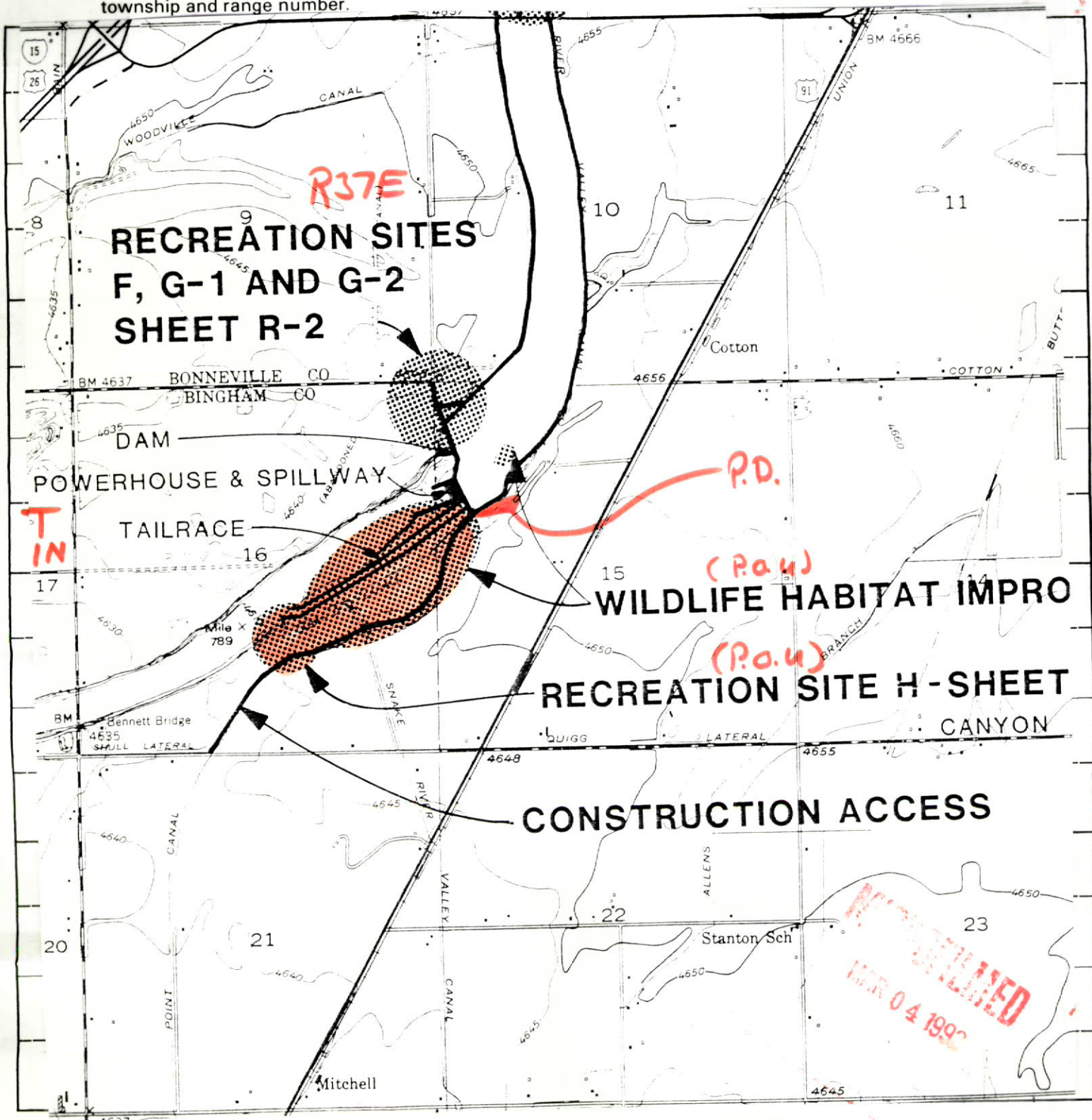


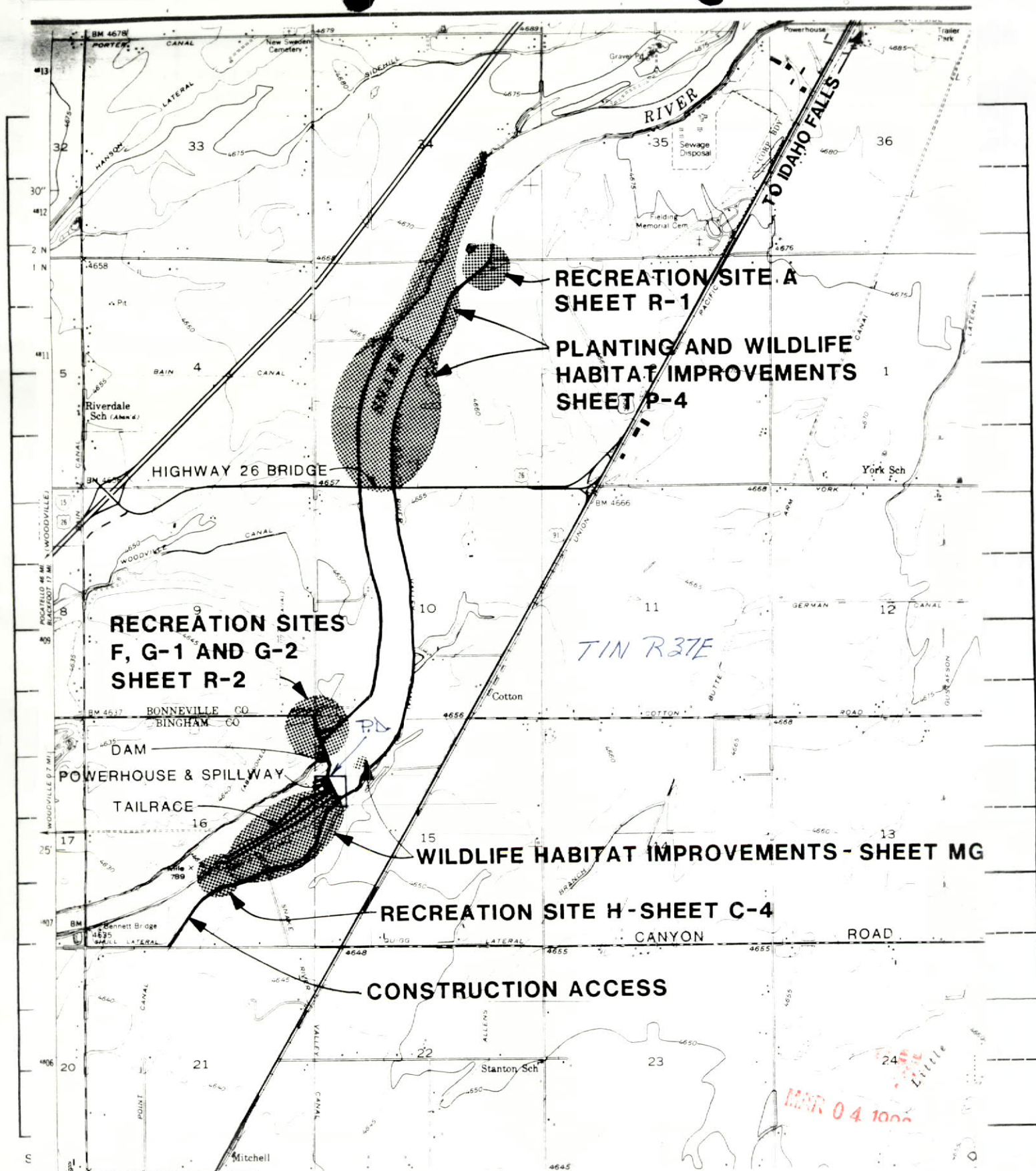
13. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile.

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.

x G. L. Harrison
(Applicant)
City Electrical Engineer



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.

CITY OF IDAHO FALLS
by: G. S. Harrison
G. S. Harrison (Applicant)
City Electrical Engineer

RECEIVED

APR 27 1990

Department of Water Resources
Eastern District Office

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Eastern Region
150 Shoup Ave., Suite 15
Idaho Falls, Idaho 83402
(208) 525-7161

NOTICE OF APPLICATION
FOR WATER RIGHT

The following application(s) have been filed
to appropriate the public waters of the State of
Idaho:

01-07104

CITY OF IDAHO FALLS
P.O. BOX 50220
IDAHO FALLS, ID 83405
Source: SNAKE RIVER
Tributary: COLUMBIA RIVER
Diversion Pt: NWSWN Sec. 15 T 01N R 37E
Use: IRRIGATION (.480 CFS)
WILDLIFE (10.000 CFS)
Total Diversion: (10.000 CFS)
Date Filed: 9/22/1989
In: T01N R37E S15 SWNW NWSW S16 SENE
NESE NWSE
24.0 ACRES TOTAL

The permit(s) will be subject to all prior
water rights. Protests must be filed with the
Director, Dept. of Water Resources, Eastern
Region, 150 Shoup Avenue, Suite 15, Idaho
Falls, Idaho 83402 on or before APRIL 23,
1990.

R. KEITH HIGGINSON
DIRECTOR

(746)
Pub.: 4/5, 12

AFFIDAVIT of PUBLICATION

County of Bingham)

State of Idaho)

I, Ted Townsend do
solemnly

swear that I am the Publisher of
The Morning News which is a daily newspaper of
general circulation published each day except Sunday
at Blackfoot, Bingham County, Idaho, said newspaper
having been so published at Blackfoot, aforesaid for
more than one year past; that said newspaper
heretofore complied with all the provisions of Chapter
154 of the Sessions Laws of Idaho of 1933, approved
March 11, 1933, and duly designated, pursuant to law,
a particular day of the week as the day on which legal
notices required by law or by the order of any Court of
competent jurisdiction within the State of
Idaho shall be published to-wit: of each week; that the
notice attached hereto and which is a part of this af-
fidavit and part of the proof of publication was
published in said issue or said

newspaper two consecutive weeks,

the first publication having been made on the

5th day of April, 1990;

and the last publication having been made on the
12th day of April, 1990;

that said notice was published in the regular and entire
issue of every number of the paper as aforesaid during
the period and time of publication, and that notice was
published in the newspaper and not in a supplement.

On this 23rd day of April, in
the year 1990 before me a Notary Public of said State,
personally appeared

Ted Townsend
known or identified to me to be the person whose
name is subscribed to the within instrument, and being
by me first duly sworn, declared that the statements
therein are true, and acknowledged to me that he ex-
ecuted the same.

Raye R. Ryon
Notary Public for the State of Idaho,
Residing at Blackfoot, Idaho
My commission expires
November 10, 1994

Affidavit Processing Fee \$5.00

RECEIVED

MAR 04 1992

BONNEVILLE CO

BINGHAM CO

SITE OF IDAHO FALL'S
GEM STATE
HYDRO POWER PROJECT

T
N R37E

ABANDONED

4643

4625

Mile X
790

15

Levee

POND

IRRIGATED PLOTS

Mile X
789

BONNEVILLE CO.
BINGHAM CO.

SNAKE

BONNEVILLE CO.
BINGHAM CO.

01-07104

4645

RIVER

FEB 10 1998

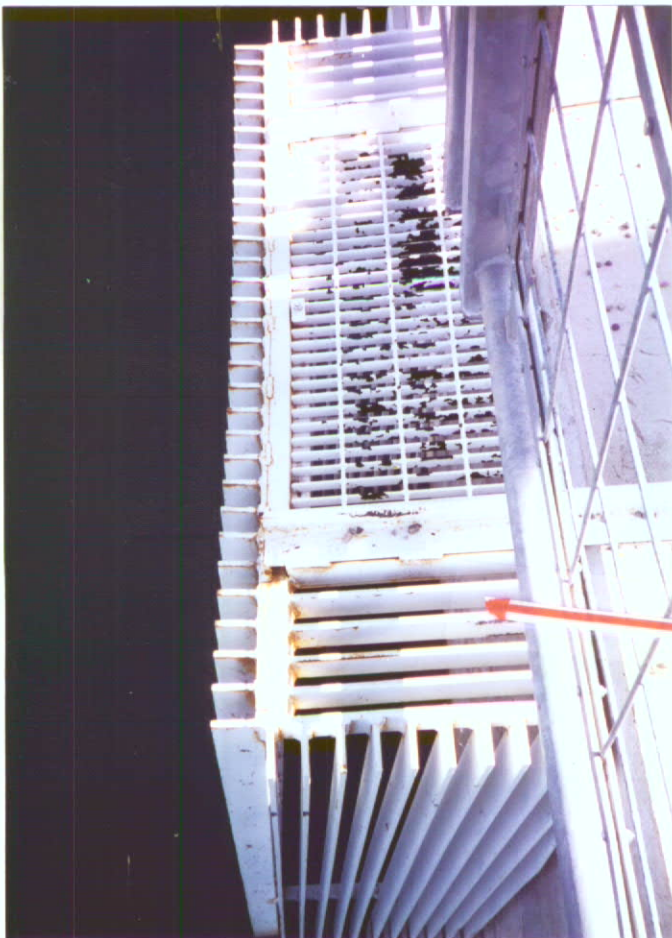


GEM STATE HYDROELECTRIC PROJECT

01-07104
MICROFILMED
FEB 10 1998



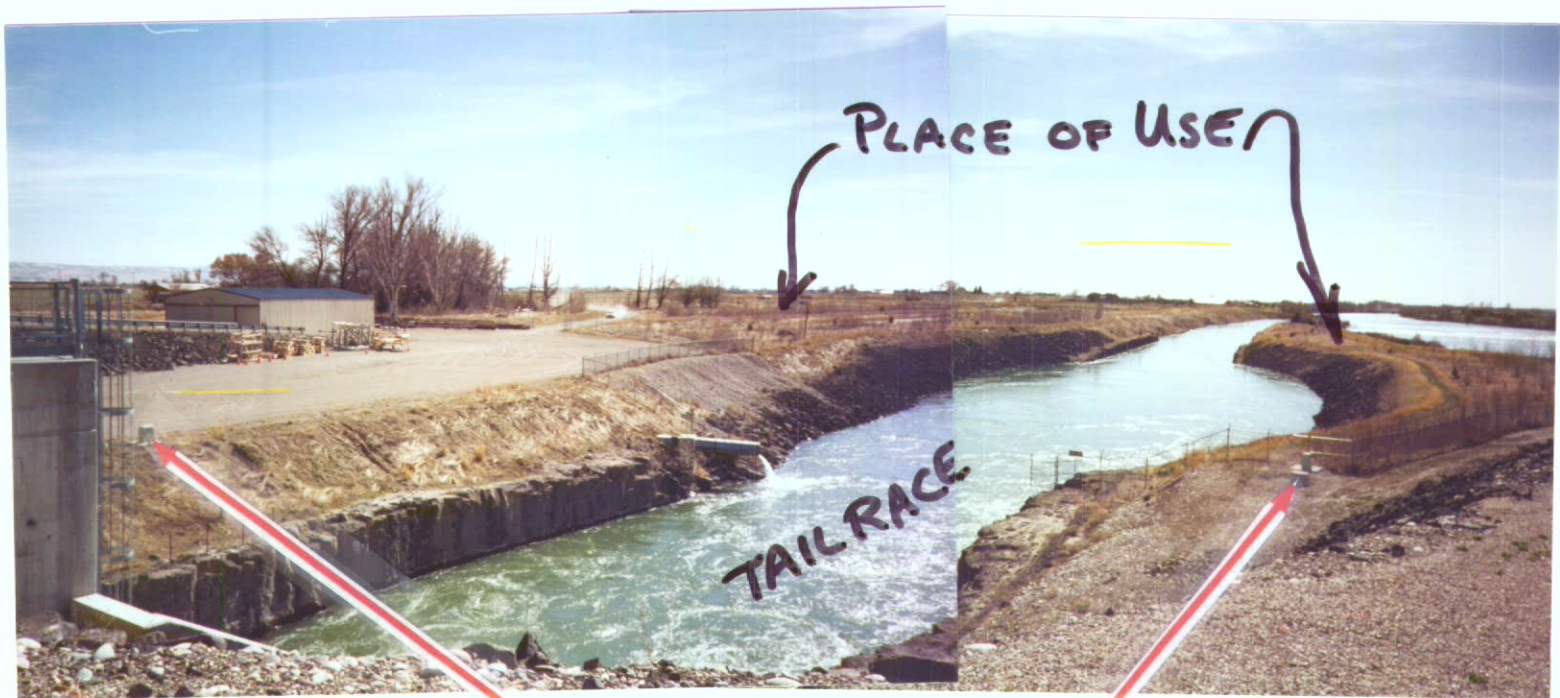
DIVERSION HEADGATES



DIVERSION
SCREEN

MICROFILMED
FEB 10 1998

01-07104



FLOW MEASURING METERS

01-07104

FEB 10 1968

WATER RIGHT LICENSE

WATER RIGHT NO. 01-07104

Priority: September 22, 1989

Maximum Diversion Rate: 10.00 CFS

Maximum Diversion Volume: 7307.0 AF

This is to certify, that CITY OF IDAHO FALLS
PO BOX 50220

IDAHO FALLS ID 83405 has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated September 22, 1989; and has submitted Proof of Beneficial Use on October 5, 1992. An examination indicates that the works have a diversion capacity of 95.000 cfs of water from:

Snake River tributary to Columbia River

source, and a water right has been established as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 to 10/31	0.40 CFS	80.0 AF
WILDLIFE	01/01 to 12/31	10.00 CFS	7227.0 AF
	Totals	10.00 CFS	7307.0 AF

LOCATION OF POINT(S) OF DIVERSION: Lot 5 (SWNW), Sec. 15, Township 01N, Range 37E
BONNEVILLE County

PLACE OF USE: IRRIGATION

<u>TWN</u>	<u>RGE</u>	<u>SEC</u>		<u>ACRES</u>		<u>ACRES</u>		<u>ACRES</u>	<u>TOTAL</u>
01N	37E	15	Lot 2 (SWNW)	2		NWSW	1		3
		16	Lot 1 (SENE)	5	Lot 8 (NESE)	7		NWSE 5	17
Total number of acres irrigated:									20

PLACE OF USE: WILDLIFE

<u>TWN</u>	<u>RGE</u>	<u>SEC</u>		
01N	37E	16	SENE	NESE

CONDITIONS OF APPROVAL AND REMARKS

1. The maximum diversion volume is defined as the maximum allowable volume of water that may be diverted annually from the source under this right. The use of water confirmed by this right is limited to the amount that can actually be beneficially used. The maximum diversion volume may be adjusted to more accurately describe the beneficial use or to implement accepted standards of diversion and use efficiency.
2. This water right is appurtenant to the described place of use.
3. This right is subject to all prior water rights and may be forfeited by five years of non-use.

MICROFILMED

FEB 10 1998

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 01-07104

CONDITIONS OF APPROVAL AND REMARKS

4. Modifications to or variance from this license shall be made within the limits of Section 42-222, Idaho Code, or the applicable Idaho law.
5. The right holder shall maintain a measuring device and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion.
6. The use of water under this right shall not give rise to any claim against the holder of a senior water right based upon the theories of forfeiture, abandonment, adverse possession, waiver, equitable estoppel, estoppel by laches or customary preference.
7. This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 4.0 afa per acre at the field headgate for irrigation of the lands above.
8. Use of water under this permit shall be administered by the watermaster of State Water District No. 01.
9. The Director retains jurisdiction of this right to require streamflow augmentation or other action needed to protect prior surface water and groundwater rights.
10. Diversion of water for wildlife use shall be non-consumptive.

This license is issued pursuant to the provisions of Section 42-219, Idaho Code. Witness the seal and signature of the Director, affixed at Boise, this 9TH day of JANUARY, 1998.


Acting for KARL J. DREHER, Director

MICROFILMED
FEB 10 1998

RECEIVED

OCT 05 1992

Department of Water Resources

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

For Office Use: Only
Amt. of Fee \$ 325.00
Date 10-6-92
Receipt No. 8025665
Received by [Signature]

The Idaho Department of Water Resources will consider this form as a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee or a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

1. Permit No. 01-07104 Telephone No. 529-1430

2. Name(s) of Permit Holder(s): City of Idaho Falls

3. Post Office Address: P.O. Box 50220 Idaho Falls, ID 83405

4. Source of Water: Snake River

a. If ground water, well driller's name: NA Date drilled: NA

b. Pump horsepower: NA Pressure (psi): NA Dynamic pumping level (ft.): NA

5. Extent of Use:

Domestic (No. of households) Irrigation 24 (No. of acres)

Stockwater (No. and type of stock) Other

6. Total rate and/or volume for which proof is submitted 10 cfs acre/feet

7. Refer to the approval conditions on your permit and respond accordingly:

Measuring device: Required? X Yes No Installed? X Yes X No (on order 3/13/92)
OR
Flow Measurement Port: Required? X Yes No Installed? X Yes X No (on order 3/13/92) NA-10/13/92/Klg

8. Fee Enclosed: \$ 325.00 (See License Examination Fee Schedule)

9. Person to contact to accompany the Department representative during the field examination:

Mark Gendron 529-1430
Name Telephone No.

140 S Capital, Idaho Falls, ID
Address

10. The above information is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the state of Idaho.

9-28-92
Date

[Signature] Chief Engineer
Signature (and title if on behalf of a company or organization)

RECEIVED
OCT 22 1992

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 01-07104

Proposed Priority: September 22, 1989 Maximum Diversion Rate: 10.00 CFS
This is to certify, that CITY OF IDAHO FALLS

PO BOX 50220
IDAHO FALLS ID 83405

has applied for a permit to appropriate water from:

SNAKE RIVER

tributary of COLUMBIA RIVER

and a permit is APPROVED for development of water as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>
IRRIGATION	04/01 to 11/01	0.48 CFS
WILDLIFE	01/01 to 12/31	10.00 CFS
	Totals	10.00 CFS

LOCATION OF POINT(S) OF DIVERSION:

NWSWNW , Sec. 15, Township 01N, Range 37E
BINGHAM County

PLACE OF USE: IRRIGATION

<u>TWN</u>	<u>RGE</u>	<u>SEC</u>	<u>ACRES</u>	<u>ACRES</u>	<u>ACRES</u>	<u>TOTAL</u>
01N	37E	15	SWNW 3	NWSW 2		5
		16	SENE 4	NESE 10	NWSE 5	19
Total number of acres irrigated:						24

PLACE OF USE: WILDLIFE

TWN RGE SEC

01N 37E 16 NESE NWSE

CONDITIONS/REMARKS:

1. Proof of construction of works and application of water to beneficial use shall be submitted on or before April 1, 1993.
2. Subject to all prior water rights.
3. A measuring device and lockable controlling works of a type acceptable to the Department shall be permanently installed and maintained as part of the diverting works prior to diversion of water under this right.
4. The use of water under this right shall not give rise to any claim against the holder of a senior water right based upon the theories of forfeiture, abandonment, adverse possession, waiver, equitable estoppel, estoppel by laches or customary preference.
5. The rate of diversion of water for irrigation under this right and all other water rights on the same land shall not exceed 0.02 cubic feet per second for each acre of land.

RECORDED

MAR 04 1992

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 01-07104

CONDITIONS/REMARKS:

6. Use of water under this permit shall be administered by the watermaster of State Water District No. 01.
7. The Director retains jurisdiction of the permit and any license subsequently issued to require streamflow augmentation or other action needed to protect prior surface water and groundwater rights.
8. Diversion of water for wildlife use shall be non-consumptive.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the seal and signature of the Director, affixed at Boise, this

28th day of February, 1992.

for R. Keith Higginson
R. Keith Higginson, Director

RECORDED

MAR 04 1992

RECEIVED

Form 202
SEP 22 1989

01 7104

Ident. No. _____

Department of Water Resources
Eastern District Office

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant City of Idaho Falls Phone 529-1430
Post office address Box 50220, Idaho Falls, ID 83405
2. Source of water supply Snake River which is a tributary of Columbia River
3. Location of point of diversion is NW $\frac{1}{4}$ of SW $\frac{1}{4}$ of NW $\frac{1}{4}$, Govt. Lot _____
Sec. 15 Township 1N Range 37E B.M. Bingham County; additional
points of diversion if any: _____
4. Water will be used for the following purposes:
Amount 0.48 cfs for Irrigation purposes from 4-1 to 11-1 (both dates inclusive)
(cfs or acre-feet per annum)
Amount 85 af for Wildlife purposes from 1-1 to 12-31 (both dates inclusive)
(acre-feet per annum)
Amount 10cfs for Wildlife purposes from 1-1 to 12-31 (both dates inclusive)
(cfs or acre-feet per annum)
Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)
5. Total quantity to be appropriated is (a) 10 cubic feet per second and/or (b) _____ acre feet per annum
6. Proposed diverting works:
 - a. Description of ditches, flumes, pumps, headgates, etc. Water will be diverted from Gem State Reservoir through two pipes already located in Gem State Dam for filling pond on east bank and watering adjacent area as well as watering small island downstream from dam.
 - b. Height of storage dam _____ feet; active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet; period of year when water will be diverted to storage: _____ to _____ inclusive.
 - c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.
 - d. Is ground water with a temperature of greater than 90°F being sought? No
7. Time required for the completion of the works and application of the water to the proposed beneficial use is 1 years (minimum 1 year).

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MAR 04 1992

8. Description of proposed uses (if irrigation only, go to item 9):

- a. Hydropower; show total feet of head and proposed capacity in KW. _____
- b. Stockwatering; list number and kind of livestock. _____
- c. Municipal; show name of municipality. _____
- d. Domestic; show number of households. _____
- e. Other; describe fully. Wildlife habitat restoration pond with outlet directly to the Snake River.

9. Description of place of use:

- a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
- b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
1N	37E	16				4									R/10	R/5			19
		15							3			2							5

Total number of acres to be irrigated 24

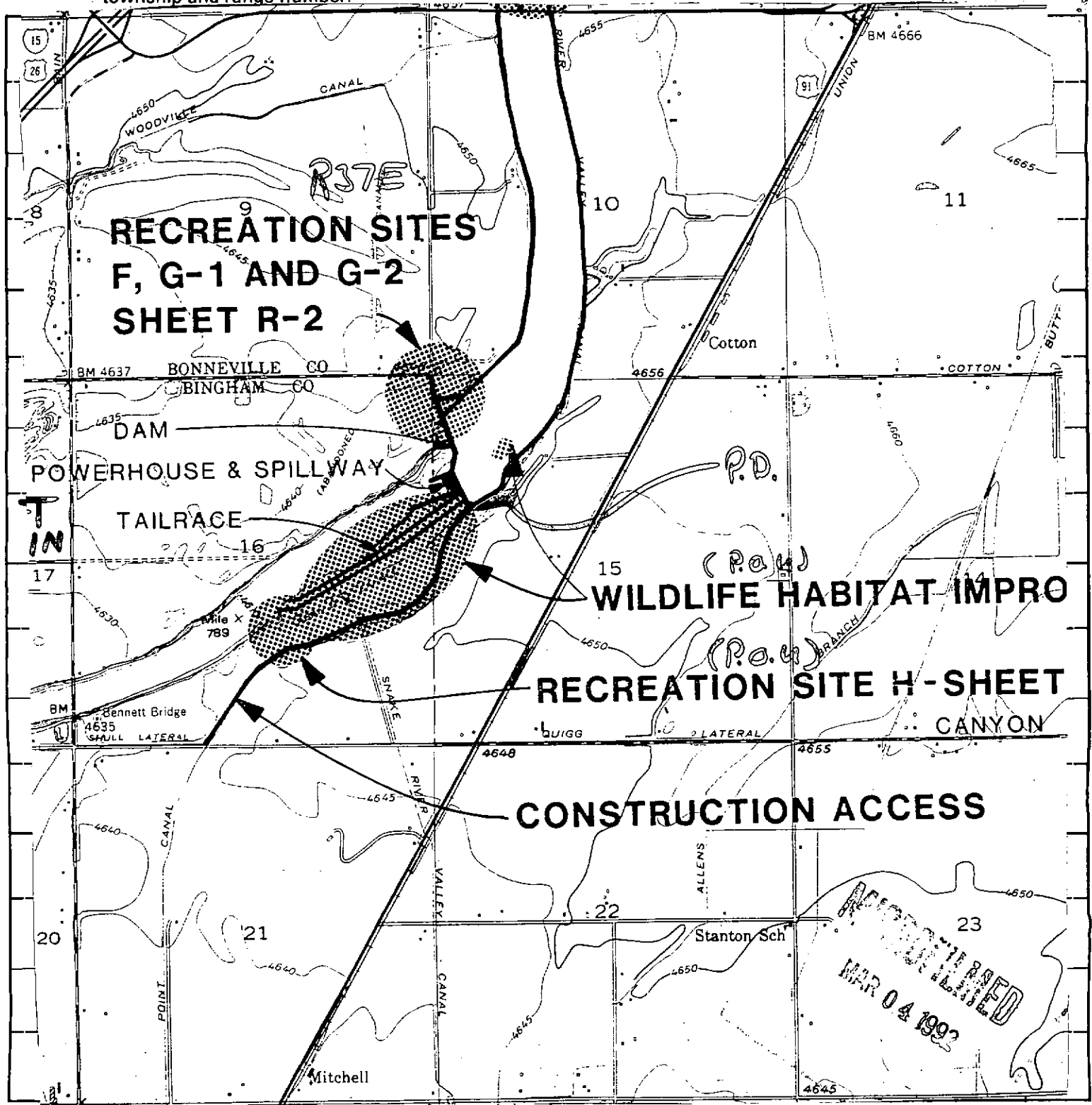
10. Describe any other water rights used for the same purposes as described above. None

11. a. Who owns the property at the point of diversion? - Applicant
- b. Who owns the land to be irrigated or place of use? Applicant
- c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing. _____

12. Remarks: All the water diverted to Wildlife use (10 cfs) will be returned to the Snake River.

MAR 04 1992

13. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile.

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.

x Y. Harrison
(Applicant)
City Electrical Engineer

RECEIVED
MAR 04 1992

e. Other:

- d. The water right acquired under this permit if for hydropower purposes shall be junior and subordinate to all rights to the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this permit and shall not give rise to any right or claim against any future rights to the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this permit.
- c. The rate of diversion, if water is to be used for irrigation under this permit, when combined with all other water rights for the same land shall not exceed 0.02 cubic feet per second for each acre of land.

19

- b. Proof of construction of works and application of water to beneficial use shall be submitted on or before
- a. SUBJECT TO ALL PRIOR WATER RIGHTS.

1. Approval of said application is subject to the following limitations and conditions:

Idaho No. _____, and said application is hereby _____

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

Publication approved _____

Publication prepared by _____

Fee \$ 225.00

Received by DMD # E00877

Date 5 June 1989

Received by _____ Date 5-30-89 Time 2:00pm

Preliminary check by _____

9-22-89

9:22am

425
CW

Published in Morning News

Date 3-5-89

Date 5-14-89

STATE OF IDAHO

Ident. No. _____

DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant City of Idaho Falls Phone (208) 529-1430

Post office address Box 50220, Idaho Falls, Idaho 83405

2. Source of water supply Snake River which is a tributary of Columbia River

3. Location of point of diversion is NW $\frac{1}{4}$ of SW $\frac{1}{4}$ of NW $\frac{1}{4}$, Govt. Lot _____

Sec. 15 Township 1N. Range 37E. B.M. Bingham County; additional

points of diversion if any: _____

4. Water will be used for the following purposes:

Wildlife habitat

Amount 10cfs for improvement purposes from Jan. 1 to Dec. 31 (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

5. Total quantity to be appropriated is (a) 10 cfs and/or (b) _____
cubic feet per second acre feet per annum

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. Water will be diverted from Gem State Reservoir through two pipes already located in Gem State Dam for filling pond on east bank and watering adjacent area as well as watering small island downstream from dam.

b. Height of storage dam _____ feet; active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet; period of year when water will be diverted to storage: _____ to _____ inclusive.

c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.

d. Is ground water with a temperature of greater than 90°F being sought? NO

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 1 year years (minimum 1 year).

