



WATER-RIGHT DOCKET

Denali National Park & Preserve

Docket No: 1

WELL. HOTEL AREA WATER SYSTEM.

Supporting Hydro Data

02-11-1959: memorandum, information about docket 1, hotel area ; february 11, 1959



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Mount McKinley National Park
McKinley Park, Alaska

February 11, 1959

Memorandum (Air Mail)

To: Regional Director, Region Four

From: Superintendent, Mount McKinley

Subject: Water Rights Docket 1, Hotel Area, Mount McKinley

This is in reference to the subject heading and Mr. A. van V. Dunn's memorandum to you of December 5, 1958, requesting additional data relative to the hotel area water system at Mount McKinley.

The water well drilled by the Alaska Railroad on their land near the McKinley Park railroad station was completed in 1956 and capped. It did not replace an older well. It was drilled to provide water for a railroad section station which has not been constructed due to a change of plans. No water has been diverted from this source, nor were any facilities installed for pumping purposes.

The well drilled by the National Park Service and completed in 1957 was developed to provide a limited source of water for use in the powerhouse in the event that an emergency arises caused by a freezeup of the main water system. It did not replace an older well.

Mr. Dunn indicates in his memorandum that he is not sure whether diversion for "bleeder" purposes would be considered a "beneficial use" or not. Whether or not such use may be construed as "beneficial" may be a moot question; nevertheless, diversion for this purpose is an absolute "necessity" during long periods of time when subzero temperatures prevail. In other words, water with an inherent temperature of 32.5 degrees Fahrenheit must be kept "moving" if it is to retain a liquid state.

Answers to specific questions in Mr. Dunn's memorandum are given below in the order requested:

1. The 50,000-gallon reservoir is constructed of reinforced concrete; it was completed by the Alaska Railroad in 1938 at a cost of \$20,000.

file Docket 1 left side
file map on rt. side
IN REPLY REFER TO:

L 54

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NPS REGION FOUR OFFICE	
FEB 16 '59	
REG. DIR.	SURNAME/DATE
ADMIN.	
RECREATION	
INTERP.	
LEGAL	

Landy B. m 2/19
X [signature] 2/16
see memo of 2/16
to Director

2. The pump installed in the well at the powerhouse is a Lancaster submersible type, Model 7007-B, with a pumping capacity of four gallons per minute.

3. The pump is driven by a 3/4-horsepower 220 volt electric motor.

4. The 100-gallon pressure tank is standard steel design.

5. The entire hotel water system operates by gravity flow from point of diversion to points of consumption, developing a pressure of 63 pounds at the powerhouse. The intake at point of diversion is composed of 60 feet of 30-inch cylindrical perforated culvert buried to a depth of about 10 feet. This stream flows directly into the Nenana River. A concrete dam 6 inches thick, about 25 feet long and 6 feet high, was constructed below the culvert and overfilled with coarse gravel to "back up" water into the perforated culvert. Water captured in the intake culvert flows into a concrete sump, 4 feet by 4 feet and 10 feet deep, where the water enters the 6-inch wood stave line. The sump is also provided with an overflow pipe consisting of a 6-inch wood stave line about 60 feet long. From the collection sump water is carried in a 6-inch wood stave line about 1200 feet to the 50,000-gallon storage reservoir. From the storage reservoir it flows through approximately 2600 feet of 6-inch wood stave line to and around the hotel to the last fire hydrant. From the fire hydrant in front of the hotel (see Drawing NPMCK-2204) a 4-inch steel line carries water to the Alaska Railroad Station, the low point of the entire system. A small 1-inch secondary summer line serves the Morino picnic ground from this point. It is approximately 1600 feet long.

We are also enclosing tabulations of estimated quantities of water used for various purposes in the hotel area served by the above described system. As will be noted, the rate of diversion as well as the projected consumption figures are all estimated quantities.

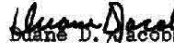
The consumption figures for domestic use will probably remain static until such time as additional visitor facilities are developed in the hotel area. In the event of increased demands should the main visitor center be developed in the hotel area, sufficient quantities of water will be available to meet such demands, even if substantial, without increasing the capacity of the system.

