PROTECTED PLANT PRESERVATION PLAN

PINION HILLS MARKET
PINION HILLS, CALIFORNIA

Prepared for:

Pinion Hills Market c/o Steeno Design Studio, Inc.
11774 Hesperia Road, Suite B1
Hesperia, Ca 92345

Prepared by:

RCA Associates, Inc.
15555 Main Street, #D4-235
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Biologists: Randall Arnold
Parker Smith

Project No: RCA#2017-32

TITLE PAGE

Date Report Prepared: May 8, 2017

Date Field Work Completed: May 1, 2017

Report Title: Protected Plant Preservation Plan

Project Location: **Pinion Hills, California**

Prepared for: **Pinon Hills Market**
Steeno Design Studio Inc.

Principal Investigators: **Randall C. Arnold, Jr., Senior Biologist**
Parker Smith, Biological Technician

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1.0 SUMMARY

At the request of the project proponent, RCA Associates Inc. surveyed the 3-acre project site (Figures 1, 2, and 3). The project site is located south of Highway 138 on the corner Beekley Road and Highway 138. (Section 22, Township 4 North, Range 7 West). This report provides the results of the Joshua tree (*Yucca brevifolia*) survey performed on the site on May 1, 2107. Following completion of the surveys, RCA Associates Inc. prepared this Protected Plant Preservation Plan for the project to assist the proponent with future relocation of the Joshua Trees. Information on the Joshua trees which will need to be transplanted in the future is provided in Section 4.0. The County of San Bernardino has established a Plant Protection and Management code for Joshua trees (Municipal Code: Chapter 88.01.060) to help protect and preserve desert vegetation, including Joshua trees, and the requirements of the Ordinance are provided in this report.

There is a total of 59 Joshua trees present within the boundaries of the property (See Table 4-1) based on the field investigations conducted by RCA Associates, Inc. Following the analysis of each tree it was determined that 10 of those trees are suitable for transplant.

2.0 INTRODUCTION AND PROJECT LOCATION

The area encompassing the project is approximately 3-acres in size and is located just south of Highway 138 on the corner of Beekley Road and Highway 138. (Section 22, Township 4 North, Range 7 West). (Appendix A: Figures 1, 2, and 3). The property supports a lush chapparel community dominated by desert sage *(Salvia dorrii),* Mojave rabbitbrush *(Ericameria nauseosa var. mohavensis)* and California buckwheat (*Eriogonum fasciculatum*). The proponent is proposing to develop the 3-acre parcel for the purpose of commercial development (Pinion Hills Market). The property is directly bordered on the north and east by vacant land, and to the west and south by existing development. RCA Associates Inc. conducted field investigations on May 1, 2017 in order to evaluate the Joshua trees present throughout the boundaries of the property.

Joshua trees occur throughout the Mojave Desert in Southern California and are typically found at an elevation of 400 to 1,800 meters (~1,200 to ~5,400 feet). Joshua trees within the western portion of the Mojave Desert typically receive more annual precipitation during "normal" years; consequently, cloning occurs more often resulting in numerous trunks sprouting from the same root system (Rowland, 1978). Joshua tree habitats provide habitat for a variety of wildlife species including desert wood rats (*Neotoma* sp.) and night lizards (*Xantusia* sp.) both of which utilize the base of the trees. A variety of birds also utilize Joshua trees for nesting such as hawks, common ravens, and cactus wrens. CDFW consider Joshua tree woodlands as areas that support relatively high species diversity and as such are considered to be a sensitive desert communities. Joshua trees are also considered a significant resource under the California Environmental Quality Act (CEQA) and are included in the Desert Plant Protection Act, Food and Agricultural Code (80001 – 80006).

3.0 METHODOLOGIES

Surveys were conducted on May 1, 2017 to determine the presence of plants which are protected under the County's Plant Protection and Management code. As part of the field investigations, biologists from RCA Associates Inc. evaluated each Joshua tree to determine which trees were suitable for transplanting based on a general health assessment. Each Joshua trees received a metal numbered tag which was affixed on the north side of each tree (for orientation purposes during future transplanting), the precise location of each tree was recorded using a Garmin GPS unit, and flagging was also placed on each tree to facilitate identification. Those Joshua trees which are suitable for transplanting are presented in Table 4-1 and the locations are depicted in Figure 4. The factors utilized to determine which Joshua trees are suitable for transplanting include the following factors:

1. Trees from 3 feet in height up to about 12 feet,
2. No visible signs of damage to the tree such as absence of bark due to rodent or other animals,
3. Minimal number of branches (No more than 2 to 3 branches),
4. No excessive leaning of the tree,
5. No yellow or brown fronds,
6. Proximity to other Joshua trees (i.e., clonal), and
7. No exposed roots at the base of the tree.