*As per telephone conversation

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MAR 04 1992

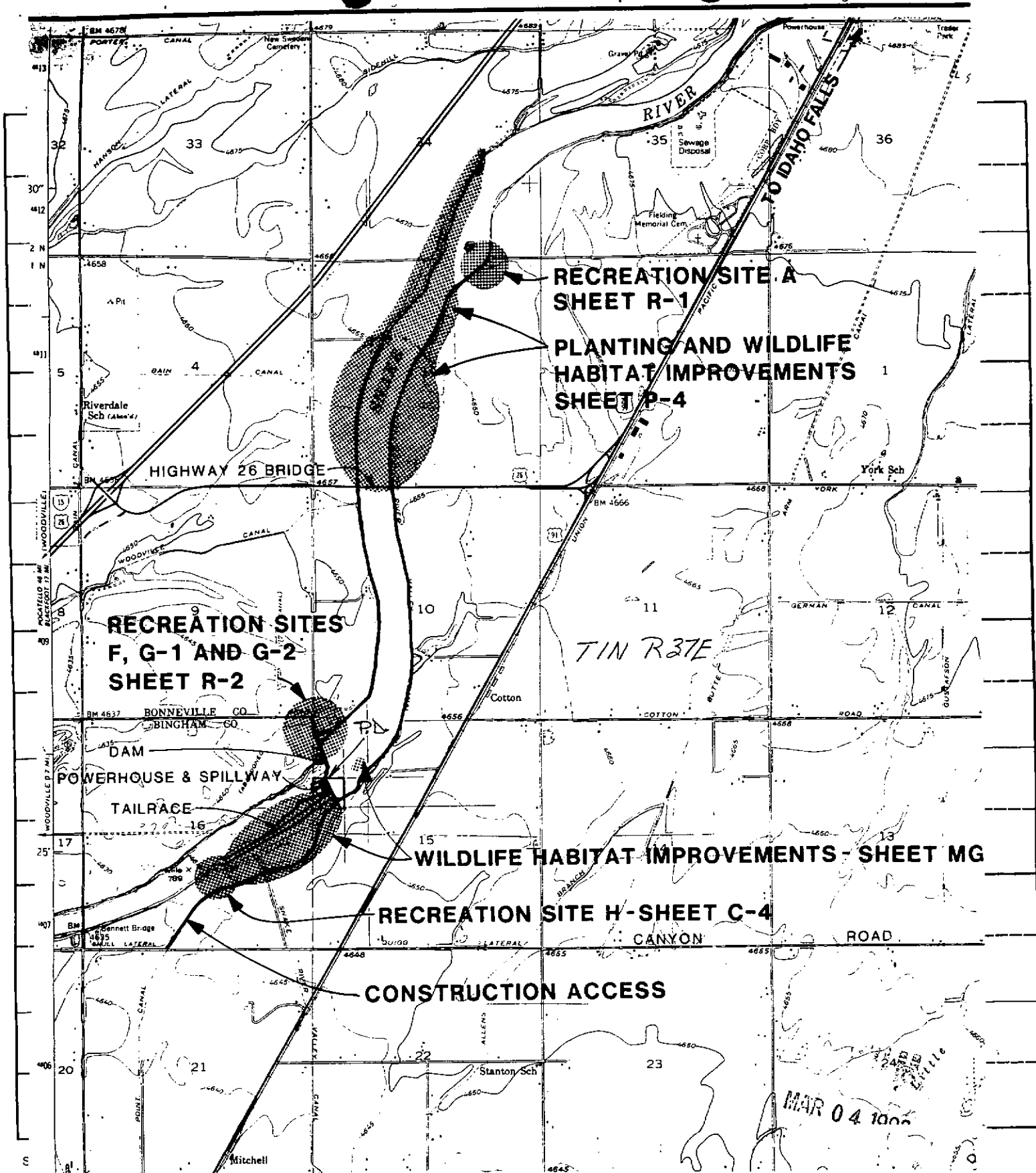
8. Description of proposed uses (if irrigation only, go to item 9):
- Hydropower; show total feet of head and proposed capacity in KW. _____
 - Stockwatering; list number and kind of livestock. _____
 - Municipal; show name of municipality. _____
 - Domestic; show number of households. _____
 - Other; describe fully. Under City's FERC license for Gem State Hydroelectric Project, City is required to construct a pond and plant and maintain the surrounding area downstream from the dam on a small island and on the east bank for wildlife habitat.
9. Description of place of use:
- If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
 - If water is used for other purposes, place a symbol of the use (example: *D* for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
1N.	37E.	15							X			X							
		16			X	X									X	X			

Total number of acres to be irrigated _____

10. Describe any other water rights used for the same purposes as described above. _____
11. a. Who owns the property at the point of diversion? Applicant
- b. Who owns the land to be irrigated or place of use? Applicant
- c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing. _____
12. Remarks: All of the water diverted, except for the small amount consumed by the trees and plants, will be returned to the River within the wildlife improvement area shown on the attached map.

MAR 04 1992



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.

CITY OF IDAHO FALLS
by: G. S. Harrison
G. S. Harrison (Applicant)
City Electrical Engineer

Received by AW Date 5-30-89 Time 2:00p. Preliminary check by _____
Fee \$ 225.00 Received by SMB # E008777 Date 5 1989
Publication prepared by _____ Date _____ Published in _____
Publication approved _____ Date _____

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. _____, and said application is hereby _____.

1. Approval of said application is subject to the following limitations and conditions:

- a. SUBJECT TO ALL PRIOR WATER RIGHTS.
- b. Proof of construction of works and application of water to beneficial use shall be submitted on or before _____, 19 ____.
- c. The rate of diversion, if water is to be used for irrigation under this permit, when combined with all other water rights for the same land shall not exceed 0.02 cubic feet per second for each acre of land.
- d. The water right acquired under this permit if for hydropower purposes shall be junior and subordinate to all rights to the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this permit and shall not give rise to any right or claim against any future rights to the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this permit.
- e. Other:

MICROFILMED

MAR 04 1992



MEMORANDUM

To:

MIKE ELLIOTT

(OFFICE)

(OFFICE)

(OFFICE)

(OFFICE)

(OFFICE)

(OFFICE)

From: JRHN

Date: 1/30/88 Project No. ED18980.F4

Re: RESPONSE TO FOSTER LETTER DATED
JANUARY 19, 1989

FOSTER'S LETTER LISTS 3 WATER RIGHT
NEEDS AS SPECIFIED IN A LETTER TO
HIM FROM MARGARET JOHNSON DATED 12-23-88;
AND ONE WATER RIGHT HE WANTS TO
ADD. I'LL FIRST CLARIFY THE 3 NEEDS WE
SPECIFIED :

- 1) 23.9 ACRES OF WETLANDS MITIGATION
HAS AN ESTIMATED WATER REQUIREMENT
OF 96 ACRE-FEET OF WATER
- 2) 2 ACRES OF RECREATION AREA
HAS AN ESTIMATED WATER REQUIREMENT
OF 8 ACRE-FEET OF WATER. THIS
ASSUMES 4 FEET OF WATER APPLIED TO
2 ACRES.
- 3) FILLING AND MAINTAINING THE POND
REQUIRES WATER FOR EVAPORATION LOSSES,
SEEPAGE AND "FLOW THROUGH" TOTALING
5,420 ACRE-FEET (10 cfs x 9 months)
HOWEVER BECAUSE BOTH THE SEEPAGE
AND "FLOW THROUGH" WATER RETURNS TO
THE RIVER, ONLY THE THE EVAPORATION
LOSS OF ABOUT 40 ACRE-FEET.
(4.5 FEET x 9 ACRE) IS ACTUALLY USED.

MAR 04 1992





SUBJECT _____

DATE _____

SHEET NO. _____ OF _____

PROJECT NO. _____

WITH REGARDS TO KENIS DISCUSSION ON ALTERNATIVES FOR WATER RIGHTS, I THINK IT IS IMPORTANT FOR THE CITY TO KNOW THAT THEY WILL LOOSE EXISTING WATER RIGHTS TO PROPERTIES THEY OWN IF THEY DONT SHOW BENEFICIAL USE. THE CANAL COMPANIES WILL ALSO LOOSE CONVEYENCE OF THESE WATERS. IT IS THEREFORE TO THEIR ^(CANAL COMPANIES) BENEFIT TO ALLOW A POINT OF DIVERSION CHANGE AND PERMIT THE CITY TO FILE FOR USE OF THE WATER FOR MITIGATION PURPOSES (SEE ITEM 3. WATER RIGHTS IN KENI'S LETTER)

MAR 04 1992

RECEIVED

APR 2 / 1990

Department of Water Resources
Eastern District Office

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Eastern Region
150 Shoup Ave., Suite 15
Idaho Falls, Idaho 83402
(208) 525-7161

NOTICE OF APPLICATION
FOR WATER RIGHT

The following application(s) have been filed
to appropriate the public waters of the State of
Idaho:

01-07104

CITY OF IDAHO FALLS
P.O. BOX 50220
IDAHO FALLS, ID 83405
Source: SNAKE RIVER
Tributary: COLUMBIA RIVER
Diversion Pt: NWSWNW Sec. 15 T 01N R 37E
Use: IRRIGATION (.480 CFS)
WILDLIFE (10.000 CFS)
Total Diversion: (10.000 CFS)
Date Filed: 9/22/1989
In: T01N R37E S15 SWNW NWSW S16 SENE
NESE NWSE
24.0 ACRES TOTAL

The permit(s) will be subject to all prior
water rights. Protests must be filed with the
Director, Dept. of Water Resources, Eastern
Region, 150 Shoup Avenue, Suite 15, Idaho
Falls, Idaho 83402 on or before APRIL 23,
1990.

R. KEITH HIGGINSON
DIRECTOR

(746)
Pub.: 4/5, 12

AFFIDAVIT of PUBLICATION

County of Bingham)

State of Idaho)

I, Ted Townsend do

solemnly

swear that I am the Publisher of
The Morning News which is a daily newspaper of
general circulation published each day except Sunday
at Blackfoot, Bingham County, Idaho, said newspaper
having been so published at Blackfoot, aforesaid for
more than one year past; that said newspaper
heretofore complied with all the provisions of Chapter
154 of the Sessions Laws of Idaho of 1933, approved
March 11, 1933, and duly designated, pursuant to law,
a particular day of the week as the day on which legal
notices required by law or by the order of any Court of
competent jurisdiction within the State of
Idaho shall be published to-wit: of each week; that the
notice attached hereto and which is a part of this af-
fidavit and part of the proof of publication was
published in said issue or said
newspaper two consecutive weeks

the first publication having been made on the

5th day of April, 1990;

and the last publication having been made on the
12th day of April, 1990;

that said notice was published in the regular and entire
issue of every number of the paper as aforesaid during
the period and time of publication, and that notice was
published in the newspaper and not in a supplement.

On this 23rd day of April, in
the year 1990 before me a Notary Public of said State,
personally appeared

Ted Townsend
known or identified to me to be the person whose
name is subscribed to the within instrument, and being
by me first duly sworn, declared that the statements
therein are true, and acknowledged to me that he ex-
ecuted the same.

Rose Dupon
Notary Public for the State of Idaho,
Residing at Blackfoot, Idaho
My commission expires
November 10, 1994

Affidavit Processing Fee \$5.00

MAR 04 1992



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

January 12, 1998

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

CITY OF IDAHO FALLS
PO BOX 50220
IDAHO FALLS ID 83405

RE: WATER RIGHT NO. 01-07104

Dear Water Right Holder(s):

The Department of Water Resources (the Department) has issued the enclosed license confirming that a water right has been established in accordance with the permit referenced above. The license is a preliminary order issued by the Department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action of the Department unless a party petitions for reconsideration or files an exception and/or brief as further described below:

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the Department within fourteen (14) days of the service date of this order. The Department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See section 67-5243(3), Idaho Code.

EXCEPTIONS AND BRIEFS

Within twenty-one (21) days after (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding. Otherwise, this preliminary order will become a final order of the Department.

If any party appeals or takes exceptions to this preliminary order, opposing parties shall have twenty-one (21) days to respond to any party's appeal. Written briefs in support of or taking exceptions to the preliminary order shall be filed with the Department. The Department retains the right to review the preliminary order on its own motion.

MICROFILMED

FEB 10 1998

ORAL ARGUMENT

If the Department grants a petition to review the preliminary order, the Department shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Department will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Department orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Department in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with Rules of Procedure 302 and 303.

FINAL ORDER

The Department will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Department may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The Department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its issuance if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) the petition for reconsideration is disposed of; or
- (b) the petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

If you have any questions, please call me at 208-327-7946.

Sincerely,

A handwritten signature in cursive script that reads "Shelley W. Keen".

Shelley W. Keen
Water Rights Supervisor

SK:klt

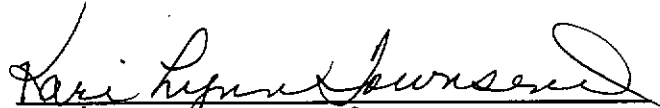
Enclosure

CERTIFICATE OF MAILING

I hereby certify that on the 12th day of January, 1998, I mailed a true and correct copy, postage prepaid, of the foregoing PRELIMINARY ORDER (Approved License) to the person(s) listed below:

Water Right No. 01-07104

CITY OF IDAHO FALLS
PO BOX 50220
IDAHO FALLS ID 83405


Kari Lynn Townsend
Secretary

RECORDED

FEB 10 1998

MEMORANDUM

TO: File 01-07104

FROM: Sharla

DATE: January 7, 1998

RE: Recommendation Adjustment(s)

The final license recommendations for Permit No. 01-07104 are based on the following:

C. DIVERSION AND DELIVERY SYSTEM

2. Place(s) of Use:

T1N, R37E, S15 - SWNW (2 acres), NWSW (1 acre)

S16 - SENE (5 acres), NESE (7 acres), NWSE (5 acres)

TOTAL 20 acres

H. RECOMMENDATIONS

Irrigation	4/1 - 10/31	0.40 cfs	80.0 afa
Wildlife	1/1 - 12/31	10.00 cfs	7227.0 afa
	TOTALS	10.00 cfs	7307.0 afa

For rights with > 5.0 acres, the number of acres per ¼¼ is rounded to the nearest whole number; the rate and volume for irrigation use have been modified accordingly.

The standard irrigation season for this area is 4/1 - 10/31.

Although wildlife is a non-consumptive use, we are required to list an annual volume for the use; it has been based on continuous flow.

