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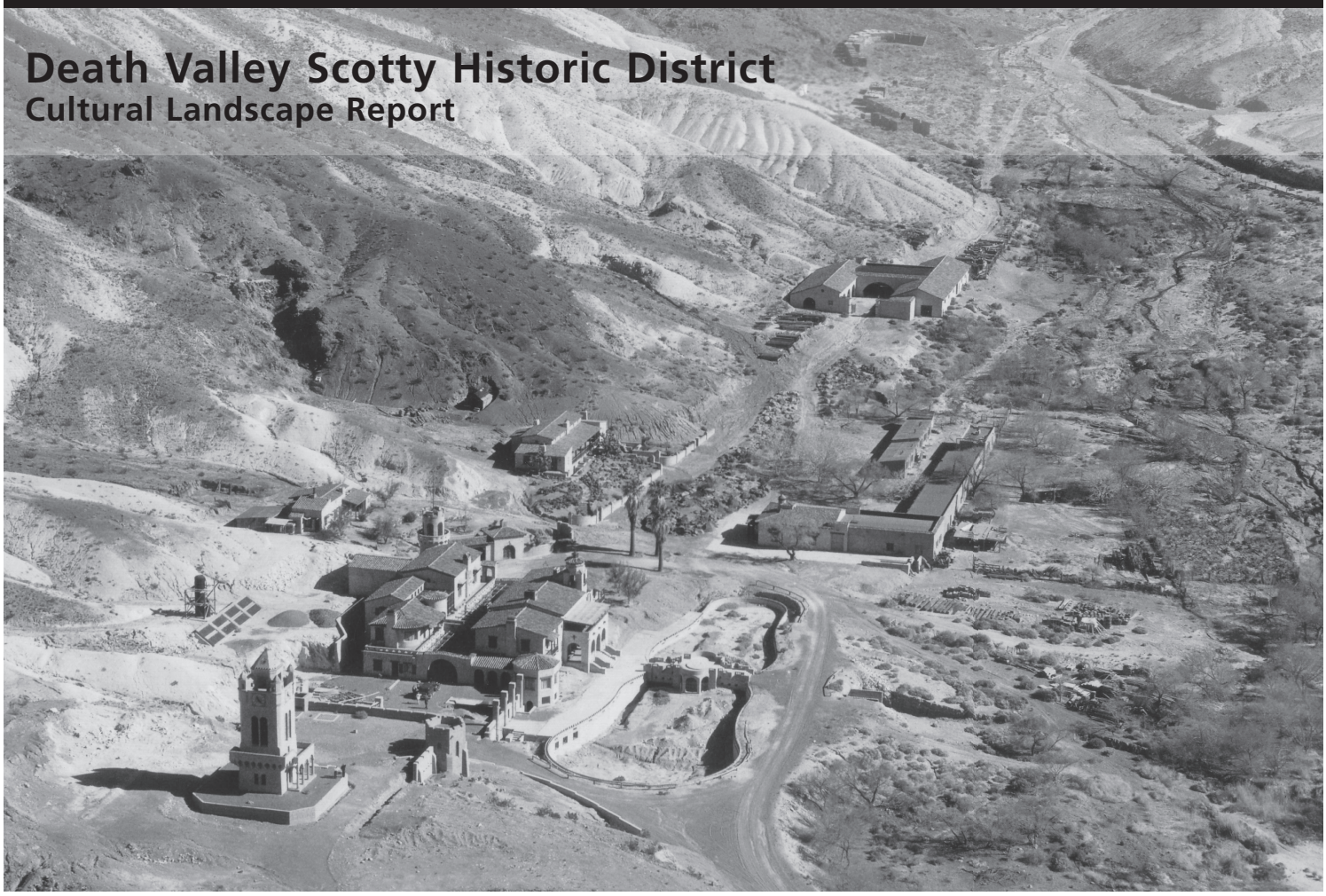
Death Valley National Park

Death Valley Scotty Historic District
Cultural Landscape Report



SITE HISTORY

ANALYSIS & EVALUATION
OF EXISTING CONDITIONS

TREATMENT

JULY 25, 2019

MIG

Death Valley Scotty Historic District

Cultural Landscape Report

Death Valley National Park

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FRONT AND BACK COVER IMAGES, CLOCKWISE FROM TOP:

1934 Bird's Eye of Scotty's Castle (NPS-NARA)

undated Albert Johnson and Death Valley Scotty (DEVA 24067)

1931 Main House from the Hacienda (DEVA 41314)

PHOTO OPPOSITE: 2018 Main House from the chimes tower (MIG)

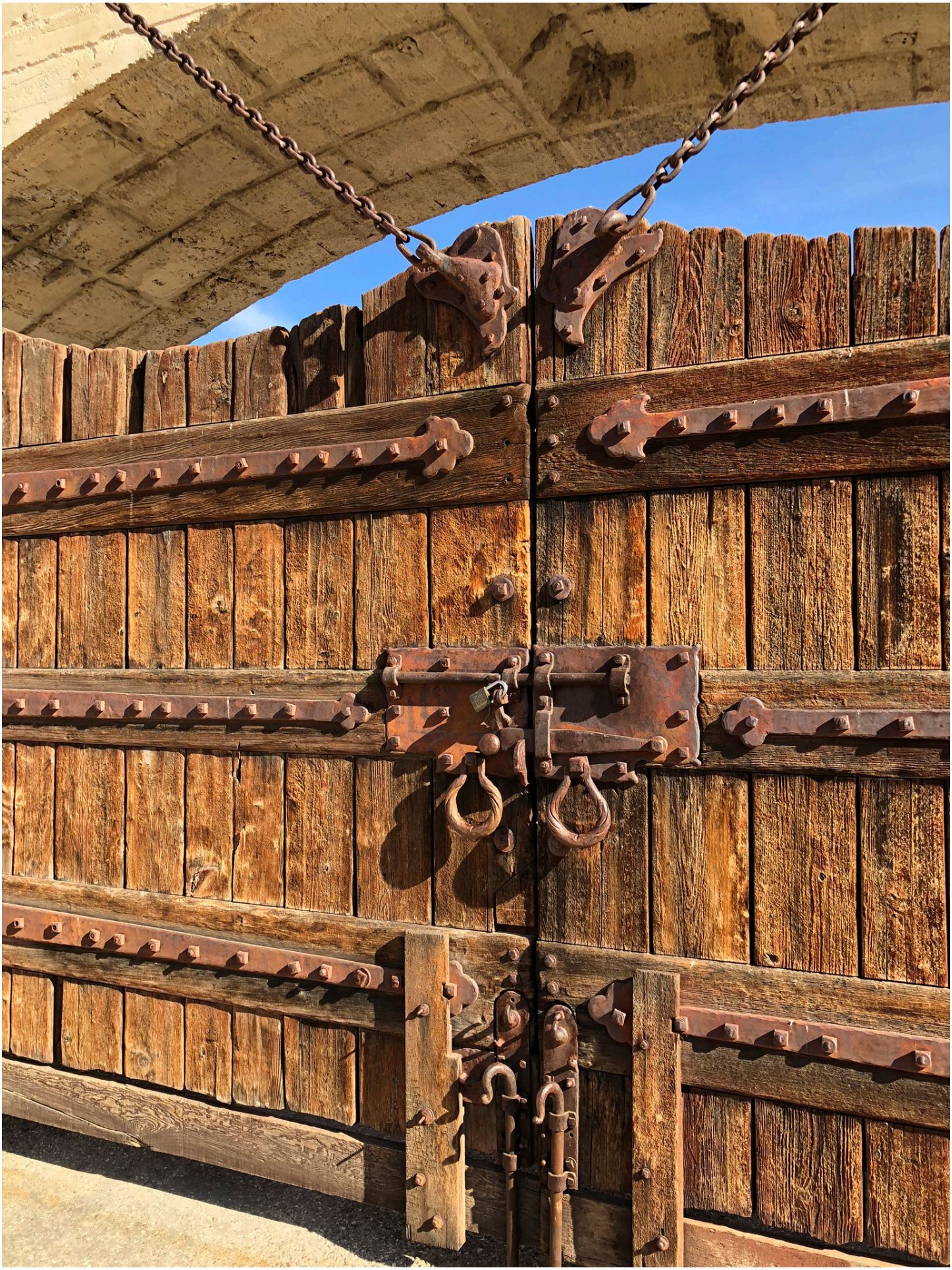
Death Valley Scotty Historic District
Cultural Landscape Report

Approved by: Mike Reynolds 9-4-19
Date

Mike Reynolds
Superintendent, Death Valley National Park

Approved by: Todd J. Suess 11-18-19
Date

for Stan Austin
Regional Director, National Park Service, Interior Regions 8, 9, 10, and 12



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PHOTO, OPPOSITE

2018 detail of the Historic Entrance Gate (MIG)

PART 1

A. Introduction

PURPOSE AND NEED

The 2015 flood in Grapevine Canyon inflicted major damage to the Death Valley Scotty Historic District. Several cultural landscape features were destroyed or altered, while other features can no longer be maintained, leading to a degradation in the cultural landscape condition. While previous technical reports, including a draft Cultural Landscape Report (CLR), were prepared prior to the flood, the flood damage and subsequent on-going alterations to the cultural landscape highlight the need for an up-to-date CLR.

The primary purpose of the Cultural Landscape Report for the Death Valley Scotty Historic District is to provide treatment recommendations for cultural landscape resources at Scotty's Castle and Lower Vine Ranch. The goal of the treatments is to address damage from the 2015 flood, improve the overall condition of the cultural landscape, make the landscape more resilient to future impacts of climate change, such as flood events, and anticipate and respond to impacts of other planned projects for the site on cultural landscape features.

The treatment recommendations are designed to support interpretive objectives, provide a treatment framework to assure the long-term stewardship of the cultural landscape, and minimize the loss of critical character defining landscape features by providing sound, systematic management guidance that is consistent with objectives outlined in the park General Management Plan, specifically: "Operate and manage Scotty's Castle, its grounds, and environs to recreate the atmosphere of the period of its construction and occupation by Walter Scott and Mr. and Mrs. Albert Johnson."[1]

The Death Valley Scotty Historic District Cultural Landscape Report:

- Broadens the understanding of extant landscape characteristics and features and their relationship to the designated historic period of significance (1922-1954);
- Ensures that planning and design efforts reflect *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* and the *National Park Service Director's Order 28: Management of Cultural Resources*;
- Establishes a foundation for approval by the National Park Service (NPS) and the California Office of Historic Preservation (OHP) for current and future design and management decisions at the site; and
- Develops a series of plans and graphic images depicting the landscape as it developed, with a focus on the historic period, that will serve planning and design efforts and enhance future interpretation and educational materials.

SCOPE AND METHODOLOGY

The Cultural Landscape Report has two parts. Part 1 incorporates information from the Scotty's Castle Cultural Landscape Inventory, the Lower Vine Ranch Cultural Landscape Inventory, the National Register of Historic Places nomination, (as amended) and the draft 2014 CLR. It includes site history, documentation of existing conditions, and a summary of analysis and evaluation of cultural landscape features. Following Part 1, Part 2 of the CLR provides treatment recommendations for preservation and rehabilitation of significant resources in line with park management objectives, park operations, and maintenance.

Several existing technical reports and research materials provided information about the history and physical development of the cultural landscape, including historic structure reports, National Register nominations, and baseline inventories. Because there was a considerable amount of historical information about the property, this section of the CLR is based primarily on the draft CLR (2014), and the amended

PHOTO, OPPOSITE

2018 Chimes tower (MIG)

1 General Management Plan, 5

National Register of Historic Places nomination (2013). Research for the 2014 CLR focused on existing secondary sources and on the museum collections housed at Death Valley National Park. The park has a large repository of historic photographs, maps, site plans, design drawings, and correspondence that provided considerable insight to the development and intent of the original planning and design of the property. Prior fieldwork and site visits to document existing conditions occurred in 2005, 2010, 2012. Following the devastating storm and flooding of 2015, additional field work for this CLR occurred in 2018. Site work for the 2014 CLR consisted of verification and updating of information from the 2005 CLI and new interviews with park staff to verify management goals and objectives for the properties.

The recommendations in the CLR incorporate impacts from the 2015 flood, information from workshops and discussions with park staff, and is in context with other flood protection projects also underway on site. Recommended treatments for landscape resources fit within the current framework for management as documented in current park planning documents.

LOCATION AND STUDY BOUNDARY DESCRIPTION

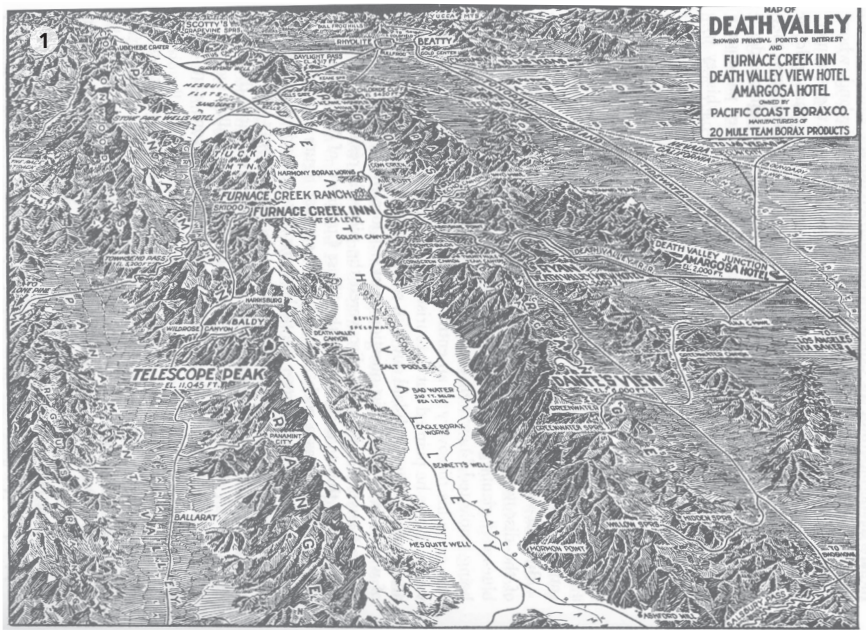
The study boundary for the Cultural Landscape Report is the same as the historic district boundary defined in the draft Death Valley Scotty Historic District National Register nomination amendment (2013). This boundary follows historic ownership boundaries for both the Upper Vine Ranch (a.k.a. Scotty's Castle) and Lower Vine Ranch. The district boundary is physically defined by the original concrete post and wire fence established by Albert Johnson during the period of significance. For this report, the two discontiguous parcels of the Death Valley Scotty Historic District are referred to as "Scotty's Castle" and "Lower Vine Ranch."

DEATH VALLEY SCOTTY HISTORIC DISTRICT

Death Valley Scotty Historic District is located within Death Valley National Park in Inyo County, California. Both climatically and geographically, Death Valley is an area of extremes. It is one of the hottest and driest places in North America with low elevation valley temperatures often exceeding 120° F in the summer. The winter months, however, offer milder temperatures in the valley that range from the 60s° to 70s° F. Generally, in Death Valley temperatures decrease with elevation, and drop approximately 3 to 5 degrees for every thousand feet of vertical rise. The Death Valley Scotty Historic District is situated in Grapevine Canyon at elevations that range between 2,300 and 3,900 feet above sea level and is often 10 to 20 degrees cooler than the valley floor.

The historic district is comprised of two discontiguous parcels separated by a range of hills. The distance between the parcels measures about 2.5 miles cross country or approximately 5 miles by road. Each parcel is demarcated by a concrete post and barbed wire fence. The smaller, but more prominent, eastern parcel is known as the Upper Vine Ranch and encompasses Scotty's Castle, an oasis of Spanish-influenced buildings and structures. Upper Vine Ranch (Scotty's Castle) is located 4.7 miles southwest of the California/Nevada state line on Bonnie Clare Road (NPS Route 11) and 3 miles northeast of the Grapevine Developed Area.[2] The 283.8-acre parcel is comprised of a desert wash flanked by the steep and rocky hills of Grapevine Canyon. Primary buildings and structures associated with Scotty's Castle include the main house, annex, chimes tower, powerhouse and pavilion, Hacienda/guest house, garage/long shed/bunkhouse, and the stable. Additional resources, such as the watercourse, road system, small scale features, gravel separator, structures associated with Tie Canyon and Walter Scott's grave site are also on the property.

2 The Grapevine Developed Area is a NPS "Mission 66" property consisting of a ranger station, apartment building, utility building and associated yard.



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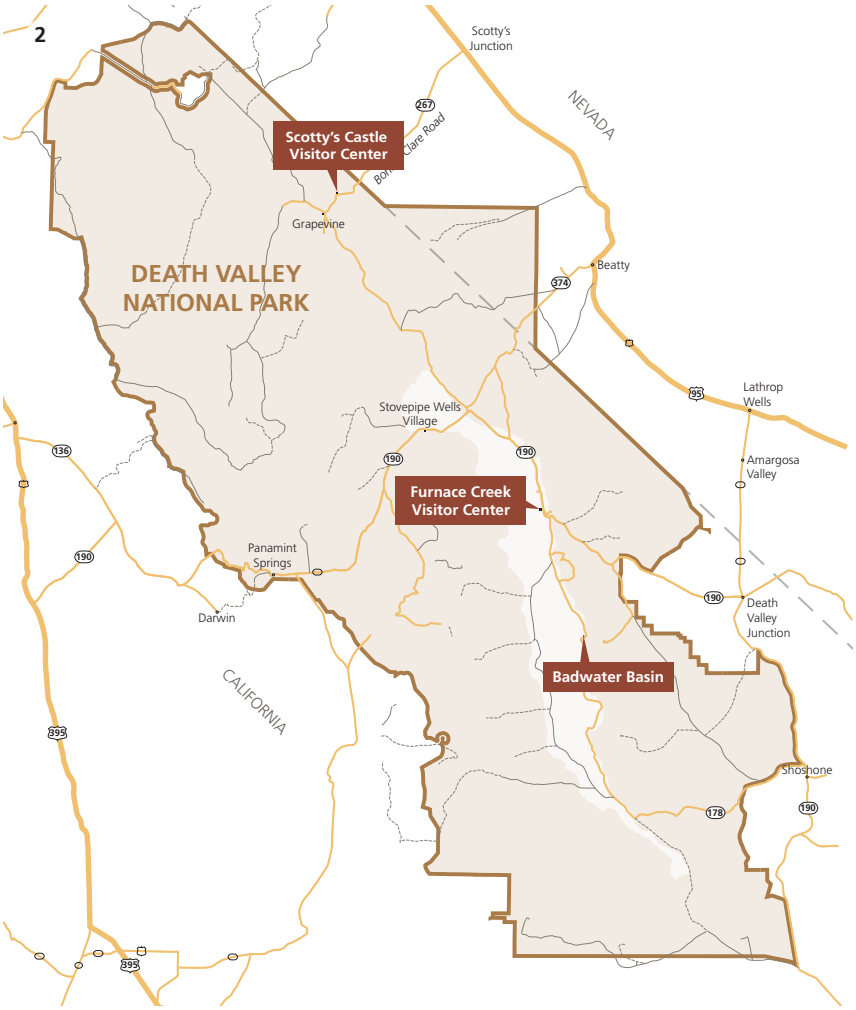

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1. undated, historic Death Valley Map (by U.S. Borax & Chemical Corp.)

2. Death Valley Scotty Historic District is located in the northeast of Death Valley National Park close to the California/Nevada border. The Furnace Creek Visitor Center is located to the southeast (MIG)

The second parcel, known as the Lower Vine Ranch, is located west of Scotty's Castle. This 1,173.8-acre tract is comprised of a nearly level alluvial plain flanked to the east by cliffs and includes Grapevine Springs. The most prominent built resources associated with this locale includes Scotty's ranch house, garage, grain shed, blacksmith shed and a corral. Similar to Scotty's Castle, the Lower Vine Ranch is surrounded by a concrete post and barbed wire perimeter fence.

CULTURAL LANDSCAPE DESCRIPTION

SCOTTY'S CASTLE

Grapevine Canyon possessed many natural attributes that made the site ideal for the development of Scotty's Castle. The presence of several natural springs strongly influenced Johnson's siting and development of the ranch. Throughout the 1920s, Johnson actively worked to gain control of the springs. This was achieved, in part, through the construction of a perimeter fence that encompassed the springs and drainages on the ranch. Eventually, Johnson would harness the springs through a system of pipes and reservoirs, which were used to facilitate construction activities and be used for domestic and agricultural use. In addition to the natural springs, the topography and the natural morphology of Grapevine Canyon were also crucial factors that influenced Johnson's decision to build the ranch in this area. Located at elevations between 2,300 and 3,900 feet, the steep walls of Grapevine Canyon offered the ranch protection, while the elevation offered some relief from extreme temperatures that were characteristic of the valley floor.

Conceptually, Johnson responded to natural systems in much the same way as a previous 19th century occupant, Jacob Steininger, by siting his residence and associated outbuildings on the north, and slightly uphill, side of Grapevine Canyon. Except for the entry gate located on the south side of Grapevine Canyon, all of the primary buildings were built in a tight cluster on the toe of Windy Hill.

The orientation of the primary buildings formed an axis that extended from the east to the west. Within this area, four areas of development defined the spatial organization of Scotty's Castle. These areas included the primary building complex; the open grounds that formed the primary garden space between the building complex and Bonnie Clare Road; Tie Canyon, which served as the primary utility space for staging materials and manufacturing concrete; and the entrance road, which defined the extent of these areas.

Development associated with Scotty's Castle included numerous Spanish-influenced buildings and structures as well as utilitarian buildings. Construction of the building complex was possible in part through modifications to existing topographic contours through extensive grading and the development of flat terraces to support construction activities. Many soil cuts and fills were undertaken on the site to facilitate the construction of a system of roads. When construction ended in 1931, approximately three miles of roads had been built on Johnson's property. Today, the circulation system continues to provide access to buildings and structures associated with the site. Although the original entrance gate, entry road, and turnaround are now closed to private motor vehicles, these features continue to convey the intent of the original arrival sequence.

To complement the building complex, a system of streams, gardens, and a pond were built at Scotty's Castle. Four distinct planting areas were created by M. Roy Thompson and Dewey Kruckeberg during the late 1920s. These included the picnic area; Cottonwood Corner; the watercourse; and plantings around buildings. As the most intense construction efforts were completed, Kruckeberg planted olive, s, and cacti on higher ground within the building complex and around the watercourse. In 1929, Johnson took advantage of the natural low-point of the land between Bonnie Clare Road and the building complex, where the picnic area was later added, by expanding a depression in the area into what was intended to be a lake by conveying water from the springs. This source of water allowed Johnson to plant many trees, including cottonwoods, willows and a limited number of palms, which could not have survived in any other location within Death Valley. Thompson also planted cottonwood, willow, and fig trees as well as mesquite bushes at Cottonwood Corner. Some of these plantings remain on site today and serve as character-defining features of this desert oasis.

1. *June 6th, 1928 looking southwest across the early stages of Upper Vine Ranch construction and the half-finished stables (DEVA 40704)*

2. *1926, the Main House on the right before the Spanish style details were added and the Annex in early construction (DEVA 43299)*

3. *1930, view of Upper Vine Ranch under construction with the powerhouse framing in the foreground (DEVA 60033)*

LOWER VINE RANCH

Smaller in scale and less elaborate than Scotty's Castle, Lower Vine Ranch represents a modest development that was built to serve as Death Valley Scotty's home. The presence of several natural springs strongly influenced Albert Johnson's siting of Scotty's ranch house and reservoir at Lower Vine Ranch and prompted him to construct a perimeter fence around his property to protect these resources. To harness the springs, Johnson built a system of ditches that followed the natural drainages from the plateau to the alluvial fan below. The ditches were linked to reservoirs where water could be stored for domestic or agricultural purposes. After decades of non-use, the ditches associated with Lower Vine Ranch are no longer evident.

The topography and natural configuration of the site also strongly influenced Johnson to build in the area. The Lower Vine Ranch sits at an elevation of approximately 2,200 feet on an alluvial fan, which is a geographic component of Grapevine Canyon. The relatively flat nature of the alluvial fan, coupled with its location near the springs, made it a perfect location for development. The gentle grades of this natural feature allowed Johnson to build several roads, a reservoir, as well as buildings and structures associated with Scotty's ranch house in the locale. Seven acres of the core developed area associated with Lower Vine Ranch (out of a total of approximately 1,200 acres) show evidence of historical development. Six acres were dedicated to Scotty's ranch house building complex and adjacent agricultural field, while one acre was developed around the reservoir on the west side of the property.

Today, two small nodes or clusters of development are associated with Lower Vine Ranch. The nodes include the buildings and structures associated with Scotty's ranch house and development near the reservoir. Both clusters were sited above the floor of Death Valley. Scotty's ranch house complex is domestic and rural in character and includes typical ranch structures such as a garage, grain shed and corrals. The development associated with the reservoir is situated one mile west of Scotty's ranch house and supported agricultural operations. The ruins of a change house and wood platform also remain near the reservoir. Circulation systems at Lower Vine Ranch encompass three roads, including the entrance road, access road to the reservoir and remnants of a perimeter loop road. Today, these roads continue to provide access to buildings and structures associated with the ranch.

SITE HISTORY SUMMARY

Scotty's Castle and Lower Vine Ranch (historically known collectively as Death Valley Ranch) were constructed in the 1920s as a vacation retreat for Chicago millionaire, Albert M. Johnson and his wife Bessie. Located in the isolated northern portion of Death Valley, California, the site was situated near a natural spring in Grapevine Canyon. As early as 1922, a residence, along with a garage and a cook house, were standing on the property. In 1924, Johnson hired a team of design and construction professionals to help him transform the ranch from a small development to a lavish estate.

1

2

3

Between 1925 and 1931, construction activity at Scotty's Castle covered all aspects of site development. Over 30 acres of grading and earthwork were completed prior to the construction of more than one dozen structures, installation of complex utilities systems and mechanical infrastructure, construction of roads, and installation of landscaped gardens and water features. The architectural character of this remote property was defined by a Spanish style, with the use of a common vocabulary of materials including stucco, wood, and metal finishes.

The landscape plan was designed by Dewey Kruckeberg (1893-1974) a landscape architect from Burbank, CA. The intent of the plan was to create a design that would complement the architectural character of the buildings. Kruckeberg designed planting beds around key structures, rock gardens, a large watercourse, paved walkways and stairs, and verdant open spaces to create a relatively lush ornamental landscape within the arid desert environment and narrow bottomlands of Grapevine Canyon.

Lower Vine Ranch, located approximately two and a half miles overland west of Scotty's Castle, was built as a home for Walter Scott (Death Valley Scotty). In 1929, Albert Johnson had workers build a simple ranch house that served as Walter Scott's residence for nearly three decades. In addition to the ranch house, the site also included a garage, grain shed, corral, blacksmith shop, reservoir and agricultural fields.

In 1931, with the world economy slowing and Johnson's own finances in trouble, along with disputes at Lower Vine Ranch over property ownership, construction at the site ended abruptly, leaving many projects only partially completed. Johnson began shifting his attention toward redevelopment of Scotty's Castle as a tourist attraction, and by 1936, Johnson had hired and trained official tour guides to take visitors through Scotty's Castle. After losing his wife of 47 years in 1943, coupled with his failing health, it became increasingly difficult for Johnson to visit the ranch and maintain the property. Because

of restrictions on rubber and gasoline during the war, visitation also dropped, resulting in a loss of income for Johnson.

Over time, maintenance associated with the property was increasingly difficult to sustain and Scotty's Castle fell into decline. In 1946, Johnson established a charitable organization, the Gospel Foundation of California, which in addition to other things was tasked with managing his real estate holdings, including Scotty's Castle and Lower Vine Ranch. In 1947 Johnson officially deeded Scotty's Castle and Lower Vine Ranch to the Gospel Foundation.

Upon Johnson's death in 1948, the Gospel Foundation managed the property as a "museum-hotel" offering guided tours of the castle and overnight accommodations to visitors. In 1954, just a few years after the death of Albert Johnson, Walter Scott died and was buried on Windy Hill above the chimes tower. In July 1970, the National Park Service (NPS) purchased Scotty's Castle and Lower Vine Ranch. In 1978, the Death Valley Scotty Historic District, encompassing both Scotty's Castle and Lower Vine Ranch, was listed in the National Register of Historic Places. Since this listing, additional research and information has increased understanding about the historical development of the property, and the significance of the designed landscape. An amendment to update the original nomination was completed in 2013.

SIGNIFICANCE SUMMARY

Scotty's Castle and Lower Vine Ranch are located within the Death Valley Scotty Historic District, which was also known historically as Death Valley Ranch. The historic district was listed in the National Register of Historic Places in 1978. It is significant at a local level under Criterion B for its association with one of the best known and most colorful figures associated with the mining frontier—Death Valley Scotty (Walter Scott). Under Criterion C, the historic district is significant at a state level for the unusual and extravagant use of Spanish-styled architecture built in a remote desert location. As noted in the original nomination, the historic district is also significant at a local level under Criterion D for its potential to yield additional information important to prehistory and history; however, the NRHP 2013 nomination amendment did not pose additional research questions to support this criterion. The amendment expands the original period of significance, which begins in 1922 and ends in 1931 to a broader period to reflect construction and development of the ranch and Walter Scott's association with the historic district. The revised period of significance begins in 1922 when construction efforts at the site were initiated by Albert Johnson and extends to 1954 when Walter Scott died. As part of this effort, the boundaries of the 1,457.6-acre historic district have been refined to accurately depict historic property and associated fence lines that were established during the period of significance. Today, the Death Valley Scotty Historic District serves as a reminder of not only the excesses of mining promotion during the early 20th century, but also the frontier romanticism connected with it and the conspicuous consumption practiced by individuals such as Johnson during the 1920s.

MANAGEMENT SUMMARY

The primary document outlining management of park resources at both Scotty's Castle and Lower Vine Ranch is the Death Valley National Park General Management Plan (2002). This document provides broad management objectives for preserving National Register properties throughout the park, and proposes future use and operations at Scotty's Castle such as retaining visitor facilities, focusing interpretation on resources and the story associated with development during the Johnson era, as well as maintaining a NPS maintenance facility at the site. Since the GMP was completed, a draft amendment to the Death Valley Scotty's Historic District National Register Nomination was completed in 2013. The draft amendment proposes an expanded period of significance of 1922-1954 to reflect construction and development of the ranch and Walter Scott's association with the historic district.

1. *undated, Death Valley Scotty spending time with entertainers (DEVA 14306)*

2. *undated, Death Valley Scotty walking with his horse (DEVA 16903)*

3. *undated, Albert Johnson and Death Valley Scotty reviewing a rendering of the Main House (DEVA 24067)*

1. *1928, horses in the corral near the Stables at Upper Vine Ranch (DEVA 40712)*

2. *undated, view of the castle complex after construction came to a halt (DEVA 21962l)*

3. *1929, dumping construction materials on site at Upper Vine Ranch (DEVA 40921)*

3

The treatment recommendations provided in this Cultural Landscape Report are based on this period of significance.

While the GMP provides the framework for managing the historic district, the park lacks specific guidance for maintaining and treating historically significant landscape resources within the historic district. In addition, the park was engaged in several projects during the development of this Cultural Landscape Report with the potential to affect the historic district's integrity. Most of these projects, listed below, were initiated in response to the 2015 flood. The potential impact on the cultural landscape of selected projects are discussed in Part 2: Treatment, and Appendix A: Response to Selected Planned Projects.

- A Federal Highways road project for Bonnie Clare Road, an adjacent historic property.
- Rehabilitating flood-damaged buildings and features within the historic district including;
  - Garage (park visitor center), Long Shed and Bunkhouse,
  - perimeter fence,
  - and swimming pool.
- Installing wayside exhibits to interpret the flood and other site signage.
- Locating and constructing flood protection and drainage structures such as;
  - concrete retaining walls
  - concrete-lined swales,
  - and gabion-lined earthen berms.
- Construction of erosion control structures upstream and downstream of the Entrance Gate.
- Picnic area rehabilitation.
- Replanting and treating vegetation.
- Constructing a new public restroom in the parking lot.
- Reconfiguring and repaving the parking lot and roads.
- Restoring or rehabilitating several buildings.
- Installation of safety fences and handrails in key locations.
- Providing for universal access across the site.
- Rehabilitation of the wishing well for aesthetic features and safe public access.
- Restoring or rehabilitating existing, and, installing new, utility systems.

PHOTOS DEPICTING 2015 FLOOD DAMAGE

1. *2015, flood debris blocking the park entrance to Scotty's Castle (NPS)*

2. *2015, damage to Bonnie Clare Road after the flood (NPS)*

3. *2015, tons of gravel, boulders and mud carried by the flood into the garage/long shed courtyard (NPS)*

4. *2015, looking across the parking lot buried in flood debris (NPS)*

5. *2015, view of the pool filled with flood water (NPS)*

6. *2015, water and sediment filling the pool after the flood (NPS)*

B. Site History

TRADITIONAL LAND USE IN NORTHERN DEATH VALLEY

Death Valley National Park is located within the ethnographic region most commonly associated with the Timbisha Shoshone Indians. Archeologists have generally concluded that despite a relatively large territory extending from Death Valley east into the Great Basin, the Shoshone population (within the current boundaries of Death Valley National Park) did not exceed 100 people at any one time.[3] Like many American Indian groups of the Great Basin area, survival in arid lands with scant vegetation and limited water sources required a mobile pattern of life that responded to the seasons. The Timbisha Shoshone generally occupied the floor of Death Valley for most of the year; however, they retreated to higher elevations during the hottest summer months. During the fall harvest the Timbisha Shoshone traveled to nearby mountains—the Grapevines (to the east) and the Panamints (to the west) to camp. Here, in the juniper and pinyon forests, they collected pinyon nuts to bring down to the valley encampments. The pinyon nuts were ground into a type of mush or soup. Mesquite beans, another local material, were also collected and processed using a mortar and pestle. Both pinyon nuts and mesquite beans were dietary staples that provided nourishment through the long winter months.[4]

Archeological evidence also indicates that habitation sites were located near natural springs, many of which are in draws and canyons scattered throughout the park. Situated in the northern portion of Death Valley, Grapevine Canyon served as a significant east-west corridor extending from the valley floor, east, towards the Great Basin. Historically, springs located in the western portion of Grapevine Canyon provided the setting for seasonal camps. In 1860, the Shoshone settlement in or near Grapevine Canyon was known by the name of Mahunu and consisted of about 27 occupants[5]. Located at an elevation of 3,000 feet, the campsite provided water and shelter between the summer months and fall harvest. The relatively lush area was undoubtedly one of the most desirable habitation sites in Death Valley.

The natural qualities of what was later known as the Lower Vine Ranch property in Grapevine Canyon included plentiful water and other natural resources that supported human occupation. These qualities made the area a desirable site for the Timbisha Shoshone beginning as early as 10,000 years ago.[6] Survival depended on gathering seeds from various grasses, as well as seeds form native vegetation such as evening primrose and pincushion cactus. Tule reeds and grasses were able to grow in the area because of several seeps in the mesa east of the Lower Vine Ranch. Significantly, many of these grasses were used for a variety of domestic purposes by the native peoples. Archaeological studies indicate that the site was used as late as the first decades of the 20th century.

DEVELOPMENT IN GRAPEVINE CANYON: 1880-1907

Jacob Steininger, a German immigrant, was the first known European settler in Grapevine Canyon. Responsible for improving the land where Scotty's Castle now stands, Steininger was an important early figure in Death Valley history and laid the groundwork for the eventual development of Death Valley Ranch. Although little information about his life exists, historic records indicate that he lived on the property between the years 1880 and 1907.

3 Deal and D'Ascenzo, 7; John L. Craib, Death Valley National Monument: Archeological Survey of 187 Mining Claims (Tucson AZ: Western Archeological Center, National Park Service, 1978), 36; William J. Wallace, Death Valley National Monument's Prehistoric Past: an Archeological Overview, manuscript, 1977.

4 Deal & D'Ascenzo, 6-10; Benjamin Levy, Death Valley National Monument: Historical Background Study (Washington D.C.: Office of Archeology and Historic Preservation, Division of History, 1969), 30.

5 Livingston, 22.

6 Deal & D'Ascenzo, 1987, 1-10. An archeological survey conducted in 1986 documented extensive resources related to historic, and prehistoric, ethnographic occupation and use of the land at the Lower Vine Ranch. Historic and ethnographic documentation indicates that the site was used until recent times, as late as the first decades of the twentieth century (Pearson, 14).

By the late 1880s, Steininger owned a "band of horses" and was growing vegetables, fruit trees and alfalfa on his land.[7] Steininger also built several structures—some of which had been constructed using railroad ties—on the property.[8] In an effort to protect his fruit and vegetable crops, Steininger enclosed approximately 15 acres of relatively level land south of the buildings with a fence. The fields were irrigated using water from nearby springs. Ultimately, the fields produced enough food to allow Steininger to remain largely self-sufficient, while also offering a small surplus, which he sold to miners, prospectors, and passersby. In addition to Steininger's presence in Grapevine Canyon in the early twentieth century, there is also evidence that Walter Scott (Death Valley Scotty) periodically camped in a location approximately one mile north of the present Lower Vine Ranch in an area that is often referred to as "Scotty's Camp".

By 1906, the Lower Ranch property, and the exact chain of legal ownership, had fallen under scrutiny when a prospector discovered the corpse of man who had been murdered on the property.[9] Amidst the murder investigation, Steininger received the patent for the Grapevine Springs portion of his ranches. Shortly after the patent was confirmed Steininger sold a one-half undivided interest in both his properties, including water rights, to Ben H. Yandell. The following April 15 [1907], Steininger sold the remainder of his interest in the two ranches to Yandell. The deed is the first to note Steininger's "possessory claims or right" to the upper ranch.[10] Although it appeared that Steininger had been granted a patent on all of his property, he actually obtained a legal patent only to the land at the lower ranch. Steininger claimed the upper ranch purely out of longtime possession, but nothing was officially recorded.

Despite the discrepancies associated with the legal ownership of the land, Beveridge Hunter and Fred Sayre eventually purchased the property from Yandell. Hunter enlisted Dolphus West to occupy the Upper Ranch "to hold possession" until 1916 when Johnson assumed ownership.[11] West made changes to the property, which included the addition of a wood post and wire fence that surrounded the alfalfa field and horse pasture. He also built chicken coops constructed of wood boards and mesh chicken wire. While Steininger's produce gardens no longer existed, a stand of fig trees, a vineyard and an alfalfa field remained. In addition, wild grapevines lined portions of the creek and numerous cottonwood and willow trees were extant.

The investigation, spurred by the murder at the lower ranch, left an unusually well-documented record of small-scale farming and ranching enterprises in this remote, arid locale. The descriptions of Grapevine Canyon that emerged as part of the public record (and described, in part, above) offer a glimpse of the early developments on the property that Johnson later developed as Scotty's Castle. In addition to Steininger's improvements, this era also provides the first documented evidence of Walter Scott's presence in the area. While the physical development associated with Scott was minimal, it provides a context for understanding why Scott eventually brought Johnson to this part of Death Valley.[12]

7 Livingston, 27.

8 One of these structures may still remain on the grounds of Upper Vine Ranch. Known as Scotty's "original castle" the building likely served as the home of Jacob Steininger and was moved to its present location during the period of significance. Scotty reportedly lived in the cabin in the late 1910s and early 1920s, which resulted in its current name. Today, the gabled, one-story redwood frame building is in poor condition, but standing.

9 In the ensuing investigations, which were reported in the Inyo County newspapers, the Lower Vine property was described as a "perfect stronghold" due to the constructed and natural battlements and availability of water; the outlaws rustled cattle at nearby settlements and would likely have held them in the hidden upper pastures of the Grapevine Springs mesa.

10 Deeds Book 6 Pages 524-525, Book 11 Page 90, ICRO; Exhibit K, Case 1005, ICCO. Steininger signed the last deed with an X. [other refs incorrect date Dec 2].

11 Livingston, 81.

12 It should be noted that while the Steininger occupation of the locale (1880-1907) may have influenced Albert Johnson to site the Upper Vine Ranch in this location, the physical remnants of this early occupation have largely been lost as a result of later development by Albert Johnson between 1922 and 1931. Today, Scotty's "original castle" may date to the Steininger period of development; however, it derives its significance from its association with Albert Johnson and Walter Scott. See CA SHPO (2005) comments at the front of the Scotty's Castle Cultural Landscape Inventory for more information.

1. *undated, view of the castle complex during construction (DEVA 21798)*

ALBERT JOHNSON AND WALTER SCOTT: 1904-1921

Albert Johnson first met Walter Scott (Scotty) in Chicago in 1904. By this time, Scotty was a nationally renowned character who had acquired considerable skills for showmanship and attracting publicity during his 12-year career as a wrangler and trick rider for the Buffalo Bill Wild West Show. After Scotty left the Buffalo Bill show, he shifted his focus to prospecting for gold which he'd dabbled in during times when the Wild West Show was on hiatus. Around 1902, Scotty began peddling a scheme that led him to meet his long-term partner in the Death Valley Ranch, Albert Johnson.

Albert Mussey Johnson (1872-1948) was born into an affluent family from Oberlin, Ohio. Johnson's father, Albert H. Johnson, was one of America's early industrialists, whose business interests included whole or partial ownership of railroads, banks, and mines, as well as a stone quarry and utility company. The elder Johnson demonstrated the importance of staying ahead of emerging technologies, having successfully transformed the Oberlin Gas and Electric Company, of which he was president, to a state-of-the-art producer and distributor of electrical power.

Prior to his involvement with Walter Scott, Albert M. Johnson had achieved some success in mining enterprises, including having taken a loan from his father to invest in a profitable, though short-lived, zinc mine in Joplin, Missouri. Not surprisingly, Walter Scott's promise of gold in Death Valley, a relatively unexplored region of California, had great appeal to Johnson. When Johnson met Scotty in October 1904, he was beguiled by stories of the western frontier and the gold mines of Death Valley. In November of the same year, Johnson and a partner, Edward Shedd, formalized an agreement with Obadiah Sands for interest in a mining venture. This action was followed by an agreement between Sands and Scotty to "start and keep a prospecting outfit" in Death Valley.[13]

Eventually, the investors became impatient as they waited for results from Scotty's prospecting outfit. Unable to demonstrate any valid claims, Scotty eventually lost credibility with all but one of his investors. For unknown reasons, Johnson remained committed to the Death Valley enterprise and continued to provide financial support to Scotty. Thereafter, Johnson met with Scotty on several occasions and visited the desert with him to prospect for gold. Despite Scotty's deceptions and probable intentions to cheat him, at some point, Johnson seemed to believe that his friendship with Scotty was more important than the mines. Instead of searching for gold, he found other reasons to spend time in the desert with Scotty, explaining that life in the desert was "more romantic than any romance."[14]

Back in Chicago, after several years working for his father, Johnson ascended to the presidency of The National Life Insurance Company. This new position, along with his vast holdings and investments, made Johnson independently wealthy, giving him the freedom to travel and pursue other business endeavors. Johnson visited Death Valley for the first time in 1906. As his interest in mining prospects grew, along with his friendship to Scotty, so did the frequency of his trips to the desert.[15] As the years passed, he grew to love the desert landscape and came to believe that the environment and climate provided

13 Livingston, 65.
14 Livingston, 69.
15 Livingston, 73.

natural health benefits. He described at one point how the mineral springs in Grapevine Canyon left him feeling "greatly cleansed & refreshed."[16] As a result of his newfound appreciation of the desert, Johnson began exploring ways to spend more time in the area surrounding the site of Steininger's ranch in Grapevine Canyon.

During their early prospecting adventures, Johnson and Scotty camped at the northern end of Death Valley near the base of the Grapevine Mountains. Soon, however, they began camping in vicinity of the upper Steininger ranch in Grapevine Canyon. Nestled in a spring-fed valley, the locale had ample water, plenty of shade, and a few simple structures that provided the men with the basic facilities, crude as they were, to spend extended time. Circa 1909-1915, Johnson erected several canvas platform tents at the site for sleeping and storage. The tent platforms stood slightly northwest of the Steininger's original structures and were partially shaded by cottonwood trees.[17] By 1916, Johnson was interested in purchasing the upper and lower Steininger ranches in Grapevine Canyon. Eventually, Johnson gained title to the upper ranch from Beveridge Hunter in 1917. There would be many more years of wrangling before Johnson would acquire the lower ranch in 1927 from Hunter and Fred Sayre.[18] While the farm fields, orchards, cottonwoods and temperate climate created an oasis-like setting in the desert, accommodations during these early years were rudimentary at best. Having acquired the land several years earlier, Johnson decided to build a permanent vacation home in Grapevine Canyon.[19]

16 Livingston, 75.

17 The building currently known as the fire cache also first appears in a historic photograph that was taken in the early 1920s; although its original construction date remains unknown. At that time it was located on the hillside north of the Hacienda and in 1930 was moved to its present location. (Livingston,, 97)

18 Historic American Buildings Survey (HABS) Death Valley Ranch (Scotty's Castle) Report, HABS No. CA-2257, 3. Johnson's legal ownership of both properties would again come into question in the mid-1930s as plans were developed for the creation of a national monument in the vicinity.

19 Shally and Bolton, 9.

SCOTTY'S CASTLE

INITIAL CONSTRUCTION AT SCOTTY'S CASTLE: 1922-1925

In 1922, Johnson initiated construction of his new estate in Death Valley. Construction of the original portions of the main house and cook house was undertaken between 1922 and 1923, while the first component of the garage was completed in 1923. Johnson hired construction superintendent, Alfred Kropf, to oversee the completion of the buildings, which were being constructed just west of Steininger's original cabin.[20] Preparation of the site was completed by local Timbisha Shoshone laborers who camped at a nearby site (Indian Camp), which was bisected by Bonnie Clare Road just to the south of Upper Vine Ranch. Eventually, Johnson recruited tradesmen, including masons, carpenters, and plasterers from Los Angeles to join the labor crews at the site.

Johnson designed the original three buildings on the ranch, which were relatively simple in design. They were characterized by a box-like form with flat roofs and white stucco siding. The house, sited in a prominent location near the toe of Windy Hill, was a large rectangular two-story, wood-frame structure. The rectangular shape was a purposeful design as Johnson wished to covey that everything at his home "was on the square."[21] The garage and cook house, located east of the main house, were built in a similar style, but were single story. Later, around 1922-1924, Johnson constructed a barn (later known as the stable) near the agricultural fields in the eastern portion of the site adjacent to the narrow dirt trail that was a remnant of the Steininger ranch. Although

20 Historic Structure Report: Main House and Annex, 88; Susan Buchel, Scotty's Castle Cook House Historic Structure Report, (San Francisco: Park Historic Preservation Division, Western Regional Office, National Park Service, 1985), 5; Milton Kropf interview, January 21, 1980, 19-20. Kropf served as construction superintendent at the Death Valley Ranch from October 1922 until June 1924. Prior to working at Death Valley Ranch, Kropf worked for L.L. Nunn to direct the construction of Deep Springs College, a boys' preparatory school, located approximately 70 miles northwest of Death Valley Ranch. Johnson and Nunn both grew up in Oberlin, Ohio and still remained friends. Kropf was likely hired by Johnson as a result of his work at Deep Springs College and his association with Nunn.

21 Shally and Bolton, 11.

functional, the vernacular style of these early structures was apparently undesirable to Johnson's wife, Bessie, who wanted the buildings to reflect a more refined style, reminiscent of Mission Revival—an architectural style she appreciated as a student at Stanford University.

As the first permanent buildings began to take shape on the ranch, Johnson returned to Chicago and contacted architect Frank Lloyd Wright to consult with him and develop a design for the desert property. In the winter of 1923, Wright traveled to Death Valley to see the Grapevine Canyon site. After the visit, Wright produced at least 20 different sketches of the primary residence. A principal feature that was found in many of Wright's drawings was a pronounced vertical tower, which resembled a church steeple. While Johnson rejected all of Wright's designs because they resembled a "mausoleum," the drawings demonstrated that the canyon could accommodate a large development in the future. It is unknown if Johnson incorporated any of Wright's ideas into later development of the site; however, it is possible that the location of the pool between the house and the entry may have been influenced by this collaboration.[22]

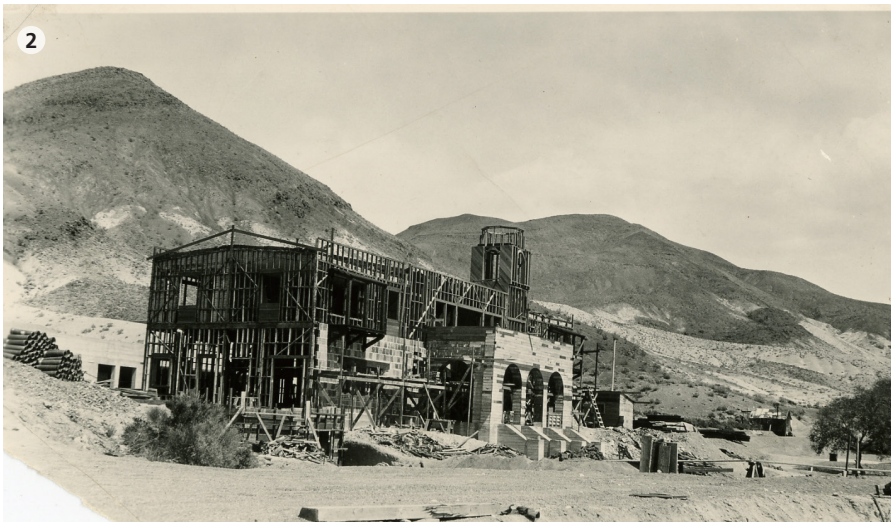
In 1924, Johnson fired construction superintendent Kropf, despite the unfinished state of several buildings on site. Johnson hired a new team of design and construction professionals to assist in the implementation of his plans for the property. These men included Mat Roy Thompson, Charles A. MacNeilledge, and Dewey Kruckeberg each of whom brought different skills to the project. Together, they would transform the ranch from a relatively small and obscure development in Grapevine Canyon to a lavish estate steeped in the legend and mythology of the desert.

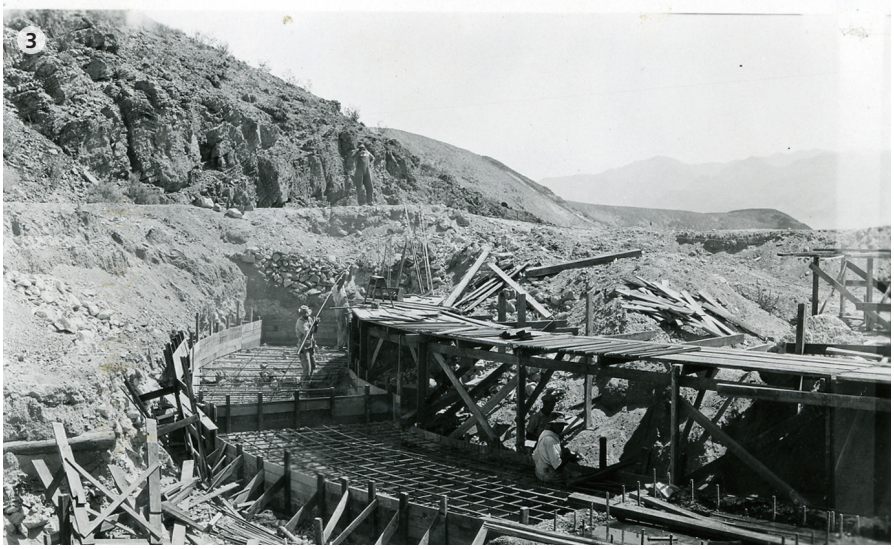
During this period of development, Walter Scott occupied a shack on the Upper Vine Ranch property. Later, he moved into a tent a before occupying a room in the basement of the unfinished main house. Scotty's role in construction activities was limited; however, he initially served as the "camp cook" before being relieved of his duties,[23] after which time, Scotty enjoyed a life of relative leisure that consisted of drinking, hunting, and cooking for himself and the Johnson's. Generally, during the early 1920s, the Johnson's and Scotty received few visitors; however, there was some outside interest in Scotty's mine.[24]

1. *undated, the original three buildings at the ranch from the initial construction period (DEVA 42761)*

22 Note: Eight of these drawings are in the Death Valley museum collection archives. The rest of these drawings are in the possession of the Taliesin Fellowship in Scottsdale, Arizona. Source: Neil Levin, "Wright's First Diagonal Group Plan: The A.M. Johnson Desert Compound and Shrine at Death Valley," post 1982, typescript, 11 pages, DEVA SC; Greene, 22. Web address: http://www.loc.gov/exhibits/flw/flw05.html.

23 Livingston, 94-95.
24 Livingston, 97-98.





1. *1926, early construction photo of the core of the Main House with the Stables and part of the Garage in the background, on the left the annex construction begins (DEVA 43299)*

2. *1927, remodeling the Main House at Upper Vine Ranch to reflect a Spanish architectural style (DEVA 40470)*

3. *c.1929, construction framing of the bridge and gatehouse (DEVA 40922)*

4. *c.1927, architectural rendering created by Martin de Dubovay in collaboration with MacNeilledge showing the intended design of the castle complex (DEVA collection, CLI 2005: 83)*

LARGE-SCALE CONSTRUCTION AT SCOTTY'S CASTLE: 1925-1931

Between 1925 and 1931 construction activity at Death Valley Ranch covered all aspects of site development, including large-scale grading (totaling over 30 acres), foundation work, installation of complex utilities systems and mechanical infrastructure, construction and alignment of circulation systems, construction of water features, establishment of ornamental plantings and the construction of more than a dozen structures.[25] When construction ended in the spring of 1931, the primary construction at the ranch had been largely implemented; however, components of the design remained incomplete.

To secure water rights for the property, Johnson directed Mat Roy Thompson to work on two projects that focused on development of a water catchment system and the establishment of a fence system to control water rights to the springs and seeps in Grapevine Canyon. In December 1925, Thompson began working on the design for the catchment system, which would provide water for construction activities, domestic use, electricity, and fire suppression.[26] Work on the water project was undertaken in early 1926, which would ultimately involve capping the springs and constructing a 40,000-gallon concrete sub-surface reservoir as well as a structure to protect and control access to the pipe head. The fence project was initiated in the winter of 1926 with the manufacture of reinforced concrete fence posts on site by local crews. In the spring of the same year, laborers installed fence posts around the perimeter of Upper Vine Ranch. Over the course of the next three years, more than 3,100 fence posts would be manufactured for this purpose.

The long shed was built between 1925 and 1926 and ultimately became a bunkhouse for non-Indian workmen. Construction of

25 Other services, including hardware and other supplies, banking and telegraph services, and groceries, required a trip on similarly rough roads to Goldfield, Nevada, located some fifty additional miles away from Bonnie Clare.

26 Historic Structures Report: Main House and Annex, 41.

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the annex also began in 1926 and continued through the next several building seasons. Sited directly north of the main house, grading for the annex required cutting into the hillside and the construction of a sizable retaining wall, which was located approximately eight feet from the exterior wall of the annex. The main house was redesigned by MacNeilledge and was physically connected to the two-story annex by a footbridge. A formal tile courtyard, situated between the two buildings, created a strong material and physical connection between them. Three fountains were built in association with the main house and annex further demonstrating Johnson's desire to create a lush oasis in the desert.

During the 1927 construction season, the overall design of the site began to coalesce. Although construction was already well underway on several structures, it was not until this time that Martin de Dubovay, a draftsman working under MacNeilledge, produced a unified drawing of the proposed building complex. The drawing integrated architectural concepts and landscape proposals into one oblique perspective illustrating the arrangement and architectural style of buildings, the location of roads, and the character of garden spaces. Furthermore, it was the first time a single image of the property was portrayed as an integrated image evoking the Spanish style and verdant scene MacNeilledge envisioned, with the building complex unified by a single architectural style. Significantly, the drawing depicted the entire extent of the grounds—from the stable to the chimes tower—emphasizing the swimming pool in the foreground and the main house in the background. The drawing also included a small sunken garden at the tunnel entrance and an extensive planting of cacti and Joshua trees behind the building complex.[27]

The architectural motif chosen for most of the primary buildings at Scotty's Castle was a Spanish style.[28] To reinforce a unified style and consistent architectural character, MacNeilledge used a common vocabulary of applications and finishes throughout the building complex including stucco, wood, and metal. The stucco finish was muddy brown and creamy beige in color with scratches applied to the surface, giving a "weathered adobe" appearance to all the buildings. Whether it was real or simulated did not matter; the goal in weathering the surfaces was to make the buildings appear old.[29] MacNeilledge chose redwood for the highly visible components of the buildings such as doors, doorways, window and door lintels, gates and porches because he liked the color. All the wood was treated through a burning process termed "antiquing," to make it appear aged.[30] Iron and brass, used for lighting fixtures and on the gates as decorative hinges, were fashioned into the shapes of desert creatures such as a bobcat, roadrunner, and snake. MacNeilledge also designed weather vanes depicting vignettes of Scotty in the desert.[31]

27 It is interesting to note that de Dubovay's drawing seemed to de-emphasize water in the picture, despite Johnson's efforts at the time to create a lake and watercourse, both very bold design concepts within the context of Death Valley. Perhaps the drawing did not consider these landscape features because they were secondary to the buildings, roads, and greenery. Kruckeberg's planting plan—which was drawn several years after this perspective—mirrored this vision of the grounds in almost every way.

28 Historic Structure Report: Main House and Annex, 45. Some people claimed it was modeled after a Spanish village or hacienda, referring to it as Spanish Revival, Spanish Mediterranean, or Spanish-Moorish. Others such as Bessie Johnson called it Spanish Provincial. MacNeilledge and Johnson called it the Spanish Style.

29 Historic Structure Report: Main House and Annex, 47.

30 Historic Structure Report: Main House and Annex, 48.

31 Although these materials were chosen by MacNeilledge because they evoked a Spanish Style of architecture, this style echoed a similar style common throughout the state of California at the time, referred to as Mission Style.

In 1927, the roof plan of the main house was modified from a flat surface to a gable to support a tile surface. Subsequent construction on the building included the addition of turrets, balconies, a sun room, and patios. Within the year, the main house was expanded with the addition of the annex, including a new music room on the northeast corner.[32] When the Johnson's 5,800 square-foot home was complete, the two-story structure contained ten rooms, three covered porches, and a large courtyard of red-clay tile located between the main house and the annex building.

In the fall of 1927, excavation for the gas tank house began at the site and the structure was completed by 1928.[33] Excavation for the guest house also began in the fall of 1927; however, construction would continue several years until the exterior was completed in 1929. Finishing touches, which included plaster and tile work, would not be completed until 1930. In February 1927, construction efforts associated with a new structure located just north of the existing barn were initiated.[34] When completed, the concrete building had a tower on the west end which had originally been conceived of as a chimes tower. However, the tower eventually reverted to function as a "bird loft" because the acoustics in this part of the canyon were less than optimal. [35] Also, during this period, MacNeilledge redesigned the existing barn (now known as the stable) to reflect the architectural style of the other new buildings by adding arched openings, a stucco exterior, and a tile roof The stables were used to store construction materials until 1929, when finishes were applied and the building plumbed.[36]

Planning associated with development of the swimming pool began as early as 1927 when Thompson presented Johnson with a sketch. The sketch depicted the pool, which was to be situated adjacent to the main house, as well as a large body of water called the lake on the south side of the building. Over the course of the next several years, components of this design were implemented, although some changes were made to the original design. Grading efforts associated with the construction of the pool began in January 1928. Despite having a plan for the site, the pool extended beyond the west end of the main house, which required Thompson to relocate the entry drive ten feet south of where it had been planned originally, creating an awkward curve in the road.[37] Ultimately, construction halted before the swimming pool could be completed leaving a lasting reminder of Johnson's unfinished vision for the ranch.

By the end of 1927, Johnson and his professional crews had accomplished enough work to clearly define a cohesive design character for the property. As new buildings were constructed and with the siting of additional structures well underway, the overall site plan for the building complex emerged as a somewhat ordered cluster along the base of the north canyon wall. While this did add a degree of formality to the property, it is probable that Johnson never intended to create such a formal axis as a design statement. Rather than attempting to implement a grand landscape design scheme, Johnson may have been most influenced by the

1. *undated, the view from the castle tower looking east shows the linear arrangement of structures (DEVA 2304)*

2. *February 1929, view of Upper Vine Ranch under construction with the Garage [left], Main House [center], and Hacienda [right] (DEVA 40729)*

32 DEVA archives: AMJ to MRT, 10/3/27, MS 5, Box 3, File 5.
33 Historic Structure Report: Main House and Annex, 1991, 128.
34 DEVA archives: AMJ to MRT, 9/26/27; MS 7, Box 18, File 3.
35 Livingston, 452.
36 DEVA archives: MRT to AMJ 10/8/27 MS 7, Box 5, File 3.
37 DEVA archives: MRT to AMJ, 1/29/28, MS 7, Box 6, File 1.

