

BIG CREEK HYDROELECTRIC SYSTEM, COTTAGE 112
53996 Huntington Lake Road
Big Creek vicinity
Fresno County
California

HAER CA-167-J
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN ENGINEERING RECORD

BIG CREEK OPERATOR'S COTTAGE 112
(Cottage 112)

HAER No. CA-167-J

LOCATION: 53996 Huntington Lake Road, Big Creek (Fresno County) California.
Township 8 South, Range 25 East, Mount Diablo Base Meridian.

STRUCTURAL
TYPE: Wood-frame residential bungalow

DATE OF
CONSTRUCTION: 1919

DESIGNER: Southern California Edison Construction Department (architect
unknown)

BUILDER: Southern California Edison Construction Department

PRESENT OWNER: Southern California Edison, Northern Hydro Division

PRESENT USE: Vacant

SIGNIFICANCE: Cottage 112 is part of a group of residences constructed for Southern California Edison employees prior to 1929. It is part of the Big Creek Town Site Historic District, itself a part of the historic Big Creek Hydroelectric System.

The Big Creek system was the premiere example of the transition from the construction of isolated power plants serving local markets to the construction of large systems integrated with distant energy markets via high-voltage transmission. The Big Creek system is also significant in the history of the Los Angeles region. Conceived as a means of powering both residential development and electric railways, power from Southern California Edison's Big Creek plants was instrumental in the rise of suburban development in the region.

The system is closely associated with railroad, energy, and development magnate Henry Huntington; with Edison executives and power pioneers A.C. Balch, William Kerckhoff, and George C. Ward; visionary California hydroelectric engineer John Eastwood; and longtime Big Creek manager David Redinger.

Cottage 112 is associated with the development of the Big Creek Townsite. Big Creek is one of the few company towns still operating in California.

PROJECT
INFORMATION:

Southern California Edison Corporation sponsored the research for the project. Daniel Shoup of Archaeological/Historical Consultants (Oakland, California) wrote this report. HAER photography was produced by David De Vries and Marissa Rocke of Mesa Technical (Berkeley, California) between March and June 2010. Don Dukleth of Southern California Edison, Northern Hydro Division (Big Creek, California), and Thomas T. Taylor of Southern California Edison, Corporate Environment, Health, and Safety (Rosemead, California) provided administrative and research support.

Many publications and technical reports offer more detail on the Big Creek system. Former Big Creek superintendent David Redinger's *The Story of Big Creek* remains a key reference work. Other important works include a historic study and significance evaluation of the system, and a study of Big Creek town in the period 1929-1947, both by Laurence H. Shoup.¹

HAER reports for the Big Creek System prepared to date include:

- Operator Cottage, Big Creek # 8 (HAER CA-167-A)
- Big Creek #3 penstock standpipes (HAER CA-167-B)
- Operator Cottage 105, Big Creek Town (HAER CA-167-C)
- Operator House Garage, Big Creek Town (HAER CA-167-D)
- Big Creek Powerhouse 1 (HAER CA-167-E)
- Big Creek Powerhouse 2/2A (HAER CA-167-F)
- Big Creek Powerhouse 8 (HAER CA-167-G)
- Big Creek Powerhouse 3 (HAER CA-167-H)
- Operator Cottage 115, Big Creek Town (HAER CA-167-I)
- Operator Cottage 112, Big Creek Town (HAER CA-167-J)
- Operator Cottage 113, Big Creek Town (HAER CA-167-K)

¹ Redinger, *Story of Big Creek*; Shoup, *Hardest Working Water*; Idem., *Life at Big Creek*.

Description and Dimensions

Overview

Cottage 112 represents one of several classes of cottage built in Big Creek during the system's period of significance (1911-1929).² It is a mirrored twin of Cottage 113, which is located immediately adjacent.

Archival research uncovered no specific information about the construction of this cottage, although other cottages in the Edison-owned part of Big Creek town are known to have been designed and built by the Construction Department of the Southern California Edison Company (see discussion in HAER CA-167-I).