Examiner: Keith Wilson
Exam Date: March 25, 1996

MICROFILMED
FEB 10 1998

LICENSE REVIEW CHECKLIST

PERMIT NO. 01-07104

DATE 7/28/97

REVIEWER: SHARLA

NAME	Change <u>OK</u>	Address Change <u>NO</u>
SOURCE	<u>✓</u>	Is change clarification of originally intended source? <u>NO</u>
POINT OF DIV	<u>✓</u>	If not, prepare Notice of Intent to Void <u>NO</u>
PLACE OF USE	<u>✓</u>	Amendment required <u>NO</u>

Does map agree with written description? yes no

OVERLAPS P/D P/U

RATE OF DIV

Permitted Rate 10.0 cfs
 Fee limit 10.0 cfs \$325⁰⁰
 Measured 95.0 cfs
 Theoretical cfs

Recommended Total Div Rate 10.0 cfs

ANNUAL VOLUME/
 NATURE OF USES

Use ✓

<u>Irr</u>	20	Volume Calculation
<u>Wild</u>	<u>17.1 x 4 = 80.4</u>	af
<u> </u>	<u>7227.0</u>	af
<u> </u>	<u> </u>	af
<u> </u>	<u> </u>	af
SUBTOTAL	<u>7307.4</u>	af

4/1-10/31 irr. season

Flow rate 10 cfs X 365 days X 1.98% = 7227.0 af
 Total volume recommended af
 (SUBTOTAL or Flow Rate, whichever is less)

REMARKS

Spec permit cond

CONDITIONS

Watermaster Control WD# 01
GW Measurement/Measuring Device
Overlap
Use-specific conditions

Advancement of Priority Date Required yes no

SRBA Claim Filed NA

1st Amend Letter NA

Adjustment Memo Wild

2nd Amend Letter NA

rounded acres
irr. season

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
APR 10 1996
Department of Water Resources

A. GENERAL INFORMATION

Permit No. 01-07104

1. Owner: City of Idaho Falls Phone No. 529-1430

Current Address: P.O. Box 50220, Idaho Falls, Id 83405

2. Accompanied by: Steve Elliott EXAM DATE: 25 Mar 1996

Address: - SAME - Phone No. 529-1430

Relationship to Permit Holder: _____

3. Source: Snake River tributary to Columbia River

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 01-7051, 25-7415

2. Other water rights with the same point of diversion: 01-60283, 25-7415

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No.	Gov't Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
	5	NW	SW	NW	15	1N	37E	Bonneville	On site inspection, USGS Quad, Aerial Photo

2. Place(s) of Use:

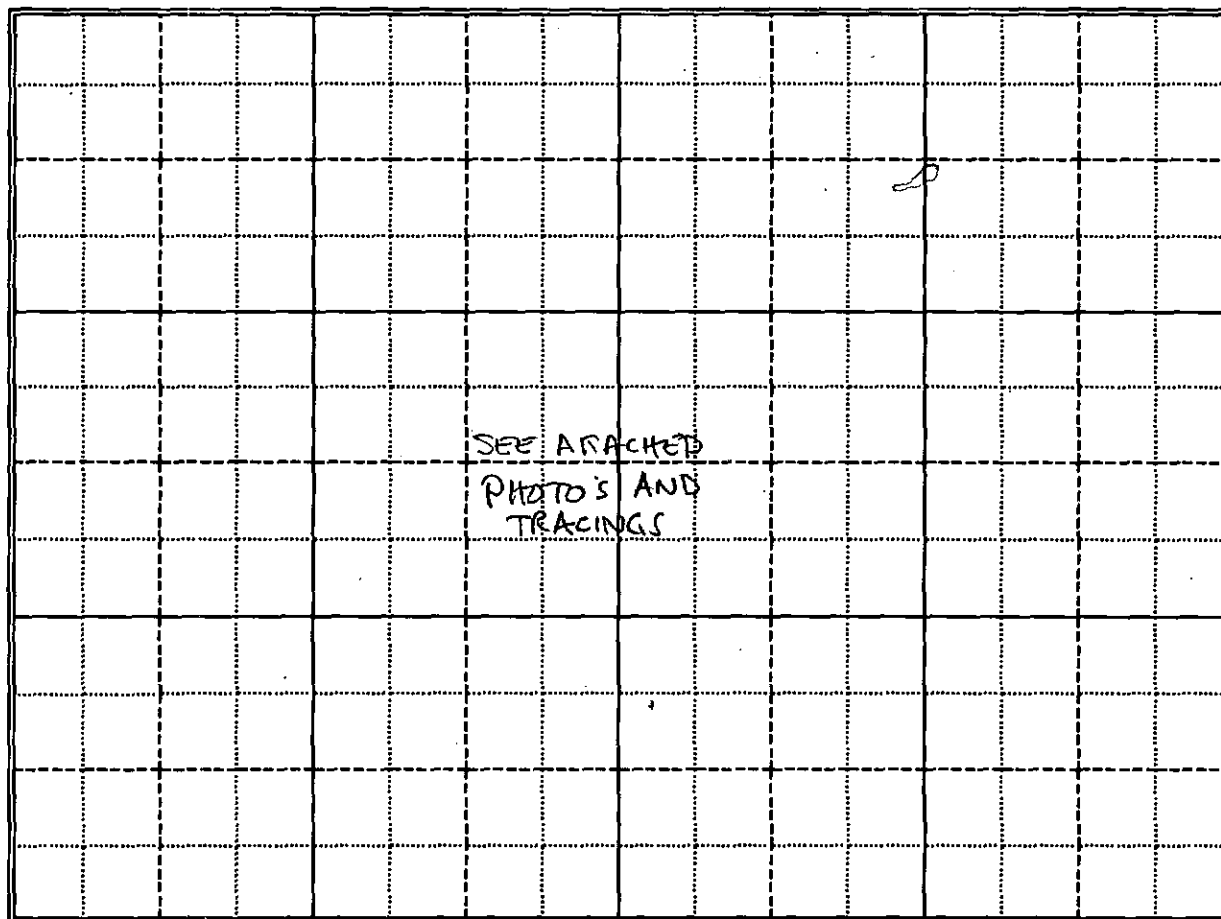
Indicate Method of Determination

TWP	RGE	SEC.	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
1N	37E	15							2.2				0.6						2.8
									L-2										
									L-5										
1N	37E	16													6.5	4.6			16.3
															L-1	L-2			
															L-8	L-9			
															W				19.1ac

MICROFILMED

FEB 10 1998

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe I.d. as applicable.



Scale: 1" = _____

____ Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

____ Aerial Photo Attached (required for irrigation of 10+ acres)

____ Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
METER	-	GRAINLAND	-	-	-	-

2. Measurements: Water District 01 - Flow Records 95 cfs

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FEB 1 1960

E. NARRATIVE/REMARKS/COMMENTS

GEM LAKE DAM ON Snake River through pipe w/ Grassland
Meters to ditches for WILDLIFE pond and to electric
control valves for flood irrigation.

PLACE OF USE DETERMINED BY TRACING AERIAL PHOTO TAKEN
ON 6-18-1992 (SEE TRACINGS "A", "B" & "C")

WILDLIFE USE IS NON-CONSUMPTIVE. WATER IS DIVERTED AT
GEM LAKE DAM THROUGH A PIPE TO A DITCH THAT CARRIES WATER
TO WILDLIFE POND WHICH DISCHARGES DIRECTLY INTO THE
SNAKE RIVER. (NOTE: ANY SEEPAGE WOULD RETURN TO SNAKE
RIVER.)

Have conditions of permit approval been met? ☒ yes ☐ no

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FEB 10 1998

F. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method:

IRRIGATION: $19.1 \text{ ac} \times 0.02 \text{ cfs} = 0.38 \text{ cfs}$ LIMITED BY 0.02 cfs/ac

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 19.1 \text{ ac} (4) = 76.4 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.38 \text{ cfs} (214) (1.9835) = 161.3 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 76.4 \text{ afa}$$

2. Volume Calculations for Other Uses:

VOL WILDLIFE = 0.0 afa NON CONSUMPTIVE WE

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
IRRIGATION	4/1	11/1	0.38 cfs	76.4 afa
WILDLIFE	1/1	12/31	10.00 cfs	-
Totals:			10.00 cfs	76.4 afa

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATIONField Examiner's Name KEITH C. WILSON Date 3-25-1998Reviewer [Signature] Date 4-10-96

SEAL

MICROFILMED

FEB 10 1998

BONNEVILLE CO

BINGHAM CO

SITE OF IDAHO FALL'S
GEM STATE
HYDRO POWER PROJECT

T-
N R37E

ABANDONED

Mile X
790

IRRIGATED PLOTS

SNAKE

BONNEVILLE CO.
BINGHAM CO.

BONNEVILLE CO.
BINGHAM CO.

01-07104

FEB 10 1998

WATER DISTRICT NO. 01

Month JULY 1995

Diversion No. GEM STATE MITIGATION LAND
CITY OF IDAHO FALLS

Owner _____

Power Meter Reading at beginning of month _____

Flow Meter Reading at beginning of month _____

Day	Flow Rate	Hours Pumped	Day	Flow Rate	Hours Pumped	Day	Flow Rate	Hours Pumped
1			11	95CF5	20 Hrs	21		
2			12	95CF5	9 Hrs	22		
3			13	95CF5	20 Hrs	23		
4			14			24		
5			15			25		
6			16			26		
7			17	95CF5	9 Hrs	27		
8			18	95CF5	9 Hrs	28		
9			19	95CF5	9 Hrs	29		
10			20			30		
						31		

Note: This card must be completed and returned at the end of each month even if no water has been diverted.

Steve Elliott
Signature

U.S. Mitigation Watering times
7-11-95 - #5 12 Hrs
ctr plot 8 Hrs

7-12-95 #6 9 Hrs

7-13-14-95 #4 20 Hrs

7-17-95 #3 9 Hrs

7-18-95 #2 18 Hrs
-19-

01-07104

FEB 10 1996

HAROLD
SKIP
JONES

RECEIVED

MAR 22 1996

Department of Water Resources
Eastern Region

WATER DISTRICT NO. 01

Month AUGUST 1995

Diversion No. GEM STATE MITIGATION LAND
CITY OF IDAHO FALLS

Owner

Power Meter Reading at beginning of month

Flow Meter Reading at beginning of month

August 95

Day	Flow Rate	Hours Pumped	Day	Flow Rate	Hours Pumped	Day	Flow Rate	Hours Pumped
1			11			21		
2			12			22		
3			13			23		
4			14			24		
5			15	95CFS	9 Hrs	25		
6			16	95CFS	9 Hrs	26		
7			17	95CFS	9 Hrs	27		
8	95CFS	18 Hrs	18	95CFS	8 Hrs	28		
9			19			29		
10	95CFS	18 Hrs	20			30		
						31		

#5 ctr plot

#4

Note: This card must be completed and returned at the end of each month even if no water has been diverted.

Steve Elliott
Signature

U.S. Mitigation Watering Times
8-8-95 - #5 - 10 Hrs + ctr plot 8 Hrs = 18
(8-10-95 #4 - 10 Hrs = 18 Hrs)
8-16-95 #4 - 8 Hrs = 18 Hrs
8-16-95 #3 - 9 Hrs
(8-17-95 #2) 17 Hrs
8-18-95

01-07104
FEB 10 1996

WATER DISTRICT NO. 01

Month _____ SEPTEMBER 199

Diversion No. GEM STATE MITIGATION LAND
CITY OF IDAHO FALLS

Owner _____

Power Meter Reading at beginning of month _____

Flow Meter Reading at beginning of month _____

Day	Flow Rate	Hours Pumped	Day	Flow Rate	Hours Pumped	Day	Flow Rate	Hours Pumped
1			11			21	95CFS	15 1/2 Hrs
2			12			22		
3			13			23		
4			14			24		
5			15			25	95CFS	9 Hrs
6			16			26	95CFS	7 Hrs
7			17			27	95CFS	7 Hrs
8			18			28		
9			19	95CFS	14 Hrs	29		
10			20	95CFS	8 Hrs	30		
						31		

Note: This card must be completed and returned at the end of each month even if no water has been diverted.


Signature

MICROFILMED 01-07104
FEB 10 1998

WATER DISTRICT NO. 01

Month OCTOBER 1995

Diversion No. GEM STATE MITIGATION LAND
CITY OF IDAHO FALLS

Owner _____

Power Meter Reading at beginning of month _____

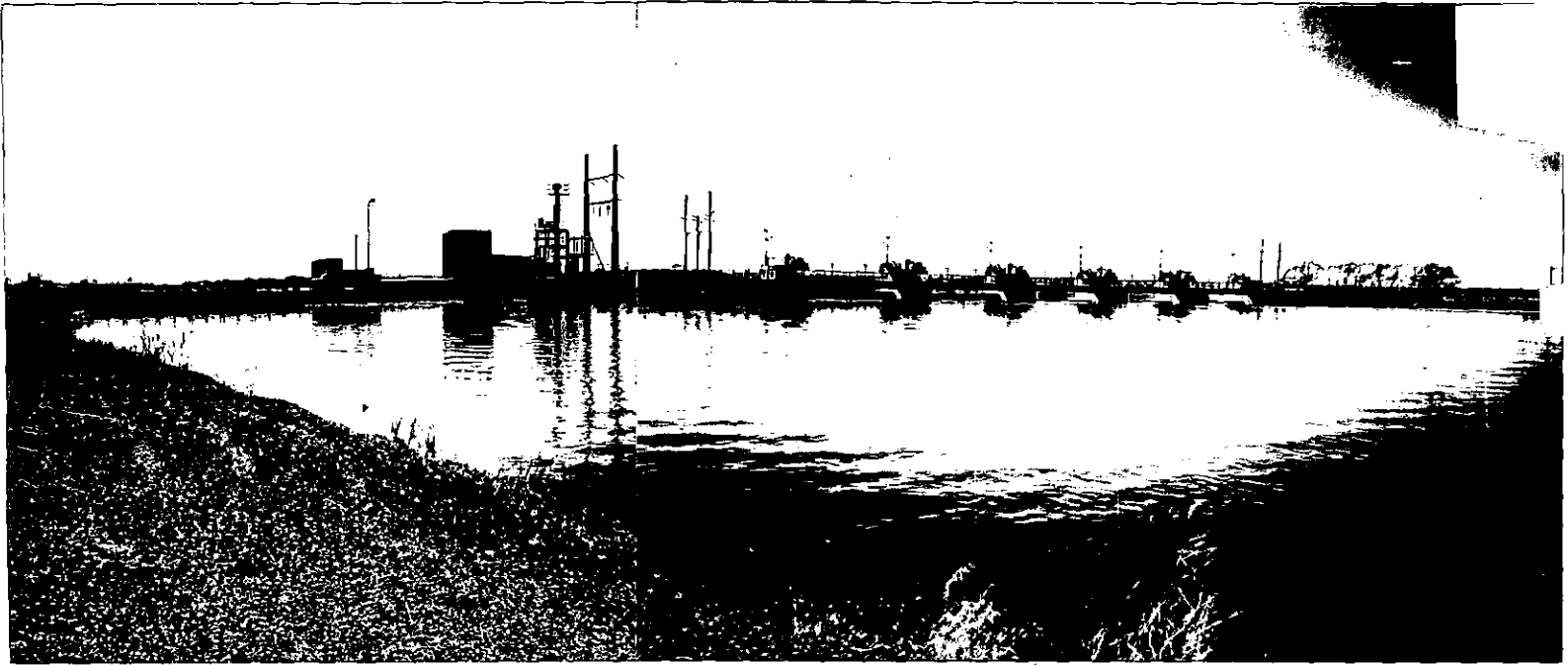
Flow Meter Reading at beginning of month _____

[illegible]

Note: This card must be completed and returned at the end of each month even if no water has been diverted.


Signature

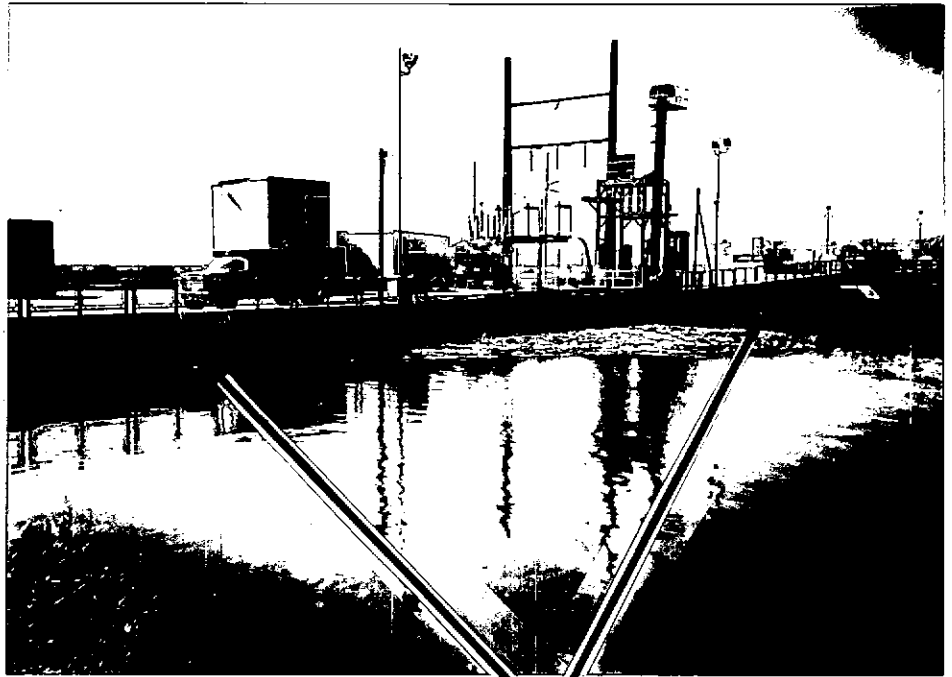
MICROFILM
FEB 10 1969 01-07104



GEM STATE HYDROELECTRIC PROJECT

01-07104
MICROFILMED

FEB 10 1998



DIVERSION HEADGATES



DIVERSION
SCREEN

MICROFILMED
FEB 10 1978

01-07104



FLOW MEASURING METERS

01-07104

FEB 10 1958

October 16, 1992

CITY OF IDAHO FALLS
PO BOX 50220
IDAHO FALLS ID 83405

PROOF ACKNOWLEDGMENT LETTER

RE: PERMIT NO. 01-07104

Dear Permit Holder:

The department acknowledges receipt of the proof of beneficial use form submitted for the above referenced permit. The next step in the process of developing a water right is for the department to conduct a field examination to determine and confirm the use being made of the water.