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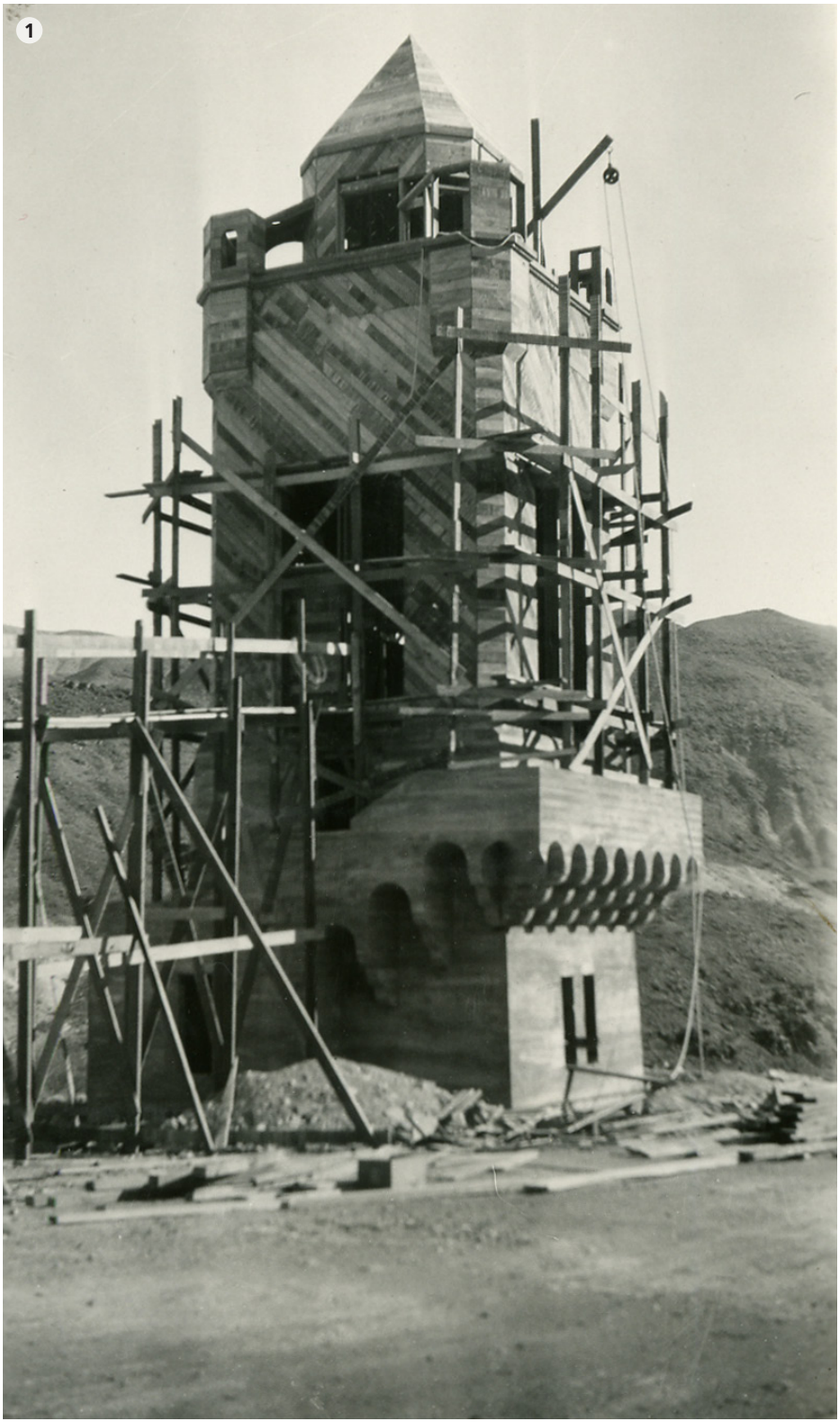
natural topography and sited many of the structures on the north side of the canyon as a pragmatic response to physical space, microclimate, and the opportunity to use open views southwest, towards the Panamint Mountains. In many ways, however, the linear arrangement of the buildings established during this period became the primary ordering principal of the site. With few exceptions, every building in the complex was aligned along a line, running generally west to east through the chimes tower, main house and annex, and stable. In addition, the road between the main house and stable (a remnant from the Steininger era) also ran on this axis and structured a linear circulation within the cluster. Although other buildings such as the garage/long shed/bunkhouse, guest house, gas tank house, and cook house were not directly sited on the line, they were oriented horizontally along the axis, further enhancing the strong linear organization. This spatial organization and cluster arrangement was to remain throughout the historic period and influence the remaining development at the site.

In 1928, after considerable planning, the chimes tower was sited on a knoll west of the main house in a location and orientation that would maximize the sound quality of the chimes, allowing it to be heard throughout Grapevine Canyon.[38] The five-story tower, clad with a striking red tile roof, was the tallest structure in the building complex and as a result served as a distinctive landmark for visitors arriving along Bonnie Clare Road. The structure also included a small apartment and observation deck, along with a clock, metal casement windows, and wood doors that were reinforced with hand-wrought fittings. In 1931, laborers constructed a concrete terrace around the base of the structure.

In addition to construction adjacent to the main house, new development occurred in Tie Canyon. In January 1928, Johnson capitalized on the closure of the Tonopah and Tidewater rail line and purchased thousands of railroad ties to use as fuel to heat the buildings. After rail service stopped, the railroad ties were gathered and stockpiled in Tie Canyon, just west of the building complex. In order to deliver the railroad ties, approximately one mile of new road was built through the canyon. Before the branch line closed, Johnson had numerous carloads of supplies delivered, including concrete, clay tiles, fence wire, and nails. As more railroad ties were delivered over the next year, additional roads were built in Tie Canyon.

In 1929, three utility buildings and/or structures were added to the ranch, including the powerhouse, solar heater, and a small utility shack in Tie Canyon, referred to as the watchman's cabin. As construction efforts were underway, MacNeilledge completed the design for a pavilion area between the powerhouse and the chimes tower. Primarily conceived as a transition between the two buildings, the pavilion area (also known as the plateau), was to be fully landscaped and supplemented with low retaining walls, and stone-paved terraces and paths. It was designed to extend east from the roofline of the powerhouse to completely wrap around the chimes tower.

38 DEVA archives: MRT to Mac-Neilledge, 11/8/28, MS 7, Box 7, File 2



1. February 1929, chimes tower under construction (DEVA 40690)

2. February 9th, 1930 view of the Main House and Annex under construction (DEVA 60034)

In addition to work activities at the Upper Vine Ranch, construction was also undertaken in 1929 at the Lower Vine Ranch to build Scotty his own home and several associated ranch buildings. During this time, Scotty was not actively involved in construction activities at the site.[39] Rather, he spent a great deal of time away from the ranch traveling to various locations throughout California and Nevada. Since Johnson spent most of his time in Chicago, Thompson fielded many publicity requests from individuals who sought to meet Scotty.[40] Scotty remained elusive; however, he did make headlines in 1929 because of an article about Scotty and the ranch in the New York World newspaper.[41] Perhaps as a result of the newspaper article combined with construction activities at the ranch, by late 1929, visitor interest in the ranch had dramatically increased.

As construction efforts continued at Scotty's Castle, Dewey Kruckeberg, a landscape architect from Burbank, California, developed the landscape design for the property, which was completed in 1929. Largely based on the original landscape plans initiated by Johnson and MacNeilledge, Kruckeberg's design was compatible with the qualities of the site and focused on formalizing some areas, while unifying other areas already in place. Ultimately, his intent was to create a design and select plant materials that would complement the architectural character of the existing buildings. Following the landscape plan, Kruckeberg wove plantings, rock gardens, watercourses, walkways, stairs, and open spaces together to provide a pleasurable, lush environment within the confines of Death Valley. Plantings ranged from native flora, including Joshua trees and a variety of cactus, to olive trees and grass lawns. Although Kruckeberg's plan focused on an area that measured approximately 14 acres, (out of a 300-acre property) less than two acres of the landscape design was ever implemented.[42] Before work stopped at the site in 1931, Kruckeberg completed several key components in the plan. These features included the central watercourse, the terraces below the cook house, and the cactus garden in front of the guest house. Although not fully implemented, Kruckeberg's landscape plan brought the building complex, circulation features, and ornamental planting throughout the site into a unified landscape design.

39 Livingston, 139.

40 Livingston, 134.

41 Livingston, 137.

42 "Preliminary Plan: Landscape Development: Scotty's Castle: Johnson and Scott by Dewey R. Kruckeberg, Landscape Architect, Los Angeles, circa 1929.

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Although many of the primary buildings and structures were complete by the late 1920s, one key component was missing. Johnson desired an entrance to his desert oasis that would provide an "impressive approach to the buildings."[43] As plans developed over the course of several years, it became clear that construction of the entry and approach to the main house would require extensive grading and fill material. At the end of 1927, planning for an entrance gate was initiated by Thompson and MacNeilledge. After extensive excavation efforts, an earthen dam was built with the intent to contain the spring fed water in a lake. In turn, the fill was used to construct a curvilinear entrance road, which also served as the entrance road prism.

During the grading for the entrance gate and access road to Johnson's property in 1929, Thompson and Johnson discussed the possible realignment of Bonnie Clare Road. Originally running through the property between the main house and barn, the new alignment redirected the road to the southern edge of the development. Work on a two-mile section of Bonnie Clare Road was completed in 1930. The road became an integral component of the arrival sequence between the intersection at Grapevine Junction and the building complex. From Grapevine Junction, Bonnie Clare Road led into Grapevine Canyon following a narrow corridor that provided open views, past the plantings at Cottonwood Corner, to Cathedral Rock. After the bend at Cottonwood Corner, the road curved sharply to the north and continued, generally following the natural contour, rising and falling over drainages where visitors eventually caught the first glimpse of the chimes tower. The road continued until it curved by the entrance where vehicles could to pull off and enter the ranch. Upon its completion, the ten-foot wide entrance road to the main house extended off from Bonnie Clare Road in a graceful arc along an elevated grade (approximately ten feet above the intended lake area) past the swimming pool, terminating at the turnaround.

During the height of construction in 1930, Johnson learned that Horace Albright, Director of the National Park Service, was conducting land surveys to create a potential boundary for a new national park or national monument within Death Valley. While the proposal was being studied, President Hoover withdrew all land within the study area from entry under the various desert and homestead acts. Johnson, unfortunately, did not have a patent for his land and as a result was left without any assurance that he would be able to maintain possession of Scotty's Castle and Lower Vine Ranch. After the survey work had been completed, survey officials indicated that Johnson's property was located within the boundaries of the new park.

Construction began on the entry gate in 1930 after the infrastructure for the lake had been completed. As laborers brought the roadway to its final grade, excavation for the entrance gate, bridge and walls was initiated. By spring of 1930, the site preparations were almost finished. During the excavation process, Johnson fine-tuned the design of the entrance gate structure, and eventually incorporated a small, "dungeon apartment"

43 Livingston, 199.

into the design of the base of the tower. During this period, Johnson also began construction of the grotto/servant's quarters in the open area west of the annex. Work on the entrance gates continued into the next year, with most of the concrete work completed by mid-February. On February 21, however, all construction work stopped, and work crews were laid off. Ultimately, the entrance gates were left unfinished, although the roadway and gates were functioning as intended. The approach to the main house included a broad driveway off of Bonnie Clare Road, passing under a tall concrete arch and over a bridge spanning the natural spring, terminating at the front door of the main house.

Ultimately, several factors played a role in the abandonment of construction at the site. The combination of expanding the scope of the project in the late 1920s, coupled with the increased pace of construction that drained funds, and the effects of the Great Depression all led to the end of the endeavor, which remains incomplete to this day. Furthermore, the eventual inclusion of Johnson's property within Death Valley National Monument may have stalled any additional construction efforts at the site, especially given the fact that Johnson did not know if he would ever be able to assume ownership of the land upon which the main house had been constructed. "Johnson shut down all work on Death Valley Ranch in the summer of 1931. While financial considerations certainly played a role in the shutdown (note the budgetary restraints shown in wages), National Life Insurance Company would survive for another two years before Johnson would part ways. The major setback came with the discovery, in early 1931, that a new government survey did not jibe with the former survey, completed in 1885, the result being that Johnson's purported Death Valley properties lay some one mile distant from where he had erected his buildings and improvements."[44]

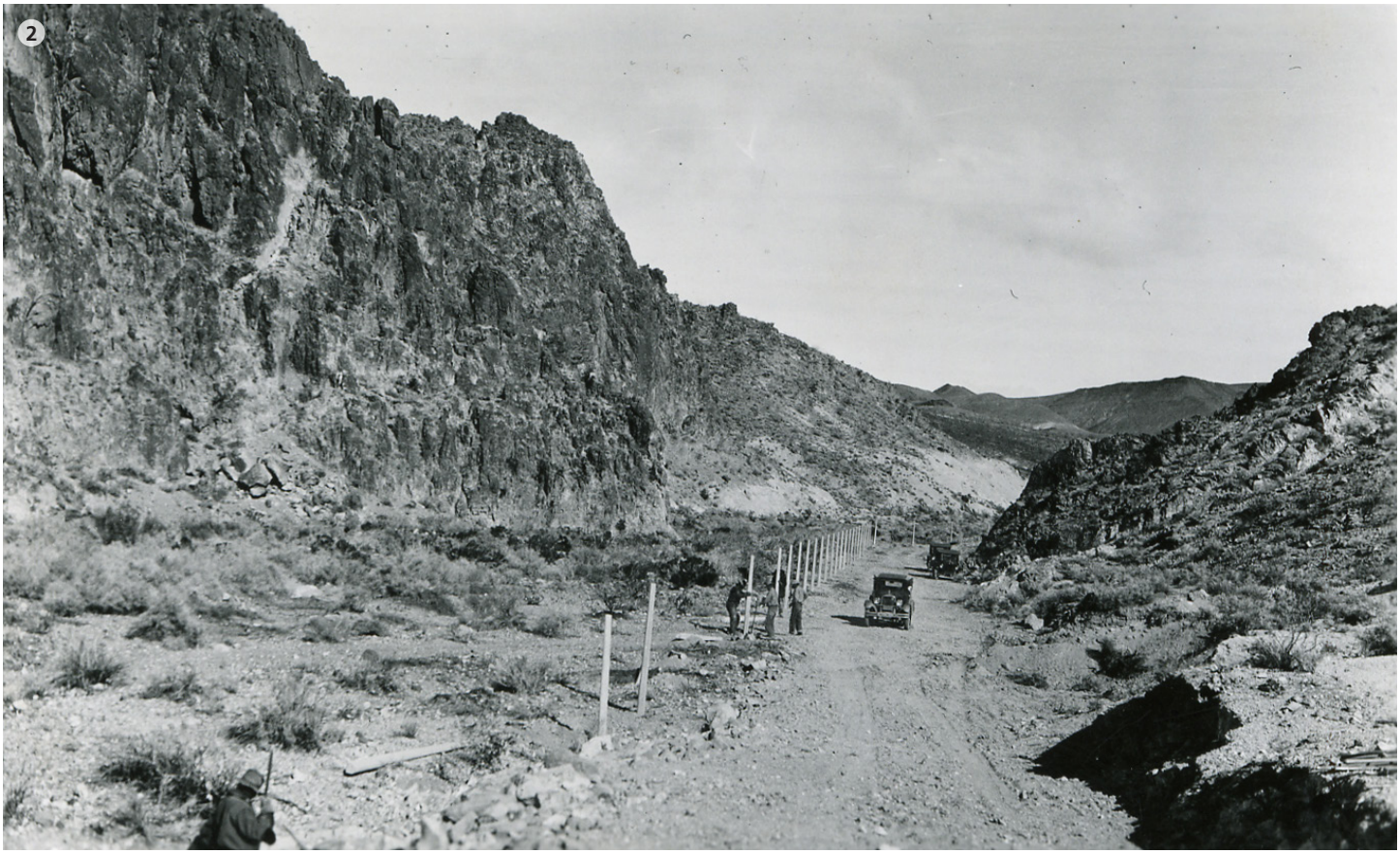
By 1931, the most important components of the site were in place at the ranch, despite the early work stoppage. The unfinished buildings and landscape at Scotty's Castle remain as expressions of a once ambitious and comprehensive plan to construct an expansive and largely self-sufficient residential estate. That the project was never completed is immediately evident in the state of buildings throughout the site today. Some are obviously unfinished, such as the entrance gate, the swimming pool, and grotto extending along the west plaza. Others, such as the gravel separator, intended as a temporary structure, remain, giving the overall impression of an abandoned construction site.

1. *January 1931, looking towards the Main House with the Hacienda's retaining wall and cactus garden (right) and planting areas with palms and cactus defining the entry road into the Main House (DEVA 41314)*

2. *January 1930, Cathedral Rock and an early version of Bonnie Clare Road (DEVA 40820)*

3. *April 1931, view of the Gate House and Entrance Road under construction with chimes tower [left] and part of the Main House [right] in the background (DEVA 41445)*

44 Livingston, 289.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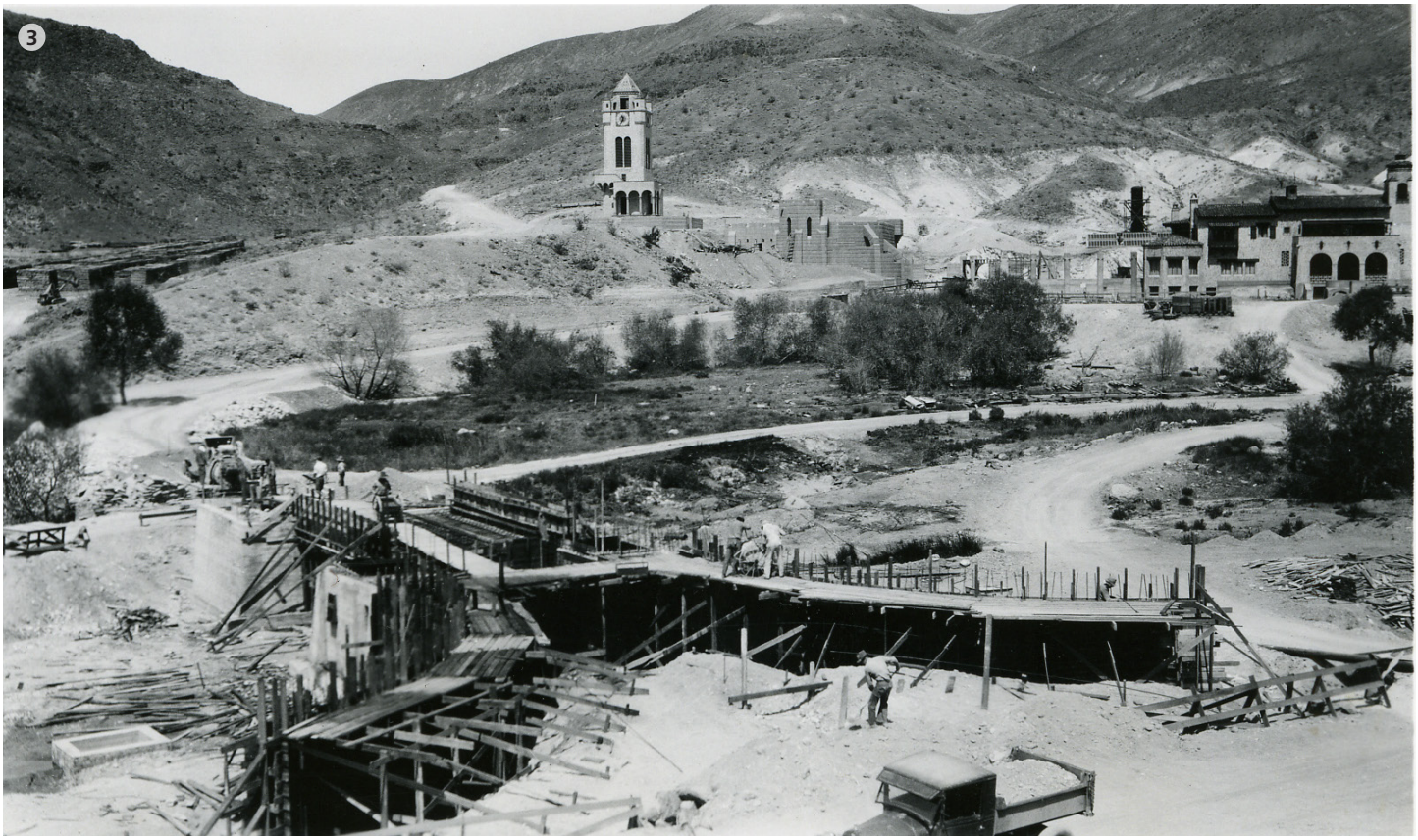
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SCOTTY'S CASTLE AFTER CONSTRUCTION: 1931-1954

On February 11, 1933, Herbert Hoover signed the proclamation that designated the 1,697,112-acre Death Valley National Monument as a unit of the National Park Service. After years of negotiations, President Franklin Delano Roosevelt signed a bill that allowed Johnson to buy back his property from the U.S. Government for $1.25 per acre. On November 17, 1937, Johnson was formally able to gain title and ownership of 1,529.83 acres of land in Grapevine Canyon.

Due to financial concerns, Johnson slowly began shifting his attention toward redevelopment of Scotty's Castle as a tourist attraction. Because of the growing popularity, Johnson's staff at the castle was conducting informal tours, and by 1936, Johnson hired and trained official tour guides to take visitors through Scotty's Castle, charging one dollar per person. Capitalizing on the increasing visitation and interest in the ranch and Death Valley Scotty, Johnson rented rooms to visitors and provided meals in the dining room of the main house.[45] Johnson also sold mementos such as an anthology of Scotty stories (written by Bessie), postcards, and guidebooks.[46] Scotty stayed closer to home throughout the 1930s and 1940s and visited the castle daily. He entertained visitors with stories that were both true and false to keep his name and face in the newspapers.[47]

In 1943, tragedy struck when Bessie Johnson was killed in an automobile accident. The accident occurred while Albert and Bessie were traveling over Towne Pass, 40 miles south of the ranch. After losing his wife of 47 years, coupled with Johnson's failing health, it became increasingly difficult for Johnson to visit the ranch and maintain the property. Because of restrictions on rubber and gasoline during World War II, visitation also dropped, resulting in a loss of income for Johnson.[48] Over time, maintenance associated with the property was increasingly difficult to sustain and Scotty's Castle fell into decline.[49]

1. *February 6th, 1931 view of Scotty's Castle looking west around the time construction halted (40329)*

2. *February 6th, 1931 the pool, which would ultimately never be completed, in the process of being constructed (40339)*

45 Unrau, 44.
46 Historic Structure Report: Main House and Annex, 70; Unrau, 44.
47 Livingston, 301.
48 Unrau, 45.
49 Historic Structure Report: Main House and Annex, 72.

Johnson established a socially-oriented charitable organization to manage his estate in 1946. Named the Gospel Foundation of California, the organization was led by social worker and family friend, Mary Liddecoat.[50] On May 19, 1947, Johnson inserted a provision in his will which stated upon his death, all his property, including Scotty's Castle and Lower Vine Ranch, was to be transferred to the Gospel Foundation.[51] Albert Johnson died in 1948 and as stipulated in his will, the Gospel Foundation assumed ownership. The Gospel Foundation managed the property as a "museum-hotel" offering guided tours of the castle and overnight accommodations to visitors.[52]

In 1954, just a few years after the death of Johnson, Walter Scott died. Scotty was buried on the hill above the chimes tower next to his dog, Windy. The grave remains adjacent to a cross, which was erected prior to his death. Later, Gospel Foundation laborers constructed a monument and installed a brass plaque at the site in honor of Scotty. Today, these structures remain as a testament to the legend of Death Valley Scotty and the role that he played in the construction and development of Johnson's ranch.

GOSPEL FOUNDATION ERA: 1954-1970

The Gospel Foundation began making small incremental changes to the site from the early 1950s through 1970 to provide more services and enhance safety. Despite these changes, basic maintenance of the buildings and grounds proved to be an overwhelming responsibility, occupying a majority of the Gospel Foundation's time and finances.[53]

Circa 1948, the Gospel Foundation completed tile work on the wishing well.[54] Located in the courtyard east of the main house and annex, the ornamental structure was finished by a tile setter using hand painted tiles that were found in a storage area.[55] Also during this period, the Gospel Foundation improved the watercourse in front of the guest house; however, very little information is available concerning the work. Based on the recollections by Liddecoat, the Gospel Foundation added stones to raise the level of several pools, based on seasonal flows, although she does not recall where the stones were placed or precisely when the work was performed.[56]

Subsequent modifications were performed throughout the early to mid-1950s to support the growing number of visitors that flocked to the site. After 1953, the Gospel Foundation made several modifications to the circulation system on the castle grounds that dramatically changed traffic patterns. The Foundation also remodeled several existing buildings and initiated limited new construction on the grounds. To provide more services, the organization made plans to enlarge the snack bar and gift shop with the construction of an addition on the gas tank house. The first addition, built in early 1954, consisted of a simple blue canvas awning with a wood-frame extension. Upon its completion, Liddecoat and Walter Webb, Gospel Foundation Vice President, indicated their desire for a more compatible structure. In May 1955, Webb hired an architect to design the new addition to the gas tank house and by fall the building was completed. Sometime after 1953, the Gospel Foundation also constructed a new restroom facility in the courtyard near the garage to provide better services for visitors. The new restroom building was constructed to look like other structures that were built during the Johnson era, using surplus castle hardware and fixtures. At some point after

50 Unrau, 46.
51 Unrau, 46.
52 Unrau, 47.
53 It should be noted that the Gospel Foundation did not maintain detailed records of operations at Scotty's Castle, lacking even the most basic information concerning facilities maintenance and visitation. As a result, several changes were made to the site with no supporting documentation indicating when the modification was made or by whom.
54 Caleb Ferbrache, "The Scotty's Castle Wishing Well: History and Sources." Death Valley National Park, 2010.
55 It is likely that the tiles and patterns used in 1948 to complete the structure did not follow the original design as envisioned by Johnson, although it remains unknown.
56 Liddecoat indicated that NPS also added stones to raise the water level, although no documentation of this action has been found.

construction was completed, the Gospel Foundation paved the gravel walkway with concrete and installed a redwood fence around the front of the building.

In addition to improvement and new construction, the Gospel Foundation initiated two substantial remodeling projects on site. During the early 1950s, only a limited number of guest rooms were available in main house and annex. With a significant increase in visitation, it became evident that additional accommodations for guests were necessary. At an unknown date, the guest house, which was renamed the "Hacienda," was renovated to provide sleeping quarters for Gospel Foundation staff. By 1955, the decision was made not to use the main house and annex for overnight guests, and thereafter the hacienda was divided into four separate units for guest lodging. As a response to the closure of guest rooms in the main house and annex, the Gospel Foundation also renovated the long shed, which was renamed the "Rancho" at an unknown date. Several open bays of the shed were enclosed and remodeled. Rooms included a wash basin, although, visitors had to use the new restroom facility located in the adjacent courtyard for showers. The long shed served as a motel until the 1960s. Subsequently, the building was converted into Gospel Foundation employee housing.[57]

During the Gospel Foundation era, Liddecoat also made physical changes to the landscape by planting ornamental vegetation near walkways and buildings. Liddecoat relied on a rather small plant pallet of oleanders and palms that she had brought to the ranch from Los Angeles. Vegetation was also introduced in the area associated with the watercourse, changing the original plantings associated with the feature but retaining the general character. By the mid-1950s several new California fan palms (Washingtonia filifera) were established. Upstream from the entrance bridge where the lake was originally planned to be located, the Gospel Foundation established a picnic area on the level area, complete with drinking fountains, fire rings and wood picnic tables.

1. *2013, view of and from Death Valley Scotty's grave site (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)*

57 Unrau, 47.

NATIONAL PARK SERVICE: 1970-PRESENT

Ownership of Scotty's Castle and Lower Vine Ranch was transferred to the National Park Service (NPS) in July 1970. NPS purchased the property for $850,000 using funds gained through the Land and Water Conservation Act of 1965. The Act prohibited the use of these monies for purchasing furniture; consequently, the Gospel Foundation donated the furnishings as part of the transaction.[58]

A brief time after NPS acquired ownership of the property, park managers began coordinating the work to complete a condition assessment for all existing facilities. The primary objective was to complete an evaluation of the infrastructure on the property to determine the capacity and condition of the water, sewer, and electrical systems, and the ability of these systems to accommodate new uses. After the evaluation was completed, the survey team found that there were a number of structural deficiencies in several buildings as well as a number of issues impending normal park operations. The primary issues that were identified focused on public access and the health and safety of visitors, which included inadequate parking, lack of staff housing and insufficient pedestrian and vehicular circulation systems.

Under NPS, work was undertaken to improve site conditions throughout the early 1970s. Circa 1973-1974, employees designed and built a ticket kiosk located west of the garage. The new structure was constructed over a concrete island that had been previously used as the base for two gasoline pumps during the Gospel Foundation Era. The design of these structures was modeled on the original structure as depicted on a circa 1950s photograph. Additionally, in 1976 NPS worked to make the "dungeon apartment" located in the tower of the entrance gate habitable, and the following year performed an extensive renovation of the Gospel Foundation-era restroom building. Renovation work involved gutting the building to the rafters and studs and removal of the concrete floor. Ultimately, a new concrete floor was poured, doorways were widened to accommodate wheelchairs, the window glass was replaced, and the exterior was patched and painted.[59]

In 1977, NPS moved the gas tanks and pumps a short distance east to the area known as the chicken exercise yard and constructed a concrete pad and island. Congestion near the gas pumps ultimately prompted NPS to reconfigure the parking area in 1978. To improve parking flow, staff widened the existing drive and extended the culvert, creating a two-way entrance and exit. Additionally, several other parking areas were created to handle overflow parking—one in Tie Canyon and the other east of the new entrance along Bonnie Clare Road. Other parking areas for NPS vehicles and staff were added near the stable and garage/long shed/bunkhouse. Rehabilitation of the stable was also initiated in 1977 and included remodeling a portion of the south stables into a maintenance shop. At this time, a portion of the stables were also opened to the public for the first time, displaying vintage vehicles, saddles and tack in the north, open bay. Planning efforts to convert the garage into a concession area were also initiated. By 1980, the garage-portion of the building had been remodeled into a concession area that served as a gift shop and offered food service, while other portions of the building were used as office space for employees.

Throughout the 1970s and 1980s, it was noted that the cook house had a "general unkempt appearance" due to several alterations and general deterioration through time. Despite its poor appearance, the building continued to support administrative offices until disaster struck on April 13, 1991 when a fire largely destroyed the building. After the fire, park staff secured the building from public entry and cleaned up the perimeter. Additional

58 Historic Structure Report: Main House and Annex, 75. After the time of transfer, Mary Liddecoat remained president of the Gospel Foundation of California, while former executive of the National Life Insurance Company, Walter Webb, was vice president. Together they had successfully managed the property as a tourist attraction for nearly 22 years. Ultimately, these divestitures proved beneficial for the Foundation, which was awarded tax-exempt status after it sold the property.

59 Livingston, 406-407.

1. *undated, the Main House and Annex from the garden of the Hacienda with the Wishing Well and Gas Tank House in the mid-ground (DEVA 16900)*

2. *1931, Hacienda gate with part of the Hacienda and its garden in the background (DEVA 41433)*

improvement work occurred east of the primary development area near the Bonnie Clare Road to improve the water system at Scotty's Castle. Construction included a spring house, one reservoir (situated adjacent to an existing reservoir from the 1940s) and a chlorinator house that was built by NPS in 1982. In 2010, NPS completed reconstruction efforts on the cook house. Because of this work, the building has the same footprint, massing roof pitches/line and exterior appearance as the original structure.

Throughout the 1990s, additional improvements were made to the site. During this time, staff rehabilitated the watchman's cabin in Tie Canyon and the wooden ties were restacked to improve the physical appearance of the area and provide greater interpretation. The circulation system was also modified to make it more efficient and increase safety.

VIEW FROM THE CHIMES TOWER FACING EAST: SCOTTY'S CASTLE NOTABLE CHANGES THROUGH THE YEARS (1940-2018)

c.1940-1948 ▲

Construction ground to a halt in the 1930s, leaving many features unfinished. (DEVA 50337)

c.1948-1954 ▸

The Gospel Foundation took over managing the castle during this time period after the death of Johnson in 1948 (DEVA 60563). Notable features include:

- *Lack of safety railing around the pool*
- *Gas pump structure and tree next to the garage*
- *Extensive vegetation to the east along the creek and wetland areas*
- *Sheds parallel to the long shed in the courtyard area*
- *Original three palm trees east of the Main House, still standing but dead*
- *Tiled wishing well*
- *Eucalyptus trellis in the Main House courtyard*
- *Gas tank house addition (built in 1954-55) not yet constructed*
- *Remnant structures in Indian Camp*

c.1970 ▸

The Gospel Foundation continued managing the castle after Scotty's death in 1954 until NPS took over in 1970 (MSS 35 230). This view from the chimes tower is lower and more limited, however, notable changes include:

- *Addition of a safety railing around the pool*
- *Removal of the gas pump structure, possibly by NPS in 1971*
- *Numerous maturing palm trees*
- *Eucalyptus trellis in the Main House courtyard has been removed*
- *What appears to be the roof of the gas tank house addition*
- *Plywood appears to be replacing broken glass tiles in the roof of the Powerhouse*

2013

Well into the NPS management years, this view captures the same high angle from the chimes tower in (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service). Notable changes include:

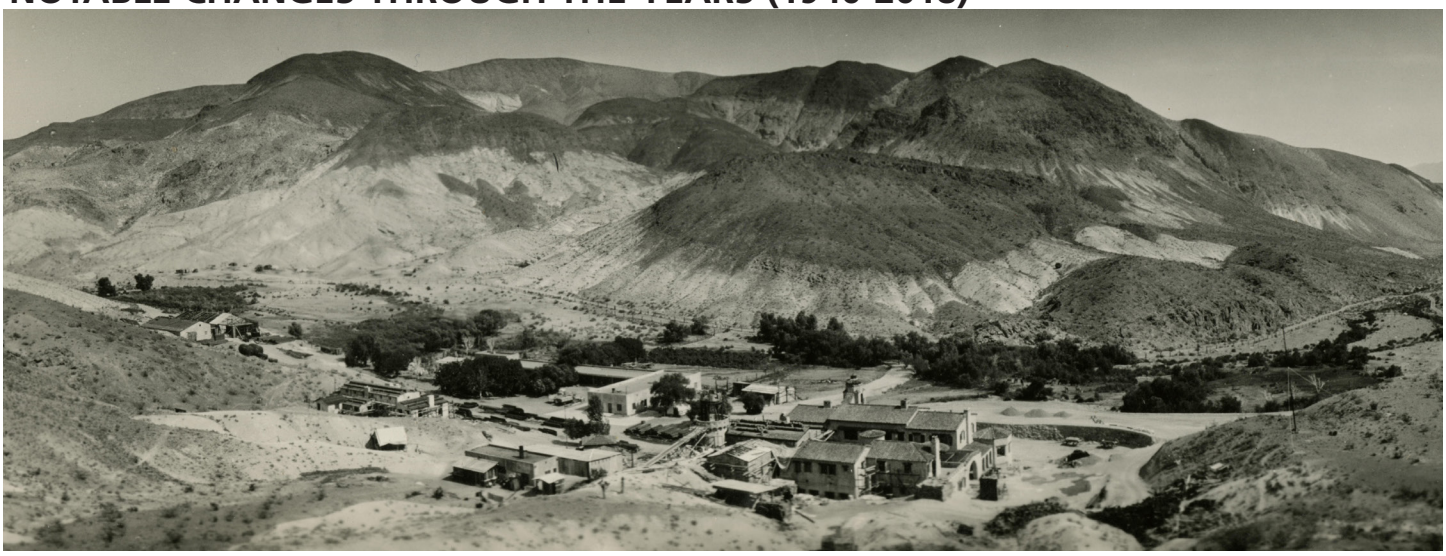
- *Extensive coverage of palm trees throughout the site*
- *Ticket booth in front of the garage, constructed by NPS based on historic photographs of the gas pump structure*
- *Altered cacti planting on the swimming pool bridge, from potted plants in the 1950's to a planting bed in the unfinished fountain*
- *Large paved parking area south of the long shed*
- *Gas pumps and above-ground fuel tank visible in parking area*
- *Reconstructed Cookhouse following a fire in 2012*

2018

The most recent photo at the time of this CLR, matching the low chimes tower view of the historic photo opposite (MIG). Notable changes include:

- *NPS ticket booth in front of the garage has been removed*
- *Reduced density of palms along the water course*
- *New wetland vegetation growth along the creek area east of the parking lot*

VIEW FROM WINDY HILL FACING SOUTH: SCOTTY'S CASTLE NOTABLE CHANGES THROUGH THE YEARS (1940-2018)



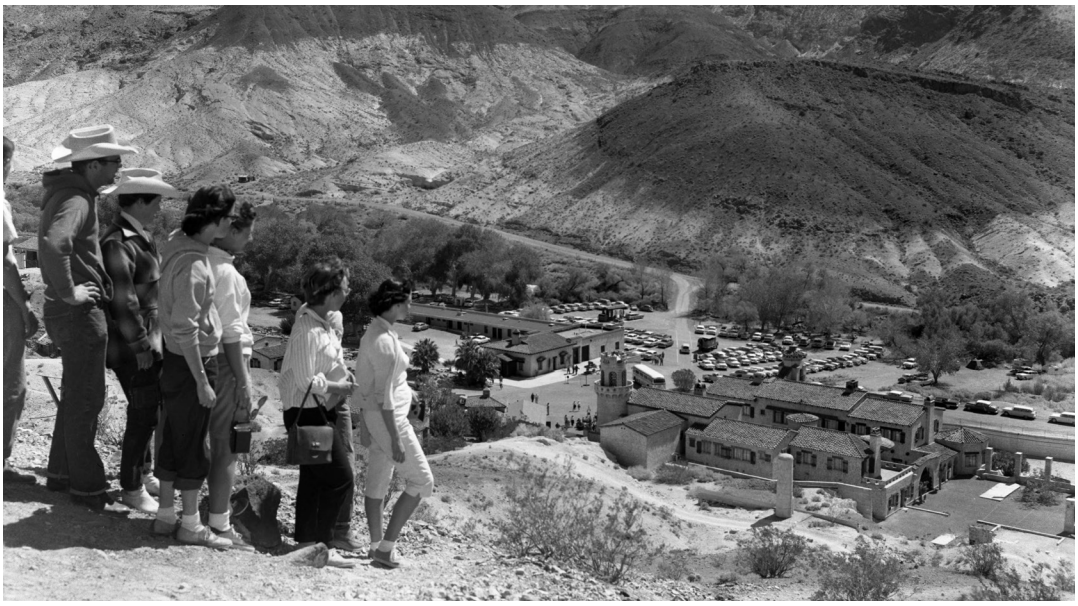
1928 ▲

View from Windy Hill of the castle complex in the midst of numerous major construction projects. (DEVA 18693)

1931 ▶

After construction came to a halt in 1931, much of the complex has remained unchanged. (DEVA 40399) Notable features include:

- *Three mature palms planted east of the Main House*
- *The swimming pool construction, stopped before completion*
- *The watercourse completed with boulders and planting*
- *The grotto/servants quarters left unfinished*



1958 ▶

Visitors take in the view of the castle complex, a flourishing tourist attraction managed by the Gospel Foundation (San Jose State University). Notable features include:

- *The addition of a main access road to Bonnie Clare Road*
- *A large parking lot and visitor parking along the swimming pool*
- *Open, manicured grounds of the picnic area*
- *Non-historic addition to the gas tank house*
- *Asphalt surfacing*

2012

After management of the historic district was transferred to NPS in 1970 (MIG), notable features included:

- *Mature palms and cottonwood trees are abundant throughout the picnic area, watercourse, long shed courtyard and area south of the stables*
- *Green, irrigated lawn in the picnic area*
- *Newly rebuilt Cook House after fire damage in 2010*
- *Ticket kiosk west of the garage*

2018

Current conditions after the site was closed following the 2015 flood (MIG). Notable features include:

- *Flood damage from 2015 was so extensive, and especially damaging to Bonnie Clare Road, that the district was shut down to visitors until rehabilitation efforts could be implemented*
- *Unirrigated, the picnic area lawn became dry and brown, palms and other vegetation was removed or killed by the flood*
- *Vegetation south of the stables in the wetland area along the creek was stripped by floodwaters, now replaced by dense growth of young willows and other riparian vegetation*

VIEW FROM THE HILLS FACING NORTH: SCOTTY'S CASTLE NOTABLE CHANGES THROUGH THE YEARS (1940-2018)

MAY 1931

Text (DEVA 41353). Notable features include:

- *Cars parked south of the garage*
- *Swimming pool still under construction*
- *Three large palms east of the Main House*
- *Front of Main House bare of planting*
- *Outbuildings in the long shed courtyard*
- *Mature trees both north and south of the long shed*
- *Large deciduous tree west of the garage*
- *Construction materials store on site south west of the garage*

c.1954-1960

The site shortly after the Gospel Foundation took on management and maintenance of the property (DEVA MSS 33 Box 01 020). Notable features include:

- *Three palms and adjacent olive trees removed from turnaround east of the Main House*
- *Non-historic gas tank house addition*
- *Non-historic gas pump kiosk and removal of large tree west of the garage*
- *Addition of a safety railing around the pool*
- *Palms and oleander planted in front of the Main House*
- *Palms planted in the watercourse*

VIEW FROM THE STABLES FACING WEST: SCOTTY'S CASTLE NOTABLE CHANGES THROUGH THE YEARS (1940-2018)

c.1931

After construction came to a halt, many projects remained unfinished, including extensive landscape plans that would never be implemented (DEVA 23116). Notable features include:

- *Three mature palms planted east of the Main House*
- *Planting character of the watercourse and Hacienda appear more desert-like with saguaro cacti and a Joshua tree seen here*
- *Vegetation south of the watercourse in the Long Shed courtyard included a number of mature deciduous trees*

c.1954

Taken around the end of the period of significance in the midst of major efforts by the Gospel Foundation to manage the site as a major destination (DEVA MSS 37 Box 05 SL 021). Notable features include:

- *Three mature palms still standing, but dead*
- *Large shrubs have appeared in the watercourse*
- *Trees in the Long Shed courtyard have been reduced in number*

2018

This portion of the site remains largely unchanged after decades, with the exception of the planting character (MIG). Notable features include:

- *Watercourse vegetation has become more dense and lush in character, including a number of mature palms*
- *A single mature cottonwood now towers over the Long Shed courtyard*
- *Native vegetation has taken root on the slopes west of the stables, where the stack of construction materials has long since been removed*

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LOWER VINE RANCH

DEVELOPMENT AT LOWER VINE RANCH: 1922-1931

Contrary to popular lore, Scotty's Castle was not Death Valley Scotty's home. Scotty's home was situated on the Lower Vine Ranch in a relatively remote location approximately three miles west of the Castle and annex.[60] While Johnson gained title to Scotty's Castle in 1917 and began construction of the original portion of the main house in 1922, he did not acquire ownership of the Lower Vine Ranch until 1927. Two years later, in 1929, Johnson built a simple wood cabin, known as Scotty's ranch house on site. The ranch house served as Scotty's residence for over two decades from 1929 through 1952. In addition to the ranch house, Johnson also constructed several outbuildings and structures on the site, including a garage, grain shed, corral, blacksmith shed and reservoir.[61]

Planning for the Lower Vine Ranch building complex may have begun as early as 1926 when MacNeilledge produced a conceptual drawing called "Scotty's ranch house." The design was a pueblo style single-story bungalow with enclosed patios and verandas. It was very similar to a later design that would guide construction of the guest house—resembling it in architectural style, scale, and massing. Ultimately, MacNeilledge prepared a set of working drawings for three different ranch houses at Lower Vine Ranch that employed a new design motif. Rather than the Spanish-style used at Scotty's Castle described above, Scotty and MacNeilledge designed a modest wood bungalow style for the residence and garage using redwood siding and simple gable roofs.[62]

After finally attaining ownership of the Lower Vine Ranch and its associated water rights in 1927, development of the ditch system became critical for Johnson. To maintain water rights, he had to demonstrate a need for the water. To fulfill this requirement, Johnson reported that the water would be used to irrigate 20 acres of alfalfa and would also support grazing on 60 acres of land on the Lower Vine Ranch. It is likely that during this period Johnson constructed a reservoir at Scotty's Camp, located approximately one-mile northwest of the Lower Vine Ranch building complex to support these activities. Johnson also constructed a rectangular stone and mortar trough that was located just outside the Lower Vine Ranch fence near the driveway gate. Connected to

60 The remnants of three stone dwellings are located within the boundaries of Lower Vine Ranch. According to page 35-36 of the Death Valley Scotty Historic District Historic Resource Study, these dwellings were documented as early as 1907 and may be associated with the Steininger occupation or Death Valley Scotty. Despite their documentation, their historical significance and associations are not clearly understood and likely predate the period of significance.

61 Buchel, 4

62 Buchel, 40.

1. *October 7th, 1929 workers constructing the ranch house at Lower Vine Ranch (DEVA 40784)*

2. *January 24th, 1929 Lower Vine perimeter fence (DEVA 40727)*

3. *January 24th, 1929 reservoir filled with water and edged with large cottonwood trees (DEVA 18554)*

4. *undated, view of the finished ranch house and garage (MSS 35 251)*

1. *undated, bridge spanning a creek on the perimeter road that encircles Lower Vine Ranch (DEVA 40673)*

2. *undated, workers on the swimming dock at the Reservoir at Lower Vine Ranch (DEVA 42769)*

3. *undated, Death Valley Scotty and Albert Johnson standing near the Water Trough at Lower Vine Ranch's Entrance Gate (DEVA 41355)*

Grapevine Springs via a pipeline, this structure was built in compliance with state water laws that required Johnson to provide water to the public.

Construction of a loop road around the perimeter of Lower Vine Ranch was also initiated in 1927. Built to provide access to the edges of the property for construction of the perimeter fence, Thompson described the road as "a very scenic auto driveway."[63] In the final days of construction work crews also constructed a small bridge in the northeastern portion of the property. [64] By December 18, the five-mile, narrow dirt road was finally complete.[65]

The need for a fence took on greater urgency in 1927 as government surveyors worked their way north through Death Valley. In order to demonstrate maximum beneficial use of the water through improvements to the land, Johnson constructed a perimeter fence.[66] The fence was staked to include all the surface watercourses that emanated from the springs on the mesa and was characterized by stout concrete posts that were strung with barbed wire and measured approximately eight feet high. [67] Identical to fence posts associated with the Upper Vine Ranch, many of the posts were inscribed with an "S" and a "J" for Scotty and Johnson.

Construction began on Scotty's ranch house in September 1929 and was nearly complete by the end of November. Historic photographs reveal that Johnson used a large workforce at Lower Vine Ranch during this time, which explains how work progressed so rapidly. According to notes and correspondence, the foundation

63 DEVA archives: MRT to AMJ, September 14, 1928.
64 DEVA archives: MRT to AMJ, October 27, 1928; MRT to AMJ, November 1, 1928; MRT to AMJ, January 1, 1929. The List of Classified Structures described the bridge as 18 feet above the wash and spanning 36 feet. The wood posts were 8 inches by 8 inches with 2-inch by 10-inch diagonals. The deck consisted of 2-inch by 8-inch boards and was ten feet wide. The running tracks were 2-inch by 4-inch tongue and groove, and spaced to accommodate both autos and wagons.
65 DEVA archives: MRT to AMJ, December 18, 1928; MRT to AMJ, 12/1/8/28, MS 7, Box 7, File 3.
66 DEVA archives: MRT to AMJ, March 30, 1930, M7/B10/F3
67 DEVA archives: MRT to AMJ 1/7/26; MS 5, Box 2, File 3.

of the house had been completed by the end of September. Two weeks later, the trusses were up, and the walls had been filled with insulex. By the end of November, the siding and windows had been installed, and the roof shingles had been laid. Johnson's crew stained the residence with a redwood finish (which was the same stain that was used on the castle trim) in December and MacNeilledge finished the interior over the winter.[68]

Additional construction, including the garage, was completed on the ranch between 1929 and 1930. The garage was built using the same materials and stain that were used for Scotty's ranch house.[69] It is also likely that the blacksmith shed, hay platform and grain shed were built around this time, although very little information is available concerning their construction. The blacksmith shed was the last structure that was added to the building complex. It was constructed with a simple tin roof and stick frame.

After the fence line had been completed in the late 1920s, the labor force plowed a five-acre alfalfa field and planted wheat or oats as a cover crop. In addition, melons and pumpkins were also planted in the vicinity.[70] Scotty chose to supervise this work himself so that he could "make proper affidavits as to his long usage of the water and be able to establish rights . . . in his own name."[71] Other plantings at Lower Vine Ranch were purposeful, but with no emphasis on formality or the Spanish aesthetic seen at Scotty's Castle.

LOWER VINE RANCH: 1932-1954

Scotty occupied the ranch house at Lower Vine from the time of its initial construction in 1929 until the early 1950s. Sometime between 1952 and 1954 Scotty became too ill to take care of himself and was forced to leave the ranch house and relocate to the main house and annex at Scotty's Castle. At the invitation of Miss Liddecoat of the Gospel Foundation, Scotty occupied her kitchenette in the annex, which was later known as "Scotty's Apartment." During his last years of life, caregivers from the Gospel Foundation took care of him, making every effort to ensure that he was comfortable.[72]

GOSPEL FOUNDATION MANAGEMENT: 1954-1970

During this period, the Lower Vine Ranch remained largely unnoticed by the Gospel Foundation; however, they did perform a few basic tasks at the site. After the death of Scotty in 1954, Walter Webb directed Norman Heikes to clean out the ranch house. According to Heikes, the house was stacked to the ceiling with cans and other debris that had to be hauled away. At this time, Heikes also fixed a water pipe that ran to the trough located outside of the fence. After the house had been cleaned, the buildings at Lower Vine Ranch were mothballed. The buildings and structures at Lower Vine Ranch were left in this state for nearly 50 years until NPS took over management of the ranch in 1970.

4. *January 1929, workers clearing an alfalfa field at Lower Vine Ranch (DEVA 40722)*

68 Buchel, 42.
69 Buchel, 43.
70 Buchel, 39.
71 DEVA archives: MRT to AMJ, March 30, 1929.
72 Buchel, 1-3.

1. *October 7th, 1929 the ranch house at Lower Vine Ranch partway through construction (DEVA 40783)*

NPS MANAGEMENT OF LOWER VINE RANCH: 1970-PRESENT

After negotiations with the Gospel Foundation, the National Park Service assumed ownership of the 1,203-acre Lower Vine Ranch in 1970. Serving as the site of Scotty's original encampment and later his permanent home, the Lower Vine Ranch played a key role in the historical development of Grapevine Canyon by Johnson and Scotty. As was intended, the Lower Vine Ranch never received the public attention and resources that Scotty's Castle achieved.

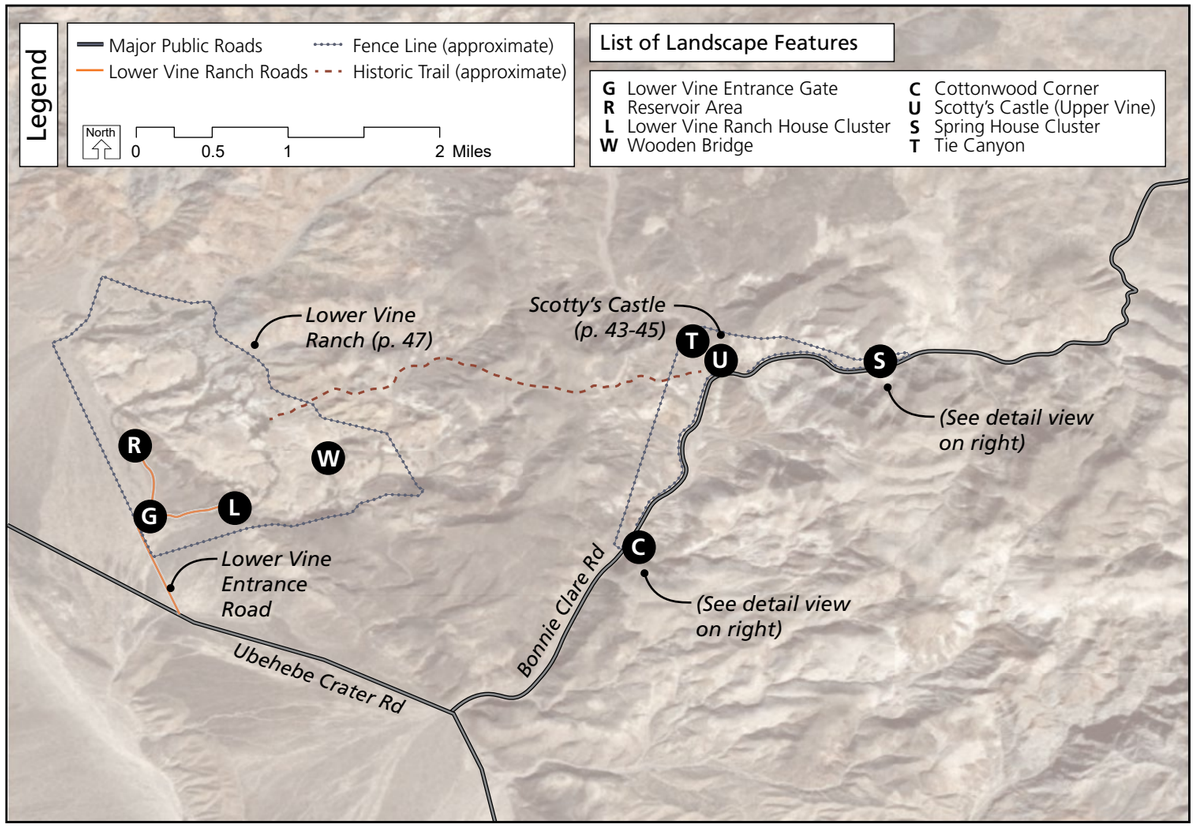
When NPS acquired the property, there were several deferred maintenance projects that needed to be performed in order to stabilize the buildings and prevent their continued deterioration. A brief time after NPS purchased the Lower Vine Ranch from the Gospel Foundation, a local ranger proposed rehabilitating the ranch house to provide additional accommodations for NPS staff and concession employees. Analysis, evaluation and planning efforts took place over the course of nearly a decade.

In 1984, rehabilitation efforts were undertaken on the ranch house. Two years later, in 1986, the house was nearly prepared for occupation with one critical exception: electricity. Ultimately, a Pelton wheel was selected as the preferred power source and a crew built a small structure behind the ranch house to store the batteries. Designed to look like the other buildings on the property, many have had difficulty differentiating it from original development associated with the site.[73] Following the 1980s rehabilitation work on the ranch house, associated outbuildings and structures were stabilized. Improvements were never fully completed and plans for park staff to occupy the site, ideally a law enforcement ranger, never came to fruition. The residence remained unoccupied, receiving little, if any maintenance following the rehabilitation, and the modifications were eventually removed by NPS around 2009.

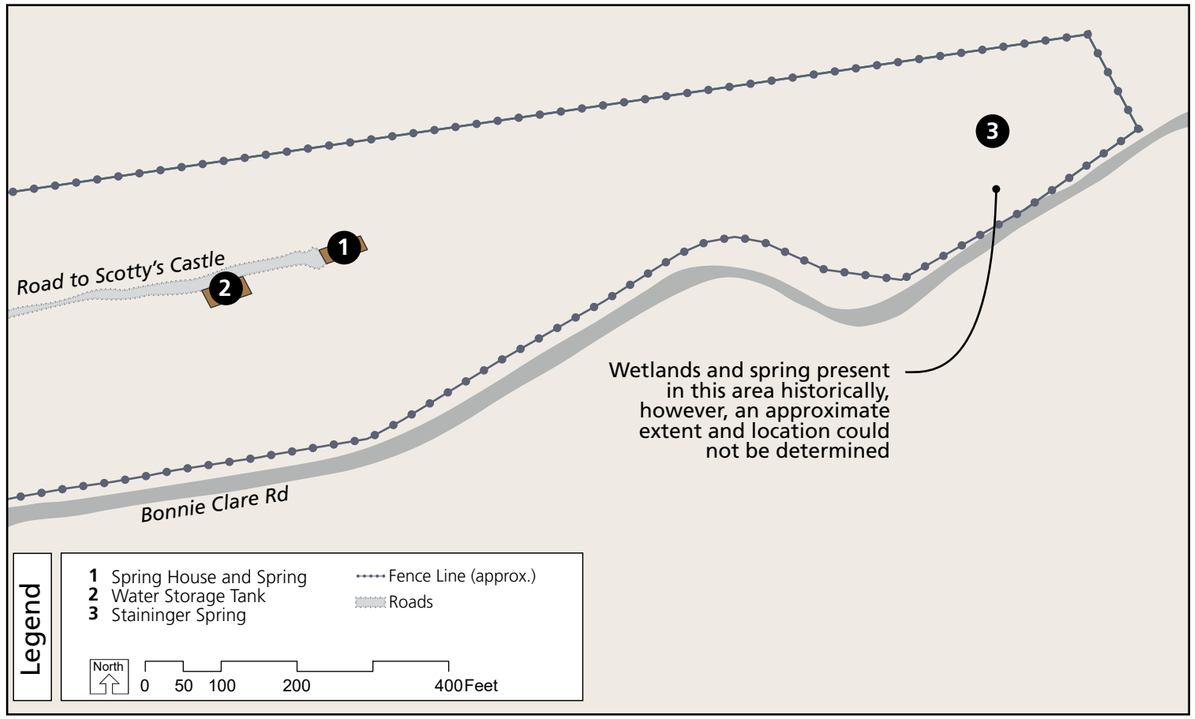
Throughout the mid-1980s, the grain shed, blacksmith shed, and corral were rehabilitated by NPS. The garage was also partially rehabilitated, but the door was never replaced. Later, the corral was again rehabilitated in 2011 using NPS volunteers. Vegetation removal and structural repairs was the most common types of work performed. During the period of the mid-1980's, NPS also managed the extensive fence system and a bridge associated with the loop road that was constructed by Johnson during the period of significance. By 1991, the park superintendent enforced a new management policy for the property, which officially closed the ranch to the public, allowing access only to those performing maintenance or research. The management policy also declared that ". . . no residence will be established at the ranch, archeological sites and historic buildings will be regularly monitored, and construction or interpretation would not be anticipated in the immediate future. Limited public tours could be offered under strict guidelines."[74]

73 NPS removed this structure from the site in 2012. Today, a poured concrete foundation is the only remaining feature associated with this development.
74 Livingston, 417..

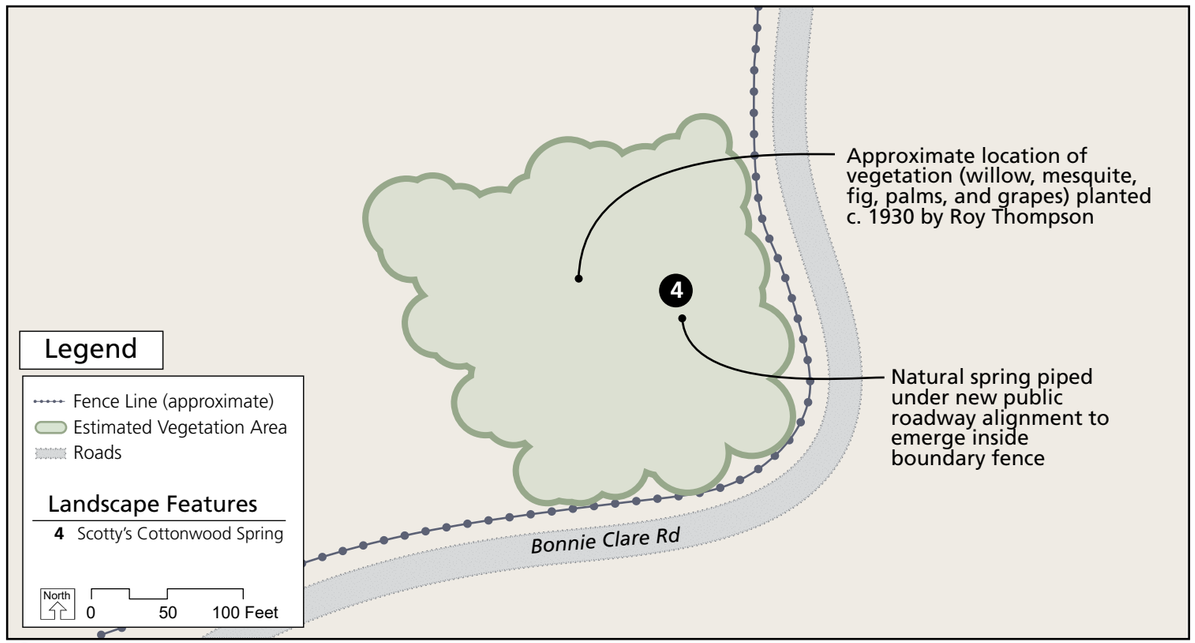
Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009). Spring locations were determined according to UTM coordinates in *Groundwater geology and hydrology of Death Valley National Park, California and Nevada: Natural Resource Technical Report NPS/NRSS/WRD/NRTR—2012/652* by M.S Bedinger and J.R. Harrill (2012).



Death Valley Scotty Historic District



S Spring House Cluster



C Cottonwood Corner

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Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009).

Hills North

Tie Canyon
Ties, Construction Remnants

Water Feature (approx.)

Road to Spring House

"Picnic Area"

Pond (approx.)

