



WATER-RIGHT DOCKET

Olympic National Park

Docket No: 28

HURRICANE RIDGE

State Water Rights Documentation

04-14-1958: memorandum to director from regional chief of operations regarding water claim for hurricane ridge

180 New Montgomery Street
San Francisco 5, California

April 14, 1958

Memorandum

To: Director

From: Regional Chief of Operations, Region Four

Subject: Water Claim for Hurricane Ridge, Olympic National Park

Attached is a copy of the February 12, 1958 draft of the appropriate application for Hurricane Ridge. Data have been added in red by Mr. Spaulding where blanks were left by Mr. Dunn.

Item 1. The source is shown as Idaho Springs on an unnamed spring tributary of Lillian River. Both the 7.5 minute Hurricane Hill quadrangle and the 1941 Forest Service map seem to indicate this source rather than the stream named Idaho Creek on the Hurricane Hill quadrangle. Mr. Spaulding believes the Pump House is misplaced 1600 feet west on drawing OLY-5445 which drawing places the diversion on Idaho Creek. We agree that field inspection to determine the correct tributary and a check on basic survey are needed.

Item 2. The amount has not been checked.

Item 5. The distance has been corrected to 9782.24 feet.

Items 5 and 6. The land subdivision indicated by projecting the township show on the Mt. Angeles Quadrangle as Mr. Dunn has done should give a more acceptable location than using township based on the 1941 Forest Service Map.

Item 7. Cost of full development not supplied.

Item 9(a) A description of the diversion works has been entered following drawing OLY-5440A.

Item 9(b) The length of 4" GI pipe has been corrected to 200 feet.

Remarks - Page 3. Construction cost has been corrected to \$56,200 as shown on the completion report.

Spaulding
M. J. North
Mantey
Johnston
73.

FILE
COPY

Mr. Spaulding made a brief study of the system including data supplied by Mr. Overly's memorandum of March 7 and several memoranda from Mr. Dunn, the latest being dated March 20. Drawing Oly-6961 (corrected from Oly 6960) transmitted by Mr. Dunn, appears to Mr. Spaulding to correctly show the diversion and other development at Hurricane Ridge. However, when time is available a more thorough check will be made.

(SGD) FRED T. JOHNSTON

Fred T. Johnston
Regional Chief of Operations

Attachment

Copy to: Superintendent, Olympic

LSSpaulding

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Water Resources

APPLICATION FOR A PERMIT
To Appropriate Public Waters of the State of Washington
(Read directions on last page carefully before filling out this form)

Application No. _____

Draft of 2/12/58

I, The United States of America, by Superintendent
(Name of applicant)
of Olympic National Park, 600 East Park Avenue, Port Angeles, Washington
(City or office address)
do hereby make application for a permit to appropriate the following described public waters of the
State of Washington subject to existing rights:

If the applicant is a corporation, give date and place of incorporation _____

1. The source of the proposed appropriation is Idaho Springs ? on unnamed stream
(Name of stream)
tributary of Lillian River

2. The amount of water which the applicant intends to apply to beneficial use is 0.012 sec.ft.?
cubic feet per second, _____ acre-feet per year.

3. The use to which the water is to be applied is Domestic
(Irrigation, power, mining, manufacturing, domestic supplies, etc.)

4. Time during which water will be required each year all 12 months

5. The approximate point of diversion is located 8 39° - 13' E 2780.24 ft. from
(Give distance and bearing to section corner)
triangulation point on Hurricane Hill, in surveyed land, which if surveyed probably

being within the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Sec. 30, Tp. 29 N., R. 6 W. W. M.,
(Give smallest legal subdivision)
in the county of Clallam

6. The pipeline to be 2728 ft. or more in length, terminating
(Main ditch, canal, or pipe line)
in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ (unsurveyed) of Sec. 30, Tp. 29 N., R. 6 W. W. M.,
(Smallest legal subdivision)
the proposed location being shown on the accompanying map.

7. Estimated cost of development necessary to utilize fully the appropriation herein asked for
\$?

8. Does the stream from which you wish to appropriate water flow through the tract of land on
which the water is to be used? Yes

9. DESCRIPTION OF WORKS:

(a) DIVERSION WORKS—

(1) Height of diversion dam 6 ft.; length on top 24 feet; length on bottom
8 feet; material to be used and character of construction concrete, wasteway
over crest 4" perforated ~~4"~~ collection pipe in gravel and sand backfilled to crest
(Loose rock, concrete, masonry, rock and brush, timber crib, etc., wasteway over or around dam)

(2) Description of headgate 130 feet of 4" pipe delivers water by gravity
from dam to 2 Worthington pumps, with individual capacities of 24.3 gpm, which are
driven by 2 - 5 HP electric motors.
(Timber, concrete, etc., number and size of openings)

When storage works are contemplated a storage permit must be filed in addition to the above. These forms can be secured, together with
instructions, by addressing the State Supervisor of Water Resources, Olympia, Washington.