If you have questions concerning this matter, please feel free to contact the EASTERN Regional Office in Idaho Falls at (208)525-7161.

Sincerely,

Karen L. Gustafson
Secretary/Records Manager

c: IDWR - Region

RECEIVED

OCT 22 1992

ANALYSIS SHEET
FOR
PROOF OF BENEFICIAL USE

Permit No. 01-07104

Reviewed by Klg

Date 10/6/92

GENERAL CONSIDERATIONS

yes Name same as permit?
yes Address same as permit?
yes Proof timely received?
If not, complete calculation below.

TYPES OF USE

Irrigate-24
Correct Uses? Yes

SOURCE OF WATER

✓ Surface water source
Ground water source

NA Drilling permit required?

/ Copy in the file? Drilling Permit No. _____

/ Amount paid for permit _____ Correct?

/ Well log in the file?

LICENSE EXAMINATION FEE

yes Required?
325 Amount Submitted
yes Correct?

MEASURING DEVICE

yes Required?
yes Installed?
NA Waiver requested?

PRIORITY CALCULATION

Date proof received NA
Date proof due / -
No. of days late / =
Priority Date / +
New Priority Date /

DEFICIENCIES OR ACTION ITEMS

proof acceptable

DATA ENTRY

New Address _____

Proof Made 10/5/92
10/16/92 Klg



State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

October 6, 1992

Mr. Mark Gendron
City of Idaho Falls
PO Box 50220
Idaho Falls, ID 83405

Re: Permit No. 01-07104

Dear Permit Holder:

Enclosed is a copy of the proof of beneficial use form you filed in connection with the above referenced permit. Please note that I have highlighted #7 on the form. You indicate that no flow measurement port or measuring device has been installed pursuant to "on order 3/13/92". Your water right permit file contains no evidence of this order.

If you have a copy of this order or correspondence, please forward a copy to me as soon as possible. If this is a verbal understanding with the Department, please notify me as to whom the agreement was made with.

As of this time, a condition of your permit still requires that you install measuring and lockable devices of a type acceptable to the Department.

I will hold your proof of beneficial use for an additional 30 days to allow you time in which to submit the requested information.

If you have any questions or if I can be of any further assistance, please feel free to contact me.

Sincerely,

Karen L. Gustafson
Karen L. Gustafson
Secretary/Records Manager

OCT 22 1992

Enclosure

10/13/92 - per explanation from Mark - was ordered from Manufacturer on 3/13/92. Has since been received & installed.



CITY OF IDAHO FALLS

P.O. BOX 50220
IDAHO FALLS, IDAHO 83405-0220

ELECTRIC DIVISION

PHONE (208) 529-1430

September 28, 1992

RECEIVED
OCT 05 1992
Department of Water Resources

State of Idaho
Department of Water Resources
1301 North Orchard Street
Statehouse Mail
Boise, ID 83720-9000

Subject: Proof of Beneficial Use, Gem State, 01-07104

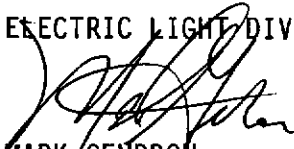
Dear Sir:

Enclosed please find the Proof of Beneficial Use form for the Gem State Project irrigation. Also enclosed is our check for the fee of \$325.00.

If you have any questions please give me a call.

Sincerely,

ELECTRIC LIGHT DIVISION


MARK GENDRON
CHIEF ENGINEER

MG/939m/mf
Encl.

OCT 22 1992



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

June 2, 1992

Kent Foster, Attorney at Law
P.O. Box 50130
Idaho Falls, ID 83405

RE: Application for Permit No. 01-7104 in the Name of the City
of Idaho Falls

Dear Kent:

Enclosed is a copy of a permit issued to the City of Idaho Falls on February 28, 1992. I was lucky this time to have issued the permit prior to your inquiry.

Sincerely,

A handwritten signature in cursive script, reading 'Gary Spackman'.

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

Enclosure

OCT 22 1992

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

IDAHO FALLS OFFICE

FRED J. HAHN
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER
GARY L. MEIKLE
MICHAEL D. CRAPO
GAYLE A. SORENSON, P.A.
DONALD L. HARRIS
MARIE T. TYLER
JOHN G. SIMMONS
ROBERT M. FOLLETT
KUMEN L. TAYLOR
JAMES K. SLAVENS

WEST ONE BANK
P.O. BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
TELEFAX (208) 523-9518

KEY FINANCIAL CENTER
702 W. IDAHO SUITE 610
BOISE, IDAHO 83702

TELEPHONE (208) 343-0820
TELEFAX (208) 343-8078

BOISE OFFICE

RECEIVED
MAY 29 1992

WM. LYMAN BELNAP, P.A.
RANDAL D. REED
RONALD D. CHRISTIAN
Department of Water Resources

May 28, 1992

ARTHUR W. HOLDEN
(1877-1967)
ROBERT B. HOLDEN
(1911-1971)
TERRY L. CRAPO
(1939-1982)
WILLIAM S. HOLDEN
(1907-1988)

Gary Spackman, Manager
Water Rights Permits Section
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

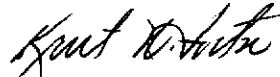
RE: Application for Permit to Appropriate Water Right
No. 01-7104 of the City of Idaho Falls

Dear Mr. Spackman:

Our file reflects that we sent to you a loss/gain analysis prepared by CH₂M Hill relative to the above-numbered application for permit about January 7, 1991. We wonder if this is an appropriate time to inquire if you have ever had an opportunity to review the material?

Is there anything we need to be doing or any assistance we can provide?

Yours very truly,



Kent W. Foster

#0518.00/srs

cc: G. S. Harrison

OCT 22 1992



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

March 3, 1992

CITY OF IDAHO FALLS
PO BOX 50220
IDAHO FALLS ID 83405

PERMIT APPROVAL NOTICE

RE: PERMIT NO. 01-07104

Dear Permit Holder:

Enclosed is a copy of your approved application for permit. We direct your attention to the conditions of approval on the final page.

Enclosed is a form entitled "Instructions for Proof of Beneficial Use". Please read the instructions carefully since you must take further action to develop this permit. Also enclosed is a form entitled "Proof of Beneficial Use". If your project is already completed you should complete and submit this form immediately.

Be sure to note the special condition requiring you to install a measuring device and lockable controlling works that will enable the watermaster to control the rate of diversion.

Sincerely,

Pamela Skaggs

PAMELA SKAGGS
Technical Records Specialist

PS:clh

Enclosures

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APPLICATION FOR PERMIT REVIEW

Application #: 01-7104
Date: 4-15-91

Reviewer: Pam Skaggs *CS*

Existing:

✓ No - 26A-P17

✓ Complete in 1 year - P16

Yes

Proof not submitted - P16

Proof submitted - N/A

Groundwater:

GT. 0.7 cfs - 01G-P03, 01C-P03 (existing well)

LT. 0.7 cfs - N/A

Drilling Permit:

Approved w/permit - P99

Not included - 046-P23 (All GW, even existing wells)

Location:

✓ Water Districts - WD No. 01

✓ Surface water - 005, 005-01H-P01 (LT.7 w/pump)
005-01J-P08 (GT.7)

Groundwater - P05

Irrigation Districts - 023

Canal Co. Areas - 023

Drainage Districts - 024

Boise Front (63) - 058 (Groundwater)

✓ Swan Falls Flag - / (1, Blank or Other)

Trust - 051-052-053-P74 (Cons.), 041 (DCMI, w/Irr
or Irr & Dom)

✓ Non Trust - 048-049

✓ River Basins:

(Surface Water) Water District Control Condition &....

Boise (63) - 05A & 11E

Payette (65) - 047-P04, 059-P71

✓ Snake (01, 02 & 03) - 11A-P04(01), 061-P07(02/03 No W.D.Cond.)

Use:

Fish Propagation - 06A, 09E-P10 & 010 (WQ/Choose One),
042(req.), 002-P06(MD), 07A(Spec.),
044(Policy 5G)

Power - Use Power Review

Mining - 06A or 010, 09E-P10 & 054(req.)

Storage - 18A-for multiple measuring devices(In WD),
18B-P09(Size)

Rec. & Aesthetic - 027(Non-Consumptive)

Domestic - 021(restricted areas)

Ownership:

Non land owner - 004

Protested:

Agreement - 020

Minimum Stream Flow:

Overlapping uses - 029-P20

✓ Beneficial Use Due Date: - 04-01-1992

Other Conditions Recommended

APPROVED
MAR 24 1992

MEMORANDUM

TO: Gary *OK Gary*
FROM: Quentin *Quentin*
DATE: April 9, 1991

SUBJECT: City of Idaho Falls Application for Permit to
Appropriate Water. Permit No. 01-7104

I have reviewed the written analysis which presents the loss/gain issue in permit no. 01-7104, submitted by CH2M Hill for the City of Idaho Falls. Following is a list of things that I have concluded:

1. From looking at the information presented, 56 acres of wetlands which supported phreatophytes was converted to 25 acres of riprapped dikes, 27 acres of steep dikes and 4 acres of planted dikes. From this land CH2M Hill is estimating that 13.35 acres will return to phreatophyte growth.

2. The issue that needs to be addressed is, will the 42.65 acres (56 acres - 13.35 acres) of phreatophyte land that is being taken out, use at least the same amount of water as 24 acres of new irrigation and a 9 acre pond, which is what is included in permit no. 01-7104.

3. From the written analysis that CH2M Hill prepared, it assumes that both the phreatophyte land and irrigated land will use 4 acre-feet of water per year. This is the only assumption that I have a problem with. It seems to me that there should be some kind of information backing this assumption up.

4. I did some research and found information in studies that show phreatophyte consumptive use ranging from 1-4.2 acre-feet per year. (See attached copies - highlighted information)

5. Based on the information that I have found, I would say that the analysis that CH2M Hill has done is a fairly good estimate (other than math error or misprint - see summary of water requirement CH2M Hill analysis). Based on CH2M Hill's assumptions, there will be approximately 34.5 acre-feet gained to the system from this project. See the following calculations:

Old Use:

56 acres wetlands (phreatophytes) -

56 acres x 4 acre-feet/year = 224 acre-feet

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New Permit:

13.35 acres return growth (phreatophytes) -

$$13.35 \text{ acres} \times 4 \text{ acre-feet/year} = 53.4 \text{ acre-feet}$$

24 acres irrigation - permit no. 01-7104 -

$$24 \text{ acres} \times 4 \text{ acre-feet/year} = 96 \text{ acre-feet}$$

9 acre pond - permit no. 01-7104 -

$$9 \text{ acres} \times 4.5 \text{ acre-feet/year} = 40.5 \text{ acre-feet}$$

$$\text{Total} = \underline{189.9 \text{ acre-feet}}$$

Total Gained = old use - new permit

$$\begin{aligned} \text{Total Gained} &= 224 \text{ acre-feet} - 189.9 \text{ acre-feet} \\ &= \underline{34.5 \text{ acre-feet}} \end{aligned}$$

6. I feel that basing phreatophyte use at 4 acre-feet/year is a high estimate, therefore I calculated what assumed amount of phreatophyte use would just balance out the new use. Assuming 3.2 acre-feet for phreatophyte use would balance the water applied for in permit no. 01-7104 with the 42.65 (56 acres - 13.35 acres) acres of lost wetlands. See following calculations:

Old Use:

56 acres wetlands (phreatophytes) -

$$56 \text{ acres} \times 3.2 \text{ acre-feet/year} = \underline{179.2 \text{ acre-feet}}$$

New Permit:

13.35 acres return growth (phreatophytes) -

$$13.35 \text{ acres} \times 3.2 \text{ acre-feet/year} = 53.4 \text{ acre-feet}$$

24 acres irrigation - permit no. 01-7104 -

$$24 \text{ acres} \times 4 \text{ acre-feet/year} = 96 \text{ acre-feet}$$

9 acre pond - permit no. 01-7104 -

$$9 \text{ acres} \times 4.5 \text{ acre-feet/year} = 40.5 \text{ acre-feet}$$

$$\text{Total} = \underline{179.2 \text{ acre-feet}}$$

$$\begin{aligned} \text{Total Gained} &= 179.2 \text{ acre-feet (old use)} - 179.2 \text{ (new permit)} \\ &= \underline{0 \text{ acre-feet}} \end{aligned}$$

7. Another thing to note is that these numbers are subject to only 5% of the riprapped dike and 30% of the steep dike, coming back with phreatophyte growth.

FILED

MAR 04 1992

U.S. GEOLOGICAL SURVEY WATER-SUPPLY PAPER NO. 1412

NTS, MALAD VALLEY

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WATER-LOVING PLANTS IN RELATION TO WATER SUPPLY 19

concentrate hydrocyanic acid, an active poison, in their leaves. Sickness or death results if a toxic dose is consumed in a short time. The cut plant can be used for hay because much of the toxicity is lost during drying. Chemical analyses of plants show a high saline content. The most vigorous growths were observed on saline soil where the depth to water was less than 2 feet and where irrigation water was applied.

Sedge.—The hydrophytes threadleaf sedge, *Carex filifolia*, and Nebraska sedge, *C. nebrascensis*, are two of the chief components in hay and pasture lands in the Malad Valley, although they have only fair nutritive value and palatability. The more vigorous growths of sedge are on nearly neutral soils where the depth to ground water is less than 3 feet and where irrigation water is applied.

Wild rose, willow, and cottonwood.—Species of wild rose, *Rosa* sp., willow, *Salix fluviatilis*, and cottonwood, *Populus* sp., constitute only a small percentage of all the phreatophytes and are insignificant in the water economy of the valley. The plants provide some shelter for animals, and cottonwood is used extensively for windbreaks.

Wire rush.—Wire rush (sometimes called wiregrass), *Juncus balticus*, grows in most of the phreatophyte area and is one of the principal hay plants. Generally it makes good hay and a fair forage crop when it is mixed with 80 percent or more of other more palatable plants. The root system of wire rush is deep, but the plant thrives best where the water table or capillary fringe is within a few inches of the land surface. Hence the plant probably should be classed as a hydrophyte. Wire rush ordinarily prefers neutral or acid soils, but in the Malad Valley the plants seem to be healthy and vigorous on saline or alkaline soils where there is a plentiful supply of water.

CONSUMPTION OF WATER BY PHREATOPHYTES AND HYDROPHYTES

Compared to useful plants, most of the undesirable phreatophytes consume large amounts of water (Robinson, 1953). Moreover, hydrophytes occupy areas that are under ponded water or are only slightly above the water table, where water loss by evapotranspiration is even higher than in phreatophyte areas. In general, a substantial growth of native phreatophytes or hydrophytes is evidence that water is being wasted.

Direct measurements have not been made of the amount of water consumed by phreatophytes and hydrophytes in the Malad Valley. Studies elsewhere (Stearns and Bryan, 1925; White, 1932), in areas of similar climate, however, indicate the probable approximate amount of water that is consumed by water-loving plants in the Malad Valley and afford a basis for estimating their total consumption (table 6).

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Direct measurements have not been made in the Malad Valley of rates of evapotranspiration. Though studies and measurements have been made in other areas having a similar climate, such measurements are lacking for some types of water-loving plants that grow in the Malad Valley. The published results of representative experimental studies elsewhere are summarized in table 5. Rates of evapotranspiration for areas occupied by plants that are not listed in the table either were not found in the literature or have been reported only for areas markedly different in climate from the Malad Valley. The rates estimated for the Malad Valley (table 6) differ substantially from those in table 5, for the following reasons:

First, in experimental studies of evapotranspiration, rates commonly are measured only from April or May to September or October, the period of most active plant growth. Evapotranspiration is much slower during other parts of the year, but is appreciable and should be included in estimates of total water depletion. Second, when vegetation is transplanted to experimental tanks, disturbance of the root system and natural environmental factors occurs, interfering with plant growth and reducing evapotranspiration. Third, the density of plant growth is an important factor in the rate of evapotranspiration, and "evapotranspiration rate" has little meaning unless plant density is specified. Experimenters commonly attempt to duplicate in tanks the density of natural growth in the experimental area. The results, though useful, do not permit direct comparison of separate areas. To facilitate areal comparisons and rate estimates for new areas where measurements have not been made, the writers believe that evapotranspiration rates should be determined for plant growths of 100-percent density. Using these rates and other factors as guides, field estimates of actual water depletion in other areas could be made by adjusting for the observed density in those areas.

