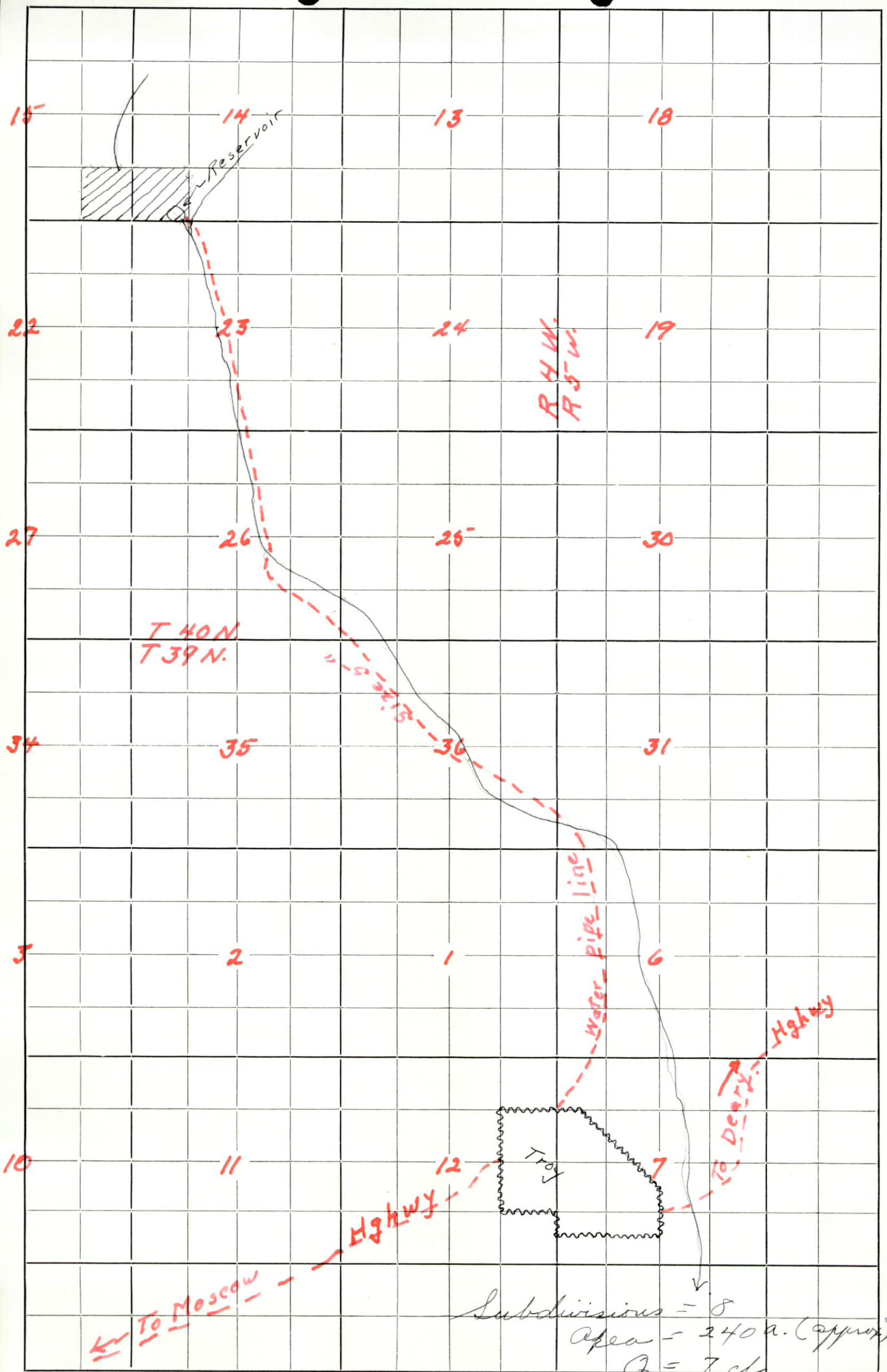
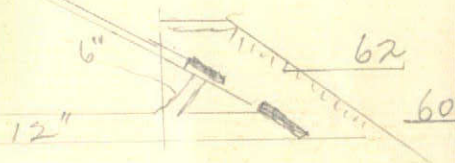




Scale: 2 Inches Equals 1 Mile. Draw Map In Ink.

SECTION



Waste

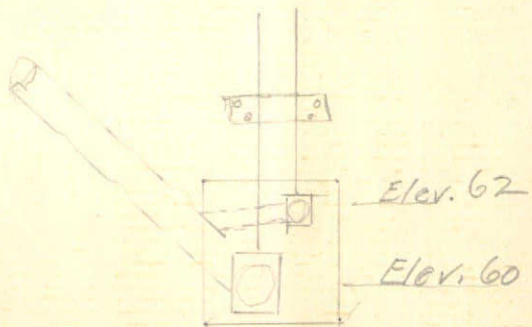
Down Stream
Toe of Dam

B

12"

A

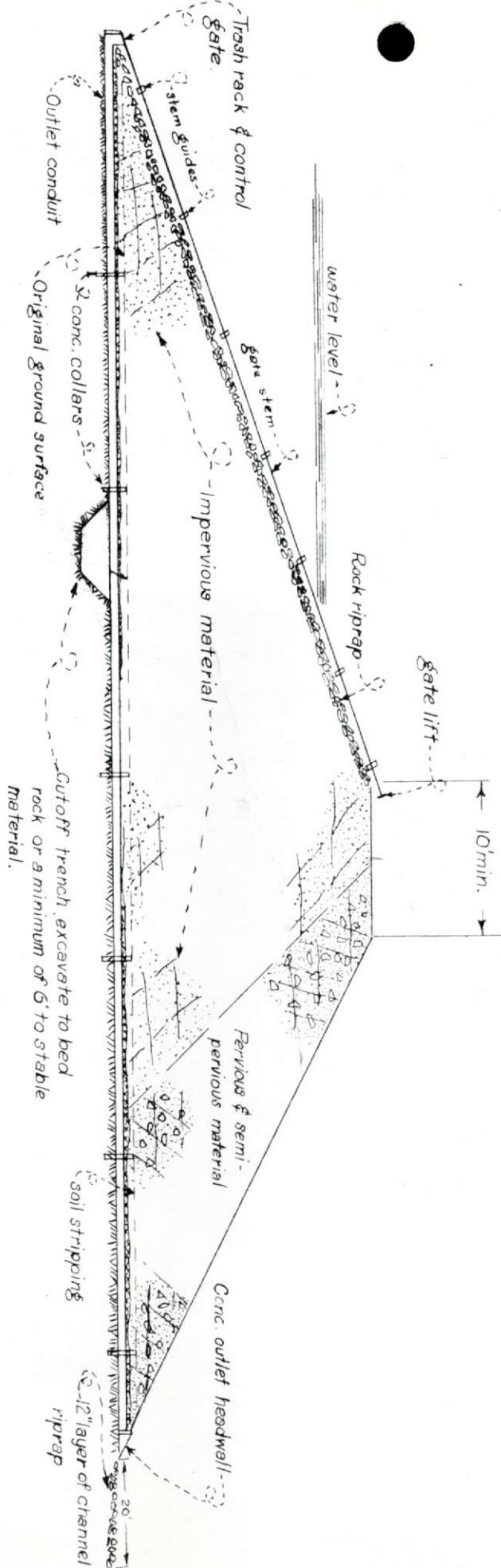
6"



Elev. 62

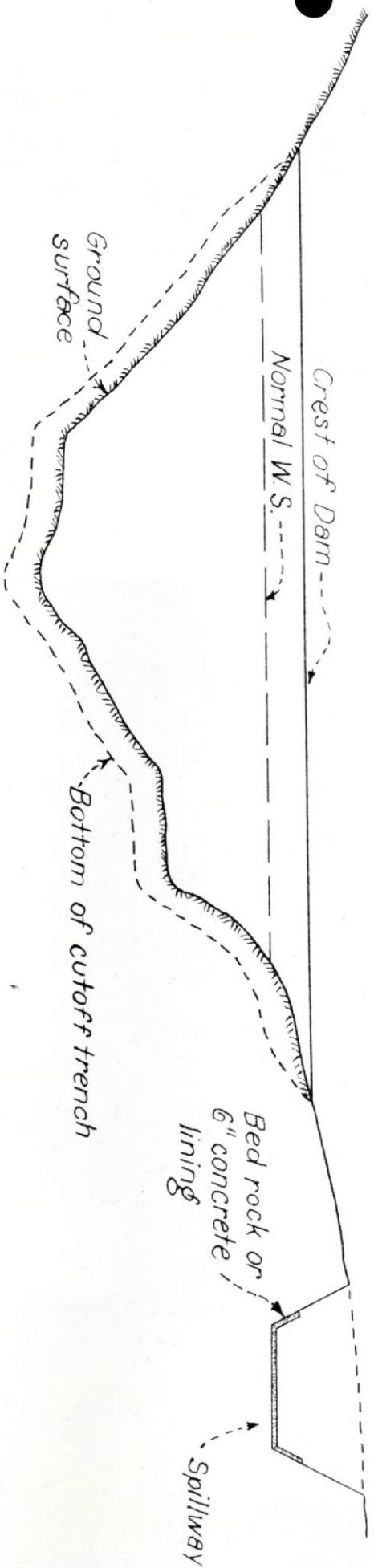
Elev. 60

18673



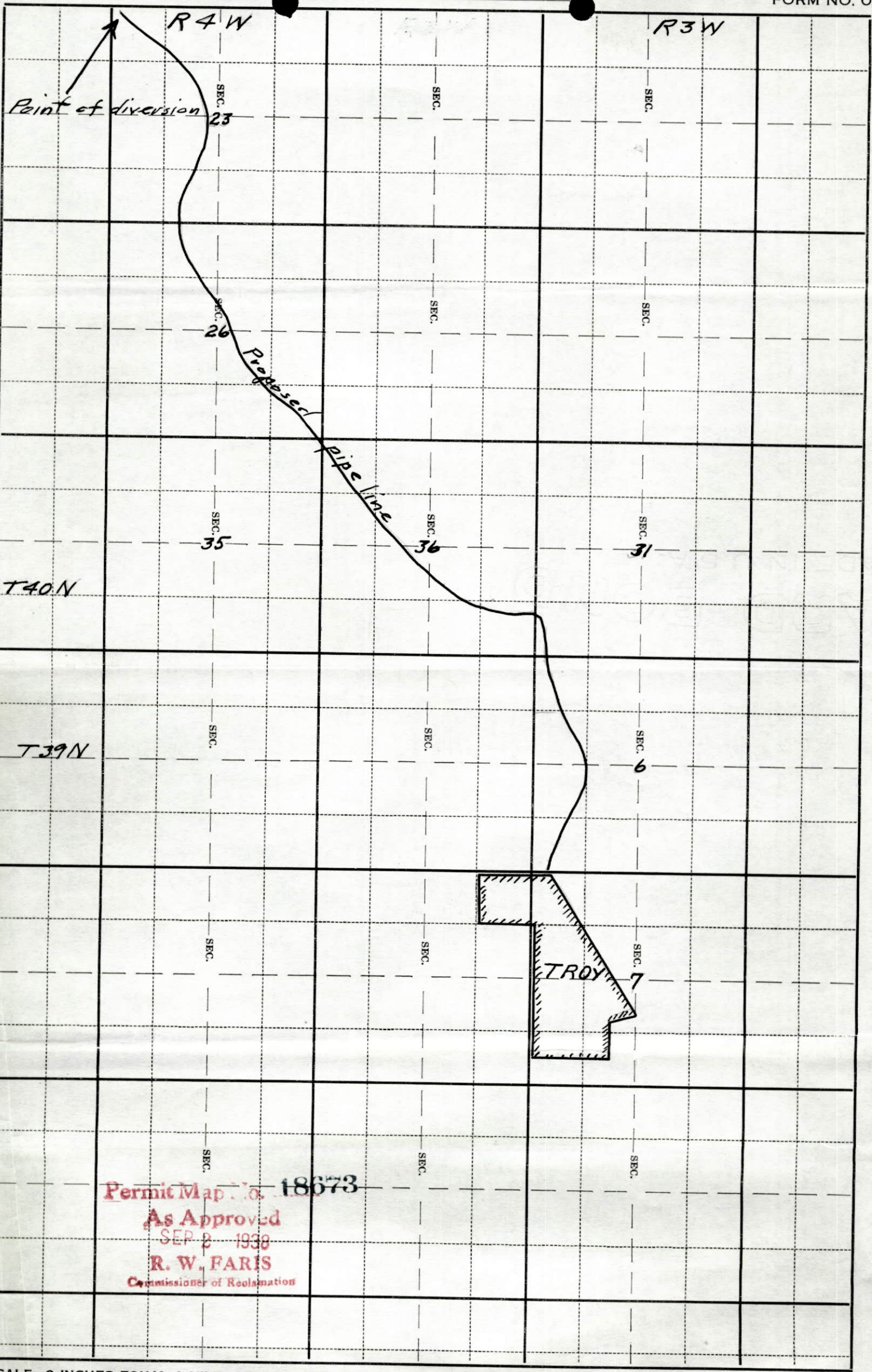
TYPICAL EARTH DAM DESIGN

18673



TYPICAL PROFILE OF DAM
AND SPILLWAY

18673



Permit Map No. 18673
As Approved
SEP 2 1938
R. W. FARIS
Commissioner of Reclamation

State of Idaho
License and Certificate of Water Right

Water License No. 18673

Amount one second foot

Water District No. _____

Priority August 6, 1938

THIS IS TO CERTIFY that THE VILLAGE OF TROY
of Troy, Idaho, made application for a permit to appropriate the
public waters of the State of Idaho, dated August 6, 19 38; that Permit No. 18673
was issued under said application; that Certificate of Completion of works, with a carrying capacity of
one second feet, was issued thereunder on May 25, 19 54, showing that said works
were completed on the 5th day of May, 19 54; and that on the 12th
day of July, 19 54,

THE VILLAGE OF TROY

of Troy, State of Idaho, made proof to the satisfaction of the
State Reclamation Engineer of Idaho, of the right to use the waters of an un-named
stream, a tributary of Little Bear Creek, for the purpose of domestic water supply for
the village, under Use Permit No. 18673 of the Department of Reclamation
and that said right to the use of said waters has been perfected in accordance with the laws of Idaho,
and is hereby confirmed by the State Reclamation Engineer of Idaho and entered of record in Volume
9 of Licenses at page 5323, on the 16th day of August, 19 54;

The right hereby confirmed dates from August 6, 19 38;

The Point of Diversion is located
in the NW 1/4 NW 1/4, Sec. 23, Tp. 40 N., R. 4 W., B. M. Latah County

That the amount of water to which such right is entitled and hereby confirmed, for the purposes
aforesaid, is limited to an amount actually needed and beneficially used for said purposes, and shall
not exceed one cubic feet per second.

Description and location of use:

Twp.	Range	Sec.	Forty-acre Tract	No. Acres Described in Permit	No. Acres Actually Irrigated
			Village of Troy, Idaho.		

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place
of use herein described, as provided by the laws of Idaho.

WITNESS the seal and signature of the State Reclamation Engineer, affixed at Boise, Idaho, this
16th day of August, 19 54.

MARK R. KULP
State Reclamation Engineer.

(SEAL)

86-2014

APPLICATION FOR PERMIT TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF IDAHO

Application No. 26015
Permit No. 18673
District No.

1. Name of Applicant: The Village of Troy

Postoffice address Troy County: Latah State: Idaho

I. If applicant is a corporation, give:

(a) Date and place of incorporation: Applicant is a municipal corporation in Latah County, Idaho, prior to 1897.

