

LA BAJADA COMMUNITY DITCH AND MUTUAL DOMESTIC
WATER ASSOCIATION, PIPELINE
La Bajada
Santa Fe County
New Mexico

HAER NM-17
HAER NM-17

WRITTEN HISTORICAL AND DESCRIPTIVE DATA
REDUCED COPIES OF MEASURED DRAWINGS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
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LA BAJADA COMMUNITY DITCH AND MUTUAL DOMESTIC WATER ASSOCIATION, PIPELINE

HAER No. NM-17

LOCATION: La Bajada, Santa Fe County, New Mexico. The pipeline is located at latitude: 35.544908, longitude: -106.233153 (9,000 gallon water storage tank). This coordinate was obtained on March 7, 2013, by plotting its location on Google Earth. The accuracy of the coordinate is +/- 12 meters.

The pipeline ran from a spring-fed infiltration gallery on the Santa Fe River to Domingo on the Atchison, Topeka and Santa Fe Railroad (ATSF). A line also diverted at a valve junction box to the village of La Bajada.

**DATES OF
CONSTRUCTION:** 1880, 1921, 1960s

**ARCHITECT/
ENGINEER/
BUILDER:** Atchison, Topeka and Santa Fe Railroad (ATSF)

**ORIGINAL OWNER/
OCCUPANT AND USE:** Atchison, Topeka and Santa Fe Railroad. The town of Wallace provided the infrastructure for the railroad to operate its facilities and steam powered locomotives. The water system served several buildings, railroad engines and other domestic and commercial operations.

**ORIGINAL OWNER/
OCCUPANT AND USE:** La Bajada Community Ditch and Mutual Domestic Water Association presently owns the water system.

SIGNIFICANCE: The period of significance for the La Bajada Community Water System ranges from 1880 to the present. The establishment of the Atchison, Topeka and Santa Fe Railroad in 1880 marked an era of technological advancement for the region. The railroad was now able to provide a linkage for commerce and transfer of goods. In addition the community of La Bajada was able to benefit from the engineered infrastructure that ATSF provided, including the water system, in exchange for the use of their water rights.

DESCRIPTION:

The La Bajada Community water system consists of the original mortared stone infiltration gallery, now decommissioned, and an underground storage tank (new Water Storage Gallery) that presently collects the spring water. The gravity-flow distribution system consists of a 6 mile-long pipeline that extends west to two water storage tanks at the community of Domingo on the ATSF. A valve junction box located 2 miles west of the new gallery diverts water via a 1" pipeline first to a 9,000-gallon storage tank and then flows north to supply the traditional community of La Bajada.¹

The old infiltration gallery is located roughly 2.5 miles southeast of the community of La Bajada. It was built to enclose a natural spring that derives from a transitional geologic spot at an area known as Las Bocas where the canyon containing the Santa Fe River constricts. The original infiltration gallery consists of a circular infiltration/containment structure measuring 20' in diameter, constructed from courses of roughly shaped, locally quarried limestone blocks that vary in size. A portion of the stonework coursing is visible above the ground surface. A view from inside the structure makes it apparent that subsequent courses are in place below ground surface extending to a depth of 8'. The upper courses are observable from within the gallery structure; however, the lower courses appear to have been laid some time prior to the upper ones as their mortar and coloring is distinctly different. The upper courses are mortared with concrete that was likely mixed at the location using river sediments. A poured concrete cap covers the top layer of the structure's stone walls and forms a cover for the stone cylinder. Imprints from the lumber used to hold the concrete top in place are visible from inside the structure. A cast-iron door with two holes to pry it open that is centered on the top of the concrete cap provides entry to the structure. Embossing on the door reads "J. B. CLOW & SONS, CHICAGO" with the number A2587 stamped on the housing.² The base of the

¹ La Bajada has been designated a Traditional Community by Santa Fe County. In 1974, the Santa Fe County identification of Traditional Communities established the criteria for their designation that would be incorporated into the 1980 General Plan and later reiterated in the 1999 Growth Management Plan and currently the Sustainable Growth Management Plan. In order for a place to receive a traditional community status it was required to meet the following criteria: continuous settlement since 1925; a historic pattern of diverse and mixed community land uses which carried through to the present; presence of historic structures; existence of a village center.