Bonnie Clare Road

List of Landscape Features

1 Main House (Scotty's Castle)
2 Annex (Scotty's Castle)
3 Scotty's "Original Castle"
4 Historic Entrance Gate
5 Gatehouse (Dungeon Apartment) and Bridge
6 Retaining Walls
7 Swimming Pool
8 Chimes Tower
9 Garage
10 Long Shed/Bunkhouse
11 Hacienda/Guest House
12 Stables and Cut Bank
13 Solar Water Heater (Solar Panel)
14 Gas Tank House
15 Tunnel Access Point
16 Powerhouse and Pavilion
17 Grotto/servants Quarters Foundation
18 Fire Cache
19 Sheds
20 Watercourse
21 Landscape Terracing, Typ.
22 Cook House
23 Gravel Separator
24 Powder Storage Foundation
25 Chicken Exercise Yard
26 Wishing Well
27 Windy Hill
28 Tie Canyon
29 Tie Canyon Wash House

Note: Vegetation is depicted on a separate plan

Legend

- Buildings/Structures
- Contours (5 ft. intervals)
- Key Viewpoint
- Retaining Walls
- Fence Line (Perimeter)
- Fence Line (Interior)
- Creek (approx.)
- Wetlands (approx.)
- Ornamental Plant Beds
- Primary Internal Circulation
- Secondary Circulation
- Walking Paths

North 0 50 100 200 300 400 500 600 Feet 1" = 250'

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Note: Information in these maps is derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and the Historic Resource Study by Carey & Co. Inc., 2009.

Water Feature (approx.)

Road to Windy Hill

Landscaped Terraces

Cook House Road

Watercourse Planting

Cut bank

Hacienda Planting

Stable Road (Old Valley Road)

Road to Spring House Cluster

Tie Canyon Road

Castle Planting

Entrance Road

Creek

Creekside Vegetation

Pond (approx.)

Bonnie Clare Rd

Legend

- Contributing
- Overhang
- Creek (approx.)
- Contours (5 Ft Interval)
- Circulation (Vehicular)
- Walking Paths
- Retaining Walls
- Tunnels (Underground)
- Native Scrubland
- Cultivated Plantings
- Plant Beds
- Riparian Vegetation
- Watercourse

North

0 20 40 60 80 120 160 Feet

List of Historic Landscape Features

1 Main House (Scotty's Castle)
2 Annex (Scotty's Castle)
3 Scotty's "Original Castle"
4 Historic Entrance Gate
5 Gatehouse (Dungeon Apartment) and Bridge
6 Retaining Walls
7 Swimming Pool
8 Chimes Tower
9 Garage
10 Long Shed/Bunkhouse
11 Hacienda/Guest House
12 Stables and Cut Bank
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14 Gas Tank House
15 Tunnel Access Point
16 Powerhouse and Pavilion
17 Grotto/servants Quarters Foundation
18 Fire Cache
19 Sheds
20 Watercourse
21 Landscape Terracing, Typ.
22 Cook House
23 Gravel Separator
24 Powder Storage Foundation
25 Chicken Exercise Yard

Small Scale Features

26 Wishing Well
Fence Posts
Petroglyph Boulders

Vegetation List

FC Fremont Cottonwood *Populus Fremontii*
FP California Fan Palm *Washingtonia filifera*
JT Joshua Tree *Yucca brevifolia*
SC Saguaro Cactus *Carnegiea gigantea*
PG Pomegranate *Punica granatum*
OV Olive Tree *Olea europaea*

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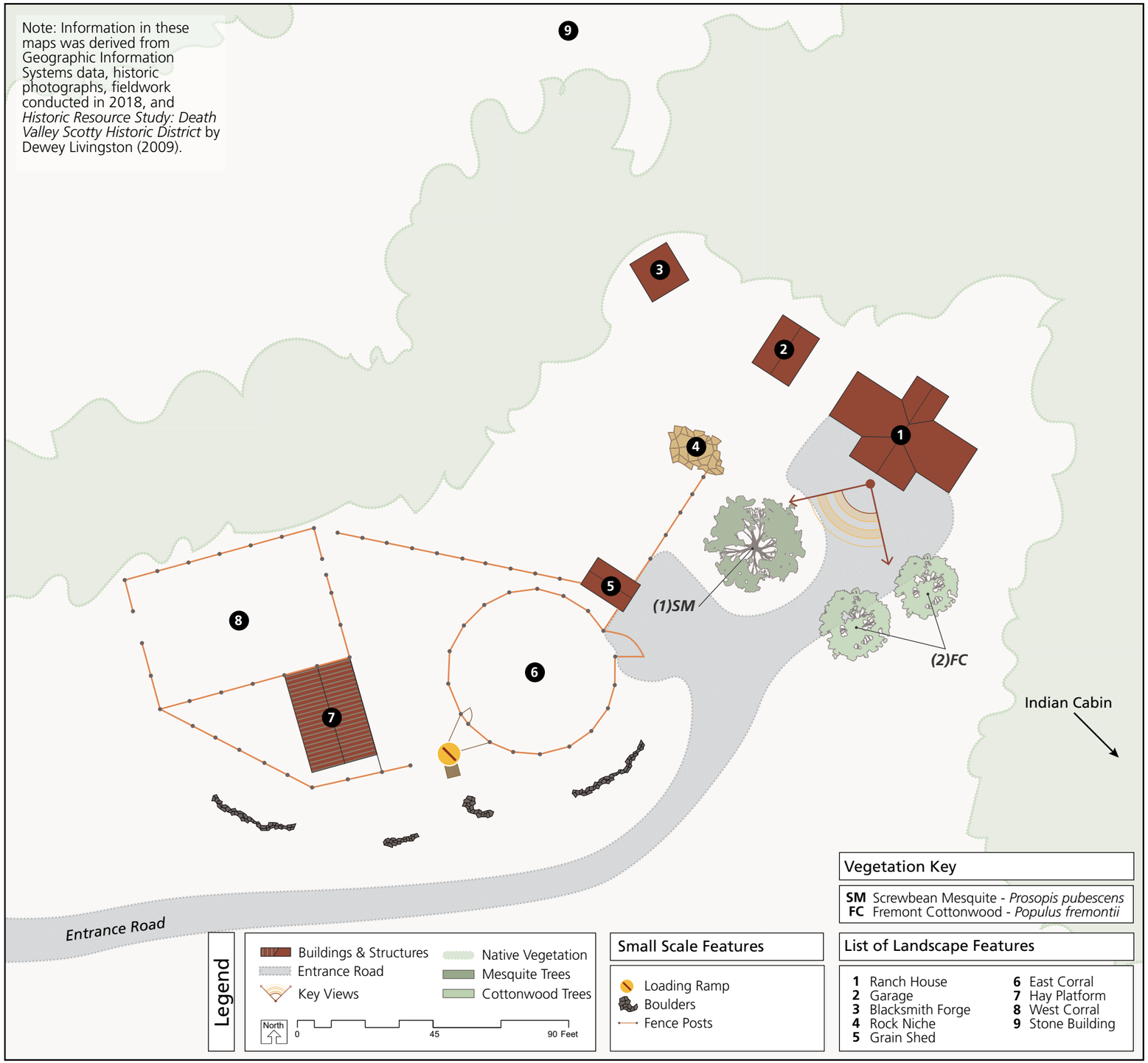
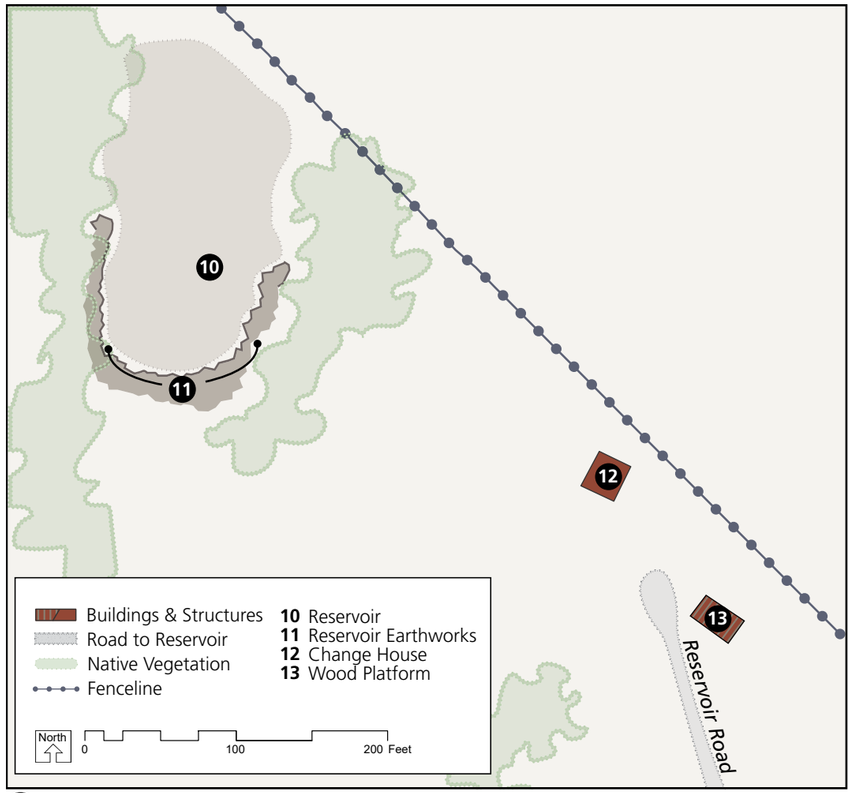
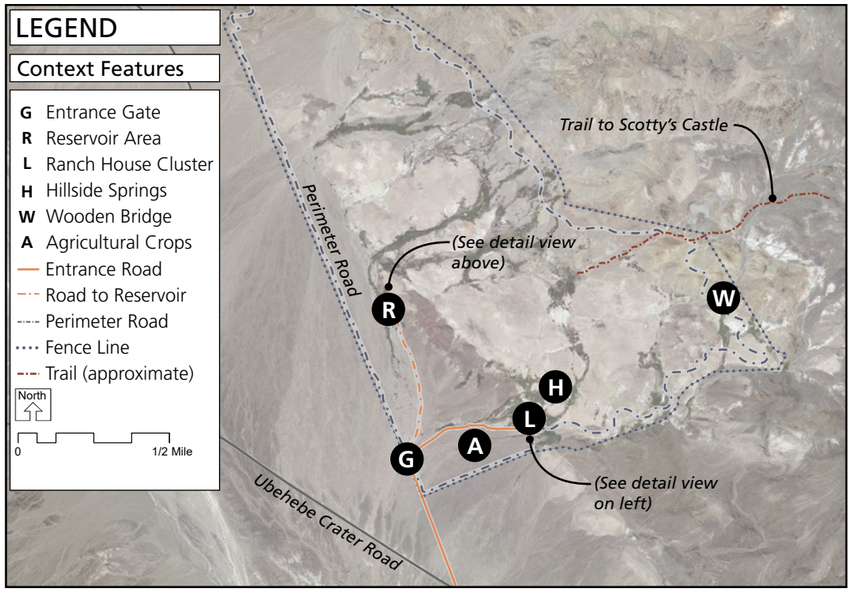
Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009).



L Lower Vine Ranch House Cluster



R Reservoir Cluster



Context Map: Lower Vine Ranch District

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C. Analysis and Evaluation of Existing Conditions

INTRODUCTION

As discussed above, the historic district is comprised of two discontiguous parcels: Scotty's Castle and Lower Vine Ranch. The distance between them is approximately 2.5 miles cross-country or approximately 5 miles by road. Each parcel is defined by a historic concrete post and barbed wire fence.

Scotty's Castle is the smaller, but more prominent, eastern parcel. The 283.8-acre Scotty's Castle site is located in Grapevine Canyon adjacent to a wash and is flanked by steep and rocky hills. The Lower Vine Ranch is located west of Scotty's Castle. This 1,173.8-acre tract is comprised of a nearly level alluvial plain extending west from the base of a plateau.

The two parcels are connected via Bonnie Clare Road and Ubehebe Crater Road, which intersect south of the district. The historic Bonnie Clare Road is a narrow, two-lane, curvilinear road that follows the upper canyon corridor through the tight curves of Grapevine Canyon and has been repaired extensively numerous times over the years due to flood damage.

SCOTTY'S CASTLE

Scotty's Castle is located on a terraced slope at the base of Windy Hill in Grapevine Canyon at an elevation of 3,000 feet. The slightly higher elevation from the Death Valley floor provides a relatively cooler microclimate and, historically, a suitable setting for development. Especially important to the original siting and development of Scotty's Castle is the proximity to a natural spring located roughly one mile east of the site. Located at a higher elevation than the building complex, this spring provided a valuable source of water via a gravity-fed water system. Another spring located southwest at Cottonwood Corner supports lush vegetation that was originally planted during the period of significance.

The building complex at Scotty's Castle is a tight cluster of Spanish style buildings including the main house and annex (or Scotty's Castle), several outbuildings, and gardens. The core development is organized along a series of terraces above the flood plain and stretches along the canyon bench east to west. The buildings and gardens are organized informally along this east-west axis, with the central point of the axis at the historic turnaround where the wishing well is located. A picnic area, where a pond existed during the historic period, and a constructed watercourse provide verdant areas in an otherwise arid desert environment.

LOWER VINE RANCH

Lower Vine Ranch is located at an elevation of 2,200 feet in Death Valley proper near Grapevine Springs. The Grapevine Mountains rise to the east of the ranch to nearly 4,600 feet. Situated at the mouth of an unnamed canyon at the southern end of Grapevine Springs, this site was historically situated to take advantage of the natural springs as well as the wide, level alluvial fan which provided ample space to construct buildings and grow crops. The overall character of the setting is open, with native shrubs and grasses punctuating the rocky slopes of Grapevine Springs, with thickets of trees growing in proximity to wet areas including perennial streams. A bluff runs along the property, to the north of the ranch core.

Two springs fed the site: one spring is located near the Lower Vine Ranch house, and one on the bluff north of the ranch core. Historically, a system of ditches carried water from these springs to the reservoir, where the water was stored and used to irrigate agricultural fields.

Because Lower Vine Ranch is sited on the west facing alluvial fan and at a lower elevation than Scotty's Castle, the temperatures are five to ten degrees warmer at this location.

The landscape at Lower Vine Ranch is predominantly covered with native vegetation that has spread significantly since the period of significance. The plant communities in this location vary from thick vegetation along the vernal pools and seasonal streams of the springs to creosote scrub more typical of the lower elevations of the Grapevine Mountains. Notable species include screwbean mesquite (*Prosopis pubescens*), honey mesquite (*Prosopis glandulosa*), Mormon tea (*Ephedra sp.*) and jimsonweed (*Datura wrightii*). Along the length of the drainages, however, dense vegetation survives due to the spring water. Because it is located near these drainages, the ranch core is surrounded by dense vegetation.

NATIONAL REGISTER OF HISTORIC PLACES

CURRENT STATUS

Death Valley Scotty Historic District was listed in the National Register of Historic Places on July 20, 1978 under Criteria B, C and D for regional significance in the areas of architecture and folklore/ social history, and for local significance in the areas of archaeology, art and invention for the prehistoric period and early 20th century. Since the initial nomination much more has been learned about the historic district's history and significance, and an amendment to the nomination was drafted in 2013. While not formally approved, the 2013 National Register amendment forms the basis of the analysis in this CLR. It establishes the property as significant in the areas of architecture, archeology, art, engineering, social history, and invention for the period of 1922-1954 for Criteria B, C and D.

STATEMENT OF SIGNIFICANCE[75]

Scotty's Castle and Lower Vine Ranch are located within the Death Valley Scotty Historic District, which is also known as Death Valley Ranch. The historic district was listed in the National Register of Historic Places in 1978. The district is significant at a local level under Criterion B for its association with one of the best known and most colorful figures associated with the mining frontier—Death Valley Scotty (Walter Scott). Under Criterion C, the historic district is significant at a state level for the unusual and extravagant use of Spanish-styled architecture built in a remote desert location. As noted in the original nomination, the historic district is also significant at a local level under Criterion D for its potential to yield additional information important to prehistory and history; however, the 2013 amendment does not pose additional research questions to support this criterion.

The amendment does expand the original period of significance, which begins in 1922 and ends in 1931 to a broader period to reflect construction and development of the ranch and Walter Scott's association with the historic district. The revised period of significance begins in 1922 when construction efforts at the site were initiated by Albert Johnson and extends to 1954 when Walter Scott died. As part of this effort, the boundaries of the 1,457.6-acre historic district have been refined to accurately depict historic property and associated fence lines that were established during the period of significance. Today, the Death Valley Scotty Historic District serves as a reminder of not only the excesses of mining promotion during the early 20th century, but also the frontier romanticism connected with it and the conspicuous consumption practiced by individuals such as Johnson during the 1920s.

The statement of significance incorporates information from several sources including the 1978 nomination for Death Valley Scotty Historic District, the Historic Resource Study for Death Valley Scotty Historic District by Dewey Livingston and information derived from two Cultural Landscape Inventories (Scotty's Castle and Lower Vine Ranch) prepared by NPS.

PHOTO OPPOSITE

2018, A series of archways in the Powerhouse and Pavilion walkway create dramatic views across Scotty's Castle (MIG)

75 Gjesfjeld, Cortney Cain. Death Valley Scotty Historic District Draft National Register of Historic Places Nomination Amendment, 2013.

CRITERION B

The Death Valley Scotty Historic District is significant at a local level under Criterion B for its association with Walter Scott (a.k.a. Death Valley Scotty). By 1902, Scotty had become a nationally renowned character who had acquired considerable skills for showmanship and attracting publicity while working as a wrangler and trick rider for the Buffalo Bill Wild West Show. After twelve years, Scotty left show business and transformed himself into a character of legendary status through his involvement in a number of publicity-seeking tactics. In 1905, he was involved in the "Scott Special," or "Coyote Special," which set a record in 1905 for the fastest train run between Los Angeles and Chicago. The following year, in 1906, he attained notoriety for staging the "Battle of Wingate Pass," a fake skirmish that was fabricated to frighten other grubstakers from pursuing the location of his alleged gold mines.

In addition to his shenanigans, throughout the early part of the twentieth century Scotty devoted a great deal of time to publicizing his mysterious, but non-existent gold mines. Ultimately, Scott's reputation helped him lure several investors to mining schemes in Death Valley. As early as 1904, Scotty beguiled Albert Johnson with stories of the western frontier and the gold mines of Death Valley. As the years progressed, Johnson and Scotty became close friends. Beginning in 1922, Johnson began construction of a lavish desert estate or ranch. By 1931, it was known popularly as "Scotty's Castle" due to the popular misconception that it was financed by Scotty. Despite the fact that the ranch was owned by Johnson, Scotty's Castle became a visitor destination for those who were enchanted with the beauty of the lush estate and the lore of Death Valley Scotty.

During this period, stories of Scotty's adventures and various other tall tales associated with Scotty made national headlines. Known as an entertainer as well as for his publicity stunts associated with mining and trains, Scotty played an important role in introducing the American public to Death Valley. Scotty piqued public interest in the beauty and romance of the desert in a way that had not been done before. Through Scotty's headline grabbing appeal in newspapers, magazines and books, Scotty became an icon of the desert. As a result of Scotty's publicity-seeking tactics and shenanigans he managed to create his own myth which would follow him for the rest of his days.

CRITERION C

The buildings and structures associated with the Death Valley Scotty Historic District are significant at a state level under Criterion C for their architectural significance. Situated in northeastern Death Valley in an arid and remote environment, this assemblage of Spanish-style buildings and structures was designed to embrace technological innovation and experimentation. It is unusual to find such a concentrated collection of buildings and structures in this style in an isolated location such as Death Valley.

Development began at the ranch in 1922 and continued until Johnson stopped construction in 1931. Many of the buildings and structures associated with the district were built to convey the distinctive characteristics of their type, period and method of construction. Designed and built in a "Provincial Spanish" style, architect Charles MacNeilledge incorporated a variety of materials such as stucco, wood, and metal into the design of each building. Today, the abundant use of stucco and red mission tile serves as a character defining element of the district. Not surprisingly, in order to achieve the desired aesthetic of the ranch, great attention was paid to every detail during construction. The stucco cladding was crafted to appear muddy brown and creamy beige in color with scratches on the surface giving a "weathered adobe" appearance to all of the buildings.[76] Redwood was often used as an exterior building material and can be found associated with doors, windows, gates and porches. Custom designed metal hardware and lighting fixtures were also incorporated into exterior design elements. Fine hand-crafted details and architectural furnishings characterize the interior of

76 Livingston, 159.

the main house and annex, while the tile work is considered by experts at the Tile Institute of America to be one of the better examples of their craft on the west coast.

Johnson pursued his interest in innovation and technology by embracing new products and experimenting with others during the design and construction phases of development. Two of Johnson's most notable experiments include the installation and use of a solar water heater[77] on the ranch as well as the use of a Pelton hydro-electric wheel. Additionally, Johnson experimented with several construction techniques and materials including reinforced concrete, wood frame, hollow building tile, "Insulex" foam insulation and variations of stucco. Unfortunately, the use of these materials and techniques have led to several problems such as spalling concrete, cracked stucco, broken tiles, and advanced deterioration of the renewable energy systems.

To complement the Spanish-style buildings and structures characteristic of the ranch, Johnson hired a landscape architect to implement a cohesive landscape design for the area associated with Scotty's Castle. As part of this effort, manipulation of the natural topography required extensive grading to prepare the site for construction. Natural systems and features were acknowledged in the siting and subsequent development of the property. Springs located on the ranch were harnessed to help facilitate daily operations at Scotty's Castle. They were also incorporated into the landscape design through the construction of an elaborate watercourse and a pond near the entrance gate. Vegetation was carefully planted around the grounds to provide a lush setting for Johnson and his guests to enjoy. Circulation systems, including roads, paths and trails were developed to provide access to buildings and structures at the site. Collectively, these features serve as character-defining qualities that contribute to the overall setting of the historic district. Furthermore, these features convey the truly remarkable effort that was undertaken by Johnson to establish his oasis in the desert, known as Scotty's Castle.

77 Research has suggested that the Day & Night Company solar hot water heater within the Death Valley Scotty Historic District is likely the only system of its type left in the United States. The Day and Night Company operated in California and Florida in the early 1910-1930s and then transferred its operations to Florida when gas became available as an energy source in California. No extant examples of this system are known in California and the remaining systems in Florida are all roof mounted (Personal phone conversation with John Perlin, solar consultant and author of Let it Shine: 6000 Years of Solar Architecture and Technology.)

CRITERION D

The 1978 Death Valley Scotty Historic District National Register of Historic Places nomination form identified the district as significant at a local level under Criterion D for its association with archaeology and its potential to yield additional information in the future. Since documentation of the Death Valley Scotty Historic District was completed in 1978 new archeological information has been revealed, however, a comprehensive survey of the district still needs to be completed to accurately identify and update archeological information associated with Death Valley Scotty Historic District.

EVALUATION OF INTEGRITY[78]

Today, the Death Valley Scotty Historic District displays the seven aspects of integrity, which includes location, design, materials, workmanship, setting, feeling, and association through the retention of contributing sites, buildings, structures and objects. For the National Register of Historic Places, contributing buildings and structures at Scotty's Castle include the main house and annex, guest house/ hacienda, chimes tower, powerhouse and pavilion, stable, garage/long shed/ bunkhouse, gas tank house, watercourse, solar water heater, gravel separator, reservoir, the road system, and the perimeter fence system. Contributing sites include Death Valley Scotty's grave site, powder storage site, Scotty's "original castle", and Tie Canyon. The swimming pool, grotto/servant's quarters and entrance gate and dungeon apartment were not completed before construction ended in 1931; however, they contribute to the historic

78 Gjesfjeld, Cortney Cain. Death Valley Scotty Historic District Draft National Register of Historic Places Nomination Amendment, 2013.

DEATH VALLEY RANCH

district as contributing buildings and structures. Contributing objects include five boulders containing petroglyphs and the wishing well. Non-contributing buildings and structures at Scotty's Castle include the cook house, Scotty's cabin (fire cache), non-historic reservoir, spring house, chlorinator house and the public restrooms. At the Lower Vine Ranch, contributing buildings and structures include the Scotty's ranch house, garage, grain shed, blacksmith shed, wooden bridge, corral system, hay platform, water trough, as well as the perimeter fence system and the road system. The corrugated metal building and the reservoir/Scotty's camp are contributing sites. In 1954, the ranch house was mothballed by the Gospel Foundation and as a result, the area has undergone very few changes since the end of the period of significance.

This Cultural Landscape Report analyzes and evaluates additional landscape characteristics and features that do not fall into the National Register of Historic Places categories of contributing resources (buildings, structures, sites, objects) to provide a finer grained analysis of what contributes to the landscape's historic character. Those character-defining features are organized by characteristic in this chapter and assessed for whether they contribute to the district's historic character (contributing) or do not (non-contributing). If there isn't enough information to make that determination then a feature may listed as undetermined.

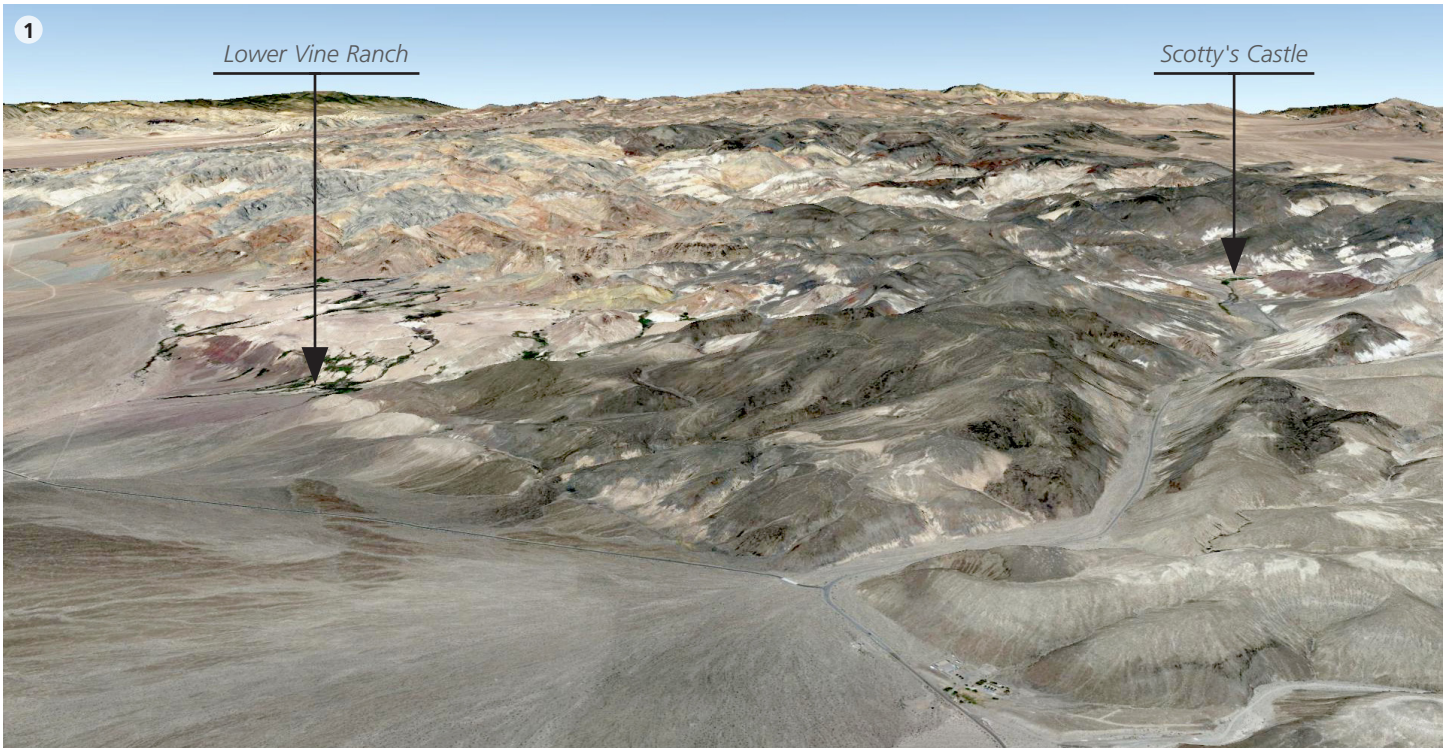
The Upper Vine Ranch portion of the district and many of its contributing features were severely impacted by the 2015 flood; however, the majority of buildings, structures, sites and objects resemble historic conditions and convey the original design intent of the development. Some changes are evident, generally associated with the management and oversight of the property by the Gospel Foundation and the National Park Service. These changes include the introduction of small-scale safety measures and visitor services, including changes to the circulation system by NPS. Later changes were implemented at both Scotty's Castle and Lower Vine Ranch; however, they were relatively small-scale in nature. (See Section 8 for a full description of these modifications.) Additionally, the historic district has the potential to yield additional information in the future. While Indian Camp has been excluded from this effort there are other sites within the historic district that may contribute to our understanding of the construction and development of the historic district. Despite the changes, the overall character-defining features associated with the historic district convey the significance of the Death Valley Scotty Historic District as it was established during the period of significance, 1922-1954.

Johnson's desire to build a castle in the desert serves as a tribute to his ingenuity and remains a physical legacy of the excesses of the "roaring twenties."[79] Flush with personal wealth, Johnson designed more than just a vacation home. He designed an estate in a very unlikely location—Death Valley. In doing so, Johnson demonstrated his economic class and wealth, creative expression, and desire to harness nature. Johnson also played an important role in the proliferation of the legacy of Walter Scott (Death Valley Scotty) as an icon of the west. Johnson's willingness to befriend and financially support Scott ultimately led to the long-standing myth that Johnson's estate in the desert was actually owned by Death Valley Scotty and was the result of him striking it rich. Today, Scotty's Castle is associated with the lore of Death Valley Scotty and physically represents the most productive period of his life as an icon of the western desert.

PHOTO OPPOSITE

2018 Scotty's Castle Main House Courtyard (MIG)

79 Death Valley Scotty Historic District National Register of Historic Places nomination form, 1978.



Analysis and Evaluation of Existing Landscape Characteristics and Features

SCOTTY'S CASTLE (UPPER VINE RANCH)

NATURAL SYSTEMS AND FEATURES

Historic period: Development at Scotty's Castle was historically influenced by several natural systems and features, but topography, hydrology, and soils had some of the largest direct impacts on organization, construction materials, and infrastructure. Topography and locations of the springs were the primary natural systems that influenced the location and spatial organization of development of buildings and roads. The steep slopes and narrow floor of Grapevine Canyon provided little level area for development within the canyon above the flood plain. As a result, Johnson had his crews construct a 7-acre terrace for siting new structures. To stabilize the steep slopes in front of buildings, and to provide space for plantings, additional terraces and rockeries were constructed throughout the development. Native rocks and soil were also important materials for the construction of buildings, structures, and roads. These materials were processed on the site. A gravel separator sifted excavated earth producing sand and gravel for use in the construction of concrete materials to create the entrance gate and bridge, swimming pool and tunnel system[80]. Earth excavated during the construction of building foundations and taken from the cut banks was used as needed for fill in the construction of roads.

Existing Condition: The topography, hydrology and soils are intact, although impacted by the 2015 flood. The steep hill on the north side were not seriously impacted by the flood, although soils on the valley floor were moved and eroded in large areas. There were topographic changes in and near the longhouse/bunkhouse and the picnic area. It is unclear if the underground springs and hydrologic system were impacted, although that appears to be so.

Assessment: The site scale natural systems and features remain character-defining features of Scotty's Castle, and contribute to its significance and integrity.

1. *2019, shaded terrain image showing the typical forms, vegetation, topography and drainage of the area associated with Death Valley Scotty Historic District (Google Earth 2019 DigitalGlobe)*

80 Livingston, 208.

CLIMATE (MACRO AND MICRO)

Historic period: Reliable historic climate data and information for Scotty's Castle is scant and generally not available. Data is generally collected for the park, and primarily at park headquarters. Death Valley is one of the most extreme environments in the world and it has historically been getting warmer. Average annual temperatures within park boundaries increased at a statistically significant rate of 1.3 ± 0.5°C (2.3 ± 0.9°F) per century between 1950 and 2010 while temperatures at park headquarters increased 2.1 ± 0.3°C (3.78 ± 0.5°F) per century between 1912 and 2015. The rates of historical temperature increase have been highest at higher elevations within the Saline Range and northwest section of the park. The lowest rates of historical temperature increase have occurred in the hottest part of the park— the valley floor. Total annual precipitation within park boundaries increased slightly between 1950 and 2010, but the trend is not statistically significant. However, precipitation at park headquarters has increased at a statistically significant rate of 59 ± 21% per century between 1912 and 2015. Most annual precipitation is delivered during localized, singular storm events, so records at park headquarters do not necessarily reflect similar changes at Grapevine Canyon. The highest rates of historical precipitation increases have occurred on the valley floor. Overall, there appears to be a warming trend that is noticeable throughout the year resulting in temperatures and even precipitation conditions that have already exceeded the historic range of variability within recent years.

Existing Condition: Based on historical data and projected exposure, and sensitivity analysis, Death Valley Scotty Historic District is vulnerable to projected increased temperatures, more intense and more frequent storm events and flash floods, and increased fire exposure, with uncertainty regarding precipitation projections. These vulnerabilities and hazards, primarily flood events outside the historic range of variation, will have direct impact on many of the cultural landscape contributing features, including: buildings and structures, circulation, constructed water features, vegetation, topography, archeological sites, and natural systems and features

Different emissions scenarios reveal uncertainty around precipitation. Projections for Inyo County show a range of a 0.0 mm per day to a 0.2 mm per day increase by 2100. Summers show a slightly increasing trend while the fall shows the most uncertainty. Projections under the highest emissions scenario also display an increase in 20-year storms to once every 5-10 years. An increase in storm events can result in a greater risk of flash floods, debris flows, and mass wasting (heavy erosion) which can lead to serious damage of features that are on or adjacent to the canyon walls or riparian corridor. A higher occurrence of flood events could also continue to undermine circulation and the spring's underground course, which is likely to fall deeper as flood waters incise the corridor further. The scouring capacity of flash floods can be exacerbated by higher rates of native vegetation mortality along steep slopes where soils are already vulnerable to erosion.

Despite varying precipitation projections, the increased likelihood of heavier storm events has been observed in recent years and is supported by historical exposure data. With most of Death Valley's precipitation delivered via punctuated events, the increased likelihood of flash floods coupled with added debris and decreased canyon stability, could result in faster, more extreme flood events. It's unclear how hotter summers and average temperatures could directly impact built features or influence wind erosion, which may be a hazard at Scotty's Castle.

Assessment: Contributing

DRAINAGE

Historic period: Drainages in Grapevine Canyon were a factor in the planning and construction of Scotty's Castle. Throughout the 1920s, Johnson actively worked to gain control of the springs. This was achieved, in part, through the construction of a perimeter fence that encompassed the springs and drainages

on the ranch. Eventually, Johnson would harness the springs through a system of pipes and reservoirs, which were used to facilitate construction activities and also for domestic and agricultural use. In addition to the natural springs, the topography and the natural morphology of Grapevine Canyon influenced Johnson's decision to build the ranch in this area.

As a function of topographic form as well as soils and groundwater, the drainage flowed in two directions, primarily from east to west, but also south from the hills north of the site. From east to west, the drainage was both surface and sub-surface, with water flowing into the creek, and eventually under the bridge that connected the historic gate to the road leading to the main house. The drainage patterns, as expected, were dependent on seasonal rainfall fluctuations.

Existing Condition: Today, drainage in the historic district continues to follow the general natural patterns of east to west, and north to south, although to a lesser degree. The soil structure, and sub-surface drainage was significantly impacted by the 2015 flood, especially on the eastern edge of the district. This has apparently resulted in changes to the site's hydrology. The palms and cottonwoods in the picnic area, for example, as oasis and riparian species, are dependent on groundwater for survival. It is unclear how the flood has altered the hydrology of the area and how that change may impact these species.

Assessment: Contributing

NATIVE VEGETATION (SURROUNDING COMPLEX)

Historic period: (limited archival information): Based on historical documentation from the late 1880s, it is apparent that portions of the Grapevine Canyon were relatively lush with vegetation growing in draws and seasonal streams fed by natural springs on the west side of the canyon. However, the vegetation surrounding the complex was more sparsely vegetated which is likely due to the sparse amount of annual rainfall.

Existing Condition: The native vegetation, similar to that at Lower Vine Ranch, varies from thicker vegetation near the stream where there is more regular access to water to creosote scrub more typical of the lower elevations of the Grapevine Mountains. This vegetation has experienced regeneration since the 2015 flood. The vegetation variation likely indicates that Scotty's Castle, like Lower Vine Ranch, straddles an ecotone consisting of two plant communities, phreatophytes and xerophytes. Like at Lower Vine Ranch, native vegetation has qualities associated with phreatophytes, which typically grow at the foot of alluvial fans where ground water is shallower or where springs are located, though their roots can grow to extensive lengths to underground water sources. These include screwbean mesquite (*Prosopis pubescens*), honey mesquite (*Prosopis glandulosa*), and jimsonweed (*Datura wrightii*). However, xerophytes which are more drought tolerant can also be found in this area meaning it is likely an ecotone between the two plant communities. These include desert holly (*Atriplex hymenelytra*), and creosote bush (*Larrea tridentata*).

Assessment: Contributing

WETLANDS

Historic Period: There is insufficient archival information about the wetlands.

Existing Condition: There is one wetland east of the Spring House and one east and slightly south of the long shed/bunkhouse and stables. Although both the wetland east of the Spring House and the one close to the long shed/bunkhouse/stables appear to have existed during the historic period, archival evidence to support this is lacking. Since the 2015 flood, the wetland east of the long shed and stables area has experienced a regrowth of vegetation. This wetland is fed by both surface and subsurface drainage, discussed above. While the existence of these wetlands can not be verified, wetlands are a characteristic of the overall landscape during the historic period.

Assessment: Undetermined

1. *2018, natural topography surrounding the core of Upper Vine Ranch (MIG)*

2. *2018, topographic elements formed by flooding that frequents Grapevine Canyon (MIG)*

3. *2018, native vegetation overlooking Upper Vine Ranch's Main House and Annex (MIG)*

4. *2018, wetlands and natural spring water near Upper Vine Ranch's Spring House (MIG)*

NATURAL TOPOGRAPHY

The topography and the natural morphology of Grapevine Canyon were important factors that influenced Johnson's decision to build the ranch in this area. Located at elevations between 2,300 and 3,900 feet, the steep walls of Grapevine Canyon offered the ranch protection, while the elevation offered some relief from extreme temperatures that were characteristic of the valley floor. Conceptually, Johnson responded to the topography by siting his residence and associated outbuildings on the north side of Grapevine Canyon. Rather than attempting to implement a grand landscape design scheme, Johnson may have been most influenced by the natural topography and sited many of the structures on the north side of the canyon as a pragmatic response to physical space, microclimate, and the opportunity to use open views southwest, towards the Panamint Mountains.

Existing Condition: Although topographic details of the Grapevine Canyon floor were altered by the 2015 flood, the basic topographic structure of the canyon remains intact.

Assessment: Contributing

CREEK

Historic Period: There is insufficient archival information about the creek.

Existing Condition: The course of the creek that flows from east to west through Grapevine Canyon and across the historic district was altered by the flood of 2015. In some segments it has almost ceased to flow, while in others it has diverged from its known historic alignment. Nevertheless, the creek played an important role in the decision to build Scotty's Castle in its location.

Assessment: Contributing

STAININGER SPRING

Historic Period: Natural springs were central to defining the boundaries of Johnson's property and significantly

influenced overall design of the site. Property boundaries extended far enough to the east and to the west to include all the springs within the canyon. The springs were critical to the design and development of utilities, several water features, and the establishment of ornamental vegetation within the Scotty's Castle site such as the watercourse, swimming pool, a pond (originally intended to be a lake) near the entrance gate, and a grove of trees at Cottonwood Corner. These water features and plantings were designed to create an oasis-like feeling at Scotty's Castle, a design character largely possible because of the springs.

A spring located east and uphill from the developed core historically provided water for all the activities at Scotty's Castle. Water was used for construction, to feed the watercourse and pond, and for domestic use. The spring area was historically enclosed by an interior fence. Access was via an unpaved access road from Bonnie Clare Road and a gravel road from the stable along the canyon bottom.

Existing Condition: Today, this spring still serves as the main source of water supporting contemporary activities at Scotty's Castle. The area around the springs has been redeveloped for operations to include a reservoir, a spring house, a chlorinator house, and a levee. The thick riparian vegetation was washed away in the 2015 flood but has now revived. The thick vegetation screens the area from view. This cluster is still accessed by historic roads.

Assessment: Contributing

SCOTTY'S COTTONWOOD SPRING (COTTONWOOD CORNER)

Historic Period: Natural springs were central to defining the boundaries of Johnson's property and significantly influenced overall design of the site. Property boundaries extended far enough to the east and to the west to take in all the springs within the canyon.

Cottonwood Corner, located southwest of the developed core along Bonnie Clare Road, is fed by a natural spring. Historically, Johnson established a dense planting of trees in this area to create a lush, oasis-like setting that would serve as a visual marker for visitors approaching Scotty's Castle. Willows, mesquite trees, and palms were all planted to provide visitors with a "pleasant approach" and to absorb all of the water of that spring to prevent overflow from the upper ranch.[81]

Cottonwood Corner remains as originally intended as a unique, lush grove of trees along Bonnie Clare Road. It continues to serve as a visual focal point along the approach to Scotty's Castle and remains an integral component of the arrival sequence to Scotty's Castle.

Assessment: Contributing

SPATIAL ORGANIZATION

Historic Period: Scotty's Castle is the result of careful planning and design. Many natural aspects of the site, such as topography and availability of water, influenced how buildings, roads, and vegetation were located, but aesthetics and land use played a role as well. The entire property was demarcated by a prominent perimeter fence constructed of tall concrete posts and barbed wire. Key areas contained within this boundary were a developed core, a spring located roughly one mile northeast from the complex, Cottonwood Corner, and a staging area in Tie Canyon for construction and storage activities.

Within the developed core, four areas of development defined the spatial organization of Scotty's Castle. These areas included the primary building complex; the open grounds that formed the primary garden space between the building complex and Bonnie Clare Road; Tie Canyon and Upper Tie Canyon, which served as utility spaces for staging materials and manufacturing concrete; and the entrance road, which defined the extent of these areas.

Existing Condition: The historic entrance road still follows its original alignment, but

81 DEVA archives: M7/B19/F5.

1. *1934, spatial organization of Upper Vine Ranch after construction halted in 1931 (NPS-NARA)*

no longer functions as the main entrance to Scotty's Castle because the road and bridge cannot withstand high volumes of traffic. Instead, visitors currently enter the site at a new entrance located east of the historic entrance gates, and park in a large non-historic parking lot. Today, the historic design and spatial organization of Scotty's Castle is still evident in the layout of buildings, structures, and roads, although some land uses were altered by the 2015 flood. The property is still enclosed and defined in most areas by the concrete post and wire perimeter fence. Portions along Bonnie Clare Road that were impacted by the 2015 flood are currently damaged, but there are plans to restore this area of the fenceline. Historic buildings and structures constructed during the period of significance also remain in their original locations along historic roads through the complex. The spring located northeast of the complex continues to provide water for the watercourse and serves various contemporary uses.

The greatest change to historic spatial organization at Scotty's Castle is the change in the entry and arrival sequence to the main house, although this is a necessary modification for visitor safety and protection of the historic entrance road. Despite this change, and despite the 2015 flood, the overall organization of the most prominent spaces at the site remain largely intact and contribute to the historic character of the district.

Assessment: Contributing

BUILDING COMPLEX

Historic Period: Most buildings within the complex were sited on a series of terraces above the flood plain at the base of Windy Hill. The Spanish style buildings were tightly clustered with towers and multi-faceted roofs that appeared much like a small Spanish village. A constructed watercourse and designed gardens provided contrast to the surrounded desert hills.

1. *2018, spatial organization of Upper Vine Ranch after the 2015 flood (Division of Resources, Death Valley National Park, National Park Service)*

The buildings and watercourse were arranged on the terraces along a formal entrance road that continued east toward the stables. At the westernmost end of the building cluster, the chimes tower was placed on the top of a knoll on axis with portions of Bonnie Clare Road to be visible to people as they approached.

A grand arrival was designed for the entrance to the property. The road off Bonnie Clare Road passed through a massive entrance gate, across a bridge and along the elevated roadway to the front entrance of the main house. The drive terminated at a turnaround on the east side of the main house and annex. The turnaround was defined by the circular arrangement of buildings and a towering cluster of three mature palm trees bordering a wishing well at the center of the turnaround.

Existing Condition: Today, the historic spatial organization of the developed core at Scotty's Castle remains relatively unchanged. The buildings are located on terraces stepping up the northern slope of the canyon above the flood plain and are organized along the main axis of the entrance road and the road to the stable. The main house, pool, garage, and gas tank house are sited around the area once used as a turnaround. Higher in elevation relative to the main house are the chimes tower and the rebuilt (non-historic) cook house, which are set into steep hillsides. The access road to the stable still extends east from the turnaround area to the stable at the far-eastern end of the developed core. Along this road, the watercourse flows though it was impacted for a time by the 2015 flood. Vegetation has grown thicker since the period of significance but was also impacted by the flood.

2. *2018, first glimpse of the chimes tower at Upper Vine Ranch from Bonnie Clare Road (MIG)*

3. *2018, view looking across the wishing well turn-around towards the stables*

4. *2018, picnic area and entry road from Main House (MIG)*

The overall spatial organization is contributing, and although the rebuilt cook house building is non-contributing it is in its original location so helps maintain the integrity of the spatial organization.

Assessment: Contributing

PICNIC AREA (HISTORIC POND AREA)

Historic Period: To complement the building complex, a system of water features, streams and verdant gardens was built at Scotty's Castle.

In 1929, Johnson took advantage of the natural low-point of the land between Bonnie Clare Road and the building complex, conveying water from the springs to support vegetation and his vision for the landscape. Fill material was used to build up the entrance road and gates in the open grounds south of the main house and swimming pool, creating an earthen dam that was intended to hold back an artificial pond bordered by a strolling garden complete with lawn, trees, and paths.

Water from the springs further up the canyon was channeled through the area to support lush vegetation and fill the lake. However, construction was halted before the vision for the landscape could be completed and the lake was left unfinished. What remained instead was a small vegetated pond. The combination of dense vegetation and the low elevation around the area created a distinct physical and visual barrier between the main house and Bonnie Clare Road.

This source of water allowed Johnson to plant many trees in what is now known as the picnic area, including cottonwoods and willows, which could not have survived in any other location within Death Valley. Though some reports state that palms were planted in the area during the historic period, a review of photos does not indicate that was the case. However, many of the photos are undated so the evidence is not definitive. The Gospel Foundation built upon the character of this area to create the more formal picnic area for visitors by

maintaining a lawn, and may have been responsible for planting palms in the area.

The 2015 flood damaged this area of the landscape and removed much of what the Gospel Foundation installed including the more formal lawn area.

Existing Condition: The picnic area was drastically impacted by the 2015 flood, sending large quantities of water and sediment through the picnic area. In some cases, trees were abraded by the sediment and debris and root systems were undercut. In many ways the flood returned the area to the character present at the end of the period of significance that had a mixture of trees and shrubs that could grow in an area that collected water from the spring.

Assessment: Contributing

TIE CANYON AND UPPER TIE CANYON

Historic Period: Tie Canyon, which historically served as a staging area for construction materials used at Scotty's Castle is northwest of the developed core at Scotty's Castle. Access to the canyon from Scotty's Castle was by way of an unpaved road, visually separated from the developed core by Windy Hill. The canyon itself extends from Grapevine Canyon a considerable distance to the north making it spatially separate from the main development in Grapevine Canyon. Within Tie Canyon, a variety of building materials and construction equipment was maintained and stored until needed. Because of the working and transitory nature of the area, Tie Canyon was never formally landscaped or organized into a cohesive design like the main portion of the complex.

The site known as Upper Tie Canyon is directly east of the stable above an active wash in Grapevine Canyon. Upper Tie Canyon also served as a storage area for construction materials and resources. The most notable feature associated with this area includes large stacks of railroad ties, transported to the site in 1929 for use as firewood. Other features associated with Upper Tie Canyon include fire hydrants installed by Albert M. Johnson and numerous artifacts from Johnson's occupation of the area. Severe fire activity at the west end of Upper Tie Canyon resulted in the complete loss of approximately 1,000 railroad ties.

1. *2018, panorama of the core of Upper Vine Ranch from Windy Hill including the Stables, Watercourse, Hacienda, Garage, Cook House, Main House and Annex, chimes tower, Picnic Area, Visitor Parking Area, and Visitor Entrance (MIG)*

2. *February 6th, 1931 vegetation and pooling water in the area which was envisioned as a lake with strolling gardens, now known as the picnic area. The lake was never finished, though a small pond remained (DEVA 40343)*

3. *2018, Tie Canyon with remnant construction materials (MIG)*

4. *2014, Watchman's Cabin in Tie Canyon (2014 Draft Cultural Landscape Report, Pacific West Region, Cultural Landscapes Program, National Park Service)*

5. *2014, Upper Tie Canyon (2014 Draft Cultural Landscape Report, Pacific West Region, Cultural Landscapes Program, National Park Service)*

Existing Condition: Today, Tie Canyon still reflects its historic use with remnant stockpiles of railroad ties, the remains of a watchman's cabin, and various scattered construction materials along the canyon floor. Visitors can see Tie Canyon by way of an unpaved interpretive trail that loops around the edges of the canyon.

All that remains in Upper Tie Canyon are railroad spikes, other metal and wood items, and ash. Three of Johnson's fire suppression hydrants (standing pipes and bibs) do not appear to have been impacted by the fire. Tie Canyon was not significantly impacted by the 2015 flood.

Given their use and integrity, Tie Canyon and Upper Tie Canyon are contributing. They remain the sites for storage of historic construction materials and equipment, even though some ties washed away in 2015.

Assessment: Contributing

ENTRANCE ROAD

See "Circulation"

BUILDINGS AND STRUCTURES

Historic Period: Conceptually, Johnson responded to natural systems in much the same way as a previous 19th century occupant, Jacob Steininger, by siting his residence and associated outbuildings on the north side of Grapevine Canyon. Except for the entry gate located on the south side of Grapevine Canyon, all the primary buildings were built in a tight cluster on the toe of Windy Hill. The orientation of the primary buildings formed an axis that extended from the east to the west.

Development associated with Scotty's Castle included numerous Spanish-influenced buildings and structures as well as utilitarian buildings. Construction of the building complex was possible in part through modifications to existing contours through extensive grading and the development of flat terraces to support construction activities.

Existing Condition: The buildings at Scotty's Castle are predominately Spanish style and include features such as open-air patios and porches, red roof tiles, and stucco exterior walls. The main house and annex and the chimes tower are distinctive in design, mass, and scale relative to the other buildings in the complex. Other important buildings and structures at the Scotty's Castle complex include the powerhouse, solar water heater, cook house, gas tank house, guest house, stable, garage/long shed/bunkhouse, swimming pool, constructed watercourse, and the entrance gates and dungeon apartment. Other structures remaining on the site include Scotty's "original castle," the gravel separator, terraces and stone retaining walls, and wishing well.

A few buildings and structures have been added to the site or rehabilitated to accommodate contemporary use such as: public restrooms, a fire cache, and several structures at the springs needed for water supply including a spring house, reservoir house, and chlorinator building. The public restroom is a 1950s building that was modified in 1977 by NPS. The fire cache was converted from a 1920s building.

The Scotty's Castle complex includes several significant Spanish style buildings and structures as well as several utilitarian buildings that collectively create the feeling of a Spanish village. All the buildings at Scotty's Castle are typical of Spanish revival style architecture, prevalent in California during the 1920s and 1930s. This style combines Mexican, Spanish, and Mediterranean influences to include spatial characteristics such as rambling floor plans, open air patios and porches, and outdoor living spaces. The buildings at Scotty's Castle are tightly clustered and distinguished by red roof tiles and adobe walls. Adorned with cupolas, towers, and merlons, the multi-storied structures of the main house and annex and the chimes tower stand out among the other buildings. Support buildings, like the stable or guest house, are simple by comparison—but adorned with exposed redwood beams and stained deep brown. Redwood is used

1. *2018, view from the Hacienda overlooking the terraced planting area towards the watercourse, garage, and main house (MIG)*

2. *undated, c.1931 towering saguaro cacti at the end of the future watercourse and three mature palms create a striking view framing the castle (MSS 33 Box 01 028)*

3. *2018, today twin Joshua trees frame the castle gate (MIG)*

4. *2018, view from the Main House and annex courtyard bridge looking east towards the stables (MIG)*

on the main buildings as well as on smaller structures and detail components such as the gates at the stable, which feature massive redwood timbers held together with ornamental wrought-iron hardware.

Today, the developed core at Scotty's Castle continues to appear much like a small Spanish village. All of the buildings at Scotty's Castle constructed during the period of significance remain today. Since the end of the period of significance however, some buildings have been modified to accommodate contemporary use by the Gospel Foundation and the National Park Service. Many of these modifications have been to the building interiors and do not adversely affect the setting and character of the district. Generally, and with few exceptions, changes that have been made to the exterior of historic buildings over the years have been compatible with the character of the historic district.

MAIN HOUSE & ANNEX (SCOTTY'S CASTLE)

Historic Period: The main house and annex (also collectively referred to as Scotty's Castle) were built in two phases between the years 1922 and 1931. The main house was originally constructed in 1922 and with a relatively straightforward design and rectangular floor plan. Between 1926 and 1931, it was lavishly remodeled and added onto, to include the annex. The annex, designed by Charles MacNeilledge, was constructed between 1927 and 1931.

Existing Condition: The buildings (main house and annex) are built of concrete and wooden frame and are finished with cement stucco and red tiled roofs. The annex is like the castle in its massing, style, and building materials. In plan view, the building footprint mirrors the castle and is sited parallel to it, which creates symmetry and balance between the buildings. The main section of the annex is two stories and includes a red tile gable roof. A three-story turret, with merlons and observation deck, rises over the courtyard and turnaround. The exterior walls are brushed stucco to match the character of

other structures around Scotty's Castle. The annex is physically connected to Scotty's Castle by a bridge on the second-story and a courtyard on the ground floor. Twin gated archways at the east and west create mirrored entries to each end of the open courtyard, uniting the two buildings and enclosing the courtyard space.

Together with their towers, courtyard, and second level connecting bridge, the buildings include over 30 rooms on two main levels, a total of over 8,000 square feet, plus several subterranean utility tunnels. The main house faces south with the main axis-oriented east to west.

Perhaps one of the more visual changes to the external character of the house and annex is the removal of the historic grape arbor in the courtyard and the deteriorated screened lanai. Overall however, the castle and the annex appear much as they did during the period of significance. They retain a high degree of physical integrity and contribute to understanding the significance of the historic district.

Assessment: Contributing

SCOTTY'S "ORIGINAL CASTLE"

Historic Period: Historic evidence suggests that Scotty's "original castle" was built sometime between 1890 and 1907; however, detailed documentation of the building is largely missing. The building likely served as the home of Jacob Steininger, and then Death Valley Scotty and many others during Johnson's ownership of the property. During the early years of Johnson's ownership it was used as a bunkhouse and also referred to as the "dog house." It was originally located on the north side of the road that links the main house with the stables just east of the hacienda, but moved it to its present location behind the hacienda in 1930. During this time a cave was also excavated nearby reportedly to provide a place for cold storage. The building was not used after this point. Given some overlapping details of its historic development with the fire cache the two buildings are often confused.

Existing Condition: Scotty's "original castle" is a small, one-story, gable-roof, wood building sited east of Scotty's castle and north of the guest house. Today, the building is in poor condition, missing doors and windows, leaning from the loss of structural components, and is considered a ruin.

As the earliest building on the property, it is important to the history of the district and contributes to its significance.

Assessment: Contributing

HISTORIC ENTRANCE GATE

Historic Period: Construction began on the entrance gate (and dungeon apartment) in 1930; however, the gate and apartment were not completed during the period of significance. As access and circulation needs changed over time, the original entrance to Scotty's Castle was abandoned in the 1970s and a new entrance to the complex was established approximately an eighth of a mile east of the historic entry gates.

The entrance gate is located southwest of the main house and annex and are situated on the south side of a bridge crossing the creek, just north of the Bonnie Clare Road. The building includes two sections: the ornate wooded gates which are flanked by crenellated towers and the "dungeon apartment" located below street level, under the gates. Of poured concrete construction, the towers and connecting arch have flat roofs and remain in an unfinished state.[82]

Existing Condition: Although the entrance gate, (and associated entry road, and turnaround) are now closed to private motor vehicles, these features continue to convey the intent of the original arrival sequence.

Although it has experienced some physical degradation and wear, the historic entrance gate retains a high degree of physical integrity and contributes to the significance of the historic district.

Assessment: Contributing

1. *2018, Main House from the swimming pool, facing north-west with the chimes tower in the background (MIG)*
2. *2018, the upper level of the exterior main house and annex walkways contain intricate historic details and expansive views of the ranch (MIG)*
3. *May 20, 1931 the historic eucalyptus grapevine arbor casting shade on the tiled main house courtyard (DEVA 41366)*
4. *2018, Main House courtyard looking towards chimes tower with nearly bare planting beds (MIG)*
5. *November 10th, 1930 Scotty's Original Castle in the process of being moved to its current location behind the Hacienda (DEVA 41308)*

82 Historic Structures Report, 2009, 69.

1. *2018, historic entrance gate with the gatehouse below (DEVA 41346)*
2. *2018, detail of the historic entrance gate (MIG)*
3. *2018, view of the historic entrance gate, bridge and door (on the right) which enters the gatehouse below (MIG)*

GATEHOUSE (WITH DUNGEON APARTMENT) AND BRIDGE

Historic Period: The gatehouse and dungeon apartment were designed by MacNeilledge and construction began in 1928; however, the structure was never completed. Later, in 1976, NPS undertook some work to make the space habitable; however, it has not been occupied for many years.

Existing Condition: The gatehouse is located at the southwest corner of the complex, where the historic entrance road intersects Bonnie Clare Road. The structure is characterized by two crenellated towers that rise two stories high. The towers are connected by an arch and a pair of massive redwood gates with hand-wrought iron fittings resembling the gates at the stable in scale and mass. Abutting the towers are three-foot high curving walls at both edges of the driveway. The apartment is located below grade between the two towers. NPS finished the apartment interior, although it is currently vacant.

Although no longer in use, the entrance gatehouse appears as it did during the period of significance and retains a high degree of physical integrity.

Assessment: Contributing

RETAINING WALLS

Historic Period: Several styles of retaining walls were created during the period of significance, including stucco finished concrete topped with red tile to hold the landscaped terrace along the hacienda, a detailed concrete extending from the powerhouse, tall board formed concrete walls holding the landscape along the north side of the annex and stacked natural stone terraced walls in front of the cook house. These retaining walls were designed by Kruckeberg and built during the period of significance. At the cook house, three concentric rings of walls remain the most prominent examples of Kruckeberg's stonework at the site.

Existing Condition: The varying types of walls remain in their historic locations, retain their original finishes, and are contributing structures.

Assessment: Contributing

4. *2018, Hacienda retaining walls with stucco and red tile detailing (MIG)*

5. *2018, natural stone terraced retaining walls along the south side of the Cook House (MIG)*

6. *2018, board formed concrete retaining wall along the north side of the annex (MIG)*

7. *2018, railroad ties hold back the hillside above the cook house (MIG)*

8. *undated, retaining wall extending from the powerhouse and pavilion down the original entrance road, still under construction (DEVA 41336)*

9. *2018, scored concrete retaining wall extending from the powerhouse (MIG)*

GRAVEL SEPARATOR

Historic Period: Completed in 1930, the mechanized gravel separator was a welcome upgrade from the simpler, labor intensive separator used in prior years. Used to separate sand and gravel extracted on the site to produce concrete, it was purchased to keep up with high demand for the more concrete-heavy planned projects. For a short time, it was utilized to create the bridge and entrance gate, swimming pool and tunnel system, until the abrupt end of construction in 1931.[83]

Existing Condition: The gravel separator at Scotty's Castle is located at the intersection of Grapevine Canyon and Tie Canyon, west of the historic entrance gates. Sited in a level area of a wash, the siting and operation of this structure required the construction of an eighteen-foot-high retaining wall. The gravel separator is constructed of eight-inch by eight-inch railroad ties and timbers of assorted sizes that are held together with steel reinforcing bars in an interlocking u-shape crib system. Mechanized components run by a gasoline engine sped up the production process.

83 Livingston, 208..

1. *2018, gravel separator (MIG)*

2. *2018, looking across the swimming pool to the east (MIG)*

3. *2018, swimming pool walkway and planters (MIG)*

4. *undated photo circa 1930's of a figure who appears to be Scotty overlooking the unfinished pool construction (DEVA MSS 35 2460)*

Today, the gravel separator is a ruin. Intended as a temporary structure, it remains as a remnant structure associated with construction during the period of significance.

Assessment: Contributing

SWIMMING POOL

Historic Period: The swimming pool was designed as a focal point for the development, prominently located at the southern, formal entrance to the main house. Ultimately, construction ended at Scotty's Castle before the swimming pool could be completed, leaving exposed, poured concrete walls and a lasting reminder of Johnson's unfinished vision for Death Valley Ranch. Based on historic photographs soil was present in the bottom of the pool at the end of the historic period. The grade of the soil in the east end of the pool was generally level, and the grade of the soil in the west end sloped from a higher point on the east side to a lower point on the west side.

