator and HVAC systems are within El Dorado County's noise level standards according to El Dorado County Title 130 Zoning and Noise Ordinance, Chapter 130.37 – Noise Standards.

Table 1 – Eldorado County Table 130.37.060.1
Noise Level Performance Standards for Noise Sensitive Land Uses
Affected by Non-Transportation Sources

Noise Level Descriptor	Daytime 7 a.m. – 7 p.m.		Evening 7 p.m. – 10 p.m.		Night 10 p.m. – 7 a.m.	
	Community / Rural Centers	Rural Regions	Community / Rural Centers	Rural Regions	Community / Rural Centers	Rural Regions
Hourly Leq, dBA	55	50	50	45	45	40
Maximum Level, dBA	70	60	60	55	55	50

BBC-13X Sound Curtains

Sound Seal's **BBC-13X** offers the benefits of both a noise barrier and a sound absorber for outdoor applications. The BBC-13X consists of a one-inch thick vinyl-coated-fiberglass-cloth faced quilted fiberglass that is bonded to a one-pound per sq. ft. reinforced loaded vinyl noise barrier. **"X"** style Sound Curtain panels are constructed with grommets across the top and **bottom, and exterior grade** Velcro seals along the vertical edges. The product is also available in roll form with edges bound or unbound.

- Class A (or 1) flammability rated per ASTM E 84
- For use on Indoor or Outdoor Applications
- Available facing colors: gray, tan, black, or off-white
- Available barrier colors: gray, tan, blue or olive drab

Applications:

Even in the harshest environments, with a minimum life span of 5 years* and wind load ratings of 120 mph, this product is typically used as a **temporary noise barrier on outdoor applications such as construction site noise mitigation projects**. Also available with a two-pound psf noise barrier or a two-inch thick quilted fiberglass sound absorber for better acoustical performance.

Product Data:

Description	Vinyl coated fiberglass cloth facing on 1" quilted fiberglass
	1lb-psf reinforced loaded vinyl barrier
Flammability	Flame Spread: 23.0
	Smoke density: 30.0
Nominal thickness	1.0 inch
Temperature range	-20° to +180° F
Standard roll size	54" wide x 25' long
Weight	1.2 lb psf

Acoustical Performance:

Sound Transmission Loss

	OCTAVE BAND FREQUENCIES (Hz)						
Product	**125**	**250**	**500**	**1000**	**2000**	**4000**	**STC**
BBC-13 X	11	16	24	30	35	35	27

ASTM E-90 & E 413

Sound Absorption Data

	OCTAVE BAND FREQUENCIES (Hz)						
Product	**125**	**250**	**500**	**1000**	**2000**	**4000**	**NRC**
BBC-13 X	.12	.47	.85	.84	.64	.62	.70

ASTM C 423
* when properly installed.

Operation Statement:

This project is an AT&T Mobility unmanned Telecommunication Wireless Facility. It will consist of the following:

NEW SITE BUILD UNMANNED TELECOMMUNICATIONS FACILITY.

1. **(1) NEW 12' WIDE GRAVEL ACCESS ROAD**
2. **(1) NEW 35' X 40' FENCED LEASE AREA**
3. **(1) NEW 6' CHAIN LINK FENCE**
4. **(1) NEW 12' WIDE DOUBLE ACCESS GATE**
5. **(1) NEW 112' MONOPINE TOWER**
6. **(1) NEW PRE-FAB EQUIPMENT SHELTER**
7. **(1) NEW GPS ANTENNA**
8. **(1) NEW 35KW PROPANE GENERATOR**
9. **(1) LP PROPANE TANK (500 GALLON)**
10. **(12) NEW ANTENNAS**
11. **(9) NEW RRUS-11, (9) NEW RRUSS-32 & (3) FUTURE RRUS**
12. **(4) NEW SURGE SUPPRESSORS**
13. **(2) FUTURE 4' M/W DISH**

The facility will operate 24 hours a day 7 days a week. Maintenance workers will visit the site approximately once a month. A 15 foot wide access route will be created directly from Gods Way. There will be minimal noise from the standby generator, turning on once a week for 15 minutes for maintenance purposes and during emergency power outages. The Facility is approximately 36'-3" feet west of the nearest property line and approximately 470 feet west of the nearest residence. The location is surrounded by evergreen trees which will naturally stealth the facility. The surrounding area is covered with evergreen tree backdrops. The tower will be built to provide co-location opportunities.

Fire Suppression System:

A 15 foot wide access route will be created directly from Gods Way. A Hammer Head Fire Turnaround will be proposed within the access route. A Fire Department Knox Box will be located at the Facility's access gate. The El Dorado County Fire Deprartment Station 74 is only 2.5 miles east of the Proposed Facility. Additionally, a 2A:20BC Rated Fire Extinguisher in a weather resistant cabinet will be mounted on the exterior wall of the proposed shelter.

Conclusion:

Candidate A, 6812 Gods Way, meets the FCC's mandated objectives for the targeted area of Gold Hill and is the best choice for the surrounding area. The chosen location will meet and exceed the FCC's mandated coverage objectives with providing hi-speed broadband internet to homes in the Targeted area of El Dorado County. The Stealth Monopine Tower design has been chosen to blend into the existing surrounding environment as the least intrusive means while filling AT&T's significant gap in coverage. The property's surrounding foliage and tree canopy will naturally camouflage the facility thereby proving low visual impact to the surrounding residents. No Oak Woodlands will be removed or significantly impacted. No special species or protected animals will be impacted per the biological resource assessment prepared by Sycamore Environmental Consultants, Inc.

LETTER OF AUTHORIZATION
TO FILE PERMIT APPLICATIONS

Re: El Dorado County APN # 105-110-81-100

To Whom It May Concern:

The undersigned, Landlord, are the owners of the property located at 6812 Gods Way, Lotus,CA 95651, County Assessor's Parcel No. #105-110-81-100, that is the subject of an CUP application for a new Telecommunications Facility. The undersigned has leased a portion of the property to AT&T Mobility C/O Epic Wirelss Group, and hereby authorizes Epic Wireless Group, its agent, to act as applicant to obtain any and all permits required for the approval and construction of this antenna/communication facility.

Landlord/Lessor: Roger Stroud, Anne Stroud & Kathleen OConnor

Roger Stroud | Anne L. Stroud Kathleen OConnor

Landlord

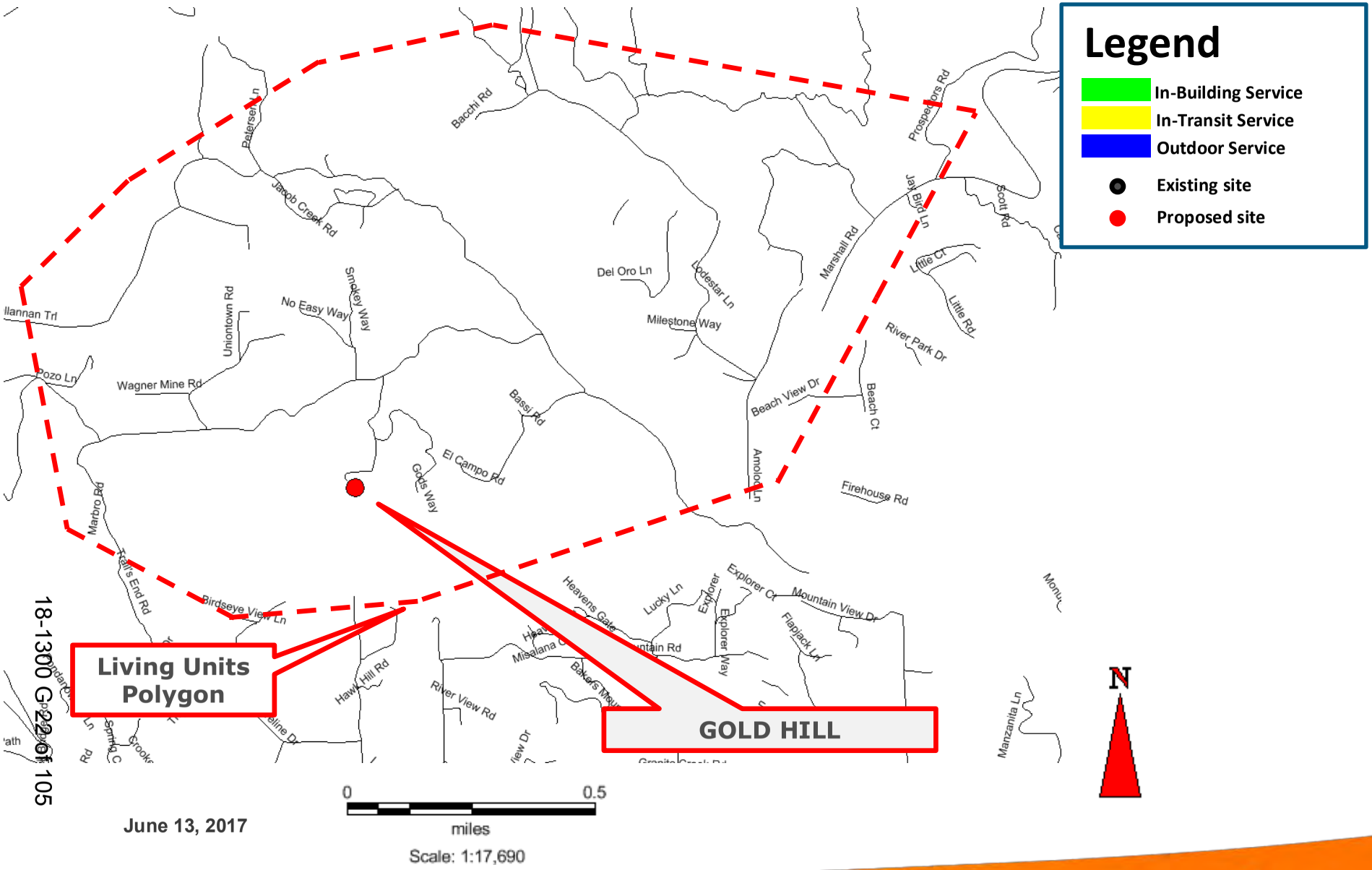
7/8/2017

Date

CVL03054 Zoning Propagation Map

June 13, 2017

Existing LTE 700 Coverage (RC = 108')



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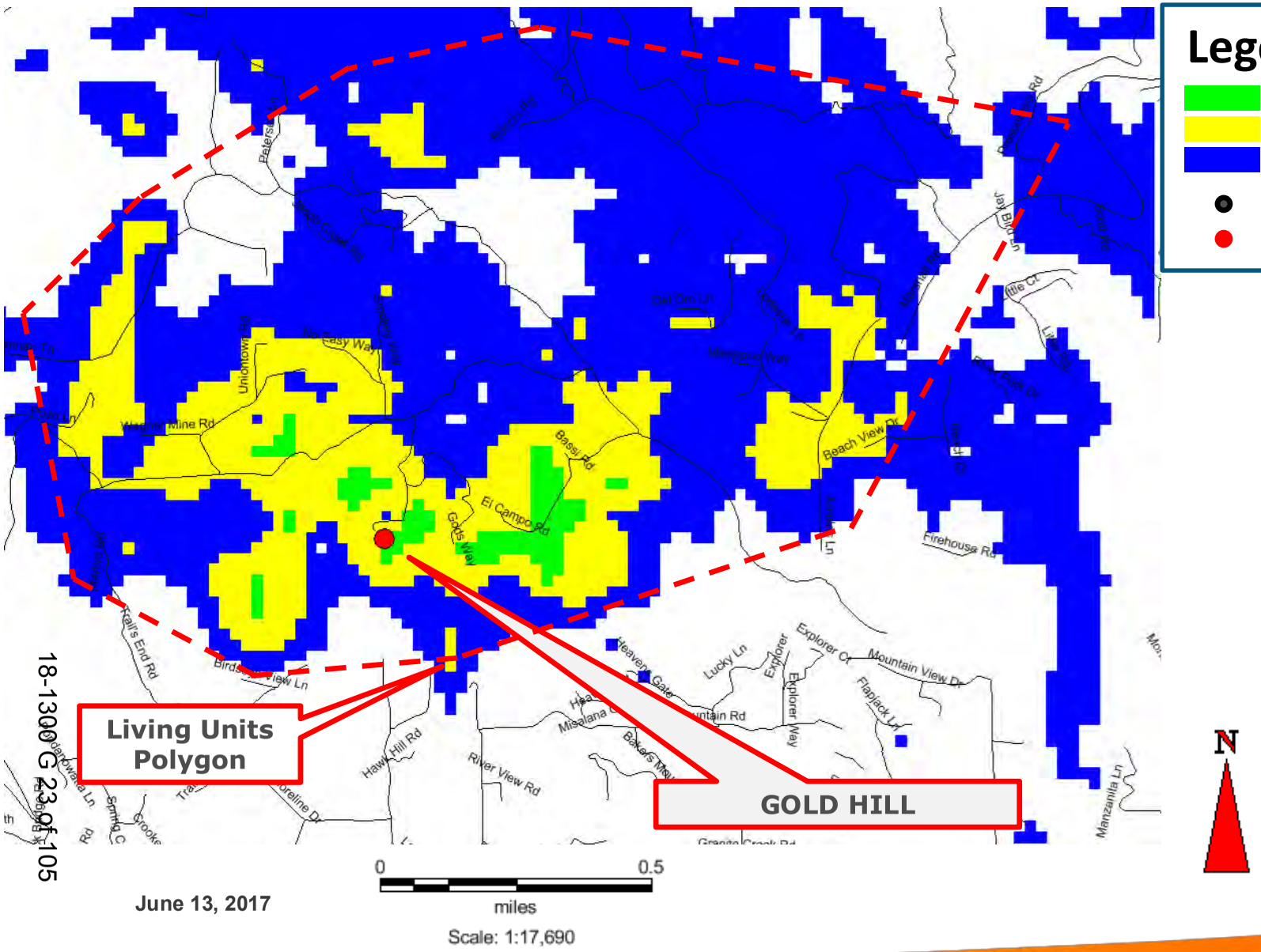
Proposed LTE 700 Coverage (RC = 108')



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Radio Frequency Emissions Compliance Report For AT&T Mobility

Site Name:	**Gold Hill**	**Site Structure Type:**	**Monopine**
Address:	**6812 Gods Way**	**Latitude:**	**38.802398**
	Lotus, CA	**Longitude:**	**-120.937291**
Report Date:	**August 17, 2017**	**Project:**	**New Build**

General Summary

AT&T Mobility has contracted Waterford Consultants, LLC to conduct a Radio Frequency Electromagnetic Compliance assessment of the proposed Gold Hill site located at 6812 Gods Way, Lotus, CA. This report contains information about the radio telecommunications equipment to be installed at this site and the surrounding environment with regard to RF Hazard compliance. This assessment is based on installation designs and operational parameters provided by AT&T Mobility.

The compliance framework is derived from the Federal Communications Commission (FCC) Rules and Regulations for preventing human exposure in excess of the applicable Maximum Permissible Exposure ("MPE") limits. At any location at this site, the power density resulting from each transmitter may be expressed as a percentage of the frequency-specific limits and added to determine if 100% of the exposure limit has been exceeded. The FCC Rules define two tiers of permissible exposure differentiated by the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. General Population / Uncontrolled exposure limits apply to those situations in which persons may not be aware of the presence of electromagnetic energy, where exposure is not employment-related, or where persons cannot exercise control over their exposure. Occupational / Controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment, have been made fully aware of the potential for exposure, and can exercise control over their exposure. Based on the criteria for these classifications, the FCC General Population limit is considered to be a level that is safe for continuous exposure time. The FCC General Population limit is 5 times more restrictive than the Occupational limits.

	Limits for General Population/ Uncontrolled Exposure		***Limits for Occupational/ Controlled Exposure***	
Frequency (MHz)	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
30-300	0.2	30	1	6
300-1500	f/1500	30	f/300	6
1500-100,000	1.0	30	5.0	6

f=Frequency (MHz)

In situations where the predicted MPE exceeds the General Population threshold in an accessible area as a result of emissions from multiple transmitters, FCC licensees that contribute greater than 5% of the aggregate MPE share responsibility for mitigation.

Based on the computational guidelines set forth in FCC OET Bulletin 65, Waterford Consultants, LLC has developed software to predict the overall Maximum Permissible Exposure possible at any particular location given the spatial orientation and operating parameters of multiple RF sources. These theoretical results represent worst-case predictions as emitters are assumed to be operating at 100% duty cycle.

For any area in excess of 100% General Population MPE, access controls with appropriate RF alerting signage must be put in place and maintained to restrict access to authorized personnel. Signage must be posted to be visible upon approach from any direction to provide notification of potential conditions within these areas. Subject to other site security requirements, occupational personnel should be trained in RF safety and equipped with personal protective equipment (e.g. RF personal monitor) designed for safe work in the vicinity of RF emitters. Controls such as physical barriers to entry imposed by locked doors, hatches and ladders or other access control mechanisms may be supplemented by alarms that alert the individual and notify site management of a breach in access control. Waterford Consultants, LLC recommends that any work activity in these designated areas or in front of any transmitting antennas be coordinated with all wireless tenants.

Analysis

AT&T Mobility proposes the following installation at this location:

- Install twelve (12) new panel antennas
- Install nine (9) new RRUS-11 Remote Radio Head units
- Install nine (9) new RRUS-32 Remote Radio Head units

The antennas will be mounted on a 113-foot monopole with centerlines at 100 and 110 feet above ground level. The antennas will be oriented toward 90, 330 and 210 degrees. The Effective Radiated Power (ERP) in any direction from all AT&T Mobility operations will not exceed 26,557 Watts. Other appurtenances such as GPS antennas, RRUs and hybrid cable are not sources of RF emissions. From this site, AT&T Mobility will enhance voice and data services to surrounding areas in licensed 700, 850, 1900, 2100 and 2300 MHz bands. No other antennas are known to be operating in the vicinity of this site.