Data relative to diversion systems at Savage River, Wonder Lake, and Headquarters will be compiled and forwarded as time permits.

Additional research relative to water rights in the State of Alaska has been obtained since our previous correspondence on the subject. The Constitution of the State of Alaska states in Article VIII,

Natural Resources, Section 5, the following: "All surface and sub-surface waters reserved to the people for common use, except mineral and medicinal waters, are subject to appropriation. Priority of appropriation shall give prior right. Except for public water supply, an appropriation of water shall be limited to stated purposes and subject to preferences among beneficial uses, concurrent or otherwise, as prescribed by law, and to the general reservation of fish and wildlife."

Presumably the State Legislature will eventually enact laws implementing the manner in which water rights may be perfected.


Duane D. Jacobs
Superintendent

Attachment
Estimated Consumption Rates

Copy to: Director
Chief, WODC

FEB. 11, 1959

ESTIMATED CONSUMPTION HOTEL AREA WATER SYSTEM
MOUNT MCKINLEY NATIONAL PARK

Water Consumption, Hotel	7,560 guest days	@ 150 gal. per day	1,134,000 gallons
Water Consumption, Dormitory and Hotel	5,400 employee days	@ 150 gal. per day	810,000 gallons
Water Consumption, Power House	365 days	@ 150 gal. per day	54,750 gallons
Water Consumption, Service Station	90 days	@ 3000 gal. per day	270,000 gallons
Water Consumption, R.R. Station Restroom	365 days	@ 400 gal. per day	146,000 gallons
Water Consumption, R.R. Station Employee Qtrs.	365 days	@ 300 gal. per day	109,500 gallons
Water Consumption, Work Trains	60 days	@ 1000 gal. per day	60,000 gallons
Water Consumption, Morino Campground	90 days	@ 5000 gal. per day	<u>450,000 gallons</u>
	Total Domestic Consumption		3,034,250 gallons
	Water diverted and used for bleeder purposes		<u>85,177,750 gallons</u>
	Total estimated diversion for a one-year period		88,212,000 gallons

Rate of diversion is based on an estimated flow of 10,000 gallons per hour (average)



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON 25, D. C.

December 5, 1958

File MT-ME DOCKET 1
J. Audrey
IN REPLY REFER TO:
L54-CBL

RECEIVED
NPS REGION FOUR OFFICE

DEC-9 '58

Memorandum

To: Regional Director, Region Four

From: Chief, Water Resources Section

Subject: Water Right Docket 1, Hotel Area, Mt. McKinley

Of the attachments with Mr. Johnston's memorandum of November 17, we are filing the copy of the letter of October 8 from the Director, Alaska Department of Lands in our file on Alaska Water Laws. The Director, Evert L. Brown, has confirmed the fact that there are no more water laws than I have been able to find. The difficulty in my search has resulted from the lack of a codified set of territorial laws.

Mr. Brown did not explain that there is some provision for recording water claims in each Judicial District, but no need for such action if the claimant owns the land on both sides of the stream at the point of diversion and uses the water in compliance with the riparian doctrine on that land. I gather that any such recorded claims would be limited to water for mining purposes.

We are filing other attachments in Docket 1 in the following order, from bottom upward:

1. Drawing 2204.
2. Portion of Geological Survey Quadrangle showing water use, Headquarters and Station Area.
3. Cross section of well with pump test record.
4. Completion Reports (which were in folder as distributed) and memorandum of August 14.
5. Memorandum of October 13 from Mr. Jacobs.

This docket should ultimately be divided into Part I for the surface supply, Part II for the well, and parts for the wells drilled by the Railroad if they can supply logs, dates of drilling, and any statements of quantity of water use. I assume that the RR well that was drilled and capped, according to Mr. Jacobs, was probably a proposed replacement for an earlier well. It is also possible that we can claim that the 1957 well was a replacement.