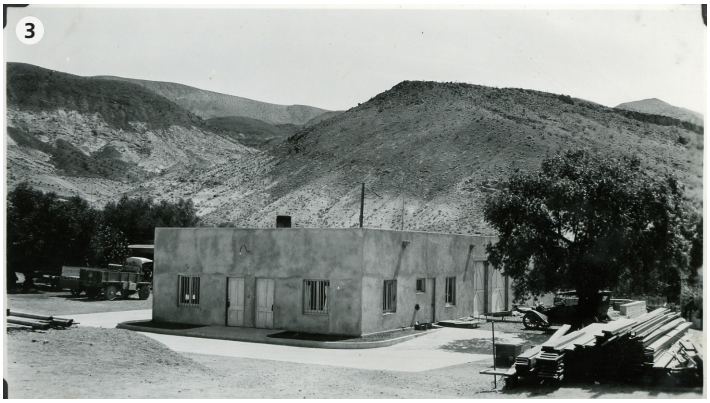
Existing Condition: Irregular in shape, the pool is approximately 240 feet long, 50 feet wide, and 15 feet deep at its deepest point. Subterranean viewing windows are at the deep end, where people could get an underwater view of the pool from an underground tunnel. The pool is divided by a concrete bridge with steps, planters, and a fountain. The soil levels have changed somewhat, but the east end remains generally level and the west end has a slope going down from east to west. The swimming pool remains as a remnant structure in an unfinished condition.

Assessment: Contributing

CHIMES TOWER

Historic Period: Built between 1928 and 1930, the chimes tower was designed by architect Martin de Dubovay working under MacNeilledge[84]. Sited at a higher elevation than any other building in the area, the distinctive red mission tile roof is visible from almost a mile away and

84 Livingston, 152.



1. *2018, pathway and stairs leading up to the chimes tower (MIG)*

2. *2018, chimes tower north and west façades with a portion of the Main House and Annex roof in the background (MIG)*

3. *1927, Garage north and west façades prior to the addition of Spanish-style detailing (DEVA 40469)*

4. *2018, Garage north and west façades (MIG)*

5. *2018, Garage/Long Shed/Bunkhouse west and south façades (MIG)*

6. *2018, Long Shed south and east façades (MIG)*

7. 2018, Long Shed breezeway and interior courtyard, this area suffered extensive damage in the 2015 flood (MIG)

8. 2018, Long Shed breezeway viewed from the main parking lot, flood damage and sediment deposit (MIG)

serves as a prominent landmark that is rivaled only by Scotty's Castle (main house and annex). The sound of the chimes were also a defining characteristic of the landscape during the historic period.

Existing Condition: The chimes tower is a four-story reinforced concrete and wood-framed structure, with an octagonal steeple ornamented with four corner cupolas which are connected by flying buttresses. Situated on a raised earthen terrace or platform, the tower is surrounded by a concrete retaining wall. A former apartment space is located on the first floor, which is no longer habitable as the plumbing has been disconnected. The wood-framed upper stories, which house the chime system on the second and third floors, are in filled with insulation ("insulex"), while the structure is covered in a textured stucco finish. The rooftop observation platform is accessed through the interior of the structure.[85] A large clock face adorns each of the four elevations and the chime system is located behind louvered openings on the four sides of the tower.

In the 1970s, NPS renovated the mechanism that operates the chimes, but access to the building remains limited for safety reasons. The chimes tower appears much as it did during the period of significance and retains its physical integrity.

85 Historic Structure Report, 33.

Assessment: Contributing

GARAGE/LONG SHED/BUNKHOUSE

Historic Period: The garage/long shed/bunkhouse is a single L-shape building with three distinct sections. In 1922, Albert Johnson designed and constructed the garage, which was located on the west portion of the L-shaped structure. It was the first building constructed at the ranch. Between 1922 and 1930, this one-story unit was substantially remodeled to its present configuration. In addition to extending the garage during this time with the additions of the bunkhouse (1925-26) and long shed (1926), the garage façade was re-appointed to match the Spanish style exterior appearance of other structures in the complex[86]. The eastern end of the building, originally designed to be a poultry house, was temporarily used as a bunkhouse for the workmen. During the period of significance, the structure housed drafting rooms for Mat Roy Thompson, and served as a bunkhouse, chicken coop, and garage.

An additional shed structure was built during the 1930-1931 construction season on the north side of the long wing of this structure in the courtyard area[87]. The wooden shed included a much needed row of showers, toilets and a room for the men who worked and lived on site, and who had until this time been using

86 Livingston, 165-167.
87 Livingston, 150.

1. *undated early view of the Hacienda and the adjacent Scotty's Original Castle with the stables in the background (DEVA 23041)*

2. *2018, view of the Hacienda, surrounding vegetation and hillside (MIG)*

3. *2018, the ornamental gate set in the Hacienda retaining wall (MIG)*

4. *2018, view of the back (north) side of the Hacienda where sandbags were placed after the 2015 flood to prevent any further water damage to the building (MIG)*

the lavatory under the music room in the annex[88]. The structure was eventually torn down by the Gospel Foundation around 1954 as they began renovating to accommodate overnight visitors.

The Gospel Foundation renovated the long shed at an unknown date. Several open bays of the shed were enclosed and remodeled into guest sleeping quarters. Rooms included a wash basin, although, visitors had to use the new restroom facility located in the adjacent courtyard for showers. The building served as a motel until the 1960s when overnight accommodations were discontinued at the main house and annex. Subsequently, the building was converted into Gospel Foundation employee housing.

In 1974, NPS designed and built a ticket booth just west of the garage. The booth was built over a historic concrete island. NPS design was modeled after a photograph of the service station in the parking lot.[89]

Existing Condition: The garage is the westernmost section of the building, oriented to the west and facing the plaza. It is a wood frame, stucco-clad building. The garage section of the building has a complex roof form, consisting of a flat area on the south half of the building, and a tile-clad hip roof with a large circular chimney over the north half. The bunkhouse portion of the building is oriented to the south and opens onto a parking area. This section of the building is stucco-clad, concrete construction with a flat roof. Both buildings are joined together in an L-shape plan by a long shed. The long shed is a stucco-clad, wood-frame construction with a flat roof.

Although the garage/long shed/bunkhouse has undergone some modifications since

88 Livingston, 317.

89 Historic Structures Report, 1991:108-109.

2

3

4

the period of significance, including the doors, interiors and wall finishes, most of the building maintains its configuration and historic materials and is a contributing feature of the historic district. The garage and long shed were severely damaged by the brunt of the 2015 flood. While the format and structure are intact, many of the walls, doors, windows and interior spaces were damaged.

Assessment: Contributing

HACIENDA/GUEST HOUSE

Historic Period: Historically used as an additional inn for Johnson's guests, the guest house was designed by MacNeilledge and constructed between 1927 and 1931. Originally, the upper story had two separate but identical apartments with a shared kitchen centrally located on the north side. During the Gospel Foundation period of ownership, the interior of the first floor was altered to increase the number of rooms. More recently, the interior was altered again by NPS to increase the number of rooms and the basement interior was remodeled to accommodate offices and common areas for park staff.

Existing Condition: The guest house is located on a terrace, east of the plaza and north of the watercourse. Access to the building is by a stone walkway and tile stairs. The building faces south with the porches overlooking the watercourse and Grapevine Canyon. The guest house is one story rectangular building with a red tile gable roof. The building contains a day-light basement. Shed roofs extend off the north, east, and west elevations, while a shed-roofed veranda stretches across the south elevation.

Although the interior of the guest house has been significantly altered, the exterior retains physical integrity, remains relatively intact and appears much as it did during the period of significance.

Assessment: Contributing

1. *2018, west façade of the Stables and the Entrance Road leading from the Main House to the Stables (MIG)*

2. *2018, north façade and roof of the Stables showing how it's built into the hillside (MIG)*

3. *1930, construction of the Solar Water Heater (DEVA 40839)*

4. *2018, Solar Water Heater after a recent restoration (MIG)*

STABLES

Historic Period: Originally constructed as a simple barn, this building was enlarged between 1927 and circa 1931 to accommodate horses and mules. The stable was also used to house feed, tack, cement, and lumber. In spring 2013, a fire caused some damage to the eastern end of the building, including a wood shutter, portion of a stucco wall, and roof tiles.

Existing Condition: The stable is the easternmost building in the complex. Oriented west, the irregular U-shaped building opens into a courtyard. The building has two rectangular sections with gable roofs north and south of the courtyard. These are bridged by a flat-roofed section at the east end of the courtyard. The south wing of the building is frame and stucco, while the north wing is of concrete and stucco, both of which are clad with tile roofing. Entrance gates located on the east and west elevations of the building measure eighteen feet wide and are constructed of redwood and hand-wrought iron fittings.

Today, the building acts as a maintenance shop and informal museum display. Despite changes in use and minor fire damage, the building remains intact.

Assessment: Contributing

SOLAR WATER HEATER

Historic Period: In 1929, Johnson purchased a solar water heater to power and sustain utilities at the castle. Innovative for its time, the solar-powered water heater was constructed behind the annex to take advantage of the intense summer sunlight. The solar water heater worked only a brief time before it was abandoned. In 1930, the freezing weather left the unit inoperable.[90] The heater was rehabilitated by NPS in 2014, but was not returned to an operational

90 Historic Structures Report, 1991: 144.

state. Following its rehabilitation it is in good condition, retaining its integrity as an interpretive feature of historic ranch life.

Existing Condition: Today, the solar water heater remains as a diminutive, yet very distinctive feature in the landscape. It has eight canvas covered panel solar collectors with two distinctive black-painted storage tanks placed vertically on a concrete slab. Several miscellaneous plumbing elements remain visible such as the angled copper tubing.

Assessment: Contributing

COOK HOUSE

Historic Period: The original cook house was a concrete, wood frame, and stucco structure designed by MacNeilledge. It was used for preparing meals for the Johnsons, their guests, and all the employees working on the property. The building included two screened verandahs providing space for both employees and guests to take their meals. Guests were served dinner and breakfast at a long wooden table with seating for 30-40. During the middle of the day, the facility acted as a snack bar.[91] The building also included a sleeping room for the cook. Subsequent additions in 1927, 1929, and 1938 greatly enlarged the original building and made it more stylistically elaborate. The stucco walls were retained, but porches, a tile roof, fireplace, decorative hardware, and other features were added. In 1991, the original cook house at Scotty's Castle was extensively damaged by a structural fire. The fire gutted the building, burning the wall studs and blocking from the roof down into the cavities of the wall, leaving only the interior and exterior stucco finishes. The building was in ruins until 2010, when the cook house was reconstructed.

Existing Condition: The dining room is original and rehabilitated but not reconstructed as was the rest of the building. The new building is sited in the same location with the same footprint, massing, roof lines, and exterior appearance as the original structure.

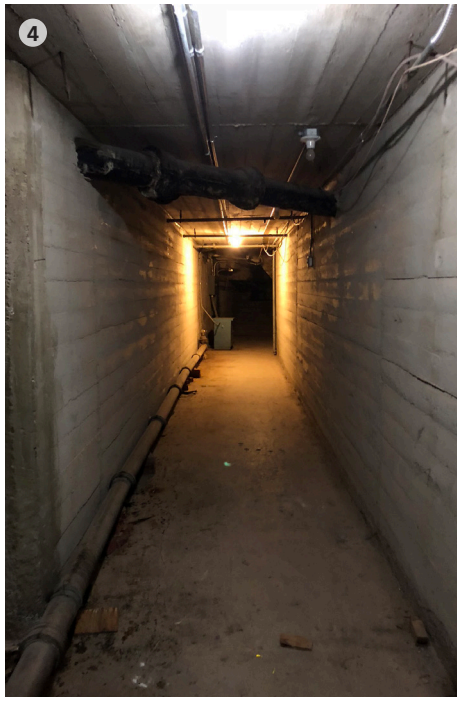
As a reconstruction, the cook house does not contribute to the historic district. It does however, remain an integral structure in the spatial organization and setting of the overall developed core.

Assessment: Non-contributing

5. *February 6th, 1931 panorama of the Cook House and terracing with a view of the back side of the gas tank house and the castle in the background (DEVA 40309)*

6. *2018, rebuilt Cook House and landscape terracing (MIG)*

91 Livingston, 361.



1. *1929, southwest façade of the Gas Tank House prior to the non-historic addition (DEVA 40667)*

2. *2018, Gas Tank House and non-historic addition (MIG)*

3. *2018, tunnel access point adjacent to the picnic area (MIG)*

4. *2018, inside the underground tunnel system running beneath the castle complex (MIG)*

5. *2018, stacks of decorative tiles line the walls of the tunnel where light sunlight pours in from the windows to the swimming pool (MIG)*

6. *2018, tiles stored in the tunnel that were never used after construction was halted (MIG)*

7. *2018, view from tunnel to Swimming Pool (MIG)*

8. *2018, unused decorative tiles for incomplete construction projects (MIG)*

GAS TANK HOUSE

Historic Period: Construction of the gas tank house, with four distinct sections, began in November 1927 and was completed by December 1928. The two original sections are located side-by-side on a roughly east-west axis and are of poured concrete construction with stucco-clad walls. The west portion of the original building is square in plan and has a hipped roof clad with tapered mission tile. The roof apex of this section features a covered, tile-clad bird loft. The eastern extent of the original building is rectangular in plan and corresponds with the former gas tank house with its lower mission tile-clad gabled roof. A narrow section, rectangular in plan, extends along the north elevation. Its roof is gabled and covered with asphalt shingles and it is clad in vertical wood siding. The building was used as a storage site for four 350 LP gas tanks which held the fuel supply for the gas station and kitchens for the ranch. In 1955 the Gospel Foundation built a wood addition to the west elevation. Unlike the original Spanish style building, the shed addition had a composite, asphalt shingle roof and redwood siding instead of the characteristic adobe walls and red-clay roof.

Existing Condition: Located on the north end of the plaza and oriented at an angle relative to the turnaround and wishing well with the main elevation facing southeast, the gas tank house was at one time a museum and bookstore under NPS management after the period of significance. Currently, the building is used as an NPS storage facility. The one-story gas tank house is complex in plan with four distinct sections. The two original sections are comprised of poured concrete construction with stucco-clad walls. The original western section, square in plan, corresponds to the former service station building; with a hip roof clad with tapered mission tile. The roof apex of this section features a covered, tile-clad bird loft. The original section of the building east of the service station is rectangular in plan and corresponds to the former gas tank house. This addition is lower and has a mission tile-clad gabled roof. A narrow section, rectangular in plan, extends along the north elevation; its roof is gabled and covered with asphalt shingles, and it is clad in vertical wood siding. An addition to the building on the south is wood-frame construction with wood cladding. It is rectangular in plan, with a gable, and covered in roll roofing. Although the building has had an addition, the original portion of the building remains.

Assessment: Contributing

TUNNELS AND ACCESS POINTS

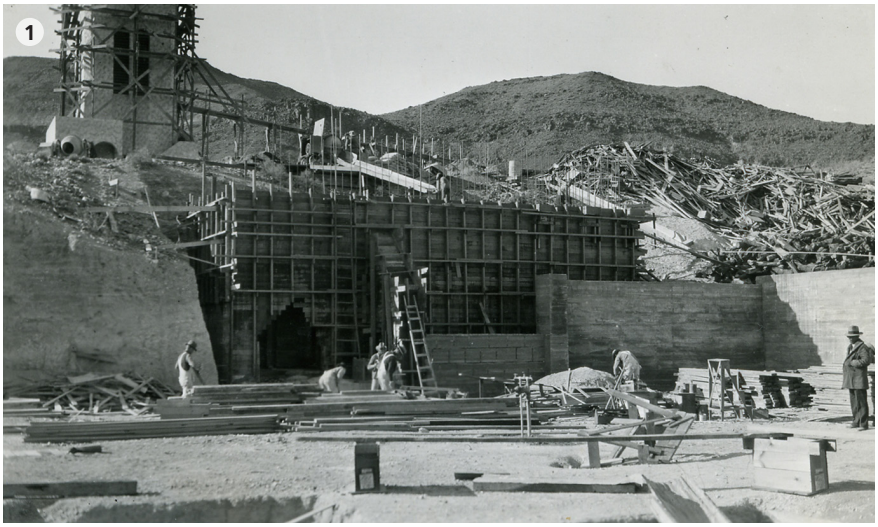
Historic Period: An important and central design concept for the historic district was a series of underground tunnels connecting the various structures, including the pool. The network of underground tunnels is a character-defining feature, linking each of the individual buildings with seven-foot-high concrete passageways. Only some were completed, while some simply come to a dead-end. Like most things at the ranch, construction of the tunnels was accomplished in phases. When a new building was nearing completion, excavation for a full underground passageway and all the necessary services would normally follow. Plans for a tunnel system were being discussed and implemented as early as February 1927. The purchase of a steam-powered shovel in 1929 expedited matters and was primarily responsible for much of what was actually accomplished. The principal purpose of these tunnels was to facilitate the installation of necessary services.

Existing Condition: While the tunnels have been altered since the period of significance due to moisture and normal wear and tear, they are substantially intact. Currently, they also house the unused tiles from the incomplete pool.

Assessment: Contributing

POWERHOUSE AND PAVILION

Historic Period: In order to supply electricity for his development, Johnson harnessed the area's abundant natural resources. Designed by architect Martin de Dubovay, the powerhouse was constructed to generate electricity from the spring water. The architectural



1. January 6th, 1930 the Powerhouse and Pavilion under construction (DEVA 40826)

2. 2018, completed Powerhouse and Pavilion

3. 2018, unfinished grotto and servant's quarters (MIG)

style of the structure referenced the European Gothic on the exterior.

Johnson selected the machinery on the interior, which supplied the entire complex with electricity. During the 1930s, the structure housed three generators including an eighteen-inch Pelton water wheel-powered 7.5 KW DC generator that charged two banks of batteries and two diesel generators. In the 1950s, the Gospel Foundation upgraded the power supply system by installing a new GMC diesel generator.

Existing Condition: The powerhouse and pavilion is located west of the main house, set into the hill below the chimes tower. The primary elevation of the structure is oriented east toward an open courtyard. The flying buttresses and concrete façade, which was made to appear as large cut-stones set in a running bond pattern, are distinctive structure elements. Exterior elements include an exterior staircase, a hexagonal pavilion, an arched doorway with a wood gate, a crenellated parapet roofline, an overhanging tower, and a flat roof with two skylights. An unfinished crenelated turret located in the northeast corner of the structure provides a viewing platform; while on the south elevation stands a hexagonal tower with a crenelated parapet.

Today, this unusual structure is interpreted as part of an underground public tour. It is not used to produce electricity except for demonstrations of the generator during tours.

Assessment: Contributing

NPS ENTRY GATE

Historic Period: The entry gate did not exist during the historic period.

Existing Condition: This non-historic entry gate is intact and provides access to the site.

Assessment: Non-contributing

4. *2018, NPS Entry Gate (MIG)*

5. *2018, non-historic restrooms located north of the Long Shed (MIG)*

6. *April 10th, 1927 the Fire Cache (Scotty's Cabin) in its original location (DEVA 40194)*

7. *2018, Fire Cache (Scotty's Cabin) (MIG)*

GROTTO/SERVANT'S QUARTERS FOUNDATION

Historic Period: Construction of the grotto and servant's quarters started before 1931, as part of Kruckeberg's design for the service side of the main house and annex. Stone staircases with cheek walls (stone curbs used to support the stairs) were set in mortar as part of the retaining wall to the west of the building. Also constructed were several dry-stacked retaining walls in the grotto area. The grotto and servant's quarters were unfinished when construction stopped on site in 1931.

Existing Condition: The grotto/servant's quarters structure is a ruin that is located just west of the main house. The ruin consists of a collection of concrete pillars, walls and slabs mark the site of the grotto/servant's quarters. The remaining unfinished structure provides insight into the original plans for the Scotty's Castle design.

Assessment: Contributing

RESTROOMS

Historic Period: The restrooms did not exist during the historic period.

Existing Condition: The restroom was converted from a 1950s Gospel Foundation structure by NPS in 1977.

Assessment: Non-contributing

FIRE CACHE (SCOTTY'S CABIN)

Historic Period: The fire cache, also known as Scotty's cabin given undocumented accounts that it was built by Death Valley Scotty, first appears in a historic photograph that was taken in the 1920s; although

its original construction date remains unknown. At that time it was located on the hillside north and slightly east of where the Hacienda is today. Its been reported that Scotty built the cabin prior to building Lower Vine Ranch, though it's not known if he ever lived in it. In June 1930 the cabin was moved at the direction of landscape architect Kruckeberg near the east end of the bunkhouse. The concrete foundation associated with the original location was removed and a new board floor was constructed for the cabin in its new location. The cabin was converted into a fire cache by the NPS. Given some overlapping details of its historic development with Scotty's "original cabin" the two buildings are often confused.

Existing Condition: The building has been used for housing, chemical storage, and currently as an NPS fire cache. The simple rectangular building measures 12 feet by 14 feet. It has a stucco covering over wood frame construction with a gable roof covered in roll roofing and wood slats. The building's foundation consists of wood beams with a loose-stacked brick veneer around its perimeter. Historically, there was a door on the north side of the cabin, however, it was removed and filled in at an unknown date. Windows are found on the north and west elevations and a metal chimney protrudes from the roof. Photographic evidence suggests that this building has been considerably modified since the period of significance and as a result, no longer contributes to the historic district.

Assessment: Non-contributing

SPRING HOUSE

Historic Period: Though it's not known when the spring house was built, evidence points that the concrete spring collection gallery was completed during the 1920s.

Existing Condition: Located on the eastern extent of the historic district just north of the Bonnie Clare Road, the spring house is part of a cluster of buildings storing and supplying water to the castle complex. The original concrete floor and pool was built during the historic period. A temporary plywood building, which is not contributing, was built around the spring house following the loss of a cinder block building constructed around the spring house after the historic period.

1. *2018, Spring House Cluster (MIG)*

2. *2018, Spring House (MIG)*

3. *2018, 40,000-gallon water storage tank built by Johnson (MIG)*

4. *2018, 60,000-gallon water storage tank constructed by NPS (MIG)*

5. *2018, Chlorinator Building (MIG)*

6. *2018, constructed berm east of the spring house (MIG)*

Assessment: Contributing

WATER STORAGE TANK

Historic Period: Constructed nearly a mile east of the castle complex in Grapevine Canyon, this water storage tank was built by Johnson during the period of significance. Thought to have been constructed during the 1920's, the rectangular concrete structure has a capacity to hold 40,000 gallons of water.

Existing Condition: Located in the southwest corner of what is now known as the spring house cluster, the structure lost its roof during the 2015 flood and is in poor condition.

Assessment: Contributing

NPS CONSTRUCTED WATER STORAGE TANK

Historic Period: The NPS constructed water storage tank did not exist during the period of significance.

Existing Condition: Located in the northwest corner or the spring house cluster, this 60,000-gallon rectangular concrete reservoir was built in the circa 1980s and does not contribute to the historic district.

Assessment: Non-contributing

CHLORINATOR BUILDING

Historic Period: The chlorinator building did not exist during the period of significance.

Existing Condition: Located on the eastern extent of the historic district just north of the Bonnie Clare Road, the chlorinator building is a small square structure that is clad in stucco and has a hipped roof adorned with orange tile. Built in 1982 by the National Park Service, it does not contribute to the historic district.

This building is non-historic and does not contribute to the historic district.

Assessment: Non-contributing

1. *2018, remnants of the Gravel Separator and Powder Storage Foundation (MIG)*

CONSTRUCTED BERM

Historic Period: n/a

Existing Condition: Added after the period significance, the constructed berm is east of, and topographically elevated above, the spring house. Covered with native and volunteer vegetation, the berm was constructed to divert water from the spring house and pump house area. It was not effective in 2015 flood, although it does not appear to have been damaged or deformed. The berm is non-historic and does not contribute to the historic district.

Assessment: Non-contributing

POWDER STORAGE FOUNDATION

Historic Period: Built between the years 1922 and 1931, the powder storage area is located northeast of, and immediately adjacent to, the gravel separator. Constructed with railroad ties salvaged from the Bullfrog and Goldfield Railroad, it is butt-jointed and approximately forty square feet.

Existing Condition: Today, the structure is composed of a railroad tie foundation and is in ruin. It has retained its dimensions and is approximately forty feet square.

Assessment: Contributing

2. *undated, Watercourse cactus-themed plantings and petroglyph boulders (DEVA 23126)*

CONSTRUCTED WATER FEATURE

WATERCOURSE

Historic Period: The watercourse was designed and built under the supervision of Kruckeberg in 1930. It was created as a prominent designed water feature resembling an artificial stream. The watercourse garden integrated ornamental plants with large stepping stones, pathways, and a stream fed by piped spring water. The feature is approximately 450-foot long and 40-foot wide, with water meandering along rocks set in concrete, interspersed with cacti, desert plants, and occasional small cascades and pools. A stone-surface path follows the stream, crossing the water at several locations. The watercourse includes both day-lighted and underground segments that emerge just west of the stable, then run east between the hacienda and long shed/bunkhouse, before the water is channeled under the plaza.

The landscape surrounding the watercourse was designed as a series of intimate spaces around the shallow pools and cascades to cool the air. Although the plan called for a mix of cacti along the watercourse, attention was given to the collection of "large cacti" from Arizona– the saguaro cactus– personally selected on site by Kruckeberg.[92] Historic photographs reveal that several cactus-like shrubs were planted along the rockery. Based on the evidence provided by historic photographs, it is likely that this area was heavily planted with other plants in the 1930s such as mesquite or willow. A lack of a comprehensive photographic record prevents an accurate date for all the plantings in the watercourse.

Modifications to the watercourse were made by the Gospel Foundation. The foundation added a few large rocks along the watercourse which raised the water

92 DEVA archives: MRT to AMJ, June 27, 1930, M7/B11/F3.

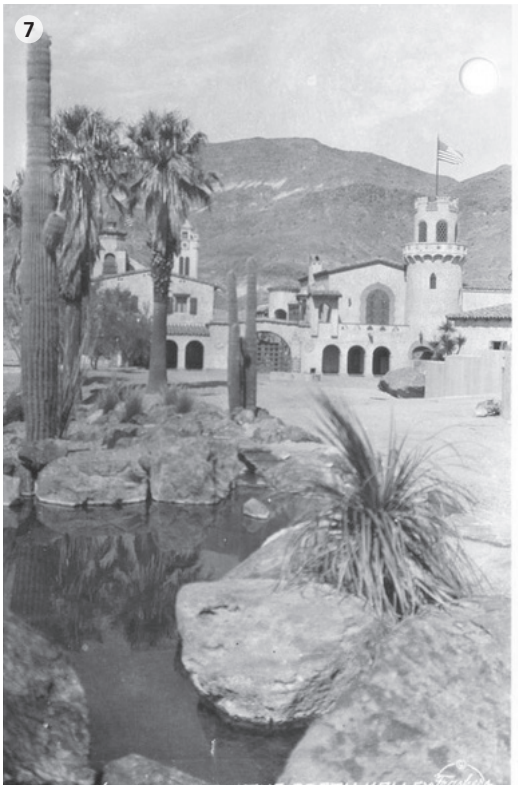
level. They also supplemented plantings along the structure. By 1970 photos clearly indicate that several palms trees and small shrubs were thriving along the garden.

More information about the vegetation within the watercourse is located in the Vegetation section.

Existing Condition: Today, the watercourse has the character of an oasis with a collection of trees and shrubs including California fan palms (*Washingtonia filifera*), California juniper (*Juniperus californica*), honey mesquite (*Prosopis glandulosa*), and creosote bush (*Larrea tridentata*). Although this garden was originally planned as a cactus garden, the garden evolved over time and was later planted with shrubs and small trees that could withstand the climate, provide shade, and create intimate spaces.

In spring 2013, a fire killed several palms located at the eastern end of the watercourse which have since been cut down to stumps. Tree roots have cracked the watercourse and moved stones in several locations. Despite some alterations over time and damage from roots, the watercourse retains a high level of physical integrity. It continues to provide a focal point and an oasis for park visitors.

Assessment: Contributing



1. *2018, arching mesquite branches over the stone watercourse walkway (MIG)*

2. *2018, water piped from the springs emerges at the east end of the watercourse among the cut stumps of palm trees (MIG*

3. *2018, a cluster of palms surround the pool at the west end of the watercourse (MIG)*

4. *2018, water flows through a series of small cascades and pools (MIG)*

5. *2018, a large pool reflects the desert sky towards the west end of the watercourse (MIG)*

6. *2018, stone steps edged by boulders and desert shrubs (MIG)*

7. *1931, a historic view of the same pool seen in photo #5 (Pomona Public Library)*

1. *undated, aerial view of the castle complex at the toe of Windy Hill, facing west (DEVA 40329)*
2. *undated, aerial view of the topography of Grapevine Canyon sloping east to west (DEVA 41494)*
3. *undated, aerial view of the castle complex during construction reveals the extensive excavation and grading that took place (DEVA 21798)*

TOPOGRAPHY

Historic Period: The topography and the natural morphology of Grapevine Canyon were important factors that influenced Johnson's decision to build the ranch in this area. Located at elevations between 2,300 and 3,900 feet, the steep walls of Grapevine Canyon offered the ranch protection, while the elevation offered some relief from extreme temperatures that were characteristic of the valley floor. Conceptually, Johnson responded to the topography by siting his residence and associated outbuildings on the north side of Grapevine Canyon. Rather than attempting to implement a grand landscape design scheme, Johnson may have been most influenced by the natural topography and sited many of the structures on the north side of the canyon as a pragmatic response to physical space, microclimate, and the opportunity to open views southwest, towards the Panamint Mountains.

Existing Condition: Although the topography of the Grapevine Canyon floor was altered by the 2015 flood, the basic topographic structure of the canyon remains intact.

Assessment: Contributing

CANYON SLOPING EAST TO WEST

Historic Period: The topography and the natural morphology of Grapevine Canyon, sloping east to west, were important factors that influenced Johnson's decision to build the ranch in this area. Located at elevations between 2,300 and 3,900 feet, the steep walls of Grapevine Canyon offered the ranch protection, while the elevation offered some relief from extreme temperatures that were

characteristic of the valley floor. Except for the entry gate located on the south side of Grapevine Canyon, all of the primary buildings were built in a tight cluster on the toe of Windy Hill. The orientation of the primary buildings formed an axis that extended from the east to the west.

Existing Condition: At the large scale, the topography of the canyon, sloping east to west, remains intact. At the localized scale, portions of the topography were significantly altered by the 2015 flood, especially the area from due east and south of the stable running west to the historic gatehouse and bridge.

Assessment: Contributing

HILLS NORTH

Historic Period: The hills north of the historic district provided the setting and context for the planning and construction of Scotty's Castle. From Scotty's Castle, the hills rise approximately 300 feet above the valley floor. The hills are characterized by predominately shallow soil, rocky outcrops, and minimal vegetation, providing an opportunity for swift floods during periods of even short, but intense, rainfall. Notably, at Scotty's Castle, the hills north of the historic district are steeper and higher than the hills to south, which are outside the historic district.

Existing Condition: Although the hills to the north have had some natural and expected erosion and minor topographic change since the 2015 flood, they have retained their basic form, soil structure, vegetative cover and topographic structure. Specifically, the hills immediately north of the main house experienced some additional erosion.

Assessment: Contributing

TERRACING

Historic Period: Development associated with Scotty's Castle included numerous Spanish-influenced buildings and structures as well as utilitarian buildings. Construction of the building complex was possible in part through modifications to existing contours through extensive grading and the development of flat terraces to support construction activities. Many cuts and fills were undertaken on the site to facilitate the construction of buildings and roads.

Existing Condition: The historic terracing remains substantially intact, although some terracing in the eastern area of the historic district was altered by the 2015 flood.

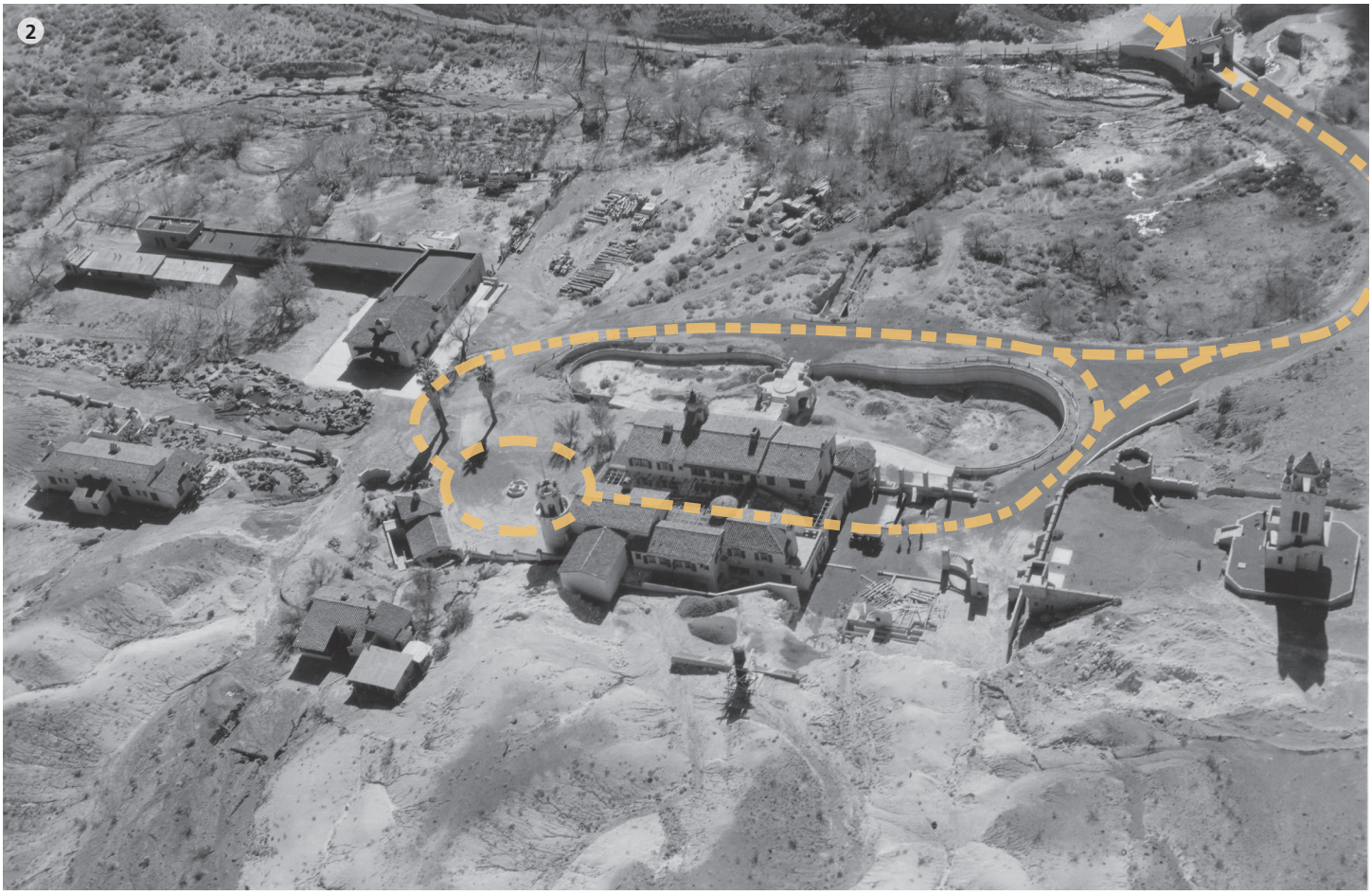
Assessment: Contributing

CIRCULATION

Historic Period: Many cuts and fills were undertaken on the site to facilitate the construction of a system of roads. When construction ended in 1931, approximately three miles of roads had been built on Johnson's property. Today, the circulation system continues to provide access to buildings and structures associated with the site. Although the entrance gate, entry road, and turnaround are now closed to private motor vehicles, these features continue to convey the intent of the original arrival sequence.

Existing Condition: Today, there are almost nine miles of roads associated with the historic development at Scotty's Castle. Vehicular circulation at Scotty's Castle includes several historic roads within the development including the formal entrance road, the road to the stables, the road behind the cook house, and the roads

1. *2018, terraced retaining walls at the cook house and hacienda (MIG)*



through Tie Canyon. Non-historic roads include the current entrance road into the parking lot south of the garage/long shed/ bunkhouse. Historically, all the roads in Scotty's Castle had gravel surfaces although several have since been paved with asphalt.

Primary access to Scotty's Castle is via Bonnie Clare Road, which skirts the southern boundary of the property and links the floor of Death Valley on the west and the state of Nevada to the east where it becomes Highway 267 at the state line. From Bonnie Clare Road, the entrance to Scotty's Castle is a two-lane paved driveway that ends in a large paved parking lot. Another informal and unpaved parking area is located west of the entrance. This area is used for bus parking and overflow visitor parking when needed. Another informal and unpaved parking area for park staff is located east of the large paved parking lot.

Within the site, a system of informal roads and walkways connect the main buildings and structures. In general, the roads that are used by NPS maintenance staff and visitors are paved, narrow, one-lane roads with no curbing or edging. The roads generally follow the edges of the topographic benches and weave between buildings and structures. The secondary system of roads and trails are generally informal and unpaved routes that echo historic patterns of movement through the property.

This system reflects Albert Johnson's design ideas, with a grand entrance road to the castle, formal walkways between buildings, and several informal roads that were used during construction and subsequent maintenance of the site.

The historic circulation system at Scotty's Castle is remarkably intact from the period of significance. Although most of the historic gravel roads have been re-surfaced with asphalt over the years, they retain their original design, alignment, and width. Historically designed as a system, these roads continue to provide linkages between Scotty's Castle and other sites and buildings within the historic district. In addition, the system of walkways is still

2. *Diagram over 1934 aerial photograph (NPS-NARA) of the core of Upper Vine Ranch showing the historic circulation route*

1-6 *Historic entry sequence from the first glimpse of Cottonwood Corner, the Chimes Tower across the canyon, historic entrance gates, curving entry road along the picnic area, crossing in front of the swimming pool and main house to arrive at the wishing well turn around (photos 1-4 2018 MIG) (photos 5-6 2014 Draft Cultural Landscape Report, Pacific West Region, Cultural Landscapes Program, National Park Service)*

intact, reflecting original alignment, width, and surfacing. Today, these historic roads and walkways remain and contribute to the overall character of the cultural landscape and circulation system at Scotty's Castle.

ENTRANCE ROAD (HISTORIC ROAD SYSTEM)

Historic Period: Although many of the primary buildings and structures were complete by the late 1920s, one key component was missing. Johnson desired an entrance to his desert oasis that would provide an "impressive approach to the buildings."[93] As plans developed over the course of several years, it became clear that construction of the entry and approach to the main house would require extensive grading and fill material. At the end of 1927, planning for an entrance gate was initiated by Thompson and MacNeilledge. After extensive excavation efforts, an earthen dam was built to contain the spring fed water in the lake, which was never completed but eventually became a vegetated pond. In turn, the fill was used to construct a curvilinear entrance road, which also served as the entrance road prism.

93 Livingston, 199.

As revealed in a 1934 photograph, the entrance road passed the pool, then turned to the north to provide direct entrance to Scotty's Castle. At the point of that turn, the entrance was accentuated by three palm trees that formed a secondary gateway to the main house and annex.

Historically, the gravel-surfaced entrance road was an integral component of the arrival sequence to Scotty's Castle, guiding guests from Bonnie Clare Road into the developed core. Designed and constructed by Thompson in 1929, the entrance road required a considerable amount of fill to create the elevated prism. The fill came from excavations for the powerhouse.[94] The relatively narrow entry road was ten feet wide. It began at the entrance gate and was aligned in a graceful arc, rising at 4% grade, ten feet above the pond area all the way to the castle.[95] A spur road just west of the swimming pool provided access to the rear entrance of the main house and a service area. The entrance road provided access to the main entrance of Scotty's Castle, at the concrete bridge over the swimming pool. At this location, a gate accessing the system of tunnels around the swimming pool was constructed beneath the roadbed. Continuing past the main entrance, the road led toward a turnaround at the east side of the castle (now referred to as the plaza).

By 1974, NPS paved the entrance road with asphalt. The entry road remained in use into the 1970s but was closed to the public when NPS re-directed traffic to the new entrance located east of the picnic area due to traffic safety issues and problems with RVs.[96]

Historically, the plaza (historic turnaround) at the main house and annex functioned as the terminus of the entry road and vehicular turnaround. Cars could temporarily park or let off passengers before moving to either the garage or guest house. The turnaround was surfaced with gravel during the period of significance and edged with a six-inch high stone curb. A planting bed on the edge of the turnaround contained three mature palms. The total area of the turnaround was approximately 2,500 square feet.

94 DEVA archives: MRT to AMJ, April 10, 1929.
95 DEVA archives: MRT to AMJ March 6, 1926.
96 Livingston, 404.

Existing Condition: The entry road is intact from the historic period. This includes its alignment and width. Because the road is closed, however, visitors do not experience the grand arrival to the estate as historically intended. It is accessible on foot. This road remains an important part of the designed landscape and contributes to the historic district.

After the period of significance, the turnaround was modified. Curbs defining the planting beds were removed and the turnaround was surfaced with asphalt, which now extends south to cover the entire [non-historic] parking lot. In addition, the spatial integrity of the turnaround was adversely affected when the addition was constructed on the gas tank house. Despite these changes to the original configuration and surface material, the turnaround remains an important component of the entry road and historic arrival experience, spatially retaining an open character on the east side of the castle with the wishing well in the center.

Assessment: Contributing

TIE CANYON ROAD

Historic Period: During the development and active construction at Scotty's Castle,

7. *2014, Tie Canyon Road (2014 Draft Cultural Landscape Report, Pacific West Region, Cultural Landscapes Program, National Park Service)*

dirt roads were constructed in Tie Canyon linking the storage area, staging area, and the gravel separator with the developed core. It is unknown when these roads were first constructed, but an aerial photograph taken in 1930 shows several roads through the canyon. These roads, aligned on the flat surface of the canyon, were informal ranch roads, mostly two-track roads with alignments that followed the easy route for one point to the other. The link to the gravel separator, engineered with fill to meet grade with the entry road, accessed the lower half of the developed core. The road to the chimes tower was used to access the upper half of the developed core. All these roads appeared wide enough to accommodate trucks.

Existing Condition: Since the period of significance, roads in the canyon bottom have been washed out several times; however, the road to the chimes tower, which extends up the hillside, remains in its historic location, with the same alignment, width, and character.

Assessment: Contributing

ROAD TO WINDY HILL

Historic Period: Though there is no documentation regarding the specific construction of the road to Windy Hill, it appears in historic aerials from the 1930s so it is known to have existed during the historic period.

Existing Condition: This one-lane width gravel road extends west from chimes tower before winding clockwise around the west side of Windy Hill. From there it continues to wind around the outside edge of the hill as it navigates up the grade to the top on the east side.

Assessment: Contributing

PARKING AREAS

Historic Period: Several informal but designated parking areas were defined to provide parking for Johnson and his guests. Two small parking areas were located at the guest house: one on the west side of the building with easy access to the front entrance; the other served as the driveway to the large double doors at the south side of the building on the basement level. These parking spaces remain today.

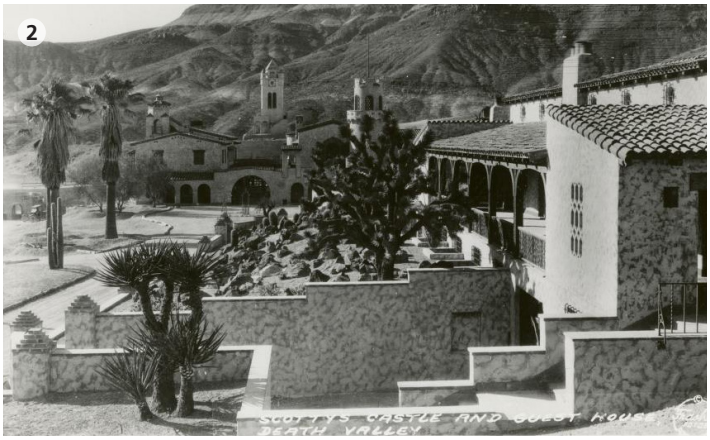
Three additional parking spaces were located at the garage/long shed/bunkhouse. These parking spaces were probably where the Johnsons kept their vehicles. On the north and east sides of the garage/ long shed/ bunkhouse, an area nearly 3000-square feet in size was surfaced with concrete and impressed with marks to make the concrete appear as though it had been in place for several years. The concrete driveway at the long-shed bunkhouse has not been altered and the characteristic pavement “marking” remains.

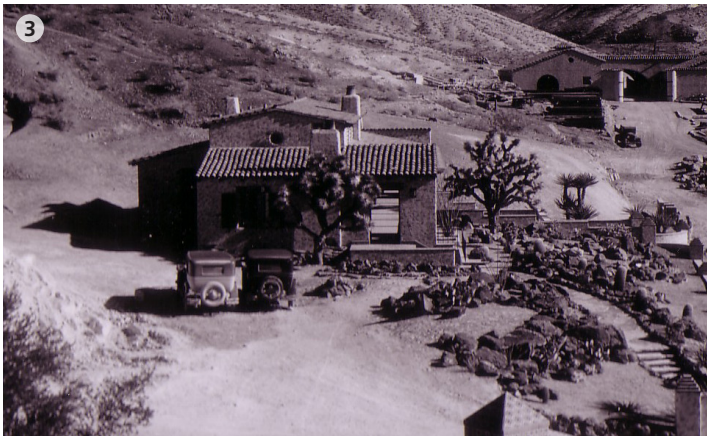
At various, but unspecified, times the parking area immediately to the west of the garage/long shed/bunkhouse was used for temporary staging and storage of construction materials.

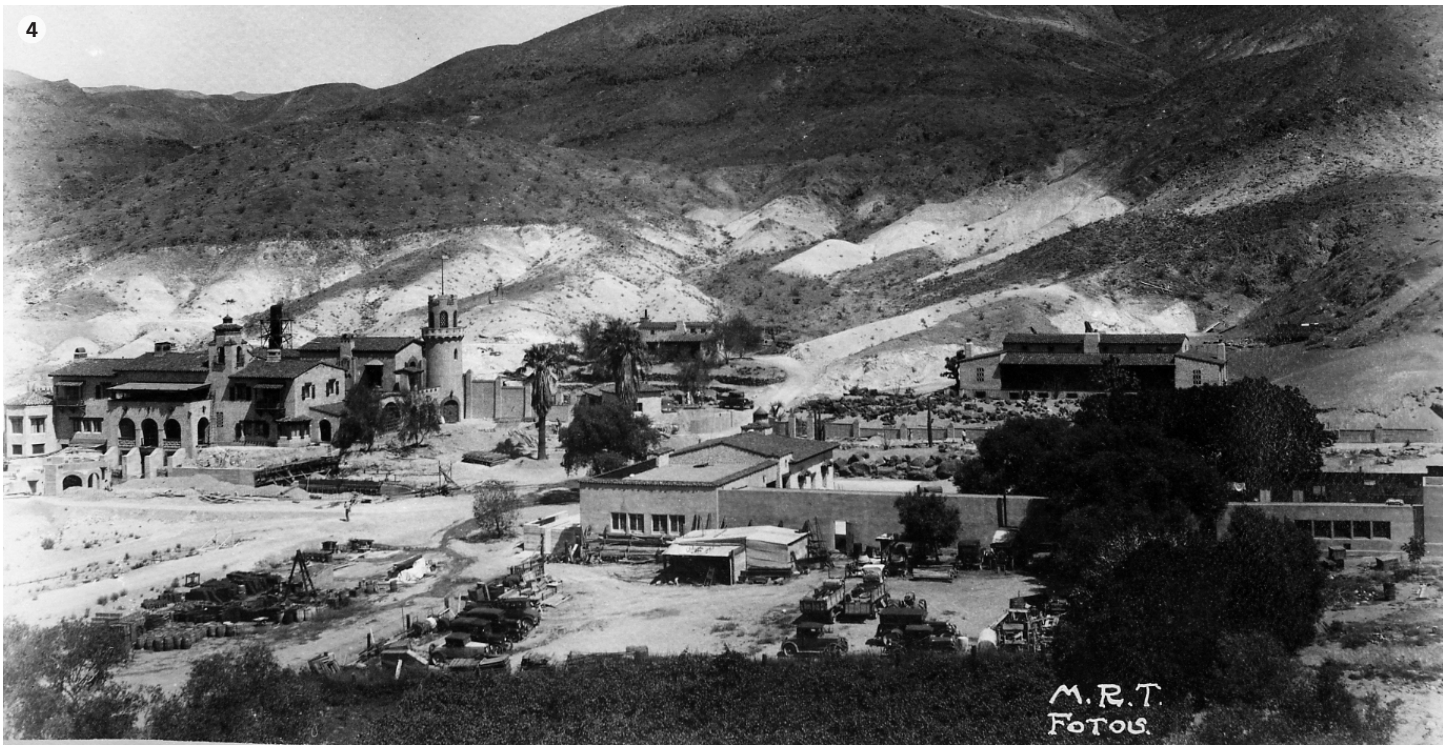
Existing Conditions: Today, these parking areas retain the same overall character and surface materials. Used for parking and pedestrian circulation, these parking areas are features of the historic circulation system.

Assessment: Contributing

1. *2018, the road to Windy Hill winding its way past Tie Canyon*







2. *undated, view of the parking space set between the retaining walls at the hacienda with access to the basement (DEVA 21962h)*

3. *undated, view of guest parking at the hacienda (ACC 227401 195)*

4. *undated, view of the core of the castle complex where historically, the majority of cars were seen parked south of the garage in a fenced area next to the chicken exercise yard (DEVA 41353)*

5. *2008, view of the Visitor Parking Area adjacent to the garage, movable bollards prevent cars driving up to the castle*

6. *2018, the empty parking lot, abandoned while the castle is closed to visitors, extends towards the picnic area and across the historic chicken exercise yard (MIG)*

1. February 6th, 1931 Cook House road just prior to the end of the construction period (DEVA 40340)

2. 2018, road to the stables running parallel to the watercourse and hacienda retaining walls (MIG)

3. 2018, gravel road leading to the springhouse cluster (MIG)

PARKING LOT

Historic Period: n/a

Existing Condition: After the period of significance, the Gospel Foundation and NPS built visitor parking lots to accommodate larger numbers of visitors. The Gospel Foundation built the parking lot located adjacent to the picnic area sometime in the 1950s. NPS paved this lot and exit road during the 1970s. The exit road is now used as the current entrance to Scotty's Castle. NPS also created an unpaved parking lot for employees on the southeast corner of the garage/long shed/bunkhouse and established a maintenance staging area on the south side of the stable. Though the site is currently closed to the public, this parking lot still remains.

Assessment: Non-contributing

STABLE ROAD AND COOK HOUSE ROAD

Historic Period: Little information is available regarding the road to the stable, although it is clear from historic photographs that this route was part of the original alignment of Bonnie Clare Road that ran through the center of the canyon floor before Johnson moved it south of his developed core. Historically, this road was a single lane, dirt-surfaced, backcountry highway that led from the residence east to Bonnie Clare, Nevada. The original road alignment was incorporated into the design of the complex as the central east/west axis of the development. It was straight, narrow, and rose at a gentle grade from the plaza to the stable. It followed the natural lay of the land between the castle and stable and was approximately 200 yards long. It only required fill near the stable where Thompson built a small retaining wall of stone to support it. By 1930, the road was completed.[97]

Connecting north from the historic turnaround, a utility road linked the guest house, cook house, solar water heater, and chimes tower. It continued around the west side of the chimes tower, before winding down into Tie Canyon. In 1929, when the road was under construction, Thompson commented on the purpose of the road saying that there was a new road from, "the clock tower hill to the solar water heater to deliver sand, gravel and cement to the staging area near the chimes tower and solar water heater. The power shovel made this entire road in less than one day.[98] In terms of design, the road was narrow, about ten feet wide, curvilinear, and surfaced with dirt. It was engineered with several areas of cuts and fills, behind the solar water heaters and along the chimes tower hill.

97 Thompson to Johnson, January 29, 1930 and Thompson to Johnson, March 30, 1930.
98 DEVA archives: MRT to AMJ, Feb 9, 1930.

Existing Condition: From the turnaround, a road leads to the stable at the east end of the developed core. Today, the road that links the guest house, cook house, solar water heater and chimes tower retains its historic alignment. The section that access the cook house from the plaza is now surfaced with asphalt, but the remainder of the road is still surfaced with dirt. Today the road still has integrity, following its historical alignment and maintaining the historic width, although it is now paved with asphalt. Although a utility road, as part of the designed circulation system, the road retains integrity and contributes to the historic character of the district.

Assessment: Contributing

ROAD TO SPRINGHOUSE CLUSTER

Historic Period: n/a

Existing Condition: The spring house and road were constructed after the historic period. The road is a short spur, heading approximately north from Bonnie Clare Road, crossing the creek. It is gravel and unpaved.

Assessment: Non-contributing

WALKING PATHS

Historic Period: Pedestrian circulation at Scotty's Castle was limited to building entrances and garden spaces. Individual walkways were surfaced with a variety of materials including stone, tile, and concrete. Formal walkways were constructed including the castle courtyard, the bridge over the swimming pool, and walkways to the cook house and guest house.

The castle courtyard is surfaced with terracotta tiles. The 6 x 12-inch tiles were set in a herringbone pattern and mortared. The courtyard is approximately 100 feet long and fills the entire space between the castle building and the annex.

The elevated walkway over the swimming pool was designed as the main entrance to the castle. It was constructed with concrete and included several risers. The sides of this walkway were curvilinear and high enough to provide a safety barrier for people strolling over the water. A prominent circular planter was placed at the mid-point of the bridge in the center of the walkway. The walkway varied in width but averaged approximately ten feet.

4. *2018, the concrete pathway which hugs the edge of the pool was left incomplete in sections where construction stopped (MIG)*

5. *2018, non-historic concrete path connecting the Garage to the Restrooms (MIG)*

6. *2018, stone pathway and stairs leading from the Cook House to the Main House (MIG)*

7. *2018, the stone pathway winding through the watercourse (MIG)*

1. *undated historic planting plan for the core of Upper Vine Ranch (DEVA 143 41034)*

2. *1931, early plantings near the Main House and Hacienda including three palms that flanked the turnaround in front of the Main House (DEVA 23124)*

3. *1931, glimpse of cactus and other plantings associated with the Hacienda (DEVA 23036)*

The walkways at the guest house and cook house were constructed in 1930 under the supervision of Dewey Kruckeberg. Both were designed as curvilinear paths, about two and half feet wide, and comprised of flagstone set in mortar. At the guest house, a curving stone walkway with six-inch risers begins at the ornate entrance gate set between retaining walls, and led guests from the road to the stable up to the front entrance of the guest house. The curvilinear walkway at the cook house provided access to the front and rear entrances of the building. Hand rails were added after the period of significance.

Kruckeberg constructed the stone walkways within the watercourse in 1930. He artfully integrated the oversized basalt rocks to create areas to move past the small pools and shady resting spots. The walkways through the watercourse are best described as rustic or naturalistic in design. They added an informal, yet elegant touch to the watercourse as a garden for strolling and finding relief from the sun. Today, the pathways through the watercourse retain historical alignments, widths, and surface materials.

Existing condition: The main walkways are intact, with original paving materials and surface materials, original alignment and original width. There has been limited degradation since the historic period, but the walkways continue to contribute to the cultural landscape's character.

Assessment: Contributing:

BRIDGE TO GATEHOUSE

See Buildings and Structures

VEGETATION

Historic Period: Plants established at Scotty's Castle during the period of significance reflect a combination of both native and ornamental materials selected to achieve the design intent and overall landscape character of a Spanish style village.

In 1929, Burbank, CA, landscape architect Dewey R. Kruckeberg worked with MacNeilledge and Johnson to build on earlier plans to develop a landscape design for the grounds around the buildings and open spaces throughout the property. Four distinct planting areas were created by M. Roy Thompson and Dewey Kruckeberg during the late 1920s. As the most intense construction efforts were completed, Kruckeberg planted olive, palms, and cacti on higher ground within the building complex and around the watercourse.

Although he designed approximately three acres of articulated plantings less than two acres were installed before general construction at the site abruptly ended in 1931. Areas that were completed and planted based on Kruckeberg's plan include the pond area (now the picnic area), the watercourse, and planting beds around several buildings. Outside of the Scotty's Castle complex, extensive vegetation was planted at Cottonwood Corner by Roy Thompson including over 100 willows, mesquite trees and fig trees as part of Johnson's vision of a lush green jungle[99].

In general, the species selected were dependent on the water requirements. Willows were planted in the low-lying areas such as around the lake, while olive trees, palm trees, and cacti were planted on the drier hillsides and terraces. A simple pallet of plants evolved that reflected microclimate and complemented the Mediterranean architectural character throughout the site, greatly unifying the developed core.

Existing Condition: Today, only a portion of the original historic vegetation remains at Scotty's Castle. Over the years, as older plant materials died the Gospel Foundation and NPS replaced some of these materials with other types of plantings. In some cases, ornamental plants were added for aesthetic reasons—such as the oleander hedge along the entry road and in front of the castle.

Vegetation at Scotty's Castle includes many introduced trees, ornamental shrubs, vines, and groundcover. The loss of historic some vegetation alters the historic character but

99 Livingston, 147.

the biggest change has been the spread of vegetation well beyond the scope of the initial plantings at the site, the some of which is composed of non-native invasive species, significantly altering the vegetation character of the designed landscape.

Within the complex, vegetation is a mix of material planted during historic construction activities, materials planted after the period of significance, or ornamental plants that have naturalized and spread since the period of significance. Vegetated areas that still retain their historic integrity include the picnic area, the entrance gates, the guest house, and Cottonwood Corner. These areas have a mix of native and non-native species. Vegetated areas that no longer reflect their historic character include the main house and entrance road, cook house, chimes tower, and the garage/long shed/bunkhouse.

1. *2018, Cottonwood Corner from Bonnie Clare Road (MIG)*

2. *1934, vegetation within the riparian area south of castle complex, later developed as the picnic area (NPS-NARA)*

COTTONWOOD CORNER VEGETATION

Historic Period: Cottonwood Corner, a densely vegetated spring adjacent to Bonnie Clare Road, is located southwest of the Scotty's Castle. This location was planted during the period of significance to enhance the approach to Scotty's Castle from Death Valley, and to mitigate flooding from the spring. Following the west approach to Scotty's Castle along the Bonnie Clare Road, native vegetation through Grapevine Canyon is sparse and characterized by a variety of desert plants. At Cottonwood Corner, the vegetation changes dramatically and contrasts sharply with the desert landscape. Historically, Johnson wanted to create "a real jungle" near the S-curve at Cathedral Rock.[100] Willows, mesquite, figs, grapes and palm trees were planted in the stream between the castle and Cathedral Rock in order to present the visitor with a "pleasant approach" and to absorb all of the water of that spring to prevent overflow from the upper ranch.[101] By 1930, a palm and two "very large" willows were in place along with willow switches, grape vines, and mesquite.[102] It is unknown how this area was managed during the Gospel Foundation period.

Existing Condition: Plantings remaining at the site include cottonwood (*Populus fremontii*), grapevine (*Vitis californica*), honey mesquite (*Prosopis glandulosa*), California fan palm (*Washingtonia filifera*), and desert willow (*Chilospsis linearis*). These plantings have naturalized over time and, as a result, there is a dense mix of young and old tree specimens in this area.

While Cottonwood Corner remains a verdant, lush planting area fed by the springs, the Fremont cottonwood tree is

100 DEVA archives: MRT to AMJ, February 19, 1930, M7/B10/F2.
101 DEVA archives: M7/B19/F5.
102 DEVA archives: MRT to AMJ, March 10, 1930, M7/B10/F3.

3. *undated, historic photo from Bonnie Clare Road looking towards the castle through willow trees growing in what is now known as the picnic area (DEVA 60080)*

4. *undated, view through Picnic Area towards the Entrance and Gatehouse before the 2015 flood*

5. *2018, the same view after 2015 flood waters altered the vegetation and topography in the picnic area (MIG)*

damaged, with serious structural issues. The north trunk, which is approximately 5-feet in diameter, and generally vertical in orientation, is dead throughout most of its length. There is a 1-foot diameter live lateral branch on the lower trunk that extended to the west. The south trunk is approximately 4-feet in diameter. It is horizontal in orientation and parallels the road. Some foliage and dead branches extend over Bonnie Clare Road. There are two stems on the west side, 3-feet and 3.5-feet in diameter. The lower stem is cracked at the attachment and lying on the ground. These stems and associated canopy extended away from the road and would not impact it if further failure occurred.

This planting is compatible with the historic character of the cultural landscape and remains as an integral component of the arrival sequence to Scotty's Castle.

Assessment: Contributing

PICNIC AREA (HISTORIC POND AREA) VEGETATION

Historic Period: Historically, this area was to be one of the larger garden spaces with several walking paths and benches set in a verdant park-like setting including plans for a sunken garden with shade trees such as cottonwood, willow, palms, and mesquite planted informally along two streams. To create this space, a large amount of grading took place in the early 1930s to augment the natural bottomland of the canyon and create a depression and a stream that flowed under the entrance gates and road. The plantings in the area were meant to appear abundant with trees pruned to appear like a "park".[103] Kruckeberg also proposed a formal looking garden area featuring an arbor with olive and willow trees, shrubs and groundcovers to be set among meandering pathways and streams on the northern half of the area. Kruckeberg's formal lake garden was never fully realized; the walkways, arbors, and ground cover plantings of lippia were never established. If implemented, this area would have differed greatly in character from the gardens proposed for the developed core.

