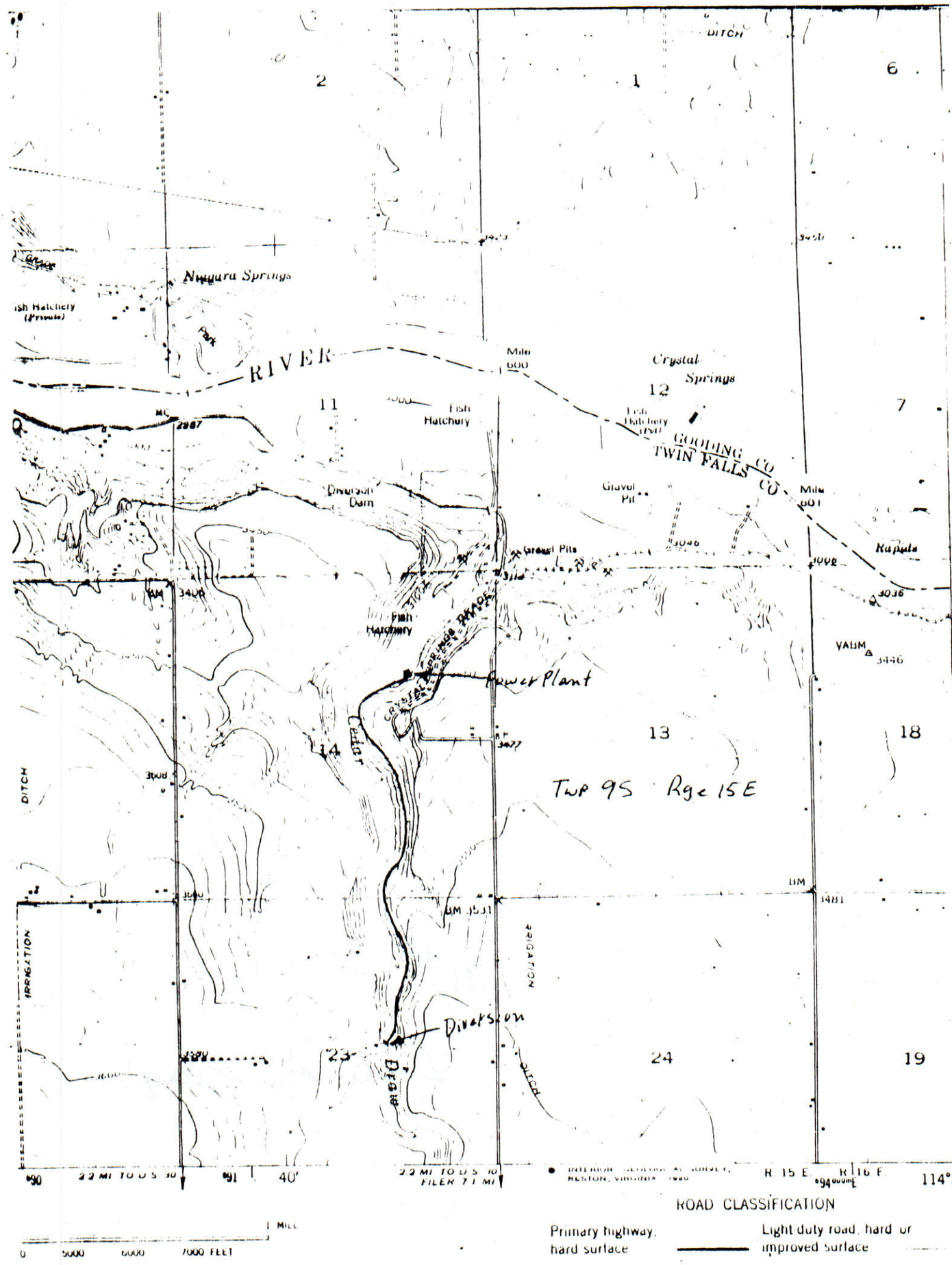
11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



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.

(Applicant)
Crystal Springs Hydroelectric Co.

MICROFILMED

Weekly Insertion

Company Name ID ept. of Water Resources
Account Number 632 (Southern Reg.)
Cost: $ 54.09

STATE OF IDAHO)
) ss.
COUNTY OF ADA)

Laura Gay Barnes, being duly sworn, deposes and says: That she is the Principal Clerk of The Idaho Statesman, a daily newspaper printed and published at Boise, Ada County, State of Idaho, and having a general circulation therein and which said newspaper has been continuously and uninterruptedly published in said County during a period of twelve consecutive months prior to the first publication of the notice, a copy of which is attached hereto; that said notice was published in The Idaho Statesman in conformity with Section 60-108, Idaho Code as amended, for Two (2) consecutive weekly insertions, beginning with the issue of

November 7, 1985, and ending with the issue of November 14, 1985.

Laura Gay Barnes

Subscribed and sworn to before me this 14th day of November, 1985.

Notary Public for Idaho, Residing at Boise, Idaho.

NOTICE OF APPLICATION FOR WATER RIGHT

The following applications are being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code, the opportunity to protest:

47-7768
Crystal Springs Hydroelectric Co.
P.O. Box 1892, Twin Falls, ID 83301
Source: Cedar Draw tributary to Snake River
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: SW/NE Sec. 23 T 09S R 15E, Twin Falls Co.
Use: Power (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE Sec. 23 T 09S R 15E
Diversion Means: Penstock into single generating unit

47-7767
Crystal Springs Hydroelectric Co.
P.O. Box 1892, Twin Falls, ID 83301
Source: Cedar Draw tributary to Snake River
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: NWSE Sec. 14 T 09S R 15E SWNE Sec. 14 T 09S R 15E (Rediversion), Twin Falls Co.
Use: Power (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE SWNE Sec. 14 T 09S R 15E
Diversion Means: Penstock into single generating unit

47-7991
Crystal Springs Hydroelectric Co.
P.O. Box 1892, Twin Falls, ID 83301
Source: Cedar Draw trib. to Snake River
Date Filed: 12/27/1984
Diversion Pt: SWNE Sec. 23 T 09S R 15E
Use: Power (40.00 CFS)
In: SWNE Sec. 14 T 09S R 15E

Protests must be filed with the Director, Department of Water Resources, Southern Region, 1341 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 on or before November 25, 1985.

KEN DUNN
Director

Pub. Oct. 7, 14, 1985 9519

MICROFILMED

RECEIVED
NOV 18 1985
Department of Water Resources
Southern District Office

TRIBUNE PUBLISHING COMPANY, INC.
The Lewiston Morning Tribune
505 C St., P.O. Box 957
Lewiston, Idaho 83501
(208) 743-9411

Date 111485 INVOICE No. L00061157

Account No. 42662

Description 61157NOTIC

Times 2 Lines 66

Tab Lines

LEGAL ADVERTISING
INVOICE

SOLD TO:
STATE OF IDAHO
DEPT. OF WATER RESOURCES1
041 BLUE LAKES BLVD. NO.
TWIN FALLS
ID 83301

$ 57.75

NOTICE:This is an invoice of Purchase made by you. Statement will be rendered the first of the month.
Please Retain This Invoice as Your Statement Will Refer To Invoice by No. Only.

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) is (are) being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code the opportunity to protest:

47-7991
CRYSTAL SPRINGS HYDRO-ELECTRIC CO.
P.O. BOX 1892, TWIN FALLS, ID 83301
Source: CEDAR DRAW trib. to SNAKE RIVER
Date Filed: 12/27/1984
Diversion Point: SWNE Sec 23 T 09S R 15E
Use: POWER (40.00 CFS)
In: SWNE Sec 14 T 09S R 15E

47-7767
CRYSTAL SPRINGS HYDROE-LECTROC CO.
P.O. BOX 1892, TWIN FALLS, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: NWSE Sec 14 T 09S R 15 E SWNE
Sec 14 T 09S R 15E (REDIVER-SION), TWIN FALLS Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE SWNE Sec 14 T 09S R 15E
Diversion Means: PENSTOCK INTO SINGLE GENERATING UNIT

47-7768
CRYSTAL SPRINGS HYDRO-ELECTRIC CO.
P.O. BOX 1892, TWIN FALLS, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: SWNE Sec 23 T 09S R 15E, TWIN FALLS Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE Sec 23 T 09S R 15E
Diversion Means: PENSTOCK INTO SINGLE GENERATING UNIT

Protests must be filed with the Director, Department of Water Resources, Southern Region, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 on or before November 25, 1985.

A. KENNETH DUNN

RECEIVED
NOV 20 1985
Department of Water Resources
Southern District Office

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO, ss.
County of Nez Perce

S. L. Stone, being duly sworn, deposes and says, I am the Legal Clerk of the Tribune Publishing Company, a corporation organized and existing under and by virtue of the laws of the State of Idaho, publishers of the LEWISTON MORNING TRIBUNE, a newspaper of general circulation published at Lewiston, Nez Perce County, Idaho; That the said Lewiston Morning Tribune is an established paper and has been published regularly and issued regularly at least once a day for more than 21 consecutive years next immediately preceding the first publication of this notice, and has been so published uninterrupted for said period; that the

NOTICE OF APPLICATION FOR WATER RIGHT

attached hereto and which is made a part of this affidavit was published in the said Lewiston Morning Tribune, 2 time(s). Publication being on 110785, or once a week for two consecutive weeks, the first publication thereof being on the 110785, and the last publication thereof being on the 111485, and said NOTICE OF APPLICATION FOR WATER RIGHT was so published in the regular and entire issue of said newspaper and not in a supplement thereof and was so published in every issue and number of the said paper, during the period and times of publication as set forth above.

S. L. Stone

SUBSCRIBED AND SWORN BEFORE ME THIS THE 18 day of November 1985

Sherral M. Lantz

Notary Public in and for the State of Idaho, residing at Lewiston, therein.

MICROFILMED

Proof of Publication

The Post-Register

State of Idaho,
County of Bonneville } ss.

I, J. Robb Brady, first being duly sworn, depose and say: That I am the Principal Clerk of The Post Company, a corporation of Idaho Falls, Bonneville County, Idaho, publishers of The Post-Register, a newspaper of general circulation, published daily, except Saturday, at Idaho Falls, Idaho; said Post-Register being a consolidation of the Idaho Falls Times, established in the year 1890, The Idaho Register, established in the year 1880 and the Idaho Falls Post, established in 1903, such consolidation being made on the 1st day of November, 1931, and each of said newspapers having been published continuously and uninterruptedly, prior to consolidation, for more than seventy-eighty (78) weeks and said Post-Register having been published continuously and uninterruptedly from the date of such consolidation, up to and including the last publication of notice hereinafter referred to.

That the notice, of which a copy is hereto attached and made a part of this affidavit, was published in said Post-Register for two consecutive weeks, first publication having been made on the 7th day of November, 19 85, last publication having been made on the 14th day of November, 19 85, and that the said notice was published in the regular and entire issue of said paper on the respective dates of publication, and that such notice was published in the newspaper and not in a supplement.

J. Robb Brady

Subscribed and sworn to before me, this 15th day of November, 1985

Leon K. Napier
Notary Public

My commission expires September 30, 1988

B10, 1M,

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) is (are) being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code the opportunity to protest:

47-7991
CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. BOX 1892, TWIN FALLS, ID 83301
Source: CEDAR DRAW trib. to SNAKE RIVER
Date Filed: 12/27/1984
Diversion Pt: SWNE Sec 23 T 09S R 15E
Use: POWER (40.00 CFS)
In: SWNE Sec 14 T 09S R 15E

47-7767
CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. BOX 1892 TWIN FALLS, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: NWSE Sec 14 T 09S R 15E SWNE Sec 14 T 09S R 15E (REDIVERSION), TWIN FALLS Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE SWNE Sec 14 T 09S R 15E
Diversion Means: PENSTOCK INTO SINGLE GENERATING UNIT

47-7768
CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. BOX 1892 TWIN FALLS, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: SWNE Sec 23 T 09S R 15E, TWIN FALLS Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE Sec 23 T 09S R 15E
Diversion Means: PENSTOCK INTO SINGLE GENERATING UNIT

Protests must be filed with the Director, Department of Water Resources, Southern Region, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 on or before November 25, 1985.

A KENNETH DUNN
Director

Published: November 7, 14, 1985

RECEIVED
NOV 18 1985
Department of Water Resources
Southern District Office

ENDORSED

LEGAL NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application(s) have been submitted for permit to appropriate the public waters of the State of Idaho:

47-7991
CRYSTAL SPRINGS HYDROELECTRIC CO.
PO BOX 1892, Twin Falls, ID 83301
Source: Cedar Draw trib. to Snake River
Date Filed: 12/27/1984
Diversion Pt: SWNE Sec 23 T 09S R 15E
Use: Power (40.00 CFS)
In: SWNE Sec 14 T 09S R 15E

47-7992
QUIGLEY, WADE &/or ILENE
Rt. 3 Box 309, Buhl, ID 83316
Source: SPRING trib. to UNNAMED STREAM GROUNDWATER
Date Filed: 12/24/1984
Diversion Pt: NWSW Sec 26 T 09S R 14E
Use: STOCKWATER (0.08 CFS) COMMERCIAL (0.12 CFS)
In: NWSW Sec 26 T 09S R 14E

47-7993
QUIGLEY, WADE &/or ILENE
RT. 3 Box 309, BUHL, ID 83316
Source: GROUNDWATER
Date Filed: 12/24/1984
Diversion Pt: NWSW Sec 26 T 09S R 14E
Use: FISH PROP. (9.00 CFS) Heating (9.00 CFS) Recreation (1.00 CFS)
In: NWSW Sec 14 T 09S R 14E

If issued, the permit(s) will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 and received on or before FEBRUARY 11, 1985.

A. KENNETH DUNN
Director

PUBLISH: Thursdays, January 24, and 31, 1985.

Affidavit of Publication

STATE OF IDAHO, }
COUNTY OF TWIN FALLS } ss.

№ 14724

I, Linda Copps McGuire being first duly sworn upon oath, depose and say that I am Print Clerk of the TIMES-NEWS, published daily, at Twin Falls, Idaho, and do solemnly swear that a copy of the notice of advertisement, as per clipping attached, was published in the regular and entire issue of said newspaper, and not in any supplement thereof, for Two consecutive Weeks, commencing with the issue dated January 24, 1985, and ending with the issue dated January 31, 1985.

And I do further certify that said newspaper is a consolidation, effective February 16, 1942, of the Idaho Evening Times, published theretofore daily except Sunday, and the Twin Falls News, published theretofore daily except Monday, both of which newspapers prior to consolidation had been published under said names in said city and county continuously and uninterruptedly during a period of more than twelve consecutive months, and said TIMES-NEWS, since such consolidation, has been published as a daily newspaper except Saturday, until July 31, 1978, at which time said newspaper began daily publication under said name in said city and county continuously and uninterruptedly.

And I further certify that pursuant to Section 60-108 Idaho Code, Thursday of each week has been designated as the day on which legal notice by law or by order of any court of competent jurisdiction within the state of Idaho, to be published weekly, will be published; and that at the head of the editorial column of said combined newspapers, and in each issue thereof, Thursday is announced as the day on which said legal notices will be published.

Linda Copps McGuire

Subscribed and sworn to before me on this 31 day of January, 1985.

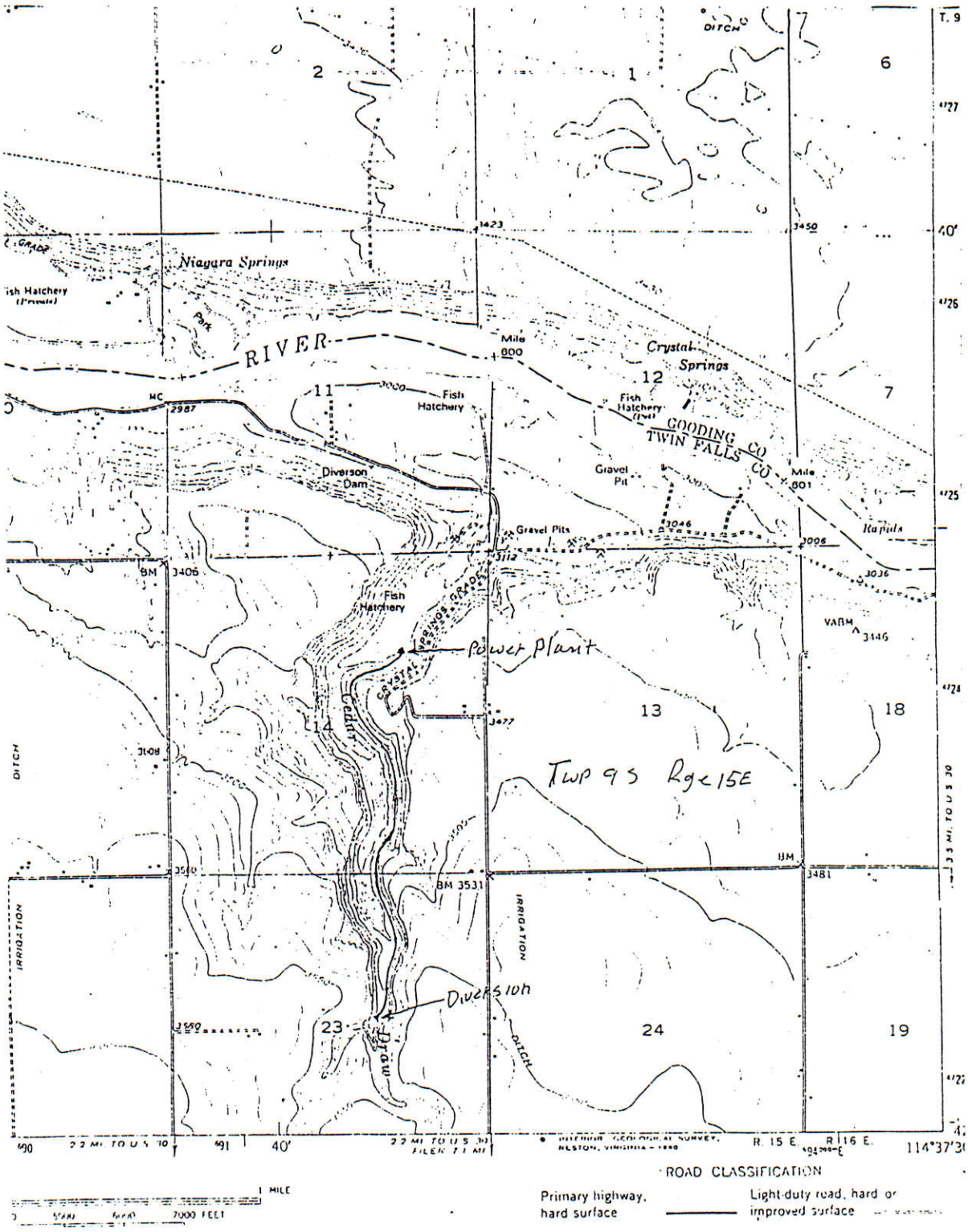
Goldie J. Fawcett

Notary Public in and for the County of Twin Falls, State of Idaho, residing at Twin Falls, Idaho

RECEIVED
FEB 21 1985
Department of Water Resources
Southern District Office

PAID

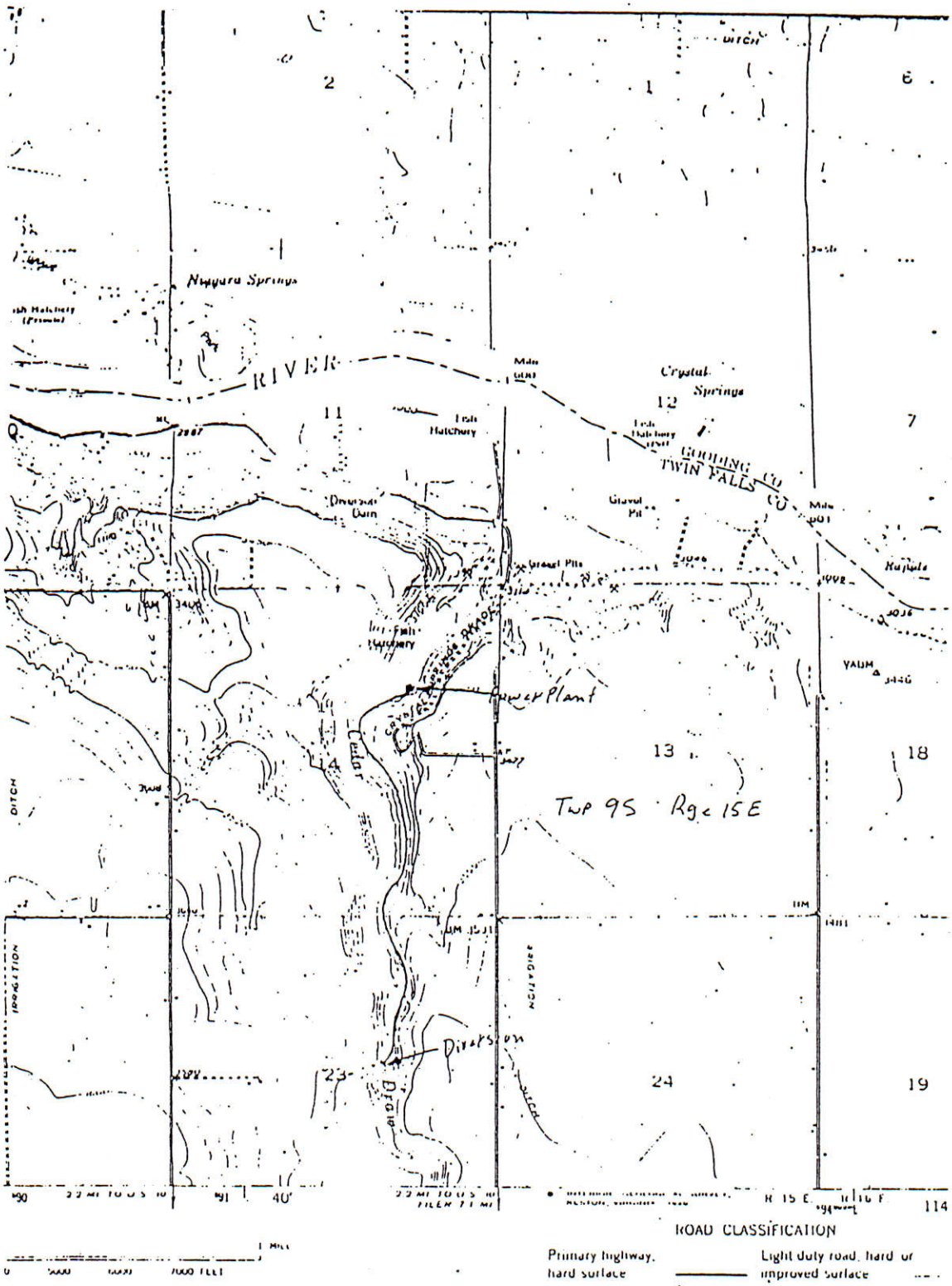
11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



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.

Crystal Springs Hydroelectric Co.
By Shirley Scherer President
(Applicant)

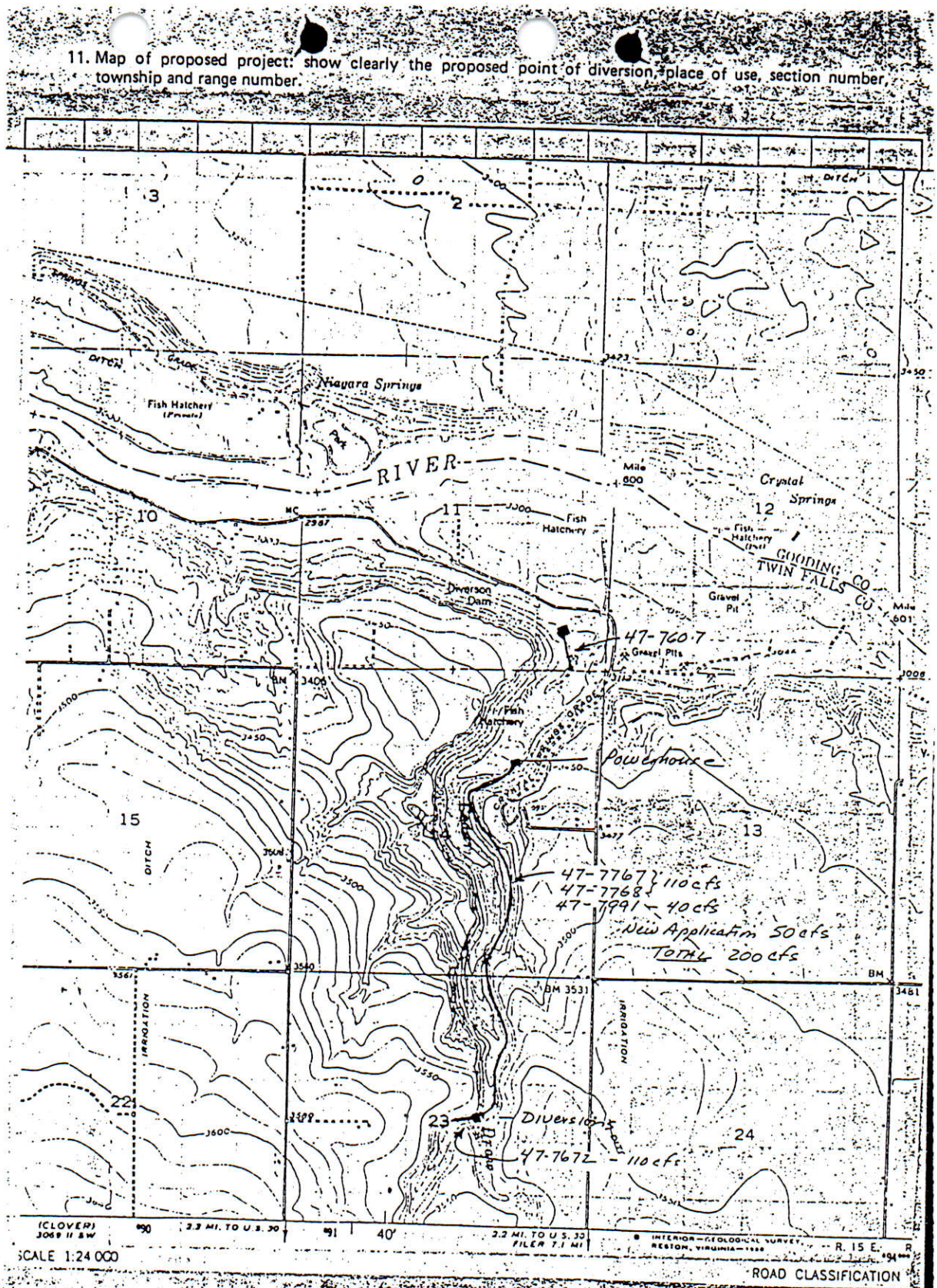
11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



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.

(Applicant)
Crystal Springs Hydroelectric Co.

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



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.

Crystal Spring's Hydroelectric Company

By _____

of and for (Applicant)
Bonneville Pacific Corporation
Its General Partner

MICROFILMED

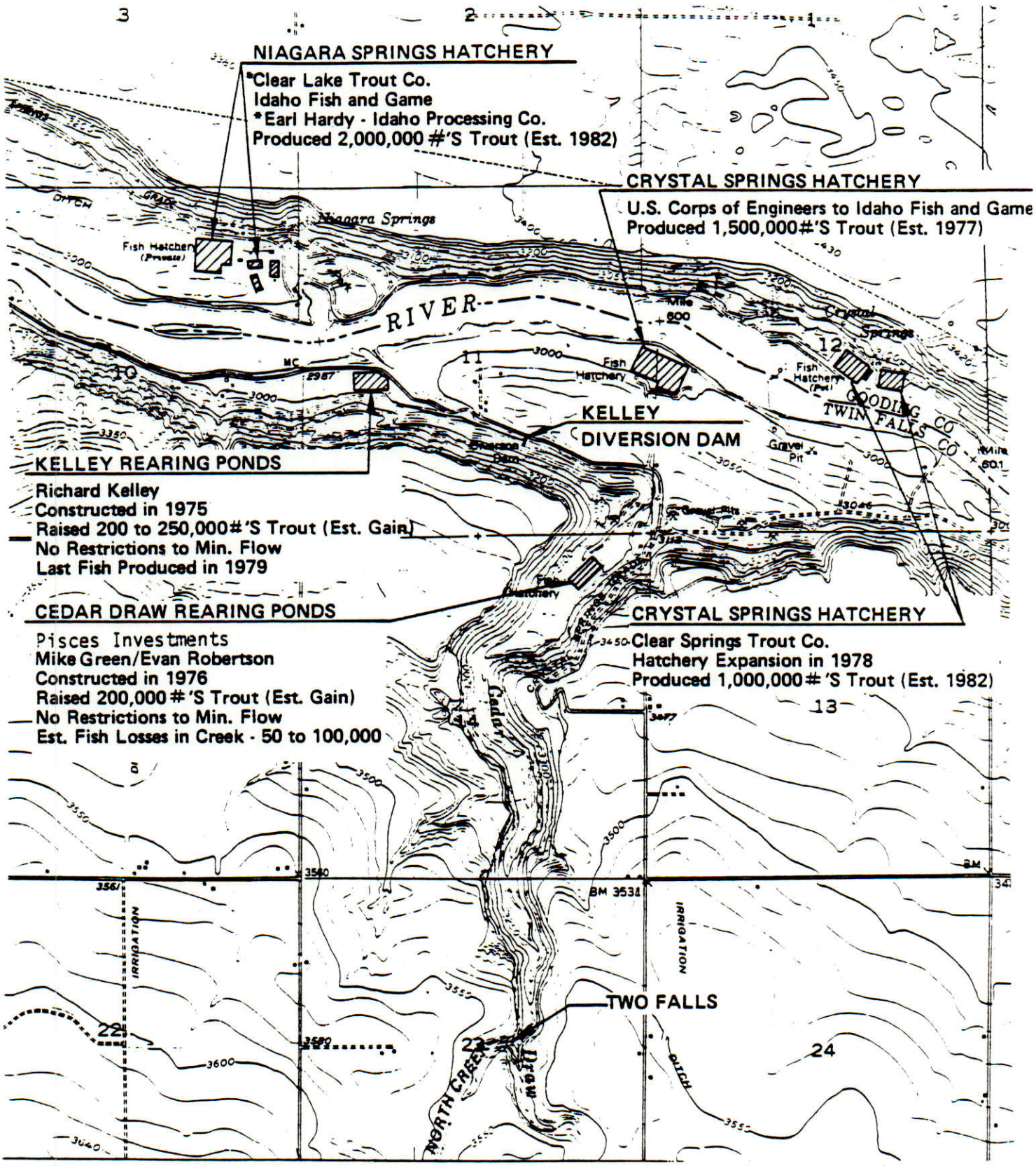


FIGURE 1

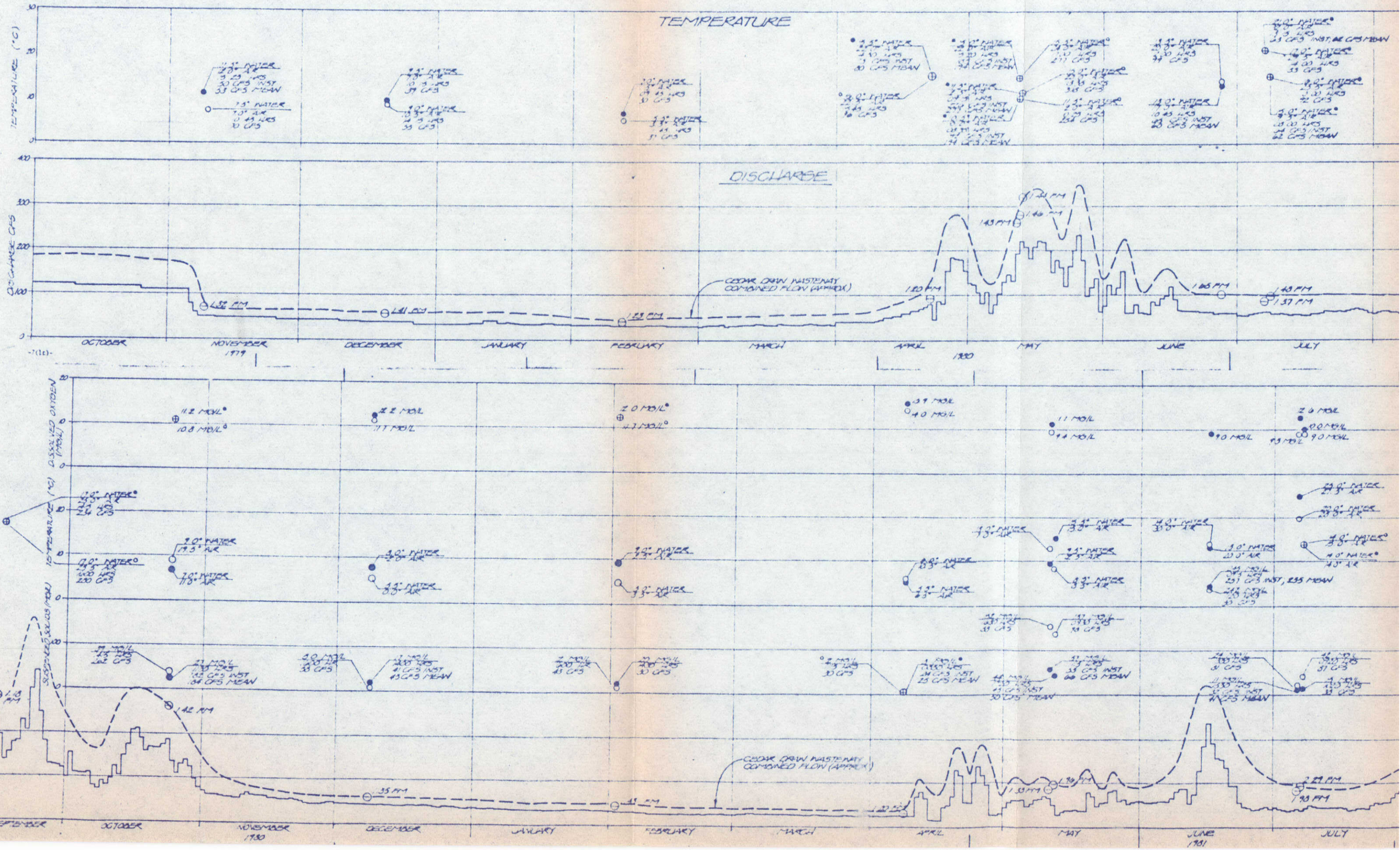
EXHIBIT E

LOCATION MAP

HATCHERIES/REARING PONDS
Cedar Draw Creek (Wasteway)

STREAM DATA

SEE CHART
SEE ROUTE BOOK FOR LEGEND



TEMPERATURE

DISCHARGE

CEDAR DRAW WASTEWAY COMBINED FLOW (APPROX.)

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER

1980

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER

1981

DISSOLVED OXYGEN (MG/L)

TEMPERATURE (°C)

SUSPENDED SOLIDS (MG/L)

DISCHARGE (CFS)

FIGURE 2

LEGEND

- ● READING USGS GAGE 14093500
- ○ READING USGS GAGE 14093550
- ⊕ READINGS BOTH USGS GAGES 14093500 AND 14093550
- ⊖ PM FLOW MULTIPLIER TO USGS GAGE 14093500 FROM USGS GAGE 14093500
- INST INSTANTANEOUS FLOW READING
- MEAN MEAN DAILY FLOW READING

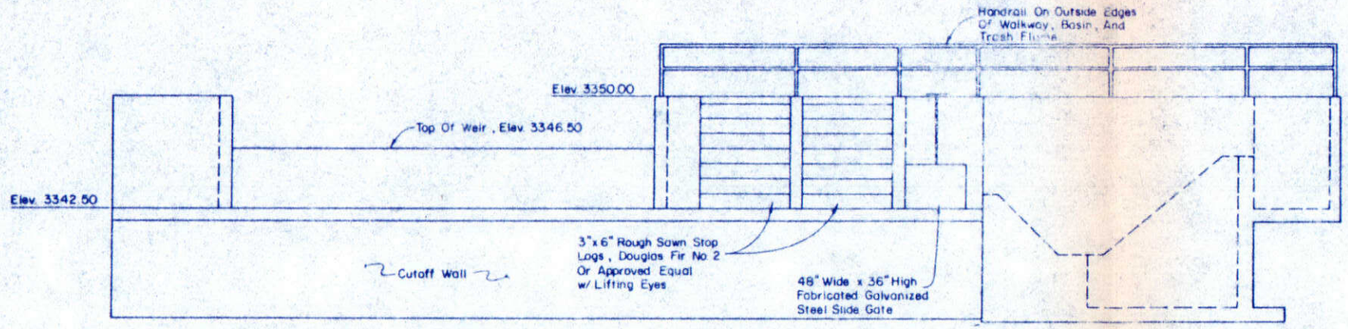
IPM

STREAM DATA

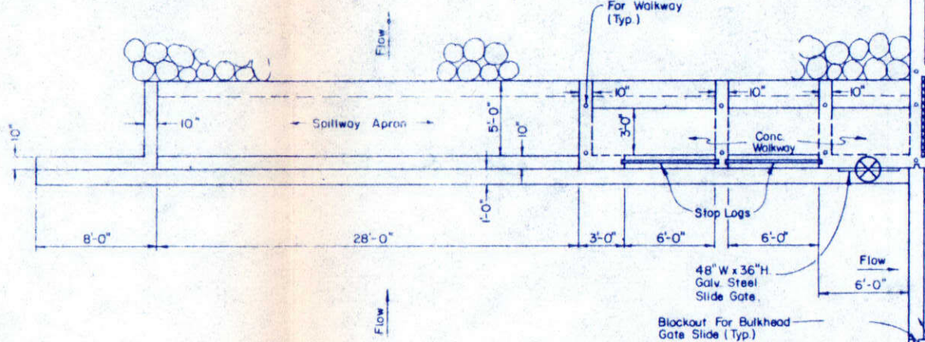
GAGING STATIONS 14093500 & 14093550

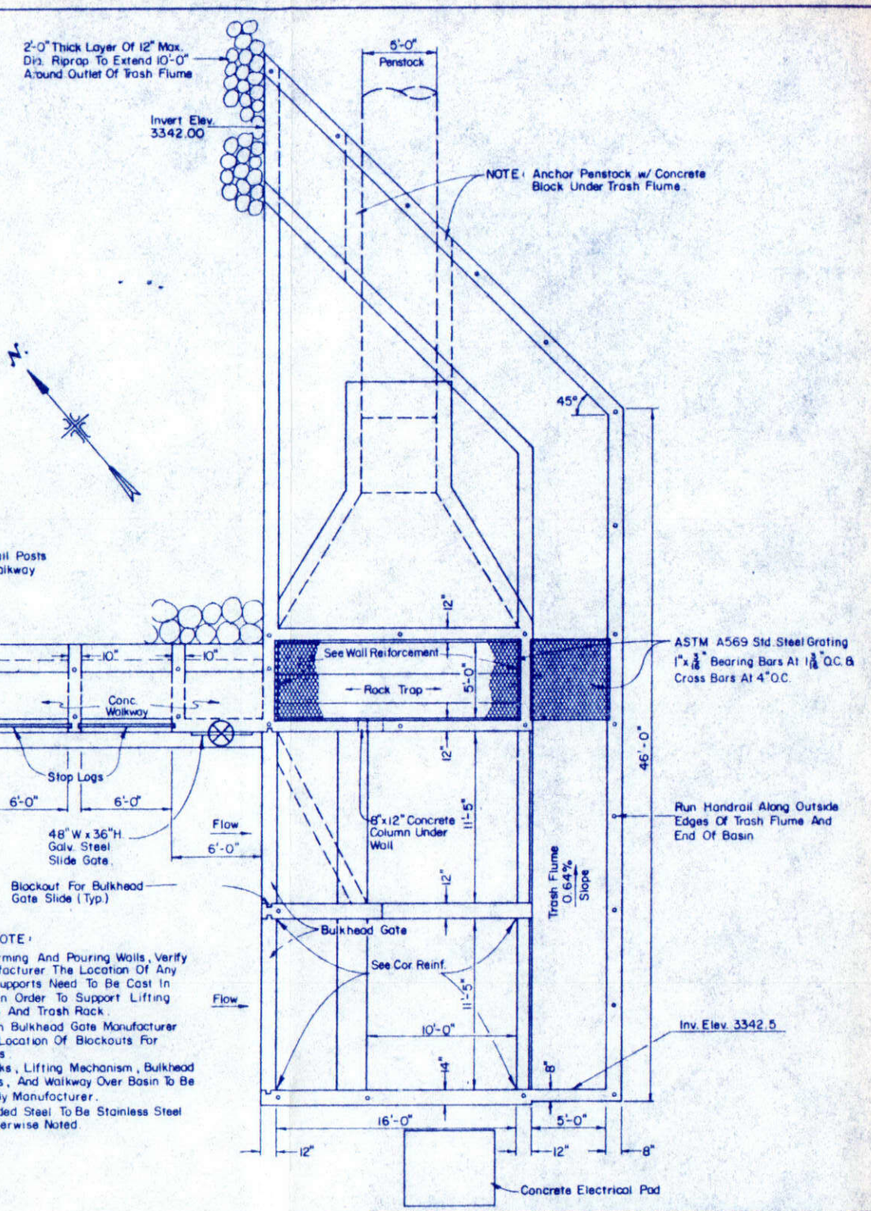
HYDROELECTRIC PROJECT, CEDAR DRAW CREEK, CRYSTAL SPRINGS HYDROELECTRIC CO.

TWIN FALLS COUNTY, OHIO



ELEVATION VIEW





GENERAL NOTE:

1. Before Forming And Pouring Walls, Verify With Manufacturer The Location Of Any Bars Or Supports Need To Be Cast In Concrete In Order To Support Lifting Mechanism And Trash Rack.
2. Verify With Bulkhead Gate Manufacturer Size And Location Of Blockouts For Gate Slides.
3. Trash Racks, Lifting Mechanism, Bulkhead Slide Gates, And Walkway Over Basin To Be Installed By Manufacturer.
4. All Embedded Steel To Be Stainless Steel Unless Otherwise Noted.

5 4 3 2 1 0 5 10 15
SCALE IN FEET

FIGURE F-1

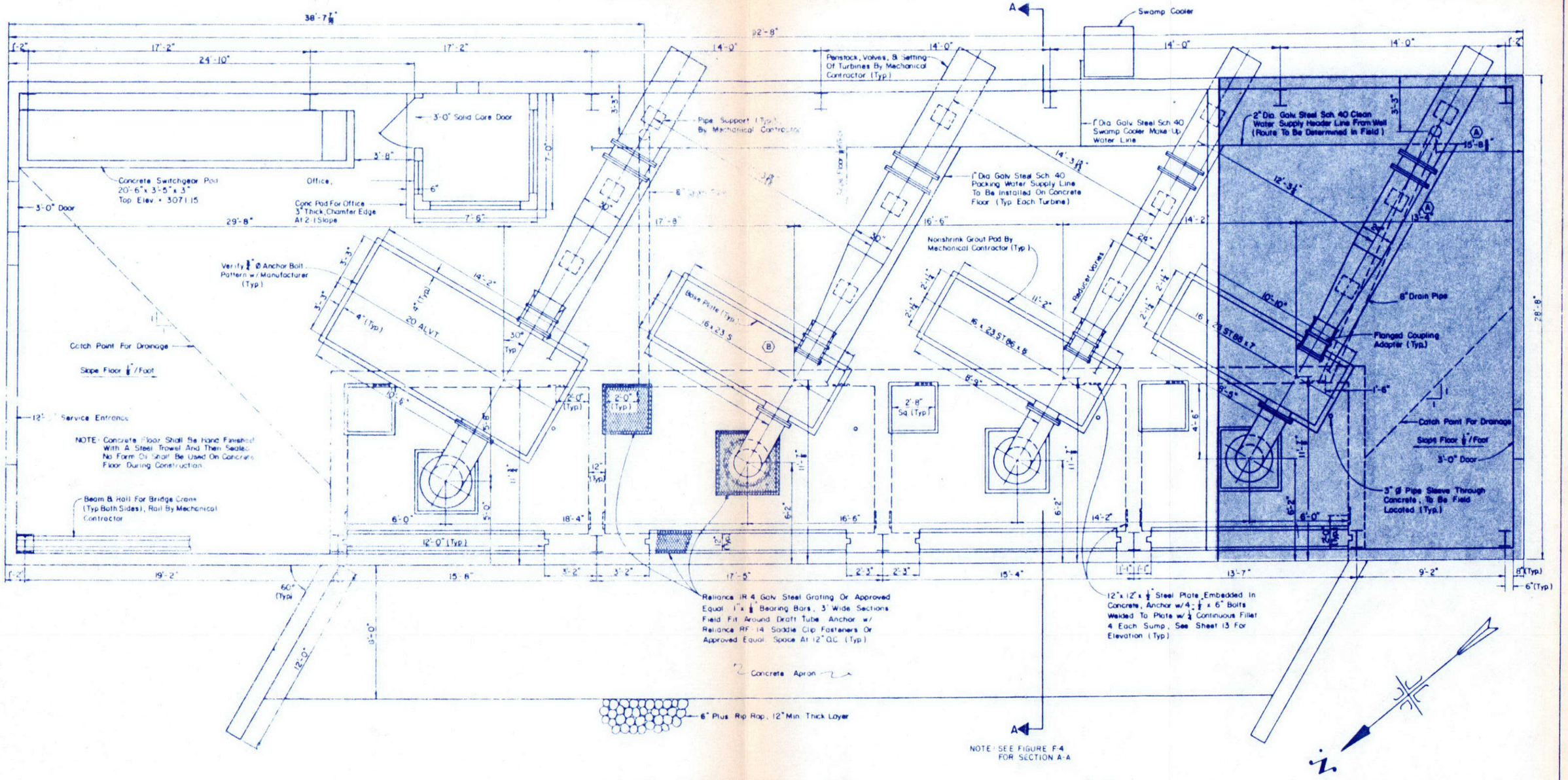
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

DIVERSION STRUCTURE

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Drawn	Ck.	Dwg No. BT850806-02
Scale AS SHOWN	Date AUG., 1985	Sheet 2 of 6	



POWER HOUSE FLOOR PLAN

FIGURE F-2

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

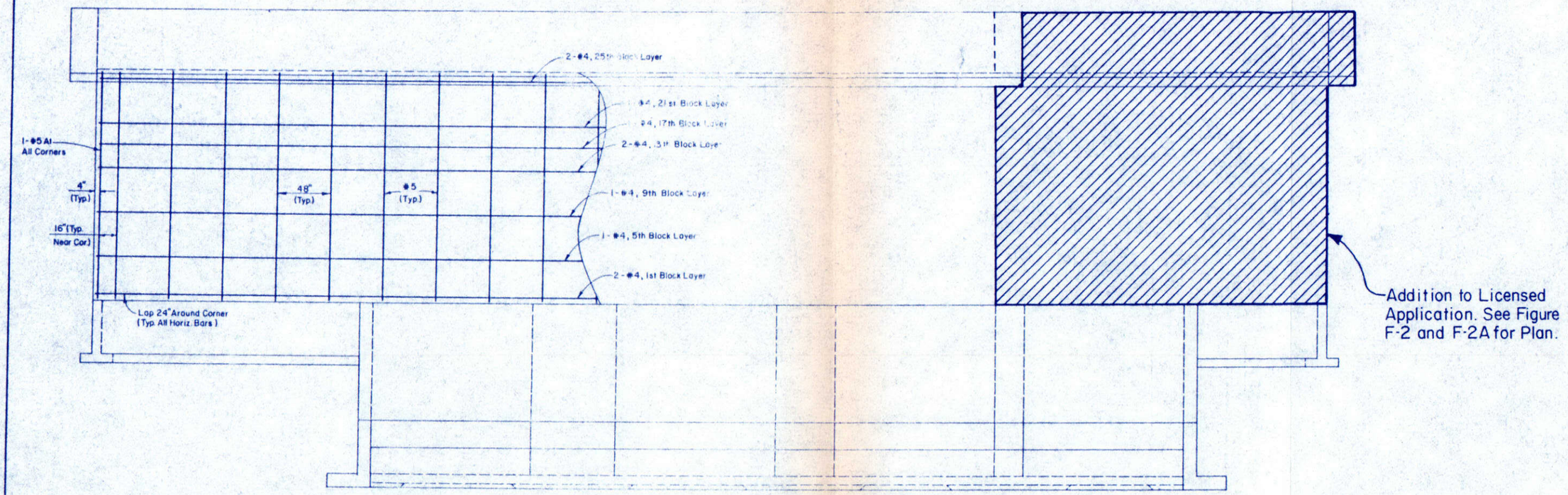
TWIN FALLS COUNTY, IDAHO

POWERHOUSE PLAN

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

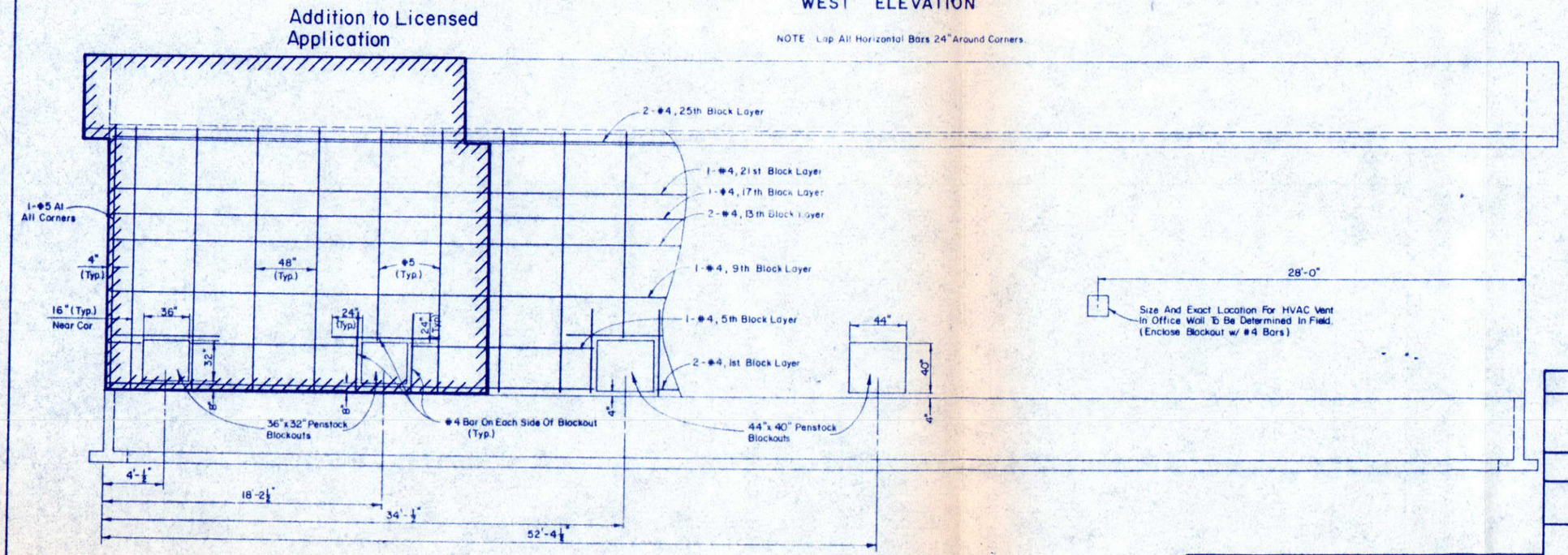
Dwg. No. BTB50806-03

Scale AS SHOWN | Date AUG. 1985 | Sheet 3 of 6



WEST ELEVATION

NOTE Lap All Horizontal Bars 24" Around Corners.



EAST ELEVATION

4 3 2 1 0 4 8 12
SCALE IN FEET

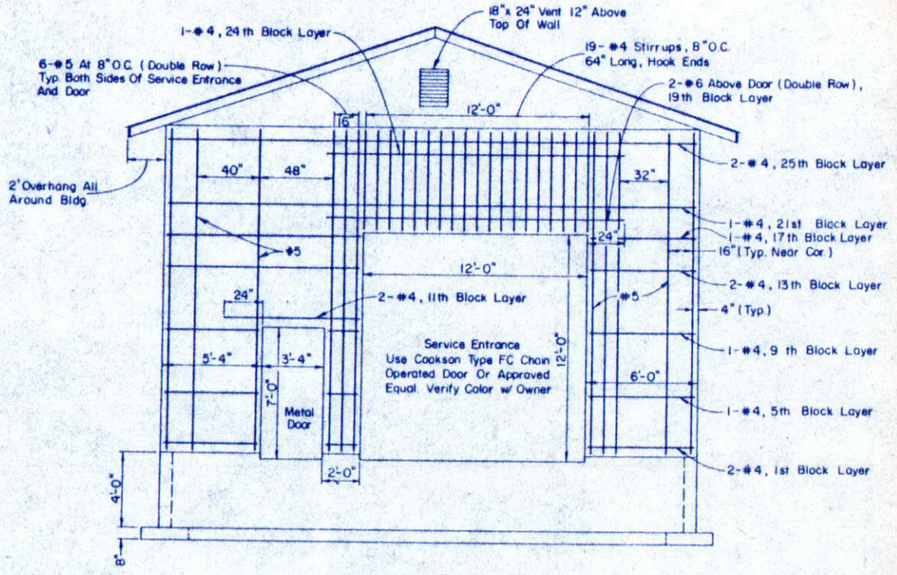
FIGURE F-3

CEDAR DRAW CREEK HYDROELECTRIC PROJECT
TWIN FALLS COUNTY, IDAHO

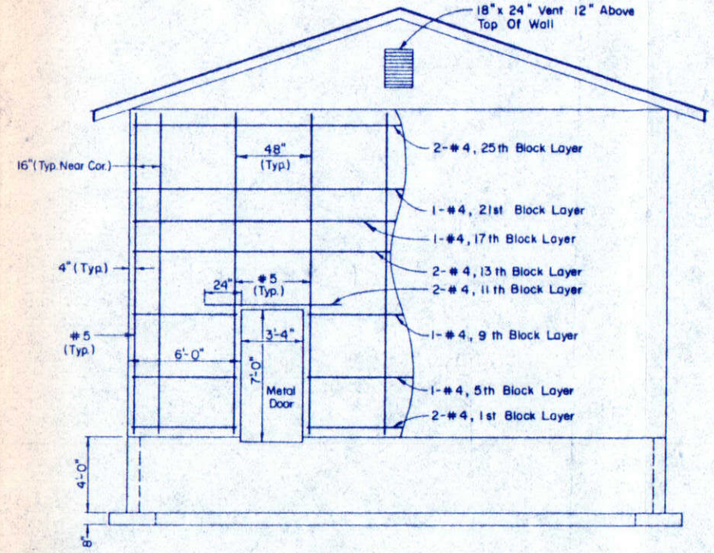
POWERHOUSE ELEVATIONS

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Dr. BAY	Ck.	Dwg. No. BT850806-04
Scale AS SHOWN	Date AUG. 1985	Sheet 4 of 6	



NORTH ELEVATION

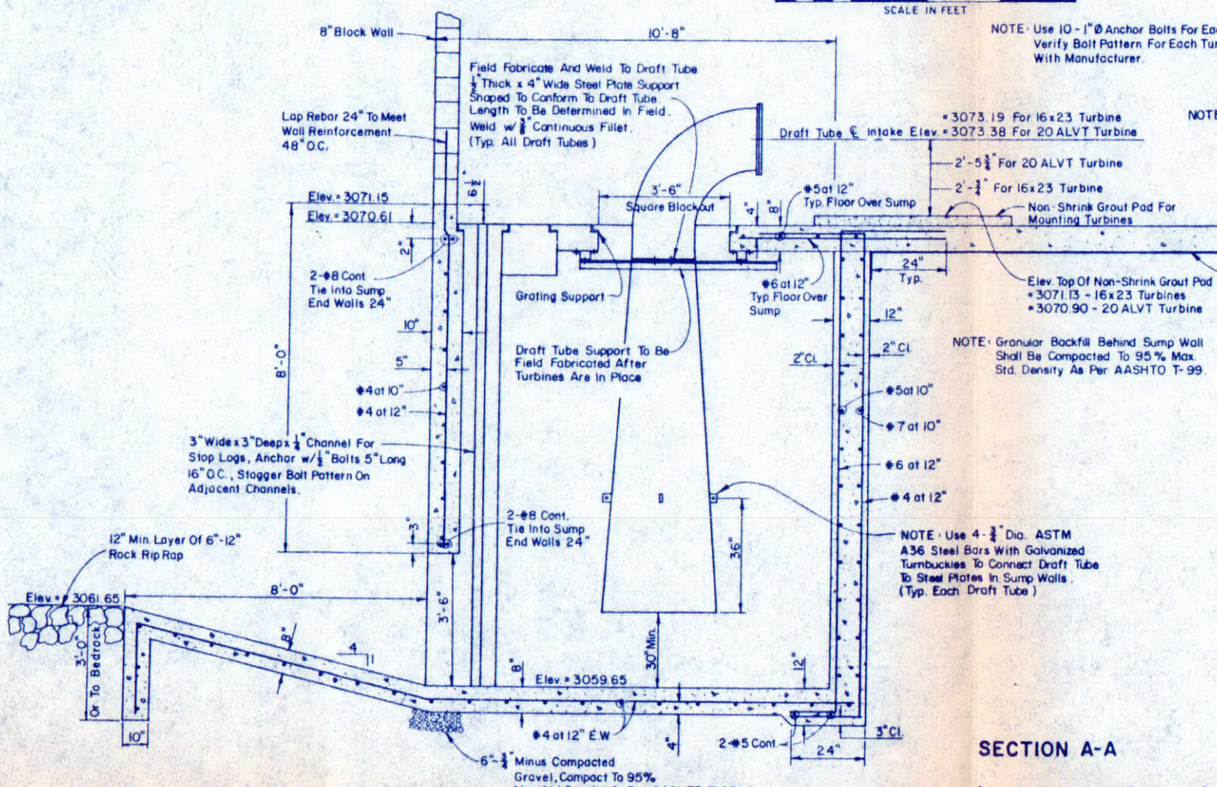


SOUTH ELEVATION

NOTE: Lap All Horizontal Bars 24" Around Corners

Location And Size Of Any Required HVAC Or Other Blockouts In Masonry Walls Shall Be Determined In Field Prior To Construction Of Walls. (Enclose All Blockouts w/ #4 Bars Extended 24" Past Openings)

4 3 2 1 0 4 8 12
SCALE IN FEET



SECTION A-A

2 1 0 2 4 6
SCALE IN FEET

FIGURE F-4

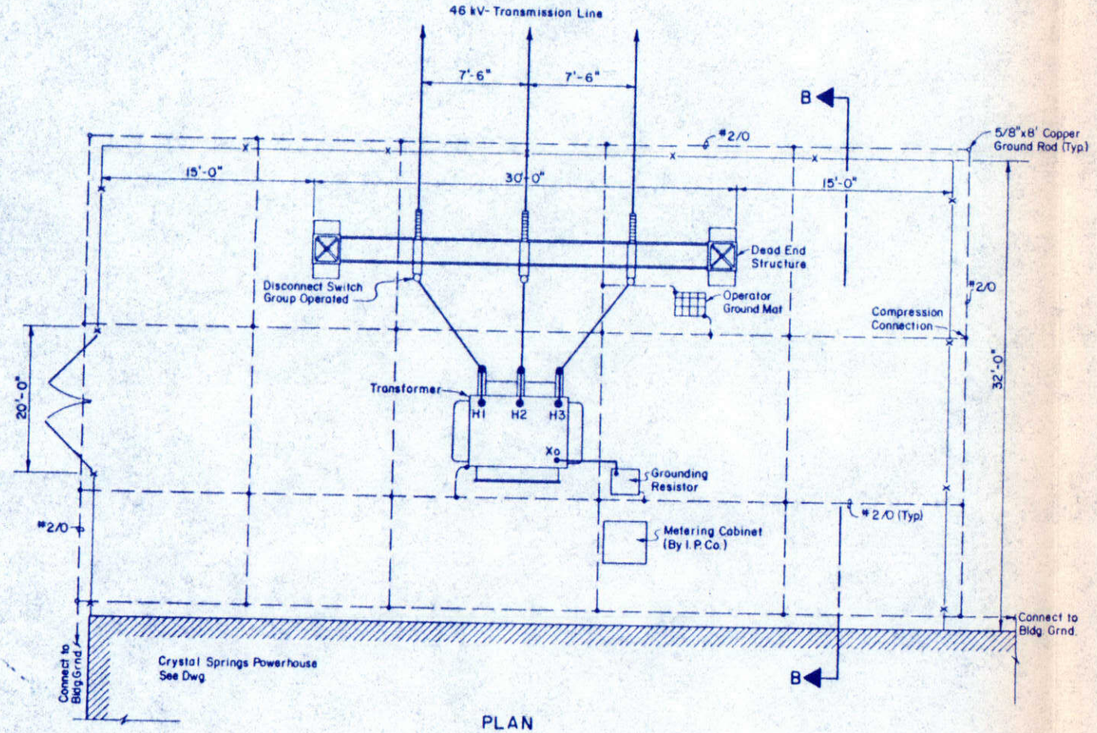
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

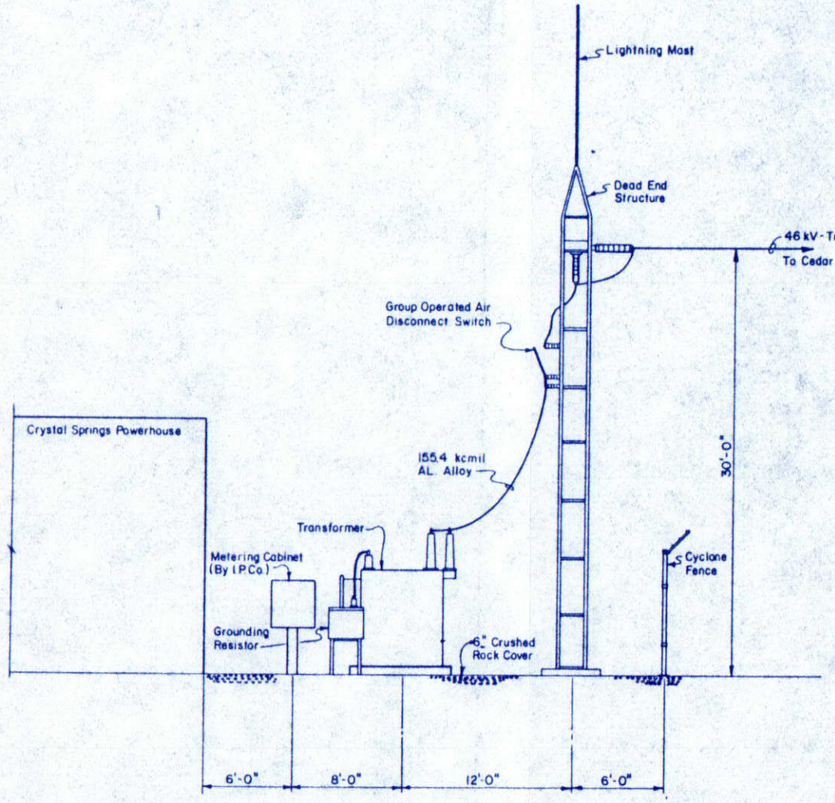
POWERHOUSE ELEVATIONS & SECTIONS

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Drawn	Ck.	Dwg. No. BT850806-05
Scale AS SHOWN	Date AUG. 1985	Sheet 5 of 6	



PLAN



SECTION B-B



FIGURE F-5

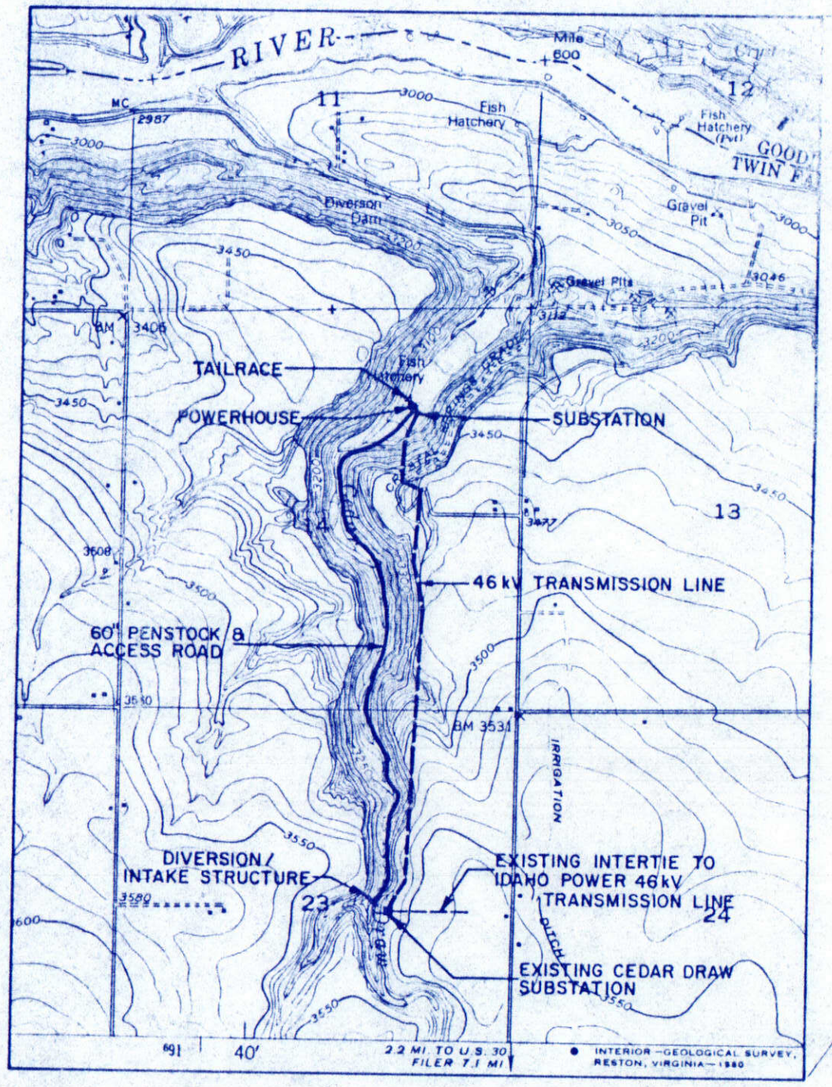
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

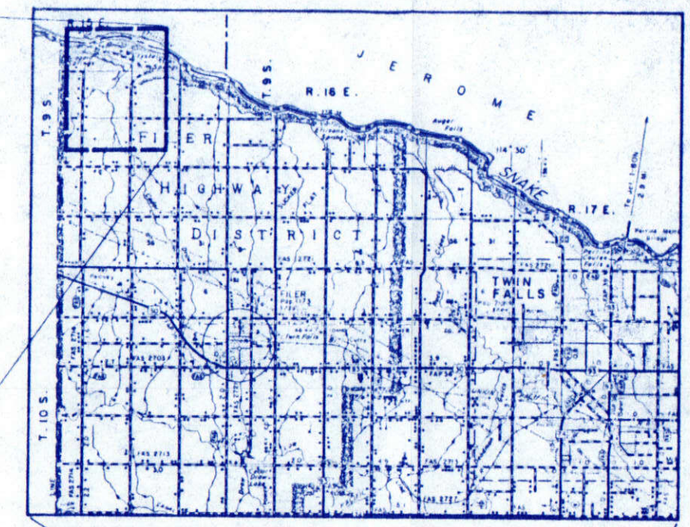
SUBSTATION PLAN AND SECTION

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Dr. BMC	Ck.	Dwg. No. BT850806-06
Scale AS SHOWN	Date AUG, 1985	Sheet 6 of 6	



1000 500 0 1000 2000 3000
SCALE IN FEET



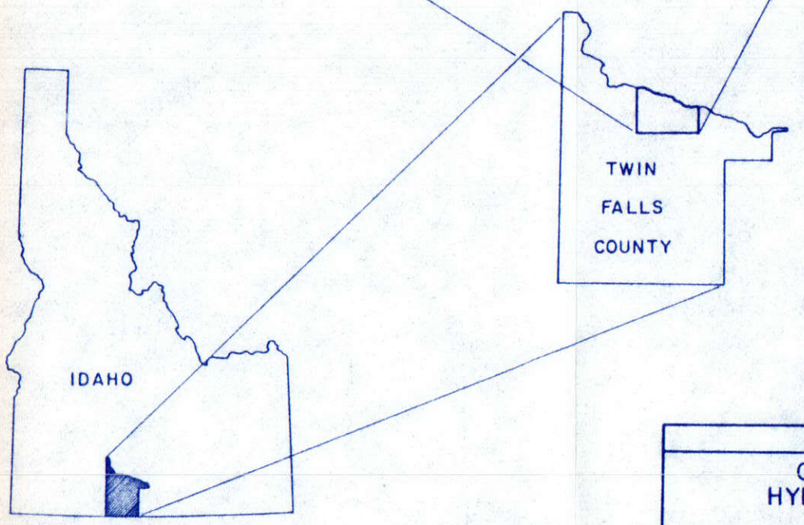


EXHIBIT G

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

PROJECT LOCATION

JUB ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

SCALE AS SHOWN | DE | DR C.D. | CK | SHEET 1 OF 6
DATE AUG., 1982 | DWG NO BTR50606-01

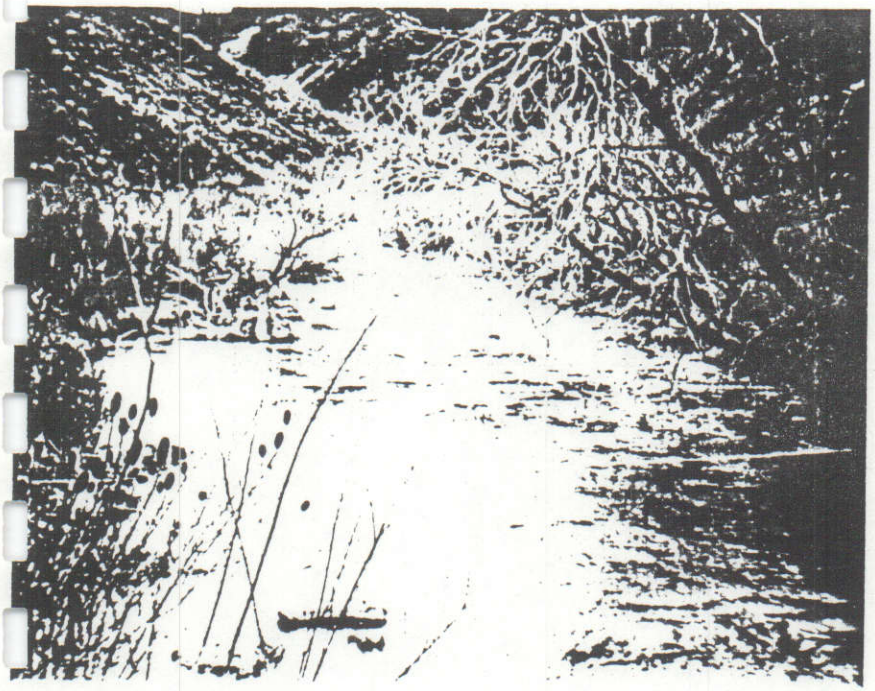


FIGURE 1

LOWER REACH, LOOKING UPSTREAM FROM LOWER END.

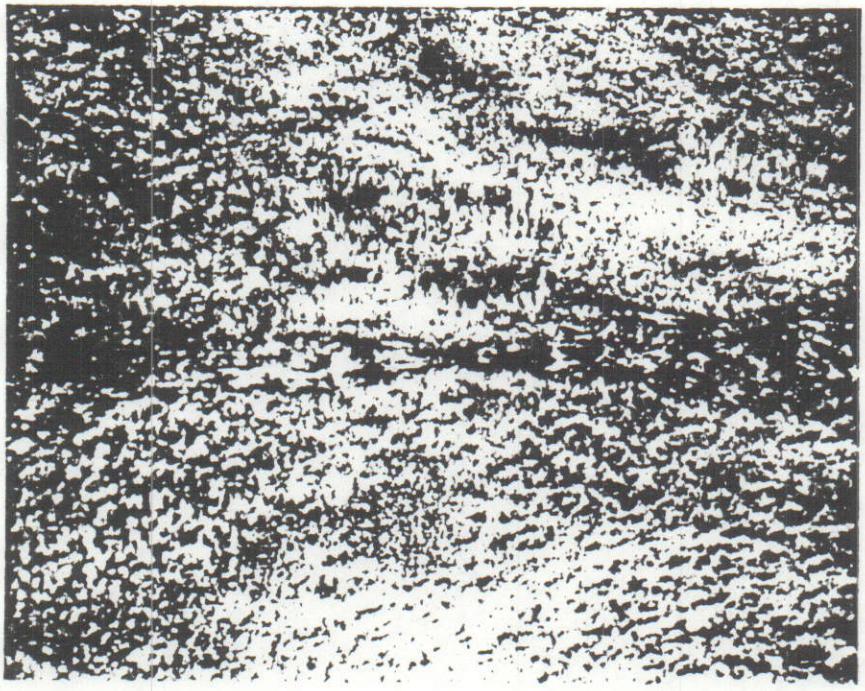


FIGURE 2

UPPER REACH.

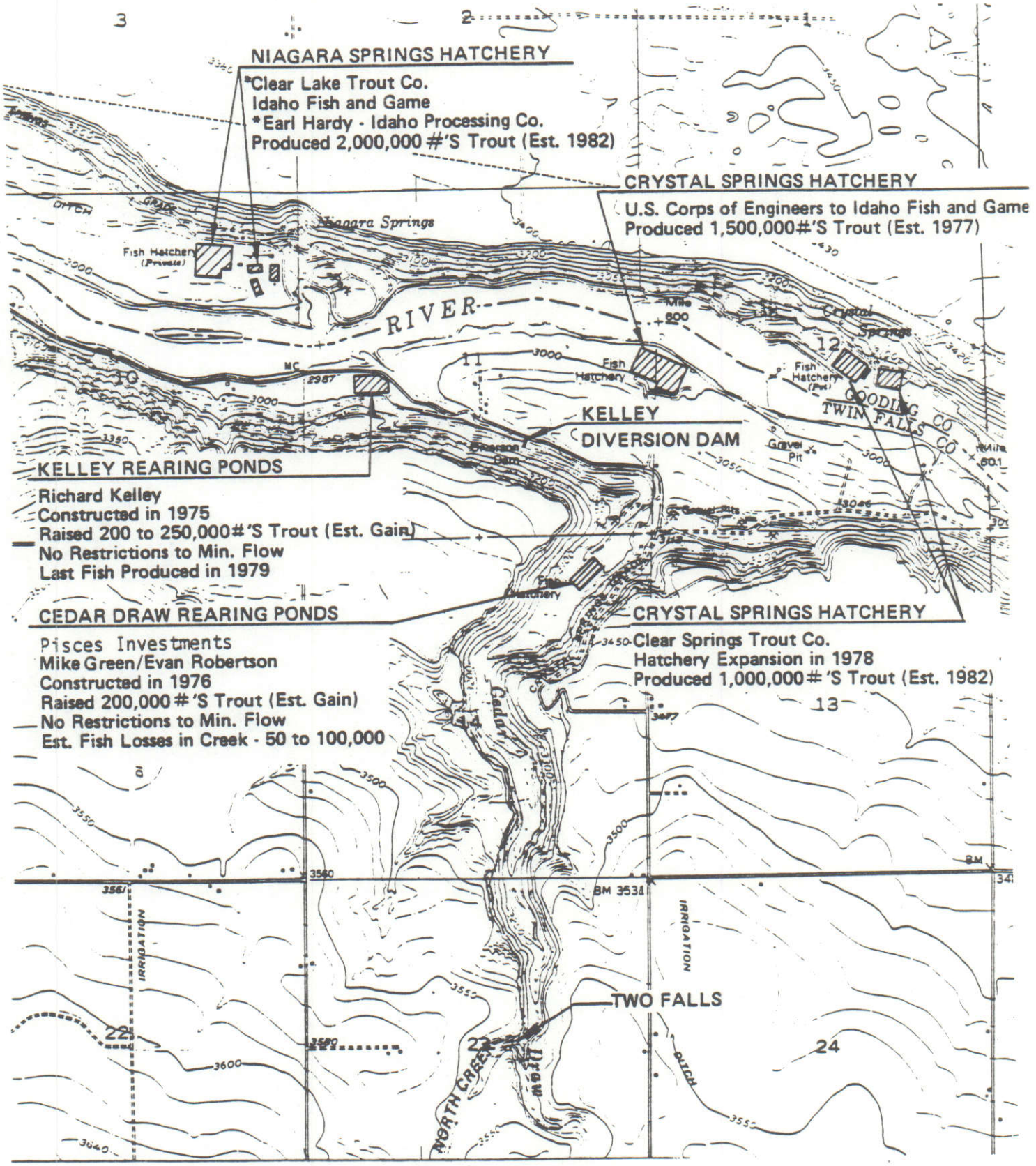


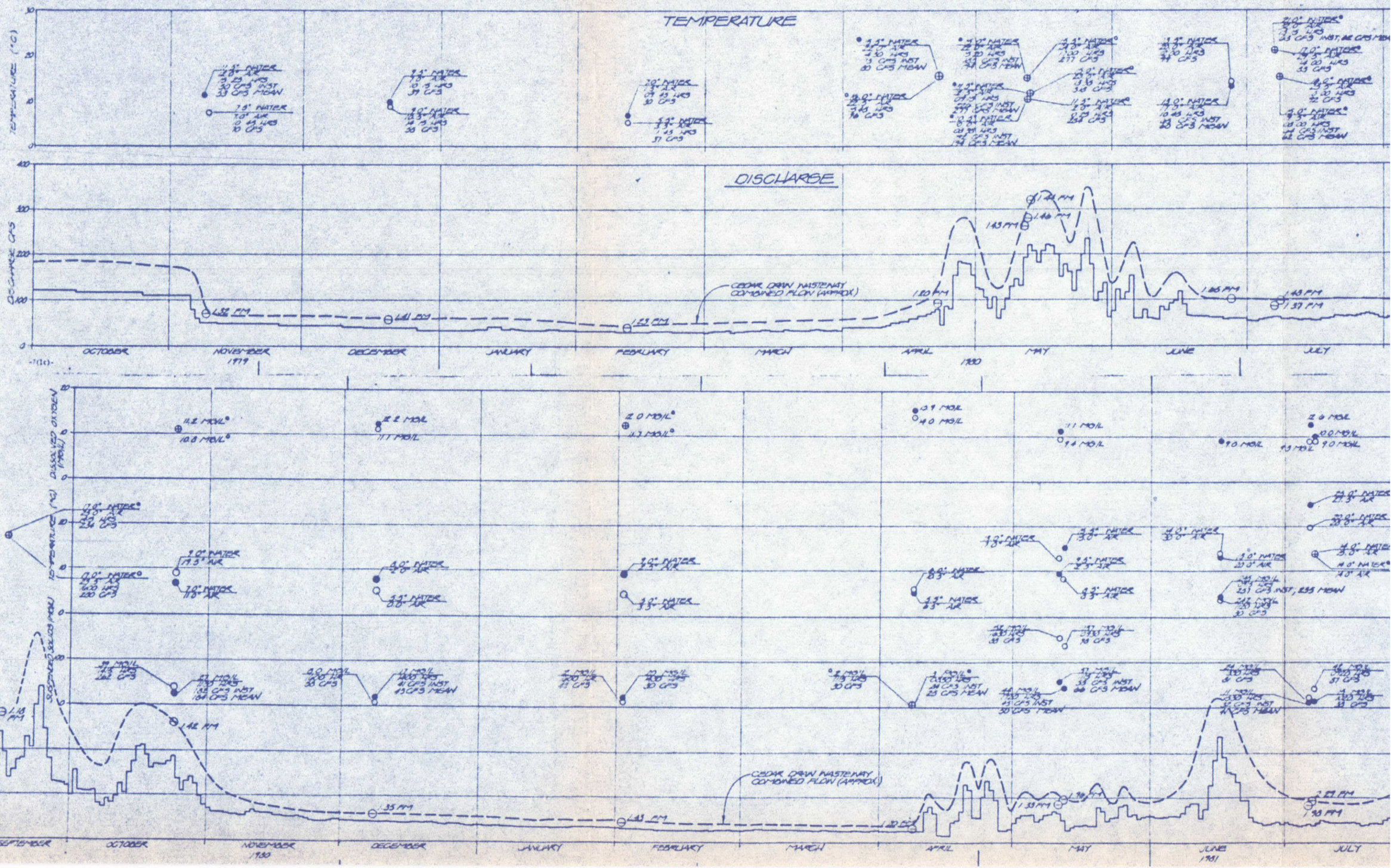
FIGURE 1

EXHIBIT E

LOCATION MAP

HATCHERIES/REARING PONDS
Cedar Draw Creek (Wasteway)

STREAM DATA
SEE GRAPH
SEE RIGHT EDGE FOR LEGEND



TEMPERATURE

DISCHARGE

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER

1980

CEDAR CREEK WASTEWAY COMBINED FLOW (APPROX.)

1.83 PM 1.20 PM 1.43 PM 1.46 PM 1.26 PM 1.43 PM 1.37 PM 1.30 PM

JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER

1981

CEDAR CREEK WASTEWAY COMBINED FLOW (APPROX.)