4.0 RESULTS

There is a total of 59 Joshua trees within the boundaries of the site, and the density of Joshua trees is approximately 20 trees per acre. The GPS locations of the Joshua trees are provided in Table 4-1. A total of 10 Joshua trees (17%) are suitable for transplanting based on the seven factors listed above in Section 3.0 (Table 4-1). The Joshua trees suitable for transplanting will be relocated/transplanted on site as part of on-site landscaping, on-site in an area outside of the project footprint, or off site at a location approved by the County of San Bernardino and the project proponent.

Table 4-1: Census of Joshua trees to be transplanted. (Note: The GPS locations [approximate] of the Joshua trees are provided below, and those trees which will be transplanted at some future date are highlighted in red.

Total Number of Joshua Trees On-Site	Joshua Trees to be transplanted	Number of Clonal Trees	Number of Non-Clonal Trees
420	58	139	281

Tag Number	Height(ft.)	Location	Health	Transplantable
1	14	N34° 24.731' W117° 35.374'	Good	No(24C)
2	12	N34° 24.741' W117° 35.373'	Fair	No(4C)
3	10	N34° 24.740' W117° 35.378'	Fair	No(2C)
4	8	N34° 24.741' W117° 35.377'	Good	No(4C)
5	2.5	N34° 24.747' W117° 35.383'	Good	No(4C)
6	3.5	N34° 24.750' W117° 35.384'	Fair	No(2C)
7	2	N34° 24.749' W117° 35.381'	Good	Yes
8	10	N34° 24.749' W117° 35.375'	Good	No(15C)
9	4.5	N34° 24.755' W117° 35.375'	Good	Yes
10	14	N34° 24.760' W117° 35.379'	Good	No(11C)
11	12	N34° 24.759' W117° 35.386'	Fair	No(2C)
12	3	N34° 24.762' W117° 35.363'	Fair	No(2C)
13	3.5	N34° 24.764' W117° 35.359'	Poor	No(3C)
14	11	N34° 24.766' W117° 35.372'	Good	No(2C)
15	10	N34° 24.771' W117° 35.380'	Good	No(6C)
16	3	N34° 24.773' W117° 35.384'	Good	No(4C)
17	8	N34° 24.775' W117° 35.382'	Poor	No(2C)
18	10	N34° 24.777' W117° 35.385'	Good	No(8C)
19	10	N34° 24.774' W117° 35.363'	Good	No(9C)
20	10	N34° 24.777' W117° 35.360'	Good	No(6C)

21	8	N34° 24.783' W117° 35.385'	Good	No(26C)
22	8	N34° 24.787' W117° 35.383'	Good	No(4C)
23	8	N34° 24.787' W117° 35.381'	Good	No(4C)
24	6	N34° 24.787' W117° 35.382'	Good	No(5C)
25	10	N34° 24.786' W117° 35.380'	Good	No(13C)
26	3.5	N34° 24.789' W117° 35.375'	Good	No(5C)
27	5	N34° 24.788' W117° 35.372'	Good	No(5C)
28	4	N34° 24.785' W117° 35.360'	Good	Yes
29	3.5	N34° 24.792' W117° 35.372'	Good	Yes
30	11	N34° 24.793' W117° 35.371'	Good	No(96C)
31	8	N34° 24.792' W117° 35.380'	Fair	No(5C)
32	6	N34° 24.794' W117° 35.383'	Good	No(leaning)
33	10	N34° 24.794' W117° 35.384'	Fair	No(10C)
34	5	N34° 24.802' W117° 35.385'	Good	Yes
35	2.5	N34° 24.805' W117° 35.385'	Good	Yes
36	12	N34° 24.804' W117° 35.379'	Good	No(5C)
37	12	N34° 24.809' W117° 35.373'	Good	No(leaning)
38	10	N34° 24.808' W117° 35.370'	Good	No(27C)
39	11	N34° 24.798' W117° 35.356'	Good	No(19C)
40	9	N34° 24.809' W117° 35.361'	Good	No(4C)
41	12	N34° 24.811' W117° 35.362'	Fair	No(6C)
42	10	N34° 24.815' W117° 35.357'	Good	No(60C)
43	7	N34° 24.810' W117° 35.368'	Good	Yes
44	5.5	N34° 24.813' W117° 35.369'	Good	Yes
45	10	N34° 24.817' W117° 35.363'	Fair	No(16C)
46	5.5	N34° 24.814' W117° 35.375'	Good	Yes

