1932

Justifications

Fifth Irrigation District
H. F. Robinson
Supervising Engineer
Albuquerque, N.M.

Robinson File

USPRI001278

Indian Irrigation
District No. 5,
H. F. Robinson,
Supervising Engineer,
Albuquerque, New Mexico.

Wheatfields Project.

Navaje Reservation or Grant.

STATISTICAL: Location. 45 mi. No. of Fort Defiance, Ariz.

Area, Reservation or Grant,

Nearest Railway, A. T. & S. F.

Nearest Station -Name, Gallup, N.M.

Distance, 75 mi.

Average Elevation, 7000'

Rainfall, 12"

Population, Reservation or Grant, 40,000

Source of Water Supply, Wheatfields Creek, continuous flow.

Canals,

Number, 1

Length, 3 mi.

Additional statistics on Forms 14 and 15 following.

NARRATIVE STORY OF THE PROJECT: This project was constructed in 1909. The construction work consisted of a crib diversion dam and a storage reservoir with a capacity of 1300 acre feet. About the time the storage dam was completed one of the engineering force was killed by a stroke of lightening on the dam. The Indians being superstitious, especially where one was killed by lightening, would have nothing to do with the project and it has remained unused to date. The diversion dam has been destroyed by flood waters but the storage dam is in a perfect state of preservation and is capable of storing water for some 318 acres of land under the project. The agricultural lands were held by one Indian but he has agreed to have the lands divided into small tracts and placed under cultivation as soon as the irrigation works can be rehabilitated.

Total expenditure on construction to date $3912.88.

For the construction of the diversion dam . . . . $6,000.

Extension of canal system 4,000

$10,000.

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Water Supply, Navajo & Hopi

Navajo & Hopi Reservations.

The Navajo Reservation lies in one tract in northwestern New Mexico and northeastern Arizona and has an area of approximately 14,300,000 acres. The elevation varies from 6000 to 8000 feet with the higher elevations in the mountains. The rainfall varies from 4 to 14 inches per annum; estimated population is 45,000.

While the Navajo Indians have developed considerable agricultural lands, their principal industry is stock raising, mostly sheep. There are vast areas on the Navajo Reservation that are not used for grazing purposes for the principal reason that there is no water available for their stock or domestic purposes. To utilize this area it will be necessary to develop springs, drill wells, or construct tanks to impound water for stock and domestic purposes. The congested condition on the range which exists around permanent water holes will be greatly relieved by the development of water in the areas not now used. A movement is being initiated whereby certain sections of the reservations will be set aside for summer grazing and other sections for winter grazing. This movement appeals to the Navajo Indians and it is hoped in a few years this plan will be enforced over the entire reservation.

The activities of the water development have been divided into four parts: Well drilling in such sections of the reservation as it appeared that water could be found; this also includes the installation of wells, windmills, tanks, and troughs. The development of springs including excavation, the placing of perforated pipe, and refilling with rock and gravel; this forms a catch basin from which water is conveyed by pipe line to the water troughs. Building and repairing of water catches and storage places for impounding rain and surplus water. The maintenance of the various projects which includes the patrol system for windmills which are visited at regular intervals, oiled, and kept in repair.

The division between jurisdictions will be approximately as follows:

EASTERN NAVAJO
Based on population of 18,[illegible]

Construction:		
Purchase of one tractor	4,500.	
Labor, 2 reservoir construction crews	10,000.	
Material and supplies	7,500.	
Shallow well drilling by contract	10,500.	
		32,[illegible]0.
Oper. & Main.:		
2 crews 1 mo. maintenance tanks, springs, troughs and wells: Labor	2,000.	
Material and supplies	1,500.	
	[illegible],500.	[illegible],000.

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The division between jurisdictions will be approximately as follows:

EASTERN NAVAJO
Based on population of 18%

Construction:			
Purchase of one tractor	$4,500.		
Labor, 2 reservoir construction crews	10,000.		
Material and supplies	7,500.		
Shallow well drilling by contract	10,500.		
		32,500.	
Oper. & Main.:			
2 crews 1 mo. maintenance tanks, springs, troughs and wells: Labor	2,000.		
Material and supplies	1,500.		
		3,500.	$36,000.

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LEUPP
based on population of 4%.

Drilling shallow wells by contract	$8,000.	
		$8,000.

NORTHERN NAVAJO
based on population of 21%.

Construction:			
Excavation for shallow wells - labor	$4,000.		
Equipment	3,500.		
Material & supplies	2,500.		
		10,000.	
Reservoir construction crew - labor	6,000.		
Equipment	3,500.		
Material and supplies	2,500.		
		12,000.	
2 crews 8 mos. developing springs, constructing concrete troughs - labor	4,800.		
Equipment	1,650.		
Material and supplies	9,360.		
		15,810.	
Oper. & Main.:			
2 crews 4 mos. maintaining springs, tanks, troughs, and wells - labor	2,400.		
Equipment	850.		
Material and supplies	940.		
		4,190.	
			$42,000.