(b) Amount of capital stock:

(c) Amount paid in:

(d) Names and addresses of ~~directors~~ Board of Trustees: Edward Sollberg, Chairman, Trustees Ruthford Erickson, P. L. Chaney, E. S. Peterson, and Carl G. Olson, all of Troy, Idaho

II. The financial resources of the applicant are:

(a) Cash on hand: \$2,156.73

(b) Treasury stock:

(c) Bonds to be issued: \$20,000.00

(d) Other resources:

2. Quantity of water claimed: One cubic feet per second.

3. Source of water supply: Unnamed stream which is a tributary of Little Bear Creek

4. Location of point of diversion: 200 feet distant from the NW corner of Section 23, T. 40 N., R. 4 W., B. M., and is in the NW $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 23, T. 40 N., R. 4 W., B. M., County of Latah.

5. Water is to be used for: Domestic Supply for the Village of Troy.

6. If for mining, milling, power or manufacturing purposes, give:

(a) Point of use of water: feet distant from corner of Section T. , R. , B. M., in the of Section , T. , R. , B. M.

(b) Amount of power generated: H. P., under feet head.

(c) Water is to be returned to at a point feet distant from the corner of Section , T. , R. , B. M., in the of Section , T. , R. , B. M.

7. Estimated cost of works: \$ 20,000.00

8. Kind of works: Dam and pipe

9. Height of dam 5 feet; length of dam at top 50 feet; length of dam at bottom 20 feet; material used in dam: concrete

10. Size of headgate: Width 4 feet; height 5 feet.

11. Ditch: Width at bottom feet; width at water line feet; depth of water feet; dimensions of flume:

Diameter of pipe 6 or 8 inches; length of conduit 6 miles.

Average grade per mile 100 feet.

12. The time required for the completion of such work is one years.

13. The time required for the complete application of the water to the proposed use is no additional years.

14. The land to be irrigated is described in the following tabulation: See remarks.

15. (a) Is reservoir to be used? **Domestic Storage only.** If so, fill in (b) and (c) below.
 (b) Name of Reservoir and number of Storage Permit:
 (c) Date of filing of Application for Storage Permit and Name of Applicant:

BE IT KNOWN THAT The undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

THE VILLAGE OF TROY, IDAHO
A Municipal Corporation

Applicant.

Attest: H. PAULSON
Village Clerk

By EDWARD SOLLBERG
Chairman of its Board of Trustees

Agent.

Date of first receipt at Department of Reclamation: 9:00 A. M., August 6, 1938

Returned to applicant for correction: August 8, 1938

Corrected application received: August 15, 1938

APPROVAL OF COMMISSIONER OF RECLAMATION

The number of this permit is 18673

Recorded in Book 68 Page 18673 Approved Sept. 2, 1938

This is to certify that I have examined the within application for a permit to appropriate the public waters of the State of Idaho, and hereby approve the same, subject to the following limitations and conditions:

Bond in the sum of \$ _____ to be filed on or before _____

Work to begin on or before **November 1, 1938** and to continue diligently and uninterruptedly to completion, unless temporarily interrupted by circumstances over which permit holder has no control.

One-fifth of the work above specified to be completed on or before **March 2, 1939**

The whole of said work to be completed on or before September 2, 1939

Beneficial use of water appropriated in accordance herewith, to be made on or before **September 2, 1939.**

Witness my hand this 2nd day of September, 1938.

R. W. FARIS
Commissioner of Reclamation.

Remarks: See below.

14.

Twp.	Range	Sec.	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				Totals
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
Remarks: The reservoir to be constructed will be a concrete reservoir of approximately 250,000 gallons capacity, to be constructed near, but probably not within the Village of Troy. Such site affords a higher elevation and better water pressure for domestic purposes and fire protection within the village. The waters appropriated are from a mountain stream which does not lie within the boundaries of land owned by any one person, firm or corporation. In testimony whereof, we, BARZILLA W. CLARK, Governor of the State of Idaho, and IRA H. MASTERS, Secretary of State of the State of Idaho, have hereunto caused this instrument to be executed in the name of the State of Idaho, and caused the Great Seal of the State of Idaho to be hereunto affixed this 2nd day of September, 1938. (SEAL) Countersigned: By IRA H. MASTERS Secretary of State STATE OF IDAHO By BARZILLA W. CLARK Governor																			

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

In the Matter of the Application of the)
Village of Troy to Extend the Time for)
Requirements of Permit No. 18673, under)
the Provisions of Section 41-204, As)
Amended.)

ORDER GRANTING EXTENSION

WHEREAS, On September 24, 1938, Edward Solberg, Chairman of the Board of Trustees of the Village of Troy, a municipal corporation in Latah County, State of Idaho, filed on behalf of the Village of Troy, in the Department of Reclamation of the State of Idaho, an application for extension of time for compliance with each and every act or action required under the terms or provisions of Permit to appropriate the public waters of the State of Idaho, No. 18673, under the provisions of Section 41-204 of the Idaho Code Annotated, as amended, for the following reasons, to-wit:

THAT the Village of Troy has applied to the Works Progress Administration for financial aid in connection with the construction of the works described in Permit No. 18673 and that as yet they have been unable to secure this financial assistance; that the Village of Troy has a bonded indebtedness equal to the constitutional limit of its capacity to contract indebtedness and that time is required to work out legal difficulties in connection with financing this project:

NOW, THEREFORE, IT IS HEREBY ORDERED, That, by reason of the pendency of the application of the Village of Troy for assistance from the Works Progress Administration, and pending the solution of the legal difficulties in connection with the financing of this project, conditions over which the applicant has no control, all as hereinbefore set forth, the time for compliance with each and every act or action required under the terms and provisions of said Permit No. 18673 is extended a period of time equal to the time during which the applicant is delayed in proceeding with its work and complying with said acts or actions as aforesaid, said extension of time to date from September 24, 1938, being the date of the filing of the application for extension of time with the Department of Reclamation, and said applicant herein should notify this department of the removal of the disability above set forth within thirty days from the date the same is removed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Department of Reclamation of the State of Idaho, at Boise, Idaho, this 31st day of October, 1938.

R. W. FARIS
Commissioner of Reclamation

(SEAL)

By PAUL H. BERG
Deputy Commissioner

Permit No. 18673
CERTIFICATE OF COMPLETION OF WORKS

TO ALL WHOM IT MAY CONCERN:

This is to certify that THE VILLAGE OF TROY of Troy, County of Latah, and State of Idaho, the holder of Permit No. 18673, issued upon Application No. 26015 bearing date of priority of August 6, 1938 authorizing the diversion of one second feet of the waters of an un-named stream, a tributary of Little Bear Creek County of Latah, State of Idaho, for domestic supply for the Village of Troy, has fully complied with the provisions of the laws of the State of Idaho relating to the proof of completion of the works of diversion set out and described in said Permit; that said works are adequate for diverting and conveying to the place of intended use One second feet of the waters of said un-named stream; that the point of diversion of said waters is in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 23, Township 40 North, Range 4 West, B.M. and that the place of use of said water is the Village of Troy, Idaho.

Witness my hand this 25th day of May A.D. 1954.

MARK R. KULP
State Reclamation Engineer

Proof of completion of works made May 5, 1954.
Certificate of Completion of Works issued May 25, 1954

LICENSE ISSUED FOR 1 SEC. FT.

Pg. 5323

WATER RIGHT NUMBER 86-2014

WATER RIGHTS EDIT REPORT

10/02/79

PAGE 21

ACT
ION

N
N
N
N
N
N
N
N

OWNER LAST NAME - VILLAGE OF TROY

CITY - TROY

STATE - ID

SOURCE - UNNAMED STREAM

TRIBUTARY OF - LITTLE BEAR CREEK

STAGE - LICENSE

PRIORITY - 08-06-1938

COUNTY - LATAH

TOTAL DIV. RATE -

1.0000CFS

DIVERSION POINT - NWNW 23 40N 04W

USE - DOMESTIC

USE DIV. RATE -

1.0000CFS

REMARKS - P/U WITHIN CITY LIMITS OF TROY.

OLD NO. - 18673

WATER RIGHT ANALYSIS FORM

- DATA ENTRY -

Identification No. 18623 1 86-2014
 Old No. New No.

Record

1. Original Owner: Village of Troy

Present Owner: _____

2. Address:

3. City: Troy State: IL Zip: _____

4. A. Source of Water: unnamed stream

B. Tributary of: Little Bear Creek

5. A. Stage (A,P,L,D,S,J): L

B. Status (D,L,R,C,A,I,F - leave blank if valid):

C. Priority Date: 8-6-1938

D. County: 57

E. Total Diversion Rate: /

F. Total Diversion Volume:

G. Transfer/Amendment (P,T of A or blank):

H. Water District:

I. DLE/Carey Act (D,C or blank):

J. Right Basis (for adjudication claims A,B,C only):

	Tract	Sec.	Twp.	Rge.	Gov't Lot	Rediv.
6. A. Point of Diversion	<u>NW1/4</u>	<u>23</u>	<u>40N</u>	<u>4W</u>		

7. Period of Use, Use, Diversion Rate/Volume:

from _____ to _____ for D purposes. Amount /
 (cfs or AC-FT/yr)

from _____ to _____ for _____ purposes. Amount _____

from _____ to _____ for _____ purposes. Amount _____

from _____ to _____ for _____ purposes. Amount _____

from _____ to _____ for _____ purposes. Amount _____

from _____ to _____ for _____ purposes. Amount _____

from _____ to _____ for _____ purposes. Amount _____

August 17, 1954

RE: Permit No. 18673

Mr. Edward Solberg, Mayor
Village of Troy
Troy, Idaho

Dear Mr. Solberg:

We enclose License and Certificate of Water Right issued under Permit No. 18673 confirming the right of the Village of Troy to the use of 1 second foot of water from an un-named stream, tributary to Little Bear Creek with point of diversion in the NW $\frac{1}{4}$ Section 23, Township 40 North, Range 4 West B.M. with priority of August 6, 1938 for domestic water supply for the Village of Troy.

We also enclose departmental receipt No. 26832 for the \$5.00 paid in connection with beneficial use proof.

Very truly yours,

MARK R. KULP
State Reclamation Engineer
By

Chief Clerk

A:hll
Enc.

18673



LEN JORDAN
GOVERNOR

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

MARK R. KULP, RECLAMATION ENGINEER

BOISE

August 2, 1954

RE: Permit No. 18673

RECEIVED
AUG 9 1954
Department of Reclamation

Mr. Edward Solberg, Mayor
Village of Troy
Troy, Idaho

Dear Mr. Solberg:

We have placed on file the depositions of yourself and two witnesses also affidavit of publication in the Latah County Press in proof of beneficial use on Permit No. 18673.

We have also filed the report of our field engineer in connection with this proof and upon receipt of the statutory fee of \$5.00, a License can be issued for 1 second foot of water from an un-named stream, tributary of Little Bear Creek, for domestic water supply for the Village of Troy.

Very truly yours,

MARK R. KULP
STATE RECLAMATION ENGINEER

By

Jeanne L. Anderson

Chief Clerk

A:hll

18673

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE, IDAHO
REPORT OF ENGINEER

Permit No. 18673This proof is for Beneficial Use In Water District No. _____1. Name of applicant The Village of Troy, Troy, Idaho2. Source of water supply: An un-named stream, tributary of Little Bear Creek3. Location of point of diversion: Is in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 23T. 40 N. R. 4 W. County of Latah

4. Describe works as they exist, giving dimensions and capacities of same: Small reservoir up in timber, well toward headwaters of stream. Standard rock and earth fill dam. (See Spec.) 5" pipe line extends to Troy. There they have two large storage tanks 100 000 gallon capy, concrete tanks partly buried - wood covers. Water mains are 4" cast iron pipe.

5. Water is used for: Domestic water supply for Village of Troy, Idaho

6. State whether or not water has been turned into works of diversion: _____

7. List legal subdivisions of lands to be irrigated. If proof is for beneficial use, give exact number of acres under cultivation in each forty-acre tract. (Describe manner and place of use if other than irrigation):

Village of Troy, Idaho

Furnishes water for Village of Troy - including fire protection
Also irrigation of all lawns & parking

(Submit map on attached plat, showing location and details of above description.)

8. What large stream would the water here appropriated finally reach? _____

Remarks: 2,226,171 gallons used in Aug of 1953.Reservoir = approx 6 million gal capyCap'y pipe line quoted at 300 gpm by Edward SolbergTroy population =This examination was made on the 27 day of July, 1954(Signed) E. N. Humphrey Examiner.

18673

The Village of Troy
Troy, Idaho

Permit No. 18673

Examination for Beneficial Use

County Latah

INSTRUCTIONS TO EXAMINERS

1. Always carefully note the location of the point of diversion and accurately plat same.
 2. When proof is for beneficial use, carefully check up the number of acres actually irrigated in each forty and accurately plat same.
 3. Make a map showing the correct location of streams and ditches, and the irrigated lands, and any adjacent permanent landmarks, such as towns, lakes, large streams and public roads.
 4. If any unusual conditions are discovered, make plain statement of them under remarks.
 5. Always see the holder, if possible, and go over the whole ground with him and make your report only upon actual existing facts and conditions.
 6. Give general characteristics of soils, topography, and crops raised.
-
-

RECEIVED
JUL 29 1954

Department of Reclamation

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE

REPORT OF ENGINEER

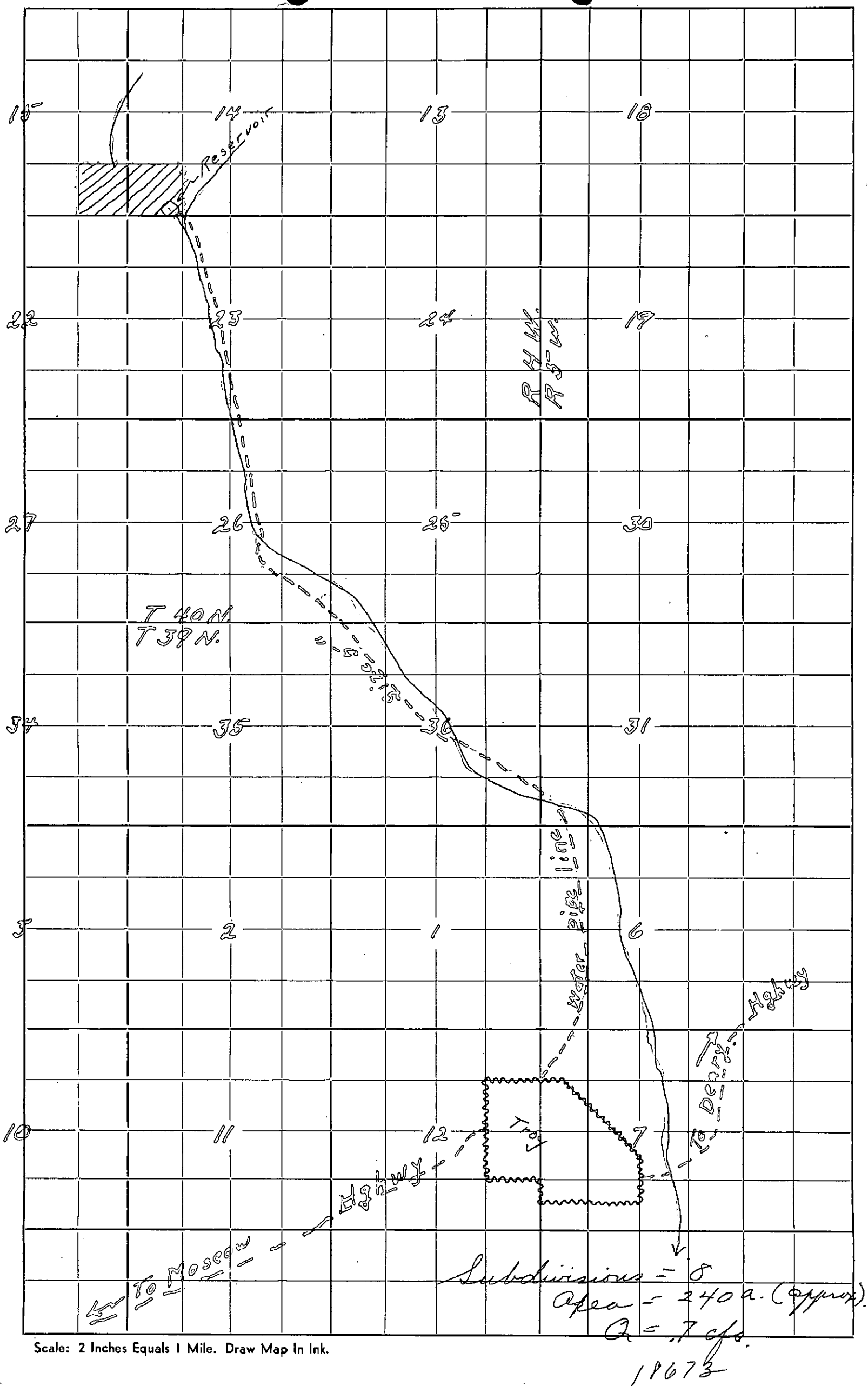
PERMIT NO. 18673

REPORT ON PROOF OF Beneficial Use

THE VILLAGE OF TROY, Troy, Idaho

1 cfs
max

app. one cfs



Scale: 2 Inches Equals 1 Mile. Draw Map In Ink.