1.43 PM 1.33 PM 1.39 PM 2.03 PM 1.33 PM 1.29 PM

DISSOLVED OXYGEN (MG/L)

TEMPERATURE (°C)

SUSPENDED SOLIDS (MG/L)

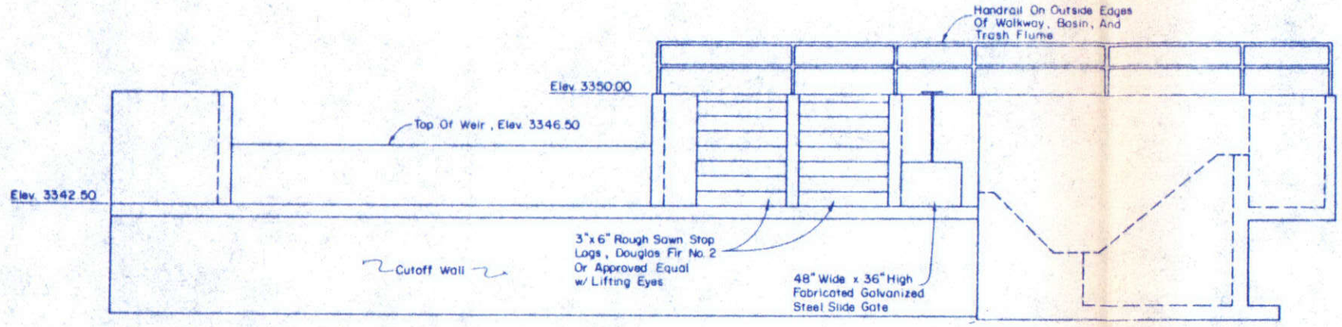
DISCHARGE (CFS)

FIGURE 2

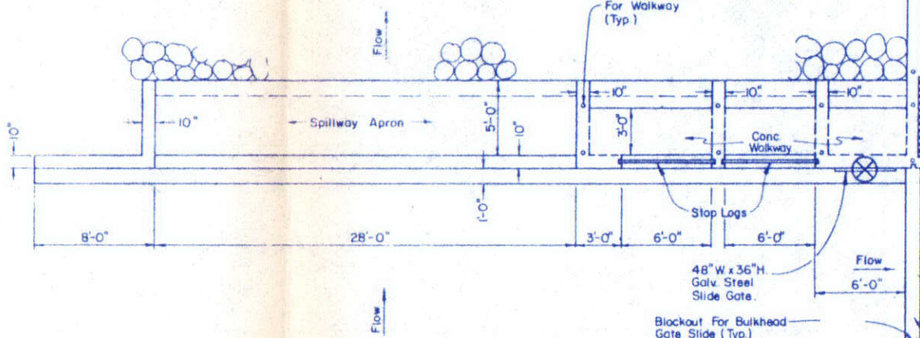
LEGEND

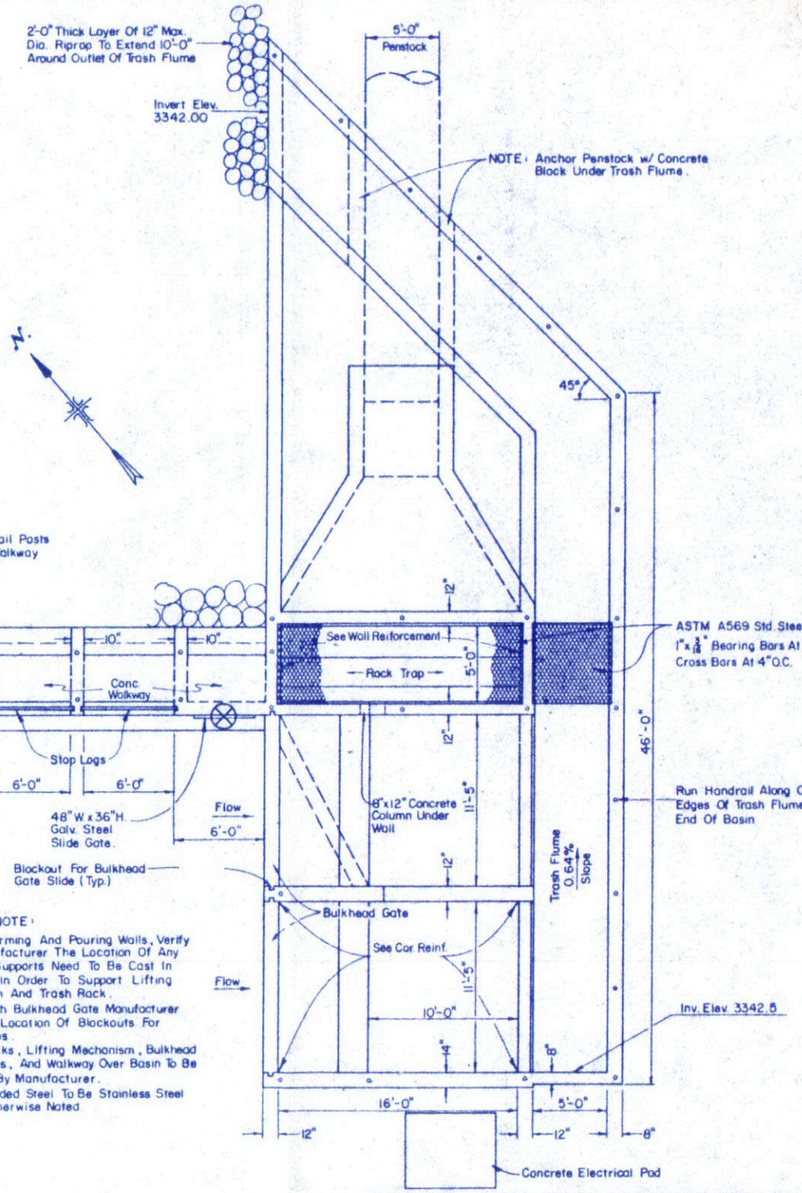
- ● READING USGS GAGE 12073500
- ○ READING USGS GAGE 12073500
- ⊕ READINGS BOTH USGS GAGES 12073500 AND 12073520
- ⊖ PM FLOW MULTIPLIER TO USGS GAGE 12073500 FROM USGS GAGE 12073520
- INST INSTANTANEOUS FLOW READING
- MEAN MEAN DAILY FLOW READING

IPM STREAM DATA



ELEVATION VIEW





GENERAL NOTE:

1. Before Forming And Pouring Walls, Verify With Manufacturer The Location Of Any Bars Or Supports Need To Be Cast In Concrete In Order To Support Lifting Mechanism And Trash Rack.
2. Verify With Bulkhead Gate Manufacturer Size And Location Of Blockouts For Gate Slides.
3. Trash Racks, Lifting Mechanism, Bulkhead Slide Gates, And Walkway Over Basin To Be Installed By Manufacturer.
4. All Embedded Steel To Be Stainless Steel Unless Otherwise Noted

5 4 3 2 1 0 5 10 15
SCALE IN FEET

FIGURE F-1

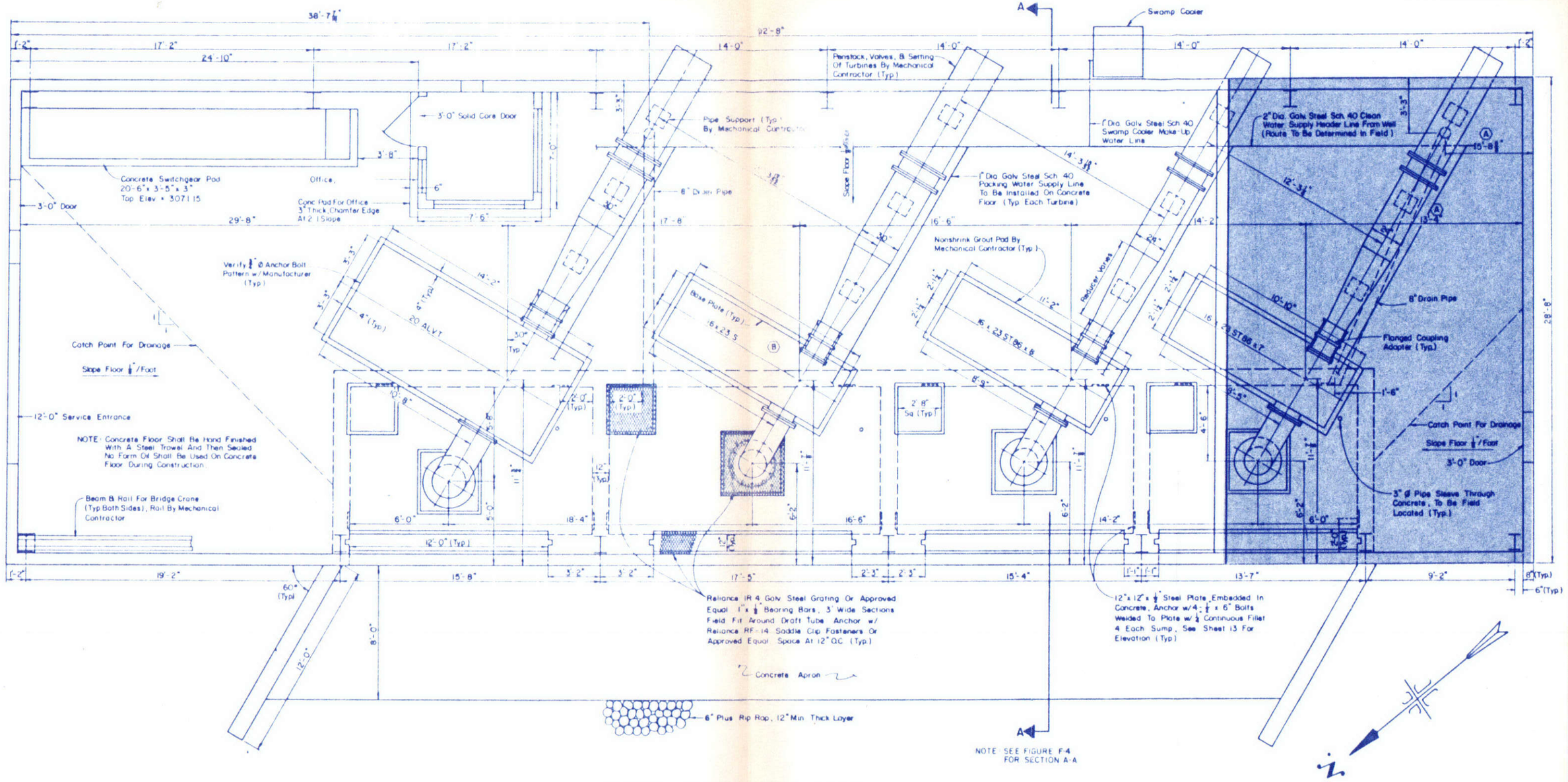
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

DIVERSION STRUCTURE

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Dr. MAK	Ck.	Dwg. No. BT850806-02
Scale AS SHOWN	Date AUG., 1985	Sheet 2 of 6	



NOTE: SEE FIGURE F-4 FOR SECTION A-A

POWER HOUSE FLOOR PLAN

SCALE IN FEET

PROPOSED ADDITION TO LICENSED PROJECT (See Figure F-2A)

FIGURE F-2

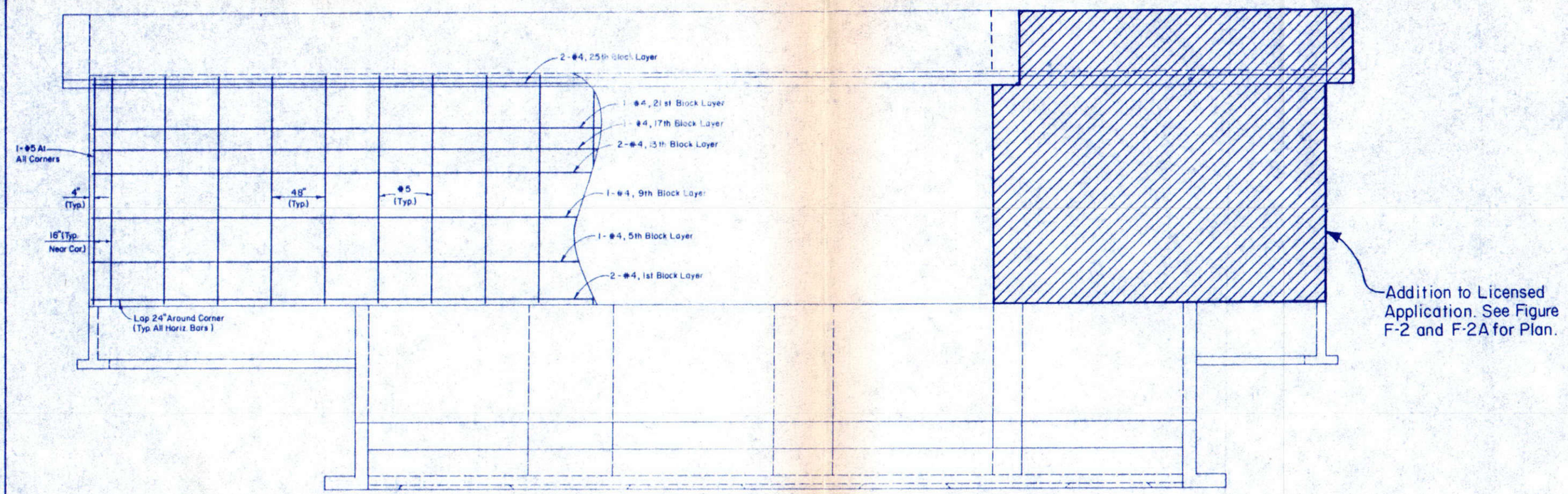
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

POWERHOUSE PLAN

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

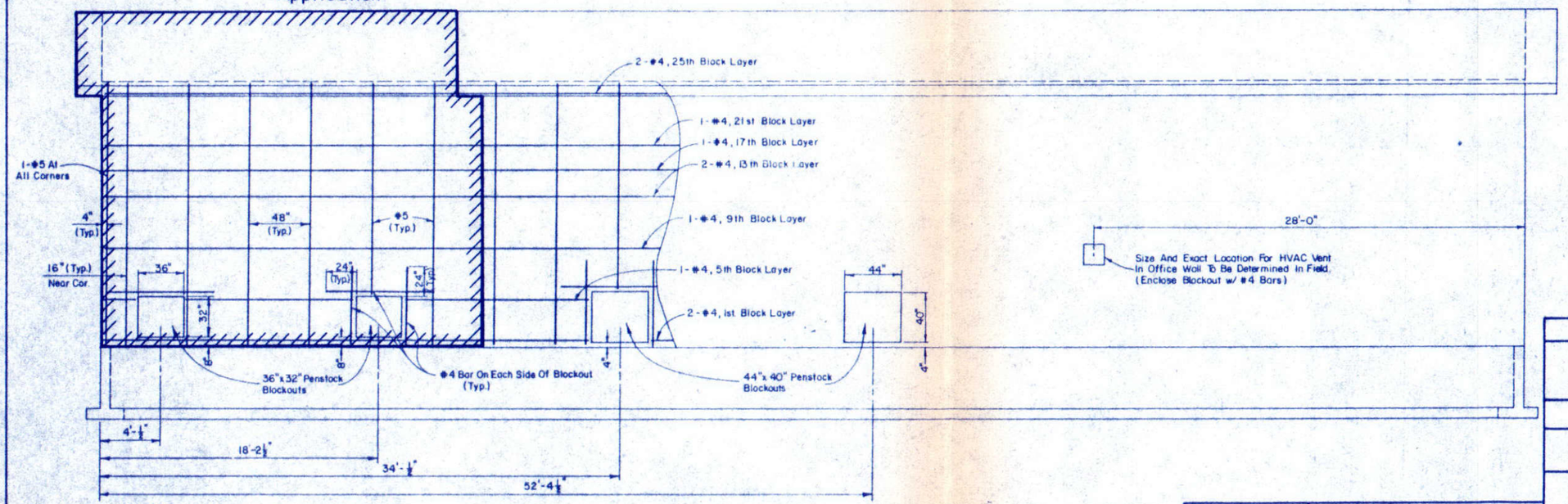
Des. | Drawn | Ck. | Dwg. No. BT850606-03
Scale AS SHOWN | Date AUG. 1985 | Sheet 3 of 6



WEST ELEVATION

NOTE: Lap All Horizontal Bars 24" Around Corners

Addition to Licensed Application



EAST ELEVATION

4 3 2 1 0 4 8 12
SCALE IN FEET

FIGURE F-3

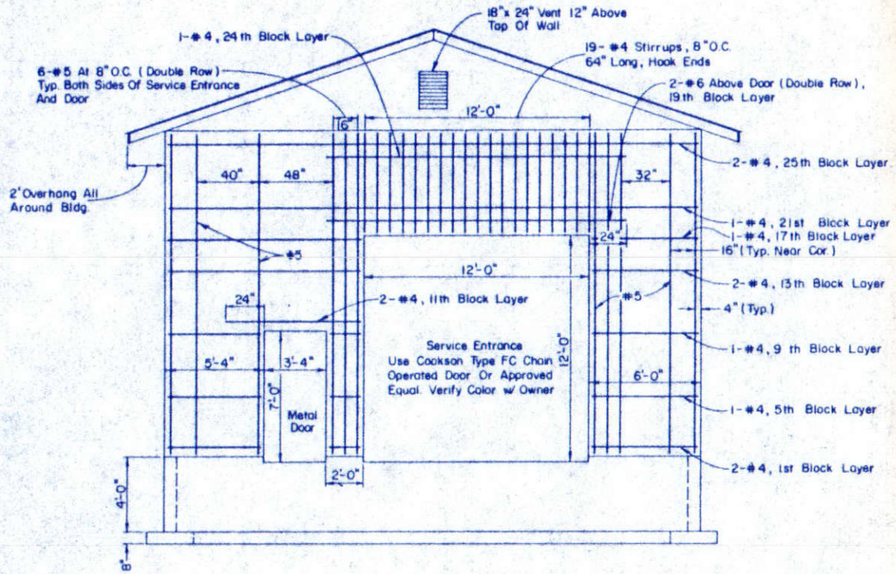
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

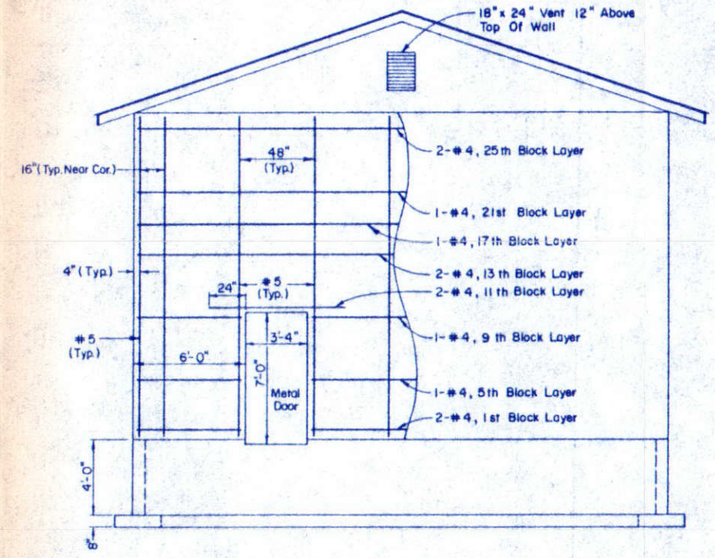
POWERHOUSE ELEVATIONS

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Dr. BAY	Ck.	Dwg. No. BT850806-04
Scale AS SHOWN	Date AUG., 1985	Sheet 4 of 6	



NORTH ELEVATION

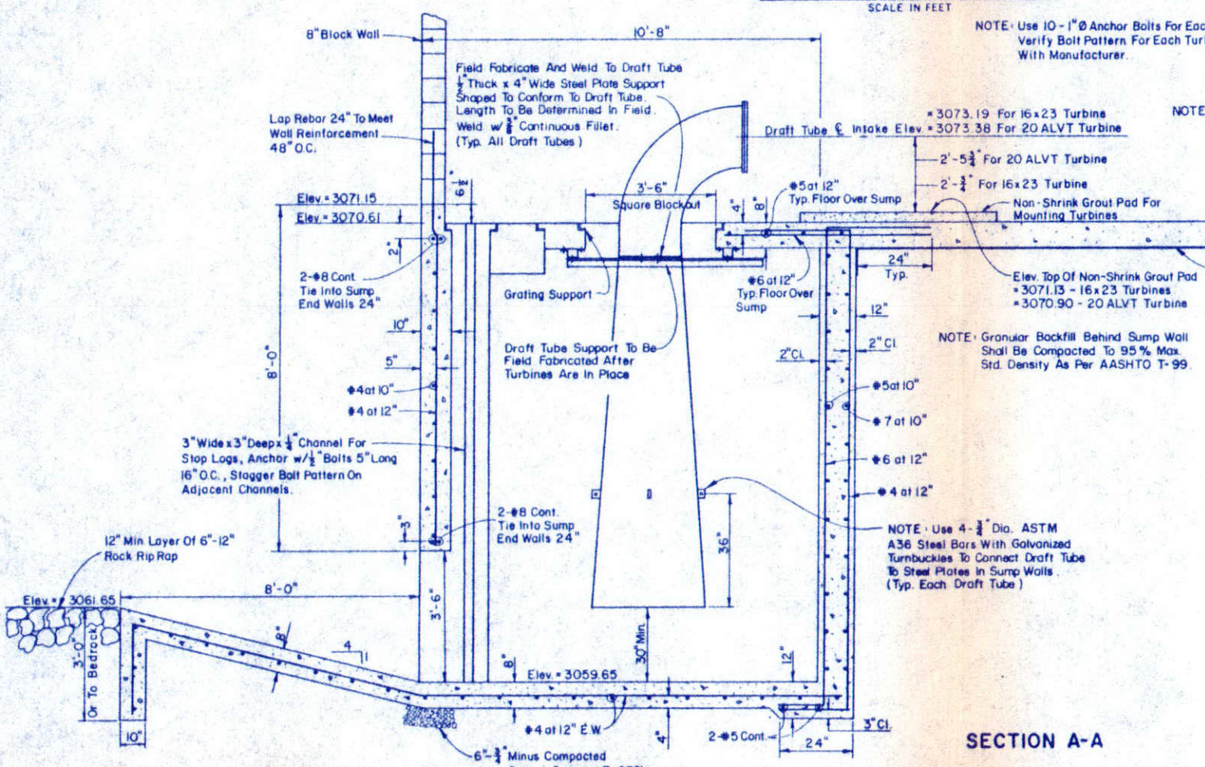


SOUTH ELEVATION

NOTE: Lap All Horizontal Bars 24" Around Corners

Location And Size Of Any Required HVAC Or Other Blockouts In Masonry Walls Shall Be Determined In Field Prior To Construction Of Walls. (Enclose All Blockouts w/#4 Bars Extended 24" Past Openings.)

4 3 2 1 0 4 8 12
SCALE IN FEET



SECTION A-A

2 1 0 2 4 6
SCALE IN FEET

FIGURE F-4

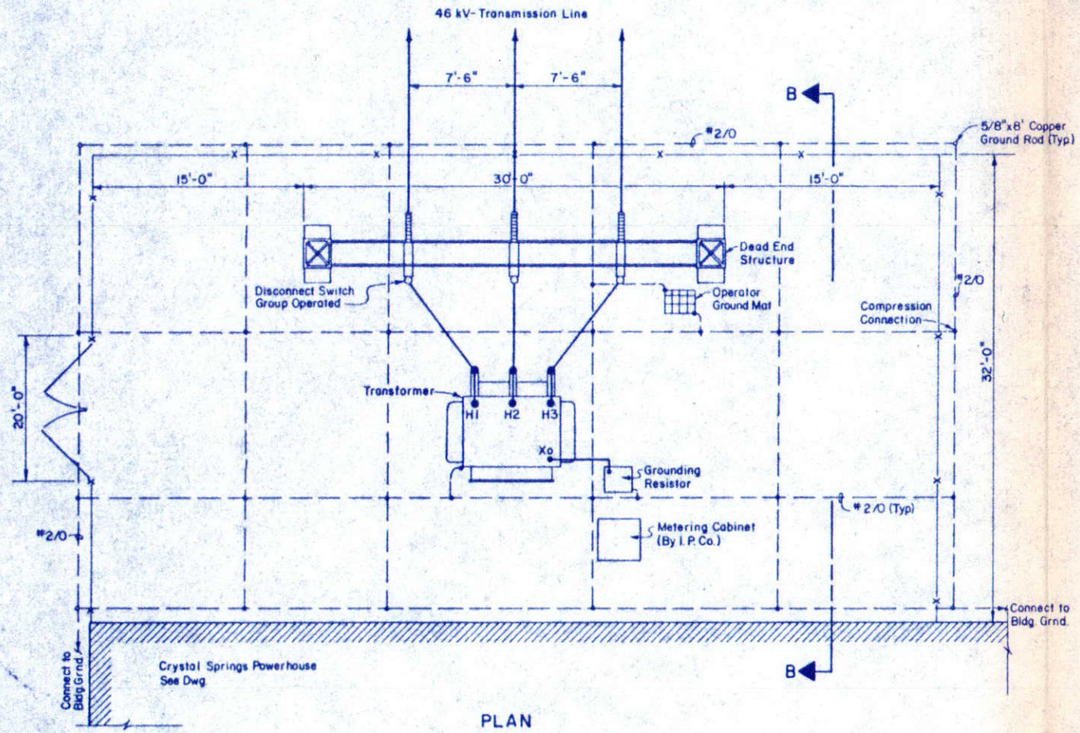
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

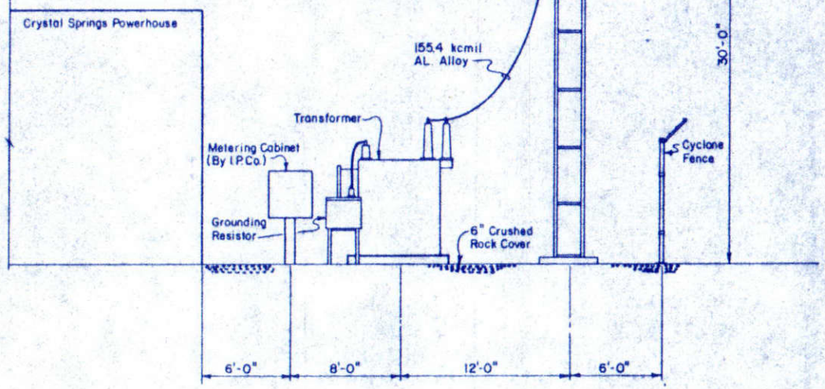
POWERHOUSE ELEVATIONS & SECTIONS

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Drawn	Ck.	Dwg. No. BT850806-05
Scale AS SHOWN	Date AUG., 1985	Sheet 5 of 6	



PLAN



SECTION B-B



FIGURE F-5

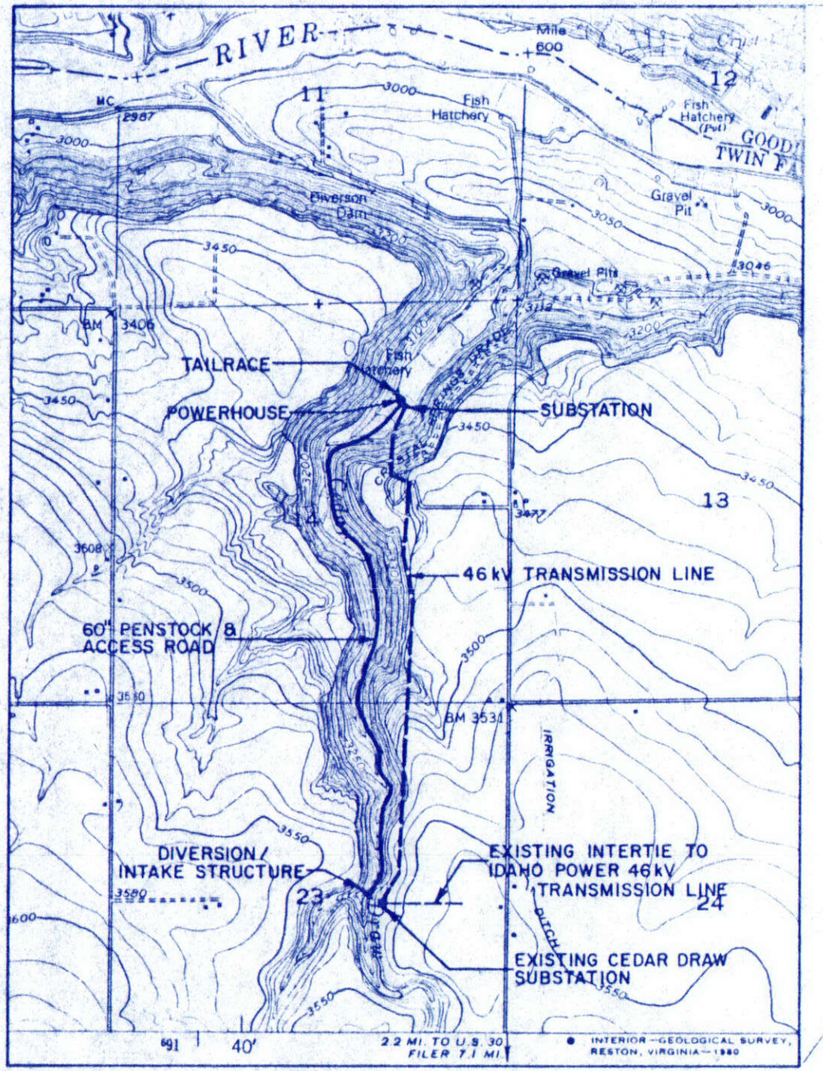
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

SUBSTATION PLAN AND SECTION

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des.	Dr. B-K	Ck.	Dwg. No. BT850806-06
Scale AS SHOWN	Date AUG, 1985	Sheet 6 of 6	



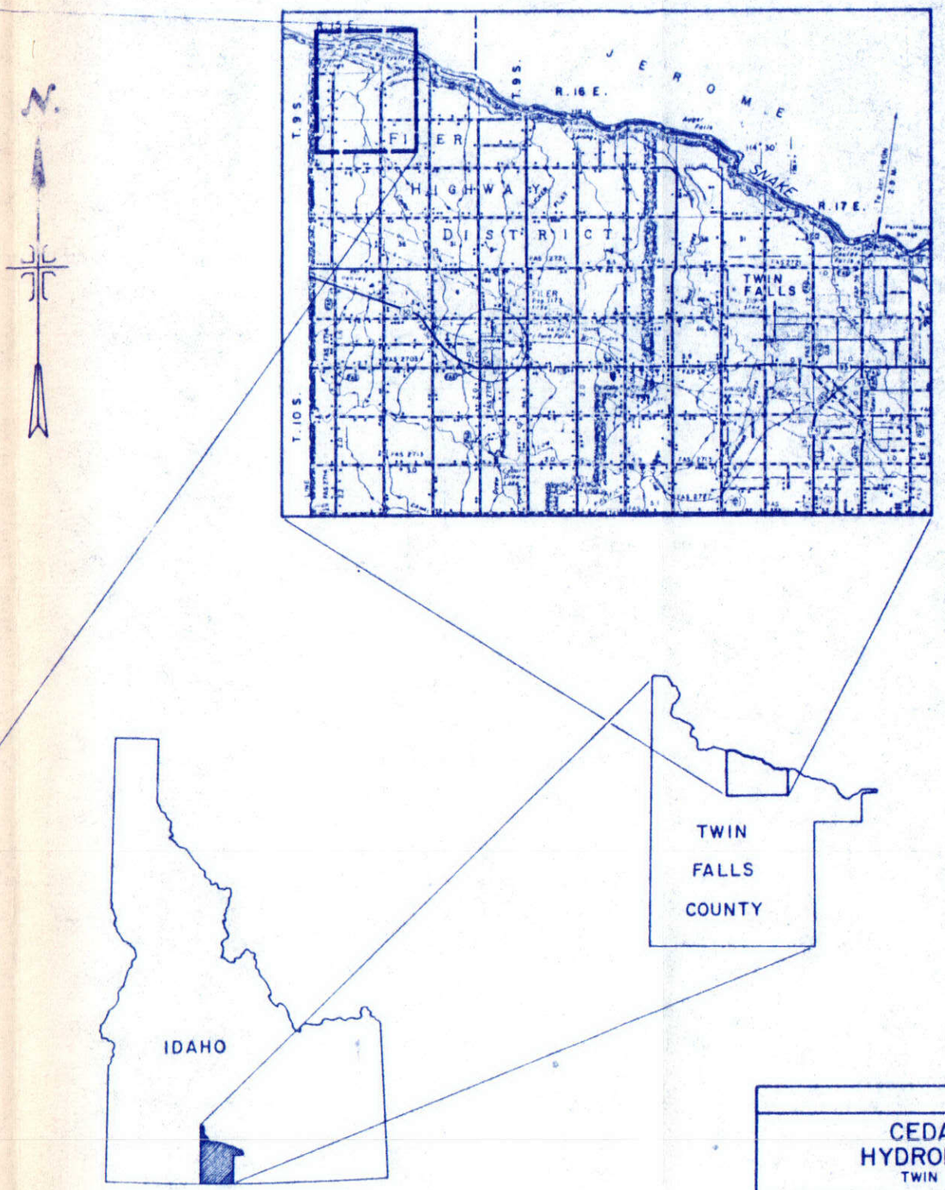


EXHIBIT G

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

PROJECT LOCATION

JUB ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

SCALE AS SHOWN	DE	DR C.D.	CK
DATE AUG., 1985	SHEET 1 OF 6		
DWG NO BT850806-01			

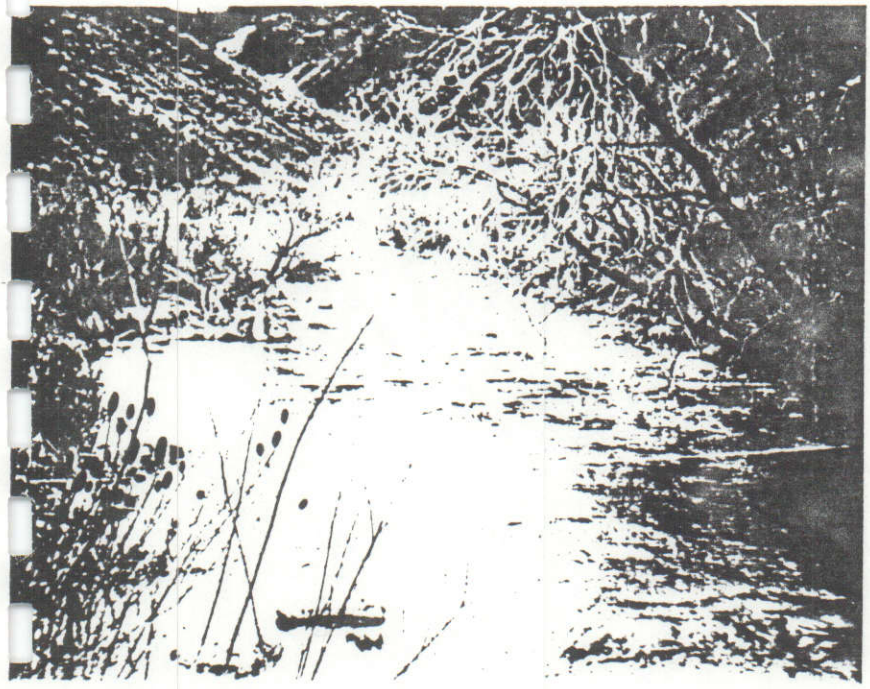


FIGURE 1

LOWER REACH, LOOKING UPSTREAM FROM LOWER END.

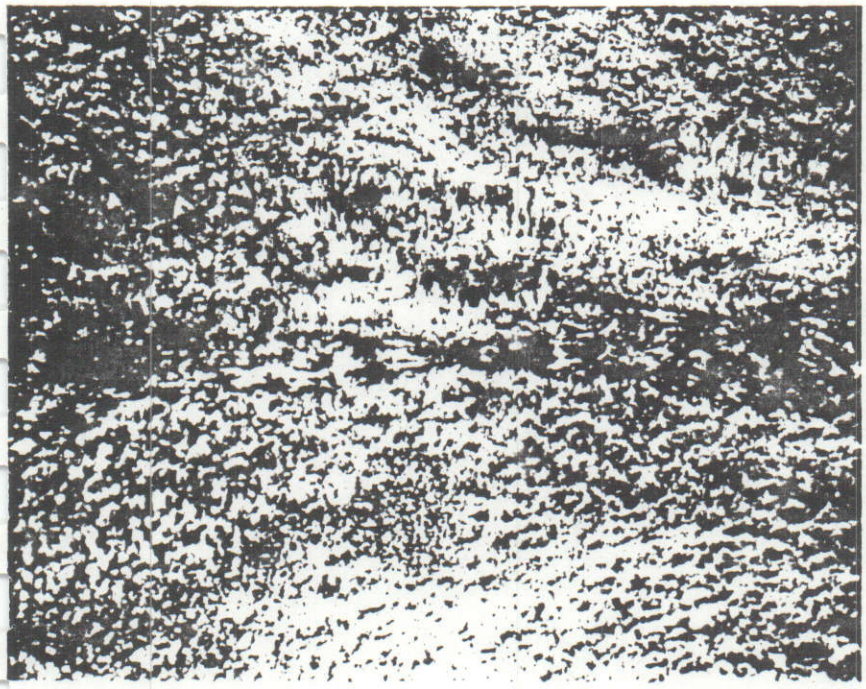


FIGURE 2

UPPER REACH.

WATER RIGHT SUMMARY

ACTION	RIGHT NO.	NAME	AMOUNT CFS
~~Original Application~~	~~47-07991~~	~~Crystal Springs Hydroelectric Co.~~	~~40.0~~
~~Full Assignment~~	~~47-07991~~	~~First Security Bank of Idaho~~	~~40.0~~
Full Assignment	47-07991	Crystal Springs Hydroelectric L.P.	40.0

MAR 2 8 1995

07/94

For Office Use Only
$25.00 Filing Fee
Receipt # 6037512
Date 3/15/95

RECEIVED
MAR 15 1995
Department of Water Resources

State of Idaho
DEPARTMENT OF WATER RESOURCES

ASSIGNMENT OF PERMIT
To change the ownership of a permit

First Security Bank of Idaho (Permit Holder) hereby assign to Crystal Springs Hydroelectric L.P.

of 11225 SE 6th Ste 100, Bellevue WA 98004 (206) 637-1251 (Full Address and Phone Number)

All my right, title, and interest in and to Permit No. 47-07991 to appropriate the public waters of the State of Idaho.

OR (for partial assignments)

The following described portion of my right, title, and interest in and to Permit No. N/A to appropriate the public waters of the State of Idaho.

Describe portion of the permit assigned listing the number of acres in each 40 acre subdivision, point of diversion location, and the amount of water in cubic feet per second.

N/A

Made this 15th day of March, 1995.

Sharon Meredith — Asst Officer
Representative of First Security Bank of Idaho — Title

State of Idaho)
ss
County of Ada)

On this 15th day of March, 1995, personally appeared before me the signer of the above instrument, duly acknowledged to me that he/she/they executed the same.

SHELLEY WALTER KEEN NOTARY PUBLIC SEAL STATE OF IDAHO

Shelley Walter Keen
Notary Public

Shelley Walter Keen
Signature

My commission expires: July 31, 1997

MAR 28 1995

database updated 3/15/95 cz.

INTER-DEPARTMENT MEMO — 1

FROM Jim

DATE 3-26-87

TO FILE 47-7991

SUBJECT FIELD EXAM

The field examination has been completed on this rt. The exam form is ~~in my office~~ in 47-7768

MAR 28 1995

THE EXAMINATION WAS CONDUCTED BY JUB ENGINEERS.

SIGNATURE

RAY, QUINNEY & NEBEKER
PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

ALONZO W. WATSON, JR.
STEPHEN B. NEBEKER
MITCHELL MELICH
L. RIDD LARSON
DON B. ALLEN
MERLIN O. BAKER
CLARK P. GILES
JAMES W. FREED
NARRVEL E. HALL
JAMES L. WILDE
M. JOHN ASHTON
HERBERT C. LIVSEY
WILLIAM A. MARSHALL
JAMES Z. DAVIS
PAUL S. FELT
GERALD T. SNOW
ALAN A. ENKE
JONATHAN A. DIBBLE
SCOTT H. CLARK
STEVEN H. GUNN
JAMES S. JARDINE
KENT H. MURDOCK
JANET HUGIE SMITH
DOUGLAS MATSUMORI
ROBERT P. HILL
RICHARD G. ALLEN
ANTHONY W. SCHOFIELD
ALLEN L. ORR
BRAD D. HARDY
BRIAN E. KATZ
A. ROBERT THORUP
*JOHN P. HARRINGTON
BRENT W. TODD

LARRY G. MOORE
ANTHONY B. QUINN
THOMAS L. KAY
BRUCE L. OLSON
JOHN A. ADAMS
DOUGLAS M. MONSON
CRAIG CARLILE
STEVEN W. HARRIS
RICHARD H. CASPER
JAMES M. DESTER
DEE R. CHAMBERS
KEVIN G. GLADE
JEFFREY D. EISENBERG
ENID GREENE
LESTER K. ESSIG
IRA B. RUBINFELD
STEPHEN C. TINGEY
CRAIG L. TAYLOR
KELLY J. FLINT
MARK O. MORRIS
STEVEN J. AESCHBACHER
PAUL D. NEWMAN
KEITH A. KELLY
RICK L. ROSE
MARK Y. HIRATA
RICK B. HOGGARD
LYNN H. PACE
LISA A. YERKOVICH

OF COUNSEL
ALBERT R. BOWEN
W. J. O'CONNOR, JR.

*ADMITTED IN COLORADO & TEXAS

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SALT LAKE CITY, UTAH 84145-0385
TELEPHONE (801) 532-1500
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210 FIRST SECURITY BANK BLDG
92 NORTH UNIVERSITY AVENUE
PROVO, UTAH 84601-4420
(801) 226-7210

1020 FIRST SECURITY BANK BLDG
2404 WASHINGTON BOULEVARD
OGDEN, UTAH 84401-2306
(801) 621-0713

PAUL H. RAY (1893-1967)
A. H. NEBEKER (1895-1980)
S. J. QUINNEY (1893-1983)

July 7, 1988

RECEIVED
1988

FEDERAL EXPRESS

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

Re: Crystal Springs Hydroelectric Project

Dear Gary:

Pursuant to our prior discussions concerning the Collateral Assignment of permit nos. 47-7768, 47-7991, 47-8005, 47-8009 and Application for Permit for Altering Stream Channel no. 47-S-70 (the "Permits") from Crystal Springs Hydroelectric Company to First Security Bank of Idaho, N.A., as trustee for First Security Bank of Utah, National Association, I have enclosed the following documents:

1. Collateral Assignment of Water Rights, dated as of July 7, 1988;

2. Affidavit of Mark A. Simonson, Vice President and Trust Officer of First Security Bank of Idaho, N.A.; and

3. Letter dated July 7, 1988 from First Security Bank of Utah, National Association and First Security Bank of Idaho, N.A., requesting that licenses issued in the future in connection with the Permits be issued in the name of Crystal Springs Hydroelectric Company.

DEC 26 1991
MAR 28 1995

Based upon our prior discussions, it is my understanding that you will issue a letter to First Security Bank of Utah, National Association, First Security Bank of Idaho, N.A. and Crystal Springs Hydroelectric company, approving the Collateral Assignments of the Permits. Please forward the approval to me at Ray, Quinney & Nebeker, 79 South Main Street, Suite 400, Salt Lake City, Utah 84111. If my understanding of the foregoing is incorrect or if you have questions concerning the above, please give me a call at (801)532-1500.

We sincerely appreciate your assistance in these matters.

Very truly yours,

RAY, QUINNEY & NEBEKER

James M. Dester

JMD/rp
Enclosure

DEC 26 1991

MAR 28 1995

AFFIDAVIT

STATE OF IDAHO)
)
COUNTY OF ADA)

I, Mark A. Simonson, on oath state that:

1. I am a duly elected Vice President and Trust Officer of First Security Bank of Idaho, N.A., a national banking association organized under the laws of the United States of America (the "Bank").

2. Pursuant to the National Bank Act and the Bank's Articles of Association, as amended, a copy of which is attached hereto as Exhibit A, the Bank is qualified and authorized to do business in the State of Idaho.

3. The Bank's main office and principal place of business is located in Boise, Idaho.

4. This Affidavit is provided to confirm that the Bank is qualified to receive collateral assignments of water rights and associated permits in accordance with Sections 42-206 and 42-207 of the Idaho Code.

Name: Mark A. Simonson
Title: Vice President and Trust Officer
First Security Bank of Idaho, N.A.

SUBSCRIBED AND SWORN to before me this 9 day of June, 1988.

(SEAL)

Mary Klasin
Notary Public
Residing at: Ada County
Boise
My Commission Expires: 7-3-93

1468d

DEC 26 1991

MAR 28 1995

ARTICLES OF ASSOCIATION

AS AMENDED

FIRST SECURITY BANK OF IDAHO

NATIONAL ASSOCIATION

FIRST. The title of this Association shall be

"FIRST SECURITY BANK OF IDAHO, NATIONAL ASSOCIATION"

SECOND. The main office shall be in Boise, Ada County, State of Idaho. The general business of the Association shall be conducted at its main office and its legally established branches.

THIRD. The Board of Directors of this Association shall consist of not less than five nor more than twenty-five shareholders. At any meeting of the shareholders held for the purpose of electing Directors, or changing the number thereof, the number of Directors may be determined by a majority of the votes cast by the shareholders in person or by proxy. A majority of the Board of Directors shall be necessary to constitute a quorum for the transaction of business at any Directors' meeting.

FOURTH. The regular annual meeting of the shareholders of this association shall be held at its main banking house, or other convenient place duly authorized by the Board of Directors, on such day of each year as is specified therefor in the bylaws.

FIFTH. The amount of authorized capital stock of this Association shall be Twenty Million Dollars ($20,000,000.00), divided into 200,000 shares of common stock of the par value of One Hundred Dollars ($100.00) each; but said capital stock may be increased or decreased from time to time, in accordance with the provisions of the laws of the United States.

If the capital stock is increased by the sale of additional shares thereof, each shareholder shall be entitled to subscribe for such additional shares in proportion to the number of shares of said capital stock owned by him at the time the increase is authorized by the shareholders, unless another time subsequent to the date of the shareholders' meeting is specified in a resolution adopted by the shareholders at the time the increase is authorized. The Board of Directors shall have the power to prescribe a reasonable period of time within which the preemptive rights to subscribe to the new shares of capital stock must be exercised.

FILED
DEC 26 1991
MAR 28 1995

If the capital stock is increased by a stock dividend, each shareholder shall be entitled to his proportionate amount of such increase in accordance with the number of shares of capital stock owned by him at the time the increase is authorized by the shareholders, unless another time subsequent to the date of the shareholders' meeting is specified in a resolution adopted by the shareholders at the time the increase is authorized.

The Association at any time and from time to time may authorize and issue debt obligations, whether or not subordinated, without the approval of shareholders.

SIXTH. (1) The Board of Directors shall appoint one of its members President of this Association. It may also appoint a Chairman of the Board, and one or more Vice Chairmen. The Board of Directors shall have the power to appoint one or more Vice Presidents, at least one of whom shall also be a member of the Board of Directors, and who shall be authorized in the absence of the President, to perform all acts and duties pertaining to the office of President; to appoint a Cashier and such other officers and employees as may be required to transact the business of this Association; to fix the salaries to be paid to such officers and employees of this Association, and to dismiss any of such officers or employees and appoint others to take their place.

(2) The Board of Directors shall have the power to define the duties of officers and employees of this Association and to require adequate bonds from them for the faithful performance of their duties; to make all Bylaws that may be lawful for the general regulation of the business of this Association and the management of its affairs, and generally to do and perform all acts that may be lawful for a Board of Directors to do and perform.

(3) Each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, administrative or investigative (other than an action by or in the right of the Association) by reason of the fact that he is or was a director, officer, employee or agent of the Association or is or was serving at the request of the Association as a director, officer, employee, fiduciary or agent of another corporation, partnership, joint venture, trust, estate or other enterprise or was acting in furtherance of the Association's business shall be indemnified against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action, suit or proceeding if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Association provided; however, no indemnification shall be given to a person adjudged guilty of, or liable for, willful misconduct, gross neglect of duty, or criminal acts. The termination of any action, suit or proceeding by judgment, order settlement, or its equivalent, shall not of itself, create a presumption that the person did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Association.

RECEIVED
DEC 26 1991
8 1995

(4) Each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Association (such action or suit being known as a "derivative proceeding") to procure a judgment in its favor by reason of the fact that he is or was a director, officer, employee or agent of the Association or is or was serving at the request of the Association as a director, officer, employee, fiduciary or agent of another corporation, partnership, joint venture, trust, estate or other enterprise shall be indemnified against expenses (including attorney's fees) actually and reasonably incurred by him in connection with the defense or settlement of such action or suit if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Association and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable for negligence or misconduct in the performance of his duty to the Association unless and only to the extent that the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper.

(5) To the extent that such director, officer, employee, fiduciary or agent of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in (3) or (4) of this Article or in defense of any claim, issue or matter therein, he shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him in connection therewith.

(6) Any indemnification under (3) or (4) of this Article (unless ordered by a court) shall be made by the Association only as authorized in the specific case upon a reasonable determination that indemnification of the director, officer, employee, fiduciary or agent is proper in the circumstances because he has met the applicable standard of conduct set forth in (3) or (4) of this Article. Such determination shall be made (a) by the Board of Directors by a majority vote of a quorum consisting of directors who were not parties to such action, suit or proceeding, or (b) if such quorum is not obtainable, or even if obtainable a quorum of disinterested directors so directs, by independent legal counsel in a written opinion, or (c) by the stockholders.

(7) Expenses incurred in defending a civil or criminal action, suit or proceeding may be paid by the Association in advance of the final disposition of such action, suit or proceeding as authorized in the manner provided in (6) of this Article upon receipt of an undertaking by or on behalf of the director, officer, employee, fiduciary or agent to repay such amount unless it shall ultimately be determined that he is entitled to be indemnified by the Association as authorized in this Article.

(8) The indemnification provided by this Article shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any Bylaw, agreement, vote of shareholders or disinterested directors or otherwise, both as to action in his official capacity and as to action in another capacity while holding such office and shall continue as to a person who has ceased to be a director, officer, employee, fiduciary or agent and shall inure to the benefit of the heirs, executors, successors in interest, and administrators of such a person.

DEC 8 1997

(9) The Board of Directors shall have the power to change the location of the main office of this Association to any other place within the limits of Boise, Idaho, without the approval of the shareholders of this Association but subject to the approval of the Comptroller of the Currency; and shall have the power to change the location of any branch or branches of this Association to any other location, without the approval of the shareholders of this Association but subject to the approval of the Comptroller of the Currency.

SEVENTH. The corporate existence of this Association shall continue until terminated in accordance with the laws of the United States.

EIGHTH. The Board of Directors of this Association, or any three or more shareholders owning, in the aggregate, not less than ten per centum (10%) of the stock of this Association, may call a special meeting of shareholders at any time.

Unless otherwise provided by the laws of the United States, a notice of the time, place, and purpose of every annual and every special meeting of the shareholders shall be given by first-class mail, postage prepaid, mailed at least ten days prior to the date of such meeting to each shareholder of record at his address as shown upon the books of this Association.

Subject to the provisions of the laws of the United States, these Articles of Association may be amended at any meeting of the shareholders for which adequate notice has been given, by the affirmative vote of the owners of a majority of the stock of this Association, voting in person or by proxy.

As Amended
January 11, 1977

DEC 28 1995

COLLATERAL ASSIGNMENT OF WATER RIGHTS

This Collateral Assignment of Water Rights (hereinafter called the "Assignment"), dated as of July 7, 1988, is hereby entered into by CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, with its principal office c/o Far West Capital, Inc., 1135 East South Union Avenue, Midvale, Utah 84047 (hereinafter called the "Assignor"), FIRST SECURITY BANK OF IDAHO, N.A., a national banking association qualified to do business in the State of Idaho, with its principal office at 119 North 9th Street, Boise, Idaho 83701 (hereinafter called the "Trustee"), and FIRST SECURITY BANK OF UTAH, NATIONAL ASSOCIATION, with its office at 15 East 100 South, Second Floor, Salt Lake City, Utah 84111 (hereinafter called the "Bank").

Recitals

A. Assignor and the Bank have entered into a Credit Agreement, dated of even date herewith (the "Credit Agreement"), pursuant to which the Bank has agreed to make a loan to Assignor in the aggregate amount of $2,800,000 to refinance a certain hydroelectric project known as the Crystal Springs Hydroelectric Project in Twin Falls County, Idaho (the "Project").

B. Assignor owns water rights relating to the Project pursuant to Permit Nos. 47-7768, 47-7991, 47-8005, 47-8009 and Application for Permit to Alter Stream Channel No. 47-S-70 (the "Permits") issued by the Department of Water Resources of the State of Idaho (the "Department"), copies of which are attached hereto as Exhibit A. The Project is located on the real property described in Exhibit B attached hereto.

C. As a condition to making the loans under the Credit Agreement to refinance the Project, the Bank requires that this Assignment be executed and delivered to the Trustee.

Agreement

Accordingly, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Assignor hereby represents and warrants to the Bank, that:

(a) the Recitals are true and correct;

(b) Assignor is the lawful owner of the rights and interests granted by the Permits, the Permits are in full force and effect and have not been amended or modified, and the Assignor has not transferred, assigned or

DEC 26 1991

MAR 28 1995

conveyed or granted a security interest in its rights and interests under the Permits.

2. Subject to and specifically conditioned upon the written approval hereof by the Department, Assignor hereby assigns to Trustee all of Assignor's right, title and interest in the Permits and all amendments and supplements thereto. Such assignment is made as collateral security for the payment of all of the obligations of the Assignor to the Bank arising under the Credit Agreement, including but not limited to the indebtedness evidenced by the Promissory Note issued to the Bank under the Credit Agreement. Assignor also hereby grants a security interest to Trustee in the Permits and all amendments and supplements thereto.

3. This Assignment is an assignment only of all right, title and interest of the Assignor in the Permits, and the Assignor covenants and agrees with the Trustee to faithfully perform, observe and comply with all obligations of the Assignor under the Permits and with all limitations and conditions imposed under the Permits, as if this Assignment had not been made. The Trustee shall not be deemed in any manner to have assumed such obligations, and in no event shall the Bank be deemed to have assumed any of the obligations of the Assignor under or with respect to the Permits, unless and until the Bank has given Assignor written notice that the Bank has affirmatively assumed such obligations as the result of an event of default existing under the Credit Agreement (a "Default") and the enforcement of the rights and remedies of the Trustee under this Assignment.

4. Assignor agrees that it will not cancel, terminate, modify or amend the Permits or surrender any of its water rights granted under the Permits and will not further assign the Permits to any party, without in each instance the prior written consent of the Bank. Assignor further agrees that it shall deliver to the Trustee and the Bank copies of all written agreements, correspondence and memoranda between Assignor and the Department relating to the Permits and any water license issued by the Department to replace a Permit as the Trustee or the Bank may from time to time reasonably required.

5. Upon the occurrence of any Default the Trustee, at the request of the Bank, may without notice or demand and with or without entry upon the site of the Project, at its option, take over and enjoy the benefits of the Permits to the same extent as Assignor might do. The exercise of such right by the Trustee shall not affect any of the rights or remedies of the Bank under any other instrument securing payment of the obligations under the Credit Agreement and the Promissory Note issued thereunder. In addition, upon the occurrence of a Default the Trustee shall have the right to exercise and enforce any and all rights and remedies available after Default to a secured party under the applicable

DEC 26 1991

MAR 28 1995

law. If notice to the Assignor of any intended disposition of collateral or any other intended actions is required by law in a particular instance, such notice shall be deemed commercially reasonable if given to Assignor at least 10 days prior to the intended disposition or other action.

6. The Trustee shall hold all right, title and interest in the Permits for the benefit of the Bank subject to the limitations under this Assignment, pending issuance of water licenses to replace the Permits by the Department. Any water license issued to replace the Permit shall be issued to Assignor; provided, however, that this Assignment shall constitute an automatic assignment to the Trustee of all of Assignor's right, title and interest in any such water license as collateral security for the payment of Assignor's obligations under the Credit Agreement and the Promissory Note issued thereunder and the rights and remedies of the Trustee with respect to any such water license shall be the same as those provided in this Assignment in respect of the Permits. Should any water license be issued to the Trustee instead of to Assignor, the Trustee shall take all necessary steps to transfer ownership of such water license to the Assignor as soon as possible, subject to the terms of this Assignment.

7. Assignor agrees to indemnify and to hold Trustee harmless from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, incurred by or asserted against the Trustee in any way relating to or arising out of this Assignment or any action taken or omitted to be taken by it under this Assignment, provided that the Assignor shall not be liable for any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements resulting from the gross negligence or willful misconduct of the Trustee.

8. Nothing herein contained shall be construed as making Trustee a mortgagee in possession, or as constituting a waiver or suspension by the Bank of its right to enforce payment of the debts under the terms of the Credit Agreement. Trustee is not the agent, partner, or joint venturer of either the Assignor or of the Department.

9. Bank hereby appoints and authorizes the Trustee to take such action on its behalf and to exercise such powers under this Assignment as are delegated to the Trustee by the terms hereof, together with such powers as are reasonably incidental thereto. As to any matters not expressly provided for by this Assignment, the Trustee shall not be required to exercise any discretion or take any action.

RELEASED
DEC 26 1991
MAR 28 1995

10. Neither the Trustee nor any of its respective directors, officers, employees or agents shall be liable for any action taken or omitted to be taken by it or them under or in connection with this Assignment, except for its own or their own gross negligence or willful misconduct. Without limitation of the generality of the foregoing, the Trustee (i) may consult with legal counsel and other experts selected by it and shall not be liable for any action taken or omitted to be taken in good faith by it in accordance with the advice of such counsel or experts, (ii) shall incur no liability under or in respect of this Assignment by acting upon any notice, certificate or other instrument or writing believed by it to be genuine and signed or sent by the proper party or parties, (iii) shall not have any duty to ascertain or to inquire as to the performance or observance of any of the covenants and agreements of the Assignor under this Assignment or to determine whether a Default has occurred and (iv) shall not be responsible to Bank for the due execution, legality, validity, enforceability, sufficiency or value of this Assignment or any document or instrument furnished pursuant to this Assignment.

11. Bank agrees to indemnify the Trustee (to the extent not reimbursed by the Assignor upon demand) from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, inured by or asserted against the Trustee in any way relating to or arising out of this Assignment or any action taken or omitted to be taken by it under this Assignment, provided that Bank shall not be liable for any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements resulting from the gross negligence or willful misconduct of the Trustee.

12. The Trustee may resign at any time by giving at least 90 days prior written notice thereof to the Bank and the Assignor and may be removed at any time with or without cause by the Bank. Upon any such resignation or removal, the Bank shall have the right to appoint a successor Trustee. If no successor trustee shall have been so appointed by the Bank and shall have accepted such appointment within 60 days after the retiring Trustee's giving of notice of resignation or removal, then the retiring Trustee may, on behalf of the Bank, appoint a successor Trustee, which shall be a title insurance company or bank organized or qualified to do business under the laws of the State of Idaho, having its principal office in the State of Idaho and in the case of any bank having a combined capital and surplus of at least $25,000,000. Upon acceptance of any appointment as Trustee hereunder by a successor Trustee, such successor Trustee shall thereupon succeed to and become vested with all the rights,

FILED
DEC 26 1991

MAR 28 1995

powers, privileges and duties of the retiring Trustee and the retiring Trustee shall be discharged from its duties and obligations under this Assignment. After any retiring Trustee's resignation or removal hereunder as Trustee, the provisions of paragraphs 7 through 11 of this Assignment shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Trustee under this Assignment.

13. The Trustee acknowledges and agrees that it has made separate arrangement with the Assignor for the payment of its fees for serving as Trustee under this Assignment, and the Assignor agrees that such fees are its obligation to pay.

14. Assignor agrees that it will execute such other instruments and documents as the Bank or the Trustee may from time to time reasonably require to effectuate the assignment granted by this Assignment, including but not limited to filing with the Department such instruments and documents as the Department may require as a condition to approving the assignment of any water license to the Trustee that replaces a Permit.

15. This Assignment shall be binding upon the Assignor and its successors and assigns and shall inure to the benefit of the Trustee, the Bank and their respective successors and assigns.

16. This Assignment can be waived, modified, terminated or discharged only explicitly in a writing signed by the parties hereto. The mere failure to act shall not preclude the exercise or enforcement of any of the rights or remedies of the Trustee hereunder.

17. All notices to the Assignor provided for under this Assignment shall be in writing and mailed, or delivered by overnight courier, to the address of Assignor indicated below:

Crystal Springs Hydroelectric Company
c/o Far West Capital, Inc.
1135 East South Union Avenue
Midvale, Utah 84047

With a copy to:

Bonneville Pacific Corporation
257 East 200 South, Suite 800
Salt Lake City, Utah 84111
Attention: Mark E. Rinehart

18. The Trustee shall release all collateral granted hereunder when all amounts outstanding under the Promissory Note issued under the Credit Agreement, including accrued and unpaid

RECORDED
DEC 26 1991

MAR 28 1995

interest thereon, and all other amounts outstanding under the Credit Agreement have been paid in full.

19. This Assignment shall be deemed made in and shall be governed by the internal laws of the State of Idaho.

IN WITNESS WHEREOF, the parties hereto have caused this Assignment to be duly executed as of the day and year first above written.

ASSIGNOR:

CRYSTAL SPRINGS HYDROELECTRIC COMPANY,
an Idaho general partnership

By: Far West Capital, Inc., a Utah corporation, as general partner

By: _____
Its: _____

By: Far West Hydroelectric Fund, Ltd., a Utah limited partnership, as general partner

By: Far West Capital, Inc., a Utah corporation, as general partner

By: _____
Its: _____

By: _____
Alan O. Melchior, as general partner

By: _____
Thomas A. Quinn, as general partner

RECORDED
DEC 26 1991
28 1995

TRUSTEE:

FIRST SECURITY BANK OF IDAHO, N.A.

By: _____

Its: Vice President & Trust Officer

BANK

FIRST SECURITY BANK OF UTAH,
NATIONAL ASSOCIATION

By _____
Its: Vice President

[Attach Idaho Acknowledgements]

1466d

MICROFILMED
DEC 26 1991
MAR 28 1995

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 7th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Thomas G. Dunn, known or identified to me to be the Vice President of FAR WEST CAPITAL, INC., a Utah corporation, the corporation that executed the instrument or the person who executed the instrument for Far West Capital, Inc., as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that such corporation, on behalf of said partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Paw
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 7th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Thomas G. Dunn, known or identified to me to be the Vice President of FAR WEST CAPITAL, INC., a Utah corporation, the corporation that executed the instrument or the person who executed the instrument for Far West Capital, Inc., as general partner of FAR WEST HYDROELECTRIC FUND, LTD., a Utah limited partnership, as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that such corporation, on behalf of said limited partnership, on behalf of said general partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Paw
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

FILMED
DEC 26 1991

MAR 28 1995

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 6th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Alan O. Melchior, known or identified to me to be one of the general partners of FAR WEST HYDROELECTRIC FUND, LTD., a Utah limited partnership, the limited partnership that executed the instrument or the person who executed the instrument for FAR WEST HYDROELECTRIC FUND, LTD., as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that he, on behalf of said limited partnership, on behalf of said general partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Pan
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 7th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Thomas A. Quinn, known or identified to me to be one of the general partners of FAR WEST HYDROELECTRIC FUND, LTD., a Utah limited partnership, the limited partnership that executed the instrument or the person who executed the instrument for FAR WEST HYDROELECTRIC FUND, LTD., as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that he, on behalf of said limited partnership, on behalf of said general partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Pan
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

1466d

RECORDED DEC 26 1991 MAR 28 1995

STATE OF IDAHO)
: ss.
COUNTY OF Ada)

On this 9th day of June, in the year 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared MARK A. SIMONSON, known or identified to me to be the Vice President & Trust Officer of FIRST SECURITY BANK OF IDAHO, N.A., the corporation that executed the instrument or the person who executed the instrument on behalf of said corporation, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Mary Vasin

Notary Public for the State of Idaho
Residing at: Ada County-Boise

My commission expires: 7-3-93

3358g

DEC 26 1991
-10-

MAR 28 1995

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On this 7th day of July, in the year 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Harvey M. Tanner, known or identified to me to be the Vice President of FIRST SECURITY BANK OF UTAH, NATIONAL ASSOCIATION, the corporation that executed the instrument or the person who executed the instrument on behalf of said corporation, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Notary Public for the State of Utah
Residing at: Salt Lake City, Utah

My commission expires: 8-22-90

1466d

*Reference 47-7768
for Exhibit A

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DEC 26 1991

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MAR 28 1995

Form 202
3/78

Ident. No. 47-7991

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

APPROVED

To appropriate the public waters of the State of Idaho

1. Name of applicant Crystal Springs Hydroelectric Co. Phone 734-9600

Post office address P. O. Box 1892 Twin Falls, Idaho 83301

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

3. Location of point of diversion is SW ¼ of NE ¼ of Section 23 Township 9S

Range 15E B.M. Twin Falls County, additional points of diversion if any:

4. Water will be used for the following purposes:

Amount 40 (cfs ~~or acre-feet per annum~~) for Power purposes from 1/1 to 12/31 (both dates inclusive)

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

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

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

5. Total quantity to be appropriated:

a. 40 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. Diversion canal and penstock

b. Height of storage dam _____ feet, active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet, materials used in storage dam: _____

Period of year when water will be diverted to storage _____ (Month/Day) to _____ (Month/Day) inclusive.

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

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years)*.

8. Description of proposed uses:

a. If water is not for irrigation:

(1) Give the place of use of water: SW ¼ of NE ¼ of Section 14 Township 9S

Range 15E B.M.

(2) Amount of power to be generated: * horsepower under 267 feet of head. ~~* See Remark (1)~~ ** can produce 724 kilowatts at 80% efficiency - kw 10/28/86

(3) List number of each kind of livestock to be watered _____

(4) Name of municipality to be served _____, or number of families to be supplied with domestic water _____

(5) If water is to be used for other purposes describe:

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Total number of acres to be irrigated _____

c. Describe any other water rights used for the same purposes as described above. 47-7768 ~~and 47-7767~~--**

9. a. Who owns the property at the point of diversion Derek Cantrell

b. Who owns the land to be irrigated or place of use Crystal Springs Ranch

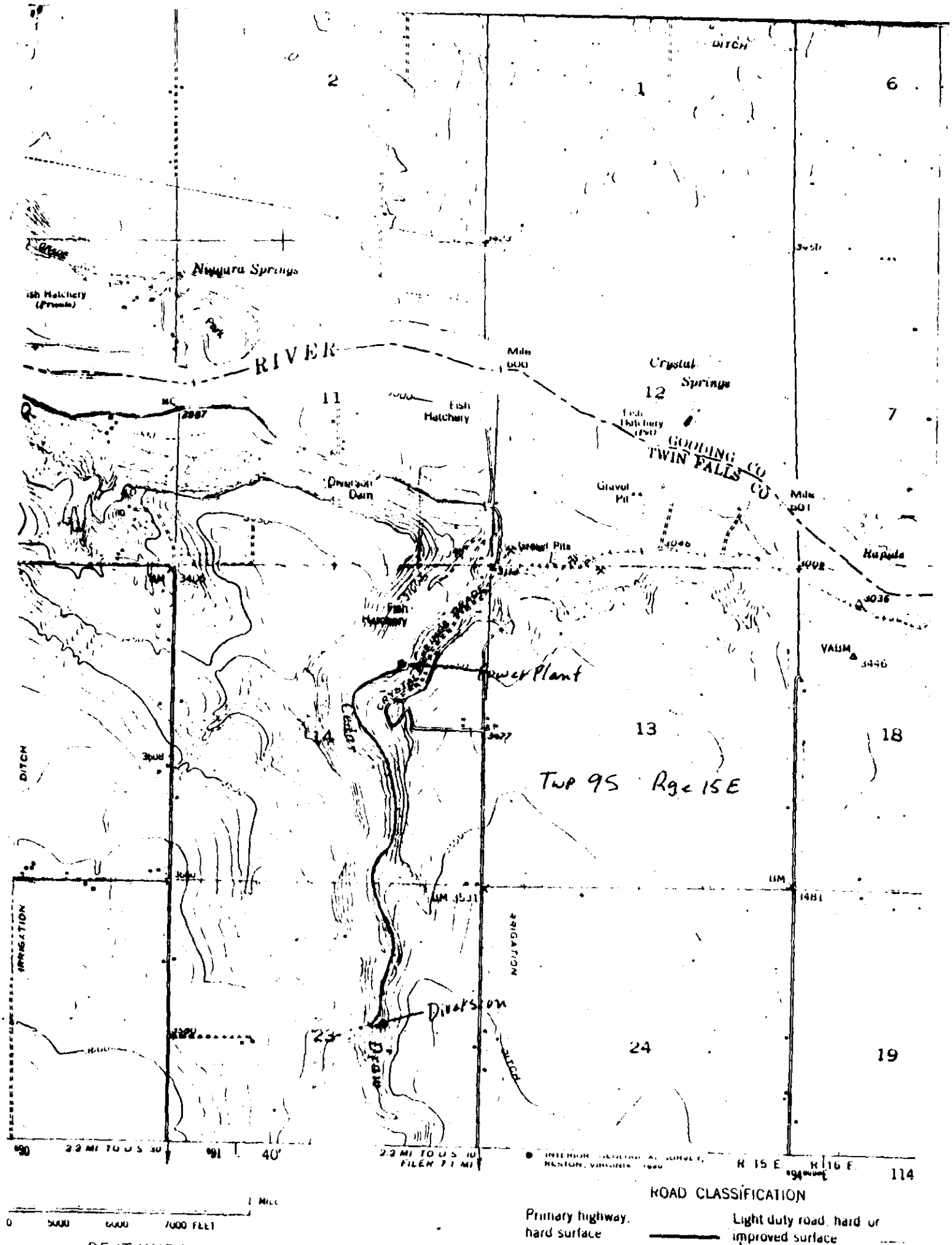
c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing Land at diversion point is leased.

10. Remarks

(1) This application is being combined with 47-7767 and 47-7768 to generate 4500 theoretical horsepower under 267 feet of head with 150 cfs. of water in a single power plant

** Application 47-7767 was relinquished 10/24/1986 - kw 10/28/1986

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



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.

(Applicant)
Crystal Springs Hydroelectric Co.

Proposed Priority 12/27/84

Received by LH Date 12/27/84 Time 12:00

Preliminary check by TGB Fee $ 625.00 # 35250

Receipted by marya Date 1/2/85

Publication prepared by marya Date 1/7/85

Published in Times News Lewiston Morning Tribune, The Idaho Statesman, The Post-Register

Publication dates 1/24 & 1/31/85 11/07 & 11/14/1985

Publication approved marya Date 1/23/85

Protests filed by: Idaho Dept. of Fish & Game ← Withdrawn 7/22/85

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for (approval) denial by LH KW

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. 47-7991, and said application is hereby APPROVED.

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 November 1, 19 91.

   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. Other: SEE ATTACHED SHEET FOR CONDITIONS d thru m.

Witness my hand this 31st day of October, 1986.

Tyler G. Clayton

Chief, Operations Bureau

ATTACHMENT TO CONDITIONS OF APPROVAL

For Permit No. 47-7991

d. The issuance of this permit in no way grants any right-of-way or easement across the land of another.

e. The permit holder shall either install a measuring device or a flow measurement port or provide a certified measurement or computation of flow based upon system design to be prepared by a professional engineer.

f. This permit is subject to the provisions of Sections 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit.

g. Water used under this permit if discharged into a natural channel shall meet Idaho Water Quality Standards.

h. The diversion and use of water under this permit and any license subsequently issued is subject to review by the Director on the date(s) of expiration of any license issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

i. The water right acquired under this permit 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 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.

j. This permit does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.

k. Use of water under this permit shall be non-consumptive.

l. A separate stream alteration permit from the IDWR is required for any activity in the stream channel other than construction and/or maintenance of the diversion structure. If your proposed construction or operation involves construction of an outfall or any other work in the stream channel other than a water diversion, you must contact the Department and obtain a Stream Channel Alteration permit prior to the start of construction.

m. This permit is subject to the agreement regarding instream flow requirements, between the applicant, Idaho Department of Fish & Game, and the Federal Energy Regulatory Commission, to the extent such agreement covers matters within the jurisdiction of the Department of Water Resources.

Witness my hand this 31st day of October, 1986.

Tyler G. Taylor

Chief, Operations Bureau

AMENDED

INTER-DEPARTMENT MEMO — 1

FROM Kay Walker

DATE January 8, 1986

TO Files 47-7767, 47-7768, 47-7672, and 47-7991

SUBJECT Mortgage Trust Indenture and Security Agreement

These water rights cannot be assigned by any party other than First Interstate Bank of Idaho, N.A. For further information regarding this matter, see correspondence of July 31, 1985 from Norm Young to Crystal Springs Hydroelectric Company.

MICROFILMED

SIGNATURE

7/81

Iuent. No. 47-7767
47-7768
47-7991
47-8005

RECEIVED
NOV 5 1984
Department of Water Resources
Southern District Office

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
AFFIDAVIT FOR WATER RIGHTS TO BE USED
FOR POWER PURPOSES

Establishment of Residency: (Complete either 1, or 2).

1. Individual Applicant or Individual Members of a Partnership:

I, Crystal Springs Hydroelectric Co., a General Partnership (name) of Twin Falls (city),

county of Twin Falls, State of Idaho, being duly sworn, do hereby certify that I am a bona fide resident of the State of Idaho.

2. Corporation:

I, _____ (name) of _____ (city),

County of _____, State of Idaho, being duly sworn, depose and say: That I am the designated registered agent of the _____ (name of corporation): that as such I am in charge of the registered office of the said corporation as required by Section 30-1-12, Idaho Code, at _____ (city) Idaho, wherein are kept the corporate records required by Section 30-1-52, Idaho Code: and that _____ (name of corporation) is a corporation qualified to do business in the State of Idaho under the laws of the State of Idaho.

Ownership of Facilities: (To be completed for hydropower projects only)

The hydropower facility to be developed pursuant to the attached Application for Permit:

[XX] Will not utilize existing man-made irrigation facilities such as a dam or a canal.

[X] Will utilize existing man-made irrigation facilities such as a dam or a canal, and permission of the owner is documented in an affidavit attached hereto.

[ ] Will utilize existing man-made irrigation facilities such as a dam or a canal and the owner of the facilities is the signee of this affidavit.

Crystal Springs Hydroelectric Co.,
A General Partnership
Thomas J. Babbitt
Applicant

State of Idaho)
County of TWIN FALLS) ss.

On this 2ND day of NOVEMBER, 19 84, personally appeared before me the signer(s) of the above instrument, who duly acknowledged to me that he (she) (they) executed the same.

KAYLYNNE HOLLIFIELD ABELS
NOTARY PUBLIC - STATE OF IDAHO
Residing at Twin Falls, Idaho
Commission Expires 8-23-86

Kaylynne Hollifield Abels
Notary Public residing at
TWIN FALLS, IDAHO

My commission expires:

Affidavit of Publication

STATE OF IDAHO, }
COUNTY OF TWIN FALLS } ss.

№ 15637

I, Linda Capps McGuire being first duly sworn upon oath, depose and say that I am Press Clerk of the TIMES-NEWS, published daily, at Twin Falls, Idaho, and do solemnly swear that a copy of the notice of advertisement, as per clipping attached, was published in the regular and entire issue of said newspaper, and not in any supplement thereof, for Two consecutive Weeks, commencing with the issue dated November 7, 1985, and ending with the issue dated November 14, 1985.

And I do further certify that said newspaper is a consolidation, effective February 16, 1942, of the Idaho Evening Times, published theretofore daily except Sunday, and the Twin Falls News, published theretofore daily except Monday, both of which newspapers prior to consolidation had been published under said names in said city and county continuously and uninterruptedly during a period of more than twelve consecutive months, and said TIMES-NEWS, since such consolidation, has been published as a daily newspaper except Saturday, until July 31, 1978, at which time said newspaper began daily publication under said name in said city and county continuously and uninterruptedly.

And I further certify that pursuant to Section 60-108 Idaho Code, Thursday of each week has been designated as the day on which legal notice by law or by order of any court of competent jurisdiction within the state of Idaho, to be published weekly, will be published; and that at the head of the editorial column of said combined newspapers, and in each issue thereof, Thursday is announced as the day on which said legal notices will be published.

Linda Capps McGuire

Subscribed and sworn to before me on this 15 day of November, 19 85.

Deanna Bruce

Notary Public in and for the County of Twin Falls, State of Idaho, residing at Twin Falls, Idaho

RECEIVED
NOV 22 1985
Department of Water Resources
Southern Idaho Area

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) is (are) being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code the opportunity to protest:

47-7991
CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. Box 1892, Twin Falls, ID 83301
Source: CEDAR DRAW trib. to SNAKE RIVER
Date Filed: 12/27/1984
Diversion Pt: SWNE Sec 23 T 09S R 15E
Use: POWER (40.00 CFS) In: SWNE Sec 14 T 09S R 15E

47-7767
CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. Box 1892, Twin Falls, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: NWSE Sec 14 T 09S R 15E SWNE Sec 14 T 09S R 15E (REDIVERSION, TWIN FALLS, Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE SWNE Sec 14 T 09S R 15E
Diversion Means: Penstock Into Single Generating Unit

47-7768
CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. Box 1892, Twin Falls, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: (110.00 CFS)
Diversion Point: SWNE Sec 23 T 09S R 15E, TWIN FALLS Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE Sec 23 T 09S R 15E
Diversion Means: Penstock Into Single Generating Unit

Protests must be filed with the Director, Department of Water Resources, Southern Region, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 on or before November 25, 1985.

PUBLISH: Thursdays, November 7, and 14, 1984.

TRIBUNE PUBLISHING COMPANY, INC.
The Lewiston Morning Tribune
505 C St., P.O. Box 957
Lewiston, Idaho 83501
(208) 743-9411

Date 111485 INVOICE No. L00061157

Account No. 42662

Description 61157NOTIC

Times 2 Lines 66

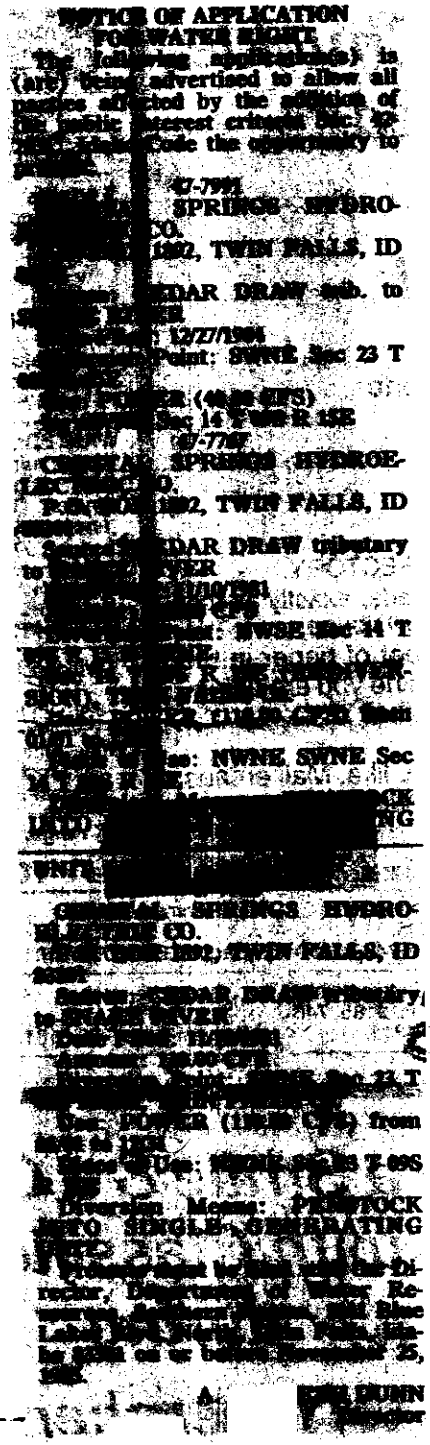
Tab Lines

LEGAL ADVERTISING
INVOICE

SOLD TO:
STATE OF IDAHO
DEPT. OF WATER RESOURCES1
041 BLUE LAKES BLVD. NO.
TWIN FALLS
ID 83301

$ 57.75

NOTICE:This is an invoice of Purchase made by you. Statement will be rendered the first of the month.
Please Retain This Invoice as Your Statement Will Refer To Invoice by No. Only.


NOTICE OF APPLICATION
FOR WATER RIGHT

SPRINGS HYDRO-
CO.
, TWIN FALLS, ID
CEDAR DRAW trib. to
SPRINGS HYDRO-
CO.
, TWIN FALLS, ID
CEDAR DRAW tributary
to
SPRINGS HYDRO-
CO.
, TWIN FALLS, ID
CEDAR DRAW tributary

RECEIVED
NOV 20 1985
Department of Water Resources
Southern District Office

MICROFILMED

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO, ss.
County of Nez Perce

S. L. Stone, being duly sworn, deposes and says, I am the Legal Clerk of the Tribune Publishing Company, a corporation organized and existing under and by virtue of the laws of the State of Idaho, publishers of the LEWISTON MORNING TRIBUNE, a newspaper of general circulation published at Lewiston, Nez Perce County, Idaho; That the said Lewiston Morning Tribune is an established paper and has been published regularly and issued regularly at least once a day for more than 21 consecutive years next immediately preceding the first publication of this notice, and has been so published uninterrupted for said period; that the

NOTICE OF APPLICATION FOR WATER RIGHT

attached hereto and which is made a part of this affidavit was published in the said Lewiston Morning Tribune, 2 time(s). Publication being on 110785, or once a week for two consecutive weeks, the first publication thereof being on the 110785, and the last publication thereof being on the 111485, and said NOTICE OF APPLICATION FOR WATER RIGHT was so published in the regular and entire issue of said newspaper and not in a supplement thereof and was so published in every issue and number of the said paper, during the period and times of publication as set forth above.

S. L. Stone

SUBSCRIBED AND SWORN BEFORE ME THIS THE 18 day of November 1985

Sherrel M. Lantz

Notary Public in and for the State of Idaho, residing at Lewiston, therein.

Weekly Insertion

Company Name ID ept. of Water Resources
Account Number 632 (Southern Reg.)
Cost: $ 54.09

STATE OF IDAHO)
) ss.
COUNTY OF ADA)

Laura Gay Barnes, being duly sworn, deposes and says: That she is the Principal Clerk of The Idaho Statesman, a daily newspaper printed and published at Boise, Ada County, State of Idaho, and having a general circulation therein and which said newspaper has been continuously and uninterruptedly published in said County during a period of twelve consecutive months prior to the first publication of the notice, a copy of which is attached hereto; that said notice was published in The Idaho Statesman in conformity with Section 60-108, Idaho Code as amended, for Two (2) consecutive weekly insertions, beginning with the issue of

November 7, 1985, and ending

with the issue of November 14, 1985.

Laura Gay Barnes

Subscribed and sworn to before me this 14th

day of November, 1985.

Notary Public for Idaho, Residing at Boise, Idaho.

NOTICE OF APPLICATION FOR WATER RIGHT

The following applications are being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code, the opportunity to protest.

47-7268

Crystal Springs Hydroelectric Co.
P.O. Box 1882, Twin Falls, ID

Source: Crystal Springs

Diversion Point: NWSE Sec. [illegible]
R 15E SWNE, Sec. M T [illegible]
(Rediversion), Twin Falls Co.
Use: Power [illegible]
to 12/31
Place of Use: NWNE Sec. [illegible]
T 09S R 15E
Diversion Means: Penstock [illegible]
ale generating unit

47-7271

Crystal Springs Hydroelectric Co.
P.O. Box 1882, Twin Falls, ID

Source: Snake River Spring Trib.
River
Date filed:
Diversion Point: SWSW Sec. [illegible]
15E
Use: Power [illegible]
In: NWNE Sec. [illegible]
Protests must be filed
actor, Department of Water Resources,
ources, 450 West State Street, P.O.
oke Street, Twin Falls, Idaho 83301
[illegible]

Ken Dunn
Director

ub. Oct. [illegible]

RECEIVED
NOV 18 1985
Department of Water Resources
Southern District Office

MICROFILMED

Proof of Publication

The Post-Register

State of Idaho,
County of Bonneville } ss.

I, J. Robb Brady, first being duly sworn, depose and say: That I am the Principal Clerk of The Post Company, a corporation of Idaho Falls, Bonneville County, Idaho, publishers of The Post-Register, a newspaper of general circulation, published daily, except Saturday, at Idaho Falls, Idaho; said Post-Register being a consolidation of the Idaho Falls Times, established in the year 1890, The Idaho Register, established in the year 1880 and the Idaho Falls Post, established in 1903, such consolidation being made on the 1st day of November, 1931, and each of said newspapers having been published continuously and uninterruptedly, prior to consolidation, for more than seventy-eighty (78) weeks and said Post-Register having been published continuously and uninterruptedly from the date of such consolidation, up to and including the last publication of notice hereinafter referred to.

That the notice, of which a copy is hereto attached and made a part of this affidavit, was published in said Post-Register for two consecutive weeks, first publication having been made on the 7th day of November, 1985, last publication having been made on the 14th day of November, 1985, and that the said notice was published in the regular and entire issue of said paper on the respective dates of publication, and that such notice was published in the newspaper and not in a supplement.

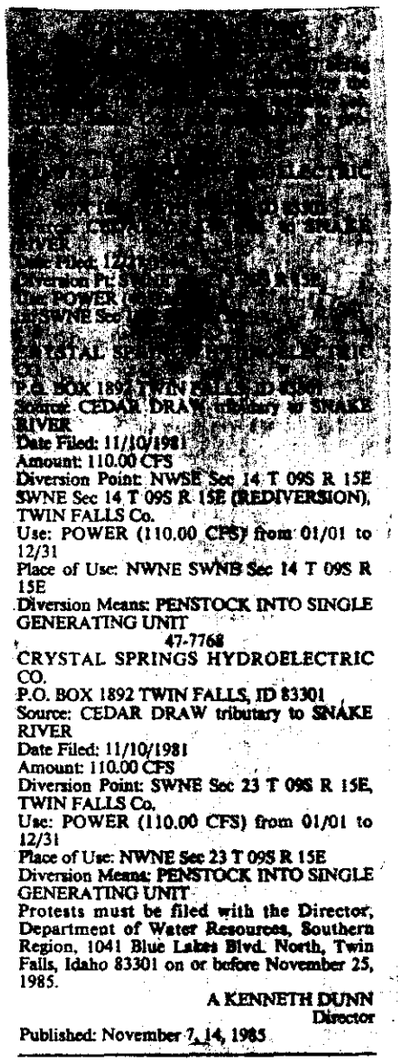
J. Robb Brady

Subscribed and sworn to before me, this 15th day of November, 1985.

Geon K. Napier
Notary Public

My commission expires September 30, 1988

B10, 1M,



F.O. BOX 1892 TWIN FALLS, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: NWSE Sec 14 T 09S R 15E SWNE Sec 14 T 09S R 15E (REDIVERSION), TWIN FALLS Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE SWNE Sec 14 T 09S R 15E
Diversion Means: PENSTOCK INTO SINGLE GENERATING UNIT

47-7768
CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. BOX 1892 TWIN FALLS, ID 83301
Source: CEDAR DRAW tributary to SNAKE RIVER
Date Filed: 11/10/1981
Amount: 110.00 CFS
Diversion Point: SWNE Sec 23 T 09S R 15E, TWIN FALLS Co.
Use: POWER (110.00 CFS) from 01/01 to 12/31
Place of Use: NWNE Sec 23 T 09S R 15E
Diversion Means: PENSTOCK INTO SINGLE GENERATING UNIT
Protests must be filed with the Director, Department of Water Resources, Southern Region, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 on or before November 25, 1985.

A KENNETH DUNN
Director

Published: November 7, 14, 1985

RECEIVED
NOV 18 1985
Department of Water Resources
Southern District Office

Affidavit of Publication

STATE OF IDAHO, }
COUNTY OF TWIN FALLS } ss.

№ 14724

I, Linda Copps McGuire being first duly sworn upon oath, depose and say that I am Legal Clerk of the TIMES-NEWS, published daily, at Twin Falls, Idaho, and do solemnly swear that a copy of the notice of advertisement, as per clipping attached, was published in the regular and entire issue of said newspaper, and not in any supplement thereof, for Two consecutive Weeks, commencing with the issue dated January 24, 1985, and ending with the issue dated January 31, 1985.

And I do further certify that said newspaper is a consolidation, effective February 16, 1942, of the Idaho Evening Times, published theretofore daily except Sunday, and the Twin Falls News, published theretofore daily except Monday, both of which newspapers prior to consolidation had been published under said names in said city and county continuously and uninterruptedly during a period of more than twelve consecutive months, and said TIMES-NEWS, since such consolidation, has been published as a daily newspaper except Saturday, until July 31, 1978, at time said newspaper began daily publication under said name in said city and county continuously and uninterruptedly.

And I further certify that pursuant to Section 60-108 Idaho Code, Thursday of each week has been designated as the day on which legal notice by law or by order of any court of competent jurisdiction within the state of Idaho, to be published weekly, will be published; and that at the head of the editorial column of said combined newspapers, and in each issue thereof, Thursday is announced as the day on which said legal notices will be published.

Linda Copps McGuire

Subscribed and sworn to before me on this 31 day of January, 1985.

Notary Public in and for the County of Twin Falls, State of Idaho, residing at Twin Falls, Idaho

RECEIVED
FEB 21 1985
Department of Water Resources
Southern District Office

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Crystal Springs Hydroelectric, L.P.) Project No. 8278-019

ORDER APPROVING REVISED EXHIBITS A, F, AND G
(Issued January 13, 1997)

On November 7, 1996, Crystal Springs Hydroelectric, L.P. (licensee) filed revised exhibits A, F, and G to reflect the changes made to the Cedar Draw Creek Project located on Cedar Draw Creek in Twin Falls County, Idaho. The exhibits were filed in accordance with a September 10, 1996, Order Amending License and Revising Annual Charges. 1/

The licensee made modifications to the Cedar Draw Creek Project to improve project operations and fish and wildlife resources. These modifications included, 1) the replacement of the Unit No. 3 fixed-flow turbine with an impulse type, variable flow unit; 2) a reduction in minimum flow requirements from 25 cfs to 10 cfs; and 3) the replacement of 1/4 inch fish screens with 3/8 inch screens.