SOUTHERN NAVAJO
based on population of 36%

Construction:			
3 crews developing springs, constructing concrete troughs - labor	12,800.		
Equipment	4,000.		
Material and supplies	13,200.		
		30,000.	
2 crews developing springs, constructing concrete tanks and troughs for existing wells - labor	6,000.		
Equipment	4,000.		
Material and supplies	8,000.		
		18,000.	

continued

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SOUTHERN NAVAJO, Continued.

Forward - - $48,000.

1 crew with well rig replacing casing in wells and general reconditioning of wells - labor	$7,000.		
Equipment	5,000.		
Material and supplies	12,000.	24,000.	
Oper. & Main.:			
1 crew oper. & main. wells, windmills, tanks and troughs - labor	3,500.		
Equipment	1,000.		
Material and supplies	2,500.	7,000.	$79,000.

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WESTERN NAVAJO
based on population of 13%

Construction:			
2 crews constructing reservoirs-labor	$10,000.		
Equipment	4,000.		
Material and supplies	9,000.	23,000.	
Oper. & Main.:			
2 crews, 1 mo. maintenance of tanks, wells, windmills, and troughs:			
Labor	2,000.		
Material and supplies	1,000.		
Equipment		3,000.	26,000.

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HOPI (Benefit of Navajos)

It is estimated that 8% of entire Navajo population resides on the Hopi Reservation.

1 crew constructing reservoirs - labor	$6,000.		
Equipment	4,500.		
Material and supplies	3,000.		
		13,500.	
1 crew developing springs, constructing concrete troughs, etc. - labor	3,000.		
Equipment	1,000.		
Material and supplies	2,000.		
		6,000.	$20,100.
Total for benefit of Navajo Indians -			$211,100.

HOPI

1 maintenance crew repairing windmills, wells, tanks & troughs	3,500.	
Equipment	1,500.	
Material and supplies	2,500.	
Total for benefit of Hopi Indians --		7,500.

1929 Appropriation
Navajo 100,000.
Hopi 5,000.

1930 Appropriation
Navajo 75,000.
Hopi 6,000.

1931 Appropriation
Navajo 75,000.
Hopi 6,000.

1932 Asked for
Navajo 211,100.
Hopi 7,500.

Work for the present fiscal year consists of the maintenance of wells, windmills, tanks, and troughs on the Navajo and Hopi reservations. Two crews are employed continuously throughout the year on this work and when funds will permit an additional crew is assigned to this work.

The activities of the construction crews were confined to the development of springs, together with the construction of concrete troughs and small reservoirs. In the construction of the reservoirs, which was confined principally to the Western and Eastern Navajo jurisdictions, two crews have been employed continuously and if funds will permit this work will continue throughout the balance of this fiscal year. This work is being done by the use of tractors and a rotary scraper to place the earth in the dam. In some cases where the reservoirs are a little large, rock riprap was placed to protect the inside slope of the dam. Most of this was done by the Indians without pay.

During the present fiscal year including November, there had been developed 26 springs, 22 wells dug, and 6 reservoirs developed, making a total to date of 347 springs developed, 68 wells dug, 27 reservoirs constructed, and 232 wells drilled.

To the end of the calendar year 1929 there has been expended a total of $877,670. for the development of water on the Navajo and Hopi reservations.

USPRI001285

Indian Irrigation
District No. 5,
H. F. Robinson,
Supervising Engineer,
Albuquerque, New Mexico.

Moen Ave Project.

Navajo Reservation or Grant.

STATISTICAL: Location. 8 mi. SW Tuba City, Ariz.

Area, Reservation or Grant,

Nearest Railway, A. T. & S. F. Flagstaff, Ariz.

Nearest Station -Name, Flagstaff, Ariz.

Distance, 95 mi.

Average Elevation, 6000'

Rainfall, 8"

Population, Reservation or Grant, 40,000

Source of Water Supply, Springs

Canals,

Number, 1

Length, 1½ mi.

Additional statistics on Forms 14 and 15 following.

NARRATIVE STORY OF THE PROJECT: This project is located 8 miles southwest of Tuba City, Ariz. The Indians have been farming this section for some year. The soil is very sandy and a considerable quantity of irrigation water is lost in seepage. It is proposed to investigate this project thoroughly and if warranted, funds would be asked for the lining of approximately three-quarters of a mile of canal which would cost approximately $1.60 per lineal foot. It would appear at this time that further investigations should be made before funds are asked for the construction work on this project. Investigations and surveys - $250.

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