SURNAME/INITIALS	
REG. DIR.	
ASST. R.D.	
OPERATIONS	
ADMIN.	
RECREATION	
WATER RES.	
FILED	

12/19
See memo
To Sup't.
Mts. McKinley
12/12/58

I assume that the point of surface diversion is shown reasonably accurately with relation to section corners, so that we can compute an adequate tie when needed. Has the creek a name, and is it directly tributary to the Menana River, or to Riley Creek?

I am not sure whether diversion for "bleeder" purposes will be considered a "beneficial use" or not, so we should tabulate estimated quantities of water used for various purposes such as domestic use at the Hotel, water for locomotives, domestic consumption by campers and picnickers, use for the power plant, and residual for "bleeder" purposes. We should also obtain the number of employees and guests, respectively, at the Hotel and Campground at the peak of the season. There should also be a trend of increasing use, and estimated ultimate, by each category. There is no immediate need for this data, but it will be wise for the Superintendent to assemble it, as convenient, in anticipation of a future need to record vested rights under any state water law.

We do not yet know the form of declaration or application which may become necessary, but there are certain data which should be assembled on the basis of forms used in other states.

1. What is the 50,000 gallon reservoir - wood, steel or concrete?
2. What are the make, type, and capacity of the pump?
3. What are the make and power of the power unit, which I assume to be electric?
4. I assume that the 100 gallon pressure tank is the standard steel type.
5. We should have at least a narrative description, if not a plan of the surface diversion works.

We should also assemble dockets for the Headquarters Water System, Wonderland Water System, and any other independent systems, as rapidly as convenient.


A. van V. Dunn
Chief, Water Resources Section

Copy to: Superintendent, Mt. McKinley
Chief, WODC



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Mount McKinley National Park
Mount McKinley, Alaska

October 13, 1958

IN REPLY REFER TO:
1-54-1
RECEIVED
NPS REGION FOUR OFFICE
OCT 15 '58

SURNAME	
REG DIR	
ASST. R.D.	
OPERATIONS	
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RECREATION	
INTERP.	
LEGAL	

Memorandum (Air Mail)

To: Regional Director, Region Four

From: Superintendent, Mount McKinley

Subject: Water Rights Docket No.1, Hotel Area, Mount McKinley

Attached herewith is an overlay plan showing the location of the well at the powerhouse completed in September 1957, also the water lines to the Alaska Railroad Station and the new service station.

There are also enclosed the other data requested in your memorandum of September 26, 1958, relative to the log of the well and a letter from the Territorial Director, Department of Lands, pertinent to appropriation of water in Alaska. As will be noted from the latter, Mr. Brown expects that new legislation will be forthcoming to regulate the use of water in the new state of Alaska.

Water is furnished to the Alaska Railroad depot by this Service as shown on Master Plan Drawing McK 5303-A' (overlay); however, we have no record of a well or wells in use by the Alaska Railroad in this area. While the Alaska Railroad drilled a well on their right of way near the McKinley Park depot several years ago, it was capped upon completion and never used. We have no accurate information on this well.

The source of water for the present system at the hotel area is from a creek located about 3/4 mile northwest of the McKinley Park Hotel on government land. From September 1938 to the present time water has been diverted from this creek to a 50,000-gallon storage reservoir from where it flows through a six-inch wooden line to the powerhouse and hotel. The actual rate of flow or diversion varies with the season, e.g., during cold spells only minimum requirements are obtained. Regardless of the amount available during these periods, the entire amount is diverted for use in the system and discharged at the lower extremity of the system in order to preclude freezesups.

The maximum amount of diversion is estimated at 165 gallons per minute, 10,000 gallons per hour. This estimate is based on the amount of time required to fill the 50,000-gallon reservoir with gravity flow from the intake, which takes about five hours under favorable conditions.

It should be pointed out that the well and pump at the powerhouse is for use in emergencies only. This supply would be sufficient to provide make-up water for the heating system in the event of a freezeup of the main water supply but would not be adequate for domestic consumption.

Since we cannot reproduce prints from the overlay, please furnish a copy of any prints you make to this office for inclusion in our file copy of the docket.