(b) Description of Ditch or Pipeline System Water is pumped through 2760 feet of 3" GI pipe to 100,000 gallon concrete reservoir, whence water is distributed by gravity through 2100' of 6" and 100' of 4" transit pipe and 2100' of 4" GI pipe. The static pump lift is 405 feet.

10. IRRIGATION: Number of acres to be irrigated _____

11. MUNICIPAL OR COMMUNITY WATER SUPPLY:

To supply the city or community of _____ (Name) _____ County, having a present population of _____ and an estimated population of _____ in 19 _____

(a) Estimated present requirement _____

12. LEGAL DESCRIPTION OF PROPERTY on which water is to be used, for all purposes other than Municipal Supply or Power (Copy legal description from deed) Unsurveyed Federal land in Olympic National Park which would probably be, if surveyed, S $\frac{1}{2}$ SE $\frac{1}{4}$, and SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 30, and N $\frac{1}{2}$ NE $\frac{1}{4}$ and NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 31, T 29 N, R 6 W, WM.

(a) What interest do you have in the above described property Federal ownership

(b) Are there any existing water rights appurtenant to the above described property No

If so, from what source _____

13. POWER:

(a) Total amount of power to be developed _____ H. P.
(Theoretical horsepower)

(b) Total fall to be utilized _____ feet.
(Head)

(c) The nature of the works by means of which the power is to be developed _____

(d) Such works to be located in _____ of Sec. _____, Tp. _____ N., Rge. _____ W. M.
(Legal subdivision) (E. or W.)

(e) To what stream is the water to be returned? _____

(f) Locate point of return _____ Sec. _____, Tp. _____ N., Rge. _____ W. M.
(E. or W.)

(g) The use to which power is to be applied is _____

14. WORK SCHEDULE:

(a) Construction work was begun on or before May 31, 1950

(b) Construction work was ~~will be~~ completed on or before November 19, 1953

uplicate maps of the proposed ditch or other work, prepared in accordance with the rules of the
Supervisor of Water Resources, accompany this application.

HERE: Address
(Applicant)

HERE: Address
(Owner of Land in item 12)

Signed in the presence of us as witnesses:

(1) (Name) (Address of witness)

(2) (Name) (Address of witness)

Remarks: This water system has been constructed at a cost of \$57,000 (1) to
provide water supply for a lodge and public campground at the Hurricane Ridge area
Olympic National Park. While a large part of claimed water is now used, the
use is dependent on anticipated increase in public use of the area over at least
next 10 years.

Nothing in this application shall constitute a waiver of any other rights which the
United States may have to the same water.

STATE OF WASHINGTON, }
COUNTY OF THURSTON. } ss.

This is to certify that I have examined the foregoing application together with the accompanying
maps and data, and return the same for correction or completion, as follows:

In order to retain its priority, this application must be returned to the State Supervisor of Water
Resources, with corrections, on or before, 19

WITNESS my hand this day of 19

State Supervisor of Water Resources.

Other Supporting Information

Form 10-174
(Rev. 8-56)STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT OF CONSTRUCTION PROJECT

REGION Western	AREA Olympic National Park	COUNTY Clallam	STATE Washington
PROJECT OR JOB TITLE Comfort Stations & Extension of Water and Sewer Systems, Hurricane Ridge		PCP NO. U-90	
LOCATION IN AREA Hurricane Ridge Picnic Areas		MASTER PLAN NO. NP-OLY-3206	BUILDING NO.
WORKING DRAWING NO. AND TITLE Extension Water & Sewer Systems, Hurricane Ridge Picnic Area Drawing No. NP-OLY-3149			
APPROPRIATION TITLE AND SYMBOL 14X1035		WORK ORDER NO. B-14-OLYM	
CONTRACT NO. 14-10-0447-520		DATE WORK STARTED July 15, 1961	DATE WORK COMPLETED October 1962 ✓
NAME OF CONTRACTOR O. M. Hendrickson & Company		ADDRESS P. O. Box 684, Sequim, Washington	

COST ANALYSIS

CONSTRUCTION ITEMS	QTY.	UNIT COST IN PLACE	TOTAL COST IN PLACE
Bid Schedule B, Part II - Water System (CONTRACT PORTION)			
4,136 LF 2 1/2" dia. galv. steel pipe in place	3,822.5	1.815	6,937.84
250 LF 1 1/2" dia. galv. steel pipe in place	391	1.10	430.10
45 LF 1/2" dia. galv. steel pipe in place	68	.572	38.90
4 ea. Air relief valves and valve boxes	3	218.90	656.70
2 ea. 1 1/2" pressure reducing valves w/boxes	2	341.00	682.00
1 ea. Masonry drinking fountain in place	1	470.00	470.00
1 ea. 2 1/2" gate valve w/cast iron box	1	44.55	44.55
7 ea. 1 1/2" gate valves w/cast iron boxes	7	39.05	273.35
2 ea. Concrete block water stations	2	725.00	1,450.00
1 ea. Relocate supply inlet, etc.	1	859.10	859.10
Total Contract Portion			11,842.54*
DAY LABOR PORTION			
Restore road bed which was torn up during water line construction, including resurfacing with bituminous mix			3,000.01
Total Construction Cost			\$14,842.55
Add PS&S (18.27% of 14,842.55)			2,711.73
FISCAL CLEARANCE			
<i>Edward S. Kaelin</i>			
TOTAL			\$17,554.28

