

TITLE PAGE

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Field Work Completed: March 29, 2022

Report Title: Protected Plant Preservation Plan

Project Location: Adelanto, California

Prepared for: Red Brick Solution, LLC

Principal Investigators: Ryan Hunter, Lead Environmental Scientist, Biologist
Jessica Hensley, Environmental Scientist, Biologist
Brian Bunyi, Environmental Scientist, Wildlife Biologist

Contact Information: Randall C. Arnold, Jr.
RCA Associates, Inc.
15555 Main Street, #D4-235
Hesperia, CA 92345
(760) 956-9212
rarnold@rcaassociatesllc.com
www.rcaassociatesllc.com

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1.0 SUMMARY

At the request of the project proponent, RCA Associates, Inc. surveyed an approximate 14.5-acre property located at the north-east corner of Holly Road and Johnathan Street in the city of Adelanto, California (Township 5 North, Range 5 West, Section 4, USGS Adelanto, California Quadrangle, 1956) (Figures 1, 2, and 3).

The purpose of the survey was to evaluate the Joshua trees present on the site and determine which trees were suitable for relocation and which trees could be discarded prior to site clearing activities. This report provides the results of the Joshua tree survey performed on March 29, 2022. Following completion of the survey, RCA Associates, Inc. prepared this Protected Plant Preservation Plan to assist the project proponent with future relocation of the Joshua trees. Information on the Joshua trees which will need to be relocated-transplanted in the future is provided in Section 4.0. The City of Adelanto Municipal Code has a chapter (Chapter 17.57.040) stating the purpose of Joshua Tree preservation and the consequence of removing one and follows the County of San Bernardino Plant Protection Plan and Management (Chapter 88.01.060) to help protect and preserve desert vegetation, including Joshua trees. The requirements of the Ordinance (Chapter 88.01.060) are provided in Appendix B.

Based on the results of the field investigations there are three Joshua trees which occur within the boundaries of the property (Figures 1, 2, and 3). Based on the evaluation and analysis of each tree it was determined that zero of the three Joshua trees (0%) are suitable for transplanting. These trees are marked in green in Table 4-1. The remaining 3 Joshua trees (100%) were determined to be unsuitable for transplanting due to a variety of factors such as size, condition, damage, dying, dead, excessive leaning, possibly disease, clonal, etc.

2.0 INTRODUCTION AND PROJECT LOCATION

The area surveyed is located at the north-east corner of Holly Road and Johnathan Street in the city of Adelanto, California (Figures 1 and 2). Current conditions on the property include a disturbed desert scrub community showing signs of past human disturbances. The biological resources on the site consist of a desert scrub community typical of the area with creosote bush (*Larrea tridentata*), rubber rabbitbrush (*Ericameria nauseosa*), white-bursage (*Ambrosia dumosa*), flatspine bur ragweed (*Ambrosia acanthicarpa*), Joshua tree (*Yucca brevifolia*), kelch grass (*Schismus barbatus*), and cheatgrass (*Bromus tectorum*) observed on the site. The property is bordered by residential properties in the south and undeveloped land on the remaining borders. Highway 395 is situated less than a quarter mile west of property. The location and surrounding area are zoned for residential usage (R-1) (Figure 1).

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 woodrats (*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 community. 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

Pedestrian surveys were walked throughout the site and biologists from RCA Associates, Inc. evaluated each Joshua tree to determine which trees were suitable for relocation/transplanting based on a general health assessment. Each Joshua tree received a metal numbered tag which was affixed on the north side of each tree for orientation purposes during future transplanting. Surveyor flagging was also placed around those trees suitable for transplanting to facilitate future identification. The precise location of each tree was recorded using a Juniper Systems Cedar CT8X2 GPS tablet and a Nikon Forestry Pro II rangefinder was utilized to determine the extent of the property boundaries and accurate tree height. Those Joshua trees which occur on the property site are presented in Table 4-1 and the locations are provided in Figure 3.

In addition, the surrounding area was surveyed visually up to a 300-foot buffer, where trees from the project boundary up to the 66 foot buffer were marked and given designation of either reaching maturity (Adult) or not. Joshua trees that occur beyond the 66 foot buffer up to the 300 foot buffer were also located, but given no distinction of life stage. There was a total of 6 Joshua trees were observed outside of the property boundary (Figure 4).