Deane D. Jacobs
Deane D. Jacobs
Superintendent

Attachments

Overlay sketch (1)
Pump test report (3)
Ltr. Dept. of Lands,
dtd 10/8/58 (3)



TERRITORY OF ALASKA
DEPARTMENT OF LANDS

333 D Street
ANCHORAGE ALASKA

October 8, 1958

REGION FOUR
DRESS REPLY TO:
DIRECTOR

INITIAL-DATE	
SUPT.	
A. SUPT.	
ADM. ASST.	
CH. DIV.	
INSTR.	
IS. DIV.	
FOR. DIV.	
FILE	

Mr. Duane D. Jacobs, Superintendent
Mount McKinley National Park
McKinley Park, Alaska

Dear Mr. Jacobs:

Reference is made to your letter of September 29 relative to existing water laws, regulations, and forms now in use by the Territory of Alaska.

The Alaska Department of Lands does not have any jurisdiction over water, and I am unable to find very much concerning this matter. It appears that whatever regulations are in existence are in connection with the use of water for mining purposes. The Federal law provides for use of water in connection with placer mining, however, I cannot find anything relative to its use for other purposes in Alaska.

In 1917 the Legislature of Alaska enacted a provision for use of water in connection with mining properties adjacent to the stream bed, however, it appears that this regulation is inapplicable to the conditions in Alaska. I am sure that new legislation will be forthcoming under statehood which will regulate the use of water and determine water rights. The Alaska Statehood Bill specifically provides that all Territorial laws in force at the time of the proclamation will continue in force and effect throughout the new state until modified or changed by the State Legislature.

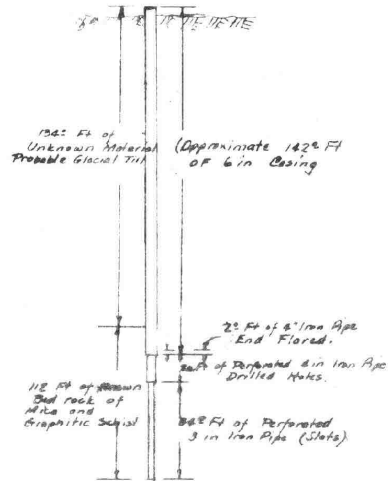
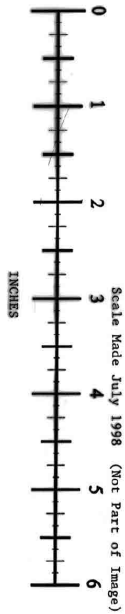
If you have any further questions relative to this matter, I will try and answer them to the best of my ability.

Very truly yours,

Evert L. Brown
Evert L. Brown
Director

ELB:gp

DIRECTOR



Scale: Vertical - 1 in = 40 ft

September 5, 1957

Originally pumped 56 minutes at 7 gallon per minute - equals 392 gallons.
 Recovery time 30 minutes
 Pumped 16 minutes at 5.5 gallon per minute equals 88 gallons.
 Recovery time of 15 minutes
 Pumped 3 hours 15 minutes at 2.3 gallon per minute - equals 486.5 gallons.
 During the last pumping at the rate of 2.3 GPM, the well did not go dry and was pumping at the rate when it was shut off.

Pump set at 160 ft 9 in depth

Water Table 107 ft 7 in

Well is 246 ft from top of Casing -

Static level - UNKNOWN

Final Report -

September 6, 1957

Started pumping at 8:05 AM - 5.5 GPM to start which slowly decreased to 2.3 GPM and continued to pump steady at this rate until shut off at 12:05 PM.
 Started pumping again at 1:00 PM at rate of 5.5 GPM which likewise decreased to 2.3 GPM. For the remainder of the day at 8:00 PM, it may be assumed that this well should be good for about 3000 gallons per day.