The revised exhibits A, F, and G conform to the Commission's rules and regulations.

The Director orders:

(A) The revised exhibit A filed on November 7, 1996, conforms to the Commission's rules and regulations and is approved and made part of the license. The revised exhibit A supersedes, in part, the current exhibit A.

(B) The revised exhibit F and G drawings filed on November 7, 1996, are approved. The drawings are made part of the license and numbered as follows:

EXHIBIT	FERC NO.	TITLE	SUPERSEDED/ DELETED
G-3A	8278-23	Project Boundary Map	8278-1
G-3	8278-24	Project Boundary Map	8278-1
G-4	8278-25	Project Boundary Map	8278-1
G-5	8278-26	Project Boundary Map	8278-1
G-6	8278-27	Project Boundary Map	8278-1

1/ 76 F.E.R.C. ¶62,175.

File ✓ 47-7991
47-7768

F-7	8278-28	Diversion Structure Plan and Details	8278-14
F-8	8278-29	Diversion Structure Elevation and Sections	8278-15
F-11	8278-30	Powerhouse Floor Plan	8278-17

(C) The superseded exhibit F and G drawings are eliminated from the license.

(D) Within 90 days of the issuance date of this order, the licensee shall file three sets of aperture cards of the approved drawings. The aperture cards should be reproduced on silver microfilm. All microfilm should be mounted on a Type D (3 1/4" x 7 3/8") aperture card.

Prior to microfilming, the FERC Drawing Number (8278-23 through 8278-30) shall be shown in the margin below the title block of the approved drawings. After mounting, the FERC Drawing Number should be typed in the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibits (G-3A through F-11), drawing title, and date of this order should be typed on the upper left corner of each aperture card. See Figure 1.

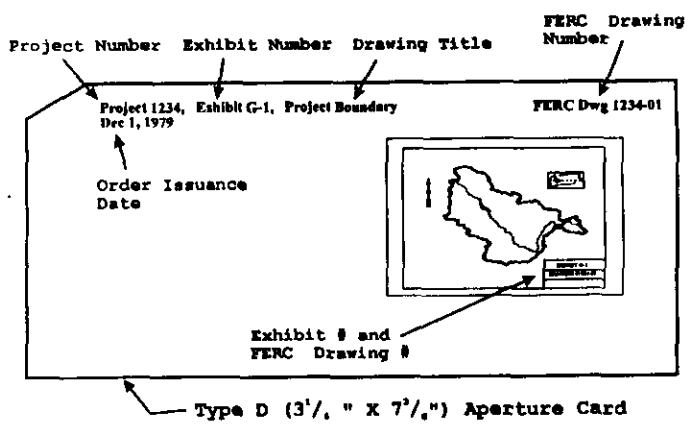


Figure 1. Sample Aperture Card Format

RECEIVED
JAN 17 1997
Department of Water Resources

See 47-07768

for exam.

47-7771
-7768

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Crystal Springs Hydroelectric, L.P.) Project No. 8278-019

ORDER APPROVING REVISED EXHIBITS A, F, AND G
(Issued January 13, 1997)

On November 7, 1996, Crystal Springs Hydroelectric, L.P. (licensee) filed revised exhibits A, F, and G to reflect the changes made to the Cedar Draw Creek Project located on Cedar Draw Creek in Twin Falls County, Idaho. The exhibits were filed in accordance with a September 10, 1996, Order Amending License and Revising Annual Charges. 1/

The licensee made modifications to the Cedar Draw Creek Project to improve project operations and fish and wildlife resources. These modifications included, 1) the replacement of the Unit No. 3 fixed-flow turbine with an impulse type, variable flow unit; 2) a reduction in minimum flow requirements from 25 cfs to 10 cfs; and 3) the replacement of 1/4 inch fish screens with 3/8 inch screens.

The revised exhibits A, F, and G conform to the Commission's rules and regulations.

The Director orders:

(A) The revised exhibit A filed on November 7, 1996, conforms to the Commission's rules and regulations and is approved and made part of the license. The revised exhibit A supersedes, in part, the current exhibit A.

(B) The revised exhibit F and G drawings filed on November 7, 1996, are approved. The drawings are made part of the license and numbered as follows:

EXHIBIT	FERC NO.	TITLE	SUPERSEDED/ DELETED
G-3A	8278-23	Project Boundary Map	8278-1
G-3	8278-24	Project Boundary Map	8278-1
G-4	8278-25	Project Boundary Map	8278-1
G-5	8278-26	Project Boundary Map	8278-1
G-6	8278-27	Project Boundary Map	8278-1

1/ 76 F.E.R.C. ¶62,175.

F-7	8278-28	Diversion Structure Plan and Details	8278-14
F-8	8278-29	Diversion Structure Elevation and Sections	8278-15
F-11	8278-30	Powerhouse Floor Plan	8278-17

(C) The superseded exhibit F and G drawings are eliminated from the license.

(D) Within 90 days of the issuance date of this order, the licensee shall file three sets of aperture cards of the approved drawings. The aperture cards should be reproduced on silver microfilm. All microfilm should be mounted on a Type D (3 1/4" x 7 3/8") aperture card.

Prior to microfilming, the FERC Drawing Number (8278-23 through 8278-30) shall be shown in the margin below the title block of the approved drawings. After mounting, the FERC Drawing Number should be typed in the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibits (G-3A through F-11), drawing title, and date of this order should be typed on the upper left corner of each aperture card. See Figure 1.

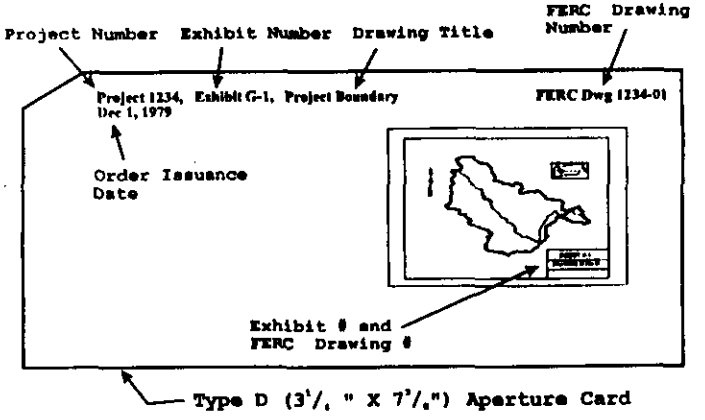


Figure 1. Sample Aperture Card Format

RECEIVED
JAN 17 1997
Department of Water Resources

RECEIVED
JAN 1 7 1997
Department of Water Resources

File 47-7991
47-7768
47

RECEIVED
SEP 2 6 1996
Department of Water Resources

BILLING CODE 6717-01-M

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Crystal Springs Hydroelectric Limited Partnership	)	Project No. 8278-015, 8278-016 and 8278-017

NOTICE OF AVAILABILITY OF ENVIRONMENTAL ASSESSMENT

(September 10, 1996)

An environmental assessment (EA) is available for public review. The EA reviews an application to amend the license for the Cedar Draw Creek Project located on Cedar Draw Creek in Twin Falls County, Idaho. The license would be amended to: 1) allow the replacement of Unit No. 3 turbine with a new turbine which would reduce the project's total installed capacity from 2,914 kW to 2,878 kW; 2) reduce the minimum flow requirement from 25 cubic feet per second (cfs) to 10 cfs; and 3) replace ¼ inch screens with ⅜ inch screens. The EA concluded that approving the installation of the variable flow turbine, reduction of the minimum flow requirement and increasing the mesh size of the fish screens would not constitute a major federal action significantly affecting the quality of the human environment.

The EA was written by staff in the Office of Hydropower Licensing, Federal Energy Regulatory Commission. Copies of the EA can be obtained by calling the Commission's Public Reference Room at (202) 208-1371.

Lois D. Cashell
Secretary

DC-A-8

ENVIRONMENTAL ASSESSMENT
AMENDMENT OF LICENSE

Cedar Draw Creek Hydroelectric Project
FERC Project No. 8278

Federal Energy Regulatory Commission
Office of Hydropower Licensing
Division of Project Compliance and Administration
888 First Street NE
Washington, D.C. 20426

September 1996

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

NOTICE OF REQUEST FOR AMENDMENT OF PROJECT LICENSE

(April 16, 1996)

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a.	Type of Application:	Request for Amendment of Project License
b.	Project No:	8278
c.	Date Filed:	March 18, 1996
d.	Applicant:	Crystal Springs Hydroelectric, L.P.
e.	Name of Project:	Cedar Draw Creek Project
f.	Location:	On Cedar Draw Creek in Twin Falls County, Idaho
g.	File Pursuant to:	Federal Power Act, 16 U.S.C. §791(a)-825(r)
h.	Applicant Contact:	Dell Keehn 11225 S.E. 6th, Suite 100 Bellevue, Washington 98004 (206) 453-0500
i.	FERC Contact:	Thomas LoVullo, (202) 219-1168
j.	Comment Date:	May 23, 1996

k. Description of Amendments: (1) Crystal Springs Hydroelectric, L.P. (licensee) requested to install a variable flow turbine (multiple jet, impulse type) in place of one of the project's four fixed-flow turbines. The licensee stated that installation of the variable flow turbine would slightly reduce the generation capacity of the project (from 2,924 kilowatts (kW) to 2,751 kW) but would provide better control and management of water resources. The plant controls would be modified to allow smooth and continuous adjustment of powerhouse flows from a minimum of 5 cubic feet per second (cfs) to a maximum flow of 148 cfs.

The licensee's second amendment request concerned a reduction in the minimum flow requirement from 25 cfs to 10 cfs. The licensee stated that a reduction in the minimum flow would be more comparable with the upstream project's

requirement of passing 5 cfs. The licensee stated that the installation of the new turbine equipment would provide more stable flows through the bypass reach of Cedar Draw. With a stabilized flow, stream bank vegetation would be enhanced, stream bank erosion reduced, water quality improved and possibly the food supply for fish improved. Further, the licensee proposed to mitigate for the reduction in the minimum flow by installing two fish ladders at two man-made barriers in Cedar Draw. The fish ladders would provide approximately 3.2 miles of additional habitat in Cedar Draw by allowing fish passage from the Snake River.

l: This notice also consists of the following standard paragraphs: B, C1, and D2.

B. Comments, Protests, or Motions to Intervene -- Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, .211, .214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

C1. Filing and Service of Responsive Documents -- Any filings must bear in all capital letters the title "COMMENTS", "RECOMMENDATIONS FOR TERMS AND CONDITIONS", "PROTEST", OR "MOTION TO INTERVENE", as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426. A copy of any motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

D2. Agency Comments -- Federal, state, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Lois D. Cashell
Secretary

RECEIVED
APR 19 1996
Department of Water Resources

EBERLE, BERLIN, KADING, TURNBOW & MCKLVEEN,
CHARTERED
ATTORNEYS AND COUNSELORS AT LAW
CAPITOL PARK PLAZA
300 NORTH SIXTH STREET
POST OFFICE BOX 1368
BOISE, IDAHO 83701

TELEPHONE
(208) 344-8535

FACSIMILE
(208) 344-8542

THOMAS R. LINVILLE

JAMES L. BERLIN
OF COUNSEL

T. H. EBERLE (1922-1977)

June 22, 1995

RECEIVED
JUN 23 1995
Department of Water Resources

Mr. Jim Johnson
Idaho Department of Water Resources
1301 North Orchard Street
Statehouse Mail
Boise, ID 83720

RE: Crystal Springs Hydroelectric Project
Water Right No.s 47-07768, 47-07991, 47-08005, and 47-8009

Dear Jim:

In furtherance of our telephone conversation on June 21, 1995, enclosed please find the following regarding the above-referenced project:

1. Letter dated March 1, 1995, from Crystal Springs Ranch G Limited Partnership to the Idaho Department of Water Resources (and one copy).

2. Copy of Collateral Assignment of Water Rights.

It is our understanding that the Idaho Department of Water Resources ("IDWR") is now willing to sign the above March 1, 1995, letter to evidence compliance with Idaho Code § 42-207. Please have the Director of the IDWR signify his acknowledgement by executing the copy of the March 1, 1995, letter and return it to our office at your earliest convenience.

Please do not hesitate to call if you have any questions. Thanks, Jim.

Very truly yours,

Thomas R. Linville

TRL:ch

Enclosures

cc: David R. Millard

CRYSTAL SPRINGS RANCH G LIMITED PARTNERSHIP

20924 S.E. 213th Street
Maple Valley, Washington 98038

Telephone (206) 432-5772
Facsimile (206) 432-5775

March 1, 1995

RECEIVED
APR 0 4 1995
Department of Water Resources

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

RE: Crystal Springs Hydroelectric Project
Water Right No.s 47-07768, 47-07991, 47-08005, and 47-8009

Gentlemen:

Crystal Springs Hydroelectric Company, an Idaho general partnership, ("Seller") has conveyed all its right, title, and interest in and to the Crystal Springs Hydroelectric Project located in Twin Falls County, Idaho (the "Project") to Crystal Springs Hydroelectric, L.P., a Washington limited partnership ("Buyer"). The Project is located upon certain real property (the "Real Property") owned by Crystal Springs Ranch G Limited Partnership, an Idaho limited partnership ("Lessor"). Lessor will agree to lease the Real Property to Buyer, subject to the terms of an Amended Lease Agreement (the "Lease") to be entered into by and between Lessor and Buyer, as lessee thereunder.

The Lease is to be secured by, among other things, a Collateral Assignment of Water Rights, pursuant to which Buyer is collaterally assigning to Lessor the following water rights obtained from the Idaho Department of Water Resources (the "Department"): Water Right No.s 47-07768, 47-07991, 47-08005, and 47-8009, and all other applications, permits, licenses, and water rights related to the Project (collectively the "Water Rights"). A fully executed and acknowledged copy of the Collateral Assignment of Water Rights is enclosed with this letter for filing with the Department pursuant to the requirements of § 42-207 of the Idaho Code.

Please have the Director of the Department acknowledge the filing of the enclosed Collateral Assignment of Water Rights with the Department, pursuant to Idaho Code § 42-207 and return an executed copy of this letter to our counsel at the following address:

Thomas R. Linville, Esq.
Eberle, Berlin, Kading, Turnbow & McKlveen, Chartered
P.O. Box 1368
Boise, Idaho 83701-1368

Also, please advise us, in writing, if any additional proof of compliance with Idaho Code §§ 42-206 and 42-207 will be necessary.

We sincerely appreciate your assistance and cooperation in this matter.

Very truly yours,

Crystal Springs Ranch G Limited Partnership
By Crystal Springs Ranch, L.L.C.
Its General Partner

By _____
Name: David R. Millard
Its: Managing Member

Compliance with Idaho Code §§ 42-206 and 42-207 is hereby acknowledged this _____ day of _____, 1995.

_____
Director of the State of Idaho
Department of Water Resources

9-54929

COLLATERAL ASSIGNMENT OF WATER RIGHTS

This Collateral Assignment of Water Rights (hereinafter called the "Assignment"), dated as of March 1, 1995, is hereby entered into by **CRYSTAL SPRINGS HYDROELECTRIC, L.P.**, a Washington limited partnership qualified to do business in and under the laws of the State of Idaho, with its principal office located at 11225 S.E. Sixth, Bellevue, Washington 98004 (hereinafter called the "Assignor"); and **CRYSTAL SPRINGS RANCH, LIMITED PARTNERSHIP**, an Idaho limited partnership, with its office located at 20924 S.E. 213th Street, Maple Valley, Washington 98038 (hereinafter called the "Assignee").

R E C I T A L S:

A. Assignor owns water rights relating to the Crystal Springs Hydroelectric Project located in the County of Twin Falls, State of Idaho (the "Project") pursuant to Water Right No.s 47-07768, 47-07991, 47-08005 and 47-8009, copies of which are attached hereto as Exhibit "A", together with all other applications, permits, licenses and water rights of the Assignor related to the Project issued by the Department of Water Resources of the State of Idaho (the "Department"), and all amendments, modifications and supplements thereof, together with all additions or replacements thereto (collectively the "Water Rights"). The Project is located on the real property described in Exhibit "B" attached hereto.

B. Assignee is the owner of certain real property upon which the Project is located (the "Real Property"). Assignee will agree to lease the Real Property to Assignor, subject to the terms of an Amended Lease Agreement (the "Lease") to be entered into in writing by and between Assignee (as lessor) and Assignor (as lessee). The Lease is to be secured by, among other things, this Assignment.

C. As a condition to entering into the Lease, and as additional security therefor, Assignee requires that this Assignment be duly executed by Assignor and delivered to Assignee for filing with the Department.

AGREEMENT

Accordingly, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Assignor hereby represents and warrants to the Assignee, that:

(a) The Recitals are true and correct;

(b) Assignor is the lawful owner of the rights and interests granted by the Water Rights, the Water Rights are in full force and effect and have not been amended or modified and the Assignor has not transferred, assigned or conveyed or granted a security interest in its rights and interests under the Water Rights; and

(c) Assignor is a Washington limited partnership qualified to do business in and under the laws of the state of Idaho, whose sole general partner is Gateway Energy, Inc., a Washington corporation in good standing and duly organized under the laws of the State of Washington.

2. Assignor hereby assigns to Assignee all of Assignor's right, title and interest in the Water Rights and all amendments and supplements thereto. Such assignment is made as collateral security for the payment of all of the obligations of the Assignor to the Assignee arising under the Lease, including but not limited to the rents and other payments due under the Lease. Assignor also hereby grants a security interest to Assignee in the Water Rights and all amendments and supplements thereto.

3. This Assignment is an assignment for security purposes and, as such, Assignor covenants and agrees to faithfully perform, observe and comply with all obligations of the Assignor under the Water Rights and with all limitations and conditions imposed under the Water Rights, as if this Assignment had not been made. Assignee shall not be deemed in any manner to have assumed such obligations under or with respect to the Water Rights, unless and until the Assignee has given Assignor written notice that the Assignee has affirmatively assumed such obligations as the result of an event of default existing under the Lease (a "Default") and the enforcement of the rights and remedies of the Assignee under this Assignment.

4. Assignor agrees that it will not cancel, terminate, modify or amend the Water Rights or surrender any of its water rights granted under the Water Rights and will not further assign the Water Rights to any party, without in each instance the prior written consent of the Assignee. Assignor further agrees that it shall deliver to the Assignee copies of all written agreements, correspondence and memoranda between Assignor and the Department relating to the Water Rights and any water license issued by the Department to replace the Water Rights as the Assignee may from time to time reasonably require.

5. Upon the occurrence of any Default, the Assignee may, without notice or demand and with or without entry upon the site of the Project, at its option, take over and enjoy the benefits of the Water Rights to the same extent as Assignor might do. The exercise of such right by the Assignee shall not affect any of the rights or remedies of the Assignee under any other instrument securing payment of the obligations under the Lease. In addition, upon the occurrence of a Default, the Assignee shall have the right to exercise and enforce any and all rights and remedies available after Default to a secured party under the applicable law. If notice to the Assignor of any intended disposition of collateral or any other intended actions is required

by law in a particular instance, such notice shall be deemed commercially reasonable if given to Assignor at least five (5) days prior to the intended disposition or other action.

6. The Assignee shall hold all right, title and interest in the Water Rights, pending issuance of water licenses by the Department. Any water license issued for the Project or as a replacement for the Water Rights shall be issued to Assignee as collateral security for the payment of Assignor's obligations under the Lease and the rights and remedies of the Assignee with respect to any such water license shall be the same as those provided in this Assignment in respect of the Water Rights. Should any water license be issued to the Assignor instead of to Assignee, the Department is hereby authorized to take all necessary steps to transfer ownership of such water license to the Assignee as soon as possible, subject to the terms of this Assignment.

7. Assignor agrees that immediately after the Water Rights have been put to beneficial use, then Assignor shall further perfect such Water Rights by (i) submitting a statement to the Department that the water has been put to beneficial use within the time noted as a condition of the Water Rights so that a license confirming right to use water can be issued by the Department, and (ii) upon receipt of said license for the use of water for the Project, Assignor shall forthwith undertake the appropriate action and do all things necessary to have such license and the Water Rights adjudicated and decreed as to right and priority in accordance with the general adjudication of rights to use water from the Snake River Basin Water System pending in Case No. 39576 in the District Court for the Fifth Judicial District of the State of Idaho, in and for the County of Twin Falls and thereafter submit a certified copy thereof to Assignee. Any breach of the obligations contained in this paragraph 7 by Assignor shall be deemed conclusively to be a material breach of this Assignment and the Lease.

8. Assignor further agrees to indemnify and to hold Assignee harmless from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, incurred by or asserted against the Assignee in any way relating to or arising out of this Assignment or any action taken or omitted to be taken by it under this Assignment.

9. Nothing herein contained shall be construed as making Assignee a mortgagee in possession, or as constituting a waiver or suspension by the Assignee of its right to enforce payment of any sums due under the Lease. Assignee is not the agent, partner or joint venturer of either the Assignor or of the Department.

10. Assignor agrees that it will execute such other instruments and documents as the Assignee may from time to time reasonably require to effectuate the assignment granted by this Assignment, including but not limited to, filing with the Department such instruments and documents as the Department may require as a condition to approving the assignment of any water license to the Assignee that replaces the Water Rights.

11. This Assignment shall be binding upon the Assignor and its successors and assigns and shall inure to the benefit of the Assignee and its respective successors and assigns.

12. This Assignment can be waived, modified, terminated or discharged only explicitly in a writing signed by the parties hereto. The mere failure to act shall not preclude the exercise or enforcement of any of the rights or remedies of the Assignee hereunder.

13. All notices to the Assignor provided for under this Assignment shall be in writing and mailed, or delivered by overnight courier, to the address of the parties indicated below:

ASSIGNOR: c/o Weatherly
11225 S.E. Sixth, Suite 100
Bellevue, Washington 98004

ASSIGNEE: 20924 S.E. 213th Street
Maple Valley, Washington 98038

14. The Assignee shall release all collateral granted hereunder when all amounts outstanding due under the Lease have been paid in full and all the other obligations of Assignor, as lessee thereunder, have been satisfied in all respects.

15. This Assignment shall be deemed made in and shall be governed by the laws of the State of Idaho.

IN WITNESS WHEREOF, the parties hereto have caused this Assignment to be duly executed as of the date and year first above written.

ASSIGNOR: CRYSTAL SPRINGS HYDROELECTRIC, L.P.
By Gateway Energy, Inc., Its General Partner

By _____
Name: Dell E. Keehn.
Its: President

ASSIGNEE: CRYSTAL SPRINGS RANCH LIMITED PARTNERSHIP, by Crystal Springs Ranch, L.L.C.
Its General Partner

By _____
Name: David R. Millard
Its: Managing Member

STATE OF Wash)
: ss.
COUNTY OF King)

On the 2nd day of March, 1995, before me the undersigned, a Notary Public in and for the State, personally appeared Dell E. Keehn, known or identified to me to be the President of Gateway Energy, Inc., a General Partner of Crystal Springs Hydroelectric, L.P., a limited partnership, the partnership that executed the foregoing instrument or the person who executed the foregoing instrument on behalf of said partnership, and acknowledge to me that such partnership executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Notary Public
Residing at Issaquah
My commission expires: 6/11/95

STATE OF Wash.)
: ss.
COUNTY OF King)

On the 2nd day of March, 1995, before me the undersigned, a Notary Public in and for the State, personally appeared David R. Millard, known or identified to me to be the Managing Member of Crystal Springs Ranch, L.L.C., the general partner of Crystal Springs Ranch Limited Partnership, a limited partnership, the partnership that executed the foregoing instrument or the person who executed the foregoing instrument on behalf of said partnership, and acknowledge to me that such partnership executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Notary Public
Residing at Issaquah
My commission expires: 6/11/95

EXHIBIT LIST

EXHIBIT "A"	Water Right No.s 47-07768, 47-07991, 47-08005 and 47-8009 and all other applications, permits, licenses and water rights of Assignor related to the Project issued by the Department of Water Resources of the State of Idaho.
EXHIBIT "B"	The real property where Project is located.

SECURITY Title
199500161

900 SL

Form 202
3/78

Ident. No. 47-7768

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

Approved

AMENDED
RECEIVED
DEC 20 1984
Department of Water Resources
Southern District Office

To appropriate the public waters of the State of Idaho

1. Name of applicant Crystal Springs Hydroelectric Co. Phone 734-9800

   Post office address P. O. Box 1892 Twin Falls, Idaho 83301

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

3. Location of point of diversion is SW ¼ of NE ¼ of Section 23 Township 9S

   Range 15E B.M., Twin Falls County, additional points of diversion if any: ____

4. Water will be used for the following purposes:

   Amount 110 (cfs ~~or acre-feet per annum~~) for Power purposes from 1/1 to 12/31 (both dates inclusive)

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

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

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

5. Total quantity to be appropriated:

   a. 110 cubic feet per second and/or b. ____ acre-feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Diversion canal and penstock

   b. Height of storage dam ____ feet, active reservoir capacity ____ acre-feet; total reservoir capacity ____ acre-feet, materials used in storage dam: ____

   Period of year when water will be diverted to storage ____ (Month/Day) to ____ (Month/Day) inclusive.

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

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years).*

8. Description of proposed uses:
   a. If water is not for irrigation:
      (1) Give the place of use of water: SW ¼ of NE ¼ of Section 14 Township 9S

      Range 15E B.M.

      (2) Amount of power to be generated: ~~* See Remark (1) **~~ can produce 1991 kilowatts at 80% efficiency - kw 10/23/85 horsepower under 267 feet of head.

      (3) List number of each kind of livestock to be watered ____

      (4) Name of municipality to be served ____, or number of families to be supplied with domestic water ____.

      (5) If water is to be used for other purposes describe: ____

EXHIBIT
A

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Total number of acres to be irrigated _____

c. Describe any other water rights used for the same purposes as described above. _____

~~47-7767~~-**

9. a. Who owns the property at the point of diversion Derek Cantrell

b. Who owns the land to be irrigated or place of use Crystal Springs Ranch

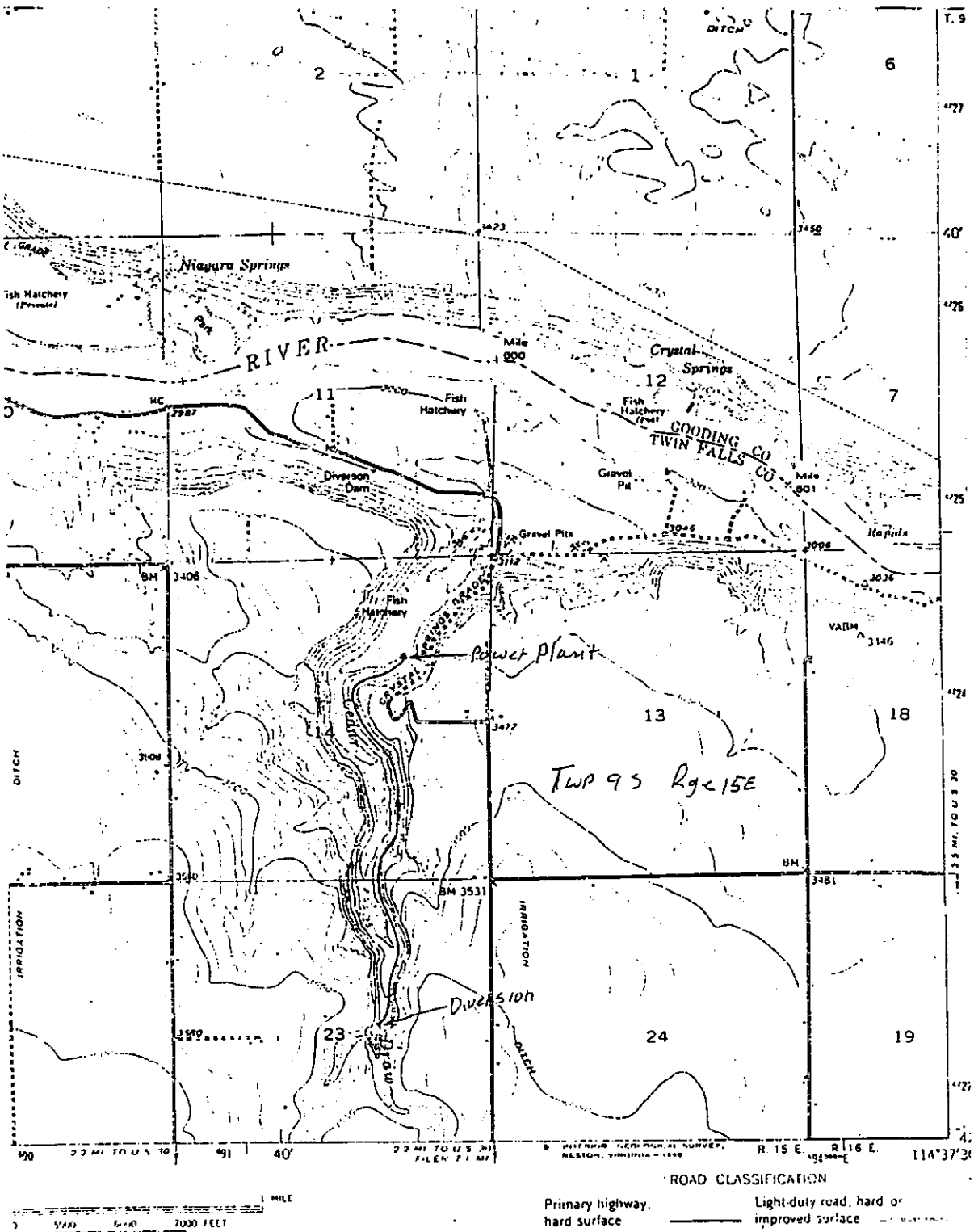
c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing Land at diversion point is leased.

10. Remarks

(1) This application is being combined with 47-7767 to generate 4500 theoretical horsepower under 267 feet of head with 150 cfs. of water in a single power plant

** Application 47-7767 was relinquished on 10/24/1986 - kw 10/28/86

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



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.

Crystal Springs Hydroelectric Co.
[signature]
(Applicant)

Proposed F... ...y 11/10/81

original app. rec'd 11/10/1981 - $1275. - Receipt No. 20645

Received by mcye Date 12/30/84 Time 12:00 p

Preliminary check by ADm Fee $ 20.00 Amended Applic Fee

Receipted by mcye Date 1/3/85 # 35251

Publication prepared by mcye Date 1/3/85

Published in times news Lewiston Morning Tribune, The Idaho Statesman, and the Post Register

Publication dates 1/10 & 1/17/85 11/07 & 11/14/1985

Publication approved mcye Date 1/9/85

Protests filed by: Idaho Dept. of Fish & Game & Withdrawn 7/22/85

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for (approval) denial by KK tw

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. 47-7768, and said application is hereby APPROVED.

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 November 1, 19 91.

   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. Other: SEE ATTACHED SHEET FOR CONDITIONS d thru m.

Witness my hand this 31st day of October, 1986.

Tyler G. Clayton

Chief, Operations Bureau

ATTACHMENT TO CONDITIONS OF APPROVAL

For Permit No. 47-7768

d. The issuance of this permit in no way grants any right-of-way or easement across the land of another.

e. The permit holder shall either install a measuring device or a flow measurement port or provide a certified measurement or computation of flow based upon system design to be prepared by a professional engineer.

f. This permit is subject to the provisions of Sections 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit.

g. Water used under this permit if discharged into a natural channel shall meet Idaho Water Quality Standards.

h. The diversion and use of water under this permit and any license subsequently issued is subject to review by the Director on the date(s) of expiration of any license issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

i. The water right acquired under this permit 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 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.

j. This permit does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.

k. Use of water under this permit shall be non-consumptive.

l. A separate stream alteration permit from the IDWR is required for any activity in the stream channel other than construction and/or maintenance of the diversion structure. If your proposed construction or operation involves construction of an outfall or any other work in the stream channel other than a water diversion, you must contact the Department and obtain a Stream Channel Alteration permit prior to the start of construction.

m. This permit is subject to the agreement regarding instream flow requirements, between the applicant, Idaho Department of Fish & Game, and the Federal Energy Regulatory Commission, to the extent such agreement covers matters within the jurisdiction of the Department of Water Resources.

Witness my hand this 31st day of October, 1986.

Tyler G. Taylor

Chief, Operations Bureau

Form 202
3/78

Ident. No. 47-7991

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

APPROVED

To appropriate the public waters of the State of Idaho

1. Name of applicant Crystal Springs Hydroelectric Co. Phone 734-9600

Post office address P. O. Box 1892 Twin Falls, Idaho 83301

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

3. Location of point of diversion is SW ¼ of NE ¼ of Section 23 Township 9S

Range 15E B.M. Twin Falls County, additional points of diversion if any:

4. Water will be used for the following purposes:

Amount 40 (cfs or ~~acre-feet per annum~~) for Power purposes from 1/1 to 12/31 (both dates inclusive)

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

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

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

5. Total quantity to be appropriated:

a. 40 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. Diversion canal and penstock

b. Height of storage dam _____ feet, active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre feet, materials used in storage dam: _____

Period of year when water will be diverted to storage _____ (Month/Day) to _____ (Month/Day) inclusive.

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

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years)*.

8. Description of proposed uses:

a. If water is not for irrigation

(1) Give the place of use of water SW ¼ of NE ¼ of Section 14 Township 9S

Range 15E B.M.

(2) Amount of power to be generated: * horsepower under 267 feet of head. ~~See Remark (1)~~** can produce 724 kilowatts at 80% efficiency - kw 10/28/85

(3) List number of each kind of livestock to be watered _____

(4) Name of municipality to be served _____, or number of families to be supplied with domestic water _____

(5) If water is to be used for other purposes describe:

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Total number of acres to be irrigated _____

c. Describe any other water rights used for the same purposes as described above. 47-7768 and 47-7767--**

9. a. Who owns the property at the point of diversion Derek Cantrell

b. Who owns the land to be irrigated or place of use Crystal Springs Ranch

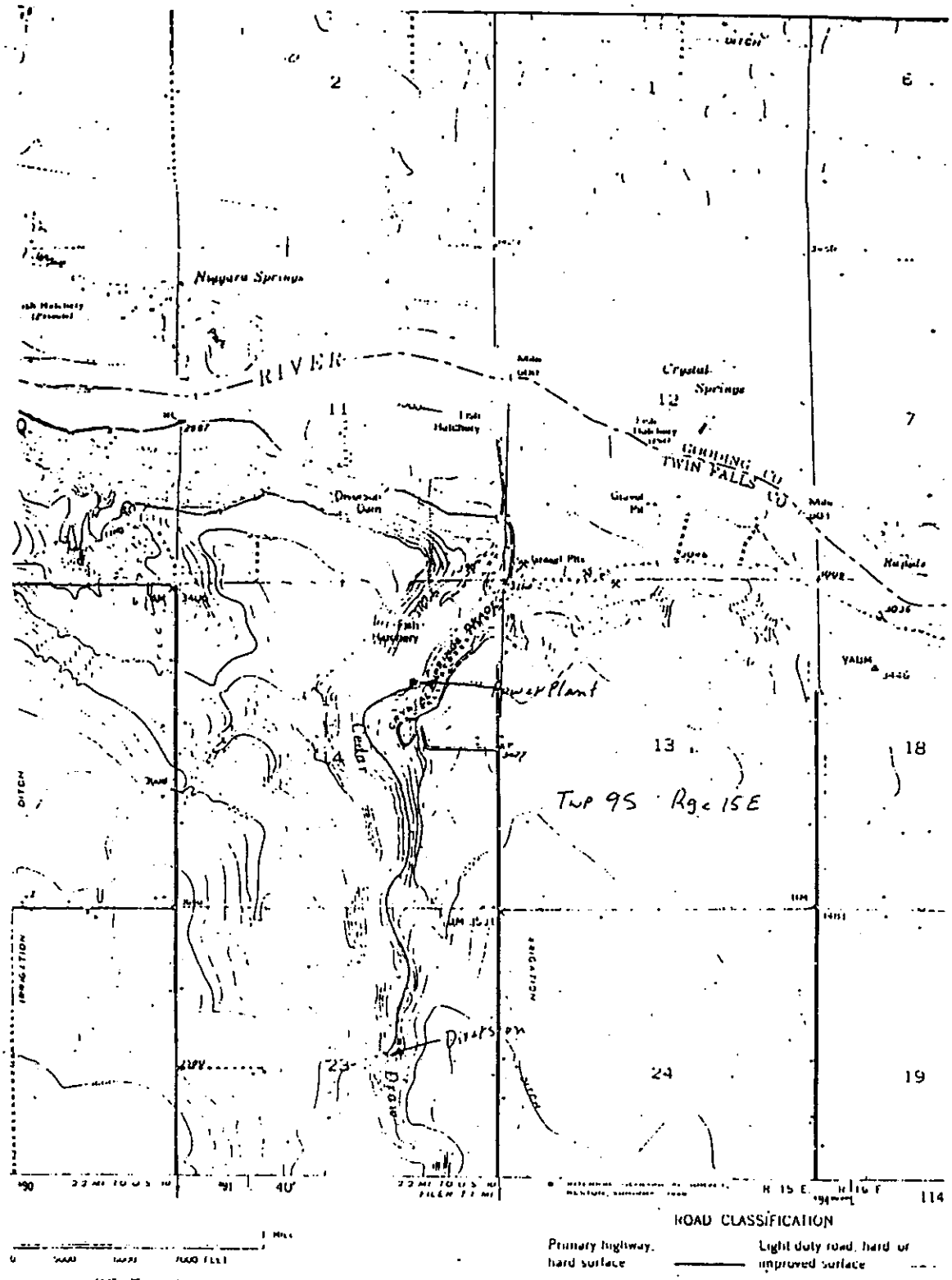
c. If the property is owned by a person other than the applicant, describe the arrangement enabling t applicant to make this filing Land at diversion point is leased.

10. Remarks

(1) This application is being combined with 47-7767 and 47-7768 to generate 4500 theoretical horsepower under 267 feet of head with 150 cfs. of water in a single power plant

** Application 47-7767 was relinquished 10/24/1986 - kw 10/28/1986

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



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.

(Applicant)
Crystal Springs Hydroelectric Co.

Proposed Priority 12/27/84

Received by [illegible] Date 12/27/84 Time 12:00

Preliminary check by TGB Fee $ 625.00 # 35250

Receipted by mcuya Date 1/3/85

Publication prepared by mcuya Date 1/17/85

Published in times news Lewiston Morning Tribune, The Idaho Statesman, The Post-Register

Publication dates 1/24 & 1/31/85 11/07 & 11/14/1985

Publication approved mcuya Date 1/23/85

Protests filed by: Idaho Dept. of Fish & Game ← Withdrawn 7/22/85

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for (approval) denial by [illegible] tlw

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. 47-7991, and said application is hereby APPROVED.

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 November 1, 19 91.

   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. Other: SEE ATTACHED SHEET FOR CONDITIONS d thru m.

Witness my hand this 31st day of October, 1986.

Tyler G. Layton
Chief, Operations Bureau

ATTACHMENT TO CONDITIONS OF APPROVAL

For Permit No. 47-7991

d. The issuance of this permit in no way grants any right-of-way or easement across the land of another.

e. The permit holder shall either install a measuring device or a flow measurement port or provide a certified measurement or computation of flow based upon system design to be prepared by a professional engineer.

f. This permit is subject to the provisions of Sections 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit.

g. Water used under this permit if discharged into a natural channel shall meet Idaho Water Quality Standards.

h. The diversion and use of water under this permit and any license subsequently issued is subject to review by the Director on the date(s) of expiration of any license issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

i. The water right acquired under this permit 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 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.

j. This permit does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.

k. Use of water under this permit shall be non-consumptive.

l. A separate stream alteration permit from the IDWR is required for any activity in the stream channel other than construction and/or maintenance of the diversion structure. If your proposed construction or operation involves construction of an outfall or any other work in the stream channel other than a water diversion, you must contact the Department and obtain a Stream Channel Alteration permit prior to the start of construction.

m. This permit is subject to the agreement regarding instream flow requirements, between the applicant, Idaho Department of Fish & Game, and the Federal Energy Regulatory Commission, to the extent such agreement covers matters within the jurisdiction of the Department of Water Resources.

Witness my hand this 31st day of October, 1986.

Tyler G. Taylor

Chief, Operations Bureau

Form 202
3/78

Vol. Page Circle Ident. No. 42-8005

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

APPROVED

To appropriate the public waters of the State of Idaho

1. Name of applicant Crystal Spring's Hydroelectric Co. Phone (501) 363-1900
c/o Bonneville Pacific Corporation
Post office address 200 E. South Temple, Suite 300, Salt Lake City, UT 84111

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

3. Location of point of diversion is SW ¼ of NE ¼ of Section 23 Township 9 S
Range 15E B.M. Twin Falls County, additional points of diversion if any:

4. Water will be used for the following purposes:

Amount 50 cfs (cfs or ~~acre-feet per annum~~) for Power purposes from 1/1 to 12/31 (both dates inclusive)

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

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

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

5. Total quantity to be appropriated:

a. 50 cfs cubic feet per second and/or b. ____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. Diversion and penstock

b. Height of storage dam ____ feet, active reservoir capacity ____ acre-feet; total reservoir capacity ____ acre-feet, materials used in storage dam: ____

Period of year when water will be diverted to storage ____ (Month/Day) to ____ (Month/Day) inclusive.

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

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years)*.

8. Description of proposed uses:
a. If water is not for irrigation:
(1) Give the place of use of water: NW ¼ of NE ¼ of Section 14 Township 9 S
Range 15E B.M.
(2) Amount of power to be generated ~~See Remark (1)~~ *can produce 973 kilowatts at 80% efficiency horsepower under ____ feet of head. kw.10/28/86
(3) List number of each kind of livestock to be watered ____
(4) Name of municipality to be served ____ or number of families to be supplied with domestic water ____
(5) If water is to be used for other purposes describe: ____

MICROFILMED

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Total number of acres to be irrigated

c. Describe any other water rights used for the same purposes as described above.

47-7768, ~~47-7767, 47-7672~~ *and 47-7991

9. a. Who owns the property at the point of diversion? Dereck Cantrell, et al.

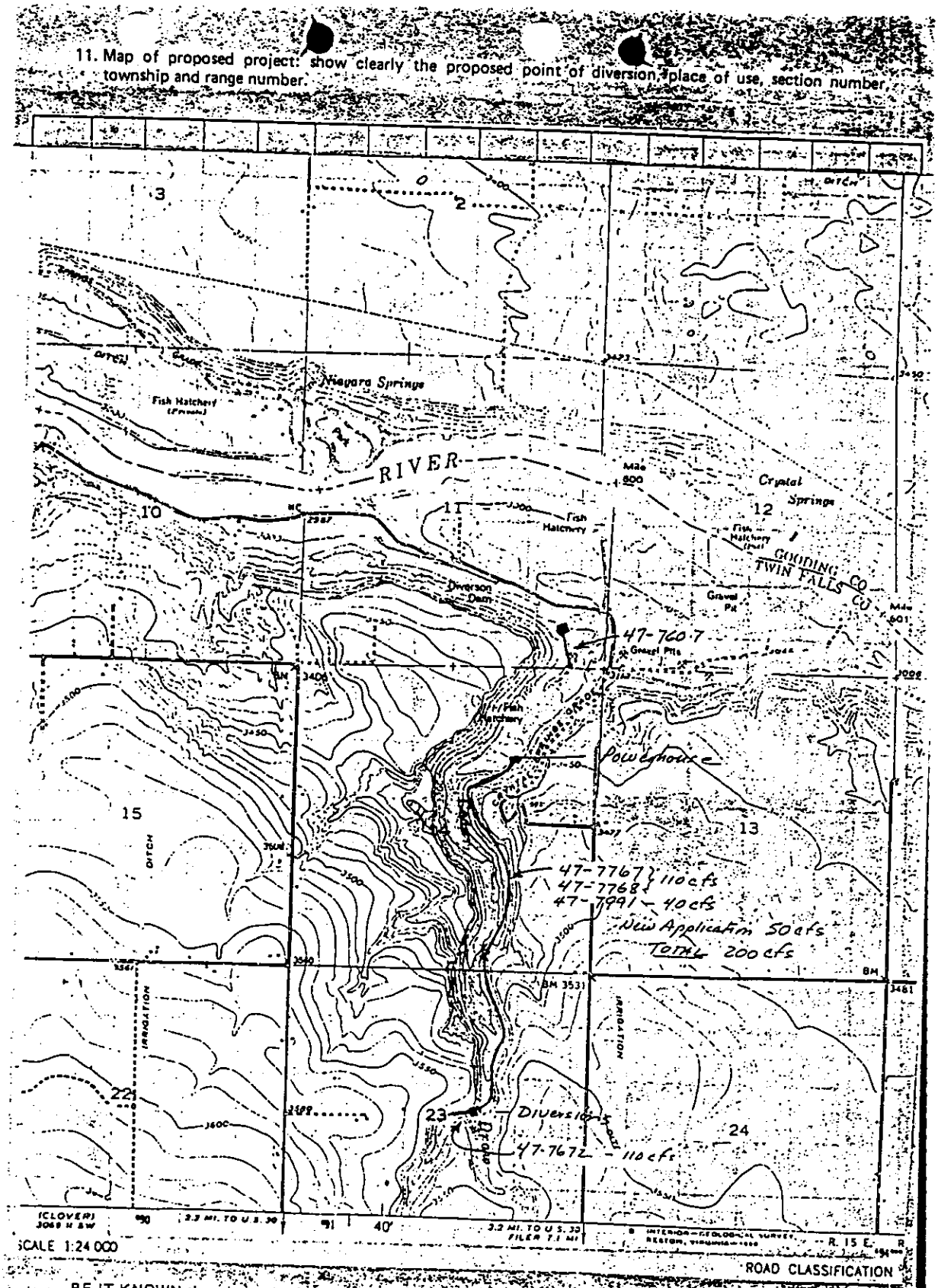
b. Who owns the land to be irrigated or place of use? Asher B. Wilson/David R. Millard

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing? Land at point of diversion and land at place of use are under lease to applicant.

10. Remarks This application is being combined with 47-7767, 47-7768, 47-7672 and 47-7991 to generate 4539 theoretical horsepower under 287 feet of head with 200 cfs of water in a single power plant.

*Note: Applications 47-7672 & 47-7767 were relinquished 10/1986 - kw 10/28/86

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



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.

Crystal Spring's Hydroelectric Company

By _____

of and for (Applicant)
Bonneville Pacific Corporation
Its General Partner

MICROFILMED

Proposed Priority 6/14/85

Received by LH Date 6/14/85 Time 9:45

Preliminary check by TB Fee $ 175.00

Receipted by [illegible] Date 6/14/85 # 36604

Publication prepared by [illegible] Date 6/27/85

Published in Times-News (Times-News, Idaho Statesman, Lewiston Tribune, Post Register)

Publication dates 7/4 + 7/11/85 / 1/2 + 1/9/86

Publication approved Mary 2 Date 7/25/85 ; 12/20/85

Protests filed by: None

Copies of protests forwarded by

Hearing held by Date

Recommended for (approval) denial by ADA

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. 47-8005, and said application is hereby APPROVED

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 November 1, 1991

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. Other: SEE ATTACHED SHEET FOR CONDITIONS d thru m.

Witness my hand this 31st day of October 1986.

Tyler D. Clayton
Chief, Operations Bureau

MICROFILMED

ATTACHMENT TO CONDITIONS OF APPROVAL

For Permit No. 47-8005

d. The issuance of this permit in no way grants any right-of-way or easement across the land of another.

e. The permit holder shall either install a measuring device or a flow measurement port or provide a certified measurement or computation of flow based upon system design to be prepared by a professional engineer.

f. This permit is subject to the provisions of Sections 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit.

g. Water used under this permit if discharged into a natural channel shall meet Idaho Water Quality Standards.

h. The diversion and use of water under this permit and any license subsequently issued is subject to review by the Director on the date(s) of expiration of any license issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

i. The water right acquired under this permit 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 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.

j. This permit does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.

k. Use of water under this permit shall be non-consumptive.

l. A separate stream alteration permit from the IDWR is required for any activity in the stream channel other than construction and/or maintenance of the diversion structure. If your proposed construction or operation involves construction of an outfall or any other work in the stream channel other than a water diversion, you must contact the Department and obtain a Stream Channel Alteration permit prior to the start of construction.

m. This permit is subject to the agreement regarding instream flow requirements, between the applicant, Idaho Department of Fish & Game, and the Federal Energy Regulatory Commission, to the extent such agreement covers matters within the jurisdiction of the Department of Water Resources.

Witness my hand this 31st day of October, 1986.

Lyle D. Taylor

Chief, Operations Bureau

AMENDED

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 47-08009

Priority: July 11, 1985

Maximum Diversion Rate: 0.10 CFS
Maximum Diversion Volume:[1] 23.4 AF

This is to certify, that CRYSTAL SPRINGS HYDROELECTRIC CO.
C/O BONNEVILLE PACIFIC CORP.
200 E. S. TEMPLE, SUITE 300
SALT LAKE CITY, UT 84111 has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated July 11, 1985; and has submitted Proof of Beneficial Use on February 3, 1987. An examination indicates that the works have a diversion capacity of .100 cfs of water from a GROUNDWATER source, and a water right has been established as follows:

BENEFICIAL USE	PERIOD OF USE	RATE OF DIVERSION	ANNUAL VOLUME
INDUSTRIAL	01/01 to 12/31	0.10 CFS	23.4 AF

LOCATION OF POINT(S) OF DIVERSION: NWNE , Sec. 14, Township 09S, Range 15E
TWIN FALLS County

PLACE OF USE: INDUSTRIAL

TWN	RGE	SEC	
09S	15E	14	NWNE

CONDITIONS/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 which 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.
4. Modifications to or variance from this license must be made within the limits of Section 42-222, Idaho Code, or the applicable Idaho law.
5. Water used under this right if discharged into a natural channel or subsurface system shall meet Idaho water quality standards.

MICROFILMED
MAY 31 1990

Jim

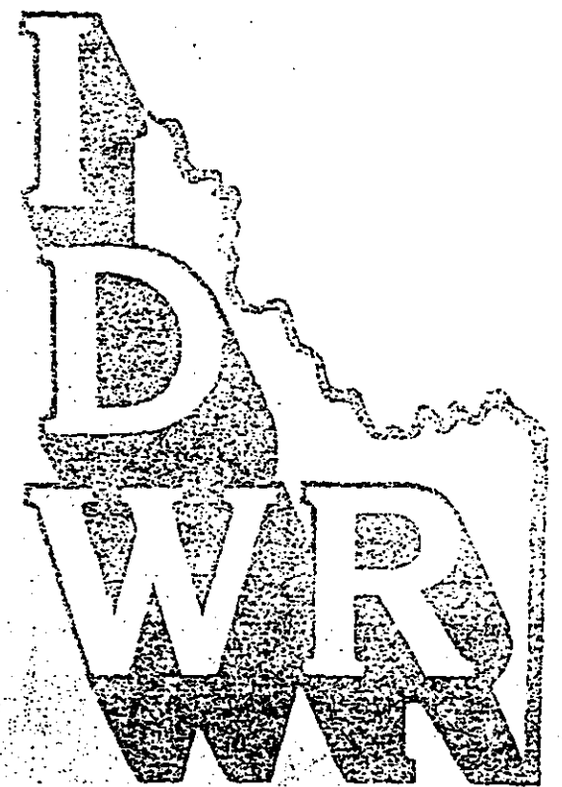
State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 47-08009

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 3RD day of MAY, 1990.

Acting for R. Keith Higginson, Director



MICROFILMED
MAY 31 1990

J·U·B

Engineers Surveyors Planners

March 10, 1995

Property Description

For

Crystal Springs Ranch

Remainder

Township 9 South, Range 15 East, Boise Meridian, Twin Falls County, Idaho;

Section 12:S1/2NW1/4SW1/4, S1/2SW1/4, Government Lot 5 and 6 and that part of Government Lot 7 and the SW1/4SE1/4 lying west of the following described line:

Beginning at a point on the South boundary of said SW1/4SE1/4 which bears South 88°52'12" East a distance of 379.76 feet from the southwest corner of said SW1/4SE1/4;

THENCE North 15°33'41" East a distance of 954.11 feet;

THENCE South 80°53'55" East a distance of 63.94 feet;

THENCE North 17°27'10" East a distance of 806.89 feet to the approximate high water mark of the Snake River and the northerly boundary of said Lot 7.

Sections 11, 12 and 14: Tract A and Block 1 of the Crystal Springs Estates Subdivision as recorded in Book 12, Page 49 of the Plat Records of Twin Falls County, Idaho; and also the NW1/4NE1/4 Section 14 except that part west of the west rim of Cedar Draw Canyon.

EXCEPT:

A parcel of land located in the SW1/4SW1/4 Section 12, Township 9 South, Range 15 East, Boise Meridian, Twin Falls County, Idaho and being more specifically described as follows:

COMMENCING at the Southwest section corner of Section 12, Township 9 South, Range 15 East, Boise Meridian;

THENCE North 2°34'14" East, 984.53 feet to the REAL POINT OF BEGINNING;

THENCE South 77°08'45" East, 113.00 feet;
THENCE North 22°47'38" East, 111.02 feet;
THENCE North 10°02'13" East, 30.05 feet;
THENCE North 76°35'05" West, 154.55 feet;
THENCE South 8°05'51" West, 30.13 feet;
THENCE South, 1°56'46" West, 112.90 feet to the REAL POINT OF BEGINNING.

AND EXCEPT

A parcel of land located in portions of Lot 7 and the NE1/4SE1/4 Section 11; Lots 9 and 10 and the NW1/4SW1/4 Section 12, all in Township 9 South, Range 15 East, Boise Meridian, Twin Falls County, Idaho and being more specifically described as follows:

COMMENCING at the Southwest Section Corner of Section 12, Township 9 South, Range 15 East, Boise Meridian;
THENCE North 7°09'05" West, 1,383.37 feet to the REAL POINT OF BEGINNING;
THENCE North 7°01'47" East, 780.97 feet;
THENCE North 84°24'21" West 22.22 feet;
THENCE North 53°44'40" West, 717.69 feet;
THENCE North 83°07'31" West, 284.71 feet;
THENCE North 10°38'43" East, 411.55 feet to the highwater line on the southerly bank of the Snake River;
THENCE Southeasterly along the southerly bank of the Snake River the following courses and distances;
South 83°45'43" East, 816.89 feet;
South 79°02'15" East, 395.36 feet;
South 53°01'23" East, 563.77 feet;
South 33°34'55" East, 143.37 feet;
South 50°33'57" East, 75.83 feet;
THENCE South 27°06'46" West, 464.20 feet;
THENCE North 81°09'24" West, 620.66 feet;
THENCE South 1°08'09" West, 699.75 feet;
THENCE North 78°38'10" West, 242.61 feet to the REAL POINT OF BEGINNING.

AND ALSO EXCEPT

A parcel of land in the S1/2SW1/4, Section 12, Township 9 South, Range 15 East, Boise Meridian, Twin Falls County, Idaho, and being more specifically described as follows:

COMMENCING at the Southwest corner of Section 12, Township 9 South, Range 15 East, Boise Meridian;

THENCE North 44°48'33" East, 1460.47 feet to the REAL POINT OF BEGINNING:

THENCE from this REAL POINT OF BEGINNING, North 3°47'50" East, 150.00 feet;

THENCE South 82°12'10" East, 290.60 feet;

THENCE South 3°47'50" West, 150.00 feet;

THENCE North 82°12'10" West, 290.60 feet to the REAL POINT OF BEGINNING.

AND ALSO EXCEPT:

A parcel of land in the NE1/4NE1/4, Section 14, Township 9 South, Range 15 East. Boise Meridian and the SE1/4SE1/4 Section 11, Township 9 South, Range 15 East, Boise Meridian, Twin Falls County, Idaho and being more specifically described as follows:

COMMENCING at the Section Corner common to Section 11, 12, 13, and 14, Township 9 South, Range 15 East, Boise Meridian;

THENCE North 1°28'00" East a distance of 110.32 feet along the east boundary of said Section 11 to the REAL POINT OF BEGINNING;

THENCE North 1°28'00" East a distance of 855.74 feet along the east boundary of said Section 11;

THENCE North 79°27'06" West a distance of 131.32 feet along the centerline of a county road;

THENCE South 5°16'41" West a distance of 539.24 feet;

THENCE South 51°09'47" West a distance of 510.97 feet;

THENCE South 45°37'48" West a distance of 567.18 feet;

THENCE South 43°20'21" West a distance of 473.32 feet;

THENCE South 42°29'20" West a distance of 99.09 feet to the west boundary of the NE1/4NE1/4 of said Section 14;

THENCE South 0°48'50" West a distance of 719.47 feet along the west boundary of the NE1/4NE1/4 of said Section 14

to the southwest corner of the NE1/4NE1/4 of said Section 14;

THENCE North 37°45'07" East a distance of 115.90 feet;
THENCE North 32°30'41" East a distance of 263.89 feet;
THENCE North 45°39'52" East a distance of 230.52 feet;
THENCE North 45°27'59" East a distance of 427.46 feet;
THENCE North 49°12'00" East a distance of 289.26 feet;
THENCE North 69°04'07" East a distance of 280.22 feet;
THENCE North 21°29'02" East a distance of 285.25 feet;
THENCE North 27°32'50" East a distance of 204.83 feet to the REAL POINT OF BEGINNING.

AND ALSO SUBJECT TO an easement for the purpose of ingress and egress over a strip of land 60 feet in width along an existing road and located in the SW1/4SW1/4 of Section 12, the SE1/4SE1/4 of Section 11, the NE1/4NE1/4 and the NW1/4NE1/4 Section 14, Township 9 South, Range 15 East of the Boise Meridian, Twin Falls County, Idaho said easement lying 30 feet on each side of the following described centerline:

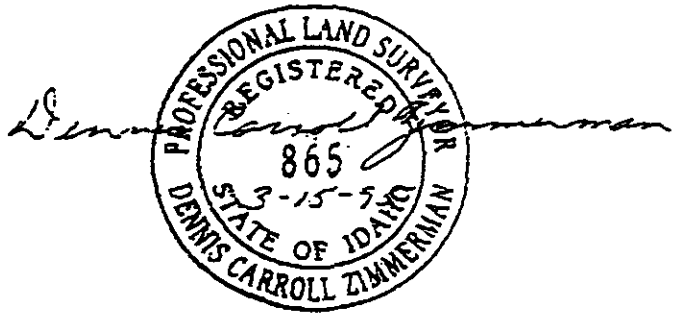
Beginning at the corner common to Sections 11, 12, 13 and 14;
THENCE North 20°31'45" East 601.33 feet to a point on the centerline of a county road and the TRUE POINT OF BEGINNING of said easement;
THENCE along said centerline the following courses and distances South 45°00'00" West 78.46 feet;
THENCE South 30°22'45" West 67.23 feet;
THENCE South 43°40'04" West 91.24 feet;
THENCE South 61°00'15" West 56.34 feet to the westerly boundary of said SW1/4SW1/4 Section 12 and easterly boundary of said SE1/4SE1/4 Section 11;
THENCE South 61°00'15" West 38.56 feet;
THENCE South 51°48'52" West 226.46 feet;
THENCE South 30°57'50" West 52.48 feet;
THENCE South 61°37'51" West 113.65 feet;
THENCE South 87°36'51" West 48.04 feet;
THENCE South 58°21'19" West 101.02 feet;
THENCE South 41°22'28" West 71.50 feet to the southerly boundary of said SE1/4SE1/4 Section 11 and the northerly boundary of said NE1/4NE1/4 Section 14;
THENCE South 41°22'28" West 185.70 feet;
THENCE South 46°43'27" West 211.52 feet;

THENCE South 49°03'41" West 239.60 feet;

THENCE South 44°25'22" West 550.64 feet to the westerly boundary of said NE1/4NE1/4 Section 14;

THENCE South 7°48'34" West 305.48 feet;

THENCE South 38°12'31" West 320.00 feet to the Southerly boundary of said NW1/4NE1/4 Section 14 and the southwesterly end of said easement.



RESERVING an easement for penstock and access road described as:

A strip of land 300.00 feet in width located in the SW 1/4 NE 1/4 and W 1/2 SE 1/4 of Section 14 and the NW 1/4 NE 1/4 Section 23, Township 9 South, Range 15 E, B.M., Twin Falls County, Idaho, said strip of land lying 100 feet westerly and 200 feet easterly of the following described line:

BEGINNING at a point on the northerly boundary of the SW 1/4 NE 1/4 of said Section 14 which point bears South 89°36'05" West 254.37 feet from the Northeast corner thereof;

THENCE South 38°13'16" West 467.86 feet to a point of curvature;

THENCE Southwesterly 123.00 feet on the arc of a curve to the right with a radius of 200.00 feet, a central angle of 35°14'12" and a chord which bears South 55°50'22" West 121.07 feet to a point of tangency;

THENCE South 73°27'29" West 356.69 feet to a point of curvature;

THENCE Southwesterly 295.42 feet on the arc of a curve to the left with a radius of 225.00 feet a central angle of 75°13'39" and a chord which bears South 35°50'40" West 274.65 feet to a point of tangency;

THENCE South 1°46'09" East 693.24 feet to a point of curvature;

THENCE Southeasterly 316.35 feet on the arc of a curve to the left with a radius of 350.00 feet a central angle of 51°47'11" and a chord which bears South 27°39'45" East 305.69 feet to a point of tangency;

THENCE South 53°33'20" East 401.63 feet to a point of curvature;

THENCE Southeasterly 295.13 feet on the arc of a curve to the right with a radius of 375.00 feet, a central angle of 45°05'36" and a chord which bears South 31°00'32" East 287.58 feet to a point of tangency;

THENCE South 8°27'44" East 600.55 feet to a point of curvature;

THENCE Southwesterly 612.95 feet on the arc of a curve to the right with a radius of 954.93 feet, a central angle of 36°46'38" and a chord which bears South 9°55'35" West 602.49 feet to a point of tangency;

THENCE South 28°18'55" West 211.58 feet to a point of curvature;

THENCE Southerly 974.90 feet on the arc of a curve to the left with a radius of 818.51 feet, a central angle of 68°14'35" and a chord which bears South 5°48'23" East 918.29 feet to a point of tangency;

THENCE South 39°55'52" East 4.26 feet to a point of curvature;

THENCE Southerly 309.14 feet on the arc of a curve to the right with a radius of 450.00 feet, a central angle of 39°21'38" and a chord which bears South 20°14'51" East 303.09 feet to a point of tangency;

THENCE South 0°34'03" East 48.88 feet to a point of curvature;

THENCE Southerly 176.70 feet on the arc of a curve to the left with a radius of 225.00 feet, a central angle of 44°59'47" and a chord which bears South 23°03'57" East 172.19 feet to a point of tangency;

THENCE South 45°33'54" East 12.20 feet to a point of curvature;

THENCE Southerly 321.15 feet on the arc of a curve to the right with a radius of 275.00 feet, a central angle of 66°54'38" and a chord which bears South 12°06'35" East 303.21 feet to a point of tangency;

THENCE South 21°20'42" West 27.27 feet to a point on the southerly boundary of said NW 1/4 NE 1/4 Section 23, which bears North 89°45'45" West 242.84 feet from the Southeast corner thereof and the southerly end of said 300 foot wide strip of land.

The sidelines shall be lengthened or shortened to intersect the northerly boundary of the SW 1/4 NE 1/4 of said Section 14 and to intersect the southerly boundary of the NW 1/4 NE 1/4 of said Section 23, which boundaries shall constitute the northerly an southerly boundaries of the herein described land.

EBERLE, BERLIN, KADING, TURNBOW & MCKLVEEN
ATTORNEYS AT LAW
CAPITOL PARK PLAZA
300 NORTH 6TH STREET
P.O. BOX 1368
BOISE, IDAHO 83701
(208) 344-8535

INVOICE NO. 65518

EIN 82-0295653

ELLENBURG, LEE
3500 LATOUCHE ST, STE 20
ANCHORAGE, AK 99504

DATE: 5/16/95

RE: LEGAL SERVICES RENDERED
Through 4/30/95
Re: SYMMS FRUIT RANCH

22030-00004 Please Return This Copy With Remittance

PROFESSIONAL SERVICES RENDERED:	
(See Itemization Attached)	480.00
DISBURSEMENTS:	
(See Itemization Attached)	11.10
TOTAL SERVICES & DISBURSEMENTS	491.10
TOTAL AMOUNT DUE	491.10

11386

ELLENBURG, INC.

89-5/1252

6-10 19 95

PAY TO THE ORDER OF Eberle Berlin etc $ 491.10

Four hundred ninety-one & 10/100 DOLLARS

First National Bank of Anchorage
MAIN BRANCH, ANCHORAGE, AK 99501

FOR

Jack Ellenburg MP

⑈011386⑈ ⑆125200060⑆ 0113 627 4⑈

TRL

RECEIVED
JUN 22 1995
THOMAS R. DANIELE

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

April 10, 1995

PHILIP E. BATT
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

CRYSTAL SPRINGS RANCH G LTD PARTNERSHIP
20924 SE 213TH ST
MAPLE VALLEY WA 98038

RE: Permit Nos. 47-07768, 47-07991, 47-08005 and
License No. 47-08009

Dear Mr. Millard:

I recently received documentation from you assigning the above rights from Crystal Springs Hydroelectric LP to Crystal Springs Ranch G Ltd Partnership.

Three of the rights addressed in your correspondence are in the permit stage and one has been licensed. In Idaho, a permit is considered personal property and must be assigned by the owner of record. A licensed right is considered real property, therefore, proof of owning the land is proof of owning the water right unless extenuating circumstances exist. Water right statute does not provide a means for changing owner of record for licensed water rights; although, I have placed your correspondence in that file.

Prior to processing the assignments of permits, we are required to obtain the following additional information:

- A completed copy of 'Affidavit for Water Rights to be Used for Power Purposes' form 205/206 (form enclosed) for each permit.
- A listing names, titles, and addresses of the officers and/or partners of Crystal Springs Ranch G Ltd Partnership.

Also, as of July 1, 1994, each assignment of permit must be accompanied by a $25.00 filing fee. Assignments of permits are not acceptable without filing fees.

I am returning your documentation to you. Please resubmit the assignments with the filing fees and the required additional information to my attention at the above address.

If you have questions, please contact me at (208) 327-944.

Sincerely,

Cindy Zimmerman

Cindy Zimmerman
Water Resource Agent

Enclosures

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

PHILIP E. BATT
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

March 15, 1995

CRYSTAL SPRINGS HYDROELECTRIC L P
11225 SE 6TH STE 100
BELLEVUE WA 98004

RE: Permit Nos. 47-07768, 47-07991, 47-08005 and
Water Right No. 47-08009

Dear Mr. Keehn:

This letter is to confirm that the assignments of ownership on the above referenced permits are satisfactory. We have modified our computer records to reflect this change in ownership.

In Idaho, a licensed water right is considered real property; therefore, proof of owning the land is proof of owning the water right unless specifically excluded in the sale. We have placed your correspondence in the file for future reference.

If you have any questions regarding this matter, please feel free to contact us.

Sincerely,

JIM JOHNSON, Manager
Water Right Permits Section

JJ:cz

[illegible]

MAR 2 8 1995

OWNER CODE	NAME & ADDRESS	PRIORITY DATE	WATER USE	USE PERIOD FROM	USE PERIOD TO	DIVERSION RATE	DIVERSION VOLUME
C	CRYSTAL SPRINGS HYDROELECTRIC L P 11225 SE 6TH STE 100 BELLEVUE WA 98004 (206) 637-1251	12/27/1984	POWER	01-01	12-31	40.000 CFS	
				TOTAL DIVERSION:		40.000 CFS	

Water Source: CEDAR DRAW Tributary to: SNAKE RIVER Stage: PERMIT

Point(s) of Diversion: T09S R15E S23 SWNE TWIN FALLS County

Place of use Legal Description for: POWER

			NE				NW				SW				SE			
			NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE
T	R	S	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac	Lt Ac
09S	15E	14			P													

Pou County: TWIN FALLS

Other Rights: 47-7768/8005.

Conditions of Approval:

004 - The issuance of this right in no way grants any right-of-way - or easement across the land of another.

01F - The right holder shall either install a measuring device or a - flow measurement port or provide a certified measurement or - computation of flow based upon system design to be prepared by a - professional engineer.

08A - This right is subject to the provisions of Sections 42-205 - through 42-210, Idaho Code, restricting the sale, transfer, - assignment, or mortgage of this right. Failure to comply with - these provisions is cause for immediate cancellation of this - right.

09E - Water used under this right if discharged into a natural - channel or subsurface system shall meet Idaho Water Quality - Standards.

17G - The diversion and use of water under this right and any - license subsequently issued is subject to review by the Director - on the date(s) of expiration of any license issued by the - Federal Energy Regulatory Commission. Upon appropriate findings - relative to the interest of the public, the Director may cancel - all or any part of the use authorized herein and may revise, - delete or add conditions under which the right may be exercised.

17K - The water right acquired under this permit 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 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.

Conditions of Approval:
025 - This right does not constitute Idaho Public Utilities Commission
- or Federal Energy Regulatory Commission approval that may be
- required.
027 - Use of water under this right shall be non-consumptive.
030 - A separate stream alteration permit from the IDWR is required
- for any activity in the stream channel other than construction
- and/or maintenance of the diversion structure. If the proposed
- construction or operation involves construction of an outfall or
- any other work in the stream channel other than a water
- diversion, the right holder shall contact the Department and
- obtain a Stream Channel Alteration permit prior to the start of
- construction.
016 - See remarks for additional conditions of approval.

Remarks: FEET OF HEAD = 267. HORSEPOWER = 978.
THIS PERMIT IS SUBJECT TO THE AGREEMENT REGARDING INSTREAM FLOW REQUIREMENTS, BETWEEN THE APPLICANT, IDF&G, & FERC, TO THE EXTENT SUCH AGREEMENT COVERS MATTERS WITHIN THE JURISDICTION OF IDWR.

Dates:

App. Received:	10/07/1986	Priority Date:	12/27/1984
Proof Due Date:	11/01/1991	Proof Made Date:	02/03/1987
Exam Made Date:	10/07/1986	Exam Sent to S.O.:	
Licensed Date:			

Misc: Water District Number: Field Exam Fee: N (Not Required)

Comments: Date: 03/15/1995 User-ID: CZIMMERM Subject: CORPORATE OFFICERS
Crystal Springs Hydroelectric Ltd. Ptn. is owned by Gateway Energy Inc.
The corporate officers of Gateway Energy Inc. are Dell Keehn and William N Prater Jr.

Audit: 09/22/87 05/28/88 CONVERT 10/31/89 CURTIS

RECEIVED
MAR 0 2 1995

RAY, QUINNEY & NEBEKER
PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

ALONZO W. WATSON, JR.
STEPHEN B. NEBEKER
HERSCHEL J. SAPERSTEIN
MITCHELL MELICH
DON B. ALLEN
CLARK P. GILES
ROBERT M. GRAHAM
NARRVEL E. HALL
JAMES L. WILDE
HERBERT C. LIVSEY
WILLIAM A. MARSHALL
PAUL S. FELT
D. JAY CURTIS
GERALD T. SNOW
ALAN A. ENKE
WESTON L. HARRIS
JONATHAN A. DIBBLE
SCOTT HANCOCK CLARK
STEVEN H. GUNN
JAMES S. JARDINE
ALLAN T. BRINKERHOFF
JANET HUGIE SMITH
DOUGLAS MATSUMORI
ROBERT P. HILL
RICHARD G. ALLEN
FLOYD ANDREW JENSEN
ALLEN L. ORR
BRAD D. HARDY
A. ROBERT THORUP
JOHN P. HARRINGTON
BRENT W. TODD
LARRY G. MOORE
DALE M. OKERLUND
BRUCE L. OLSON
JOHN A. ADAMS
DOUGLAS M. MONSON
CRAIG CARLILE
JAMES M. DESTER
DEE R. CHAMBERS
KEVIN G. GLADE
LESTER K. ESSIG
IRA B. RUBINFELD
BOYD A. FERGUSON
STEVEN T. WATERMAN
STEPHEN C. TINGEY
KELLY J. FLINT
JOHN R. MADSEN
STEVEN J. AESCHBACHER
KEITH A. KELLY
MARK M. BETTILYON
RICK L. ROSE
RICK B. HOGGARD
LISA A. YERKOVICH
BRENT D. WRIDE
MICHAEL E. BLUE
SCOTT A. HAGEN
STEVEN W. CALL
CAMERON M. HANCOCK
ELAINE A. MONSON
SYLVIA IANNUCCI
KATIE A. ECCLES
GEORGE S. ADONDAKIS
DAVID A. CUTT
CALVIN C. CURTIS
ROBERT O. RICE
DIANNA R. WOOLSEY
FREDERICK R. THALER
JOHN W. MACKAY

400 DESERET BUILDING
79 SOUTH MAIN STREET
P. O. BOX 45385
SALT LAKE CITY, UTAH 84145-0385
TELEPHONE (801) 532-1500
FACSIMILE NO. (801) 532-7543

210 FIRST SECURITY BANK BLDG.
92 NORTH UNIVERSITY AVENUE
PROVO, UTAH 84601-4420
TELEPHONE (801) 226-7210
FACSIMILE NO. (801) 375-8379

OF COUNSEL
M. JOHN ASHTON

RECEIVED
MAR 15 1995
Department of Water Resources

March 2, 1995

HAND DELIVERED

Cindy Zimmerman
Idaho Department of Water Resources
1301 North Orchard Street
Boise, Idaho 83720

Re: Crystal Springs Hydroelectric Project

Dear Cindy:

This firm represents First Security Bank of Utah, National Association ("First Security Utah") and First Security Bank of Idaho, N.A., as trustee ("First Security Idaho") in connection with certain transactions involving the above-referenced project located in Twin Falls County, Idaho (the "Project"). In connection with its operation of the Project, Crystal Springs Hydroelectric Company, an Idaho general partnership ("Seller"), obtained the following water permits from the Idaho Department of Water Resources (the "Department"): Permit Nos. 47-7768, 47-7991, 47-8005 and 47-8009 (the "Permits"). Seller also apparently received the Department's approval of Application for Permit to Alter Stream Channel No. 47-S-70 (the "Application"). On July 8, 1988, Seller executed a Collateral Assignment of Water Rights, pursuant to which Seller collaterally assigned the Permits and the Application to First Security Idaho, as trustee for the benefit of First Security Utah, as security for a loan made by First Security Utah to Seller.

Seller is now selling the Project to Crystal Springs Hydroelectric, L.P., a Washington limited partnership ("Purchaser"), and in connection with that sale, First Security Utah and First Security Idaho have agreed to release their liens on the Permits and the Application, pursuant to the enclosed original Release of Collateral Assignment of Water Rights.

RECEIVED
MAR 28 1995

In accordance with our telephone conversations yesterday and this morning, please reflect the banks' release of the Permits and the Application (to the extent necessary) on the Department's records. Also enclosed is a check in the amount of $75.00 to cover certain processing charges. If you have questions concerning the foregoing or need any other document-ation in this regard, please give me a call.

Very truly yours,

RAY, QUINNEY & NEBEKER

James M. Dester

JMD/rp
Enclosure
cc: Walter P. Zoellner, First Security Utah
Sharon Marchetti, First Security Idaho

115785.01/jmd

MAR 28 1995

WHEN RECORDED, MAIL TO:

M. Kathrine Julin
JULIN, FOSSO, SAGE, McBRIDE & MASON
1001 Fourth Avenue Plaza, Suite 3900
Seattle, Washington 98154-1084

RELEASE OF COLLATERAL ASSIGNMENT OF WATER RIGHTS

This Release of Collateral Assignment of Water Rights (the "Release") is executed as of the ____ day of March, 1995, by FIRST SECURITY BANK OF IDAHO, N.A. ("Trustee") and FIRST SECURITY BANK OF UTAH, N.A. ("Utah Bank").

Recitals

A. On July 7, 1988, Crystal Springs Hydroelectric Company, an Idaho general partnership ("Crystal"), entered into a Collateral Assignment of Water Rights with Trustee and Utah Bank (the "Original Assignment"), pursuant to which Crystal assigned certain water permits and rights (the "Permits") to Trustee for the benefit of Utah Bank, all relating to the real property described in EXHIBIT A attached hereto (the "Property"). The Original Assignment was recorded on July 8, 1988, as instrument no. 941450, in the official records of the Twin Falls County Recorder, Twin Falls County, Idaho. The Original Assignment was amended pursuant to an Amendment to Collateral Assignment, dated as of December 31, 1992, and recorded on March 24, 1993, as instrument no. 1993003959, and as so amended the Original Assignment is hereinafter referred to as the "Assignment."

B. Trustee and Utah Bank have agreed to release the Permits and the Property from the Assignment and terminate the Assignment pursuant to this Release.

Agreement

In consideration of the foregoing, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Trustee and Utah Bank hereby release the Permits and the Property from the lien of the Assignment and fully and completely release and terminate the Assignment.

EXECUTED as of the date first written above.

FIRST SECURITY BANK OF IDAHO,
NATIONAL ASSOCIATION

By: _____
Its: Vice President

FIRST SECURITY BANK OF UTAH,
NATIONAL ASSOCIATION

By: _____
Its: AVP

28 1995

STATE OF IDAHO)
: ss.
COUNTY OF Ada)

On this 1st day of March, 1995, personally appeared before me Teresa Yragui, the Trust Officer of First Security Bank of Idaho, National Association, a national banking association, who acknowledged to me that he executed the within and foregoing instrument by authority of the bylaws of said association or a resolution duly adopted by the board of directors of said association, and said _____ duly acknowledged to me that said association executed the same.

Notary Public
Residing at: Boise, Idaho

My Commission Expires:
6/7/98

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On this 1st day of March, 1995, personally appeared before me Walter P. Zoellner the Asst. Vice Pres of First Security Bank of Utah, National Association, a national banking association, who acknowledged to me that he executed the within and foregoing instrument by authority of the bylaws of said association or a resolution duly adopted by the board of directors of said association, and said Walter P. Zoellner duly acknowledged to me that said association executed the same.

Notary Public
Residing at: Salt Lake City, Utah

My Commission Expires:
8-20-98

Notary Public
ROSALIE PARR
79 South Main
Salt Lake City, Utah 84111
My Commission Expires
August 20, 1998
State of Utah

115453.01

MAR 28 1995

EXHIBIT A

PARCEL I

A parcel of land located in the Northwest Quarter of the Northeast Quarter of Section 14, Township 9 South, Range 15 East of the Boise Meridian, Twin Falls County, Idaho, more particularly described as follows:

BEGINNING at the Southeast corner of said NW¼NE¼; THENCE South 89° 36' 05" West 420 feet, more or less, along the Southerly boundary of said NW¼NE¼ to the westerly bank of Cedar Creek; THENCE Northeasterly along the Westerly bank of Cedar Creek to the Easterly boundary of said NW¼NE¼; THENCE South 0° 58' 50" West 710 feet, more or less, to the Point of Beginning.

PARCEL II

A strip of land 300.00 feet in width located in the SW¼NE¼ and W½SE¼ of Section 14 and the NW¼NE¼ Section 23, Township 9 South, Range 15 East of the Boise Meridian, Twin Falls County, Idaho, said strip of land lying 100.00 feet Westerly and 200 feet Easterly of the following described line;

BEGINNING at a point on the Northerly boundary of the SW¼NE¼ of said Section 14 which point bears South 89° 36' 05" West 254.37 feet from the Northeast corner thereof; THENCE South 38° 13' 16" West 467.86 feet to a point of curvature; THENCE Southwesterly 123.00 feet on the arc of a curve to the right with a radius of 200.00 feet, a central angle of 35° 14' 12" and a chord which bears South 55° 50' 22" West 121.07 feet to a point of tangency; THENCE South 73° 27' 29" West 356.69 feet to a point of curvature; THENCE Southwesterly 295.42 feet on the arc of a curve to the left with a radius of 225.00 feet a central angle of 75° 13' 39" and a chord which bears South 35° 50' 40" West 274.65 feet to a point of tangency; THENCE South 1° 46' 09" East 693.24 feet to a point of curvature; THENCE Southeasterly 316.35 feet on the arc of a curve to the left with a radius of 350.00 feet a central angle of 51° 47' 11" and a chord which bears South 27° 39' 45" East 305.69 feet to a point of tangency; THENCE South 53° 33' 20" East 401.63 feet to a point of curvature; THENCE Southeasterly 295.13 feet on the arc of a curve to the right with a radius of 375.00 feet, a central angle of 45° 05' 36" and a chord which bears South 31° 00' 32" East 287.58 feet to a point of tangency; THENCE South 8° 27' 44" East 600.55 feet to a point of curvature; THENCE Southwesterly 612.95 feet on the arc of a curve to the right with a radius of 954.93 feet, a central angle of 36° 46' 38" and a chord which bears South 9° 55' 35" West 602.49 feet to a point of tangency; THENCE South 28°

MAR 28 1995

18' 55" West 211.58 feet to a point of curvature; THENCE Southerly 974.90 feet on the arc of a curve to the left with a radius of 818.51 feet, a central angle of 68° 14' 35" and a chord which bears South 5° 48' 23" East 918.29 feet to a point of tangency; THENCE South 39° 55' 52" East 4.26 feet to a point of curvature; THENCE Southerly 309.14 feet on the arc of a curve to the right with a radius of 450.00 feet, a central angle of 39° 21' 38" and a chord which bears South 20° 14' 51" East 303.09 feet to a point of tangency; THENCE South 0° 34' 03" East 48.88 feet to a point of curvature; THENCE Southerly 176.70 feet on the arc of a curve to the left with a radius of 225.00 feet, a central angle of 44° 59' 47" and a chord which bears South 23° 03' 57" East 172.19 feet to a point of tangency; THENCE South 45° 33' 54" East 12.20 feet to a point of curvature; THENCE Southerly 321.15 feet on the arc of a curve to the right with a radius of 275.00 feet, a central angle of 66° 54' 38" and a chord which bears South 12° 06' 35" East 303.21 feet to a point of tangency; THENCE South 21° 20' 42" West 27.27 feet to a point on the Southerly boundary of said NW¼NE¼ Section 23 which bears North 89° 45' 45" West 242.84 feet from the Southeast corner thereof and the Southerly end of said 300 foot wide strip of land.

The sidelines shall be lengthened or shortened to intersect the Northerly boundary of the SW¼NE¼ of said Section 14 and to intersect the Southerly boundary of the NW¼NE¼ of said Section 23, which boundaries shall constitute the Northerly and Southerly boundaries of the herein described land.

PARCEL III

A strip of land 80 feet in width located in the SW¼NE¼ and SE¼ Section 14 and N½NE¼ Section 23, Township 9 South, Range 15 East of the Boise Meridian, Twin Falls County, Idaho, said strip of land lying 30.00 feet Easterly and 50 feet Westerly of the following described line;

BEGINNING at a point on the Northerly boundary of said SW¼NE¼ which bears South 89° 36' 05" West 178.21 feet from the Northeast corner thereof; THENCE South 19° 31' 57" West 382.94 feet; THENCE South 2° 26' 27" East 502.69 feet; THENCE South 72° 15' 19" East 250.65 feet; THENCE South 0° 44' 09" West 985.02 feet; THENCE South 33° 50' 35" East 397.95 feet; THENCE South 5° 25' 49" West 2,579.11 feet; THENCE South 0° 21' 40" West 500.00 feet to a point on the Southerly boundary of the NW¼NE¼ Section 23 which bears North 89° 45' 45" West 30.00 feet from the Southeast corner thereof and the South end of said 80 foot wide strip of land.

The sidelines shall be lengthened or shortened to intersect the Northerly boundary of the SW¼NE¼ of said Section 14 and to intersect the Southerly boundary of the NW¼NE¼ of said Section 23, which boundaries shall constitute the Northerly and Southerly boundaries of the herein described land.

FEB 28 1995

PARCEL IV

A parcel of land located in the SW¼NE¼ of Section 23, Township 9 South, Range 15 East of the Boise Meridian, Twin Falls County, Idaho, more particularly described as follows:

BEGINNING at the northeast corner of said Section 23; THENCE South 0° 15' 05" West 1321.07 feet to the southeast corner of the NE¼NE¼ of said Section 23; THENCE North 89° 45' 45" West 1325.14 feet to the northeast corner of said SW¼NE¼, Section 23, and the True Point of Beginning; THENCE South 0° 21' 40" West 40.00 feet to a point on the east rim of Cedar Draw Canyon; THENCE southerly along said east rim of Cedar Draw Canyon, the following courses and distances:

South 17° 21' 44" West 232.96 feet;
THENCE South 38° 18' 31" West 254.88 feet;
THENCE South 7° 56' 36" West 217.08 feet;
THENCE South 19° 02' 58" East 235.92 feet;
THENCE South 0° 43' 47" West 157.01 feet;
THENCE South 50° 41' 23" West 192.57 feet;
THENCE South 57° 52' 30" West 203.09 feet;
THENCE South 30° 52' 56" West 36.14 feet to a point on the southerly boundary of said SW¼NE¼ of Section 23; THENCE North 89° 44' 43" West 542.00 feet along the southerly boundary of said SW¼NE¼ to a point on the westerly rim of said Cedar Draw Canyon; THENCE Northerly along the westerly rim of said Cedar Draw Canyon the following courses and distances:

North 60° 42' 28" East 344.61 feet;
THENCE North 51° 27' 51" East 144.46 feet;
THENCE North 22° 37' 12" East 65.00 feet;
THENCE North 10° 20' 04" West 345.61 feet;
THENCE North 0° 50' 04" East 206.02 feet;
THENCE North 15° 00' 40" West 185.32 feet;
THENCE North 28° 48' 39" East 91.30 feet;
THENCE North 7° 38' 49" West 197.06 feet to a point on the northerly boundary of said SW¼NE¼ of Section 23; THENCE South 89° 45' 45" East 715.00 feet to the northeast corner of said SW¼NE¼ and the True Point of Beginning.