SUMMARY OF EXPENDITURES

PERSONAL SERVICES	EQUIPMENT	MATERIALS AND SUPPLIES
\$1,002.25	Oper. 590.42 Deprec. 404.35	\$1,002.99
OTHER		

CHANGE ORDERS			
ORIGINAL CONTRACT AMOUNT	FIRST	SECOND	THIRD
\$12,462.18			
FINAL CONTRACT AMOUNT	FOURTH	FIFTH	SIXTH
\$11,842.54			

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH
APPROVED DRAWINGS, SPECIFICATIONS, AUTHORIZED CHANGES

SUBMITTED BY (Name and title) <i>Elwyn G. Wilkinson</i>	DATE 10/29/62
APPROVED BY (Name and title) <i>John E. Doerr</i> John E. Doerr, Superintendent	DATE 10/31/62

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

38105

* Based on actual quantities furnished.

NARRATIVE REPORT
WATER SYSTEM EXTENSION

Project No. OLY-W330

Comfort Stations and Extensions of Water & Sewer Systems,
Hurricane Ridge Picnic Area, Olympic National Park

Contract No. 14-10-0447-520

Contractor: O. M. Hendrickson & Company :
P. O. Box 684
Sequim, Washington

CONTRACT CONSTRUCTION

The portion of the contract pertaining to the water system extension, was awarded as a part of Bid Schedule B, Part II, Items 2 - 11, Water System. The purpose of this extension to the water system was to provide for an adequate water supply to the two comfort stations and two water stations being constructed as a part of this contract.

The work, under this portion of the contract, consisted of revising the piping at the storage tank, the installation of approximately 4,100 lineal feet of 2½-inch galvanized steel water pipe, approximately 250 lineal feet of 1½-inch galvanized steel water pipe, approximately 45 lineal feet of ¾-inch galvanized steel water pipe, 4 air relief valves with valve boxes, 2 - 1½-inch pressure reducing valves with valve boxes, 1 masonry drinking fountain, 2 concrete block water stations, and several gate valves with valve boxes.

The work was started on July 15, 1961 and progressed very slowly until on November 6, 1961 a Stop Work Order was issued because of severe weather conditions. During the engineering layout of the 2½-inch supply line, which runs from the pumphouse to the area to be served, a route revision was made which reduced the length of the line and also eliminated one air-relief valve. This change brought a considerable savings to the Government. During the construction of that portion of the 2½-inch supply line, which runs along the shoulder of the picnic area trail head road, it was necessary that the underground power line be located. By the time that the Stop Work Order was issued in November, 1961, the entire water system extension was essentially complete. The contract was re-opened on July 1, 1962. All necessary construction and cleanup was completed, and on July 18, 1962, a final inspection was held and the system was accepted.

Upon completion of this project, a complete and usable facility was constructed.

The reason for the difference between the contract bid quantities and the as-built quantities was due to changes in locations of the supply lines. These changes were made in the best interests of the Government.

The source of water supply for this extension comes from an existing 100,000 gallon reinforced concrete storage tank located below ground.

DAY LABOR CONSTRUCTION

When the contract was let for constructing the Hurricane Ridge Water Line Extension it was decided that portions of the existing road to be torn up by the contractor to install the water line should be restored by Park Day Labor. \$5,000 was set up for this activity.

Upon completion of the contract work the effected road surfaces were restored and 117 tons of premixed bituminous material was hauled from the Port Angeles commercial plant 20 miles distant and placed and compacted by Park equipment and labor.



UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
OLYMPIC NATIONAL PARK
600 Park Avenue
Port Angeles, Washington

IN REPLY REFER TO:

L54

RECEIVED	
NPS REGION FOUR OFFICE	
MAR 10 '58	
SURNAME / DAY	
REG. DIR.	
ASST. R.D.	
OPERATIONS	3/10
ADMIN.	
RECREATION	
INTERP.	
LEGAL	

March 7, 1958

Memorandum

To: Regional Director, Region IV

From: Superintendent, Olympic

Subject: Water Claim for Hurricane Ridge, Olympic

This refers to our copies of Mr. Johnston's memorandum of February 24 to the Director and to Mr. A. Van V. Dunn's memorandum of February 13 to the Regional Director, same subject.