Drilling Completed Sept. 7, 1957

Signed A.E. Anderson - Driller

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UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION Four	AREA Mount McKinley National Park	COUNTY	STATE Alaska
PROJECT OR JOB TITLE Water Well			PCP NO. None
LOCATION IN AREA		MASTER PLAN NO.	BUILDING NO.
WORKING DRAWING NO. AND TITLE			
APPROPRIATION TITLE AND SYMBOL 14x1035			ACCOUNT NO. 332.10
CONTRACT NO.		DATE WORK STARTED 8/25/56	DATE WORK COMPLETED 6/30/58 ✓
NAME OF CONTRACTOR Force Account		ADDRESS	

COST ANALYSIS

CONSTRUCTION ITEMS	QTY	UNIT COST IN PLACE	TOTAL COST IN PLACE
Well drilled to a depth of 248' and casing installed. One deep well water pump and one 100 gallon pressure tank (with automatic control) installed.			\$5,023.64
TOTAL			\$5,023.64

FISCAL CLEARANCE

Roland V. Johnson
Roland V. Johnson
Regional Accountant
Date **AUG 8 1958**

SUMMARY OF EXPENDITURES

PERSONAL SERVICES 2,516.28	EQUIPMENT	MATERIALS AND SUPPLIES 892.73
OTHER Facilitating services \$128.00	Other direct expenses \$1,486.63	
CHANGE ORDERS		
ORIGINAL CONTRACT AMOUNT	FIRST	SECOND
FINAL CONTRACT AMOUNT	FOURTH	FIFTH
THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES		
SUBMITTED BY (Name and title) <i>William D. Funk</i> William D. Funk, Administrative Assistant	DATE July 29, 1958	
APPROVED BY (Name and title) <i>Duane D. Jacobs</i> Duane D. Jacobs, Superintendent	DATE July 29, 1958	

(ATTACH NARRATIVE STATEMENT, PHOTOGRAPHS, AND "AS BUILT" DRAWINGS TO THIS FORM)