103 DEVA archives: AMJ, December 30, 1930, M7/B13/F1.

1. *2018, vegetation in the picnic area was transformed by strong flood waters in 2015, which uprooted trees, undercut roots and eroded areas (MIG)*

In contrast to the plans, a mix of willows and mesquite trees were planted in an informal manner during the period of significance. Sometime after the 1930s, cottonwood trees were introduced to this area supplementing the existing willows and mesquite. By the 1970s, NPS introduced turf grass and converted the use of the area to passive recreation, primarily picnic grounds.

Existing Condition: Overall, the trees in the picnic area are in a state of decline. Most of the Fremont cottonwoods are mature to over-mature. Cottonwood, like many riparian species, tends to be a relatively short-lived tree species. While the tree grows fast, it allocates a relatively small portion of its carbohydrates for defense against pests and diseases. As a result, the tree tends to develop wood decay that can lead to structural failure. In addition, Cottonwood is prone to summer branch drop, in which apparently defect-free branches fail during warm summer temperatures. It is not possible to predict which branches will fail, nor when the failures will happen. Several cottonwoods have evidence of previous branch failures. The combination of old, large cottonwoods that have failed in the past in proximity to pubic use areas creates the potential for injury or damage.

The mesquite also is quite old for the species, with multiple trunks that are horizontal in orientation, creating a wide crown. In some cases, the stems are lying on the ground. All the trees have significant amounts of dead branches present. Because they are small trees with low canopies, however, the likelihood of parts failing and causing damage is low.

There is no photographic evidence that palms were planted during the historic period. There are nine California fan palms in good condition at the site, as well as several dead palms. Some of the palms have died due to undercutting by floodwaters; others, were reported to have been killed by application of herbicide. Exotic tree species in the picnic area are mulberry and Siberian elm. Both have dieback present and are in fair to moderate condition.

The park-like character created by the trees and understory is historically compatible with the historic character of the district, but the species composition has been altered over time.

Assessment: Contributing (with the exception of California fan palms and turf)

WATERCOURSE VEGETATION

Historic period: As noted above, the plantings in the watercourse followed landscape architect Dewey R. Kruckeberg's plan and was intended to be integrated as a component of the overall planting scheme for Scotty's Castle. As a feature of the watercourse, and parallel to the hacienda, the plants reinforced the linear

2. *undated c.1931 historic photo of the original watercourse plantings which included towering saguaro cacti towards the west end (DEVA 23124)*

3. *2018, watercourse plantings include a mix of mature palms, mesquite trees, cacti and desert shrubs (MIG)*

4. *2018, vegetation surrounding a large pool in the watercourse (MIG)*

5. *undated, c.1931 early watercourse plants reflected the character of the Hacienda planting with an assortment of cacti and desert shrubs (DEVA 41423)*

6. *2018, view from the Main House towards the Hacienda and Stables shows the dense canopy of palms that has taken root in the watercourse over the years (MIG)*

connection of the road/walkway from the main house to the stable. For most of the historic period the plantings exhibited a desert garden character, but exact species can not be positively identified. Documentation of palms being planted at the west end can also not be verified given the scant amount of photos from the end of the historic period. Some images depict three palms near the west end, but these were not located in the watercourse itself, but part of the plaza and turnaround.

Note: Information about the watercourse itself is located in the Constructed Water Features section.

Exiting conditions: At the watercourse, a designed grouping of trees and shrubs include California fan palm (*Washingtonia filifera*), California juniper (*Juniperus californica*), honey mesquite (*Prosopis glandulosa*), screwbean mesquite (*Prosopis pubescens*), and creosote bush (*Larrea tridentata*). While the mesquite and creosote bush exhibit the desert garden character of the historic plantings, the California fan palms and juniper do not. These plantings reflect multiple planting eras along the watercourse that is roughly 50 feet wide by 450 feet long. Many of the plants were damaged by the 2015 flood.

Assessment: Contributing (desert garden style plants and the overall planting area / Non-contributing (Non-desert garden style plants)

CREEKSIDE VEGETATION (RIPARIAN AREA EAST OF PARKING LOT)

Historic Period: Historic photographs (1928 and 1931) indicate that this area was sparsely vegetated, primarily with grasses and Cottonwood trees. It is not known when or how palms were introduced.

Existing Condition: A thick stand of vegetation, located east of the garage/long shed/bunkhouse and employee parking area, reflects the results of significant encroachment and spread of vegetation established after the period of significance. At one time, this area contained a mix of palms and large cottonwood trees that

1. 2018, riparian vegetation that has changed since the 2015 flood and is growing alongside the creek that runs through the southern portion of Upper Vine Ranch (MIG)

2. 2018, vegetation on the south side of the Stables that has changed since the 2015 flood, riparian vegetation is on the left and shrubs hug the hillside (MIG)

3. 2018, the Long Shed Courtyard is an open space with a cluster of palms on the west end and a large mature cottonwood tree shading the non-historic restroom (MIG)

4. 2018, Long Shed Courtyard facing east, the sidewalk to the restroom is bordered by mature palms on the right and the watercourse plantings on the left (MIG)

spread naturally along the riparian corridor. In spring 2013, a fire burned this area. All that remains today are the burned stumps of the cottonwood trees. The stumps of palms that burned were removed. This area was drastically impacted by the 2015 flood, although some vegetation has regenerated.

Assessment: Non-contributing

LONG SHED COURTYARD PLANTING (GARAGE/LONG SHED/BUNKHOUSE GROUNDS AND PARKING LOT)

Historic Period: Historically, the areas north and south of the garage/long shed/bunkhouse were planted with fruit trees. This is depicted in drawings by both MacNeilledge and Kruckeberg. Trees including fig, pear, and apple were scattered both informally and in straight rows (running north-south) throughout the area. The area south of garage/long shed/bunkhouse was also used as a vegetable garden and vineyard. A historic photograph from the late 1920s indicates that the vegetable garden was plowed and approximately 100 feet by 100 feet. The same photograph also shows the vineyard was approximately half the size of the vegetable garden. Vines appear to have grown in formal looking rows running east-west. The picture does not reveal how the vines were staked, but the individual planting beds were defined by fences consisting of wood posts and wire. During construction, workers set up a small camp in this area. Apparently, the workers ate a great deal of the figs and other fruits from the trees as Johnson commented that "they don't last long to actually see them yourself, with so many men sleeping right under the fig trees".[104] Kruckeberg's plans

104 DEVA archives: MRT to AMJ, June 27, 1930, MSS 7 Box 11 Folder 3.

included this area into the new planting plan but did not specify plant varieties.

Existing Condition: Today, no fruit trees remain in these locations. A paved parking lot is located south of the garage/long shed/bunkhouse where the fruit trees, vegetable garden, and vineyard were once located. North of the garage/long shed/bunkhouse, a cluster of palm trees, large cottonwood trees, and several ornamental plants have been planted. Oleander (*Nerium oleander*) and California fan palms (*Washingtonia filifera*) planted in this area do not date to the period of significance.

Assessment: Non-contributing

HACIENDA PLANTING (GUEST HOUSE GROUNDS)

Historic Period: Historically the landscape plan for the guest house was designed to use water from the springs for a watercourse lined with a mix of desert wildflowers and unspecified shrubs. For unknown reasons this scheme was abandoned, and instead, a cactus garden was planted on the south side of the building. Like

1. *undated c. 1930 historic planting at the Hacienda included a mix of cacti and desert shrubs, including a mature Joshua tree trucked in to complete the design (DEVA 23036)*
2. *2018, a mix of rocks and desert shrubs fill in the sloping plant bed at the Hacienda (MIG)*
3. *2018, palms have been added to the Hacienda over time, but overall the arid character of the original planting scheme remains (MIG)*

the other cactus gardens designed in the developed core, Kruckeberg included the collection of small "desert rocks" placed randomly in the plant bed, producing a rich collection of colors and textures.

Plants specified include ocotillo (*Fouquieria splendens*) yucca (*Yucca sp.*), Joshua tree *(Yucca brevifolia)*, and saguaro cactus *(Carnegiea gigantean)* in addition to a mix of cactus varieties.[105] Unlike the south side of the building, the area north of the guest house was planted solely with grapevines.[106] A post card dated 1955 shows a dense mix of cacti and rocks in the south planting bed. This image is most likely the full realization of Kruckeberg's planting plan for this area.

During the Gospel Foundation period, Mary Liddecoat was known to garden in this area. A historic photograph from 1955 shows several cacti planted in the bed, but no evidence of a palm tree. Based on this documentation, it appears likely that either the Gospel Foundation or NPS planted the palm trees found in this garden today.

Existing Condition: The planting area associated with the guest house has lost some of its historic plantings. However, the scale, dimension, and arid character of the planting area remain with the scattered rocks and cacti. With exception of the two California fan palms *(Washington filifera)* currently growing in the bed, the remaining cacti are compatible with the original planting scheme. The plantings around the guest house also include a Joshua tree *(Yucca brevifolia)*, Mojave yucca *(Yucca schidigera)*, ocotillo (*Fouquieria splendens)*, and creosote bush *(Larrea tridentate)*. Plantings along the garage/long shed/bunkhouse include cholla cacti *(Opuntia imbricate)* along the north side of the building. Plantings between the cook house and gas tank house and around the main house and powerhouse are predominately non-historic oleander.

Assessment: Contributing

CASTLE PLANTING (MAIN HOUSE AND ENTRANCE ROAD)

Historic Period: During the period of significance, plantings around Scotty's Castle were small in scale and formal in appearance. Landscape plans prepared by Kruckeberg featured small, low growing hedges surrounding beds of grass at the main entrance of the castle,

105 MRT to AMJ, June 27, 1930, M7/B11/F3
106 DEVA archives: DRK to AMJ, February 16, 1931, M7/B20

1. *February 6th, 1931 view of the south and east façades of the Main House and Annex which historically were mostly bare of plantings due to the ongoing construction. A cluster of olive trees existed on the southeast corner. (DEVA 40339)*

2. *1965 view of the south and east façades of the Main House and Annex where oleander and palms were added after the period of significance (LA Public Library)*

3. *2018 view of the south and east façades of the Main House and Annex where palms have been removed but large oleanders remain (MIG)*

4. *undated, an early photo shows the finished grading of the entrance road alongside the swimming pool where willows grew at the base of the bank (DEVA 60668)*

5. *2018, today, a tall row of oleander planted after the period of significance creates a safety barrier along the entrance road, screening the view to the picnic area (MIG)*

a mix of desert wildflowers, cacti, and rockeries behind the Castle (never implemented); and potted plants, cacti, and grapevines in the courtyard.

Throughout the 1930s, palm trees, olive trees, and willows were established near the castle. Photographs from this period confirm that the olive trees and palms specified in Kruckeberg's plan were planted on the southeast corner of the castle in 1930.[107] The photographs show that five olive trees were planted in a tight group; and three palms were placed near the olive trees, near the end of the swimming pool. In terms of the design, these trees were used to define the space separating the formal pool and castle entrance from the driveway turnaround. It's not known when two Joshua trees (*Yucca brevifolia*) were planted on either side of the main house's east entrance gate, dated photographs are scant from the end of the historic period, but they don't appear in most.

The castle courtyard (between the main house and the annex) was planted in 1929 with flowers, cactus, and grapes.[108] Historical accounts describe cottontop barrel cacti (*Echinocactus polycephalus*) and beavertail cacti (*Opuntia bailaris*) lining both sides of the courtyard.[109] Mrs. Johnson experimented with flowers and cacti by placing them in planting beds or in pots on the patio, the front porch, and on the wrought iron stands on the lanai. The grape arbor, the most prominent planting in the castle courtyard provided shade during the summer months.

The grape vines and arbor were removed during the Gospel Foundation period. Other changes to vegetation during this period included the establishment of a row of oleander *(Nerium oleander)* along the south side of the entrance road.

Plans for plantings around the chimes tower remarkably called for a miniature cactus garden around the large and towering structure. The plan was general, but showed rocks and cacti planted densely in beds defined by concrete retaining walls. This garden was never constructed.

Existing Condition: Plantings around the main house are relatively sparse and do not reflect the original design character. Five olive trees and three palms planted on the southeast corner of the castle during the period of significance have since been removed. Several oleander shrubs planted in the 1970s remain and do not reflect the

6. *May 20th, 1931 the historic eucalyptus arbor with intertwining grape vines casts shade on the courtyard, potted shrubs and cacti line the planters along the sides (DEVA 41366)*

7. *2018 the arbor has long since been removed for safety, leaving the courtyard open to the desert sky and altering the character of the space (MIG)*

107 DEVA archives: MRT to AMJ, February 19, 1930, M7/B10/F2.
108 DEVA archives: MRT to AMJ, May 5, 1929, M7/B8/F2.
109 Houston 2012, 16.

design intent of the historic planting plan. Two Joshua trees flank the east entrance of the main house. In addition, a cactus garden has been planted on the footbridge that spans the swimming pool. It is not known when this planting was established, but historic photos reveal these planting did not exist during the period of significance.

The hillside at the base of the chimes tower is planted with oleander that appears to date to the Gospel Foundation era, planted in the 1950s or 1960s. The oleander are planted in an informal pattern on the hillside that helps stabilize the slope and mitigate potential erosion. Vegetation at the chimes tower does not relate to the original design character of the complex or reflect the historic character of vegetation established during the period of significance.

The historic entrance road to the main house and the chimes tower is lined with oleander planted during the Gospel Foundation era. They were clipped over the years to form a hedge, but that practice seems to have been suspended in recent years.

Assessment: Non-contributing

LANDSCAPED TERRACES (COOK HOUSE GROUNDS)

Historic Period: The original landscape plan for the cook house included an elaborate system of rock retaining walls to take up the grade, creating a significant area for plantings. Construction of the rock retaining walls, on the south side of the cook house, was supervised by Dewey Kruckeberg. His planting recommendations called for seven olive trees and a simple planting of wildflowers on each terrace. Historic photographs reveal, however, that only three olive trees were planted. Although none of the photos show a profusion of wildflowers, it is clear that small ground cover plants were established on at least one of the terraces. Potted cacti were also planted in this area.[110] During the Gospel Foundation period, the olive trees were replaced with oleander shrubs, California fan palm, and other plants. These new plantings do not appear to follow a formal planting plan.

Existing Condition: Today, there are no historic plantings associated with the cook house. Some of the plantings from the Gospel Foundation period do remain such as the California fan palms (*Washingtonia filifera*), oleander (*Nerium oleander*), creosote bushes (*Larrea tridentate*), and one Joshua tree (*Yucca brevifolia*) The current plantings do not reflect the original vegetation, design intent, or general character of plantings originally associated with the cook house.

Assessment: Non-contributing

1. *undated, c.1931 landscaped terraces at the Cook House, designed by Dewey Kruckeberg (DEVA 40401)*

2. *2018, the terraces today have a mix of much smaller shrubs and large palm trees (MIG)*

110 DEVA archives: Letter from DRK, "Instructions for Maintenance of Gardens During Shutdown," July 26, 1930, M7/B20.

3. *2018, the Chimes Tower, sited at the foot of Windy Hill, offers views in all directions of the castle complex to the east and the open canyon towards Tin Mountain to the west. Bonnie Clare Road can been seen snaking its way along the southern slopes of the canyon (MIG)*

VIEWS AND VISTAS

Historic Period: During the planning and development of the site, Johnson and his team of designers realized the potential to expand the scale and dimension of the property by emphasizing views both out of the canyon, and from Bonnie Clare Road to the property. Most of the views out from the property are from structures built on the west end of the complex, or on the terrace above the canyon floor. For example, from buildings on the terrace above the canyon floor, the dramatic slopes of Grapevine Canyon framed views to Tin Mountain located to the west in Death Valley. The location for the chimes tower was chosen, in part, for its visibility from Bonnie Clare Road. In the final development, Johnson ensured that the view to the chimes tower would be framed by Cottonwood Corner and Cathedral Rock as a "pleasant approach" to Scotty's Castle.[111]

There are three important historic views to Scotty's Castle on the approach east from the floor of Death Valley into Grapevine Canyon along Bonnie Clare Road. Historically the road was aligned to pass by the heavily vegetated S-curve at Cottonwood Corner, providing a distinct visual transition from the desert landscape to an oasis-like setting. Continuing northeast along the Bonnie Clare Road, a prominent view of the chimes tower becomes a focal point, letting visitors know they are near the castle site. Closer to the complex, the historic main entrance gate is sited at a sharp curve in the road, which is highly visible to motorists arriving from either direction. The view toward Tin Mountain in Death Valley proper is an important view from the chimes tower.

Existing Condition: Today, the key views from Scotty's Castle to Tin Mountain, and from Bonnie Clare Road to Cottonwood Corner and the chimes tower remain. In addition, there are existing historic views from Scotty's grave site looking primarily east and south, from the stable looking west, and from the chimes tower looking across the landscape primarily to the south and west.

Assessment: Contributing

111 DEVA archives: M7/B19/F5.

1. *undated, Albert Johnson testing one of the fire hydrants (DEVA 43264)*

2. *2018, modern fire hydrant updated by NPS (MIG)*

3. *2018, bench near the Watercourse (MIG)*

4. *2018, Wishing Well, complete with tiling installed by the Gospel Foundation towards the end of the historic period (MIG)*

5. *2018, propane tanks behind the Stables (MIG)*

6. *2018, Death Valley Scotty and Windy's Grave markers (MIG)*

SMALL SCALE FEATURES

Historic period: There is scant information about small scale features during the historic period. The main character of them stems from the fact that this was an unfinished construction site for most of the historic period so small scale features were predominantly utilitarian in nature.

Existing Condition: Few small-scale features survive at Scotty's Castle from the period of significance. A number of small scale features have been added to the site since the period of significance, reflecting the need to accommodate park operations and provide a safe environment for park visitors. These include garbage cans and dumpsters, benches, interpretive signs, directional signs, and wayfinding signs to support modern uses of the site.

Notable small scale features that do remain from the period of significance and contribute to the character of the historic district include the wishing well and Death Valley Scotty (Walter Scott) grave marker.

BENCHES

Historic Period: Benches did not exist during the historic period.

Existing Condition: The benches added by NPS along the constructed watercourse are intact.

Assessment: Non-contributing

WISHING WELL

Historic Period: The wishing well at Scotty's Castle was incomplete until the Gospel Foundation began operations. The Foundation added decorative tiles to the structure by October of 1948 using tiles intended for the pool, found in storage.[112] Sited in the center of the historic turnaround/plaza, the wishing well sits on a small raised concrete fountain comprised of two roughly semicircular tile pools.

Existing Condition: Today, the pool around the well does not hold water and is covered by a piece of plywood painted white and cut to fit neatly within the top. There are concrete steps between the two pools that connect to the well.

Assessment: Contributing

FIRE HYDRANTS

Historic Period: Fire hydrants existed during the historic period based on photographs, though not all of their historic locations can be verified due to insufficient historic information or existing documentation.

Existing Condition: Most fire hydrants at Upper Vine Ranch have been replaced by NPS since the historic period with standard modern hydrants painted yellow and appear to be in working order. Remaining remnants of the historic hydrants look like 3-inch pipes and can be found in Tie Canyon.

Assessment: Undetermined

PROPANE TANKS

Historic Period: n/a

Existing Condition: The propane tanks, added by the Gospel Foundation and later, are located east of the stables.

Assessment: Non-contributing

RETAINING WALLS

See Buildings and Structures.

GRAVE SITE MARKERS ("DEATH VALLEY SCOTTY" WALTER SCOTT AND WINDY)

Historic Period: Death Valley Scotty (Walter Scott) was buried in 1954, at a gravesite located at the summit of Windy Hill, overlooking Scotty's Castle. The grave site includes a redwood cross which predates the grave and other monuments. The grave marker itself is a rectangular stone and mortar grave cap edged with poured concrete. A wood post and chain link fence surrounds the cap. A stone and mortar monument with a bronze plaque affixed to the north facing elevation is located adjacent to the grave. The plaque is adorned with a bas relief image of

112 Livingston, 367.

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Scotty at the top and is inscribed with a quote. Windy, Scotty's beloved pet dog whom the hill is named after, is buried next to his grave and is marked by a small mortar and stone monument.

Existing Condition: Scotty's grave marker remains in its original condition as a testament to the legend of Death Valley Scotty and the role that he played in the construction and development of Johnson's ranch.

Assessment: Contributing

TIE CANYON CONSTRUCTION REMNANTS

Historic Period: Tie Canyon and Upper Tie Canyon served as the primary utility space for staging materials and manufacturing concrete. In January 1928, Johnson capitalized on the closure of the Tonopah and Tidewater rail line and purchased thousands of railroad ties to use as fuel to heat the buildings. After rail service stopped, all the railroad ties were gathered and stockpiled in Tie Canyon, just west of the building complex. To deliver the railroad ties, approximately one mile of new road was built through the canyon. Before the branch line closed, Johnson had numerous carloads of supplies delivered, including concrete, clay tiles, fence wire, and nails. As more railroad ties were delivered over the next year, additional roads were built in Tie Canyon. In 1929, a small utility shack in Tie Canyon, referred to as the watchman's cabin. Over the years, Tie Canyon also served as a junk yard, containing a mix of trash and historic materials including old wagons, Pelton wheels, concrete fence posts, run down vehicles, and telegraph poles[113].

Existing Condition: Today, Tie Canyon continues to provide storage for remnant railroad ties, clay tiles, fence wire, discarded vehicles and other materials. It is essentially intact, although there have been some modifications, including a parking area added by NPS in the 1970s. Throughout the 1990s, additional improvements were made, including rehabilitation of the watchman's cabin in Tie Canyon. The wooden ties were restacked to improve the physical appearance of the area and provide greater interpretation. Both Tie Canyon and Upper Tie Canyon were affected by the 2015 flood which washed ties and other materials down the canyon.

Assessment: Contributing

FENCE POSTS (PERIMETER FENCE)

Historic period: Between 1926 and 1931, Albert Johnson coordinated the construction a fence containing more than 3,100 fence posts, built to enclose both Scotty's Castle and Lower Vine Ranch. In most cases the reinforced concrete posts were molded to eight or eleven-feet long, with the taller posts intended for use along the public roads, and were situated approximately fifteen to twenty-feet apart, generally strung with barbed wire or in some instances mesh wire.[114] Most of the fence posts represented the standard tapered style rounded on three sides at the top with one side flat and embossed with an "S" and "J" brand; however, there was some variation in post design and decoration. A section of the fence was constructed of wood posts near the entrance to the spring (east of Scotty's Castle) from Bonnie Clare Road.

113 Livingston, 408.
114 Livingston, 225

1. *2018, Tie Canyon Construction Remnants (MIG)*

Existing Condition: Most of the original reinforced concrete posts still exist in their original location. The major exception is along Bonnie Clare Road where many of the pasts were moved, damaged or destroyed by the 2015 flood, especially on the east side of the historic district. In many cases, these posts are visible on site, although not in their original location or condition. Much of the original barbed wire still attached to these posts, while on site, is twisted and distorted as well.

Except for the damaged or destroyed posts, which are slated for reconstruction, the fence remains in its historic location and is a contributing feature in the landscape.

Assessment: Contributing

WATERCOURSE BOULDERS

Historic Period: Work on the mounded rock-lined watercourse designed by Kruckeberg began in 1930 and was completed the following winter. In addition to two large pools and approximately 110 feet of rock work on either side of a built stream, it included a locally discovered petroglyph that was moved to the site and incorporated into the design. It was placed just south of the stream's west end and its final fall before disappearing underground. The relocation of this petroglyph and other large boulders required the use of Model 30 caterpillar tractors, large trailers, and as many as five workers at a time and several man-hours to accomplish.

Existing Condition: The boulders with petroglyphs are intact in their original location, but the condition of some of the petroglyphs has deteriorated.

Boulder #1 (CA-INY-280): Noted in the 1978 National Register nomination, boulder #1 is an object that contains 9 petroglyphs. The boulder is located on the grounds of Scotty's Castle at the southwest end of the watercourse. The boulder was moved from its original location, which is unknown and placed on display by Johnson as a landscape feature during the period of significance. The site was recorded in Heizer's and Clewlows' Prehistoric Rock Art of California. Analysis of the petroglyphs suggests that one of the elements is angular, while the remaining 8 are curvilinear.[115] The high percentage of curvilinear elements suggests that it is associated with the Great Basin petroglyph style.[116] The accepted age of the Great Basin petroglyph style in California ranges from 1,000 B.C. to 1,000-1,500 A.D.[117] At an unknown date, this feature was documented as INY-3070.

Boulder #2 (CA-INY-3070): Located on the south side of the watercourse, this boulder

2. *2018, a close up of the S / J stamp found on the iconic concrete posts (MIG)*

3. *2018, parts of the fence line along Bonnie Clare Road were damaged by surging flood waters (MIG)*

115 Robert F. Heizer and C. William Clewlow, Prehistoric Rock Art of California, vol. 1 (Ramona, CA: Ballena Press, 1973), 24.
116 Heizer and Clewlow, 71.
117 Heizer and Clewlow, 25.

contains a modern petroglyph that appears to be a mule. This object was installed as part of landscaping development associated with construction of Scotty's Castle and is a contributing feature.

Boulder #3 (CA-INY-3070): Boulder #3 is located on the north side of the watercourse and contains 11 petroglyphs on the top, south, west and east sides of the boulder. This object was installed as part of landscaping development associated with construction of Scotty's Castle and is a contributing feature.

Boulder #4 (CA-INY-3070): Boulder #4 is located on the north side of the watercourse next to the west edge of boulder 3. It contains two circular petroglyphs on the top of the boulder. This object was installed as part of landscaping development associated with construction of Scotty's Castle and is a contributing feature.

Boulder #5 (CA-INY-3070): Situated adjacent to the entrance of the gas tank house, boulder #5 contains five petroglyphs on its east, west, and south faces. This object was likely installed as part of landscaping development associated with construction of Scotty's Castle and is a contributing feature.

Assessment: Each of the boulders is a contributing feature.

1. *undated, c.1931 the large petroglyph boulder #1 in place at the end of the watercourse (DEVA 23105)*

2. *2013, Watercourse Boulder with petroglyph (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)*

3. *2013, Watercourse Boulder with petroglyph (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)*

4. *2013, Watercourse Boulder with petroglyph (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)*

5. *2013, Watercourse Boulder with petroglyph (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)*

6. *2013, Watercourse Boulder with petroglyph (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)*

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LOWER VINE RANCH

NATURAL SYSTEMS AND FEATURES

Historic Period: Natural systems and features directly influenced the location and spatial organization of development at Lower Vine Ranch. Johnson was primarily influenced by the location of nearby springs and the natural topography of the site. The location of the springs prompted Johnson to farm the land near the springs to protect his claim to water rights. The alluvial fan near the mouth of Grapevine Canyon was near the springs and the gentle grades of this landform allowed for the development of roads, a reservoir, and the ranch core.

The most significant alterations made to Lower Vine Ranch during the period of significance were modifications to the natural landscape implemented to capture spring water in support of farming and provide water for living on the property. Between 1926 and 1929, Johnson dug several ditches from the nearby springs to fill reservoirs (one within proximity of the ranch core and another on the plateau above the ranch core). He also used ditches to divert spring water to Scotty's Ranch House, the agricultural fields, and a water trough located at the ranch's entrance.

Existing Conditions: The springs used by Johnson and Scotty still flow and the system of ditches, reservoirs, and water trough remain and contribute to the historic character of the landscape, although they are in a deteriorated state.

CLIMATE (MACRO AND MICRO)

See "Climate (macro and micro) under Scotty's Castle, Natural Systems and Features.

1. *2018, East Corral and Grain Shed at Lower Vine Ranch (MIG)*

2. *Aerial view of Lower Vine Ranch showing how the core area is located at the base of a hillside that has numerous springs which contribute to the more lush vegetation on the left side of the image. As the water decreases, the vegetation communities change (Google Earth 2019 DigitalGlobe)*

1. *Aerial image of the area surrounding Lower Vine Ranch showing the topography and alluvial fan associated with the springs drainage (Google Earth 2019 DigitalGlobe)*

2. *undated, view of Lower Vine Ranch showing its location on an alluvial fan at the base of the Grapevine Mountains (DEVA 50616)*

3. *2018, view of Lower Vine Ranch topography (MIG)*

ALLUVIAL FAN

Historic Period: Lower Vine Ranch was sited in this location due to the existence of a nearly level alluvial fan that is flanked on the east by cliffs and a plateau. The alluvial fan, associated with a series of springs and drainages connected with Grapevine Springs located to the east, provided ample space to construct buildings and grow crops.

Existing Condition: Lover Vine Ranch's 1,173.8-acre tract is comprised of a nearly level alluvial plain. It has remained intact since the end of the period of significance.

Assessment: Contributing

NATURAL TOPOGRAPHY

Historic Period: The topography and the natural morphology of Lower Vine Ranch, particularly its location on an alluvial fan, were important factors which influenced Johnson's decision to build the ranch in this area. Located at an elevation of 2,200 feet, the ranch core is situated on a relatively level section of land. From the ranch's core the grade slopes gently to the west. To the east it rises more rapidly due to a set of cliffs that level out onto a plateau. This topography provides protection along the back of the ranch's core to the east and a wide-open prospect to the west with views of the valley floor, Dry Mountain, and Tin Mountain in the distance.

Existing Condition: The topography of Lower Vine Ranch remains as it did during the historic period.

Assessment: Contributing

GRAPEVINE SPRINGS

Historic Period: Grapevine Springs were a major factor in siting Lower Vine Ranch in this area, and Johnson specifically tapped into the series natural springs to provide water for domestic and agricultural use, and to solidify his claim on the property's water rights. The water from these springs flowed east to west through Lower Vine Ranch from their origination points located on the plateau and in the cliffs

4. *2018, view of springs located on the hillside above Lower Vine Ranch's core (MIG)*

5. *2018, water from the springs flows uncontrolled along the Entrance Road (MIG)*

6. *2018, drainage wash that carries water during storm events near Lower Vine Ranch's core (MIG)*

located east of the ranch's core. During the historic period Johnson built a system of ditches to direct the water associated with Grapevine Springs to reservoirs, the ranch's core, and agricultural fields.

Existing Condition: The springs continue to exist east of the ranch's core and flow from east to west through Lower Vine Ranch. The water is conveyed differently depending on the flow's location. In some areas, the spring water still flows through remnants of narrow ditches, some of which have been filled with sediment so are likely shallower and narrower than they were during the historic period. East of the ranch's core, closer to the cliffs, much of the spring water sheet flows over the landscape and the sounds of running and gurgling water are evident. The entrance road also serves as a conduit for spring water, both through its center and down its sides. Though how the water flows through the property has changed course in some areas where it is not as controlled or directed, the springs themselves remain in place as an active source of natural water.

Assessment: Contributing

NATIVE VEGETATION

Historic Period: No documentation exists about what type of native plants were present around Lower Vine Ranch during the historic period, but it can be surmised it was similar to what is found today.

Existing Condition: The plant communities in this location vary from thicker vegetation near the vernal pools and seasonal streams of the springs where they have more regular access to water to creosote scrub more typical of the lower elevations of the Grapevine Mountains. This likely indicates that Lower Vine Ranch straddles an ecotone consisting of two plant communities, phreatophytes and xerophytes. Plant communities within Lower Vine Ranch exhibit qualities associated with phreatophytes, which typically grow at the foot of alluvial fans where ground water is shallower or where springs are located, though their roots can grow to extensive lengths to underground water

1. *undated, ranch workers sitting on a dock at the Reservoir at Lower Vine Ranch (DEVA 43262)*

2. *1929, ranch workers clearing alfalfa fields at Lower Vine Ranch (DEVA 40722)*

3. *1929, car at the entry area where the entry road intersects with the Perimeter Fence and Entry Gate (DEVA 40672)*

4. *2018, entry area where the entry road intersects with the Perimeter Fence and Entry Gate (MIG)*

sources. These include screwbean mesquite (*Prosopis pubescens*), honey mesquite (*Prosopis glandulosa*), jimsonweed (*Datura wrightii*), and pickleweed (*Allenrolfea occidentalis*). However, xerophytes which are more drought tolerant can also be found in this area meaning it is likely an ecotone between the two plant communities. These include desert holly (*Atriplex hymenelytra*), and creosote bush (*Larrea tridentata*).

Assessment: Contributing

SPATIAL ORGANIZATION

Historic Period: The 1,200-acre Lower Vine Ranch encompassed a larger area of land than Scotty's Castle, but it had far fewer buildings, structures, and roads. Only seven acres were developed during the period of significance. Two clusters of development were established within the southern portion of the property: the ranch core and the reservoir, connected by roads and a trail. Between the two clusters were approximately six acres of agricultural fields. Organization of built features at Lower Vine Ranch responded to the natural topography, availability of water, and property lines. The entire 1,200-acre property was enclosed by a concrete post and barbed wire fence; the same style of fence that delineated the Scotty's Castle property. A dirt road paralleling the perimeter fence provided guests a scenic drive around the property and made maintenance of the fence much easier. In addition to the perimeter fence, a significant interior fence was constructed during the period of significance to enclose the developed areas. This was constructed in the same style as the perimeter fence.

The ranch core was comprised of a residence, several outbuildings, and a corral accessed by a narrow, dirt road. It covered approximately one acre of relatively flat land at the base of a plateau. Water was supplied to the ranch core from springs and a small reservoir on the plateau above.

The larger reservoir and a small cluster of structures was located one-mile northwest of the ranch core. This cluster was accessed by another narrow, dirt road. The reservoir was used for both irrigation and swimming. In support of swimming, a change house was built nearby. A cluster of trees were planted along the perimeter of the reservoir, likely to provide shade. The reservoir remains but is no longer filled with water. The associated outbuildings and structures are in poor condition. The area is still accessed by the historic access road and a cluster of tall shade trees still punctuate the landscape, visually marking the reservoir's location.

Between these two developed clusters, six acres were used for agriculture, including approximately five acres adjacent to ranch core and one acre near the reservoir. Water was historically collected in the reservoirs and conveyed to the ranch core and agricultural fields by a system of earthen ditches.

Existing Condition: Patterns of historic spatial organization established at Lower Vine Ranch remain today. These patterns include two areas of development; the ranch core where most of activities occurred, and the reservoir area. Access to both areas is still via narrow dirt roads. The agricultural fields adjacent to the two areas are no longer actively farmed and no longer visible, but the system of irrigation ditches that historically channeled water to the fields remain in most locations. The ranch core is still comprised of buildings, structures, corral, and access road. The reservoir area has lost some of its buildings, but the reservoir itself remains along with some of the shade trees. Both the perimeter and the interior fences remain intact though the condition of different sections varies.

ENTRY AREA

Historic Period: The entry formed at a point where the entry road intersected with the perimeter fence and entry gate. This portion of the fence was built by early 1929. That same year Johnson directed the construction of an irrigation ditch system that would carry water from Grapevine Springs via a pipe to a public water trough located on the west side of the perimeter fence. The mortared stone public water trough was positioned on a concrete base

1. *1929, view of the Ranch House cluster located near a mesquite tree at the base of the hillside (DEVA 40821)*

2. *2018, Ranch House and Garage (MIG)*

3. *2018, the reservoir area is no longer filled with water, but does retain some of the trees that were planted around its perimeter (MIG)*

east of the entry road and south of the perimeter fence. The landscape surrounding the entry consisted of native vegetation. Views of the Grapevine Mountains appear from this point to the east and views of Dry Mountain and Tin Mountain appear to the west. Though faint, portions of the ranch house cluster can be seen from here as well.

Existing Condition: The entry remains in its historic location at the intersection of the entry road and perimeter fence and gate, all of which are still present. The public water trough, though no longer supplied with water, is also intact. Native vegetation continues to surround the entry, and views present during the historic period remain.

Assessment: Contributing

RANCH HOUSE CLUSTER

Historic Period: The ranch house cluster was constructed in the late 1920s and early 1930s as the core of Scott's home at Lower Vine Ranch. Buildings within this cluster were built in a vernacular bungalow style, typical of 1920s California architecture. The ranch house was surrounded by utilitarian buildings and structures which facilitated the living and working functions of the small ranch, including a blacksmith forge, corrals, grain shed, hay platform, and garage. The cluster was located on a sloping section of the alluvial fan that emanated from drainages of Grapevine Springs located to the east. The ranch house, garage and blacksmith forge formed the northeastern most boundary of the cluster with the grain shed and corrals formed the southwestern boundary. The entrance road was located on the west side of the buildings with the exception of the ranch house where it terminates. Shade trees, including cottonwood and mesquite surround the southern and eastern sides to provide some privacy.

Existing Condition: The ranch house cluster remains in its historic location and all the major features that were present during the historic period are intact. Except for some movable site furnishings nothing has been added since the end of the period of significance. The vegetation which has

4. *2018 Perimeter Fence Line (MIG)*

naturalized and matured shows the most change and as do the corrals which are in a state of disrepair in some sections. The view from the ranch house to the south is also impacted by the maturing trees.

Assessment: Contributing

RESERVOIR AREA

Historic Period: In 1927, Thompson supervised the construction of the reservoir as he was working on the perimeter road. It needed constant maintenance since it easily filled with sediment. In 1928, just a year after being completed the reservoir needed dredging to prevent water from flowing over the reservoir's walls. The outer earthen walls of the reservoir were approximately four-feet high and ten-feet wide, and cottonwood trees were planted around its perimeter approximately twenty-five feet on center. Thompson noted in February 1929 that the ditches leading to this structure produced about 575 gallons of water per minute. Historically, it was also used as a swimming hole.

Existing Condition: The reservoir is located northwest of the ranch core. It measures approximately fifty feet by fifty feet. Its depth fluctuates given the amount of sediment that has been deposited, but the walls are still visible in the landscape. It is oval-shaped and constructed of earthen walls or berms with an outflow pipe imbedded in a stone and mortar head gate. The reservoir no longer retains water, but its structure is generally intact. A few clusters of trees remain around the reservoir consisting of cottonwood trees (*Populus fremontii*), screwbean mesquite (*Prosopis pubescens*), and honey mesquite (*Prosopis glandulosa*).

Assessment: Contributing

PERIMETER FENCE LINE

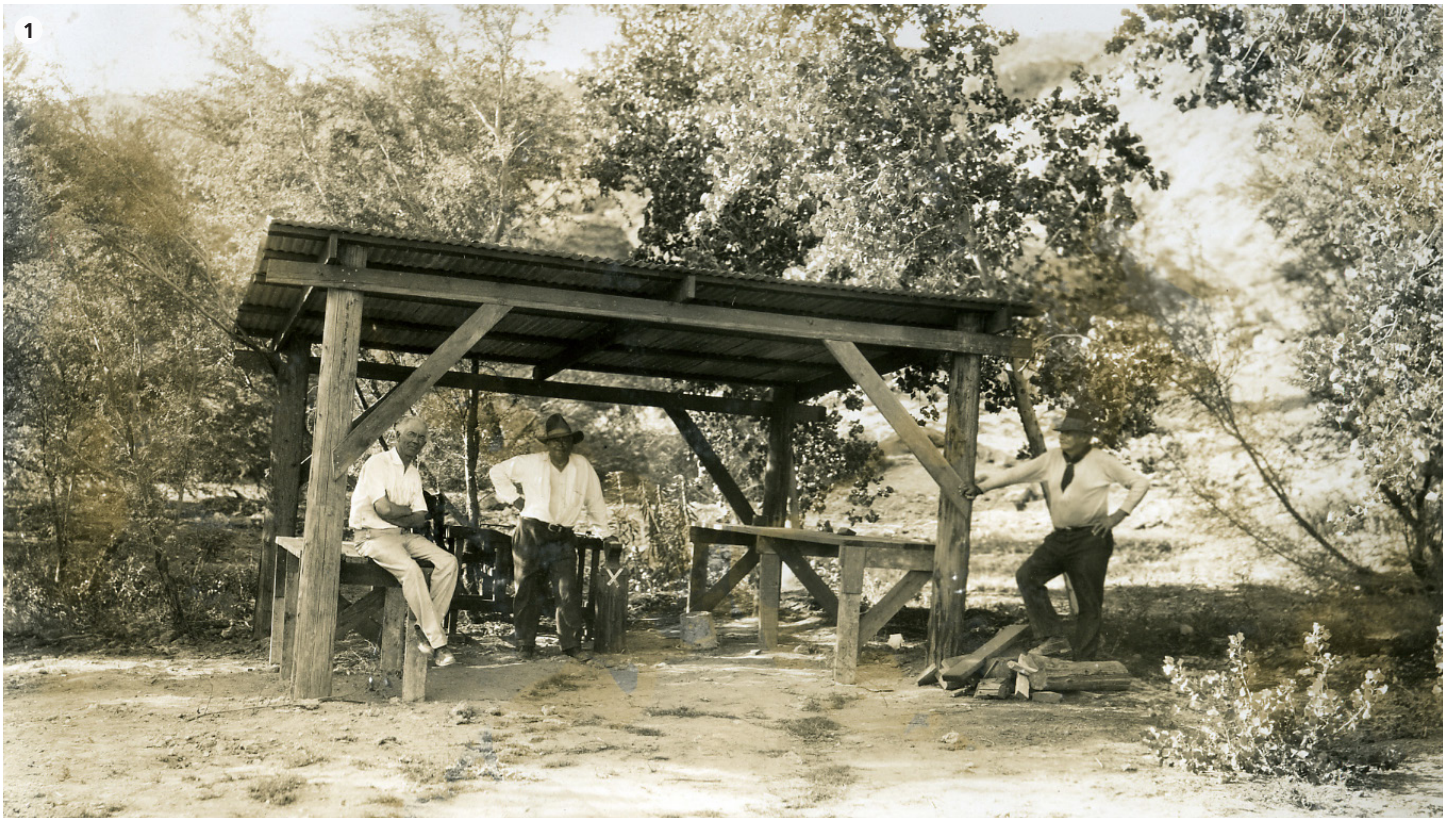
Historic Condition: In the late 1920s Johnson coordinated the construction of a fence to enclose Lower Vine Ranch that ran along the boundary of the 1,200 acre property. In most cases, the seven-foot tall reinforced concrete posts were situated approximately 15 feet apart and were generally strung with barbed wire or in some instances mesh wire. Most of the fence posts represented the standard tapered style rounded on three sides at the top with one side flat and embossed with the "S/J" enclosed in circles; however, there was some variation in post design and decoration.

Existing Condition: The Perimeter Fence exhibits the same qualities it did during the historic period and most portions are still intact along the property boundary.

Assessment: Contributing

BUILDINGS AND STRUCTURES

Historic Period: In contrast to the high style buildings at Scotty's Castle, the buildings at Lower Vine Ranch were built in a vernacular bungalow style, typical of



1. *undated, Blacksmith Shed surrounded by shade trees (DEVA 41358)*

2. *2018, Blacksmith Shed (MIG)*

3. *1929, Ranch House nearing the end of its construction (DEVA 40812)*

4. *2018, Ranch House's south façade (MIG)*

5. *2018, Ranch House's north façade (MIG)*

1920s California architecture, in the late 1920s and early 1930s. The main buildings were conceived as early as 1926 by interior designer Charles MacNeilledge. The ranch house was surrounded by utilitarian buildings and structures that facilitated the simple living and working functions of the property as a small ranch, including a blacksmith forge and shop, corrals, grain and storage sheds, hay platform, and garage. Further west was the change house that people used to change clothes before swimming in the reservoir.

Existing Condition: Lower Vine Ranch is a relatively small site with a vernacular architectural character. The primary development at Lower Vine Ranch is concentrated in a compact area near the springs at the southern part of the ranch. Buildings and structures located at the Lower Vine Ranch include Scotty's ranch house, garage, blacksmith forge, tack shop, loading ramp, hay platform, a corrugated metal building (Indian cabin), change house, wood platform, and earthworks associated with the reservoir. The most prominent buildings are Scotty's ranch house, garage, and tack shop. These buildings are constructed with redwood stained dark brown. Scotty's ranch house and the outbuildings are simple bungalow style structures, without much ornamentation or architectural detail. The wood corrals are relatively extensive and located southwest of the building cluster. Today, buildings at Lower Vine Ranch are stabilized but unoccupied and closed to the public, receiving only limited interpretation.

RANCH HOUSE (SCOTTY'S RANCH HOUSE)

Historic Period: Scotty's ranch house was designed by MacNeilledge and constructed between September 1929 and Winter 1930. MacNeilledge designed a modest wood bungalow style for the residence and garage using redwood siding stained dark brown and simple gable roofs. The house was built near the site of Albert Johnson's earliest Death Valley prospecting base camp at Grapevine Springs, where he and Scotty visited on several occasions between 1906 and 1920. Scotty lived in the house from the time of its completion to around 1952, when he moved to Scotty's Castle due to ill health. The Lower Vine Ranch was always closed to the public. After Scotty died in 1954, the ranch house was mothballed and largely forgotten by everyone, including the Gospel Foundation. It was rehabilitated and stabilized in the 1980s by NPS.

Existing Condition: Scotty's ranch house is sited near the bottom of a slope, and oriented south towards the access road. The ranch house has a cross-shape plan and measures approximately thirty-three feet by forty-six feet. It is a one-story wood frame building with a concrete foundation. The intersecting gable roof is clad with wood shingles. An interior brick chimney rises above the east side of the roof, and exposed wood rafter tails are visible under the open eaves. It also includes slab floors, decorative horizontal siding, wood shingles at gable ends, and shutters with three-diamond patterns. Today, the house is occasionally opened for public tours.

Assessment: Contributing

BLACKSMITH SHED (BLACKSMITH FORGE)

Historic Period: Constructed circa 1930, the shed provided a simple shelter for shoeing horses and performing small mechanical tasks. It was the last structure added to the ranch core.

Existing Condition: The blacksmith shed is a fifteen-foot by fifteen-foot square open structure. It is covered by a corrugated metal shed roof that is supported by four peeled ten-inch log posts. It has a dirt floor with no foundation. A three-foot high workbench is built into the east posts. Today, the blacksmith shed appears much as it did during the period of significance. It retains physical integrity and contributes to the significance of the historic district.

Assessment: Contributing

GRAIN SHED

Historic Period: Built circa 1929-1931, very little information is available

1. *2018, Grain Shed and part of the Corral (MIG)*

2. *2018, Change House near the Reservoir (MIG)*

3. *2018, Hay Platform within the Corral (MIG)*

regarding the design and construction of the grain shed. It was built in the vernacular bungalow style with dark brown stained redwood, like the treatment used for the ranch house and garage.

Existing Condition: The grain shed is located northeast of the corrals. It is a rectangular, wood structure that measures roughly twelve feet by eighteen feet. It was constructed on a wood and field stone foundation and is clad with redwood horizontal beveled and shiplap siding. The gable ends are clad in redwood shingles with louvered wood vents. The gable roof is clad with wood shingles. A pair of vertical batten doors with diagonal bracing and metal strap hinges opens on the east elevation. Single wood window frames with cladding infill the center on the north and south elevations. Today, the grain shed appears much as it did during the period of significance. It retains physical integrity and contributes to the significance of the historic district.

Assessment: Contributing

CHANGE HOUSE

Historic Period: The change house was built on the west end of the property near the reservoir during the historic period to provide people with a changing room when they swam in the reservoir.

Existing Condition: The change house ruin is located southeast of the reservoir at the end of the road to the reservoir. It is a redwood structure that measures sixteen feet by eighteen feet. Today, the building is severely deteriorated and is not in use. The sides have collapsed and are laying on top of the foundation or adjacent to the ruin, and the rafters that supported the canvas roof have collapsed.

Assessment: Contributing

HAY PLATFORM

Historic Period: The Hay Platform was constructed within part of the corral that is located furthest from the ranch house. That corral was built in 1927 and the hay

4. undated, Stone Building and Wood Shed (no longer extant) at the base of the hills (DEVA 508912)

5. 2018, remnants of Stone Building (MIG)

6. 2013, Indian Cabin (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)

platform could have been built at the same time or soon after. It was built to provide an above-ground storage space for hay.

Existing Condition: A wooden hay platform is located adjacent to the corrals. The level platform measures twenty-five feet by forty feet and was built with railroad ties on a slight slope. The eastern edge is at grade while the west edge is supported above grade with additional railroad ties supports. The platform is surrounded by a fence with six-foot tall concrete posts and page wire. The north side of the structure has a three-foot high wall constructed of wood boards.

Assessment: Contributing

STONE BUILDING (RUINS)

Historic Period: As early as 1907 people were using the Lower Vine property as a camp and descriptions of one of the early camps on this site described a stone building, "It was a great large boulder there in the side of a hill [with] other rocks laid up around to make walls to the building and it had a tule roof over it with a wooden floor…. This rock house or cabin… did not have the appearance of anyone having lived there recently. There were no articles around, no stove, tables or anything in it. There was a door. It was close, just so it would swing back and forth, no latch on it."[118]

Existing Condition: Remnants of a stone building are built adjacent to a rock outcrop northwest of the Blacksmith Shed. Portions of the dry laid stone walls remain on the west and east sides, rising between two feet and five feet off the ground. The west side wall is more intact and extends about eight feet from the rock outcrop. The east side wall extends about three feet from the rock outcrop. The south side wall is a pile of rubble, and the north side wall is the rock outcrop. No roof or door is present, and no other built features associated with the building remain.

Assessment: Undetermined. According to the draft Death Valley Scotty Historic

118 Livingston, 35..

1. *2018, Garage (MIG)*

2. *1929, East Corral (DEVA Neg. 7864)*

3. *2018, West Corral (MIG)*

District National Register nomination, "these dwellings may be associated with the Steininger occupation or Death Valley Scotty,… [but] their historical significance and associations are not clearly understood and likely predate the period of significance."[119]

INDIAN CABIN (CORRUGATED METAL BUILDING) SITE

Historic Period: Details about its construction and use during the historic period are unknown.

Existing Condition: The Indian cabin is a small, corrugated metal building ruin located approximately 300 yards east of the Ranch House. The gable-roof building measures approximately twelve feet by fourteen feet. The walls are of horizontal and vertical rough plank wood with corrugated metal in places, while the roof is comprised of a mix of corrugated metal and wood planks.

Today, the building is in a severely deteriorated condition and is not in use, but the site contributes to the significance of the historic district according to the draft National Register amendment.

Assessment: Contributing

GARAGE

Historic Period: Designed along with the ranch house in 1926 by MacNeilledge, the bungalow style garage was built by early 1930 in conjunction with the construction of the ranch house. The garage housed an automobile and was used for storage. Despite Scotty's departure in 1952, the garage continued to house an abandoned automobile until the 1970s.

Existing Condition: The garage is located northwest of the ranch house and is oriented south. It is a one-story, rectangular structure constructed on a concrete foundation with a wood-shingle gable roof. The walls are clad with redwood horizontal beveled and shiplap siding, like the ranch

119 Gjesfjeld, Cortney Cain. Death Valley Scotty Historic District Draft National Register of Historic Places Nomination Amendment, 2013, Section 8, page 44.

house. Redwood shingles cover the gable ends, which also have louvered wood vents.

Assessment: Contributing

WEST CORRAL (RECTANGULAR)

Historic Period: The corrals at Lower Vine Ranch were constructed in stages. The west (rectangular) corral was completed in 1927. The east (circular) corral was completed by 1931. The west corral was constructed of dimensional, rough-hewn redwood lumber.

Existing Condition: The west corral has an approximately five feet high fence with posts spaced seven feet on center with four horizontal cross timbers. A diagonal section of fence links the west corral with the hay platform. In the 1980s, repairs were made to the corral including portions that were stabilized with nails and wire, a new concrete post with an experimental base installed, and vegetation removed.[120] The corral was treated with Dursban TC Termiticide in 1991.[121]

Assessment: Contributing

EAST CORRAL (CIRCULAR) AND LOADING CHUTE

Historic Period: The corrals at Lower Vine Ranch were constructed in stages. The east (circular) corral was completed by 1931, and the west (rectangular) corral was completed earlier in 1927. The east corral was constructed of dimensional, rough-hewn redwood lumber and was used by Death Valley Scotty to train mules.

Existing Condition: The east corral has an approximately five feet high fence with posts spaced seven feet on center with four horizontal cross timbers. A loading chute is located on the southwest side of the corral near the hay platform. A diagonal fence that connects the grain shed with the west corral is located north of the east corral. In the 1980s, repairs were made to the corral including portions that were stabilized with nails and wire, a new concrete post with an experimental base installed, and vegetation removed.[122] The corral was treated with Dursban TC Termiticide in 1991.[123]

Assessment: Contributing

WOOD PLATFORM

Historic Period: Details about when this structure was constructed is unknown, but it was likely used as a tent platform by people who swam in the reservoir.

Existing Condition: The wood platform is located southeast of the change house and reservoir, at the end of the road to the reservoir. The redwood structure, measuring twelve feet by twenty feet, has a stone foundation and two-inch by 4-inch tongue and groove wood flooring which is

4. *undated, West (left) and East Corral (center) and Grain Shed with the entry road in the foreground. Hay is stacked on the Hay Platform (DEVA 41344)*

5. *2018, Grain Shed and circular fencing of the East Corral (MIG)*

120 Livingston, 421.
121 Livingston, 421.
122 Livingston, 421.
123 Livingston, 421.

1. *2018, Wood Platform near the Reservoir (MIG)*

2. *January 1929, Wood Bridge that is located along the Perimeter Road of Lower Vine Ranch (DEVA 40673)*

3. *2013, Wood Bridge that spans a drainage wash along the Perimeter Road. Though this photo was taken prior to the 2015 flood, reports indicate that the bridge survived that event. (Draft Death Valley Scotty Historic District National Register of Historic Places Amendment, National Park Service)*

a similar construction to that used for the hay platform. Today the structure is a ruin.

Assessment: Contributing

RESERVOIR

See Topography

WOOD BRIDGE

Historic Period: A single-lane wood bridge with wood running tracks was designed by Thompson and finished in mid-December 1929 as part of the perimeter road around Lower Vine Ranch.[124] It helped traverse a deep ravine on the east side of Lower Vine Ranch.

Existing Condition: Located at the northeast side of the property, the bridge spans thirty-six feet and is situated eighteen feet above a wash. It includes four eight-inch square posts with two-inch by ten-inch diagonals that support three groups of parallel two-inch by ten-inch joists. The deck is ten feet wide and has two-inch by eight-inch decking and two characteristic two-inch by four-inch tongue and groove running tracks spaced for auto tires.[125]

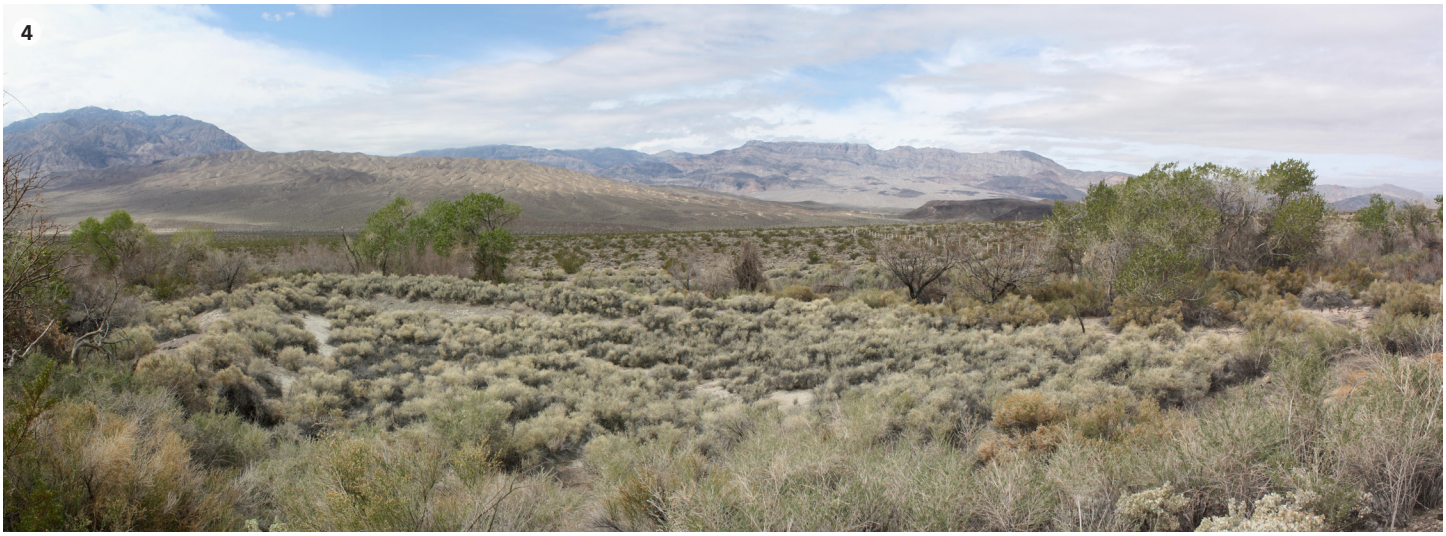
Assessment: Contributing

PIPES FROM SPRINGS

Historic Period: Though the development of a piping system from the springs to Lower Vine Ranch is not well documented, it is noted that in 1929 a six-hundred-foot two-inch iron pipe was built to bring water from the springs to the ranch house. The other known pipe that conveyed water form the springs to Lower Vine Ranch was much longer since it connected the springs to the water trough near the entrance gate. This was completed that same year.

Existing Condition: Repairs were completed on the pipe conveying water to the trough during the Gospel Foundation ownership, though they generally neglected the ranch. No evidence of these pipes was

124 Livingston, 229-230.
125 DEVA archives: MRT to AMJ, October 27, 1928; MRT to AMJ, November 1, 1928; MRT to AMJ, January 1, 1929.



uncovered during fieldwork associated with this project, however the vegetation has naturalized and is overgrown in many places along the pipe's possible alignment.

Assessment: Contributing

TOPOGRAPHY

Historic Period: All the topographic changes that occurred at Lower Vine Ranch during the historic period were related to the capture and conveyance of water from Grapevine Springs for domestic, agricultural and recreational uses. These include the reservoir, which held water to irrigate fields, but was also used as a swimming hole, and the irrigation ditches that channeled water to the ranch's core and to the fields beyond. The natural topography of the property is addressed under Natural Systems and Features.

Existing Condition: Constructed topographic features have not been actively maintained since the end of the historic period and have been subject to the elements which have caused some deterioration. Today, many of the features remain, but are less visible or discernible in the landscape.

RESERVOIR

Historic Period: In 1927, Thompson supervised the construction of the reservoir as he was also working on the perimeter road. It needed constant maintenance since it easily filled with sediment. In 1928, just a year after being completed the reservoir needed dredging to prevent water from flowing over the reservoir's walls. The outer earthen walls of the reservoir were approximately four-feet high and ten-feet wide. Thompson noted in February 1929, that the ditches leading to this structure produced about 575 gallons of water per minute. Historically, it was also used as a swimming hole.

Existing Condition: The reservoir is located northwest of the ranch core. It measures approximately fifty feet by fifty feet. Its depth fluctuates given the amount of sediment that has been deposited, but the walls are still visible in the landscape. It is oval-shaped and constructed of earthen walls or berms with an outflow pipe imbedded in a stone and mortar

4. *2018, Reservoir (MIG)*

5. *2018, A relatively level alluvial plain abuts the Grapevine Mountains along the northern edge of Lower Vine Ranch (MIG)*

head gate. The reservoir no longer retains water, but its structure is generally intact.

Assessment: Contributing

DITCHES FROM SPRINGS TO RESERVOIR (SMALL RESERVOIR AND DITCH SYSTEM)

Historic Period: Near the Lower Vine Ranch building core, a small reservoir was constructed to collect water from springs on the plateau. It was smaller in scale than the reservoir northwest of the ranch core. It was described in 1929 in a letter from Johnson to Thompson as being eight feet by ten feet by four feet. A system of ditches and a two-inch pipe was used to convey water from the small reservoir to Scotty's ranch house. In the 1970s, a new ditch was created to prevent flooding within the ranch core, but it is unknown if this ditch followed a historic alignment.

Existing Condition: Today, the small reservoir remains in a deteriorated state and was not easily discernible. The water pipe and traces of the original ditches remain as well. While these historic ditches have filled with a great deal of sediment and vegetation, they have the character of small, ephemeral streams and still convey the historic use of water on the ranch. Water also flows down the entrance road which is likely overflow that the historic ditches and 1970s ditches can no longer adequately convey.

Assessment: Contributing

CIRCULATION

Historic Period: The circulation of Lower Vine Ranch is generally based on utility and reflects the functional needs of operating a ranch. In the 1920s, Thompson supervised the construction of access roads to Scotty's ranch house and reservoir, and a road inside the perimeter fence. The roads were unpaved, narrow, and rural in character. A trail was also established between the ranch core and the reservoir, but the construction date for this route is unknown.

Existing Condition: Primary access to Lower Vine Ranch is via Racetrack Valley Road, a two-lane paved road that splits to the northwest from Bonnie Clare Road at the mouth of Grapevine Canyon. Also, an informal remnant trail between Scotty's Castle and Lower Vine Ranch is evident over the mountains. The circulation system within Lower Vine Ranch is comprised of unpaved roads and a trail that connect the ranch core with the reservoir.

REMNANT TRAIL TO SCOTTY'S CASTLE

Historic Period: A walking and bridle trail was built during the historic period to link Scotty's Castle with Lower Vine Ranch by way of a hot springs located north of Lower Vine Ranch. No other details about its construction such as materials, engineering or dates are known.

Existing Condition: This trail links Scotty's Castle with the hot springs located on the plateau above the ranch house. Because this trail has disappeared over time and is largely obscured by vegetation, today it is best described as a route rather than a trail. From the north edge of the Lower Vine Ranch property, the route leads north and meanders through the high country where it descends into Grapevine Canyon, terminating near the gravel separator.

