Pima-Maricopa Irrigation Project
Education Initiative
2002-2003

Restoring water to ensure the continuity of the Akimel O'otham and Pee Posh tradition of agriculture

Building the Florence-Casa Grande Project Canals: The 1920s

Part 33

With the exception of the Santan Floodwater Canal (which was designed to receive pumped groundwater in addition to surface water), all of the new irrigation canals within the reservation were dependent upon a flowing river to supply them with water. With the construction of Ashurst-Hayden and Sacaton diversion dams, it was assumed that additional floodwater would be available for the Pimas. But this was not the case. When Indian Irrigation Engineer Wendell Reed was asked by New York Representative Homer P. Snyder, Chairman of the House Indian Affairs Committee, in what "state of completion is the [irrigation] project" on the reservation, he could only say it was "a long ways from being completed."

But, while Reed believed the canals and laterals would soon be ready to receive water they did not due to insufficient water flowing down the river. Despite two diversion dams, by 1925, water did not enter Pima canals in sufficient quantities. Crops planted early in the year, died from lack of water later in the year. A five-year program to restore agriculture failed, with many of the Pimas "divorced from field and home" looking for work. In order for water to reach Pima fields, new canals would have to be constructed to convey water from Ashurst-Hayden Diversion Dam to the reservation farmlands.

To provide water on a consistent basis, the Indian Irrigation Service began work on a series of joint-use the irrigation canals that would serve the lands under the Florence-Casa Grande Project. The law creating this project had authorized funds as early as 1916 "to begin construction of the necessary canals and structures to carry the natural flow of the Gila River to the Indian lands … and to public and private lands in Pinal County."

The main canal that would serve the joint-use system was called the Florence-Casa Grande Canal. This canal had its head at Ashurst-Hayden and ran in a southwesterly direction for 22 miles, before ending at Picacho Reservoir. This canal replaced the 1886 Florence Canal, which passed through nearly a dozen owners by 1912, due to the continued expense of keeping the canal free of sand and silt. In April of 1911, the Casa Grande Water User's Association (CGWUA) was organized for the purpose of building a new canal just north of and parallel to the Florence Canal. The new canal was projected to irrigate 70,000 acres in the Casa Grande Valley.

Water flowing through the Florence-Casa Grande Canal at the Pima Lateral turnout.

Construction on the Casa Grande Valley Canal began in April of 1912 and continued for three years before the CGWUA ran out of funding. The CGWUA abandoned the canal in 1915 after constructing just 12 miles of the conveyance system. With the passage of the Florence-Casa Grande Project act, the Indian Service surveyed the system and purchased it for $50,000 from the CGWUA on March 16, 1920 (as part of the landowners' agreement). Indian Service construction on the canal began in July 1923 and, by 1928, it was completed to Picacho Reservoir. The canal originally had a capacity of 1,000 cubic feet per second (cfs) of water, although today its capacity is 1,250 cfs. The Indian Service renamed the earth-lined canal the Florence-Casa Grande Canal. The old Florence Canal

became a lateral off the Florence-Casa Grande Canal in 1926 and is part of what is called the district (non-Indian) works.

Picacho Reservoir was originally built as part of the Florence Canal in 1889-1890 and served as a water storage and regulating basin for non-Indian water users. An 8,000-foot long berm across McClellan Wash created the reservoir. It not only stored Gila River water transported through the Florence Canal but it also took in water from McClellan Wash, which originates in the Picacho Mountains to the southeast. At its maximum, the reservoir stored 15,000 acre-feet of water, although in the 1950s it was enlarged to store 18,000 acre-feet. The United States Government purchased Picacho Reservoir in 1928 and today it is part of the joint-use irrigation system. The San Carlos Irrigation Project controls the reservoir. A new Casa Grande Canal conveys water west from the reservoir to district lands south and east of Casa Grande.