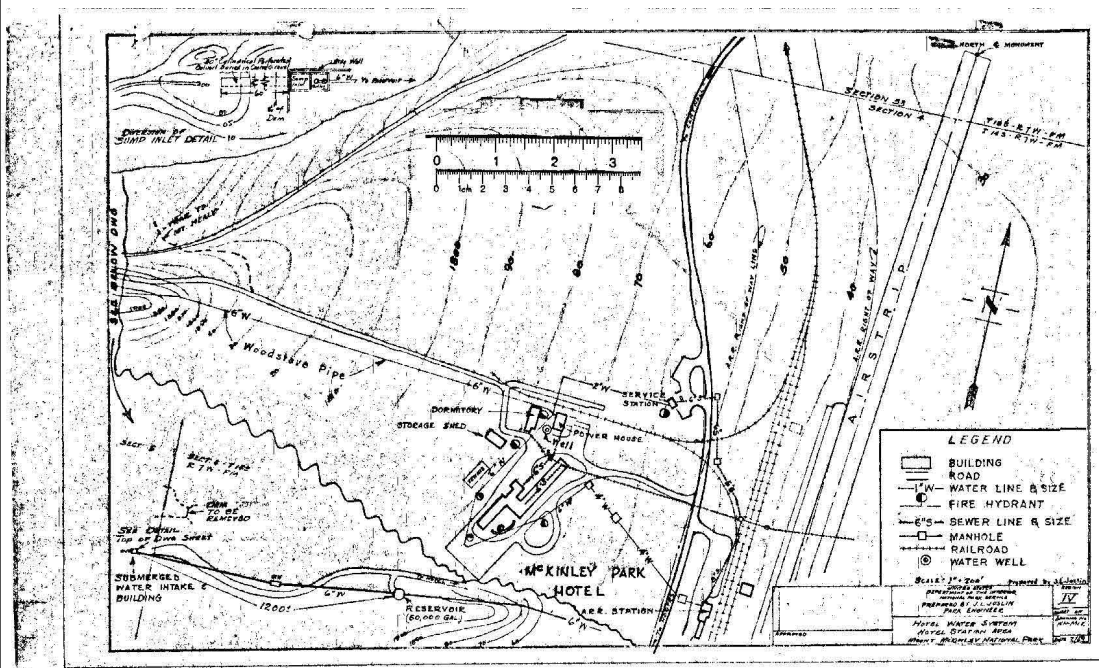


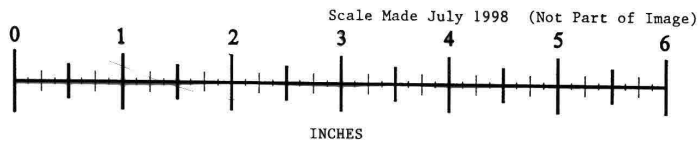
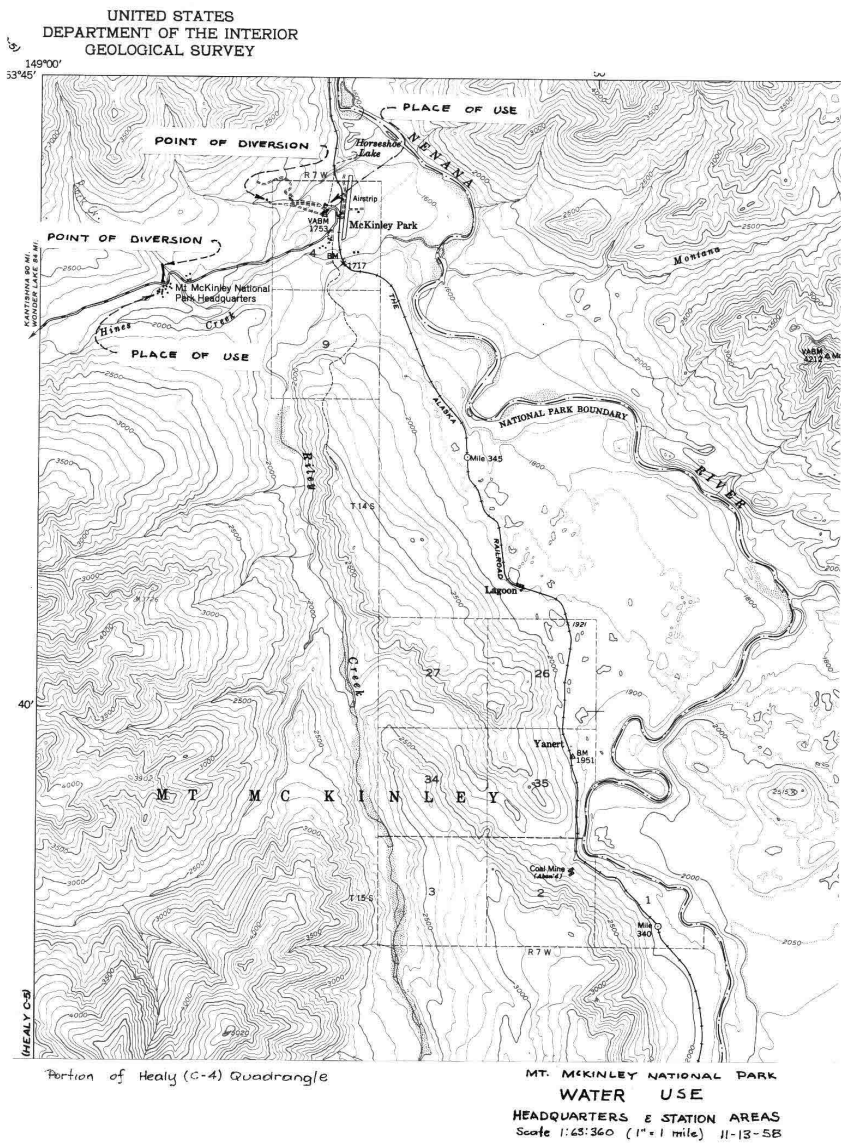
Work on this project extended from August 25, 1956, through June 30, 1958, when it was completed. Originally a driller was hired to operate a drilling rig rented from the Alaska Railroad. This employee drilled the well to a depth of 135 feet, then abandoned the work when he lost part of the bailer in the well. Work was resumed in the fall of 1957 utilizing the services of a competent driller and drilling rig and the well deepened to a depth of 248 feet and casing installed. In the latter part of June 1958, a concrete slab was poured around the well head to preclude any possible contamination from surface water.