LEN JORDAN
GOVERNOR

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

MARK R. KULP, RECLAMATION ENGINEER

BOISE

July 17, 1954

RECEIVED
JUL 26 1954

Department of Reclamation

RE: Permit No. 18673

Mr. Edward Solberg, Mayor
Village of Troy
Troy, Idaho

Dear Mayor Solberg:

We acknowledge receipt of the depositions of yourself and two witnesses in proof of Beneficial Use on Permit No. 18673.

However, the affidavit of publication is also a necessary part of this proof and the Latah County Press was instructed to send you this affidavit. If you have not received it we suggest that you take the matter up with them at once.

Very truly yours,

MARK R. KULP
State Reclamation Engineer

By

Jeanne L. Anderson
Chief Clerk

A:br

*I am inclosing Affidavit
of Publication*

Yours truly

Edward Solberg
Chairman

18673

Affidavit of Publication

STATE OF IDAHO }
COUNTY OF LATAH } ss.

E. M. Poe

~~H. D. Phelps~~, being first duly sworn on oath, deposes and says:

That he is the printer of THE LATAH COUNTY PRESS, a weekly newspaper printed and published continuously and uninterruptedly during a period of more than 78 weeks prior to the first publication of the advertisement hereinafter named, at Troy, Latah County, State of Idaho, with more than two hundred (200) bona fide subscribers living within the said county,

That the Notice which the one hereto attached is a true copy, was published in said paper 4 times, being published in 4 consecutive weekly issues, the first publication being on the 11 day of June, 1954, and the last on the 1st day of July, 1954; that the Notice was published in the regular and entire issue of said paper, and was published in the newspaper proper and not in the supplement thereof.

E M Poe

Subscribed and sworn to before me this 24 day of July, 1954

Norma G. Mortenson
Notary Public for the State of Idaho, residing at Troy, Idaho.
Probate Judge of Latah County, State of Idaho

18673

NOTICE FOR PUBLICATION NOTICE OF PROOF APPLICATION OF WATER TO BENEFICIAL USE

Notice is hereby given that at 10:00 A. M. on the 12th day of July, 1954, at Troy, County of Latah, State of Idaho, before F. O. Brocke, a Notary Public, proof will be submitted of the application to beneficial use of 1 cubic foot per second of the waters of an un-named stream in accordance with the terms and conditions of Permit No. 18673 heretofore issued by the Department of Reclamation of the State of Idaho.

The name and postoffice address of the person or corporation holding said permit are The Village of Troy, Troy Idaho.

The use to which said water has been applied is Domestic water supply for the Village of Troy.

The amount applied to beneficial use is 1 cubic foot per second.

The place where said water is used, Village of Troy, Troy, Idaho.

The right to take water from such works is based upon Permit No. 18673.

The source of supply from which such water is diverted is an un-named stream, tributary to Little Bear Creek.

The date of priority which said user is prepared to establish is August 6, 1938. 18673

MARK R. KULP

State Reclamation Engineer

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE, IDAHO

RECEIVED
JUL 14 1954
Department of Reclamation

Permit No. 18673

Proof of Application of Water to Beneficial Use

Deposition of Holder

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. Edward Selberg, Troy, Idaho, Retired

Ques. 2. If acting in behalf of corporation, state its name, principal place of business (if a foreign corporation, give name of postoffice of statutory agent), your position with reference to same, and your authority for appearing in its behalf.

Ans. Village of Troy, Troy, Idaho Chairman of Board of Trustees

Ques. 3. State number and date of permit, and date of priority you propose to establish under the permit.

Ans. 18673, May 25th, 1954, August 6, 1938.

Ques. 4. State source of water supply and give exact location of point of diversion.

Ans. An unnamed stream, a tributary of Little Bear Creek, NW 1/4 NW 1/4 Section 23
Township 40 North, Range 4 West, B. M.

Ques. 5. Describe your works of diversion, and state amount of water they are capable of conveying from point of diversion to place of use, and give name of canal or ditch or other works by which water is conducted to such place of use. If a well, state depth of well, depth and size of casing and depth to water. If pump is used, state discharge of pump and tell how it was measured or determined. If sprinkler irrigation, give number and size of nozzles and operating pressure.

Ans. Earthfilled dam. 5 inch pipe line Approximately 300 gallons per minute.

Ques. 6. State for what purpose water is used and describe place of use. (If for irrigation, name each subdivision in which used, and number of acres in each subdivision that have actually been irrigated with said water.) State whether cultivated or natural meadow land and the nature of all improvements which have been made as a direct result of said use.

Ans. Domestic water supply for Village of Troy, Idaho

18673

Ques. 7. If for other than irrigation purposes; state how applied, amount of horse power generated, etc.

Ans. None

Ques. 8. What is the minimum amount of water required for the purpose specified above?

Ans. _____

Ques. 9. If you are not the person or representative of the corporation to whom above mentioned permit was originally issued, please state how ownership was acquired by present holder.

Ans. _____

Ques. 10. State when, how, in what amount and to what extent the water diverted under above mentioned permit has been used.

Ans. _____

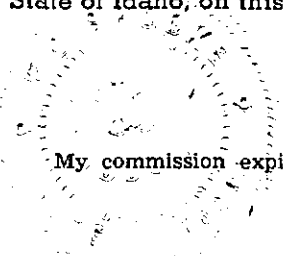
Ques. 11. State when, how, in what amount and to what extent waters other than those diverted under the above mentioned permit have been diverted and applied to beneficial use upon the lands herein described. Give full particulars regarding such other appropriations and rights claimed thereunder.

Ans. _____

(Sign) Edward Solberg

I hereby certify that the foregoing testimony was read to the above subscribed before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in Troy, County of Latah

State of Idaho, on this 12 day of July, A. D. 1954



My commission expires

8-1-1957

J. D. Brocke
NOTARY PUBLIC for the State of Idaho
residing at Troy, Idaho
My commission expires August 1, 1957

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE, IDAHO

PERMIT NO. 18673

Proof of Application of Water to Beneficial Use

Deposition of Witness

The deposition of two witnesses, on this form, taken separately, required in each case.

Ques. 1. State your name, age, residence, occupation and postoffice address.

Ans. ~~Edward Solberg age 71 Troy Idaho retired Troy Idaho~~
James A. Arnot age 45 Troy, Idaho, Machine Dealer, Troy, Idaho

Ques. 2. Are you acquainted with Village of Troy, Troy, Idaho, the holder of Permit No. 18673? How long have you known him and where does he reside?

Ans. Resided in the Village of Troy for the past 20 years.

Ques. 3. Have you read or heard read said Permit No. 18673, and are you familiar with its provisions and conditions?

Ans. Yes

Ques. 4. State source of water supply, place of diversion, and describe works for conveying water from point of diversion to place of use.

Ans. An unnamed stream, a tributary of Little Bear Creek, NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 23, Township 40 North, Range 4 West BBoise Meridian. conveyed in 5 inch pipe carrying approx. 300 gallons per minnute.

Ques. 5. How many second feet of water do you estimate said works will safely conduct to place of use, and how much water have you seen being so conveyed?

Ans. 1 Second feet.

Ques. 6. State for what purpose water is used and at what place. (If for irrigation, give each subdivision in which water has been used and number of acres irrigated in each subdivision.) State whether cultivated or natural meadow land and the nature of all improvements which have been made as a direct result of said use.

Ans. Domestic water supply for Village of Troy, Idaho

18673

Ques. 7. If for power or other purposes than irrigation, state how water has been applied and to what extent.

Ans. No.

Ques. 8. (If for irrigation) state character of land that has been reclaimed, and give your estimate of the amount of water required for its profitable cultivation.

Ans. no

Ques. 9. Have you any interest in the works, water or lands above mentioned? If so, in what way and to what extent?

Ans. None

Ques. 10. State when, how, in what amount and to what extent you have witnessed the application to beneficial use of water diverted under said permit.

Ans. I have seen it used for domestic and sprinkling purposes
within the said Village of Troy.

(Signed)

James A. Bernat

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me in Village of Troy,

County of Latah, State of Idaho, on this 12 day of July,

A. D. 1954.

My commission expires

8-1-1957

J. O. Brocke
NOTARY PUBLIC for the State of Idaho
residing at Troy, Idaho

Notary Public.

My commission expires August 1, 1957

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE, IDAHO

PERMIT NO. 18673

Proof of Application of Water to Beneficial Use

Deposition of Witness

The deposition of two witnesses, on this form, taken separately, required in each case.

Ques. 1. State your name, age, residence, occupation and postoffice address.

Ans. Clarence H. Anderson, age 50, Troy, Idaho, Service Station Operator
Troy, Idaho

Ques. 2. Are you acquainted with Village of Troy, Troy, Idaho, the holder of Permit No. 18673? How long have you known him and where does he reside?

Ans. Yes Resided in Troy, Idaho for the past 20 years.

Ques.3 Have you read or heard read said Permit No. 18673, and are you familiar with its provisions and conditions?

Ans. Yes

Ques. 4. State source of water supply, place of diversion, and describe works for conveying water from point of diversion to place of use.

Ans. An unnamed stream, a tributary of Little Bear Creek, NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 23, Township 40 North, Range 4 West Boise Meridian. conveying water in 5 inch pipe carrying approx. 300 gallons per Minute

Ques. 5. How many second feet of water do you estimate said works will safely conduct to place of use, and how much water have you seen being so conveyed?

Ans. 1 second feet.

Ques. 6. State for what purpose water is used and at what place. (If for irrigation, give each subdivision in which water has been used and number of acres irrigated in each subdivision.) State whether cultivated or natural meadow land and the nature of all improvements which have been made as a direct result of said use.

Ans. Domestic water supply for the Village of Troy, Idaho.

18673

Ques. 7. If for power or other purposes than irrigation, state how water has been applied and to what extent.

Ans. None

Ques. 8. (If for irrigation) state character of land that has been reclaimed, and give your estimate of the amount of water required for its profitable cultivation.

Ans. None

Ques. 9. Have you any interest in the works, water or lands above mentioned? If so, in what way and to what extent?

Ans. None

Ques. 10. State when, how, in what amount and to what extent you have witnessed the application to beneficial use of water diverted under said permit.

Ans. I have seen it used for domestic and sprinkling purposes
within the said Village of Troy, Idaho.

(Signed) Clarence H. Anderson

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me in Village of Troy

County of Latah, State of Idaho, on this 14 day of July

A. D. 19 54

My commission expires

8-1-1957

J. R. Brocke

NOTARY PUBLIC for the State of Idaho
residing at Troy, Idaho

My commission expires August 1, 1957

Latah County Press
Troy, Idaho
June 6, 1954.

State of Idaho
Department of Reclamation
Boise, Idaho

Dear Sir:

We have received a copy
of legal permit No. 18673. It will
be published June 10, 17, 24 and July
~~#~~ 1. You will receive a copy of the
first publication this week end.

Yours truly
Mrs. E. M. Poe

RECEIVED
JUN 9 1954
Department of Reclamation

18673

18673

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

BOISE, IDAHO

Re: Permit No. 18673

Date: June 4, 1954

Latah County Press

Troy, Idaho

Gentlemen:

Enclosed you will find notice for publication once a week for four consecutive weeks prior to July 12, 1954 the date set for proof, the expense of the publication to be paid by the applicant, Village of Troy of Troy, Idaho, to whom you should furnish proof of publication on or prior to the date set for proof.

Please acknowledge receipt of this notice, and furnish this office with a copy of the first publication, in order that we may check same.

Very truly yours,

MARK R. KULP

State Reclamation Engineer
By

Chief Clerk

18673

✓
June 4, 1954

RE: Permit No. 18673

Mr. Edward Solberg, Mayor
Village of Troy
Troy, Idaho

Dear Mr. Solberg:

We enclose Certificate of Completion of Works issued on Permit No. 18673 for the diversion of 1 second foot of water from an un-named stream, tributary of Little Bear Creek, for domestic water supply for the Village of Troy.

We also enclose departmental receipt No. 26699 for the \$5.00 fee paid in connection with completion of works proof.

We are sending to the Latah County Press notice for beneficial use proof to be made on this permit July 12, 1954, with instructions to publish it once a week for four weeks prior to that date and to send you the affidavit of publication together with statement of costs.

At the time set, the enclosed depositions should be executed by the Permit Holder and two witnesses before Mr. F. O. Brocke, Notary Public.

Very truly yours,

MARK R. KULP
State Reclamation Engineer
By

Chief Clerk

A:hll
Enc.

18673

NOTICE TO ACCOMPANY THIS LETTER MUST BE MADE IN DUPLICATE

(Date) June 2, 1954

(P. O.) Troy, Idaho

TO THE STATE RECLAMATION ENGINEER:

Boise, Idaho

Dear Sir:

You are hereby authorized to have the attached notice published at my expense in the

Latah County Press

of Troy, Idaho

published in

the county in which the works are situated.

Village of Troy

By

Edward Solberg

Chairman of Board of
Trustees

(In case of canals or other works designed to divert and carry more than 50 cubic feet of water per second, the following certificate must be signed by a well-known and competent engineer.)

I hereby certify that the facts set forth in the attached notice are true.

Engineer.

18672

NOTICE FOR PUBLICATION
**NOTICE OF PROOF APPLICATION OF WATER
 TO BENEFICIAL USE**

Notice is hereby given that at 10:00 A. M. on the 12th day of July, 1954,
 at Troy, County of Latah, State of Idaho, before
D. O. Brocks, a Notary Public, proof will be submitted of the
 application to beneficial use of 1 cubic ~~foot~~ per second of the waters of an un-named
stream in accordance with the terms and conditions of Permit No. 18673
 heretofore issued by the Department of Reclamation of the State of Idaho.