Two delivery sources brought water to the reservation. Work began on the Northside Canal in 1924 but was stopped after less than 2 miles of construction. As originally designed, the canal was to carry 60 cfs of water from Ashurst-Hayden on the north side of the Gila River to serve both Indian and non-Indian lands. In 1926, the Indian Service changed the heading of the Northside Canal from Ashurst-Hayden to the Florence-Casa Grande Canal, 1 ½ miles west of the dam. A siphon under the river was installed and, by 1929, 14 miles of canal was completed. The last five miles of the canal were completed in 1930 and delivered water to reservation lands north of the Gila River in the Blackwater area.

The Pima Lateral at its head on the Florence-Casa Grande Canal.

Construction on the Pima Lateral began in 1925. This lateral heads on the Florence-Casa Grande Canal east of Coolidge and delivers Gila River water to the reservation. The lateral is 23 miles long and runs west and northwest. At its original head, six iron slide gates diverted water into the lateral. By July 1926, the lateral reached the head of the Blackwater Lateral (present day Lateral 8) and by March of the following year it extended to the Sacaton Flats Lateral (present day Lateral 7-72). The Pima Lateral was finished in 1928, with a gate diverting water into the Casa Blanca Canal (sometimes referred to as the Little Gila Canal). The lateral ends at the Casa Blanca heading, with water continuing north to the Santan Floodwater Canal through the mile-long Pima-Sacaton Branch Canal. While not intended to be the main conveyor of water to the Santan Floodwater Canal, the Pima Lateral became the main source of water for this canal due to the ineffectiveness of Sacaton Dam. The canal carries 600 cubic feet per second (cfs) of water to the reservation.

The Santan Floodwater Canal at its head northwest of Sacaton Dam.

On the north side of dam, the Santan Floodwater Canal begins. This canal was built by the Reclamation Service between 1908 and 1913 and was completed by the Indian Irrigation Service in 1926. The original purpose of this canal was to use a combination of floodwater and pumped groundwater to irrigate 10,000 acres of land near Santan. When Sacaton Dam was completed, water was periodically diverted into the Santan Floodwater Canal but not before it was widened and deepened to conform to the grade of the dam. This widening and deepening project was completed in March of 1926, and on April 3, 1926, water from the dam was for the first time turned into the canal. Unfortunately, within a few years the dam became silted over and lost its effectiveness. Water deliveries into the canal became more frequent and stable only after construction of a concrete channel below the dam to deliver water from the Pima-Sacaton Branch Canal. This was completed in 1928. After 1928, the original control gates on the dam, designed to divert floodwater into the canal, were abandoned. Today, water from the Pima Lateral goes through a