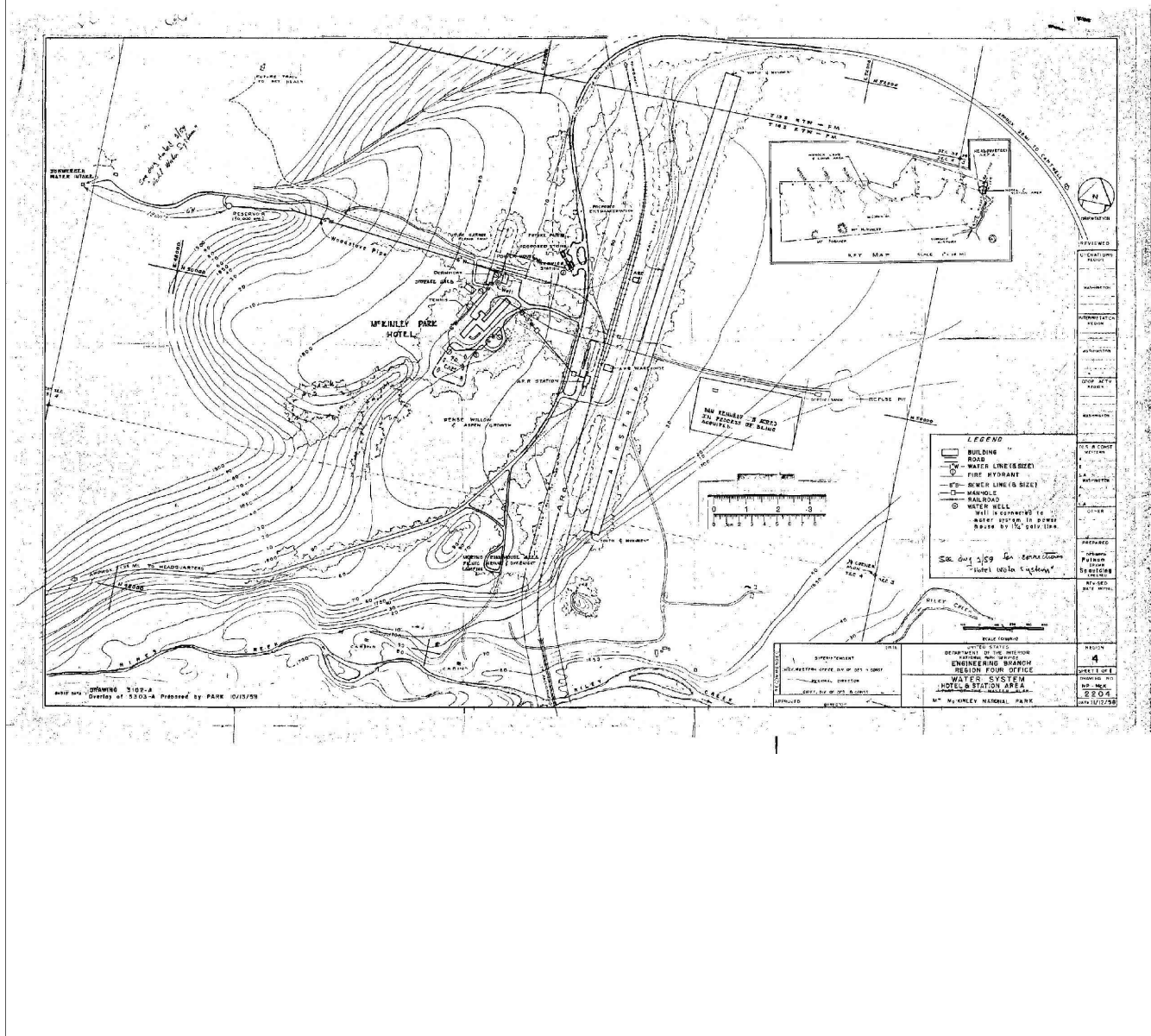
The pump and pressure tank work satisfactorily, and the rate of diversion is sufficient to supply water for the power house operation under emergent conditions.