Power density decreases significantly with distance from any antenna. The panel-type antennas to be employed at this site are highly directional by design and the orientation in azimuth and mounting elevation, as documented, serve to reduce the potential to exceed MPE limits at any location other than directly in front of the antennas. For accessible areas at ground level, the maximum predicted power density level resulting from all AT&T Mobility operations is 0.5265% of the FCC General Population limits (0.1053% of the FCC Occupational limits). Incident at adjacent buildings depicted in Figure 1, the maximum predicted power density level resulting from all AT&T Mobility operations is 0.6315% of the FCC General Population limits (0.1263% of the FCC Occupational limits). The proposed operation will not expose members of the General Public to hazardous levels of RF energy.

Waterford Consultants, LLC recommends posting contact information signage at the gate that informs personnel entering the site of basic precautions to be followed when working around antennas. RF alerting signage (Warning) should be posted at the base of the proposed Monopine to inform authorized climbers of potential conditions near the antennas. These recommendations are depicted in Figure 2.

Figure 1: Antenna Locations

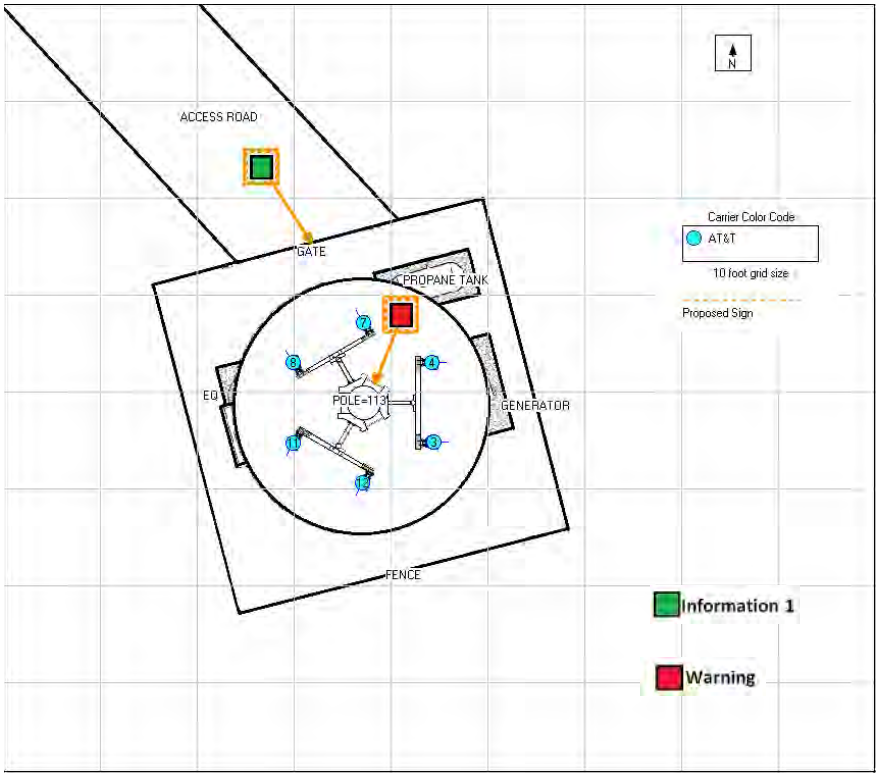


Figure 2: Mitigation Recommendations

Compliance Statement

Based on information provided by AT&T Mobility and predictive modeling, the installation proposed by AT&T Mobility at 6812 Gods Way, Lotus, CA will be compliant with Radiofrequency Radiation Exposure Limits of 47 C.F.R. § 1.1307(b)(3) and 1.1310. RF alerting signage and restricting access to the Monopine to authorized climbers that have completed RF safety training is required for Occupational environment compliance.

Certification

I, David H. Kiser, am the reviewer and approver of this report and 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, specifically in accordance with FCC's OET Bulletin 65. I have reviewed this Radio Frequency Exposure Assessment report and believe it to be both true and accurate to the best of my knowledge.

Marvair DC Free Air HVAC Unit with 48 VDC Evaporator Fan Motor, 100% Free Cooling and CoolLinks™ Controller

ISO 9001:2008 REGISTERED COMPANY

Models ASDCA36-42-48-60-72

PRELIMINARY

General Description

The Marvair® ComPac® II air conditioners are designed to cool telecommunications shelters where the high internal heat load requires year round cooling-even when ambient temperatures are below 60°F (15°C). To provide cooling during a wide range of ambient conditions, the ASDCA air conditioners have the necessary controls and components for year round cooling. The unit uses the non-ozone depleting R-410A refrigerant.

ASDCA36

DC power provides emergency cooling/ventilation

Should there be loss of power to the site, the Marvair DC Free Air unit will continue to cool/ventilate the site by utilizing DC power to introduce outside air into the shelter for free cooling. The DC Free Air unit will continue to ventilate the site and extend the run time of the equipment until battery power is exhausted or, at the minimum, owner specified pull down of battery drain.

The ASDCA models operate on both AC and DC power. The compressor, condenser fan motor and electric heat operate on AC power, but the evaporator motors, the 100% free cooling economizer damper and the internal control board operate on DC power – an inverter is **not** required. Since these key components are all powered by 48 VDC – the same 48 VDC power used by the shelter's radios- they are always operational.

The 48 VDC power supply connects to an internal DC breaker. From this breaker, power is supplied to the DC indoor blower and control board. A 48 VDC to 24 VDC converter powers the 100% DC free cooling damper.

Free Cooling with the Marvair 100% Full flow Economizer

When the outside air is cool and dry, the economizer damper opens and draws in filtered, outside air to cool the shelter. The Marvair 100% full flow economizer means the same CFM of outside air is brought into the shelter as the rated air flow of the unit. The innovative design of the full flow economizer assembly also allows outside air to exit the building – pressure relief- when the full flow economizer is operating. This design eliminates the need for additional, costly penetrations in the shelter.

Free cooling provides temperature control, energy savings, and increased reliability by decreasing the operating hours of the compressor and the condenser fan. To insure proper operation and optimum performance, all economizers are non-removable, factory installed and tested.

CoolLinks™ PLC controller

The Siemens PLC-based CoolLinks controller sequences the operation of the two Marvair ComPac II units to ensure the most energy-efficient conditioning of the shelter space and the most balanced use of the conditioning equipment. The CoolLinks system determines the need to cool or heat the shelter based on an indoor temperature sensor and outside temperature/humidity sensor connected directly to the controller. When cooling or heating is required, the controller selects the unit that was not running in the previous cooling/heating cycle. This lead/lag operation ensures that each unit receives equal runtime and therefore extends the operating life of the units. In the event that one of the units is unavailable, for example, scheduled maintenance, the system will automatically select the active unit. Similarly, if the internal shelter temperature continues to rise/fall, the system will run both units.

For cooling requests, the CoolLinks controller first examines the external shelter conditions to establish whether DC Free Cooling is possible. If acceptable, the 100% full flow economizer damper on the lead unit is opened to 100%. The damper then modulates its position, regulated by the controller, to cool the shelter to the target set point. During extreme cold outdoor temperatures this prevents “shocking” the equipment in the shelter.

If DC Free Cooling is active on one unit and the internal temperature continues to rise, DC Free Cooling will then be activated on the second unit. Should the temperature continue to rise, the DC Free Cooling will be disabled on both units, both economizer dampers will be closed, and mechanical cooling activated on the lead unit. The control scheme allows the CoolLinks controller to make as efficient use of the external air as possible to minimize HVAC power consumption.

The CoolLinks controller communicates with the Marvair air conditioners over Ethernet. Should communications between the controller and one of the units fail, the unit will continue to run in stand-alone mode and cool to a mixed-air set point of 55°F (12.8°C). Whenever communications are restored, the CoolLinks controller will assume control of the air conditioner. An Ethernet connection is also provided for a SNMP interface through which the Network Operations Center can receive traps (alarms), monitor/change cooling and heating set points, and monitor HVAC unit and system operational parameters.

Air Conditioner Alarms and Lockouts

Each air conditioner is monitored over Ethernet and if a problem is detected, an alarm is generated. The alarm is displayed on the CoolLinks PLC in the shelter **and** sent via SNMP trap to the network operations center.

- High Pressure Alarm – the refrigerant pressure has exceeded the set point pressure *once* in a cooling cycle. The air conditioner will continue to operate, but notification is sent that there is a high pressure fault.
- High Pressure Lockout Alarm - the refrigerant pressure has exceeded the set point pressure *twice* in a cooling cycle. The air conditioner will shut down and notification will be sent that there is a high pressure lockout.
- Low Pressure Alarm – the refrigerant pressure has dropped below the set point pressure *once* in a cooling cycle. The air conditioner will continue to operate, but notification is sent that there is a low pressure fault.
- Low Pressure Lockout Alarm - the refrigerant pressure has dropped below the set point pressure *twice* in a cooling cycle. The air conditioner will shut down and notification will be sent that there is a low pressure lockout.
- Damper Alarm – if the 100% full flow damper does not open when required, an alarm notification is sent that the damper is not open.
- Dirty Filter Alarm – a switch monitors the pressure on either side of the filter. If the differential pressure exceeds the set point pressure, an alarm notification is sent that there is not sufficient air flow through the filter.
- Communications Alarm – a signal is sent if there is a loss of communication between the air conditioner and the CoolLinks controller.

Shelter & System Alarms

- In addition to the HVAC alarms, the CooLinks controller also provides Shelter and System alarms. The alarm is displayed on the CoolLinks PLC in the shelter **and** also sent via SNMP trap to the network operations center.
- First Stage High Temperature Alarm – Inside temperature above 85°F (29.4°C).
- Second Stage High Temperature Alarm – Inside temperature above 90°F (32.2°C).
- Low Temperature Alarm - Inside temperature is below 45°F (7.2°C).
- Landline Power Alarm – A loss of landline power.
- Smoke Alarm - If the smoke sensor input to the CoolLinks system is active, the Compressor, Heater, and Indoor Blower Motor on both HVAC units will be shut down and the damper will closed completely. This will stop air flow within the shelter.
- Hydrogen Detector Alarm- If the hydrogen sensor input to the CoolLinks system is active, the damper(s) on units that are not currently in mechanically cooling will be fully opened and the Indoor Blower Motor(s) will be turned on. This will expel noxious gases and introduce outside air into the shelter. If one unit is in mechanical cooling, it will continue to run. The other air conditioner will turn on and operate in the emergency ventilation mode.
- Generator Operation Alarm - If the generator running input to the CoolLinks system is active, only one HVAC unit will be permitted to run in mechanical cooling. As the generator is typically sized to run only one HVAC unit, this ensures that the generator load is not exceeded.

Remote Access Data Points

Through the Ethernet connection, the network operations center can monitor and change various data points in the HVAC system and the shelter.

Data Points which can be monitored **and** changed:

- First Stage Cooling Set Point Temperature
- Second Stage Cooling Set Point Differential Temperature
- First Stage Heating Set Point Temperature
- Second Stage Heating Set Point Differential Temperature

Data points which can only be monitored:

- Inside Temperature - Current
- Outside Temperature - Current
- Outside Humidity - Current
- Dew point - Current

- Inside Temperature - Average Last Hour
- Outside Temperature - Average Last Hour
- Outside Humidity - Average Last Hour
- Dew point - Average Last Hour

- Unit 1 & Unit 2 Mechanical Cooling Time - Last Hour
- Unit 1 & Unit 2 Mechanical Cooling Requests - Last Hour
- Unit 1 & Unit 2 DC Free Air Cooling Time - Last Hour
- Unit 1 & Unit 2 DC Free Air Cooling Requests - Last Hour
- Unit 1 & Unit 2 Heating Time - Last Hour
- Unit 1 & Unit 2 Heating Requests - Last Hour

Standard Features

Designed for Operation in Low Ambient Conditions

- Low ambient control cycles condenser fan to maintain proper refrigerant pressures. Allows operation in mechanical cooling (compressor) down to 0ºF (-18ºC). Note: low temperature operation is affected by ambient conditions, e.g. wind and humidity.
- Three minute by-pass of the low pressure switch for start-up of compressor when outdoor temperatures are below 55°F (13°C).
- Factory built-in economizer.

High Efficiency

- High efficiency compressor.
- Lanced fins standard on all evaporator and condenser coils.

Built-in Reliability

- High pressure switch and low pressure switch with lockout protects refrigerant circuit.
- Adjustable .03 to ten minute delay on make for short cycle protection.

Ease of Installation

- Sloped top with flashing eliminates need of rain hood.
- Built-in mounting flanges facilitate installation and minimize chance of water leaks.
- Supply and return openings exactly match previous models.
- Factory installed disconnect on all units.
- Single Point Power Entry complies with latest edition of U.L. Standard 1995.

Rugged Construction

- Copper tube, aluminum fin evaporator & condenser coils.
- Field or factory installed heaters on discharge side of evaporator coil (optional)
- Baked on neutral beige finish over galvanneal steel for maximum cabinet life. (Other finishes are available.)

Ease of Service

- Service access valves are standard.
- Standard 2" (50 mm) pleated filter with a MERV rating of 8 changeable from outside.
- All major components are readily accessible.
- Front Control Panel allows easy access and complies with NEC clearance codes on redundant side-by-side systems.
- LEDs indicate operational status and fault conditions.
- Foiled backed insulation on the indoor air path.
- A minimum position potentiometer that can be adjusted to prevent the economizer damper from closing completely. This control ensures that whenever the evaporator fan is operating, fresh air is being introduced into the building.

Kim: are these statements valid?

Grilles

For ASDCA36

Supply Grille:
28" x 8" (711mm x 203mm)..... P/N 80675

Return Grille:
20" x 12" (508mm x 356mm)..... P/N 80678

For ASDCA42-48-60-72

Supply Grille:
30" x 10" (762mm x 254mm)..... P/N 80676

Return Grille:
30" x 16" (762mm x 406mm)..... P/N 80679

Factory Installed Accessories

Phase Monitor - Monitors 3Ø power supply and will turn the air conditioner off if power supply is not phased properly. Not required on 1Ø units.

Compressor Sound Jacket - To reduce sound of compressor.

Right & Left Side Compressor Configuration – The air conditioners can be built with the compressor on the opposite side to facilitate service access when two units are installed side by side. In the 36, the standard location for the compressor is on the right hand side. In the 42-48-60, the standard location for the compressor is on the left hand side. In the 72, the compressor is accessed from the front of the unit and an opposing configuration is not required.

Hard Start Kit - Used on single phase equipment to give the compressor higher starting torque under low voltage conditions. (Field installed only) (Note: Not recommended for use on scroll compressors.)

Options

Coastal Environment Package – Recommended for units to be installed near an ocean or on seacoast. Includes corrosion resistant fasteners, sealed or partially sealed condenser fan motor, protective coating applied to all exposed internal copper and metal in the in the condenser section and an impregnated polyurethane on the condenser coil and fan blades. See Coastal Environmental Technical Bulletin for more details.

Protective Coil Coatings - Either the condenser or evaporator coil can be coated, however, coating of the evaporator coil is not common. For harsh conditions, e.g., power plants, paper mills or sites were the unit will be exposed to salt water, the coil should be coated. Note: Cooling capacity may be reduced by up to 5% on units with coated coils.

MODEL # - ASDCA48ACA050C-A2-100-VAR

Model Identification

ASDC **A** **●●** **AC** **●●** **●●●** **C** **●** **A2** **●●●**

Refrigerant
A = R410A

AC = Air Conditioner

Nominal Cooling
36 = 36,000 BTUH
42 = 42,000 BTUH
48 = 48,000 BTUH
60 = 60,000 BTUH
72 = 72,000 BTUH

Air Source Direct Current

Electric Heat – kW
000 = No Heat
050 = 5 kW
060 = 6 kW

Power Supply
A = 208-230V,1ø,60Hz
C = 208-230V,3ø,60Hz

Special Option Code
U = Scroll Compressor
K = Coastal Package
O = Opposite side compressor

C = ComPac® II

A2 = Internal Disconnect

Cabinet Color
100 = Beige
200 = Gray

Electrical Characteristics - Compressor, Fan & Blower Motors

BASIC MODEL	COMPRESSOR			OUTDOOR FAN MOTOR				INDOOR BLOWER MOTORS				
	VOLTS / HZ / PH	RLA[1]	LRA[2]	VOLTS / HZ / PH	RPM[3]	FLA[4]	HP[5]	QTY	VDC[6]	RPM[3]	FLA[4]	HP[5]
ASDCA36ACA	208/230-60-1	14.7	84.0	208/230-60-1	1075	1.8	1/4	2	48	2070	4.4	1/6
ASDCA42ACA	208/230-60-1	15.7	84.0	208/230-60-1	825	2.8	1/3	2	48	1930	6.0	1/4
ASDCA48ACA	208/230-60-1	18.6	102.0	208/230-60-1	825	2.8	1/3	2	48	1930	6.0	1/4
ASDCA60ACA	208/230-60-1	23.0	130.0	208/230-60-1	825	2.8	1/3	2	48	1930	6.0	1/4
ASDCA72ACA	208/230-60-1	30.1	158.0	208/230-60-1	825	2.9	1/2	2	48	1930	6.0	1/4
ASDCA36ACC	208/230-60-3	13.2	88.0	208/230-60-1	1075	1.8	1/4	2	48	2070	4.4	1/6
ASDCA42ACC	208/230-60-3	13.6	83.1	208/230-60-1	825	2.8	1/3	2	48	1930	6.0	1/4
ASDCA48ACC	208/230-60-3	13.7	83.1	208/230-60-1	825	2.8	1/3	2	48	1930	6.0	1/4
ASDCA60ACC	208/230-60-3	15.6	111.0	208/230-60-1	825	2.8	1/3	2	48	1930	6.0	1/4
ASDCA72ACC	208/230-60-3	22.4	149.0	208/230-60-1	825	2.9	1/2	2	48	1930	6.0	1/4

[1]RLA = Rated Load Amps [2]LRA = Locked Rotor Amps [3]RPM = Revolutions per Minute [4]FLA = Full Load Amps [5]HP = Horsepower [6]VDC = Volts, DC

Summary Electrical Ratings (Wire and Circuit Breaker Sizing)