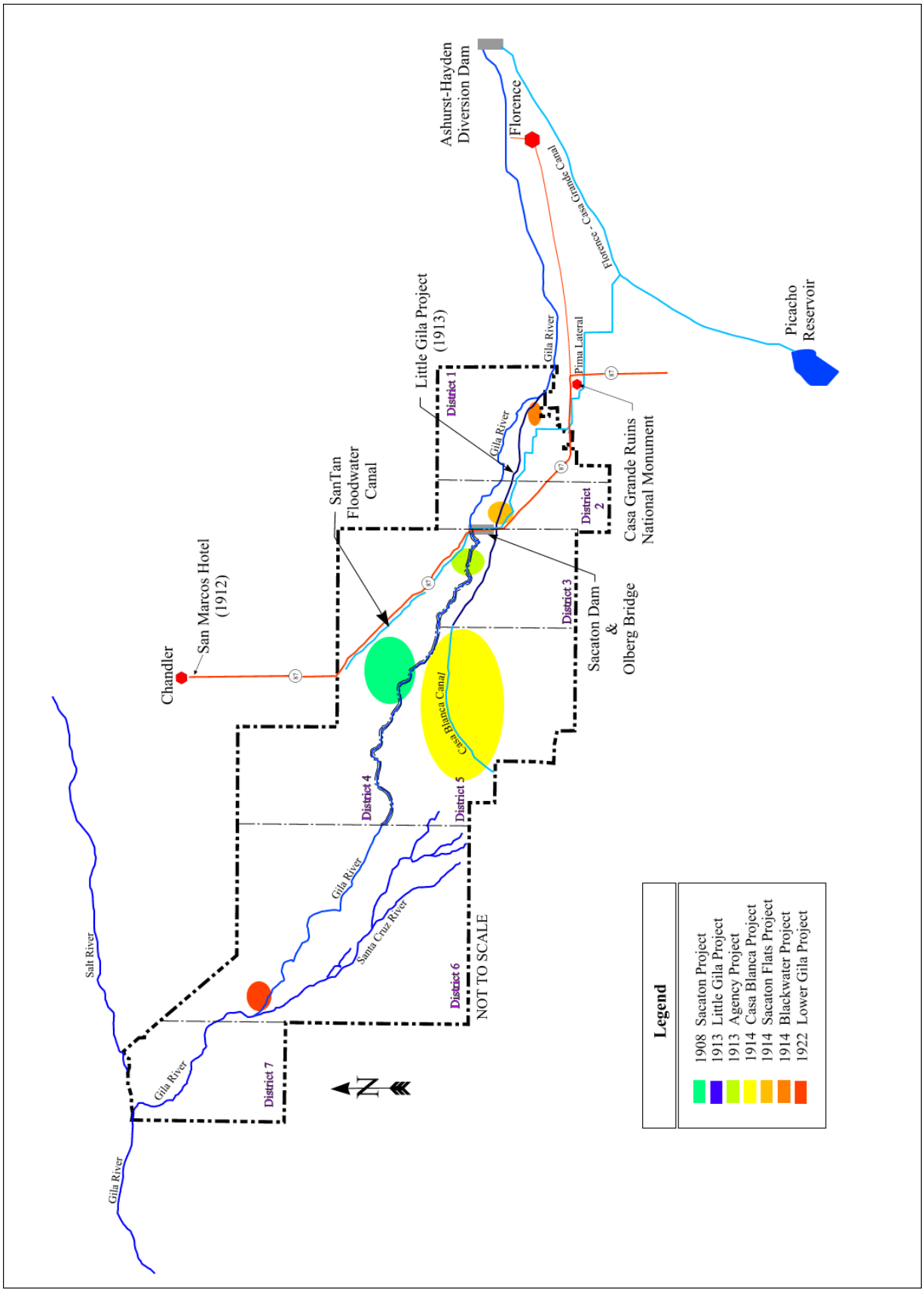
siphon under the Gila River and feeds the Santan Canal. The 16-mile long canal ends near Goodyear and Price roads.

The Casa Blanca Canal has its head on the Pima Lateral one mile south of Sacaton Dam. This canal is sometimes called the Little Gila Canal, as the first six miles of the canal run through the channel of the Little Gila River. The Indian Service started the Casa Blanca Project, designed to irrigate 35,000 acres of land on the south side of the river, in 1915. A canal was built on the west end of the Little Gila River (just north of the present day John Deere facility on Casa Blanca Road) and extended west to Casa Blanca. The floods of 1914-15 damaged the head gates of the canal and destroyed the head of the Little Gila in Blackwater. While some repairs were made, they were never completed and, by 1918, the Casa Blanca Canal fell into disuse. After the passage of the Florence-Casa Grande Project and completion of Ashurst-Hayden and Sacaton dams, the Indian Service completed the Casa Blanca Canal. The canal takes water from the Pima Lateral south of Sacaton Dam and conveys it through the Little Gila River into what is officially called the Casa Blanca Canal. By 1928, water reached allotted lands in the Casa Blanca area.

The head of the Casa Blanca Canal (Little Gila Canal) south of Sacaton Dam.