47	2	N34° 24.812' W117° 35.381'	Good	Yes
48	12	N34° 24.815' W117° 35.384'	Fair	No(22C)
49	15	N34° 24.820' W117° 35.383'	Fair	No(9C)
50	12	N34° 24.822' W117° 35.371'	Good	No(9C)
51	12	N34° 24.822' W117° 35.369'	Good	No(14C)
52	11	N34° 24.829' W117° 35.362'	Fair	No(2C)
53	11	N34° 24.832' W117° 35.363'	Good	No(4C)
54	10	N34° 24.831' W117° 35.366'	Good	No(2C)
55	6	N34° 24.834' W117° 35.366'	Good	No(11C)
56	10	N34° 24.831' W117° 35.372'	Good	No(9C)
57	10	N34° 24.833' W117° 35.377'	Good	No(16C)
58	6	N34° 24.839' W117° 35.378'	Good	No(2C)
59	11	N34° 24.841' W117° 35.383'	Fair	No(4C)

5.0 CONCLUSIONS

The property contains a total of 59 Joshua trees, 10 of which are suitable for future transplanting. This number was determined based on: (1) trees which were three feet or greater in height and less than twelve feet tall (approximate); (2) in good health; (3), two branches or less; (4) density of trees (i.e., no clonal trees); no exposed roots; and (6) trees that are not leaning over excessively. Any Joshua trees deemed satiable for transplanting should be transplanted during a time of year when weather is cooler (i.e., October through March). Joshua trees transplanted during warmer weather generally have a poor transplant recovery rate.

The County of San Bernardino Municipal Code (Chapter 88.01.060) requires preservation of Joshua trees given their importance in the desert community. A qualified approved contractor will be retained to conduct any future transplanting activities, and will follow the protocol of the City's Municipal Code. The following criteria will be utilized by the contractor when conducting any future transplanting activities.

A. The Joshua trees will be utilized as part of on-site landscaping, where possible, or will be transplanted to an area of the property where they can remain in perpetuity. Joshua trees which are deemed not suitable for transplanting will be cut-up and discarded from the site.

B. Earthen berms will be created around each tree by the contractor prior to excavation and the trees will be watered approximately one week before transplanting. Watering the trees prior to excavation will help make excavation easier, ensure the root ball will hold together, and minimize stress to the tree.

C. Each tree will be moved to a pre-selected location which has already been excavated, and will be placed and oriented in the same direction as their original direction. The hole will be backfilled with native soil, and the transplanted tree will be immediately watered. As noted in Section 3.0, a numbered metal tag was placed on the north side of the tree and the tree was also flagged with surveyor's flagging.

D. The contractor will develop a watering regimen to ensure the survival of the transplanted trees. The watering regimen will be based upon the needs of the trees and the local precipitation.

6.0 REFERENCES

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City of Palmdale

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7.0 CERTIFICATION

I hereby certify the statements furnished above and in the attached exhibits, present the data and information required for this Joshua tree survey and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this survey was performed by Parker Smith and Randall Arnold.