The source of the Hurricane Ridge water system is at Idaho springs which flows via Idaho Creek to the Elwha River. As Constructed Drawing Oly-5448-C, Water System Hurricane Ridge, clearly indicates the location of the intake dam in relation to H-5 with known Lambert coordinates. The point of diversion as shown on Drawing Oly-6960 appears correct with respect to Drawing 5448-C.

The location of the Idaho shelter is incorrectly shown but since the exact location in relation to the pump house is unknown it might be well to eliminate it from the drawing.

Under line 5 of the incomplete application permit attached to Mr. Dunn's memorandum the approximate point of diversion is shown S39°13'E, 2782.24 feet from triangulation point on Hurricane Hill. This distance is shown as 9782.24 feet on Drawing Oly-6960. We are not so sure that the point of diversion falls in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ (unsurveyed) Section 30, T. 29 N., R. 6 W., W.M. It could possibly be in the NW $\frac{1}{4}$ Section 31 or even in the NE $\frac{1}{4}$ Section 36, T. 29 N., R. 7 W., W.M. in accordance with 1948 "Olympic National Forest Map" and Drawing Oly-5445, "Hurricane Area and Vicinity".

The measured flow of 5 gpm or 7200 pgd was recorded at the end of a dry season. Although it is possible that the source could go completely dry, the normal flow should be considerably over 5 pgm. The ultimate demand at Hurricane would depend upon so far undetermined future expansion such as possible overnight accommodations and increased travel.

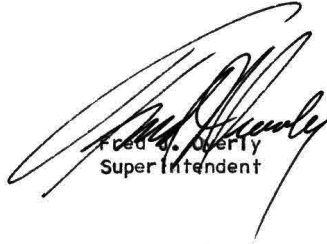
Drawing Oly-5440-A, Pump House and Sump, will reveal the sump capacity and details of the intake dam. The 24 pgm pumps (individually operated) are of course controlled by automatic intermittent switching.

Under item 9(b) of the application permit "water is distributed by gravity through 2100' of 6" and 100' of 4" transite pipe and 200' - not 2100' of GI pipe".

Cost of the completed water system was \$56,200.

We trust that the information supplied herein together with available data will be sufficient to insure completion of the application for the permit to be submitted to the State.

It is suggested that the coordinates for the point of diversion be computed from the water line traverse originating from a tie to H-5 rather than by triangulation from Hurricane Hill.



Fred A. Overly
Superintendent

Copy to: Director
WDOC



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

March 5, 1958

IN REPLY REFER TO:

L54-L

RECEIVED

NPS REGION FOUR

MAR 10 '58

Memorandum

To: Regional Director, Region Four
From: Chief, Water Resources Section
Subject: Water Claims for Hurricane Ridge, Olympic

The memorandum of February 24 from Mr. Johnston indicates that the source of water for Hurricane Ridge water system is probably a nameless spring at the head of a nameless tributary of the Lillian River; and has been designated by the Park Service as Idaho Spring in the Development Outline and Water System Construction Report, although Idaho Creek appears to be the next stream to the west. The matter is still subject to check by the Superintendent.

Since the name of the spring has probably not been approved by the Board of Geographical names, it can still be changed. However, the change will need correction in a number of records. On the other hand the situation would not be the first to my knowledge if the name were left as it is, and Idaho Spring were different than those springs which constitute the source of Idaho Creek.

The question is whether the Park Service wishes to change the name before it acquires the further recorded status of use in an application to the State Supervisor of Hydraulics. If the name is retained, we should consider what alternative name may be assigned to the source of Idaho Creek if it is diverted later, as a supplemental water supply.

A. van V. Dunn
A. van V. Dunn
Chief, Water Resources Section

Copy to: Superintendent, Olympic
Chief, WODC

In reply refer to
L-54 *Spaulding*
Whitworth
Number 257
Johnston

Memorandum

February 24, 1958

FILE COPY

To: Director
From: Regional Chief of Operations, Region Four
Subject: Water Claim for Hurricane Ridge, Olympic National Park

Mr. Dunn's memorandum of February 13 can be answered in part at this time.

On checking the Hurricane Hill quadrangle Mr. Spaulding says he was probably wrong when he said the source of the Hurricane Ridge Water System was on the headwaters of Idaho Creek. It appears that the source would drain into a tributary of the Lillian River. This point could best be confirmed by the Superintendent.

Neither the field book nor the computation sheets for the triangulation are available here. However, the Lambert grid coordinates for points H4 and H5 were used as the origin of a power line survey made by Howe and Spaulding in 1953. A closure with about 30 feet error was made on Hurricane Hill indicating the initial coordinates cannot be too far off. This survey is shown on drawing OLY-5447A. The buried power line alignment coincides with the water line from the lodge to the pump house giving an independent check on the water line survey.

Both the Development Outline and the water system completion report list the source as Idaho Springs.