ELECTRIC HEAT		000 = None		050 = 5 kw		060 = 6 kw	
BASIC MODEL	VOLTAGE PHASE / HZ	SPPE[3]		SPPE[3]		SPPE[3]	
		MCA[1]	MFS[2]	MCA[1]	MFS[2]	MCA[1]	MFS[2]
ASDCA36ACA	208/230-1-60	24.2	40	26.0	40		
ASDCA42ACA	208/230-1-60	27.6	45	27.6	45		
ASDCA48ACA	208/230-1-60	30.1	50	30.1	50		
ASDCA60ACA	208/230-1-60	35.6	60	35.6	60		
ASDCA72ACA	208/230-1-60	40.5	60	40.5	60		
ASDCA36ACC	208/230-3-60	18.3	30			18.3	30
ASDCA42ACC	208/230-3-60	19.8	30			19.8	30
ASDCA48ACC	208/230-3-60	19.9	30			19.9	30
ASDCA60ACC	208/230-3-60	22.3	35			22.3	35
ASDCA72ACC	208/230-3-60	30.9	50			30.9	50

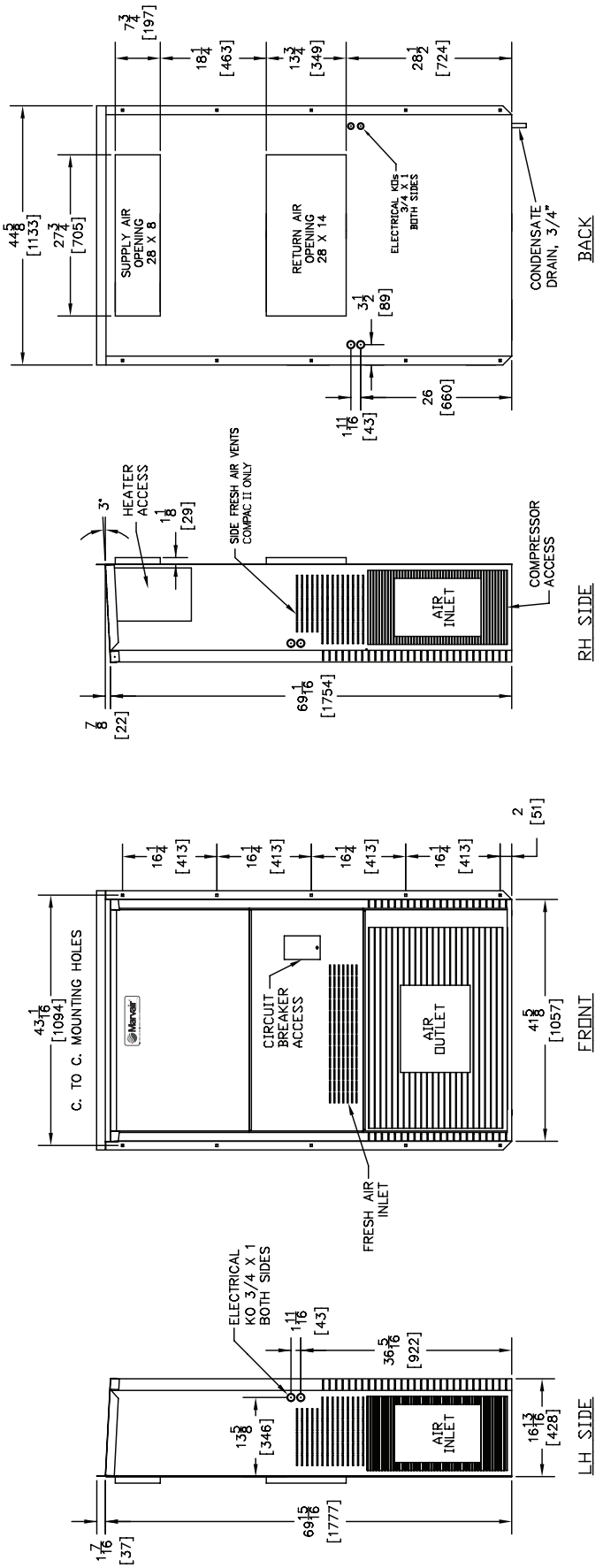
[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse Size [3]SPPE = Single Point Power Entry
MCA & MFS are calculated at 230 volts on the ACA & ACC models. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

Unit Load Amps

BASIC MODEL NUMBER	VOLTAGE PHASE / HZ	CURRENT LOAD (MOTORS)		LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS) TOTAL MAXIMUM HEATING AMPS (VAC) *ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT*	
		Compressor & Outdoor Fan	Indoor Blower		
		VAC Amps	DC Amps	05 kW	06 kW
ASDCA36ACA	208/230-1-60	19.7	8.8	20.8	
ASDCA42ACA	208/230-1-60	22.6	12.0	20.8	
ASDCA48ACA	208/230-1-60	24.6	12.0	20.8	
ASDCA60ACA	208/230-1-60	29.0	12.0	20.8	
ASDCA72ACA	208/230-1-60	33.0	12.0	20.8	
ASDCA36ACC	208/230-3-60	15.0	8.8		14.4
ASDCA42ACC	208/230-3-60	16.4	12.0		14.4
ASDCA48ACC	208/230-3-60	16.5	12.0		14.4
ASDCA60ACC	208/230-3-60	18.4	12.0		14.4
ASDCA72ACC	208/230-3-60	25.3	12.0		14.4

Heating kW is rated at 240 volts Total heating and cooling amps includes all VAC motors.
Loads are not equally balanced on each phase and values shown are maximum phase loads. Three phase models contain single phase motor loads.
Derate heater output by 25% for operation at 208 volts.

Dimensional Data - ASDCA36

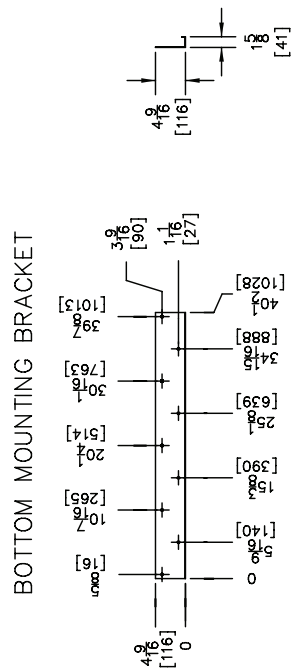


Shipping Weight (pounds/kilograms)

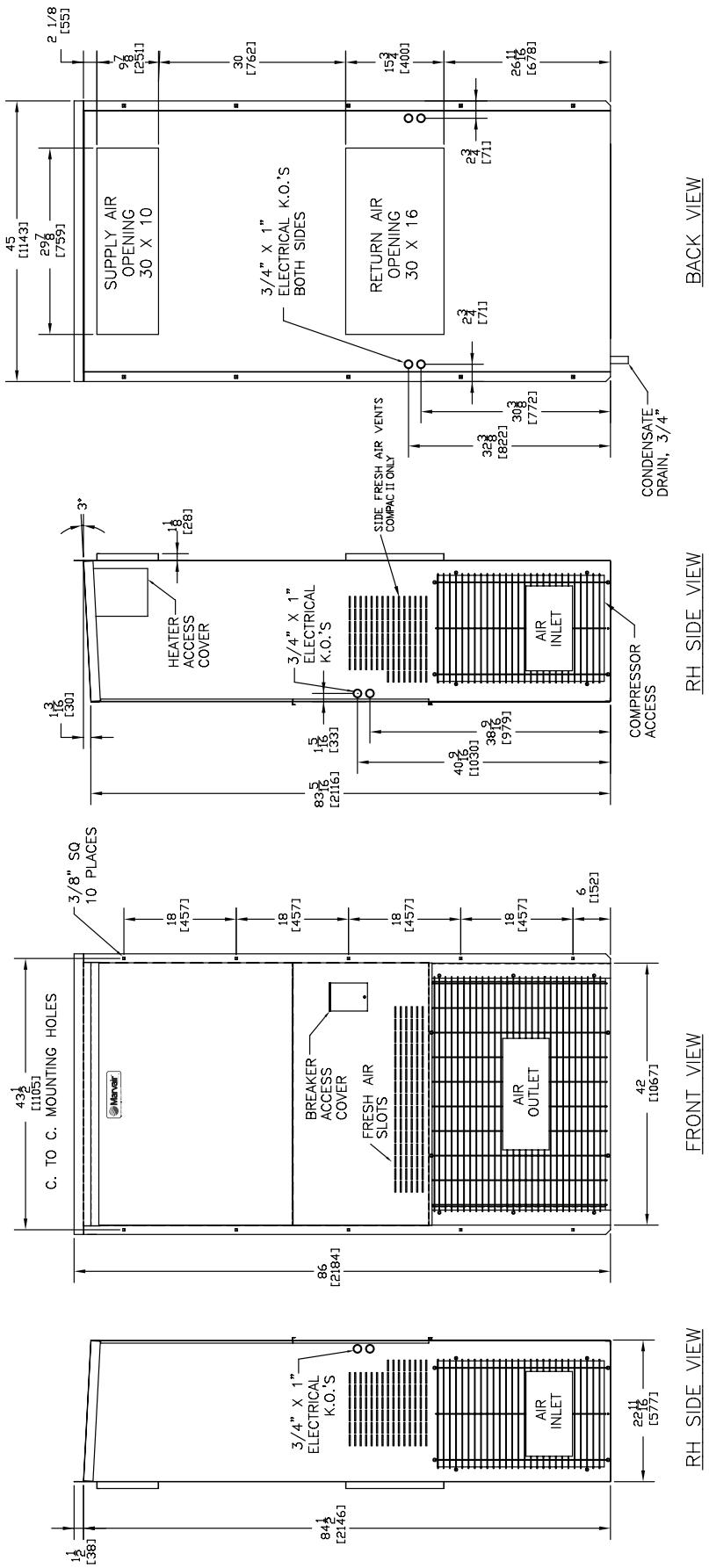
ASDCA36	LBS/KGS
COMPAC II	410/186.4

Filter Size

ASDCA36	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	30 x 16 x 2	762 x 406 x 51	92486	1	8



Dimensional Data - ASDCA42-48-60



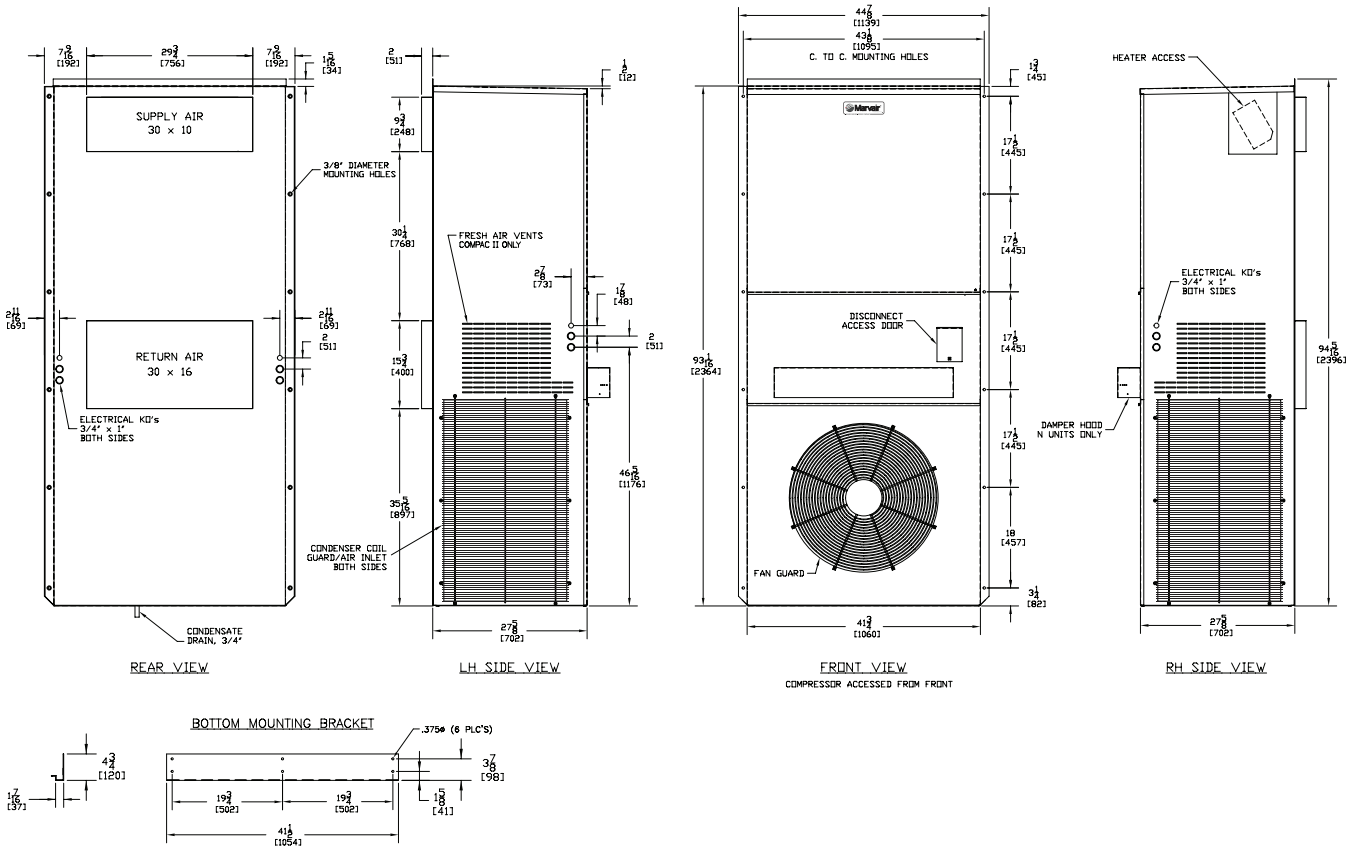
Shipping Weight (pounds / kilograms)

ASDCA42-48-60	LBS / KGS
COMPAC II	590/268

Filter Size

ASDCA42-48-60	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	36½ x 22 x 2	927 x 559 x 51	80162	1	8

Dimensional Data - ASDCA72



Shipping Weight (pounds/kilograms)

ASDCA72	LBS/KGS
COMPAC II	640/291

Filter Size

ASDCA72	INCHES	MILLIMETERS	PART NUMBER	FILTERS PER UNIT	MERV RATING
RETURN AIR FILTER	18 x 24 x 2	457 x 610 x 51	~~TBD~~	2	8

Please consult the Marvair® website at www.marvair.com for the latest product literature. Detailed dimensional data is available upon request. A complete warranty statement can be found in each product's Installation/Operation Manual, on our website or by contacting Marvair at 229-273-3636. As part of the Marvair continuous improvement program, specifications are subject to change without notice.

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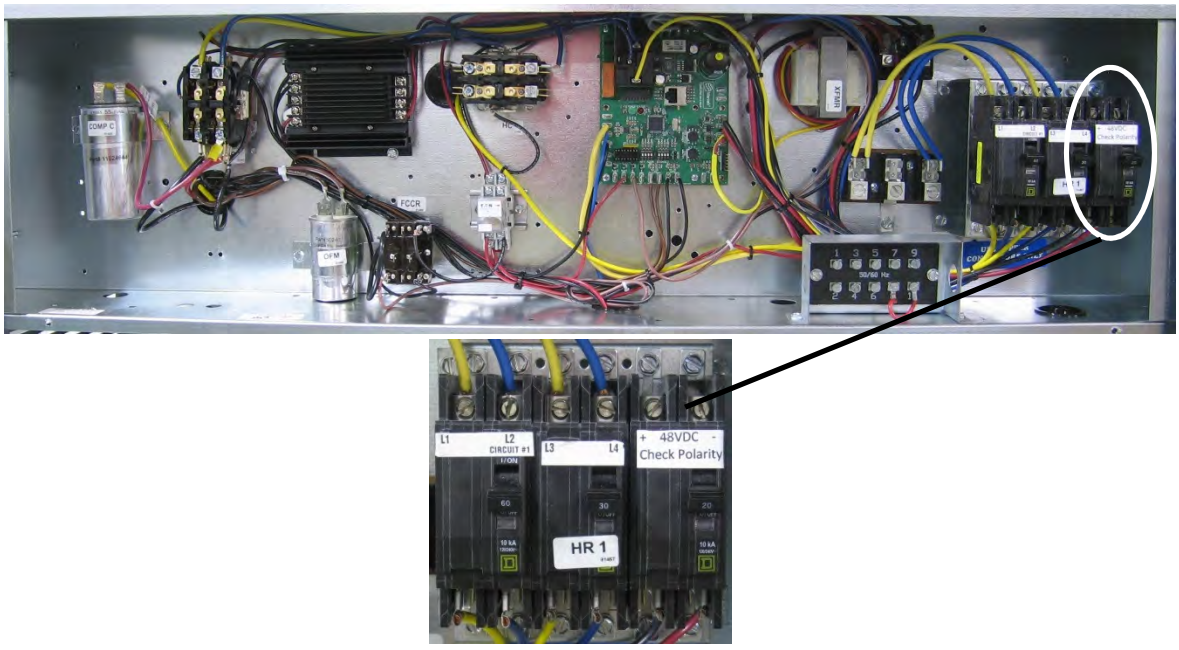
Supplement to the ComPac Product Manual for the ASDC air conditioners

This supplement to the ComPac Product Manual describes the 48 VDC wiring, the connection of the Ethernet cable (page 2) and the CoolLinks™ Operator Interface Instructions (page 3) for the ASDCA air conditioners. These air conditioners require a 48 Volt DC power to operate the evaporator air movers and the free cooling damper motor.