The name and postoffice address of the person or corporation holding said permit are _____
The Village of Troy, Troy Idaho

The use to which said water has been applied is Domestic water supply for the Village of Troy.

The amount applied to beneficial use is 1 cubic foot per second

The place where said water is used ~~for irrigation purposes for the accurate description of the work done by~~
Village of Troy, Troy, Idaho

~~The name of the canal or ditch or other work by which said water is conducted to the work done by~~

The right to take water from such works is based upon Permit No. 18673

The source of supply from which such water is diverted is an un-named stream, tributary
to Little Bear Creek.

The date of priority which said user is prepared to establish is August 6, 1938.

MARK R. KULP

State Reclamation Engineer.

18673

May 29, 1954

RE: Permit No. 18673

Mr. Edward Solberg, Mayor
Village of Troy
Troy, Idaho

Dear Mr. Solberg:

We acknowledge receipt of the depositions in proof of Completion of Works on Permit No. 18673 and Certificate of Completion of Works will be issued and sent you in regular course.

The statutory fee for this is \$5.00 which you may send us at your convenience.

We understand that you wish to make final or Beneficial Use proof on this Permit. Before this proof is made, the statutes require publication of a notice once a week for four week in a county newspaper.

This notice is to be made in duplicate on Form No. 10 enclosed, setting the time and place and naming the Notary Public before whom the proof is to be made.

Both copies of Form No. 10 to be returned to this Department together with Form 11 which is your authorization to have the notice published at your expense in the designated county newspaper.

We shall then send a copy of the notice to the newspaper with instructions in regard to publishing and shall send you the necessary forms of deposition to be used in making the proof.

Very truly yours,

MARK R. KULP
State Reclamation Engineer
By

Chief Clerk

2:br
Enc.

18673

PERMIT NO. 18673

Proof of Completion of Works

DEPOSITION OF HOLDER

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. The Village of Troy, by Edward Solberg, Mayor

Ques. 2. If acting in behalf of a corporation, state its name, principal place of business, your position with reference to same, and your authority for appearing in its behalf.

Ans.

Ques. 3. State number and date of permit, amount of water you are authorized to divert, source, and point of diversion.

Ans. 18673, August 6, 1938, one cfs., from unnamed stream tributary to Little Bear Creek, p.d. in NW $\frac{1}{4}$ NW $\frac{1}{4}$, S. 23, T. 40 N., R. 4 W. B. M.

Ques. 4. State purpose for which water is to be used, and, if for irrigation, state the number of acres and give description of the land you intend to reclaim.

Ans. Domestic supply for Village of Troy

Ques. 5. State whether or not the water has been turned into your works of diversion, and, if so, when and to what extent.

Ans. began use on April 11, 1940

Ques. 6. State whether or not the works of diversion are fully completed, and whether or not they comply in all respects with the terms of the permit.

Ans. fully completed. comply.

Ques. 7. If the works of diversion do not comply with all the terms of your permit, state fully those particulars in which there is any variance.

Ans.

Ques. 8. Give description of works, state dimensions and capacity of each part, and give cost of same.

Ans. Earth fill dam 34' h. x 600' plus long. Outlet and control works as per plan submitted. Steel pipe line 5" diameter extend (buried 4') from dam to town of Troy.

Village of Troy
(Sign here.) by Edward Solberg, Mayor

Edward Solberg

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, in Boise,

County of Ada, State of Idaho, on this 5 day of May A. D. 1954.

M. C. Hamblin
Notary Public.

My Commission expires

M. C. HAMBLIN
Notary Public, Boise, Idaho
My commission expires 3/5/56

18673

The Depositions of two Witnesses, in this form, taken separately, required in each case.

Permit No. 18673

RECEIVED
MAY 19 1954
Department of Reclamation

Proof of Completion of Works

DEPOSITION OF WITNESS

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. C. Arthur Johnson
Drug Store Troy, Idaho

Ques. 2. Are you acquainted with The Village of Troy, the holder of Permit No. 18673, authorizing the diversion of one second-foot of the waters of an unnamed stream a trib. of Little Bear Creek, at Troy for domestic purposes? How long have you known him, and where does he reside?

Ans. Since 1914

Ques. 3. Have you read or heard read said Permit No. 18673, and are you familiar with its terms and conditions?

Ans. yes

Ques. 4. (If for irrigation purposes). Are you acquainted with the land proposed to be irrigated under said permit? If so, describe same, state its character, and give your estimate of the amount of water required for its profitable cultivation.

Ans. Troy requires one cfs. or more for municipal uses.

Ques. 5. Are the works of diversion fully completed and of sufficient capacity to convey the entire amount of water set out in the permit from point of diversion to place of use?

Ans. Fully completed, water turned in April 11, 1940

Ques. 6. Describe the works of diversion as they now exist, and give your estimate of their capacity.

Ans. Earth fill dam 34' high x 600' plus long with outlet and control works. Buried steel pipe line over five miles long to Village of Troy. Reservoir has five to six million gallon capacity

(Sign here.)

C. Arthur Johnson

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in Troy

County of Latah, State of Idaho, on this 17 day of May, A. D. 1954.

J. D. Brocke

NOTARY PUBLIC for the State of Idaho
residing at Troy, Idaho
My commission expires August 1, 1957.

18673

Permit No. 18673

Proof of Completion of Works**DEPOSITION OF WITNESS**

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. Clarence H. Anderson Troy Idaho
Service Station operator Troy IdahoQues. 2. Are you acquainted with The Village of Troy, the holder of Permit No. 18673, authorizing the diversion of one second-feet of the waters of an unnamed stream a trib. of Little Bear Creek, at Troy for domestic purposes? How long have you known him, and where does he reside?Ans. Resided in Troy Idaho since 1934Ques. 3. Have you read or heard read said Permit No. 18673, and are you familiar with its terms and conditions?Ans. yes

Ques. 4. (If for irrigation purposes). Are you acquainted with the land proposed to be irrigated under said permit? If so, describe same, state its character, and give your estimate of the amount of water required for its profitable cultivation.

Ans. _____

Troy requires one cfs. or more for municipal uses.

Ques. 5. Are the works of diversion fully completed and of sufficient capacity to convey the entire amount of water set out in the permit from point of diversion to place of use?

Ans. Fully completed, water turned in April 11, 1940

Ques. 6. Describe the works of diversion as they now exist, and give your estimate of their capacity.

Ans. Earth fill dam 34' high x 600' plus long with outlet and control works. Buried steel pipe line over five miles long to Village of Troy. Reservoir has five to six million gallon capacity

(Sign here.)

Clarence H. AndersonI hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in TroyCounty of Latah, State of Idaho, on this 17 day of May, A. D. 1954.D. Brocke
NOTARY PUBLIC for the State of Idaho
residing at Troy, Idaho
My commission expires August 1, 1957

18673

October 16, 1953

RE: Permits Nos. 18672, ³1867~~4~~, and 18894

Mr. Edward Solberg
Board of Trustees
Troy, Idaho

Dear Mr. Solberg:

Following is the status of the water rights for Village of Troy as shown by records in this department a conversation with you in Troy on September 23, 1953. Also recommendations are made as to how to complete the rights and transfer them to the present point of diversion and place of use.

License No. 18894 (Page 4028) issued to H. L. Cartwright with priority of September 12, 1939, for 0.002 cubic feet per second of water from a subterranean source with point of diversion in the SE₄ NW₄ Section 36, Township 40 North, Range 4 West, B.M., for domestic, stock water and garden purposes in the same subdivision.

The following should be done with this license.

1. Send in the deed to this department for recording. It will be returned.
2. Make application for transfer in point of diversion and place of use. Blanks for same are enclosed.

Inasmuch as the source claims underflow of Big Meadow Creek, it can be moved upstream to present dam and the place of use changed to Village of Troy.

Permit No. 18673 in the name of the Village of Troy, for 1 cubic foot per second of water with point of diversion in the NW₄ NE₄ Section 23, Township 40 North, Range 4 West, B.M., with priority of August 6, 1938, for domestic supply for Village of Troy.

Works to be a 5' dam, 50' long on top made of concrete. 6" or 8" pipe 6 miles long to Troy. Extension of time was granted October 31, 1938. This department to be advised when able to go ahead with work. Plans for a higher dam were submitted by G. A. Riedesel on March 18, 1950.

18673

October 16, 1953

In order to bring this permit to license:

1. Affidavits proving completion of works should be furnished by Village of Troy and two witnesses.
2. Write a letter advising that first dam constructed proved inadequate, that plans were sent this department for approval, and that a higher better dam was constructed in 1950.
3. Make beneficial use proof in regular manner.

Priority will be as much later than August 6, 1938, as beneficial use proof is past due.

Permit No. 18672 was issued to the University of Idaho for 0.8 cubic foot per second of water from Ehrlich Creek, a tributary of Big Meadow Creek, with point of diversion in the NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 23, Township 40 North, Range 4 West, B.M., for domestic purposes at the University Summer Camp.

Priority date was August 12, 1938 (filing date); proof of completion of works was due March 2, 1939; beneficial use proof was due March 2, 1939; completion of works proof was made on February 14, 1939; the date for proof of beneficial use was extended to April 2, 1939, and proofs for same were received on April 10, 1939, but the \$5.00 fee was never received so License was not issued. It is never issued before the fee for same is paid.

This license can be brought to license for an amount of 0.12 cubic foot per second. This should be done.

Then it should: (1) be transferred to the Village of Troy; and (2) have the place of use changed.

Very truly yours,

MARK R. KULP
State Reclamation Engineer
By

E. N. Humphrey
Deputy State Reclamation Engineer

H:fg
Enc.

P. S. Forms for proof on Permit No. 18673 are enclosed.

18673

September 30, 1953

RE: Permits Nos. 18672 and 18673

Mr. Edward Solberg, Chairman
Board of Trustees
Troy, Idaho

Dear Mr. Solberg:

I talked to Mr. Watts in the Bursar's office, as I passed through Moscow, after returning from inspection of your dam and reservoir on September 25, 1953.

Mr. Watts advised me that they were having a little difficulty in determining regarding the water rights claimed by the Village of Troy. I attempted to give them sufficient information so that they would have no more difficulty in determining the permit referred to.

However, since returning to Boise, I have received a letter from Mr. Kenneth A. Dick, Bursar, requesting information regarding the University of Idaho's water rights on Meadow Creek. I am today forwarding him the essential information regarding Permit No. 18672.

If this department receives a letter from the Bursar advising that their interests in the above permit have been transferred to the Village of Troy, that will clear our records and License can be issued.

Another method, as I told you, would be for you to obtain a certified copy of the deed given by the University of Idaho to the Village of Troy and send it to this department. A copy could be secured either from the original or from the records in the Court House in Moscow, providing, of course, same was recorded.

After I have had time to look thoroughly into the matter regarding water rights for the Village of Troy, I will again write you.

Very truly yours,

MARK R. KULP
State Reclamation Engineer
By

E. N. Humphrey
Deputy State Reclamation Engineer

H:fg

18673

September 15, 1953

RE: Permit No. 18673

Mr. Edward Solberg, Chairman
Board of Trustees
Troy, Idaho

Dear Mr. Solberg:

I intend to be in North Idaho during the week of September 21, 1953, on a regular tour of inspections, and will call on you probably Thursday or Friday, September 24 or 25, 1953, to discuss your problems regarding a city water supply.

Please refer to your letter of August 8, 1953, addressed to the Bureau of Reclamation and reply from this department of August 12, 1953.

Very truly yours,

MARK R. KULP
State Reclamation Engineer
By

E. N. Humphrey
Deputy State Reclamation Engineer

H:fg

18673

18673

August 12, 1933

Mr. Edward Solberg
Chairman of Board of Trustees
Troy, Idaho

Dear Mr. Solberg:

We do not have records of any water rights on Big Meadow Creek north of Troy, Idaho.

However, you have probably acquired a right by appropriation through actual diversion and Beneficial Use.

Not having any record of rights on Big Meadow Creek in the name of the University of Idaho or H. L. Cartwright, we do not know what you acquired from them.

Water in natural streams is public water and belongs to the State and is controlled by the State and the only way you can control all the water in the stream is by appropriation and works that are able to divert and put to Beneficial Use all the water in the stream.

I would not anticipate any difficulty about your water right except in the matter of making an official record.

You already have an uncompleted permit No. 18673 for one (1) cubic foot per second from an un-named stream tributary to Little Bear Creek on which the time for Completion of Works was indefinitely extended on October 31, 1933 on account of financial difficulties with the proviso that the applicant (Village of Troy) should notify the Department of Reclamation within 30 days after the removal of the disability. This right may still be eligible for completion of record and may be all the right you need if completed. Otherwise, you may initiate record rights with present priority on works completed or contemplated or you may go to the district court in a quiet title proceedings and have your present rights defined and made a matter of record.

Either myself or deputy may be in North Idaho sometime this fall and can stop and help analyze your problems.

Very truly yours,

MARK R. KULP
State Reclamation Engineer

K:pj

18673

RECEIVED
BUREAU OF RECLAMATION
REGIONAL OFFICE, REGION 1
BOISE, IDAHO
VILLAGE OF TROY
Troy, Idaho

AUG 10 AM 8:47

August 8, 1953

Bureau of Reclamation
Boise, Idaho

Gentlemen:

In 1939 we purchased the water rights from the University of Idaho on the Big Meadow Creek north of Troy, Idaho and have been using water from the creek ever since for a water supply for our Village. Recently we acquired the water rights formerly held by H. L. Cartwright on said creek.

In 1951 we constructed a dam for a reservoir on the above mentioned creek for a water storage to take us through the summer when the water flow of the creek is not sufficient for our town. We have from time to time purchased timber land for a water shed and at the present time own approximately 1000 acres of land adjacent to our storage dam.

Will any action on our part be necessary in order that we may have full control on all water in said creek.

Yours very truly,

Edward Salberg

Chairman of Board of
Trustees of the
Village of Troy, Idaho

RECEIVED
AUG 12 1953
Department of Reclamation

ORIGINAL FILE COPY		
PREPARE REPLY:		
REPLY PREPARED: ☐		
NO REPLY: ☐		
INITIALS		
TO	INITIAL	DATE
150		
FILE		

18672

18673

April 22, 1950

Re: Troy Storage Reservoir

Mr. G. A. Riedesel
Consulting Engineer
P. O. Box 138
Moscow, Idaho

Dear Mr. Riedesel:

I have some suggestions on your plans for the
Troy Reservoir Dam.

The 3:1 slope should be on the water face of the
dam and the 2:1 downstream.

The cutoff trench could be moved upstream to the
upper one-third of the impervious section and the concrete
cutoff wall keyed into the rock.

Make spillway stop-log slots terminate three feet
below the top of the dam so that three feet of freeboard will
be assured.

Very truly yours,

MARK R. KULP
State Reclamation Engineer

MRK:bh

18673

TROY DAM PLANS

AS PROPOSED

Scrape bottom of reservoir to shale bedrock for fill material, and no indication of intent to bond cutoff walls into bedrock.

Plans show slopes of 2-1 up stream, abd 3-1 on down-stream part of dam.

No evident intention to run a cutoff under the upper slope.

Spillway Detail shows freeboard of 4 feet, with stop-log slots extending up to crest of dam elevation.

SUGGESTIONS

Penetrate bedrock with concrete walls, and earth filled trench likewise; The latter to be puddled in the rock cut section.

Reverse the slope locations.
(while this would decrease the reservoir capacity somewhat, it would seal a larger area of the rock bottom.

Suggest one in view of probable exposure of shale bedrock formation.
See 1939 Plans of Hughes re shale.