The pump capacity need not indicate that a flow of 5 gpm is in error. The pump sump at the pump house may be designed so that only a short pumping period per day is required. By copy of this memorandum we are requesting the Superintendent to clarify this and other questions raised by Mr. Dunn.

We will hold the two copies of the draft application until we receive the Superintendent's reply.

(SGD) FRED T. JOHNSTON
Fred T. Johnston
Regional Chief of Operations

Copy to: Superintendent, Olympic
Chief, WOSC

LSpaulding:hat



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

February 13, 1958

IN REPLY REFER TO:

L54-I

RECEIVED
NPS REGION FOUR OFFICE

FEB 19 58

Memorandum

To: Regional Director, Region Four
From: Chief, Water Resources Section
Subject: Water Claim for Hurricane Ridge, Olympic

SURNAME DATE	
REG. DIR.	
ASST. R.D.	
OPERATIONS	
ADMIN.	
RECREATION	
INTER.	
LEGAL	

The attached drawing OLY-6960, in duplicate, has been compiled from data with much old correspondence, the latest Quadrangle sheets, and information I obtained in discussion with Mr. Spaulding in November.

I understood Mr. Spaulding to state: (1) That the location of the area and water system was determined by triangulation from Hurricane Hill; and (2) that the source was on the headwaters of Idaho Creek. The state coordinates of "Junction", "H-3", and others shown in the vicinity of the water system, are from drawing GLA-2210. We have also used the latest available Geological Survey and Army topographic maps, and Drawings 5440, 5448B, and 5449. We have also supplied coordinates for Hurricane Hill, and the computed ties from it to H-3 and the point of diversion.

Either I misunderstood Mr. Spaulding, or there is some error in the coordinates of points shown within the area blocked off as proposed limits of proposed file map. We shall appreciate confirmation or correction of the drawing, particularly as to whether the diversion is supposed to be on Idaho Creek or the nameless tributary of Lillian River. It would also help to have the points of the triangle, and deflection angles, bearings and distances used in the triangulation. If the area is located by deflection from the line from "Junction" to "Hurricane Hill", with tie from "Junction" to some point on the "H" line, that explanation may resolve the matter.

Also attached are two copies of a partially completed draft application, of February 12, 1958, based in part on the Completion Report of December 1953. We shall appreciate the return of one copy with corrections and additions where I have shown question marks. Some of the past correspondence seems to have been misplaced when Mr. de Chaney was working on this matter. The memorandum of January 17, 1951, from H. G. Cameron, Jr., indicates a flow of only

reply prepared
additional data
needed

I requested prints
from WRC we
don't have all

5 gpm or 7200 gpd at the diversion, and we do not have the estimated ultimate water demand. Correct figures should be supplied for both, since the pumps seem extremely large for 1951 flow. The data strengthens my question as to whether a source other than Idaho Springs has not been used. We also wonder whether we cannot give more details of pipe size and length, and description of possible pump sump at headworks.



A. van V. Dunn
Chief, Water Resources Section

Attachments 4

Copy to: Superintendent, Olympic, w/c Drawing 6960 and draft of application
Chief, WODC, w/c Drawing 6960 and draft of application

FORM NO. 10-174 (REVISED 8/10/51)
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPLETION REPORT
CONSTRUCTION PROJECT
CR
REHABILITATION JOB

DATE 11/30/53REGION Four AREA Olympic National Park STATE WashingtonPROJECT OR
JOB TITLE Water System - Hurricane Ridge PCP OR
JOB NO. U-36-3LOCATION
IN AREA Hurricane Ridge MASTER 21.1-D BLOG.
PLAN NO. (no utilities shown) NO.WORKING DWG.
NO. & TITLE 5448 Water System "AS CONST." DWG. * # 5448-C
SUBM. BY (DATE) Allicock, 3-27-51APPROPRIATION 1421035 U.S. ACCT. S&MG PROJ.
TITLE & SYMBOL Construction & Acquisition of Lands, NO. 542.01 SYMBOL

CONSTRUCTION DATA		SUMMARY OF EXPENDITURES	
CONSTRUCTION ITEMS	QUANTITIES		
3" Galvanized steel pipe	3000 ft.	01 PERSONAL SERVICES	11,123.58
4" Galvanized steel pipe	200 ft.	02 TRAVEL	3.82
Pipe fitting and valves	1 lot	03 TRANS. OF THINGS	27.03
6" Transite pipe	2100 ft.	04 COMM. SERVICES	60.07
4" Transite pipe	100 ft.	05 RENTS & UTIL. SERV.	1,748.12
Fire hydrants	4	06 PRINTING & REPROD.	
Pumps	2	07 OTHER CONTR. SERV.	30,118.35
Sand, gravel and cement	1 lot	08 SUPPLIES & MATERIALS	10,247.32
		09 EQUIPMENT	2,869.60
		10 LANDS & STRUCTURES	
		15 TAXES & ASSESSMENTS	
		TOTAL CONSTRUCTION COSTS	56,197.89
		TOTAL CONSTRUCTION ALLOT.	56,200.00
		UNOBLIGATED BALANCE	2.11
		TECH. SUPERVISION COSTS	
		TOTAL TECH. SUPER. ALLOT.	
		UNOBLIGATED BALANCE	
		TOTAL PROJECT COST	56,197.89