Date: 05/08/2017 Signed: Randy Arnold

Field Work Performed by: Randall Arnold
Principal & Senior Biologist

Field Work Performed by: Parker Smith
Biological Field Technician

APPENDIX A

Figures

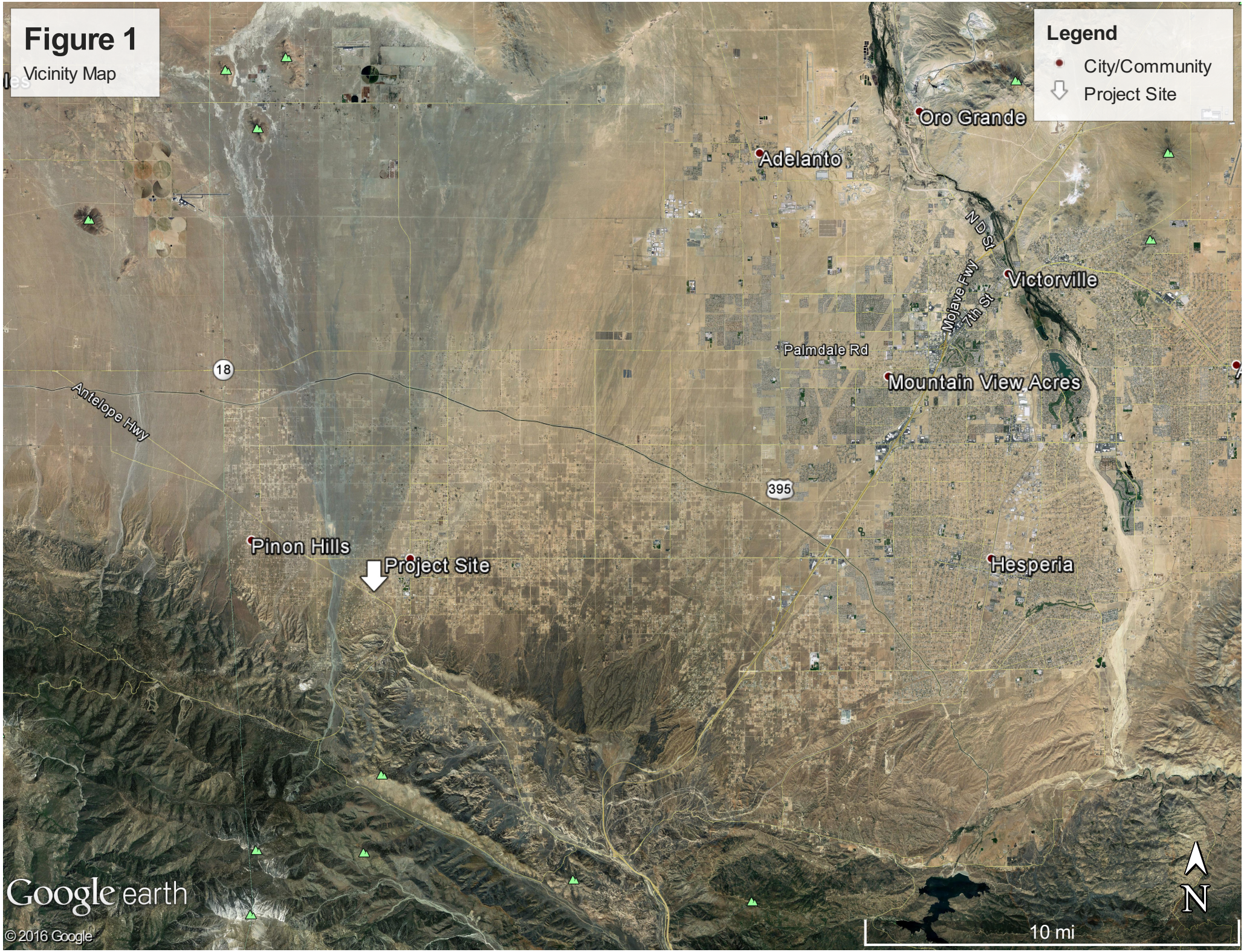
Figure 1
Vicinity Map
Legend
City/Community
Project Site
Oro Grande
Adelanto
N D St
Victorville
Mojave Fwy
7th St
Palmdale Rd
18
Antelope Hwy
Mountain View Acres
395
Pinon Hills
Project Site
Hesperia
Google earth
© 2016 Google
N
10 mi

Figure 2

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

PHELAN QUADRANGLE
CALIFORNIA-SAN BERNARDINO CO.
7.5-MINUTE SERIES (TOPOGRAPHIC)

Project Site

Produced by the United States Geological Survey 1988
Revision within and adjacent to National Forest System lands by USDA Forest Service 1996

Compiled from aerial photographs taken 1952. Revised from aerial photographs taken 1994. Contours have not been revised

North American Datum of 1927 (NAD 27). Projection and 10 000-foot ticks: California coordinate system, zone 5 (Lambert conformal conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 11

North American Datum of 1983 (NAD 83) is shown by dashed corner ticks
The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software

Non-National Forest System lands within the National Forest Inholdings may exist in other National or State reservations

This map is not a legal land line or ownership document. Public lands are subject to change and leasing, and may have access restrictions; check with local offices. Obtain permission before entering private lands

UTM GRID AND 1999 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

20% TOTAL RECOVERED FIBER

SCALE 1:24 000

1 0 1 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10 000 FEET
1 0 1 2 KILOMETERS
1000 0 1000 2000 METERS

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO CONVERT FEET TO METERS MULTIPLY BY 0.3048

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, P.O. BOX 25286, DENVER, COLORADO 80225
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

ADJOINING 7.5' QUADRANGLES
1 El Mirage
2 Shadow Mountains SE
3 Adelanto
4 Mescal Creek
5 Baldy Mesa
6 Mount San Antonio
7 Telegraph Peak
8 Cajon

HIGHWAYS AND ROADS

Interstate
U. S.
State
County
National Forest, suitable for passenger cars
National Forest, suitable for high clearance vehicles
National Forest Trail

Primary highway
Secondary highway
Light-duty road
Paved
Gravel
Dirt
Composition unspecified
Unimproved; 4 wheel drive
Trail
Gate; Barrier

PHELAN, CA
1996
NIMA 2452 I NE - SERIES V895

ISBN 0-607-92870-0

INTERIOR-GEOLOGICAL SURVEY, RESTON VIRGINIA 1999


Figure 3
Aerial View
Legend
Project Boundary
Project Site
Project Site
Deer Haven Dr
138
700 ft
N
Google earth
© 2016 Google