² The original gallery structure was built in 1880s, at the time that the pipeline was routed to Wallace (later named Thornton, then Domingo). The construction date of the gallery is consistent with the pry-access door, marked J.B. CLOW and SONS. Still a "World Class supplier of ductile iron pipe and fittings," Clow Water Systems (see <http://www.clowwater.com/about-us/company-history/>) had its humble beginnings in 1878 when 18-year-old William E. Clow founded James B. Clow & Sons, naming it after his father. Based out of Chicago, Illinois, the company supplied large plumbing, functioning as a distribution-only business until 1892, when they acquired a foundry in New Philadelphia, Ohio. After the first foundry burned, a new plant in Newcomerston, Ohio, with cutting-edge casting ability opened in 1895. With increased demand for pressurized water systems, Clow opened a second foundry in Coshocton, Ohio, in March 1910. Both of the foundries manufactured pipes in vertical pit casting with sand molds. The first centrifugal cast pipe sold in the country was manufactured at the Coshocton plant in 1922. It is likely that not only the pry-door but all of the piping and cast iron fixtures were made by J. B. CLOW and shipped in on the ATSF for the purpose of building the pipeline from La Bajada to Wallace.

gallery is currently filled with at least several inches of thick sediment and wood debris and at least 8" of water. There are several cast-iron pipe stubs that extend into the tank. Two 6" pipes protrude from the north, four from the northeast, two from the southeast and one from the west. The incoming pipes served as drain tile collection pipes, which were used to gather the spring water to fill the gallery (see figures 1-4, Appendix).

In addition to the infiltration gallery located adjacent to the Santa Fe River there is a 200'-long, lateral 6"-diameter pipe (now decommissioned) connecting the gallery to a replacement underground storage tank (new water storage gallery) located south of the river (see Figure 5, Appendix). A 6"-diameter pipeline coupled to a shut-off valve is visible inside the new gallery storage tank with the discharge at the west flowing towards the Santa Fe River (see Figure 6, Appendix).

The original alignment of the water line consisted of a 6" cast-iron pipe, coupled together in 20'-long segments, which was laid down the course of the stream, south and west, to the community of La Bajada. The main reason for laying the waterline in the stream bed of the Santa Fe River was to expedite the installation so that it could serve the railroad facilities located in Wallace (Domingo). From about 1880 to 1921 the water system primarily served ATSF water storage facilities (see Figure 8, Appendix). In 1921 ATSF officials drafted an agreement that recognized La Bajada's ownership of the water rights from the Santa Fe River and that they were being inconvenienced during periods of heavy water use by the railroad. In exchange for the historic use of the water and for its continued use, the agreement stipulated that ATSF provide a 1" pipeline diverting water from a valve junction box at Station 294+38, running to La Bajada Village and ending at a split-level 1,000-gallon concrete storage tank in the village (see Figure 9, Appendix).

From 1921 until the late 1960s the water line operated via the stream bed alignment. During this time, improvements to the system included the addition of a new 500-gallon underground storage tank. In the late 1960s the City of Santa Fe obtained a discharge permit for its wastewater treatment plant. The permit allowed the City of Santa Fe to discharge treated effluent into the Santa Fe River. At this time the original infiltration gallery was decommissioned in order to prevent the wastewater from entering new water storage gallery. The pipes to the old gallery were severed and covered as well as the 200' pipe that ran to the new gallery storage tank. New infiltration pipes to recharge the tank from the spring were routed to the new gallery existing storage tank. With the decommissioned water line at the stream bed, a new route for the water line to Domingo was laid out along the north slope of the Santa Fe River canyon walls. A trench was excavated along the contours of the slope traveling west towards the valve junction box and reconnecting with the line going to Domingo. The old water line at the stream bed was subsequently abandoned. Though the course of the river has changed and subsequently been contoured, sections of the original pipe are still visible in several dry portions of abandoned stream (see Figure 7, Appendix).

With the decline of the steam-powered locomotives in the mid-twentieth century, ATSF officials drafted a termination agreement on May 17, 1974. The agreement specified that

all ATSF water rights would be returned to the community of La Bajada. In addition, all rights, title and interest of ATSF in the pipeline from the Santa Fe River together with all water tanks and appurtenances were conveyed to La Bajada Community Ditch, Inc. (now La Bajada Community Ditch and Mutual Domestic Water Association.)

HISTORY:

Though the original infiltration gallery structure was likely built in the 1880s, the stone shell at the lower courses appears much older, due to the different stone masonry coursing. In an environment in which water has always and will continue to be a valuable resource, the location of the spring has likely been important for many hundreds, if not thousands, of years. Located at ‘*Las Bocas que llaman de Senetu*’, “the deep canyon through which Santa Fe Creek runs for a few miles, where it passes the southern extremity of the mesa”, the abundant rock art throughout this area of the canyon attests to the Puebloan and nomadic use of this area prior to the arrival of Europeans.³ Trails and pointers to the spring are abundant within the rock art and pictograph panels that imprint the basalt boulders surrounding Las Bocas. A Puebloan water shrine is located just to the west side of the river within the vicinity of the spring, obviously honoring its importance to the landscape in the past. The manuscript *Merced de la Bajada*, written in 1695 describes “*Y desde la casa del Ojito para el oriente asta las Bocas que llaman de Senetu,*” indicating that there was a structure enclosing the spring by at least 1695 (see figures 9-12, Appendix).⁴