It should be IMPOSSIBLE to install planking in the last three feet of the height of dam crest.

74

18673

P. O. Box 138

G. A. RIEDESEL & ASSOCIATES
CONSULTING ENGINEERS
O'CONNOR BUILDING
210½ SOUTH MAIN
MOSCOW, IDAHO

PHONES: 26031
4642

April 18, 1950

RECEIVED
APR 20 1950
Department of Reclamation

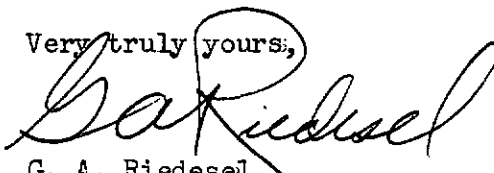
Mr. Mark Kulp. Irrigation Engineer
Idaho Department of Reclamation
State House
Boise, Idaho

Dear Mark:

The Village of Troy is planning to construct a water storage reservoir on Big Meadow Creek in Latah County. I enclose a set of tentative plans. Detailed specifications for the contract have not been written. However requirements will be according to Idaho's Standard Specifications for Road and Bridge Construction (1941). Construction work is to start as soon as site conditions will permit.

This is to request the approval of the Department of Reclamation on this project. Any comments or recommendations you may wish to make will be appreciated. Please may I hear from you at your earliest convenience.

Very truly yours,



G. A. Riedesel
Consulting Engineer for the
Village of Troy.

cc - Village of Troy.

18673

DESIGN CRITERIA FOR EARTH FILL IRRIGATION
WATER STORAGE DAMS IN IDAHO
Requiring State Supervision

The following design limitations will be used for all earth fill irrigation water storage dams designed for installation in Idaho.

Top Widths

Relation of top widths to height of dam shall be as follows subject to modification

HEIGHT		TOP WIDTH	
10	Feet	108	Feet
20	"	12	"
30	"	14	"
40	"	18	"
50	"	20	"
60	"	22	"
65	"	22	"

If the top of the dam is to be used as a roadway, the minimum requirement should allow at least a 2 foot compacted shoulder on each side of the traveled way.

Side Slopes

Upstream	3:1	) Minimum
Downstream	2:1	

Cutoff Trenches or Walls

Cutoff trenches will be used to bond the fill through relatively pervious material to an impervious stratum or zone. The bonded area will extend up the abutments to the maximum high water elevation. Cutoff trenches will be wide enough to allow the free movement of excavation and compaction equipment.

Cutoff walls will be used to bond fills to smooth rock surfaces in a similar manner as cutoff trenches and they shall be entrenched in the rock to a depth at least $1/2$ the width of the cutoff wall. Concrete cutoff walls be doweled into the rock a minimum of 8 inches, with a maximum spacing of 18 inches for $3/4$ inch steel dowels. Cutoff walls will have a maximum height of 3 feet perpendicular to the rock surface and will be battered 1:12.

18673

Outlet Conduits

Outlet conduits must be laid on a firm stable foundation and will have a minimum inside diameter of 12 inches. They will be of reinforced concrete or of metal pipe encased in concrete, and will be poured with a continuous seal between the concrete and the trench. Asphalt dipped, or other metal pipe will not be acceptable unless they are encased in concrete.

Cutoff collars will be used to increase the length of flow along the conduit by approximately 20%. They shall extend no more than a maximum of 2 feet beyond the outside of the conduit. They will be battered 1:12.

Gates

All conduits will be gated on the upstream end, with either a vertical or an inclined gate.

All top trash racks will be sloping towards the reservoir, and at least one of the sides of the inlet structure will also be open. Trash racks for dams not over 15 feet in height should be designed so they can be cleaned with a long handled rake. If fish screens are desired they must be placed over the trash rack and must be removable for cleaning.

All conduits with submerged outlets will be vented. All outlet conduits 12" or more in size, whether submerged or not, will be vented, when there will be a head of 10 ft. or more on the gate.

All gate stem pedestals will be made of concrete.

Riprap

All structures will have riprap on the upstream slope for the top of the dam down at least one half the distance to the toe of the slope when so determined by the design engineer. If the upstream face of the dam is not pervious, a 6" layer of gravelly material should cushion the riprap. When riprap is not continuous to the toe of the dam, the unriprapped section will be benched to support the riprap.

Spillway

All spillways must be stabilized to the discharge flow through the use of concrete, masonry, riprap or sod, as directed, if not constructed in resistant rock.

Wherever possible the spillway should be constructed independent of the dam structure. It shall lead the water far enough away from the dam so that it will not endanger the structure.

The handbook runoff tables will be satisfactory as a guide to spillway design, but analysis must be made of local conditions to supplement this information. The watershed, and runoff analysis must accompany the plans and specifications.

On dams 30 ft. or more in height, consideration should be given to placing a rock section on the downstream slope between 1-3/4:1 and 2:1.

Cutoff Trenches and Walls

Minimum height of concrete cutoff wall to be 3 ft.

Outlet Conduits

Outlet conduits must be laid on a firm stable foundation and will have a minimum inside diameter of 12 inches. They will be of reinforced concrete or of metal pipe encased in concrete, and will be poured with a continuous seal between the concrete and the trench.

Asphalt dipped or other metal pipe will not be acceptable unless they are encased in concrete.

Cutoff collars will be used to increase the length of flow along the conduit by 20%. They shall extend a minimum of 2 feet outside the conduit for dams up to 30 ft. in height and a minimum of 3 feet for dams above that height.

It is desirable to have the outlet conduit 20 inches or more in diameter for dams 30 ft. or more in height.

Riprap

All dams must be protected from wave action and the design engineer will determine whether or not rock riprap will be necessary.

Where rock riprap is used it will cover at least the upper 2/3 part of reservoir slope. The riprap will have a minimum thickness of 2 ft., and if the slope surface is not pervious, the riprap will be cushioned by a 12" layer of gravelly material. When the riprap is not continuous down the entire slope it shall be supported by a bench on the slope.

Toe Drains

Where necessary for toe drainage.

Additional Requirements for Dams Requiring Approval State Engineer's Office.*

Geological Reports

All plans and specifications will include a geological report covering the foundation conditions, quality of fill material, cutoff requirements and compaction requirements.

Construction Specifications

All plans must be accompanied by detailed construction specifications covering each item of construction when they are sent to the regional office of the U.S. Soil Conservation Service, or the State Irrigation Engineer for approval and completion.

Inspection Reports

It is the responsibility of the district conservationist to see that each dam has satisfactory inspection during construction.

Two copies of inspection Form 1-7-EDC with any necessary supplemental information will be forwarded to the Regional Engineer's Office after each inspection during construction. One of these copies will be sent to the State Engineer's Office.

*Refer to Chapter 1 of the Engineering Handbook.

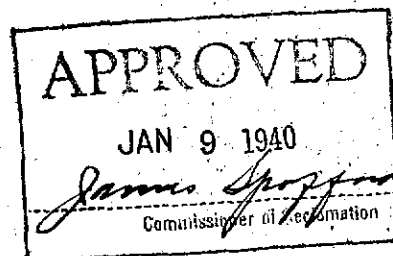
18673

TROY WATER SYSTEM

SPECIFICATIONS

SECTION ONE:
SECTION TWO:
SECTION THREE:

100,000 Gallon Reinforced Concrete Reservoir
Hypochlorinator, Inlet Valves and Misc.
Earth Fill Dam



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SECTION I.

SPECIFICATIONS FOR 100,000 GALLON REINFORCED CONCRETE RESERVOIR

ORDER OF WORK

The excavation shall be made to the proper depth and line as established by the Engineer and shall extend outside the neat line of the walls at least three feet. The outlet pipe shall then be installed. The footings shall next be constructed. The top of the footing under the floor slab shall be floated and given a brush coat of asphalt to avoid bond between the footing and floor. The floor shall next be built in one continuous operation. The inner form shall next be built complete. The wall shall then be built in two vertical sections. After the wall has been poured, the forms shall be removed and the expansion joint between the wall and floor filled with water and observed for leaks. The tank shall then be drained and defects repaired after which the walls and floor shall be waterproofed with two coats of emulsified asphalt. After all leaks have been repaired the backfill shall be placed around the structure to within two feet of the top of the wall. The roof shall then be built.

CONCRETE

The concrete used in this structure shall be as follows:

- Footings** - One part Portland cement, two parts sand, four parts crushed stone or gravel.
- Floor and Walls** - One part Portland cement, two parts sand, three parts crushed stone or gravel.

The proportion of fine and coarse aggregates may be varied to secure a workable mix, at the discretion of the Engineer.

CEMENT

The cement shall be a standard Portland cement of a brand approved by the Engineer and shall conform to the requirements of the Standard Specifications for Portland cement of the American Society for Testing Materials, Serial Designation C 9 - 30 with all subsequent amendments thereto adopted by said Society.

Care must be exercised in the storing and protection of the cement on the work, and any cement damaged by moisture or which fails to meet any of the above requirements shall be rejected.

FINE AGGREGATE

The fine aggregate shall consist of clean, hard, durable, uncoated siliceous grains, free from lumps, alkali, organic matter, loam, or other deleterious substance. It shall be well graded from coarse to fine and when tested by means of laboratory screens and sieves shall meet the following requirements.

	Per cent
Passing a 3/8" sieve	100
Passing a No. 4 sieve	85 to 100
Passing a No. 16 sieve	50 to 80
Passing a No. 50 sieve	10 to 40
Passing a No. 100 sieve	5 to 10
Passing a No. 200 sieve	0

COARSE AGGREGATE

Coarse aggregate shall consist of clean, hard, tough, crushed basalt, quartzite, or granite, or of screened and washed gravel. The soft or disintegrated pebbles contained in gravel shall not exceed two and one-half (2 1/2) per cent. It shall contain no vegetable matter. The size of the coarse aggregate shall be uniformly graded; shall be such as to pass a rotary screen having one and one half (1 1/2) inch round openings; at least thirty (30) per cent and not more than fifty (50) per cent shall pass a screen having three quarter (3/4-inch) round openings, and not more than five (5) per cent shall pass a laboratory screen having four (4) meshes per lineal inch. No intermediate sizes shall be removed. Fine and coarse aggregate shall be stored in separate piles.

FORMS

Forms shall conform to the shape, lines and dimensions of the concrete as called for on the plans. Lumber used in forms shall be new material dressed to a uniform thickness and shall be free from loose knots or other defects. Forms shall be substantial and sufficiently tight to prevent leakage of mortar; they shall be properly braced or tied together so as to maintain position and shape. The inside of forms shall be coated with non-staining mineral oil or thoroughly wetted. Where oil is used it shall be applied before the reinforcement is placed.

The forms for the inner surface of the walls shall be built complete for the entire structure and all of the steel shall be assembled before starting the work of concreting the walls. The outer surface of the walls shall be formed with "shutters" or moveable forms, not over six (6) feet high, so designed that they can be readily and accurately be placed in position, in order that the placing of the concrete will not be delayed beyond the limit specified. The outer forms shall be secured by bolts passing thru the wall, but not with wires.

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REINFORCEMENT

Metal reinforcement shall be of a quality and character meeting the requirements of the Standard Specifications for Mill-steel Concrete Reinforcement Bars, Intermediate Grade, (Serial Designation: A 15-55) of the American Society for Testing Materials.

Reinforcement shall be deformed bars of the sizes and cross sections shown on the plans.

Reinforcement shall be thoroughly cleaned of mill and rust scale before being positioned.

All reinforcement shall be securely positioned and secured against displacement by using No. 18 gauge wire and shall be supported by concrete or metal chairs or suitable hangers.

Splices of tension reinforcement at points of maximum stress shall be avoided and splices in all cases shall be at least 40 diameters of the steel, except where otherwise noted on the plans. Reinforcement bars shall be hooked to adjacent steel where shown on plans.

MEASURING MATERIALS

The method of measuring the materials for the concrete, including water, shall be one which insures separate and uniform proportions of each of the materials at all times. A sack of Portland cement (94 lbs. net) shall be considered one (1) cubic foot. There shall be provided and kept on the job a one cubic foot box to measure the wheelbarrows when requested by the Engineer. If deemed necessary by the Engineer the materials shall be weighed.

MIXING

The materials shall be mixed in a batch mixer not less than one bag capacity of a type which shall be approved by the Engineer, and irrespective of the size of the batch and rate of speed used, mixing shall continue after all materials are in the drum for at least one and one half (1 1/2) minutes before any part of the batch is discharged from the drum. The drum shall be completely emptied before receiving material for the succeeding batch. The drum shall revolve at a rate of speed specified for the particular mixer used by the contractor, but shall make not less than twelve (12) nor more than sixteen (16) revolutions per minute. The volume of the mixed materials used per batch shall not exceed the manufacturer's rated capacity of the drum. The amount of water for each batch shall be determined by the Engineer.

DEPOSITING CONCRETE

Before beginning a run of concrete, hardened concrete and foreign materials shall be removed from the inner surface of the mixing and conveying equipment.

Before depositing concrete debris shall be removed from the space to be occupied by the concrete. Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable by methods which shall prevent the separation or loss of ingredients and shall be deposited in forms in its original position to avoid rehandling. It shall be deposited in approximately uniform horizontal layers; the piling up of concrete in such a manner to permit the escape of mortar will not be permitted. Under no circumstances shall concrete which has partially hardened be deposited in the work.

The concrete in the floor slab shall be placed in one continuous operation and not over thirty minutes shall elapse between placing adjacent batches of concrete.

Concrete in the walls shall be placed in layers from 6 inches to 12 inches deep and each section of wall shall be placed in one continuous operation and not over thirty minutes shall elapse between placing adjacent batches. Concrete shall not be chuted and shall not be dropped over 6 feet.

Concrete, during and immediately after depositing, shall be thoroughly compacted by means of rods, forks, tampers, or other suitable instruments. For thin walls or inaccessible portions of the forms where rodding is impracticable, the concrete shall be assisted into place by tapping or hammering the forms. The concrete shall be thoroughly worked around reinforcement and around imbedded fixtures and into the corners of the forms. At least three men shall be kept puddling for each 5 yards of capacity per hour of the mixing plant.

Concrete shall be mixed without an excess of water so as to secure a dense, strong concrete. The operator shall reduce or increase the water content of the mix at the direction of the Engineer.

CONCRETE FINISH

The top of the floor slab shall be screeded and floated to an even surface and then lightly troweled.

The wall forms shall be pulled while the concrete is still green. All slack and honey-combed surfaces shall be cleaned with a wire brush, then saturated, then given a brush coat of neat cement into all recesses, then plastered with a one part cement to one and one-half part clean sand mortar. Bolt holes shall be firmly caulked with mortar mixed earth damp, of one part cement to one part clean, fine sand. The surfaces of the walls

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RIPRAP

Before starting the riprap the slope on which it is to rest shall be trimmed to an even surface then covered with at least 6-inches of gravel. The riprap shall then be hand placed so that the finished thickness shall not be less than one foot.

Back against the downstream toe shall be boulders.

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SECTION II.

HYPOCHLORINATOR, INLET VALVES AND MISCELLANEOUS APPURTENANCES

HOUSING

The hypochlorinator house and inlet valve chamber shall be constructed as shown on the plans and as directed by the engineer.

Concrete shall be one part Portland cement, three parts sand and five parts crushed rock or gravel. The general specifications for concrete in Section I. of these specifications (for reinforced concrete reservoir) shall prevail as to materials, mixing and placing.