Assessment: Contributing

PERIMETER ROAD

Historic Period: Initially, the perimeter road provided access for work crews constructing the perimeter fence in the mid-1920s, but Thompson later seized the opportunity and turned the road into what he described as "a very scenic auto driveway."[126] In some sections the construction crew would take a break from constructing the fence to build the road, which gave Thompson time to continue staking the fence line.[127] By the end of October 1928, the road almost complete, Johnson wrote Thompson to compliment him on his work, saying, "I am pleased with the new road you are putting in. As you say, this will be a very pretty scenic road to drive around the place on…."[128] To

126 DEVA archives: MRT to AMJ, September 14, 1928.
127 Livingston, 229.
128 DEVA archives: AMJ to MRT, October 26, 1928.

1. *2018, faint trace of the Perimeter Road at Lower Vine Ranch (MIG)*

2. *2018, entrance Road that leads from the Entry Area and Gate to the Ranch House (MIG)*

3. *2018, trail that connects the Ranch House core area with the Reservoir (MIG)*

complete the loop, a wooden bridge was constructed over a ravine located in the northeastern end of the property. Historic photographs reveal that the road was a narrow dirt road, approximately five miles long. Typical of other desert roads, this road did not have drainage ditches or culverts.

Existing Condition: Today, the perimeter road is no longer in use. Traces of the narrow curvy single-lane earthen road can be found throughout the property, but many of the traces are faint. Sections that are most apparent occur between the entrance gate and the northwestern edge of Lover Vine Ranch. Those that remain are more likely to be on knolls instead of low points where the road was washed out during storms. Remaining road sections are narrow and still covered with native sand and dirt.

Assessment: Contributing

ENTRANCE ROAD

Historic Period: During the period of significance, the entrance road provided access to the ranch house, located about a third of a mile east of the entrance gate. The earthen road was narrow and winding. Between the entrance and the ranch house, the road forded a small creek which was inundated road and caused erosion. Within the ranch core, the road passed the two corrals and the grain shed, before reaching the ranch house and garage.

Existing Condition: Today, the entrance road remains well defined and is used by NPS staff to access the ranch house. The road has been realigned in short segments and is rough in places especially where it has been washed out by seasonal flooding.

Assessment: Contributing

TRAIL TO THE RESERVOIR

Historic Period: A trail linking Scotty's ranch house with the reservoir was aligned at some point during the period of significance. There is no historic documentation regarding this alignment.

1. *2018, road to the Reservoir that branches off from the main Entry Road soon after passing through the Entry Gate (MIG)*

2. *undated, mixture of trees and shrubs framed and provided some privacy for the Ranch House core (source unknown)*

3. *2018, native vegetation communities on the more level areas of Lower Vine Ranch (MIG)*

4. *2018, vegetation around the Lower Vine Ranch core (MIG)*

5. *2018, vegetation has become more dense and its condition has deteriorated around the Ranch House core (MIG)*

6. *2018, vegetation has expanded into areas that are closer to the Ranch House than they existed during the historic period (MIG)*

Existing Condition: Field observations reveal that portions of the trail remain intact. The trail does not appear to be designed but follows the land's natural topography. It varies in width between one and three feet.

A***ssessment: Contributing***

ROAD TO THE RESERVOIR

Historic Period: This road was built around 1926 to provide vehicular access between the entrance gate and the reservoir, terminating near the change house and wood platform. Unlike the entrance road, this road was generally straight. It was approximately ten feet wide and one-half mile long.

Existing Condition: The roughly ten feet wide earthen road is still used to access the reservoir area. Its alignment appears unchanged and it terminates adjacent to the wood platform.

Assessment: Contributing

VEGETATION

Historic Period: At Lower Vine Ranch, planted vegetation was limited to shade trees in the ranch core, shade trees near the reservoir, and agriculture crops in a field west of the ranch core. The shade trees planted around the core of the ranch provided shade and shielded the ranch from view of the road so that it was more private. Vegetation beyond these developed areas consisted of native species and naturalized non-native species.

Existing Condition: Today, trees continue to create shade and privacy around the core of Lower Vine Ranch. A dense mix of cottonwood and mesquite that have been left to naturalize enclose Scotty's ranch house, blacksmith forge, garage, and corrals. It appears that most of the trees planted during the historic period have reached the end of their natural lifespan and are dead or failing, but portions of the vegetation that remain maintain the relationship that vegetation had to the buildings in providing them with shade albeit they are overgrown. Open areas around the buildings are the result of actions taken to reduce fire fuel loads by NPS between the 1970s to the present to protect the buildings.

MESQUITE AND COTTONWOOD TREES (RANCH CORE VEGETATION)

Historic Period: Plantings at Lower Vine Ranch were purposeful, but with no emphasis on formality or specific design goals. Historic photographs of Scotty's ranch house show what appears to be a mix of cottonwood (Populus fremontii), screwbean mesquite (Prosopis pubescens) and honey mesquite (Prosopis glandulosa) planted randomly throughout the ranch core, providing shade near the residence and garage. Historic photographs do not reveal total numbers of trees planted within the ranch core.

Existing Condition: Between the end of the period of significance and the 1970s, vegetation was not maintained and naturalized throughout the ranch core. By the late 1970s, several older cottonwood and mesquite trees died while younger trees grew and spread near the ranch house. Trees close to the buildings were removed by NPS to protect the structures. Several stumps and grapevines were also removed between the blacksmith shop and garage, although the exact locations of these trees were not documented. Vegetation growing in the ditch behind the ranch house was removed with a backhoe. Tree species found today reflect the types of trees that were planted historically: cottonwood (*Populus fremontii*), screwbean mesquite (*Prosopis pubescens*), honey mesquite (*Prosopis glandulosa*), and shrubs such as creosote bush (*Larrea tridentate*).

In 2018, three cottonwoods and three mesquites were assessed by an arborist. The mesquite located just south of the ranch house was found to be nearing the end of its natural lifespan. There are large and small dead branches in the canopy. Two mesquites are located northeast of the ranch house. One located adjacent to the house is younger and more vigorous, the one located further away is nearing the end of its natural lifespan and has a low lateral branch that

1. January 24th, 1929 Cottonwood trees growing along the edge of the reservoir (DEVA 40721)

2. 2018, a few clumps of trees remain around the perimeter of the Reservoir (MIG)

3. 2018, screwbean mesquite located southwest of the Ranch House and adjacent to the Entry Road (MIG)

is dead. The Fremont cottonwoods, on the other hand, are largely declining, and the site does not appear to provide a consistent amount of adequate water to sustain this species. The two Fremont cottonwoods, located over a bench seating area, are mostly dead. Foliage that is present stems from epicormic sprouts on the lower trunk. The third cottonwood, located northeast of the ranch house, is dead.

Assessment: Contributing

Although these trees may not all be original plantings, they help convey the historic character of the original setting for Lower Vine Ranch.

TREES AT RESERVOIR

Historic Period: The reservoir was historically surrounded by cottonwood trees, planted approximately twenty-five feet on-center. Apart from one 1929 image showing the cottonwood trees at the south end of the reservoir, there is no record of Kruckeberg purposefully designing or planting trees in this area.

Existing Condition: Today, a few clusters of trees found around the reservoir include cottonwood trees (*Populus fremontii*), screwbean mesquite (*Prosopis pubescens*), and honey mesquite (*Prosopis glandulosa*). The historic planting pattern of trees ringing the reservoir, however, has been lost and the remaining vegetation around the structure has naturalized.

Assessment: The cottonwood trees that remain around the edge of the reservoir are Contributing.

VIEWS AND VISTAS

Historic Period: Lower Vine Ranch was sited on the uphill side of an alluvial fan which allowed for a commanding view of the landscape to the south including the desert floor and the distant Last Chance Range.

Existing Condition: Views of the Last Chance Range and the natural

4. *2018, view from behind the Ranch House and Garage towards the south (MIG)*

5. *undated, Death Valley Scotty and Albert Johnson resting near the Water Trough located near the Entry Gate and Entry Road (DEVA 41355)*

6. *2018, Water Trough and benches near the Entry Gate to Lower Vine Ranch (MIG)*

desert floor landscape continue to be present from Lower Vine Ranch.

FROM RANCH HOUSE ACROSS VALLEY

Historic Period: The ranch house was sited on the uphill side of Lower Vine Ranch which allowed it a commanding view of the landscape to the south including the desert floor and the Last Chance Range. Views from the ranch house were partly shielded by design by mesquite and cottonwood trees that were planted for shade and to provide some privacy around the core of the ranch. However, the door of the ranch house aligned with a small opening between the two tree plantings.

Existing Condition: Views of the Last Chance Range and the natural desert landscape continue to be present from the ranch house, but they are more obscured as vegetation has grown and naturalized.

Assessment: Contributing

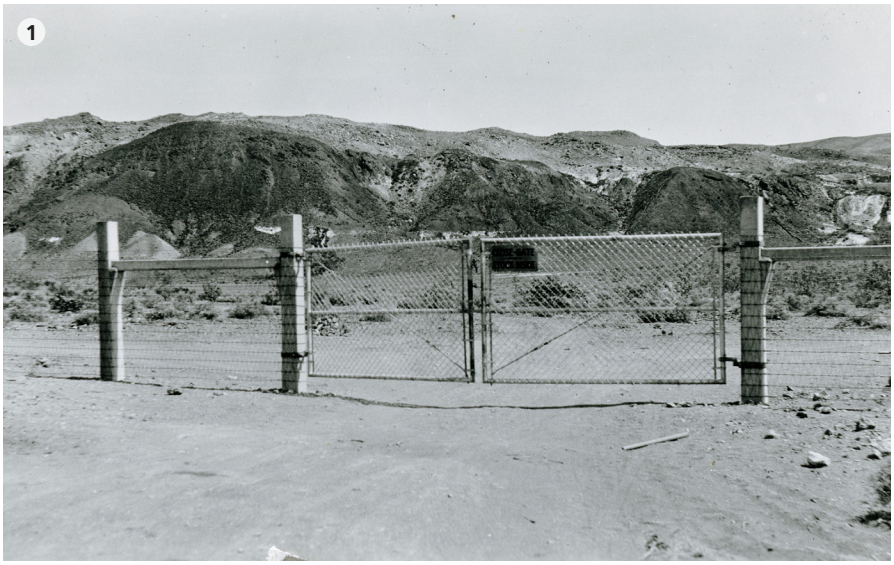
SMALL-SCALE FEATURES

Historic Period: Photos of Lower Vine Ranch during the historic period depict small-scale features such as the water trough, perimeter fences, and entrance road gate. They also depict livestock, hay, and blacksmith forge tools, indicative of this property's use as a small ranch.

Existing Condition: Though the water trough, perimeter fence, and entrance road gate remain, aspects of the working ranch such as livestock, hay and tools are no longer present.

WATER TROUGH

Historic Period: At Lower Vine Ranch, Johnson constructed the water trough to comply with state water laws in the mid to late 1920s. As a stipulation for constructing a diversion dam below Upper Grapevine Springs, Johnson was required by the state to provide an accessible source of water for the public. The trough was supplied with water piped from Grapevine Springs.



Existing Condition: The water trough is located at the entrance gate to Lower Vine Ranch. The small rectangular trough measures approximately three feet wide by five feet long and eighteen inches high. It is located on a concrete base and constructed of concrete with a rough mortared, stone exterior finish.

Assessment: Contributing

ENTRANCE ROAD GATE

Historic Period: The Entrance Road Gate was constructed along with the Perimeter Fence between 1926 and 1931, with documentation pointing to the completion of this section by early 1929. Early references to Scotty's time at Lower Vine Ranch indicate he locked the gate when he was in residence, and selectively provided keys to the gates to others. The gate was attached to two concrete posts associated with the perimeter fence, consisting of two pipe chain link gates opening towards the west. Two shorter posts of an unknown material were positioned about two feet west of the Perimeter Fence posts to provide a stopping position for the swinging gates.

Existing Condition: The Entrance Road Gate consists of two pipe chain link gates that are attached to two concrete fence posts associated with the perimeter fence. Each gate is about four feet high and six feet wide with pipe rail around the edges and one vertical member down the center. The gate's pipe link frame is covered with chain link. Two posts that used to stop the gate from swinging too far out are no longer present.

Assessment: Contributing

BENCHES AT GATE

Historic Period: Benches did not exist in this location during the historic period.

Existing Condition: Two brown benches are located on the east and west sides of the water trough. They are roughly eight feet long and three feet high with two slats along the back and two slats creating the seat.

1. *April 10th, 1929 historic entrance gates to Lower Vine Ranch (DEVA 40760)*

2. *2018 Entrance Gate to Lower Vine Ranch (MIG)*

3. *2018 Benches located south of the Ranch House under the Fremont cottonwood trees (MIG)*

4. *2018, bench located along the Entry Road about halfway between the Entrance Gate and Ranch House (MIG)*

5. *January 24th, 1929 perimeter fence stretching to the horizon (DEVA 40727)*

6. *2018, perimeter fence (MIG)*

Assessment: Non-Contributing

BENCHES AT RANCH HOUSE

Historic Period: There is no documentation that these benches existed at Lower Vine Ranch during the historic period.

Existing Condition: Two benches are located underneath two dead cottonwood trees that are located southeast of the ranch house on the east side of the entrance road. They are roughly eight feet long and three feet high with two slats along the back and two slats creating the seat.

Assessment: Non-Contributing

BENCHES ALONG ENTRANCE ROAD

Historic Period: There is no documentation that these benches existed at Lower Vine Ranch during the historic period.

Existing Condition: Two benches are located on the east side of the entrance road about midway between the entrance gate and the ranch house. They have decorative black metal frames and armrests and dark wood slats, three for the seat and three for the back.

Assessment: Non-Contributing

PERIMETER FENCE

Historic Period: Between 1926 and 1931, Albert Johnson coordinated the construction a fence containing more than 3,100 fence posts, built to enclose both Scotty's Castle and Lower Vine Ranch. The fence at Lower Vine Ranch was built primarily in the late 1920s. In most cases, the seven-foot tall reinforced concrete posts were situated approximately 15 feet apart and were generally strung with barbed wire or in some instances mesh wire. Most of the fence posts represented the standard tapered style rounded on three sides at the top with one side flat and embossed with the "S/J" enclosed in circles; however, there was some variation in post design and decoration.

Existing Condition: The Perimeter Fence exhibits the same qualities it did during the historic period and most portions are still intact. Though a survey of the entire fenceline was not completed for this assessment, all the western edge of the fenceline visible from the road to the entrance gate were intact and upright.

Assessment: Contributing

INTERIOR FENCE

Historic Period: An interior fence was constructed along the east and south portions of the Lower Vine Ranch to enclose developed areas. This fence was constructed in the same style as the perimeter fence.

Existing Condition: The fence cuts diagonally across Lower Vine Ranch to encompass all the springs, the reservoirs, buildings, structures, and roads constructed by Johnson. Though a survey of the entire fenceline was not completed for this assessment, a few portions of the fenceline near the reservoir had failed and were laying on the ground. The fence line still follows its historic alignment, and is important to the spatial organization of the ranch.

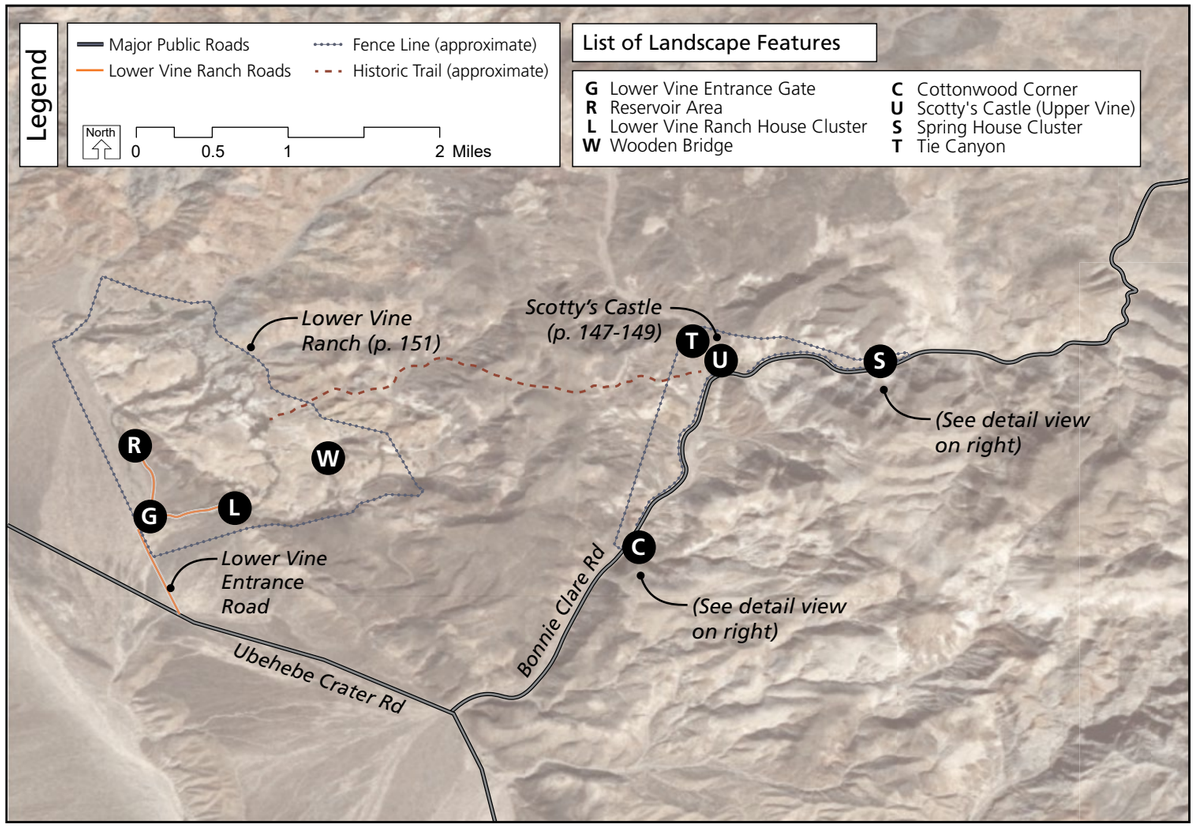
Assessment: Contributing

1. *2018, interior Fence which has fallen down over time near the reservoir area (MIG)*

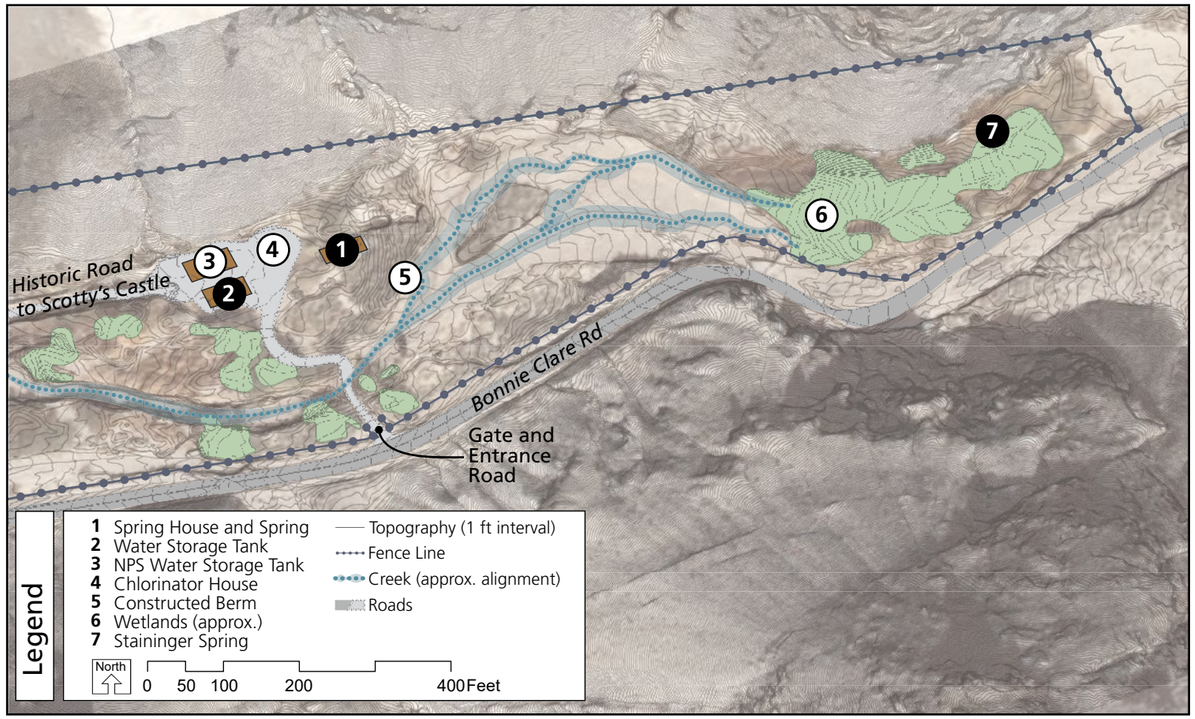
2. *2018, detail of damaged Interior Fence post (MIG)*

3. *2018, detail of inscribed rock on Lower Vine Ranch (MIG)*

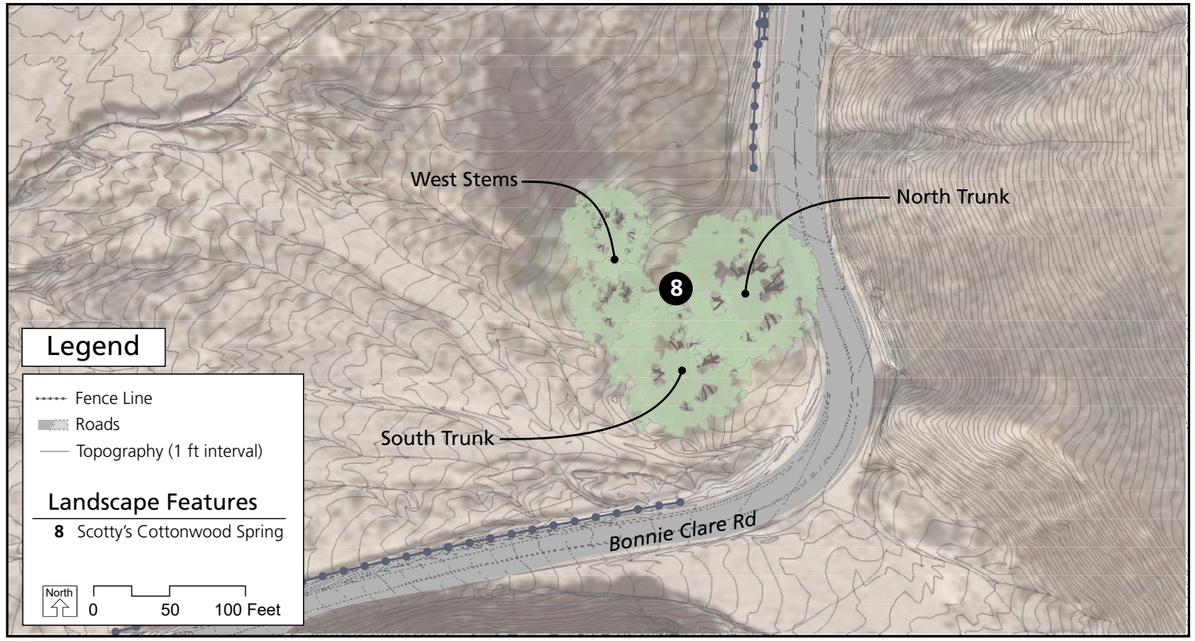
Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009). Spring locations were determined according to UTM coordinates in *Groundwater geology and hydrology of Death Valley National Park, California and Nevada: Natural Resource Technical Report NPS/NRSS/WRD/NRTR—2012/652* by M.S Bedinger and J.R. Harrill (2012).



Death Valley Scotty Historic District



S Spring House Cluster



C Cottonwood Corner

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Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009).

Tie Canyon
Ties, Construction Remnants

Hills North

Cookhouse Wash

Hacienda Wash

Solar Water Heater Wash

Courtyard Wash

Stables Wash

Propane Tanks Wash

Road to Spring House

Bonnie Clare Road

Picnic Area

Riparian Vegetation

List of Landscape Features

1 Main House and Annex (Scotty's Castle)
2 Scotty's "Original Castle"
3 Historic Entrance Gate
4 Gatehouse (Dungeon Apartment) and Bridge
5 Retaining Walls
6 Swimming Pool
7 Chimes Tower
8 Garage
9 Long Shed/Bunkhouse
10 Hacienda/Guest House
11 Stables and Cut Bank
12 Solar Water Heater (Solar Panel)
13 Gas Tank House (and Non-Contributing Addition)
14 Tunnel Access Point
15 Powerhouse and Pavilion
16 Grotto/servants Quarters Foundation
17 Fire Cache
18 Watercourse
19 Landscape Terracing, Typ.
20 Cook House
21 Gravel Separator
22 Powder Storage Foundation
23 Grave Site Markers
24 Tie Canyon
25 Tie Canyon Watchman House
26 NPS Entrance Gate
27 Restrooms
28 Above-Ground Fuel Tank

Legend

Buildings/Structures
Contributing Feature
Non-Contributing Feature
Contours (5 ft. intervals)
Key Viewpoint
Creek
Wash
Potential Wetlands
Ornamental Plant Beds
Primary Circulation
Secondary Circulation
Walking Paths
Fence Line (Perimeter)

North
1" = 250'
0 50 100 200 300 400 500 600 Feet

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Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009).

Path to Grave Site
Landscaped Terraces
Cook House Road
Scotty's Castle Annex
Watercourse Planting
Cut bank
Hacienda Planting
Stable Road
(3)FP
Castle Planting
(8)FP
FC
Tie Canyon Road
(1)JT
Entrance Road
Road to Spring House Cluster
Creekside Vegetation
Utility Box
Long Shed Courtyard Planting
Parking Lot
(1)FC
(1)FP
(1)SM
Picnic Area (Gravel)
Creek
(3)HM
(1)HM
(4)FC
(1)FC
(1)SM
(1)FC
(3)FC
(1)MB
(3)FC
(2)HM
(1)SM
(9)FP
(1)SM
Picnic Area (Lawn)
(1)FC
(1)MB
Bonnie Clare Rd
(5)FP
(1)MB
(1)FC
(1)SE
(3)FC

Legend

- Contributing
- Non-contributing
- Overhang
- Creek
- Contours (5 Ft Interval)
- Circulation (Vehicular)
- Parking Areas
- Walking Paths
- Native Vegetation
- Contributing Veg.
- Non-contributing Veg.
- Potential Wetland Area
- Watercourse
- Retaining Walls
- Tunnels (Underground)

North

0 20 40 60 80 120 160 Feet

Small Scale Features

- Benches
- Wishing Well
- Fire Hydrant
- Fence Posts (Perimeter Fence)
- Petroglyph Boulders
- Gas Tank
- Propane Tanks

List of Landscape Features

1 Main House and Annex (Scotty's Castle)
2 Scotty's "Original Castle"
3 Historic Entrance Gate
4 Gatehouse (Dungeon Apartment) and Bridge
5 Retaining Walls
6 Swimming Pool
7 Chimes Tower
8 Garage
9 Long Shed/Bunkhouse
10 Hacienda/Guest House
11 Stables and Cut Bank
12 Solar Water Heater (Solar Panels)
13 Gas Tank House
14 Tunnel Access Points
15 Powerhouse and Pavilion
16 Grotto/servants Quarters Foundation
17 Fire Cache
18 Watercourse
19 Landscape Terracing, Typ.
20 Cook House
21 Gravel Separator
22 Powder Storage Foundation
23 NPS Entrance Gate
24 Restrooms

Vegetation Key

FC Fremont Cottonwood *Populus Fremontii*
FP California Fan Palm *Washingtonia filifera*
HM Honey Mesquite *Prosopis gladulosa*
SM Screwbean Mesquite *Prosopis pubescens*
SE Siberian Elm *Ulmus pumila*
MB Mulberry *Morus alba*
JT Joshua Tree *Yucca brevifolia*

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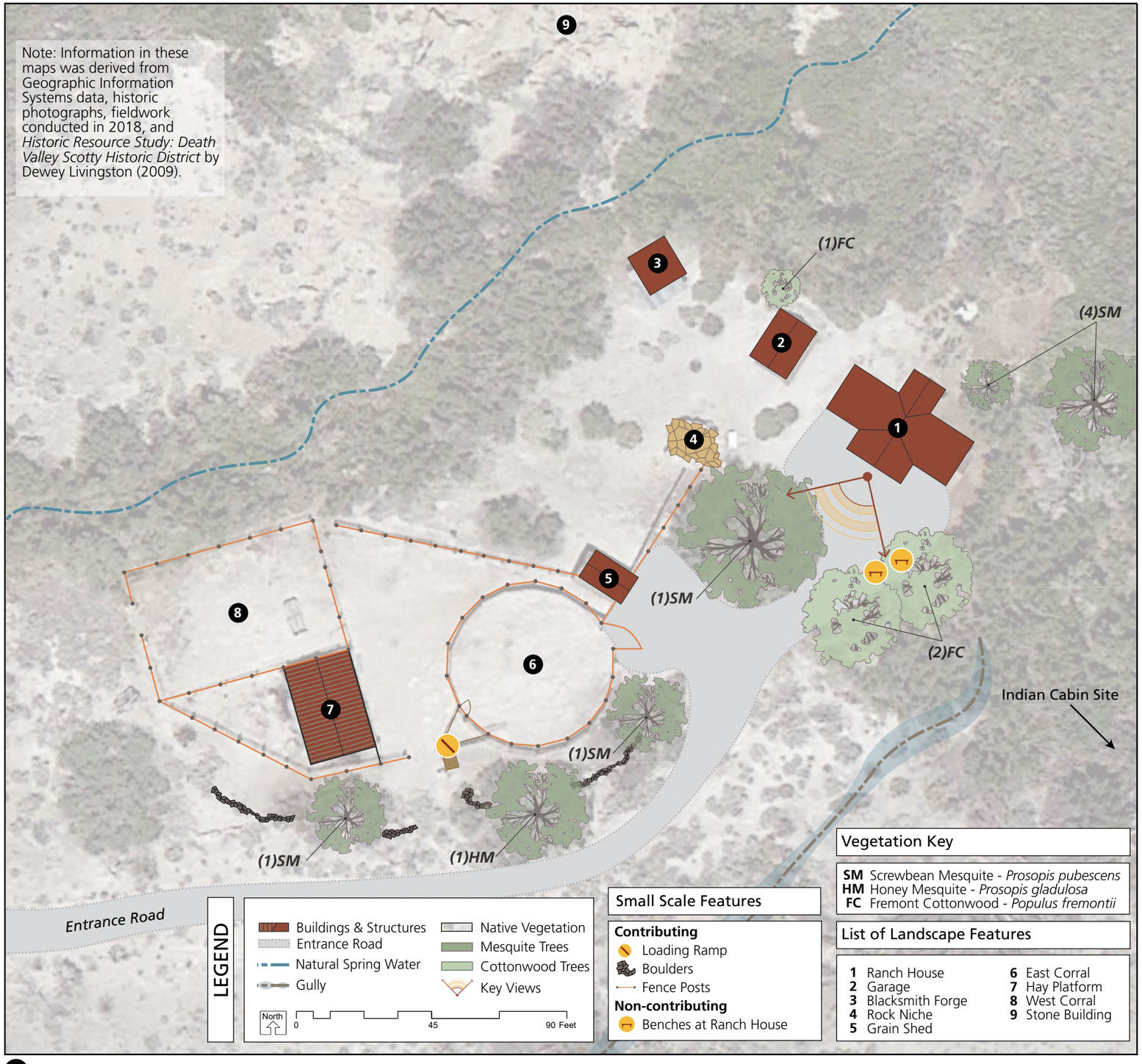
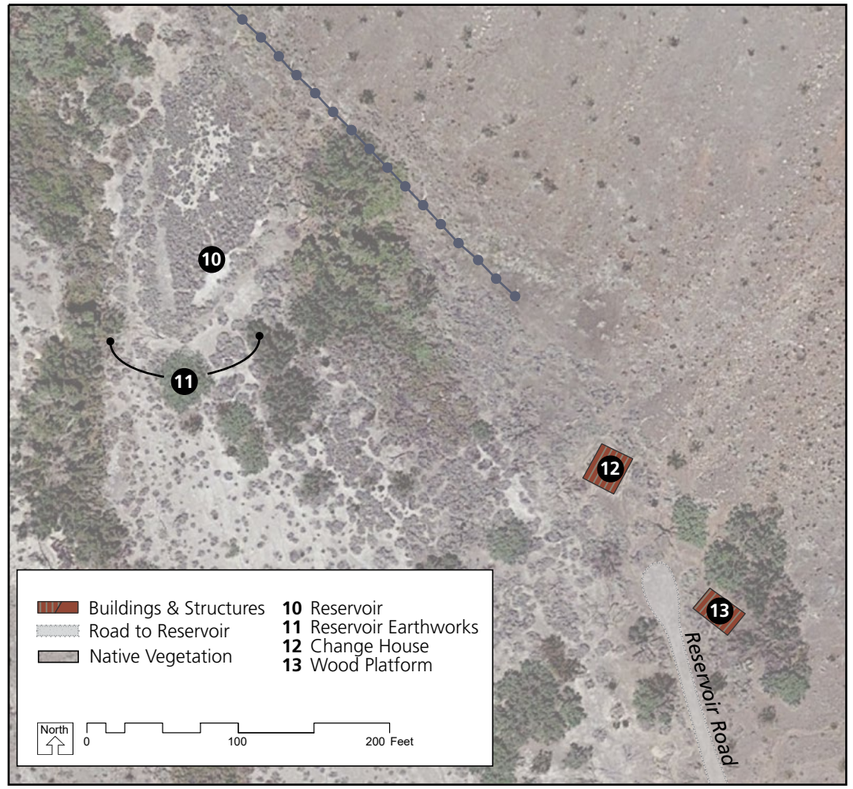
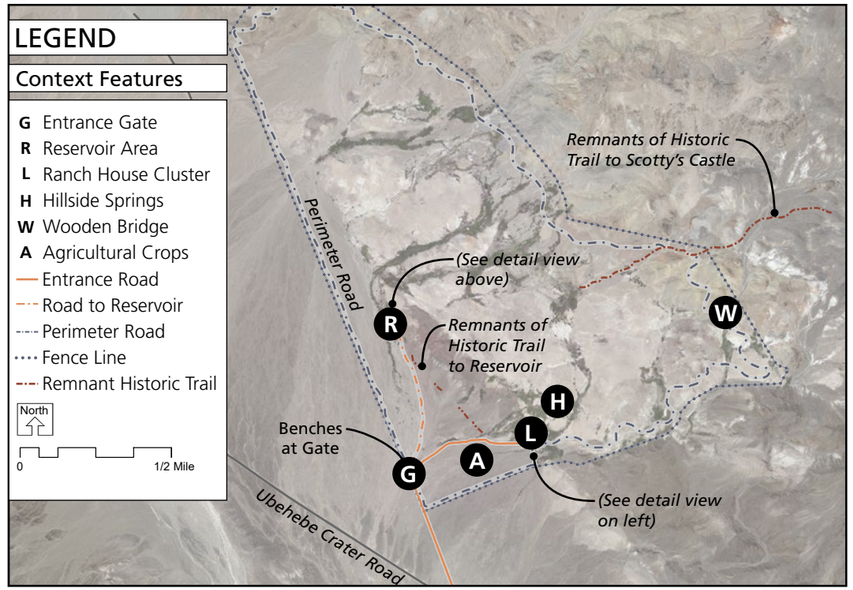
Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009).



L Lower Vine Ranch House Cluster



R Reservoir Cluster



Context Map: Lower Vine Ranch

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Death Valley Scotty Historic District
Cultural Landscape Report

PART 2

Preservation Treatment

PART 2

D. Preservation Treatment

INTRODUCTION

This chapter of the Death Valley Scotty Historic District CLR presents guidance and recommendations for the short and long-term treatment and management of the District's cultural landscape, based on the objective of preserving the character-defining features that help convey its historic significance. Cultural landscape treatment guidelines in this chapter address the entire historic district, though they focus on the areas of most intense use, particularly the areas near the core of Scotty's Castle and Lower Vine Ranch that are most frequented by visitors. These areas also possess the highest concentration of character-defining features. Areas outside the more developed areas will be addressed, but with less intensity.

Based on the findings outlined in the site history, and analysis and evaluation of existing conditions, the intent of the preservation treatment chapter is to establish a framework for decision-making for treatment of the cultural landscape. This framework includes both broad philosophical guidelines and site-specific recommendations for managing the landscape characteristics and features that contribute to the significance of the property. This framework also addresses other management objectives associated with contemporary use, public accessibility and safety. Construction documents, detailed design plans, specifications and cost estimates for implementing these guidelines and tasks are beyond the scope of this effort. Discussions with NPS staff helped guide the identification of issues which are addressed in this chapter.

This report recommends *Rehabilitation* as the primary treatment for the entire historic district with some characteristics and features, notably those that were left unfinished when major construction ceased in 1931, being treated with a preservation approach. The end year of the period of significance is 1954, which corresponds to Death Valley Scotty's death, rehabilitation and preservation treatments of the cultural landscape should be guided by the character in place around that date, since this represents the physical build out of the vision that was completed.

The challenge will be finding documentation of the property in the early 1950s since most of the photographs that are dated were taken in the 1930s. However, since we know that major construction ceased around that time we can assume that what appears in photographs of that time is close to what was present at the end of the period of significance. If documentary evidence comes forward in the future that provides more information about the character of landscape areas that should be referenced.

The goal is to have all treatment decisions consistently match the character of the property as it existed at the end of its development, especially since a major component of the site's story is that it was unfinished. This will ensure that all treatment efforts follow a consistent path. Therefore, using documentation that dates as close to the end of the period of significance as possible will provide the most consistent direction in terms of the materials, scale and design details of any feature that is being rehabilitated or preserved. As it's been stated previously, that may be documentation from the 1930s. It is acknowledged that some challenges will arise since some modifications were made in those later years by the Gospel Foundation, some of which follow a natural trajectory of the vision for the district, and some which diverge from it. As a guiding rule, the rehabilitation treatment guidelines and recommendations in this chapter follow the overarching character

PART 2 DIVIDER IMAGES, CLOCKWISE FROM TOP:

2018 Wagon at Lower Vine Ranch (MIG)

1934 Bird's Eye of Scotty's Castle (NPS-NARA)

undated Albert Johnson and Death Valley Scotty (DEVA 24067)

1931 Main House from the Hacienda (DEVA 41314)

OPPOSITE PAGE:

2018 Upper terrace of the Main House Annex looking east (MIG)

and intention of the landscape design as envisioned before construction ceased.

The Preservation Treatment chapter contains three sections:

- *Treatment Approach* identifies the primary treatment approach and lists the established standards for that approach.
- *Treatment Framework* defines the distinguishing characteristics of the Death Valley Scotty Historic District, which will serve as a guiding philosophy for future treatments for both Scotty's Castle and Lower Vine Ranch.
- *Treatment Recommendations* identifies recommendations for specific landscape characteristics, features and issues that have been raised and need attention and resolution.

The information combined in these sections provides both a guiding framework and specific tasks that are needed to address current and future planning, design and management activities affecting the Death Valley Scotty Historic District cultural landscape.

1. *2018 A view from the castle tower looking down at the recently rehabilitated solar water heater (MIG)*

TREATMENT APPROACH

The primary goal is to rehabilitate the landscape to maintain the overall character of the historic district and its character-defining features while providing visitor interpretation of the full picture of life at Scotty's Castle and Lower Vine Ranch throughout the period of significance, but primarily at the end of its active development and construction. Contemporary features can be sensitively added, as necessary, for visitor services, NPS employee use, and safety.

The recommended cultural landscape treatments are based on the character of the district at the end of the active development and construction period which exhibited an unfinished landscape. They address existing character-defining features, current conditions of the landscape and its associated characteristics and features, park priorities, visitor services, projected climate change impacts, staff discussions and recommendations, space utilization workshop recommendations, and the anticipated effects of known design projects on the cultural landscape and character-defining features.

For the entire historic district, consider using non-physical interpretation methods for self-guided visitation (podcast, brochure, phone tour, etc.) whenever possible to minimize the introduction of contemporary elements. The park should also consider providing more detailed information about the site and access to the site at the Furnace Creek Visitor Center and other points of visitor contact, such as the level of available parking and availability of guided tours. This will allow potential visitors to be better informed while planning their visits in the park and may encourage some to include Scotty's Castle on their visit who may have not otherwise considered it.

REHABILITATION

Rehabilitation is defined as a treatment making possible a compatible use for a property through repair, alterations and additions while preserving those portions and features that convey its historic significance. Rehabilitation could include, for example, alteration of an historic building for a contemporary new use; altering a path so that it provides a more stable and accessible route for those with limited mobility; or adding signage to provide better interpretation and wayfinding. It also includes recommendations that preserve or restore landscape characteristics and features associated with the historic district, such as removing trees that block a historic vista, or maintaining the species composition in historic planting areas.

When considered valuable for effective use of the site, missing historic features that were essential to the historic landscape character may be replaced within a Rehabilitation treatment. However, replacement must be substantiated by documentary and physical evidence, and it must be consistent with the identified treatment date for the landscape. If substantial documentation is not available, then it must be clear that an additional feature is not historic and does not date to the historic period but is nonetheless compatible with the historic character of the site.

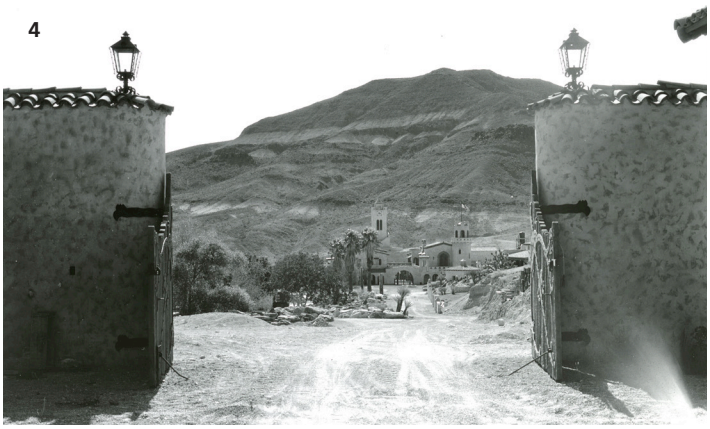
Death Valley Scotty Historic District's high degree of integrity allows for better retention of the historic character and fabric of the features. However, contemporary uses and needs still need to be addressed and the Rehabilitation treatment will help ensure these modifications are made in a sensitive way.

1. *undated, the corral at Lower Vine Ranch (DEVA MSS 35 042)*

STANDARDS FOR REHABILITATION[1]

1. A property will be used as it was historically or be given a new use that maximizes the retention of distinctive materials, features, spaces and relationships.
2. The historic character of the property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize the property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other history properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires

1 Birnbaum, Charles A. and Christine Capella Peters. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Cultural Landscapes.



replacement of a distinctive feature, the new materials will match the old in composition, design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale, proportion and massing to protect the integrity of the property and its environment.
10. New additions or related new construction will be undertaken in such a manner, that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

2. *undated, view of Scotty's Castle from Bonnie Clare Road (DEVA 40387)*

3. *undated, Johnson standing in the hacienda garden with the main house plantings in the background (DEVA 23107)*

4. *undated, view of the main house and chimes tower from the stables looking west down Stable Road (DEVA 23116)*

TREATMENT FRAMEWORK

To meet the goals of this project, it is critical to understand the historic character of the landscape and articulate an overarching vision for the site that helps guide decision-making. This framework rises above the more specific preservation treatment recommendations, which follow, to highlight how this cultural landscape can be preserved while addressing contemporary issues such as enhancing visitor access, improving the experience for lodge guests, and facilitating efficient function. This framework also provides a foundation for making decisions about issues which are raised in the future and were not specifically addressed in the recommendations. It is divided into two sections, one focused on Scotty's Castle and the other on Lower Vine Ranch.

SCOTTY'S CASTLE

Scotty's Castle is a highly developed landscape that historically served as a desert home for Albert Johnson, his wife Bessie, and their frequent guests, between 1929 and 1931. The site was designed over several years and took shape, in part, based on previous site development and the natural geomorphology of Grapevine Canyon. Although only a small portion of the design for Scotty's Castle was fully implemented, the historic character of the property reflects a cohesive and stylistically unified design.

Two aspects of the historic design and current operations at Scotty's Castle are important to consider when determining appropriate treatment of the cultural landscape. First, the historic landscape design envisioned and implemented by Albert Johnson between 1922 and 1931 was largely unfinished when construction stopped. At the castle site, less than ten percent of the 300-acre landscape design was fully implemented. As a result, recommendations in the Cultural Landscape Report do not support construction of historically proposed features that were never completed. Second, the need to accommodate contemporary use of the historic site for visitor services and NPS operations. Over time, some areas at Scotty's Castle have been modified to facilitate these uses and operations, and in some cases, are physically intrusive and visually incompatible with the historic character and setting of the historic designed landscape. For example, the current visitor parking lot at Scotty's Castle, located south of the main house, is in an area that was considerably more agrarian in character during the period of significance. This change, while altering the general character of the historic landscape, is needed to accommodate public access and interpretation of the resource. As a result, recommendations in the Cultural Landscape Report do not support a comprehensive restoration of all missing features. However, large impacts need to be minimized in the future to change the trajectory of effects on the cultural landscape.

CORE DEVELOPED AREA

The general character of the developed core was intended to be a formal and grand experience of Spanish style buildings set among lush gardens and water features. After construction came to an abrupt halt in 1931 many of the planned structures and landscape features were left unfinished, resulting in a mix of lavish residential grounds and rough construction site.

One important aspect of the design was the carefully planned arrival to Scotty's Castle. The approach to Scotty's Castle from the west on Bonnie Clare Road, especially after the turn at Cottonwood Corner, provided engaging views of the built structures in the distance. The ornate wooden gates anchored with lush plantings on either side opened to an elevated road that passed through the landscape. Visitors first saw the Chimes Tower, then pass the impressive front of the castle and the swimming pool, then turned into a turnaround that was defined by palms and olive trees around its edges, a fountain at its center, and the iron gates to the courtyard between the castle and the annex. Other roads through the developed core were largely utilitarian

in character. Paths were simple, narrow, unpaved routes, while walkways were more formal, and surfaced with mortared stone.

Vegetation was important to the historic character of Scotty's Castle, used to create a unique setting for the buildings - a lush, green landscape that contrasted with the surrounding desert. Many plants were established at Scotty's Castle as part of a formal landscape plan that included a series of smaller gardens interspersed among buildings, as well as large, open, park-like areas such as the area that is now referred to as the picnic area. Palms were used sparingly but deliberately to define edges near the main house and annex and near the pond to create an oasis feel. Although many of the initial efforts to establish plantings were experimental and somewhat minimal, enough of the landscape design plan was implemented to create a formal planting scheme around the buildings. A significant landscape feature within the developed core was the constructed water course that was sparsely planted historically.

Historically, the parking lot and portions of the picnic area were used for agriculture with historic photos showing fruit trees. The easternmost end of the current parking lot (or employee parking lot) was used as a chicken run. The west end of what is currently the picnic area was part of an elaborate landscape plan that was never fully implemented. This area was intended to be a lake with park-like plantings along its edges. As a result, many historical accounts refer to this as the "lake" but it was more of an area defined by the creek and a pond. During the period of significance, Albert Johnson had Mat Roy Thompson plant hundreds of trees, primarily cottonwood, mesquite, and willow, on either side of the entrance gate and along Bonnie Clare Road to create a pastoral setting for the main house and general developed core.

PERIMETER FENCE

A perimeter fence was constructed to define the extent of land ownership by Johnson. It followed the perimeter of the entire property and was constructed of tall, concrete posts with barbed wire strands. Several interior fences were also constructed to demarcate specific areas of the property: the spring house area and the chicken exercise yard that is now used as employee parking. These were substantial fences built in the same style as the perimeter fence.

SPRING HOUSE & RIPARIAN AREAS

The spring located east of the developed core has supplied, and continues to supply, water to Scotty's Castle since the period of significance. The use and access to the site are historic; however, some of the buildings post-date the period of significance. Historically, the area was minimally developed with simple structures to support the water system. It was accessed by two roads, one from the stables and another short access road off Bonnie Clare Road. These roads were utilitarian in nature: narrow, one-lane, and unpaved. The riparian corridor at Scotty's Castle included a small creek, saturated soils, and seepage areas that began at the springs located east of the castle and extended west to the core developed area. Historically, the creek was lined with sparse native riparian vegetation. Cottonwood Corner is a natural spring that was purposefully planted with willow, cottonwood, palms and mesquite to create an oasis-like approach to the castle along Bonnie Clare Road.

TIE CANYON & UPPER TIE CANYON

During the period of significance, Tie Canyon and Upper Tie Canyon served as staging grounds and storage areas for the construction of the Scotty's Castle and Lower Vine Ranch. The few buildings and structures that were built in Tie Canyon were completely utilitarian, including a gravel separator, powder storage foundation, and piles of construction materials and equipment, as well as sheds and a wash house for construction workers. Roads and general circulation through Tie Canyon were simple and functional in character: narrow, surfaced with dirt, and used to transport construction materials and equipment. They tended to follow the natural contours of the land. Upper

Tie Canyon was primarily used for storage of construction materials and was similar to Tie Canyon in its character and use.

LOWER VINE RANCH

Lower Vine Ranch was not as heavily developed as Scotty's Castle. It was more modest in style and extent of constructed features, reflecting its use as a small working ranch and home. A small core of ranch buildings and structures, a water system (comprised of springs, reservoir, and ditches), agricultural fields, and a simple road system were all established in the southern portion of the ranch.

Management of Lower Vine Ranch focuses on preservation and stabilization of significant resources. The park provides guided tours of the ranch on a limited basis, but the ranch is otherwise restricted to the public. The park anticipates an increase in guided tours to the ranch in the future, but the plan is still under development. As a result, treatments proposed for Lower Vine Ranch are primarily limited to baseline preservation until park management determines the capacity for visitation to the ranch and the needs associated with increased visitation. Some treatment recommendations for rehabilitation, however, are provided for potential siting of a new, small parking area and development of a perimeter fence trail. Changes to accommodate visitors should be reviewed by park resources staff to assure preservation strategies and/or adaptive-use meet the Secretary of the Interior Standards for Preservation.

RANCH CORE

The ranch core was a designed cluster of buildings and structures that served as the main living quarters for Death Valley Scotty. They were simple and functional, including a house, garage, sheds, a corral, and a hay platform. Circulation within the ranch core was utilitarian and informal in character with pedestrians and vehicles sharing the same undefined, unpaved dirt areas to access buildings and structures. Vegetation within the ranch core was purposeful –planted for shade and privacy – but with no emphasis on formality or the Spanish/Mediterranean aesthetic as found at Scotty's Castle. The ranch core was accessed by a narrow, curved, dirt road. At the entrance gate, a stone and concrete water trough was constructed adjacent to the entrance road and historically provided a water source for public use. Other than the water trough, the entrance to the ranch was minimally developed and simple in nature.

PERIMETER FENCE

Like Scotty's Castle, the Lower Vine Ranch property boundary was demarcated by a substantial concrete post and barbed wire fence. An interior fence was also constructed that cut across the property. This was a substantial fence built in the same style as the perimeter fence. It is likely that this section of fence was built prior to the completion of the perimeter fence to quickly enclose all the springs on the property and the reservoir. A road was constructed that paralleled the interior of the perimeter fence, designed as a scenic drive around the property. This was a narrow dirt road with one wooden bridge that spanned a ravine.

RESERVOIR AREA

The reservoir area was also a simple area designed to serve as an important piece of the larger ranch water conveyance system and also as a swimming hole. It included an earthen reservoir fed by spring water via a ditch system. Another ditch system was constructed to distribute water from the reservoir to the agricultural fields located between the ranch core and the reservoir area. A small cluster of simple, wood buildings was constructed to support uses at the reservoir. It was accessed by a narrow, dirt road that branched from the entrance road. Trees were planted along the edges of the reservoir that provided shade for swimmers. These trees stood tall among the low-growing native vegetation visually marking the location of the reservoir in the open landscape.

1. *undated, aerial photograph of Scotty's Castle during its active construction period in the late 1920s (DEVA 21798)*

TREATMENT RECOMMENDATIONS

Treatment recommendations for the Death Valley Scotty Historic District were developed using information and guidance from NPS staff, reviewing pertinent planning documents, observations collected during field work, and professional experience gathered through similar projects. Recommendations respond to issues and opportunities raised during the CLR development process, which included active planning and design projects, while keeping the goal of preserving the historic character of the Death Valley Scotty Historic District paramount.

Seven documents were referenced while developing the treatment recommendations and can be resources as implementation commences. They are:

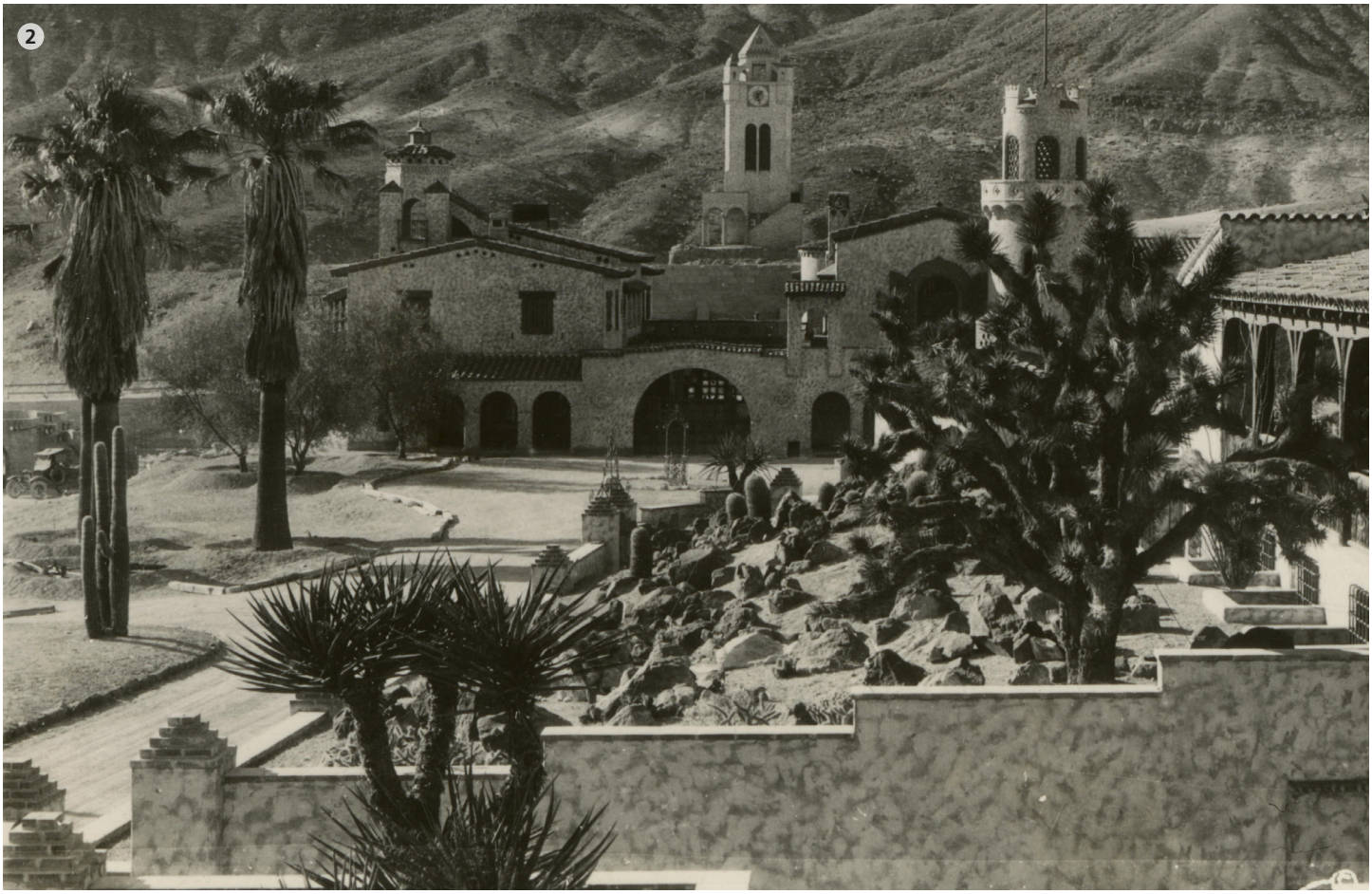
- Death Valley Scotty Historic District National Register of Historic Places Amended Nomination (2013)
- Death Valley National Park Long-Range Interpretive Plan (2005)
- Scotty's Castle Space Utilization Workshop Recommendations (2016)
- Death Valley Scotty Historic District Historic Resource Study (2009)
- Death Valley Scotty Historic District Historic Structures Report (2009)
- Draft Scotty's Castle Flood Rehabilitation Environmental Assessment (2017)
- Bonnie Clare Road Reconstruction Environmental Assessment (2017)

FORMAT AND ORGANIZATION

The Death Valley Scotty Historic District includes two non-contiguous developed properties: Scotty's Castle and Lower Vine Ranch. Because each of these developed areas has distinct management and preservation issues, treatment recommendations are divided between the two areas. Within that, the recommendations are organized by landscape characteristic to mirror the organization in the Analysis and Evaluation of Existing Landscape Characteristics and Features chapter.

Treatment recommendations do not address archeological sites and features. Those recommendations should be covered in supporting documents. It is important to note however, that overviews and survey projects indicate a rich and diverse inventory of cultural sites throughout the historic district. Because of this, it is important to consult with the park archeologist and other cultural resource staff prior to implementation of specific recommendations. This chapter also doesn't address recommendations for interior architectural spaces since those types of recommendations should be covered by a historic structures report.

1. *2018, contemporary aerial view of Scotty's Castle (Division of Resources, Death Valley National Park, National Park Service)*



2. c.1931, a view across the front of the Hacienda's desert cactus themed planting shows the castle's historic vegetation character around the time construction stopped. Here the wishing well is framed by the iconic towering mature palm trees and a number of olive trees next to the castle. (DEVA 503520)

3. c.1931-1950, the above photo shows a view across the unfinished swimming pool, the simple post and rail fence in place and the metal safety railing later installed by the Gospel Foundation not yet present. Historic photos show sparse plantings in front of the castle, occasionally what appear to be native desert shrubs taking root, but for the most part the space is bare due to the abrupt end of construction. A number of ornamental shrubs including oleanders and palms were later planted by the Gospel Foundation after the period of significance, but no definitive evidence has emerged of a designed planting character in front of the castle during the period of significance, beyond what is seen above. (DEVA 42845)

SCOTTY'S CASTLE (UPPER VINE RANCH)

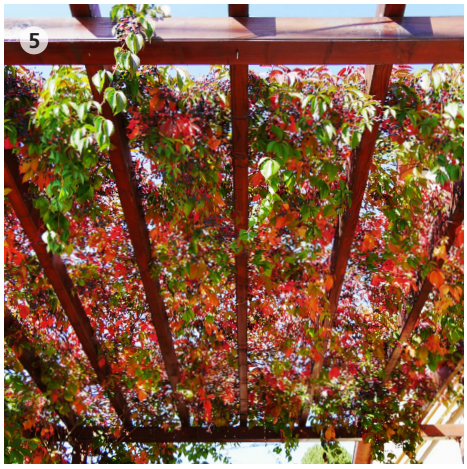
BUILDINGS AND STRUCTURES

The numbers in parentheses can be keyed to maps on pages 201 and 203.

MAIN HOUSE AND ANNEX (1)

Goal: Prime opportunity for visitor access and interpretation

- Continue to open main house and annex to guided tours. Consider opening the main house and annex to special ticketed events such as concerts and exhibits that match the space's limited carrying capacity.
- Except for needed maintenance, prohibit vehicles in the courtyard.
- Reestablish eucalyptus trellis/arbor with historically appropriate plants, such as a grapevine or plants with a similar growing habit and character. The trellis should be built on hinges or with detachable components to allow for periodic maintenance to the underlying building,



preventing the vines from actively attaching to the building for support. A model for this structure is located at the Frederick Law Olmsted National Historic Site.