Just before the canyon constricts at *Las Bocas* within the vicinity of the spring, where the old infiltration gallery is now located, a several-hundred-foot wide elevated flat bank spans the western side of the streambed, providing for a natural camping spot. The area has a number of coursed basalt foundations, one square-shaped and three D-shaped, indicating that at several times in history it may have functioned as a more formalized mining camp. (See Figure 13, Appendix.) *El Camino Real* passed through this area prior to the construction of NM 1 around 1913, which zigzagged up the escarpment. From 1926-1932, Route 66 came through the switchbacks and river crossing at La Bajada.⁵ Many travelers may have rested at this location along the Santa Fe River, waiting for the muddy trail to dry and wheels to be mended. Indeed, south of the camp area, portions of *El Camino Real* are still visible on the ground as a narrow cleared swath through the basalt boulders. South of *Las Bocas*, an area of white alabaster outcrop was important as a source of materials for both whitewashing the interior of pueblo homes and carving of fetishes.⁶

³ John Peabody Harrington, “The Ethnogeography of the Tewa Indians,” in *Twenty-Ninth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1907-1908* (Washington: Government Printing Office, 1916), p. 469 [29:25], and footnote 4.

⁴Harrington, p. 471, footnote 8.

⁵ La Bajada Historic Trails and Roads, HAER NM-15.

⁶ Harrington, p. 469 [29:25], and footnote 5.

The Franciscan Church first documented the village of La Bajada.⁷ The origin of La Bajada village stems from the establishment of Spanish Colonies in 1598 and the Spanish land grants that followed. The Spanish first recorded the La Bajada area as “*El Ojito*” or “Little Spring.” The area then became known as “La Majada Land Grant” prior to the Spanish settlement of Bajada. “The declivity sloping from the west towards the bed of the Santa Fe River” was occupied by the pueblo known as Tze-nat-ay.⁸ “In Tewa *tsenät’a’i*’ means ‘place where the eagle lives’...The name ‘Senetu’...of the Span[ish] document *Merced de la Bajada*, 1695, is probably identical with Tze-nat-ay.”⁹ Bandelier describes the pueblo as “quite a large pueblo,...it was probably three, if not four, stories high” and that its Spanish name, *El Pueblo Quemado*, appears in a list of Tanos villages compiled by Onate in 1598.¹⁰

Water has been the life blood of La Bajada since the ancient times. The early settlements used water from spring sources, as well as directly from the Santa Fe River. Residents from La Bajada would draw water from the river for irrigation, drinking and cooking. For almost two centuries there was no centralized water system for the community. The advent of the railroad brought modern technology to the forefront. In March 1880, the ATSF railroad line between Lamy Junction and Albuquerque was completed. A railroad station and water supply point was established in Wallace, a town named after Territorial Governor Lew Wallace.¹¹ Growth in the area was slow despite agricultural production in the surrounding towns like Pena Blanca. For a year Wallace struggled to survive. The main obstacle to progress was the lack of water. The only secure water source was from the spring located at the Santa Fe River. ATSF officials moved quickly to construct the gallery and pipeline needed to supply water to Wallace and to the associated railroad infrastructure so the ATSF could ship agricultural produce from Pena Blanca and mining products from Golden and San Pedro.

Forty years later ATSF realized that there was no formal agreement with the community of La Bajada about using their water rights for the railroad and Wallace, now called Domingo.¹² An agreement dated November 26, 1919, was filed in Sandoval County, New

⁷ Archdiocese of Santa Fe, *Uncatalogued papers pertaining to San Miguel Church at La Majada de Dominguez*, 1732, in Archdiocese of Santa Fe, Office of Historic-Artistic Patrimony and Archives, Santa Fe, New Mexico.

⁸ Archdiocese of Santa Fe.

⁹ Harrington, p. 470-471 [29:29].

¹⁰ Harrington, p. 470-71 [29:29].

¹¹ In 1878, New Mexico Territorial Governor Wallace granted a tractable right-of-way to the ATSF along the Rio Grande Valley. Division points were created, and maintenance yards were established approximately 100 miles apart. The northernmost New Mexico division point was established at Willow Springs, later renamed Raton. The second point was at Las Vegas. The third point was established due east and adjacent to the Pueblo of Kewa, at a place designated as Wallace, after the New Mexico Territorial Governor. Julia Bretz, “The Adaptive Use of the Historic Santa Domingo Trading Post,” Master’s thesis, University of New Mexico, 2011.