REMARKS: Work was accomplished by day labor and contract. The 100,000 gal. reservoir and pump house and sump were constructed of reinforced concrete, by Owens Bros., Contractors, Port Angeles, Washington during 1950 - 1951 summer seasons. 3410 l.f. of water line trench excavation was accomplished day labor with a rented back hoe and by hand. Sod was stripped and replaced for this excavation by hand. 2100 l.f. 6" and 100 l.f. 4" transite pipe and 200 l.f. 4" and 2760 l.f. 3" l.f. were installed by day labor. A concrete intake dam at Idaho Springs and two fire hydrants at the Lodge were also provided by day labor. Two Worthington 21.3 h.p. pumps powered by 5 h.p. electric motors were purchased and installed in the pump house. All work other than the above mentioned contract items was in progress during the 1951 - 1953 summer seasons.

Original allotment, May 1950 \$ 35,600.00
Increase, February 1951 20,600.00
Total \$ 56,200.00

Project completed 11/19/53

THIS PROJECT OR JOB HAS BEEN COMPLETED IN ACCORDANCE WITH APPROVED DRAWINGS, SPECIFICATIONS AND AUTHORIZED CHANGES

SUBMITTED: <u>Clifford B. Peterson</u> DATE <u>12/1/53</u>	CONCURRED: <u>H. L. Crocker</u> DATE <u>11/24/53</u>
TITLE <u>Engineer</u>	ACT. ASST. REGIONAL DIRECTOR (D&C)
SUPERINTENDENT <u>12-1-53</u>	APPROVED: <u>Sanford Hys</u> 12-29-53
	ACT. REGIONAL DIRECTOR

COST SUMMARY OF WATER SYSTEM

100,000 Gallon reservoir contract	\$25,025.00
Pump house and sump contract	4,735.00
2 Worthington pumps	2,869.60
Labor	11,123.58
Materials and other costs	<u>12,439.46</u>
Total cost	\$56,192.64

Labor costs include installation of 3" galvanized steel force main, 6" transite gravity main, hydrants, intake dam, infiltration system, pump installations with automatic controls, landscape restoration and other minor items. No further cost data by construction items is available.

For further detailed "as constructed" drawings refer to:

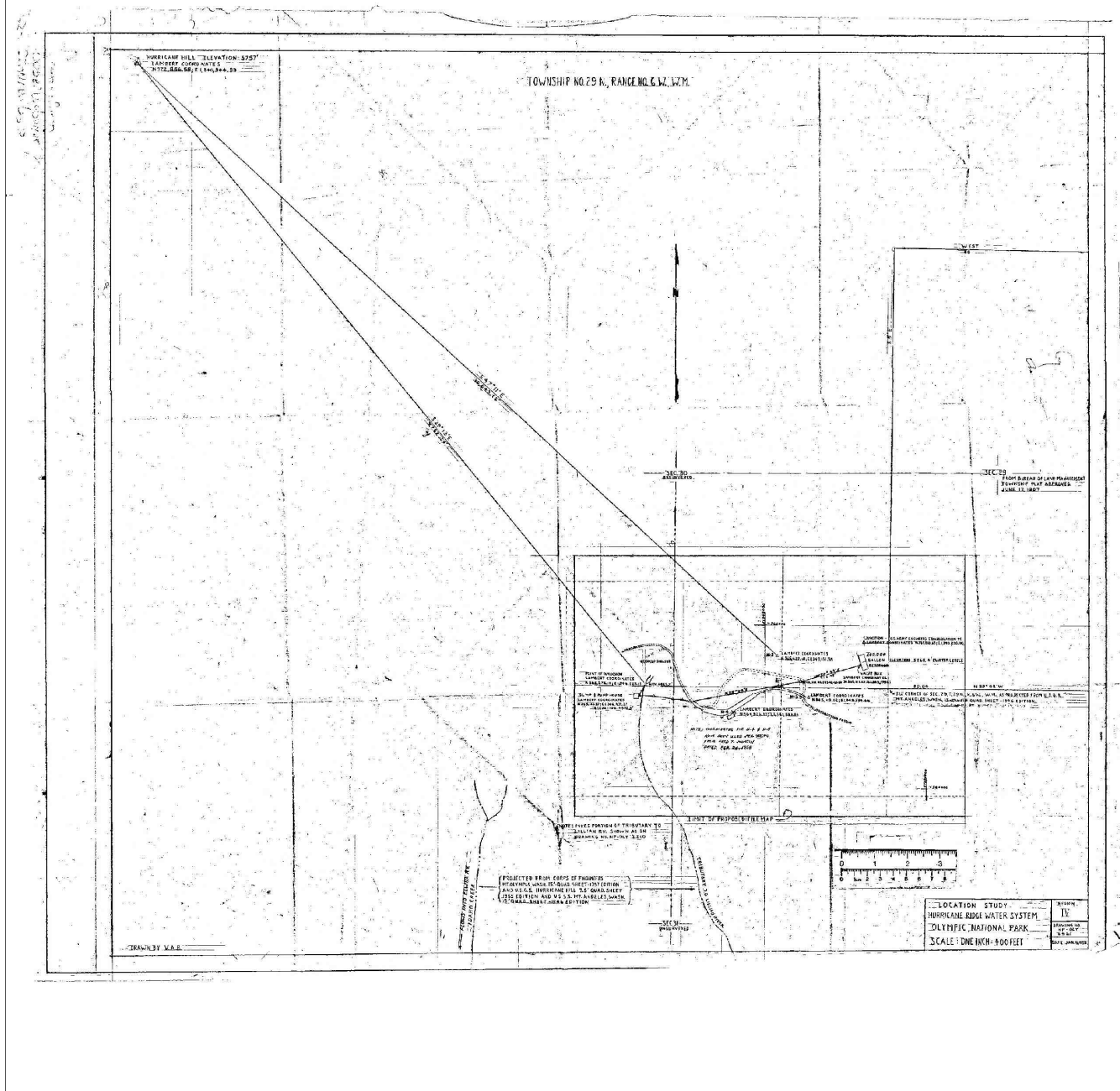
Oly 5439, Reservoir Piping and PG 6057 Reservoir