HYPOCHLORINATOR

The hypochlorinator shall be Wallace & Tiernan, or equal, automatic, water actuated equipment, paced by a water meter on by-pass. The equipment shall meet the specifications as published by the manufacturer and shall be installed according to the manufacturer's direction.

RESERVOIR VALVE ASSEMBLIES

Valve assemblies shall be installed as shown on the plans and as directed by the Engineer. The altitude valve shall be a 4-inch Golden Anderson 52-D, or equal. It shall conform to the manufacturer's specifications and performance guarantee, and shall be installed in accordance with the manufacturer's directions.

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shall be floated with a wood float or carborundum to remove form marks.

RETEMPERING

Retempering of mortar or concrete which has partly hardened, that is, remixing with or without additional materials or water, shall not be permitted.

PROTECTION FROM WEATHER

In hot weather concrete shall be protected from checking by sprinkling or covering with moist material until the Engineer considers the concrete sufficiently cured. In freezing weather concrete shall be protected until danger of damage is passed. Protection from weather in some approved manner will be required on all concrete on this project. No frozen or damaged concrete will be accepted.

JOINTS

Expansion joints shall be constructed as shown on the plans. In the wall joints, dams of 20 oz. sheet copper shall be installed. Mastie waterproofing shall be used in the wall and floor joints as shown on the plans.

WATERPROOFING

After the tank has been tested and all leaks repaired, the interior of the tank shall be given two brush coats of asphalt emulsion. The first coat shall be allowed to set before the second coat is applied. The second coat shall be thoroughly set before the tank is filled with water.

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SECTION III.

SPECIFICATIONS FOR EARTH FILL DAM

ORDER OF WORK

The first work to be done shall be the installation of the drain conduit and the supply pipe. The basin shall then be stripped of the top soil which contains roots and vegetable matter. Excavation for the base of dam and the spillway shall then be made. The concrete cut-off wall shall then be constructed. The embankment shall then be constructed. riprapping may be carried on simultaneously with the embankment construction. The embankment may be carried on over the spillway site for convenience of operation and then re-excavated but the original excavation of the spillway and its outlet channel must be made before the cut-off wall or embankment are built so that no disturbance will occur on account of blasting. The spillway shall then be constructed.

DRAIN PIPE AND SUPPLY PIPE

The drain pipe shall be 18-inch, 16 gage corrugated "Arasco" culvert, close riveted, asphalt dipped, with water tight connecting bands. At the downstream toe of the dam the pipe shall be connected with a 12-inch cast iron nipple with bell end, then a 12-inch gate valve then a short length of 12-inch cast iron pipe. The joint of the 12-inch culvert with the 12-inch cast pipe shall be made as follows: The 12-inch culvert pipe shall be inserted and centered in the cast bell; oakum saturated in asphalt shall then be firmly calked in to a depth of one inch; the joint shall then be firmly calked with a one part cement to one part clean, fine sand, mixed earth comp. A concrete collar shall then be poured around the entire joint.

The supply pipe shall be the same as used in the supply line from the dam to the reservoir.

Concrete cut-offs shall then be constructed at intervals around each pipe as shown on the plans. The inlet shall be screened.

CONCRETE

Concrete incorporated in this structure shall be one part Portland cement, three parts sand and five parts crushed rock or gravel. The general specifications for concrete in Section I. of these specifications (for reinforced concrete reservoir) shall prevail as to material, mixing and placing.

CUT-OFF WALL

A reinforced concrete cut-off shall be constructed as shown on the plans. The foundation of the cut-off wall shall be extended into solid rock.

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SPILLWAY

All rock excavation for the spillway shall be made before the concrete cut-off wall or embankment are constructed. Embankment may extend over the spillway site for convenience of construction then afterwards re-excavated. Spillway shall be constructed as shown on the plans and as directed by the Engineer.

CLEARING

The area to be occupied by the dam, the surfaces of borrow pits, structure site and storage basin shall be cleared of all trees, stumps, roots, brush, and rubbish; and all combustible materials shall be burned or otherwise disposed of in a satisfactory manner. All materials to be burned shall be neatly piled and when in a suitable condition shall be completely burned. Piling for burning shall be done in such manner and in such locations as to cause the least fire risk. All burning shall be so thorough that the materials are reduced to ashes. No logs, branches, or charred pieces shall be permitted to remain.

STRIPPING FOR EMBANKMENTS

The entire area of the dam, including the areas over cut-off trenches, shall be stripped or excavated to a sufficient depth to remove all materials not suitable, as determined by the Engineer, for the foundations. The unsuitable materials to be removed shall include top soil, all rubbish, vegetable matter of every kind, roots, and all other perishable or objectionable materials which might interfere with the proper compacting of the materials in the embankment, or may be otherwise objectionable. The stripped materials may be wasted or saved for landscaping.

PREPARATION OF EARTH FOUNDATIONS

After all necessary stripping and excavation has been completed, the foundation area shall be unwatered and the foundation for the earth fill shall be prepared by scraping and rolling, such that the surface materials of the foundation will be as compact and well bonded with the first layer of the fill as is specified for the subsequent layers of the earth fill.

PREPARATION OF ROCK FOUNDATIONS FOR CONCRETE.

The surfaces of all rock foundations upon or against which concrete is to be placed shall be prepared to provide adequate bond between the rock and the concrete by roughening and cleaning the rock surfaces. All loose rock fragments, spalls, dirt, gravel, grout, and other objectionable materials shall be removed from the rock surfaces. Immediately before placing concrete upon or against any rock surface, the surface shall

be thoroughly cleaned by the use of stiff brooms, hammers, picks, jets of water and air applied at high velocity, wet sandblasting and other effective means satisfactory to the Engineer. After cleaning and before concrete is placed, all water shall be removed from depressions so as to permit thorough inspection and proper bond of concrete with the foundation rock.

EMBANKMENT CONSTRUCTION GENERAL

The term "embankment" includes the earth-fill portion of the dam, and the rip-rap on the upstream face of the dam. The embankment shall be constructed to the lines and grades shown on the drawings (increased by such heights and widths as may be determined to be necessary to allow for settlement). No brush, roots, sod, or other perishable or unsuitable materials shall be placed in the embankment. The suitability of each part of the foundation for placing embankment materials thereon and of all materials for use in the embankment construction will be determined by the Engineer. No material shall be placed in the embankment when either the material or the foundation or the embankment on which it would be placed is frozen.

EARTH FILL IN EMBANKMENT

The earth-fill portions of the dam, including the fill in the cut-off trench under the upstream portion of the dam, shall consist of a mixture of the clay, sand, and gravel available from borrow pits in the storage basin at the locations selected by the Engineer. No material shall be placed in the earthfill portion of the dam until after the diversion of the stream has been accomplished. No earth-fill material shall be placed until the foundation therefor has been unwatered and suitably prepared. The distribution and gradation of materials throughout the earth-fill portions of the dam shall be such that the earth embankment will be free from lenses, pockets, streaks, or layers of material differing materially in texture or gradation from the surrounding material.

The combined borrow-pit excavation and embankment-placing operations shall be such that the materials when compacted in the embankments will be blended sufficiently to secure the best practicable degree of compaction, impermeability, and stability. Successive loads of material shall be so dumped on the embankments as to produce the best practicable distribution of the material to the end that the finer material shall be placed in the central upstream portion of the earth fill, including the cut-off trench, and the sand and gravel content in the earth fill will be gradually increased toward the upstream and downstream slopes of the earth fill. No stones having maximum

dimensions of more than 6 inches shall be placed in the earth-fill portions of the embankments.

The mixture of clay, sand, and gravel shall be placed in the earth embankment in continuous, approximately horizontal, layers not more than 6 inches in thickness after rolling. Rolling shall be done with equipment approved by the Engineer.

The material in each layer while being compacted by rolling shall contain the optimum amount of water for compacting purposes within practicable limits, and this optimum water content shall be uniformly distributed throughout the layer. The application of water to material for this purpose shall be done at the site of excavation insofar as practicable and shall be supplemented as required by sprinkling on the embankment. Harrowing or other working of the material may be required to produce the required uniformity of water content. While in the above-described condition, each layer of material shall be compacted by passing the specified roller over the entire surface the number of times required to obtain the required compaction. If the necessary compaction can not be secured with the equipment at hand the thickness of the layers shall be reduced until such compaction is satisfactory.

All portions of test-pit and cut-off trench excavation within the area to be covered by the embankment and below the required stripping lines for the embankment foundation shall be filled with compacted embankment material as herein specified for the earth fill. The earth fill on each side of the cut-off walls shall be kept at approximately the same level as the placing of the earth fill progresses, and the walls shall be carefully protected against displacement or other damage. Portions of the earth fill between projections on the dam abutments, near the cut-off walls, about the outlet conduit and spillway and other concrete structures, and elsewhere which cannot be properly compacted by the use of rolling equipment shall be thoroughly compacted by the use of mechanical tampers. The degree of compaction for such portions of the earth fill shall be equivalent to that obtained by moistening and rolling as specified for other portions of the earth fill. The upstream face of the earth fill shall be reasonably true to line and grade and all projections of more than 6 inches outside the neat lines of the earth fill shall be removed before the rock riprap is placed. The upper 12 inches of the crest of the dam embankment shall be constructed of selected gravelly material or selected fine-rock material.

18673

January 9, 1940

Mr. W. P. HUGHES,
Consulting Engineer,
Lewiston, Idaho.

Dear Mr. Hughes:

We are today sending you under separate cover one copy each of specifications and plans of the Troy Water System, which have been approved by this department as of today.

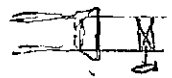
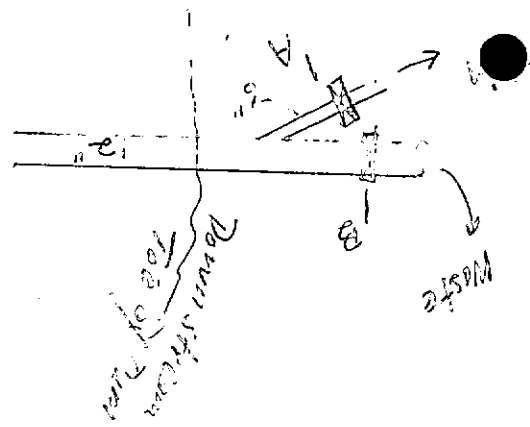
I am well pleased with the general design of this water system, with the exception of the outlet conduit. It certainly would be a more lasting construction if the Village could finance the cost of more durable pipe for both the 5-inch conduit pipe and the drain pipe through the dam structure.

Very truly yours,

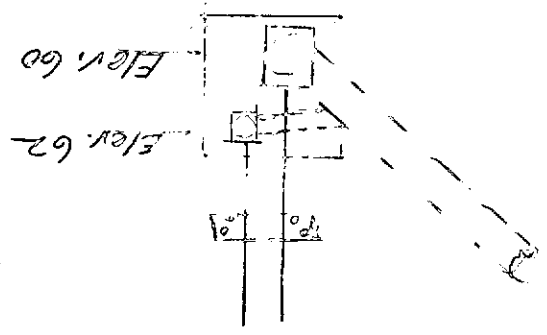
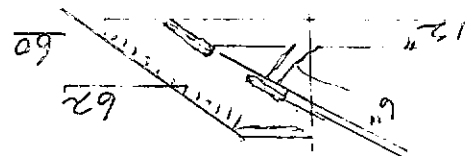
JAMES SPOFFORD,
Commissioner of Reclamation

JS/jf

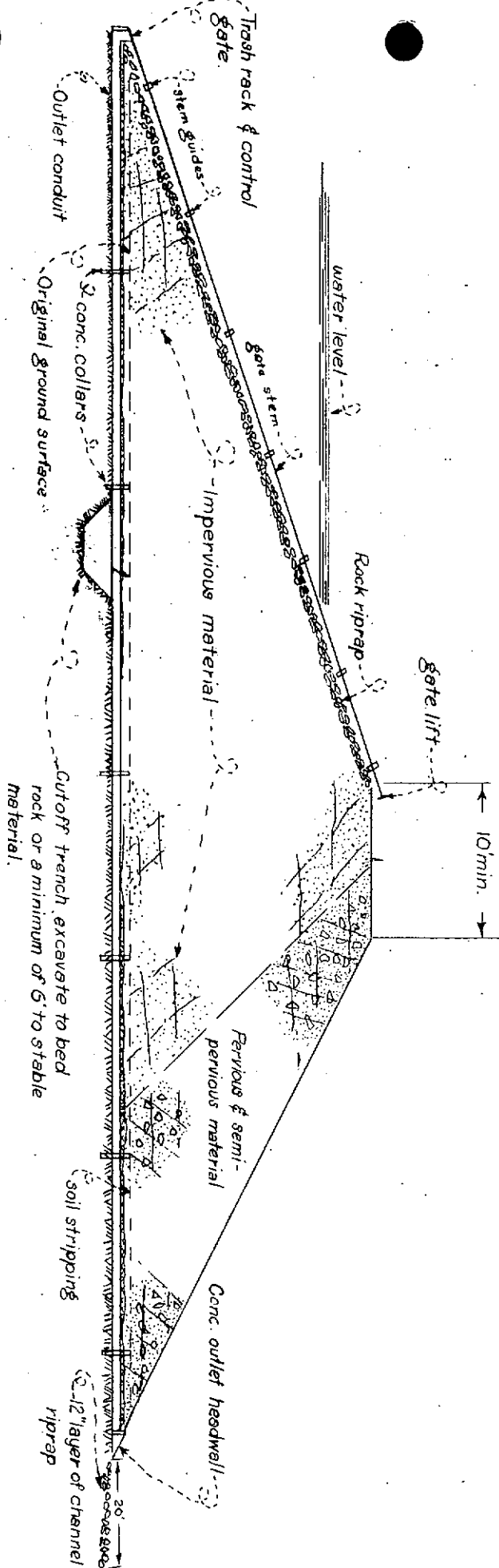
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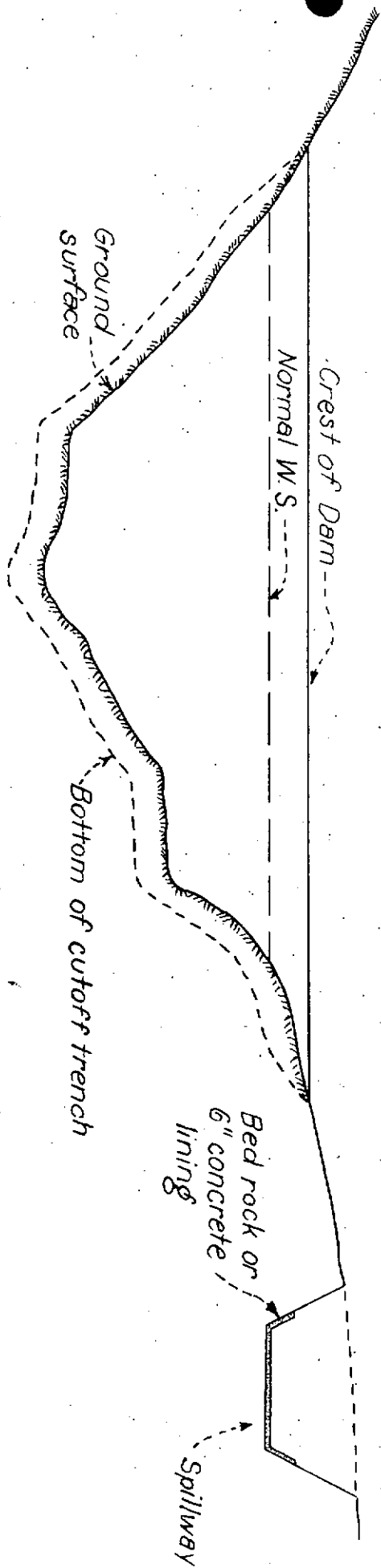


18273



TYPICAL EARTH DAM DESIGN

18673



TYPICAL PROFILE OF DAM
AND SPILLWAY

Permit 18673

DEPARTMENTS OF
ENGINEERING, WATER, STREET and BUILDING
OF THE

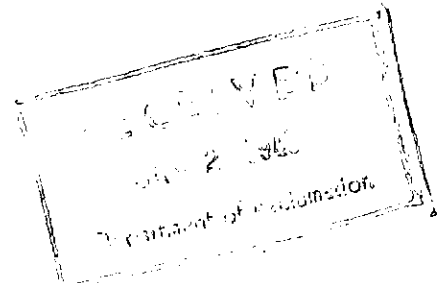
CITY OF LEWISTON, IDAHO

EUGENE J. BAUMAN, MAYOR

W. P. HUGHES, M. Am. Soc. C. E., CITY ENGINEER

18673

December 30, 1939



Mr. James Spoffard, Commissioner of
Reclamation
Department of Reclamation
BOISE, I d a h o

Dear Mr. Spoffard:

I am sending to you under separate cover two tracings and two blue prints of plans of the proposed earth-fill dam for the Troy, Idaho, water supply.