Cottage 112 is a one-story residential building in the Craftsman bungalow style, which was popular in California during the Big Creek period of significance (1911-1929). The house is of stud-wall, wood-frame construction atop a perimeter concrete foundation. The roof projects over small exterior porches on the north, east, and west, giving the structure an irregular silhouette. The house faces north and is constructed on top of a hillside that slopes down to the rear of the house. The space between the hill and the rear of the house forms a half-basement.

The house is built on an irregular plan and has maximum dimensions of 38' north-south and 29' east-west. The house is accessed by an entrance porch with a concrete patio and plain banister at the northeast corner and has additional small porches at the northwest and east sides of the house, each of which has an external door.

Exterior

The exterior walls of Cottage 112 are covered with asphalt siding of 1960s or 1970s vintage. Windows have wood trim. The roof is covered in corrugated metal with metal flashing which appears to have been installed in the 1990s or 2000s.

The north or entrance façade has a porch on the left side that projects slightly from the main body of the building. The entrance door is on this porch, which is finished in painted concrete and has a low plain balustrade. Five windows open onto the north façade.

The west façade of the house has a porch at the left-hand (northwest) corner with a door opening onto the mudroom. The mudroom projects from the main line of the house and is accessed by a panel door framed by two windows. The rest of the west façade is broken at the top by six small windows opening onto the kitchen, bathroom, and southwest bedroom. Because the cottage is built on a hill, the height of the façade increases toward the south.

² For an NHRP significance assessment of Big Creek town and the Big Creek system, see Shoup, *Hardest Working Water*.

The south façade of the house is symmetrical under the peak of the roof. Six irregularly-placed windows punctuate the south wall, while an access door below opens onto the basement.

The cottage's east façade has a small projecting porch at its north end, and is interrupted by windows opening onto the living room and southwest bedrooms. The porch, which has a plain balustrade and overhanging roof, opens to the north onto the front yard.

Living Room

The living room is entered from the main entrance door at the north side of the house. The internal dimensions of the room are 15'3" north-south and 13'3" east-west, and it has wood floors throughout. On the east wall of the room, two double-hung six-over-six windows, 2'6" wide stand on either side of a 3' wide, twelve-light floor-to ceiling window. This window must have replaced a former door in the same location, since it looks onto the small porch on the east side of the building. Doors in the west wall lead to the northwest bedroom and the bathroom hall. A third door formerly opened onto the southeast bedroom but has been covered over and replaced with built-in shelves.

Northwest bedroom

The northwest bedroom measures 8' by 8' and can be accessed from the living room, kitchen, and mudroom. The room has wood floors and two six-over-six double-hung windows on the north wall.

Mudroom

To the west of the northwest bedroom is a small room measuring 8' by 6'6" with a tile floor. The room is lit on the north side by two 6-light fixed windows, 2'2" wide, on the west side by two single pane windows, 1'9" wide, and on the south side by one small window, 1'10" wide. A built-in cabinet with older brass hardware is attached to the upper part of the wall in the northwest corner. A door in the west wall leads to a concrete porch on the west side of the house, with stairs leading down the slope to the south.

Kitchen

The kitchen measures 12'6" west-east and 8' north-south. It is accessed on the north wall from the northwest bedroom and on the south wall from the hallway. The floors are tile. A recent sink and countertop span the west end of the room. Above this countertop in the corners of the room is a pair of small built-in cabinets with older brass hardware. In the center of the west wall are two double-hung 1-over-1 windows, each 2' wide. The east wall lacks the built-in cabinets and drawers found at the equivalent place in Cottage 113.

Hall

South of the kitchen, a hallway, 7'6" long and 4'9" wide, provides access to the living room, bathroom, and bedrooms at the south end of the house. The hallway has wood floors and a built-in cupboard that appears to be original.

Bathroom

The bathroom measures 7'1" by 6'11" and has tile floors. A modern shower-bathtub unit is on the right as you enter, while a toilet and sink with stainless steel fixtures are installed along the west wall. The room is lit by a 1'6" wide, double-hung, 4-over-4 window above the toilet.

Southwest bedroom

The southwest bedroom measures 10'7" west-east and 8'2" north-south. The room has wood floors and is accessed from a door at its northeast corner that leads to the hall. The room also has a small closet at its northeast corner measuring 3'10" wide and 2'10" deep. The original door of the closet has been removed. The room is lit by seven six-light, side-pivoting windows, three on the west wall and four on the south wall.

