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SHIPROCK, N.M.,
June 29th, 1906.

George Butler,
Gen'l. Supt. Irrigation.

Submits estimate of funds
required for fiscal year 1907
to develop irrigation and
stock water on Navajo & Hopi
Reservations; as directed by
Office letter of June 21/06.
Calls attention to his
report of June 24, 1906.

To Secy July 3/06

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To Harper May 24/07

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Hunter

AUTHORITY

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OFFICE OF
INDIAN AFFAIRS

AUG 7 1906

DEPARTMENT OF THE INTERIOR,
UNITED STATES INDIAN SERVICE,

SAN JUAN SCHOOL, SHIPROCK, N.M.,
June 29th, 1906.

The Honorable,
The Commissioner of Indian Affairs,
WASHINGTON, D. C.

Sir:

I am just in receipt of Office letter, Land, June 21, 1906, instructing me to submit an estimate of the funds required for the fiscal year 1907 in each district of the Navajo Reservation to develop springs and wells for the flocks and herds and to repair, improve, and build dams, ditches and reservoirs.

You say that I will be advised of the allotment made for the reservation under my charge, and instructed to submit proper estimates for each district under my control, to be accompanied by such maps or plats and reports as will enable the Secretary of the Interior, when the subject is presented to him, to form a clear conception of the work planned and take intelligent action in the premises.

I would respectfully refer to my report of June 24, 1906, just submitted, for a general summary as to the size and conditions of the reservations; the requirements of the work contemplated, and the reasons for my inability at this time to submit specific recommendations and estimates for individual works.

(Western Navajo)

The work contemplated for Tuba for the coming year is the building of a ditch in the Moencopi Wash for reasons stated in report of March 1, 1906; developing springs at Tuba, Lyonds, and Moen Ava; and investigating possibilities of storage in Reservoir Canon. The

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earth work of the Tuba Reservoir should be done one year and the basin filled with water to compact the bottom and banks before the water-proofing that may be determined upon is applied. If this earth basin is built this year add \$6,600 to the subjoined estimate.

6,600
6,600
\$13,200

The only thing that can be done now on the Navajo Extension will be the development of water for stock and domestic use by wells, and installation of the pumps, tanks and small earth basins for the same; and investigation of the reservoir basin of the San Francisco Wash.

For the Hopi Reservation is advised the sinking of some deep and shallow wells, development of existing springs, and supplying them with pumps, troughs, etc., for stock purposes, and possibly the irrigation of a few small pieces of land on which the Indians can raise a little garden truck.

The white employes that are estimated as necessary to carry on the work on these three divisions are, 1 Foreman, 1 Teamster, 1 Spring man, and 1 Well-driller; four in all.

On the Fort Defiance Division, the Wheatfield's storage system (authority for the construction of which was granted in 1906) is to be completed; new work, and a little repair work, on small ditches in three or four sections is contemplated; and development of the springs and the sinking of some wells to make available grazing lands not now capable of utilization by reason of lack of water, will require 1 Foreman, 1 Spring man, a Teamster; and later a well driller, who is not included in the following estimate.

On the San Juan Division there are many small Indian ditches taken out from the San Juan river that will have to be supplied with substantial headings, and the first few hundred feet of each channel

will have to be overhauled to make them permanent and operative; and the rebuilding of ditches Nos. 2 and 3 will have to be done before the lands under them can be used. This work is considered the most essential in this Division, and as it can be done only during low stage of water in the river it should be undertaken at once and as much as possible accomplished before the freezing weather of the winter prevents work. The development of springs for stock purposes should also be inaugurated. For this work three white men are contemplated, a Foreman, Teamster and Spring man.

The clerical and engineering force estimated for is the smallest that can properly attend to the accounts, correspondence, and other office work; investigate and develop the possibilities of the country; lay out, prepare maps, plans, profiles, estimates, etc, and superintend construction of the different works.

The stock and equipment is that necessary, and in addition to the little we now have.

Following is a tentative estimate in detail for the above mentioned needs. The several divisions so overlap, and are so inter-related that it would be unwise and almost impossible to designate the sums tabulated for expenditure exclusively within a certain division. It is also considered best that the force and equipment specified should be subject to detail to that part of the territory where their services may be most needed, and used to the best advantage. In other words, the several divisions should be regarded as a whole and the work so conducted; and the employes, stock, equipment and moneys appropriated should be so used.

E S T I M A T E .

Western Navajo Division:

Moencopi Wash Ditch,.....	\$5,520	
Development of springs at Tuba, Moen Ave, and Lyonds,.....	850	
Test borings, Reservoir Canon, for reservoir site,.....	250..	\$6,620.00

Navajo Extension:

Deep and shallow wells, with pumps, tanks, etc., for stock water,.....	\$1000	
Investigations, test borings, etc., for San Francisco reservoir,.....	550..	1,550.00

Hopi Division:

Developing springs, and fitting with troughs, earth basins, etc., for stock water,....	\$1000	
Deep and shallow wells, with pumps, tanks, troughs and earth basins for stock water and possible small garden patches, 3000..		4,000.00

Fort Defiance Division:

Completion Wheatfield Storage System,.....	\$4732	
Construction of new, and repairing old, small ditches, in Marsh Pass, Chin Lee, Lukachukai and Tunitoha sections,.....	3000	
Deep and shallow wells with pumps, tanks, troughs and earth basins for stock,.....	2000	
Developing springs, and fitting with troughs, earth basins, etc., for stock water,....	750..	10,482.00

San Juan Division:

Rebuildings Ditches Nos. 2 and 3, and con- structing headworks to Indian ditches from San Juan river,.....	\$10000	
Developing springs, and fitting with troughs, earth basins, etc., for stock water,....	800..	10,800.00

Employes & Equipment:

Engineering & Office.

Superintendent,.....	\$3095	
Assistant Superintendent,.....	1500	
Clerk & Draftsman,.....	1000	
Instrument man,.....	1200	
Carried forward,..	\$ 6795	\$38,452.00

Chairman,.....	\$6795	\$33,452.00
Feasibility,.....	900	
Interpreter,.....	720	
Interpreter,.....	720	9,135.00
<u>Construction Force.</u>		
3 Foremen on ditch,.....	\$3600	
3 Teamsters,.....	2340	
3 Interpreters,.....	2160	
3 Men on spring,.....	2250	
3 Indian Assistants to above, with teams,.....	1875	
1 Carpenter,.....	900	
1 Well Driller,.....	1200	14,325.00

Stock, forage & equipment.

20 Miles,.....	\$4700	
Forage,.....	4800	
8 Wagons,.....	900	
12 Set Double harness,.....	600	
1 Portable steam well rig,.....	3400	
1 Pile driver, complete,.....	300	
Plows, chains, powder, etc.,.....	6000	20,700.00

TOTAL,..... \$77,612.00

The outfitting on any piece of work is always a considerable factor of cost for the first year, and while the above estimate has been reduced to the minimum, this item amounts to about \$15,000.

In connection with the above, and in view of the probability of the size of disbursements to be made in the immediate future, I would call attention to the amount of my bond (\$5,000.00), which is probably inadequate.

Very respectfully,

George Butler
Gen'l. Supt. Irrigation.