Comments in your letter of October 30th in regard to certain details of this dam are well taken. Unfortunately the Village of Troy does not have enough money to go into any elaborate construction. As you are no doubt aware, they are building some six miles of pipe line and the plans call for a 100,000 gallon reinforced concrete reservoir and purification equipment. This is a considerable undertaking and it is necessary that we cut corners wherever possible.

We had considered 12-inch cast iron pipe as a drain thru the dam but abandoned the idea as the pipe which would have to be purchased is an LCL shipment and by the time it was delivered to the dam would probably cost around \$3.50 to \$4.00 per foot. We are, therefore, substituting Armco close-riveted, welded, corrugated pipe with water tight bands, the whole of which is asphalt dipped. This pipe should have a life of at least sixty years. The Village has on hand a 12-inch gate valve and a length of 12-inch pipe which can be salvaged from an old reservoir. You will note that we have changed the plans so that the drain pipe can be controlled at the downstream toe of the dam by this valve.

I hope that this change of plans will meet your approval. We realize that the installation is not perfect but know that it will operate satisfactorily.

For your information, we have taken 12 soil samples from the various places in the storage basin and had these tested at the University of Idaho. The tests show that we will be able to secure satisfactory material for the structure.

Yours very truly,

W.P.HUGHES
CONSULTING ENGINEER

LEWISTON~THE CITY OF PURE WATER

BY R. B. Anderson
Assistant Engineer

RBA d

18673

* 18673
October 30, 1939

W. P. HUGHES,
Consulting Engineer,
Lewiston, Idaho.

Dear Mr. Hughes:

Your letter of October 23, including plans for the construction of the Troy Dam, has been received.

Your plans for this structure meet our approval, with a few exceptions. The experience of this department has shown that the use of a catwalk in a reservoir on which ice forms during the winter is not very durable and is always more or less unsatisfactory, as the ice will freeze and thaw, and move this structure without warning.

I am sending you a couple of blueprints of the plans showing the installation of the conduit intake, with gates operating on an incline along the slope of the dam. This is designed, however, for a larger structure, but will give you an idea of this type of construction. It has also been the experience of this office that it is good practice to make the outlet conduit as durable as possible, and for that reason we are suggesting that you use a 12-inch cast-iron pipe for an outlet conduit. I am including a small pencil sketch to give you my idea in this matter. You can operate two gates, one with a 12-inch pipe, and one over the 6-inch pipe, these pipes being connected by a wye. The control of the water from the dam would be made by two valves. If you want to flush the reservoir, open the 12-inch gate, close the valve at "A", and open the valve at "B". In connecting to the water system, you would close the gate over the 12-inch pipe, open the gate over the 6-inch pipe, close your valve at "B", and open the valve at "A". All of these pipes would be buried and free from frost action.

These are only suggestions that are being offered, as you may have more feasible plans that you can work out and accomplish the same thing.

Very truly yours,

JAMES SPOFFORD,
Commissioner of Reclamation

JS/jf
18673

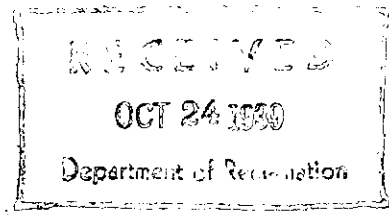
DEPARTMENTS OF
ENGINEERING, WATER, STREET and BUILDING
OF THE
CITY OF LEWISTON, IDAHO
EUGENE J. BAUMAN, Mayor

W. P. HUGHES, M. A. M. Soc. C. E., City Engineer

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October 23, 1939

Mr. James Spoffard
Commissioner of Reclamation
BOISE, I d a h o



Dear Mr. Spoffard:

I am inclosing herewith blue prints of plan for earth filled dam in connection with the Troy Water System. Will you kindly examine them and if they meet with your approval please advise and we will transmit the tracings. The reason I am not sending the tracings now is that several prints will be required for the W. P. A. and construction and if any changes are necessary I wish to make them before finally submitting them to you.

Will you kindly send me the necessary forms for making application for permit to construct dam. We do not propose to start work on this dam until next spring but wish to get all of the details out of the way now.

Thanking you, I am

Yours very truly,

W. P. Hughes
Consulting Engineer

By R. B. Anderson
Assistant Engineer

RBA d
enc.

LEWISTON ~ THE CITY OF PURE WATER

18673

R-659

DEPARTMENTS OF
ENGINEERING, WATER, STREET and BUILDING
OF THE
CITY OF LEWISTON, IDAHO
EUGENE J. BAUMAN, MAYOR

W. P. HUGHES, M. A. M. Soc. C. E., CITY ENGINEER

2

August 29, 1939

Mr. James Spoffard, Commissioner of Reclamation
State of Idaho, Department of Reclamation
BOISE, I d a h o

Dear Mr. Spoffard:

Thank you for your letter of the 23rd. We are having test holes dug across the canyon along the proposed centerline of the dam. The Village has arranged for additional ground down stream so we will move the dam about 100 feet which will enable us to raise the height to about 35 feet. As soon as the test holes are dug we will immediately proceed with the design and will rush plans and specifications thru so that we can get as much work done this Fall as possible. When you receive the plans and specifications we will appreciate very much your prompt approval and if any minor changes are required we will make them immediately.

I don't know how far the Village has gone toward securing necessary permits. I understand they filed an application for a permit to divert water but do not believe they have a permit to construct a dam. Will you kindly send us the necessary forms so that we can proceed with this part of the application.

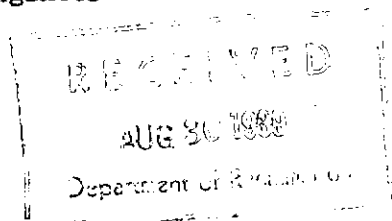
Thanking you, I am

Very sincerely,

W. P. Hughes
Consulting Engineer

By R. B. Anderson
Ass't. Engineer

RBA d



18673

R-659

August 23, 1939

Mr. R. B. ANDERSON,
Assistant City Engineer,
Lewiston, Idaho.

Dear Mr. Anderson:

This will answer your August 14th letter relative to construction features for the proposed dam for the Village of Troy.

This office certainly would recommend a concrete core wall built from bedrock to a height of 4 to 6 feet. If this wall has a base of 3 feet, and battered on the downstream side to a 1-foot top width, not reinforced, it would be satisfactory. It would be very necessary to riprap the upstream face of the dam, as it would not only protect wave action on the fill, but would also prevent the drinking water from getting too riley. It is not necessary to excavate all natural material to bedrock unless there is an accumulation of loose material, rotten wood, or soddy earth that would not make a good bond. The Bureau of Reclamation recommends stripping the entire natural surface down to bedrock for the base of the dam, but we do not insist on this method. We will admit, however, that it is a good practice.

The spillway crest should be at least 20 feet wide, but the same may be constructed at nearly right angles to the axis of the dam, and the water will pore over this crest into a concrete outlet from about 6 feet in width. By constructing this type of a spillway, it will save you a great deal of expense in excavating the steep slope at one end of the dam fill.

In discussing the dimensions of the dam with Mr. Hughes, I had in mind the construction of a larger base at this time and the probability of raising the dam 5 or 6 feet at a later time, but under the conditions that you suggest, an upstream slope of 3 to 1 and a downstream slope of 2 to 1, with a crown width of 12 feet, will give you ample stability for this type of structure.

In your future work, you probably will be confronted more or less with the construction of low dams. I will, therefore, suggest that you write to the U. S. Government Printing Office, Washington, D. C., and get a copy of "Low Dams." This is a manual designed for small water storage projects and has been prepared by the Committee on Small Water Storage Projects, of the National Resources Committee, Washington, D. C. It is certainly a worthwhile text on this subject, and costs only \$1.25. Trusting this information will be of some use to you, I remain,

Very truly yours,

JAMES SPOFFORD,
Commissioner of Reclamation

JS/jf

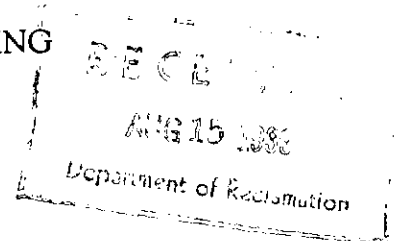
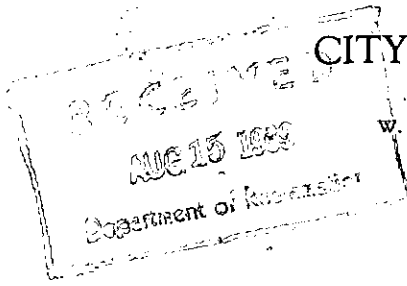
18673

DEPARTMENTS OF
ENGINEERING, WATER, STREET and BUILDING
OF THE

CITY OF LEWISTON, IDAHO

EUGENE J. BAUMAN, MAYOR

W. P. HUGHES, M. Am. Soc. C. E., CITY ENGINEER



August 14, 1939

Mr. James Spoffard, Commissioner
Department of Reclamation
BOISE, I d a h o

Dear Mr. Spoffard:

In regard to proposed dam for the Village of Troy water supply that you discussed with Mr. Hughes while you were in the office a few days ago, in the event that future investigation shows an earth-filled dam to be economical and practical for the location, will you give us a little advance information as to what your requirements will be so that we will be able to submit plans that will be satisfactory to you and thereby save considerable time?

Will you require a concrete core wall from the bedrock to the high water level of the dam? Will you require the core wall to be reinforced? What minimum thickness core wall would be approved? Will you require riprapping on the up stream face of the dam and if so would you require it on the entire face? Will you require excavation of all material to bedrock for the base of the dam or only on an area under the axis of the dam with the balance of the base stripped of the surface foreign material. How wide a spillway will you require? If suitable material can be obtained, will you approve a puddled core wall in lieu of a concrete core wall?

Mr. Hughes stated that you mentioned a 35 foot dam. Unless the Village authorities have obtained additional holdings up stream I believe that this height dam will cause water to encroach on adjacent property. As their space is limited on both ends, I believe that an earth-filled dam will occupy space to an extent that it will materially reduce the size of the impounded reservoir, which is one of the main reasons we had not considered this type of structure. As I understand Mr. Hughes, you suggest four to one slope on the up stream and three to one slope on the down stream with a 20 foot top width. A 35 foot dam would then be 265 feet thick at the base and only 500 feet along the creek bottom is available.

We will appreciate you answering our inquiries at your earliest convenience.

Yours very truly,

R. B. Anderson

Assistant City Engineer

LEWISTON~THE CITY OF PURE WATER

WPH d

18673

7-18-39 R-659
July 17, 1939

Mr. W. P. Hughes, Consulting Engineer
Lewiston,
Idaho.

Attention- Mr. R. B. Anderson

Dear Sir:-

We are in receipt of your letter of July 15th about
requirements for plans for dams under ten feet.

We do not require plans and specifications for dams
less than ten feet in height and storing less than
100 acre feet.

If your requirements fall under both classes, it will
not be necessary to furnish anything for this office.

I trust that this is the information you desire.

Very truly yours,

JAMES SPONTORD

Commissioner of Reclamation

By

Deputy Commissioner

D:A

18673

DEPARTMENTS OF
ENGINEERING, WATER, STREET and BUILDING
OF THE
CITY OF LEWISTON, IDAHO
EUGENE J. BAUMAN, MAYOR

W. P. HUGHES, M. Am. Soc. C. E., CITY ENGINEER

3

July 15, 1939

Mr. James Spoffard
Commissioner of Reclamation
BOISE, I d a h o

Dear Mr. Spoffard:

When you were here some time ago, we discussed with you the proposed storage and dam for the Village of Troy water supply. At that time they proposed to build a masonry dam but as they are afraid they will not have enough money to complete their system and build the dam at this time, their plan is to remove all of the earth overlaying the rock in the storage basin, move it downstream from the site of the proposed masonry dam, and allow the embankment so formed to act as an earth filled dam until such time as they can afford to construct a masonry dam. Their present intention is not to exceed a depth of 10 feet.

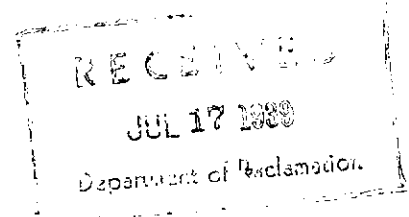
I know that you do not require plans for dams under 10 feet. I am not entirely sure what your requirements are for storage basins and dams under this height, or how far the Village of Troy has gone in fulfilling these requirements. Will you kindly advise me at your earliest convenience what steps are necessary so we can proceed without delay.

Yours very truly,

W. P. Hughes
Consulting Engineer

By R. B. Anderson
Ass't. Engineer

RBA d



VILLAGE OF TROY
TROY, IDAHO

Permit 18673

March 2, 1939

MAR 6 1939
Department of Reclamation

Mr. James Spofford,
Department of Reclamation
Boise, Idaho.

Dear Sir:

Referring to your letter of February 15th regarding our water permit No. 18673.

Before applying to the Department of Reclamation for a permit, we investigated very carefully whether or not any of this water was being used for domestic purposes. There are four families living within one fourth of a mile of this creek and from three to four miles below our diversion dam, but they all obtain their water supply not from the creek but from wells. These wells, like all the many other wells through this region, are according to Geologists, supplied with water from the underlying artesian basin. The fact that numerous springs are in evidence near these wells bears out this theory. The further fact that the water in this creek on which we have filed does not run as far down as these wells during three months of the year and that the water level in these wells do not drop during the same months is further evidence that they are supplied from sources other than the creek. For much the larger part of the year, many times the amount of water which we will use runs on down to the sea and is wasted. Plans for our future water program contemplates among other things the protection of our watershed by acquiring timberlands adjacent to and located in the same area forming the watershed from which our supply is obtained, building of dams to store part of the flood water, all of which is now wasted; increased protection against fires (a large area adjacent to this district was burnt over about eight years ago). Already we have acquired option on 700 acres of timber land, this will be purchased as soon as the Federal Government approves our project.

That Troy is facing a very serious water problem was clearly shown three weeks ago when the taxpayers of this town voted 84-6 to issue \$18,000.00 of bonds to finance this project. Only four years ago we completed an \$17,000.00 Sanitary Sewer. If we cannot

18673

VILLAGE OF TROY
TROY, IDAHO

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Page 100

-2-

get this supply, the sewer may have to be abandoned, as the water in our wells is steadily decreasing and an attempt to increase our water supply by drilling another well failed, as no water was found.