Southeast bedroom

The southeast bedroom has interior dimensions of 12' by 12' and is accessed by doors at its northwest corner leading to the living room and the hallway. The room has wood floors and is lit by one double-hung 8-over-8 window on its east side and one double-hung 6-over-6 window on its south side. At the southwest corner of the room a door leads to a small closet measuring 3'9" wide by 2'10" deep. The closet has built-in shelves and a narrow window 12" wide on its south side.

Basement

There is a half-basement on the south side of the house, consisting of two rooms entered by separate doors. The basement occupies the space created by the slope of the hill on which the cottage was built. The room under the southwest bedroom has a concrete floor and unfinished walls. The room under the southeast bedroom is larger and has a dirt floor. Judging by the presence of exhaust pipes, this room may have been used as a laundry room.

Present Condition and Use

Cottage 112 was used as a single-family residence from its construction in 1919 until May 2010. The structure has seen minor modifications since its construction, and is in good condition. Ceilings, roof, and siding have been replaced through most of the house. The floors have been entirely replaced since original construction.

Exterior

The roof of the structure is recent (within the last 10 years) and in good condition. The exterior walls of the cottage have asbestos siding that appears to date from the 1950s or 1960s. The siding shows some cracking. The concrete patio at the north entrance of the building is in fair condition. The concrete steps on the west side of the building are also in fair shape. Paint on the exposed wooden moldings is recent and is in good condition. The balustrade on the north porch and east porches are of similar style and may be original.

Living Room

The living room has a new parquet-style oak floor. The door to the east porch was converted at some point to a floor-to-ceiling window and no longer opens. An in-wall air conditioning unit is located at the southwest corner of the room. Other windows and the front door appear original and match those of Cottage 113 next door. The asbestos tile ceiling is in fair condition but is not original.

Northwest bedroom

This room has new parquet-style oak floors in good condition. Baseboard heaters line the walls. The wallboard appears to have been replaced since construction, but windows and doors are original. Tile ceiling similar to that in the living room was installed after original construction.

Mudroom

This room has a tile floor that appears to have been installed in the past 10 years. The windows do not appear to be original.

Kitchen

The kitchen has a recently installed tile floor similar to that in the mudroom and bathroom. The countertop and cabinets beneath appear to have been installed in the last decade. The windows appear original and are in good condition.

Bathroom Hall

The bathroom hall has original built-in cabinets in good condition. The floors are recent parquet-style oak. Walls are in good condition.

Southwest Bedroom

The floors are recent parquet-style oak. Wall paneling is similar to that in the southeast bedroom. Windows open horizontally. One of the original six-light windows has been replaced with a single fixed pane.

Southeast Bedroom

Floors and walls are in good condition, and windows appear original. A baseboard heater has been installed along the south wall. The width of the wallboard in this room is wider than in the living room, suggesting that it may have been installed later. Closet window and shelves appear original.

Bathroom

Windows and vanity are original. Toilet, sink, tub/shower unit, and linoleum floor have been installed in the last 10 years.

History

The Big Creek system was the brainchild of visionary engineer John Eastwood (1857-1924), who first identified the Big Creek and San Joaquin River systems as ideal locations for a series of storage reservoirs and power plants.³ In 1901, Allan C. Balch and William G. Kerckhoff of Pacific Light and Power hired Eastwood to survey the region and plan a network of powerhouses.⁴ Controlled by Henry Huntington, Pacific Light and Power was created to generate electricity for his interconnected system of Los Angeles street railroads and real estate developments. It was not until 1910, however, that growth in demand in the Los Angeles region justified construction of the Big Creek system.