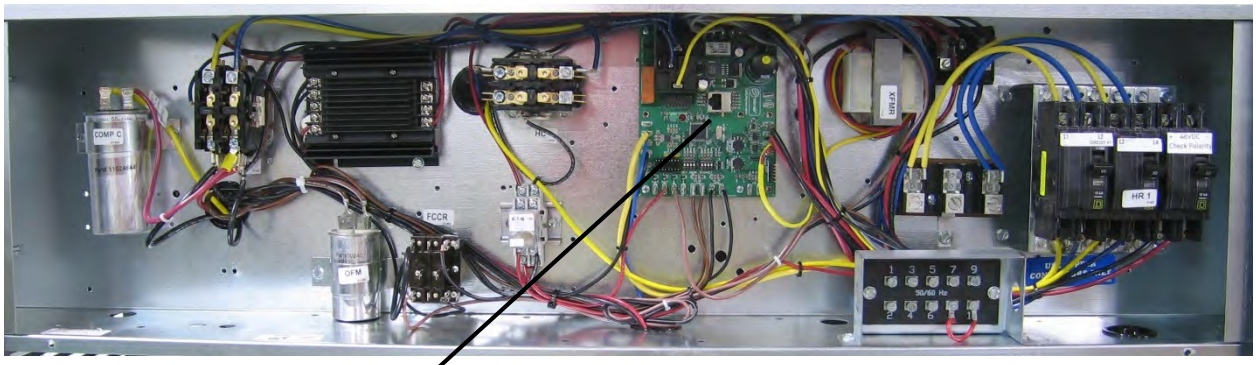
48 VDC wiring

1. If the air conditioners are powered, remove AC **and** DC power to the air conditioners by switching the breakers **in the shelter** to the OFF position.
2. Size a 2 conductor wire cable per NEC standard taking into account the ampacity of the DC circuit listed on the rating plate and the location of the power supply. Connect the properly sized cable between a DC breaker in the shelter and the DC breaker in the air conditioner. The DC breaker in the air conditioner is located on the right side of the bank of breakers.
3. Turn on the DC breaker in the shelter.
4. Verify the polarity and the voltage to make sure the polarity is correct and that there is 48 VDC at the breaker in the air conditioner. If the polarity is not correct, switch the wires.
5. Turn on the DC breaker in the air conditioner.
   (See photos on following page.)



Connection of PLC controller board in shelter to CoolLinks™ board in the air conditioner

Route a standard Cat 5e Ethernet cable from the PC board in the air conditioner to the PLC controller in the shelter. If the cable is routed through the air stream, it must be plenum rated. When the PLC is configured, the air conditioners will be designated as AC #1 and AC#2.



CoolLinks Ethernet jack

Operator Interface Instructions

System Status

The main screen displays the status of the Marvair CoolLinks system and the two Marvair HVAC units. Standing inside the shelter facing the HVAC return air vents, unit 1 is the left-hand unit and unit 2 is the right-hand unit. The fields on the status screen are as follows:

Indoor Temperature:	Indoor temperature from the temperature sensor mounted on the wall between the HVAC return air grilles. This sensor controls the enabling/disabling of the cooling/heating.
IBM Pushbutton:	Indicates the status of the Indoor Blower Motor (IBM) as Running or Stopped. If the blower motor is not under automatic control, pressing the pushbutton will turn the motor on and off. Press once to turn on and press again to turn off. The motor is under automatic control whenever the HVAC unit is the lead unit, during cooling post-purge, free-air operation, and emergency ventilation.
Unit Status Panel:	Indicates the status of the HVAC unit as follows: • Lead Yes: unit is lead unit, No: unit is lag unit • Cool Yes: unit is cooling, No: unit is not cooling • Heat Yes: unit is heating, No: unit is not heating • Filter Ok: filter is good, Maint: filter is blocked • Comm Yes: PLC comms active, No: PLC comms fault
Lead Swap Pushbutton:	Swap the lead and lag unit. Note that if the lag unit is in lockout or has a comms fault, the system will not swap. If the lead unit experiences a lockout or

comms failure, the system will automatically swap to the lag unit.

Comfort Mode Pushbutton: Drop the first-stage cooling set point to 75°F to allow a service technician to work comfortably inside the shelter. After one hour the set point will return to its previous value. Comfort mode is also cancelled if the technician enters a new first-stage cooling set point.

Reset Lockout Pushbutton: Resets the lockout condition on whichever unit is in lockout. Note that a call for cooling must be active before the lockout can be reset.

Outdoor Air: Outside air temperature (°F).

Humidity: Outside air relative humidity (%).

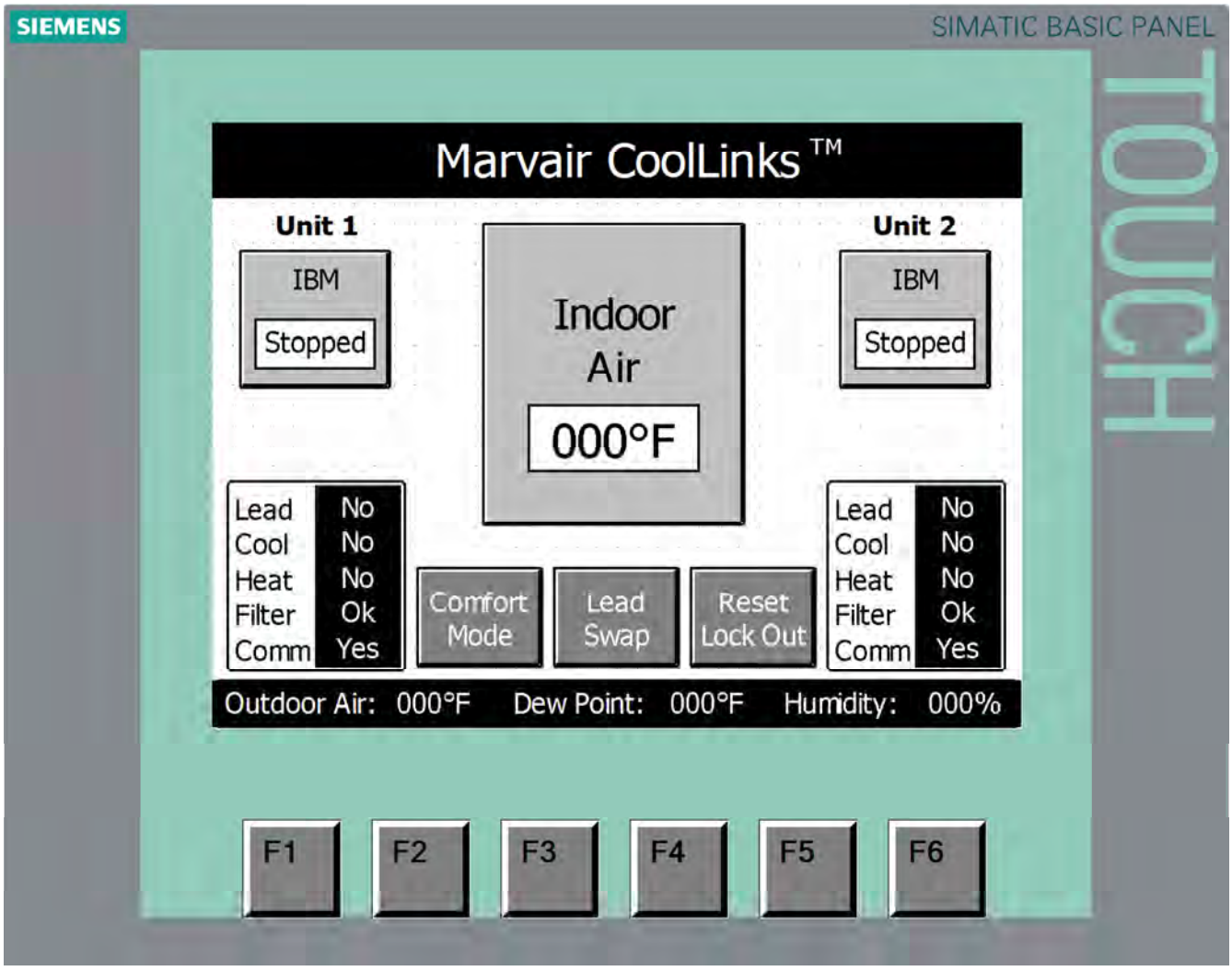
Dew Point: Dew point temperature (°F). When the calculated dew point (based on outside air temperature and relative humidity) is below the maximum dew point temperature and the free-air enable temperature, and the outside air temperature is below the indoor air temperature, then enable free-air cooling.

Alarm Message: Active unit alarms are displayed in the alarm message window between the IBM (Indoor blower Motor) pushbutton and the unit status panel. If multiple alarms are present the system scrolls through the active alarms with each alarm displayed for five seconds. If no alarms are present, the message window is blank. Thirteen possible alarm messages may be displayed:

- High Pressure Switch Alarm
- Low Pressure Switch Alarm
- High Pressure Switch Lockout Alarm
- Low Pressure Switch Lockout Alarm
- 1st High Indoor Temperature Alarm (> 85°F)

- 2nd High Indoor Temperature Alarm (> 90°F)
- Low Indoor Temperature Alarm (< 45°F)
- Landline Power Alarm
- Damper Alarm
- Smoke Alarm
- Generator Running
- Hydrogen Alarm
- Communications Alarm

The main screen with each of the operator/display fields is presented below. Note that the six function keys at the bottom of the screen are not currently assigned and have no effect on the operation of the Marvair CoolLinks system.



Changing Set Points

Set points control the cooling and heating operation of the Marvair CoolLinks system. Basically, there are two groups of set points, cooling first and second stage set points, and heating first and second stage set points. The minimum set point for cooling is 50℉ and the maximum set point for heating is 90℉. To access these set points, simply touch the top or bottom of the Indoor Temperature display. This will then enable the set point control panel. If a new set point value is not entered within ten seconds, the display will revert back to the Indoor Temperature display. From the set point control panel, alter the set points as follows:

Cooling First Stage:
Press the Cooling push-button then press the 1st Stage push-button. Both push buttons will turn dark gray with white text and the current cooling first-stage set point value will be displayed. Next, press the set point value to display the numeric entry screen and enter the desired set point. The system will now enable cooling whenever the indoor temperature is 1° F above the set point and disable cooling when the indoor temperature drops to 2° F below the set point.

Cooling Second Stage:
Press the Cooling push-button then press the 2nd Stage push-button. Both push buttons will turn dark gray with white text and the current cooling second-stage set point value will be displayed. Next, press the set point value to display the numeric entry screen and enter the differential set point. The system will now enable second-stage cooling whenever the indoor temperature is 1° F higher than the first-stage cooling set point plus the second stage cooling differential and disable second-stage cooling when the indoor temperature drops to 2° F below the first-stage set point. It is strongly recommend that the second-stage cooling differential be set to a minimum of 5° F to allow the first-stage cooling time to operate fully and to prevent short-cycling of the second unit.

Cooling Example:

First-Stage Set Point: 78**°**F
Second-Stage Differential: 5**°**F

First-stage cooling will start when the indoor temperature reaches 79**°**F (set point + 1°F) and will stop when the indoor temperature reaches 76**°**F (set point – 2°F).

Second-stage cooling will start when the indoor temperature reaches 84**°**F (set point + 1°F + 5°F) and will stop when the indoor temperature reaches 76**°**F (set point – 2°F).

Note that once first-stage cooling is enabled, the unit will run for at least **five minutes** even if the indoor temperature reaches the disable temperature. This is to prevent short-cycling of the unit and to allow the compressor sufficient time to remove moisture from the air as well cool the shelter.

Heating First Stage:

Press the Heating push-button then press the 1st Stage push-button. Both push buttons will turn dark gray with white text and the current heating first-stage set point value will be displayed. Next, press the set point value to display the numeric entry screen and enter the desired set point. The system will now enable heating whenever the indoor temperature is 1°F below the set point and disable heating when the indoor temperature rises to 1° F above the set point.

Heating Second Stage:

Press the Heating push-button then press the 2nd Stage push-button. Both push buttons will turn dark gray with white text and the current heating second-stage set point value will be displayed. Next, press the set point value to display the numeric entry screen and enter the differential set point. The system will now enable second-stage heating whenever the indoor temperature is 1° F lower than the first-stage heating set point minus the second stage heating differential and disable second-stage heating when the indoor temperature rises to 1° F above the first-stage set point. It is strongly recommend that the second-stage heating differential be set to a minimum of

two degrees F to allow the first-stage heating time to operate fully and to prevent short-cycling of the second unit.

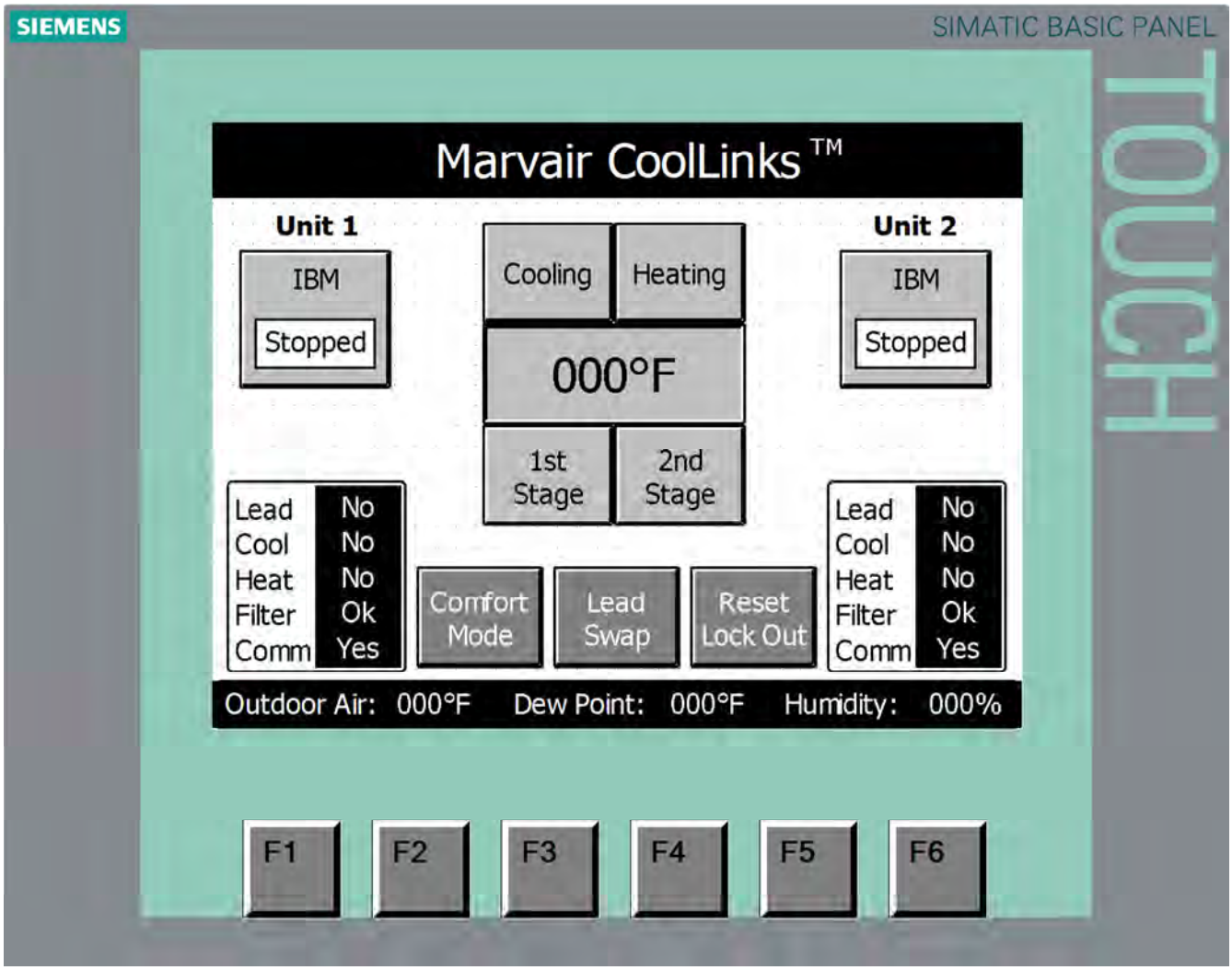
Heating Example:

First-Stage Set Point: 60°F
Second-Stage Differential: 2°F

First-stage heating will start when the indoor temperature reaches 59°F (set point – 1°F) and will stop when the indoor temperature reaches 61°F (set point + 1°F).

Second-stage heating will start when the indoor temperature reaches 57°F (set point – 1° - 2°F) and will stop when the indoor temperature reaches 61°F (set point + 1°F).

The main screen with the set point control panel is presented below. Note that if the cooling and heating temperature set points overlap, the system will only allow cooling to be active. As with the status screen, the six function keys at the bottom of the screen are not currently assigned and have no effect on the operation of the Marvair CoolLinks system.



DC Free-Air Cooling

When the outside temperature and humidity are below acceptable limits, mechanical cooling is disabled and outside air is introduced to cool the shelter. The position of the damper is first opened to 100% then regulated to maintain a mixed air temperature of 55°F. This set point is user-selectable on the CoolLinks HVAC board for 55°, 57°, 59°, or 61°F. Both the damper and the Indoor Blower Motor are powered by 48 VDC. Every twenty-four hours, the damper is opened to 25% to verify the operation of damper motor, damper fault switch, and damper actuator linkage.

Emergency Ventilation

The Marvair CoolLinks system will enable emergency ventilation if landline power is lost or if both HVAC units are in lockout. In this situation, the system will fully open the damper and run the Indoor Blower Motor on each HVAC unit. The system will also try to modulate the damper position to maintain a mixed air temperature of 55°F).

Smoke Detection

If the smoke sensor input to the CoolLinks system is active, the Compressor, Heater, and Indoor Blower Motor on both HVAC units will be shut down and the damper will be fully closed. This is to halt the flow of air within the shelter.

Hydrogen Detection

If the hydrogen sensor input to the CoolLinks system is active, the damper(s) on units that are not currently mechanically cooling will be fully opened and the Indoor Blower Motor(s) will be turned on. The intention here is to expel noxious gases and to introduce outside air into the shelter.

Generator Running

If the generator running input to the CoolLinks system is active, only one HVAC unit will be permitted to run mechanical cooling. As the generator is sized to run only one HVAC unit, this ensures that the generator load is not exceeded.

Note: When in generator run mode, the HVAC unit is **not** allowed to operate in the DC Free-Air Cooling mode. This prevents "wet stacking" of the generator because the engine would be running at a small percentage of its capacity.