We will be glad to furnish any further information that you may desire.

Yours sincerely,

Edward Solberg

Edward Solberg
Chairman of Board
of Trustees

18673

February 15, 1939

Re: Permit No. 18673

Village of Troy,
Troy, Idaho.

Gentlemen:-

We are in receipt of two complaints against your filing under the above numbered permit, for one cubic foot per second of water.

As questions of this kind, after permit has been issued, are probably beyond our jurisdiction, we are referring the names of the parties back to you, so that an early solution may be reached.

Mrs. H. L. Cartwright wrote January 22nd about the problem, and Mr. Frank L. Wade wrote February 9th. Both of these parties wrote more in the spirit of seeking information than to raise a great deal of trouble over your filing. Both, however, were anxious to know what would happen to their domestic supply under the filing.

I hope that you may be able to settle these difficulties with the minimum of expense and trouble. We will be glad to lend assistance on questions that may arise, if it is within our power to do so.

Very truly yours,

JAMES SPOFFORD
Commissioner of Reclamation
By

Deputy Commissioner

D:A

18673

18673

STATE OF IDAHO

DEPARTMENT OF RECLAMATION

In the Matter of the Application of the)
Village of Troy to Extend the Time for)
Requirements of Permit No. 18673, under)
the Provisions of Section 41-204, As)
Amended.)

ORDER GRANTING EXTENSION

WHEREAS, On September 24, 1938, Edward Solberg, Chairman of the Board of Trustees of the Village of Troy, a municipal corporation in Latah County, State of Idaho, filed on behalf of the Village of Troy, in the Department of Reclamation of the State of Idaho, an application for extension of time for compliance with each and every act or action required under the terms or provisions of Permit to appropriate the public waters of the State of Idaho, No. 18673, under the provisions of Section 41-204 of the Idaho Code Annotated, as amended, for the following reasons, to-wit:

THAT the Village of Troy has applied to the Works Progress Administration for financial aid in connection with the construction of the works described in Permit No. 18673 and that as yet they have been unable to secure this financial assistance; that the Village of Troy has a bonded indebtedness equal to the constitutional limit of its capacity to contract indebtedness and that time is required to work out legal difficulties in connection with financing this project:

NOW, THEREFORE, IT IS HEREBY ORDERED, That, by reason of the pendency of the application of the Village of Troy for assistance from the Works Progress Administration, and pending the solution of the legal difficulties in connection with the financing of this project, conditions over which the applicant has no control, all as hereinbefore set forth, the time for compliance with each and every act or action required under the terms and provisions of said Permit No. 18673 is extended a period of time equal to the time during which the applicant is delayed in proceeding with its work and complying with said acts or actions as aforesaid, said extension of time to date from September 24, 1938, being the date of the filing of the application for extension of time with the Department of Reclamation, and said applicant herein should notify this department of the removal of the disability above set forth within thirty days from the date the same is removed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Department of Reclamation of the State of Idaho, at Boise, Idaho, this 31st day of October, 1938.

R. W. FARIS
Commissioner of Reclamation

By

Paul H. Berg
Deputy Commissioner

18673

November 2, 1938

Re: Permit No. 18673,
Village of Troy.

Mr. Edward Solberg, Chairman
Village of Troy Board of Trustees
Troy, Idaho

Dear Sir:

We are herewith enclosing an order granting the Village of Troy an extension of time in which to comply with the terms and provisions set forth in the above numbered permit to appropriate the public waters of the State of Idaho.

You will note that you are to notify this department of the removal of the disability set forth in your application for extension of time within thirty days after such disability has been removed.

Very truly yours,

R. W. FARIS
Commissioner of Reclamation

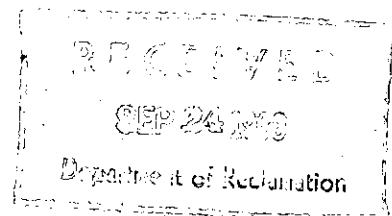
By

Chief Clerk

jl
Encl.
cc to L. Weldon Schimke.

18673

18673



AFFIDAVIT REQUESTING TIME EXTENSION

STATE OF IDAHO }
County of Latah } ss.

Edward Solberg, being first duly sworn, on oath deposes and says: That he is the Chairman of the Board of Trustees of the Village of Troy, a municipal corporation in Latah County, State of Idaho, and that he makes this affidavit and petition for and on behalf of said municipality.

That heretofore and on the second day of September, 1938, the State of Idaho, by and through its commissioner of reclamation, its governor and secretary of state, made, executed and delivered to said Village of Troy a certain permit to appropriate the public waters of the State of Idaho, pursuant to application regularly made therefor, which said permit is recorded in Book 68 at Page 18673 of the water right records of the State of Idaho.

That said permit specifies that work on the project referred to in said application was to begin on or before November 1, 1938, that one-fifth of such work was to be completed on or before March 2, 1939, and that the entire project was to be completed on or before September 2, 1939.

That the Village of Troy has approximately 600 residents, and that it is faced with a water shortage by reason of the failure of the wells owned by said Village to produce water in quantity sufficient for the domestic and other needs of the inhabitants of said Village. That it appears highly unlikely that it would be possible to drill a new well within said Village which would produce sufficient water. That the authorities of said Village know of no solution to the general problem, save and except by appropriating and using the water in accordance with the permission given in the permit above referred to.

18673

That it is and has been the plan of said Village to obtain the assistance of the Works Progress Administration of the United States Government in constructing the necessary dam and pipe line, and that the assistance of Rodney Small, an engineer formerly connected with the Latah County unit of the Works Progress Administration was obtained for such purpose. That said Rodney Small has resigned his said post, and is not now in Latah County, Idaho, and that additional time will be required to obtain the approval and ~~xxxxx~~ assistance of the Works Progress Administration to aid in the construction of said project.

That said Village will be unable to finance the construction of said project by issuing general obligation bonds of said Village for the reason that said Village has already issued bonds up to the constitutional limit of its capacity to contract indebtedness. That the statutes of the State of Idaho make no provision for the issuance of Local Improvement District bonds for such an improvement.

That the Village of Troy proposes to finance its share of the cost of constructing such project by issuing revenue bonds pursuant to the provisions of Chapter 186 of the 1933 Session Laws of the State of Idaho. That affiant is informed and believes and therefore alleges that revenue bond legislation in the State of Idaho is subject to some constitutional question, and affiant is further informed and believes that the constitutionality of the 1933 act referred to can probably be sustained, but that the precise issue presented has never been litigated in the courts of this State, and that a test case may be necessary in order to render the bonds marketable.

That time will be required to work out the legal problems involving ~~xxxxx~~ in financing such project.

That the approval of the Works Progress Administration is a "matter within the jurisdiction of the United States" within the meaning of Section 41-204 I. C. A. such as will justify a

18673

time extension.

That it will be impractical to prosecute the work of constructing said dam, pipe line and reservoir with any despatch until the assistance of the Works Progress Administration has been obtained and legal and financial problems involved in financing the improvement have been worked out.

WHEREFORE, the Village of Troy prays that the time for beginning work on said project and completing the same be extended until such time as the Commissioner may deem reasonable, and that if possible, it be required that the time for beginning work shall be extended to June 2, 1939, that one-fifth of the work be required to be completed on January 2, 1940, and that the entire project be completed not later than June 2, 1940.

Respectfully submitted,

Edward Solberg

Subscribed and sworn to before me this 21st day of
September, 1938.

L. Weldon Deem

Notary Public, residing at
Moscow, Idaho.

18673

**NOTICE FOR PUBLICATION
NOTICE OF PROOF APPLICATION OF WATER TO BENEFICIAL USE**

Notice is hereby given that at 10:00 A. M. on the 12th day of July, 1954, at Troy, County of Latah, State of Idaho, before F. O. Brocke, a Notary Public, proof will be submitted of the application to beneficial use of 1 cubic foot per second of the waters of an un-named stream in accordance with the terms and conditions of Permit No. 18673 heretofore issued by the Department of Reclamation of the State of Idaho.

The name and postoffice address of the person or corporation holding said permit are The Village of Troy, Troy Idaho.

The use to which said water has been applied is Domestic water supply for the Village of Troy.

The amount applied to beneficial use is 1 cubic foot per second.

The place where said water is used, Village of Troy, Troy, Idaho.

The right to take water from such works is based upon Permit No. 18673.

The source of supply from which such water is diverted is an un-named stream, tributary to Little Bear Creek.

The date of priority which said user is prepared to establish is August 6, 1938. 18673

MARK R. KULP

State Reclamation Engineer

6/10/54

State of Idaho
DEPARTMENT OF RECLAMATION
BOISE

Permit No. 18673

Boise, Idaho, September 6, 1938

Dear Sir:

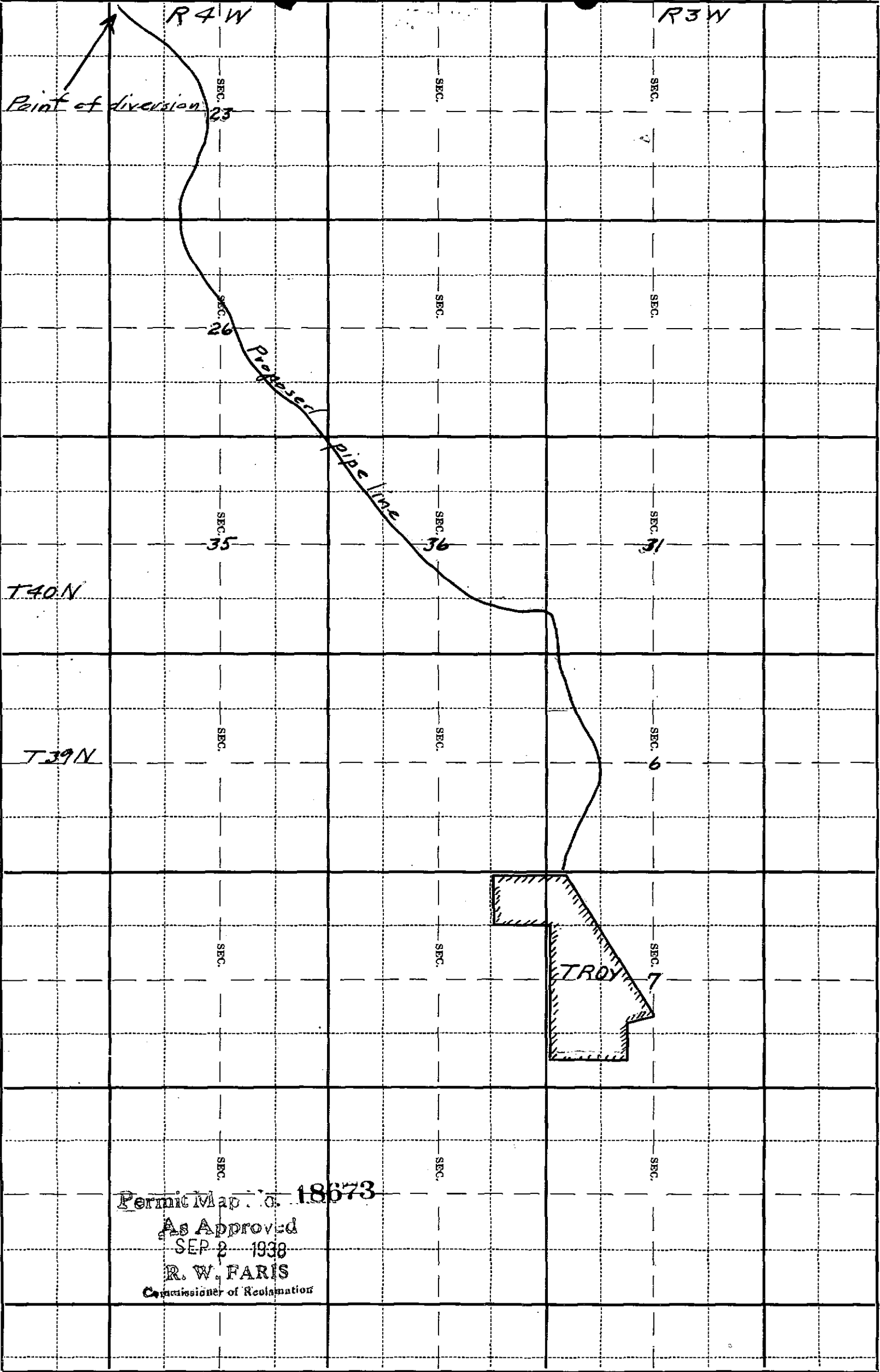
I enclose herewith above numbered permit. BE SURE AND
NOTE LIMITATIONS AND CONDITIONS OF SAME as
given under approval of the Commissioner of Reclamation on
the third page.

Edward Sollberg, Agent
Village of Troy
Troy, Idaho

R. U. FARIS
Commissioner of Reclamation.

Encl.
Office Receipt for \$5.00.

18673



STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE

18673

Boise, Idaho, August 8, 1938

Application No. 26015.

THE VILLAGE OF TROY
Troy, Idaho

SIR:

Application which has been filed under the above number is herewith returned for correction in the following particulars:

Signature of applicant's authorized agent.

You are allowed until 60 days from date of first return for correction, as stamped in second line on back of application, to file completed application. If received after that date application will be refiled under a new number with later priority, requiring additional fee.

Yours truly,

R. W. FARIS

COMMISSIONER OF RECLAMATION.

By

Paul H. Berg
Deputy Commissioner of Reclamation

Encl: App. & Office Receipt for \$5.00.

18673

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE

Boise, Idaho, August 8, 1938

18673
Application No. 26015.

THE VILLAGE OF TROY
Troy, Idaho

SIR:

Application which has been filed under the above number is herewith returned for correction in the following particulars:

Signature of applicant's authorized agent.

You are allowed until 60 days from date of first return for correction, as stamped in second line on back of application, to file completed application. If received after that date application will be refiled under a new number with later priority, requiring additional fee.

Yours truly;

R. W. PARIS
COMMISSIONER OF RECLAMATION.

By Deputy Commissioner of Reclamation

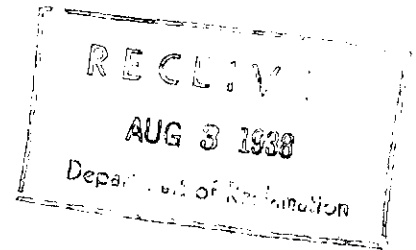
Encl: App. & Office Receipt for \$5.00.

18673

UNIVERSITY OF IDAHO

MOSCOW

1 August 1938



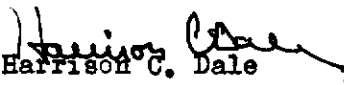
Mr. Robert W. Faris
Commissioner of Reclamation
State House
Boise, Idaho

Dear Mr. Faris:

Sometime ago the University acquired by gift a considerable tract of land to the east of Moscow Mountain for use as an experimental forest tract. We wish to divert water for camp purposes from Meadow Creek which flows through this tract. The diversion itself would be made in Section 23, Township 40N, Range 4W, Boise Meridian. The water would be used at the camp constructed in the northwest corner of Section 26 of the same township and range. Meadow Creek from which this diversion is to be made is part of the Potlatch drainage and the water is to be taken from a "head" made possible through a very simple dam in the center of the creek and the flow directed into a three-inch pipe.

I should be pleased if you would send me the necessary papers for instituting this filing.

Very truly yours,


Harrison C. Dale
President

18672