MAR 28 1995

Weatherly

February 17, 1995

RECEIVED
FEB 21 1995
Department of Water Resources

Ms. Sharla Curtis
Water Rights Permits Section
State of Idaho
Department of Water Resources
1301 North Orchard Street, Statehouse Mall
Boise, Idaho 83720-9000

Re: Water Right Nos. 47-07991, 47-08005, and 47-07768

Dear Ms. Curtis:

Enclosed are what I hope are the appropriate assignment forms for the transfer of the Crystal Springs Hydroelectric Company permits to Crystal Springs Hydroelectric L.P. Also enclosed is the affidavit required of the Twin Falls Canal Company. If there are any questions regarding their affidavit please call the manager of the Twin Falls Canal Company, Mr. Vince Alberdi, at 208-733-6731.

We would like to close this acquisition before February . I realize that Monday is a holiday but we would request expedited treatment if it is possible. If a document is omitted, please call me and we will attempt to immediately address the problem.

We appreciate your assistance.

Very truly,

Dell E. Keehn

MAR 28 1995

11225 S.E. 6th
Bellevue, WA 98004
FAX (206) 455-0497
(206) 453-0500

RECEIVED
FEB 21 1995
Department of Water Resources

Form 208/208
4/85

State of Idaho
Department of Water Resources

A47-07768
A47-07991
A47-08009/08005
Water Right No.

AFFIDAVIT FOR WATER RIGHTS TO BE USED FOR POWER PURPOSES

A. Establishment of Residency: *(Complete either 1, or 2).*

1. Individual Applicant or Individual Members of a Partnership:

I, _____ (name) of _____ (city),

County of _____, State of Idaho, being duly sworn, do hereby certify that I am a bona fide resident of the State of Idaho.

2. Corporation:

I, VINCE ALBERDI (name) of Twin Falls (city),

County of Twin Falls, State of Idaho, being duly sworn, depose and say: That I am the designated registered agent of the Twin Falls Canal Company (name of corporation); that as such I am in charge of the registered office of the said corporation as required by Section 30-1-12, Idaho Code, at Twin Falls (city), Idaho, wherein are kept the corporate records required by Section 30-1-52, Idaho Code; and that Twin Falls Canal Company (name of corporation) is a corporation qualified to do business in the State of Idaho under the laws of the State of Idaho.

B. Ownership of Facilities: *(To be completed for hydropower projects only)*

The hydropower facility to be developed pursuant to the attached Application for Permit:

(check one)

☐ Will not utilize existing man-made irrigation facilities such as a dam or a canal.

☐ Will utilize existing man-made irrigation facilities such as a dam or a canal, and permission of the owner is documented in an affidavit attached hereto.

☒ Will utilize existing man-made irrigation facilities such as a dam or a canal, and the owner of the facilities is the signee of this affidavit.

Applicant

State of Idaho)
County of Twin Falls) ss.

On this 17 day of February, 19 95, personally appeared before me the signer(s) of the above instrument, who duly acknowledged to me that he (she) (they) executed the same.

Notary Public residing at Twin Falls

seal

My commission expires:

5/10/97

State of Idaho

Department of State

RECEIVED
FEB 21 1995
Department of Water Resources

CERTIFICATE OF REGISTRATION
OF

CRYSTAL SPRINGS HYDROELECTRIC, L.P.
dba CRYSTAL SPRINGS HYDROELECTRIC, LIMITED PARTNERSHIP
File Number L 2694

I, PETE T. CENARRUSA, Secretary of State of the State of Idaho, hereby certify that duplicate originals of an Application of CRYSTAL SPRINGS HYDROELECTRIC, L.P. for Registration in this State, duly signed and verified pursuant to the provisions of the Idaho Limited Partnership Act, have been received in this office and are found to conform to law.

ACCORDINGLY and by virtue of the authority vested in me by law, I issue this Certificate of Registration to CRYSTAL SPRINGS HYDROELECTRIC, L.P. to transact business in this State under the name CRYSTAL SPRINGS HYDROELECTRIC, LIMITED PARTNERSHIP and attach hereto a duplicate original of the Application for Registration.

Dated: February 10, 1995

GREAT SEAL OF THE STATE OF IDAHO

Pete T. Cenarrusa
SECRETARY OF STATE

By Sheryl Bowles

MAR 28 1995

APPLICATION FOR REGISTRATION OF FOREIGN LIMITED PARTNERSHIP

FEB 10 10 18 AM '95

SECRETARY OF STATE

To the Secretary of State of Idaho:

Pursuant to the provisions of Chapter 2, Title 53, Idaho Code, the undersigned Limited Partnership hereby applies for registration to transact business in your State, and for that purpose submits the following statement:

1. The name of the limited partnership is Crystal Springs Hydroelectric, L.P.

2. The name which it shall use in Idaho is Crystal Springs Hydroelectric, Limited Partnership

(*Must include, without abbreviation, the words "Limited Partnership."*)

3. It is organized under the laws of the State of Washington

4. The date of its formation is October 31, 1994

5. The address of its registered or principal office in the state or country under the laws of which it is organized is 11225 SE 6th Street, Suite 100, Bellevue, WA 98004

6. The name and street address of its proposed registered agent in Idaho are MR. ROBERT ALLISON 140 SPUR LANE KETCHUM, IDAHO 83340

7. The address at which a list of the names, addresses and contributions of the limited partners is kept is: 11225 SE 6th Street, Suite 100, Bellevue, WA 98004

The limited partnership agrees to keep the list until its registration is cancelled or withdrawn.

8. The name and business address of each general partner are:

Name	Address
Gateway Energy, Inc.	11225 SE 6th Street, Suite 100, Bellevue, WA 98004

(Continued on reverse)

Submit application and certificate to:

Secretary of State
Corporations Division
700 West Jefferson Room 203
PO Box 83720
Boise ID 83720-0080

Secretary of State use only

IDAHO SECRETARY OF STATE
19950210 0900 63556 2
CK #: 22748 CUST# 44440
CORP
1@ 100.00= 100.00
MAR 28 1995

ARLP793 File Two Copies Fee: $100 if typed with no attachments
$120 if not typed or if attachments are includ

State of Idaho

Department of State

RECEIVED
FEB 21 1995
Department of Water Resources

CERTIFICATE OF AUTHORITY
OF

GATEWAY ENERGY, INC.
File number C 109398

I, PETE T. CENARRUSA, Secretary of State of the State of Idaho, hereby certify that duplicate originals of an Application of GATEWAY ENERGY, INC. for a Certificate of Authority to transact business in this State, duly signed and verified pursuant to the provisions of the Idaho Business Corporation Act, have been received in this office and are found to conform to law.

ACCORDINGLY and by virtue of the authority vested in me by law, I issue this Certificate of Authority to GATEWAY ENERGY, INC. to transact business in this State under the name GATEWAY ENERGY, INC. and attach hereto a duplicate original of the Application for such Certificate.

Dated: February 10, 1995

GREAT SEAL OF THE STATE OF IDAHO

Pete T. Cenarrusa
SECRETARY OF STATE

MAR 28 1995

By

APPLICATION FOR CERTIFICATE OF AUTHORITY

(Profit Corporation)

FEB 10 10 18 AM '95

To the Secretary of State of Idaho

Pursuant to Section 30-1-110, Idaho Code, the undersigned Corporation hereby applies for a Certificate of Authority to transact business in your State, and for that purpose submits the following statement:

1. The name of the corporation is Gateway Energy, Inc.

2. The name which it shall use in Idaho is Gateway Energy, Inc.

(To be used only when required to avoid a conflict with a name already on file. Must be accompanied by a Board of Directors resolution adopting assumed name in Idaho.)

3. It is incorporated under the laws of the State of Washington

4. The date of its incorporation is October 26, 1994 and the period of its duration, if other than perpetual, is n/a

5. The address of its principal office in the state or country under the laws of which it is incorporated is 11225 SE 6th Street, Suite 100, Bellevue, WA 98004

6. The address to which correspondence should be addressed, if different than item 5, is same

7. The street address of its proposed registered office in Idaho is 140 SPUR LANE KETCHUM, IDAHO, and the name of its proposed registered agent in Idaho at that address is MR. ROBERT ALLISON

8. The purpose or purposes which it is proposed to pursue in the transaction of business in Idaho are: operation of a hydroelectric generating facility known as Crystal Springs Hydroelectric Project (also known as Cedar Draw Hydroelectric Project) located in Twin Falls County, Idaho

(Continued on reverse)

Submit applications and certificate of status to:

Office of the Secretary of State
Division of Corporations
P.O. Box 83720
Boise, Idaho 83720-0080

Secretary of State use only

IDAHO SECRETARY OF STATE
03/28/1995 09:00 63551 2
CK #: 22739 CUST# 44440
CORP
1@ 100.00= 100.00
MAR 28 1995

ACA593 File Two Copies along with a Certificate of Corporate Status or Existence

Fee: $100 if typed with no attachments
$120 if not typed or if attachments are included

9. The names and respective addresses of its directors and officers are:

Name	Office	Address
Dell E. Keehn	President, Secretary, Treasurer & Director	11225 SE 6th St., #100, Bellevue, WA 98004
William N. Prater, Jr.	Vice President	11225 SE 6th ST., #100, Bellevue, WA 98004

10. The corporation accepts and shall comply with the provisions of the Constitution and the laws of the State of Idaho.

11. This application is accompanied by a Certificate of Corporate Status or Existence, dated within 90 days, duly authenticated by the proper officer of the state or country under the laws of which it is incorporated.

Dated: 2/2/95

GATEWAY ENERGY, INC.
(Corporation name)

By _____
its President/~~Vice President~~ (please specify)

and _____
its Secretary/~~Assistant Secretary~~ (please specify)

STATE OF WASHINGTON)
) ss:
COUNTY OF KING)

I, William Prater, a notary public, do hereby certify that on this 2ND day of FEBRUARY, 19 95, personally appeared before me Dell E. Keehn, who being by me first duly sworn, declared that (s)he is the President of Gateway Energy, Inc.

that (s)he signed the foregoing documents as President of the corporation and that the statements therein contained are true.

WILLIAM N. PRATER NOTARY PUBLIC STATE OF WASHINGTON 11-30-96

_____
Notary Public

ACA583
Profit

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

January 27, 1995

PHILIP E. BATT
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

Robert K. Mouritsen
Far West Capital
921 Executive Park Dr., Suite B
Salt Lake City, UT 84117

RE: Water Right Nos. 47-07768, 47-07991, 47-08005 and 47-08009

Dear Mr. Mouritsen:

A copy of your January 20, 1995 letter has been included in each of the above referenced water right files. In response to your letter, I offer the following.

Right No. 47-08009 is a license; a water right license is considered real property and is automatically transferred to the new owner unless specifically withheld in the sale. The department does not re-issue licenses for the purpose of showing name changes nor is any other action required to change departmental records for this right since the department does not attempt to keep records of the chain of ownership for licenses.

The remaining three rights are permits which are considered personal property, therefore, departmental records need to be updated to reflect changes in ownership. I have enclosed the appropriate assignment forms for this purpose along with Form 205/206. This form is required for all power filings and should be submitted for each of these permits.

Once the assignment forms and affidavits are received by the department, the assignments will be reviewed for acceptability and approval.

And finally, the Snake River Basin Adjudication Claims which have been filed on three of the above rights require updating in terms of ownership change. The regulations governing the adjudication process require that the chain of ownership is tracked for their processing. Therefore, I have enclosed the form to be used for this purpose as well.

If I can be of further assistance, please let me know.

Sincerely,

Sharla Curtis

SHARLA CURTIS
Water Right Permits Section

Enclosures

RECEIVED
MAR 28 1995

RECEIVED
JAN 2 3 1995
Department of Water Resources

Far West Capital

January 20, 1995

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

Re: Water Rights 47-07768
47-07991
47-08005
47-8009

Dear Mr. Johnson:

On September 22, 1994 you sent us a letter explaining the status of water rights 47-07768, 47-07991 and 47-08005. On September 12, 1994 Gary Spackman of your office sent us a letter explaining the status of water right 47-8009. Copies of those letters are enclosed for your convenience.

We are in the process of selling the Crystal Springs Hydroelectric project to Crystal Springs Hydroelectric, L.P., a Washington limited partnership and desire the consent of your department to the assignment of these water rights and any other permits or rights that affect the facility to such entity.

Could you please sign below acknowledging your consent thereto and advise us if there are any other forms or procedure necessary with your office to change the licensee as above stated.

Your prompt acknowledgment and attention in this matter are greatly appreciated. If you have any questions please call either me or Mr. Dell Keehn on behalf of the assignee at (206) 637-1251.

Sincerely,

Robert K. Mouritsen

Robert K. Mouritsen
Associate General Counsel

RKM:hs

cc: Dell Keehn
Thomas A. Quinn
Alan O. Melchior

921 Executive Park Drive, Suite B · Salt Lake City, Utah 84117 · (801) 268-4444 · Fax: (801) 266-5155

The undersigned hereby acknowledges and consents to Crystal Springs Hydroelectric Company's assigning Water Permit Nos. 47-07768, 47-07991, 47-08005 and 47-8009 and any other permits or rights that affect the facility to Crystal Springs Hydroelectric, L.P. and to such entity becoming the new Licensee.

Idaho Department of Water Resources

By: _____

Its: _____

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

September 22, 1994

Crystal Springs Hydroelectric Co.
921 Executive Park Dr. #3
Salt Lake City, Utah
84117

Dear Sir;

Per your request on the status of water rights 47-07768, 47-07991 and 47-08005, I offer the following information.

The referenced water rights still have permit status and are ready to be licensed. The reason the licenses have not been issued is because of a backlog of permits waiting for licensing.

The permit holder has completed all necessary development requirements and the fact that the rights are still permits in no way jeopardizes the validity of the rights. There is no other action that the permit holder can or needs to do at this time.

The Department will issue licenses for these rights as soon as possible and will contact you when this is done.

If you have any further questions or if I can assist you in any way please let me know. My phone number is 208-327-7947.

Sincerely,

Jim Johnson, Manager
Water Permits Section

MAR 2 8 1995

State of Id o
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

January 14, 1992

RE: Water Right Nos. 47-7768/7991/8005/8009

Douglas M. Monson
Ray, Quinney & Nebeker
PO Box 45385
Salt Lake City, UT 84145-0385

Dear Mr. Monson:

I have received your correspondence dated December 27, 1991 concerning the above referenced water rights. I offer the following in response.

Water Right 47-8009 is a licensed right. A license is considered real property; proof of owning the land is proof of owning the right, unless specifically withheld in the sale. The license was issued in the name of Crystal Springs Hydroelectric Co. But as I stated, the license is appurtenant to the property.

Water Rights 47-7768 and 47-7991 are permits currently held in the name of First Security Bank of Idaho. Our contact person for these is Mark Simonson, Vice Pres. of the bank. Field examinations for these rights have been conducted and water right licenses will subsequently be issued on them. We have a backlog of permits to be licensed, therefore, I can't really give you a time frame for when that will happen.

Water Right 47-8005 is also a permit currently in the name of First Security Bank of Idaho. This is the right for which the proof of beneficial use statement was recently submitted. Per your request, I have enclosed a copy of that statement. Upon receipt of such a statement, the Department is responsible for conducting a field examination. This examination will be conducted out of our Southern Regional Office in Twin Falls; arrangements for the exam can be made through that office.

MAR 28 1995

I have placed a copy of your correspondence in each of the files for future reference. We will attempt to send copies of future correspondence to First Security Bank of Utah; however, because numerous department employees work with these files it is impossible for me to guarantee that action.

If I can be of further assistance, please give me a call.

Sincerely,

Sharla Curtis

SHARLA CURTIS
Water Resource Agent

Enclosure

RAY, QUINNEY & NEBEKER
PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

ALONZO W. WATSON, JR.
STEPHEN B. NEBEKER
MITCHELL MELICH
DON B. ALLEN
MERLIN O. BAKER
CLARK P. GILES
JAMES W. FREED
ROBERT M. GRAHAM
NARRVEL E. HALL
JAMES L. WILDE
HERBERT C. LIVSEY
WILLIAM A. MARSHALL
JAMES Z. DAVIS
PAUL S. FELT
D. JAY CURTIS
GERALD T. SNOW
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A. ROBERT THORUP
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DALE M. OKERLUND
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RICK B. HOGGARD
LISA A. YERKOVICH
BRENT D. WRIDE
MICHAEL E. BLUE
CAMERON M. HANCOCK
ELAINE A. MONSON
SYLVIA IANNUCCI
JARED M. HARRIS
GEORGE S. ADONDAKIS
DAVID A. CUTT

400 DESERET BUILDING
79 SOUTH MAIN STREET
P. O. BOX 45385
SALT LAKE CITY, UTAH 84145-0385
TELEPHONE (801) 532-1500
TELECOPIER NO. (801) 532-7543

210 FIRST SECURITY BANK BLDG.
92 NORTH UNIVERSITY AVENUE
PROVO, UTAH 84601-4420
TELEPHONE (801) 226-7210
TELECOPIER NO. (801) 375-8379

1020 FIRST SECURITY BANK BLDG.
2404 WASHINGTON BOULEVARD
OGDEN, UTAH 84401-2306
TELEPHONE (801) 621-0713
TELECOPIER NO. (801) 392-6068

OF COUNSEL
ALBERT R. BOWEN
ROBERT GORDON
M. JOHN ASHTON
KENT H. MURDOCK

Salt Lake City Office

December 27, 1991

RECEIVED
DEC 30 1991
Department of Water Resources

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

RE: Permit Nos. 47-08005, 47-07768, 47-07991, 47-08009; Crystal Springs Project; Bonneville Pacific Corporation

Dear Ms. Curtis:

As we discussed this morning, our firm represents First Security Bank of Utah, N.A., which is the mortgage holder on the Crystal Springs hydroelectric project. We received from our Trustee, First Security Bank of Idaho, N.A., a copy of a notice dated August 31, 1991 from Rita Fleck of your office advising that proof of the extent of the beneficial use of Permit No. 47-08005 had to be submitted by November 1, 1991. It is my understanding from our conversation that the required proof was submitted on October 2, 1991 by Bonneville Pacific Corporation ("Bonneville"), which was then the operator of the project.

We would appreciate it if you could forward to us a copy of Bonneville's October 2 submission, and also advise us of any further action which might need to be taken in order to preserve the permit. For your information, Bonneville filed a Chapter 11

MAR 28 1995

bankruptcy petition in Utah on December 5, 1991 (a copy of the notice of Bonneville's filing is enclosed for your reference), and we are currently uncertain in view of this filing whether or not Bonneville will continue to monitor and comply with filing requirements in order to preserve existing permits.

First Security is of course vitally interested in seeing that all necessary permits for the Crystal Springs project are kept in force, and would appreciate your sending directly to them copies of all notices related to the permits. We would appreciate it if you could forward such notices to First Security at the following address (in addition to the First Security Bank of Idaho address you have currently listed):

First Security Bank of Utah, N.A.
c/o Paul Toller, Assistant Vice President
Special Loans Department
79 South Main Street, 11th Floor
Salt Lake City, Utah 84111

Thank you for your assistance with this matter.

Sincerely,

RAY, QUINNEY & NEBEKER

Douglas Monson

Douglas M. Monson

Enclosure
cc: R. Paul Toller
James Z. Davis
DMM:jh:

MAR 28 1995

UNITED STATES B. KRUPTCY COURT RAY. QUINNEY

Frank E. Moss Building
350 South Main
Salt Lake City, UT 84101

DEC 24 1991

District of Utah

NOTICE OF COMMENCEMENT OF CASE UNDER CHAPTER 11 OF THE BANKRUPTCY CODE, MEETING OF CREDITORS, AND FIXING OF DATES (Corporation/Partnership Case)

DOCKET CONTRO

Case Number: 91-27701 JHA
Date Filed (or Converted) : 12/05/91

91-27701

IN RE(NAME OF DEBTOR)
Bonneville Pacific Corporation,
87-0363215

ADDRESS OF DEBTOR
257 East 200 South, Ste. 800
Salt Lake City, UT 84111

NAME/ADDRESS OF ATTORNEY FOR DEBTOR
David E. Leta
50 W. Broadway, 6th Fl.
Salt Lake City, UT 84101

NAME/ADDRESS OF TRUSTEE

Telephone Number: (801) 532-7520

Telephone Number:

DATE/TIME/LOCATION OF MEETING OF CREDITORS
January 13, 1992 at 1:00 pm
Little America Hotel
Arizona Room
500 South Main Street
Salt Lake City, UT 84101

[x] Corporation [ ] Partnership

Filing Claims: Deadline to File a Proof of Claim is 04/13/92

COMMENCEMENT OF CASE. A petition for reorganization under chapter 11 of the Bankruptcy Code has been filed in this court by or against the debtor named above, and an order for relief has been entered. You will not receive notice of all documents filed in this case. All documents filed with the court, including lists of the debtor's property and debts, are available for inspection at the office of the clerk of the bankruptcy court.

CREDITORS MAY NOT TAKE CERTAIN ACTIONS. A creditor is anyone to whom the debtor owes money or property. Under the Bankruptcy Code, the debtor is granted certain protection against creditors. Common examples of prohibited actions by creditors are contacting the debtor to demand repayment, taking action against the debtor to collect money owed to creditors or to take property of the debtor, and starting or continuing foreclosure actions or repossessions. If unauthorized actions are taken by a creditor against a debtor, the court may penalize that creditor. A creditor who is considering taking action against the debtor or the property of the debtor should review Sec. 362 of the Bankruptcy Code and may wish to seek legal advice. If the debtor is a partnership, remedies otherwise available against general partners are not necessarily affected by the commencement of this partnership case. The staff of the clerk of the bankruptcy court is not permitted to give legal advice.

MEETING OF CREDITORS. The debtor's representative, as specified in Bankruptcy Rule 9001(a)(5), is required to appear at the meeting of creditors on the date and at the place set forth above for the purpose of being examined under oath. Attendance by creditors at the meeting is welcomed, but not required. At the meeting, the creditors may examine the debtor and transact such other business as may properly come before the meeting. The meeting may be continued or adjourned from time to time by notice at the meeting, without further written notice to the creditors.

PROOF OF CLAIM. Schedules of creditors have been or will be filed pursuant to Bankruptcy Rule 1007. Any creditor holding a scheduled claim which is not listed as disputed, contingent, or unliquidated as to amount may, but is not required to, file a proof of claim in this case. Creditors whose claims are not scheduled or whose claims are listed as disputed, contingent, or unliquidated as to amount and who desire to participate in the case or share in any distribution must file their proofs of claim. A creditor who desires to rely on the schedules of creditors has the responsibility for determining that the claim is listed accurately. The place to file a proof of claim, either in person or by mail, is the office of the clerk of the bankruptcy court. Proof of claim forms are available in the clerk's office of any bankruptcy court.

PURPOSE OF CHAPTER 11 FILING. Chapter 11 of the Bankruptcy Code enables a debtor to reorganize pursuant to a plan. A plan is not effective unless approved by the court at a confirmation hearing. Creditors will be given notice concerning any plan, or in the event the case is dismissed or converted to another chapter of the Bankruptcy Code. The debtor will remain in possession of its property and will continue to operate any business unless a trustee is appointed.

A case may be dismissed 10 days after the first meeting if the debtor(s) or debtor's counsel fail to attend the meeting; or file required Schedules/Statements within 15 days after the petition date. (Local Rules 511, 525)

MAR 28 1995

For the Court: William C. Stillgebauer
Clerk of the Bankruptcy Court

12/20/91
Date

FORM B9F 0001

IN THE UNITED STATES BANKRUPTCY COURT

FOR THE DISTRICT OF UTAH

CENTRAL DIVISION

In Re:	)	
	)	Bankruptcy No. 91A-27701
BONNEVILLE PACIFIC CORPORATION,	)	Chapter 11
	)	
Debtor in Possession.	)	

ORDER LIMITING FURTHER NOTICE

This matter came before the Court upon the *Ex Parte* Motion of Bonneville Pacific Corporation, Debtor and Debtor-in-Possession (the "Debtor") in the above-captioned case, for entry of an order limiting notice pursuant to Rule 2002(i), Fed. R. Bankr. P. (the "Motion"). Based on the Motion, the pleadings on file in this case, and good cause appearing therefor, it is hereby ORDERED that:

1. Pursuant to Rule 2002(i), all future notices required by Rule 2002(a)(2), (3) and (7), Fed. R. Bankr. P., in the above-captioned bankruptcy case will be mailed to only: (1) the members of official committees appointed by the United States Trustee pursuant to 11 U.S.C. § 1102, and to their authorized agents, (2) the office of the United States Trustee, and (3) creditors, equity security holders or parties-in-interest who serve on the Debtor and file with the Court a request that all notices be mailed to them, and (4) the 20 largest unsecured creditors.

2. Notice of this Order, or a copy hereof, shall be mailed to all creditors on the official matrix of creditors filed in this Case, to the office of the United States Trustee and to all parties-in-interest who have filed a request for notice as of the date of such mailing.

DATED this 13 day of December, 1991.

BY THE COURT:

The Honorable John H. Allen
United States Bankruptcy Court Judge

MAR 28 1995

\\jfl\BonLimt.Ord

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 334-7900

CECIL D. ANDRUS
GOVENOR
R. KEITH HIGGINSON
DIRECTOR

July 26, 1988

James M. Dester
Attorney at Law
P.O. Box 45385
79 South Main St.
Salt Lake City, UT 84145-0385

RE: Crystal Springs Hydroelectric Project

Dear Mr. Dester:

In response to your letter dated July 7, 1988, I have reviewed the collateral assignment of permit nos. 47-7768, 47-7991, 47-8005 and 47-8009. I have also reviewed the affidavit of Mark A. Simonson, Vice President and Trust Officer of First Security Bank of Idaho, N.A. Based on my review, I find that First Security Bank of Idaho is qualified to do business in the state of Idaho, and that the collateral assignment to First Security Bank of Idaho as a trustee is appropriate. I also find specifically under Idaho Code Section 42-207, that the transfer appears to have been made in good faith, and was not for purposes of speculation or delay.

This letter does not address the assignment of application for permit for altering stream channel no. 47-S-70, although a copy of this letter will be forwarded to that file for reference.

Our records will show that First Security Bank of Idaho, N.A. is the owner of the above mentioned permits. We will, however, attempt to accomodate the request to issue the licenses for the above mentioned permits to Crystal Springs Hydroelectric Company.

Sincerely,

Gary Spackman

GARY SPACKMAN
Water Allocation Section

GS:hm

MAR 28 1995

RAY, QUINNEY & NEBEKER
PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

ALONZO W. WATSON, JR.
STEPHEN B. NEBEKER
MITCHELL MELICH
L. RIDD LARSON
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RICK L. ROSE
MARK Y. HIRATA
RICK B. HOGGARD
LYNN H. PACE
LISA A. YERKOVICH

OF COUNSEL
ALBERT R. BOWEN
W. J. O'CONNOR, JR.

*ADMITTED IN COLORADO & TEXAS

400 DESERET BUILDING
79 SOUTH MAIN STREET
P. O. BOX 45385
SALT LAKE CITY, UTAH 84145-0385
TELEPHONE (801) 532-1500
TELECOPIER NO. (801) 532-7543

210 FIRST SECURITY BANK BLDG
92 NORTH UNIVERSITY AVENUE
PROVO, UTAH 84601-4420
(801) 226-7210

1020 FIRST SECURITY BANK BLDG
2404 WASHINGTON BOULEVARD
OGDEN, UTAH 84401-2306
(801) 621-0713

PAUL H. RAY (1893-1967)
A. H. NEBEKER (1895-1980)
S. J. QUINNEY (1893-1983)

July 7, 1988

RECEIVED
JUL 8 1988

FEDERAL EXPRESS

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

Re: Crystal Springs Hydroelectric Project

Dear Gary:

Pursuant to our prior discussions concerning the Collateral Assignment of permit nos. 47-7768, 47-7991, 47-8005, 47-8009 and Application for Permit for Altering Stream Channel no. 47-S-70 (the "Permits") from Crystal Springs Hydroelectric Company to First Security Bank of Idaho, N.A., as trustee for First Security Bank of Utah, National Association, I have enclosed the following documents:

1. Collateral Assignment of Water Rights, dated as of July 7, 1988;

2. Affidavit of Mark A. Simonson, Vice President and Trust Officer of First Security Bank of Idaho, N.A.; and

3. Letter dated July 7, 1988 from First Security Bank of Utah, National Association and First Security Bank of Idaho, N.A., requesting that licenses issued in the future in connection with the Permits be issued in the name of Crystal Springs Hydroelectric Company.

MAR 28 1995

Based upon our prior discussions, it is my understanding that you will issue a letter to First Security Bank of Utah, National Association, First Security Bank of Idaho, N.A. and Crystal Springs Hydroelectric company, approving the Collateral Assignments of the Permits. Please forward the approval to me at Ray, Quinney & Nebeker, 79 South Main Street, Suite 400, Salt Lake City, Utah 84111. If my understanding of the foregoing is incorrect or if you have questions concerning the above, please give me a call at (801)532-1500.

We sincerely appreciate your assistance in these matters.

Very truly yours,

RAY, QUINNEY & NEBEKER

James M. Dester

JMD/rp
Enclosure

MAR 2 8 1995

AFFIDAVIT

STATE OF IDAHO)
)
COUNTY OF ADA)

I, Mark A. Simonson, on oath state that:

1. I am a duly elected Vice President and Trust Officer of First Security Bank of Idaho, N.A., a national banking association organized under the laws of the United States of America (the "Bank").

2. Pursuant to the National Bank Act and the Bank's Articles of Association, as amended, a copy of which is attached hereto as Exhibit A, the Bank is qualified and authorized to do business in the State of Idaho.

3. The Bank's main office and principal place of business is located in Boise, Idaho.

4. This Affidavit is provided to confirm that the Bank is qualified to receive collateral assignments of water rights and associated permits in accordance with Sections 42-206 and 42-207 of the Idaho Code.

Name: Mark A. Simonson
Title: Vice President and Trust Officer
First Security Bank of Idaho, N.A.

SUBSCRIBED AND SWORN to before me this 9 day of June, 1988.

(SEAL)

Notary Public
Residing at: Ada County
Boise
My Commission Expires: 7-3-93

1468d

2 8 1995

ARTICLES OF ASSOCIATION

AS AMENDED

FIRST SECURITY BANK OF IDAHO

NATIONAL ASSOCIATION

FIRST. The title of this Association shall be

"FIRST SECURITY BANK OF IDAHO, NATIONAL ASSOCIATION"

SECOND. The main office shall be in Boise, Ada County, State of Idaho. The general business of the Association shall be conducted at its main office and its legally established branches.

THIRD. The Board of Directors of this Association shall consist of not less than five nor more than twenty-five shareholders. At any meeting of the shareholders held for the purpose of electing Directors, or changing the number thereof, the number of Directors may be determined by a majority of the votes cast by the shareholders in person or by proxy. A majority of the Board of Directors shall be necessary to constitute a quorum for the transaction of business at any Directors' meeting.

FOURTH. The regular annual meeting of the shareholders of this association shall be held at its main banking house, or other convenient place duly authorized by the Board of Directors, on such day of each year as is specified therefor in the bylaws.

FIFTH. The amount of authorized capital stock of this Association shall be Twenty Million Dollars ($20,000,000.00), divided into 200,000 shares of common stock of the par value of One Hundred Dollars ($100.00) each; but said capital stock may be increased or decreased from time to time, in accordance with the provisions of the laws of the United States.

If the capital stock is increased by the sale of additional shares thereof, each shareholder shall be entitled to subscribe for such additional shares in proportion to the number of shares of said capital stock owned by him at the time the increase is authorized by the shareholders, unless another time subsequent to the date of the shareholders' meeting is specified in a resolution adopted by the shareholders at the time the increase is authorized. The Board of Directors shall have the power to prescribe a reasonable period of time within which the preemptive rights to subscribe to the new shares of capital stock must be exercised.

AUG 28 1995

If the capital stock is increased by a stock dividend, each shareholder shall be entitled to his proportionate amount of such increase in accordance with the number of shares of capital stock owned by him at the time the increase is authorized by the shareholders, unless another time subsequent to the date of the shareholders' meeting is specified in a resolution adopted by the shareholders at the time the increase is authorized.

The Association at any time and from time to time may authorize and issue debt obligations, whether or not subordinated, without the approval of shareholders.

SIXTH. (1) The Board of Directors shall appoint one of its members President of this Association. It may also appoint a Chairman of the Board, and one or more Vice Chairmen. The Board of Directors shall have the power to appoint one or more Vice Presidents, at least one of whom shall also be a member of the Board of Directors, and who shall be authorized in the absence of the President, to perform all acts and duties pertaining to the office of President; to appoint a Cashier and such other officers and employees as may be required to transact the business of this Association; to fix the salaries to be paid to such officers and employees of this Association, and to dismiss any of such officers or employees and appoint others to take their place.

(2) The Board of Directors shall have the power to define the duties of officers and employees of this Association and to require adequate bonds from them for the faithful performance of their duties; to make all Bylaws that may be lawful for the general regulation of the business of this Association and the management of its affairs, and generally to do and perform all acts that may be lawful for a Board of Directors to do and perform.

(3) Each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, administrative or investigative (other than an action by or in the right of the Association) by reason of the fact that he is or was a director, officer, employee or agent of the Association or is or was serving at the request of the Association as a director, officer, employee, fiduciary or agent of another corporation, partnership, joint venture, trust, estate or other enterprise or was acting in furtherance of the Association's business shall be indemnified against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action, suit or proceeding if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Association provided; however, no indemnification shall be given to a person adjudged guilty of, or liable for, willful misconduct, gross neglect of duty, or criminal acts. The termination of any action, suit or proceeding by judgment, order settlement, or its equivalent, shall not of itself, create a presumption that the person did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Association.

MAR 2 8 1995

(4) Each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Association (such action or suit being known as a "derivative proceeding") to procure a judgment in its favor by reason of the fact that he is or was a director, officer, employee or agent of the Association or is or was serving at the request of the Association as a director, officer, employee, fiduciary or agent of another corporation, partnership, joint venture, trust, estate or other enterprise shall be indemnified against expenses (including attorney's fees) actually and reasonably incurred by him in connection with the defense or settlement of such action or suit if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Association and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable for negligence or misconduct in the performance of his duty to the Association unless and only to the extent that the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper.

(5) To the extent that such director, officer, employee, fiduciary or agent of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in (3) or (4) of this Article or in defense of any claim, issue or matter therein, he shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him in connection therewith.

(6) Any indemnification under (3) or (4) of this Article (unless ordered by a court) shall be made by the Association only as authorized in the specific case upon a reasonable determination that indemnification of the director, officer, employee, fiduciary or agent is proper in the circumstances because he has met the applicable standard of conduct set forth in (3) or (4) of this Article. Such determination shall be made (a) by the Board of Directors by a majority vote of a quorum consisting of directors who were not parties to such action, suit or proceeding, or (b) if such quorum is not obtainable, or even if obtainable a quorum of disinterested directors so directs, by independent legal counsel in a written opinion, or (c) by the stockholders.

(7) Expenses incurred in defending a civil or criminal action, suit or proceeding may be paid by the Association in advance of the final disposition of such action, suit or proceeding as authorized in the manner provided in (6) of this Article upon receipt of an undertaking by or on behalf of the director, officer, employee, fiduciary or agent to repay such amount unless it shall ultimately be determined that he is entitled to be indemnified by the Association as authorized in this Article.

(8) The indemnification provided by this Article shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any Bylaw, agreement, vote of shareholders or disinterested directors or otherwise, both as to action in his official capacity and as to action in another capacity while holding such office and shall continue as to a person who has ceased to be a director, officer, employee, fiduciary or agent and shall inure to the benefit of the heirs, executors, successors in interest, and administrators of such a person.

MAR 2 8 1995

(9) The Board of Directors shall have the power to change the location of the main office of this Association to any other place within the limits of Boise, Idaho, without the approval of the shareholders of this Association but subject to the approval of the Comptroller of the Currency; and shall have the power to change the location of any branch or branches of this Association to any other location, without the approval of the shareholders of this Association but subject to the approval of the Comptroller of the Currency.

SEVENTH. The corporate existence of this Association shall continue until terminated in accordance with the laws of the United States.

EIGHTH. The Board of Directors of this Association, or any three or more shareholders owning, in the aggregate, not less than ten per centum (10%) of the stock of this Association, may call a special meeting of shareholders at any time.

Unless otherwise provided by the laws of the United States, a notice of the time, place, and purpose of every annual and every special meeting of the shareholders shall be given by first-class mail, postage prepaid, mailed at least ten days prior to the date of such meeting to each shareholder of record at his address as shown upon the books of this Association.

Subject to the provisions of the laws of the United States, these Articles of Association may be amended at any meeting of the shareholders for which adequate notice has been given, by the affirmative vote of the owners of a majority of the stock of this Association, voting in person or by proxy.

As Amended
January 11, 1977

MAR 2 8 1995

COLLATERAL ASSIGNMENT OF WATER RIGHTS

This Collateral Assignment of Water Rights (hereinafter called the "Assignment"), dated as of July 7, 1988, is hereby entered into by CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, with its principal office c/o Far West Capital, Inc., 1135 East South Union Avenue, Midvale, Utah 84047 (hereinafter called the "Assignor"), FIRST SECURITY BANK OF IDAHO, N.A., a national banking association qualified to do business in the State of Idaho, with its principal office at 119 North 9th Street, Boise, Idaho 83701 (hereinafter called the "Trustee"), and FIRST SECURITY BANK OF UTAH, NATIONAL ASSOCIATION, with its office at 15 East 100 South, Second Floor, Salt Lake City, Utah 84111 (hereinafter called the "Bank").

Recitals

A. Assignor and the Bank have entered into a Credit Agreement, dated of even date herewith (the "Credit Agreement"), pursuant to which the Bank has agreed to make a loan to Assignor in the aggregate amount of $2,800,000 to refinance a certain hydroelectric project known as the Crystal Springs Hydroelectric Project in Twin Falls County, Idaho (the "Project").

B. Assignor owns water rights relating to the Project pursuant to Permit Nos. 47-7768, 47-7991, 47-8005, 47-8009 and Application for Permit to Alter Stream Channel No. 47-S-70 (the "Permits") issued by the Department of Water Resources of the State of Idaho (the "Department"), copies of which are attached hereto as Exhibit A. The Project is located on the real property described in Exhibit B attached hereto.

C. As a condition to making the loans under the Credit Agreement to refinance the Project, the Bank requires that this Assignment be executed and delivered to the Trustee.

Agreement

Accordingly, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Assignor hereby represents and warrants to the Bank, that:

(a) the Recitals are true and correct;

(b) Assignor is the lawful owner of the rights and interests granted by the Permits, the Permits are in full force and effect and have not been amended or modified, and the Assignor has not transferred, assigned or

MAR 2 8 1995

conveyed or granted a security interest in its rights and interests under the Permits.

2. Subject to and specifically conditioned upon the written approval hereof by the Department, Assignor hereby assigns to Trustee all of Assignor's right, title and interest in the Permits and all amendments and supplements thereto. Such assignment is made as collateral security for the payment of all of the obligations of the Assignor to the Bank arising under the Credit Agreement, including but not limited to the indebtedness evidenced by the Promissory Note issued to the Bank under the Credit Agreement. Assignor also hereby grants a security interest to Trustee in the Permits and all amendments and supplements thereto.

3. This Assignment is an assignment only of all right, title and interest of the Assignor in the Permits, and the Assignor covenants and agrees with the Trustee to faithfully perform, observe and comply with all obligations of the Assignor under the Permits and with all limitations and conditions imposed under the Permits, as if this Assignment had not been made. The Trustee shall not be deemed in any manner to have assumed such obligations, and in no event shall the Bank be deemed to have assumed any of the obligations of the Assignor under or with respect to the Permits, unless and until the Bank has given Assignor written notice that the Bank has affirmatively assumed such obligations as the result of an event of default existing under the Credit Agreement (a "Default") and the enforcement of the rights and remedies of the Trustee under this Assignment.

4. Assignor agrees that it will not cancel, terminate, modify or amend the Permits or surrender any of its water rights granted under the Permits and will not further assign the Permits to any party, without in each instance the prior written consent of the Bank. Assignor further agrees that it shall deliver to the Trustee and the Bank copies of all written agreements, correspondence and memoranda between Assignor and the Department relating to the Permits and any water license issued by the Department to replace a Permit as the Trustee or the Bank may from time to time reasonably required.

5. Upon the occurrence of any Default the Trustee, at the request of the Bank, may without notice or demand and with or without entry upon the site of the Project, at its option, take over and enjoy the benefits of the Permits to the same extent as Assignor might do. The exercise of such right by the Trustee shall not affect any of the rights or remedies of the Bank under any other instrument securing payment of the obligations under the Credit Agreement and the Promissory Note issued thereunder. In addition, upon the occurrence of a Default the Trustee shall have the right to exercise and enforce any and all rights and remedies available after Default to a secured party under the applicable

MAR 8 1995

law. If notice to the Assignor of any intended disposition of collateral or any other intended actions is required by law in a particular instance, such notice shall be deemed commercially reasonable if given to Assignor at least 10 days prior to the intended disposition or other action.

6. The Trustee shall hold all right, title and interest in the Permits for the benefit of the Bank subject to the limitations under this Assignment, pending issuance of water licenses to replace the Permits by the Department. Any water license issued to replace the Permit shall be issued to Assignor; provided, however, that this Assignment shall constitute an automatic assignment to the Trustee of all of Assignor's right, title and interest in any such water license as collateral security for the payment of Assignor's obligations under the Credit Agreement and the Promissory Note issued thereunder and the rights and remedies of the Trustee with respect to any such water license shall be the same as those provided in this Assignment in respect of the Permits. Should any water license be issued to the Trustee instead of to Assignor, the Trustee shall take all necessary steps to transfer ownership of such water license to the Assignor as soon as possible, subject to the terms of this Assignment.

7. Assignor agrees to indemnify and to hold Trustee harmless from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, incurred by or asserted against the Trustee in any way relating to or arising out of this Assignment or any action taken or omitted to be taken by it under this Assignment, provided that the Assignor shall not be liable for any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements resulting from the gross negligence or willful misconduct of the Trustee.

8. Nothing herein contained shall be construed as making Trustee a mortgagee in possession, or as constituting a waiver or suspension by the Bank of its right to enforce payment of the debts under the terms of the Credit Agreement. Trustee is not the agent, partner, or joint venturer of either the Assignor or of the Department.

9. Bank hereby appoints and authorizes the Trustee to take such action on its behalf and to exercise such powers under this Assignment as are delegated to the Trustee by the terms hereof, together with such powers as are reasonably incidental thereto. As to any matters not expressly provided for by this Assignment, the Trustee shall not be required to exercise any discretion or take any action.

MAR 2 8 1995

10. Neither the Trustee nor any of its respective directors, officers, employees or agents shall be liable for any action taken or omitted to be taken by it or them under or in connection with this Assignment, except for its own or their own gross negligence or willful misconduct. Without limitation of the generality of the foregoing, the Trustee (i) may consult with legal counsel and other experts selected by it and shall not be liable for any action taken or omitted to be taken in good faith by it in accordance with the advice of such counsel or experts, (ii) shall incur no liability under or in respect of this Assignment by acting upon any notice, certificate or other instrument or writing believed by it to be genuine and signed or sent by the proper party or parties, (iii) shall not have any duty to ascertain or to inquire as to the performance or observance of any of the covenants and agreements of the Assignor under this Assignment or to determine whether a Default has occurred and (iv) shall not be responsible to Bank for the due execution, legality, validity, enforceability, sufficiency or value of this Assignment or any document or instrument furnished pursuant to this Assignment.

11. Bank agrees to indemnify the Trustee (to the extent not reimbursed by the Assignor upon demand) from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, inured by or asserted against the Trustee in any way relating to or arising out of this Assignment or any action taken or omitted to be taken by it under this Assignment, provided that Bank shall not be liable for any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements resulting from the gross negligence or willful misconduct of the Trustee.

12. The Trustee may resign at any time by giving at least 90 days prior written notice thereof to the Bank and the Assignor and may be removed at any time with or without cause by the Bank. Upon any such resignation or removal, the Bank shall have the right to appoint a successor Trustee. If no successor trustee shall have been so appointed by the Bank and shall have accepted such appointment within 60 days after the retiring Trustee's giving of notice of resignation or removal, then the retiring Trustee may, on behalf of the Bank, appoint a successor Trustee, which shall be a title insurance company or bank organized or qualified to do business under the laws of the State of Idaho, having its principal office in the State of Idaho and in the case of any bank having a combined capital and surplus of at least $25,000,000. Upon acceptance of any appointment as Trustee hereunder by a successor Trustee, such successor Trustee shall thereupon succeed to and become vested with all the rights,

MAR 28 1995

powers, privileges and duties of the retiring Trustee and the retiring Trustee shall be discharged from its duties and obligations under this Assignment. After any retiring Trustee's resignation or removal hereunder as Trustee, the provisions of paragraphs 7 through 11 of this Assignment shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Trustee under this Assignment.

13. The Trustee acknowledges and agrees that it has made separate arrangement with the Assignor for the payment of its fees for serving as Trustee under this Assignment, and the Assignor agrees that such fees are its obligation to pay.

14. Assignor agrees that it will execute such other instruments and documents as the Bank or the Trustee may from time to time reasonably require to effectuate the assignment granted by this Assignment, including but not limited to filing with the Department such instruments and documents as the Department may require as a condition to approving the assignment of any water license to the Trustee that replaces a Permit.

15. This Assignment shall be binding upon the Assignor and its successors and assigns and shall inure to the benefit of the Trustee, the Bank and their respective successors and assigns.

16. This Assignment can be waived, modified, terminated or discharged only explicitly in a writing signed by the parties hereto. The mere failure to act shall not preclude the exercise or enforcement of any of the rights or remedies of the Trustee hereunder.

17. All notices to the Assignor provided for under this Assignment shall be in writing and mailed, or delivered by overnight courier, to the address of Assignor indicated below:

Crystal Springs Hydroelectric Company
c/o Far West Capital, Inc.
1135 East South Union Avenue
Midvale, Utah 84047

With a copy to:

Bonneville Pacific Corporation
257 East 200 South, Suite 800
Salt Lake City, Utah 84111
Attention: Mark E. Rinehart

18. The Trustee shall release all collateral granted hereunder when all amounts outstanding under the Promissory Note issued under the Credit Agreement, including accrued and unpaid

MAR 2 8 1995

interest thereon, and all other amounts outstanding under the Credit Agreement have been paid in full.

19. This Assignment shall be deemed made in and shall be governed by the internal laws of the State of Idaho.

IN WITNESS WHEREOF, the parties hereto have caused this Assignment to be duly executed as of the day and year first above written.

ASSIGNOR:

CRYSTAL SPRINGS HYDROELECTRIC COMPANY,
an Idaho general partnership

By: Far West Capital, Inc., a Utah corporation, as general partner

By: _____
Its: V.P. Corp. Counsel

By: Far West Hydroelectric Fund, Ltd., a Utah limited partnership, as general partner

By: Far West Capital, Inc., a Utah corporation, as general partner

By: _____
Its: V.P. Corp. Counsel

By: _____
Alan O. Melchior, as general partner

By: _____
Thomas A. Quinn, as general partner

DEC 28 1995

TRUSTEE:

FIRST SECURITY BANK OF IDAHO, N.A.

By: _____

Its: Vice [illegible] Trust Officer

BANK

FIRST SECURITY BANK OF UTAH,
NATIONAL ASSOCIATION

By _____
Its: _____

[Attach Idaho Acknowledgements]

1466d

MAR 28 1995

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 7th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Thomas A. Dunn, known or identified to me to be the Vice President of FAR WEST CAPITAL, INC., a Utah corporation, the corporation that executed the instrument or the person who executed the instrument for Far West Capital, Inc., as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that such corporation, on behalf of said partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Pan
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 7th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Thomas A. Dunn, known or identified to me to be the Vice President of FAR WEST CAPITAL, INC., a Utah corporation, the corporation that executed the instrument or the person who executed the instrument for Far West Capital, Inc., as general partner of FAR WEST HYDROELECTRIC FUND, LTD., a Utah limited partnership, as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that such corporation, on behalf of said limited partnership, on behalf of said general partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Pan
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

MAR 28 1995

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 6th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Alan O. Melchior, known or identified to me to be one of the general partners of FAR WEST HYDROELECTRIC FUND, LTD., a Utah limited partnership, the limited partnership that executed the instrument or the person who executed the instrument for FAR WEST HYDROELECTRIC FUND, LTD., as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that he, on behalf of said limited partnership, on behalf of said general partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Gan
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 7th day of July, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Thomas A. Quinn, known or identified to me to be one of the general partners of FAR WEST HYDROELECTRIC FUND, LTD., a Utah limited partnership, the limited partnership that executed the instrument or the person who executed the instrument for FAR WEST HYDROELECTRIC FUND, LTD., as general partner of CRYSTAL SPRINGS HYDROELECTRIC COMPANY, an Idaho general partnership, and acknowledged to me that he, on behalf of said limited partnership, on behalf of said general partnership, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

(SEAL)

Rosalie Gan
Notary Public for State of Utah
Residing at: Salt Lake City, Utah

My Commission Expires: 8-22-90

1466d

MAR 28 1995

STATE OF IDAHO)
: ss.
COUNTY OF Ada)

On this 9th day of June, in the year 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared MARK A. SIMONSON, known or identified to me to be the Vice President & Trust Officer of FIRST SECURITY BANK OF IDAHO, N.A., the corporation that executed the instrument or the person who executed the instrument on behalf of said corporation, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Mary Vasin

Notary Public for the State of Idaho
Residing at: Ada County Boise

My commission expires: 7-3-93

3358g

MAR 28 1995

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On this 7th day of July, in the year 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Harvey M. Tanner, known or identified to me to be the Vice President of FIRST SECURITY BANK OF UTAH, NATIONAL ASSOCIATION, the corporation that executed the instrument or the person who executed the instrument on behalf of said corporation, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Rosalie Parr

(SEAL)

Notary Public for the State of Utah
Residing at: Salt Lake City, Utah

My commission expires: 8-22-90

1466d

* Reference 47-7768
for Exhibit A

RECORDED
MAR 28 1995

INTER-DEPARTMENT MEMO — 1

DATE 7/8/87

FROM Sharla

TO File

SUBJECT

Field exam for this right is filed in
47-7768.

[illegible] NED
[illegible] 8 1995

SIGNATURE

47-7268
47-7991

SUMMARY OF WATER RIGHT FLOWS FROM CRYSTAL SPRINGS

by: Gary Spackman
Date: September 3, 1997

Licenses & Permits

John Blass	2.0 cfs
W.R. Hurst	2.3 cfs
Corps	50.0 cfs
	6.5 cfs
	69.0 cfs
	125.5 cfs

Clear Springs Trout Co. 335.1 cfs

464.9 cfs

If additional flows sought by Corps and Clear Springs are granted

RECEIVED
MAR 2 8 1995

464.9
+ 50 Corps
+ 40 Clear Springs
554.9 cfs

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

U.S.MAIL

POSTAGE AND FEES PAID
FEDERAL ENERGY
REGULATORY COMMISSION
FERC-351

P -0008278002 101465
DIRECTOR
IDAHO DEPARTMENT OF WATER RESOURCES
450 WEST STATE STREET

BOISE, ID 83720

MAR 28 1995

47-7991
-7768

DEC
DEC 22 1986
Department of Water Resources

ENVIRONMENTAL ASSESSMENT FOR HYDROPOWER LICENSE

Cedar Draw Creek
(Name of Project)

FERC No. 8278 - 002

Idaho
(State)

Division of Environmental Analysis
Office of Hydropower Licensing
Federal Energy Regulatory Commission
825 N. Capitol Street, NE
Washington, D.C. 20426

November 26, 1986
(Date)

MAR 28 1995

TABLE OF CONTENTS

Section	Page
A. APPLICATION	1
B. RESOURCE DEVELOPMENT	1
1. Purpose	1
2. Need for power	1
C. PROPOSED PROJECT AND ALTERNATIVES	2
D. AFFECTED ENVIRONMENT	3
E. CONSULTATION AND COMPLIANCE	5
F. COMMENTS	6
G. ENVIRONMENTAL IMPACTS AND RECOMMENDATIONS	6
H. SUMMARY OF ENVIRONMENTAL IMPACTS	9
I. SUMMARY OF UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS	10
J. CONCLUSION	10
K. LIST OF PREPARERS	10
L. LITERATURE CITED	11

MAR 28 1995

ENVIRONMENTAL ASSESSMENT
DIVISION OF ENVIRONMENTAL ANALYSIS, OFFICE OF HYDROPOWER LICENSING
FEDERAL ENERGY REGULATORY COMMISSION

Date: November 26, 1986

Project name: Cedar Draw Creek FERC No. 8278 - 002

A. APPLICATION

1. Application type: Amendment of License Date filed: 12 / 4 / 85

2. Applicant: Crystal Springs Hydroelectric Company

3. Water body: Cedar Draw Creek River basin: Upper Snake

4. Nearest city or town: Twin Falls

5. County: Twin Falls State: Idaho

B. RESOURCE DEVELOPMENT

1. Purpose: The increase in installed capacity for the project would provide an estimated additional average of 5,000,000 kilowatthours (kWh) of electrical energy per year to a utility in the region.

2. Need for power: The already constructed project amendment will use additional return irrigation flows, which were not anticipated at the time the original license was issued, to produce additional energy that would otherwise be lost.

Because of the small size of the proposed project amendment in relation to the existing and projected generating capability in the Northwest, the traditional approach of linking project development with a forecasted need for a specific project is inapplicable to assessing need for the proposed amendment.

The power from the project amendment would be useful in meeting a small part of the need for power projected by the Western Systems Coordinating Council (WSCC) for the Northwest region. From the time the project goes on-line it will be available to displace fossil-fueled power generation in the WSCC region and thereby, to conserve nonrenewable fossil fuels, and to reduce the emission of noxious byproducts caused by the combustion of fossil fuels.

C. PROPOSED PROJECT AND ALTERNATIVES

1. Description of the proposed action: The applicant proposes to modify the partially constructed project by adding a fourth generation unit rated at a capacity of 778 kilowatts (kW). This would increase the total capacity of the project from 2,146 kW to 2,924 kW. In order to accommodate the new installed generating unit, the proposed powerhouse would be extended by 18 feet. An additional 100 square yards of material would be excavated to construct the proposed powerhouse.

2. Applicant's proposed mitigative measures.

a. Construction: The applicant has filed a plan to mitigate impacts to riparian and wetland habitats adversely affected by construction of the licensed project. The plan includes provisions for successfully revegetating the riparian areas disturbed during past construction and for replacing wetlands damaged or destroyed.

b. Operation: None.

3. Federal lands affected.

_X_ No. ___ Yes; agency: _____; acreage = _____;

___ The federal land management agency has provided conditions by letter dated: ___/___/___ (Attachment ___).

___ Conditions have not been provided.

Remarks: _____

4. Alternatives to the proposed action.

a. _X_ No other reasonable action alternatives have been found.

___ Action alternative: _____

b. Alternative of no action.

No action would prohibit the applicant from modifying the licensed project. No action would involve no alterations to the existing environment and would preclude the applicant from producing additional electrical power at the site.

D. AFFECTED ENVIRONMENT

1. Descriptions of the resources in the project impact area.

a. Geology and soils. Soils in the project area are composed of sand, gravel, and boulder alluvium on the canyon bottoms below the adjacent basalt cliffs. The soils on the upper plateau are relatively shallow, silty, and sandy-loamy. The bedrock consists of basalt ranging from massive to dense and interbedded with lake and stream sediments.

b. Streamflow.

low flow: 18 cfs; flow parameter: Average low flow, winter
high flow: 332 cfs; flow parameter: Average high flow, summer
average flow: 50 cfs; flow parameter: Average annual flow
Remarks. Streamflow is regulated by irrigation needs but the applicant is required by the existing license to provide a minimum flow of 25 cubic feet per second (cfs) from the project.

c. Water quality. Water quality in the creek is fair. Most of the water comes from collected wastewater from surface irrigation. Water quality is affected by silt, fertilizers, and nutrients.

d. Fisheries.

Anadromous: X None. ___ Species include:

Resident: ___ None. X Species include: rainbow trout.

Remarks.

e. Vegetation.

Cover type	Dominant species
sagebrush shrub	big sagebrush, cheat, aster, and various other grasses and forbs
riparian	willow, wild rose, chokecherry, currant, wild rye, mint, and bigsting nettle
wetland	cattail, hardstem, bullrush, and sedge

Remarks. Small isolated patches of wetland vegetation occur throughout the length of Cedar Draw Creek.

MAR 28 1995

f. Wildlife.

Species inhabiting the project area include: mule deer, chukar partridge, ring-necked pheasant, coyote, mink, raccoon, marsh hawk, and a variety of small mammals and songbirds.

Remarks. The riparian vegetation and wetlands along Cedar Draw Creek are important wildlife habitats.

g. Cultural.

___ There are properties listed on or eligible for listing on the National Register of Historic Places in the area of the project's potential environmental impact.

Description. _____

_____

_____

_X_ National Register (listed and eligible) properties have not been recorded.

Remarks. The Idaho State Historic Preservation officer (SHPO) states that the proposed amendment of license would have no effect on cultural resources (letter from Thomas J. Green, SHPO, Idaho State Historical Society, Boise, Idaho, September 4, 1985). A condition of the existing license would ensure the protection of cultural resources in the event of future construction or land-disturbing activities at the project site.

h. Visual quality. The project is located in a sparsely vegetated, rocky, box canyon. Two Falls, a waterfall located approximately 400 feet upstream of the diversion structure, would provide a visual attraction for any visitors to the project area. The waterfall, however, is not readily accessible to the public because of private ownership of the surrounding land.

i. Recreation. Recreational use of the project area is limited because much of the surrounding land is privately owned. Some fishing, hunting, and hiking does occur along Cedar Draw Creek.

j. Land use. Land in the project area is primarily used for irrigation, agriculture, and commercial rearing of trout. Commercial trout ponds are located downstream of the project site and utilize water from Cedar Draw Creek for their operations.

k. Socioeconomics. The socioeconomic well-being of the area is influenced primarily by agriculture and trout farming.

FERC
MAR 28 1995

l. Ambient noise. Ambient noise levels in the project area are moderate because of the project's location near a waterfall.

m. Ambient air quality. Ambient air quality in the project area is good because of the project's location away from industrial areas and heavily used roads.

n. Other resources. No other resources would be affected by the project.

E. CONSULTATION AND COMPLIANCE

1. Fish and wildlife consultation (Fish & Wildlife Coordination Act).
   (a) Fish & Wildlife Service (FWS): X Yes ___ No (b) State(s): X Yes ___ No
   (c) National Marine Fisheries Service (NMFS): ___ Yes X No
   Remarks. _____

2. Section 7 consultation (Endangered Species Act).
   (a) Listed species. None.
   (b) X Not required. ___ Required; completed (date): ___/___/___.
   Remarks. _____

3. Section 401 certification (Clean Water Act).
   ___ Not required. X Received. ___ Waived. ___ Requested. 8 / 4 / 86 (date)

4. Cultural resource consultation (Historic Preservation Act).
   (a) Register status: X None. ___ Potentially eligible. ___ Eligible or listed.
   (b) State Historic Preservation Officer (SHPO): X Yes ___ No
   (c) National Park Service (NPS): X Yes ___ No
   (d) Council: X Not required. ___ Completed (date): ___/___/___.
   (e) Further consultation: X Not required. ___ Required.
   Remarks. _____

5. Recreation consultation [Federal Power Act, §10(a)].
   (a) U.S. Owners ___ Yes X No (b) NPS: X Yes ___ No
   (c) State(s): X Yes ___ No Remarks. _____

6. Wild and scenic rivers (Wild and Scenic Rivers Act).
   Status: X None. ___ Listed. Determination completed: ___/___/___.
   Administering agency: _____
   Remarks. _____

7. LWCFA lands and facilities affected (Land and Water Conservation Fund Act).
   Status: X None. ___ Designated. Determination completed: ___/___/___.
   Administering agency: _____
   Remarks. _____

2 8 1995

F. COMMENTS

1. The following entities provided comments on the application in response to the public notice dated 3 / 11 / 86 .

Commenting entity	Date of letter
Idaho Department of Fish and Game	4 / 18 / 86
Idaho Department of Health and Welfare	4 / 21 / 86
Department of the Interior	5 / 19 / 86
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /

* Indicates a petition to intervene.

2. The applicant responded to the comments by letter dated no response.

G. ENVIRONMENTAL IMPACTS AND RECOMMENDATIONS

Mitigative measures recommended by the staff are in addition to those proposed by the applicant, Section C(2), and those conditions identified in Section C(3), as appropriate. There are 3 issues addressed below.

1. Issue: Controlling erosion, sedimentation, turbidity, and instability of slopes.

(a) Comments: The Idaho Department of Fish and Game (IDFG) states that the slope stabilization and revegetation plan lacks detail.

(b) Applicant's response: None.

8795

(c) Conclusions and recommendations: Land-clearing and ground-disturbing activities would increase the potential for erosion, sedimentation, turbidity, and instability of slopes. The slope stabilization and revegetation plan should be revised to provide detailed and site-specific treatment measures to mitigate construction and operation impacts. Therefore, after consultation with the IDFG and the Department of Army, Walla Walla District, Corps of Engineers (Corps), a revised plan should be filed with the Commission before starting any land-clearing or ground-disturbing activities. The revised plan should include detailed and site-specific descriptions of proposed measures to control erosion, sedimentation, turbidity, and slope instability.

2. Issue: Mitigation of impacts to riparian and wetland habitats that occurred during construction of the licensed project.

(a) Comments: The IDFG and the U.S. Fish and Wildlife Service (FWS) recommend that a plan be developed to mitigate adverse impacts to the fish and wildlife habitats of Cedar Draw Creek that occurred during construction of the licensed project. The mitigative plan should include provisions for replacing riparian and wetland habitats damaged or eliminated during construction of the licensed project.

(b) Applicant's response: The applicant has prepared a final mitigative plan for an after-the-fact Corps permit for the remaining fill in the wetlands along Cedar Draw Creek (Ecosystems Research Institute and White Horse Associates, 1986). Development of the mitigative plan was coordinated with the Corps, the Environmental Protection Agency, the FWS, the Idaho Department of Water Resources, the Idaho Department of Health and Welfare, and the IDFG.

(c) Conclusions and recommendations: Construction of the penstock and access road for the licensed project resulted in significant adverse impacts to riparian and wetland habitats along Cedar Draw Creek. Fill material was placed in wetlands at several areas near the powerhouse and along the creek. At five locations, fill slopes from construction extended to the edge of the creek. At these five locations, riparian vegetation was severely impacted or destroyed. Riparian vegetation was also impacted, though less severely, at several other sites along the creek. The final mitigative plan developed by the applicant is adequate to mitigate for the impacts on the fish and wildlife habitats that occurred during construction of the licensed project. The plan includes complete provisions for revegetating disturbed riparian areas and for creating wetlands to replace those damaged or eliminated during construction of the licensed project. The licensee should implement the final mitigative plan filed with the Commission.

3. Issue Cumulative impacts from multiple hydropower development.

(a) Upper Snake River Basin: The Upper Snake River Basin covers most of southern Idaho and portions of Oregon, Nevada, Utah, and Wyoming. The project area is within the Snake River Plain, a volcanic plateau characterized by a semiarid climate and sagebrush rangelands. Canyons within the plateau typically consist of steep talus-covered slopes, supporting grasses and forbs, and scattered willows, sedges, and other riparian vegetation along the streams. Land use includes rangeland and irrigated cropland. Cedar Draw Creek empties into the Upper Snake River approximately 10 miles west of the City of Twin Falls. During the irrigation season, most of the flow in Cedar Draw Creek is from irrigation wastewater.

(b) Proposed and existing hydroelectric development: As of September 15, 1986, 18 license applications for projects located in the Upper Snake River Basin, were pending before the Commission. There are 90 licensed or exempted hydropower projects in this basin and no pending exemption applications. Most of the existing and proposed facilities are along the mainstem of the Snake River and along the Payette River. The existing Cedar Draw Creek project is approximately 1.5 miles upstream from the confluence of Cedar Draw Creek and the mainstem of the Snake River. A downstream diversion dam on Cedar Draw Creek prevents upstream fish movement from the Snake River to the project area.

P-8 1995

(c) Target resources: The staff has identified waterfowl, fishery resources, dissolved oxygen (DO), wetlands (including riparian habitat), and recreation as important resources, which could be adversely affected by two or more proposed hydropower projects in the Upper Snake River Basin. The staff based its selection of target resources on review of other projects in the basin and on comments from the resource agencies. Waterfowl was selected because the Snake River is a major migration corridor and an important overwintering site. Although hydropower dams on the Middle Snake River have limited the anadromous fishery resource in the Upper Snake, the Upper Snake and many of its tributaries support an important recreational sport fishery for rainbow trout (FERC, 1982). DO supports aquatic organisms and assimilates waste materials in the water. Wetlands are important because they provide cover and food for waterfowl and fish. Riparian habitat is regionally important because of its relative scarcity (Boccard, 1980). Riparian habitat is also important because it provides life requisites (e.g., escape cover, nesting cover, and food) for a variety of wildlife species and it provides shade and nutrient input to streams, which benefits the fishery resource. Important recreational activities in the basin include sport fishing, hunting, enjoying aesthetic views, and other water-related activities.

Hydropower development can adversely affect these target resources in several ways. For example, hydropower projects can impact waterfowl by displacing wetland habitat and can impact fish by construction-related erosion and sedimentation, which can cause siltation of spawning gravels. Project operation can cause turbine-induced mortality to fish, dewater fish habitat, and reduce DO when falls and riffles are bypassed. Construction of hydropower facilities can displace riparian habitat and operation can dewater streams that support riparian vegetation. Impacts to fish and wildlife game species and reduction in visual quality from project facilities can adversely affect recreation.

(d) Environmental impacts to target resources: The proposed amendment to the license would add a fourth generating unit to operate during peak irrigation return flows. This addition would require a 515-square-foot extension of the powerhouse and no other construction. The affected area is sparsely vegetated, containing mostly rock and gravel (Crystal Springs Hydroelectric Company, 1985). Construction and operation would not affect waterfowl, riparian habitat, or other wetlands. Addition of the fourth unit does not involve changes to the minimum flow or length of the bypassed reach; therefore, DO would not be decreased. The addition of a fourth turbine would not affect recreation because the project is on private land.

The limited erosion and sedimentation from the additional powerhouse excavation would have a minor short-term impact on trout in the immediate area. Because of the small size of the disturbed area and the presence of a diversion dam, approximately 1 mile downstream from the powerhouse, it is unlikely that sediment would reach the Snake River. Fish mortality in Cedar Draw Creek could slightly increase during operation of the additional turbine. Fish movement between the project area and the Snake River is blocked by an existing diversion dam and upstream movement is restricted by a falls. The trout population in the project area is largely maintained by trout escaping from the upstream rearing ponds. Since the project area trout population is relatively isolated from the rest of the basin, there is no potential for the interaction of project impacts on trout with other projects in the basin.

For these reasons, the staff concludes that the proposed amendment to license has no potential to contribute to basin-wide cumulative impacts to the designated target resources (waterfowl, fishery resources, wetlands and riparian habitat, DO, and recreation) in the Upper Snake River Basin.

H. SUMMARY OF ENVIRONMENTAL IMPACTS

1. Assessment of adverse and beneficial impacts expected from the project as proposed by the applicant (P); the proposed project with the staff's recommended mitigation (Ps) [Section G]; and any other alternative considered (A). *

Resource	Impact P	Ps	A	Remarks
a. Geology/Soils	1AS			a. & c. Minor, short-term increases in erosion, sedimentation and turbidity would be unavoidable during project construction of the powerhouse. The proposed amendment would not affect the four gravel pits located outside of the licensed project boundary.
b. Streamflow	0			
c. Water quality: Temperature	0			
Dissolved oxygen	0			
Turbidity and sedimentation	1AS			
Other:				
d. Fisheries: Anadromous	0			
Resident	1AS			d. Increases in turbidity levels during construction would have a minor, short-term impact on trout in Cedar Draw Creek.
e. Vegetation	0			e. The 25 cfs minimum flow release required by the project license would be sufficient to maintain riparian vegetation along Cedar Draw Creek.
f. Wildlife	1AS			f. Wildlife in the vicinity of the powerhouse would be disturbed during construction at the powerhouse.
g. Cultural: Archeology	0			
History	0			
h. Visual quality	1AS			h. Minor decreases in visual quality may occur during construction of the powerhouse.
i. Recreation	1AS			i. Minor disturbances to recreationists in the immediate project area may occur during construction of the powerhouse.
j. Land use	0			
k. Socioeconomics	0			
l. Ambient noise	1AS			l. & m. Construction activities may temporarily increase noise and dust levels in the immediate project area.
m. Ambient air quality	1AS			

* The assessment reflects the adoption of any federal land management agency's conditions, in addition to the applicant's proposed mitigation. Assessment symbols indicate the following impact levels:

O = No impact; 1 = Minor impact; 2 = Substantial impact; 3 = Major impact;
A = Adverse; B = Beneficial; L = Long-term impact; S = Short-term impact.

(e.g., 1BL = Minor, beneficial, long-term impact)

2. Impacts of the no-action alternative.

Under the no-action alternative, there would be no construction of project facilities or changes to the existing physical, biological, or cultural components of the area. Electrical power that would be generated by the proposed hydroelectric project would have to be generated from other available sources or offset by conservation measures.

3. Recommended alternative (including proposed, required, and recommended mitigative measures): X Proposed project. ___ Alternative action. ___ No action.

4. Reason(s) for selecting the preferred alternative.
The proposed project is preferred because its purpose can be achieved without significant adverse impacts to environmental resources.

I. SUMMARY OF UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS
Construction activities would result in temporary, minor increases in erosion, sedimentation, turbidity, dust and noise levels, and disturbance to wildlife and recreationists. Increased turbidity levels during construction would have a minor, short-term impact on trout.

J. CONCLUSION

X Finding of No Significant Impact. Approval of the recommended alternative [H(3)] would not constitute a major federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement (EIS) will not be prepared.

___ Intent to Prepare an EIS. Approval of the recommended alternative [H(3)] would constitute a major federal action significantly affecting the quality of the human environment; therefore, an EIS will be prepared.

K. LIST OF PREPARERS

Name	Position title
Suzanne Brown	Environmental Protection Specialist (Coordinator)
Angelo Colianni	Geologist
Mark Bagdovitz	Ecologist
John Estep	Botanist
John Staples	Wildlife Biologist
Martin J. Thorpe	Electrical Engineer
Ronald Kowalewski	Civil Engineer
Mary Nowak	Writer-Editor

8 1995

L. LITERATURE CITED

1. Boccard, B. 1980. Important fish and wildlife habitats of Idaho; an inventory. U.S. Fish and Wildlife Service. Department of the Interior, Boise, Idaho 165 pp.

2. Crystal Springs Hydroelectric Company. 1985. Application for amendment of license for the Crystal Springs Hydroelectric Project, FERC No. 8278, Idaho. December 4, 1985.

3. Ecosystems Research Institute and White Horse Associates. 1986. Final mitigation plan for the Crystal Springs Hydroelectric Project, FERC No. 8278, Twin Falls County, Idaho. August 6, 1986.

4. Federal Energy Regulatory Commission. 1982. Final environmental impact statement for the A. J. Wiley Hydroelectric Project, FERC No. 2843, Idaho. Office of Hydropower Licensing, Washington, DC. September 1982.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

November 3, 1986

RE: Permit Nos. 47-7768/7991/8005

Crystal Springs Hydroelectric Co.
c/o Bonneville Pacific Corp.
200 E. S. Temple, Suite 300
Salt Lake City, UT 84111

Gentlemen:

Enclosed are copies of your approved Applications for Permit. We direct your attention to the conditions of approval on the fourth pages.

Please be advised that prior applications for permit have been filed to appropriate water from your source which may impact the availability of water to be used under these permits. Therefore, you should be sure to analyze the impact of these rights before making a major investment into your water use projects.

Be sure to note the special condition requiring you to install measuring devices, or flow measurement ports, or to provide certified measurements or computations of flow based upon the designs of the systems to be prepared by a professional engineer.

Sincerely,

GARY SPACKMAN
Supervisor, Water Allocation Section

GS:sc Enclosures

POWER CALCULATIONS FOR APPLICATION NO. 47-7991

724 at 80% e

P = Kilowatts .74 X hp

Q = cfs 40.0

H = feet 267'

e = efficiency

✓ 1.) Affidavit of Residency
✓ 2.) Ownership of Facilities
✓ 3.)*Financial Ability
✓ 4.) Feasibility of Project
a. Plans, drawings
b. Economic analysis
Ferc License ✓ 5.)*Compliance w/FERC
*only for projects of more than 25 cfs or more than 500 horsepower.

$e = \frac{P(11.8)}{QH} = \_\_\_\_ = \_\_\_\_ =$

$P = \frac{QHe}{11.8} = \frac{40. \times 267' \times .80}{11.8} = \frac{8544}{11.8} = 724$ kw at 80% eff.

Based on the above calculations the proposed project must have an _____% efficiency.

****

OVERLAP REVIEW per VAX 10/28/80:

P/D 47-7768 } same system
47-8005 }
47-7767 - Relinquished
{01-0004 }
{01-0010 } irrig.
{01-0289 }

P/U X 47-7767 - Relinquished
47-7768 - same system

BYPASSED AREA Recommend LH

kw

RECEIVED
JUL 21 1986
Department of Water Resources
Southern District Office

Bonneville Pacific Corporation
A Subsidiary of Bonneville Group, Inc.

July 11, 1986

Files: 47-7767
47-7768
47-7991L
47-8005
47-7672

Mr. Loren Holmes
Idaho Department of Water Resources
1041 Blue Lakes Blvd.
Twin Falls, ID 83301

Re: Crystal Springs Hydroelectric Project
Cedar Draw Creek

Dear Loren:

This letter will confirm our conversation today regarding Bonneville's plan to mitigate approximately one half acre of wetlands located along either side of the penstock road in the vicinity of the Crystal Springs powerhouse. Irrigation will be accomplished by diverting approximately .3 CFS from the head of the existing irrigation canal on Cedar Draw Creek located approximately 800 feet southwest of the powerhouse.

The conclusion of our discussion was that this minor diversion is permissible under our existing Water Permit and/or is permissible in as much as it is an agency - required condition of our FERC license. The wetlands irrigation plan has been reviewed by all appropriate federal and state agencies, including the Idaho Department of Fish and Game.

If your understanding of our discussion differs in any way from this summary, please let me know.

Sincerely,

Dean Anderson
Vice President

DA:ls

200 East South Temple, Suite 300 / Salt Lake City, Utah 84111 / 801-363-2520 / 801-363-1900 / Telex 381542

RECEIVED
APR 22 1986
Department of Water Resources

Bonneville Pacific Corporation

A Subsidiary of Bonneville Group, Inc.

April 21, 1986

FEDERAL ENERGY REGULATORY COMMISSION
1120 Southwest 5th Avenue
Suite 1340
Portland, OR 97204

47-7991
47-7767
47-7768

Re: Crystal Springs Hydroelectric Project
Cedar Draw Creek Project No. 8278-001 Idaho

Attn: Harry Hall; Quentin A. Edson

Dear Mr. Hall:

In accordance with our 5-year slope stabilization and revegitation plan as ammended February 13, 1986, we have inspected the project site to determine winter time erosion or mass slumpages on March 16, 1986.

The results of the inspection indicated that there was some minimal winter erosion with moderate success in the crested wheat plantings and limited success in the willow plantings along the creek.

During the following two weeks, the entire site was reseeded with hydro mulch and the willows were replanted along the creek. Cattails were also planted in the proposed wetland areas to expedite the establishment of those plant species.

If you have any questions regarding this or any other matter, please contact our office.

Respectfully,

BONNEVILLE PACIFIC CORPORATION

Orlin V. Clements, Jr., P.E.

OVC:ss

cc Department of Army
Walla Walla District Corps of Engineers
Building 602, City County Airport
Walla Walla, WA 99362-9265
Operations and Readiness Division
James B. Royce: District Engineer

Department of Army
Corp of Engineers, Boise Field Office
Lucky Peak Dam
Boise, ID 83701 (Attn. John Olson)

834 Falls Avenue, Suite 1020 L / Twin Falls, Idaho 83301 / (208) 734-0551

✓cc Idaho Department of Water Resources
Statehouse
Boise, Idaho 83701

Mr. Mike McMasters
Idaho Department of Health and Welfare
Division of Environment
P.O. Box 1626
Twin Falls, Idaho 83303

Mr. Bob Bell
Idaho Department of Fish and Game
Region 4
Box 42
Jerome, Idaho 83338

Mr. Virgil Moore
Idaho Department of Fish and Game
600 South Walnut Street, Box 25
Boise, Idaho 83707

U.S. Fish and Wildlife Service
Boise Field Office
4969 Overland Road, Room 576
Boise, Idaho 83705

U.S. Environmental Protection Agency
Region X
1200 Sixth Avenue, Mail Stop 423
Seattle, Washington 98101

Mr. Warren T. McFall
U.S. Environmental Protection Agency
Idaho Operations Office
422 West Washington Street
Boise, Idaho 83702

LAW OFFICES

PARSONS, BEHLE & LATIMER

A PROFESSIONAL CORPORATION

185 SOUTH STATE STREET, SUITE 700
POST OFFICE BOX 11898
SALT LAKE CITY, UTAH 84147-0898
TELEPHONE (801) 532-1234
TELECOPIER (801) 532-1234, EXT. 273

1016-16TH STREET, N.W., SUITE 600
WASHINGTON, D.C. 20036
TELEPHONE (202) 659-0862

FORMERLY
DICKSON, ELLIS, PARSONS & McCREA
1882-1959

C.C. PARSONS
1907-1968

CALVIN A. BEHLE
1947-

OF COUNSEL
GEORGE W. LATIMER
CONSTANCE K. LUNDBERG

KEITH E. TAYLOR
JAMES B. LEE
SCOTT M. MATHESON
GORDON L. ROBERTS
F. ROBERT REEDER
WILLIAM L. CRAWFORD
LAWRENCE E. STEVENS
DANIEL M. ALLRED
HOWARD J. MARSH
YAN M. ROSS
DAVID S. DOLOWITZ
KENT W. WINTERHOLLER
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FRANCIS M. WIKSTROM
DAVID W. TUNDERMANN
JAMES M. ELEGANTE
DAVID P. HIRSCHI
VAL R. ANTCZAK
PATRICK J. GARVER
SPENCER E. AUSTIN
JOHN B. WILSON

ROBERT C. HYDE
CRAIG B. TERRY
DAVID A. ANDERSON
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MICHAEL L. LARSEN
JONATHAN K. BUTLER
DAVID G. MANGUM
JULIA C. WEBB
DEREK LANGTON
HAL J. POS
W. MARK GAVRE
DAVID J. SMITH
TONI MARIE SUTLIFF

April 16, 1986

RECEIVED
APR 18 1986
Department of Water Resources

Mr. Orlin Clements
BONNEVILLE PACIFIC CORPORATION
834 Falls Avenue, Suite 1020L
Twin Falls, Idaho 83301

Re: Crystal Spring Water Rights

Dear Orlin:

Pursuant to our telephone conversation this date, I am enclosing herewith copies of letters dated February 18, 1986, and April 10, 1986, from Jim Johnson, Water Rights Supervisor for the Department of Water Resources in Boise, Idaho, requesting that Crystal Springs Hydroelectric Company relinquish certain of the inconsistent water rights filings on the Crystal Springs Project.

As I indicated to you in our telephone conversation, it is our desire to be cooperative with the Department of Water Resources, provided that we can do so in a manner which will facilitate our perfecting of the water rights necessary for the project. This means that we should arrange with the Department of Water Resources to have one of their staff review the project and approve all aspects of the permit which we wish to retain so that it can be finalized as quickly as possible in connection wiht the relinquishment of the other rights.

Please do not hesitate to contact me should you have any questions or comments concerning this matter.

Very truly yours,

PARSONS, BEHLE & LATIMER

David P. Hirschi

DPH:rs
Enclosure
cc: Robert L. Wood
Jim Johnson

tate of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

April 10, 1986

RE: Applications for Permit Nos. 47-7672/7767/7768/7991/8005/8009
Crystal Springs Hydroelectric Co.

David P. Hirschi
c/o Bonneville Pacific Corp.
200 E. S. Temple, Suite 300
Salt Lake City, UT 84111

Dear Mr. Hirschi:

On 2/18/86 I corresponded with you in regards to completing the processing of the above referenced applications for permit.

You will recall that I suggested two of the applications be withdrawn so that the total requested amount for power use will reflect the amount actually being planned for development. I recall a follow-up telephone conversation from you, but I don't remember exactly what was discussed.

Since we still have not received the requested relinquishment forms, I hope that this letter will remind you that we are still withholding final action. Please inform us of your intentions on this matter on or before June 1, 1986.

Thank you for your cooperation. If I can be of any assistance, please let me know.

Sincerely,

JIM JOHNSON
Water Rights Supervisor

JJ:sc

MODIFIED

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

February 18, 1986

RE: Applications for Permit Nos. 47-7672/7767/7768/7991/8005/8009
Crystal Springs Hydroelectric Co.

David P. Hirschi
c/o Bonneville Pacific Corp.
200 E. S. Temple, Suite 300
Salt Lake City, UT 84111

Dear Mr. Hirschi:

The Department is now in the process of making final review of the above referenced applications for permit in relation to the Crystal Springs Hydroelectric project. This review has determined that in total six applications have been filed. Five of the six identify Cedar Draw water to be used for hydropower generation and one (47-8009) identifies groundwater for industrial use within the hydro plant facilities. Of the five applications filed for hydropower generation, one (47-7672) is still pending the outcome of a protest filed against approval of the application. The four appearing to be ready for permit approval are Nos. 47-7767/7768/7991/8005.

Application Nos. 47-7767 and 47-7768 were filed with the Department on the same day and had originally identified two separate project proposals within the Cedar Draw Drainage. However, on December 20, 1984, amendments to the applications were filed making both project proposals for the same site.

Application Nos. 47-7991 and 47-8005 were subsequently filed to supplement the previously filed applications with the intent to appropriate additional flows that were determined to be available.

RECEIVED

A summary of all Crystal Springs Hydroelectric Co. applications are shown below:

Application Number	Source	Cfs	Water Use
47-7672	LF Lateral	110	Hydropower
47-7767	Cedar Draw	110	Hydropower
47-7768	Cedar Draw	110	Hydropower
47-7991	Cedar Draw	40	Hydropower
47-8005	Cedar Draw	50	Hydropower
Total (Hydropower)		420	
47-8009	Groundwater	0.10	Industrial

The total requested appropriation for the Crystal Springs Hydroelectric project is 420 cfs. According to statements made on Application No. 47-8005, the intent of the development is not to exceed total use of 200 cfs, which is slightly less than half of the total amounts applied for.

The Department cannot approve all of the applications when the stated intent is to develop only 200 cfs. Therefore, the Department requests that Application Nos. 47-7672 and 47-7767 be formally withdrawn by Crystal Springs Hydroelectric Co. This action will bring in line the amounts sought for appropriation with the intended development plan.

Enclosed for your convenience are two relinquishment forms which can be completed and returned to this office. If you have any questions on this matter or if the Department can be of further assistance, please contact me at (208)334-4162.

Sincerely,

JIM JOHNSON
Water Rights Supervisor

JJ:sc
Enclosures

cc: Southern Region

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

December 18, 1985

Re: Cedar Draw Creek Hydroelectric Project (FERC No. 8278)
Water Right Application Nos. 47-7767, 47-7768 & 47-7991

H. Wayne Gibbs, Project Coordinator
J-U-B Engineers, Inc.
250 S. Beechwood Ave., Suite 1
Boise, ID 83709

Dear Mr. Gibbs:

This office has received the application for amendment of a license for the above-referenced hydroelectric project.

A review of Department files shows that the water right applications have not been approved by the Department since the applications have been protested.

We appreciate the opportunity to submit comments.

Sincerely,

A. KENNETH DUNN
Director

ls

cc: Southern Region

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

RECEIVED
DEC 5 1985
Department of Water Resources

December 2, 1985

Kenneth Dunn, Director
Idaho Dept. of Water Resources
450 West State Street
Boise, ID 83720

Dear Mr. Dunn:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

MICROFILMED

MEMORANDUM

DATE: 12/5/85

FROM: Loren Holmes

TO: Files 47-7672, 47-7767, 47-7768, 47-7991, 47-8005

RE: Crystal Springs Hydroelectric Co.
Cedar Draw Project
FERC # 8278

STATUS OF WATER RIGHT FILES

47-7672 (110 cfs from LF Lateral)

This application was the subject of a previous protest hearing at which one protestant failed to appear.

The security agreement submitted 6/14/85 by Bonneville Pacific refers to this application as part of the project, but the P/D and P/U are upstream from the works described in the other applications.

The file is held in the region pending clarification and resolution of the outstanding protest.

Statewide advertising will also be required.

47-7767 & 47-7768 (110 cfs each from Cedar Draw)
47-7991 (40 cfs from Cedar Draw)

Region Processing is complete.

Protests against the applications have been withdrawn and the applications have been advertised statewide.

The project plans and financial information required for the files is contained in the FERC license and in the security agreement submitted 6/14/85 (assuming a signed copy has been received)

47-8005 (50 cfs from Cedar Draw)

This is an additional application filed 6/14/85 for the same project works as 47-7767, 7768, & 7991.

The application is referred to in the security agreement as a pending water right.

Crystal Springs Hydro has apparently applied to FERC to amend its license for the additional generating capacity under this water filing.