The rates shown in table 6 are estimates based partly on a survey of published data and partly on personal judgment. During the field work special attention was given to plants about which little information is available. The general characteristics, growth habits, associated plants, and preferred environment were noted. Likely evapotranspiration rates then were estimated for plants under the climatic conditions of the Malad Valley, adjusted to 100-percent density of plant stands. The rates are subject to future revision but are believed to be reasonably approximate for the Malad Valley.

The estimated rate of water consumption by water-loving plants in the Malad Valley, adjusted to 100-percent plant density, ranges from 2 to 7.5 feet a year, and the arithmetic average for 16 types is about 4.2 feet. The total consumption of water is about 37,000 acre-feet a year, of which about 4,800 acre-feet is consumed beneficially by alfalfa.

NOTE →

TABLE 5.—See

Type of plant	
Alfalfa.....	E
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Cattail.....	B
Greenswood....	E
Rushes.....	I
Saltgrass.....	I
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"Sedge grass".....	
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Tules.....	
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1 Depth to water
2 Same wire run
3 Depth to water
4 "Tules" is a

TABLE 6.—

Alfalfa.....
Cattail.....
Cottonwood....
Glant wildrye...
Greenswood....
Marsh reed gra...
Pickleweed....
Rabbitbrush...
Rushes.....
Saltgrass.....
Seaside arrow...
Sedge, Nebras...
threadleaf...
Wild rose.....
Willow.....
Wire rush....
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ENTS, MALAD VALLEY

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WATER-LOVING PLANTS IN RELATION TO WATER SUPPLY 21

TABLE 5.—Seasonal evapotranspiration by water-loving plants in tank and lysimeter experiments

Type of plant	Locality	Period of measurements	Evapotranspiration		Source of data
			Inches	Feet	
Alfalfa	Escalante Valley, Utah	Apr.-Oct. 1927	25.9	2.2	White (1932).
Do.	Vernal, Utah	May 17-Oct. 6, 1948	43.3	3.6	Barrett and Milligan (1953).
Do.	do.	May 31-Nov. 5, 1948	29.8	2.5	Do.
Do.	do.	Apr. 12-Oct. 28, 1950	39.5	3.3	Do.
Cattail	Bonners Ferry, Idaho	May-Sept. 1934-44	51.6	5.1	Criddle and Marr (1945).
Greasewood	Escalante Valley, Utah	May-Oct. 1928	25.2	2.1	White (1932).
Rushes	Fort Collins, Colo.	Jul.-Oct. 1930	52.6	4.4	Young and Blaney (1942).
Saltgrass	Escalante Valley, Utah	May-Oct. 1927	22.6	1.9	White (1932).
Do.	Vernal, Utah	Apr. 14-Oct. 28, 1950	23.7	2.0	Barrett and Milligan (1953).
Do.	do.	do	37.3	3.1	Do.
"Sedge grass"	Fort Collins, Colo.	May-Oct. 1930	53.6	4.6	Young and Blaney (1942).
Do.	Isleta, N. Mex.	Jun. 1936-May 1937	76.9	6.4	Blaney and others (1933).
Tules	Mud Lake, Idaho	Jun. 12-Sept. 23, 1921	51.4	4.3	Stearns (1925).
Do.	do	May 24-Sept. 30, 1922	63.4	5.3	Do.
Do.	Grays Lake, Idaho	Jun. 22-Sept. 30, 1942-44	61.6	5.1	Criddle and Marr (1945).

¹ Depth to water was 2 feet.

² Some wire rush was included with the saltgrass.

³ Depth to water was 0.5 foot after August 1.

⁴ "Tules" is a common western name for a thick growth of rushes or cattail or both.

TABLE 6.—Estimated consumption of water by water-loving plants in Malad Valley

Plant	Rate of evapotranspiration (feet/year)	Amount of water consumed (acre-feet/year)	Net area adjusted to 100-percent density (acres)
Alfalfa	4	4,800	1,200
Cattail	7.5	950	127
Cottonwood	4.5	60	14
Giant wildrye	3.5	450	128
Greasewood	2.25	950	423
Marsh reedgrass	5	40	7
Pickleweed	3	290	90
Rabbitbrush	2	70	36
Rushes	7	1,580	226
Saltgrass	3	7,050	2,349
Senside arrowgrass	5	1,760	352
Sedge, Nebraska	4.5	1,760	301
Threadleaf	4	8,050	1,610
Wild rose	2.5	10	6
Willow	2.67	20	10
Wire rush	5	9,330	1,867
Rounded total		37,170	

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CHEMICAL QUALITY OF WATER

Chemical analyses of water from 40 sources in and near the area of phreatophytes and hydrophytes in the Malad Valley were made by the Geological Survey from 1931 to 1952. Table 7 shows the results of analyses of water from 34 wells, 4 springs, and 2 locations in the Malad River. The location from which water samples were collected.

U.S. Department of Agriculture
Forest Service
Rocky Mountain Forest and Range
Experiment Station
Fort Collins, Colorado

July 1979

Vegetation Management for Water Yield Improvement
in the Colorado River Basin

Alden R. Hibbert, Principal Hydrologist
Rocky Mountain Forest and Range Experiment Station^{1/}

In cooperation with
Water and Vegetation Management and Executive Subcommittees
of the
Pacific Southwest Interagency Committee

National Technical Information Service
U.S. Department of Commerce
Springfield, VA 22151

Accession # PB 300379/AS

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^{1/} Central headquarters maintained at Fort Collins in cooperation with Colorado State University; author is located at the Station's Research Work Unit at Tempe, in cooperation with Arizona State University.

Pinyon-juniper lands mostly under federal administration: roughly 32% Bureau of Land Management; 20% Forest Service, mostly in the Lower Basin; 19% Indian Trust; and 29% other, including state and private holdings.

Though normally considered low in commercial value, the pinyon-juniper complex has many uses. Hurst (1976) views it as an important factor in the settlement and development of the West. Grazing and fire control have played major roles in the development of the stands as we know them today. Prior to settlement, pinyon-juniper stands were more open than today and confined mainly to rocky ridges and shallow soils. Heavy, year-long grazing reduced grass competition and curtailed the spread of fire, which normally retards spread of the trees. As a result, pinyon-juniper is more extensive today, and in many cases, denser than it once was. Despite a general decline in range productivity (Springfield 1976), these lands still are important producers of forage for livestock, food and cover for wildlife, and various woodland products such as fence posts, firewood, pinyon nuts, and Christmas trees.

The climate is semiarid. Mean annual temperature varies from 40° F to more than 65° F, and precipitation averages 12 to 18 inches, with local areas receiving up to 20 inches. Summer rains account for at least half of the precipitation in the Lower Basin, while winter rains and snow provide the bulk of moisture in the Upper Basin. Water yield on pinyon-juniper lands derives mostly from surface runoff and generally averages less than 1 inch on most areas (Dortignac 1960), although some of the better watered areas may approach 3 inches (Clary et al. 1974).

The potential for increasing water yield is poor. Under most conditions there is little or no response in water yield from removing or controlling pinyon-juniper (Clary et al. 1974, Gifford 1973, Myrick 1971, Collings and Myrick 1966, Dortignac 1960). Only when junipers were controlled by herbicides--no soil disturbance--did streamflow significantly increase (0.45 inch) on the Beaver Creek Experimental Watersheds in Arizona (Clary et al. 1974). Presumably, low precipitation, shallow soils, and a small difference in rooting depth between the trees and replacement cover combine to preclude significant water yield improvement from canopy reduction. Water that would normally go to the trees is fully utilized by the grasses and forbs after conversion (Skau 1964).

Pinyon-juniper conversion remains controversial (Lanner 1977). The primary objective of pinyon-juniper control work is to increase forage production, but watershed stability usually is an objective also (Hurst 1976). Wildlife habitat can be improved if openings are kept small and the "edge" effect large. Eradicating trees over large expanses is detrimental to many wildlife species, although too many trees also can be detrimental. Much of the control work is uneconomical (Hurst 1976, Clary et al. 1974), and the future of large-scale operations is uncertain.

However, since water yield is little affected, there will be little impact on the water supply with or without treatment.

Other woodlands types are found in the southeastern portion of the Lower Basin. Brown and Lowe (1974) describe two classes: madrean evergreen woodlands (essentially oak woodlands), and riparian deciduous woodlands (including mesquite bosque and saltcedar communities). The latter types, being riparian, are considered in the section on upstream riparian vegetation. The oak woodlands are typically open with grass ground cover. Prominent oaks are Mexican blue, Emory, silverleaf, and Arizona oak. Apache and Chihuahuan pine and Mexican pinyon are also present in some of the stands in southeastern Arizona. Acreage of the oak woodlands is not known. Significant growth is confined to the flanks of isolated mountain ranges in southeastern Arizona.

Precipitation in the oak woodlands averages 15 to 25 inches, one-half to two-thirds of it falling in the summer months. Water yield is low from these woodlands, not only because precipitation is low, but because much of it comes in the summer when the potential for evapotranspiration is high. Winter rains seldom are sufficient to recharge the soil profile, without which streamflow cannot be sustained beyond the occasional ephemeral flows from intense thunderstorms.

The potential for increasing water yield in the oak woodlands is considered poor. Except where trees have access to ground water, little water would be saved by removing the tree overstory because, during the hot weather, rainfall is absorbed by the soil and the portion that does not evaporate is returned to the atmosphere about as readily by one type of vegetation as another. Unless recharge occurs beyond the rooting depth of the grasses, there is little opportunity to increase seepage to groundwater and streamflow. Where subsurface water aquifers are tapped by roots of the woodland vegetation, water savings potential may approach those of the upstream riparian vegetation.

Upstream Riparian

Riparian zones along streams and rivers in the Colorado River Basin are divided into upstream and downstream categories for purposes of this study. The downstream riparian zones are mostly phreatophyte-covered floodplains along the main stem of the Colorado River and similar areas along major tributaries. The U. S. Senate Select Committee (1960) reported 667,000 acres of phreatophytes and estimated use of water by these plants at 1.23 million acre-feet along the major streams in the Lower Colorado River Basin. Horton (1974) suggests 300,000 acres are present in Arizona alone along the lower main stem of the Colorado and the Gila Rivers. Horton further indicated that only about one-third of the 300,000 acres of phreatophytes would be treatable for water savings estimated at 130,000 acre-feet per year.

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Somewhat larger acreages of phreatophytes were proposed for eradication by the Lower Colorado Region Comprehensive Framework Study (PSIAC 1971b). By these projections, eradication of phreatophytes on 141,000 acres along the lower main stem would save 404,000 acre-feet of water per year, eradication of 100,000 acres along the Gila River would save 200,000 acre-feet, and eradication of 20,000 acres along the Little Colorado River would save 20,000 acre-feet. These estimates of water savings total 624,000 acre-feet from 261,000 acres of phreatophytes in the Lower Basin. No estimates of phreatophytes or water savings were given for the Upper Basin. These water yield data are not included in the final assessment of this paper because phreatophytes along downstream reaches of the Colorado River and its major tributaries were outside the scope of this study. Horton (1976) and Horton and Campbell (1974) describe these downstream phreatophyte and riparian zones in detail, and discuss their multiple use values. Additional information is available from recent regional (Johnson and Jones 1977) and national (Johnson and McCormick 1978) symposia on the protection and management of riparian systems.

Upstream riparian zones consist of riparian vegetation along relatively small streams that drain to the Colorado River and its major tributaries. These riparian zones are of interest in this study because they are (1) areas of heavy water consumption, (2) conveyance systems for water yield increases generated on upstream watersheds, (3) areas having high potential for saving water by eradication of trees and shrubs, and (4) areas of high scenic value and high value for wildlife and recreation.

Of particular interest are streams that emerge from the mountains and flow across hot, dry lowlands to reach major streams and reservoirs. Consumptive use of water by riparian vegetation under what might be described as "oasis" conditions can be high, and accounts for the intermittent nature of many of these streams in their lower reaches. Total area occupied by riparian vegetation along these streams is unknown, since no acreages are available for the Upper Basin. Total area in the Lower Basin exceeds 100,000 acres (table 3). About one-half of these are on National Forest lands in the Gila Subbasin, mostly along streams emerging from the mountains in central Arizona south of the Mogollon Rim.

The most common riparian trees and shrubs at lower elevations are cottonwood, willows, saltcedar, arrowweed, saltbushes in saline areas, and mesquite bosques on the higher ground where the water table is deeper than next to the channels. At intermediate elevations sycamore becomes prominent, and at higher elevations cool-site species such as alder dominate the sites. Campbell and Green (1968) provide a detailed description of vegetation along Sycamore Creek, tributary to the Verde River near Phoenix.

Estimates of evapotranspiration from these upstream riparian zones vary considerably, depending on elevation, depth and permanence of

water within the alluvium, and type and density of vegetation. Anderson (1976) estimated evapotranspiration losses from floodplain areas on 32 reaches of streams emerging from the mountains in central Arizona. About one-half of the streams were perennial; the remainder were intermittent or partly intermittent. Width of floodplains varied from 20 feet to more than 1 mile. Length of stream reaches totaled 1,287 miles, and floodplain areas totaled 42,000 acres, including bare soil but not water surface or bare rock. Alluvium depth varied from very shallow to more than 100 feet. Elevations ranged from 1,000 feet to over 7,500 feet. Anderson estimated that evapotranspiration on most of the reaches ranged from about 1.6 to 3 feet, and that potential evapotranspiration ranged from 4 to 6 feet.

The potential for water savings by management of riparian vegetation is greater than for most forest vegetation types because of the availability of water to the plants. Estimates of the potential vary, however, and actual measurements of water savings by treatment in upstream riparian zones are few. Three studies are briefly described here; two are in Arizona and one in southern California.

Rich et al. (1961) described the removal in August 1953 of alders and maples in the narrow riparian zone along North Fork of Workman Creek at 6,800 to 7,000 feet elevation in central Arizona. The total basal area of trees removed was 271 square feet, only 0.6% of the total basal area of all trees on the 248-acre watershed. No changes were detected in daily fluctuations or in annual or growing season streamflow volumes after the treatment. Actually, little was proved by this experiment, since the expected increase from removing such a small portion of the vegetation on the watershed was much too small to be detected at the streamflow gage.

Bowie and Kam (1968) reported a pilot study on a 1.5-mile reach of Cottonwood Wash in northwestern Arizona at an elevation of 4,000 to 4,300 feet. Treatments were applied in 1960 and again in 1961 to defoliate, and then eradicate, the riparian vegetation, mostly cottonwoods and willows, on 22 acres of narrow floodplain, which averaged about 120 feet wide. The riparian vegetation was not dense; actual canopy coverage of woody species was only 27%. Ground water was close to the surface, generally less than 2 feet.

Defoliation caused only small and short-lived reductions in water use by the riparian vegetation. Eradication, in contrast, reduced water consumption on the 22 acres from an average of 80 acre-feet (3.6-foot depth) per growing season to 42 acre-feet (1.9-foot depth) for a savings of 38 acre-feet (1.7-foot depth) per growing season for 3 years.

Woodland-riparian vegetation along 1.3 miles of Monroe Canyon in the San Gabriel Mountains in southern California was cut and regrowth was prevented to determine how much water could be saved by eliminating transpiration in these types of vegetation (Rowe 1963). The study reach was between 2,000 and 2,500 feet elevation, and

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evapotranspiration was estimated at about 4 to 5 feet of water annually. Only about 10% (3.8 acres) of the cleared area supported true riparian growth (alder, maple, laurel, willow, sycamore, and associated shrub and herbaceous growth). Most of the cleared area supported a mixed oak-woodland type dominated by several live oaks and other tree species. The cleared area was 100 to 400 feet wide and extended up the steep sideslopes to an average height of about 50 feet above the stream.