The town of Big Creek (called Cascada until 1926) was established in late 1911 as a construction camp for the Stone and Webster Construction Company, which built Powerhouses 1 and 2 for the Pacific Light and Power Corporation. Completed in late 1913, these two powerhouses had four generating units producing 80,000 horsepower, using some of the highest heads in the country. At 240 miles long, the power lines connecting Big Creek with Los Angeles were among the world's longest, and set a new record for using 150kV in commercial transmission. *Electrical World* recognized the feats achieved in the construction of the system as "one of the most advanced contributions of the engineer to the welfare of civilization".⁵

The outbreak of World War I in 1914 affected both the American credit markets and power consumption, delaying expansion plans for Big Creek.⁶ In the meantime, however, Pacific Light and Power merged with Southern California Edison in 1917, fulfilling Henry Huntington's dreams of consolidating Southern California utilities under his control. The two systems complemented each other: PLP had extensive street railroad interests but relatively limited residential service, and the Big Creek plants provided more electricity than it could use. Edison, on the other hand, had a rapidly expanding residential business and was facing a looming shortfall of generation capacity.⁷

The great expansion of the Big Creek system began in 1920 with the construction of Powerhouse 8. Powerhouses 1 and 2 were expanded between 1921 and 1925, and Powerhouse 3 was built in 1923. The later 1920s saw the addition of more storage capacity to the system through the construction of Florence Lake, the Mono-Bear Conduit, and the expansion of Shaver Lake. The latter project provided water to feed Powerhouse 2A, which was completed in 1928. When construction wound down in 1929, the system had set world records for voltage used in transmission, tunnel size and length, dam length, and size of

³ Shoup, *Hardest Working Water*, 55-59; Whitney, "John Eastwood", 38, 41.

⁴ Shoup, *Hardest Working Water*, 83.

⁵ *Electrical World*, "The 150,000-Volt Big Creek Development - I." January 3, 1914, 33.

⁶ Shoup, *Hardest Working Water*, 153.

⁷ *Electrical World*, "Merger of California Hydroelectric Systems," December 9, 1916, 1134.

hydraulic equipment. The system used half a million horsepower to generate over 400,000 kilowatts of electricity.⁸

The expansion of the Big Creek system led to a rapid increase in both population and development in the early 1920s. By 1923 the town was divided into two distinct areas: a company town on 50 acres near the powerhouse and an upper, private town on the other side of the incline railway. Though the land was owned by the US Forest Service, construction in the company town was covered by a special use permit issued to Southern California Edison.⁹ Cottage 112, dating to about 1919, was one of the cottages located in the lower, company-operated part of town and may have been built in anticipation of the greatly increased need for company housing that would come as part of the 1920s Big Creek system expansion.¹⁰

Big Creek and the surrounding construction camps, which had only around 500 residents in 1920, grew to 1,400 in 1923 and to over 5000 by the middle of the decade.¹¹ The school population doubled from 80 students in 1922 to 150 students in late 1923.¹² As long time Big Creek superintendent David Redinger recalled:

Uptown Big Creek was enjoying a boom during the '20s, such as it never knew before or has known since. Our five-thousand to fifty-two hundred men, spread over thirty-two camps, kept three barber shops and six dentists busy... Reardon's movie theater provided good films and current news reels. Busiest of all was Murphy's Art Shop. If he didn't have what you wanted, he would order it - whether it was a penny article or a grand piano.¹³

The town main street also included a hardware store, bakery, butcher shop, laundry, dry goods store, real estate office, a restaurant, a general store, and a women's clothing store.

Company cottages such as Cottage 112 were seen as desirable by many employees, since they were subsidized by Southern California Edison. At most times, demand for company cottages outstripped supply, and cottages were assigned based on seniority and the number of children in a family. Cottage 112 was therefore probably assigned to an employee who was married with children.

The end of major construction work at Big Creek coincided with the Wall Street crash of 1929. By the end of 1929 the Big Creek Division had only 190 employees, and the onset of

⁸ Shoup, *Hardest Working Water*, 163.

⁹ *Ibid.*, p.262.

¹⁰ Original construction documents could not be found during research for this project, but a Southern California Edison inventory, showing a 1919 construction date for Cottage 112, is appended to a January 2000 Memorandum of Agreement between the Federal Energy Commission and the California State Preservation Office regarding removal of Big Creek Townsite domestic structures.

¹¹ Fourteenth Census of the United States, Cascada Precinct, Fresno County, California; *Edison Facts*, October 1923, 14; Redinger, *Story of Big Creek*, 117.

¹² Shoup, *Hardest Working Water*, 265.

¹³ Redinger, *Story of Big Creek*, 117.