- Reestablish planting beds in courtyard with historically appropriate plants. Though undated, photos from the historic period show plants from the Cactaceae family, which should be used to determine appropriate plant species.
- Determine and reestablish planting character of beds south of Main House, which included three small olive trees (*Olea europaea*) near the Main House's southeast corner and no shrubs or other major plantings. Alternatives to the olive trees, such as mesquite, can be considered. If there is a need to stabilize the ground plane, then low-growing native drought-tolerant plants can be planted but should proximate the look of the soil covered landscape that was present in the unfinished landscape. Species which could be considered include primrose (*Oenothera sp.*) or desert gold poppy (*Eschscholzia glyptosperma*), but others that have a low profile and are not showy would also be appropriate.
- Reestablish the plantings and circulation character of the area near the Wishing Well and east of the Main House, historic entrance to Main House (incorporated with ABA access path from Visitor Center to Main House). Three California fan palms were situated at the center of a vehicular turnaround that was located east of the Main House's main entrance. The preference is to reestablish the three historically appropriate California fan palms (*Washingtonia filifera*) in the ground, but if that is not possible, then choose trees with similar character, form, size, height. The circular area around the California fan palms does not need to be formally defined, but should be kept clear of built elements so that the impression of the turnaround is present. If protection for the vegetation is needed then a short barrier of stone or brick could be installed with the palms in a circular shape marking

1. *unknown date, Johnson and Scotty pose for a picture in the castle courtyard surrounded by potted plants and the eucalyptus arbor (DEVA MSS 33 BX 01 062)*

2. *c.1954, the same location in the castle courtyard as seen in the previous photo, shown here in a color photo with the eucalyptus arbor still intact and what appear to be the same potted plants (DEVA 24222)*

3. *Eureka Valley Evening Primrose (Pacific Southwest Region USFWS)*

4. *Desert Gold Poppy (MIG Stock Photo Library)*

5. *An example of an arbor with lush vegetation providing shade (MIG Stock Photo Library)*

6

7

6. undated, Johnson posing in front of Scotty's Original Castle after it was moved to this location (DEVA 23106)

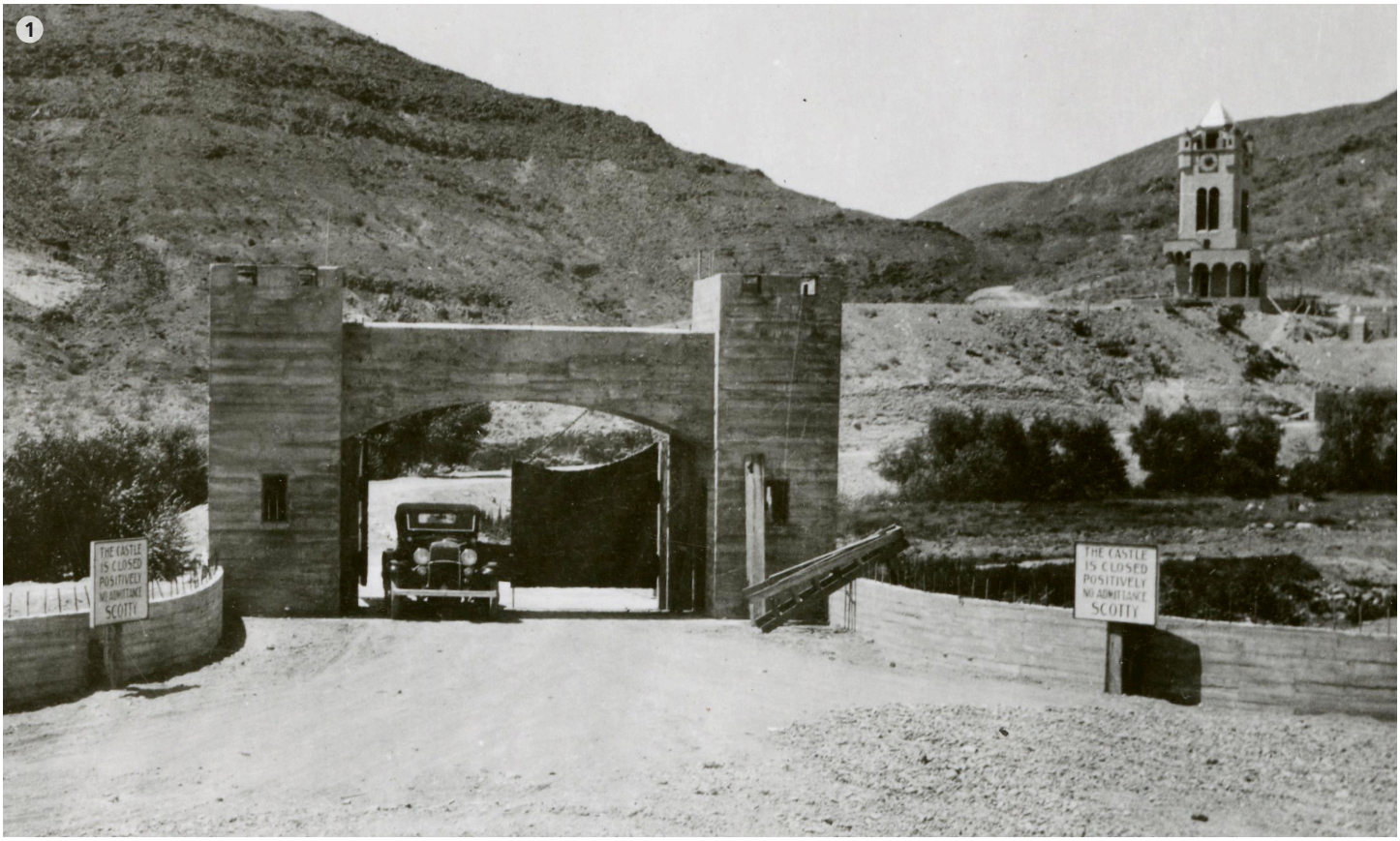
7. 2018, the current condition of Scotty's Original Castle (MIG)

the historic edge of the turnaround (see photo 1, page 163). The Joshua trees that currently flank the entrance should not be replanted when they reach the end of their life as there is no definitive evidence they were present during the historic period. Olive or mesquite trees should be planted in the planting area south of the Main House's main entrance.

SCOTTY'S ORIGINAL CASTLE (2)

Goal: Interpret life at Upper Vine Ranch, prior to and during the construction of Scotty's Castle

- Preserve and stabilize the ruin and interpret its relationship to site development as one of earliest buildings that evokes the "camp" aspect of site.
- Continue to maintain informal path that connects Scotty's Original Castle with the Hacienda entrance and Cook House Road, though block it from unsupervised public use, and have the planned flood protection infrastructure



1. undated, photo of the historic entrance gate and bridge from the period of significance. The signs read, "THE CASTLE IS CLOSED POSITIVELY NO ADMITTANCE SCOTTY" (DEVA 40398)

located in this area be integrated with the curved informal path, perhaps by bordering it on its southern edge.

HISTORIC ENTRANCE GATE (3)

Goal: Enable visitors to understand historic entrance sequence

- Preserve historic entrance gate, and open on special occasions so pedestrians can experience the historic entrance loop.

GATEHOUSE AND BRIDGE (4)

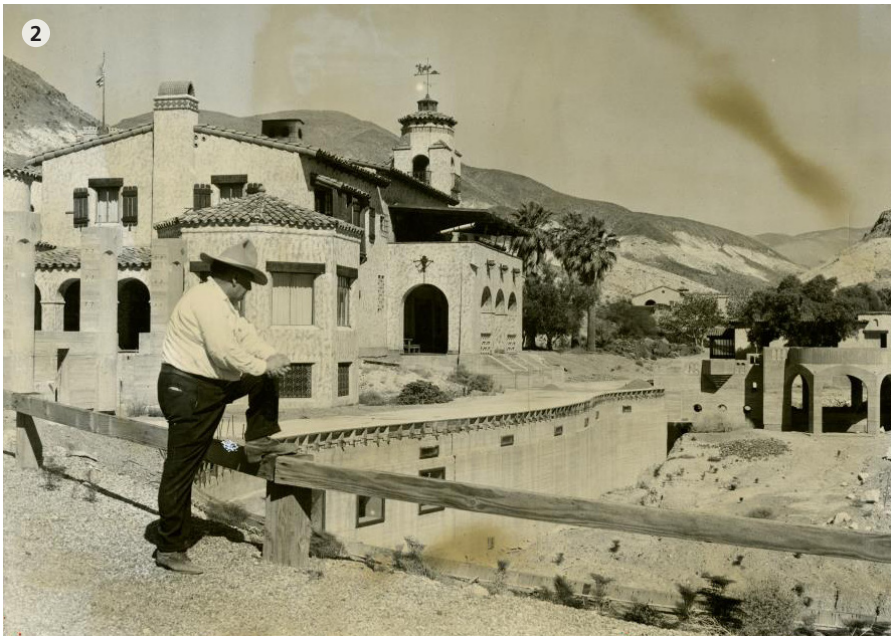
Goal: Enable visitors to understand historic entrance sequence

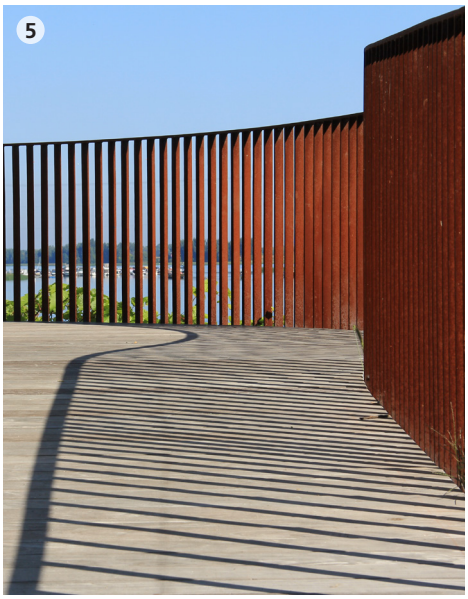
- Preserve and maintain the gatehouse and bridge.
- Interpret the gatehouse apartment for special guided tours.
- Consult a structural engineer to complete regularly scheduled bridge assessment for structural integrity.

RETAINING WALLS (5)

Goal: Preserve built landform and structures

- Inspect annually for cracks and instability due to weathering or drainage issues. Make in-kind repairs when necessary. If cracks and structural issues arise, develop recommendations that add stability which are subsurface or otherwise hidden and preserve the exterior character, recognizing the character differences for each wall.
- Preserve the form, alignment, height, and materials comprising the retaining walls. Remove herbaceous vegetation from base of walls and in other areas as needed to reduce moisture and displacement. Consider these approaches:
  - Flush cut woody or hand-remove herbaceous plants that are impacting structural integrity of walls.
  - Monitor and remove vegetation as needed every one to three years.
  - Do not plant vegetation with destructive roots within five feet of walls.
  - Ensure repairs to walls are made by a skilled preservation specialist.





2. *undated, a figure who may be Scotty himself overlooks a simple wood post and rail fence (DEVA MSS 35 2460)*

3. *undated photo (c. 1954) shows what appear to be potted cacti lining the bridge over the swimming pool (DEVA 60563)*

4. *An example of a simple wood and metal safety railing with mesh, which should only be used if required (MIG Stock Photo Library)*

5. *The rustic appearance of corten steel blends well with the character of Scotty's Castle, but is clearly a contemporary material (MIG Stock Photo Library)*

6. *Reminiscent of the exposed rebar left by the sudden end of construction and later cut by the Gospel Foundation, this simple rebar metal railing is another style of safety fencing compatible with the character and materiality of Scotty's Castle (MIG Stock Photo Library)*

SWIMMING POOL (6)

Goal: Preserve and interpret so visitors can understand the ranch's design intention, and how this exemplifies the property's incomplete construction sequence

- Replace current safety fence with contemporary barrier that meets code but allows views into the unfinished swimming pool. Consider materials such as wrought iron, steel, corten steel, or wood, which reflect or complement the property's existing historic materials. Review historic photos for the form and structure of the historic fence, which was a simple post construction with a top rail. The location and length may need to be extended to provide more area of protection, but the goal is to match the simple form seen in the historic images.
- Maintain soil in the pool to reflect the unfinished rough and slightly mounded look of the soil when construction was halted (see example on following page) and maintain the character and amount of sparsely vegetated low-growing shrub-like vegetation present near the time construction was halted. The grade of soil in the east pool should remain generally level, and the grade of the west pool should be sloped so that the grade of the soil is higher on the east and lower on the west. Though determining the exact slope is difficult based on historic photographs, it appears to be a roughly 4:1 slope. The

1. *December, 1930 Throughout the period of significance, the level of soil in the pool likely fluctuated due to winds, flooding, and periodic removal or regrading of excess soil. Cycles of vegetation taking root and later being removed is also evident in historic photos. Rather than managing for an exact grade, the photo above should be used as a guide to keep soil levels at an ideal range- below the bottom of port hole windows from the tunnel and above the top of rough unfinished concrete, highlighted above (base photo DEVA MSS 33 Box 01 141 BW)*

species of plants present during the historic period is not known, but they consisted of a few species of ground cover and low-growing, but mounded plants. Regularly inspect unfinished concrete for deterioration and treat in kind.

- Remove plants from planting beds on the bridge spanning the pool as there is no evidence they were planted towards the end of the historic period. If evidence is later found that they were planted, re-plant with historically appropriate plants that match the character of those present during the historic period and which can thrive in the current climate. Potted plants can be considered for this area.
- Interpret the swimming pool, but do not restore it or finish its construction that was never finished.

CHIMES TOWER (7)

Goal: Utilize for seasonal or temporary housing and visitor interpretation

- Inspect and restore stairs and safety railings, so the tower can be opened for guided tours to the top, and self-guided tours to the mid-level.
- Reestablish the sounds of the chimes to ring on a regular basis, especially on special tour days. If evidence is found about the timing of their use during the historic period then match that schedule. Prior to the flood, the chimes rang every 15 minutes.
- Potentially reuse rooms for museum/interpretation with exhibits and/or refurnishing. Interpretation should include photos of views from Chimes Tower during the historic period, so visitors can compare to today.

GARAGE (8)

Goal: Reestablish as Visitor Center

- Support conversion to Visitor Center, including ticket sales, bookstore, orientation, and exhibits.
- Interpret how west side was used to service vehicles, perhaps with historic truck or vehicle parked in that space on special occasions.
- Consider replanting small deciduous tree that was located on west side of Garage to provide additional shade to the core area between the Visitor Center and Main House and incorporate this planting into the accessible path alignment between these two destinations.

2. April 10th, 1927 the tree on the west side of the garage provided shade and protection over decades throughout the period of significance (DEVA 40469)

3. April 6th, 1929 one of the workers has set their tent up directly under the tree for protection from the elements. Barely visible in the distance is snow on Tin Mountain. (DEVA 40745)

4. undated, c.1940 to mid-1950's a closer view reveals the tree well created in the concrete adjacent to the garage. Visible in other historic photos taken from the chimes tower, the tree appears to have been taken down around the time the Gospel Foundation constructed the gas station kiosk. (MSS 33 Box 02 155)

LONG SHED/BUNKHOUSE (9)

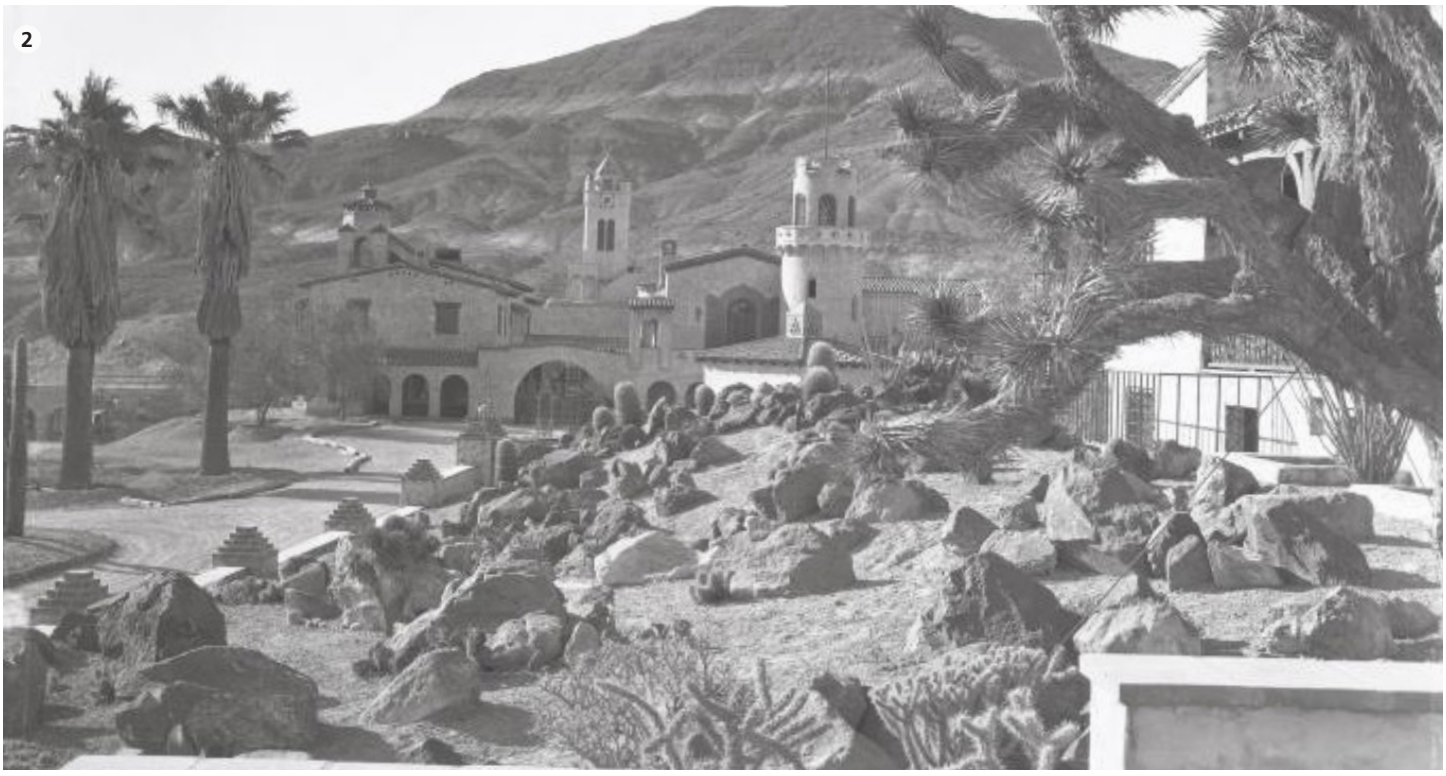
Goal: Use for storage and interpretation

- Convert some spaces to inventory storage and first aid room. Use other spaces for historic interpretation of the working ranch, focusing on life beyond the "Castle" including the property's agricultural activities. Consider converting some rooms to NPS or partner organization offices.
- See related recommendations under Parking Lot.

HACIENDA/GUEST HOUSE (10)

Goal: Provide employee housing, offices and temporary uses

- Rehabilitate spaces for NPS employee housing.
- Replant hacienda garden plantings that have reached the end of their life to restore its cactus-like historic garden character. If needed to address climate change adaptability, consider replacement species that have a similar look and feel to the historic plants. The mix of species should include: beavertail cactus (*Opuntia basilaris*), Aaron's beard (*Opuntia humifusa*), California barrel cactus (*Ferocactus acanthodes*), *Mammillaria longimamma*, and a cacti species with the same form and character of *Lobivia boliviensis*. No palm trees were present in this garden historically.
- Inspect and monitor gate and repair in kind as necessary, keeping in working order.
- Continue to use Hacienda lower level for NPS offices, storage and other uses to support park operations.
- Flood protection infrastructure, such as a flood wall, that is needed north of the Hacienda should have an alignment that blends with the natural topography and follows the informal trail that links Cook House Road with Scotty's Original Castle. The end of the wall should not go past the western edge of the Hacienda, and should taper into the ground or be masked with materials such as dry stacked stone to minimize its impact on the entrance area to the Hacienda and integrate it better with the historic character of the structures.



1. c.1931, the original planting character of the Hacienda was intended to be dry and rocky, interspersed with cacti and native desert plants (DEVA 23026)

2. undated, view of the ornamental desert plantings in front of the Hacienda (DEVA 23038)

STABLES AND CUT BANK (11)

Goal: Rehabilitate for mixed uses for interpretation, storage and workshops

- Open for self-guided and interpretive tours to expand interpretation of daily ranch life.
- Utilize some portions for site maintenance and storage.
- Preserve the historic cut bank.
- Preserve pass-through view from west gates through to east view, and from west gates to view of Main House.
- Consider opening the courtyard and north side of the building to hosting small events such as talks, small dinners and gatherings with a limited carrying capacity.

3. 1938, mules stand flanking the stable gates, with the twin archways revealing the view to the east (MSS 33 Box 04 291)

4. November 8th, 1928 view through the stable archways, still under construction, looking west at the castle (DEVA 40657)

5. undated, historic photo of the gas tank house prior to the non-historic addition (DEVA 50359)

- Site new cooling water tower to the east in alignment with the stables south wing so that it doesn't overly impact the view of this area from Chimes Tower or impact the pass-through view from the west gates to the east. Minimize its height, scale and color.

SOLAR WATER HEATER & PANELS (12)

Goal: Continue to maintain integrity as an interpretive feature and seek ways to integrate renewable energy into the site modeling Johnson's early experimentation

- Given its recent restoration, inspect and maintain as needed. Consider adding interpretative information for visitors to highlight its history, innovation, and restoration.
- Seek ways to pursue renewable energy options in ways that minimize impact to historic buildings and landscape features.

GAS TANK HOUSE (13)

Goal: Visitor gathering location, and visitor services

- Remove and don't replace non-historic addition, restoring character of the building's western facade.
- Use as tour meeting and gathering space, entrance or exit for tunnel system tours, protection for visitors during extreme weather conditions, and/or potential exhibits when castle tours are limited or unavailable.

POWERHOUSE AND PAVILION (15)

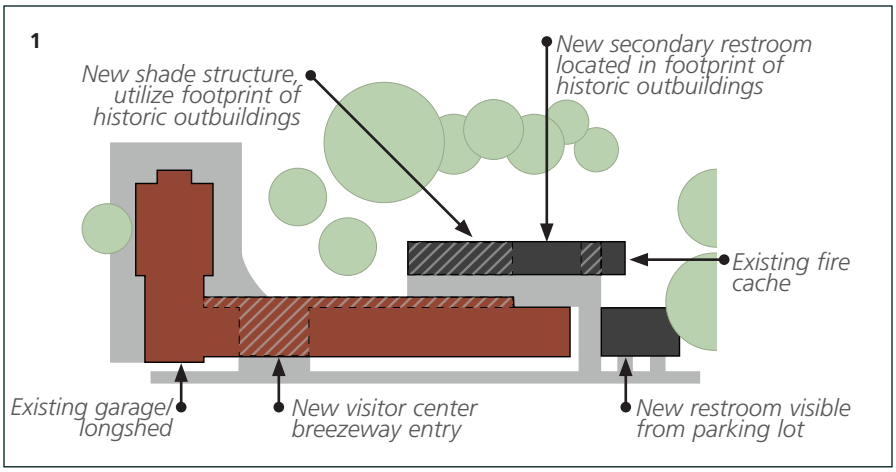
Goal: Interpret how construction ended before the project was finished in this area

- Interpret and stabilize this building's condition to reflect what was in place at the end of the period of significance and how construction stopped before the pavilion was completed. If available provide drawings of what the intended character of the building was intended to be.
- Interpret how power was produced for the site and the Pelton wheel.

GROTTO/SERVANTS QUARTERS FOUNDATION (16)

Goal: Interpret the property's unfinished construction story

- Interpret and stabilize the structure. Reveal the foundation present at the end of the historic period. Periodically remove volunteer plants and excess soil deposited



1. *Utilizing the footprint of the historic outbuildings in the garage/longshed courtyard for structures that support visitor services, and keeping new buildings and pathways orthogonal with existing structures, will help to restore and preserve the historic spatial organization of the courtyard.*

2. *undated c. 1930, a rare view of the fire cache and outbuildings, just out of the photo frame where a car is parked in the gap between buildings (DEVA 18586)*

3. *undated c.1930, historic photo of the outbuildings in the garage/longshed courtyard which were used by workers during the period of significance (DEVA 11332)*

by erosion of the adjacent slope to maintain the visibility and integrity of the foundation.

- If there is a need to stabilize the ground plane north of the foundation, then low-growing native drought-tolerant plants can be planted but should proximate the look of the soil covered landscape that was present in the unfinished landscape.

FIRE CACHE (17)

Goal: Interpret, use for storage and/or maintenance

- Consider restoring and interpreting if enough information is available to inform that process. If not, then rehabilitate for storage or maintenance use.
- Incorporate the fire cache building into an adjacent contemporary shade structure that mimics the height, length and width of the outbuildings located west and immediately adjacent to the fire cache during the historic period, for visitor use and comfort (see related recommendation, Restrooms-Courtyard) and to help interpret the spatial organization that existed during the historic period. This shade structure should provide some climate protection while remaining as an open-air structure. Picnic tables and/or movable tables and chairs could be provided for visitors in this area.
- Consider replacing cottonwood that was located northeast of the Fire Cache.

COOK HOUSE (20)

Goal: Continue NPS use in non-public space

- Maintain use as staff library, employee break room, employee costume changing and on-site meeting room. Maintain temporary parking spaces for special or short-term use.

GRAVEL SEPARATOR AND POWDER STORAGE FOUNDATION (21 & 22)

Goal: Interpretation of construction methods and historic district development

- Preserve, stabilize and interpret the structures associated with construction processes that were required to build Scotty's Castle, expanding interpretive

story and legibility of historic resources.

- Monitor and remove vegetation that will damage this structure. Consider using repeat photography from this point for interpretation.
- Consider flood protection structures that will protect the historic structure from further deterioration, utilizing natural materials found on site to minimize visual impact.

RESTROOMS - PARKING LOT (24)

Goal: Provide visitor comfort in a central location adjacent to and visible from primary visitor services (parking lot) and blend with the character of the site's historic spatial organization

- Design and plan a restroom for visitors that is visible from the parking lot and reinforces the historic character of the spatial organization associated with the Long Shed and former chicken yard. The new restroom should be compatible, but distinct from the historic character of adjacent buildings to ensure differentiation from historic fabric and should match the scale and footprint of similarly sized outbuildings from the historic period. It is recommended that the restroom be located directly east of the eastern end of the Long Shed and north of the parking lot. Though a building did not exist here historically, this location allows the building to blend better with the existing historic buildings and allows it to recede from view which it would not do in a more prominent and open location.

RESTROOMS - COURTYARD (25)

Goal: Provide visitor comfort in a central location adjacent to primary visitor services (visitor center) that also helps restore and interpret the site's historic spatial organization in the courtyard north of the Long Shed and east of the Garage.

- When the current non-contributing restroom building requires updating, consider removing from its current location. Coordinate the planning and design of the restroom in conjunction with the construction of a shade structure and rehabilitation of the fire cache to restore the collection of outbuildings that were present in the courtyard during the historic period. This will restore the spatial organization of this space and help increase the ability to interpret the life of the site beyond the Castle. The new restroom should mirror the footprint and scale of the outbuilding that existed in this location and be connected to a shade structure and rehabilitated fire cache (see related recommendation) to help restore the historic spatial organization. The contemporary building should be compatible, but distinct from the historic character of the district to ensure differentiation from historic fabric.
- Shade trees should also be planted in this area to increase the ability for this area to be a respite for visitors on hot days. Though trees were not planted here in abundance during the historic period, the integrity of this space is not as high as other areas so it can accommodate more change. In addition, it's location near primary visitor services makes it an ideal place for an outdoor seating area.

ABOVE-GROUND FUEL TANK (28)

Goal: Remove non-historic structures from the landscape if they are no longer needed.

- If it's determined that the above-ground fuel tank is no longer needed then it should be removed since it was not present during the historic period.

CIRCULATION

COOK HOUSE ROAD

Goal: Rehabilitate to more closely resemble its appearance at the end of the period of significance paying attention to historic alignment, width and materiality

- Remove asphalt and restore road to gravel-like appearance with gravel binder material (such as StaLok, or similar technology such as cellular geotextile, that can withstand heat) to stabilize the surface while enabling walking and limited driving. The color of the road should match the existing earth color of native soil and gravel.
- Minimize impact of drainage infrastructure across the road profile, preferring that

1. *1934, birds-eye view looking east, showing the internal circulation of Scotty's Castle and Bonnie Clare Road on the right (NPS NARA)*

2. *This project in Los Angeles uses a gravel binder to create a stabilized pavement surface which is wheelchair accessible and drivable (Stalok)*

3. *A close-up of the stabilized gravel surface seen in the previous photo (Stalok)*

4. undated, historic aerial (detail) view of the area proposed for the visitor parking lot which was an agrarian landscape and construction staging area during the historic period (DEVA 21798)

infrastructure be aligned with the road's edges. If retaining walls are needed, they should be concrete dyed to match the color of the surrounding soil and gravel, and brush finished to indicate they are contemporary and not historic.

ENTRANCE ROAD/CASTLE ENTRANCE AREA/STABLE ROAD

Goal: Rehabilitate to more closely resemble its appearance at the end of the period of significance paying attention to historic alignment, width and materiality

- Restore road to gravel-like appearance with gravel binder material (such as StaLok, or similar technology such as cellular geotextile, that can withstand heat), stabilizing surface, while enabling walking and limited driving. Remove all asphalt. The color of the circulation features should match the existing earth color of native soil and stone.

PARKING LOT

Goal: Provide visitor and employee parking that has the least impact on the site's historic character as possible (namely views from the historic core centered on the Main House), is clearly discernible as a new feature in the historic district, helps interpret the site's historic character, and will not greatly impact or be impacted by the site's hydrologic functions.

- The new paved parking lot should be easily accessible from the new entrance and adjacent to primary visitor services including the Visitor Center (Garage) and restrooms (see related recommendation for location of that building), whose footprint is as minimal as possible to meet typical visitation. Ideally the size, shape and footprint of the main visitor parking lot should mirror the spaces that existed in this area during the historic period, namely a series of open spaces surrounded by fences and bordered in some locations by small deciduous trees that were located south of and parallel to the Garage and Long Shed. It should have an orthogonal shape and orientation to align it with the site's orthogonal organization of buildings. It should be paved with asphalt to distinguish this new circulation feature from historic circulation features and the parked cars shielded from view of Scotty's Castle,

Chimes Tower and Scotty's gravesite as possible. Parked vehicles should not extend further west than the western edge of the Garage's historic retaining wall associated with the car bay, but a turnaround loop or drive aisle is acceptable since cars will not be positioned for long periods of time in that space. The eastern edge of the parking lot should not encroach into the wetland and balance the need for flood protection infrastructure with interpretation of the historic elements that are missing from this area.

- Depending on the footprint, the fence lines and corners can be marked in the pavement with embedded stones that are set flush with the top of the pavement material or a non-reflective light colored painted outline. Or in certain sections a simple wood post fence can be installed to mark corner posts and portions of the fenceline when those elements intersect with a planting area. These elements should be coupled with interpretation to show the collection of spaces that existed here including the chicken yard, orchard, and vineyard.
- An overflow lot should be designed to accommodate periods of high visitation and special events and provide places for buses to park when not loading and unloading passengers. This should be located to the southeast of the main parking lot to minimize its impact on the historic views and spatial organization. Depending on its exact location and footprint, consider ways to reestablish or interpret the edge of the orchard and vineyards in this area by marking their location and interpreting their character, but not restore either feature to the historic period.

WALKWAYS

Goal: Maintain historic walkways for visitor and employee use, and interpretation of daily ranch life and activity

- Walkway alignments and widths should remain as they were during the historic period. If adjustments need to be made to accommodate new uses, then try to match historic widths and alignments as much as possible. If major adjustments are necessary, then consider ways to mark or identify the historic alignment and width within the new circulation feature.
- Walkway materials should be consistent with their historic character whenever possible. This will vary from walkway to walkway. If a walkway was gravel, then it should continue as gravel. If the earthen walkway is an accessible route or needs to accommodate heavier use, then a binding material (such as StaLok or similar technology such as cellular geotextiles) should be added to stabilize the surface. If historically appropriate, use stone, but consider rehabilitating the surface of the stone work to increase pedestrian safety in heavily used areas.
- Maintain historic concrete paths, such as those near the front of the main house, and match the historic color, finish and texture

1. *undated, historic photo showing a typical stone pathway which winds through the watercourse (DEVA 60072)*

2. *2018, adjustments to historic walkways where there are safety issues that need to be addressed should match the historic color, materiality and finish (MIG)*

3. *1934, aerial photograph showing the spatial organization of the wishing well courtyard and other areas around the castle (NPS-NARA)*

4. *undated, photo from the period of significance, a boy rests in the shade of one of the three towering palms flanking the wishing well courtyard which has a more open, circular character without its current gas tank house addition (DEVA 40071)*

(amount, scale and type of aggregate) when restoring. If developing new paths that need to be concrete, make sure they are compatible but distinct from historic concrete paths, especially new paths that are constructed near historic ones. Subtle variations can be made to the color, finish and texture to provide distinctions.

PICNIC AREA

Goal: Provide an accessible route between the Parking Lot and a small seating area in the Picnic Area to complement the outdoor visitor space located west of the Garage.

- Based on the final parking lot design, determine a route that meets ABA guidelines which links the parking lot to a small seating area in the Picnic Area that is located under shade trees and provides opportunities to view wildlife attracted to this more natural area.
- The accessible route's alignment should be

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orthogonal when located in or adjacent to the parking lot, but can mimic the natural topography after entering the picnic area.

- The accessible route should use a material that is compatible, yet distinct from historic paved surfaces and match the material of other accessible routes used at Scotty's Castle.

TUNNEL ACCESS (14)

Goal: Interpret 'Scotty's Castle Underground,' and maintain NPS operations

- Continue guided tours as 'Scotty's Castle Underground.' Maintain health and safety standards for underground spaces but keep all construction materials in place for interpretation. Consider this as part of a selection of different tours that are offered.
- Install interpretive materials to explain below ground conditions and activities in certain locations above ground. Limit some areas to NPS operations and storage only.

SPATIAL ORGANIZATION

WISHING WELL COURTYARD

Goal: Restore the historic character of this area while providing accessible paths of travel between the Visitor Center and Main House and Annex and areas for respite and learning for visitors.

- Replant three California fan palms that historically marked this space to better define the historic vehicular and pedestrian circulation patterns. See related recommendations associated with the plantings around the Main House and Annex and Garage (Visitor Center), which include replanting other smaller trees in discrete locations to further define this space.
- Design an accessible path that connects the west entrance of the Garage (Visitor Center) with the Main House and Annex and Gas Tank House that matches as close as possible the historic route between these two areas while following an alignment that meets ABA. The path should consist of orthogonal alignments when located near buildings and curved alignments when the path is responding to the site's topography.

Diagonal alignments should be avoided. The path should be distinguished from the surrounding road by color and texture that matches the existing soil by using colored concrete or a soil binder with a subtle edge such as non-reflective light colored paint or stones that are embedded flush with the surrounding paved material.

TIE CANYON

Goal: Maintain look and feel of Tie Canyon at the end of the period of significance, focusing on the sudden halt of construction

- Preserve the construction materials in place to help interpret the unfinished state of Scotty's Castle.
- Interpret material use in conjunction with interpretation related to the Gravel Separator and Powder Storage Foundation.

HILLS NORTH

Goal: Maintain the natural character of this area to provide context for the developed site and for interpretation, including the trail that linked the original Scotty's Castle to the Stables.

- Refrain from building anything visible from the historic core. For flood control infrastructure, any above ground elements should remain low (preferably under one foot) and follow the contours of the landscape or respond to orthogonal built elements if they are closer to buildings and structures. Maintain native vegetation cover, and use vegetation that matches the species and density of native vegetation plant communities to screen any contemporary built elements. Monitor the area for erosion and regrade areas that show clear disturbance on an annual basis. Mark and preserve remnants of historic trail that linked Scotty's Original Castle and Stables.

COTTONWOOD CORNER

Goal: Maintain Cottonwood Corner as a key focal point on the route east to Scotty's Castle along Bonnie Clare Road while ensuring safety of vehicular and pedestrian traffic and interpret the importance of springs in this region.

- Consult with Timbisha Shoshone to maintain their cultural practices associated with this area.
- Maintain the historic footprint of oasis-like plantings and species composition that was here historically which included cottonwood, willow, mesquite, fig, palms, and grapes.
- For the existing cottonwood, remove the dead portion of the north stem, cutting either approximately 2-feet above the 12" diameter live lateral branch, or cutting it low on the trunk. Prune the south trunk to remove dead branches 2 inches and larger that could fall onto the road and reduce weight on live branches extending over the road using reduction cuts. The advantage of this treatment is that most of the live tree canopy is preserved and much of the habitat it provides is retained. It eliminates the hazard of dead branches falling onto the road. However, it is possible that other parts of the north and south stems could fail onto the road in the future. Inspect annually and after major storms to assess need for pruning and other treatments to manage risk.
- Include interpretation of the importance of springs to human and wildlife habitat since time immemorial and how the construction of the fence around the property, including this area, was of critical importance to the ranch's historic development and land claim in materials at Scotty's Castle. This interpretive information does not need to be physically located at Cottonwood Corner, but could be incorporated into a driving tour map or recording or into interpretive materials that are provided at Scotty's Castle.

STAININGER SPRING

Goal: Maintain as active, functional and non-intrusive feature

- Maintain active use as a water source, minimizing visibility of any new structures or buildings from the historic core or the adjacent Bonnie Clare Road historic district.

1. *undated c. 1930's view from the garage showing the historic circulation leading up to the wishing well courtyard. The circular space was defined by three mature palms which created a towering gateway as visitors approached the castle (DEVA 41313)*

2. *2014, the wishing well turnaround has since been paved over is far more open and flat in character (2014 Draft Cultural Landscape Report, Pacific West Region, Cultural Landscapes Program, National Park Service)*

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- Consider removing non-historic buildings and structures if they are no longer in use.
- Maintain non-historic access road from Bonnie Clare Road.
- Preserve remaining historic trace of road that used to connect the spring to the historic core.

CONSTRUCTED WATER FEATURES

WATERCOURSE (18)

Goal: Restore to functioning character-defining feature, and 'oasis' for visitors

- Maintain water flow, boulders and cross walkways, and restore cactus-garden vegetative character over time as existing plants reach the end of their lifespan or need to be removed.
- Inspect root systems of trees to determine if they are damaging watercourse structure and develop a process for removing them based on recommendations developed in the *Hazard Tree Assessment: Trip Report and Recommendations for Future Work* by Horticulturist and Preservation Arborist Keith Park. General removal recommendations involve using a hydraulic excavator equipped with a bucket and thumb attachment that grasps and pulls the trees from the ground, but that method may be too invasive for the watercourse given the damage that method may cause to the other elements. For palms embedded in the watercourse rocks, the *Hazard Tree Assessment: Trip Report and Recommendations* states:
  - Carefully use a small powertool such as a sawzall, or manually work on each stump with hand tools such as wedges, chisels and mallets to gradually remove as much of the palm material as possible.
  - Do not use chainsaws as they are harder to control and likely to make contact with the rock, damaging the tool and the resource alike.
  - Palm tree material is surprisingly durable and will likely not disintegrate naturally anytime soon.
- Replacement plantings should evoke the cactus-garden character as much as possible with consideration for plants that will thrive along a watercourse, provide seasonal interest, and be adaptable to changing climate conditions. The vegetative character of the existing watercourse is different than what was planned for this area. Though a species list nor planting plan have been uncovered, historic photos, Kruckeberg's plans, and historic narratives about the plantings provide some guidance. The plant species located in the cactus garden south of the Hacienda can also be used as a reference. Finally, planting small trees, such as pomegranates that are mentioned in the historic record, or other species that will provide some shade along the watercourse can be considered in a rehabilitation approach to provide places of respite for visitors.
- Rehabilitate one cross watercourse walkway for improved pedestrian safety while maintaining the rustic character of the stone walkway.
- Consult with an archeologist, as necessary, to preserve and protect petroglyphs on boulders.
- Consider establishing small seating areas along the watercourse where small shade trees may be planted. Five locations are noted on the treatment plan, most of which are located toward the east side of the water course, near historic pathways. These seating areas should be coordinated with plantings and the shade structure recommended for the courtyard located to the south.
- Inspect regularly and repair stone masonry along water course as needed.

1. *undated, historic photograph of the watercourse shortly after construction and planting, saguaro cactus near the foreground (DEVA 40393)*

2. *undated, stone stairway weaving through the watercourse boulders (DEVA 41428)*

3. *undated, bare boulders and young landscape (DEVA 41421)*

4. *undated, desert shrubs are the backdrop to this calm pool within the watercourse (DEVA 23110)*

5. *undated, one of the iconic petroglyph boulders placed along the watercourse (DEVA 23105)*

6. *undated, photo near the end of the period of significance prior to the three dead palms being cut down or the wishing well tiling (DEVA 21745)*

7. *2018, tree roots have become problematic and damaging to the watercourse (MIG)*

1. undated historic view c.1930's overlooking the Hacienda and the mature vegetation around the castle grounds (DEVA 42990)

Some considerations include:

- Use photo documentation or other system to record the existing structure
- Number or mark all stone moved during repair to assure replacement is accurate as built.
- Assure all new mortar joints match the appearance of historic mortar.

VEGETATION

PICNIC AREA VEGETATION

Goal: Restore character of this area and its vegetation to what was present during the historic period, which consisted of deciduous trees, shrubs and forbs typical of a desert riparian area, and remove non-native non-historic vegetation. Provide informal access to small area for visitors to complement visitor rest area located east of the Garage.

- Remove declining and poor condition trees which include three Freemont cottonwoods near the south edge of the current parking lot paved area, one located along Bonnie Clare Road, and one located on the east of the new entrance drive just south of the parking lot paved area. (See Appendix: *Horticultural Analysis of Selected Trees at Death Valley National Park* Figure 1, Tree Numbers 2, 3, 4, 13, and 21). Remove non-native non-historic trees which include California fan palms, mulberry, and Siberian elm.
- Prune to remove dead branches larger than 2" in diameter and reduce end weight on lateral branches with reduction cuts on trees to remain that are not declining or in poor condition. This includes a Freemont cottonwood on the west side of the new entrance drive, four in the middle of the former picnic area, and three along Bonnie Clare Road. It also includes the honey mesquite and screwbean mesquite located on the west side of the new entrance road near the corner

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of Bonnie Clare Road (See Appendix: *Horticultural Analysis of Selected Trees at Death Valley National Park* Figure 1, Tree Numbers 1, 6, 7, 8, 9, 11, 12, 15, 20 and 23).

- Inspect trees in this area annually and after major storms to assess need for pruning and other treatments to manage risk to visitors since they will be using this area informally.
- Plan for future generations of mature trees by maintaining young and middle-aged trees of species known to have been planted and existed here during the historic period. To sustain the canopy into the future, identify areas that could be allowed to develop and replace the old trees. Where seedlings and saplings are growing in areas planned for other uses or are species that do not evoke the historic character of this area, it is best to remove them while they are small.
- Shrubs and forbs typical of a riparian area should be planted or allowed to grow. Lawn or grass was not present during the historic period so it should not be reestablished. Areas can be kept clear of shrubs and forbs where picnic benches can be placed for visitors to use.
- Larger native shrubs and small trees should be planted in the northern part of this area just south of the Entrance Road to stabilize the bank and provide a barrier between the edge of the road and the steep slope that exists in this area which is currently planted with oleander, which will be removed.
- Foster good bird watching opportunities in this area, especially during migration season.

MAIN HOUSE (1)

Goal: Restore vegetative character south of the Main House

- Remove oleander, which was planted after the historic period. Reestablish planting character of beds south of Main House, which included three small olive trees (*Olea europaea*) near the Main House's southeast corner and no shrubs or other major plantings. Alternatives to the olive trees, such as mesquite, can be considered. If there is a need to stabilize the ground plane, then low-growing native drought-tolerant plants, such as primrose (*Oenothera sp.*) or desert gold

2. undated, the design for what is now known as the picnic area was never complete and vegetation communities have fluctuated over the years, though the lush appearance and mature trees have persisted (DEVA 18570)

3. 2018, Non-native, highly invasive oleander and palms should be removed and replaced with desert appropriate shrubs and trees on the slopes of the picnic area and riparian corridor species along the creek (MIG)

poppy (*Eschscholzia glyptosperma*), can be planted but should proximate the look of the soil covered landscape that was present in the unfinished landscape.

CREEKSIDE VEGETATION

Goal: Maintain wetland function and character for ecological integrity and visitor interpretation

- Remove non-native palms that were not here during the historic period and other invasive plants.
- Maintain wetland function and character of this area to provide an area for storm water runoff to be accommodated more readily which will provide protection to areas and features further west, such as the parking lot, picnic area, bridge and gatehouse, during intense precipitation events.
- Flood protection berms planned for the north side of this area should conform to existing topographical features that include the fire road located south of the stables and the creek itself. Native xeric and riparian type plants should be used where appropriate in terms of their location to soften the edges of the berm without needing regular irrigation. These could include: creosote bush (*Larrea tridentata*), desert holly (*Atriplex hymenelytra*), sprucebush (*Peucephyllum schotti*), and arrowweed (*Pulchea sericea*).
- Foster good bird watching opportunity in this area, especially during migration season.

COURTYARD VEGETATION

Goal: Provide shade for visitors within courtyard south of the watercourse

- In response to the restoration of the watercourse to its cactus-like garden character, this area should be rehabilitated to provide more shade and cover for visitors in an outdoor area. (See diagram on page 174)
- This area is ideal for that use due to the fact that the integrity of this space has been compromised with previous interventions and its proximity to the Visitor Center and restrooms.
- Trees species should be chosen that provide shade and are non-invasive. Any trees that were used around Scotty's Castle during the historic period that fit that description should be prioritized. Following that species which are drought tolerant should be considered, although choosing trees that provide shade and are non-invasive is more important given their function in this space.

TOPOGRAPHY

LANDSCAPE TERRACING (19)

Goal: Maintain designed and constructed terraces for landscape and hillside stability near the Cook House and Hacienda

1. 2018, dense vegetation has sprung up in the wetland area since the 2015 flood (MIG)

2. early undated photo of the terracing at the cook house which appears to include olive trees and a low groundcover (DEVA 60078)

3. *2018, parts of the perimeter and interior fences around Scotty's Castle sustained heavy damage during the 2015 flood (MIG)*

- The terrace walls should be inspected on a regular basis to determine if they remain structurally sound and repairs made in kind.
- There are a variety of plants that are suitable for planting to enhance and support landscape terracing stability including those that were planted historically around the hacienda which include ocotillo, yucca, Joshua tree, and cactus species, and those planted around the cook house which included wildflowers and olive trees. Suitable plants should be drought tolerant and adapted to the desert conditions. Use of predominately native xeric plants is recommended. Because of limited water supply, plants should be relatively widely spaced, approximately two to four times the width of the mature plant. Plan to plant in winter when temperatures are cool, and rainfall is more frequent. Weekly irrigation will be required for at least several months during the establishment period. Plant survival and appearance will be enhanced with monthly irrigation following establishment, especially for shrubs and trees. (See Appendix: *Horticultural Analysis of Selected Trees at Death Valley National Park* for additional guidance)

SMALL-SCALE FEATURES

PERIMETER FENCE

Goal: Repair and preserve perimeter fence

- Restore the fence using the pre-flood rehabilitation project as the guide. Several sections of the fence are in poor condition or, in some cases, missing altogether due to flood damage and slope failure, especially along Bonnie Clare Road.
- Replace woven wire fence in-kind if it cannot be preserved.
- Repair other sections of the fence as failures are discovered, ensuring repairs to existing fence components maintain historic design characteristics of the fence. Key design attributes of the historic fence include:
  - Space between posts: 7-10 feet apart in developed areas; 12-15 feet apart in the outlying areas
  - Individual post lengths (including below-ground footings): 11 feet long for gate posts or high security areas; 7 feet long for outlying areas
  - Post height above grade: 6 feet
  - Post design: taper rounded top. If new posts are fabricated, use historic molds but do not apply the S/J stamp to differentiate new materials form historic materials, instead use the S/J stamp with the current year added

NPS ENTRANCE GATE (23)

Goal: Provide vehicular access to the site for visitors and NPS employees

- Maintain in place and when necessary, replace with contemporary gate that more closely reflects the historic character of the site while also providing security and access control. See recommendations for the fence around the pool for guidance regarding materials.

GRAVE SITE MARKERS (28)

Goal: Interpret Death Valley Scotty's life, relationship to Scotty's Castle, and views across valley.

- Monitor and maintain grave site makers to determine if condition deteriorating and preserve as needed. Maintain broad views across the site.

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LIGHTING

Goal: Limit the amount of contemporary lighting.

- Strictly follow Dark Sky guidelines.
- Replace all broken and non-historic glass in light fixtures as needed. Consult with NPS electrician to upgrade wiring, switches, and connections.

CONTEMPORARY SMALL-SCALE FEATURES

Goal: Limit the amount and scale of contemporary small-scale features, but those that are needed for current use should be designed to be compatible yet distinct from the District's historic character. Some considerations include:

- Color: Select muted colors—such as earth tones, shades of tan and sepia for new small-scale features to blend with established colors in the larger environmental setting.
- Materials: Integrate small scale materials for new construction that are similar or compatible with materials used historically such as stone, concrete, metal, and wood. If a material was used historically the design of the new small-scale feature should be clearly contemporary.
- Scale: Ensure the scale of small-scale features used within the district reflect an appropriate and proportional size relative to the context within which it is placed.
- Location: Screen visually intrusive or non-compatible small-scale features small scale such as dumpsters, garbage bins, storage areas, etc. whenever possible, and site these features in visually unobtrusive areas. Group similar functional or related small-scale features as possible to avoid cluttering the landscape with random placement.

1. *2018, one style of bench, seen at the entry road to Lower Vine Ranch. While the materials are compatible with the historic district, the style makes it difficult to differentiate this bench as a historic or contemporary feature. (MIG)*

2. *2018, contemporary features such as the propane tanks should be screened as much as possible to preserve the look and feel of the historic district (MIG)*

3. *2018, as costs and funding allows, options to underground utilities should be pursued (MIG)*

4. *These undated photos estimated to have been taken between 1948 and 1960 show the changes implemented by the Gospel Foundation at the end of the period of significance (DEVA 60575)*

5. *Though undated, this photo compared with the one above shows the change over time (DEVA 42417)*

LOWER VINE RANCH

BUILDINGS AND STRUCTURES

RANCH HOUSE (1)

Goal: Preserve and maintain for interpretive opportunity

- Maintain and preserve for visitor interpretation. Consider re-furnishing and/or restoring parts of the interior.
- Prune and thin vegetation around the exterior to maintain more defensible space for fire safety but be careful not to remove vegetation that would have existed around the house historically. Scant photographic evidence shows that some shrub-like vegetation was present directly north and west of the house, but none south or east. Trees were present to the south.
- Contemporary site furnishings such as benches, tables and garbage and recycling receptacles should be made of wood or metal, not plastic, and sited in locations that are visible but outside of major viewsheds to and from the ranch house.

GARAGE (2)

Goal: Preserve and maintain for interpretive opportunity or site storage needs

- Preserve and maintain and consider restoring period car to garage for interpretation or use for site maintenance and management storage. Consideration could also be given to rehabilitating the garage for an informal classroom or workshop space that provides a sheltered place for teaching and interpretation. Other possible uses include hosting training courses in historic construction techniques.

BLACKSMITH FORGE (3)

Goal: Preserve and maintain for interpretive opportunity

- Preserve and maintain, possibly as outdoor classroom or for workshops focused on daily life at Lower Vine Ranch. Other possible uses include hosting training courses in historic construction techniques.

1. *undated, Scotty and one of his canine companions in front of the Lower Vine Ranch house (DEVA 16940)*

GRAIN SHED (5)

Goal: Preserve for use as storage or maintenance

- Remove rodents, stabilize foundation and repair building so the structure can be used for storage or maintenance, especially if more active use of the site occurs in the future. The stabilization and repair process could be completed in coordination with a preservation field school such as the one that the University of Oregon manages.

EAST AND WEST CORRAL (6 & 8)

Goal: Preserve and maintain for interpretive opportunity

- Repair the fence, gates, and loading ramp of the East Corral, and determine if concrete posts were used historically or added later to the West Corral. If they were added after the historic period, then repairs should remove them.

HAY PLATFORM (7)

Goal: Preserve and maintain for interpretive opportunity

- Repair the hay platform foundation and structure.

STONE BUILDING (9)

Goal: Preserve and maintain for interpretive opportunity

- Engage archeologist to assess and develop treatment options including protecting it from public access. At the very least, stabilize to avoid further deterioration.

CHANGE HOUSE/WOOD PLATFORM (12 & 13)

Goal: Preserve as ruin and maintain for interpretive opportunity

- Vanishing Treasures should be consulted to determine the feasibility and methodology for preserving this ruin.

2. *undated, view of the main entry road, tack shed, corral and hay platform (DEVA 41344)*

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INDIAN CABIN SITE

Goal: Preserve and maintain

- Stabilize remains of structure for future research opportunity. Discourage public access.

NATURAL SYSTEMS AND FEATURES

ROCK NICHE (4)

Goal: Preserve and maintain for interpretive opportunity

- Inspect annually to ensure stability and look for deterioration, then preserve as necessary.

CIRCULATION

ENTRANCE ROAD/ROAD TO RESERVOIR

Goal: Maintain for access to main ranch cluster and reservoir

- Regrade road and add minimum amounts of gravel in areas periodically to increase stability and drivability of road. Though no documentation of the road's condition and materiality during the historic period has been uncovered, the road would have been maintained to be passable and that should continue.
- Redirect spring water that is not being used to irrigate plantings around the Ranch House to flow alongside the road or in an adjacent drainage in a way that the flow of water will not impact the condition of the road. Infrastructure needed to direct the flow of water should be designed to have a minimal impact on the visual setting of the road.
- Review the location of benches to determine if they are needed. If they are not, then remove. If they are, then consider relocating them to places where they can take advantage of shade or views. The benches should be wood or metal, not plastic, and be more compatible with the character of the architecture at Lower Vine Ranch. The design for benches along the road should be coordinated with those located in other areas of Lower Vine Ranch.

1. *2018, rock niche and abandoned bath tub at Lower Vine Ranch (MIG)*
2. *2018, change house ruins (MIG)*
3. *2018, water runs along the entrance road to Lower Vine Ranch (MIG)*
4. *2018 Panorama view of the tack shed and corral (MIG)*
5. *The same view a short distance back towards the ranch house where trees have become overgrown (MIG)*

PERIMETER ROAD AND BRIDGE

Goal: Preserve as circulation remnants which can also provide access to the whole of the property for maintenance use and monitoring

- Preserve and maintain road trace as rustic gravel road. The road would have been maintained to be passable during the historic period and that should continue.
- Monitor bridge condition on semi-annual basis or after major storms and make repairs when necessary. Geolocate the entire length of road.

HISTORIC TRAIL FROM RANCH HOUSE AND RESERVOIR

Goal: Preserve as circulation remnant until determined if it is or is not historic

- Geolocate and mark trail alignment and preserve trace unless it is found to be non-historic. If that occurs, then no further treatment is necessary.

VIEWS AND VISTAS

VIEWS TO/FROM SCOTTY'S RANCH HOUSE

Goal: Reestablish historic views

- Reestablish view from Scotty's Ranch House to western landscape and view of Scotty's Ranch House from the approach road by pruning mesquite and cottonwood southwest of house (see related recommendation under Specimen Trees).

VEGETATION

SPECIMEN TREES

Goal: Reduce hazards to visitors and create defensible space for fire management while preserving trees known to have existed during historic period

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- Remove dead Fremont cottonwood located northwest of the Ranch House and remove young Fremont cottonwood located north of Garage.
- Remove and replace two Freemont cottonwoods located south of the Ranch House, and redirect spring water to new plantings so they can thrive.
- Prune mesquites by removing dead and dying branches 2 inches and larger in diameter (see related recommendation under Views). Crown reduce both trees using reduction cuts where possible to stimulate growth lower on the trunks.
- Keep trees near the buildings and structures free of dead branches.
- When mesquites near the East and West Corrals reach the end of their lifespan, remove, but do not replant.

TOPOGRAPHY

RESERVOIR/RESERVOIR EARTHWORKS (11)

Goal: Preserve and reestablish reservoir edge form

- Complete some earthwork and vegetation clearing to reestablish the form of the edges of the reservoir.
- Clear sediment that has accumulated in areas of reservoir.
- If possible, replant groups of trees that were historically around the reservoir, which were likely cottonwood.
- Do not reestablish reservoir function.

1. *undated, historic view of the reservoir at LVR (DEVA 18554)*

2. *January 24th, 1929 view of the perimeter fence and dry stacked rows of stones (DEVA 40727)*

3. *January 24th, 1929 perimeter road and wooden bridge (DEVA 40726)*

4. *undated, "Scotty's mules and '38 ton of hay' on his lower ranch" (DEVA 17103)*

5. *undated photo, Scotty, Johnson and an unidentified man in front of the Lower Vine Ranch house (DEVA MSS 35 251)*

SMALL-SCALE FEATURES

ENTRANCE GATE (G)

Goal: Preserve and continue to use as entry to Lower Vine Ranch. Consider interpreting with repeat photography to demonstrate the character, use and history of this area

- Preserve and maintain the gate and fence.
- Consider removing the benches. If they remain then develop a more compatible design that matches the character of the architecture at Lower Vine Ranch. See related recommendation for the benches along the Entrance Road and near Scotty's Ranch House.
- Interpret the story of the trough and its connection to Scotty, and the agricultural fields and reservoir that are no longer present. The interpretation can be included in a paper or digital guide which includes historic photos of the area for comparison, which could be used by those leading tours of Lower Vine Ranch.

FENCE POSTS

Goal: Preserve, repair and maintain historic fence line and posts, and confirm historic extent of property boundary

- Confirm that mapping and locations of all fence posts is completed.
- Monitor and preserve fence sections that are standing and restore sections that are not.
- Replace woven wire fence in-kind if it cannot be preserved.
- Repair other sections of the fence as failures are discovered, ensuring repairs to existing fence components maintain historic design characteristics of the fence. Key design attributes

1. *undated, dense vegetation surrounding the Lower Vine Ranch house cluster (DEVA 35 Neg 003)*

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of the historic fence include:

- Space between posts: 7-10 feet apart in developed areas; 12-15 feet apart in the outlying areas
- Individual post lengths (including below-ground footings): 11 feet long for gate posts or high security areas; 7 feet long for outlying areas
- Post height above grade: 6 feet
- Post design: taper rounded top. If new posts are fabricated, use historic molds but do not apply the S/J stamp to differentiate new materials from historic materials, instead use the S/J stamp with the current year added

2. *2018, perimeter fence at Lower Vine Ranch, entrance gate in the foreground (MIG)*

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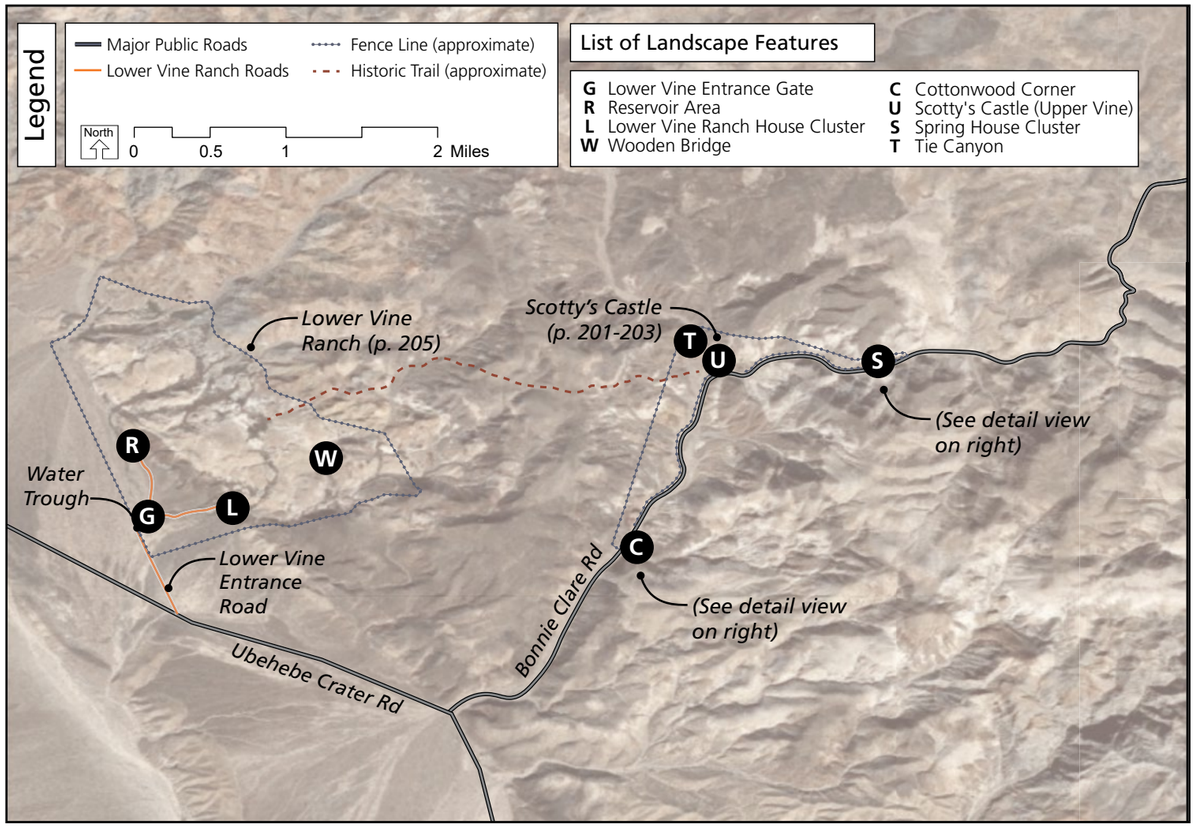
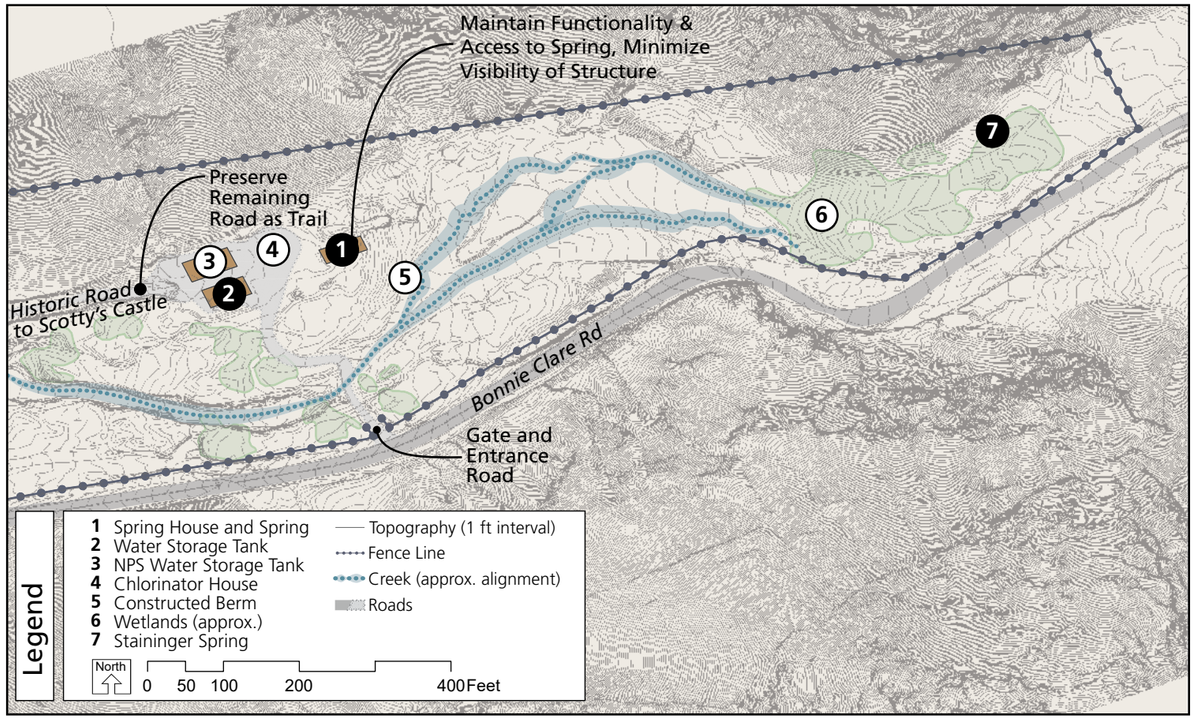
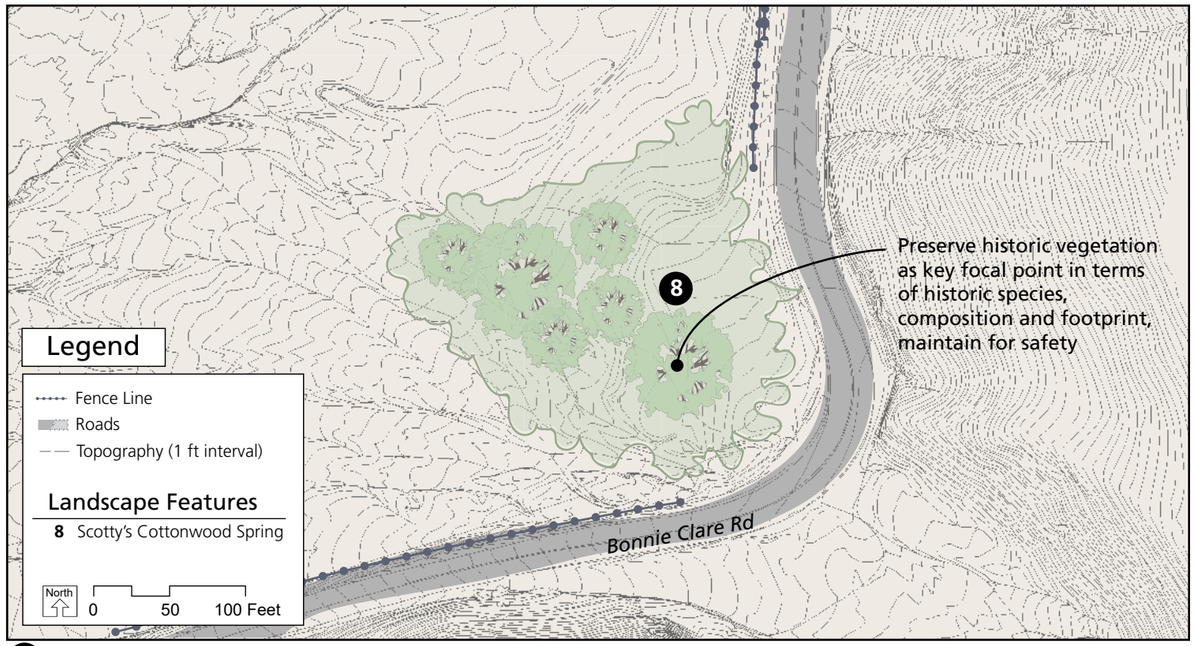
Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009). Spring locations were determined according to UTM coordinates in *Groundwater geology and hydrology of Death Valley National Park, California and Nevada: Natural Resource Technical Report NPS/NRSS/WRD/NRTR—2012/652* by M.S Bedinger and J.R. Harrill (2012).