SG035 | 5.4L | 35 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

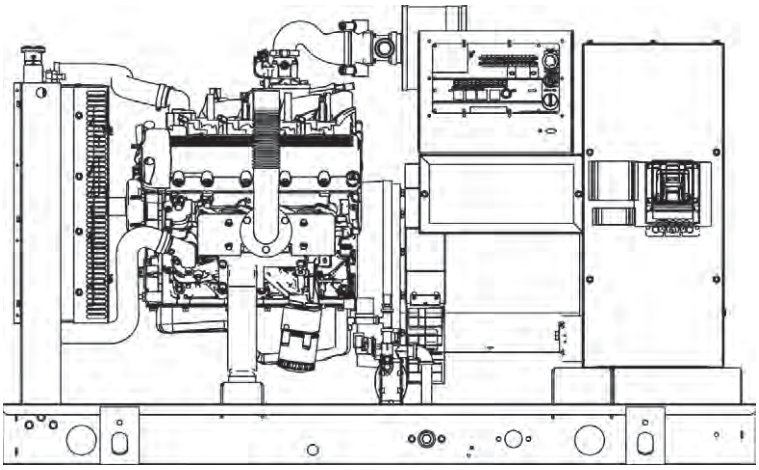
GENERAC | INDUSTRIAL POWER

STANDBY POWER RATING

35 kW, 44 kVA, 60 Hz

PRIME POWER RATING*

32 kW, 39 kVA, 60 Hz



*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the U.S. or its Territories.

Image used for illustration purposes only

CODES AND STANDARDS

Generac products are designed to the following standards:

UL2200, UL508, UL142, UL498

NFPA70, 99, 110, 37

NEC700, 701, 702, 708

ISO9001, 8528, 3046, 7637, Pluses #2b, 4

NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C62.41

IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

POWERING AHEAD

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

SG035 | 5.4L | 35 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

STANDARD FEATURES

ENGINE SYSTEM

General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Factory Filled Oil & Coolant
- Radiator Duct Adapter (open set only)
- Critical Exhaust Silencer (enclosed only)

Fuel System

- Flexible fuel line NPT Connection
- Primary and secondary fuel shutoff

Cooling System

- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-Installed Radiator
- 50/50 Ethylene glycol antifreeze
- Radiator drain extension

Engine Electrical System

- Battery charging alternator
- Battery cables
- Battery tray
- Rubber-booted engine electrical connections
- Solenoid activated starter motor

ALTERNATOR SYSTEM

- UL2200 Genprotect ™
- Class H insulation material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearings
- Amortisseur winding
- Full load capacity alternator

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of circuits - high/low voltage
- Separation of circuits - multiple breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated Units)
- 1 Year Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (IF SELECTED)

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material (L1 & L2)
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

CONTROL SYSTEM

Control Panel

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance algorithm
- Sealed Boards
- Password parameter adjustment protection
- Single point ground
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

SG035 | 5.4L | 35 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

CONFIGURABLE OPTIONS

ENGINE SYSTEM

General

- O Engine Block Heater
- O Oil Heater
- O Air Filter Restriction Indicator
- O Stone Guard (Open Set Only)
- O Critical Exhaust Silencer (Open Set Only / Standard on Ultra Low Emissions Option)

Fuel Electrical System

- O 10A & 2.5A UL battery charger
- O Battery Warmer

ALTERNATOR SYSTEM

- O Alternator Upsizing
- O Anti-Condensation Heater
- O Tropical Coating
- O Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

- O Main Line Circuit Breaker
- O 2nd Main Line Circuit Breaker
- O Shunt Trip and Auxiliary Contact
- O Electronic Trip Breaker

GENERATOR SET

- O Gen-Link Communications Software (English Only)
- O Extended Factory Testing (3 Phase Only)
- O IBC Seismic Certification
- O 8 Position Load Center
- O 2 Year Extended Warranty
- O 5 Year Warranty
- O 5 Year Extended Warranty

ENCLOSURE

- O Standard Enclosure
- O Level 1 Sound Attenuation
- O Level 2 Sound Attenuation
- O Steel Enclosure
- O Aluminum Enclosure
- O 150 MPH Wind Kit
- O 12 VDC Enclosure Lighting Kit
- O 120 VAC Enclosure Lighting Kit
- O AC/DC Enclosure Lighting Kit
- O Door Alarm Switch

CONTROL SYSTEM

- O 21-Light Remote Annunciator
- O Remote Relay Board (8 or 16)
- O Oil Temperature Sender with Indication Alarm
- O Remote E-Stop (Break Glass-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Flush Mount)
- O Remote Communication - Bridge
- O Remote Communication - Ethernet
- O 10A Run Relay
- O Ground Fault Indication and Protection Functions

ENGINEERED OPTIONS

ENGINE SYSTEM

- O Fluid containment Pans
- O Coolant heater ball valves

ALTERNATOR SYSTEM

- O 3rd Breaker Systems

CONTROL SYSTEM

- O Spare inputs (x4) / outputs (x4) - H Panel Only
- O Battery Disconnect Switch

GENERATOR SET

- O Special Testing
- O Battery Box

ENCLOSURE

- O Motorized Dampers
- O Enclosure Ambient Heaters

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications. Power ratings in accordance with ISO 8528-1, Second Edition

SG035 | 5.4L | 35 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	8
Type	V
Displacement - L (cu In)	5.4L (329.53)
Bore - mm (in)	90.17 (3.55)
Stroke - mm (in)	105.92 (4.17)
Compression Ratio	9:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	4
Connecting Rods	Forged
Cylinder Head	Aluminum
Cylinder Liners	No
Ignition	Single Fire
Piston Type	Aluminum Alloy
Crankshaft Type	Nodular Iron
Lifter Type	Hydraulic
Intake Valve Material	Steel Alloy
Exhaust Valve Material	Hardened Steel
Hardened Valve Seats	Yes

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-flow sping-on cartridge
Crankcase Capacity - L (qts)	5.7 (6)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Water Pump Flow -gal/min (l/min)	38 (144)
Fan Type	Pusher
Fan Speed (rpm)	2143
Fan Diameter mm (in)	508 (20)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120 V

Fuel System

Fuel Type	Natural Gas, Propane Vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	7" - 11" H_2O

Engine Electrical System

System Voltage	12 VDC
Battery Charging Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390mm
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50
Standard Excitation	Brushless
Bearings	Sealed Ball
Coupling	Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SG035 | 5.4L | 35 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

			Natural Gas	Propane Vapor
	Single-Phase 120/240 VAC @1.0pf	35 kW	Amps: 146	Amps: 146
	Three-Phase 120/208 VAC @0.8pf	35 kW	Amps: 121	Amps: 121
	Three-Phase 120/240 VAC @0.8pf	35 kW	Amps: 105	Amps: 105
	Three-Phase 277/480 VAC @0.8pf	35 kW	Amps: 53	Amps: 53
	Three-Phase 347/600 VAC @0.8pf	35 kW	Amps: 42	Amps: 42

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		480 VAC						208/240 VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	35	24	36	48	60	72	84	18	27	36	45	54	63
Upsize 1	40	27	41	54	68	81	95	20	31	41	51	61	71
Upsize 2	50	34	52	69	86	103	120	26	39	52	65	77	90
Upsize 3	60	42	63	83	104	125	146	32	47	62	78	94	110

FUEL CONSUMPTION RATES*

Natural Gas - ft ³/hr (m ³/hr)	
Percent Load	Standby
25%	239 (6.8)
50%	409 (11.6)
75%	553 (15.7)
100%	682 (19.3)

Propane Vapor - ft³/hr (m ³/hr)	
Percent Load	Standby
25%	79.7 (2.3)
50%	136.6 (3.9)
75%	184.4 (5.2)
100%	227.7 (6.4)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Air Flow (inlet air combustion and radiator)	ft³/min(m ³/min)	2460 (69.7)
Coolant Flow per Minute	gal/min (l/min)	38 (144)
Coolant System Capacity	gal (l)	3 (11.36)
Heat Rejection to Coolant	BTU/hr	144,000
Max. Operating Air Temp on Radiator	ºF (ºC)	122 (50)
Max. Operating Ambient Temperature (before derate)	ºF (ºC)	110 (43.3)
Maximum Radiator Backpressure	in H_2O	0.5

COMBUSTION AIR REQUIREMENT

	Standby
Flow at Rated Power cfm (m³/min)	87 (2.5)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	54
Piston Speed	ft/min	1251
BMEP	psi	72

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m³/min)	260 (7.4)
Max. Backpressure (Post Turbo)	inHg (Kpa)	1.5 (5.1)
Exhaust Temp (Rated Output - post silencer)	ºF (ºC)	900 (482)
Exhaust Outlet Size (Open Set)	mm (in)	63.5 (2.5)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

SPEC SHEET

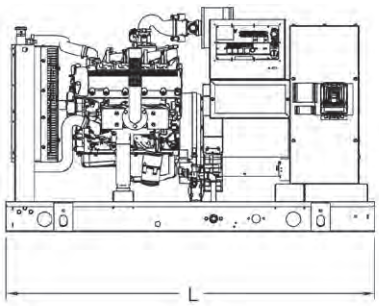
SG035 | 5.4L | 35 kW

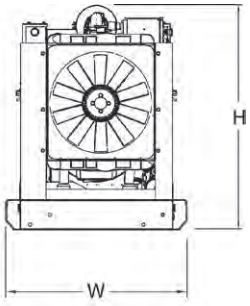
INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

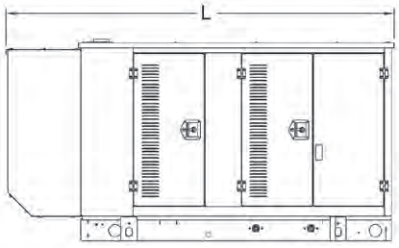
DIMENSIONS AND WEIGHTS

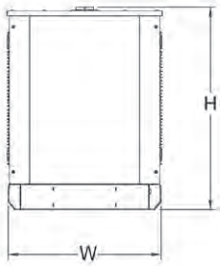




OPEN SET (Includes Exhaust Flex)

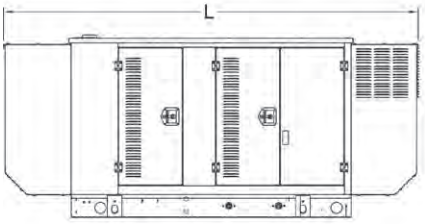
L x W x H in (mm)	76 (1930) x 37.4 (949.9) x 46 (1176)
Weight lbs (kg)	2199 (997)

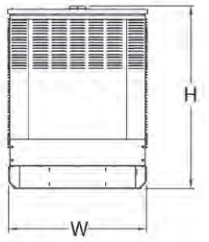




STANDARD ENCLOSURE

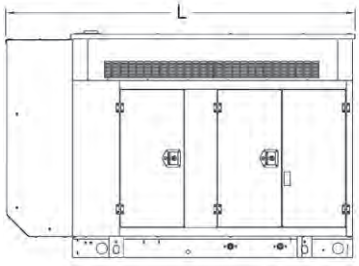
L x W x H in (mm)	94.8 (2408.9) x 38 (965.1) x 49.5 (1258.1)
Weight lbs (kg)	Steel: 2639 (1197) Aluminum: 2417 (1096)

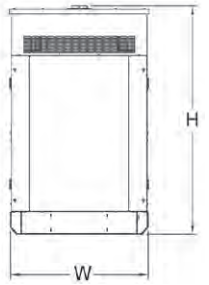




LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H in (mm)	112.5 (2857.1) x 38 (965.1) x 49.5 (1258.1)
Weight lbs (kg)	Steel: 2719 (1233) Aluminum: 2451 (1112)





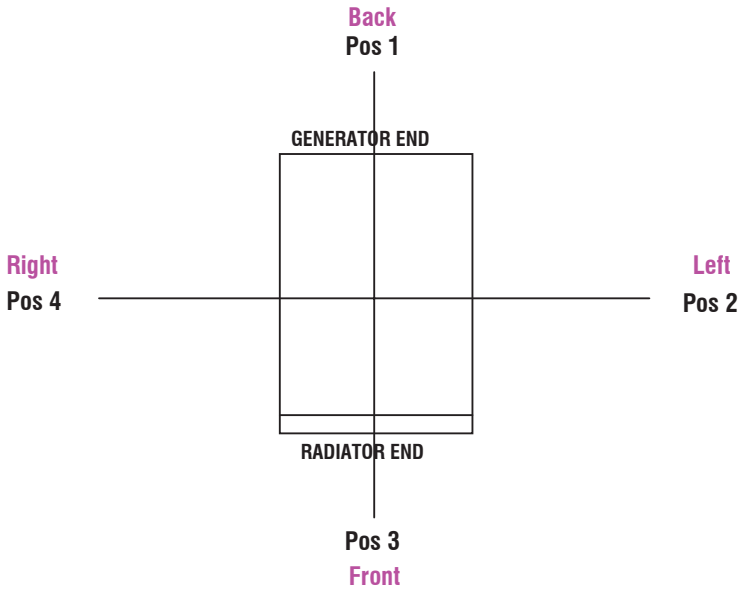
LEVEL 2 ACOUSTIC ENCLOSURE

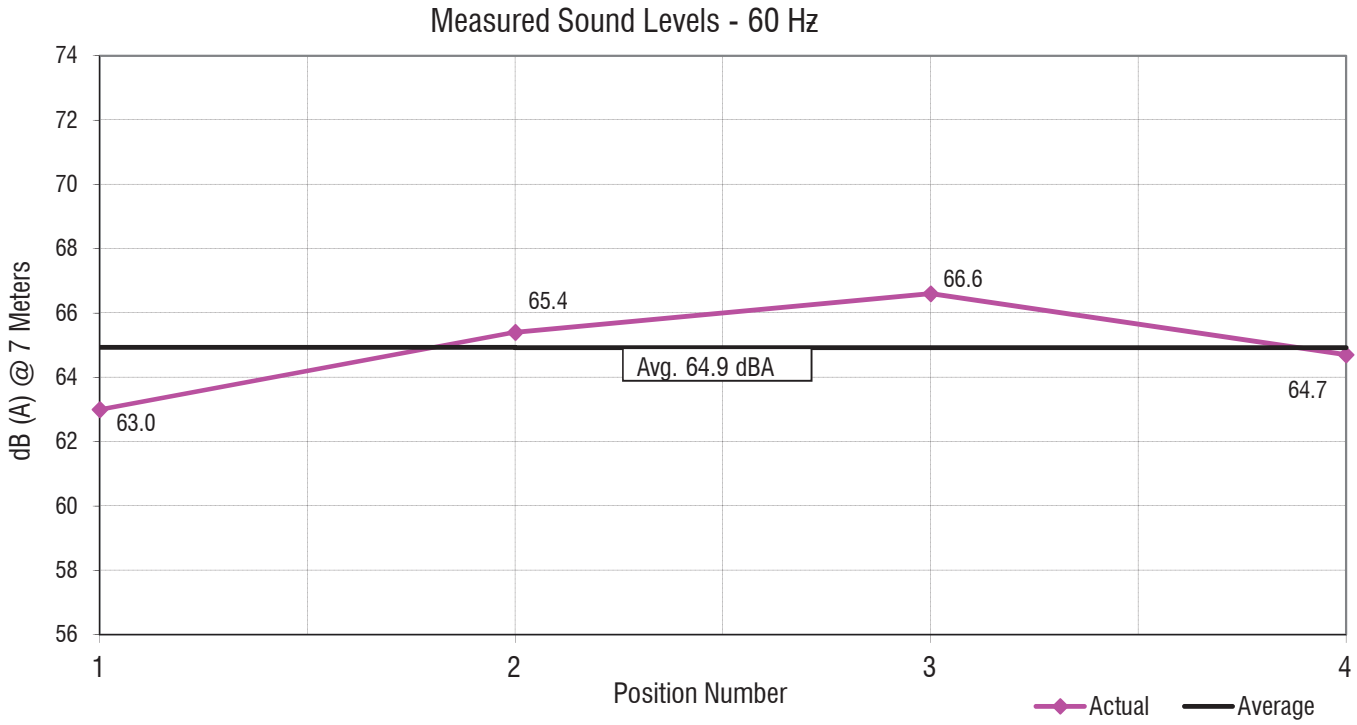
L x W x H in (mm)	94.8 (2408.9) x 38 (965.1) x 62 (1573.9)
Weight lbs (kg)	Steel: 2871 (1302) Aluminum: 2517 (1142)

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

LEVEL 2 ACOUSTIC ENCLOSURE
SG35 5.4L





Notes:

1. All positions 23 ft (7M) from side faces of generator set.
2. Generator operating at full load.
3. Test conducted on a 100 foot diameter asphault surface.
4. Non-enclosed sets do not include exhaust sound during testing.

GENERAC | INDUSTRIAL POWER

EXHAUST EMISSIONS DATA

STATEMENT OF EXHAUST EMISSIONS
2016 SPARK-IGNITED GENERATORS
INDUSTRIAL SERIES

NON-SCAQMD												
Model	Engine	EPA Engine Family	Fuel	CATALYST Req'd	Comb Cat or Separate Cat	EPA Cert #	Grams/bhp-hr.			Rated RPM	BHP	Fuel Flow (lb/hr)
							THC	NOx	CO			
SG035	5.4	GGNXB05.42NN	NG	No	NR	GGNXB05.42NN-049	1.60	2.52	95.32	1800	82.10	36.91
SG035	5.4	GGNXB05.42NL	LPG	No	NR	GGNXB05.42NL-048	1.24	3.45	112.01	1800	82.30	34.60
SG050	5.4	GGNXB05.42NN	NG	No	NR	GGNXB05.42NN-049	1.60	2.52	95.32	1800	82.10	36.91
SG050	5.4	GGNXB05.42NL	LPG	No	NR	GGNXB05.42NL-048	1.24	3.45	112.01	1800	82.30	34.60
SG050	6.8	GGNXB06.82NL	LPG	No	NR	GGNXB06.82NL-010	1.86	2.67	172.30	1800	84.66	46.55

NR: Not Required

Refer to page 2 for definitions and advisory notes.