In addition to the main stem canals constructed to convey water to the reservation, there was an extensive lateral system designed to convey water to the irrigable allotments. The Agency Canal, built in 1914 under the Agency Project, became a main lateral (called Progressive Ditch today) and irrigated 2,000 acres between the Gila and Little Gila rivers east of Sacaton. The Sacaton Flats Lateral (present-day Lateral 7-22 and North Ditch) was completed in 1927 and receives water from the Pima Lateral. The lateral irrigates land in the Sacaton Flats and Cottonwood districts. The Blackwater Lateral, which serves land in District 1 as well as non-Indian land east of the reservation, was completed in 1926. It was not until the 1930s that the Southside Canal was built to carry water from the Pima Lateral to the southernmost allotments of Districts 1 and 5. The canal follows the north base of the Sacaton Mountains.

By 1930, nearly $1,500,000 was expended on the joint works and Indian works irrigation system. But, while the Pimas were partially atoned for their many years of deprivation due to water loss, full restoration was believed to require the construction of a storage reservoir on the Gila River. While some officials could boast the Pimas had been “generously provided for,” the reality was there was still too little water to irrigate the fields. Superintendent Albert Kneale described both the canal system and Sacaton Dam as “idle gestures.” The Pimas, Kneale argued, had “all the essentials” needed to farm, “save only water.” In 1927, a government study of Indian irrigation projects concluded that the reservation irrigation system had been “constructed piecemeal” and was far from successful. A comprehensive plan was needed to ensure water reached Indian lands as Congress intended when it authorized the Florence-Casa Grande Project in 1916.


Ashurst-Hayden Diversion Dam
Florence
Florence - Casa Grande Canal
Picacho Reservoir
Little Gila Project (1913)
District 1
Gila River
Pima Lateral
SanTan Floodwater Canal
District 2
Casa Grande Ruins National Monument
San Marcos Hotel (1912)
Chandler
District 3
Sacaton Dam & Olberg Bridge
Casa Blanca Canal
District 4
District 5
Gila River
Santa Cruz River
Salt River
District 6
NOT TO SCALE
District 7
N
Legend
1908 Sacaton Project
1913 Little Gila Project
1913 Agency Project
1914 Casa Blanca Project
1914 Sacaton Flats Project
1914 Blackwater Project
1922 Lower Gila Project

Teacher Plan for "Building the Florence-Casa Grande Project Canals"

Terms to know and understand

- Sufficient
- Lateral
- Reservoir
- Head of canal
- Comprehensive
- Idle gestures

Objectives

Students will be able to:

1. Compare and contrast the allotment of the reservation with the development of the irrigation system on the reservation.
2. Map specific locations of the developing irrigation system within the reservation.

Critical Thinking:

- In 1927, a government commissioned irrigation survey was made of Indian irrigation projects. Called the Preston-Engle's Report, the commission concluded the government-built irrigation system on the Pima Reservation was constructed "piecemeal" and "before a general and comprehensive plan for development was conceived and executed." As a result, many canals and irrigation works were built (some as exorbitant costs) with little to show for them. "Had the water rights [of the reservation] been properly protected," the report concluded, much of what was constructed "would have been unnecessary." Why is it a good idea to have a clear, comprehensive plan before taking action?

Activities

- Remind students that many of the activities related to constructing the irrigation system under the Florence-Casa Grande Project were concurrent to the time when allotment of the reservation was occurring. Are there any similarities between the allotment of Gila River and the development of the irrigation system? What does this tell you?
- As part of Lesson 27, students mapped the general location of the developing irrigation project. Using the attached map, have students map the specific locations of the irrigation system as it stood in the mid 1920s. Be sure to include both diversion dams, the Florence-Casa Grande Canal, Pima Lateral, Santan Canal, Casa Blanca Canal, Picacho Reservoir, and the various irrigation projects (Blackwater, Sacaton Flats, Casa Blanca, etc.).

About P-MIP

The Pima-Maricopa Irrigation Project is authorized by the Gila River Indian Community to construct all irrigation systems for the Community. When fully completed, P-MIP will provide irrigation for up to 146,330 acres of farmland. P-MIP is dedicated to three long-range goals:

- Restoring water to the Akimel O'otham and Pee Posh.
- Putting Akimel O'otham and Pee Posh rights to the use of water to beneficial use.
- Demonstrating and exercising sound management to ensure continuity of the Community's traditional economy of agriculture.