The application is being held in the region pending statewide readvertising.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
SOUTHERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301
(208) 734-3578

October 28, 1985

David P. Hirschi
Crystal Springs Hydroelectric Company
c/o Bonneville Pacific Corporation
200 East South Temple, Suite 300
Salt Lake City, Utah 84111

Re: Applications for Permit No.47-7767, 47-7768, 47-7991

Dear Mr. Hirschi:

This letter is to advise you that we are proceeding with re-advertising of the above applications to advise the public that protests may be filed with respect to the public interest identified in Section 42-203C, of the IDAHO CODE, which became effective July 1, 1985.

The applications are otherwise in form for final action by the Department.

If no protests are received, final processing of the applications will proceed after this additional advertising step is completed.

If you have questions concerning this matter, please feel free to contact this office.

Very truly yours,

Loren O. Holmes
Southern Region Supervisor

LOH:marya

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

SOUTHERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301
(208) 734-3578

October 28, 1985

Times News
P. O. Box 548
Twin Falls, Idaho 83301

Gentlemen:

Enclosed you will find a legal notice which we wish to have published once a week for two consecutive weekly issues of your newspaper. We have inserted the publication dates allowing ample time for you to submit us a galley proof for review before publication.

After sending us a galley proof, proceed with the publication on the dates we have inserted, assuming the notice is correct. If we have any corrections, we will notify you before the first publication. If you cannot publish the notice on the proposed dates, please contact us immediately.

In order to receive payment, an affidavit of publication must be submitted to the Department along with the publication bill.

Very truly yours,

Mary A. Newby
Sec/Office Coord.

Encl:

MICROFILMED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
SOUTHERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301
(208) 734-3578

October 28, 1985

Idaho Statesman
Box 40
Boise, Idaho 83707

Gentlemen:

Enclosed you will find a legal notice which we wish to have published once a week for two consecutive weekly issues of your newspaper. We have inserted the publication dates allowing ample time for you to submit us a galley proof for review before publication.

After sending us a galley proof, proceed with the publication on the dates we have inserted, assuming the notice is correct. If we have any corrections, we will notify you before the first publication. If you cannot publish the notice on the proposed dates, please contact us immediately.

In order to receive payment, an affidavit of publication must be submitted to the Department along with the publication bill.

Very truly yours,

Mary A. Newby
Sec/Office Coord.

Encl:

UNPUBLISHED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

SOUTHERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301
(208) 734-3578

October 28, 1985

Lewiston Morning Tribune
505 C Street
Lewiston, Idaho 83501

Gentlemen:

Enclosed you will find a legal notice which we wish to have published once a week for two consecutive weekly issues of your newspaper. We have inserted the publication dates allowing ample time for you to submit us a galley proof for review before publication.

After sending us a galley proof, proceed with the publication on the dates we have inserted, assuming the notice is correct. If we have any corrections, we will notify you before the first publication. If you cannot publish the notice on the proposed dates, please contact us immediately.

In order to receive payment, an affidavit of publication must be submitted to the Department along with the publication bill.

Very truly yours,

Mary A. Newby
Sec/Office Coord.

Encl:

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

SOUTHERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301
(208) 734-3578

October 28, 1985

Post Register
P. O. Box 1800
Idaho Falls, Idaho 83402

Gentlemen:

Enclosed you will find a legal notice which we wish to have published once a week for two consecutive weekly issues of your newspaper. We have inserted the publication dates allowing ample time for you to submit us a galley proof for review before publication.

After sending us a galley proof, proceed with the publication on the dates we have inserted, assuming the notice is correct. If we have any corrections, we will notify you before the first publication. If you cannot publish the notice on the proposed dates, please contact us immediately.

In order to receive payment, an affidavit of publication must be submitted to the Department along with the publication bill.

Very truly yours,

Mary A. Newby
Sec/Office Coord.

Encl:

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) is (are) being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code the opportunity to protest:

42-7991

CRYSTAL SPRINGS HYDROELECTRIC CO.

P.O. BOX 1892, TWIN FALLS, ID 83301

Source: CEDAR DRAW trib. to SNAKE RIVER

Date Filed: 12/27/1984

Diversion Pt: SWNE Sec 23 T 09S R 15E

Use: POWER (40.00 CFS)

In: SWNE Sec 14 T 09S R 15E

Protests must be filed with the Director, Department of Water Resources, Southern Region, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 on or before November 25, 1985.

A.KENNETH DUNN
Director

Published:	Idaho Statesman on	Nov. 7 & Nov. 14, 1985
	Lewiston Morning Tribune	Nov. 7 & Nov. 14, 1985
	Post Register	Nov. 7 & Nov. 14, 1985
	Times News	Nov. 7 & Nov. 14, 1985

11/18/85 ok

MICROFILMED

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) is (are) being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code the opportunity to protest:

47-7991

CRYSTAL SPRINGS HYDROELECTRIC CO.
P.O. Box 1892, Twin Falls, ID 83301
Source: CEDAR DRAW trib. to SNAKE RIVER
Date Filed: 12/27/1984
Diversion Pt: SWNE Sec 23 T 09S R 15E
Use: POWER (40.00 CFS)
In: SWNE Sec 14 T 09S R 15E

Lewiston ok 11/6/85 mcevoy

LEGAL2-PRUF

61157

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) is (are) being advertised to allow all parties affected by the addition of the public interest criteria Sec. 42-203C, Idaho Code the opportunity to protest:

47-7991

CRYSTAL SPRINGS HYDRO-ELECTRIC CO.
P.O. BOX 1892, TWIN FALLS, ID 83301
Source: CEDAR DRAW trib. to SNAKE RIVER
Date Filed: 12/27/1984
Diversion Point: SWNE Sec 23 T 09S R 15E
Use: POWER (40.00 CFS)
In: SWNE Sec 14 T 09S R 15E

47-7991 -
47-8005
47-7[illegible]

RECEIVED
SEP 23 1985
Department of Water Resources

IDAHO DEPARTMENT OF FISH AND GAME
600 South Walnut • Box 25
Boise • Idaho • 83707

September 19, 1985

Mr. H. Wayne Gibbs
J-U-B Engineers, Inc.
250 South Beechwood Avenue, Suite 1
Boise, ID 83709

Re: Cedar Draw Creek Hydro Project No. 8278. Application for Amendment of License.

Dear Mr. Gibbs:

Thank you for providing us with a draft of the above-referenced document. We would offer the following comments for your consideration:

1. There is a considerable amount of narrative included on aspects of the original license which is not really germaine to the amendment. Conversely, the portions relevant specifically to the amendment are difficult to isolate.

2. The center paragraph on page 31 implies that 1/2-inch screening is sufficient, which is contradictory to the 1/4-inch screening described on page 30.

3. Considering what has occurred at the Cedar Draw project, the statement on page 2 that "Mitigation measures are set forth in the application and project bid documents to insure compliance with water quality standards," and the statement on page 19 that "the use of proven construction techniques has minimized this impact (erosion)" are inappropriate.

4. The impacts of the additional generating capacity should be isolated and discussed specifically. For example, how much additional excavation or fill will be required for the expanded powerhouse and what type of habitat will be impacted?

Be advised that we will oppose this amendment until such time that the actions specified in the attached corespondence have been taken; i.e.:

a. removal of all fill material in wetlands in the construction staging area;

b. creation of new wetlands in areas south and east of the powerhouse;

c. removal of rock and fill from Cedar Draw at four locations;

d. stabilization and revegetation of fill slopes and streambank;

e. submittal of plans for long-term maintenance of fill slopes and streambank;

f. acquisition of a Department of the Army permit for remaining fill.

Sincerely,

Al Van Vooren
Staff Biologist

cc: USFWS (Wolflin)
EPA (Seattle)
EPA (Boise)
FERC (San Francisco)
Corps of Engineers (Walla Walla)
Corps of Engineers (Boise)
IDWR
IDHW-DOE
Region 4

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

RECEIVED
AUG 22 1985
Department of Water Resources

Kenneth Dunn, Director
Idaho Dept. of Water Resources
450 West State Street
Boise, ID 83720

Dear Mr. Dunn:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

UNDOCUMENTED

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

July 31, 1985

RECEIVED
AUG 5 1985
Department of Water Resources
Southern District Office

Mr. David P. Hirschi
Crystal Springs Hydroelectric Company
c/o Bonneville Pacific Corporation
200 East South Temple, Suite 300
Salt Lake City, UT 84111

Re: Crystal Springs Hydroelectric Company -- Assignment of Security Interest and Application for Permit Nos. 47-7767, as Amended, 47-7768, as Amended, 47-7672, as Amended, **47-7991**, and Application for Permit to Alter Stream Channel No. 47-S-70

Gentlemen:

This office has received a signed copy of the Mortgage Trust Indenture and Security Agreement between Crystal Springs Hydroelectric Company and First Interstate Bank of Idaho, N.A., as Trustee, and First Interstate Bank of Utah, N.A., as Beneficiary.

This letter confirms that an assignment of a security interest in the above-referenced water rights is effective from Crystal Springs Hydroelectric to First Interstate Bank of Idaho, N.A. This Assignment of Security Interest will prevent further assignments of the water rights without the approval of the above-referenced parties, but will not change the name of the water right holder of record, which will continue to be Crystal Springs Hydroelectric Company.

This acknowledgement of assignment of a security interest does not constitute a waiver by this Department of the State of Idaho to seek appropriate regulatory actions against the entities identified within this letter for any and all violations of any state statute, rule or regulation notably with respect to stream channel alterations.

Sincerely,

NORMAN C. YOUNG
Administrator
Resources Administration Division

NCY/DRT/ls

cc: **Southern Region**

47-7991

IDAHO DEPARTMENT OF FISH AND GAME
REGION 4
868 East Main • Box 428
Jerome • Idaho • 83338

July 22, 1985

RECEIVED
JUL 23 1985
Department of Water Resources
Southern District Office

Mr. Loren O. Holmes
Department of Water Resources
1041 Blue Lakes Blvd. North
Twin Falls, ID 83301

Re: Application 47-7991, 47-7767 and 47-7768,
Crystal Springs Hydroelectric Company, Cedar Draw Creek

Dear Loren:

The Department of Fish and Game hereby withdraws the protests against the above referenced applications by the Crystal Springs Hydroelectric Company on Cedar Draw Creek. Satisfactory instream flow requirements have been agreed upon.

Sincerely,

William E. Webb

William E. Webb
Supervisor, Region 4

WEW:RJB:ar

cc: Bureau of Fisheries
Bureau of Program Coordination

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

June 18, 1985

Crystal Springs Hydroelectric Company
c/o Bonneville Pacific Corporation
200 East South Temple, Suite 300
Salt Lake City, Utah 84111

First Interstate Bank of Utah, N.A.
180 South Main Street
Salt Lake City, Utah 84101

First Interstate Bank of Idaho, N.A.
700 West Idaho Street, 3rd Floor
Boise, Idaho 83702

RECEIVED
JUN 20 1985
Department of Water Resources
Southern District Office

Re: Mortgage Trust Indenture and Security Agreement Affecting Applications for Permit Nos. 47-7767, as Amended; 47-7768, as Amended; 47-7672, as Amended; **47-7991**; and Application for Permit to Alter Stream Channel No. 47-S-70

Gentlemen:

This office has received a copy of the unsigned Mortgage Trust Indenture and Security Agreement between Crystal Springs Hydroelectric Company (the Owner of the above-referenced Applications for Permit), and First Interstate Bank of Idaho, N.A., as Trustee, and First Interstate Bank of Utah, N.A., as Beneficiary.

Based upon our understanding of the information in said unsigned Agreement, Crystal Springs Hydroelectric Company intends to grant a security interest in the above-referenced Applications for Permit to First Interstate Bank of Idaho, N.A., as Trustee, to have and to hold as partial security for the performance by Crystal Springs Hydroelectric Company of certain obligations to First Interstate Bank of Utah, N.A., in connection with financing the Crystal Springs Hydroelectric Project to which the above-referenced Applications for Permit relate.

This letter confirms that this office has reviewed the unsigned Mortgage Trust Indenture and Security Agreement and has found that it conforms to and complies with the requirements of Sections 42-206 and 42-207, Idaho Code, and that the Trustee, First Interstate Bank of Idaho, N.A., is an entity qualified to hold a security interest in said water rights. An assignment of a Security Interest in Applications for Permit Nos. 47-7767, as amended; 47-7768, as amended; 47-7672, as amended; 47-7991; and Application for Permit to Alter Stream Channel No. 47-S-70 from Crystal Springs Hydroelectric Company to First Interstate Bank of Idaho, N.A. will therefore become effective as of the date of receipt by this office of a signed original of the above-referenced Mortgage Trust Indenture and Security Agreement. Assignment of the security interest will not result in a change of name on the Applications for Permit, so the name of record of each will continue to be Crystal Springs Hydroelectric Company.

Sincerely,

Norman C Young

NORMAN C. YOUNG
Administrator,
Resources Administration Division

RECEIVED
JUN 14 1985
Department of Water Resources

LAW OFFICES OF
PARSONS, BEHLE & LATIMER
A PROFESSIONAL CORPORATION
185 SOUTH STATE STREET, SUITE 700
POST OFFICE BOX 11898
SALT LAKE CITY, UTAH 84147-0898
TELEPHONE (801) 532-1234
TELECOPIER (801) 532-1234, EXT. 273

1801 "K" STREET, N.W., SUITE 1109L
WASHINGTON, D.C. 20006
TELEPHONE (202) 659-0862

FORMERLY
DICKSON, ELLIS, PARSONS & McCREA
1882-1959

KEITH E. TAYLOR
JAMES B. LEE
SCOTT M. MATHESON
GORDON L. ROBERTS
F. ROBERT REEDER
WILLIAM L. CRAWFORD
LAWRENCE E. STEVENS
DANIEL M. ALLRED
HOWARD J. MARSH
YAN M. ROSS
ERIE V. BOORMAN
DAVID S. DOLOWITZ
KENT W. WINTERHOLLER
BARBARA K. POLICH
RANDY L. DRYER
CHARLES H. THRONSON
DAVID R. BIRD
RAYMOND J. ETCHEVERRY
FRANCIS M. WIKSTROM
DAVID W. TUNDERMANN
KREGE B. CHRISTENSEN
JAMES M. ELEGANTE
DAVID P. HIRSCHI
VAL R. ANTCZAK
PATRICK J. GARVER
SPENCER E. AUSTIN

C.C. PARSONS
1907-1968

CALVIN A. BEHLE
1947-

OF COUNSEL
GEORGE W. LATIMER
CONSTANCE K. LUNDBERG
†LYNNE D. FINNEY

JOHN B. WILSON
ROBERT C. HYDE
CRAIG B. TERRY
DAVID A. ANDERSON
KENT O. ROCHE
PATRICIA J. WINMILL
JAN P. BENSON
RANDY M. GRIMSHAW
J. STEPHEN RUSSELL
DANIEL W. HINDERT
T. PATRICK CASEY
ALICE L. HEARST
HENRY D. MARSH
JOHN A. ANDERSON
D. R. CHAMBERS
BYRON W. MILSTEAD
LOIS A. BAAR
*MARK E. RINEHART
MICHAEL L. LARSEN
JONATHAN K. BUTLER
DAVID G. MANGUM
JULIA C. WEBB
DEREK LANGTON
HAL J. POS

*ADMITTED IN COLORADO ONLY
†ADMITTED IN CALIFORNIA AND DISTRICT OF COLUMBIA ONLY

June 13, 1985

Mr. David Tuthill
STATE OF IDAHO
Department of Water Resources
Statehouse
Boise, Idaho 83720

FEDERAL EXPRESS

Re: Crystal Springs Hydroelectric Company -- Assignment of Security Interest in Approved Application for Permit Nos. 47-7767, as Amended, 47-7768, as Amended, 47-7672, as Amended, 47-7991, and Application for Permit to Alter Stream Channel No. 47-S-70

Dear Mr. Tuthill:

This firm represents Crystal Springs Hydroelectric Company, an Idaho general partnership.

Crystal Springs Hydroelectric Company is developing a hydroelectric project located in Twin Falls County on the Cedar Draw Creek. Crystal Springs Hydroelectric Company has received a Commitment for construction and permanent financing from First Interstate Bank of Utah and its participant First Interstate Bank of Idaho for the construction of the facility.

As a requirement for funding the loan, First Interstate Bank of Utah and First Interstate Bank of Idaho are requiring that Crystal Springs Hydroelectric Company assign its rights in and to the above-referenced permits to First Interstate Bank of Idaho as Trustee pursuant to a Mortgage Trust Indenture and Security Agreement, a copy of which is enclosed herewith.

Our review of appropriate Idaho law would indicate that the proposed Assignment of the above-referenced Water Permits as partial security for the proposed loan is in conformance with Sections 42-206 and 42-207, Idaho Code, and we therefore request that the Department of Water Resources approve such Assignment.

For your convenience, I have enclosed herewith a form letter which has been approved by the Banks. Please review the enclosed materials and contact me at your earliest convenience with any questions or comments which you may have thereon. If the Dept. of Water Resources approves the proposed Assignment, please have the enclosed letter or a letter in substantially similar form prepared on Dept. of Water Resources letterhead and send the original copy executed by the Director or Administrator of the Dept. of Water Resources to me for use in the loan closing. The loan closing is presently scheduled for June 21, 1985 and we will appreciate your processing this Application for approval as soon as possible.

Very truly yours,

PARSONS, BEHLE & LATIMER

David P. Hirschi

DPH/jml
Enclosures
cc: Robert L. Wood
Thomas A. Quinn
Pamela T. Greenwood

INTER-DEPARTMENT MEMO — 1

FROM Dave Tuthill

DATE June 11, 1985

TO Loren Holmes

SUBJECT Crystal Spgs Hydroelectric Co — 47-7991; 47-7767; 47-7768

As we discussed, here is a copy of the Order Issuing Major License for FERC Project No 8278 which pertains to the above-number apps for permit. Due to the length of the Order & Associated documents, we have maintained for our protest files only a copy of the first page. It is my understanding that you will be contacting IDFG re: resol. of protests (see attached memo to Clive Strong dated 6/11/85) Dave

SIGNATURE

47-1991 } apps
47-7767 } 6-5-85
47-7768

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

31 FERC 162,258

Crystal Springs Hydroelectric Company) Project No. 8278-000

ORDER ISSUING MAJOR LICENSE
(Issued May 24, 1985)

Crystal Springs Hydroelectric Company (Applicant), filed on May 1, 1984, an application for license under Part I of the Federal Power Act (Act) to construct, operate and maintain the Cedar Draw Creek Project No. 8278.1/ The project would be located on Cedar Draw Creek in Twin Falls County, Idaho, and would effect the interests of interstate or foreign commerce.

Notice of the application has been published and comments have been received from interested Federal, state and local agencies. No protests have been received. A motion to intervene was filed by Idaho Power Company on October 29, 1984, but was later withdrawn on November 23, 1984. No other motions to intervene were received. The significant concerns of the agencies are discussed below.

PROJECT DESCRIPTION AND OPERATION

The project would consist of a 6-foot-high, 73-foot-long diversion dam, a 5,750-foot-long, 60-inch-diameter steel conduit, a 10-foot-diameter steel surge standpipe, a 1,350-foot-long, 54-inch-diameter steel penstock, a powerhouse containing three generating units with a combined capacity of 2,249 kW, a tailrace, a 4.25-mile-long, 46-kV transmission line, and an access road.2/ The project would be operated run-of-river. A 25 cubic feet per second (cfs) minimum streamflow would be provided through the 7,500 feet of bypassed reach.

1/ Authority to act on this matter is delegated to the Director, Office of Hydropower Licensing, under §375.314 of the Commission's regulations, 49 Fed. Reg. 29,369 (1984)(Errata issued July 27, 1984)(to be codified at 18 C.F.R. §375.314). This order may be appealed to the Commission by any party within 30 days of the issuance date of this order pursuant to Rule 1902, 18 C.F.R. §385.1902 (1983). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

2/ See Ordering Paragraph B for a more detailed description.

ENGINEERING CONSIDERATIONS

Safety and Adequacy

The proposed project structures would impound an insignificant amount of water and their failure would not endanger downstream life or property. The project structures would be safe if constructed using sound engineering practices, and upon compliance with the articles recommended herein.

Article 24 requires the Licensee to submit construction contract drawings and specifications 60 days prior to the start of construction.

Article 25 requires the Licensee to submit revised Exhibit F drawings, 90 days after completion of construction and Article 27 requires the Licensee to submit a copy of approved cofferdam construction drawings and specifications and a copy of the letter of approval 30 days prior to the start of construction.

Economic Feasibility

With a minimum streamflow release of 25 cfs, the project would generate 6,662-MWh of energy annually. The project would be economically feasible based on the rate schedule established by contract with Idaho Power Company. The cost of the project in 1984 dollars is $1,900,000.

Comprehensive Development

The project will make good use of the flow and fall of Cedar Draw Creek, and is not in conflict with any existing or planned development of the basin upon compliance with the terms and conditions of the license.

ENVIRONMENTAL CONSIDERATIONS

Erosion, Sedimentation, and Slope Stability

The Idaho Department of Fish and Game (DFG) recommends avoidance of short- and long-term erosion during project construction. The U.S. Department of the Interior states that the Applicant should field-check the project area for mineral deposits, as the Bureau of Mines' Mineral Industry Location System indicates four gravel pits occur within or near the proposed project area. The Applicant has surveyed the project area, and has found no mineable gravel deposits.

Construction of project features will cause localized erosion and sedimentation, potential mass movement of talus or rock

MICROFILMED

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

MEMORANDUM

TO: Clive Strong, Idaho Attorney General's Office

THRU: L. Glen Saxton, Norman C. Young

FROM: David R. Tuthill, Jr. DRT

DATE: June 11, 1985

RE: Status of Water Rights with Respect to the Crystal Springs Hydroelectric Company Hydropower Project on Cedar Draw Creek, Project No. 8278

This memorandum has been prepared at the request of Norman C. Young to apprise the Attorney General's Office of the status of water rights on the above-referenced FERC project.

On November 10, 1981, this Department received two Applications for Permit to develop water rights on Cedar Draw Creek tributary to the Snake River. One was filed in the name of LeRoy Byland and Dave Millard, and the other was filed in the name of Cedar Falls Generating Co. The applications were assigned Nos. 47-7767 and 47-7768 respectively, and were advertised. No protests were received.

During the next three years these applicants filed a variety of documents with the Department and FERC regarding the proposed projects. On December 20, 1984, they filed amended applications to replace the original applications, and on December 24, 1985, filed assignments to change the name to the Crystal Springs Hydroelectric Co. These amended applications were advertised and were protested by the Idaho Department of Fish and Game (IDFG).

On December 27, 1984, the applicants filed a third application to provide for an additional rate of flow for the same project. This application was assigned No. 47-7991 and was advertised. It was also protested by IDFG.

The Department has been apprised of the documents filed with FERC with respect to this hydroelectric project, including an Application for Preliminary Permit, an Application for License filed in May, 1983, and the most recent Application for License which was filed with FERC on May 24, 1984. There did not appear to be a need for the Department to

respond or intervene in the FERC actions because the applicants were cooperating fully with the requirements of the Department.

Now that the Order has been issued granting a Major License for FERC Project No. 8278, the Department will contact IDFG regarding withdrawal of their standard hydropower project protests from the above-referenced water right applications so further water right processing can continue.

MICROFILMED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
SOUTHERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301
(208) 734-3578

February 20, 1985

Crystal Springs Hydroelectric Co.
P. O. Box 1892
Twin Falls, Idaho

Re: Application for Permit No. 47-7991

Gentlemen:

Enclosed is a copy of a protest filed against the issuance of a permit pursuant to your above referenced application. The Department suggests you contact the protestant directly in an effort to determine the nature of the protest and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, IDAHO CODE):

1) Will the proposed use reduce the quantity of water under existing rights?

2) Is the proposed water supply insufficient for the purposes intended?

3) Is the application made in good faith or for delay or speculative purposes?

4) Has the applicant sufficient financial resources with which to complete the project?

5) Will the proposed use conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

UNCORRECTED

LOREN O. HOLMES
Southern Region Supervisor

LOH:marya

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

SOUTHERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301
(208) 734-3578

February 20, 1985

William E. Webb - Supervisor
Idaho Department of Fish & Game
Region 4
Box 428
Jerome, Idaho 83338

Re: Application for Permit No. 47-7991

Dear Mr. Webb:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, IDAHO CODE):

1) Will the proposed use reduce the quantity of water under existing rights?

2) Is the proposed water supply insufficient for the purposes intended?

3) Is the application made in good faith or for delay or speculative purposes?

4) Has the applicant sufficient financial resources with which to complete the project?

5) Will the proposed use conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

LOREN O. HOLMES
Southern Region Supervisor

LOH:marya

IDAHO DEPARTMENT OF FISH AND GAME
REGION 4
868 East Main • Box 428
Jerome • Idaho • 83338

RECEIVED
JAN 25 1985
Department of Water Resources
Southern District Office

January 23, 1985

Mr. Loren O. Holmes
Department of Water Resources
1041 Blue Lakes Blvd. North
Twin Falls, ID 83301

Re: Application for Permit No. 47-7991, Crystal Springs Hydroelectric Company, Cedar Draw Creek

Dear Loren:

The Department of Fish and Game protests the granting of Application for Permit No. 47-7991 by the Crystal Springs Hydroelectric Company on Cedar Draw Creek until there is an agreement on satisfactory instream flow requirements.

Sincerely,

William E. Webb
Supervisor, Region 4

WEW:ar

cc: Bureau of Program Coordination
Bureau of Fisheries

• EQUAL OPPORTUNITY EMPLOYER •

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

January 17, 1985

Bob Bell, Regional Fisheries Biologist
Idaho Fish & Game Department
Region #4
P. O. Box 428
Jerome, Idaho 83338

Re: Application for Permit No. 47-7991

Dear Mr. Bell

Please find enclosed a copy of the above referenced application for permit for your information and files.

Very truly yours,

Mary A. Newby
Sec/Office Coord.

for

Loren O. Holmes
Southern Region Supervisor

Encl:

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES
Southern Region

1041 Blue Lakes Blvd N.
Twin Falls, Idaho 83301
(208) 734-3578

JANUARY 17, 1985

Times News
P. O. Box 548
Twin Falls, Idaho 83301

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. We have allowed ample time for you to submit a galley proof to this office for review before the first publication date. 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 FEBRUARY 11, 1985.

Yours truly,

Mary A. Newby
Secretary

Encl.

MICROFILMED

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application(s) have been submitted for permit to appropriate the public waters of the State of Idaho:

47-7991

CRYSTAL SPRINGS HYDROELECTRIC CO.

P.O. BOX 1892, TWIN FALLS, ID 83301

Source: CEDAR DRAW trib. to SNAKE RIVER

Date Filed: 12/27/1984

Diversion Pt: SWNE Sec 23 T 09S R 15E

Use: POWER (40.00 CFS)

In: SWNE Sec 14 T 09S R 15E

If issued, the permit(s) will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 and received on or before FEBRUARY 11, 1985.

A. KENNETH DUNN

Director

Published 1/24 & 1/31/85.

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application(s) have been submitted for permit to appropriate the public waters of the State of Idaho:

47-7991

CRYSTAL SPRINGS HYDROELECTRIC CO.
PO BOX 1892, Twin Falls, ID 83301

Source: Cedar Draw trib. to Snake River

Date Filed: 12/27/1984

Diversion Pt: SWNE Sec 23 T 09S R 15E

Use: Power (40.00 CFS)

In: SWNE Sec 14 T 09S R 15E

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR AMENDMENT OF LICENSE

CEDAR DRAW CREEK HYDROELECTRIC PROJECT FERC #8278 TWIN FALLS COUNTY, IDAHO

DECEMBER, 1985

CRYSTAL SPRINGS

HYDROELECTRIC COMPANY, APPLICANT

Prepared By

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
250 So. Beechwood Ave. Suite I
Boise, Idaho 83709

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. Kenneth F. Plumb, Secretary
Federal Energy Regulatory Commission
825 N. Capitol Street, N.E.
Washington, D.C. 20426

Dear Mr. Plumb:

Re: FERC No. 8278
Cedar Draw Creek Hydroelectric Project
Crystal Springs Hydroelectric Company, Applicant
APPLICATION FOR AMENDMENT OF LICENSE

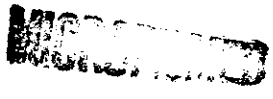
Enclosed are an original and 14 copies of an Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. Copies of this submittal are also being forwarded to the Commission's Regional Office, to the Commission's Application Branch and to each of the agencies consulted on the project.

The Commission issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel conduit, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

Commenting agencies have indicated they are not directly opposed to the proposed amendment. However, the fish and game agencies have indicated they will not support the modification until environmental concerns related to the construction of the licensed project are addressed. As the copies of the agency letters and our response to those letters (see Appendix E) indicate, all restoration and stabilization activities have been either completed or are in the final stages of completion. Several of these activities had to be



delayed until a permit to alter stream channel was received from the Idaho Department of Water Resources. This permit has been received, and a copy is enclosed in Appendix E under agency comments.

The additional generating unit and related components will not be installed until an Amendment of License is approved by the Commission.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosures
cc: Fred Springer
San Francisco Regional Office

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR AMENDMENT OF LICENSE

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

FERC #8278

TWIN FALLS COUNTY, IDAHO

DECEMBER 1985

CRYSTAL SPRINGS HYDROELECTRIC COMPANY, APPLICANT

Prepared By:

J-U-B ENGINEERS, Inc.
Engineers - Surveyors - Planners
250 South Beechwood Avenue, Suite I
Boise, Idaho 83709

TABLE OF CONTENTS

		Page
A.	INITIAL STATEMENT	1
B.	EXHIBIT E	5
1.	General	5
2.	Environmental Setting of the Project	5
a.	Vegetative Cover	5
b.	Fish and Wildlife Resources	6
c.	Water Quality and Quantity	7
1)	General	7
2)	Flow Records	9
3)	Streamflow Duration Analysis	11
4)	Flow Multiplier	11
5)	Streamflow Duration Curve	16
6)	Possible Future Flow Increases	16
7)	Water Quality	16
d.	Land and Water Uses	18
e.	Recreational Uses	18
f.	Historical and Archaeological Resources	18
g.	Scenic and Aesthetic Resources	19
h.	Endangered or Threatened Species and Critical Habitats	19
3.	Expected Environmental Impacts and Proposed Mitigation Measures	20
a.	Erosion and Sedimentation	20
b.	Dissolved Oxygen	21
c.	Temperature	21
d.	Air Quality Impacts	21
e.	Impacts to Fisheries Resources	22
(1)	Don Chapman Study	22
(2)	Milo Bell Evaluation	24
(3)	Proposed Salmon Falls Project	26
(4)	Minimum Flows	28
(5)	Screening Device	30
f.	Impacts to Wildlife and Vegetation	31

TABLE OF CONTENTS (Cont.)

Page

4. Consultation with Federal, State and Local Agencies----- 32

a. Agencies Consulted During the Preparation of the Environmental Report---------- 32

b. Agencies Provided with a Copy of the Application for License as Submitted to FERC---------- 33

C. EXHIBIT F---------- 34

D. EXHIBIT G---------- 40

E. APPENDICIES---------- 41

1. Appendix A - Water Quality Data

2. Appendix B - Archaeological Survey

3. Appendix C - Don Chapman Study and Related Fisheries Data

4. Appendix D - Milo C. Bell Study

5. Appendix E - Agency Contacts and Letters - Draft Application

6. Appendix F - Copies of Agency Transmittal Letters - Final Application

LIST OF TABLES

TABLE 1 - 1982 Fish Survey---------- 6

TABLE 2 - Flow Records, 1983---------- 12

TABLE 3 - Flow Multiplier Analysis---------- 15

LIST OF FIGURES

FIGURE 1 - Location Map of Hatcheries and Rearing Ponds------- 8

FIGURE 2 - Stream Data---------- 10

FIGURE 3 - Streamflow Duration Curves---------- 14

FIGURE 4 - Streamflow Duration Curves---------- 17

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION
APPLICATION FOR AMENDMENT OF LICENSE
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

A. INITIAL STATEMENT

1. Crystal Springs Hydroelectric Company applies to the Federal Energy Regulatory Commission for an Amendment of License for the Cedar Draw Creek Water Power Project.

2. The exact name, business address and telephone number of the Applicant are:

Crystal Springs Hydroelectric Company
c/o Wynn Johnson
200 East South Temple, Suite 300
Salt Lake City, Utah 84111

The person to be contacted regarding this application is H. Wayne Gibbs, J-U-B ENGINEERS, Inc., 250 South Beechwood Avenue, Boise, Idaho 83709, (208) 376-7330.

3. The Applicant is a domestic corporation, licensee for the water power project designated as Project No. 8278 in the records of the Federal Energy Regulatory Commission, issued on the 24th day of May, 1985.

4. The amendments of license proposed and the reason why the proposed changes are necessary are:

One additional generating unit (turbine) is being added to the original project to take advantage of additional return irrigation flows. The management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the original project was based. This additional water was not anticipated at the time the original license application was filed. The proposed change represents a more complete utilization of the available resource and will not adversely impact the environment.

5(i) The statutory or regulatory requirements of the state in which the project would be located that affect the project as proposed with respect to the bed and banks and the appropriation, diversion and use of water for power purposes are:

a. Title 42, Chapters 1 and 2, Idaho Code, addresses the appropriation of water for beneficial use within the State of Idaho. The right to use such water is gained by first applying for permit to the Idaho Department of Water Resources (IDWR). Upon issuance of permit and subsequent beneficial use of the water appropriated, a vested water right is established.

b. The Idaho Department of Health and Welfare has enacted water quality standards and wastewater treatment requirements to protect Cedar Draw Creek for, among other things, cold water biota and salmonid spawning.

c. Title 36, Chapter 9, Idaho Code, deals with the protection of fish in Idaho waters and provides for a requirement of suitable fish screening devices and fishways to be constructed at all power sites to specifications of the Idaho Department of Fish and Game (IDFG).

5(ii) Steps which the Applicant has taken, or plans to take, to comply with the statutory or regulatory requirements cited above are:

a. The Applicant applied to the Idaho Department of Water Resources for a water appropriation permit for hydropower purposes in the subject reach. Applicable fees were paid and the Application assigned Docket #67-7991.

b. The previously licensed project has been largely constructed. Potential adverse environmental problems created by construction activity are being corrected by the Developer and coordinated with appropriate agencies. Construction of the fourth turbine is not expected to adversely impact water quality, but if problems do occur, they will be corrected by the Developer.

c. Suitable fish screening devices and fishways have been specified by the Idaho Department of Fish and Game during preconsultation and are included in preliminary design drawings.

SUBSCRIPTION AND VERIFICATION

This Application for Amendment of License is executed in the State of Idaho, County of Ada, by D. Michael Preston, P.E., President of J-U-B ENGINEERS, Inc., 250 South Beechwood Avenue, Boise, Idaho 83709.

D. Michael Preston, being duly sworn, deposes and says that the contents of this Application for Amendment of License are true to the best of his knowledge or belief and that J-U-B ENGINEERS, Inc., has been retained to act as the representative for the Crystal Springs Hydroelectric Company on all matters pertaining to the Application for Amendment of License. The undersigned representative of Crystal Springs Hydroelectric Company (the Applicant) has signed the Application for Amendment of License this 2nd day of December, 1985.

CRYSTAL SPRINGS HYDROELECTRIC COMPANY
Applicant

By: _____
D. Michael Preston, P.E., President
J-U-B ENGINEERS, Inc.

STATE OF IDAHO)
) ss
County of Ada)

SUBSCRIBED AND SWORN TO before me, a Notary Public of the State of Idaho, this 2nd day of December, 1985.

_____
Notary Public for Idaho
Residing at Nampa Idaho
Commission Expires: 12-18-85

B. EXHIBIT E

1. General. On May 24, 1985, the Federal Energy Regulatory Commission issued a license for the Cedar Draw Creek Hydroelectric Project. Licensed facilities include a powerhouse and three generating units. The overall environmental impacts of the project were assessed in the original application and reviewed by relevant local, state and federal agencies. Since the licensed project is largely constructed, environmental impacts related to the overall project have already occurred.

This Exhibit E reiterates the general environmental considerations related to the area. However, the specific environmental impacts of concern in this application for amendment of license are those related to the proposed fourth generating unit. Installation of this additional unit will have very limited impacts compared to the overall impacts of the licensed and constructed project. The fourth turbine would require that the powerhouse be extended by 18 feet, which would result in additional excavation of approximately 100 cubic yards of material. Though the incremental impacts of the additional turbine and accessories are difficult to quantify, they appear to be very limited.

2. Environmental Setting of the Project.

a. Vegetative Cover - The project occupies a pronounced draw that is vegetated primarily by dryland species. Riparian vegetation is sparse along the upper reach of the project as a result of broken basalt rock piles and talus slopes. The lower end of the project does have significant areas of riparian vegetation immediately adjacent to the creek.

Semi-arid vegetation along the slopes of Cedar Draw include sagebrush, cheatgrass, bunch grasses, and various wildflowers. Riparian vegetation along the lower reach of the project includes willow, cattails, currant and sedges.

b. Fish and Wildlife Resources - The fauna which exists in the project area is typical of the riparian lowlands of the Snake River corridor. Included in the project area are small mammals, birds, reptiles and amphibians. Small mammals include mice, rock chucks, rabbits, skunks, weasels, raccoons and coyotes. A few deer also use the riparian areas on occasion. Birds in the area are woodpeckers, hawks, owls, magpies and sparrows. Gamebirds using the vegetative cover in Cedar Draw include the Chinese pheasant, Hungarian partridge, mourning dove and the California Valley quail. Mallard ducks occasionally use the water of Cedar Draw Creek.

Cedar Draw Creek supports a population of rainbow trout. Most of the trout population consists of fish that have escaped from trout rearing facilities in the area. The Idaho Department of Fish and Game and the Soil Conservation Service estimate that approximately 36 percent of the trout population is wild fish.

As part of a clean water project undertaken by the Soil Conservation Service on the Cedar Draw Creek, two stations were set up on the stream for study. Fish were electro-shocked in March 1982 using a four-step removal method (Zippen, 1958) and the results are shown in Table 1.

TABLE 1

1982 FISH SURVEY

Population Estimate	
Rainbow Trout	173 (36% wild)
Non-Game Species	16
Total Length Range	150 - 400 mm (5.9 - 15.8 in.)
Average Total Length	240 mm (9.5 in.)
Weight Range	36 - 560 grams (1.3 - 19.8 oz.)
Average Weight	157 grams (5.502)
Percent of Sample Composition	
Rainbow Trout	91%
Non-game Species	9%
Condition Factor	Average 1.13

Interviews with private commercial fish raisers and local fisheries biologists who are familiar with the creek system indicate that the percentage of wild or native rainbow trout would be considerably lower than the 36 percent as reported by the SCS. The creek reach in question is blocked from fish movement upstream by a large diversion structure constructed by Richard Kelley in 1975 to divert water approximately 2,500 feet to his fish rearing ponds in the northwest quarter of the southwest quarter of Section 14. This diversion dam, over eight feet high, was constructed within the creek without a fish ladder, thereby essentially blocking or terminating the upward migration of fish from the Snake River. Proceeding upstream another two miles from the diversion dam, the massive natural blockage of "Two Falls" is encountered. This reach, blocked by the Kelley diversion dam on the north and "Two Falls" on the south, is virtually isolated from the natural migration of fish upstream from the river and/or the fish hatcheries lying within close proximity to the river. This creek section is, in fact, artificially planted on an annual basis from the Cedar Draw Creek rearing ponds operation by Pisces Investments (Mike Smith/Evan Robertson), where it is estimated approximately 50,000 to 100,000 fish are lost to the stream system annually. The rearing ponds, constructed in 1976, produce approximately 200,000 pounds of trout wherein juvenile trout are raised to adulthood. The location of trout rearing facilities in the project area is shown on Figure 1.

c. Water Quality and Quantity -

(1) General - Most of the water in Cedar Draw Creek comes from collected wastewater from surface irrigation. As a result, water quality is seriously impacted by silts, fertilizers, pesticides, nutrients and other chemicals during the April-October period. Despite some water quality problems, Cedar Draw Creek maintains a viable population of rainbow trout. The Idaho Department of Health and Welfare has

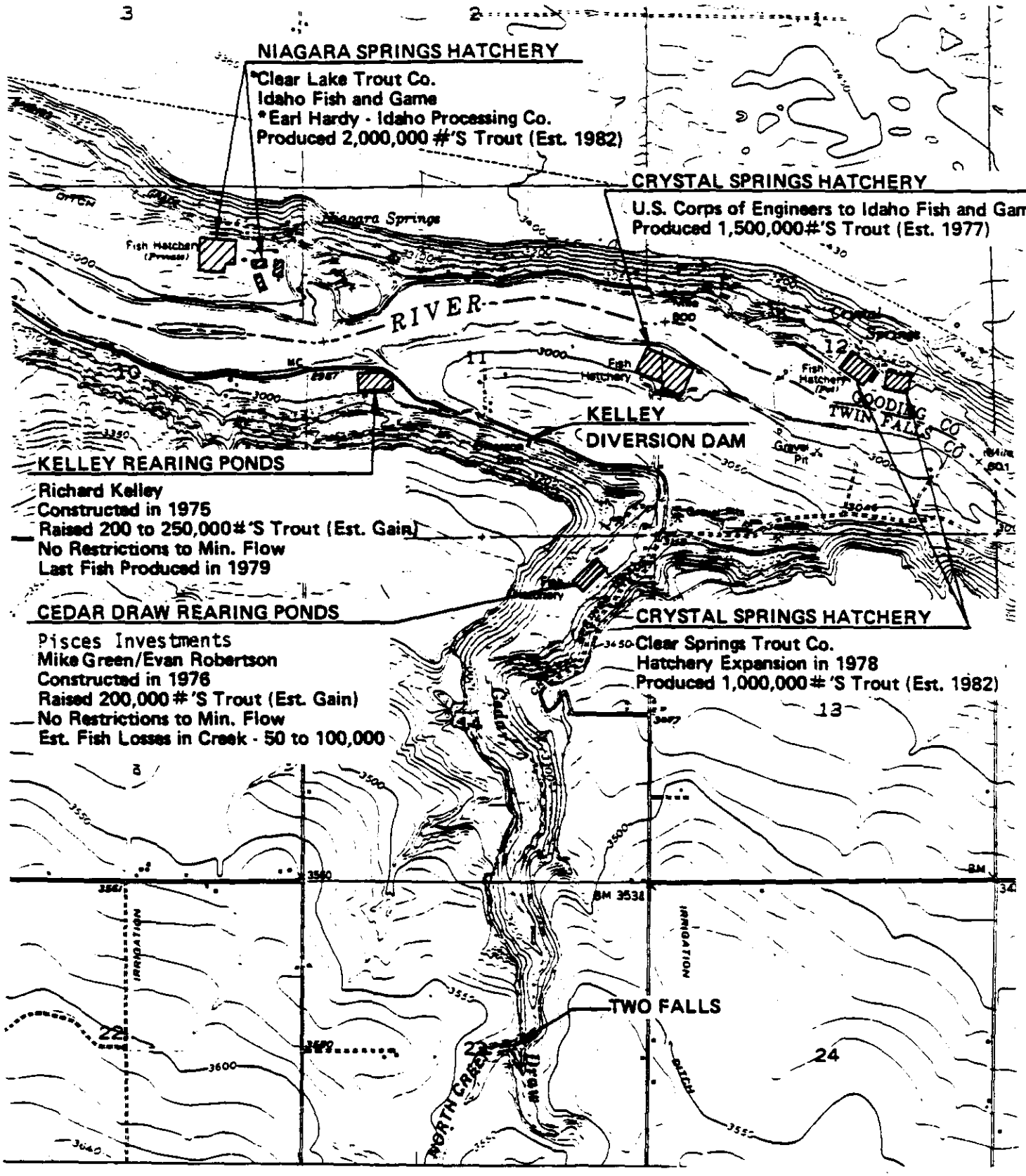


FIGURE 1

EXHIBIT E

LOCATION MAP

HATCHERIES/REARING PONDS

Cedar Draw Creek (Wasteway)

determined that Cedar Draw Creek is suitable for agricultural water supply, secondary contact recreation, cold water biota and salmonid spawning.

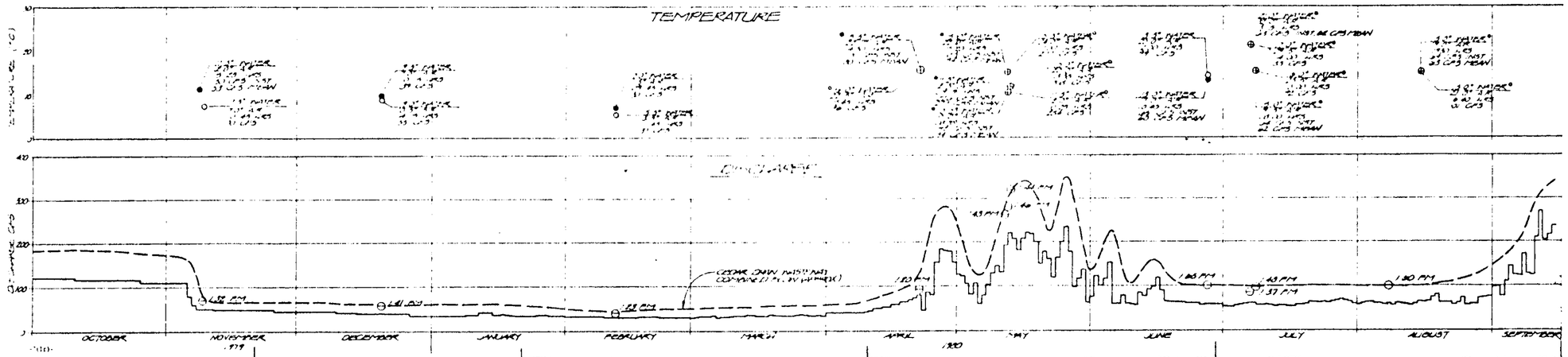
Cedar Draw Creek is characterized by highly variable flows based on the seasonal farming activities and irrigation needs of upstream water users. The stream is exposed to substantial flow variations on a monthly and even weekly basis. Flows occasionally fluctuate from 50 cfs one day to in excess of 200 cfs the next day. The hydroelectric project will reduce flows over the affected reach but will help stabilize the overall flow regime.

Cedar Draw Creek consists of two (2) branches or tributaries that converge at Cedar Draw Falls, known as Two Falls, just upstream or south of the project diversion. The branches serve as natural drainages for basins with seven and nine inches of annual precipitation, respectively. During the irrigation season, most of the flow in Cedar Draw Creek is from irrigation wastewater from the Twin Falls Canal Company. Winter flows represent natural groundwater runoff from the irrigated areas and possibly some flows from Milner Dam entrance on the Snake River.

(2) Flow Records - USGS gaging station 13093500 is located on the east branch, about 3,500 feet upstream of the proposed point of diversion. Flow records were taken from August 1955 through mid-July 1958, and from October 1979 through September 1981. After September 30, 1981, recording was discontinued. The mean daily flows from October 1979 through September 1981 are plotted on the strip graph titled "Stream Data" (Figure 2).

No records are known to exist for flows of the west branch. The USGS has, however, taken infrequent flow measurements at USGS gaging station 13093530 which was located near the

STREAM DATA
[illegible]
[illegible] FLOOD MIX LEGEND



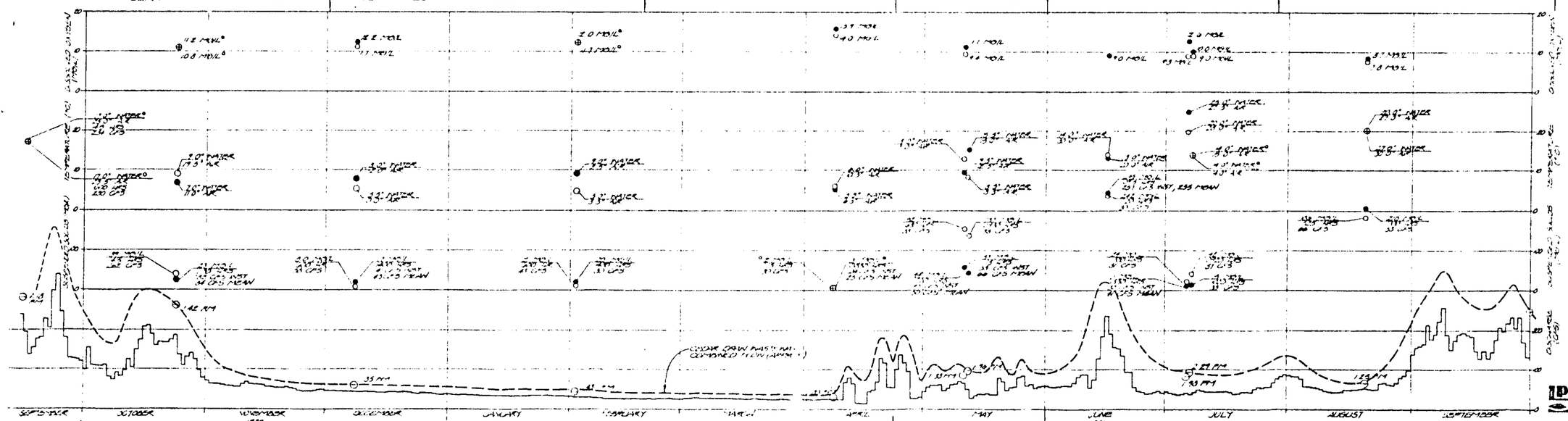


FIGURE 2

LEGEND

- ● READING USGS CHEM LOG USGS
- ○ READING USGS CHEM LOG USGS
- ⊕ READINGS BOTH USGS CHEM'S SCHEDD AND LOGGED
- ⊖ MM FLOW MULTIMIX TO USGS CHEM (MMUSGS) MM USGS FLOW (MMUSGS)

NOT INSTANTANEOUS FLOW READING
MEAN MEAN DAILY FLOW READING

STREAM DATA
[illegible]

proposed power plant discharge. The records of these spot readings are plotted on Figure 2.

The Applicant installed a permanent gaging station approximately 800 feet downstream, or north, of the proposed power plant discharge to measure the combined flow of both tributaries. The station was put into service on Saturday, March 19, 1983. The flow measurements taken to date are shown on Table 2. The installation consists of a Leopold-Stevens eight-day, float-operated wind-up recorder in a 24-inch diameter well. Calibration was made by cross section of the stream and taking of velocities in segments using a current meter.

(3) Streamflow Duration Analysis - To develop a streamflow duration curve, the data for water year 1980, water year 1981, a curve developed by Snake River consultants and the combination of water years 1980 and 1981 were plotted from a Composite Streamflow Duration Curve shown as Figure 3. From an interview with Mr. Mike Beus of the Twin Falls Canal Company, it was concluded that there was no substantial difference in amount of land irrigated for this time period. Water year 1980 had substantial wastewater due to the time required to meet irrigation demands through 80 miles of canals from the Milner Dam Canal Headworks. Water year 1981 was representative of a year when the Canal Company was able to more closely regulate the amount of water given each user. The base curve to be used for the study incorporates a combination of water years 1980 and 1981.

(4) Flow Multiplier - An analysis was made of the ratio of the infrequent instantaneous readings of flow taken at gage station 13093530 to the constant recording of the east fork of Cedar Draw Creek at gage station 13093500. This data is listed on Table 3 and shows a comparative ratio

TABLE 2

FLOW RECORDS (1983)

CEDAR DRAW CREEK

800 FEET NORTH OF POWER PLANT

DATE	CFS
MARCH	
20	25
21	25
22	29
23	29
24	29
25	29
26	25
27	20
28	17
29	13
30	20
31	29
APRIL	
1	20
2	20
3	20
4	20
5	29
6	38
7	38
8	58
9	69
10	69
11	69
12	100
13	120
14	134
15	113
16	100
17	149
18	101
19	135
20	127
21	150
22	150
23	150
24	169
25	229
26	204
27	69
28	106
29	106
30	87

DATE	CFS
MAY 1	171
2	237
3	212
4	134
5	120
6	134
7	125
8	125
9	195
10	236
11	171
12	106
13	81
14	38
15	69
16	106
17	-
18	-
19	-
20	-
21	-
22	69
23	81
24	93
25	93
26	113
27	127
28	149
29	58
30	69
31	52
JUNE	
1	52
2	69
3	81
4	87
5	64
6	74
7	-
8	-
9	-
10	-
11	-
12	-

DATE	CFS
JUNE	
13	-
14	-
15	-
16	-
17	-
18	-
19	-
20	-
21	-
22	-
23	-
24	-
25	-
26	-
27	-
28	-
29	-
30	-
JULY	
1	-
2	-
3	-
4	-
5	-
6	-
7	-
8	-
9	-
10	73
11	106
12	100
13	107
14	148
15	164
16	-
17	150
18	212
19	282
20	301
21	320
22	310
23	264
24	229

DATE	CFS
JULY	
25	-
26	-
27	-
28	-
29	-
30	-
31	-
AUGUST	
1	-
2	-
3	-
4	-
5	-
6	-
7	-
8	58
9	58
10	81
11	93
12	149
13	-
14	178
15	164
16	164
17	149
18	149
19	-
20	-
21	205
22	212
23	246
24	-
25	-
26	-
27	-
28	255
29	255
30	246
31	212

TABLE 2 (Cont.)

FLOW RECORDS (1983)

CEDAR DRAW CREEK

800 FEET NORTH OF POWER PLANT

DATE	CFS	DATE	CFS	DATE	CFS	DATE	CFS
SEPTEMBER		OCTOBER		NOVEMBER		JANUARY, 1984	
1	171	13	-	24	50	4	39
2	164	14	-	25	45	5	-
3	195	15	-	26	-	6	-
4	205	16	117	27	-	7	-
5	195	17	-	28	50	8	-
6	179	18	-	29	52	9	39
7	155	19	-	30	47	10	-
8	164	20	-	DECEMBER		11	-
9	195	21	-	1	52	12	-
10	225	22	-	2	47	13	35
11	300	23	65	3	33	14	-
12	300	24	-	4	50	15	-
13	300	25	-	5	52	16	31
14	300	26	-	6	-	17	-
15	-	27	-	7	-	18	-
16	-	28	-	8	-	19	-
17	-	29	-	9	35	20	-
18	262	30	65	10	32	21	-
19	255	31	-	11	-	22	-
20	246	NOVEMBER		12	52	23	31
21	238	1	-	13	47	24	33
22	212	2	-	14	47	25	-
23	229	3	-	15	48	26	-
24	212	4	-	16	47	27	42
25	212	5	-	17	-	28	-
26	250	6	46	18	-	29	-
27	250	7	-	19	46	30	31
28	255	8	-	20	-	31	31
29	255	9	-	21	-	FEBRUARY, 1984	
30	301	10	-	22	-	1	30
OCTOBER		11	-	23	-	2	27
1	320	12	-	24	-	3	26
2	282	13	42	25	-	4	25
3	264	14	69	26	52	5	25
4	172	15	54	27	56	6	24
5	-	16	-	28	47	7	20
6	-	17	-	29	45	8	-
7	-	18	54	30	41	9	-
8	-	19	53	31	-	10	42
9	219	20	60	JANUARY, 1984		11	-
10	-	21	53	1	43	12	-
11	-	22	45	2	45	13	43
12	-	23	43	3	41	14	-
						15	-
						16	-
						17	27
						18	-
						19	-
						20	24

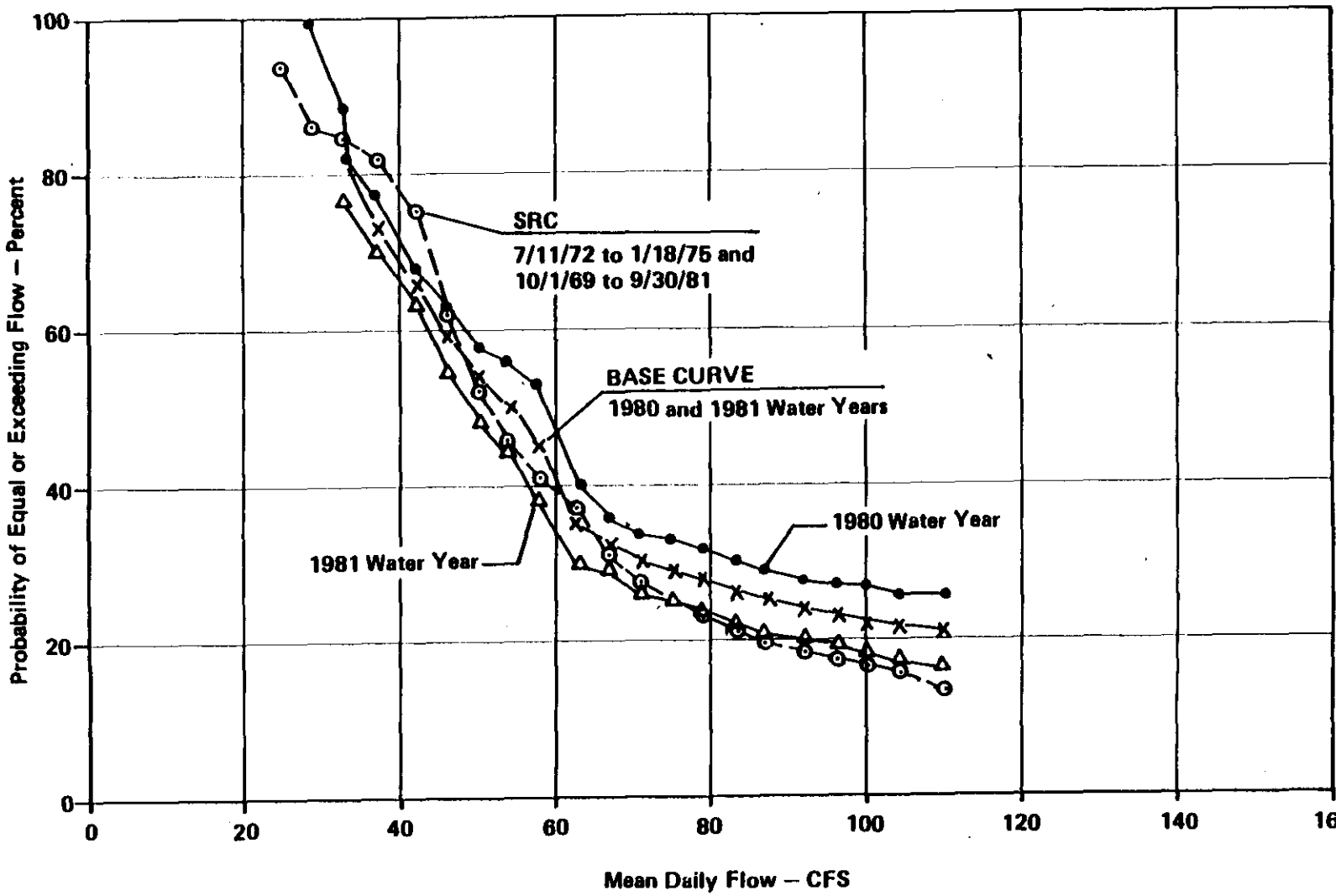


FIGURE 3

STREAMFLOW DURATION CURVES
Developed From Gaging Station 13093500
Cedar Draw Creek Hydroelectric Project
Crystal Springs Hydroelectric Company
Twin Falls County, Idaho

TABLE 3

FLOW MULTIPLIER ANALYSIS

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

CRYSTAL SPRINGS HYDROELECTRIC CO.

DATE	GAGING STATION 13093500	GAGING STATION 13093530	FLOW MULTIPLIER
November 29, 1979	53 cfs	70 cfs	70 ÷ 53 = 1.32
December 20, 1979	39 cfs	55 cfs	55 ÷ 39 = 1.41
February 12, 1980	30 cfs	37 cfs	37 ÷ 30 = 1.23
April 22, 1980	80 cfs	96 cfs	96 ÷ 80 = 1.20
May 12, 1980 (AM)	194 cfs	284 cfs	284 ÷ 194 = 1.46
May 12, 1980 (PM)	194 cfs	277 cfs	277 ÷ 194 = 1.43
May 13, 1980	221 cfs	318 cfs	318 ÷ 221 = 1.44
June 23, 1980	60 cfs	99 cfs	99 ÷ 60 = 1.65
July 7, 1980	62 cfs	83 cfs	83 ÷ 62 = 1.34
July 8, 1980	62 cfs	92 cfs	92 ÷ 62 = 1.48
August 15, 1980	63 cfs	101 cfs	101 ÷ 63 = 1.60
September 15, 1980	237 cfs	280 cfs	280 ÷ 237 = 1.18
October 24, 1980	184 cfs	262 cfs	262 ÷ 184 = 1.42
December 8, 1980	43 cfs	58 cfs	58 ÷ 43 = 1.35
February 2, 1981	30 cfs	43 cfs	43 ÷ 30 = 1.43
April 8, 1981	25 cfs	30 cfs	30 ÷ 25 = 1.20
May 11, 1981	66 cfs	88 cfs	88 ÷ 66 = 1.33
May 12, 1981	50 cfs	98 cfs	98 ÷ 50 = 1.96
June 16, 1981	235 cfs	301 cfs	301 ÷ 235 = 1.28
July 6, 1981	41 cfs	81 cfs	81 ÷ 41 = 1.98
July 7, 1981	38 cfs	87 cfs	87 ÷ 38 = 2.29
August 20, 1981	53 cfs	66 cfs	66 ÷ 53 = 1.25

Minimum Flow Multiplier = 1.18
Maximum Flow Multiplier = 2.29
Average Flow Multiplier = 1.46
Design Flow Multiplier = 1.32

Gaging Station 13093500: On left bank just upstream from County road bridge, 2½ miles upstream from mouth and 4½ miles northwest of Filer in SW ¼ SW ¼ of Section 24, Township 9 South, Range 15 East, B.M. - Mean Flow

Gaging Station 13093530: At Crystal Springs hatchery diversion, 5.7 miles northwest of Filer, in SE ¼ NW ¼ NE ¼ of Section 14, Township 9 South, Range 15 East, B.M. - Instantaneous Flow

from a low of 1.18 to a high of 2.29. The average ratio is 1.46. The reason for the variation in flow ratios is not determinable from the data available. Using gage station 13093500 for water years 1980 and 1981, streamflow duration curves for flow multipliers of 1.2, 1.32 and 1.45 have been plotted on Figure 4.

(5) Streamflow Duration Curve - It is a reasonable premise that, at various times of the year, the actual flow and multiplier will range between 1.18 and 2.25, with an average multiplier being 1.46. For this study, a flow multiplier of 1.32 has been selected as reasonable and conservative. Streamflow duration curves for various flow multipliers are shown on Figure 4.

(6) Possible Future Flow Increase - Under letter dated January 18, 1983, the U.S. Bureau of Reclamation reports that Cedar Draw Creek will receive additional irrigation wastewater from their proposed Salmon Falls Project. The project is in the advance planning stage, but no firm date has been established for construction. It is assumed, therefore, that more water will be available for generation at some time in the future.

(7) Water Quality - Infrequent water quality samples were taken by the USGS at gaging stations 13093500 and 13093530 during water years 1980 and 1981. Because of the infrequency of these readings, the data is not considered suitable to present in a duration curve. The readings for suspended solids, dissolved oxygen and water and air temperature are plotted on the strip graph shown as Figure 2. Excerpts from the USGS, Water Quality Data, containing more information than shown on the strip graph are included in the Appendix.

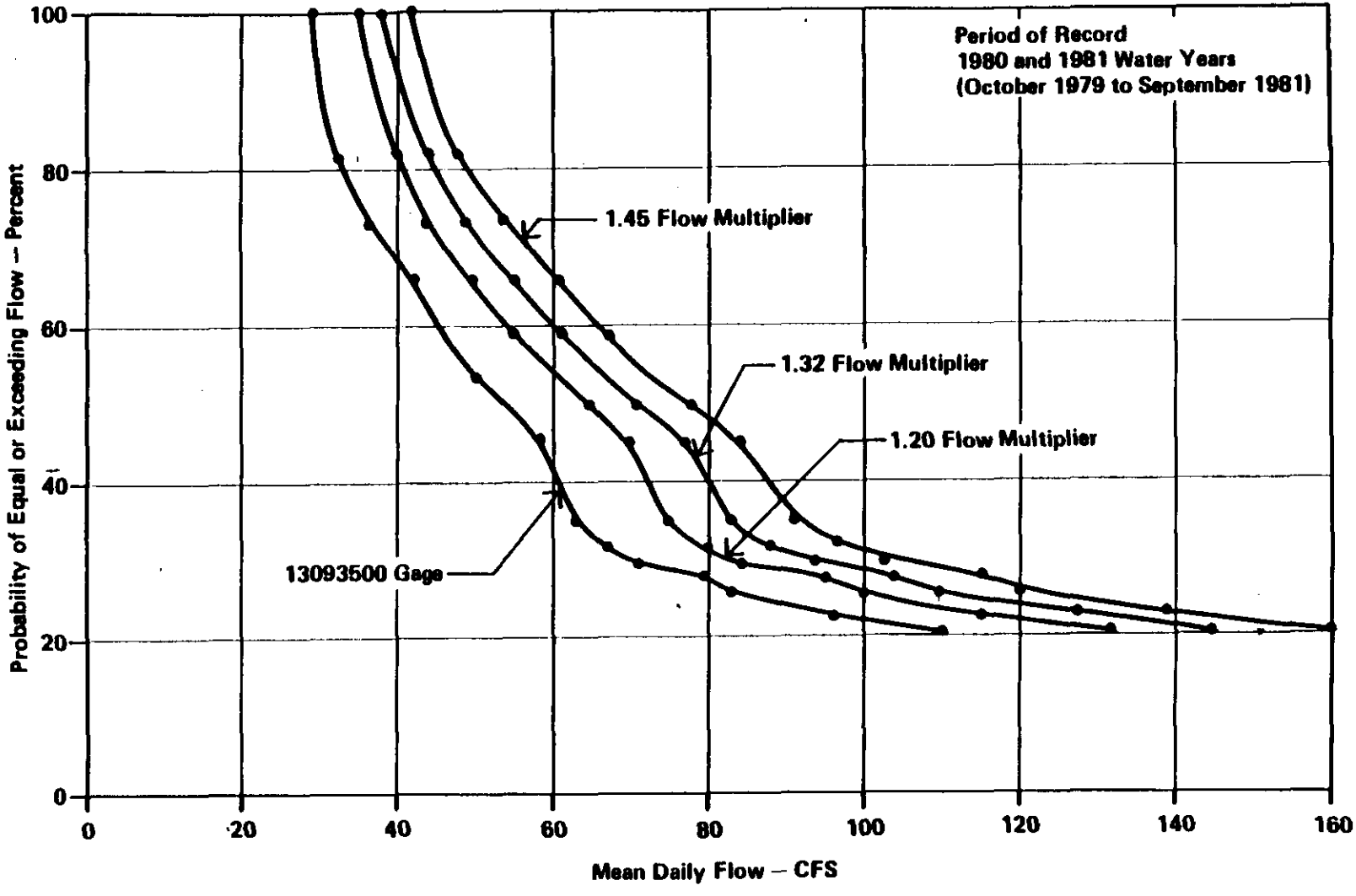


FIGURE 4

STREAMFLOW DURATION CURVES
For Various Flow Multipliers

Developed From Gaging Station 13093500
Cedar Draw Creek Hydroelectric Project
Crystal Springs Hydroelectric Company
Twin Falls County, Idaho

d. Land and Water Uses - The water resource proposed to be used for energy generation for the hydroelectric project is derived mainly from the Twin Falls Canal Company through their high-line and low-line canal system. The lands lying between the canal north to the site are intensely farmed, and have been for the past 75 years. Since the general slope of the plateau uplands (Snake Plain) is from south to north toward the Snake River, the water used to irrigate said farms leaves the fields as wastewater, being collected within the Cedar Draw Creek (wasteway) for conveyance and disposal in the Snake River. The flows of Cedar Draw Creek are increased from seeps along the canyon walls. The creek has a variable flow condition increasing to extremely high flows (maximum 332 cfs) during the months of May, June, September and October as water returns to the creek from surface irrigation to extremely low flows (minimum 18 cfs) during the months of February and March.

Commercial trout ponds are located near the creek and utilize water from the creek for their rearing operations. The high sediment load, agricultural chemical spills and high fluctuation in stream flows present potential hazards to these operations.

e. Recreational Uses - Much of the project area is privately owned land, and recreational uses are therefore limited. Fishing is the primary recreational activity along Cedar Draw Creek. Some hunting also takes place within the general project area during the fall season. Hiking within the draw is an occasional recreational activity. A few people apparently visit Two Falls on the east fork of Cedar Draw Creek. The project is not expected to have any significant negative impact upon the recreational activities that are conducted in the general area. The area is generally not available to the public because of private property and No Trespassing signs.

f. Historical and Archaeological Resources - There are no archaeological or historical sites within the project area that have

been declared eligible for the National Register of Historic Places. Archaeological sites are located along the Snake River, but the project will not affect any of these sites. The Idaho Historic Preservation Office prepared an archaeological survey for the project and determined there were no sites that could be impacted by project construction. Copies of the Idaho Historic Preservation Office letter and archaeological survey are included in this report as Appendix B.

g. Scenic and Aesthetic Resources - Cedar Draw Creek is located in a dry, rocky draw which is sparsely vegetated. The only natural feature which would have any particular scenic and aesthetic value is Two Falls, which are located on the east fork of Cedar Draw Creek. The falls are approximately 400 feet south of the diversion structure. These falls are not really accessible to the public because of private property and "No Trespassing" signs.

h. Endangered or Threatened Species and Critical Habitats - Dr. Jack Griffith of Idaho State University sampled Cedar Draw Creek for endangered fish as part of a U.S. Fish and Wildlife Service contract study of the Hagerman-Twin Falls reach of the Snake River. He states that no Shoshone sculpins were found in the Cedar Draw Creek nor would he expect any to be found on the south side of the Snake River. Further, he found no other fish species of endangered or threatened status in this waterway. Three species of wildlife presently classified as endangered could occasionally occur within the creek. The bald eagle winters along the Snake River, and hunting excursions by this raptor could occasionally occur over the Cedar Draw corridor. The American peregrine falcon is a year-long resident in the general area and also may occasionally hunt over the Cedar Draw lowlands. The whooping crane, once extinct in Idaho, has been reintroduced by the U.S. Fish and Wildlife Service at Grays Lake National Wildlife Refuge about 150 miles east of the proposed hydroelectric project. It is possible that wandering

sub-adults could occasionally occur within the wasteway corridor, although no specific sightings have been recorded.

There are no critical habitats within the project area. The dryland vegetation on the slopes of the draw and the riparian vegetation along the creek are similar to the vegetation in other draws and creeks throughout the area. The project will not have a significant impact on the habitat in the area.

3. Expected Environmental Impacts and Proposed Mitigation Measures.

a. Erosion and Sedimentation - Construction of the hydroelectric works, including access road, intake/diversion structure, conveyance conduit, forebay structure, penstock and powerhouse has required removal of large boulders and excavation of in-place rock. Much of this work has been completed, and associated construction impacts have already occurred.

During the construction of the licensed project, some erosion and sedimentation situations developed along Cedar Draw Creek. The Applicant has initiated actions to correct these potential problems including the stabilization of cut slopes and the removal of rock and fill from the creek bed. Plans for the long-term maintenance of fill slopes and stream bank are being coordinated with the agencies.

Installation of the fourth generation unit will require a slightly larger powerhouse which will result in a proportionate amount of earthwork. The powerhouse will have to be lengthened by 18 feet to accommodate the proposed additional turbine. Approximately 100 cubic yards of additional excavation will be required for the larger powerhouse. The potential for increased stream turbidity appears to be the only significant environmental concern related to the proposed project addition. Reasonable care during construction and cleanup and stabilization action after construction will minimize erosion and sedimentation impacts.

Since the bulk of Cedar Draw flows are collected wastewater from surface irrigation, the water quality is seriously impacted by silts, fertilizers, pesticides, nutrients and other chemicals during the months of April through October. The water resource would be used for power generation without depletion or further water quality degradation. The proposed velocities within the conveyance/penstock system will not exceed eight feet per second, and therefore nitrate "buildup", due to high velocities, will not occur. Caution will be taken to minimize accidental spillage of construction-related fuels, oil, and other contaminants into the creek. Sanitary waste facilities will be provided for the construction crew which installs the fourth generating unit.

b. Dissolved Oxygen - The diversion structure will be replacing a portion of the creek system where riffle flows normally contribute dissolved oxygen (D.O.) to the water. This may result in a slight reduction in D.O. level downstream of the project under some flow regimes. However, D.O. does not appear to be a limiting factor to the aquatic biota in the creek, and therefore any slight decrease should not adversely affect aquatic habitat value in this respect. Installation and operation of the proposed fourth turbine will not have a significant impact on dissolved oxygen levels.

c. Temperature - Project facilities that could impact water temperature were designed to minimize increased temperatures. Such facilities include the pipeline and the stilling basin. Installation and operation of the fourth turbine would have no impact on water temperature.

d. Air Quality Impacts - Temporary air quality impacts associated with construction activities are heavy construction equipment emissions and emissions of dust particulates during clearing, grading and pipe installation. Installation of the additional turbine will require removal of approximately 100 cubic yards

of material for the powerhouse expansion, which is relatively insignificant. Excavation for the powerhouse expansion could add some dust to the air. Installation of the fourth turbine will not cause any long-term impact on air quality, nor will there be a significant short-term impact.

e. Impacts to Fisheries Resources - Installation of the fourth turbine will require a larger powerhouse and an additional 100 cubic yards of excavation. This additional earthwork could cause increased erosion and stream turbidity and thereby adversely affect the fishery resource. Reasonable care to protect the stream during construction and post construction cleanup and stabilization efforts will greatly minimize the potential impact. Though it appears the additional turbine will not impact fishery resources, summaries of the fisheries studies conducted for the original license application are included here for background information.

(1) Don Chapman Study - Since the diversion of water from this creek system does, in fact, impact the fishery, the Applicant employed the services of Don Chapman Consultants, Inc., to analyze the stream system through computer modeling using programs developed by the Idaho Fish and Game. The computer program utilized was IFG-2 (the "one-flow method", or "WSP" model) for the two study sites. The lower site lies about 450 feet upstream from the upper end of the Cedar Draw Creek fish-rearing ponds and consists of nine transects on 224 feet of stream. This stream corridor can be termed a rubbly glide and riffle with boulders. The upper site, lying approximately one mile upstream or south of the first site, can be classified as a series of rubbly glides interspersed with boulder-rubble riffles.

The analysis at this station consisted of eight transects on 66 feet of stream. The slope on the lower site was 0.00297, while the slope on the upper site was 0.01426.

The upper site was steeper, therefore more typical of the upper third of the proposed creek diversion. The substrata on both sides tended toward large rock. Most of the rocks were covered in silt, more or less with what is termed "marl", a calcium carbonate deposit often associated with spring waters high in mono-carbonates. Such waters are usually termed "productive".

The hydraulic modeling was married to rainbow trout probability-of-use curves taken directly from U.S. Fish and Wildlife data. The IFG-2 model examines the study site on a cell-by-cell basis, backing upstream from lowest to highest transect. As used by Chapman & Associates, the model determines hydraulic conditions in each cell, then multiplies these by fish probability of use. Thus, habitat can be weighed for fish use at various model flows.

The plots developed for the stream system show that, ideally, the spawning habitat maximizes at 25 cfs on the lower reach and 30 to 40 cfs on the upper reach. Adult habitat increases with increasing flow throughout the modeled range on both sides. Juvenile habitat maximizes at 15 cfs on the lower site and 30 cfs on the upper site. Habitat for fry maximizes at 10 cfs on the lower site and 25 cfs on the upper site. The lower site constitutes a substantially larger area than the upper site in terms of trout habitat value.

The study performed by Don Chapman Consultants, Inc., at the request of the Idaho Fish and Game models the stream system to maximize the flows for fish habitat assuming, of course, the fish mature to adulthood within the stream system itself. The program assumes that the fish are wild, or native, to the stream system. This stretch, or reach, of the Cedar Draw Creek is unique in that the stream section flowing through the project area is isolated

by a man-made diversion structure approximately 1/2 to 3/4 mile upstream from the intersection with the Snake River and "Two Falls" which lies approximately two miles upstream.

Pisces Investments, the operator of the Cedar Draw rearing ponds, located in the project area, estimates that they lose approximately 50,000 to 100,000 trout annually which range from fingerlings to eight-inch to nine-inch adult fish. Three major hatcheries are located along the Snake River within close proximity to the creek system which could contribute planted or escapee trout if it were not for the physical blockage at the Kelley diversion dam. Up to 1979, Richard Kelley produced approximately 200,000 to 250,000 pounds of trout within the earth fish-rearing ponds provided water through the 42-inch conveyance conduit from said diversion dam. Kelley's ponds have been dry for the last three years without any fish production.

A copy of the Don Chapman study and related fisheries data are included in this report as Appendix C.

(2) Milo Bell Evaluation - In order to put the theories of the IFG-2 computer analysis, the water quality data of the USGS reports, and the effects of a downstream cutoff dam and an upstream fall into perspective, Milo C. Bell, a well-known specialist in fisheries resources, was retained.

Using the preliminary report, the Chapman study and interviews with Land Planning and Management personnel, Mr. Bell made the following observations:

(a) The negative factors of Cedar Draw Creek require an assumption that a good natural annual production level will not be maintained.

- The principal source of the flow is from irrigation, either groundwater or wastewater return.

- Wastewater may contain contaminants from land use of chemicals. No report has been made on this possible source of pollution, which can be detrimental to fish production.

- The recorded temperatures show a spot temperature of 24°C (75.2°F), which is above that considered desirable for good growth. The elevated temperatures are also in the range of disease-inducing conditions.

- Spot readings of turbidity give a level of turbidity which, if maintained, would result in lowered production of food organisms and, consequently, of adult trout. Turbidity levels of 25 to 80 parts per million cause food production losses of 25 percent. The spot turbidity levels given show only that there would be periods of lowered production and lowered fishing use.

(b) It appears that the population present may be replenished from recruits from the wastewater or from upstream areas above the fork.

(c) Another recruitment source may be the rearing ponds adjacent to the stream. This is also a source of potential disease organisms.

(d) The stream report by Don Chapman Consultants, Inc., gives the physical description of the wetted area under the described flows. This report also describes the velocity/depth factors needed to define production levels. Other factors are stream gradient, temperature, water clarity and size of bed material.

(e) Assuming that with optimum flow (30 cfs) the reach will support 670 pounds of fish, an estimate can be made for production levels at lower flows. A flow of 7 cfs would allow for the support of 480 pounds of fish. This suggests that perhaps a "put-and-take" fishery exists, the "put" being from recruits exterior from the reach under discussion. Using this assumption, one means of mitigation could be accomplished by the introduction of trout from hatchery sources during the fishing use periods.

(3) Proposed Salmon Falls Project - A substantial irrigation project, known as the Salmon Falls Division, to be located south of the Snake River in Twin Falls and Cassia Counties, Idaho, in the general region of arid sagebrush grassland near the northern edge of the great basin desert, could potentially impact the proposed hydroelectric project. Congress authorized the construction of this Division in public law 92-514, October 20, 1972. The Division would be constructed in an area already developed for agriculture by private enterprise but which has experienced constant water shortages due to inadequate surface and groundwater supplies.

The Division would be comprised of the Salmon Tract Unit and the Milner-Cottonwood Unit. The Salmon Tract Unit would discharge wastewater into the Cedar Draw Creek (wasteway). This unit would comprise approximately 39,500 acres of the total 57,200 acres programmed within the Division. The Salmon Falls Division would require about 264,000 acre-feet of water annually, of which the Salmon Tract Unit would utilize approximately 69 percent of this water requirement, or 182,000 acre-feet. The electrical power to operate the pumping plant and well fields would be provided through a combination of wheeling over private utility lines and constructing new federal transmission

lines. During the irrigation season, the project would require about 106,770 MWh of electrical energy for a peak demand year and 66,600 MWh for an average year. The estimated construction time for the project would be seven years. The facilities would generally be operated from mid-April to mid-October each year.

Most of these lands are presently irrigated from Salmon Falls Creek Dam and Reservoir and a few low-yielding irrigation wells. More than 90 percent of the new surface and subsurface return flows to the Snake River from the Division would come from the lower area. The Agricultural Research Service (ARS) has done extensive work on sediment input and output from the adjacent Twin Falls project; a report by Brown, Carter & Bondurant evaluated return flows from 202,540 acres. The area studied lies just north of the Salmon Tract lower area and is very similar in soil types and topography. The net amount of sediment annually eroded from farms within the Twin Falls project was 0.63 ton per acre. Based on the ARS studies, the 30,255 acres in the Salmon Tract lower area would yield about 19,060 tons of sediment annually to the Snake River. A computer water quality model study was made on the lower Snake River, adding these return flows. Little or no effect was identified; only slight increases in salt and phosphorus were projected. It is important to note that the area described as the Salmon Tract lower area drains through Cedar Draw Creek to the Snake River.

In reference to the environmental impact statement for the Salmon Falls Division, the lands of the Salmon Tract Unit were developed for irrigation under the Carey Act following completion of the Twin Falls South Side Irrigation Project in 1905. The Salmon River Canal Company was formed by water users to finance and manage an irrigation project and a dam was constructed on Salmon Falls Creek in 1909-

1910. Waters were first diverted from the reservoir into the Salmon Falls main canal through a tunnel in the east canyon wall, about 90 feet above the natural streambed. The environmental impact statement states that the Cedar Draw feeder canal which ties into the Cedar Draw Wasteway will be designed for a flow of 32 cfs. The Cedar Draw feeder canal would convey wastewater from Cedar Draw Wasteway into the Milner-Salmon Falls Canal. While not specifically stated in said statement, it is anticipated that this project would increase the flow in Cedar Draw Creek by at least 30 to 100 cfs during the irrigation season. This additional flow would be the result of increased seepage, as well as surface runoff, resulting from irrigation wastewater.

(4) Minimum Flows - The Applicant is bound by the existing license to provide a minimum in-stream maintenance flow of 25 cfs to the diverted section of Cedar Draw Creek (Wasteway). Construction of the additional turbine will not adversely affect this minimum streamflow. It is important to note that, during low-flow periods when creek flows fall below approximately 25 cfs, the turbines will not operate and all flows will pass down the creek. All flows in excess of the turbine capacity (approximately 150 cfs for all four turbines) will also pass down the creek.

The minimum flow will be prevalent during the last half of June through the first three-quarters of August, a 2-1/4-month period, and from the last three-quarters of November to the first half of January, a 2-1/4-month period, totaling 4-1/2 months. If, as streamflow records indicate, the minimum flow during the last half of January through the first half of April, a three-month period, drops to 25 cfs or below, no water will be diverted from the creek system during the time the flows remain at, or below, 25 cfs. From the last half of April to the first part of June, and

from the last quarter of August through the first quarter of November, a 4-1/2-month period, the creek system will receive from 25 to 200 cfs after diverting 150 cfs to power generation.

It is believed that this flow regime will provide sufficient habitat to sustain fish and other aquatic organisms, for the following reasons:

(a) Lower flows, while detrimental to adult trout habitat, actually improve the quality of the habitat for fry and juvenile trout, based on the results of the Chapman study.

(b) The stream system is presently exposed to substantial flow variations on a monthly and even weekly basis. On occasion, daily flows may fluctuate from 50 cfs one day to in excess of 200 cfs the following day. This is due to changing irrigation demands of upstream water users, and constitutes a very unstable aquatic habitat for trout or other aquatic biota. The proposed hydroelectric project will alter the habitat of the diverted stretch by reducing the "flashy" character of the diverted section of the creek as it presently exists. This section will receive a reduced but more stable flow regime which could actually improve the productivity of the creek.

(c) Study findings have indicated that Cedar Draw Creek presently supports a trout population which is 64 percent "escapee" or "plant" trout from nearby rearing ponds. The Applicant believes that the actual figure for the escapee population is in excess of 90 percent of the total population, with escapees numbering from 50,000 to 100,000 fish annually. This, combined with the presence of man-made and natural migrational

barriers upstream and downstream of the project area, would indicate that the trout fishery currently exists as a "put and take" fishery. It is the Applicant's view that a higher minimum flow is not necessary on a year-round basis to support this type of fishery.

(d) There is a high degree of likelihood that the minimum flow proposed by the Applicant will be a temporary condition. The proposed Salmon Falls Irrigation Project is currently in the late planning stages. If this project is developed, it could contribute an additional 30 to 100 cfs of flow to Cedar Falls Creek during the irrigation season. The aquatic habitat maintained by the proposed minimum flow will serve as the base for a reclamation of habitat made available by higher flows, and will return the adult trout habitat to its present level, or to an even higher level.

When analyzing in-stream maintenance flows on a minimum basis, it is essential to review the past actions of the Idaho Fish and Game relative to the two fish-rearing complexes located within the Cedar Draw Creek corridor; i.e., Cedar Draw rearing ponds, owned by Pisces Investments, and Kelley rearing ponds, owned by Richard Kelley. Both of these facilities have no requirement to maintain a minimum flow for the creek system and, when operational during low flow periods, they divert all but a minimal amount of the wasteway flows. It should be noted that these diversions, while substantially greater than the proposed hydroelectric project, have not impacted detrimentally the fishing quality of the creek system.

(5) Screening Device - The license requires a one-quarter-inch mesh diversion screen at the intake entrance to prevent

entrainment of small fish through the turbines. This screen will be installed based on the recommendations of U.S. Fish and Wildlife Service and Idaho Fish and Game personnel with expertise in this area. Installation of the proposed fourth turbine will not affect this screening requirement.

f. Impacts to Wildlife and Vegetation - To accommodate the fourth turbine, the powerhouse will have to be extended by 18 feet which will take a total area of about 515 square feet. Excavation of this area will obviously remove any vegetation and habitat that is present. The area into which the powerhouse would expand contains mostly rock and gravel material and very little vegetation or habitat. Any areas of the stream bank disturbed by construction must be stablized after construction is completed.