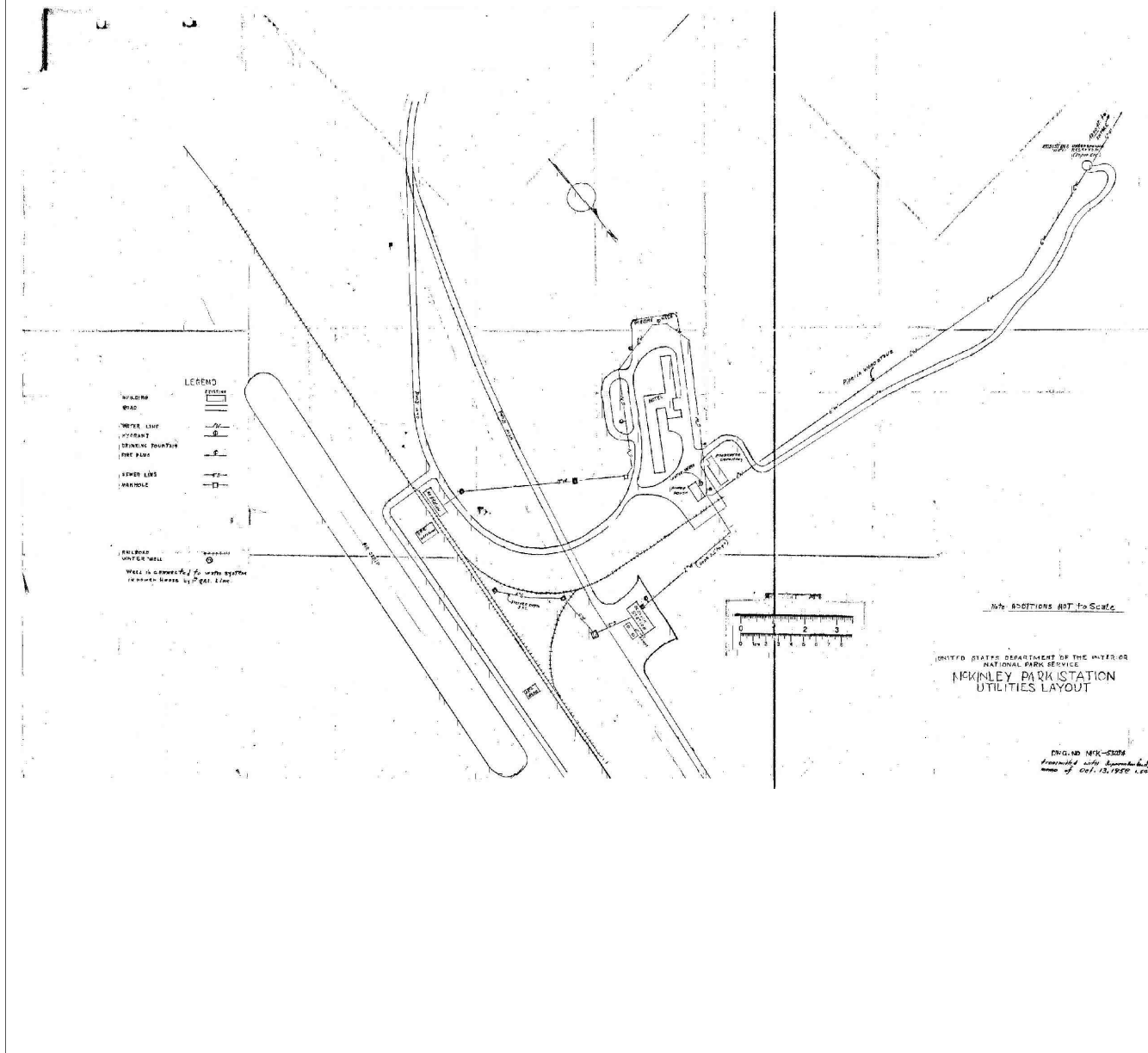
The original allotment of \$4,391.00 was supplemented on June 19, 1957, in the amount of \$637.23 reflecting a total of \$5,028.23 for the project. Actual expenditures amounted to \$5,023.64 leaving a balance of \$4.59.

Maps and Miscellaneous Information









Docket Information

Number of Documents in Docket 16

Documents Dated from 6/30/1958 to 9/5/1959

Docket Compiled: 2/15/2011