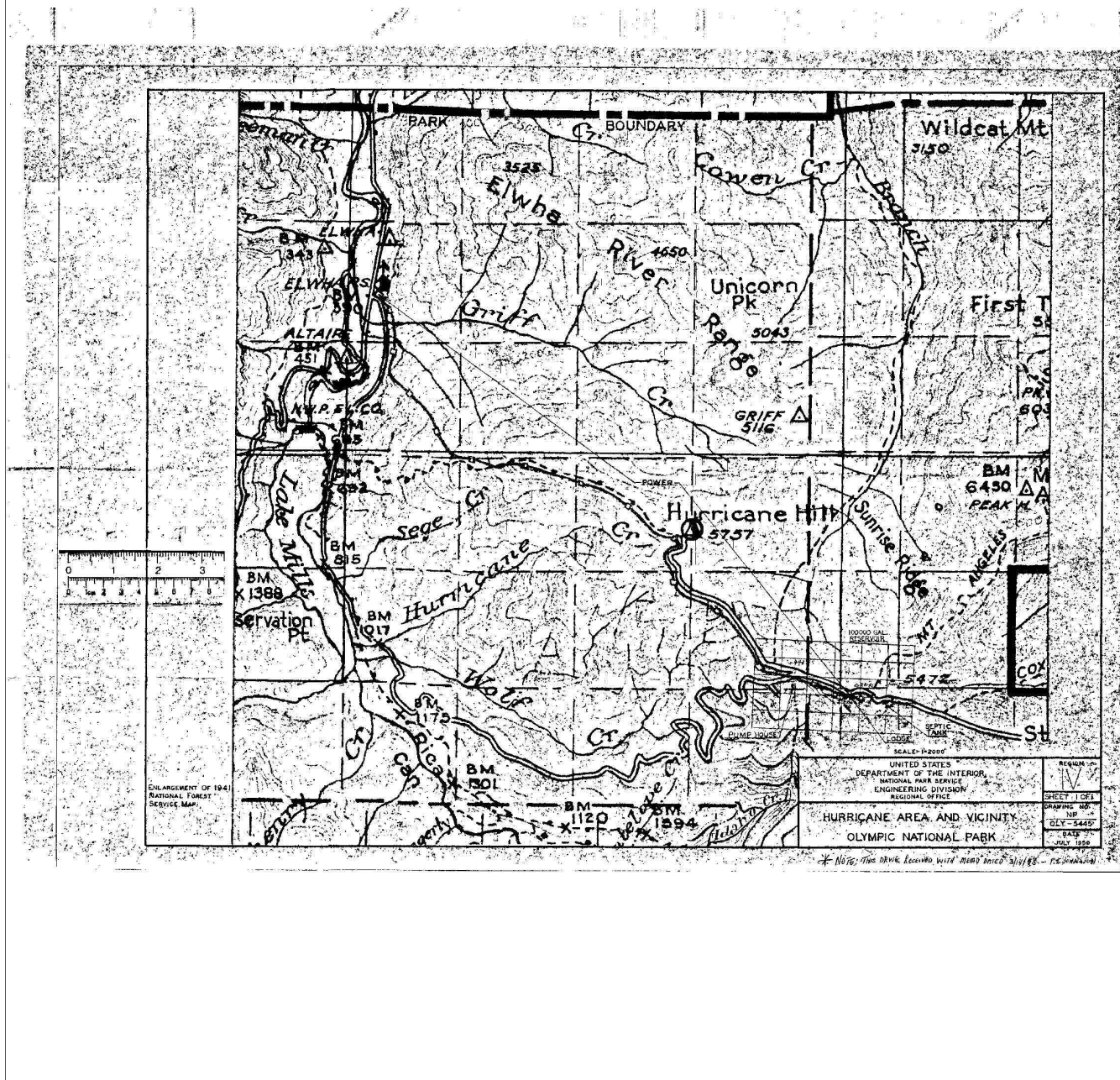
Oly 5440-A Pump House and Sump w/Intake Dam, Sheet # 2.