No endangered species of wildlife would be adversely affected by the proposed addition. The bald eagle, American peregrine falcon, and whooping crane make occasional, if any, use of Cedar Draw corridor and would continue to do so after project construction. As for Idaho's "Species of Special Concern", it is not anticipated that the kit fox, prairie falcon, ferruginous hawk, mountain quail, or night snake would suffer any significant adverse impacts from installation or operation of the proposed fourth generating unit.

Few impacts to wildlife or vegetative resources are expected from the proposed increase in capacity or from the operation of the project. Human activity associated with powerhouse operation and maintenance will not be excessive. All excavated material will be placed in approved disposal areas. Installation of transmission lines may pose a hazard to birds in flight. These lines will be installed so as to avoid the danger of electrocution caused by flying between improperly spaced electrical lines. The existing license requires that transmission lines be raptor-proofed.

Due to the close proximity of the diversion structure to "Two Falls", approximately 300 feet north, entrainment of small fish and other aquatic organisms is not likely to occur. Impingement of larger fish at the headworks trashracks should not occur, since entrance velocities are not excessive and larger fish should be able to detect the current and avoid harm. The Applicant proposes to install a movable trashrack with one-quarter-inch screen to dissuade fish from entering the conveyance conduit, as well as providing an automatic debris/ice skimmer.

The site produces no noise except for the sound of water cascading along the creek system. There will be temporary noise impacts during the construction of the powerhouse expansion. Significant noise-producing construction has been identified as two types: (1) the relatively stationary on-site construction; and (2) transportation to and from the construction site. Due to the isolation of the site and the high canyon walls, temporary noise levels will be insignificant. The only noise created by operation of the project would be generator "whine" which is deemed to be insignificant. Addition of the fourth generating unit would increase plant operational noise slightly. Consequently, there will be no long-term noise impacts due to the proposal.

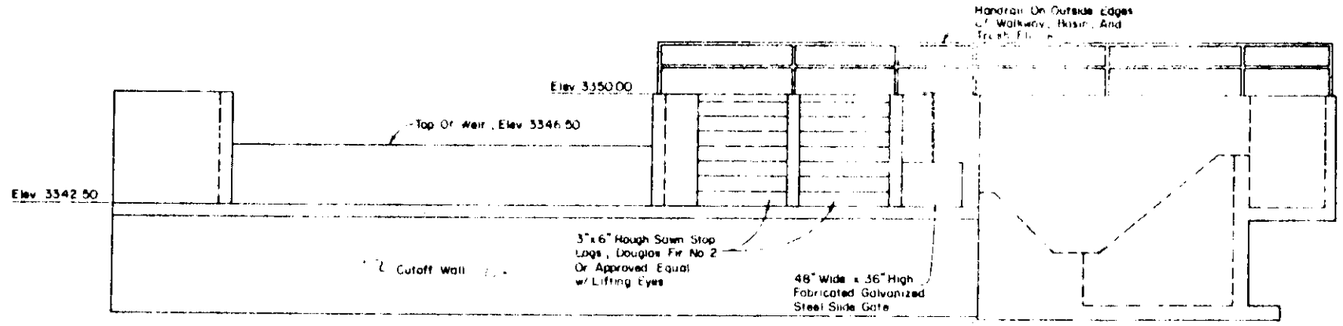
The proposed project will not have any impact upon historical or archaeological resources within the project area or the surrounding countryside. The proposed fourth turbine will be added to the powerhouse which is already under construction and will not affect overall project boundaries.

3. Consultation with Federal, State and Local Agencies.

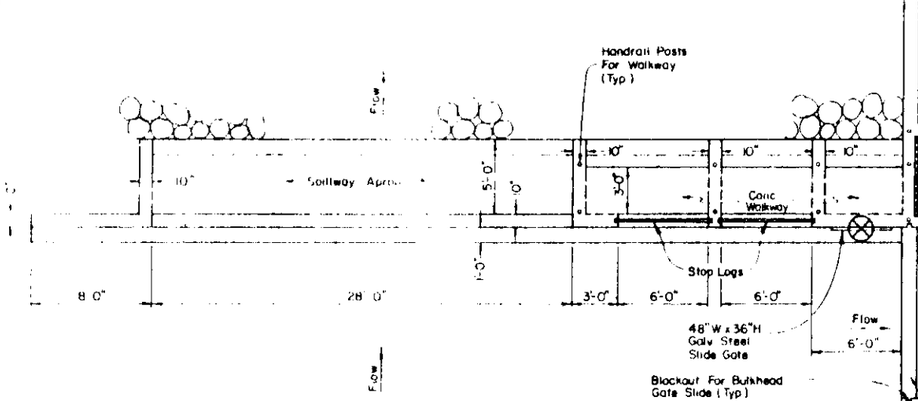
a. Agencies Consulted During the Preparation of the Environmental Report - A list of the agencies provided with a draft copy of this Application for Amendment and their comments are included in Appendix E.

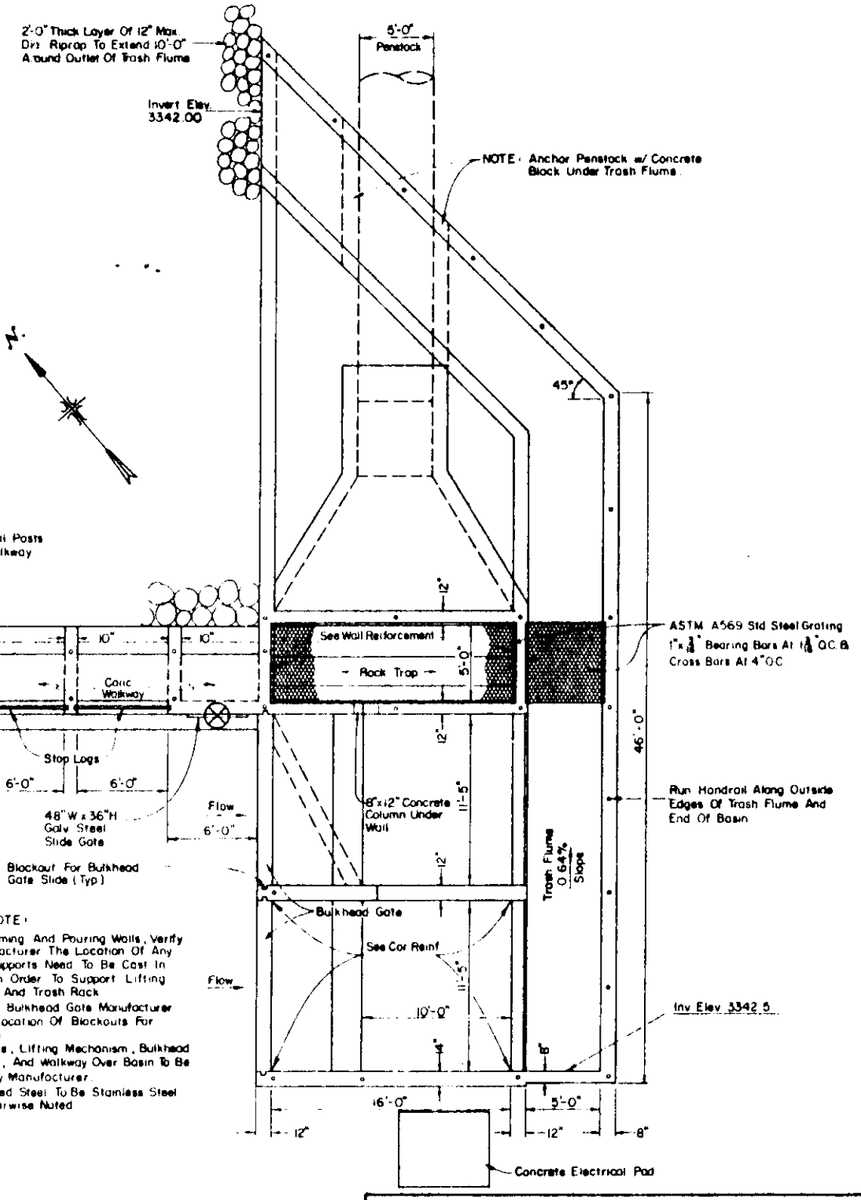
b. Agencies Provided with a Copy of the Application as Submitted to FERC - This Application for Amendment of License, as submitted to the Federal Energy Regulatory Commission, was also forwarded to all relevant agencies. Copies of the letters transmitting the application to the agencies are included in Appendix F.

EXHIBIT F



ELEVATION VIEW





GENERAL NOTE:

1. Before Forming And Pouring Walls, Verify With Manufacturer The Location Of Any Bars Or Supports Need To Be Cast In Concrete In Order To Support Lifting Mechanism And Trash Rack
2. Verify With Bulkhead Gate Manufacturer Size And Location Of Blockouts For Gate Slides
3. Trash Racks, Lifting Mechanism, Bulkhead Slide Gates, And Walkway Over Basin To Be Installed By Manufacturer
4. All Embedded Steel To Be Stainless Steel Unless Otherwise Noted

SCALE IN FEET

FIGURE F-1

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

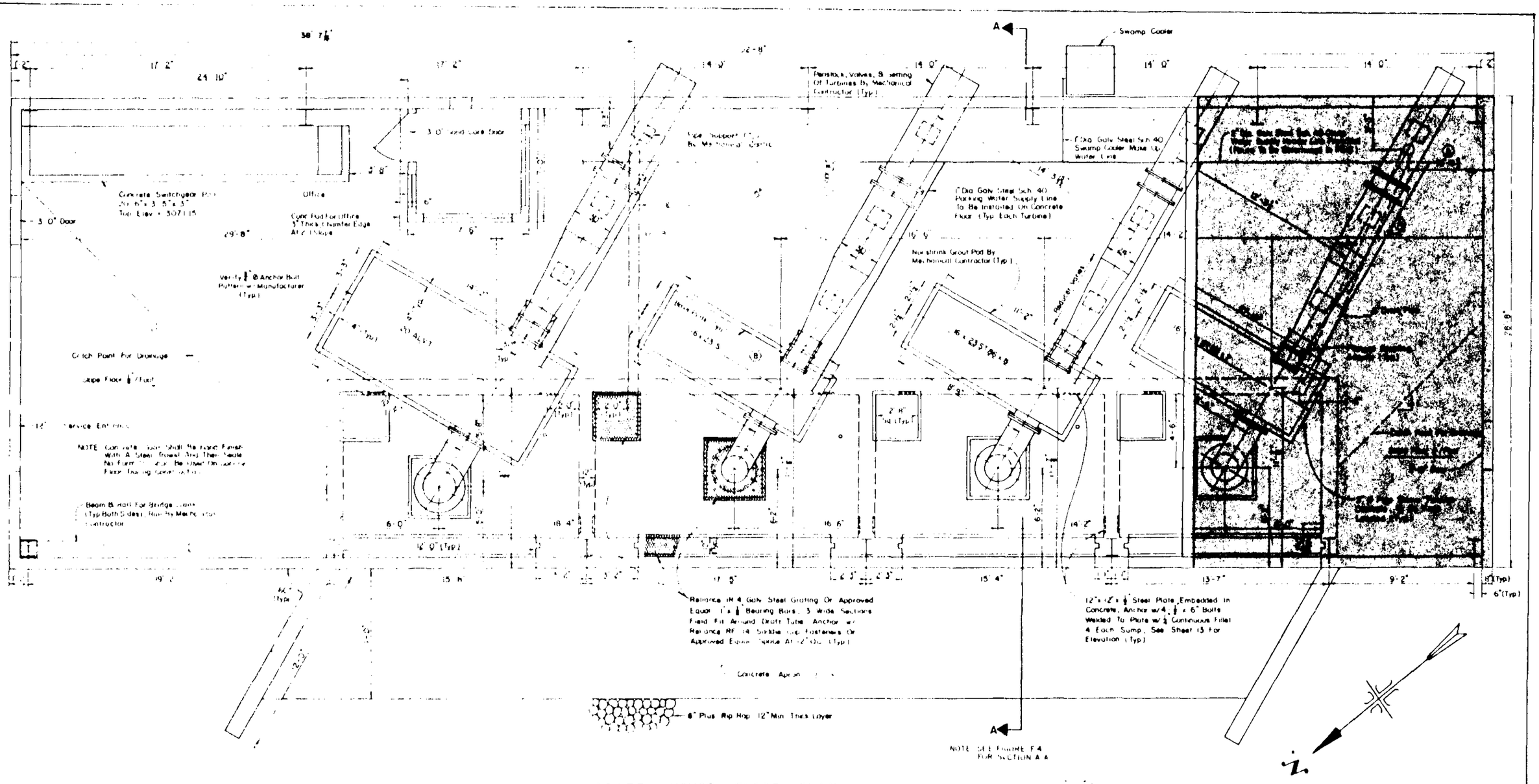
TWIN FALLS COUNTY, IDAHO

DIVERSION STRUCTURE

J-U-B ENGINEERS, INC
Engineers Surveyors Planners
Twin Falls, Idaho

Des. | Drawn | Ck'd | Proj. No. BT650806-02

Scale AS SHOWN | Date AUG, 1985 | Sheet 2 of 6



POWER HOUSE FLOOR PLAN

SCALE IN FEET

PROPOSED ADDITION TO LICENSED PROJECT (See Figure F-2A)

FIGURE F-2

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

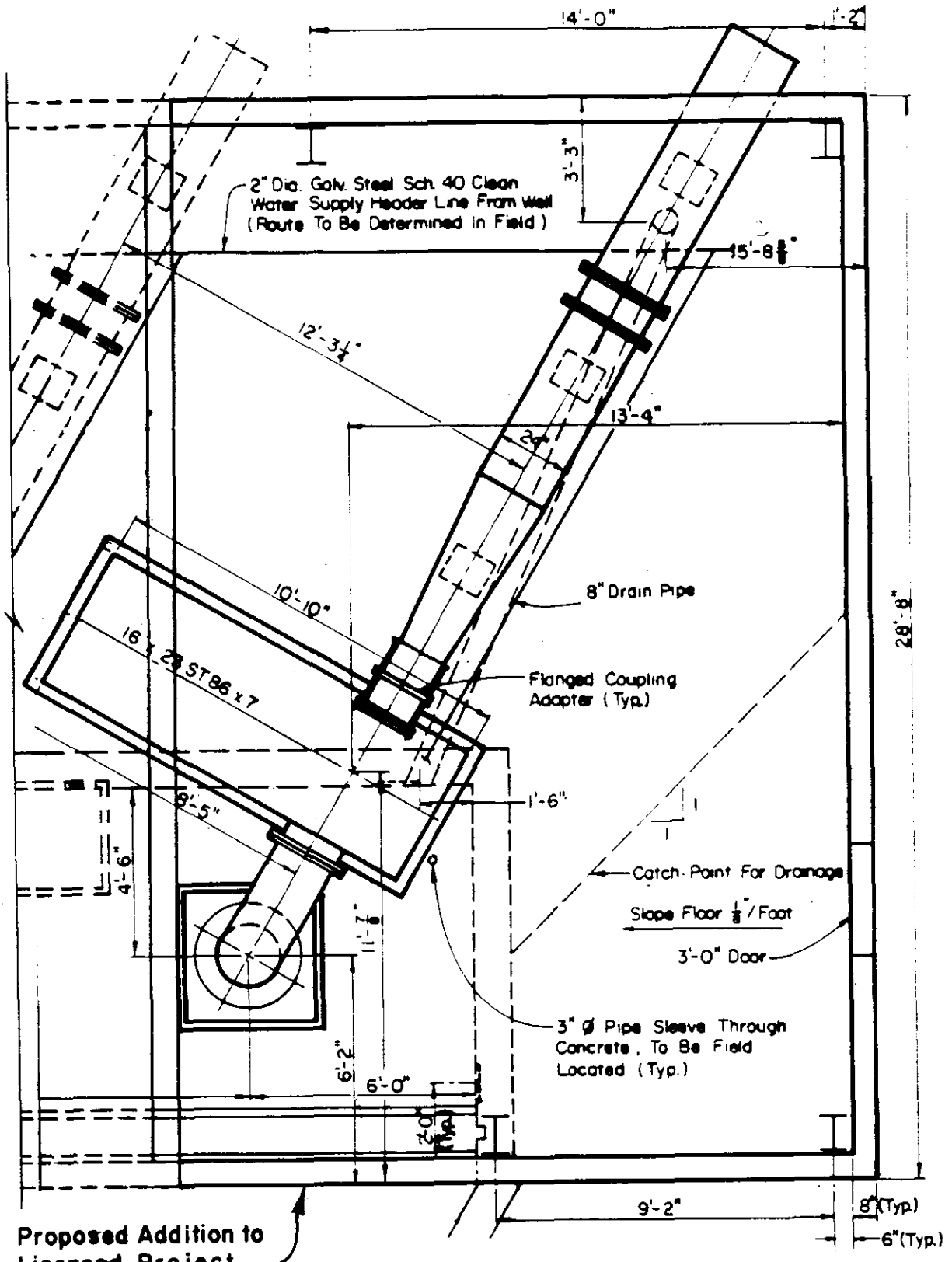
TWIN FALLS COUNTY, IDAHO

POWERHOUSE PLAN

J-U-B ENGINEERS, INC
Engineers Surveyors Planners
Twin Falls, Idaho

BTR5/0806-03

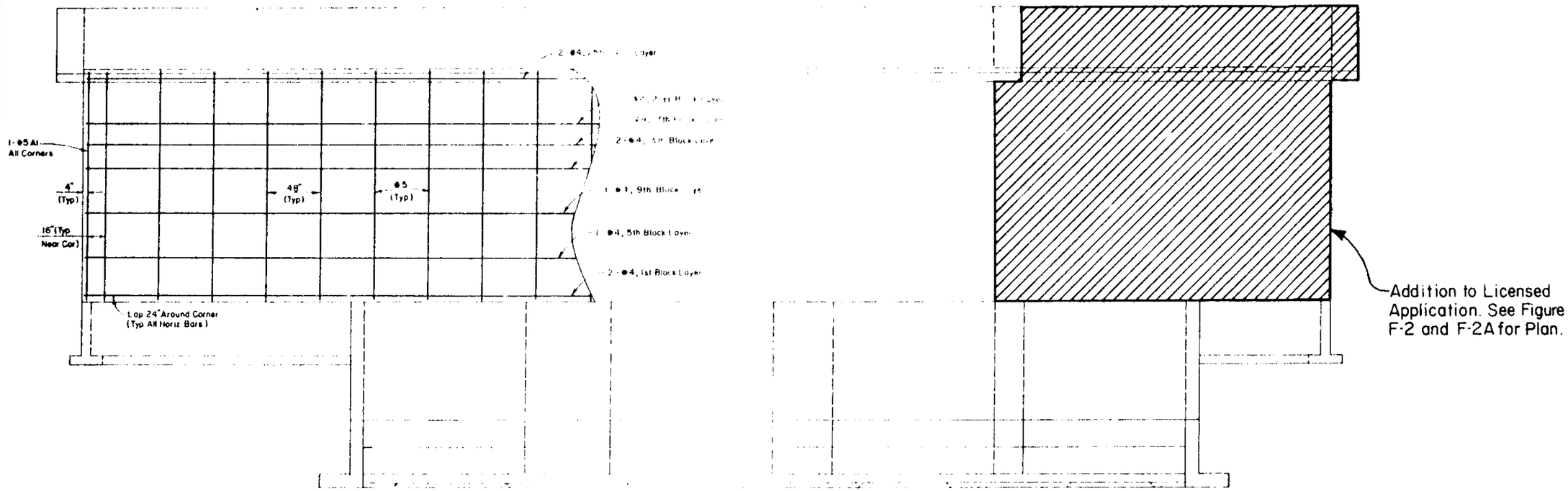
AS SHOWN | AUG. 1985 | Sheet 3 of 6



Proposed Addition to Licensed Project
(See FIGURE F-2 for Powerhouse Plan)

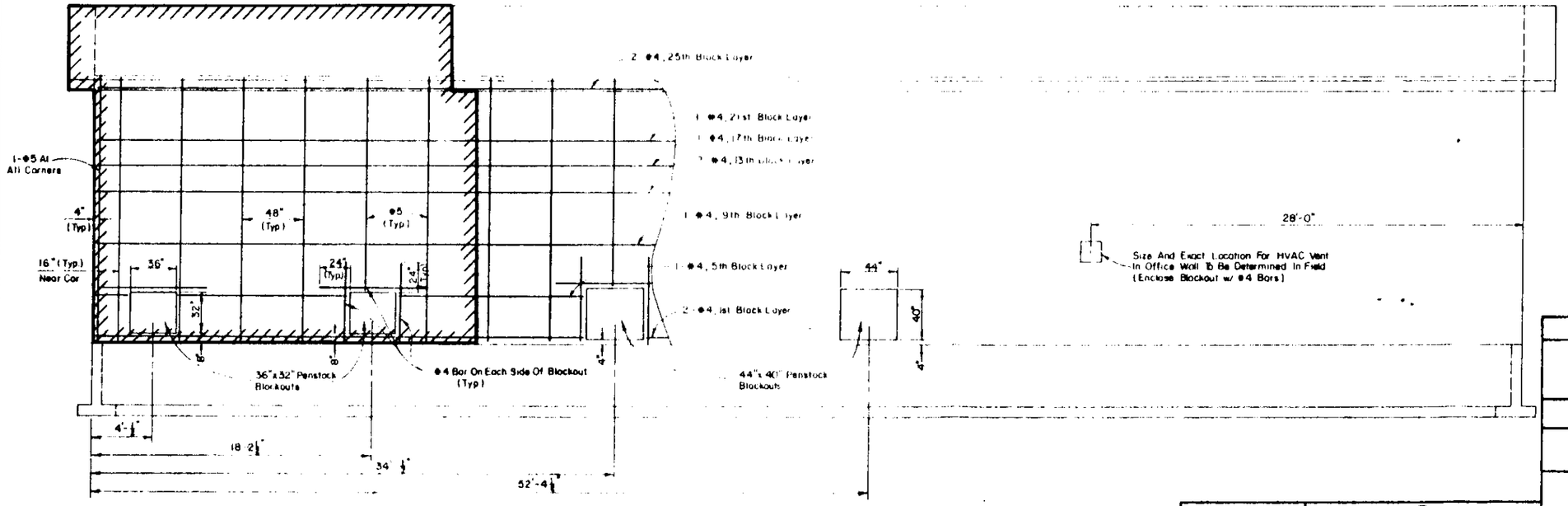
FIGURE F-2A

CEDAR DRAW CREEK HYDROELECTRIC PROJECT



WEST ELEVATION

NOTE: Lap All Horizontal Bars 24" Around Corners



EAST ELEVATION

SCALE IN FEET

FIGURE F-3

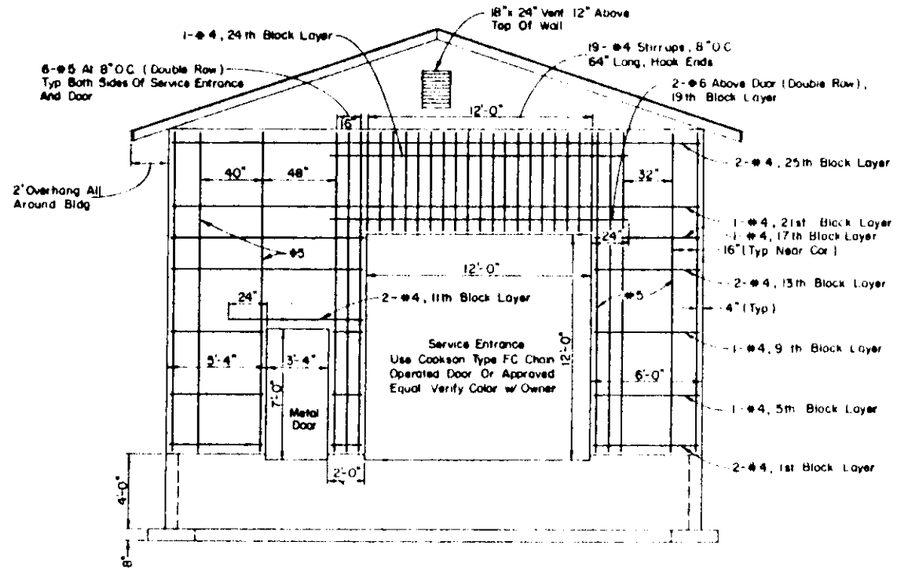
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

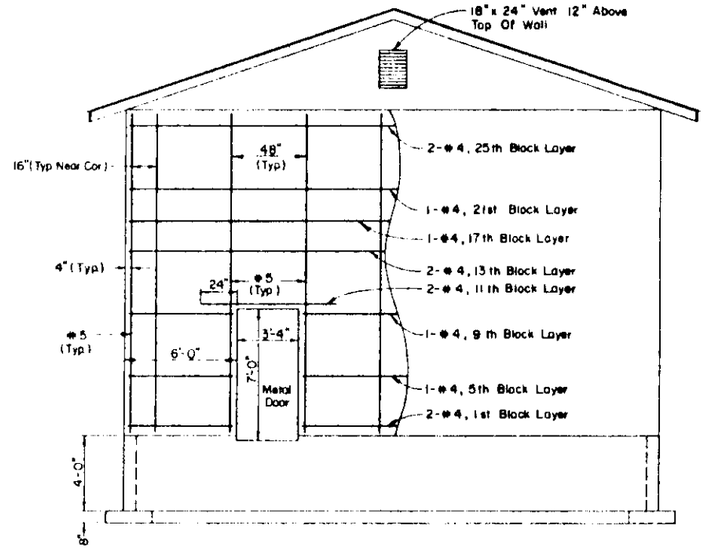
POWERHOUSE ELEVATIONS

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des	Dr BAY	Ck	Dwg No BT850806-04
Scale AS SHOWN	Date AUG, 1985	Sheet 4 of 6	



NORTH ELEVATION

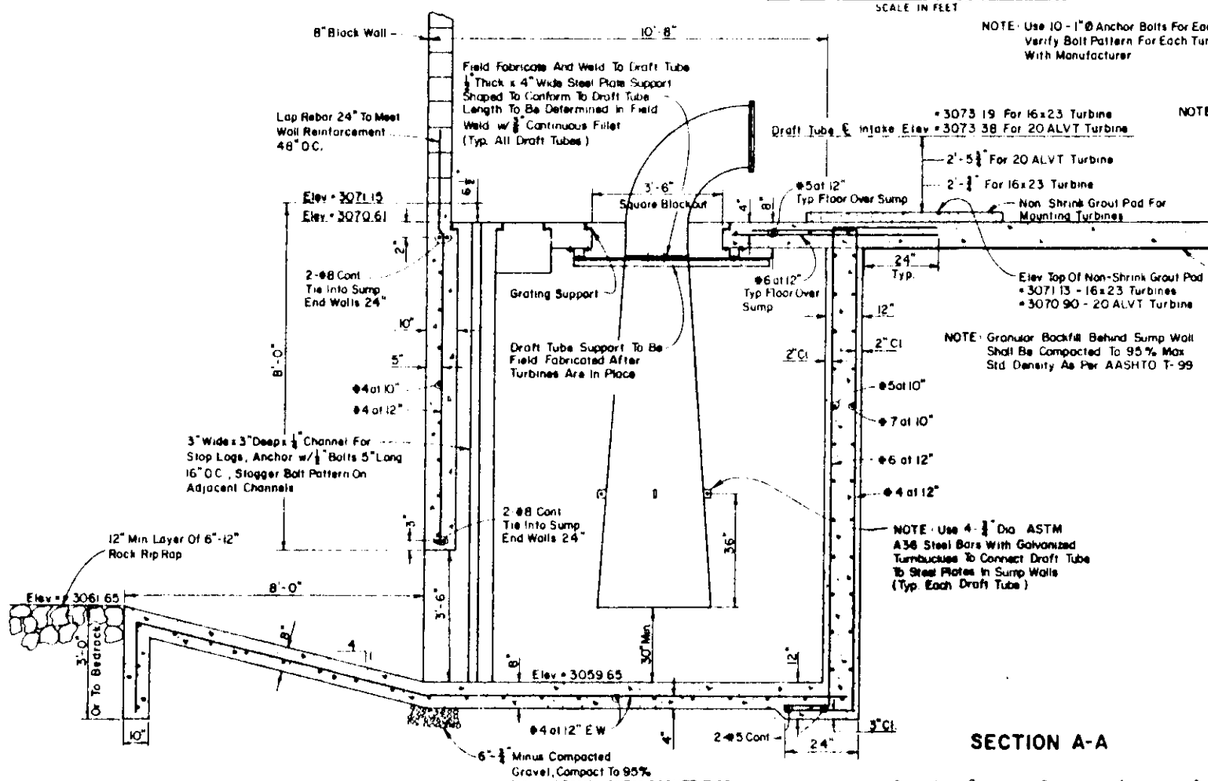


SOUTH ELEVATION

NOTE: Lap All Horizontal Bars 24" Around Corners

Location And Size Of Any Required HVAC Or Other Blockouts In Masonry Walls Shall Be Determined In Field Prior To Construction Of Walls (Enclose All Blockouts w/#4 Bars Extended 24" Past Openings)

4 3 2 1 0 4 8 12
SCALE IN FEET



SECTION A-A

2 1 0 2 4 6
SCALE IN FEET

NOTE: Use 10-1"Ø Anchor Bolts For Each Turbine Verify Bolt Pattern For Each Turbine With Manufacturer

NOTE: Manifold ℄ Elev For All Turbines = 3073.19

FIGURE F-4

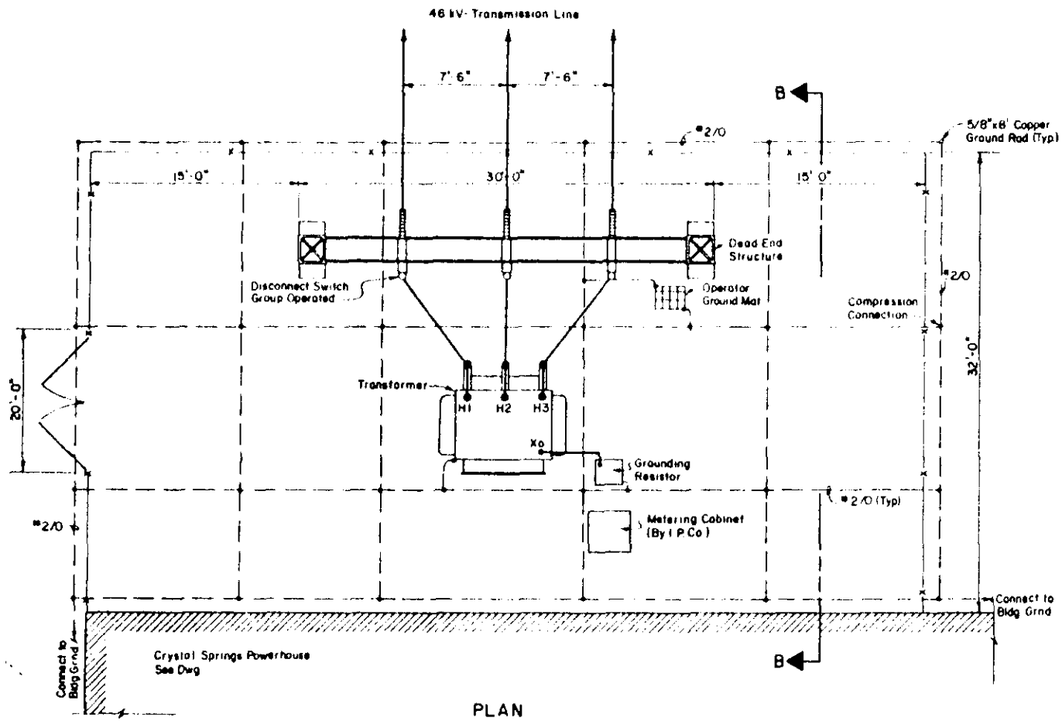
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

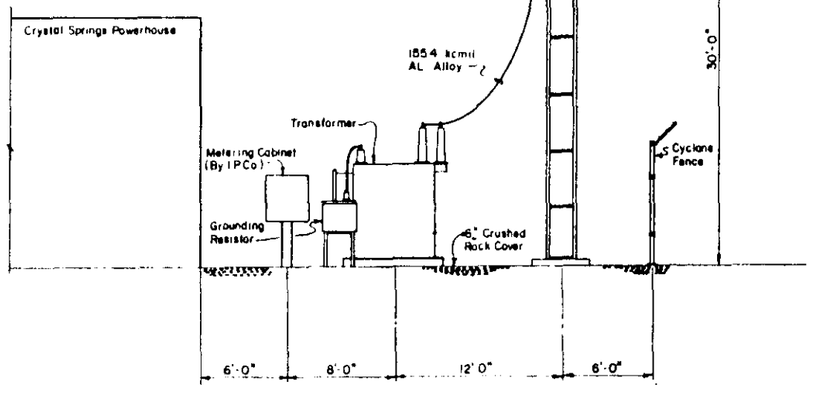
POWERHOUSE ELEVATIONS & SECTIONS

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Des	D/S/B	Ck	Dwg No BT850806-05
Scale AS SHOWN	Date AUG, 1985	Sheet 5	of 6



PLAN



SECTION B-B

SCALE IN FEET

FIGURE F-5

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

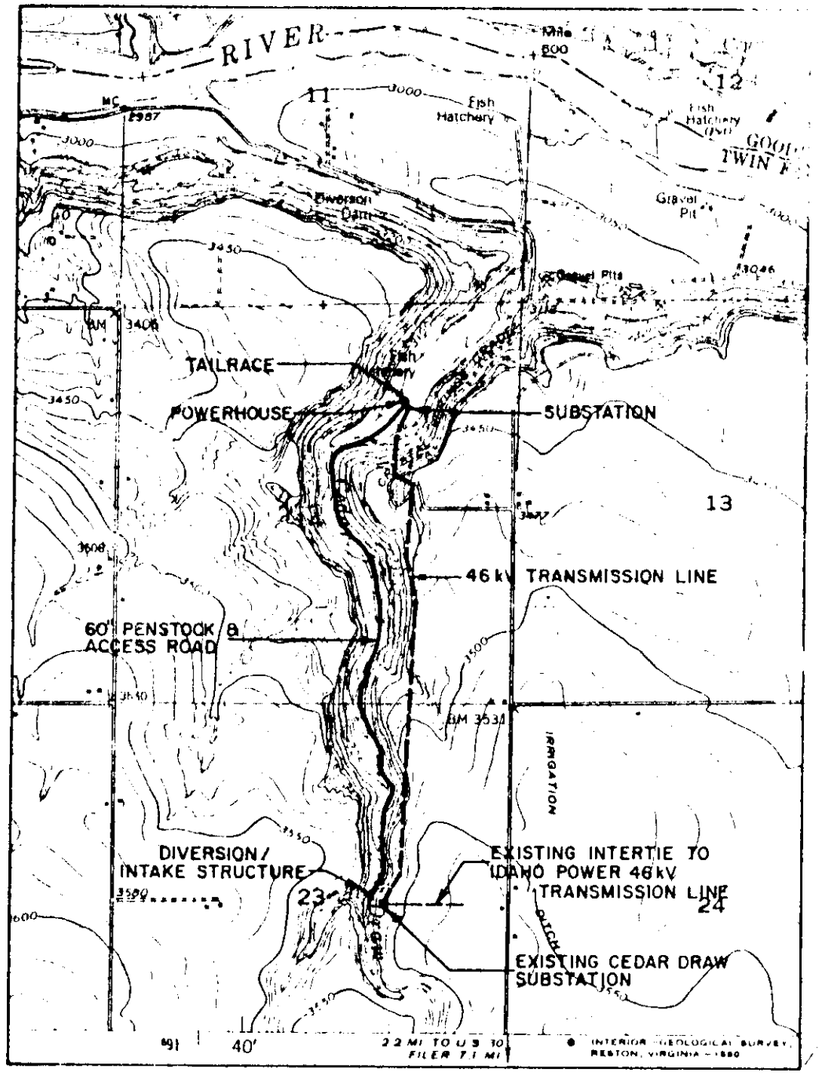
SUBSTATION PLAN AND SECTION

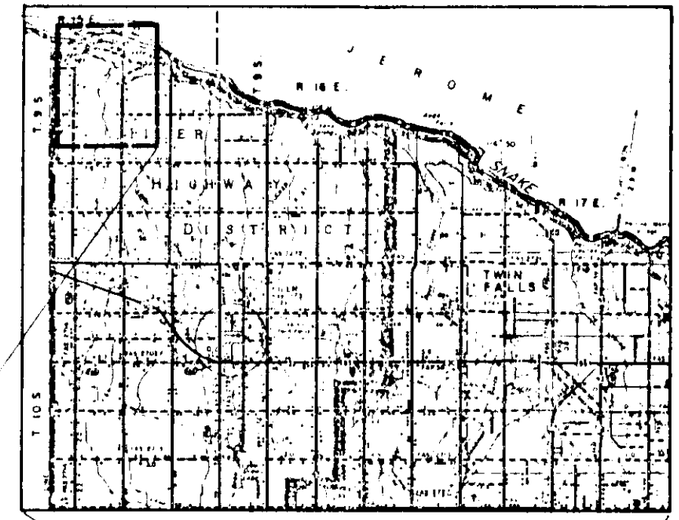
J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

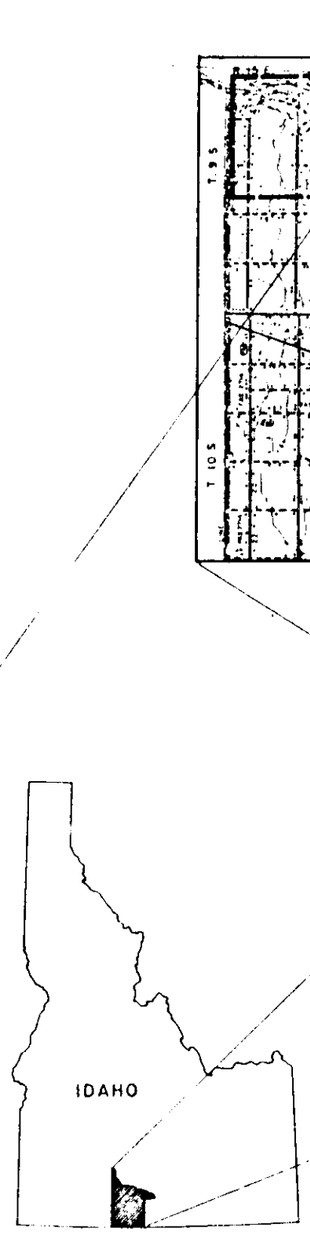
Dsn | Dr BAK | Ck | Dwg No RT850806-06

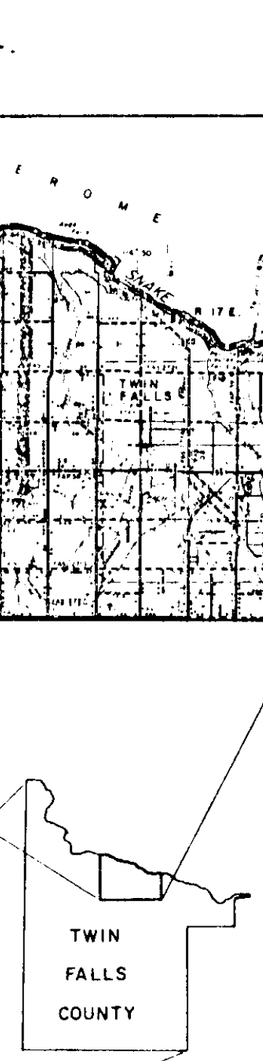
Scale AS SHOWN | Date AUG, 1985 | Sheet 6 of 6

EXHIBIT G









1000 500 0 1000 2000 3000
SCALE IN FEET

EXHIBIT G

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

PROJECT LOCATION

JUB ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

SCALE AS SHOWN | DATE: PLATEAU, 1983 | DRAWN BY: C.D.C. | SHEET 1 OF 6 | JOB NO. 81-150-005.01

APPENDIX A

WATER QUALITY DATA

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)
13093500 - CEDAR DRAW NEAR FILER, IDAHO (LAT 42 37 25 LONG 114 39 12)					
NOV , 1979					
08...	1525	50	974	12.0	11.5
DEC					
20...	1015	39	844	7.0	9.5
FEB , 1980					
12...	0940	30	993	-1.5	7.0
APR					
22...	1430	73	576	22.0	15.5
MAY					
12...	0835	192	514	14.0	10.5
12...	1520	185	535	22.0	15.0
13...	0915	226	506	12.5	11.5
JUN , 1980					
27...	1045	65	668	17.0	13.0
JUL					
07...	1315	63	733	32.0	21.0
08...	0800	64	716	19.5	15.0
AUG					
19...	0930	99	787	19.0	15.0
SEP					
15...	1415	234	560	25.0	17.0
13093530 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)					
NOV , 1979					
09...	1045	78	867	7.0	7.5
DEC					
20...	1015	58	874	10.5	9.0
FEB , 1980					
12...	1145	37	906	3.5	5.5
APR					
22...	1345	96	512	22.5	16.0
MAY					
12...	1025	264	584	12.0	11.5
12...	1700	277	584	24.0	15.5
13...	1335	318	536	20.0	15.0
JUN , 1980					
27...	1200	99	664	20.0	13.5
JUL					
07...	1400	83	722	29.5	17.0
08...	1000	92	666	25.5	16.0
AUG					
19...	1040	101	763	21.0	15.0
SEP					
15...	1000	288	597	23.5	17.0

13093500 CEDAR DRAW NEAR FILER, ID--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year October 1980 to September 1981.
REMARKS.--Water-quality data collected for special projects.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT										
24...	1130	182	592	8.2	11.0	7.0	.20	11.2	107	<70
DEC										
08...	1400	61	1239	8.5	-2.0	4.0	1.4	12.2	116	61
FEB										
02...	1430	30	950	8.4	2.5	9.0	6.1	12.0	117	--
APR										
08...	0850	24	900	8.3	6.5	5.5	1.5	15.9	143	56
MAY										
11...	1115	53	579	8.6	12.5	9.5	23	11.1	111	260
12...	1720	45	623	8.9	15.0	15.5	32	10.0	114	390
JUN										
16...	0915	257	514	8.4	20.0	13.0	52	9.0	98	790
JUL										
06...	1530	32	716	8.9	27.5	25.0	18	12.6	173	540
07...	1020	38	778	8.4	14.0	14.0	1.1	10.0	110	940
AUG										
28...	1330	53	810	8.4	27.0	28.0	84	8.1	102	1200

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE FET-FLD (MG/L AS HCO3)	CAR-BONATE FET-FLD (MG/L AS CO3)
OCT										
24...	230	12	54	22	48	27	1.2	5.1	268	0
DEC										
08...	--	--	--	--	--	--	--	--	480	29
FEB										
02...	370	72	81	48	89	34	2.0	4.6	388	31
APR										
08...	--	--	--	--	--	--	--	--	350	0
MAY										
11...	230	21	58	22	36	25	1.0	4.6	230	12
12...	--	--	--	--	--	--	--	--	210	29
JUN										
16...	--	--	--	--	--	--	--	--	230	2
JUL										
06...	288	48	67	27	51	28	1.3	5.4	248	26
07...	--	--	--	--	--	--	--	--	388	5
AUG										
28...	--	--	--	--	--	--	--	--	348	5

13093500 CEDAR DRAW NEAR FILER, ID--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
OCT										
24...	2.6	76	30	.7	19	377	.51	185	.010	1.3
DEC										
08...	2.3	--	--	--	--	--	--	--	.050	4.3
FEB										
02...	.9	100	54	.6	24	663	.90	53.7	.050	3.7
APR										
08...	2.6	--	--	--	--	--	--	--	.080	3.6
MAY										
11...	1.0	70	32	.8	18	304	.50	52.1	.000	.66
12...	.5	--	--	--	--	--	--	--	.030	.87
JUN										
16...	1.5	--	--	--	--	--	--	--	.020	.40
JUL										
06...	.6	110	39	.7	35	488	.65	41.5	.050	1.7
07...	2.0	--	--	--	--	--	--	--	.060	2.0
AUG										
28...	2.2	--	--	--	--	--	--	--	.060	2.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
OCT										
24...	.050	1.20	.90	1.2	2.5	.110	.030	.030	--	--
DEC										
08...	.100	1.70	.81	1.6	6.0	.030	.020	<.020	--	--
FEB										
02...	.110	1.00	<1.0	.89	4.7	.130	.130	.110	--	--
APR										
08...	.050	.90	<.90	.90	4.9	.110	.070	.050	--	--
MAY										
11...	.060	.80	.69	.81	1.6	.150	.050	<.050	8	250
12...	.100	1.20	.73	1.1	2.1	.200	.120	.100	--	--
JUN										
16...	.130	1.30	.80	1.2	1.8	.300	.060	.020	--	--
JUL										
06...	.110	1.20	1.1	1.1	2.9	.150	.150	.130	15	270
07...	.120	1.00	.90	.80	3.1	.180	.180	.100	--	--
AUG										
28...	.100	1.70	.93	1.5	3.7	.310	.100	.050	--	--

13093500 CEDAR DRAW NEAR FILER, ID--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT										
24...	--	--	--	--	--	--	--	66	27	13
DEC										
08...	--	--	--	--	--	--	--	67	17	1.9
FEB										
02...	--	--	--	--	--	--	--	97	20	1.8
APR										
06...	--	--	--	--	--	--	--	--	3	.19
MAY										
11...	4	4	1000	10	70	.1	0	97	57	6.2
12...	--	--	--	--	--	--	--	96	44	5.3
JUN										
16...	--	--	--	--	--	--	--	67	245	170
JUL										
06...	7	7	410	6	20	.1	20	85	11	.95
07...	--	--	--	--	--	--	--	66	15	1.5
AUG										
29...	--	--	--	--	--	--	--	96	210	30

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)
13093530 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)											
OCT , 1980											
29...	1415	262	626	8.6	19.5	9.0	1.8	10.8	104	180	230
DEC											
08...	1600	58	918	8.6	.0	5.5	1.3	11.1	99	440	--
FEB , 1981											
02...	1600	43	975	8.8	3.5	5.0	2.9	11.7	102	--	340
APR											
08...	1115	30	956	8.6	10.5	6.0	1.6	10.0	126	84	--
MAY											
11...	1630	88	602	8.7	17.0	13.0	06	9.4	101	250	230
12...	0930	96	637	8.4	8.5	8.5	00	--	--	250	--
JUN											
10...	1120	301	534	8.4	30.0	14.0	57	9.4	102	K1100	--
JUL											
06...	1330	81	694	8.7	28.0	20.0	10	9.3	116	570	270
07...	0920	87	711	8.7	15.0	14.0	26	9.8	94	3200	-
AUG											
29...	1525	66	811	8.6	30.0	20.0	75	7.8	96	420	--

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)
13093530 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)										
OCT 1980										
24...	12	54	23	43	28	1.2	5.2	217	1.1	75
DEC										
08...	--	--	--	--	--	--	--	314	1.5	--
FEB 1981										
02...	18	75	38	82	34	1.9	4.8	322	1.8	150
APR										
08...	--	--	--	--	--	--	--	307	1.5	--
MAY										
11...	0	55	23	43	28	1.2	5.2	265	1.8	75
12...	--	--	--	--	--	--	--	213	1.7	--
JUN										
16...	--	--	--	--	--	--	--	288	1.6	--
JUL										
06...	33	65	26	58	28	1.3	5.3	237	.9	110
07...	--	--	--	--	--	--	--	282	1.1	--
AUG										
28...	--	--	--	--	--	--	--	291	1.4	--

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
13093530 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)										
OCT 1980										
24...	32	.7	20	363	.52	271	.010	1.4	.84	.060
DEC										
08...	--	--	--	--	--	--	.060	4.5	1.0	.070
FEB 1981										
02...	52	.8	27	623	.85	72.3	.030	3.6	.89	.090
APR										
08...	--	--	--	--	--	--	.050	3.9	1.3	.060
MAY										
11...	33	.8	21	403	.55	95.8	.080	.97	2.8	.110
12...	--	--	--	--	--	--	.080	1.1	1.8	.110
JUN										
16...	--	--	--	--	--	--	.010	.62	2.6	.130
JUL										
06...	36	.7	32	466	.64	182	.060	1.6	1.2	.110
07...	--	--	--	--	--	--	.060	1.8	1.1	.090
AUG										
28...	--	--	--	--	--	--	.060	2.1	1.2	.090

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOVERABLE (UG/L AS B)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
13043330 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)										
OCT , 1980										
24...	.80	2.3	---	.060	.25	---	---	---	39	83
DEC										
08...	1.10	3.8	---	.060	.25	---	---	---	8	92
FEB , 1981										
02...	.90	4.4	---	.090	.28	---	---	---	12	92
APR										
06...	1.40	5.3	---	.100	.31	---	---	---	2	---
MAY										
11...	2.10	3.1	---	.220	.67	8	300	.1	152	98
12...	1.90	3.0	---	.320	.98	---	---	---	137	97
JUN										
16...	2.70	3.3	---	.210	.64	---	---	---	292	89
JUL										
06...	1.30	2.9	---	.180	.55	12	260	.1	24	87
07...	1.20	3.8	---	.250	.77	---	---	---	42	94
AUG										
26...	1.30	3.4	---	.300	1.1	---	---	---	186	97

APPENDIX B

ARCHAEOLOGICAL SURVEY

IDAHO STATE HISTORICAL SOCIETY
610 NORTH JULIA DAVIS DRIVE BOISE, 83702

November 15, 1983

Mr. David B. Diehl
Land Planning and Management
22627 - 152nd SE
Kent, WA 98031

Dear Mr. Diehl:

Enclosed are three copies of the archaeological survey report for the Cedar Draw Hydroelectric Project. This report was prepared by our office for no fee. It can be attached to Exhibit E of the FERC application.

We reiterate our earlier statements: This project will have no effect on archaeological or historic properties.

Sincerely,

Thomas J. Green
State Archaeologist
State Historic Preservation Office

Enc.

TG/kh

CULTURAL RESOURCE REPORT NARRATIVE

IDAHO ARCHAEOLOGICAL SURVEY

A. NAME AND FULL DESCRIPTION OF THE PROPOSED UNDERTAKING (Key to Map)
(Be specific and describe all direct and indirect impacts expected)

Project Name: Cedar Draw Hydroelectric Project.

Project: The proposed project will consist of: (1) a 6' high, 30' long diversion structure; (2) a 60", 2,500' long conduit; (3) a 54", 150' long penstock; (4) a powerhouse. See Project Map.

B. LOCATION AND GENERAL ENVIRONMENTAL SETTING (Key to Map)

The project is located in the southern (upper) end of Cedar Draw. The upper end is rugged with talus extending to the creek. Cedar Draw is a box canyon, and the creek enters the draw by way of a waterfall. (See photograph)

USGS Topographic Map(s): Niagara Springs, Idaho, 1950.

USGS Topograhic map(s):

C. PRE-FIELD RESEARCH

1. Sources of information checked:
[]Overview []Site sensitivity map []GLO plats ☒SHPO file
[]Other(list)

2. Summary of previous studies in this general area, in similar terrain:

Title	Distance/Direction	Results

A) Carley & Sappington, 1982. Archaeological Survey of the Clear Lakes Project on the Snake River. Southeast Idaho, 1981.

B) Plew, 1982. Test excavations at Lower Rock Creek.

C) Plew, 1983. Test excavations at Auger Falls.

D. EXPECTED HISTORIC AND PREHISTORIC LAND USE AND SITE SENSITIVITY

1. Are there sites known in this area? []Yes ☒No
2. Are sites expected? []Yes(Where?) ☒No(Why?) Explain below:

The canyon is very rugged, rocky, and inaccessible. There is almost no flat ground. There are few areas of deposition where a site would be expected. It is possible that rock art or burials could occur in such a canyon, but they are usually in more accessible areas.

E. FIELD METHODS (Be specific and complete)

1. Areas examined and type of coverage:(Key to Map)

The project area was walked intensively on the east side of the creek, and flat areas were spot-checked on the west side of the creek.

2. Areas not examined and Reasons Why:(Key to Map)

There were some areas too steep to survey.

4. Personnel conducting or assisting in the survey:

Dr. Thomas J. Green

5. Dates of survey: October 13, 1983

6. Surface and subsurface visibility (%):

Surface: 25-100% variable

Subfurface: badger holes in flats

7. Problems encountered:

Access and steep terrain

F. RESULTS

1. All cultural resources recorded for this area: (Key to Map) [X] None

Field No.	State No.	Type of Site

2. Cultural resources noted but not formally recorded: (Key to Map) [X] None

Field No.	Description	Reason not Recorded

G. CONCLUSIONS AND RECOMMENDATIONS

(Possible impacts, relation of sites to impacts, avoidance options, additional work needed, etc.)

The project will have no effect on any archaeological or historic property.

H. ATTACHMENTS

1. IMACS Site Form attached for each site? [ ] Yes
2. Maps attached? [X] Yes
3. Other attachments? (List) [X] Yes

Photos

I. CERTIFICATION OF RESULTS

I certify that I conducted the investigation reported here, that my observations and methods are fully documented, and that this report is complete and accurate to the best of my knowledge.

Thomas J. Green — 11-14-33

Signature of Reporter — Date

APPENDIX C

DON CHAPMAN STUDY AND RELATED FISHERIES DATA

Don Chapman Consultants, Inc.

FISHERY ASSESSMENT
ENVIRONMENTAL IMPACTS
AQUATIC ECOLOGY
FISHERY DEVELOPMENT

P.O. BOX 1332
McCALL, IDAHO 83638
USA
TEL: 208-634-2286

24 March 1983

Mr. Dave Millard
Land Planning and Management
22627 152nd S.E.
Kent, Washington 98031

Dear Mr. Millard,

This constitutes my report on instream flow studies completed in Cedar Draw Creek for your firm.

METHODS

I used IFG-2 (the "one-flow method" or "WSP" model) on two study sites. The lower reach lies about 150 yards upstream from the upper end of the hatchery ponds, and consisted of 9 transects on 224 feet of stream (Figure 1). It can be termed a rubbly glide and riffle with boulders. The upper site (Figure 2) can be called a series of rubbly glides interspersed with boulder-rubble riffles, and consisted of 8 transects on 66 feet of stream. The upper site lay about 1 mile above the lower site.

Slope on the lower site was 0.00297 while that on the upper site was 0.01426. Thus the upper site was steeper, and is more typical of the upper third of your proposed diversion reach. The substrate on both sites tended toward large rock. Most rocks were covered with silt more or less consolidated with what is termed "marl", a calcium carbonate deposit often associated with spring waters high in monocarbonates. Such waters are usually termed "productive".

Our aim was to calibrate the IFG-2 model to predict measured water surface elevations on each transect to the nearest 0.05 feet, and velocities on each vertical profile across the transects to the nearest 0.1 fps or to plus or minus 10% of the target velocity where the target was below about 1 fps. Once the calibration was complete (this requires a series of iterations on the model in which bottom roughness coefficients are modified in Manning's equation), we modeled discharges of 5 to 70 cfs on the lower site and 5 to 80 cfs on the upper site. Calibration (measured) discharge was 30 cfs on each site. This means there was no significant spring inflow between sites.

Hydraulic modeling was married to rainbow trout probability-of-use curves taken directly from U.S. Fish and Wildlife Service data (Figures 3-6). I believe the FWS curves are satisfactory because they were based on micro-habitat work on a small mountain stream in Colorado. We did not model the temperature component of the U.S. Fish and Wildlife curves. The velocity curves represent mostly "nose-point" or "facing" velocities rather than mean column velocities. This means that the model should predict slightly lower

optimum discharge, especially for larger fish, than would curves based totally on mean column velocities.

The IFG-2 model examines the study site on a cell-by-cell basis, backing upstream from lowest to highest transect. As I used it, the model determines hydraulic conditions in each cell, then multiplies these by fish probability of use. Thus, if velocity at a given Q is 1.5 fps, depth 0.8 feet, and substrate is gravel (index 5.0), the model multiplies 1.0 X 1.0 X 1.0 and output states that the cell is fully usable for spawning (see Figure 3). If velocity were 1.0 fps and other characteristics unchanged, the multipliers would be 0.55 X 1.0 X 1.0 (again,see Figure 3). Thus habitat can be weighted (hence WUH, or weighted usable habitat) for fish use at various modeled flows.

The IFG-2 model is recommended for extrapolation to 0.4 to 2.5 times the calibration discharge. I ran 5 cfs, below the recommended range, and several flows above the recommended range, for curiosity.

RESULTS

Tables 1 and 2 include weighted usable habitat output for the two reaches. In Figures 7 and 8, I plotted these same data in square feet per 1000 lineal feet of stream. The plots show that spawning habitat maximizes at 25 cfs on the lower reach and 30-40 cfs on the upper reach. Adult habitat increases with increasing flow throughout the modeled range on both sites. Juvenile habitat maximizes at 15 cfs on the lower site and 30 cfs on the upper site. Habitat for fry maximizes at 10 cfs on the lower reach and 25 cfs on the upper site.

I interpret the plots as showing that there is relatively much less WUH for spawning, fry and juveniles than for adults at all discharges.

Runs at 90, 100, 125 and 150 cfs (Table 3) show that the lower site did not increase in WUH for adults above 90 cfs, but that WUH in the upper site increased to 150 cfs.

A separate IFG-2 run for the lower site, using only the 5 lowest transects, in the best trout habitat of the reach (again, see Figure 1), did not change the basic trend of WUH for adults.

Very Truly Yours,

Don Chapman

ENCL.



FIGURE 1

LOWER REACH, LOOKING UPSTREAM FROM LOWER END.



FIGURE 2

UPPER REACH.

FIGURE 3

RAINBOW TROUT

11110 SPAWNING 78/01/24.

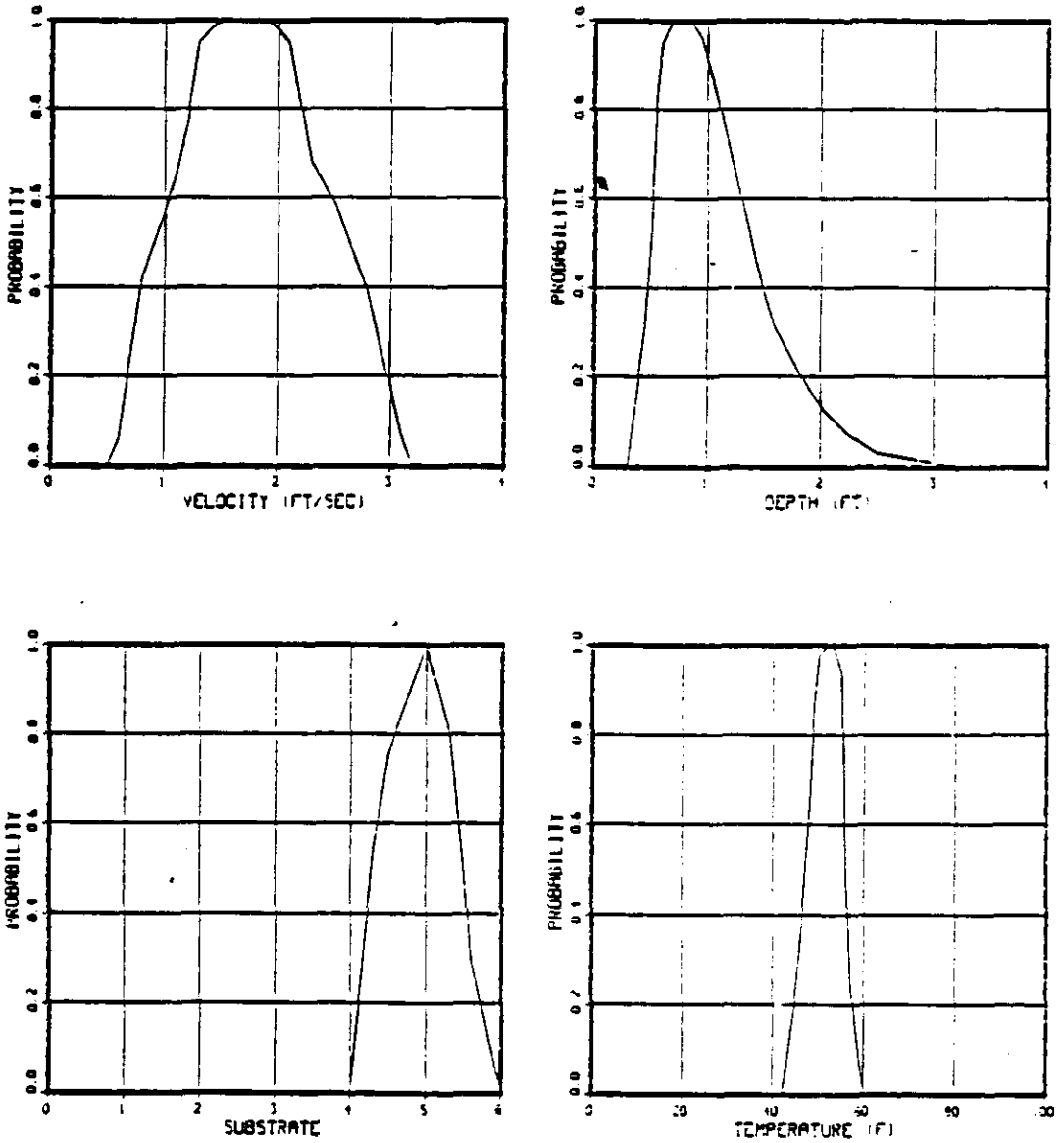


FIGURE 4

RAINBOW TROUT

11102 ADULT 78/01/24.

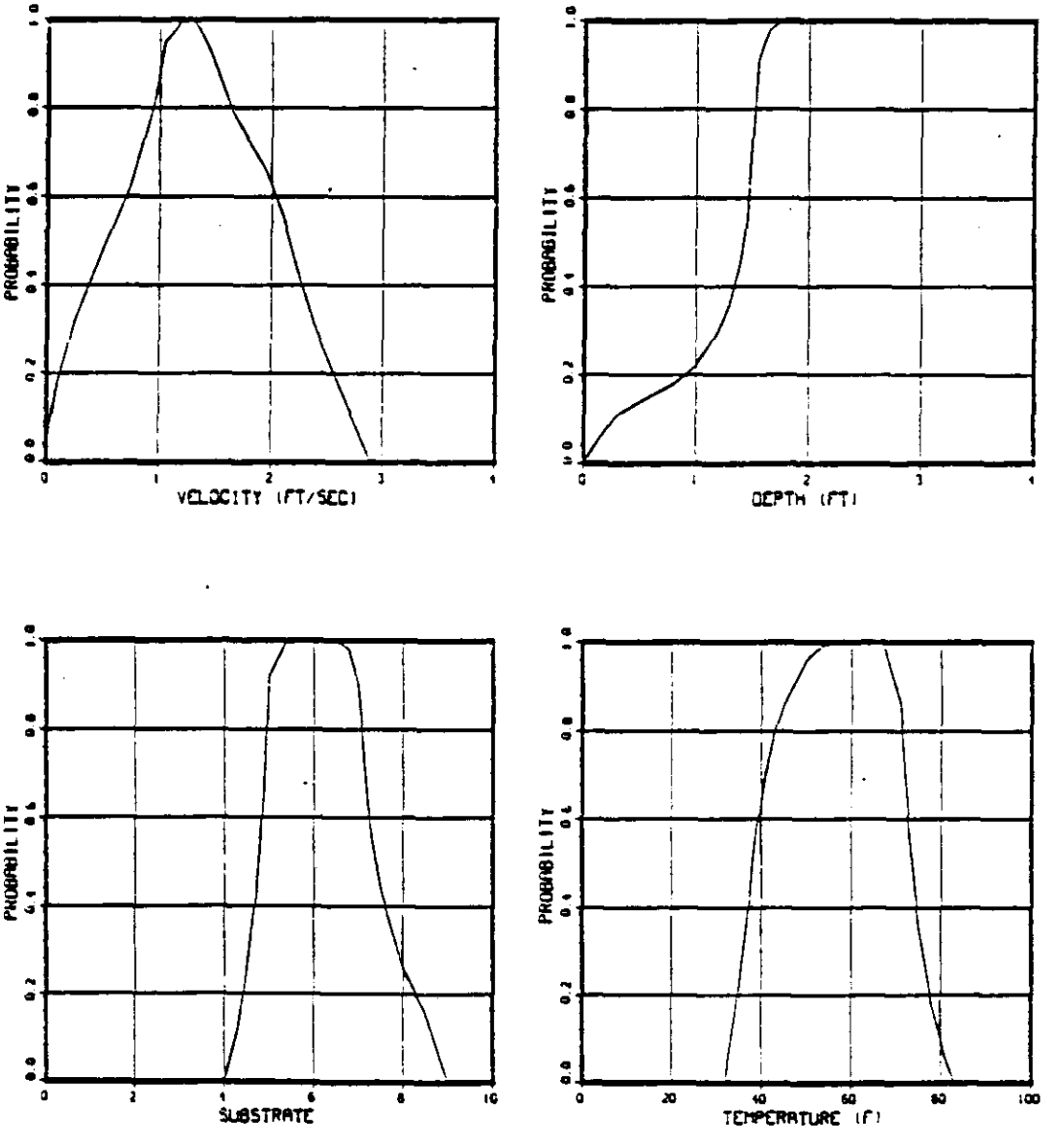


FIGURE 5

RAINBOW TROUT

11101 JUVENILES 78/01/24.

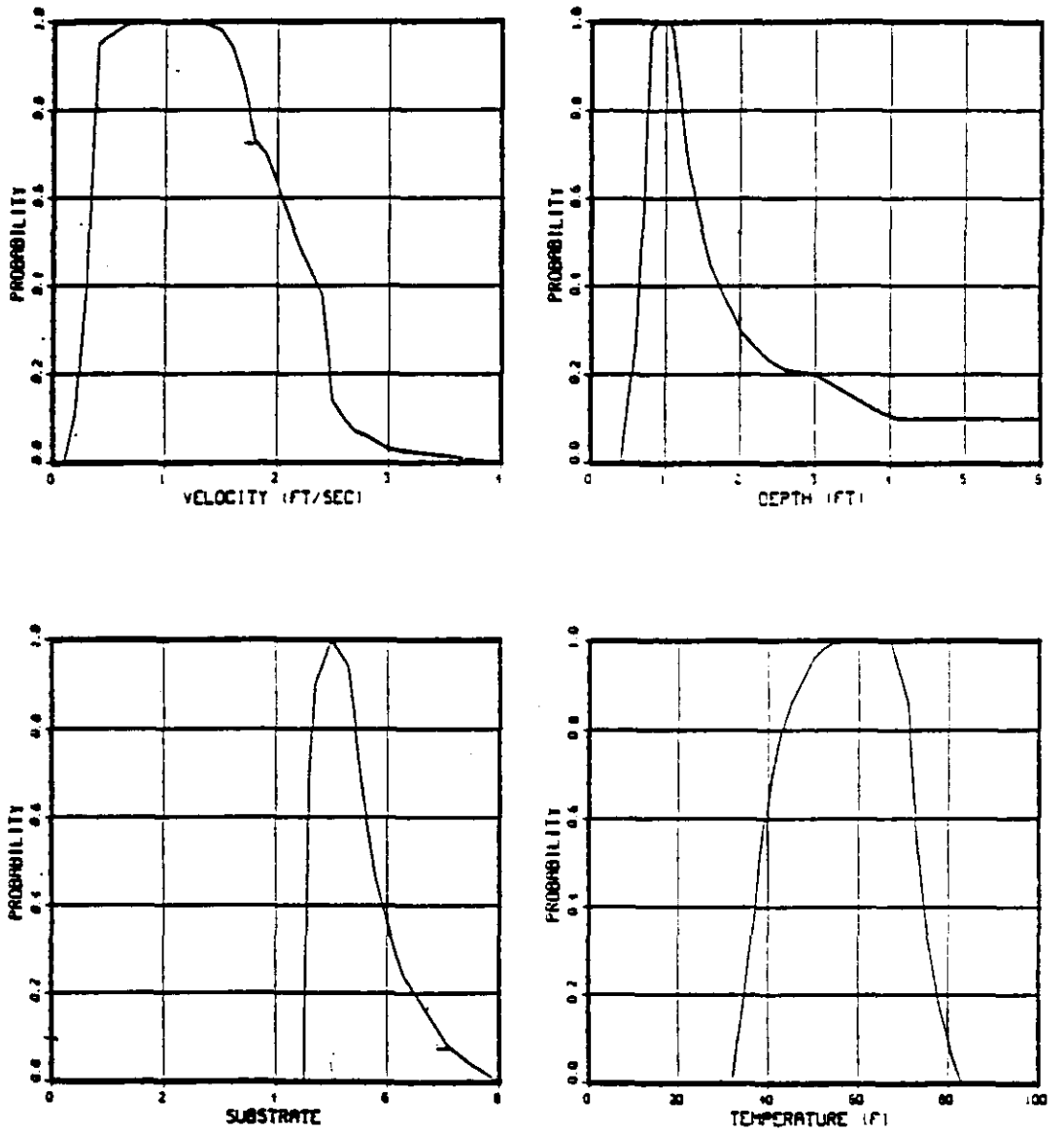


FIGURE 6

RAINBOW TROUT

11100 FRY 78/01/24.

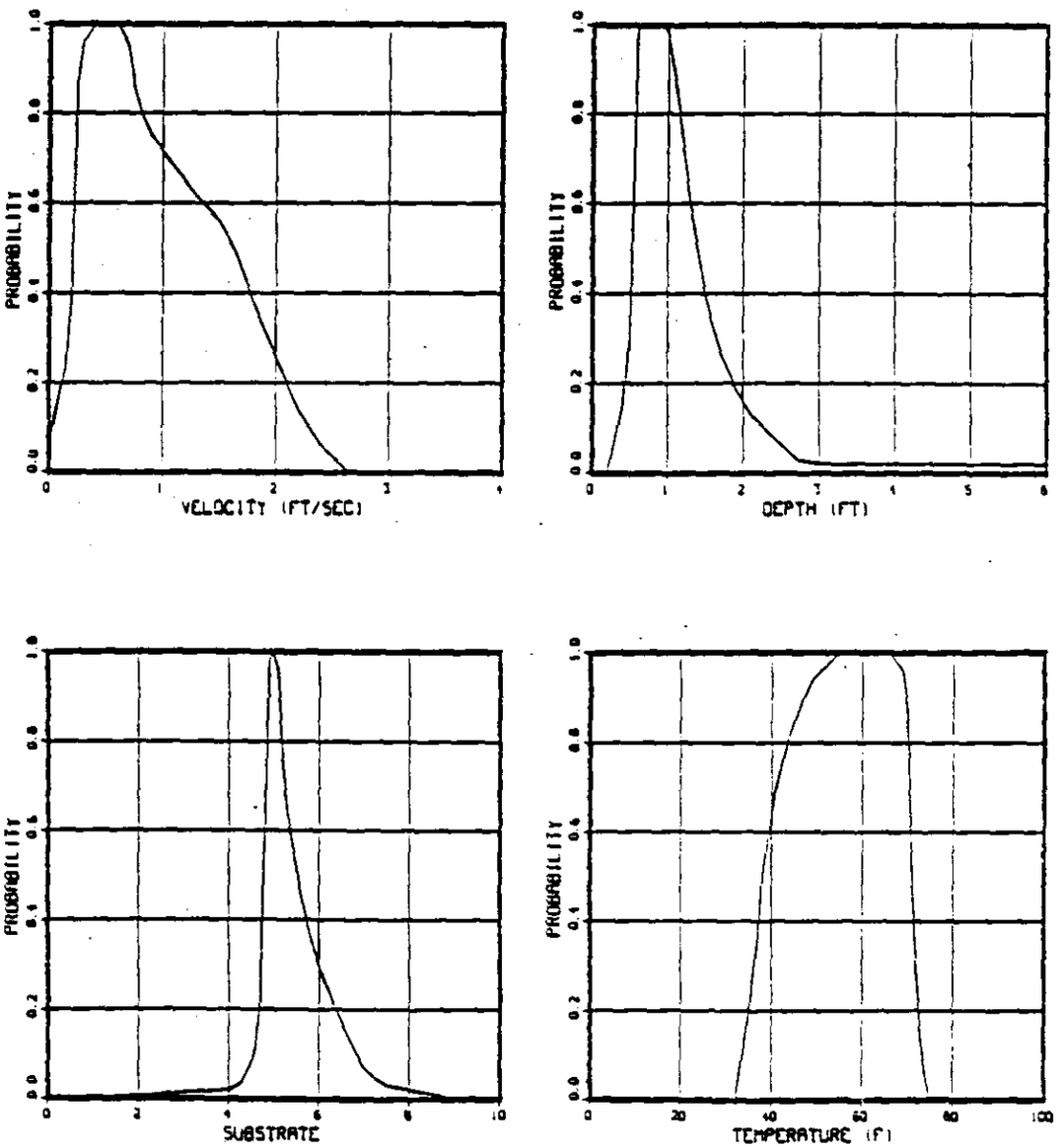


FIGURE 7

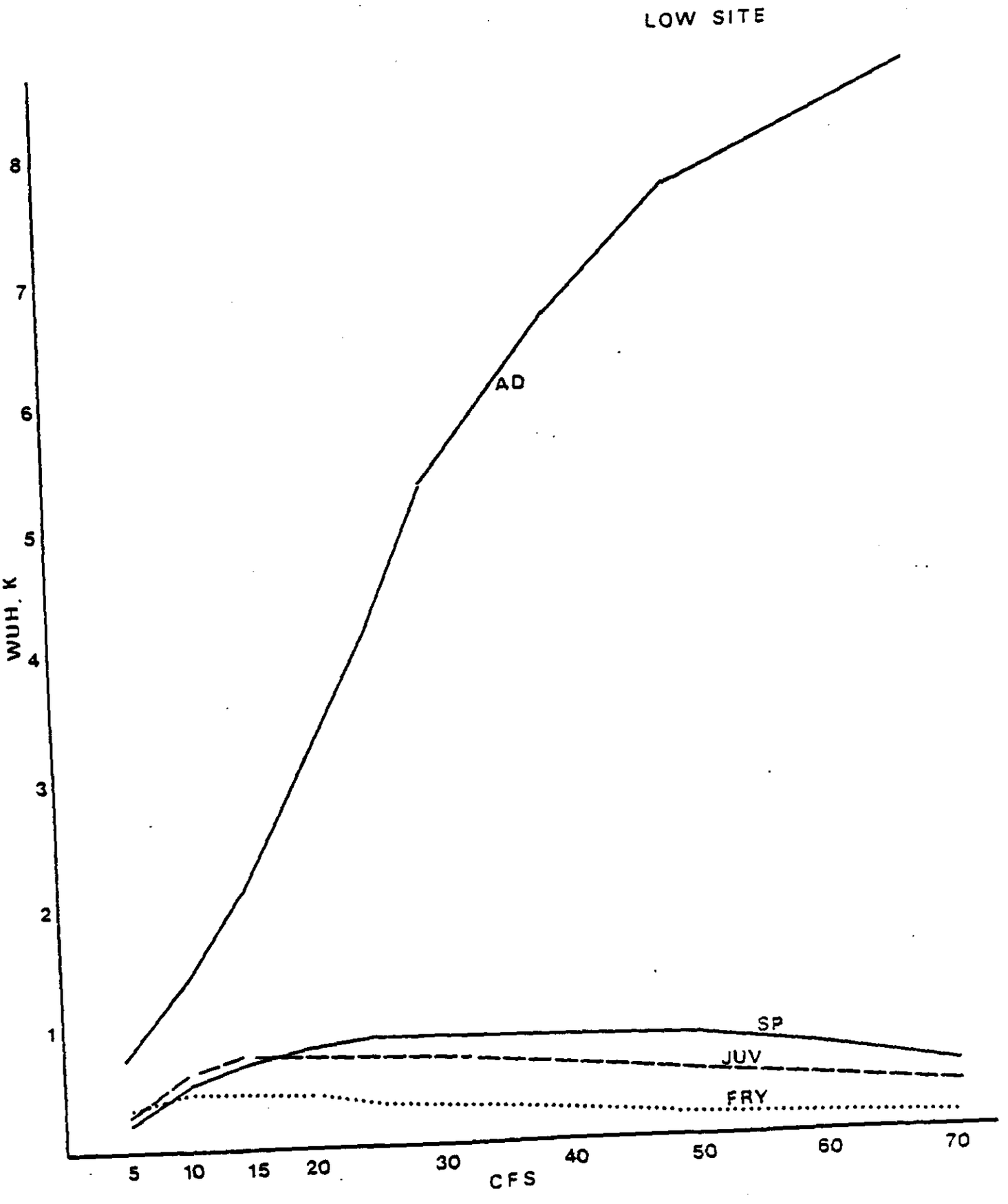
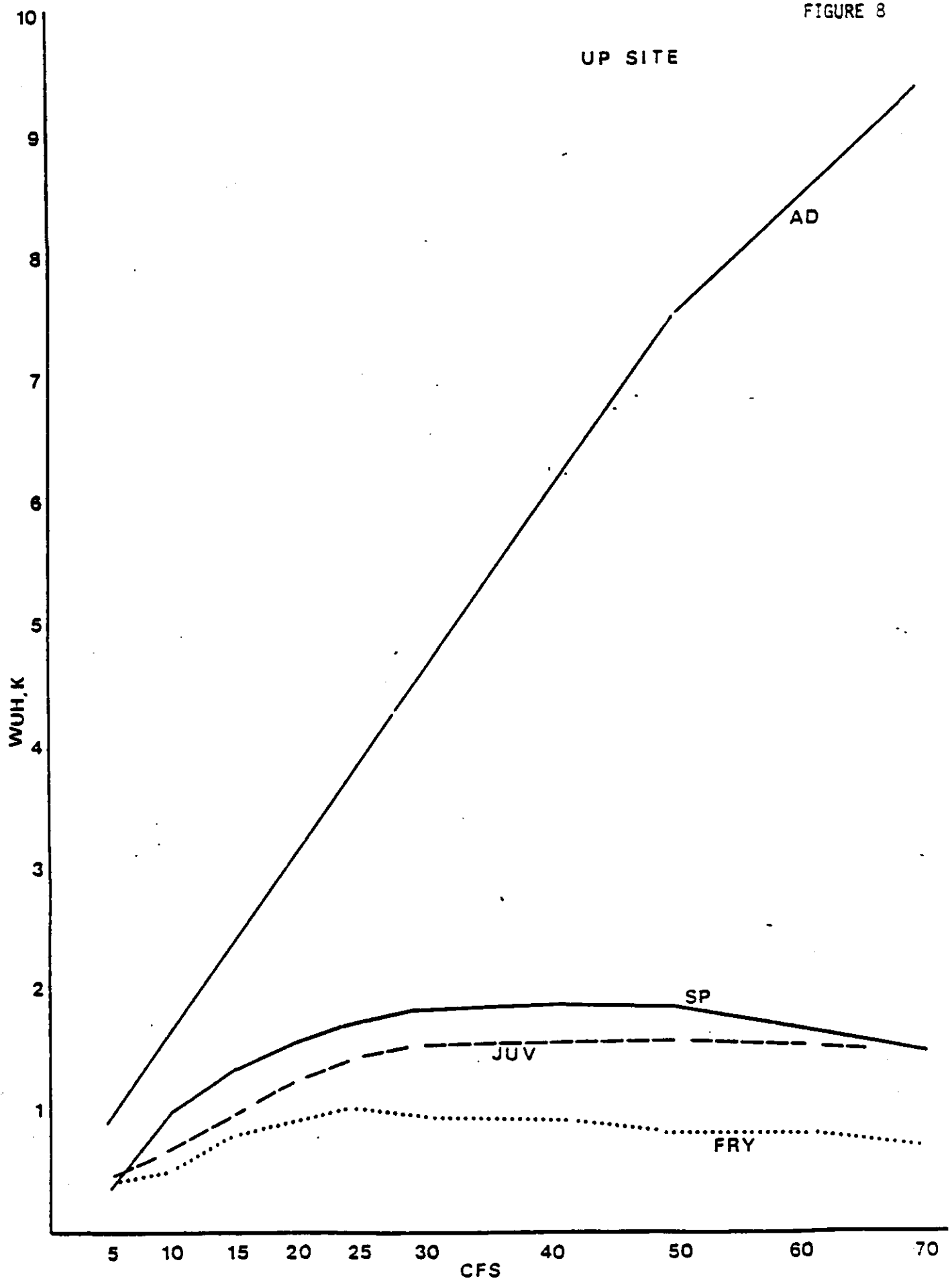


FIGURE 8


UP SITE
AD
SP
JUV
FRY
WUH, K
CFS
10
9
8
7
6
5
4
3
2
1
5
10
15
20
25
30
40
50
60
70

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   NOS TEXT EDITOR  -  VERSION 83/03/04.  CEDLHBT
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 1
   83/03/14.                  CEDAR DRAW - LOWER REACH    FIELD DATA BY ANDERSON    DATA ANALYSIS BY CHAPMAN
   14.07.58.                                               ONE FLOW:  3-2-83

   ************************************************
   *     PHYSICAL HABITAT SIMULATION-SYSTEM       *
   *       INSTREAM FLOW GROUP, USFWS             *
   *       VERSION OF AUGUST, 1981                *
   *     RUN DATE -83/03/14.-TIME -14.07.58.      *
   ************************************************

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                                  H     H   A     A   B     B      T      A     A      T
                                  HHHHHHH   AAAAAAA   BBBBBB       T      AAAAAAA      T
                                  H     H   A     A   B     B      T      A     A      T
                                  H     H   A     A   B     B      T      A     A      T
                                  H     H   A     A   BBBBBB       T      A     A      T

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          LAST UPDATED ON  9 AUGUST 1981.
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   DEPTH BRACKETS         0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00

   SUBSTRATE BRACKETS     0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.

   CURVE ID NUMBERS   11110   11102   11101   11100

   CURVE SET DEFINITION DATA WAS OBTAINED FROM THE FILE -
            CHAPMAN FILE OF SUITABILITY CURVES
          LAST UPDATED ON  82/10/23.  13.24.58.

            Q VS. AVAILABLE HABITAT AREA PER 1000 FEET OF STREAM FOR RAINBOW

            MONTH       Q       SPAWNING      ADULT       JUVENILE     FRY
              1         5.00      229.17       789.50       275.99      159.58
              2        10.00      531.37      1395.28       634.36      497.60
              3        15.00      721.41      2165.57       782.15      460.21
              4        20.00      845.99      3082.54       781.66      417.58
              5        25.00      985.85      4097.72       754.31      366.89
              6        30.00      908.34      5294.54       707.75      336.26
              7        40.00      862.84      6643.07       646.48      261.17
              8        50.00      837.48      7634.66       569.32      194.12
              9        60.00      716.53      8134.50       476.94      146.58
             10        70.00      533.25      8476.23       413.45      107.78

        Q VS. AVAILABLE HABITAT AREA AS A PERCENTAGE OF THE GROSS AREA FOR RAINBOW

            MONTH       Q       GROSS      SPAWNING      ADULT       JUVENILE     FRY
              1         5.      22471.       1.02         3.51         1.23       .71
              2        10.      25927.       2.05         5.38         2.45       1.92
              3        15.      28470.       2.53         7.61         2.75       1.62
              4        20.      30043.       2.82        10.26         2.60       1.39
              5        25.      31528.       2.87        13.00         2.39       1.16
              6        30.      33148.       2.72        15.97         2.14       1.01
              7        40.      34449.       2.50        19.28         1.88        .76
              8        50.      34979.       2.39        21.83         1.63        .55
              9        60.      35472.       2.32        22.93         1.34        .41
             10        70.      36028.       1.48        23.53         1.15        .30
 1

   SSS NORMAL COMPLETION OF JOB
   -END OF INFORMATION-
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NOS TEXT EDITOR - VERSION 83/03/04. CEDUR8T

TABLE 2

I>

83/03/17. 09.01.28. CEDAR DRAW - UPPER REACH FIELD DATA BY ANDERSON DATA ANALYSIS BY CHAPMAN ONE FLOW: 3-4-83

```
*********************************************
*      PHYSICAL HABITAT SIMULATION SYSTEM     *
*      INSTREAM FLOW GROUP, USFWS             *
*      VERSION OF AUGUST, 1981                *
*      RUN DATE  83/03/17. TIME  09.01.28.    *
*********************************************
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H    H  A     A  B     B     T     A     A     T
HHHHHHH  AAAAAAA  BBBBBB      T     AAAAAAA     T
H    H  A     A  B     B     T     A     A     T
H    H  A     A  B     B     T     A     A     T
H    H  A     A  BBBBBB      T     A     A     T
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HABTAT PROGRAM VERSION NUMBER 3-1
LAST UPDATED ON 9 AUGUST 1981.

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VELOCITY BRACKETS			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DEPTH BRACKETS			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBSTRATE BRACKETS			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURVE ID NUMBERS	11113	11102	11101	11109						

CURVE SET DEFINITION DATA WAS OBTAINED FROM THE FILE
CHAPMAN FILE OF SUITABILITY CURVES
LAST UPDATED ON 82/10/23. 13.24.58.

Q VS. AVAILABLE HABITAT AREA PER 1000 FEET OF STREAM FOR RAINBOW

MONTH	Q	SPAWNING	ADULT	JUVENILE	FRY
1	5.00	367.72	938.52	431.97	412.24
2	10.00	950.69	1643.98	665.56	525.83
3	15.00	1326.23	2305.85	932.63	819.80
4	20.00	1576.97	2998.11	1248.55	972.75
5	25.00	1721.34	3799.39	1469.19	1013.51
6	30.00	1818.66	4489.83	1545.57	978.85
7	40.00	1873.20	5921.71	1565.88	932.02
8	50.00	1879.96	7427.44	1588.94	818.69
9	60.00	1678.12	8385.53	1520.31	799.67
10	70.00	1453.52	9342.16	1474.84	699.54
11	80.00	1216.34	10013.48	1368.17	598.23

83/03/17. 09.01.28. CEDAR DRAW - UPPER REACH FIELD DATA BY ANDERSON DATA ANALYSIS BY CHAPMAN ONE FLOW: 3-4-83

Q VS. AVAILABLE HABITAT AREA AS A PERCENTAGE OF THE GROSS AREA FOR RAINBOW

MONTH	Q	GROSS	SPAWNING	ADULT	JUVENILE	FRY
1	5.	16806.	2.19	5.58	2.57	2.45
2	10.	21530.	4.42	7.64	3.09	2.44
3	15.	25832.	5.10	9.21	3.73	3.27
4	20.	27766.	5.68	10.38	4.47	3.50
5	25.	31548.	5.46	12.05	4.66	3.21
6	30.	34856.	5.22	12.88	4.43	2.81
7	40.	38348.	4.88	15.44	4.08	2.43
8	50.	39891.	4.71	19.00	4.06	2.09
9	60.	39841.	4.21	21.05	3.82	2.01
10	70.	40689.	3.58	23.01	3.63	1.72
11	80.	41683.	2.92	24.07	3.29	1.44

I>

SSS NORMAL COMPLETION OF JOB
-END OF INFORMATION-

I>

TABLE 3

```
 * RHABTAT COMPLETE
C>
  C>
    CEDAR DRAW - LOWER REACH   FIELD DATA BY ANDERSON   DATA ANALYSIS BY CHAPMAN
ONE FLOW:  3-3-83
RAINBOW
      DISCHARGE  SPAWNING    ADULT       JUVENILE    FRY
* 1       90.00      315.73     8977.38      316.22      62.55
* 2      130.00      243.32     8957.30      286.74      50.18
* 3      125.00      137.98     8765.34      231.53      33.81
* 4      150.00       92.64     8623.23      193.61      30.20
**************
EOI ENCOUNTERED.
C>


LOCAL FILE NAME(S).