The first cut in February-May 1958 was on 15 acres along the lower reaches of the main stream channel. Streamflow responded quickly, and from May through December (the drying season) flow increased by 17.4 acre-feet, or 1.2 acre-foot per acre treated. From January through April 1959 (the rainy season), the increase in flow amounted to 12.8 acre-feet or 0.9 acre-foot per acre treated, based on 15 acres. Actually, during this time the remaining 12 acres of canyon bottom were cleared, but Rowe attributed the increase in flow largely to the original 15 acres. Assuming this to be so, the increase in flow in the first 12 months amounted to 2.1 acre-feet per acre treated.

From May through December 1959 (the second drying season), with 38 acres cleared, flow increased only 0.4 acre-foot per acre treated. Rowe suggests that this low response might be attributed to lower than average rainfall during the previous rainy season, whereas rainfall in the winter prior to the first drying season was much above average. Despite the possible effects of wet and dry weather, substantial water savings were obtained by eradicating vegetation in the woodland and riparian zones in Monroe Canyon. By prorating the increases for the acreages treated over 2 years, the increase in flow averaged more than 1.2 acre feet per acre per year.

More pilot testing would be required before reliable predictions could be made of the potential for saving water by management of riparian vegetation in these small tributary streams. Horton and Campbell (1974) suggest that water savings of 1 to 2 acre-feet per acre treated is as close an approximation as is justified with the limited data available. This is probably true, but it seems appropriate to go one step farther and suggest situations where these water savings may or may not be attainable.

Transpiration by riparian vegetation depends largely on availability of water throughout the growing season. Persistence of shallow water along perennial streams, and many intermittent ones, favors development of dense riparian vegetation capable of transpiring large amounts of water. Obviously, not all transpiration can be stopped short of denuding the ground surface, and evaporation usually increases to partially compensate for reductions made in transpiration.

Knowledge of evapotranspiration rates in upstream riparian zones provides a basis for estimating potential savings. Anderson (1976) estimated evapotranspiration by riparian vegetation along many of the tributary streams in

Arizona to be less than 3 feet per year. Thomsen and Schumann (1968) estimated evapotranspiration at 1.1 feet on a 10-mile reach (1,400 acres) of Sycamore Creek above its confluence with the Verde River near Phoenix. Their estimate for Tonto Creek above Roosevelt Lake is 2.6 feet (Schumann and Thomsen 1972).

It might be inferred from these evapotranspiration estimates that many of the riparian areas along these streams are not losing water at particularly high rates, and that treatment of these areas would produce relatively moderate increases in streamflow, perhaps one-half of the pretreatment evapotranspiration rate. Therefore, savings in the order of 0.5 to 1.5 acre-feet per acre per year may be realistic estimates for riparian zones where evapotranspiration is less than 3 feet per year, and savings up to 2 feet and even more might be possible where evapotranspiration is greater than 3 feet per year. Response to thinning or selective cutting of the vegetation is unknown. It is not known if heavy thinning would be required to effect water use reductions, or if water use would decline more or less linearly with uniform removal of trees, as might be expected where vegetation has an unrestricted water supply (fig. 6).

Another important feature of these tributary streams is that they act as conveyance systems for water yield increases generated on upstream treatment areas. Concern over the fate of this water prompted the Arizona Water Commission and the U. S. Geological Survey to conduct a study (Anderson 1976) to determine present, near-future, long-term future, and potential evapotranspiration losses from riparian zones along these streams. Thirty-two stream reaches totaling 1,287 miles were investigated to determine the possible increase in transitory water losses resulting from increases in flow at the upstream end of the reaches. The near-future and long-term future increases in evapotranspiration were considered to be negligible for perennial streams, which accounted for about one-half of the streams and about two-thirds of the total length.

Near-future evapotranspiration was considered to increase in intermittent reaches as a result of the water table being closer to the ground surface caused by greater input to the reach. Long-term future evapotranspiration would increase further, because of an increase in riparian vegetation density, as water became permanently available in areas that were previously intermittent. Estimates of evapotranspiration losses varied from one reach to another, but long-term future losses usually more than doubled present losses.

Tonto Creek above Lake Roosevelt may be taken as an example. Length of reach was determined to be 59 miles and riparian area 4,907 acres. Estimates of present, near-future, and long-term future evapotranspiration losses in acre-feet per year were 8,700, 12,000, and 18,000, respectively. It was anticipated that if water yields were increased in Tonto Creek, up to 9,300 acre-feet (difference between present

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R. VERN KIDWELL, OF COUNSEL

January 7, 1991

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JAN 09 1991

Department of Water Resources

Gary Spackman, Manager
Water Rights Permits Section
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Application for Permit to Appropriate Water Right
No. 01-7104

Dear Mr. Spackman:

As we indicated we would be doing in our letter of November 9, 1990, we asked the City of Idaho Falls to request CH2M Hill to prepare a written analysis of the loss/gain issue that could be presented for your review. We have now received that information and are enclosing Jack Harrison's written Memorandum, dated January 3, 1991, together with the cover letter of the same date. Please let us hear from you when you have had an opportunity to review this material.

Yours very truly,



Kent W. Foster

#0518.00/srs

Enclosure

cc: G. S. Harrison

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MAR 04 1992



RECEIVED JAN 4 1991

January 3, 1991

BOI18980.Y0

Mr. Kent Foster
Attorney at Law
P.O. Box 50130
Idaho Falls, Idaho 83405

Dear Kent:

Enclosed is a technical memorandum that presents CH2M HILL's estimate of water requirements by mitigation project and water gains to the river resulting from removal of vegetation for project activities.

I hope this clarifies the issue of water use and that the water rights permit can be processed without further delay.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jack R. Harrison', is written over a horizontal line.

Jack R. Harrison, P.E.
Water Resource Engineer

BOIC2/016.51/jms

cc: Tom Schafer/CH2M HILL
Mike Elliott/CH2M HILL

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MAR 04 1992

MEMORANDUM

CH2M HILL

TO: Steve Harrison/Idaho Falls

COPIES: Mike Elliott/CH2M HILL
Mike Mickelson/CH2M HILL
Kent Foster

FROM: Jack Harrison

DATE: January 3, 1991

SUBJECT: Mitigation Area Water Requirements

PROJECT: BOI18980.Y0

The issue of Gem State mitigation water requirements and water rights was addressed in a handwritten memorandum to Mike Elliott, on January 30, 1989. The memorandum addresses the following three "water right needs":

1. Wetlands mitigation water requirement of 96 acre-feet per annum. This was estimated as 4 acre-feet per acre of water for 24 acres of mitigation land.
2. Recreation area water requirement of 8 acre-feet per annum. This was based on an estimated 2 acres of land also requiring 4 acre-feet of water per acre of land.
3. Mitigation pond maintenance of 40 acre-feet per annum. This estimate assumes 4.5 acre-feet per acre of water is lost via evaporation for each surface acre of the 9-acre pond.

The annual total water requirement is 144 acre-feet. However, the recreational area is supplied by a groundwater right and, therefore, surface water is not affected. This brings the total annual net surface water consumptive use down to an estimated 136 acre-feet.

A second consideration is that the overall wetlands mitigation for the Gem State Hydroelectric project was designed to replace 56 acres of wetland plants that were

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MAR 04 1992

MEMORANDUM

Page 2

January 3, 1991

BOI18980.Y0

lost due to project activities. The replacement plants have water requirements similar to those that were lost. Assuming the lost wetland plants had a water requirement of 4 acre-feet per acre, results in a 224 acre-foot reduction in consumptive use, or a net gain in available surface water in the project area.

Additional mitigation acreage was developed offsite, which does not require a water right. The net result in consumptive use at the project area is a net gain in available surface water at project completion.

Some wetlands vegetation will likely develop over the next 20 to 30 years that will consume some of the estimated 224 acre-feet gain. The riprap area of approximately 44 acres (west of Highway 26) will re-establish very limited vegetation due to planned vegetation control measures and the lack of fines beneath the riprap. Steep dike banks upstream of Highway 26 consisting of approximately 48 acres will probably develop a narrow strip of grass and shrub vegetation with an estimated consumptive use of from 10 to 30 percent of the pre-project vegetation. The furthest upstream dike area of about 4 acres was planted to establish vegetation similar to pre-project conditions.

A summary was prepared that presents the estimated long-term water requirements, estimated gains in surface water due to loss of vegetation in the project area, and the net impact on surface water use in the project area. This summary is attached to this letter and demonstrates that the estimated long-term net impact is that there will be a gain in available surface water resulting from activities in the project area.

With regard to rental of storage for the project consumptive use, with the estimated surface water gain, it is our opinion that no new consumptive use exists for which application of rental water seems appropriate. Also, the mitigation vegetation has the same period of use that the pre-project vegetation had.

BOIT798/007.51/jms

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Summary of Water Requirements					
	Estimated Water Requirement (acre-feet/acre)	Acreage (acres)	Estimated Growth Re-established (%)	Total (acre-feet)	Comments
Surface Water Required					
Wetlands Mitigation Area	4	24	--	(96)	New Consumptive Use
Recreation Area				0	Will use groundwater
Mitigation Area	4.5	9	--	(40)	New Consumptive Use
Total Surface Water Required				(136)	New Consumptive Use
Surface Water Gains				$56 \times 4 = 224$	MUST BE MISPRINT
Project Area Wetlands Lost	4	56		244	At project completion ✓
Riprapped Dikes	4	25	5 $\frac{Ac}{1.25}$	(5) ✓	New Consumptive Use
Steep Dikes	4	27	30 $\frac{Ac}{8.1}$	(32) ✓	New Consumptive Use
Planted Dikes	4	4	100 $\frac{Ac}{4}$	(16) ✓	New Consumptive Use
Total Surface Water Gain			$70\% = 13.35$	191	
Net Surface Water Gained				42.65 ac - out	55 INCREASE

BOIT798/008.51/jms

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56 TOT
- 13.35 ac
42.65

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November 9, 1990

Gary Spackman, Manager
Water Right Permits Section
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

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NOV 15 1990
Department of Water Resources

RE: Application for Permit to Appropriate Water
Right No. 01-7104

Dear Mr. Spackman:

We are very sorry for our apparent inability to communicate. With your indulgence, we would like to try one more time. The Memorandum, a copy of which was enclosed with your letter of November 7th, is actually the first page of a three page Memorandum from Jack Harrison (JRHN) to Mike Elliot of CH2M Hill. It was not submitted with the application for permit. Our office prepared and submitted the application and we did not enclose it; in fact, we were unaware of its existence until June 15, 1990, when a letter dated June 14, 1990, from G. S. Harrison, Manager of the Electric Division for the City of Idaho Falls, arrived at our office. Enclosed with Mr. G. S. Harrison's letter was a copy of your letter to him, dated June 11, 1990, and a copy of the entire handwritten Memorandum. Mr. G. S. Harrison had made a note that JRHN is Jack Harrison of CH2M Hill. We have no idea how the first page ever came into your possession or why.

The comments in the Memorandum regarding evaporation and seepage losses were probably responsive to an inquiry made by Mike Elliot, but they were not responsive, and are only tangentially relevant to my letter of January 19, 1989, which is referenced in the Memorandum. The City of Idaho Falls did not seek the information contained in the Memorandum, nor did anyone from the city receive it until after your letter of

RECEIVED
NOV 14 1992

Gary Spackman, Manager
November 9, 1990
Page 2

June 11, 1990, which referred to that Memorandum. We assume, however, that Mike Elliot may have sought the information, for purposes known only to him at the time.

We have previously advised you that the people who calculated possible evaporation and evapotranspiration losses that might result from the water used proposed under Application for Permit No. 01-7104 are the very same people who calculated the probable net savings of water resulting from the net loss in phreatophyte growth in connection with the project. Why are you so willing to accept their calculations of loss and so reluctant to consider their calculations of savings?

None of this information has been presented in an appropriate manner so as to formally become part of the record that a court might review on appeal. And why are you considering voiding Application Nos. 01-7104 and removing it from the records? The city has not withdrawn its application; we know of no protests having been filed and unless we totally misunderstand the statutory procedure, the Director's responsibility at this point is to grant the permit or deny it or grant it with conditions.

Apparently, we have misunderstood the nature of the discussions we have been having with you about the possible evaporation and evapotranspiration losses. We have thought we were talking about a possible condition that might be imposed upon the grant of a permit. We apologize for our misunderstanding, but we have not intended to convey any desire on the part of the client to have application voided.

We will be in the process of attempting to obtain a thorough written analysis from CH2M Hill of the loss/gain issue that can be presented for your review.

Yours very truly,



Kent W. Foster

#0518.00/srr

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04 1992



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS

GOVERNOR

R. KEITH HIGGINSON

DIRECTOR

November 7, 1990

Kent W. Foster
Attorney at Law
P.O. Box 50130
Idaho Falls, ID 83405

RE: Application for Permit to Appropriate Water No. 01-7104

Dear Mr. Foster:

Attached is a copy of a memorandum which accompanied application for permit to appropriate water no. 01-7104. The memorandum is initialed by JRHN and estimates losses of water from the project. The City of Idaho Falls apparently sought the information provided by CH2M Hill.

If the City of Idaho Falls has nothing further to add, the Department of Water Resources will act to void application no. 01-7104, and remove it from its records.

Respectfully,

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc: Eastern Region

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MAR 04 1992

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October 25, 1990

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OCT 29 1990
Department of Water Resources

Gary Spackman, Manager
Water Rights Permits Section
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Application for Permit to Appropriate Water No. 01-7104

Dear Gary:

We cannot tell from your letter of October 23, 1990, whether you received ours of October 15th or not. Another copy is enclosed just in case.

As we understand it, the City of Idaho Falls engineers still disagree with your conclusion that 144 acre-feet, or any other amount, will annually be lost to downstream appropriators, nor do they agree that CH2M Hill ever performed a study from which that can be concluded.

Yours very truly,


Kent W. Foster

#0518.00/srr

Enclosure

cc: G. S. Harrison

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COPY

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October 15, 1990

Gary Spackman, Supervisor Water
Rights Section
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Boise, Idaho 83720

RE: Application for Permit to Appropriate Water No. 01-7104

Dear Gary:

We owe you a response to your letter of August 30, 1990. After visiting with the City of Idaho Falls officials about the matters you raise, they suggest it would be very surprising if phreatophyte growth re-established itself around the reservoir in the foreseeable future. The dikes were constructed with extensive rip-rapping and phreatophyte growth must be controlled in order to continue to maintain that revetment work.

If you have access to better or more accurate information than that we have previously supplied to convince you otherwise, then we certainly stand corrected. However, the best information we have been able to obtain indicates that, in fact, there is likely to be a net gain as we explained in our letter of July 13th, rather than a net consumptive loss.

We will be happy to supply any additional information or assistance that we are able. However, it appears at this time that we have nothing further to add.

Yours very truly,


Kent W. Foster

#0518.00/srr

cc: G. S. Harrison

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MAR 04 1992



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS

GOVERNOR

R. KEITH HIGGINSON

DIRECTOR

October 23, 1990

Kent Foster, Attorney at Law
P.O. Box 50130
Idaho Falls, ID 83405

RE: Application for Permit to Appropriate Water No. 01-7104

Dear Kent:

In August, 1990, I mailed you a letter stating that storage water should be rented to mitigate for losses caused by diversion of water proposed by application no. 01-7104. I have not received a response indicating that storage water will be rented. The CH2M Hill study showed that 144 acre-feet would annually be lost to downstream appropriators.

Please state the intentions of the City of Idaho Falls with respect to the rental of storage water.

Respectfully,

A handwritten signature in cursive script that reads "Gary Spackman".

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc: Eastern Region

MAR 04 1992

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October 15, 1990

Gary Spackman, Supervisor Water
Rights Section
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Boise, Idaho 83720

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OCT 17 1990
Department of Water Resources

RE: Application for Permit to Appropriate Water No. 01-7104

Dear Gary:

We owe you a response to your letter of August 30, 1990. After visiting with the City of Idaho Falls officials about the matters you raise, they suggest it would be very surprising if phreatophyte growth re-established itself around the reservoir in the foreseeable future. The dikes were constructed with extensive rip-rapping and phreatophyte growth must be controlled in order to continue to maintain that revetment work.