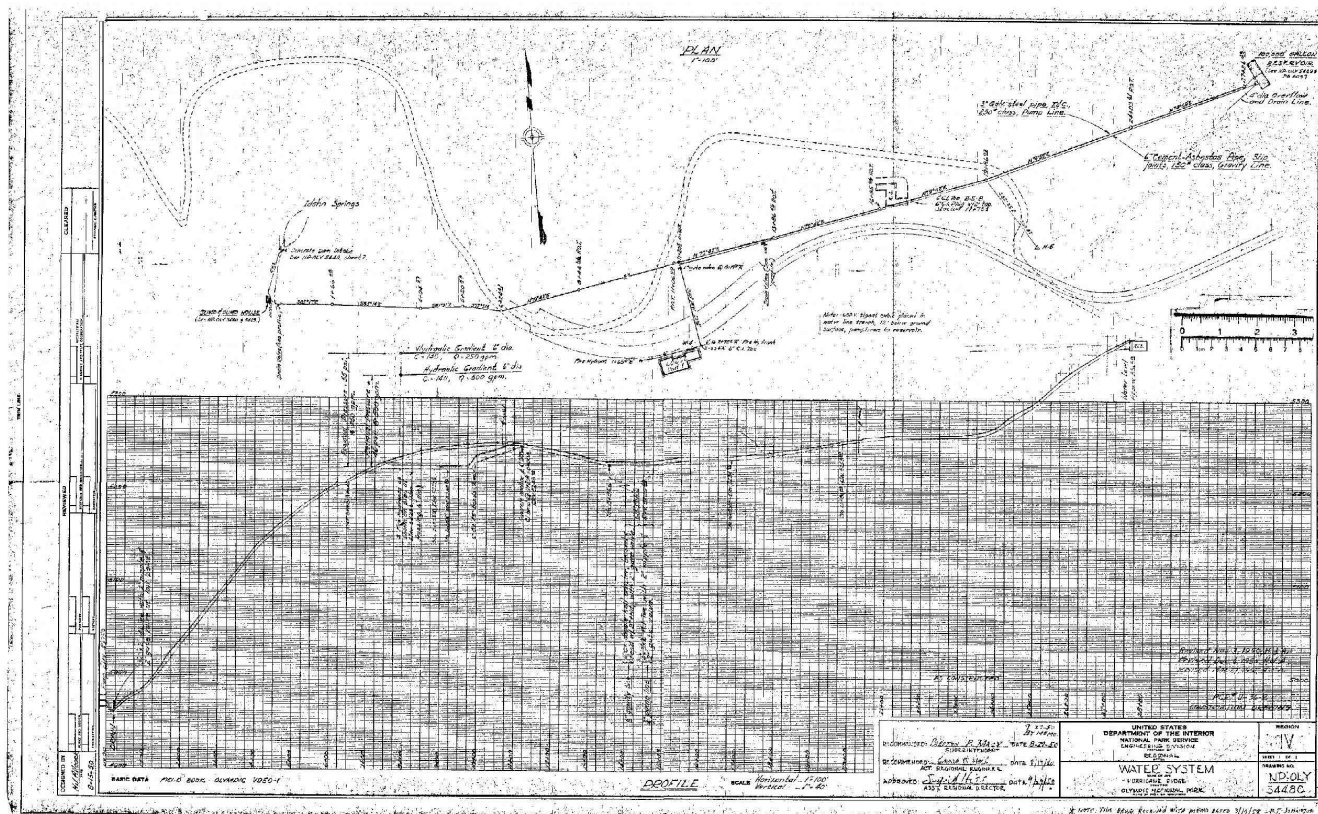
Oly 5446-A Electric Inst. Pumps

Oly 5449-A Pump House Piping

Maps and Miscellaneous Information







Docket Information

Number of Documents in Docket 19

Documents Dated from 7/15/1950 to 10/31/1962

Docket Compiled: 6/3/2011