Death Valley Scotty Historic District



S Spring House Cluster



C Cottonwood Corner

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Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009).

Hills North

Tie Canyon
Ties, Construction Remnants: Preserve in areas outside primary flood plain

Restore Historic Character & Spatial Organization

Align Flood Protection w/ Natural Topography

Restore & Interpret Historic Spatial Organization

Site New Infrastructure to Preserve Historic Views

Trail to Spring House

Parking Lot

Overflow Lot

Riparian Vegetation

Bonnie Clare Road

Natural Area

Preserve, Stabilize & Interpret (include modest flood protection)

Blend New Visitor Services w/ Historic Spatial Organization

List of Landscape Features

1 Main House and Annex (Scotty's Castle)
2 Scotty's "Original Castle"
3 Historic Entrance Gate
4 Gatehouse (Dungeon Apartment) and Bridge
5 Retaining Walls
6 Swimming Pool
7 Chimes Tower
8 Garage
9 Long Shed/Bunkhouse
10 Hacienda/Guest House
11 Stables and Cut Bank
12 Solar Water Heater (Solar Panel)
13 Gas Tank House (Restored)
14 Tunnel Access Points
15 Powerhouse and Pavilion
16 Grotto/servants Quarters Foundation
17 Fire Cache
18 Watercourse
19 Landscape Terracing, Typ.
20 Cook House
21 Gravel Separator
22 Powder Storage Foundation
23 NPS Entrance Gate
24 (Proposed) Parking Lot Restroom
25 (Proposed) Shade Structure and Restroom
26 (Proposed) Cooling Tower
27 Grave Site Markers

Legend

Buildings/Structures
Contours (5 ft. intervals)
Key Viewpoint/Interpretation
Retaining Walls
Fence line
Creek (approx.)
Wetlands (approx.)
Wash
Berm/Floodwall
Swale
Primary Internal Circulation
Secondary Circulation
Walking Paths
Contributing Feature
Non-Contributing Feature
Ornamental Plant Beds

1" = 250'

North
0 50 100 200 300 400 500 600 Feet

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Note: Information in these maps is derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and the Historic Resource Study by Carey & Co. Inc., 2009.

Remove Non-Contributing Gas Tank House Addition & Do Not Replace

Cook House Road

Maintain Informal Path but Close to Public

Mimic Historic Building Alignment & Footprint for Proposed Bathroom & Shade Structure

Restore & Maintain Function/Character as Visitor Oasis

Path to Grave Site

Re-establish Arbor & Plantings

Re-establish Historic Plantings & Character

Rehabilitate Walkways to Improve Safety

Trail to Spring House Cluster

Stable Road

Tie Canyon Road

Re-establish Historic Plantings at Castle

Replant cottonwoods

Entrance Road

Rehabilitate Safety Fence

Provide Accessible Path in Alignment w/ Historic Circulation Route

Parking Lot

Provide Visitor Parking w/ Minimal Impact on Site's Historic Character

Provide Employee Parking w/ Minimal Impact on Site's Historic Character

Maintain Wetland Function/Character

Natural Area
Restore Historic Character & Vegetation

Rehabilitate & Interpret Historic Agricultural Activity

Overflow Parking

Bonnie Clare Rd

Accommodate High Visitation

Interpret Historic Entrance Sequence

Legend

- Contributing
- Non-contributing
- Overhang
- Creek
- Contours (5 Ft Interval)
- Retaining Walls
- Tunnels (Underground)
- Circulation (Vehicular)
- Parking Areas
- Historic Walking Paths
- Walking Paths
- Native Vegetation
- Ornamental/Managed Veg.
- Potential Wetland Area
- Benches
- Wishing Well
- Fire Hydrant
- Petroglyph Boulders
- Gas Tank
- Propane Tanks
- Watercourse
- Fence Posts (Perimeter Fence)
- Fence Line (Interpretive Area)
- Safety Barrier
- Swale
- Underground Connection
- Floodwall/Berm

North

0 20 40 60 80 120 160 Feet

Treatment Recommendations

See Cultural Landscape Report for detailed descriptions of treatment recommendations as outlined for each landscape feature and area.

List of Landscape Features

1 Main House and Annex (Scotty's Castle)
2 Scotty's "Original Castle"
3 Historic Entrance Gate
4 Gatehouse (Dungeon Apartment) and Bridge
5 Retaining Walls
6 Swimming Pool
7 Chimes Tower
8 Garage
9 Long Shed/Bunkhouse
10 Hacienda/Guest House
11 Stables and Cut Bank
12 Solar Water Heater (Solar Panels)
13 Gas Tank House
14 Tunnel Access Points
15 Powerhouse and Pavilion
16 Grotto/servants Quarters Foundation
17 Fire Cache
18 Watercourse
19 Landscape Terracing, Typ.
20 Cook House
21 Gravel Separator
22 Powder Storage Foundation
23 NPS Entrance Gate
24 (Proposed) Parking Lot Restrooms
25 (Proposed) Shade Structure/Restroom
26 (Proposed) Cooling Tower

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Note: Information in these maps was derived from Geographic Information Systems data, historic photographs, fieldwork conducted in 2018, and *Historic Resource Study: Death Valley Scotty Historic District* by Dewey Livingston (2009).

Stabilize, Preserve, Maintain and Discourage Public Access

Maintain Historic Vegetation & Thin for Fire Safety

Preserve and Interpret

Restore and Use for Maintenance

Remove & Replace, Redirect Spring Water for Irrigation for All Historic Vegetation Around Core

Re-establish Historic Views to and from Ranch House

Maintain Historic Vegetation

Indian Cabin

Stabilize Remains & Discourage Public Access

Repair & Maintain

Repair & Maintain Historic Materials

Entrance Road

(1)SM

(2)FC

Legend

Buildings & Structures
Entrance Road
Key Views
Native Vegetation
Mesquite Trees
Cottonwood Trees

North 0 45 90 Feet

Small Scale Features

Loading Ramp
Boulders
Fence Posts

Vegetation Key

SM Screwbean Mesquite - *Prosopis pubescens*
FC Fremont Cottonwood - *Populus fremontii*

List of Landscape Features

1 Ranch House
2 Garage
3 Blacksmith Forge
4 Rock Niche
5 Grain Shed
6 East Corral
7 Hay Platform
8 West Corral
9 Stone Building

L Lower Vine Ranch House Cluster

Re-establish Edges & Form of Earthwork, Consider Replanting Trees Around Edge

Document & Record Structures for Future Interpretation

Reservoir Road

Buildings & Structures
Road to Reservoir
Native Vegetation
Fenceline

10 Reservoir
11 Reservoir Earthworks
12 Change House
13 Wood Platform

North 0 100 200 Feet

R Reservoir Cluster

LEGEND

Context Features

G Entrance Gate
R Reservoir Area
L Ranch House Cluster
H Hillside Springs
W Wooden Bridge
A Agricultural Crops
Entrance Road
Road to Reservoir
Perimeter Road
Fence Line
Trail (approximate)

North 0 1/2 Mile

Preserve, Repair & Maintain Historic Fence Lines & Posts: Confirm Mapping

Trail to Scotty's Castle

Perimeter Road

Trail to Reservoir

Ubehebe Crater Road

Geolocate, Mark Alignment and Preserve Traces of Historic Trails and Roads within Lower Vine Ranch Perimeter Fence

Context Map: Lower Vine Ranch

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E. Implementation and Phasing

The Death Valley Scotty Historic District CLR is designed to provide long-term guidance for the treatment and management of the district's cultural landscape characteristics and features while implementing projects that meet the park's vision and goals for visitation and use. This section describes a process for implementing recommendations outlined in the previous section, highlighting those that are essential.

Projects that are deemed essential and highlighted for implementation should be prioritized for near term funding. Following that, the park should review the CLR's recommendations each year as the budgeting process commences to choose which desirable project(s) to add to the funding requests made by the park. As specific projects are developed based on the general treatment recommendations, the phasing and implementation plan should be revised. Revisions to this plan should take into account future priorities at the site.

Essential recommendations are those that are necessary to ensure the preservation and maintenance of cultural landscape characteristics and features, address life and safety deficiencies, and address universal access deficiencies. Desirable tasks are those that further the rehabilitation of the site by restoring or rehabilitating landscape characteristics and features or adding new compatible features for interpretive purposes and to ensure that the overall historic character of the cultural landscape is rehabilitated.

The essential and desirable treatment recommendations are organized by time frame to provide a general schedule for phasing and implementing projects. The phasing schedule is flexible to allow for additional collaboration, identification of funding, design development, project review, and other factors that impact phasing and implementation. As additional information is available, the phasing plan should be revised to account for changes to priorities, funding, and on-going projects. Prior to implementation of any project, environmental compliance needs to be completed.

The following phasing and implementation table organizes the treatment recommendations by those that are essential or desirable and includes a summary of the recommendation that is followed by page number where the full recommendation can be reviewed. Following that are a list of cyclical maintenance tasks.

Recommended projects may need to be revised in scope and methods based on input from appropriate professionals as they are implemented, especially in terms of responding to conditions that were not present when the recommendations were drafted.

TABLE 1: SCOTTY'S CASTLE (UPPER VINE RANCH) CULTURAL LANDSCAPE TREATMENT RECOMMENDATIONS IMPLEMENTATION AND PHASING

Priority	Landscape Feature/ Area	Time Frame	Recommendation Summary	Page #
Essential	Cook House Road	*Within 1 year*	Minimize appearance of drainage infrastructure across road profile	175
Essential	Creekside Vegetation	*Within 1 year*	Flood protection berms should conform to topography	186
Essential	Garage	*Within 1 year*	Convert to Visitor Center	170
Essential	Hacienda/Guest House	*Within 1 year*	Flood protection infrastructure should have an alignment that blends with the natural topography	171
Essential	Stables and Cut Bank	*Within 1 year*	Site new cooling water tower to the east in alignment with the stables south wing	173
Essential	Creekside Vegetation	*1-2 years*	Remove non-historic palms	186
Essential	Fire Cache	*1-2 years*	Replace missing cottonwood	174
Essential	Gatehouse and Bridge	*1-2 years*	Preserve and maintain the gatehouse and bridge	168
Essential	Hacienda/Guest House	*1-2 years*	Replant hacienda garden plantings that have reached the end of their life	171
Essential	Historic Entrance Gate	*1-2 years*	Preserve historic entrance gate, and open on special occasions	168
Essential	Landscape Terracing	*1-2 years*	Rehabilitate historic plantings	187
Essential	Main House	*1-2 years*	Remove oleander, replant historic vegetation or vegetation that has historic character	185
Essential	Picnic Area	*1-2 years*	Design accessible route to and through this area	179
Essential	Picnic Area Vegetation	*1-2 years*	Remove declining and poor condition trees	184
Essential	Scotty's Original Castle	*1-2 years*	Preserve and stabilize the ruin	167
Essential	Stables and Cut Bank	*1-2 years*	Preserve the historic cut bank	172
Essential	Swimming Pool	*1-2 years*	Replace current safety fence with contemporary barrier that meets code but allows views	169
Essential	Watercourse	*1-2 years*	Maintain water flow, boulders and cross walkways, and restore cactus garden	183
Essential	Watercourse	*1-2 years*	Rehabilitate one cross watercourse walkway for improved pedestrian safety	183
Essential	Wishing Well Courtyard	*1-2 years*	Design accessible path that connects west entrance of Garage (Visitor Center) with Main House and Annex and Gas Tank House	180
Essential	Cook House Road	*2-5 years*	Remove asphalt and restore road to gravel-like appearance with binder	175

Priority	Landscape Feature/ Area	Time Frame	Recommendation Summary	Page #
Essential	**Entrance Road/ Castle Entrance Area/Stable Road**	*2-5 years*	Remove asphalt and restore road to gravel-like appearance with binder	177
Essential	**Grotto/Servants Quarters Foundation**	*2-5 years*	Inspect and stabilize the structure	173
Essential	**Hacienda/Guest House**	*2-5 years*	Rehabilitate spaces for NPS employee housing	171
Essential	**Long Shed/ Bunkhouse**	*2-5 years*	Convert some spaces to inventory storage and first aid room	171
Essential	**Main House and Annex**	*2-5 years*	Reestablish the plantings and circulation character of the area near the Wishing Well and east of the Main House, historic entrance to Main House	166
Essential	**Parking Lot**	*2-5 years*	Rehabilitate parking lot	177
Essential	**Perimeter Fence**	*2-5 years*	Restore fence	187
Essential	**Picnic Area Vegetation**	*2-5 years*	Plan for future generations of mature trees by maintaining young and middle-aged trees	185
Essential	**Powerhouse and Pavilion**	*2-5 years*	Stabilize this building's condition	173
Essential	**Tie Canyon**	*2-5 years*	Preserve the construction materials in place	181
Essential	**Wishing Well Courtyard**	*2-5 years*	Replant three California fan palms that historically marked this space	180
Essential	**Hacienda/Guest House**	*Ongoing*	Use lower level for NPS offices, storage and other uses to support park operations	171
Essential	**Main House and Annex**	*Ongoing*	Prohibit vehicles in the courtyard	165
Essential	**Stables and Cut Bank**	*Ongoing*	Preserve pass-through view from west gates through to east view	172
Essential	**Staininger Spring**	*Ongoing*	Maintain active use as a water source, minimizing visibility of any new structures	181
Essential	**Staininger Spring**	*Ongoing*	Maintain non-historic access road	183
Essential	**Staininger Spring**	*Ongoing*	Preserve historic road trace	183
Essential	**Walkways**	*Ongoing*	Retain historic widths and alignments	178
Essential	**Walkways**	*Ongoing*	Retain historic walkway materials where possible	178
Essential	**Walkways**	*Ongoing*	Maintain historic concrete paths	178
Desirable	**Gas Tank House**	*2-5 years*	Remove and don't replace nonhistoric addition	173
Desirable	**Gas Tank House**	*2-5 years*	Use as tour meeting and gathering space, protection for visitors during extreme weather	173

TABLE 1 CONTINUED

Priority	Landscape Feature/ Area	Time Frame	Recommendation Summary	Page #
Desirable	**Restrooms - Parking Lot**	*2-5 years*	Design and plan a restroom for visitors that reinforces the historic spatial organization	175
Desirable	**Above-Ground Fuel Tank**	*5-10 years*	Remove if not needed	175
Desirable	**Chimes Tower**	*5-10 years*	Inspect and restore stairs and safety railings to open for tours	170
Desirable	**Chimes Tower**	*5-10 years*	Reestablish the sounds of the chimes	170
Desirable	**Cottonwood Corner**	*5-10 years*	Interpret importance of springs to human and wildlife habitat	181
Desirable	**Courtyard Vegetation**	*5-10 years*	Rehabilitate to provide shaded area for visitors	186
Desirable	**Creekside Vegetation**	*5-10 years*	Maintain wetland function and character	186
Desirable	**Fire Cache**	*5-10 years*	Restore and Interpret or Rehabilitate for Storage	174
Desirable	**Garage**	*5-10 years*	Interpret how west side was used to service vehicles	170
Desirable	**Garage**	*5-10 years*	Replant small deciduous tree located on west side	170
Desirable	**Main House and Annex**	*5-10 years*	Reestablish eucalyptus trellis/arbor	165
Desirable	**Main House and Annex**	*5-10 years*	Reestablish planting beds in courtyard	166
Desirable	**Main House and Annex**	*5-10 years*	Determine and reestablish planting character of beds south of Main House	166
Desirable	**NPS Entrance Gate**	*5-10 years*	Replace with contemporary gate that is more compatible with historic character	187
Desirable	**Parking Lot**	*5-10 years*	Interpret historic spatial organization while rehabilitating parking lot	178
Desirable	**Parking Lot**	*5-10 years*	Design overflow parking lot that minimizes impacts on cultural landscape	178
Desirable	**Picnic Area Vegetation**	*5-10 years*	Riparian shrubs and forbs should be planted, allowed to grow	185
Desirable	**Picnic Area Vegetation**	*5-10 years*	Larger native shrubs and small trees should be planted in northern area	185
Desirable	**Powerhouse and Pavilion**	*5-10 years*	Interpret how power was produced	173
Desirable	**Restrooms - Courtyard**	*5-10 years*	Design and plan restroom and shade structure that mimics missing buildings to restore historic spatial organization	175
Desirable	**Restrooms - Courtyard**	*5-10 years*	Plant shade trees to provide comfortable outdoor areas for visitors	175
Desirable	**Scotty's Original Castle**	*5-10 years*	Continue to maintain informal path that connects Scotty's Original Castle with the Hacienda entrance and Cook House Road	167
Desirable	**Solar Water Heater and Panels**	*5-10 years*	Pursue renewable energy options in ways that minimize impacts	173

Priority	Landscape Feature/ Area	Time Frame	Recommendation Summary	Page #
Desirable	**Stables and Cut Bank**	*5-10 years*	Utilize some portions for site maintenance and storage	172
Desirable	**Swimming Pool**	*5-10 years*	Remove plants from planting beds on the bridge spanning the pool	170
Desirable	**Swimming Pool**	*5-10 years*	Interpret the swimming pool's unfinished condition	170
Desirable	**Watercourse**	*5-10 years*	Replacement plantings should evoke the cactus-garden character	183
Desirable	**Watercourse**	*5-10 years*	Establishing small seating area	183
Desirable	**Chimes Tower**	*10-15 years*	Reuse rooms for museum/interpretation with exhibits and/or refurnishing	170
Desirable	**Gatehouse and Bridge**	*10-15 years*	Interpret the gatehouse apartment	168
Desirable	**Gravel Separator and Powder Storage Foundation**	*10-15 years*	Interpret structure	174
Desirable	**Grotto/Servants Quarters Foundation**	*10-15 years*	Interpret the structure	173
Desirable	**Main House and Annex**	*10-15 years*	Consider opening the main house and annex to special ticketed events	165
Desirable	**Solar Water Heater and Panels**	*10-15 years*	Add interpretative information	173
Desirable	**Stables and Cut Bank**	*10-15 years*	Open for self-guided and interpretive tours	172
Desirable	**Stables and Cut Bank**	*10-15 years*	Open the courtyard and north side of the building to hosting small events	172
Desirable	**Staininger Spring**	*10-15 years*	Remove non-historic buildings if not in use	183
Desirable	**Tie Canyon**	*10-15 years*	Interpret material use	181
Desirable	**Tunnel Access**	*10-15 years*	Install interpretive materials	180
Desirable	**Contemporary Small-scale Features**	*Ongoing*	Limit the amount and scale of contemporary small-scale features	188
Desirable	**Cook House**	*Ongoing*	Maintain current use	174
Desirable	**Creekside Vegetation**	*Ongoing*	Foster good bird watching opportunities	186
Desirable	**Hills North**	*Ongoing*	Refrain from building anything visible from the historic core	181
Desirable	**Lighting**	*Ongoing*	Follow Dark Sky guidelines	188
Desirable	**Picnic Area Vegetation**	*Ongoing*	Foster good bird watching opportunities	185
Desirable	**Tunnel Access**	*Ongoing*	Continue guided tours	180

TABLE 2: LOWER VINE RANCH CULTURAL LANDSCAPE TREATMENT RECOMMENDATIONS IMPLEMENTATION AND PHASING

Priority	Landscape Feature/ Area	Time Frame	Recommendation Summary	Page #
Essential	Change House/ Wood Platform	*1-2 years*	Consult Vanishing Treasures to determine stabilization strategies	191
Essential	East and West Corral	*1-2 years*	Repair the fence, gates, and loading ramp	191
Essential	Grain Shed	*1-2 years*	Remove rodents, stabilize foundation and repair building	191
Essential	Hay Platform	*1-2 years*	Repair the structure	191
Essential	Specimen Trees	*1-2 years*	Remove and replant identified cottonwood trees	195
Essential	Specimen Trees	*1-2 years*	Prune and maintain historic mesquite trees	195
Essential	Specimen Trees	*1-2 years*	Prune trees near buildings and structures	195
Essential	Stone Building	*1-2 years*	Stabilize to prevent further deterioration	191
Essential	Entrance Road/Road to Reservoir	*2-5 years*	Redirect spring water to prevent road erosion	192
Essential	Fence Posts	*2-5 years*	Monitor, preserve and repair	196
Essential	Fence Posts	*2-5 years*	Map locations, if not already completed	196
Essential	Views To/From Ranch House	*2-5 years*	Reestablish views	193
Essential	Entrance Gate	*5-10 years*	Preserve and maintain	196
Essential	Reservoir/Reservoir Earthworks	*5-10 years*	Reestablish and preserve form of earthwork	195
Desirable	Entrance Gate	*5-10 years*	Remove benches	196
Desirable	Entrance Road/Road to Reservoir	*5-10 years*	Review the location of benches	192
Desirable	Historic Trail from Ranch House and Reservoir	*5-10 years*	Geolocate, mark alignment and preserve if found to be historic	193
Desirable	Ranch House	*5-10 years*	Contemporary site furnishings should be made of wood or metal	190
Desirable	Blacksmith Forge	*10-15 years*	Rehabilitate and interpret	191
Desirable	Entrance Gate	*10-15 years*	Interpret trough and connection to Death Valley Scotty	196
Desirable	Garage	*10-15 years*	Rehabilitate and interpret	190
Desirable	Ranch House	*10-15 years*	Restore and re-furnish	190
Desirable	Reservoir/Reservoir Earthworks	*10-15 years*	Clear sediment that has accumulated	195
Desirable	Reservoir/Reservoir Earthworks	*10-15 years*	Replant trees	195
Desirable	Specimen Trees	*10-15 years*	Do not replant mesquite trees near East and West Corrals	195
Desirable	Reservoir/Reservoir Earthworks	*Ongoing*	Do not reestablish reservoir function	195

TABLE 3: SCOTTY'S CASTLE (UPPER VINE RANCH) CULTURAL LANDSCAPE CYCLICAL MAINTENANCE TASKS

Asset (if known)	Landscape Feature/ Area	Time Frame	Cyclical Maintenance Task	Page #
60679	Picnic Area Vegetation	*Annually*	Inspect tree's condition	185
60683	Retaining Walls	*Annually*	Inspect annually for cracks and instability	168
	Swimming Pool	*Annually*	Maintain soil in the pool to reflect the unfinished rough and slightly mounded look of the soil when construction was halted	169
60682	Cottonwood Corner	*Cyclical*	Consult with Timbisha Shoshone to maintain their cultural practices associated with this area	181
60682	Cottonwood Corner	*Cyclical*	Maintain the historic footprint of oasis-like plantings and species	181
60682	Cottonwood Corner	*Cyclical*	Prune and maintain historic cottonwood trees	181
	Gatehouse and Bridge	*Cyclical*	Complete regularly scheduled bridge assessment for structural integrity	168
60679	Grave Site Markers	*Cyclical*	Monitor and maintain	187
	Gravel Separator and Powder Storage Foundation	*Cyclical*	Monitor and stabilize structure, including developing flood protection infrastructure	175
60680	Hacienda/Guest House	*Cyclical*	Inspect and monitor gate and repair in kind	171
60683	Landscape Terracing	*Cyclical*	Inspect terrace walls	187
	Lighting	*Cyclical*	Replace all broken and non-historic glass in light fixtures as needed	188
60679	Picnic Area Vegetation	*Cyclical*	Prune to remove dead branches larger than 2" in diameter and reduce end weight on lateral branches	184
60683	Retaining Walls	*Cyclical*	Preserve the form, alignment, height, and materials comprising the retaining walls	168
	Solar Water Heater and Panels	*Cyclical*	Inspect and maintain as needed	173
	Watercourse	*Cyclical*	Inspect root systems of trees to determine if they are damaging watercourse	183
	Watercourse	*Cyclical*	Preserve and protect petroglyphs	183
	Watercourse	*Cyclical*	Inspect and repair stone masonry	183

TABLE 4: LOWER VINE RANCH CULTURAL LANDSCAPE CYCLICAL MAINTENANCE TASKS

Location (if known)	Landscape Feature/ Area	Time Frame	Cyclical Maintenance Task	Page #
244839	Blacksmith Forge	*Cyclical*	Preserve and maintain	190
244839	Entrance Road/Road to Reservoir	*Cyclical*	Regrade and regravel to increase stability	192
244839	Garage	*Cyclical*	Preserve and maintain	190
244839	Indian Cabin Site	*Cyclical*	Stabilize and prevent public access	192
244839	Perimeter Road and Bridge	*Cyclical*	Preserve and maintain road	193
244839	Perimeter Road and Bridge	*Cyclical*	Monitor bridge structure	193
244839	Ranch House	*Cyclical*	Maintain and preserve	190
244839	Ranch House	*Cyclical*	Prune and thin vegetation around the exterior	190
244839	Rock Niche	*Cyclical*	Inspect and stabilize	192

APPENDIX A

Response to Selected Planned Projects

During the time this CLR was being developed, several design and construction projects were being completed at Scotty's Castle, some in response to the 2015 flood that damaged large portions of the site. Addressing some of the projects in the recommendations section would have made this document appear dated even before it was finished since many of those projects would be completed before the CLR was finalized. Therefore, the authors of this report provided guidance to the NPS during the process of developing the CLR as they were overseeing the design and construction projects. Those responses are summarized below.

COOLING TOWER

Overall, this project, as currently designed, does not negatively impact the cultural landscape. However, there are questions that need to be resolved before this evaluation can be finalized:

- The location that has been selected for the cooling tower minimizes its impact on the cultural landscape by placing it east of the stables in an area that does not impact the view through the stables' two arches to the east and west. The height and its location has also been addressed so that only a small portion can be seen from the chimes tower when looking east towards the stables.
- The wall and plantings that have been proposed to shield view of the cooling tower from the east and south are compatible, yet distinct from the character of historic retaining walls around Scotty's Castle and the natural vegetation that occurred in this are during the historic period.
- How the cooling tower will affect drainage and wastewater is not clear, nor is the level of coordination understood between the team designing the cooling tower and the flood protection system. If the location of the cooling tower shifts due to its relationship to the Flood Protection project then it may begin to impact the cultural landscape in a negative way.

FLOOD PROTECTION

The flood protection, as currently designed has an adverse impact on the cultural landscape characteristics and features of Scotty's Castle. The following concerns were raised as this project moved forward.

- The berm, as designed, will adversely impact the recommended parking lot location and design, which will necessitate a portion of the parking lot being located further to the west which will impact major views from the main house and core of the site (see related issues to follow).
- The proposed parking area should not extend beyond the eastern edge of the swimming pool to minimize its impact on the cultural landscape, such as views from Scotty's Castle, the Chimes Tower, and Scotty's gravesite. The turnaround loop at west end of the parking is fine, as cars will not be positioned there, but moving through space, minimizing the impact to views mentioned above. Bus parking should not occur along the west end of the parking lot, but in the east end or the overflow area.
- Parked vehicles should not extend further west than the western edge of the garage structure, which includes the retaining wall on the building's west end.
- Protection of the wetland and the cultural landscape need to be balanced, avoiding encroachment to either.
- All built features should complement the historic orthogonal pattern of the built site to minimize contrast with the existing spatial organization and have this new feature blend better into the site's character
- End of berm/concrete trench is in stark contrast with natural wetland area and historic chicken yard fence. As it is currently designed it will impact the parking lot capacity and the interpretation of cultural landscape features in this area.
- Floodwall designs should respond to adjacent retaining walls:
  - Cookhouse- dye concrete to match natural stone of north hill, brush finish.
  - Hacienda- minimize height and have

width match that of retaining walls around hacienda. Dye to indicate that this is contemporary, and not historic; brush finish as at cookhouse.

- Floodwall design should blend with existing topography- gentle curve aligned along south side of existing trail. End of wall should align with western edge of Hacienda, taper into ground or masked with natural materials such as dry stacked stone.
- Use of predominately native xeric plants is recommended to soften berm edges, and avoid need for regular irrigation:
  - Creosote bush, *Larrea tridentata*
  - Desert holly, *Atriplex hymenelytra*
  - Sprucebush, *Peucephyllum schotti*
  - Arrowweed, *Pulchea sericea*

VISITOR CENTER PROJECT

The Visitor Center Project presents major negative impacts to the defining characteristics of the cultural landscape. The following major points should be addressed prior to implementation of this project:

- Paths need to respond to the historic circulation patterns and reinforce the experience of historical spatial organization of this area – the swimming pool, watercourse, proposed restored planting bed. Paths should be orthogonal on the landscape, or follow the natural topography, as was done during the period of significance. Diagonal paths were not present in the historic designed circulation system and should be avoided.
- Specifically, the design for the accessible path from the proposed Visitor Center to Scotty's Castle does not respond to the basic orthogonal orientation of the cultural landscape's spatial organizations or the site's natural contours. Recognizing the need for an accessible path, the CLR team recommends an alignment that more closely follows the historic circulation patterns and does not cut diagonally across the site. A balance should be developed that marries the historic route with an accessible route.
- The proposed floodwall wrapping the watercourse and the northwest edge of the garage disrupts the historic circulation pattern and should be modified, realigned, reduced in size and/or eliminated.
- The proposed swale will disrupt the spatial and topographic character of this area, which was historically an element in the main arrival sequence to Scotty's Castle. This aspect of flood protection needs to be redesigned, with an effort to minimize the current wasteland character of this area through the addition of species appropriate trees. As evidenced in historic photos (1934) this area was an important aspect of the arrival gateway and sequence, and should be presented to visitors in that manner.
- The new entry and parking area layout needs to reflect the period plan and historic photographs. This would include a planting bed at the southwest corner of the garage, as well as movement of the proposed parking lot to the east, aligning the edge north and south with the west wall of the garage. This will also minimize the need for a visual buffer between the new parking area and Scotty's Castle.
- Circulation in the courtyard should follow recommendations in the body of this CLR so that they help re-establish the spatial organization of this area.

GAS TANK HOUSE

Replacing the non-contributing addition with an open-air shade structure is not recommended. The shade structure will adversely impact the defining characteristics of the wishing well turnaround and the Scotty's Castle entry plaza. Instead, it is recommended that shade trees be added to this area, to replace in scale and form the historic palms that are no longer present. This will offer dispersed shade for visitors, and more closely represent the feeling of this area during the period of significance. When needed, the interior of the gas tank house can be used to gather tour groups.

APPENDIX B

Preliminary Horticultural Analysis

Note: This report was completed during the process of developing the CLR. Final recommendations for treating trees are located in Part 2: Treatment.

Horticultural Analysis of Selected Trees at Death Valley National Park

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July 2018

This report describes the condition of selected trees at three locations in Death Valley National Parks: Scotty's Castle Picnic Area, Cottonwood Corner, and Lower Vine Ranch. Trees were visually inspected on May 30, 2018. The species, size, condition and potential longevity of the trees were described, and options for management were noted. The approximate location of trees was plotted on a site map. Photographs were taken of each tree. In addition species suited for planting at Scotty's Castle between the Hacienda and the Cookhouse were identified.

Scotty's Castle Picnic Area

Existing Conditions

The subject trees were located in a riparian area between the historic bridge and the current entrance (photo 1). The site, approximately one-third acre in size, had been used as a picnic area, with parking to the north, and Bonnie Clare Rd. to the south. During the period of significance it was graded to form a lake and planted with cottonwoods, palms, and other species. After the National Park Service acquired the property the picnic area was developed, including installation of turf around the trees. In 2015 a flood sent large quantities of water and sediment through the picnic area. In some cases trees were abraded by the sediment and debris (photo 2) and root systems were undercut. The site has been closed for public use since then.

The picnic area included 23 individual and groups of trees. Tree size and condition are noted in Exhibit 1 and summarized in Table 1. Tree locations are identified in Figure 1.

Table 1. Trees assessed in the Scotty's Castle Picnic Area.

Common name	Scientific Name	Condition				Total
		Poor	Fair	Moderate	Good	
Mulberry	*Morus alba*	--	2	1	--	3
Fremont cottonwood	*Populus Fremontii*	5	6	6	--	17
Mesquite	*Prosopis gladulosa, P. pubescens*	--	2	1	--	3
Siberian elm	*Ulmus pumila*	--	1	--	--	1
California fan palm	*Washingtonia filifera*	--	--	--	9	9
Total		**5**	**11**	**8**	**9**	**33**

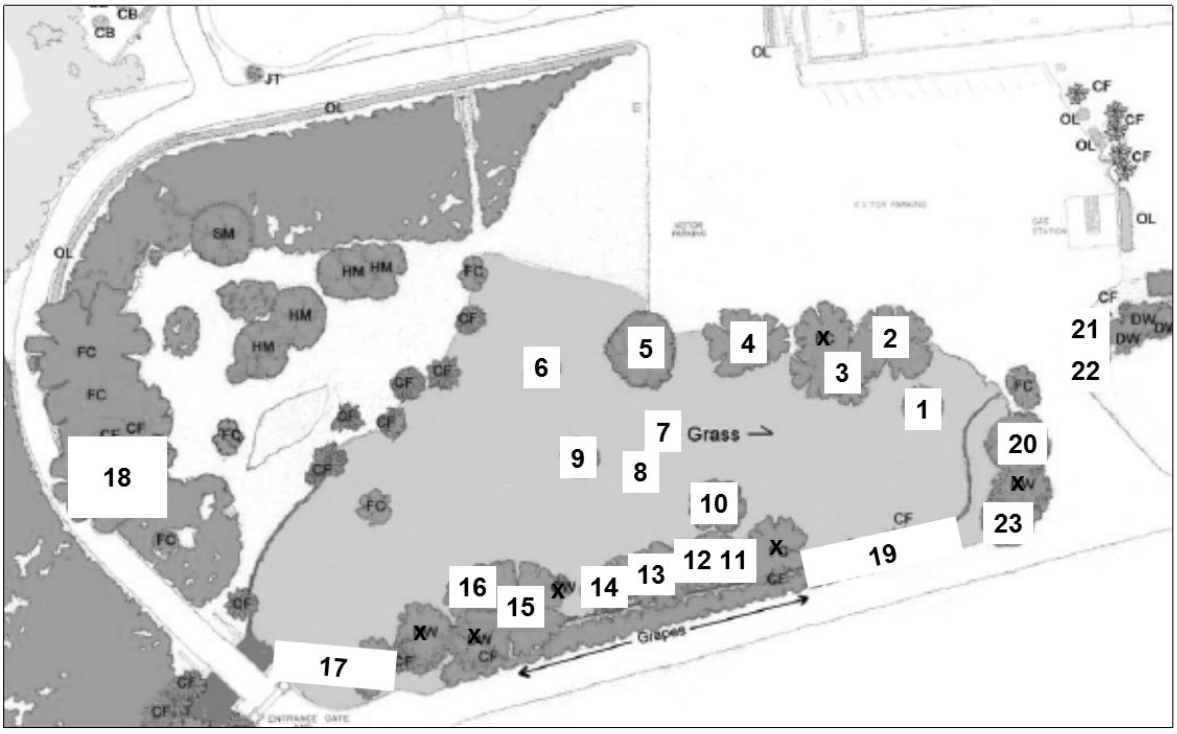


Fig. 1. Map of selected trees in the Scotty's Castle Picnic Area.
(Base map from: National Park Service Cultural Landscapes Inventory, Scotty's Castle, Death Valley National Park, 2005)

Overall, the trees in the picnic area were in a state of decline. Most of the Fremont cottonwoods were mature to over-mature. Cottonwood, like many riparian species, tends to be a relatively short-lived tree species. While the tree grows fast, it allocates a relatively small portion of its carbohydrates for defense against pests and diseases. As a result, the tree tends to develop wood decay that can lead to structural failure. In addition it is prone to summer branch drop, in which apparently defect-free branches fail during warm summer temperatures. It is not possible to predict which branches will fail, nor when the failures will happen. Several cottonwoods had evidence of previous branch failures (e.g. #1, 6, 8, 12, 15, 18) (photo 3). The combination of old, large cottonwoods that have failed in the past in proximity to pubic use areas creates the potential for injury or damage.

The mesquite (#5, 20, 23) also were quite old for the species. They had multiple trunks that were horizontal in orientation, creating a wide crown. In some cases the stems were lying on the ground (photo 4). All of the trees had significant amounts of dead branches present. Because they are small trees with low canopies, however, the likelihood of parts failing and causing damage is low.

There were nine California fan palms in good condition at the site, as well as a number of dead palms. Some of the palms had died due to undercutting by floodwaters; others, were reported to have been killed by application of herbicide.

Exotic tree species in the picnic area were mulberry and Siberian elm. Both had dieback present and were in fair to moderate condition.

Recommendations

There are two primary considerations in management of the existing tree stand in the picnic area: 1) tree longevity and sustainability of the stand; and 2) managing risk to users from structural failure of the trees.

The area appears to still be suitable for growth of California fan palm, Fremont cottonwood, and mesquite. The palms and cottonwoods, as oasis and riparian species, are dependent on groundwater for survival. It is unclear how the flood has altered the hydrology of the area. There is considerable regeneration of both species and the site, however, as noted by the prolific cottonwood sprouts throughout, and palm seedlings north of palms #19 (photo 5).

Therefore, preservation of the current species mix in the existing stand is considered feasible. Because of the age and condition of the trees in the stand, however, removal and replacement of individuals is advised. Where people will access the area around trees, managing risk and eliminating significant hazards through selective tree removal or pruning is important. Where people will not have access around trees, dead branches and snags can be left a habitat for wildlife.

The first step in managing potential risk from tree failure is to identify public use areas, which include roads, parking areas, and picnic areas to which people have access. Assuming the area inspected will be used by people, the following is recommended (see *Tree Assessment* for recommendations for each tree or group):

1. Remove declining and poor condition trees #2, 3, 4, 13 (photo 6), 21, 22.

2. Prune to remove dead branches larger than 2” in diameter and reduce end weight on lateral branches with reduction cuts – trees #1, 6, 7, 8, 9, 11, 12, 14, 15, 16, 20, 23.

3. Consider fencing around dripline of tree #5 to keep people off trunks and away from thorns.

4. Inspect trees in use areas annually and after major storms to assess need for pruning and other treatments to manage risk.

5. Plan for the future generation of mature trees. As trees mature and die or are removed, it is important to have young and middle-aged trees in the stand that will eventually replace them. To sustain the canopy into the future, identify areas of palm and cottonwood seedlings that could be allowed to develop and replace the old trees. Where seedlings and saplings are growing in areas planned for other uses, it is best to remove them while they are small.

All pruning should adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300). All pruning should be performed by a State of California Licensed Tree Contractor (C61/D49). In addition, tree services should be performed by a Certified Arborist or Certified Tree Worker. While in the tree the arborist should perform an aerial inspection to identify any defects, weak branch and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects should be reported to the National Parks Service.

All tree work should comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Plant species options for planting between Hacienda and Cookhouse.

There are a variety of plants that are suitable for planting between the Hacienda and the Cookhouse. Suitable plants should be drought tolerant and adapted to the desert conditions.

Use of predominately native xeric plants is recommended. Avoid planting riparian species such as Fremont cottonwood unless supplemental irrigation can be supplied.

Because of limited water supply, plants should be relatively widely spaced, approximately two to four times the width of the mature plant. Where supplemental irrigation is available, the landscape could support denser plantings. Plan to plant in winter when temperatures and cool and rainfall is more frequent. Weekly irrigation will probably be required for at least several months during the establishment period. Plant survival and appearance will be enhanced with monthly irrigation following establishment, especially for the shrubs and trees (plants requiring monthly irrigation at this location are noted by '*').

Cacti and Succulents

California barrel cactus	*Ferocactus cylindraceus*
Englemann hedgehog cactus	*Echinocereus englemannii*
Plains prickly pear	*Opuntia polycantha* vr. *Rufispina*
Beavertail cactus	*Opuntia basilaris*
Golden cholla	*Cylindropuntia echinocarpa*
Pencil cholla	*Cylindropuntia ramosissima*
Joshua tree*	*Yucca brevifolia*
Mohave yucca	*Yucca schidigera*

Shrubs/Perennials

Creosote bush*	*Larrea tridentata*
Desert holly	*Atriplex hymenelytra*
Sprucebush	*Peucephyllum schotti*
Arrowweed*	*Pulchea sericea*

Trees

Honey mesquite*	*Prosopis glandulosa torreyana*
Screwbean mesquite*	*Prosopis pubescens*
One-needle pinion pine*	*Pinus monophylla*
California juniper*	*Juniperus californica*

Cottonwood Corner

Existing Conditions

Cottonwood Corner is on Bonnie Clare Rd. A mature Fremont cottonwood tree was located adjacent to the road. It had a broad, spreading canopy comprised of four primary stems that are described below.

- The north trunk, which was approximately 5-feet in diameter, was generally vertical in orientation. It was dead throughout most of its length (photo 7). There was a 1-foot diameter live lateral branch on the lower trunk that extended to the west.

- The south trunk was approximately 4-feet in diameter. It was horizontal in orientation and paralleled the road. Some foliage and dead branches extended over the road (photo 8.)

- On the west were two stems, 3-feet and 3.5-feet in diameter. The lower stem was cracked at the attachment and lying on the ground (photo 9). These stems and associated canopy extended away from the road and would not impact it if further failure occurred.

Recommendations

There are several options for managing this tree and reducing the hazards to vehicles on the road:

1. Coppice the tree by cutting the four stems low to the ground and allowing new sprouts to form. Select the strongest new spouts to develop into trunks. This is relatively easy to accomplish in the short term, but requires pruning in the future to select trunks in desired locations and eliminate competing stems. This treatment retains the base of the tree, but removes the original trunks. This option eliminates the possibility of injury or damage from the tree falling onto the road.

2. Coppice only the north and south stems, leaving the stems to the west that are not over the road. Manage the resulting sprouts as described in #1. This treatment eliminates the hazards over the road, and retains portions of the tree.

3. Remove the dead portion of the north stem, cutting either approximately 2-feet above the 12” diameter live lateral branch, or cutting it low on the trunk. Prune the south trunk to remove dead branches 2 inches and larger that could fall onto the road, and reduce weight on live branches extending over the road using reduction cuts. The advantage of this option is that most of the live tree canopy is preserved and much of the habitat it provides is retained. It eliminates the hazard of dead branches falling onto the road. However, it is possible that other parts of the north and south stems could fail onto the road.

4. Remove the tree completely and kill the stump so that it does not sprout. This eliminates the hazards and future maintenance costs, but also eliminates the benefits the tree provides.

Lower Vine Ranch

Existing Conditions

At Lower Vine Ranch the primary concern was the health of the mesquite around the main house. Six trees were assessed: three mesquite and three Fremont cottonwoods. Tree locations are plotted in figure 2.

Tree #1 was a large, mature mesquite in poor condition. There were large and small dead branches in the canopy (photo 10). It was located on the west side of the entrance drive to the house.

Tree #2 and 3 were Fremont cottonwoods that were mostly dead. Foliage present was from epicormic sprouts on the lower trunk. They were located over a bench seating area (photo 11).

Tree #4 was an old mesquite. The low lateral to the north was dead (photo 12).

Tree #5 was a dead Fremont cottonwood (photo 13).

#6 was a group of small mesquite close to the house (photo 14).

Condition of the mesquite seems to be largely dependent on age: younger trees were healthier than the old trees. The site appears to be suitable for continued growth of the mesquite as along as the springs providing soil moisture remain active.

The Fremont cottonwoods, on the other hand, were largely declining. The site does not appear to provide adequate water consistently to sustain this species. However, there may be small pockets where spring water is more plentiful and cottonwoods can survive. The area north of the garage is an example where young cottonwoods have been more successful.

Recommendations

There are two considerations for management of the trees at Lower Vine Ranch: reducing hazards to users and creating defensible space for fire management.

1. Remove dead and dying Fremont cottonwoods #2, 3, and 5.
2. Prune mesquites #1 and #4 to remove dead and dying branches 2 inches and larger in diameter. Crown reduce both trees using reduction cuts where possible to stimulate growth lower on the trunks.
3. To create defensible space, eliminate vegetation within 10 feet of the house and other structures. This will require removing some of the mesquite plants in #6. Maintain trees free of dead branches near the house and other structures.

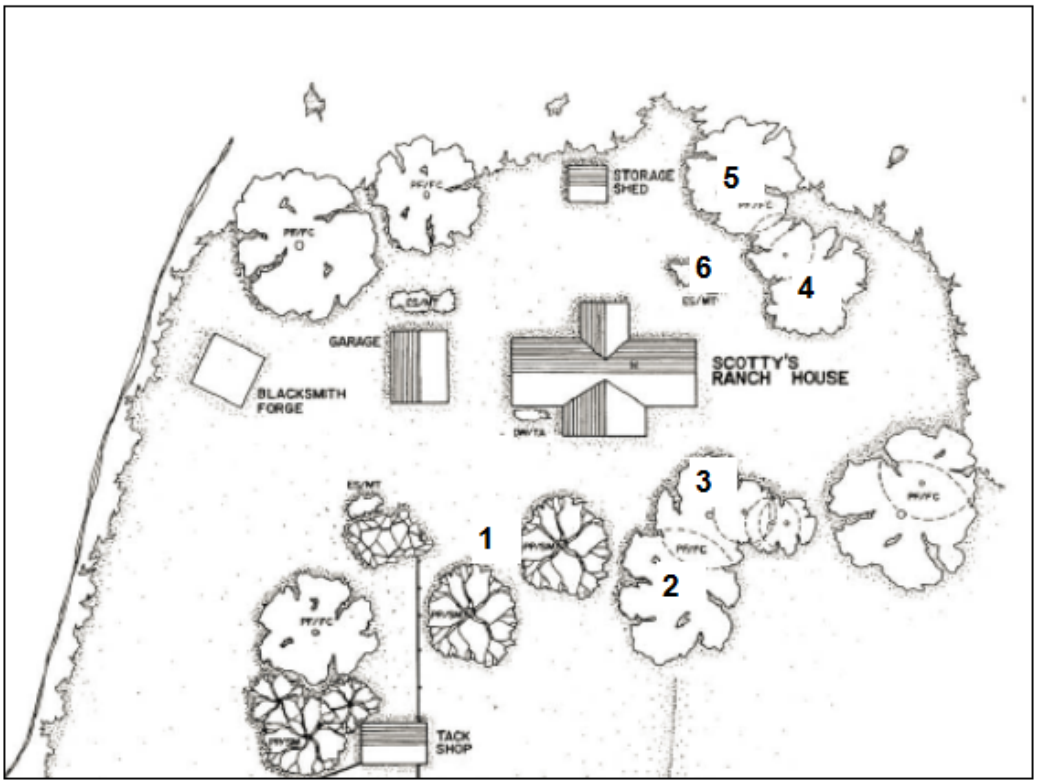


Fig. 2. Map of selected trees at Lower Vine Ranch.
(Base map from: National Park Service Cultural Landscapes Inventory, Lower Vine Ranch, Death Valley National Park, 2005)

Tree Assessment

Exhibit 1
Scotty's Castle Picnic Area
Death Valley National Park
May 30, 2018

HORT SCIENCE
BARTLETT CONSULTING

Tree/ Group No.	Species	Trunk Diameter (inches)	Condition	Comments	Recommendations (if use area near tree)	Photograph
1	Fremont cottonwood	37"	Fair	Upper canopy bowed slightly W.; dead branches; 12" branch failure on W; 10' stub remains that is cracked and has decay.	Prune to remove dead branches >2" diameter and failed branch stub.	
2	Fremont cottonwood	13, 14, 17"	Poor	Buried by alluvium from flood; one stem removed with decay in wound; extensive twig and branch dieback.	Remove tree due to poor condition.	
3	Fremont cottonwood	15"	Poor	Extensive twig and branch dieback; epicormic shoots; low trunk wounds on E from debris in flood.	Remove tree due to poor condition.	
4	Fremont cottonwood	19"	Fair	Buried by alluvium from flood; epicormic shoots; extensive twig and branch dieback.	Remove tree or prune to remove dead branches.	
5	Mesquite	5 stems 15-24"	Fair	Wide-spreading, low crown; large dead areas on stems; twig and branch dieback.	Prune to remove dead branches >2" diameter; consider fencing around dripline to keep people off trunks and away from thorns.	

Tree Assessment

Exhibit 1
Scotty's Castle Picnic Area
Death Valley National Park
May 30, 2018

HORT SCIENCE
BARTLETT CONSULTING

Tree/ Group No.	Species	Trunk Diameter (inches)	Condition	Comments	Recommendations (if use area near tree)	Photograph
6	Fremont cottonwood	52"	Moderate	Codominant trunks arise at 3' and high in crown; twig dieback; wound from 8" branch failure on NE.	Prune to remove dead branches >2" diameter; reduce end weight on long lateral branches.	
7	Fremont cottonwood	34, 34, 32"	Moderate	3 trunks arise at base with included bark between the two S trunks; large, spreading canopy; end with on SE; twig dieback; many root sprouts.	Prune to reduce branch extension to the SE.	
8	Fremont cottonwood	30"	Fair	Suppressed by #7; 12" failed branches on W and S; narrow canopy remaining; many root sprouts.	Monitor	
9	Fremont cottonwood	38"	Moderate	Upright, broad canopy; codominant stems arise at 30'; twig and branch dieback to 8" diameter; many root sprouts.	Prune to remove dead branches >2" and reduce canopy width approximately 10-20%.	
10	Mulberry	26"	Fair	Surface roots exposed by erosion; 2 old branch failures on W.; twig dieback; multiple branch attachments arise at 7'; E lower trunk and roots abraded w/ some bleeding.	Prune to remove dead branches >2" and reduce canopy width approximately 10%.	

Tree Assessment

Exhibit 1
Scotty's Castle Picnic Area
Death Valley National Park
May 30, 2018

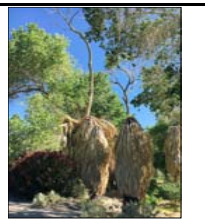
HORT SCIENCE
BARTLETT CONSULTING

Tree/ Group No.	Species	Trunk Diameter (inches)	Condition	Comments	Recommendations (if use area near tree)	Photograph
11	Fremont cottonwood	32"	Moderate	Tall, narrow form; shares canopy with #12; some twig dieback.	Prune to remove dead and weak branches that could fall onto road to S.	
12	Fremont cottonwood	44"	Fair	12" branch failed on N; leader lost at 70'; codominant stems arise at 35'; canopy asymmetric to E.	Prune to remove dead and weak branches that could fall onto road to S.	
13	Fremont cottonwood	approx. 40"	Poor	Extensive dieback; most of foliage from epicormic shoots; codominant stems arise at 8'; S. trunk k dead and cut off at 30'.	Could fail onto road to S. Remove tree.	
14	Siberian elm	approx. 18"	Fair	Top bowed to W; codominant stems arise at 18'; twig dieback.	Prune to remove dead and weak branches that could fall onto road to S. Species tends to be invasive; consider removing tree.	
15	Fremont cottonwood	approx. 60"	Fair	Large tree with codominant stems at 7' and 12'; past branch failure over road on S and several 8-10" failures on N; large pruning removal and reduction cuts; twig and branch dieback.	High likelihood for branch failure. Requires regular pruning (every 2-3 years) to manage weight distribution on branches. Alternatively, remove and replace tree.	

Tree Assessment

Exhibit 1
Scotty's Castle Picnic Area
Death Valley National Park
May 30, 2018

HORT SCIENCE
BARTLETT CONSULTING

Tree/ Group No.	Species	Trunk Diameter (inches)	Condition	Comments	Recommendations (if use area near tree)	Photograph
16	Mulberry	25"	Moderate	Codominant stems arise at 5' and 7'; bleeding at old pruning wounds; some interior branch and twig dieback.	Monitor.	
17	California fan palms	n/a	Good	5 live palms, 1 dead, 1 broken at 10'; roots exposed by erosion.	Remove dead palms.	
18	Fremont cottonwoods	Varies	Varies	Group of 4 trees E of W entrance gate; cottonwood adjacent to road with bird nesting hole in dead stem; dead branches over road; several dead palms.	Prune to remove dead branches and stems that could fail onto road.	
19	California fan palms	n/a	Good	Group of 9 palms adjacent to road.		
20	Mesquite	approx. 20, 18"	Fair	Codominant stems arise at base, spreading N to S; twig and branch dieback; bleeding from old pruning wound on N.	Prune to remove dead branches 2" and larger that could fall onto roads and reduce crown extending over road.	

Tree Assessment

Exhibit 1
Scotty's Castle Picnic Area
Death Valley National Park
May 30, 2018

HORT SCIENCE
BARTLETT CONSULTING

Tree/ Group No.	Species	Trunk Diameter (inches)	Condition	Comments	Recommendations (if use area near tree)	Photograph
21	Fremont cottonwood	10,14"	Poor	Codominant stems arise a base; crown mostly epicormic sprouts; extensive twig and branch dieback.	Remove tree due to poor condition.	
22	Mulberry	10"	Fair	Suppressed by #21; twig and branch dieback; codominant stems arise at 6'; one stem removed on E; many pruning wounds; branch on E with dead bark.	Remove tree due to poor condition.	
23	Mesquite	16, 20"	Moderate	Codominant stems arise at 2'; leaning S and W towards road.	Prune to remove dead branches >2" diameter and reduce crown extending over road.	

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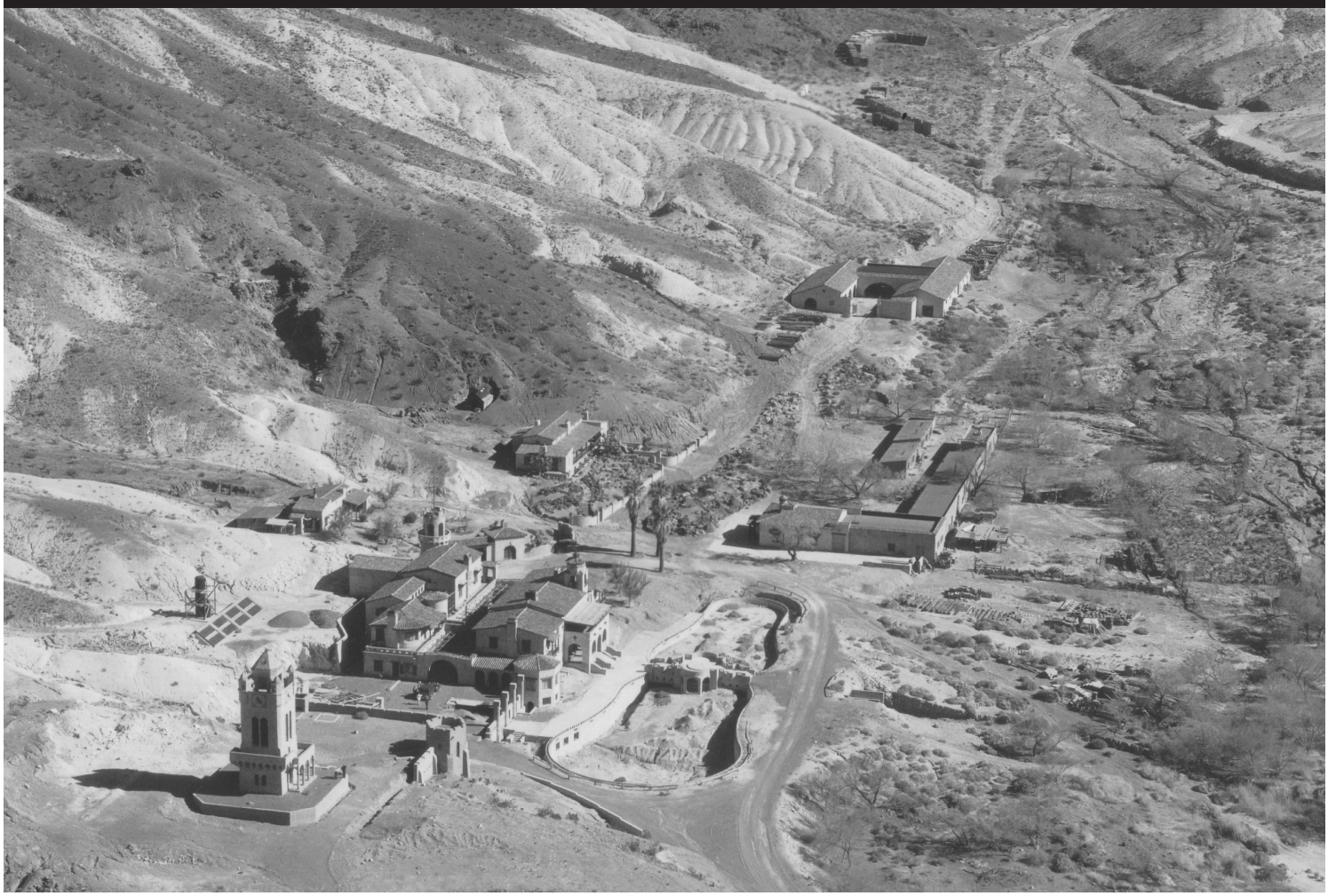

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