CALIFORNIA SCAQMD CERTIFIED												
Model	Engine	EPA Engine Family	Fuel	CATALYST Req'd	SCAQMD CEP #	EPA Cert #	Grams/bhp-hr.			Rated RPM	BHP	Fuel Flow (lb/hr)
							THC	NOx	CO			
SG035	5.4	GGNXB05.42L1	NG	Yes	530212	GGNXB05.42L1-017	0.38	0.22	0.64	1800	81.95	24.91
SG035	5.4	GGNXB05.42L2	LPG	Yes	530215	GGNXB05.42L2-018	0.04	0.10	0.70	1800	81.70	29.13
SG050	5.4	GGNXB05.42L1	NG	Yes	530212	GGNXB05.42L1-017	0.38	0.22	0.64	1800	81.95	24.91
SG050	5.4	GGNXB05.42L2	LPG	Yes	530215	GGNXB05.42L2-018	0.04	0.10	0.70	1800	81.70	29.13
SG050	6.8	GGNXB06.82L6	LPG	Yes	470347	GGNXB06.82L6-024	0.01	0.05	0.50	1800	85.92	34.14

Refer to page 2 for definitions and advisory notes.

Generac Power Systems, Inc. • S45 W29290 HWY. 59, Waukesha, WI 53189 • generac.com

EXHAUST EMISSIONS DATA

STATEMENT OF EXHAUST EMISSIONS 2016 SPARK-IGNITED GENERATORS

2016 EPA SPARK-IGNITED EXHAUST EMISSIONS DATA

Effective since 2009, the EPA has implemented exhaust emissions regulations on stationary spark-ignited (gaseous) engine generators for emergency applications. All Generac spark-ignited gensets, including SG, MG, QTA and QT series gensets, that are built with engines manufactured in 2009 and later meet the requirements of 40CFR part 60 subpart JJJJ and are EPA certified. These generator sets are labeled as EPA Certified with decals affixed to the engines' valve covers.

The attached documents summarize the general information relevant to EPA certification on these generator sets. This information can be used for submittal data and for permitting purposes, if required. These documents include the following information:

EPA Engine Family
The EPA Engine Family is assigned by the Manufacturer under EPA guidelines for certification purposes and appears on the EPA certificate.

Catalyst Required
Indicates whether an exhaust catalyst and Air/Fuel Ratio control system are required on the generator set to meet EPA certification requirements. Generally, units rated 80kW and smaller do not require a catalyst to meet EPA certification requirements. Please note that some units that do not require a catalyst to meet EPA requirements do need a catalyst if the California SCAQMD option is selected. Please see "California SCAQMD" below for additional information on this option.

Combination Catalyst or Separate Catalyst
SG and MG series generator sets typically utilize a single combination catalyst/silencer as part of meeting EPA certification requirements. Many QT and QTA series generator sets use the same engines as SG and MG series units, but have different exhaust configurations that require the use of conventional silencers with additional separate catalysts installed.

EPA Certificate Number
Upon certification by the EPA, a Certificate Number is assigned by the EPA.

Emissions Actuals - Grams/bhp-hr
Actual exhaust emission data for Total Hydrocarbons (THC), Nitrogen Oxides (NOx) and Carbon Monoxide (CO) that were submitted to EPA and are official data of record for certification. This data can be used for permitting if necessary. Values are expressed in grams per brake horsepower-hour; to convert to grams/kW-hr, multiply by 1.341. Please see advisory notes below for further information.

California Units, SCAQMD CEP Number
A separate low-emissions option is available on many Generac gaseous-fueled generator sets to comply with the more stringent South Coast Air Quality Management District requirements that are recognized in certain areas in California. Gensets that include this option are also EPA Certified.

General Advisory Note to Dealers
The information provided here is proprietary to Generac and its' authorized dealers. This information may only be disseminated upon request, to regulatory governmental bodies for emissions permitting purposes or to specifying organizations as submittal data when expressly required by project specifications, and shall remain confidential and not open to public viewing. This information is not intended for compilation or sales purposes and may not be used as such, nor may it be reproduced without the expressed written permission of Generac Power Systems, Inc.

Advisory Notes on Emissions Actuals
- The stated values are actual exhaust emission test measurements obtained from units representative of the generator types and engines described.
- Values are official data of record as submitted to the EPA and SCAQMD for certification purposes. Testing was conducted in accordance with prevailing EPA protocols, which are typically accepted by SCAQMD and other regional authorities.
- No emission values provided are to be construed as guarantees of emissions levels for any given Generac generator unit.
- Generac Power Systems reserves the right to revise this information without prior notice.
- Consult state and local regulatory agencies for specific permitting requirements.
- The emissions performance data supplied by the equipment manufacturer is only one element required toward completion of the permitting and installation process. State and local regulations may vary on a case-by-case basis and must be consulted by the permit applicant/equipment owner prior to equipment purchase or installation. The data supplied herein by Generac Power Systems cannot be construed as a guarantee of installability of the generator set.
- The emission values provided are the result of multi-mode, weighted scale testing in accordance with EPA testing regulations, and may not be representative of any specific load point.
- The emission values provided are not to be construed as emission limits.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2016 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Generac Power Systems, Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: GGNXB05.42NL-048

Effective Date: 10/20/2015

Expiration Date: 12/31/2016

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 10/20/2015

Revision Date: N/A

Manufacturer: Generac Power Systems, Inc.
Engine Family: GGNXB05.42NL
Mobile/Stationary Certification Type: Stationary
Fuel : LPG/Propane
Emission Standards :
Part 90 Phase 1
CO (g/kW-hr) : 519
HC + NOx (g/kW-hr) : 13.4
Emergency Use Only : Y

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

California Historical Resources Information System

NORTH CENTRAL INFORMATION CENTER

AMADOR
EL DORADO
NEVADA
PLACER
SACRAMENTO
YUBA

California State University, Sacramento
6000 J Street, Folsom Hall, Suite 2042
Sacramento, California 95819-6100
phone: (916) 278-6217
fax: (916) 278-5162
email: ncic@csus.edu

5/23/2017 NCIC File No.: ELD-17-37

Jared Kearsley
Epic Wireless Group
8700 Auburn Folsom Road, Suite 400
Granite Bay, CA 95746

Records Search Results for
AT&T/Epic Wireless/El Dorado County Resource Record Search Request – APN: 105-110-81

Jared Kearsley:

Per your request received by our office on 5/5/2017, a complete records search was conducted by searching California Historic Resources Information System (CHRIS) maps for cultural resource site records and survey reports in El Dorado County within a 1/4-mile radius of the proposed project area.

Review of this information indicates that the proposed project area contains zero (0) prehistoric-period resource(s) and zero (0) historic-period cultural resource(s). Additionally, zero (0) cultural resources study reports on file at this office cover a portion of the proposed project area.

Outside the proposed project area, but within the 1/4-mile radius, the broader search area contains zero (0) prehistoric-period resource(s) and zero (0) historic-period cultural resource(s). Additionally, one (1) cultural resources study reports on file at this office cover a portion of the broader search area.

In this part of El Dorado County, archaeologists locate prehistoric-period habitation sites “along streams or on ridges or knolls, especially those with southern exposure.” (Moratto 1984:290) This region is known as the ethnographic-period territory of the Nisenan, also called the Southern Maidu. The Nisenan maintained permanent settlements along major rivers in the Sacramento Valley and foothills; they also periodically traveled to higher elevations (Wilson and Towne 1978:387-389). The proposed project search area is situated in the Sierra Nevada about one eighth of a mile east of drainage to Jacobs Creek. Given the extent of known cultural resources and the environmental setting, there is low potential for locating prehistoric-period cultural resources in the immediate vicinity of the proposed project area.

Within the search area, the 1866 GLO plat of T11N, R9E shows no evidence of nineteenth-century historical activity. The 1950 Coloma 7.5’ USGS topographical map shows evidence of a twentieth-century unpaved road. Given the extent of known cultural resources and patterns of local history, there is low potential for locating historic-period cultural resources in the immediate vicinity of the proposed project area.

SENSITIVITY STATEMENT:

1) With respect to cultural resources, it appears that the proposed project area **is not sensitive**.

2) Should the lead agency/authority require a cultural resources survey, a list of qualified local consultants can be found at http://chrisinfo.org.

3) If cultural resources are encountered during the project, avoid altering the materials and their context until a qualified cultural resources professional has evaluated the project area. Project personnel should not collect cultural resources. Prehistoric-period resources include: chert or obsidian flakes, projectile points, and other flaked-stone artifacts; mortars, grinding slicks, pestles, and other groundstone tools; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic-period resources include: stone or adobe foundations or walls; structures and remains with square nails; mine shafts, tailings, or ditches/flumes; and refuse deposits or bottle dumps, often located in old wells or privies.

4) Identified cultural resources should be recorded on DPR 523 (A-J) historic resource recordation forms, available at http://ohp.parks.ca.gov/?page_id=1069.

5) Review for possible historic-period cultural resources has included only those sources listed in the referenced literature and should not be considered comprehensive. The Office of Historic Preservation has determined that buildings, structures, and objects 45 years or older may be of historical value. If the area of potential effect contains such properties not noted in our research, they should be assessed by an architectural historian before commencement of project activities.

   Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

   The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Thank you for using our services. Please contact North Central Information Center at (916) 278-6217 if you have any questions about this record search. An invoice is enclosed.

Sincerely,

Dr. Nathan Hallam, Coordinator
North Central Information Center

SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.
6355 Riverside Blvd., Suite C, Sacramento, CA 95831
916/ 427-0703 Fax 916/ 427-2175
www.sycamoreenv.com

14 July 2017

Mr. Jared Kearsley
Leasing / Zoning Manager
Epic Wireless Group
8700 Auburn Folsom Road, Suite 400
Granite Bay, CA 95746
Phone: 916-755-1326

Subject: AT&T Gold Hill Site CVL03054 Project in El Dorado County, CA

Dear Mr. Kearsley:

Sycamore Environmental prepared a Biological Resources Evaluation (BRE) for the AT&T Gold Hill Site CVL03054 Project in El Dorado County, CA. The BRE is a baseline document. This letter identifies potential biological resource issues and recommended avoidance and minimization measures.

Trees
The 2004 El Dorado County General Plan Policy 7.4.4.4 requires all new development projects adhere to tree canopy retention and replacement standards. For parcels greater than one acre in size with 1 percent oak tree canopy cover or greater, 90 percent of the canopy must be retained.
Recommendation:

- The limits of construction will be fenced by the Contractor to minimize impacts on trees. Trucks and other vehicles will not be allowed to park beyond, nor shall equipment be stored beyond, the fencing. No vegetation removal or ground disturbing activities will be permitted beyond the fencing. Incorporation of this measure will help ensure that trees are not impacted beyond what is permitted by construction entitlements.

Migratory Birds and Birds of Prey
Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. Nesting or attempted nesting by migratory birds and birds-of-prey is anticipated from 15 January through 31 August.
Recommendation:

- Tree and vegetation removal shall occur outside of the nesting season (15 January through 31 August annually). All tree removal shall occur between 1 September and 14 January, which is outside of nesting season for MBTA and Fish and Game Code protected birds. If work occurs outside the nesting season, there will be no need to conduct a preconstruction survey for active nests.
- If project work occurs during the nesting season, a qualified biologist shall conduct a pre-construction survey for nesting birds of prey and other birds protected by the MBTA and Fish and Game Code within 15 days prior to the start of construction. The survey area shall cover the Project, a 500 ft radius for nesting birds of prey, and a 100 ft radius for all other MBTA and Fish and Game Code protected birds. If no active nest of a bird of prey, MBTA bird, or other Fish and Game Code-protected bird is found, then no further mitigation measures are necessary.

- Should an active nest of a protected bird be identified, an exclusion zone of 500 feet shall be established around the nest if it is a bird of prey, and 100 feet if it is a protected bird other than a bird of prey. Buffer sizes may be adjusted at the discretion of the biologist depending on the species of bird, the location of the nest relative to the project, the existing level of disturbance, and other site-specific conditions. No work will be allowed in the exclusion zone until the biologist determines that the nest is no longer active, or monitoring determines that a smaller ESA will protect the active nest.
- From 15 January through 31 August, if additional trees or shrubs need to be trimmed and/or removed after construction has started, a survey will be conducted for active nests in the area to be affected. If an active nest is found, the above measures will be implemented.
- If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing disturbance to the nest.

Please contact me with any questions.

Sincerely,

Jessie Quinn, Ph.D.
Ecologist

Enclosure: Biological Resources Evaluation

Biological Resources Evaluation
for the
AT&T Gold Hill Site CVL03054 Project

El Dorado County, CA

Prepared by:

Sycamore Environmental Consultants, Inc.
6355 Riverside Blvd., Suite C
Sacramento, CA 95831
Phone: 916/ 427-0703
Contact: Jessie Quinn

Prepared for:

Epic Wireless Group, LLC
8700 Auburn Folsom Road, Suite 400
Granite Bay, CA 95746
Phone: 916/ 755-1326
Contact: Jared Kearsley

July 2017

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Biological Resources Evaluation
for the
AT&T Gold Hill Site CVL03054
El Dorado County, CA

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

I. SUMMARY OF FINDINGS AND CONCLUSIONS

This Biological Resources Evaluation report was prepared for the AT&T Gold Hill Site CVL03054 Project (Project) to document baseline biological conditions observed in 2017. The approximately 0.39-acre (ac) Biological Study Area (BSA) is located south of Highway 49 in the community of Lotus, in unincorporated El Dorado County, CA.

Trees and vegetation in and adjacent to the BSA provide habitat for nesting birds protected by the Migratory Bird Treaty Act (MBTA) and Fish and Game Code. The nesting bird season is generally defined as 15 February through 31 August, though some species of birds may begin nesting as early as 15 January.

No special-status wildlife or plant species have the potential to occur in the BSA. The BSA is in a previously disturbed area within an Important Biological Corridor. The BSA is not in a Rare Plant Mitigation Area or within Important Habitat for Migratory Deer Herds. Based on aerial images in Google Earth from October 2016, the 10.065-acre parcel on which the BSA is located contains more than 1 percent canopy cover of oak woodlands. There are no wetlands or waters in the BSA.

II. INTRODUCTION

A. Purpose of Report

The purpose of this Biological Resources Evaluation (BRE) report is to document baseline biological resources in the AT&T Gold Hill Site CVL03054 Project (Project) Biological Study Area (BSA).

B. Project Location

The approximately 0.39-ac BSA is located in the western foothills of the Sierra Nevada Mountains in unincorporated El Dorado County, California. The BSA is located in a rural residential area, and is bound by large lot residences to the north and undeveloped mixed oak woodland to the south. The BSA is on the Coloma USGS topographic quad (T11N R9E, Section 14, Mt. Diablo Base & Meridian; Figure 1), and is in the South Fork American Hydrologic Unit (Hydrologic Unit Code 18020129). The geographic coordinates of the BSA are 38.802850° north, 122.648761° east (WGS84), and the UTM coordinates (Zone 10N) are 679,067 meters east, 4,296,912 meters north. Elevation in the BSA ranges from approximately 1,110 to 1,050 ft above sea level. The BSA is located on the top of a hill. Figure 2 is an 11 July 2016 aerial photo of the BSA and surrounding area.

C. Project Applicant

Applicant:
AT&T Mobility
2600 Camino Ramon
San Ramon, CA 94583

Consulting Planner
Epic Wireless Group, LLC
8700 Auburn Folsom Road, Suite 400
Granite Bay, CA 95746
Phone: 916/ 755-1326
Contact: Mr. Jared Kearsley

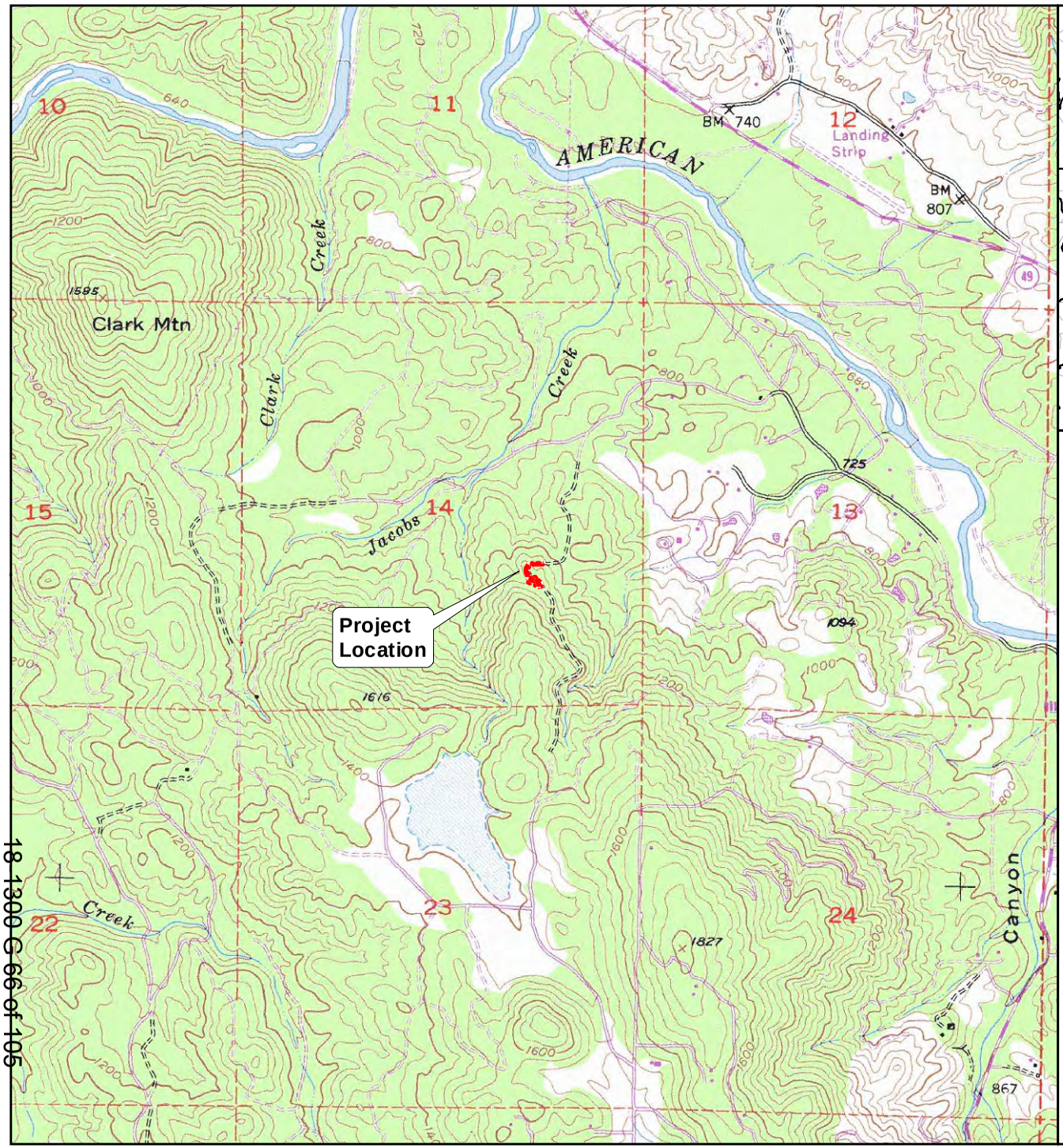
D. Project Description

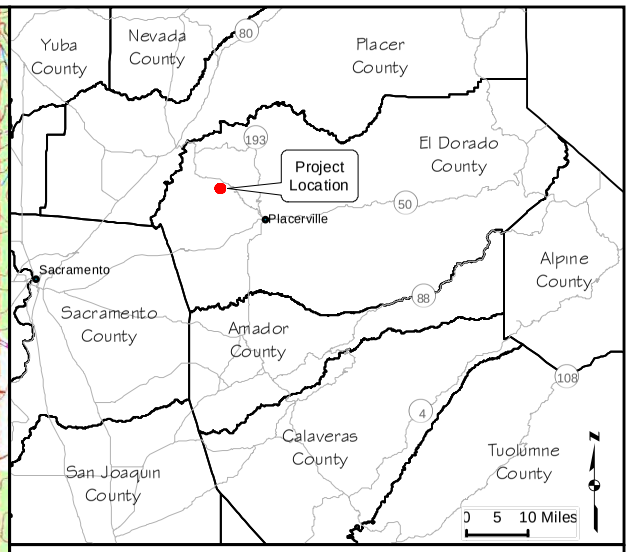
AT&T intends to construct a wireless telecommunications facility at 6812 Gods Way, Lotus, in northeastern El Dorado County. The proposed AT&T Gold Hill Site CVL03054 Project (Project) facility