CEDHAB    CEDIOC    CEDLMDF   CEDLOUT   FISHFIL   IFMLIB    INPUT
INPUT*    OUTPUT    PROCFIL   TAPE4     TAPE8     TP3       TP4
ZMAP      ZZZZZC1   ZZZZZC2

TOTAL = 17
C>
  C>
    CATALOG OF YCHAP1          FM/BCS000  83/03/28. 14.41.19.

FILE NAME(S)

INDIRECT ACCESS FILE(S)

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CEDLHBT   CEDLTP3   CEDUMDF   FISHFIL   PAYHB1    PAYSHOE

        13 INDIRECT ACCESS FILE(S),   TOTAL PRUS =      175.
C>


  * RHABTAT COMPLETE
C>
  C>
    CEDAR DRAW - UPPER REACH   FIELD DATA BY ANDERSON  DATA ANALYSIS BY CHAPMAN
ONE FLOW:  3-4-83
RAINBOW
      DISCHARGE  SPAWNING    ADULT       JUVENILE    FRY
* 1       90.00     1008.20    10412.41     1246.27     508.45
* 2      130.00      846.96    10888.49     1122.35     419.43
* 3      125.00      522.10    11957.74      854.37     275.79
* 4      150.00      332.43    12588.22      661.95     179.82
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EOI ENCOUNTERED.
C>
  CATALOG OF YCHAP1          FM/BCS000  83/03/28. 14.48.44.

FILE NAME(S)

INDIRECT ACCESS FILE(S)