If you have access to better or more accurate information than that we have previously supplied to convince you otherwise, then we certainly stand corrected. However, the best information we have been able to obtain indicates that, in fact, there is likely to be a net gain as we explained in our letter of July 13th, rather than a net consumptive loss.

We will be happy to supply any additional information or assistance that we are able. However, it appears at this time that we have nothing further to add.

Yours very truly,


Kent W. Foster

#0518.00/srr

cc: G. S. Harrison MAR 04 1992



State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS

GOVERNOR

R. KEITH HIGGINSON

DIRECTOR

August 30, 1990

Kent Foster
Attorney at Law
P.O. Box 50130
Idaho Falls, ID 83405

RE: Application for Permit to Appropriate Water No. 01-7104

Dear Kent:

I have reviewed your letter of July 13, 1990, with administration. You have proposed that the city not be required to mitigate at all because more acres of phreatophyte growth have been removed as a result of the Gem State project than are being replaced with vegetation or surface area.

We are concerned about several aspects of the proposal. First, phreatophyte growth is almost certain to re-establish itself around the reservoir as time progresses. Second, what you propose is an off stream use of water which will be consumptive. All other water users are being required to rent storage to compensate for these consumptive uses. Third, the Department has been very lenient in allowing other means of mitigation for the Gem State project. We believe that rental of storage for the estimated losses is the appropriate method for mitigation in this case.

Sincerely,

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc: Eastern Region

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R. VERN KIDWELL, OF COUNSEL

July 13, 1990

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JUL 17 1990

Mr. Gary Spackman
State of Idaho
Department of Water Resources
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Department of Water Resources

Re: Reapplication for Permit to Appropriate Water No.
01-7104

Dear Gary:

Since we visited on the telephone, I called and spoke with some of the city personnel as well as some people at CH2M Hill. I inquired basically about the losses totalling 144 acre-feet.

As we understand it, 96 acre-feet is the estimated consumptive use requirement (evapotranspiration) of the natural vegetation to be maintained within the area shown in the application for permit. The 8 acre-feet is the estimated consumptive loss on the two small recreation areas. However, the City applied for and received permits nos. 25-7500 and 25-7501 for some small wells from which these two small parcels will be watered; none of this water is proposed to be taken from the river under this application for permit. The 40 acre-feet is, of course, the estimated evaporation during each year from the surface of the pond.

We were advised that under the FERC license it was calculated that the City had removed 56 acres of former stream bank vegetation and were required to replace it with seventy acres of equivalent habitat. Apparently what was finally

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MAR 04 1992

Mr. Gary Spackman
July 13, 1990
Page Two

agreed upon was that 28 acres would be on site (most of it is reflected in this application for permit) and the balance is some land acquired up the country for habitat lands. As we understand it, this other habitat land is not near the river or other water source and will not be maintained by artificial application of water.

We were further advised that a fair estimate of consumptive use (evapotranspiration) for the 56 acres eliminated by the Gem State Hydroelectric Project would be 4 acre-feet per acre or some 224 acre-feet total per year. As you can see then, there probably will not be a net loss to the river as a result of the losses to be anticipated under this application for permit, but rather, a net gain, considering the elimination of the acres of phreatophytes.

Would you give me the benefits of your thoughts as to whether this affects the replacement or compensation plan we were discussing?

Yours very truly,


Kent W. Foster

KWF:jah/9318h(49)

cc: G. S. Harrison

RECEIVED

MAR 04 1992



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS

GOVERNOR

R. KEITH HIGGINSON

DIRECTOR

June 11, 1990

City of Idaho Falls
ATTN: G.S. Harrison
Box 50220
Idaho Falls, ID 83405

RE: Application for Permit to Appropriate Water No. 01-7104

Dear Mr. Harrison:

I have reviewed application for permit to appropriate water no. 01-7104, which proposes diversion of 0.48 cfs for irrigation, 10.0 cfs for wildlife and storage of 85 acre-feet for wildlife purposes. The application was filed for mitigation required by FERC in connection with the Gem State hydropower project.

The Department is concerned about losses to the Snake River that will occur as a result of the proposal. A memorandum in the file from an employee of CH2M Hill, initialed JRHN, dated January 30, 1988, (probably should be 1990), states that 96 acre-feet annually will be needed for wet lands maintenance, 8 acre-feet annually will be needed for irrigation of a recreational area, and 40 acre-feet will evaporate from the pond. The total losses, based on the memorandum, equal approximately 144 acre-feet. The 144 acre-feet is water that will probably not be available to downstream appropriators.

Please provide a plan for compensation to the Snake River for water lost. A plan should be submitted to this office within sixty (60) days of the date of this letter. If you need further time, please contact me. Failure to timely respond could jeopardize the validity of your application.

Respectfully,

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc: Eastern Region

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MAR 04 1992

IDAHO DEPARTMENT OF WATER RESOURCES

MEMO-REPLY

Date 5/31/90

To Gary Spackman

From NCY

☒ Take Appropriate Action

☐ Draft A Reply

☐ Action Required By _____

☐ See Me

☐ Call Me

☐ Return To Me

☐ For Your Information

☐ For Your Approval

☐ For Your Comments

☐ As You Requested

☐ Copy (____ Copies)

☐ File

Comments Usually we condition permits in Basin 01 to require annual storage rental to augment otherwise unreliable rights. seems like we ought to correspond with applicant to ascertain how they

Reply expect to augment their supply when a 1990 right is shut off on Snake River.

Signed _____ Date _____

Form No. 202a
4/87

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

NON-TRUST
AOL

APPLICATION FOR PERMIT ANALYSIS SHEET

01-7104

INITIAL REVIEW BY ADM DATE 10-19-89 APPLICATION NUMBER _____
City of Idaho Falls

REQUIRED INFORMATION

- ☒ Name (If applicant is a corporation or partnership, names must be provided for the director, officers, & other partners.)
☒ Address
☒ Source (See USGS Quad for names of water sources)
☒ Point of Diversion (10 acres for spring, lot & block descriptions for subdivisions, local name, flow and/or volume)
☒ County
☒ Quantity (flow and/or volume)
☒ Period of Use
☒ Nature of proposed use (Include description of use.)
☒ Description of diverting works
☒ Time required for beneficial use of water
☒ Place of use or acres irrigated
☒ Map
☒ Signature (If applicant is corp. partnership, or municipality, title of signator is required)
☒ Fee
☒ Yes ☐ No* In form to receipt

ADDITIONAL INFORMATION

- ☐ Overlapping place of use (Describe source & relationship to present application on the back.)
☐ Overlapping point of diversion
☐ Yes ☒ No Field check required
Field check by _____
☐ Yes ☒ No Field report attached
☐ Yes ☒ No Critical groundwater area
☐ Yes ☒ No Groundwater management area
☐ Yes ☒ No Send dam safety information
☐ Yes ☒ No Send power requirement letter
☐ Yes ☒ No Send fish farm requirement letter
☐ Yes ☒ No Power residency affidavit
☐ Yes ☒ No Power efficiency form
☐ Yes ☒ No Within trustwater boundary (If yes, attach trust water supplementary analysis sheet.)
☒ Yes ☒ No Diversion greater than 5 cfs or 500 acre ft. (If yes, attach large diversion supplementary analysis sheet.)
☐ See reverse side for additional information

*REQUEST THE FOLLOWING ADDITIONAL INFORMATION FROM THE APPLICANT

Date Requested

MAY 18 1990

Is Rule 4.5.1 data needed on said project?

Department of Water Resources

PROCESSING ☒ Yes ☐ No In form for advertising
☒ Yes ☐ No Statewide advertising
☒ Yes ☐ No Fee amount, receipt date & No. recorded on application

SEND COPIES TO ☐ Idaho Dept. of Health & Welfare ☐ U.S. BLM
☒ Idaho Dept. of Fish & Game ☐ U.S. Forest Service
☐ Idaho Dept. of Lands ☒ Water District 01
☐ Adjudication Bureau Unit ☐ Other

FINAL REGIONAL PROCESSING REVIEW

☒ Yes ☐ No Affidavit of publication received
☒ Yes ☐ No Application published correctly. If not, record action taken.

☒ Yes ☒ No Publication dates & paper, recorded on application
☐ Yes ☒ No Protests received
Final date for protest 4-23-90
☐ Yes ☐ No Protests, dates, resolution of protest, recorded on application
☐ Yes ☒ No Recommendations attached
☒ Yes ☐ No Measuring device required
☐ Yes ☒ No Access port required
☒ Yes ☐ No Will water be delivered by watermaster? If yes, what Dist. 01 ✓
☒ Yes ☐ No Special conditions of approval or cover letter below.

See below for additional information
Date of priority recommended 6-05-1989 ✓
By HLS Date 5-15-90

STATE OFFICE REVIEW P08, P16 05(01) 4849 01J 11A
By kw See below for additional information
Date 5-25-90

ADDITIONAL INFORMATION

Cont. <11A> (Fa 70afa) <0137 <057 WD 01 Snake River

App. in NON-TRUST area-

WATERMASTER COMMENTS

✓
I have reviewed Application for Permit No. 01-7104 and
have the following comments/objections to the approval of this
application for permit:

The 24 surface acres described
on this application will result
in an annual consumption of
about seventy (70) acrefeet of
water, not counting seepage.
The City should make available
to water district 1, an amount of stored
water equal to the consumptive use
associated with this project

4/25/90

Date



RONALD D. CARLSON, WATERMASTER
Water District No. 01

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MAR 04 1992



IDAHO FISH & GAME

REGION 6
1515 Lincoln Road
Idaho Falls, ID 83401
(208) 522-7783

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APR - 6 1990

Department of Water Resources
Eastern District Office

April 5, 1990

Mr. Harold Jones
Water Rights Supervisor
Idaho Department of Water Resources
150 Shoup Avenue, Suite 15
Idaho Falls, ID 83402

Re: 01-7104 - City of Idaho Falls

Dear Skip:

Idaho Department of Fish and Game has reviewed the application for the City of Idaho Falls. The applications are necessary to maintain wildlife mitigation requirements stipulated in their FERC license. We support the granting of this permit. Please note, the wildlife waters (storage and flow) are nonconsumptive in our opinion.

Thank you for the opportunity to comment.

Sincerely,

Herbert A. Pollard II
Regional Supervisor
Region 6

HAP:SE:ab

cc: U.S. Fish and Wildlife Service (Lobdell)
City of Idaho Falls, City Light Division
Bureau of Program Coordination
Bureau of Fisheries

Cecil D. Andrus / Governor
Jerry M. Conley / Director



Working for wildlife - since 1935

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28-Mar-1990

Department of Fish & Game
1515 Lincoln Rd.
Idaho Falls, ID 83401

RE: Application for Permit 01-7104

Dear Sir:

We are enclosing a copy of the applications that may be of interest to your department. Please review the applications and submit any comments you may have to our Department as soon as possible. The last date of protest is April 23, 1990, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Respectfully submitted,

HAROLD W. JONES
Water Rights Supervisor

HWJ/rb
enc.

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Eastern Region
150 Shoup Ave., Suite 15

Idaho Falls, Idaho 83402
(208) 525-7161

MARCH 28, 1990

THE MORNING NEWS
P.O. BOX 70
BLACKFOOT, ID 83221

Gentlemen:

Enclosed you will find a legal notice which we wish to have published on the dates indicated (once a week for two consecutive weekly issues) in your newspaper. If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Your cooperation is appreciated.

Please send the affidavit of publication and publication billing to this office before APRIL 23, 1990.

Yours truly,

Rita Bodell
Secretary

Encl.

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01-07104

CITY OF IDAHO FALLS
P.O. BOX 50220
IDAHO FALLS, ID 83405

Source: SNAKE RIVER

Tributary: COLUMBIA RIVER

Diversion Pt: NWSWNW Sec 15 T 01N R 37E

Use: IRRIGATION (.480 CFS)
WILDLIFE (10.000 CFS)
Total Diversion: (10.000 CFS)

Date Filed: 9/22/1989

In: T01N R37E S15	SWNW	NWSW	
S16	SENE	NESE	NWSE

24.0 ACRES TOTAL

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The permit(s) will be subject to all prior water rights. Protests must be filed with the Director, Dept. of Water Resources, Eastern Region, 150 Shoup Avenue, Suite 15, Idaho Falls, Idaho 83402 on or before APRIL 23, 1990.

R. KEITH HIGGINSON, Director

Published 4/05/1990 & 4/12/1990

APPROPRIATE

MAR 04 1992

27-Mar-1990

City of Idaho Falls
Box 50220
Idaho Falls, ID 83405

RE: Application for Permit No. 01-7104

Dear Water Right Applicant:

The Department of Water Resources acknowledges receipt of your water right permit. This office is currently in the process of advertising the application in the Morning News on April 5 & 12, 1990. The advertisement will be published for two consecutive weeks, and a period of ten days following the second publication will be allowed for the submittal of protests.

If the application is protested, you will be sent a copy of the protest. The protest must be resolved before the application is approved or denied. If the protest is not resolved voluntarily, this Department will conduct a conference and/or hearing on the matter.

If the application is not protested, it will be forwarded to our state office in about five weeks. State office personnel will conduct a complete review prior to final processing of the application and will notify you of the outcome of this review. When a permit is issued, you will be sent a copy. A typical processing time for an unprotested application is about eight weeks.

Please feel free to contact this office if you have any questions regarding this procedure.

Sincerely,

HAROLD W. JONES
Water Rights Supervisor

HWJ/rb

MICROFILMED

MAR 04 1992

COPY

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

FRED J. HAHN
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER
GARY L. MEIKLE
MICHAEL D. CRAPO
GAYLE A. SORENSON
DONALD L. HARRIS
GREGOR S. CHVISUK
RANDALL B. REED
MARIE T. FEELEY
ROBERT M. FOLLETT

WEST ONE BANK BUILDING
P.O. BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
TELEFAX (208) 523-9518

ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1971)
TERRY L. CRAPO (1939-1982)
WILLIAM S. HOLDEN (1907-1988)
R. VERN KIDWELL, OF COUNSEL

February 6, 1990

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FEB - 7 1990

Department of Water Resources
Eastern District Office

John A. Rosholt, Esq.
NELSON, ROSHOLT, ROBERTSON,
TOLMAN & TUCKER, CHTD.
P.O. Box 1906
Twin Falls, Idaho 83303

RE: Application for Permit No. 01-07104

Dear John:

Your letter of January 4, 1990, has been referred to me by the City of Idaho Falls for response. I am, of course, also in receipt of a copy of your letter of the same date to Ron Carlson with your attached note regarding some possible minor impact in the Upper Valley.

I was asked by the City of Idaho Falls to help in the preparation of this application and at the time of preparation, in my own mind, any potential impacts in either the Upper or Lower Valley were so deminimus and theoretical as to be incapable of measurement. Assuming that this though may have been incorrect, I have sent a copy of this letter to Ron Carlson, and we certainly have no objection to having Upper Valley representatives notified of the application.

One of the requirements of the city's FERC license in connection with the Gem State Hydroelectric Project, was for some wildlife habitat improvement areas below the dam. This was to occur in a low area immediately below the dam on the east side of the river, and with respect to an island a short distance downstream. The requirement is, of course, that natural vegetation be maintained and that a small pond be built on the east side of the river. The pond is not very deep and is lined with a bentonite silt blanket for seepage purposes. The maximum capacity of the pond is about 53 acre

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John A. Rosholt, Esq.
February 6, 1990
Page 2

feet and virtually all the water diverted is done through a closed pipe, except for a few hundred feet of silt lined ditch, so most of the water returns directly to the river. Although the permit seeks one miner's inch per acre for the maximum number of acres covered by this recreation area, most of this vegetation has grown pretty much as it is for a long time without benefit of artificial irrigation. It is not intended or anticipated that diversions for watering this natural vegetation on either the island or near the pond will be very great, and the proximity to the river may tend to minimize typical transmission losses.

If there is any additional information that we can provide, please feel free to contact us at your convenience.

Yours very truly,



Kent W. Foster

#0518.00/srr

cc: Steve Harrison
Ron Carlson

MAR 04 1992