The factors utilized to determine which Joshua trees were suitable for transplanting include the following factors:

1. Trees from about 1 foot in height up to approximately 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 or 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.
8. Dying or dead

4.0 RESULTS

There are 3 Joshua trees on the property and the GPS locations of the Joshua trees are provided in Table 4-1. A total of 0 Joshua tree (0%) is suitable for relocation/transplanting based on the nine factors listed in Section 3.0 (Table 4-1). The Joshua trees suitable for transplanting should be relocated/transplanted on-site, which is the preferable option, or to an off-site area approved by the City of Adelanto. Those Joshua trees that are not suitable for relocation/transplanting due to size, health of the tree, presence of damage, excessive branches, excessive leaning, clonal, and exposed roots should be disposed of as per City requirements. There were 6 Joshua trees outside of the property boundary that fall within the 300-foot buffer of the perimeter site.

Table 4-1: Joshua tree census. (Note: The GPS locations of the Joshua trees are provided below and those trees which are suitable for transplanting on-site as part of project landscaping are highlighted in green.)

Total Number of Joshua Trees On Site	Joshua Trees to be Transplanted	Number of Clonal Trees	Number of Non-Clonal Trees	Number of Dead Trees
3	0	1	1	1

Tag #	Life Stage	Location	Height (ft)	Panicles	Branches	Condition	Health Assessment	Number of Trunks	Transplantable
JT 1381		34.543725°, -117.405720°				Dead			No
JT 1380	Adult	34.544192°, -117.407963°	13	12	18	Fair	-Greater than 12 ft	1	No
JT 1379	Adult	34.544120°, -117.405245°	10	0	2	Good	-Clonal	2	No

5.0 CONCLUSIONS

There are 3 Joshua trees located on the property and 0 of the trees are suitable for relocation/transplanting. This conclusion was based on: (1) trees which were one foot 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); (5) no exposed roots; (6) and trees that are not leaning over excessively. As indicated in Table 4-1, the majority of the Joshua trees which were not suitable for relocation are dead and lying on the ground.

As of September 22, 2020, the California Department of Fish and Wildlife temporarily listed the western Joshua tree (*Yucca brevifolia*) as an endangered species until a final decision is made in 2022. Therefore, any attempt to remove the Joshua tree from its current position will require an Incidental Take Permit (ITP).

The City of Adelanto's Municipal Code (Chapter 17.57.040) instructs to follow the County of San Bernardino's ordinance (88.01.060), which requires preservation of Joshua trees given their importance in the desert community. A qualified City-approved biologist or arborist should be retained to conduct any future relocation/transplanting activities and should follow the protocol of the County's Municipal Code (Appendix B: Chapter 88.01.060). The following criteria will be utilized by the contractor when conducting any future transplanting activities.

A. The Joshua trees will be retained in place or replanted somewhere on the site where they can remain in perpetuity or will be transplanted to an off-site area approved by the city where they can remain in perpetuity. Joshua trees which are deemed not suitable for transplanting will be cut-up and discarded as per City requirements.

B. Earthen berms will be created around each tree by the biologist 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 trees and the trees were also flagged with surveyor's flagging. The biologist 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

- Brittingham, S. and W. Lawrence.
2000. Facilitation of *Yucca brevifolia* Recruitment by Mojave Desert Shrubs. Western North American Naturalist 60(4), pp. 374-383.
- County of San Bernardino.
2009. Desert Native Plant Protection, Municipal Code: Chapter 88.01.060.
- Hickman, James C.
The Jepson Manual Higher Plants of California. University of California Press. Berkeley, CA. 3rd Edition. 1996.
- Holland, Robert F.
1986 Preliminary Description of the Terrestrial Natural Communities of California. Prepared for the California Natural Diversity Database. California Department of Fish and Game. Sacramento, California. 160 pp.
- Johnson, H.
1976 vegetation and Plant Communities of Southern California Deserts- a functional view. In Symposium proceedings: Plant communities of Southern California. June Latting, editor. California Native Plant Society, Spec. No. 2 Berkeley, CA.
- Munz, Philip A.
1974. A Flora of Southern California. University of California Press, Berkeley, California. 1086 pp.

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 Ryan Hunter, Brian Bunyi and Jessica Hensley.

Date: March 31, 2022 Signed: *Ryan Hunter*
Jessica Hensley
Brian Bunyi

Field Work Performed by: Ryan Hunter
Lead Environmental Scientist/Biologist

Jessica Hensley
Environmental Scientist/Biologist

Brian Bunyi
Environmental Scientist/Wildlife Biologist



APPENDIX A

Figures

APPENDIX B

City of Adelanto

Municipal Code: Chapter 17.57.040

County of San Bernardino

Municipal Code: Chapter 18.01.060