tower will be a new 110-ft monopine tower with a new GPS antenna; six wireless antennas and nine remote radio units (RRUs) mounted at 108 ft; six wireless antennas, one surge protector, and nine RRUs mounted at 100 ft; and six RRUs and three surge protectors on a collar mount directly below the sectors. In the future, the tower can also accommodate three additional RRUs and two 4-ft diameter microwave dishes mounted at 89.5 ft. Future antennas can be mounted by other carriers at approximately 82 and 67 ft. The tower has been designed with pine foliage to match the existing surrounding trees. The foliage would extend horizontally approximately seven ft above the top of the structure to an overall structure height of approximately 117 ft. Antennas will be concealed with socks. The monopine "trunk" and RRUs will be painted brown.

The Project will extend an existing 12-ft wide gravel driveway on the property by roughly 100 ft to provide access to the proposed facility. The new access road will remain within the proposed 15-ft wide lessee access utility easement. The facility will include a pre-fabricated equipment shelter and a new 15-Kw propane generator and a 500-gallon propane tank, each located on new 50-ft^2 concrete pads. The facility will be located on a 35-ft by 40-ft lease area and enclosed with a new 6-ft chain link fence and 12-ft wide double access gate. Connecting the facility with existing power and fiber lines will require excavation of an approximately 155-ft long linear utility trench along the proposed access road, through which to run cables. At the point of connection, a 6-ft wide and 10.5-ft long utility easement is proposed, which will allow the Project to join the new cables to the existing joint utility pole with a transformer. Two new underground power and telecommunication conduits will be installed less than 5 ft northeast of the double gate of the lease area.

The Project does not include removal or pruning of oak trees.





AT&T Gold Hill Site
CVL03054 Project
El Dorado County, CA
6 July 2017

Figure 1. Project Location Map

Project Location

2,000 1,000 0 2,000 Feet

N

Scale: 1 inch = 2,000 feet

SYCAMORE Environmental Consultants, Inc.

Coloma, CA (Revised 1973)
CASIL California USGS Digital Raster Graphics (DRG),
7.5 Minute (C) Series, Albers Nad83 Mosaics (MrSID)
o_nw0202.sid

17077EpicWirelessMSA_GoldHill_Fig1LocationMap.mxd

18 1300 C 66 of 105

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AT&T Gold Hill Site
CVL03054 Project
El Dorado County, CA
6 July 2017

Biological Study Area (BSA)

SYCAMORE Environmental Consultants, Inc.

Aerial Photograph: 11 July 2016
NAIP2016 USDA FSA Imagery
ESRI ArcGIS Basemap Layer

Figure 2. Aerial Photograph

17077B\GIS\MXD\SCE_GoldHill_Fig2_AerialPhoto.mxd

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III. STUDY METHODS

A. Studies Conducted

An evaluation of biological resources was conducted to determine whether any special-status plant or wildlife species, their habitat, or sensitive habitats occur in the BSA. Data on known special-status species and habitats in the area was obtained from state and federal agencies. Maps and aerial photographs of the BSA and surrounding area were reviewed. The field survey, map review, and a review of the biology of evaluated species and habitats were used to determine the special-status species and sensitive habitats that could occur in the BSA.

Special-status species in this report are those listed under the federal or state endangered species acts, under the California Native Plant Protection Act, as a California species of special concern or fully protected by the California Department of Fish and Wildlife (CDFW), or that are California Rare Plant Rank 1 or 2 (CNPS 2017). This is consistent with special-status species definitions in the El Dorado County General Plan EIR (2004). Special-status natural communities are waters, wetlands, riparian communities, and any natural community ranked S1, S2, or S3 by CDFW (2010). Special-status species and communities may also include those considered locally important or sensitive. El Dorado County identifies Important Biological Corridors and Important Habitat for Migratory Deer Herds in its General Plan (2016), and Rare Plan Mitigation areas per the Board of Supervisors Resolution No. 205-98. General Plan Policy 7.4.4.4 requires all new development projects adhere to tree canopy retention and replacement standards.

Data received from USFWS, CNDDB, and CNPS records (Appendices B and C) were used to evaluate species and habitats of concern with potential to occur within the BSA. The CNDDB tracks other species that have not been designated by CDFW as a California species of special concern; these species were not evaluated as special-status species in this BRE.

B. Survey Dates, Personnel, and Coverage

Fieldwork for this BRE, covering the 0.39-ac BSA, was conducted by Jessica Orsolini, Senior Wildlife Biologist, and Juan Mejia, Biologist, on 28 June 2017.

C. Problems Encountered and Limitations That May Influence Results

No problems or limitations were encountered.

D. Literature Search

An IPaC Trust Resource Report was obtained from the U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office on 26 June 2017 (Appendix B). The list identifies federal-listed, candidate, and proposed species that potentially occur in, or could be affected by, the Project.

The California Natural Diversity Database (CNDDB) was queried prior to field surveys for known occurrences of special-status species in or near the BSA (Coloma Quad and the eight surrounding quads). The list was updated most recently on 26 June 2017 (CDFW 2017, Appendix C). The California Native Plant Society (CNPS) inventory of rare and endangered plants was queried prior to field surveys for known occurrences of special-status plants in or near the BSA (Coloma Quad and the eight surrounding

quads). The list was updated most recently on 26 June 2017 (Appendix C). Table 1 lists the USGS quads evaluated.

Table 1. USGS Quads Evaluated for the AT&T Gold Hill Site CVL03054 Plan Project

Auburn	Greenwood	Georgetown
Pilot Hill	**Coloma**	Garden Valley
Clarksville	Shingle Springs	Placerville

E. Field Survey Methods

Biological surveys conducted for this report consisted of biologists walking through the BSA while looking for special-status wildlife species, their sign, and their habitat. Areas adjacent to the BSA were also inspected for important habitat features such as elderberry shrubs, vernal pools, burrows, and other wetlands/waters. Biological community boundaries were recorded with a sub-meter accurate GPS. All wildlife species observed in or near the BSA were recorded (Appendix A).

F. Mapping

Biological communities observed by Sycamore Environmental were mapped using a Trimble GeoXT sub-meter accurate GPS. The 6 July aerial photo in Figures 2 and 4 was downloaded from ESRI World Imagery. Biological communities were mapped based on GPS data, field observations, and interpretation of the aerial photographs available on Google Earth. No additional sensitive biological resources were observed.

IV. ENVIRONMENTAL SETTING

The BSA is located in an undeveloped area south of highway 49 in Coloma, CA. Land use adjacent to the BSA consists of undeveloped forest and dispersed residences. The South Fork American River is to the north and Arrowbee Lake is located to the south. The parcel on which the BSA is located is approximately 10.065 acres in size.

A. Soils

Mapped soil units in the BSA were determined using the Soil Survey of El Dorado Area (NRCS 1974). Mapped soil units in the BSA is Boomer very rocky loam, 30-50% slopes (Figure 3; NRCS 2016). Figure 3 is a soils map.

Boomer very rocky loam, 30-50% Percent Slopes:
These soils occur on uplands with black oak, ponderosa pine and manzanita. A typical profile of Boomer loam is dark brown (7.5YR 5/4) loam from 0 to 3 inches; dark brown (7.5YR 3/4) gravelly sandy clay loam from 3 to 11 inches; yellowish red (5YR 4/6) gravelly clay loam from 11 to 23 inches; yellowish red (5YR 4/6) gravelly clay loam from 11 to 23 inches; yellowish red (5YR 4/6) clay loam from 23 to 33 inches; strong brown (7.5 YR 5/8) silty clay loam from 33 to 45 inches; and strongly weathered greenstone below 45 inches. This soil is neutral to medium acidic. Boomer series are fine-loamy, mixed, superactive mesic Ultic Haploxeralfs. These soils formed in material weathered from metavolcanic rock. Permeability is moderately slow. Surface runoff is slow to very rapid and erosion hazard is moderate.

B. Weather and Climate Conditions

Fieldwork was conducted on 28 June 2017. Precipitation in California is typically reported for the period from 1 July through 30 June of the next calendar year. The historic average precipitation from 1 July through 25 April for the National Weather Service Sacramento Executive Airport gauge is 18.18 inches. From 1 July 2016 through 25 April 2017, the Sacramento Executive Airport Gauge received 33.08 inches of rain (NWSFO 2017), or 182% of the average precipitation. The BSA had wetter than average hydrologic conditions during the 28 June fieldwork. Weather during the survey was sunny, calm, and dry.

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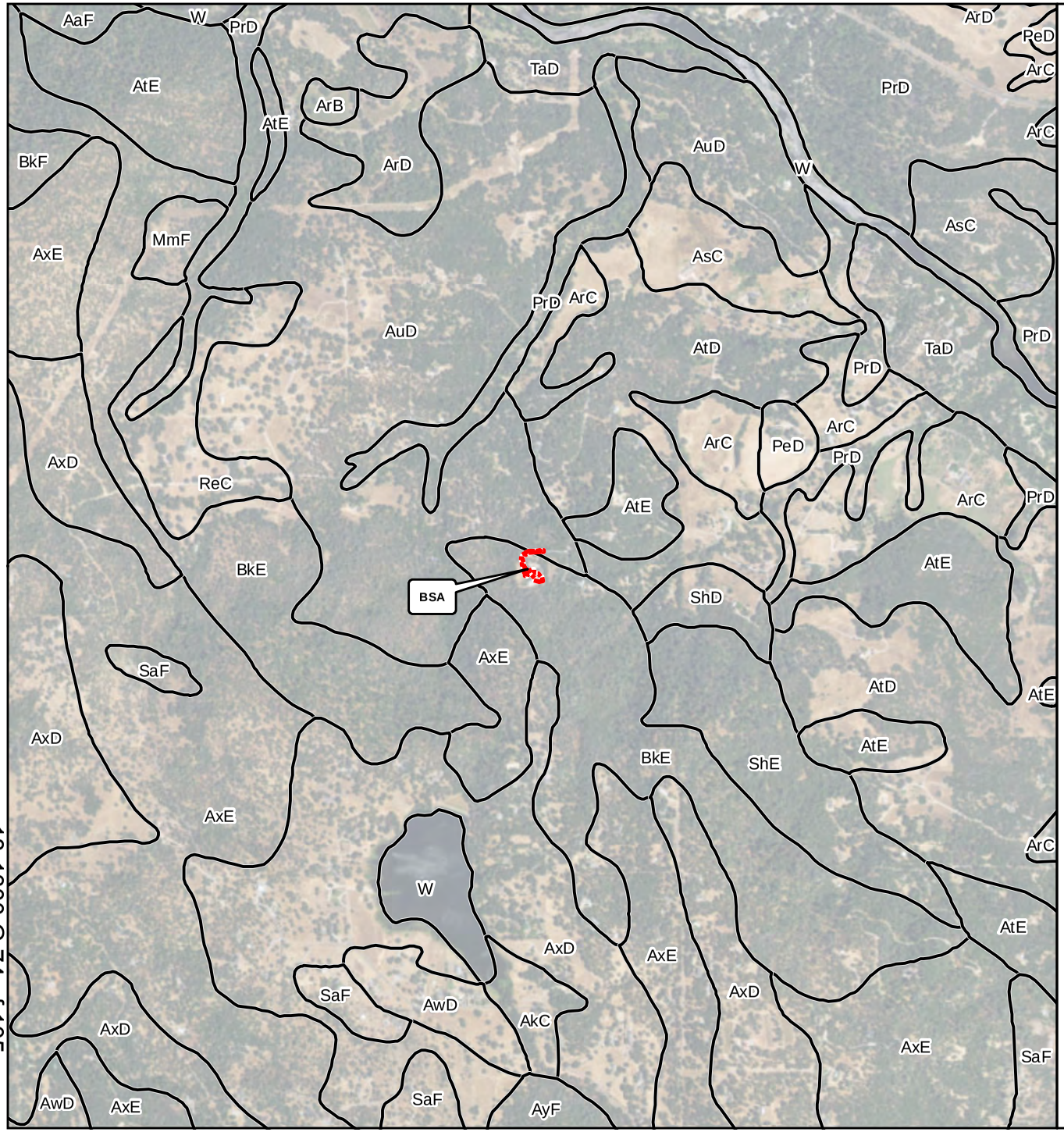

AT&T Gold Hill Site
CVL03054 Project
El Dorado County, CA
6 July 2017

Figure 3. Soils Map

Biological Study Area (BSA)

Soil Boundary

Soil Mapping Unit

Symbol	Name
AwD	Auburn silt loam, 2 to 30 percent slopes
BkE	Boomer very rocky loam, 30 to 50 percent slopes

1,500 0 1,500 Feet

N

Scale: 1 inch = 1,500 feet

SYCAMORE Environmental Consultants, Inc.

Soil Survey Geographic (SSURGO) database for El Dorado Area, California, USDA, NRCS
URL:http://SoilDataMart.nrcs.usda.gov/

Aerial Photograph: 11 July 2016
NAIP2016 USDA FSA Imagery
ESRI ArcGIS Basemap Layer

17077EpicWirelessMSA_GoldHill_Fig3SoilsMap.mxd

18-1300 G 74 of 105

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C. Biological Communities

Biological communities are defined by species composition and relative abundance. Biological communities correlate where applicable with the list of California terrestrial natural communities recognized by CDFW (2010). Descriptions of biological communities present in the BSA are included below. Biological community descriptions include plant species identified during the field surveys. Biological communities are mapped in Figure 4 and their acreages are in Table 2. Photographs of the BSA are in Appendix D.

Table 2. Biological Communities in the BSA

Biological Community	**Vegetation Alliances and CDFW Alliance Codes [1]**	**Rarity Rank [2]**	**Acreage [3]**
Structures/Landscaping/Gravel roads	--	--	0.26
Ruderal	--	--	0.13
Total:			0.39

[1] Vegetation alliances based on descriptions and classification methods in Sawyer et al. (2009). Alliance codes from CDFW (2010). Some communities may lack recognized vegetation alliances or contain multiple alliances.

[2] Rarity ranking follows NatureServe's Heritage Methodology and is based on degree of imperilment as measured by rarity, trends, and threats. State (S) ranks of 1-3 are considered highly imperiled by CDFW (2010). Nonnative vegetation has no rarity rank.

[3] Acreages were calculated using ArcMap functions.