¹² Santa Fe Railway historian John M. Meade wrote this about the history as follows:
Old Wallace Station [was] once a division point. This town has seen many ups and downs. It was originally named after Gov. Lew Wallace, Governor of New Mexico, then changed to Thornton, after Governor

Mexico. This agreement between ATSF and La Bajada Community Ditch, Inc. allowed ATSF to convey water from the Santa Fe River through a pipeline to the station at Domingo. In exchange ATSF agreed to construct a 1" pipeline tapping into the main line from a valve junction box at Station 294+38 (see figures 16 and 17, Appendix). This pipeline continues to function as the main source of water supply for La Bajada. The diversion line ties into a 9,000-gallon water tank that supplies water via gravity to the majority of households in the community. In the years following the original installation, there have been numerous modifications to the system. However the original components of the system are still visible and serve as a testimony of the amazing engineering marvel that served both the railroad and community. The water system continues to function as a gravity-fed arrangement of simple pipes, valves and storage components providing La Bajada Traditional Community its only source of potable water.

SOURCES:

Bretz, Julia. "The Adaptive Use of the Historic Santa Domingo Trading Post." Master's thesis, University of New Mexico, 2011.

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Fugate, Francis L. and Roberta B. *Roadside History of New Mexico*. Missoula: Mountain Press Publishing Company, 1989.

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Harrington, John Peabody. "The Ethnogeography of the Tewa Indians." In *Twenty-Ninth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1907-1908*. Washington: Government Printing Office, 1916.

New Mexico State Engineer Office. Santa Fe River Hydrographic Survey Report. Volume 1, 1976.

HISTORIANS: Arnold Valdez, Amalia Kenward, R. Scott Carlson

PROJECT

INFORMATION: Documentation of La Bajada Acequia, Water System, and Village was undertaken for the Historic American Engineering Record (HAER), as part of the course "Cultural Landscape Planning" led by Arnold Valdez, Adjunct Associate Professor, during the spring 2011 semester at the University of New

Thornton of New Mexico. It was finally changed to Domingo, its present name. Bretz, "Adaptive Use of the Historic Santa Domingo Trading Post."

Mexico (UNM). The course is offered by UNM, School of Architecture and Planning, Historic Preservation and Regionalism Program, Chris Wilson, Director, and Geraldine Forbes Isias, Dean. Field recording and drawings were produced under the direction of Arnold Valdez and completed for transmittal by Christopher H. Marston (HAER Architect). The field team included UNM students Marissa Barrett, Jitka Dekojova, Claire Heywood, Amalia Kenward, Numair Latif, Jonathan Sampson and Adam Sullins.

**RELATED
PROJECTS:**

La Bajada Historic Trails and Roads, HAER No. NM-15

La Bajada Community Ditch and Mutual Domestic Water Association, Acequia, HAER No. NM-18

ILLUSTRATED APPENDIX



Figure 1: View of concrete cap on original 1880s infiltration gallery structure. Photo by R. Scott Carlson, spring 2011.



Figure 2: View of interior coursed stonework at original gallery. Photo by R. Scott Carlson, spring 2011.



Figure 3: View of 1880s cast-iron pry door on the original gallery reading J.B. Clow & Sons, Chicago. Photo by R. Scott Carlson, spring 2011.



Figure 4: View of infiltration pipes located at north edge of gallery interior. Photo by R. Scott Carlson, spring 2011.



Figure 5: Site plan showing old infiltration gallery at river coupled to new water storage gallery and supply line. Site Plan by Arnold Valdez.



Figure 6: View of shut-off valve and 6" water supply line inside new water storage tank. Photo by R. Scott Carlson, spring 2011.



Figure 7: Original section of exposed 6" pipeline at old Santa Fe River stream bed. Photo by R. Scott Carlson, spring 2011.



Figure 8: Original 1880s water storage tanks at Domingo. Photo by R. Scott Carlson, spring 2011.



Figure 9: Split-level, poured concrete 1,000 gallon water storage tank at La Bajada Traditional Community. Photo by Arnold Valdez, spring 2011.



Figure 10: View of rock art panel on the edge of the water shrine southwest of the original gallery. Photo by Amalia Ackenward, spring 2011.



Figure 11: View looking north up the canyon from the upper water shrine towards the original gallery. Photo by Amalia Ackenward, spring 2011.



Figure 12: View of rock art panel. Photo by Amalia Ackenward, spring 2011.



Figure 13: View of rock art panel. Photo by Amalia Ackenward, spring 2011.



Figure 14: Coursed basalt stone foundation. Photo by R. Scott Carlson, spring 2011.



Figure 15: View of rock art panel. Photo by Amalia Ackenward, spring 2011.



Figure 17: Station 294+38 valve junction box for water diversion to La Bajada storage tank. Photo by field team, spring 2011.