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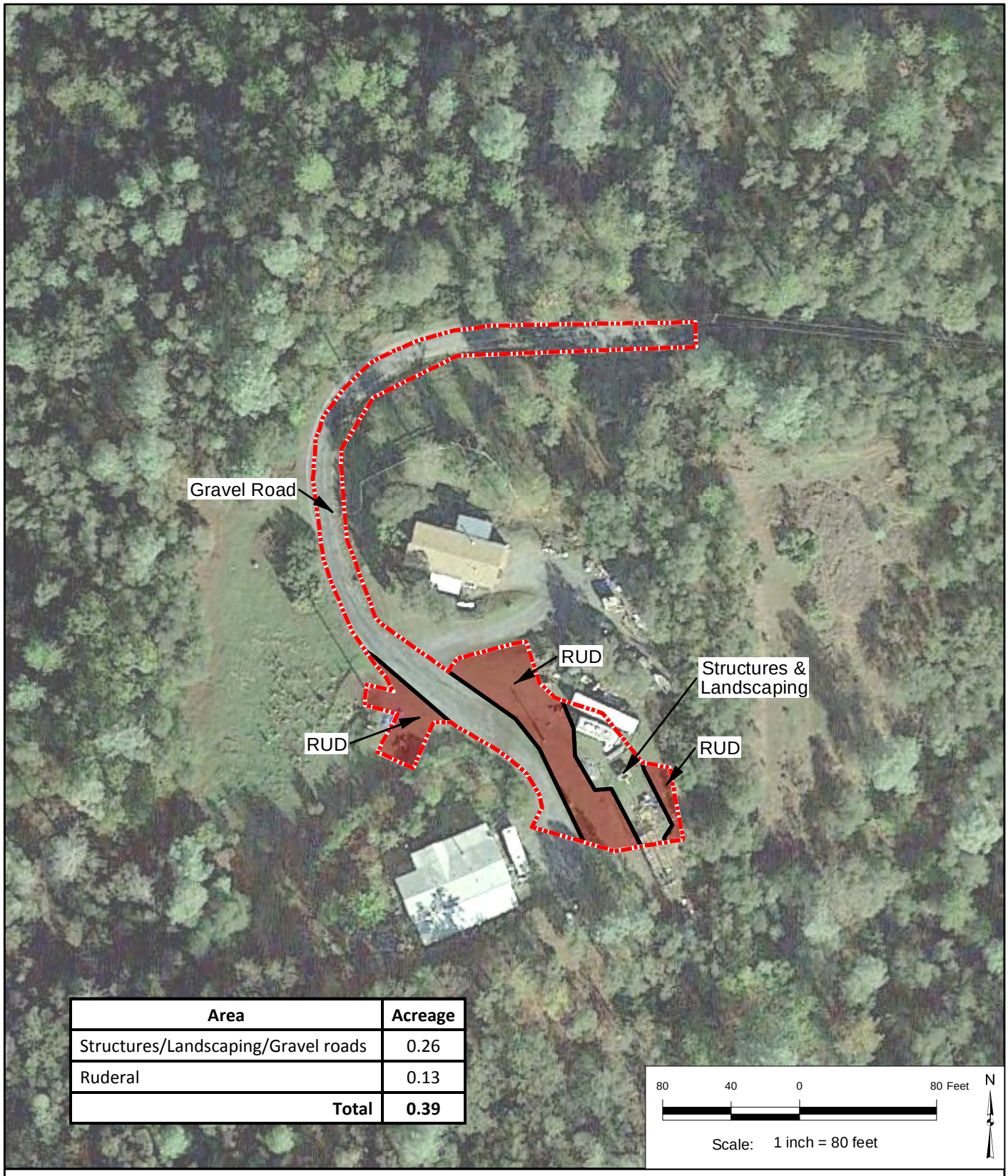

Area	Acreage
Structures/Landscaping/Gravel roads	0.26
Ruderal	0.13
Total	**0.39**

AT&T Gold Hill Site
CVL03054 Project
El Dorado County, CA
6 July 2017

Biological Study Area (BSA)
Structures/Landscaping/Gravel roads
Ruderal (RUD)

SYCAMORE
Environmental
Consultants, Inc.

Aerial Photograph:
25 October 2016
Google Earth Imagery

Figure 4.
Biological Resources Map

170774_GoldHill_FigResMap.mxd

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1. Structures/landscaping/gravel roads

A total of 0.26 acre of developed land use occurs in the BSA, including a gravel road, structures, and associated landscaping.

2. Ruderal

A total of 0.13 ac of ruderal land occurs in the south end of the BSA on either side of the gravel road. This non-native grassland community is dominated by American bird's foot trefoil *(Acmispon americanius)* lesser hawkbit *(Leontodon saxatilis),* yellow starthistle *(Centaurea solstitalis),* harvest brodiaea *(Brodiea elegans),* Monterey centaury *(Zeltnara muehlangergii),* prickly lettuce *(Lactuca seriola),* and clustered clover *(Trifolium glomeratum).* Ruderal land has no special status.

D. The Existing Level of Disturbance

The vast majority of the BSA has a high level of existing disturbance from the gravel roads, mowing of the grass, and human access.

V. BIOLOGICAL RESOURCES IN THE BIOLOGICAL STUDY AREA

A. Determination of Special-Status Species and Communities in the Biological Study Area

Field surveys were conducted by Sycamore Environmental biologists to determine if individuals or habitat for special-status species identified in the file data were present in the BSA. Special-status species for which suitable habitat is present are discussed below.

Special-status wildlife species, plant species, and communities for which suitable habitat is not present, or whose distributional limits preclude the possibility of their occurrence in the BSA, are not discussed in Section V of this report.

B. Evaluation of Special-Status Natural Communities

The BSA is located within an Important Biological Corridor (IBC), in a previously disturbed and developed area. There are no special-status natural communities within the BSA.

The project is not located within Important Migratory Deer Habitat.

Based on aerial images in Google Earth from October 2016, the 10.065-acre parcel on which the BSA is located contains more than 1 percent canopy cover of oak woodlands.

C. Evaluation of Special-Status Fish and Wildlife Species

1. Birds

Migratory Birds and Birds of Prey

STATUS: Fish and Game Code 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Birds of prey include raptors, falcons, and owls. Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

HABITAT PRESENT IN THE BSA: No bird of prey nests or nests of other birds protected by the MBTA or Fish and Game Code were observed in the BSA during biological surveys. Bird species observed are listed in Appendix A. Trees and vegetation in the BSA provide nesting habitat for birds of prey and other birds protected by the MBTA and Fish and Game Code.

DISCUSSION: The nesting bird season is generally defined as February 15th through August 31st, though some species can begin nesting as nearly as January 15th.

D. Evaluation of Special-Status Plant Species

The project is not located in a Rare Plant Mitigation Area. There are no special status plant species with potential to occur in the BSA.

E. Potentially Jurisdictional Waters

Field surveys conducted by Sycamore Environmental biologists included evaluation of potential wetlands or waters within the BSA.

There are no potentially jurisdictional waters in the BSA.

VI. LITERATURE CITED & PERSONAL COMMUNICATIONS

A. Literature Cited

Baldwin, B. et al. (ed.). 2012. The Jepson Manual, Vascular Plants of California, 2nd ed. University of California Press, Berkeley, CA.

California Department of Fish and Wildlife (CDFW). 10 September 2010. List of California Vegetation Alliances. Biogeographic Data Branch, CNDDB, Sacramento, CA.

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Natural Resources Conservation Service (NRCS). Accessed May 2017. Official soil series descriptions (OSD). Soil Survey Staff, United States Department of Agriculture. https://soilseries.sc.egov.usda.gov/

National Weather Service Forecast Office (NWSFO), Sacramento, CA. Accessed July 2017. Observed Weather. http://www.nws.noaa.gov/climate/index.php?wfo=sto

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A manual of California vegetation, 2nd ed. California Native Plant Society, Sacramento, CA.

VII. PREPARERS

Adrienne Levoy, B.S., Conservation and Resource Studies, University of California, Berkeley, CA. Over 9 years experience as a professional biologist. Conducts wildlife surveys, yellow-billed cuckoo, burrowing owl, and Swainson's hawk protocol surveys, biological resource evaluations, worker awareness training, and construction monitoring; prepares impact/mitigation analyses, and assists with permit application preparation. She prepares reports used in the CEQA/NEPA process that document resources, identify impacts, recommends mitigation measures, and assists with permit application preparation. She holds a USFWS recovery permit for listed yellow-billed cuckoo (TE-78073B-0) and a CDFW Scientific Collecting Permit (SC-13362).
Responsibilities: Report preparation.

Jessica Quinn, Ph.D., Ecology, University of California, Davis, CA. Over 8 years of experience as a professional ecologist. Conducts special-status plant and wildlife surveys; provides technical support for wetland delineations; and coordinates and prepares PES submissions. Project management, prepares CEQA documents and reports used in the CEQA/NEPA process that document resources, identify impacts, and recommend mitigation measures. She has managed and conducted wetland functional analyses, environmental risk assessments, environmental screening evaluations, and restoration design evaluations, and has received training in biology and survey techniques for CA red-legged frog, NEPA and Habitat Conservation Planning. Her background includes 13 additional years of experience managing and conducting ecological research on mammals, birds, and grassland ecology. Dr. Quinn holds a CDFW Rare, Threatened and Endangered Plant Voucher Collecting Permit (#2081(a)-16-053-V), and is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617). Responsibilities: Project manager, report preparation.

Jeffery Little, Vice President, Sycamore Environmental. Over 24 years experience with preparation of NES, BA, and NEPA/CEQA compliance documents, impact analysis, agency formal and informal consultations and permitting. Project management, conducts special-status species surveys, jurisdictional delineations, and prepares mitigation and monitoring plans. CAD/ GIS Manager responsible for data collection, map creation, impact analyses, and report preparation. He holds a California Department of Fish and Wildlife Rare, Threatened and Endangered Plant Voucher Collecting Permit (2081(a)-14-078-V), and is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617).
Responsibilities: Principal-in-Charge, QA/QC

Aramis Respall, GIS Analyst/ CAD Operator. Over 20 years experience in drafting and spatial analysis using AutoCAD map and ArcGIS for public and private projects. Prepares figures for biological and permitting documents such as project location maps, biological resource maps, wetlands/waters delineation maps, impact analysis maps, and other supporting graphics. Primary experience evolved from surveying and civil engineering practices to advanced GPS/GIS technology.
Responsibilities: Figure preparation and spatial analysis.

APPENDIX A

Plant and Wildlife Species Observed

Plant Species Observed. Taxonomy follows Baldwin et al. 2012.

Family	Scientific Name	Common Name	N/I [1]	CAL-IPC [2]
GYMNOSPERMS				
EUDICOTS				
Asteraceae	*Baccharis pilularis*	Coyote brush	N	
	Centaurea solstitialis	Yellow star-thistle	I	High
	Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	I	Moderate
	Cirsium vulgare	Bull thistle	I	Moderate
	Lactuca serriola	Prickly lettuce	I	
	Leontodon saxatilis	Hairy hawkbit	I	
	Tragopogon dubius	Yellow salsify	I	
Euphorbiaceae	*Croton setigerus*	Turkey-mullein	N	
Fabaceae	*Acmispon americanus* var. *americanus*	Deervetch	N	
	Trifolium hirtum	Rose clover	I	Limited
	Trifolium glomeratum	Clustered clover	I	
Gentianaceae	*Zeltnera muehlenbergii*	Monterey centaury	N	
Geraniaceae	*Erodium botrys*	Storksbill, filaree	I	
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	I	High
	Galium aparine	Goose grass	N	
Scrophulariaceae	*Verbascum thapsus*	Woolly mullein	I	Limited
MONOCOTS				
Poaceae	*Aira caryophyllea*	Silver hair grass	I	
	Avena barbata	Slender wild oat	I	Moderate
	Cynodon dactylon	Bermuda grass	I	Moderate
	Cynosurus echinatus	Bristly dogtail grass	I	Moderate
	Hordeum murinum ssp. *leporinum*	Hare barley	I	Moderate
Themidaceae	*Brodiaea elegans* ssp. *elegans*	Harvest brodiaea	N	

[1] N = Native to CA; I = Introduced.

[2] Negative ecological impact according to the California Invasive Plant Council (Cal-IPC 2006).

Wildlife Species Observed

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Spotted towhee	*Pipilo maculatus*
Lesser goldfinch	*Spinus psaltria*
Tree swallow	*Tachycineta bicolor*
Turkey vulture	*Cathartes aura*

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: June 26, 2017
Consultation Code: 08ESMF00-2017-SLI-2438
Event Code: 08ESMF00-2017-E-06633
Project Name: Gold Hill Wireless Telecommunication Facility

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2017-SLI-2438

Event Code: 08ESMF00-2017-E-06633

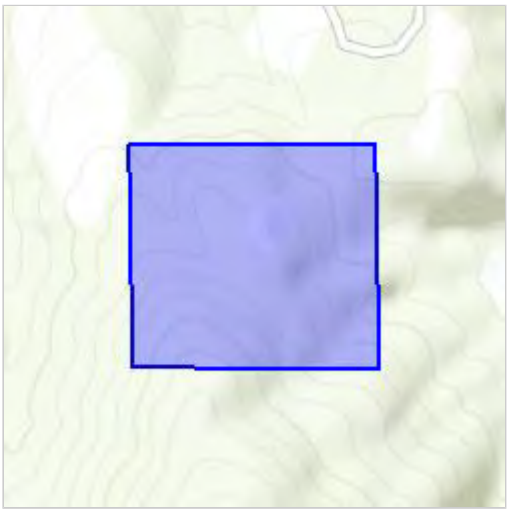
Project Name: Gold Hill Wireless Telecommunication Facility

Project Type: ** OTHER **

Project Description: Installation of wireless telecommunication facility in northeastern El Dorado County.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.802414294515486N120.93724781487958W



Counties: El Dorado, CA

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Amphibians

NAME	STATUS
California Red-legged Frog *(Rana draytonii)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *(Hypomesus transpacificus)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Steelhead *(Oncorhynchus (=Salmo) mykiss)* Population: Northern California DPS There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1007	Threatened

Flowering Plants

NAME	STATUS
Layne's Butterweed *(Senecio layneae)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4062	Threatened
Pine Hill Ceanothus *(Ceanothus roderickii)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3293	Endangered
Stebbins' Morning-glory *(Calystegia stebbinsii)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3991	Endangered

Critical habitats

There are no critical habitats within your project area.

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Auburn (3812181) OR Greenwood (3812088) OR Georgetown (3812087) OR Pilot Hill (3812171) OR Coloma (3812078) OR Garden Valley (3812077) OR Clarksville (3812161) OR Shingle Springs (3812068) OR Placerville (3812067))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter gentilis northern goshawk	ABNKC12060	None	None	G5	S3	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Allium jepsonii Jepson's onion	PMLIL022V0	None	None	G2	S2	1B.2
Ammonitella yatesii tight coin (=Yates' snail)	IMGASB0010	None	None	G1	S1	
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Andrena subapasta An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos nissenana Nissenan manzanita	PDERI040V0	None	None	G1	S1	1B.2
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Banksula californica Alabaster Cave harvestman	ILARA14020	None	None	GH	SH	
Banksula galilei Galile's cave harvestman	ILARA14040	None	None	G1	S1	
Bombus morrisoni Morrison bumble bee	IIHYM24460	None	None	G4G5	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Calystegia stebbinsii Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
Calystegia vanzuukiae Van Zuuk's morning-glory	PDCON040Q0	None	None	G2Q	S2	1B.3

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Carex cyrtostachya Sierra arching sedge	PMCYP03M00	None	None	G2	S2	1B.2
Carex xerophila chaparral sedge	PMCYP03M60	None	None	G2	S2	1B.2
Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.1
Central Valley Drainage Hardhead/Squawfish Stream Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA	None	None	GNR	SNR	
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G2	S2	1B.2
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Cosumnoperla hypocrena Cosumnes stripetail	IIPLE23020	None	None	G2	S2	
Crocanthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0	None	None	G2Q	S2	3.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Fremontodendron decumbens Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2
Fritillaria eastwoodiae Butte County fritillary	PMLIL0V060	None	None	G3Q	S3	3.2
Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Horkelia parryi Parry's horkelia	PDROS0W0C0	None	None	G2	S2	1B.2
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lathyrus sulphureus var. argillaceus dubious pea	PDFAB25101	None	None	G5T1T2	S1S2	3

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Oncorhynchus mykiss irideus steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Pekania pennanti fisher - West Coast DPS	AMAJF01021	Proposed Threatened	Candidate Threatened	G5T2T3Q	S2S3	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Rana boylii foothill yellow-legged frog	AAABH01050	None	None	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3
Wyethia reticulata El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 51

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CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

31 matches found. Click on scientific name for details

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in Quads 3812181, 3812088, 3812087, 3812171, 3812078, 3812077, 3812161 3812068 and 3812067;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Listing Status	Federal Listing Status
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	Apr-Aug	1B.2		
Allium sanbornii var. congdonii	Congdon's onion	Alliaceae	perennial bulbiferous herb	Apr-Jul	4.3		
Allium sanbornii var. sanbornii	Sanborn's onion	Alliaceae	perennial bulbiferous herb	May-Sep	4.2		
Arctostaphylos mewukka ssp. truei	True's manzanita	Ericaceae	perennial evergreen shrub	Feb-Jul	4.2		
Arctostaphylos nissenana	Nissenan manzanita	Ericaceae	perennial evergreen shrub	Feb-Mar	1B.2		
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2		
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2		
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jul	1B.1	CE	FE
Calystegia vanzuukiae	Van Zuuk's morning-glory	Convolvulaceae	perennial rhizomatous herb	May-Aug	1B.3		
Carex cyrtostachya	Sierra arching sedge	Cyperaceae	perennial herb	May-Aug	1B.2		
Carex xerophila	chaparral sedge	Cyperaceae	perennial herb	Mar-Jun	1B.2		
Ceanothus fresnensis	Fresno ceanothus	Rhamnaceae	perennial evergreen shrub	May-Jul	4.3		
Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Apr-Jun	1B.1	CR	FE
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	May-Jun	1B.2		
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	Onagraceae	annual herb	May-Jul	4.2		
Claytonia parviflora ssp. grandiflora	streambank spring beauty	Montiaceae	annual herb	Feb-May	4.2		
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jul-Aug	4.3		
	Bisbee Peak	Cistaceae	perennial evergreen	Apr-Aug	3.2		

Crocanthemum suffrutescens	rush-rose		shrub				
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	4.2		
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	May-Jul	4.2		
Eriophyllum jepsonii	Jepson's woolly sunflower	Asteraceae	perennial herb	Apr-Jun	4.3		
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	Apr-Jul	1B.2	CR	FE
Fritillaria eastwoodiae	Butte County fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	3.2		
Galium californicum ssp. sierrae	El Dorado bedstraw	Rubiaceae	perennial herb	May-Jun	1B.2	CR	FE
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.2		
Lathyrus sulphureus var. argillaceus	dubious pea	Fabaceae	perennial herb	Apr-May	3		
Lilium humboldtii ssp. humboldtii	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	4.2		
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	1B.2	CR	FT
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2		
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3		
Wyethia reticulata	El Dorado County mule ears	Asteraceae	perennial herb	Apr-Aug	1B.2		

Suggested Citation

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APPENDIX D

Photographs

Photo 1. View facing northwest towards gravel road from the south end of the BSA. 28 June 2017.

Photo 2. View facing southeast towards ruderal community and landscaped garden on the south end of BSA. 28 June 2017.

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Photo 3. View facing east towards gravel road from the north end of the BSA.

Photo 4. View facing north towards the existing gravel road from the center of the BSA. 28 June 2017.

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Photo 5: View facing south towards ruderal community and gravel road from center of the BSA. 28 June 2017.

Photo 6. View facing southeast towards ruderal community and existing structures from the south end of the proposed access road. Existing gravel road on the right. 28 June 2017.

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