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CEDLHBT   CEDLTP3   CEDUMDF   FISHFIL   PAYHB1    PAYSHOE

        13 INDIRECT ACCESS FILE(S),   TOTAL PRUS =      175.
C>
  C>
    JOB PROCESSING CCUS   156.500
BYE  83/03/28. 14.49.48.
?/
```

APPENDIX D

MILO C. BELL STUDY

Registered
Professional
Engineer

MILO C. BELL
Consulting Engineer
BOX 23
MUKILTEO, WASHINGTON 98275

LETTER REPORT ON PHYSICAL CONDITIONS WITHIN CEDAR DRAW CREEK AS PERTAINING TO TROUT PRODUCTION BELOW THE FALLS

The principal source of the flow is from irrigation, either groud water or waste water return.

Waste water may contain contaminents from land use of chemicals. No report has been made on this possible source of pollution, which can be detrimental to fish production.

The recorded temperatures show a spot temperature of 24° C (75.2° F) which is above that considered desirable for good growth. The elevated temperatures are also in the range of disease-inducing conditions.

Spot readings of turbidity give a level of turbidity which, if maintained, would result in lowered production of food organisms and, consequently, of adult trout. Turbidity levels of 25 to 80 parts per million cause food production losses of 25 per cent. The spot turbidity levels given show only that there would be periods of lowered production and lowered fishing use.

With these negative factors it may be assumed that a good natural annual production level will not be maintained.

It appears that the population present may be replenished from recruits from the waste water or from upstream areas above the fork.

Another recruitment source may be the rearing ponds adjacent to the stream. This is also a source of potential disease organisms.

The stream report by Don Chapman Consultants, Inc., gives the physical description of the wetted area under the described flows. This report also describes the velocity/depth factors needed to define production levels. Other factors are stream gradient, temperature, water clarity and size of bed materials.

Assuming that with optimum flow (30 cfs) the reach will support 670 pounds of fish, an estimate can be made for production levels at lower flows. A flow of 7 cfs would allow for the support of 480 pounds of fish. This suggests that perhaps a "put-and-take" fishery exists, the "put" being from recruits exterior from the reach under discussion. Using this assumption, one means of mitigation could be accomplished by the introduction of trout from hatchery sources during the fishing use periods.

References Reviewed

Chapman, D. W. and T. C. Bjornn. Distribution of salmonids in stream with special reference to food and feeding. In Northcote, T. G. (ed.). Symposium on salmon and trout in streams. H. R. MacMillan Lectures in Fisheries, Vancouver, B.C. 1969.

Chapman, D. W., and E. E. Knudsen. Channelization and livestock impacts on salmonid habitat and biomass in small streams of western Washington. Transactions American Fisheries Society. Volume 109, p. 357-363. 1980.

Cordone, A. J., and D. W. Kelly. The influence of inorganic sediment on the aquatic life of streams. California Fish and Game. Volume 47, Number 2. P. 189-228. 1961.

Fuss, H. J. Age, growth and in-stream movement of Olympic Peninsula coastal cutthroat trout (Salmo clarki clarki). University of Washington Press. 121 p. 1982.

Mongillo, Paul, and Lee Faulconer. Yakima fisheries enhancement study. Final Report. Washington Department of Game. 197 p. 1980.

Washington Department of Fisheries

Juvenile coho population estimates determined by electrofishing in 12 Puget Sound streams, August-October 1976. Progress Report No. 32. 18 p. 1977.

Puget Sound salmon spawning ground data report. Water resource inventory areas 1-19 for escapement years 1978 and 1979. Progress Report No. 109. 145 p. 1980.

Washington Department of Game

Chehalis Basin study. Fish and Wildlife appendix. 1973.

Catalog of stream electroshocking data from selected streams in western Washington. Unpublished.

APPENDIX E

AGENCY CONTACTS AND LETTERS

1. *Letters Transmitting Draft Application for Amendment of License to Agencies*
2. *Agency Comments*
3. *Response to Agency Comments*

1. Letters Transmitting Draft Application for Amendment of License to Agencies

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Al Murrey, Chief
Bureau of Water Quality
Idaho Department of Health and Welfare
Division of Environment
Statehouse
Boise, Idaho 83720

Re: Water Quality Certificate for
Cedar Draw Creek Hydroelectric Project (FERC #8278)
Amendment of License

COPY

Dear Mr. Murrey:

The Idaho Department of Health and Welfare issued a water quality certificate pursuant to Section 401 of the Clean Water Act for the Cedar Draw Creek Hydroelectric Project on November 8, 1984. The Federal Energy Regulatory Commission subsequently issued a license for the project on May 24, 1985. The project, as licensed, is currently under construction.

An Amendment of License is being requested to allow installation of one additional generating unit to take advantage of increased return irrigation flows that were not anticipated at the time the original license application was filed. Installation of the additional turbine is not expected to cause any significant additional environmental impacts.

In order for the license amendment to be approved by FERC, we must receive water quality certification for the proposed additional generating unit. This addition to the project is not expected to cause any water quality impacts that have not already been assessed during the original application review.

A copy of the draft Application for Amendment of License is enclosed for your review. Please provide us with your comments on water quality certification within the 30-day review period provided by CFR 18, Subpart D, Section 4.38.

Please give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure
cc: Russ Renk, Environmental Engineer

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Idaho Department of Fish & Game
Region 4
Box 428
Jerome, ID 83338

Gentlemen:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Nick James Cazakos
District Manager
Bureau of Land Management
Route 3 Box 1
Burley, ID 83318

Dear Mr. Cazakos:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

COPY

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Virgil Moore
Hydropower Coordinator
Idaho Department of Fish & Game
600 South Walnut
Boise, ID 83712

Dear Mr. Moore:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

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Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Thomas J. Green
State Archaeologist
610 North Julia Davis Drive
Boise, ID 83702

Dear Mr. Green:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Dale R. Christiansen, Director
Idaho Dept. of Parks & Recreation
Statehouse
Boise, ID 83720

Dear Mr. Christiansen:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

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J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Northwest Power Planning Council
850 S.W. Broadway, Suite 1100
Portland, OR 97205

Gentlemen:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

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J-U-B ENGINEERS. INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. John P. Wolflin
U.S. Fish & Wildlife Service
4696 Overland Road; Room 576
Boise, ID 83705

Dear Mr. Wolflin:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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J-U-B ENGINEERS. INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

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Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Robert S. Burd
Director, Water Division
Region X
1200 Sixth Avenue
Seattle, WA 98101

Dear Mr. Burd:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Kenneth Dunn, Director
Idaho Dept. of Water Resources
450 West State Street
Boise, ID 83720

Dear Mr. Dunn:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

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J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Richard L. Winters
National Park Service
Westin Building - Room 1920
2001 Sixth Avenue
Seattle, WA 98121

Dear Mr. Winters:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Charles S. Polityka
Regional Environmental Engineer
U.S. Department of the Interior
500 N.E. Multnomah Street, Suite 1692
Portland, OR 97232

Dear Mr. Polityka:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

2. Agency Comments

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
BUILDING 602, CITY-COUNTY AIRPORT
WALLA WALLA, WASHINGTON 99362-9265

REPLY TO
ATTENTION OF

September 10, 1985

Operations, Construction,
and Readiness Division

NPW NO: 071-OYC-4-002372

RECEIVED SEP 13 1985

Mr. David R. Millard
Crystal Springs Hydroelectric Company
Post Office Box 1892
Twin Falls, Idaho 83301

Dear Mr. Millard:

This is in regard to my Cease and Desist Order dated July 29, 1985, concerning the discharge of fill material into Cedar Draw in Sec. 14 and 23, T.9S., R.15E., B.M., for the purpose of constructing an access road and staging area at the Crystal Springs Hydroelectric Project near Buhl in Twin Falls County, Idaho. This letter confirms certain agreements reached between this office and Bonneville Pacific Corporation, as discussed at the on-site meeting on August 1, 1985 and as presented in letters dated August 5 and 15, 1985 from Mr. Orlin V. Clements, Jr. These agreements are as follows:

a. Immediate removal of all fill material placed in wetlands in the construction staging area southeast of the powerhouse. This material is to be removed down to the previous ground elevation to allow wetland vegetation to re-establish.

b. Creation of wetlands in areas south and east of the powerhouse. These created wetlands will be approximately the same area as that area of wetlands filled in construction of the access road immediately south of the powerhouse.

c. Immediate removal of rock and fill from Cedar Draw at four locations along the access road.

d. Stabilization and revegetation of the remaining fill slopes and streambank along the access road.

In order to finalize these agreements for partial restoration, it is necessary that you submit to this office by October 1, 1985, the following information:

a. Dates when each of the above activities will occur.

b. Details of the proposed wetland creation, including the exact location and size of the area, existing elevations, proposed elevations, proposed side slopes, proposed plantings, and proposed disposal area for excavated material.

c. Details of the slope and bank stabilization, including revegetation of the slope and placement of rock along the base of the slope.

d. Details of the streambank revegetation.

e. Plans for long-term maintenance of the remaining fill slopes and streambank.

This letter does not address any additional measures which might be required to compensate for losses which have already occurred as a result of the unauthorized work and which cannot be adequately replaced by the proposed partial removal and restoration. Furthermore, any remaining fill material in Cedar Draw and/or its adjacent wetlands will require a Department of the Army permit. Consideration of the proposed wetland creation as compensation for the wetlands lost by construction of the access road will be made during the review of that permit application. Such a permit application cannot be accepted until satisfactory completion of the removal of the fill material placed in wetlands in the construction staging area, the removal of material from Cedar Draw at four locations, and the stabilization and revegetation of the remaining fill slopes and streambank.

If you should have any questions regarding this matter, please contact John Olson at (208) 343-0671 or Brad Daly at (509) 522-6723.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

James B. Royce
Colonel, Corps of Engineers
District Engineer

Copies furnished:

Mr. Ray Hixson, President
Bonneville Pacific Corporation
200 East South Temple
Salt Lake City, Utah 84111

Mr. Orlin V. Clements, Jr.
Bonneville Pacific Corporation
834 Falls Avenue, Suite 1020L
Twin Falls, Idaho 83301

Mr. Fred Schiffler
Summit Construction Company
Post Office Box 1298
Twin Falls, Idaho 83303

U.S. Fish and Wildlife Service
Boise Field Office
4969 Overland Road, Room 576
Boise, Idaho 83705

U.S. Environmental Protection Agency
Region X
1200 Sixth Avenue, Mail Stop 423
Seattle, Washington 98101

Mr. Warren T. McFall
U.S. Environmental Protection Agency
Idaho Operations Office
422 West Washington Street
Boise, Idaho 83702

Mr. Virgil Moore
Idaho Department of Fish and Game
600 South Walnut Street, Box 25
Boise, Idaho 83707

Idaho Department of Water Resources
Statehouse
Boise, Idaho 83720

Mr. Bob Bell
Idaho Department of Fish and Game
Region 4
Box 428
Jerome, Idaho 83338

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
BUILDING 602, CITY-COUNTY AIRPORT
WALLA WALLA, WASHINGTON 99362-9265

REPLY TO
ATTENTION OF:

November 1, 1985

Operations, Construction,
and Readiness Division

SUBJECT: NPW No. 071-OYC-4-002372

Mr. Dean Anderson
Projects Administration
Bonneville Pacific Corporation
200 East South Temple, Suite 300
Salt Lake City, Utah 84111

Dear Mr. Anderson:

This in regard to your letter of September 27, 1985, on behalf of Crystal Springs Hydroelectric Company and the on-site meeting on October 16, 1985, concerning the fill removal and bank stabilization measures at the Crystal Springs Hydroelectric Project along Cedar Draw near Buhl in Twin Falls County, Idaho. The status of restoration and stabilization activities is as follows:

a. The fill material placed in wetlands southeast of the powerhouse has been satisfactorily removed.

b. Rock and fill material have been satisfactorily removed from Cedar Draw at the locations specified in your letter of September 27, 1985. An additional 50 to 100 cubic yards of rock and fill material must be removed at station 20+50 through 21+70 following approval by the Idaho Department of Water Resources.

c. Additional slope and streambank stabilization measures must be implemented at station 41+00 through 41+75, station 65+72 through 68+00. and station 72+50 through 76+50 following approval by Idaho Department of Water Resources.

d. A long-term (5-year) maintenance plan for slope and streambed stabilization, including revegetation, will be prepared by Bonneville Pacific and submitted to Idaho Department of Water Resources and this office for review and coordination with the resource agencies.

An application for a Department of the Army permit for the fill material remaining in Cedar Draw and its adjacent wetlands can be accepted following completion of b. through d. above.

Your wetland creation proposal should be included in the permit application in order for our review to consider the proposed wetlands as compensation for the wetlands lost by construction of the access road.

Completion of these measures does not eliminate the possible need for additional measures or civil penalties which may be appropriate to compensate for resource losses which have occurred as a result of the unauthorized work and which cannot be adequately replaced or restored.

If you should have any questions regarding this matter, please contact Mr. John Olson at (208) 343-0671.

Sincerely,

for James B. Royce
Colonel, Corps of Engineers
District Engineer

Copies furnished:

Mr. Orlin V. Clements, Jr
Bonneville Pacific Corporation
834 Falls Avenue, Suite 1020L
Twin Falls, Idaho 83301

U.S. Fish and Wildlife Service
Boise Field Office
4969 Overland Road, Room 576
Boise, Idaho 83705

U.S. Environmental Protection Agency
Region X
1200 Sixth Avenue, Mail Stop 423
Seattle, Washington 98101

Mr. Warren T. McFall
U.S. Environmental Protection Agency
Idaho Operations Office
422 West Washington Street
Boise, Idaho 83702

Copies furnished: (Cont'd)

Mr. Virgil Moore
Idaho Department of Fish and Game
600 South Walnut Street, Box 25
Boise, Idaho 83707

Idaho Department of Water Resources
Statehouse
Boise, Idaho 83720

Mr. Bob Bell
Idaho Department of Fish and Game
Region 4
Box 42
Jerome, Idaho 83338

Mr. Mike McMasters
Idaho Department of Health and Welfare
Division of Environment
Post Office Box 1626
Twin Falls, Idaho 83303

Mr. George Overacker
Federal Energy Regulatory Commission
333 Market Street, 6th Floor
San Francisco, California 94105

Copies furnished: Cont'd

Mr. Mike McMasters
Idaho Department of Health and Welfare
Division of Environment
Post Office Box 1626
Twin Falls, Idaho 83303

Mr. George Overacker
Federal Energy Regulatory Commission
333 Market Street, 6th Floor
San Francisco, California 94105

IDAHO DEPARTMENT OF FISH AND GAME
600 South Walnut • Box 25
Boise • Idaho • 83707

September 19, 1985

Mr. H. Wayne Gibbs
J-U-B Engineers, Inc.
250 South Beechwood Avenue, Suite 1
Boise, ID 83709

Re: Cedar Draw Creek Hydro Project No. 8278. Application for Amendment of License.

Dear Mr. Gibbs:

Thank you for providing us with a draft of the above-referenced document. We would offer the following comments for your consideration:

1. There is a considerable amount of narrative included on aspects of the original license which is not really germaine to the amendment. Conversely, the portions relevant specifically to the amendment are difficult to isolate.

2. The center paragraph on page 31 implies that 1/2-inch screening is sufficient, which is contradictory to the 1/4-inch screening described on page 30.

3. Considering what has occurred at the Cedar Draw project, the statement on page 2 that "Mitigation measures are set forth in the application and project bid documents to insure compliance with water quality standards," and the statement on page 19 that "the use of proven construction techniques has minimized this impact (erosion)" are inappropriate.

4. The impacts of the additional generating capacity should be isolated and discussed specifically. For example, how much additional excavation or fill will be required for the expanded powerhouse and what type of habitat will be impacted?

Be advised that we will oppose this amendment until such time that the actions specified in the attached corespondence have been taken; i.e.:

a. removal of all fill material in wetlands in the construction staging area;

b. creation of new wetlands in areas south and east of the powerhouse;

c. removal of rock and fill from Cedar Draw at four locations;

d. stabilization and revegetation of fill slopes and streambank;

e. submittal of plans for long-term maintenance of fill slopes and streambank;

f. acquisition of a Department of the Army permit for remaining fill.

Sincerely,

Al Van Vooren
Staff Biologist

cc: USFWS (Wolflin)
EPA (Seattle)
EPA (Boise)
FERC (San Francisco)
Corps of Engineers (Walla Walla)
Corps of Engineers (Boise)
IDWR
IDHW-DOE
Region 4

STATE OF IDAHO

DEPARTMENT OF HEALTH AND WELFARE

DIVISION OF ENVIRONMENT
Statehouse
Boise, Idaho 83720

September 30, 1985

H. Wayne Gibbs
Project Coordinator
J-U-B Engineers, Inc.
250 South Beechwood Ave., Suite 1
Boise, Idaho 83709

REFERENCE TO: FERC #8278, Cedar Draw Creek Hydroelectric Project, Crystal Springs Hydroelectric Company, Cedar Draw Creek, Twin Falls County, Idaho, Amendment of License

Dear Mr. Gibbs:

We have reviewed the above referenced license amendment for a proposed additional generating unit. We cannot provide 401 water quality certification for the additional generating unit until satisfactory mitigative measures have been completed for the unauthorized discharge of fill materials into Cedar Draw Creek.

We will consider water quality certification when the appropriate resource agencies have agreed on mitigation requirements. Please direct any comments or responses on this to Michael McMasters in our Twin Falls office, Division of Environment, Box 1626, Twin Falls, Idaho 83301 (phone: 208/734-9520).

Sincerely,

Larry L. Koenig

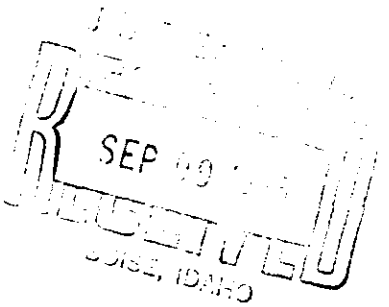
Larry L. Koenig, Manager
Source Control Section

LLK:lab

cc: Kenneth F. Plumb
Michael McMasters
Nickie Arnold

IDAHO STATE HISTORICAL SOCIETY
610 NORTH JULIA DAVIS DRIVE BOISE, 83702

September 4, 1985



Mr. H. Wayne Gibbs
Project Coordinator
J-U-B Engineers, Inc.
250 South Beechwood Avenue
Suite 1
Boise, Idaho 83709

Dear Mr. Gibbs:

Thank you for forwarding a copy of the draft application for license for the Cedar Draw Creek Hydroelectric project (FERC No. 8278).

Our comments remain the same as previously stated: The project will have no effect on cultural resources since none were identified during a field investigation of the project area.

Sincerely,

Thomas J. Green
State Archaeologist
State Historic Preservation Office

TJG/bhd

United States Department of the Interior

NATIONAL PARK SERVICE

Pacific Northwest Region
Westin Building, Room 1920
2001 Sixth Avenue
Seattle, Washington 98121

IN REPLY REFER TO:
L7619(PNR-RE)
FERC No. 8278

Mr. H. Wayne Gibbs
Project Coordinator
J-U-B Engineers, Inc.
250 South Beechwood Avenue,
Suite 1
Boise, Idaho 83709

Dear Mr. Gibbs:

Thank you for sending us a copy of the Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project, FERC No. 8278.

This amendment will have no effect on resources of this agency. We therefore have no objection to the amendment.

Sincerely,

Richard L Winters

Richard L. Winters
Associate Regional Director
Recreation Resources and
Professional Services

United States Department of the Interior

FISH AND WILDLIFE SERVICE
BOISE FIELD OFFICE
4696 Overland Road, Room 576
Boise, Idao 83705

October 1, 1985

Mr. H. Wayne Gibbs
Project Coordinator
JUB Engineers, Inc.
250 South Beechwood Avenue
Suite 1
Boise, Idaho 83709

Re: Cedar Draw Creek Hydro Project
FERC #8278

Dear Mr. Gibbs:

We have reviewed the referenced project draft application for amendment of license. We agree that the installation of an additional generating unit will not result in substantial adverse effects to fish and wildlife resources. However, project construction, so far, has resulted in considerable damage and destruction to fish and wildlife habitat of Cedar Draw Creek and its riparian zone. We believe all further construction should be held in abeyance until a plan to mitigate damages and replace habitat losses has been formulated and agreed to by concerned resource conservation agencies. When a satisfactory mitigation plan has been developed and necessary replacement lands acquired, we would not object to completion of the project and issuance of the amendment of license.

Sincerely yours,

John P. Wolflin
Field Supervisor

cc: IDFG, Hdqtrs., Boise
IDFG, Region 4, Jerome
FERC, Washington, D.C.

State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-2190

November16, 1985

Crystal Springs Hydroelectric Co.
834 Falls Ave., Suite 1020
Twin Falls, ID 83301

RE: 47-S-76
Permit and Order

Gentlemen:

This office has reviewed your above referenced after-the-fact application for a permit to alter a stream channel and has prepared a decision as provided for in Section 42-3805 of the Idaho Code.

You may consider this letter as a permit to alter the stream channel of Cedar Draw Creek provided the following special conditions are adhered to.

SPECIAL CONDITIONS:

MINIMUM STANDARDS

9,1. (a) & (c) - Construction Procedures

9,2 - Dumped Rock Riprap

A permit is not required from the Department of Lands.

This permit specifically prohibits the removal of streambed material from below the water surface in the flowing part of the channel and/or pushing or pulling streambed material across the wetted stream channel.

Stream bank vegetation shall be protected to the extent practical during construction. Disturbed areas shall be revegetated, if appropriate, after completion of construction.

All areas subject to erosion as a result of the construction shall be protected with rock riprap or other suitable methods of erosion protection.

All construction shall be completed in accordance with descriptions and methods on the application and attachments submitted with the application

unless otherwise specified. Any changes must be approved by this department prior to construction.

All temporary structures, excavated material, vegetation or construction debris resulting from the construction shall be disposed of out of the stream channel where it cannot reenter the channel at high flows.

Construction methods must be reviewed and approved by this Department prior to the start of work by the contractor.

Within 30 days of completion of construction this Department must be furnished with a statement by an engineer or other qualified individual certifying that the completed project meets the requirements and conditions of this permit.

ORDER FOR RESTORATION

The separate reaches of Cedar Draw Creek where unauthorized encroachment has occurred are identified as follows,

Site No. 1, station 20+5 to 21+70
Site No. 2, station 24+66 to 32+00
Site No. 3, station 41+00 to 41+75
Site No. 4, station 55+00 to 57+50
Site No. 5, station 65+72 to 68+00
Site No. 6, station 72+50 to 76+50

as shown in drawings titled 1985 Hydroelectric Project, Crystal Springs Project Layout, JUB Engineers, Inc., dated May, 1985, DWG. No. 1850115-04.

The following slope stabilization and revegetation shall be completed as part of the restoration and mitigation for the unauthorized fill in the stream channel.

Site Nos. 1 and 2 - Removal of large rock from the stream channel and riprap along the toe of spoil material on the slope above the stream. All disturbed areas shall be revegetated by hydroseeding and willow placements along the stream bank.

Site No. 3 - Remove spoil material from the stream channel and upstream wetland area. Riprap shall be placed along the toe of the slope along the roadway. Hydroseeding of all the disturbed areas along the stream bank.

Site No. 4 - Remove rock and fill encroachment from the stream, stabilize the existing spoil bank with rock riprap and hydroseed all disturbed areas. Place willow cuts above the riprap.

Site Nos. 5 and 6 - Complete removal of large boulders from the creek, pull back the toe of the smaller rock and spoil material and riprap along the stream bank. Revegetate with willows along the bank and hydroseed all disturbed areas.

Hay bales shall be placed along the toe of all the spoil covered slopes to pick up eroded slope material.

Revegetated areas shall be checked in late May, 1986, by the Department of Water Resources and the Department of Fish and Game. If the seeding has not been successful it shall be redone. If the spoil material on the slopes above the stream is eroding and evidence exists that hydroseeding is not effective enough to stop the erosion into the stream channel an erosion blanket material may be required to reduce the transport of material into Cedar Draw Creek.

Crystal Springs Hydroelectric shall provide the Department of Water Resources with an agreement and plan to monitor and maintain the altered sites until the areas have stabilized. The plan should cover a minimum of 5 years.

Mitigation of lost fisheries and wildlife habitat shall become the responsibility of the Department of Fish and Game and will only involve the IDWR if additional stream channel modification is required.

This Department shall be notified when construction is complete so an inspection can be made. If construction is completed in stages, we will make inspections of completed stages rather than waiting for project completion.

This permit shall expire on December 31, 1985. Restoration work in accordance with this order shall continue until conditions of the order are met and a Department release is granted.

Failure to complete the restoration and additional construction in accordance with the above conditions may result in legal action by the Department of Water Resources.

GENERAL CONDITIONS:

This permit does not constitute any of the following:

a. An easement or right-of-way to trespass across or work upon property belonging to others.
b. Other approval that may be required by State or Federal Government, unless specifically stated in the special conditions above.
c. Responsibility of the Department of Water Resources for damage to adjacent properties due to work done.
d. Compliance with the Federal Flood Insurance Program, FEMA regulations or approval of the local Planning and Zoning authority.

The permit holder or operator must have a copy of this permit at the alteration site and available for inspection at all times.

The Department of Water Resources may cancel this permit at any time that it determines such action is necessary to minimize adverse impact on the stream channel.

CONDITIONS AND CONSTRUCTION PROCEDURES APPROVED UNDER THIS PERMIT MAY NOT COINCIDE WITH THE PROPOSAL AS SUBMITTED. FAILURE TO ADHERE TO CONDITIONS AS SET FORTH HEREIN CAN RESULT IN LEGAL ACTION AS PROVIDED FOR IN SECTION 42-3809, IDAHO CODE.

If you object to the decision issuing this permit with the above conditions, you have fifteen days in which to notify this office in writing that you request a formal hearing on the matter. If an objection has not been received within fifteen days, this decision will be final.

If you have any questions, please contact this office.

Yours truly,

David R. Tuthill Jr.

David R. Tuthill, Jr., P.E.
Western Region Manager

enc.

cc: IDWR - S.O., IDOL, IDFG, IDHW - DOE, C of E

9. MINIMUM STANDARDS, STREAM CHANNEL ALTERATIONS

9,1. Construction Procedures. Construction shall be done in accordance with the following procedures unless specific approval of other procedures has been given by the Director. When an applicant desires to proceed in a manner different from the following, such procedures should be outlined on the application.

a. No construction equipment shall be operated below the existing water surface without specific approval from the Director except as follows:

Fording the stream at one location only will be permitted unless otherwise specified; however, vehicles and equipment will not be permitted to push or pull material along the streambed below the existing water level. Work below the water which is essential for preparation of culvert bedding or approved footing installations shall be permitted to the extent that it does not create unnecessary turbidity or stream channel disturbance. Frequent fording will not be permitted in areas where extensive turbidity will be created.

b. Any temporary crossings, bridge supports, cofferdams, or other structures that will be needed during the period of construction shall be designed to handle high flows that could be anticipated during the construction period. All structures shall be completely removed from the stream channel at the conclusion of construction and the area shall be restored to a natural appearance.

c. Care shall be taken to cause only the minimum necessary disturbance to the natural appearance of the area. Streambank vegetation shall be protected except where its removal is absolutely necessary for completion of the work.

Any vegetation, debris, or other material removed during construction shall be disposed of at some location out of the stream channel where it cannot reenter the channel during high stream flows.

All new cut or fill slopes that will not be protected with some form of riprap shall be seeded with grass to prevent erosion.

d. All fill material shall be placed and compacted in horizontal lifts except as provided for in Rule 9,5. for uncompacted dike and levee construction. Areas to be filled shall be cleared of all vegetation, debris and other materials that would be objectionable in the fill.

e. The Director may limit the period of construction as is necessary to minimize serious conflicts with fish migration and spawning, recreation use, etc.

For further information, contact: Idaho Department of Water Resources

Western Region
450 W. State St. (Third Floor)
Boise, Idaho 83720
334-2190

or

Northern Region
4055 Government Way
Coeur d'Alene, Idaho 83814
765-4639

9,2. Dumped Rock Riprap

a. Riprap must be placed on a compact and stable embankment.

b. Sideslopes of riprap shall not be steeper than 2:1 (2' horizontal to 1' vertical) except at ends of culverts and at bridge approaches where a 1 1/2:1 sideslope is standard.

c. The minimum thickness of the riprap layer shall equal the dimension of the largest size riprap rock used or be 18 inches, whichever is greater. When riprap will be placed below water, the thickness of the layer shall be 50 percent greater than specified below.

d. Riprap protection must extend at least one foot above the anticipated high water surface elevation in the stream, however, in no case will riprap be required to extend above the elevation of the top of the bank.

e. Rock for riprap shall consist of sound, dense, durable, angular rock fragments, resistant to weathering and free from large quantities of soil, shale, and organic matter. The length of a stone must not be more than three times its width or thickness. Rounded cobbles, boulders, and streambed gravels are not acceptable as dumped riprap.

f. Riprap size and gradation are commonly determined in terms of the weight of riprap rock. The average size of riprap rock must be at least as large as the maximum size stone that the stream is capable of moving. The maximum size of riprap rock used shall be 2 to 5 times larger than the average size.

There are many methods used for determining the gradation of riprap rock. One of these many acceptable methods is shown in Table 1 and Figure 1.

For further information, contact: Idaho Department of Water Resources

Western Region
450 W. State St. (Third Floor)
Boise, Idaho 83720
334-2190

or

Northern Region
4055 Government Way
Coeur d'Alene, Idaho 83814
765-4639

Table 1

Gradation of Riprap in Pounds

Max. Weight of Stone Required (lbs.)	Min. and Max. Range in Weight of Stones (lbs.)	Weight Range of 75 Percent of Stones (lbs.)
150	25 - 150	50 - 150
200	25 - 200	50 - 200
250	25 - 250	50 - 250
400	25 - 400	100 - 400
600	25 - 600	150 - 600
800	25 - 800	200 - 800
1000	50 - 1000	250 - 1000
1300	50 - 1300	325 - 1300
1600	50 - 1600	400 - 1600
2000	75 - 2000	600 - 2000
2700	100 - 2700	800 - 2700

g. A blanket of filter material must be placed between the riprap layer and the bank in all cases where the bank is composed of erodible material that may be washed out from between the riprap rock.

Filter material shall consist of a layer of well-graded gravel and coarse sand at least six inches thick.

h. Some suitable form of the toe protection shall be provided for all riprap located on erodible streambed material.

Various acceptable methods of providing toe protection are shown in Figure 2.

In addition to the approved methods of providing toe protection as shown in Figure 2, any other reasonable method will be considered by the Director during review of a proposed project.

i. Riprap shall extend far enough upstream and downstream to reach stable areas, unless protected against undermining at ends by the method shown in Figure 3.

On extremely long riprap sections, it is recommended that similar cutoff sections be used at several intermediate points to reduce the hazard that would be created if failure of the riprap occurred at any one location.

j. Placement shall result in a smooth, even finished surface. Compaction is not necessary.

The full course thickness of the riprap shall be placed in one operation. Dumping riprap long distances down the bank or pushing it over the top of the bank with a dozer shall be avoided if at all possible. Material should be placed with a backhoe, loader, or dragline. Dumping material near its final position on the slope or dumping rock at the toe and bulldozing it up the slope is a very satisfactory method of placement, if approval is obtained for the use of equipment down in the channel.

Source: U.S. Soil Conservation Service "Engineering Field Manual," 1969.

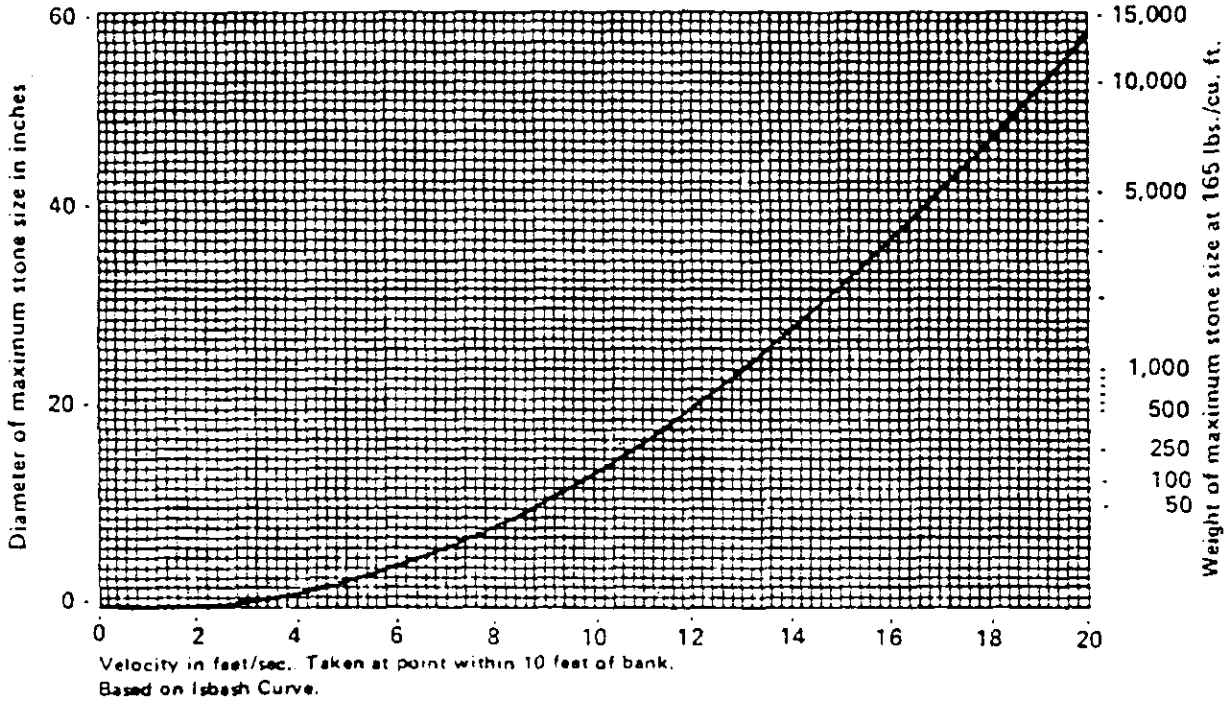
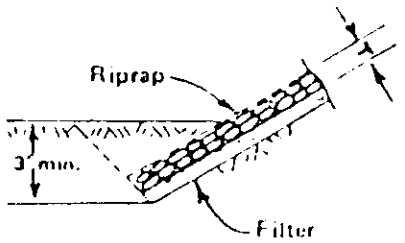
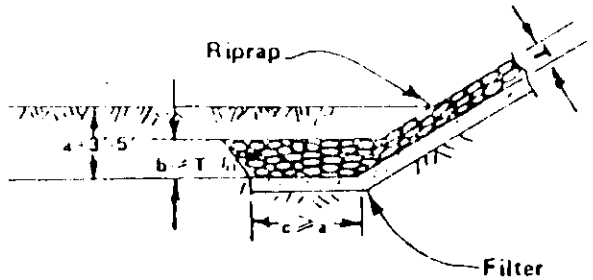


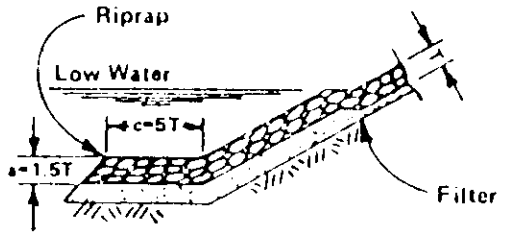
FIGURE 1. Maximum stone size for riprap for sideslope no steeper than 1½:1



METHOD 1: This is most suited to areas where the toe is dry during construction.

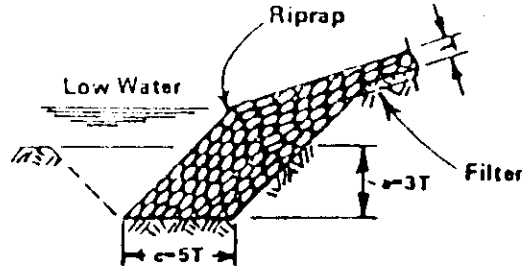


METHOD 2: Used when streambed is very wet or groundwater present makes using Method 1 impractical.

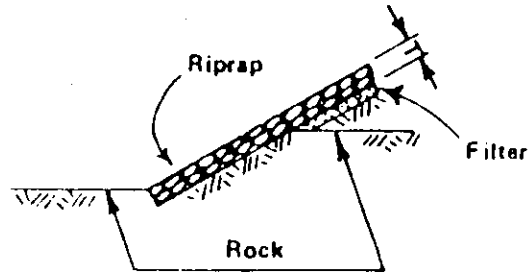


METHOD 3: Often used when toe is underwater during construction. Both Methods 2 and 3 utilize the idea that undermining will cause rock at toe blanket to settle into eroded area providing protection during scouring.

FIGURE 2. Acceptable toe protection

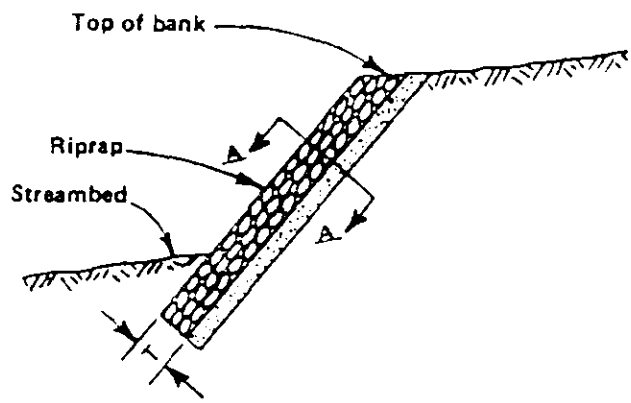


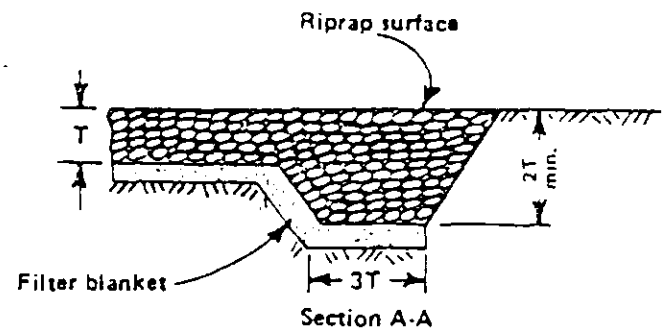
METHOD 4: Used underwater in areas with extremely bad streambed erosion conditions which make Method 3 unfeasible. This method may also be preferred where Method 3 would destroy fish spawning beds.



METHOD 5: When the streambed is non-erodible, no special provisions for toe protection are needed other than insuring that the riprap is well keyed to the rock.

FIGURE 2. Acceptable toe protection *continued*





View shown above is cross section at end of riprap looking down along the sideslope toward streambed.

FIGURE 3. Protection against undermining

JOINT APPLICATION FOR PERMIT
U.S. ARMY CORPS OF ENGINEERS
AND
STATE OF IDAHO, DEPARTMENT OF WATER RESOURCES
STATE OF IDAHO, DEPARTMENT OF LANDS

RECEIVED
JUL 15 1985
Department of Water Resources
Western Regional Office

The Department of the Army permit program is authorized by Section 10 of the River and Harbor Act of 1899 and Section 404 of the Clean Water Act. These laws require permits authorizing structures and work in or affecting navigable waters of the United States and the discharge of dredged or fill material into waters of the United States, including their adjacent wetlands. State permits are required under the State of Idaho, Stream Channel Protection Act (Title 42, Chapter 38, Idaho Code) and the Idaho Lake Protection Act, Section 58-142 et. seq, Idaho Code. This application will meet the requirements of the above agencies.

The applicant has sent copies of this application to the agencies checked: ID Dept. Water Res. - Boise ☐, Couer d'Alene ☐; ID Dept. Lands ☐, Corps of Engineers - Walla Walla ☐.

PLEASE TYPE OR PRINT

AGENCY USE

1. Corps of Engineers # _____
Date Received _____

2. State of Idaho # 47-5-76
Date Received _____

3. NAME OF APPLICANT Crystal Springs Hydroelectric Co.
Address 834 Falls Ave., Suite 1020
City, State, Zip Code Twin Falls, ID 83301
Phone: Work (208) 734-0551 Area Home ( ) Area
Date of Application July 11, 1985

4. AUTHORIZED AGENT _____
Address _____
City, State, Zip Code _____
Phone: Work ( ) Area Home ( ) Area

5. Location where proposed activity exists or will occur.

Name of waterway Cedar Draw Assessor's Description _____ _____ _____ _____
Tributary of Snake River
Buhl (In or near city or town) Or _____ (Tract or Gov. Lot)
Twin Falls (County) Idaho (State) 83301 (Zip Code) 14 & 23 (Section) 9S (Township) 15E (Range)

6. Describe the proposed activity, including description of the type of structures, if any, to be erected on fills, or pile or float-supported platforms. If additional space is needed, use a separate sheet or Section 15 (Remarks).

Describe the proposed activity in detail: Construct an access road along and parallel to the Cedar Draw Creek. This road will be constructed in a cut-fill section as terrain will allow. Some material has raveled into the adjoining water way. Methods and locations of removal and or revegetation shall be in accordance to the revegetation plan to be developed.

Describe construction methods and equipment: Road construction shall use backhoes, dump trucks, bulldozers and other misc. equipment. The intent of the road construction is not intending to divert the stream channel. However, material has been placed in the creek inadvertently in someplaces. It is intended to minimize this material at all times.

Length of project along the stream or extension into lake or reservoir: 7900 LF

Stream gradient: approximately 192 feet per mile

Will material be placed waterward of ordinary high water mark? Yes

Will material be placed in adjacent wetlands? Yes

Type of fill material: Riprap (i.e. sand, etc.) Material Source: Talis Rock

Volume of material to be placed 4,000 yards (cubic yards) MATERIAL INADVERTANTLY PLACED IN STREAM AS DIRECTED TO BE REMOVED

Will excavation be required? Yes - Disposal Site Location: On site locations

Method of diverting flow, if needed: _____

Method of controlling turbidity: Upland disposal, Revegetation, Clean Riprap

7. Preparation of drawings. One set of original or good quality reproducible drawings must be attached to this application. NOTE: DRAWINGS NO LARGER THAN 8½ X 11 INCHES IN SIZE. See the instruction pamphlet for instructions and a checklist for completing the drawings.

8. Purpose and intended use:

Commercial _____ Public _____ Private X Other _____

Describe _____

9. Proposed Starting Date of Project June 1, 1985 Estimated Duration of Project 8 weeks

10. If any portion of the activity is complete indicate month and year of completion May 15 – July 12
Indicate the existing work on the drawings.

11. Names, addresses and telephone numbers of adjoining property owners, lessees, etc., whose property also adjoins the waterway.

12. LEGAL OWNER
IF OTHER THAN
APPLICANT _____

Address _____
City, State, _____
Zip Code _____

Phone: Work Area ( ) _____ Home Area ( ) _____

13. List other applications, approvals or certifications from other Federal, interstate, state, or local agencies for any structures, constructions, discharges, deposits, or other activities described in this application.

Issuing Agency	Type Approval	Identification No.	Date of Application	Date of Approval
IDWR	Permit			

version
werhouse

14. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? ☐ YES ☒ NO (If "Yes" explain)

15. Remarks or additional information: _____

16. Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agencies to which this application is made, the right to come upon the above-described location to inspect the proposed or completed work.

July 11, 1985
Date

Signature of Applicant (Required)

Crystal Springs Hydroelectric Proj For Bonneville Pacific Corp its General Partner

The application must be signed by the applicant. If an authorized agent is to be designated, Item 4 and the following information should be completed.

I hereby designate _____ to act as my agent in matters related to this permit application. I understand that if a Federal permit is issued, I must sign the permit.

Date | Signature of Authorized Agent (if applicable) | Signature of Applicant (if applicable)

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both. Do not send a permit processing fee with this application. The appropriate fee will be assessed when a permit is issued.

DO NOT SEND PROCESSING FEE WITH APPLICATION

3. Response to Agency Comments

Bonneville Pacific Corporation
A Subsidiary of Bonneville Group, Inc.

September 27, 1985

Department of the Army
Walla Walla District, Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362-9265

Attn.: Operations, Construction, and Readiness Division
NPW No.: 071-0YC-4-002372
Colonel James B. Royce, Corps of Engineers District Engineer

Ref.: Crystal Springs Hydroelectric Project

Dear Colonel Royce:

In response to your letter to Mr. David Millard dated September 10, 1985, concerning our environmental protection and restoration efforts at the Crystal Springs Project, the following is the information you requested:

A. Fill Material. On August 28th we removed the fill material previously placed on the wetlands area southeast of the powerhouse. Material was removed down to the original ground elevation in order to allow the reestablishment of vegetation.

B. Creation of Wetlands. On August 15th we measured the area of the access road where it encroaches on the wetlands and determined that it is approximately 270 feet long by 40 feet wide, comprising 10,800 square feet. The area east of the powerhouse available for the creation of additional wetlands contains 8,100 square feet, while the area to the south covers 10,400 square feet. Therefore, the total proposed wetlands development area will consist of approximately 18,000 square feet, which represents a substantial increase over the portion of land encroached by the road.

The location of the proposed wetlands is shown on the attached sheet. Also indicated are the existing and proposed elevations. The side slopes will not exceed a 2:1 ratio (horizontal/vertical) because of the granular nature of the material. We plan to plant the wetlands area with water cress, canary grass, and other native plants. Excavated material will be incorporated into the construction of the road where it crosses the penstock.

C. Rock and Fill Removal. On August 5th we initiated removal of rock and fill material from Cedar Draw Creek. As agreed, material was extracted from the following locations: station 20+50 through 21+70, station 24+66 through 32+00, station 41+00 through 41+75, station 55+00 through 57+50, station 65+72 through 68+00, and station 72+50 through 76+50. On September

200 East South Temple, Suite 300 / Salt Lake City, Utah 84111 / 801-363-2520 / 801-363-1900 / Telex 381542

10th and 11th we removed additional rock from station 20+50 through 21+70 using a crane to pick up the larger pieces. Within the next two weeks we plan to remove the last of the rock from station 20+50 through 21+70, using a drag line.

D. Slope Stabilization and Revegation. During the month of August we did considerable stabilization work on the cut and embankment slopes in the interest of protecting both the access road and the stream. On August 5th we placed straw bales along the creek where the embankment encroached it. We anchored the straw bales with rip rap rock 24 inches diameter or smaller in order to prevent erosion of the bank. We then graded the cut slopes above the road to a slope ranging from 1/2:1 to 1:1, and we graded the fill slopes below the road to a slope ranging from 1:1 to 2:1. On August 23rd Bob Howard, a geotechnical engineer, inspected the slope stabilization work and made several recommendations for improvements, which we implemented. We then hydro-seeded all disturbed slopes.

Long term slope stability is of great importance to us, and we are prepared to implement any slope measures which will insure slope stability and reestablishment of vegetation. We are certainly open to any agency recommendations concerning this.

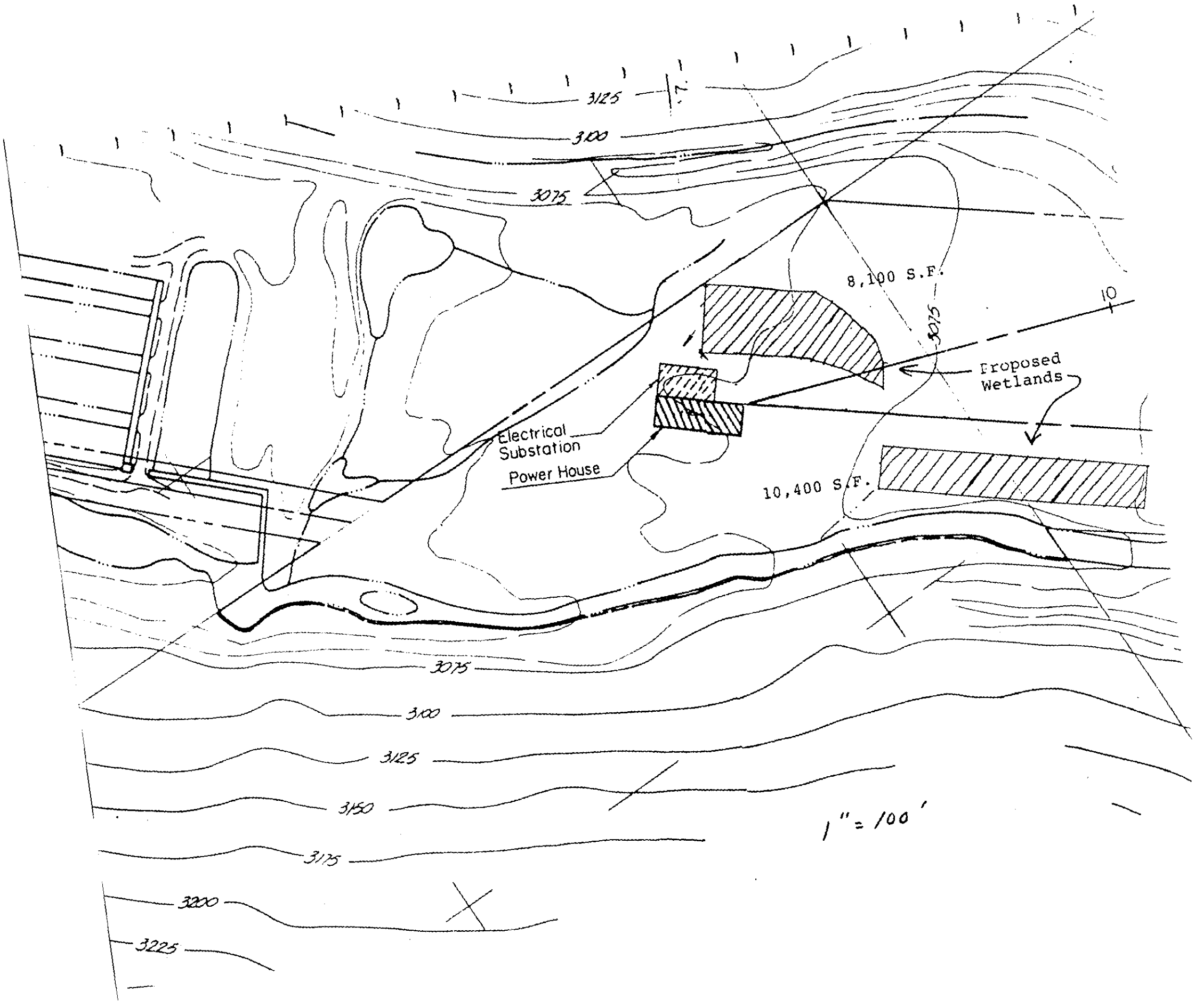
Completion of all rock removal as well as construction of the proposed wetlands is scheduled to take place within the next two weeks.

If you would like us to provide you with any additional information or if you questions regarding the above information, please contact our office.

Sincerely,

Dean Anderson
Projects Administrator

cc. Orlin Clements, Bonneville Pacific Corporation, Twin Falls
Bruce Blaser, Interwest Hydro, Inc., Boise
Scott Matheson and David Tunderman, Attorneys, Salt Lake City
Ernesta Barnes and David Heineck, EPA, Seattle
Warren McFall, EPA, Boise
Virgil Moore, Idaho Fish and Game, Boise
Bob Bell, Idaho Fish and Game, Jerome
David Tuthill, Idaho Water Resources, Boise
Mike McMasters, Idaho Health and Welfare
George Overacker, FERC, San Francisco
John Wolflin, U.S. Fish and Wildlife, Boise


3125
3100
3075
8,100 S.F.
10
3075
Proposed
Wetlands
Electrical
Substation
Power House
10,400 S.F.
3075
3100
3125
3150
3175
3200
3225
1" = 100'

BONNEVILLE PACIFIC CORPORATION

200 East South Temple
Suite 300
Salt Lake City, Utah 84111

MEMORANDUM

October 18, 1985

TO: State and Federal Agencies concerned with the environmental mitigation and protection work being done at the Crystal Springs Hydroelectric Project, Twin Falls County, Idaho.

FROM: Dean Anderson, Bonneville Pacific Corporation.

SUBJECT: Report of the meeting held at the site on October 17, 1985, to review progress made to date as well as work remaining to be done.

In attendance were the following individuals: Dean Anderson and Orlin Clements, Bonneville Pacific Corporation; Bob Bell, Idaho Department of Fish and Game; Michael McMasters, Idaho Department of Health and Welfare; John Olson, Army Corps of Engineers; and Irv Ballou, Idaho Department of Water Resources.

The group inspected the impacted areas, focusing attention on the places along the stream where mitigation and protection work had been proposed at the August 1st meeting with the agencies.

Orlin pointed out the two places on either side of the road above the powerhouse where wetlands are to be created after the penstock is completed in about two weeks. The total area of the (two) planned wetlands sections is approximately 18,000 square feet.

Orlin pointed out the stations along the stream where rock and fill material were removed in August. From the first station approximately 100 yards of material has been removed and the remaining (estimated) 100 yards will be removed as soon as the penstock is completed. Some of the material will be used to build one of the game crossings. Irv Ballou instructed Bonneville to wait for a permit from Water Resources before proceeding with removal of additional material from the stream channel. He indicated that Bonneville should have obtained a permit for the removal of material initiated in August. It was Bonneville's understanding, based on the August 1 meeting, that it was to begin such removal as expeditiously as possible.

The group looked at the hydro-seeding of cut and fill slopes which has been done. Orlin explained that the nursery applied

crested wheat at a density of 50 lbs. per acre. This species was recommended by the Soil Conservation Service.

In reviewing proposed locations for game crossings, Bob Bell asked Orlin to consult with Craig Kvaile, a game specialist with the Jerome office, to ascertain if the proposed (five) crossings were adequate. Bob thought that more crossings might be needed.

The group inspected sections along the stream where straw had been placed at the toe of the slope and willows planted. John Olson suggested at one location that the angle of the fill slope bank be reduced to prevent erosion. Mike McMasters suggested that additional rip-rapping be done in two locations for the same reason. Orlin agreed to follow-up. Orlin also pointed out two sections of the road where continuous seepage from the uphill slope threatened to saturate the soil under the road. He indicated that the uphill side of the penstock would be lined with concrete to channel the water to a downstream culvert.

The agency representatives were interested in Bonneville's plans for ongoing slope maintenance following the construction period. Dean indicated Bonneville and its engineering firm would develop and submit to the agencies within two weeks a Five Year Revegation and Slope Stabilization Maintenance Plan.

Distribution List:

Dean Hilliard and John Olson, Army Corps of Engineers, Boise
Ernesta Barnes and David Heineck, EPA, Seattle
Warren McFall and Wally Scarburgh, EPA, Boise
David Tuthill and Irv Ballou, Idaho Water Resources, Boise
Michael McMasters, Idaho Health and Welfare
John Wolflin, U.S. Fish and Wildlife, Boise
Virgil Moore, Idaho Fish and Game, Boise
William Webb and Bob Bell, Idaho Fish and Game, Jerome
George Overacker, FERC, Portland
Scott Matheson and David Tunderman, Attorneys, Salt Lake
Bruce Blaser, Interwest Hydro, Inc., Boise
Wayne Gibb, J.U.B. Engineers, Boise
Orlin Clements, Bonneville Pacific Corp., Twin Falls

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

November 22, 1985

Mr. Al Van Vooren
Staff Biologist
Idaho Department of Fish & Game
600 South Walnut
Boise, ID 83712

Dear Mr. Van Vooren:

Re: Cedar Draw Creek Hydroelectric Project No. 8278
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have been holding the Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project until the construction-related problems outlined in your letter of September 19, 1985, are resolved. A letter dated September 10, 1985, from the Corps of Engineers to Crystal Springs Hydroelectric Company lists a number of actions that the Applicant has agreed to complete to correct the problems to which you refer. A subsequent letter from the Corps of Engineers dated November 1, 1985, gives a status report of the Applicant's efforts to correct the problems. Copies of these letters and letters from the Applicant to the agencies are attached.

At this point, all restoration and stabilization activities have either been completed or have been initiated and will be completed shortly. The status of these activities is provided below:

a. The fill material placed in wetlands southeast of the powerhouse has been satisfactorily removed (see Corps of Engineers letter dated 11/01/85).

b. Additional 50 to 100 C.Y. of Rock and Fill Material at Station 20+50 to Station 21+70 - The removal of this material had to await a permit frm the Water Resources Department. This permit was issued on November 21, 1985 and work has been initiated.

c. Additional slope and stream bank stabilization measures at several locations (see Corps letter of 11/01/85). This work also had to be delayed until the Water Resources Permit was issued, but is now in progress.

d. Five-year Slope and Streambed Stabilization and Revegetation Plan - This plan has been completed and a copy is attached.

e. Proposal to Create Wetlands to Replace Wetlands Lost by Construction of the Access Road - This proposal has been prepared and is being submitted to the Corps of Engineers for review.

J-U-B ENGINEERS, Inc. 250 South Beechwood Avenue, Suite 1 — Boise, Idaho 83709

The permit issued by the Idaho Water Resources Department has been conditioned to assure completion of all required tasks. Based upon the work completed and in progress, we would like to request a current letter from your agency for inclusion in the Amendment Application. If you feel this is an appropriate request, please let me know your schedule for preparing such a letter as soon as possible.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Attachments
cc: Dean Anderson
D. W. Block
Orlin Clements, Jr.

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

November 22, 1985

Mr. John P. Wolflin
U. S. Fish & Wildlife Service
4696 Overland Road, Room 576
Boise, ID 83705

Dear Mr. Wolflin:

Re: Cedar Draw Creek Hydroelectric Project No. 8278
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have been holding the Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project until the construction-related problems outlined in your letter of October 1, 1985, are resolved. A letter dated September 10, 1985, from the Corps of Engineers to Crystal Springs Hydroelectric Company lists a number of actions that the Applicant has agreed to complete to correct the problems to which you refer. A subsequent letter from the Corps of Engineers dated November 1, 1985, gives a status report of the Applicant's efforts to correct the problems. Copies of these letters and letters from the Applicant to the agencies are attached.

COPY

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a. The fill material placed in wetlands southeast of the powerhouse has been satisfactorily removed (see Corps of Engineers letter dated 11/01/85).

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e. Proposal to Create Wetlands to Replace Wetlands Lost by Construction of the Access Road - This proposal has been prepared and is being submitted to the Corps of Engineers for review.

J-U-B ENGINEERS, Inc. 250 South Beechwood Avenue, Suite 1 — Boise, Idaho 83709

The permit issued by the Idaho Water Resources Department has been conditioned to assure completion of all required tasks. Based upon the work completed and in progress, we would like to request a current letter from your agency for inclusion in the Amendment Application. If you feel this is an appropriate request, please let me know your schedule for preparing such a letter as soon as possible.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Attachments
cc: Dean Anderson
D. W. Block
Orlin Clements, Jr.

COPY

CRYSTAL SPRINGS HYDROELECTRIC PROJECT
Slope Stabilization and Revegetation
Report on Review of Project Area

By: William R. Glenn
Soil Scientist

A review of the Crystal Springs Hydroelectric Project area was made on the afternoon of October 27, 1985. All disturbed areas, except wetlands, had been hydroseeded, hydromulched, and fertilized in late September 1985. The hydroseeded areas even included very steep cutslopes in rocky material. Brief notes were taken on site conditions along the 7900 foot long penstock and road corridor. Following are descriptions of site conditions on individual segments of that corridor. Segment lengths were measured by vehicle odometer, beginning at the inlet structure at the upper end of the project area.

0 to 1000 feet -

Cut and fill slopes are rock talus. No revegetation or erosion control are needed. Narrow band has been hydroseeded on road shoulders where fines were imported to build the road.

1000 to 1500 feet -

Cutslope is very steep and rocky; many springs flow over the cutslope. Little revegetation potential.

Fillslope is very stony loamy material; most of which can be revegetated. On inside of road curve, narrow strips of sand from the road surface have sluffed over seeded slope. The fillslope toes at the edge of the creek. There is a straw bale barrier at the toe of the fill.

1500 to 3600 feet -

Most of the cutslope is in very stony loamy material with 1:1 (100 percent) or steeper slopes. Limited revegetation potential on the very steep slopes.

The fillslope is very stony loamy material. Two segments of the fillslope, each 200 to 300 feet long, toe in the edge of the creek. Straw bale barriers line the toe of the slope on these segments. Willow cuttings have been planted immediately above the bales on upper segment. The fillslopes are very steep, up to 80 percent. Uniform revegetation may be difficult due to detachment and downslope creep of surface soil particles on parts of the slopes. A few narrow strips of sand from the road surface are sluffing over the slope.

3600 to 4100 feet -

Short cutslope is at a gentle angle in loamy material. Revegetation potential is good.

The very small fillslope is in stony loamy material.

4100 to 5100 feet -

Cutslopes are steep in stony loamy material. Segments steeper than 1:1 (100 percent) have limited revegetation potential. Segments less than 1:1 (100 percent) have fair revegetation potential.

Fillslopes are steep with stony loamy materials. Some vegetation can be established on these fills.

5100 to 5900 feet -

No cut and fill and little disturbance on the flat valley bottom.

5900 to 7200 feet -

Cutslopes are very steep and in rock. Very little revegetation potential.

Fillslopes are extremely stony and cobbly. A few spots have a small amount of loamy material that can be revegetated. Though revegetation potential is very limited, there will be little erosion from the coarse rocky material.

7200 to 7900 feet -

No cut and fill on gentle slopes near the powerhouse.

Wetlands -

The restored wetland at the parking area beside the powerhouse has excellent potential for reestablishment of vegetation. Scattered grasses and forbs were present at the time of the review. The watertable was at or just over the soil surface on the site, restoring a favorable wetland condition.

BONNEVILLE PACIFIC CORPORATION

CRYSTAL SPRINGS HYDROELECTRIC PROJECT

5 Year Slope Stabilization and Revegetation Plan

1985

All cuts, fills and other disturbed areas along the 7900 feet of road and penstock were hydroseeded with about 50 pounds per acre of crested wheatgrass. Hydromulch along with nitrogen, phosphorus, and potassium fertilizer were also applied during the hydroseeding operation. The hydroseed, hydromulch, and fertilizer were applied between September 25 and 30, 1985.

In some places where the toe of the roadfill is at the edge of the creek, willow cuttings were planted.

Wetland sites near the powerhouse were restored. Reestablishment of wetland vegetation will be accomplished by hand collecting and broadcasting seed from adjacent undisturbed wetlands. Natural revegetation will also occur on the small areas due to seed scatter from the immediately adjacent undisturbed wetlands and residual seed in the soils.

September, 1986

September, 1987

September, 1988

September, 1989

September, 1990

Representatives of Bonneville Pacific Corporation and involved agencies will inspect the disturbed sites for areas with unacceptable rates of erosion, inadequate vegetative cover according to site capabilities, or any other unanticipated impacts related to the project. Upon determination of any areas needing further treatment, measures will be prescribed to mitigate deficiencies. Prescriptions will be site specific and tailored to meet objectives on a specific site. Treatments may include but are not limited to:

A. Reseeding with adapted grass species. Species may include:

Ephraim Crested Wheatgrass, Sodar Streambank Wheatgrass, Secar Bluebunch Wheatgrass, Sherman Big Bluegrass, Appar Lewis Flax, and Small Burnette.

B. Replanting riparian shrubs.

C. Additional hand collections of seed from existing wetlands and broadcast on restored or new wetlands.

D. Mulch to enhance vegetation establishment and control erosion. The mulch may consist of hay or straw anchored in place with netting.

E. Other measures to control erosion or trap sediment on slopes adjacent to the stream, such as bale sediment traps, rip rap on the toe of fillslopes, or rock mulch on the surface of unstable eroding fillslopes.

F. Refertilization to enhance vegetative vigor.

Maintenance treatments will be applied in the fall following site inspection, with the exception of riparian shrub planting and fertilization which may be done during the following spring.

It is anticipated that with the existing treatments plus possible maintenance treatments in 1986 and 1987, the project area can be stabilized and feasible revegetation accomplished within one to two years.

APPENDIX F

COPIES OF LETTERS TRANSMITTING THE APPLICATION FOR AMENDMENT OF LICENSE (AS SUBMITTED TO FERC) TO THE AGENCIES

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. Al Murrey, Chief
Bureau of Water Quality
Idaho Department of Health & Welfare
Division of Environment
Statehouse
Boise, ID 83720

COPY

Dear Mr. Murrey:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Idaho Department of Fish & Game
Region 4
Box 428
Jerome, ID 83338

COPY

Gentlemen:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. Nick James Cazakos
District Manager
Bureau of Land Management
Route 3 Box 1
Burley, ID 83318

COPY

Dear Mr. Cazakos:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. Virgil Moore
Hydropower Coordinator
Idaho Department of Fish & Game
600 South Walnut
Boise, ID 83712

COPY

Dear Mr. Moore:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. Thomas J. Green
State Archaeologist
610 N. Julia Davis Drive
Boise, ID 83702

COPY

Dear Mr. Green:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Dale R. Christiansen, Director
Idaho Dept. of Parks & Recreation
Statehouse
Boise, ID 83720

COPY

Dear Mr. Christiansen:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Northwest Power Planning Council
850 S.W. Broadway, Suite 1100
Portland, OR 97205

COPY

Gentlemen:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. John P. Wolflin
U. S. Fish & Wildlife Service
4696 Overland Road, Room 576
Boise, ID 83705

COPY

Dear Mr. Wolflin:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. Robert S. Burd
Director, Water Division
Region X
1200 Sixth Avenue
Seattle, WA 98101

COPY

Dear Mr. Burd:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Kenneth Dunn, Director
Idaho Dept. of Water Resources
450 West State Street
Boise, ID 83720

COPY

Dear Mr. Dunn:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Mr. Richard L. Winters
National Park Service
Westin Building - Room 1920
2001 Sixth Avenue
Seattle, WA 98121

COPY

Dear Mr. Winters:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

December 2, 1985

Charles S. Polityka
Regional Environmental Engineer
U. S. Department of the Interior
500 N.E. Multnomah Street, Suite 1692
Portland, OR 97232

COPY

Dear Mr. Polityka:

Re: Application for Amendment of License for
Cedar Draw Creek Hydroelectric Project
(FERC #8278)

Your agency was previously provided an opportunity to review and comment on a draft Application for Amendment of License for the above-referenced project. Enclosed is a copy of the final Application for Amendment of License as submitted to the Federal Energy Regulatory Commission.

If you have questions, please give me a call.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR AMENDMENT OF LICENSE

CEDAR DRAW CREEK HYDROELECTRIC PROJECT FERC #8278 TWIN FALLS COUNTY, IDAHO DRAFT

AUGUST, 1985

CRYSTAL SPRINGS

HYDROELECTRIC COMPANY, APPLICANT

Prepared By

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
250 So. Beechwood Ave. Suite I
Boise, Idaho 83709

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Kenneth F. Plumb, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Dear Mr. Plumb:

Re: FERC No. 8278
Cedar Draw Creek Hydroelectric Project
Crystal Springs Hydroelectric Company, Applicant
APPLICATION FOR AMENDMENT OF LICENSE

Enclosed are an original and 14 copies of an Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. Copies of this submittal are also being forwarded to the Commission's Regional Office, to the Commission's Application Branch and to each of the agencies consulted on the project.

The Commission issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel conduit, a steel surge standpipe, a steel penstock, a powerhouse containing 3 generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an Amendment of License is approved by the Commission.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosures

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR AMENDMENT OF LICENSE

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

FERC #8278

TWIN FALLS COUNTY, IDAHO

DRAFT

AUGUST 1985

CRYSTAL SPRINGS HYDROELECTRIC COMPANY, APPLICANT

Prepared By:

J-U-B ENGINEERS, Inc.
Engineers - Surveyors - Planners
800 Falls Avenue
Twin Falls, Idaho 83301

TABLE OF CONTENTS

		Page
A.	INITIAL STATEMENT	1
B.	EXHIBIT E	4
1.	General	4
2.	Environmental Setting of the Project	4
a.	Vegetative Cover	4
b.	Fish and Wildlife Resources	4
c.	Water Quality and Quantity	6
1)	General	6
2)	Flow Records	8
3)	Streamflow Duration Analysis	10
4)	Flow Multiplier	10
5)	Streamflow Duration Curve	15
6)	Possible Future Flow Increases	15
7)	Water Quality	15
d.	Land and Water Uses	17
e.	Recreational Uses	17
f.	Historical and Archaeological Resources	17
g.	Scenic and Aesthetic Resources	18
h.	Endangered or Threatened Species and Critical Habitats	18
3.	Expected Environmental Impacts and Proposed Mitigation Measures	19
a.	Erosion and Sedimentation	19
b.	Dissolved Oxygen	20
c.	Temperature	20
d.	Air Quality Impacts	21
e.	Impacts to Fisheries Resources	21
(1)	Don Chapman Study	21
(2)	Milo Bell Evaluation	23
(3)	Proposed Salmon Falls Project	25
(4)	Minimum Flows	27
(5)	Screening Device	30
f.	Impacts to Wildlife and Vegetation	30

TABLE OF CONTENTS (Cont.)

Page

4. Consultation with Federal, State and Local Agencies----- 32

a. Agencies Consulting During the Preparation of the Environmental Report---------- 32

b. Agencies Provided with a Copy of the Application for License as Submitted to FERC---------- 32

C. EXHIBIT F---------- 33

D. EXHIBIT G---------- 38

E. APPENDICIES---------- 40

1. Appendix A - Water Quality Data
2. Appendix B - Archaeological Survey
3. Appendix C - Don Chapman Study and Related Fisheries Data
4. Appendix D - Milo C. Bell Study
5. Appendix E - Agency Contacts and Letters - Draft Application
6. Appendix F - Copies of Agency Transmittal Letters - Final Application

LIST OF TABLES

TABLE 1 - 1982 Fish Survey---------- 5

TABLE 2 - Flow Records, 1983---------- 11

TABLE 3 - Flow Multiplier Analysis---------- 14

LIST OF FIGURES

FIGURE 1 - Location Map of Hatcheries and Rearing Ponds------- 7

FIGURE 2 - Stream Data---------- 9

FIGURE 3 - Streamflow Duration Curves---------- 13

FIGURE 4 - Streamflow Duration Curves---------- 16

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION
APPLICATION FOR AMENDMENT OF LICENSE
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

A. INITIAL STATEMENT

1. Crystal Springs Hydroelectric Company applies to the Federal Energy Regulatory Commission for an Amendment of License for the Cedar Draw Creek Water Power Project.

2. The exact name, business address and telephone number of the Applicant are:

Crystal Springs Hydroelectric Company
c/o Wynn Johnson
200 East South Temple, Suite 300
Salt Lake City, Utah 84111

The person to be contacted regarding this application is H. Wayne Gibbs, J-U-B ENGINEERS, Inc., 250 South Beechwood Avenue, Boise, Idaho 83709, (208) 376-7330.

3. The Applicant is a domestic corporation, licensee for the water power project designated as Project No. 8278 in the records of the Federal Energy Regulatory Commission, issued on the 24th day of May, 1985.

4. The amendments of license proposed and the reason why the proposed changes are necessary are:

One additional generating unit (turbine) is being added to the original project to take advantage of additional return irrigation flows. The management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the original project was based. This additional water was not anticipated at the time the original license application was filed. The proposed change represents a more complete utilization of the available resource and will not adversely impact the environment.

5(i) The statutory or regulatory requirements of the state in which the project would be located that affect the project as proposed with respect to the bed and banks and the appropriation, diversion and use of water for power purposes are:

a. Title 42, Chapters 1 and 2, Idaho Code, addresses the appropriation of water for beneficial use within the State of Idaho. The right to use such water is gained by first applying for permit to the Idaho Department of Water Resources (IDWR). Upon issuance of permit and subsequent beneficial use of the water appropriated, a vested water right is established.

b. The Idaho Department of Health and Welfare has enacted water quality standards and wastewater treatment requirements to protect Cedar Draw Creek for, among other things, cold water biota and salmonid spawning.

c. Title 36, Chapter 9, Idaho Code, deals with the protection of fish in Idaho waters and provides for a requirement of suitable fish screening devices and fishways to be constructed at all power sites to specifications of the Idaho Department of Fish and Game (IDFG).

5(ii) Steps which the Applicant has taken, or plans to take, to comply with the statutory or regulatory requirements cited above are:

a. The Applicant applied to the Idaho Department of Water Resources for a water appropriation permit for hydropower purposes in the subject reach. Applicable fees were paid and the **Application assigned Docket #47-7991.**

b. Mitigation measures are set forth in the application and project bid documents to insure compliance with water quality standards. Much of the construction that could potentially impact water quality has been completed.

c. Suitable fish screening devices and fishways have been specified by the Idaho Department of Fish and Game during preconsultation and are included in preliminary design drawings.

B. EXHIBIT E

1. General. On May 24, 1985, the Federal Energy Regulatory Commission issued a license for the Cedar Draw Creek Hydroelectric Project. Licensed facilities include a powerhouse and three generating units. The overall environmental impacts of the project were assessed in the original application and reviewed by relevant local, state and federal agencies. Since the licensed project is being constructed, any environmental impacts related to the overall project have already occurred.

   This Exhibit E reiterates the general environmental considerations related to the area. However, the specific environmental impacts of concern in this application for amendment of license are those related to the proposed fourth generating unit. Installation of this additional unit will have very limited impacts compared to the overall impacts of the licensed and constructed project. Though the incremental impacts of the additional turbine and accessories are difficult to quantify, they appear to be very limited.

2. Environmental Setting of the Project.

   a. Vegetative Cover - The project occupies a pronounced draw that is vegetated primarily by dryland species. Riparian vegetation is sparse along the upper reach of the project as a result of broken basalt rock piles and talus slopes. The lower end of the project does have significant areas of riparian vegetation immediately adjacent to the creek.

      Semi-arid vegetation along the slopes of Cedar Draw include sagebrush, cheatgrass, bunch grasses, and various wildflowers. Riparian vegetation along the lower reach of the project includes willow, cattails, currant and sedges.

   b. Fish and Wildlife Resources - The fauna which exists in the project area is typical of the riparian lowlands of the Snake

River corridor. Included in the project area are small mammals, birds, reptiles and amphibians. Small mammals include mice, rock chucks, rabbits, skunks, weasels, raccoons and coyotes. A few deer also use the riparian areas on occasion. Birds in the area are woodpeckers, hawks, owls, magpies and sparrows. Gamebirds using the vegetative cover in Cedar Draw include the Chinese pheasant, Hungarian partridge, mourning dove and the California Valley quail. Mallard ducks occasionally use the water of Cedar Draw Creek.

Cedar Draw Creek supports a population of rainbow trout. Most of the trout population consists of fish that have escaped from trout rearing facilities in the area. The Idaho Department of Fish and Game and the Soil Conservation Service estimate that approximately 36 percent of the trout population is wild fish.

As part of a clean water project undertaken by the Soil Conservation Service on the Cedar Draw Creek, two stations were set up on the stream for study. Fish were electro-shocked in March 1982 using a four-step removal method (Zippen, 1958) and the results are shown in Table 1.

TABLE 1

1982 FISH SURVEY

Population Estimate	
Rainbow Trout	173 (36% wild)
Non-game Species	16
Total Length Range	150 - 400 mm (5.9 - 15.8 in.)
Average Total Length	240 mm (9.5 in.)
Weight Range	36 - 560 grams (1.3 - 19.8 oz.)
Average Weight	157 grams (5.502)
Percent of Sample Composition	
Rainbow Trout	91%
Non-game Species	9%
Condition Factor	Average 1.13

Interviews with private commercial fish raisers and local fisheries biologists who are familiar with the creek system indicate that the percentage of wild or native rainbow trout would be considerably lower than the 36 percent as reported by the SCS. The creek reach in question is blocked from fish movement upstream by a large diversion structure constructed by Richard Kelley in 1975 to divert water approximately 2,500 feet to his fish rearing ponds in the northwest quarter of the southwest quarter of Section 14. This diversion dam, over eight feet high, was constructed within the creek without a fish ladder, thereby essentially blocking or terminating the upward migration of fish from the Snake River. Proceeding upstream another two miles from the diversion dam, the massive natural blockage of "Two Falls" is encountered. This reach, blocked by the Kelley diversion dam on the north and "Two Falls" on the south, is virtually isolated from the natural migration of fish upstream from the river and/or the fish hatcheries lying within close proximity to the river. This creek section is, in fact, artificially planted on an annual basis from the Cedar Draw Creek rearing ponds operation by Pisces Investments (Mike Smith/Evan Robertson), where it is estimated approximately 50,000 to 100,000 fish are lost to the stream system annually. The rearing ponds, constructed in 1976, produce approximately 200,000 pounds of trout wherein juvenile trout are raised to adulthood. The location of trout rearing facilities in the project area is shown on Figure 1.

c. Water Quality and Quantity -

(1) General - Most of the water in Cedar Draw Creek comes from collected wastewater from surface irrigation. As a result, water quality is seriously impacted by silts, fertilizers, pesticides, nutrients and other chemicals during the April-October period. Despite some water quality problems, Cedar Draw Creek maintains a viable population of rainbow trout. The Idaho Department of Health and Welfare has

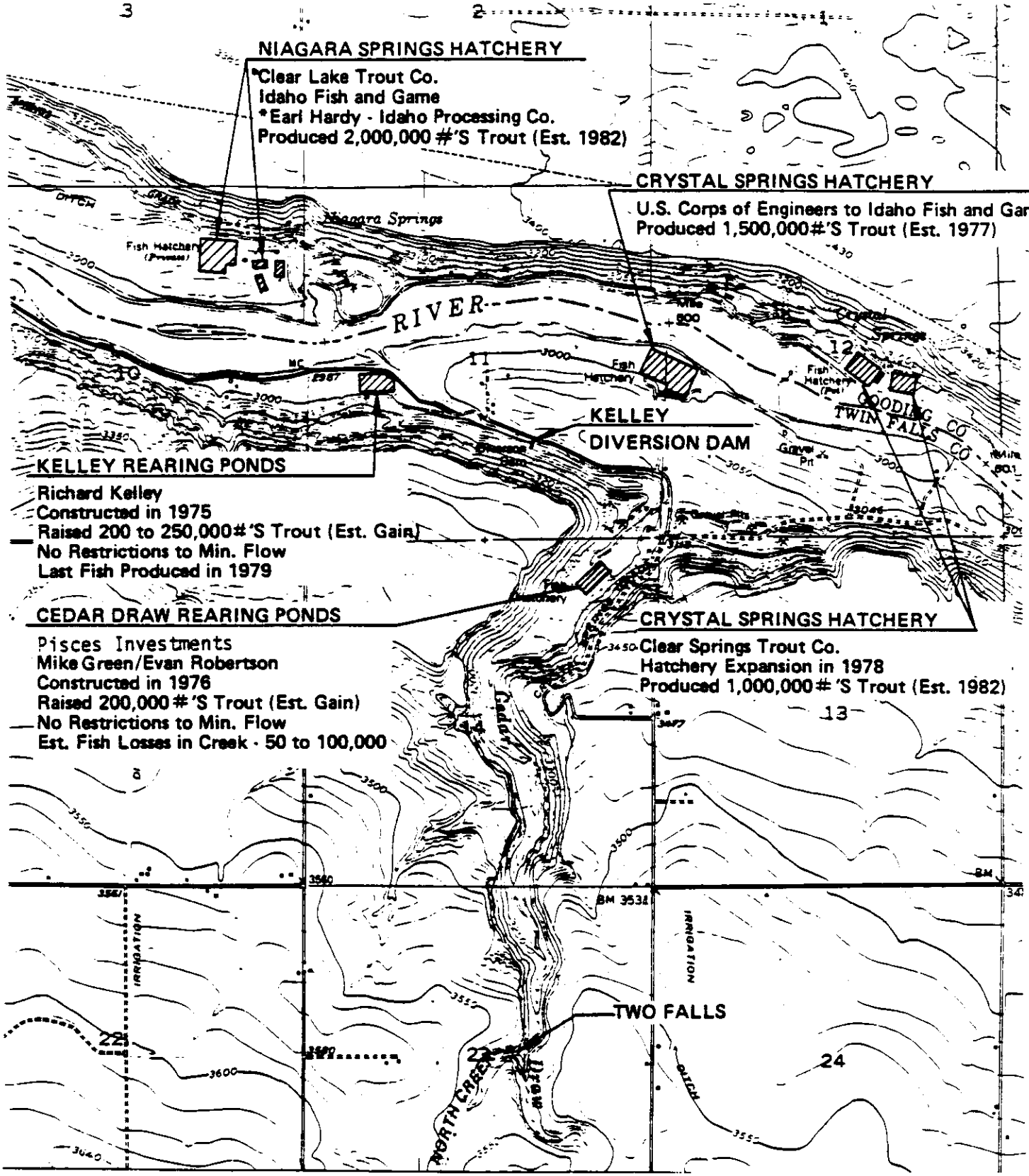


FIGURE 1

EXHIBIT E

LOCATION MAP

HATCHERIES/REARING PONDS
Cedar Draw Creek (Wasteway)

determined that Cedar Draw Creek is suitable for agricultural water supply, secondary contact recreation, cold water biota and salmonid spawning.

Cedar Draw Creek is characterized by highly variable flows based on the seasonal farming activities and irrigation needs of upstream water users. The stream is exposed to substantial flow variations on a monthly and even weekly basis. Flows occasionally fluctuate from 50 cfs one day to in excess of 200 cfs the next day. The hydroelectric project will reduce flows over the affected reach but will help stabilize the overall flow regime.

Cedar Draw Creek consists of two (2) branches or tributaries that converge at Cedar Draw Falls, known as Two Falls, just upstream or south of the project diversion. The branches serve as natural drainages for basins with seven and nine inches of annual precipitation, respectively. During the irrigation season, most of the flow in Cedar Draw Creek is from irrigation wastewater from the Twin Falls Canal Company. Winter flows represent natural groundwater runoff from the irrigated areas and possibly some flows from Milner Dam entrance on the Snake River.

(2) Flow Records - USGS gaging station 13093500 is located on the east branch, about 3,500 feet upstream of the proposed point of diversion. Flow records were taken from August 1955 through mid-July 1958, and from October 1979 through September 1981. After September 30, 1981, recording was discontinued. The mean daily flows from October 1979 through September 1981 are plotted on the strip graph titled "Stream Data" (Figure 2).

No records are known to exist for flows of the west branch. The USGS has, however, taken infrequent flow measurements at USGS gaging station 13093530 which was located near the

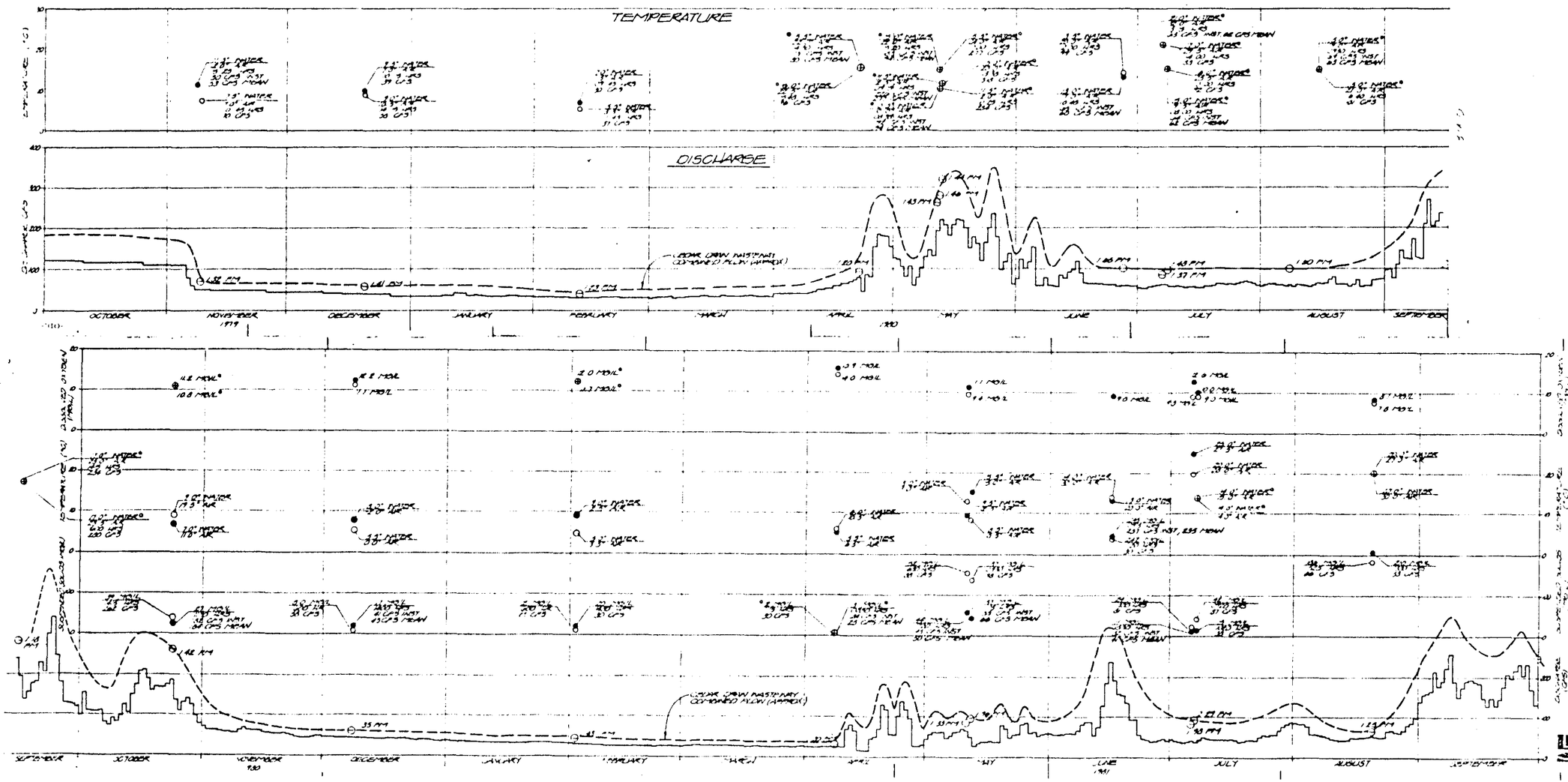

TEMPERATURE
DISCHARGE
OCTOBER
NOVEMBER
1979
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
1980
MAY
JUNE
JULY
AUGUST
SEPTEMBER

FIGURE 2

proposed power plant discharge. The records of these spot readings are plotted on Figure 2.

The Applicant installed a permanent gaging station approximately 800 feet downstream, or north, of the proposed power plant discharge to measure the combined flow of both tributaries. The station was put into service on Saturday, March 19, 1983. The flow measurements taken to date are shown on Table 2. The installation consists of a Leopold-Stevens eight-day, float-operated wind-up recorder in a 24-inch diameter well. Calibration was made by cross section of the stream and taking of velocities in segments using a current meter.

(3) Streamflow Duration Analysis - To develop a streamflow duration curve, the data for water year 1980, water year 1981, a curve developed by Snake River consultants and the combination of water years 1980 and 1981 were plotted from a Composite Streamflow Duration Curve shown as Figure 3. From an interview with Mr. Mike Beus of the Twin Falls Canal Company, it was concluded that there was no substantial difference in amount of land irrigated for this time period. Water year 1980 had substantial wastewater due to the time required to meet irrigation demands through 80 miles of canals from the Milner Dam Canal Headworks. Water year 1981 was representative of a year when the Canal Company was able to more closely regulate the amount of water given each user. The base curve to be used for the study incorporates a combination of water years 1980 and 1981.

(4) Flow Multiplier - An analysis was made of the ratio of the infrequent instantaneous readings of flow taken at gage station 13093530 to the constant recording of the east fork of Cedar Draw Creek at gage station 13093500. This data is listed on Table 3 and shows a comparative ratio

TABLE 2

FLOW RECORDS (1983)

CEDAR DRAW CREEK

800 FEET NORTH OF POWER PLANT

DATE	CFS
MARCH	
20	25
21	25
22	29
23	29
24	29
25	29
26	25
27	20
28	17
29	13
30	20
31	29
APRIL	
1	20
2	20
3	20
4	20
5	29
6	38
7	38
8	58
9	69
10	69
11	69
12	100
13	120
14	134
15	113
16	100
17	149
18	101
19	135
20	127
21	150
22	150
23	150
24	169
25	229
26	204
27	69
28	106
29	106
30	87

DATE	CFS
MAY	
1	171
2	237
3	212
4	134
5	120
6	134
7	125
8	125
9	195
10	236
11	171
12	106
13	81
14	38
15	69
16	106
17	-
18	-
19	-
20	-
21	-
22	69
23	81
24	93
25	93
26	113
27	127
28	149
29	58
30	69
31	52
JUNE	
1	52
2	69
3	81
4	87
5	64
6	74
7	-
8	-
9	-
10	-
11	-
12	-

DATE	CFS
JUNE	
13	-
14	-
15	-
16	-
17	-
18	-
19	-
20	-
21	-
22	-
23	-
24	-
25	-
26	-
27	-
28	-
29	-
30	-
JULY	
1	-
2	-
3	-
4	-
5	-
6	-
7	-
8	-
9	-
10	73
11	106
12	100
13	107
14	148
15	164
16	-
17	150
18	212
19	282
20	301
21	320
22	310
23	264
24	229

DATE	CFS
JULY	
25	-
26	-
27	-
28	-
29	-
30	-
31	-
AUGUST	
1	-
2	-
3	-
4	-
5	-
6	-
7	-
8	58
9	58
10	81
11	93
12	149
13	-
14	178
15	164
16	164
17	149
18	149
19	-
20	-
21	205
22	212
23	246
24	-
25	-
26	-
27	-
28	255
29	255
30	246
31	212

TABLE 2 (Cont.)

FLOW RECORDS (1983)

CEDAR DRAW CREEK

800 FEET NORTH OF POWER PLANT

DATE	CFS
SEPTEMBER	
1	171
2	164
3	195
4	205
5	195
6	179
7	155
8	164
9	195
10	225
11	300
12	300
13	300
14	300
15	-
16	-
17	-
18	262
19	255
20	246
21	238
22	212
23	229
24	212
25	212
26	250
27	250
28	255
29	255
30	301
OCTOBER	
1	320
2	282
3	264
4	172
5	-
6	-
7	-
8	-
9	219
10	-
11	-
12	-

DATE	CFS
OCTOBER	
13	-
14	-
15	-
16	117
17	-
18	-
19	-
20	-
21	-
22	-
23	65
24	-
25	-
26	-
27	-
28	-
29	-
30	65
31	-
NOVEMBER	
1	-
2	-
3	-
4	-
5	-
6	46
7	-
8	-
9	-
10	-
11	-
12	-
13	42
14	69
15	54
16	-
17	-
18	54
19	53
20	60
21	53
22	45
23	43

DATE	CFS
NOVEMBER	
24	50
25	45
26	-
27	-
28	50
29	52
30	47
DECEMBER	
1	52
2	47
3	33
4	50
5	52
6	-
7	-
8	-
9	35
10	32
11	-
12	52
13	47
14	47
15	48
16	47
17	-
18	-
19	46
20	-
21	-
22	-
23	-
24	-
25	-
26	52
27	56
28	47
29	45
30	41
31	-
JANUARY, 1984	
1	43
2	45
3	41

DATE	CFS
JANUARY, 1984	
4	39
5	-
6	-
7	-
8	-
9	39
10	-
11	-
12	-
13	35
14	-
15	-
16	31
17	-
18	-
19	-
20	-
21	-
22	-
23	31
24	33
25	-
26	-
27	42
28	-
29	-
30	31
31	31
FEBRUARY, 1984	
1	30
2	27
3	26
4	25
5	25
6	24
7	20
8	-
9	-
10	42
11	-
12	-
13	43
14	-
15	-
16	-
17	27
18	-
19	-
20	24

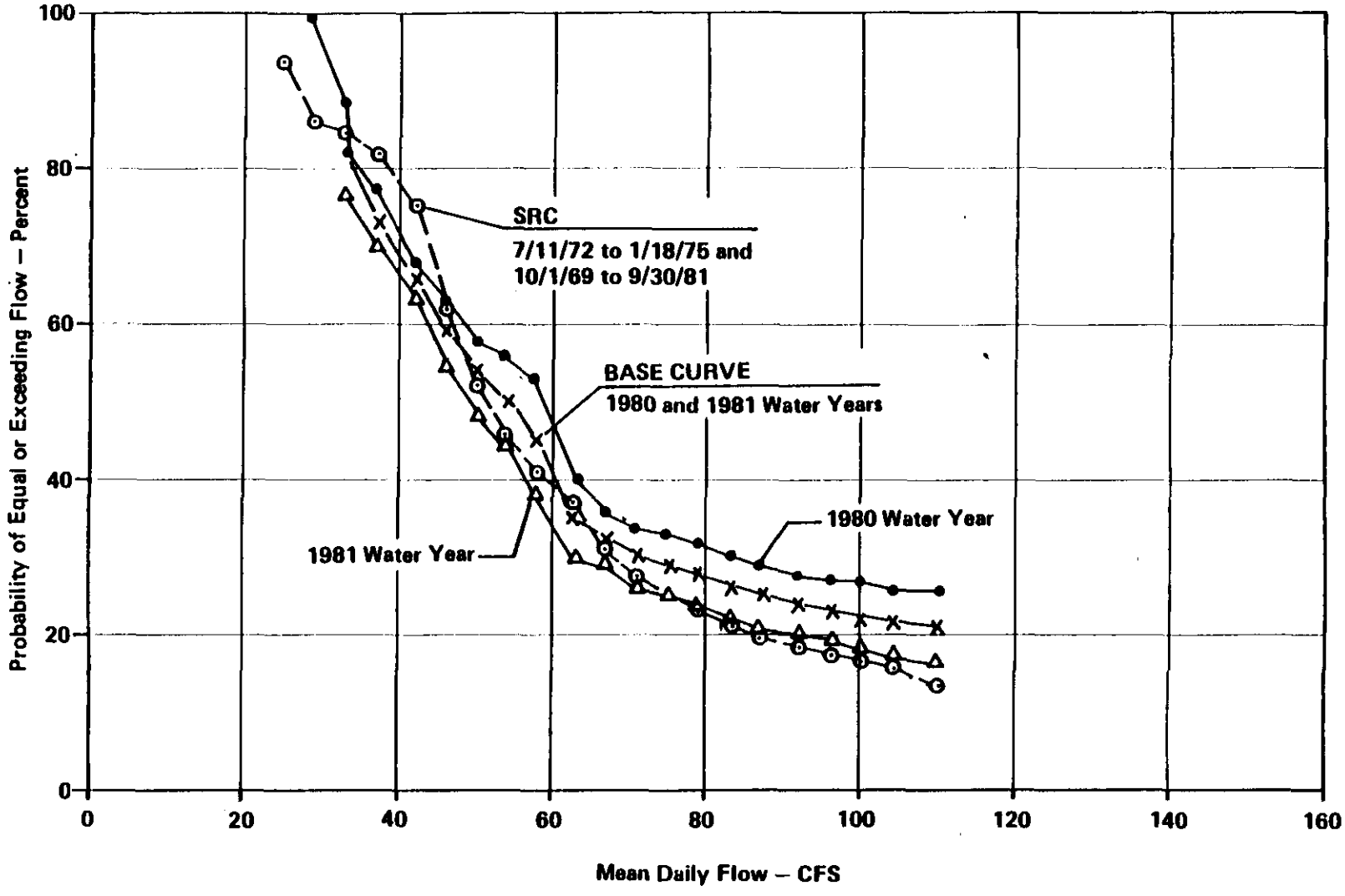


FIGURE 3

STREAMFLOW DURATION CURVES
Developed From Gaging Station 13093500
Cedar Draw Creek Hydroelectric Project
Crystal Springs Hydroelectric Company
Twin Falls County, Idaho

TABLE 5

FLOW MULTIPLIER ANALYSIS

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

CRYSTAL SPRINGS HYDROELECTRIC CO.

DATE	GAGING STATION 13093500	GAGING STATION 13093530	FLOW MULTIPLIER
November 29, 1979	53 cfs	70 cfs	70 ÷ 53 = 1.32
December 20, 1979	39 cfs	55 cfs	55 ÷ 39 = 1.41
February 12, 1980	30 cfs	37 cfs	37 ÷ 30 = 1.23
April 22, 1980	80 cfs	96 cfs	96 ÷ 80 = 1.20
May 12, 1980 (AM)	194 cfs	284 cfs	284 ÷ 194 = 1.46
May 12, 1980 (PM)	194 cfs	277 cfs	277 ÷ 194 = 1.43
May 13, 1980	221 cfs	318 cfs	318 ÷ 221 = 1.44
June 23, 1980	60 cfs	99 cfs	99 ÷ 60 = 1.65
July 7, 1980	62 cfs	83 cfs	83 ÷ 62 = 1.34
July 8, 1980	62 cfs	92 cfs	92 ÷ 62 = 1.48
August 15, 1980	63 cfs	101 cfs	101 ÷ 63 = 1.60
September 15, 1980	237 cfs	280 cfs	280 ÷ 237 = 1.18
October 24, 1980	184 cfs	262 cfs	262 ÷ 184 = 1.42
December 8, 1980	43 cfs	58 cfs	58 ÷ 43 = 1.35
February 2, 1981	30 cfs	43 cfs	43 ÷ 30 = 1.43
April 8, 1981	25 cfs	30 cfs	30 ÷ 25 = 1.20
May 11, 1981	66 cfs	88 cfs	88 ÷ 66 = 1.33
May 12, 1981	50 cfs	98 cfs	98 ÷ 50 = 1.96
June 16, 1981	235 cfs	301 cfs	301 ÷ 235 = 1.28
July 6, 1981	41 cfs	81 cfs	81 ÷ 41 = 1.98
July 7, 1981	38 cfs	87 cfs	87 ÷ 38 = 2.29
August 20, 1981	53 cfs	66 cfs	66 ÷ 53 = 1.25

Minimum Flow Multiplier = 1.18
Maximum Flow Multiplier = 2.29
Average Flow Multiplier = 1.46
Design Flow Multiplier = 1.32

Gaging Station 13093500: On left bank just upstream from County road bridge, 2½ miles upstream from mouth and 4½ miles northwest of Filer in SW ¼ SW ¼ of Section 24, Township 9 South, Range 15 East, B.M. - Mean Flow

Gaging Station 13093530: At Crystal Springs hatchery diversion, 5.7 miles northwest of Filer, in SE ¼ NW ¼ NE ¼ of Section 14, Township 9 South, Range 15 East, B.M. - Instantaneous Flow

from a low of 1.18 to a high of 2.29. The average ratio is 1.46. The reason for the variation in flow ratios is not determinable from the data available. Using gage station 13093500 for water years 1980 and 1981, streamflow duration curves for flow multipliers of 1.2, 1.32 and 1.45 have been plotted on Figure 4.

(5) Streamflow Duration Curve - It is a reasonable premise that, at various times of the year, the actual flow and multiplier will range between 1.18 and 2.25, with an average multiplier being 1.46. For this study, a flow multiplier of 1.32 has been selected as reasonable and conservative. Streamflow duration curves for various flow multipliers are shown on Figure 4.

(6) Possible Future Flow Increase - Under letter dated January 18, 1983, the U.S. Bureau of Reclamation reports that Cedar Draw Creek will receive additional irrigation wastewater from their proposed Salmon Falls Project. The project is in the advance planning stage, but no firm date has been established for construction. It is assumed, therefore, that more water will be available for generation at some time in the future.

(7) Water Quality - Infrequent water quality samples were taken by the USGS at gaging stations 13093500 and 13093530 during water years 1980 and 1981. Because of the infrequency of these readings, the data is not considered suitable to present in a duration curve. The readings for suspended solids, dissolved oxygen and water and air temperature are plotted on the strip graph shown as Figure 2. Excerpts from the USGS, Water Quality Data, containing more information than shown on the strip graph are included in the Appendix.

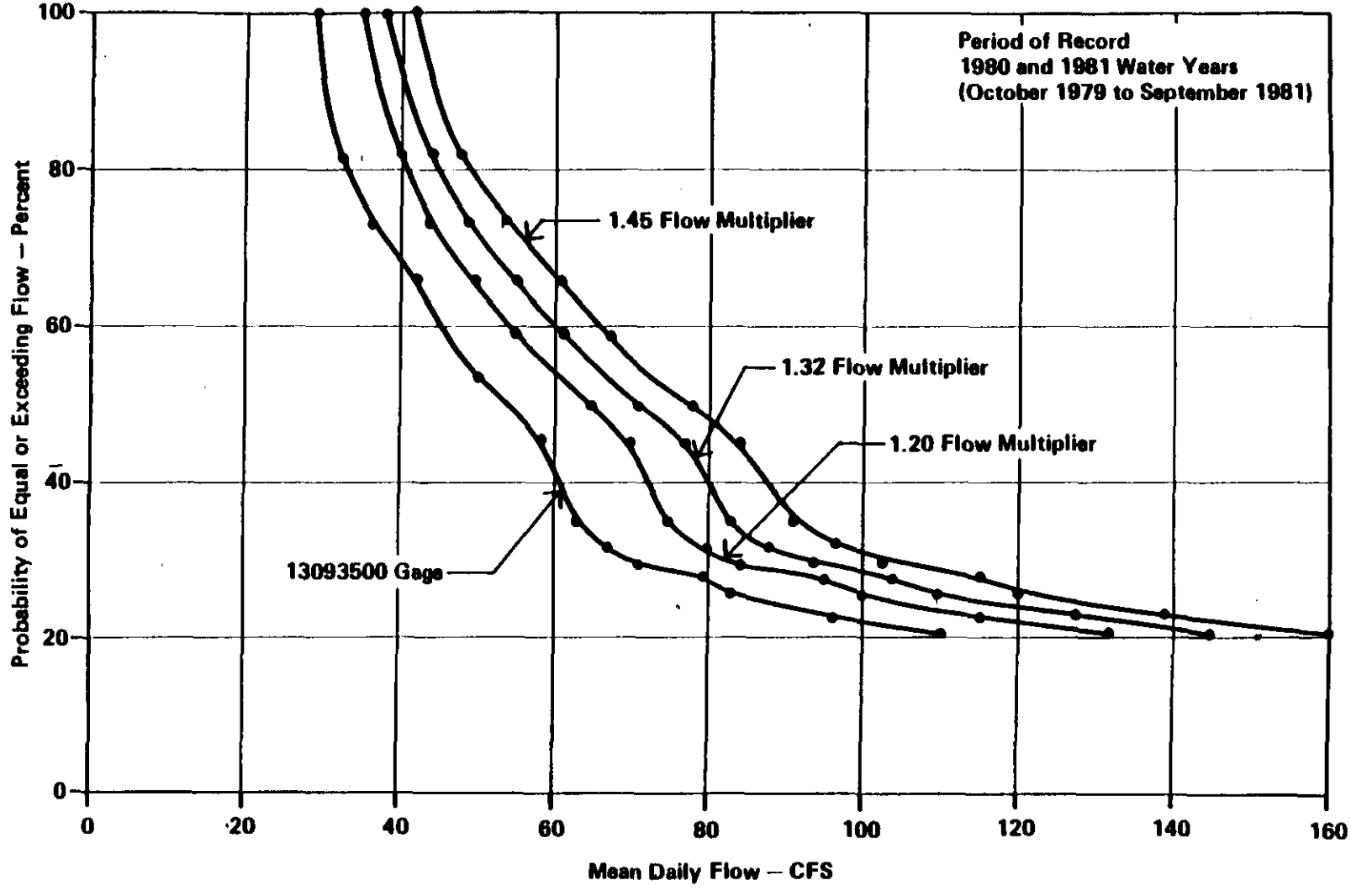


FIGURE 4

STREAMFLOW DURATION CURVES
For Various Flow Multipliers

Developed From Gaging Station 13093500
Cedar Draw Creek Hydroelectric Project
Crystal Springs Hydroelectric Company
Twin Falls County, Idaho

d. Land and Water Uses - The water resource proposed to be used for energy generation for the hydroelectric project is derived mainly from the Twin Falls Canal Company through their high-line and low-line canal system. The lands lying between the canal north to the site are intensely farmed, and have been for the past 75 years. Since the general slope of the plateau uplands (Snake Plain) is from south to north toward the Snake River, the water used to irrigate said farms leaves the fields as wastewater, being collected within the Cedar Draw Creek (wasteway) for conveyance and disposal in the Snake River. The flows of Cedar Draw Creek are increased from seeps along the canyon walls. The creek has a variable flow condition increasing to extremely high flows (maximum 332 cfs) during the months of May, June, September and October as water returns to the creek from surface irrigation to extremely low flows (minimum 18 cfs) during the months of February and March.

Commercial trout ponds are located near the creek and utilize water from the creek for their rearing operations. The high sediment load, agricultural chemical spills and high fluctuation in stream flows present potential hazards to these operations.

e. Recreational Uses - Much of the project area is privately owned land, and recreational uses are therefore limited. Fishing is the primary recreational activity along Cedar Draw Creek. Some hunting also takes place within the general project area during the fall season. Hiking within the draw is an occasional recreational activity. A few people apparently visit Two Falls on the east fork of Cedar Draw Creek. The project is not expected to have any significant negative impact upon the recreational activities that are conducted in the general area. The area is generally not available to the public because of private property and No Trespassing signs.

f. Historical and Archaeological Resources - There are no archaeological or historical sites within the project area that have

been declared eligible for the National Register of Historic Places. Archaeological sites are located along the Snake River, but the project will not affect any of these sites. The Idaho Historic Preservation Office prepared an archaeological survey for the project and determined there were no sites that could be impacted by project construction. Copies of the Idaho Historic Preservation Office letter and archaeological survey are included in this report as Appendix B.

g. Scenic and Aesthetic Resources - Cedar Draw Creek is located in a dry, rocky draw which is sparsely vegetated. The only natural feature which would have any particular scenic and aesthetic value is Two Falls, which are located on the east fork of Cedar Draw Creek. The falls are approximately 400 feet south of the diversion structure. These falls are not really accessible to the public because of private property and "No Trespassing" signs.

h. Endangered or Threatened Species and Critical Habitats - Dr. Jack Griffith of Idaho State University sampled Cedar Draw Creek for endangered fish as part of a U.S. Fish and Wildlife Service contract study of the Hagerman-Twin Falls reach of the Snake River. He states that no Shoshone sculpins were found in the Cedar Draw Creek nor would he expect any to be found on the south side of the Snake River. Further, he found no other fish species of endangered or threatened status in this waterway. Three species of wildlife presently classified as endangered could occasionally occur within the creek. The bald eagle winters along the Snake River, and hunting excursions by this raptor could occasionally occur over the Cedar Draw corridor. The American peregrine falcon is a year-long resident in the general area and also may occasionally hunt over the Cedar Draw lowlands. The whooping crane, once extinct in Idaho, has been reintroduced by the U.S. Fish and Wildlife Service at Grays Lake National Wildlife Refuge about 150 miles east of the proposed hydroelectric project. It is possible that wandering

sub-adults could occasionally occur within the wasteway corridor, although no specific sightings have been recorded.

There are no critical habitats within the project area. The dryland vegetation on the slopes of the draw and the riparian vegetation along the creek are similar to the vegetation in other draws and creeks throughout the area. The project will not have a significant impact on the habitat in the area.

3. Expected Environmental Impacts and Proposed Mitigation Measures.

a. Erosion and Sedimentation - Construction of the hydroelectric works, including access road, intake/diversion structure, conveyance conduit, forebay structure, penstock and powerhouse, will require the covering over or removal of large boulders and excavation of in-place rock. Much of this work has been completed, and associated construction impacts have already occurred.

Some erosion will be unavoidable during construction of the licensed project, but the use of proven construction techniques has minimized this impact. Due to the large sediment volume carried within the wasteway system during the irrigation season (the proposed Salmon Falls division irrigation project has estimated the net amount of sediment annually eroded from farms within the Twin Falls project will be 0.63 tons per acre), any erosion created by the licensed project will be insignificant. Installation of the additional generating unit will not cause any increase in erosion or stream turbidity.

Since the bulk of Cedar Draw flows are collected wastewater from surface irrigation, the water quality is seriously impacted by silts, fertilizers, pesticides, nutrients and other chemicals during the months of April through October. The water resource would be used for power generation without depletion or further water quality degradation. The proposed velocities within the

conveyance/penstock system will not exceed eight feet per second, and therefore nitrate "buildup", due to high velocities, will not occur. Caution will be taken to minimize accidental spillage of construction-related fuels, oil, and other contaminants into the creek. Sanitary waste facilities are being provided for the construction crew on the licensed project.

b. Dissolved Oxygen - The diversion structure will be replacing a portion of the creek system where riffle flows normally contribute dissolved oxygen (D.O.) to the water. This may result in a slight reduction in D.O. level downstream of the project under some flow regimes. However, D.O. does not appear to be a limiting factor to the aquatic biota in the creek, and therefore any slight decrease should not adversely affect aquatic habitat value in this respect. The proposed fourth turbine will not have a significant impact on dissolved oxygen levels.

c. Temperature - In analyzing the possible change in water temperature with passage through the diversion system, it was found that there would probably be no significant gain or loss of heat. Any temperature gain in the pipeline could be mitigated if the pipeline itself were light in color to reflect radiation, thereby minimizing the absorption of heat. Further, a drip irrigation system of this type would have a significant wildlife benefit as well as helping to cool the pipe in the summertime.

In analyzing the heat transfer through long-wave radiation facilitated by turbulence in the stilling pool, it was found, in a worst case condition, that approximately ten calories per square centimeter per hour would be added to a stilling basin containing a volume of 100,000 cubic feet (approximate dimensions 100' x 100' x 10' deep), assuming the air temperature is 37.5° Celsius (100°F) and the water is 15.5° Celsius (60°F). With turbulence throughout a retention time of 30 minutes and a 30 cfs discharge, a temperature rise of 0.02° Celsius would result. If the inflow is greater, say 60 cfs instead of 30 cfs, and the

pond volume remains the same, the retention time would be only 15 minutes and the subsequent temperature rise only 0.01° Celsius. A lower flow would correspondingly increase the temperature. Consequently, the larger the stilling basin (longer retention) and the smaller the flow, the larger will be the heat gain. In order to raise the water temperature 1° Celsius in, say, a one-hour period, it would require a large shallow stilling basin with a relatively small flow. In order to mitigate any potential heat gain, it is proposed to minimize the size of the stilling basin while keeping it as deep as possible with near-vertical side walls to prevent heat absorption by the surface and sub-strata.

d. Air Quality Impacts - Temporary air quality impacts associated with current construction activities are heavy construction equipment emissions and emissions of dust particulates during clearing, grading and pipe installation. During construction, measures such as watering were undertaken to protect the air quality by minimizing the suspended particulate load added to the atmosphere. Installation of the fourth turbine will not cause any long-term impact on air quality, nor will there be a significant short-term impact.

e. Impacts to Fisheries Resources -

(1) Don Chapman Study - Since the diversion of water from this creek system does, in fact, impact the fishery, the Applicant employed the services of Don Chapman Consultants, Inc., to analyze the stream system through computer modeling using programs developed by the Idaho Fish and Game. The computer program utilized was IFG-2 (the "one-flow method", or "WSP" model) for the two study sites. The lower site lies about 450 feet upstream from the upper end of the Cedar Draw Creek fish-rearing ponds and consists of nine transects on 224 feet of stream. This stream corridor can be termed a rubbly glide and riffle with boulders. The

upper site, lying approximately one mile upstream or south of the first site, can be classified as a series of rubbly glides interspersed with boulder-rubble riffles.

The analysis at this station consisted of eight transects on 66 feet of stream. The slope on the lower site was 0.00297, while the slope on the upper site was 0.01426. The upper site was steeper, therefore more typical of the upper third of the proposed creek diversion. The substrata on both sides tended toward large rock. Most of the rocks were covered in silt, more or less with what is termed "marl", a calcium carbonate deposit often associated with spring waters high in mono-carbonates. Such waters are usually termed "productive".

The hydraulic modeling was married to rainbow trout probability-of-use curves taken directly from U.S. Fish and Wildlife data. The IFG-2 model examines the study site on a cell-by-cell basis, backing upstream from lowest to highest transect. As used by Chapman & Associates, the model determines hydraulic conditions in each cell, then multiplies these by fish probability of use. Thus, habitat can be weighed for fish use at various model flows.

The plots developed for the stream system show that, ideally, the spawning habitat maximizes at 25 cfs on the lower reach and 30 to 40 cfs on the upper reach. Adult habitat increases with increasing flow throughout the modeled range on both sides. Juvenile habitat maximizes at 15 cfs on the lower site and 30 cfs on the upper site. Habitat for fry maximizes at 10 cfs on the lower site and 25 cfs on the upper site. The lower site constitutes a substantially larger area than the upper site in terms of trout habitat value.

The study performed by Don Chapman Consultants, Inc., at the request of the Idaho Fish and Game models the stream system to maximize the flows for fish habitat assuming, of course, the fish mature to adulthood within the stream system itself. The program assumes that the fish are wild, or native, to the stream system. This stretch, or reach, of the Cedar Draw Creek is unique in that the stream section flowing through the project area is isolated by a man-made diversion structure approximately 1/2 to 3/4 mile upstream from the intersection with the Snake River and "Two Falls" which lies approximately two miles upstream.

Pisces Investments, the operator of the Cedar Draw rearing ponds, located in the project area, estimates that they lose approximately 50,000 to 100,000 trout annually which range from fingerlings to eight-inch to nine-inch adult fish. Three major hatcheries are located along the Snake River within close proximity to the creek system which could contribute planted or escapee trout if it were not for the physical blockage at the Kelley diversion dam. Up to 1979, Richard Kelley produced approximately 200,000 to 250,000 pounds of trout within the earth fish-rearing ponds provided water through the 42-inch conveyance conduit from said diversion dam. Kelley's ponds have been dry for the last three years without any fish production.

A copy of the Don Chapman study and related fisheries data are included in this report as Appendix C.

(2) Milo Bell Evaluation - In order to put the theories of the IFG-2 computer analysis, the water quality data of the USGS reports, and the effects of a downstream cutoff dam and an upstream fall into perspective, Milo C. Bell, a well-known specialist in fisheries resources, was retained.

Using the preliminary report, the Chapman study and interviews with Land Planning and Management personnel, Mr. Bell made the following observations:

(a) The negative factors of Cedar Draw Creek require an assumption that a good natural annual production level will not be maintained.

- The principal source of the flow is from irrigation, either groundwater or wastewater return.

- Wastewater may contain contaminants from land use of chemicals. No report has been made on this possible source of pollution, which can be detrimental to fish production.

- The recorded temperatures show a spot temperature of 24°C (75.2°F), which is above that considered desirable for good growth. The elevated temperatures are also in the range of disease-inducing conditions.

- Spot readings of turbidity give a level of turbidity which, if maintained, would result in lowered production of food organisms and, consequently, of adult trout. Turbidity levels of 25 to 80 parts per million cause food production losses of 25 percent. The spot turbidity levels given show only that there would be periods of lowered production and lowered fishing use.

(b) It appears that the population present may be replenished from recruits from the wastewater or from upstream areas above the fork.

(c) Another recruitment source may be the rearing ponds adjacent to the stream. This is also a source of potential disease organisms.

(d) The stream report by Don Chapman Consultants, Inc., gives the physical description of the wetted area under the described flows. This report also describes the velocity/depth factors needed to define production levels. Other factors are stream gradient, temperature, water clarity and size of bed material.

(e) Assuming that with optimum flow (30 cfs) the reach will support 670 pounds of fish, an estimate can be made for production levels at lower flows. A flow of 7 cfs would allow for the support of 480 pounds of fish. This suggests that perhaps a "put-and-take" fishery exists, the "put" being from recruits exterior from the reach under discussion. Using this assumption, one means of mitigation could be accomplished by the introduction of trout from hatchery sources during the fishing use periods.

(3) Proposed Salmon Falls Project - A substantial irrigation project, known as the Salmon Falls Division, to be located south of the Snake River in Twin Falls and Cassia Counties, Idaho, in the general region of arid sagebrush grassland near the northern edge of the great basin desert, could potentially impact the proposed hydroelectric project. Congress authorized the construction of this Division in public law 92-514, October 20, 1972. The Division would be constructed in an area already developed for agriculture by private enterprise but which has experienced constant water shortages due to inadequate surface and groundwater supplies.

The Division would be comprised of the Salmon Tract Unit and the Milner-Cottonwood Unit. The Salmon Tract Unit would discharge wastewater into the Cedar Draw Creek (wasteway). This unit would comprise approximately 39,500 acres of the total 57,200 acres programmed within the Division. The Salmon Falls Division would require about 264,000 acre-feet of water annually, of which the Salmon Tract Unit would utilize approximately 69 percent of this water requirement, or 182,000 acre-feet. The electrical power to operate the pumping plant and well fields would be provided through a combination of wheeling over private utility lines and constructing new federal transmission lines. During the irrigation season, the project would require about 106,770 MWh of electrical energy for a peak demand year and 66,600 MWh for an average year. The estimated construction time for the project would be seven years. The facilities would generally be operated from mid-April to mid-October each year.

Most of these lands are presently irrigated from Salmon Falls Creek Dam and Reservoir and a few low-yielding irrigation wells. More than 90 percent of the new surface and subsurface return flows to the Snake River from the Division would come from the lower area. The Agricultural Research Service (ARS) has done extensive work on sediment input and output from the adjacent Twin Falls project; a report by Brown, Carter & Bondurant evaluated return flows from 202,540 acres. The area studied lies just north of the Salmon Tract lower area and is very similar in soil types and topography. The net amount of sediment annually eroded from farms within the Twin Falls project was 0.63 ton per acre. Based on the ARS studies, the 30,255 acres in the Salmon Tract lower area would yield about 19,060 tons of sediment annually to the Snake River. A computer water quality model study was made on the lower Snake River, adding these return flows. Little or no effect was

identified; only slight increases in salt and phosphorus were projected. It is important to note that the area described as the Salmon Tract lower area drains through Cedar Draw Creek to the Snake River.

In reference to the environmental impact statement for the Salmon Falls Division, the lands of the Salmon Tract Unit were developed for irrigation under the Carey Act following completion of the Twin Falls South Side Irrigation Project in 1905. The Salmon River Canal Company was formed by water users to finance and manage an irrigation project and a dam was constructed on Salmon Falls Creek in 1909-1910. Waters were first diverted from the reservoir into the Salmon Falls main canal through a tunnel in the east canyon wall, about 90 feet above the natural streambed. The environmental impact statement states that the Cedar Draw feeder canal which ties into the Cedar Draw Wasteway will be designed for a flow of 32 cfs. The Cedar Draw feeder canal would convey wastewater from Cedar Draw Wasteway into the Milner-Salmon Falls Canal. While not specifically stated in said statement, it is anticipated that this project would increase the flow in Cedar Draw Creek by at least 30 to 100 cfs during the irrigation season. This additional flow would be the result of increased seepage, as well as surface runoff, resulting from irrigation wastewater.

(4) Minimum Flows - The Applicant is bound by the existing license to provide a minimum in-stream maintenance flow of 25 cfs to the diverted section of Cedar Draw Creek (Wasteway). Construction of the additional turbine will not adversely affect this minimum streamflow. It is important to note that, during low-flow periods when creek flows fall below approximately 25 cfs, the turbines will not operate and all flows will pass down the creek. All flows in excess of the turbine capacity (approximately 150 cfs for all four turbines) will also pass down the creek.

The minimum flow will be prevalent during the last half of June through the first three-quarters of August, a 2-1/4-month period, and from the last three-quarters of November to the first half of January, a 2-1/4-month period, totaling 4-1/2 months. If, as streamflow records indicate, the minimum flow during the last half of January through the first half of April, a three-month period, drops to 25 cfs or below, no water will be diverted from the creek system during the time the flows remain at, or below, 25 cfs. From the last half of April to the first part of June, and from the last quarter of August through the first quarter of November, a 4-1/2-month period, the creek system will receive from 25 to 200 cfs after diverting 150 cfs to power generation.

It is believed that this flow regime will provide sufficient habitat to sustain fish and other aquatic organisms, for the following reasons:

(a) Lower flows, while detrimental to adult trout habitat, actually improve the quality of the habitat for fry and juvenile trout, based on the results of the Chapman study.

(b) The stream system is presently exposed to substantial flow variations on a monthly and even weekly basis. On occasion, daily flows may fluctuate from 50 cfs one day to in excess of 200 cfs the following day. This is due to changing irrigation demands of upstream water users, and constitutes a very unstable aquatic habitat for trout or other aquatic biota. The proposed hydroelectric project will alter the habitat of the diverted stretch by reducing the "flashy" character of the diverted section of the creek as it presently exists. This section will receive a reduced but more stable flow regime which could actually improve the productivity of the creek.

(c) Study findings have indicated that Cedar Draw Creek presently supports a trout population which is 64 percent "escapee" or "plant" trout from nearby rearing ponds. The Applicant believes that the actual figure for the escapee population is in excess of 90 percent of the total population, with escapees numbering from 50,000 to 100,000 fish annually. This, combined with the presence of man-made and natural migrational barriers upstream and downstream of the project area, would indicate that the trout fishery currently exists as a "put and take" fishery. It is the Applicant's view that a higher minimum flow is not necessary on a year-round basis to support this type of fishery.

(d) There is a high degree of likelihood that the minimum flow proposed by the Applicant will be a temporary condition. The proposed Salmon Falls Irrigation Project is currently in the late planning stages. If this project is developed, it could contribute an additional 30 to 100 cfs of flow to Cedar Falls Creek during the irrigation season. The aquatic habitat maintained by the proposed minimum flow will serve as the base for a reclamation of habitat made available by higher flows, and will return the adult trout habitat to its present level, or to an even higher level.

When analyzing in-stream maintenance flows on a minimum basis, it is essential to review the past actions of the Idaho Fish and Game relative to the two fish-rearing complexes located within the Cedar Draw Creek corridor; i.e., Cedar Draw rearing ponds, owned by Pisces Investments, and Kelley rearing ponds, owned by Richard Kelley. Both of these facilities have no requirement to maintain a minimum flow for the creek system and, when operational during low

flow periods, they divert all but a minimal amount of the wasteway flows. It should be noted that these diversions, while substantially greater than the proposed hydroelectric project, have not impacted detrimentally the fishing quality of the creek system.

(5) Screening Device - The license requires a one-quarter-inch mesh diversion screen at the intake entrance to prevent entrainment of small fish through the turbines. This screen will be installed based on the recommendations of U.S. Fish and Wildlife Service and Idaho Fish and Game personnel with expertise in this area. Installation of the proposed fourth turbine will not affect this screening requirement.

f. Impacts to Wildlife and Vegetation - Impacts to wildlife populations during construction of the licensed hydroelectric project would result from a temporary loss of habitat and disturbance to nesting and brood-rearing areas. If construction activities occur in the vicinity of any raptor nesting sites, these sites would probably be abandoned as raptors are generally quite sensitive to prolonged human disturbance. Construction would result in the destruction of song-bird, small mammal, reptile, and amphibian nest sites and/or dens for a temporary loss of habitat. Long-term impacts from construction activities will not be significant after vegetation has been reestablished. Construction of the proposed addition to the project will not directly cause any adverse impact to wildlife or vegetation.

No endangered species of wildlife would be adversely affected by the licensed project or the proposed addition. The bald eagle, American peregrine falcon, and whooping crane make occasional, if any, use of Cedar Draw corridor and would continue to do so after project construction. As for Idaho's "Species of Special Concern", it is not anticipated that the kit fox, prairie falcon, ferruginous hawk, mountain quail, or night

snake would suffer any significant adverse impacts from development of the licensed project or the proposed fourth generating unit.

Few impacts to wildlife or vegetative resources are expected from the proposed increase in capacity or from the operation of the project. Human activity associated with powerhouse operation and maintenance will not be excessive. All excavated material will be placed in approved disposal areas. Installation of transmission lines may pose a hazard to birds in flight. These lines will be installed so as to avoid the danger of electrocution caused by flying between improperly spaced electrical lines. The existing license requires that transmission lines be raptor-proofed.

Due to the close proximity of the diversion structure to "Two Falls", approximately 300 feet north, entrainment of small fish and other aquatic organisms is not likely to occur. Impingement of larger fish at the headworks trashracks should not occur, since entrance velocities are not excessive and larger fish should be able to detect the current and avoid harm. The Applicant proposes to install a movable trashrack with one-half-inch screen to dissuade fish from entering the conveyance conduit, as well as providing an automatic debris/ice skimmer.

The site produces no noise except for the sound of water cascading along the creek system. There will be temporary noise impacts during the construction phase of the hydroelectric works (most of which has already occurred). Significant noise-producing construction has been identified as two types: (1) the relatively stationary on-site construction; and (2) transportation to and from the construction site. Due to the isolation of the site and the high canyon walls, temporary noise levels will be insignificant. The only noise created by the project would be generator "whine" which is deemed to be insignificant. Addition of the fourth generating unit would

increase plant operational noise slightly. Consequently, there will be no long-term noise impacts due to the proposal.

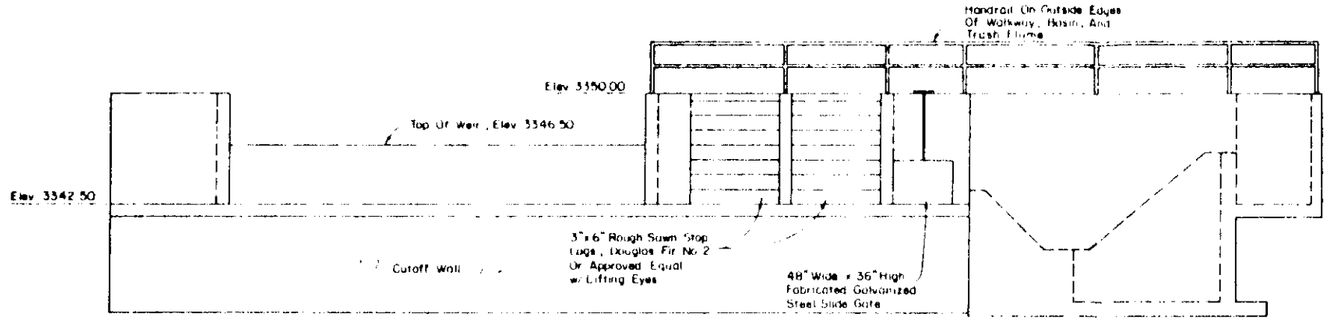
Neither the licensed nor the proposed project will have any impact upon historical or archaeological resources within the project area or the surrounding countryside.

3. Consultation with Federal, State and Local Agencies.

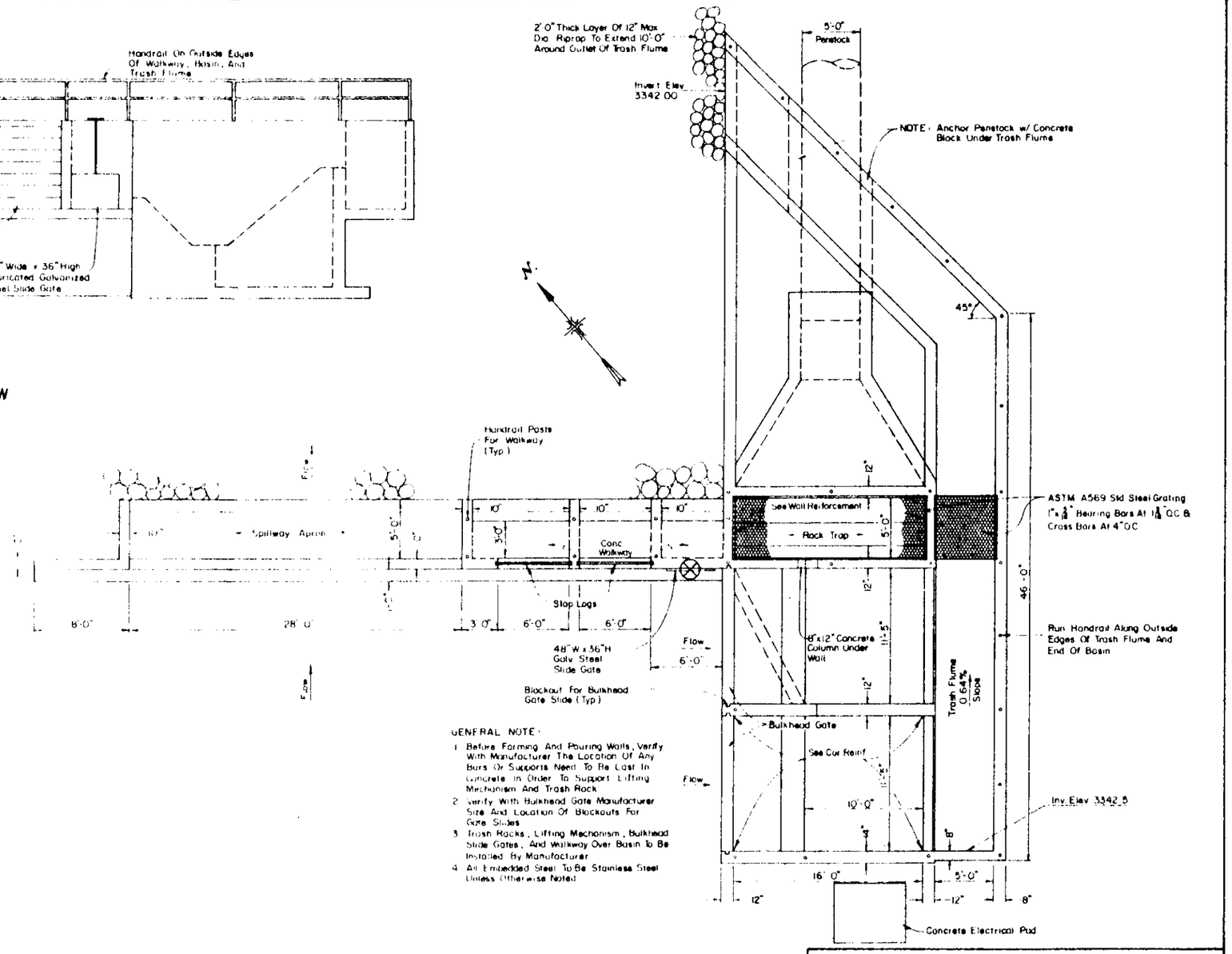
a. Agencies Consulted During the Preparation of the Environmental Report - During the preparation of the environmental report for the original application, all relevant agencies were contacted and input requested. Most of these agencies were contacted by telephone and letter. A list of the agencies provided with a draft copy of this Application for Amendment and their comments are included in Appendix E.

b. Agencies Provided with a Copy of the Application as Submitted to FERC - This Application for Amendment of License, as submitted to the Federal Energy Regulatory Commission, was also forwarded to all relevant agencies. Copies of the letters transmitting the application to the agencies are included in Appendix F.

EXHIBIT F



ELEVATION VIEW



GENERAL NOTES:

1. Before Forming And Pouring Walls, Verify With Manufacturer The Location Of Any Bars Or Supports Need To Be Cast In Concrete In Order To Support Lifting Mechanism And Trash Rack
2. Verify With Bulkhead Gate Manufacturer Size And Location Of Blockouts For Gate Slides
3. Trash Racks, Lifting Mechanism, Bulkhead Slide Gates, And Walkway Over Basin To Be Installed By Manufacturer
4. All Embedded Steel To Be Stainless Steel Unless Otherwise Noted

SCALE IN FEET

FIGURE F-1

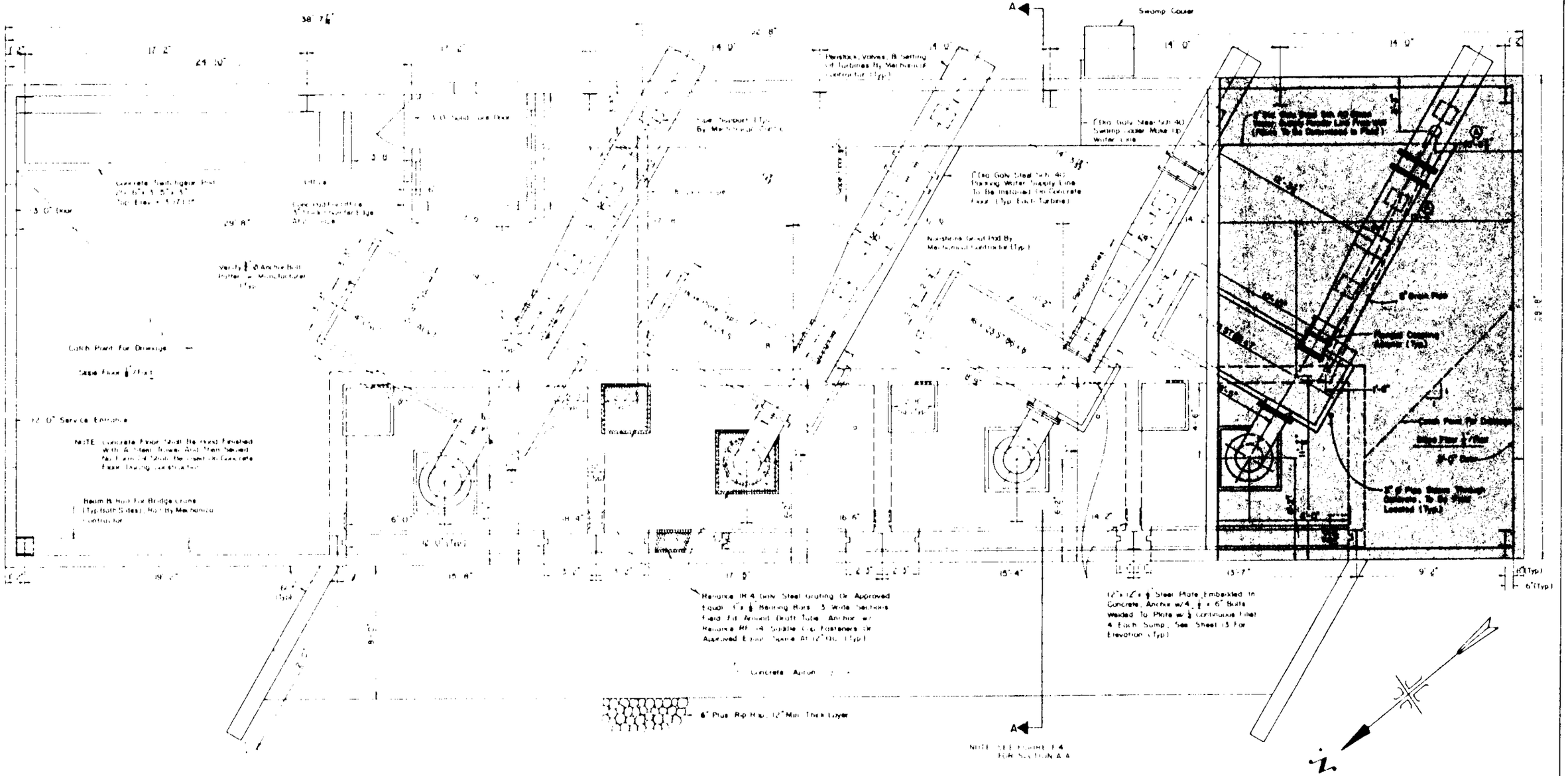
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

DIVERSION STRUCTURE

J-U-B ENGINEERS, INC
Engineers Surveyors Planners
Twin Falls, Idaho

			Project BT850806-02	
Scale AS SHOWN	Date AUG, 1985	Sheet 2 of 6		



POWER HOUSE FLOOR PLAN

PROPOSED ADDITION TO EXISTING PROJECT (See Figure F-2A)

FIGURE F-2

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

POWERHOUSE PLAN

JUB ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

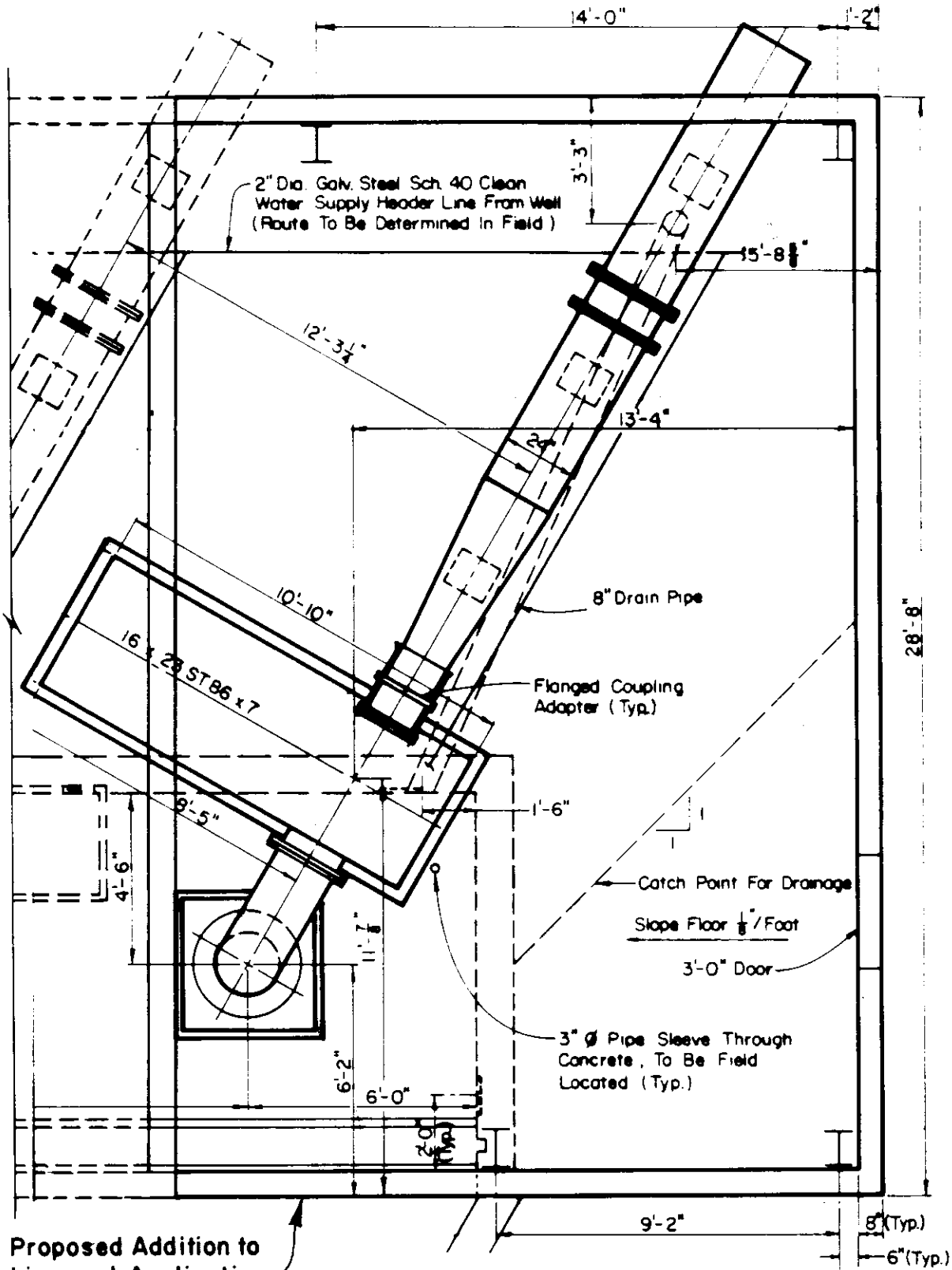
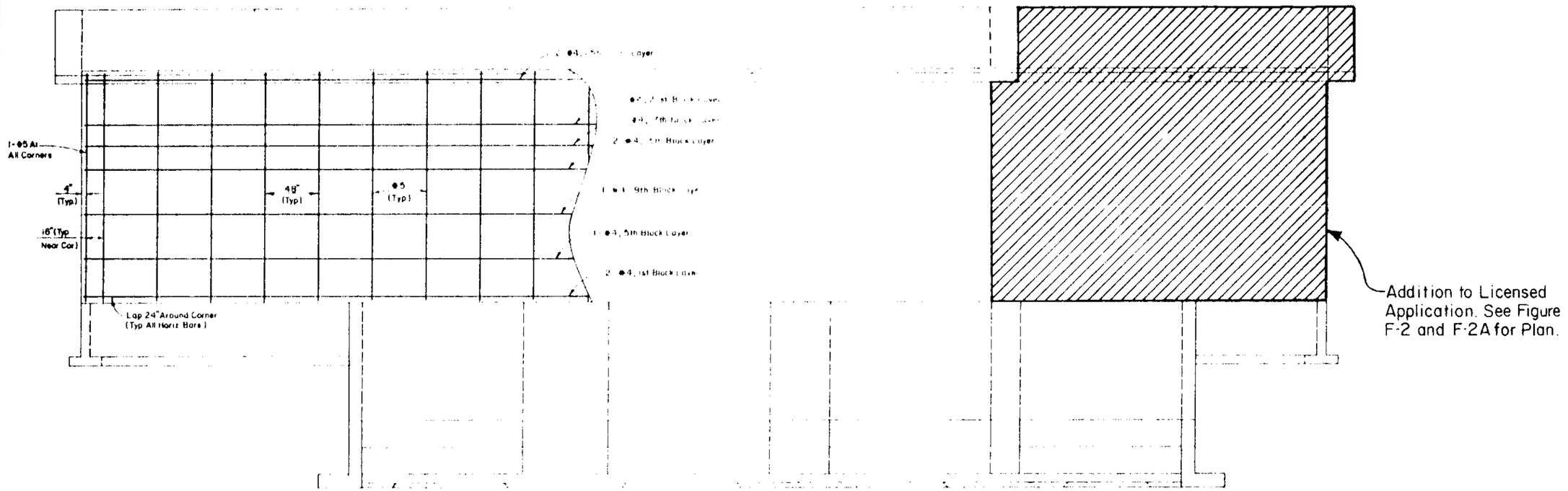


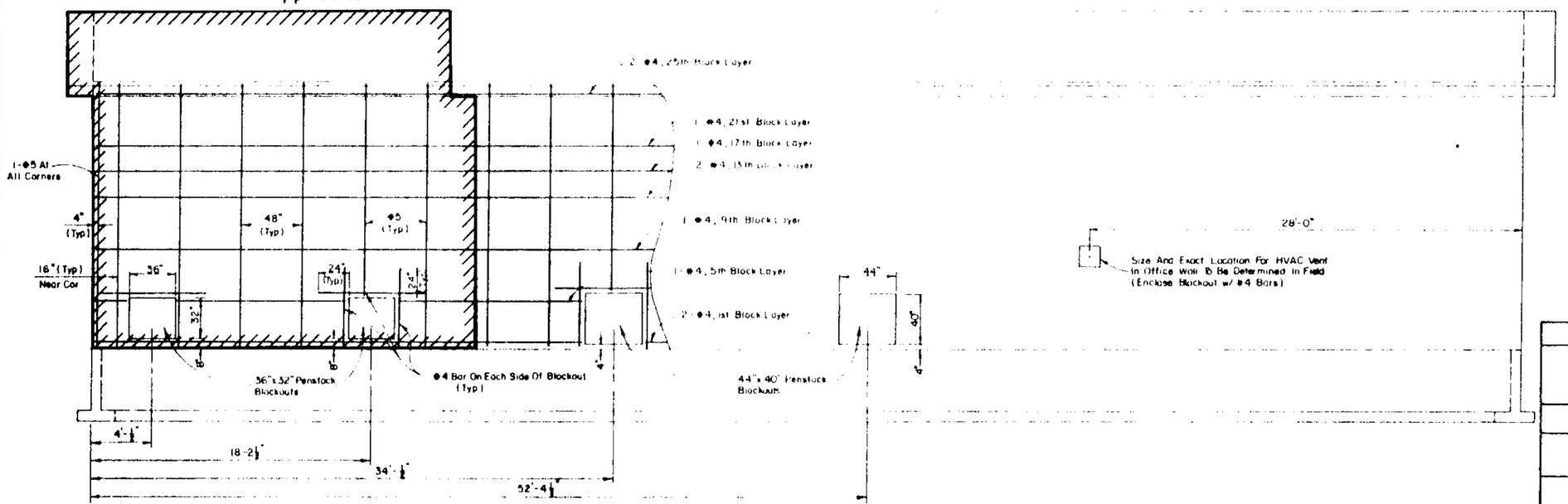
FIGURE F-2A

CEDAR DRAW CREEK
HYDROELECTRIC PROJECT



WEST ELEVATION

NOTE: Lap All Horizontal Bars 24" Around Corners



EAST ELEVATION

SCALE IN FEET

FIGURE F-3

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

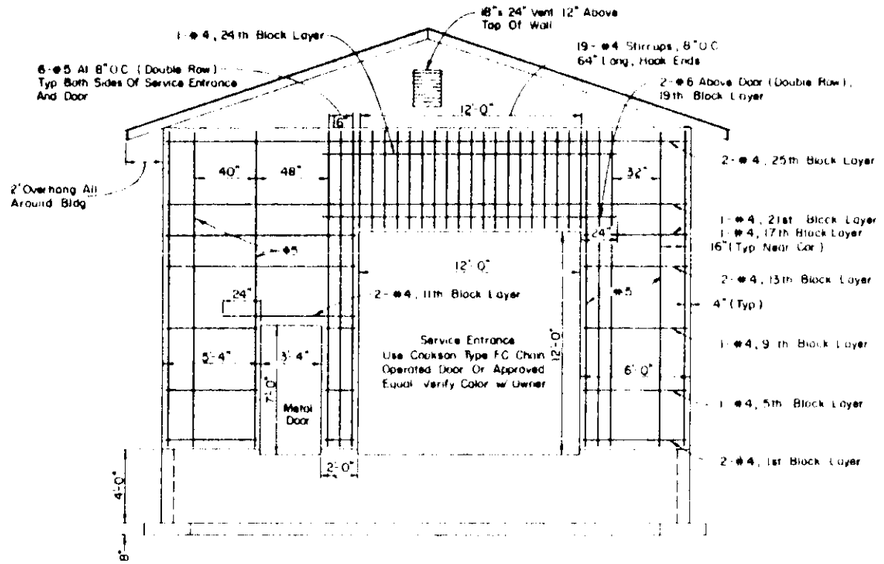
TWIN FALLS COUNTY, IDAHO

POWERHOUSE ELEVATIONS

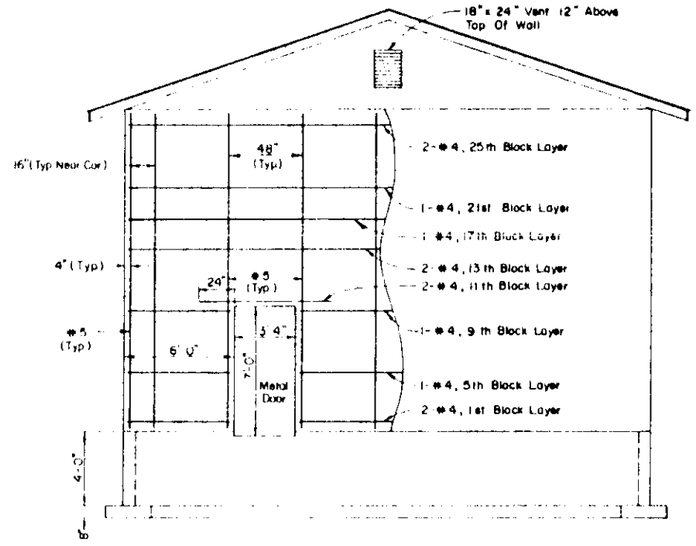
J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Dsn. | Dr. BAK | Ck. | Dwg. No. BT850806-04

Scale AS SHOWN | Date AUG, 1985 | Sheet 4 of 6



NORTH ELEVATION

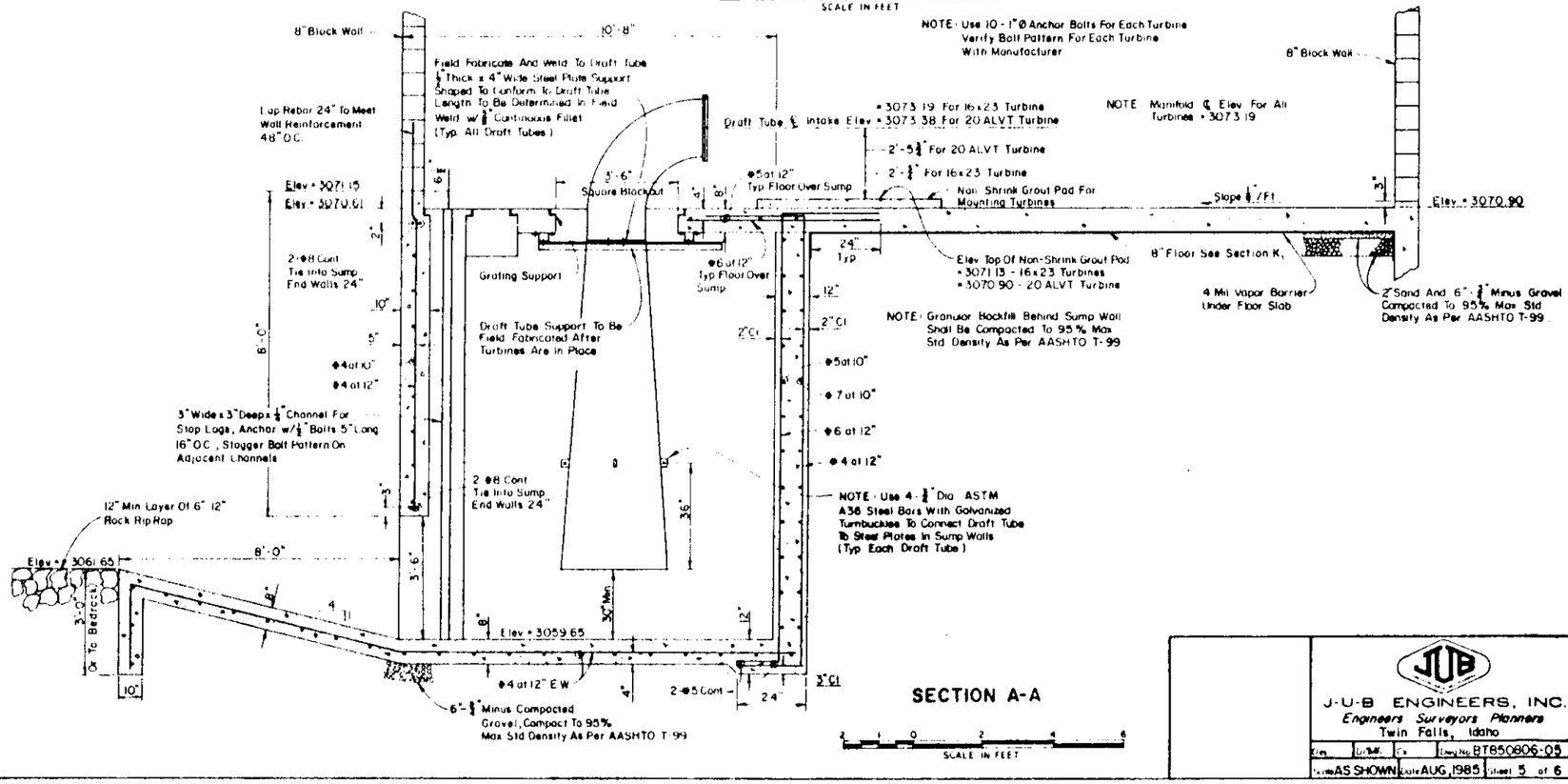


SOUTH ELEVATION

NOTE: Lap All Horizontal Bars 24" Around Corners

Location And Size Of Any Required HVAC Or Other Blockouts In Masonry Walls Shall Be Determined In Field Prior To Construction Of Walls (Enclose All Blockouts w/#4 Bars Extended 24" Past Openings)

SCALE IN FEET



SECTION A-A

SCALE IN FEET

FIGURE F-4

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

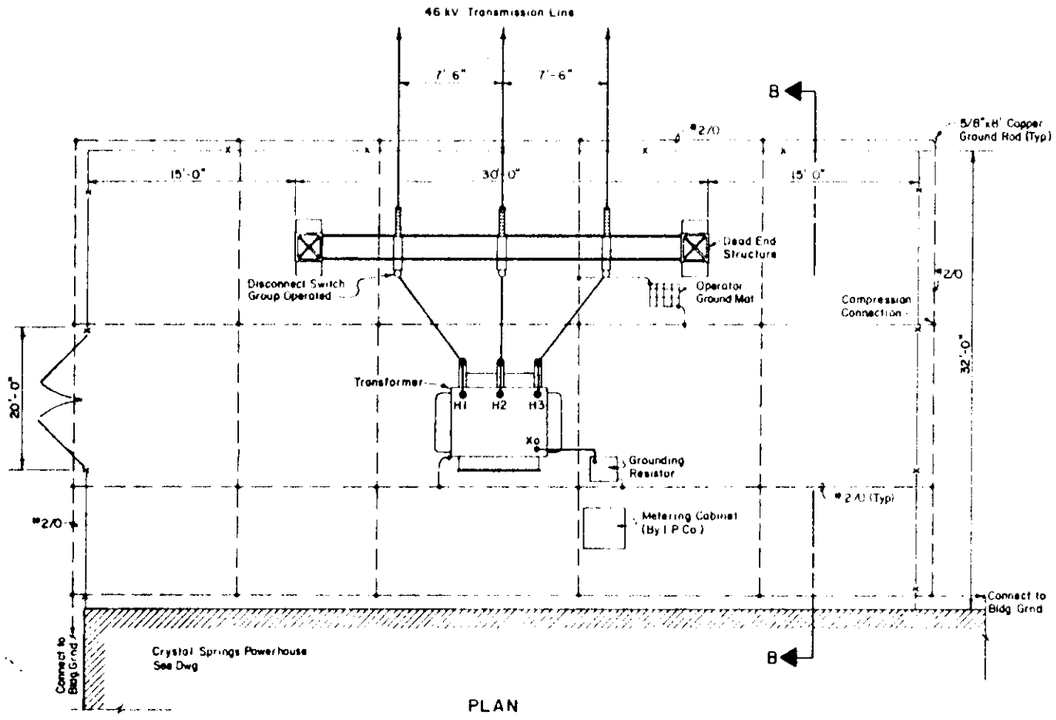
TWIN FALLS COUNTY, IDAHO

POWERHOUSE ELEVATIONS & SECTIONS

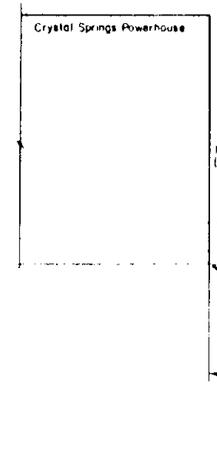
J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

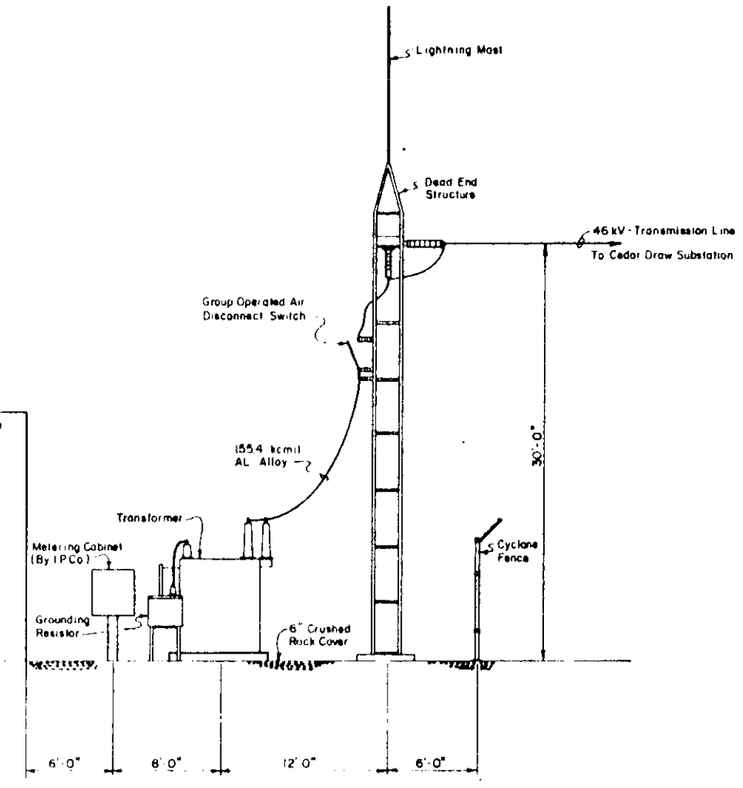
Dsn. | Dr. MK | Ck. | Drwg. No. BT850806-05

Scale AS SHOWN | Date AUG, 1985 | Sheet 5 of 6



PLAN





SECTION 8-8

SCALE IN FEET

FIGURE F-5

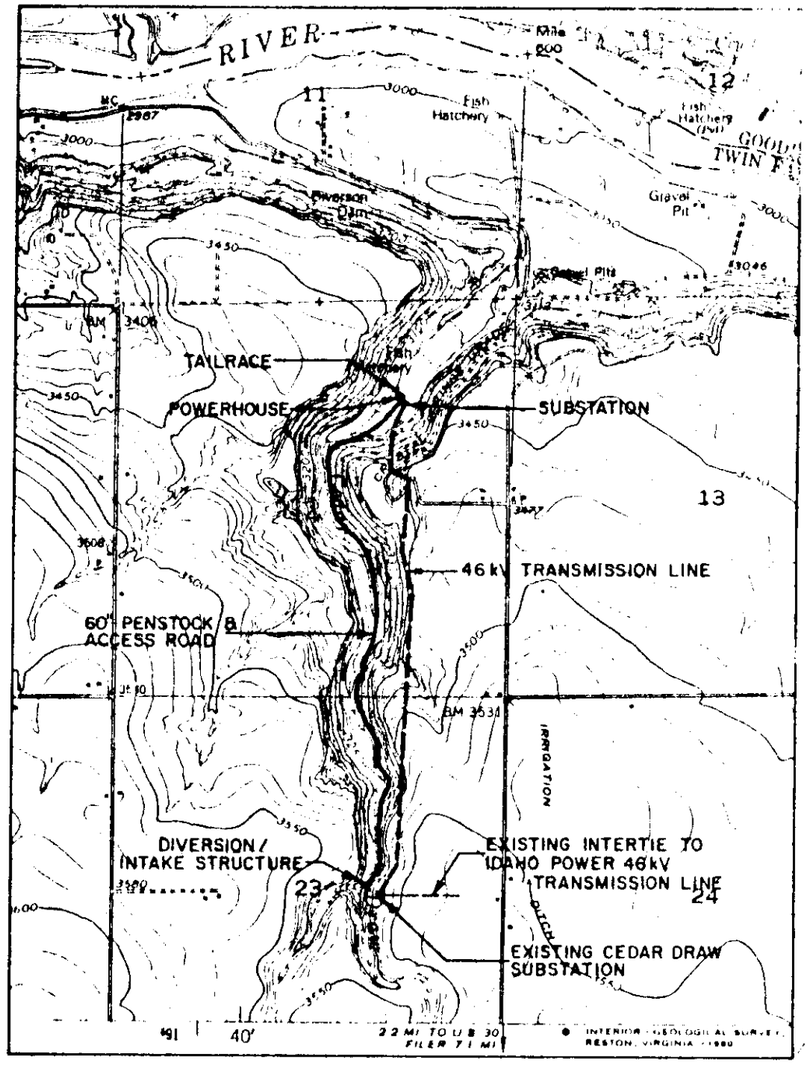
CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

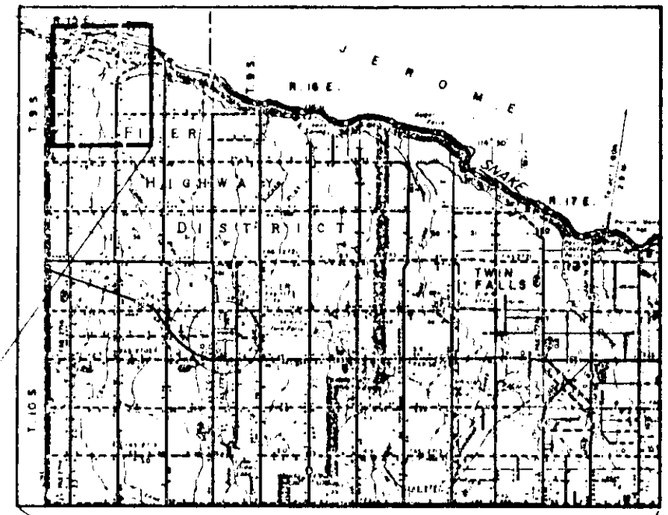
SUBSTATION PLAN AND SECTION

J-U-B ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

Plan	Dr. BHC		Dwg. No. BT850806-06
Scale AS SHOWN	Date AUG. 1985	Sheet 6 of 6	







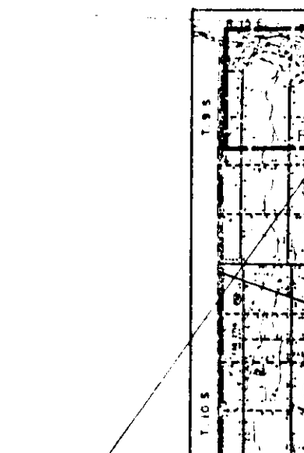


EXHIBIT G

CEDAR DRAW CREEK HYDROELECTRIC PROJECT

TWIN FALLS COUNTY, IDAHO

PROJECT LOCATION

JUB ENGINEERS, INC.
Engineers Surveyors Planners
Twin Falls, Idaho

EXHIBIT G

APPENDIX A

WATER QUALITY DATA

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

13093586 - CEDAR DRAW NEAR FILER, IDAHO (LAT 42 37 25 LONG 114 39 12)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)
NOV , 1979					
08...	1525	50	974	12.0	11.5
DEC					
20...	1015	39	844	7.0	9.5
FEB , 1980					
12...	0949	30	993	-1.5	7.0
APR					
22...	1430	73	576	22.0	15.5
MAY					
12...	0835	192	514	10.0	10.5
12...	1520	185	535	22.0	15.0
13...	0915	226	504	12.5	11.5
JUN , 1980					
27...	1045	65	665	17.0	13.0
JUL					
07...	1315	63	733	32.0	21.0
08...	0800	64	710	19.5	15.0
AUG					
15...	0930	69	787	19.0	15.0
SEP					
15...	1415	234	560	25.0	17.0

13093930 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE, WATER (DEG C)
NOV , 1979					
09...	1040	70	867	7.0	7.5
DEC					
20...	1015	55	874	10.5	9.0
FEB , 1980					
12...	1145	37	906	3.5	5.5
APR					
22...	1545	96	912	22.5	16.0
MAY					
12...	1025	204	584	12.0	11.5
12...	1700	277	594	24.0	15.5
13...	1335	318	536	20.0	15.0
JUN , 1980					
27...	1200	99	664	28.0	13.5
JUL					
07...	1400	83	722	29.5	17.0
08...	1000	92	666	25.5	16.0
AUG					
19...	1040	101	763	21.0	18.0
SEP					
15...	1600	200	997	23.5	17.0

13093500 CEDAR DRAW NEAR FILER, ID--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year October 1980 to September 1981.
REMARKS.--Water-quality data collected for special projects.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT										
24...	1130	162	592	8.2	11.0	7.0	.20	11.2	107	<70
DEC										
08...	1400	41	1230	8.5	-2.0	4.0	1.4	12.2	116	61
FEB										
02...	1430	30	950	8.8	2.5	9.0	6.1	12.0	117	--
APR										
06...	0850	24	900	8.3	6.5	5.5	1.5	15.9	143	56
MAY										
11...	1115	53	579	8.6	12.5	9.5	23	11.1	111	260
12...	1720	46	622	8.9	15.0	15.5	32	10.0	114	390
JUN										
16...	0915	287	514	8.4	20.0	13.0	52	9.0	98	790
JUL										
06...	1530	32	716	8.9	27.5	25.0	10	12.6	173	540
07...	1620	36	778	8.4	14.0	14.0	1.1	10.0	118	960
AUG										
28...	1130	53	818	8.4	27.0	20.0	64	8.1	102	1200

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE FET-FLD (MG/L AS HCO3)	CAR-BONATE FET-FLD (MG/L AS CO3)
OCT										
24...	230	12	54	22	46	27	1.2	5.1	266	0
DEC										
08...	--	--	--	--	--	--	--	--	488	29
FEB										
02...	370	72	81	46	80	34	2.0	4.6	388	31
APR										
06...	--	--	--	--	--	--	--	--	358	0
MAY										
11...	230	21	58	22	36	25	1.0	4.6	230	12
12...	--	--	--	--	--	--	--	--	210	29
JUN										
16...	--	--	--	--	--	--	--	--	238	2
JUL										
06...	280	40	67	27	51	28	1.3	5.4	268	26
07...	--	--	--	--	--	--	--	--	388	5
AUG										
28...	--	--	--	--	--	--	--	--	368	5

13093500 CEDAR DRAW NEAR FILER, ID--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
OCT										
24...	4.6	76	38	.7	19	377	.51	185	.010	1.3
DEC										
08...	2.4	--	--	--	--	--	--	--	.050	4.3
FEB										
02...	.9	166	54	.6	24	663	.90	53.7	.050	3.7
APR										
08...	2.4	--	--	--	--	--	--	--	.080	3.8
MAY										
11...	1.8	78	32	.8	18	384	.58	52.1	.080	.66
12...	.5	--	--	--	--	--	--	--	.030	.87
JUN										
16...	1.5	--	--	--	--	--	--	--	.020	.48
JUL										
06...	.6	110	39	.7	35	488	.65	41.5	.050	1.7
07...	2.8	--	--	--	--	--	--	--	.060	2.0
AUG										
28...	2.2	--	--	--	--	--	--	--	.040	2.8

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
OCT										
24...	.050	1.20	.90	1.2	2.5	.110	.030	.030	--	--
DEC										
08...	.140	1.70	.81	1.6	6.8	.030	.020	<.020	--	--
FEB										
02...	.110	1.00	<1.0	.89	4.7	.130	.130	.110	--	--
APR										
08...	.050	.90	<.90	.90	4.9	.110	.070	.050	--	--
MAY										
11...	.060	.69	.69	.61	1.6	.150	.050	<.050	0	250
12...	.140	1.20	.73	1.1	2.1	.260	.120	.140	--	--
JUN										
16...	.130	1.30	.80	1.2	1.8	.300	.060	.020	--	--
JUL										
06...	.110	1.20	1.1	1.1	2.9	.150	.150	.130	15	270
07...	.120	1.80	.96	.80	3.1	.180	.180	.140	--	--
AUG										
28...	.160	1.70	.93	1.5	3.7	.310	.180	.050	--	--

13093500 CEDAR DRAW NEAR FILER, ID--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT										
24...	--	--	--	--	--	--	--	86	27	13
DEC										
08...	--	--	--	--	--	--	--	87	17	1.9
FEB										
02...	--	--	--	--	--	--	--	97	20	1.6
APR										
08...	--	--	--	--	--	--	--	--	3	.19
MAY										
11...	9	6	1000	10	70	.1	0	97	57	6.2
12...	--	--	--	--	--	--	--	96	44	5.3
JUN										
10...	--	--	--	--	--	--	--	87	248	170
JUL										
06...	7	1	418	6	20	.1	20	85	11	.95
07...	--	--	--	--	--	--	--	88	15	1.5
AUG										
29...	--	--	--	--	--	--	--	96	210	30

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)
13093530 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 30 57 LONG 114 39 33)											
OCT , 1980											
24...	1415	262	626	8.6	19.5	9.8	1.8	10.8	104	100	230
DEC											
04...	1600	58	918	8.6	.0	5.5	1.3	11.1	99	460	—
FEB , 1981											
02...	1000	43	975	8.8	3.5	5.0	2.9	11.7	102	—	340
APR											
06...	1115	38	956	8.6	10.5	6.0	1.6	10.0	126	K4	—
MAY											
11...	1630	88	662	8.7	17.0	13.0	60	9.4	101	250	230
12...	0930	96	637	8.4	8.5	8.5	60	—	—	250	—
JUN											
10...	1120	301	534	8.4	30.0	14.0	57	9.4	102	K1100	—
JUL											
06...	1330	81	694	8.7	28.0	20.0	10	9.3	116	570	270
07...	0920	67	711	8.7	15.0	14.0	24	9.0	94	1200	-
AUG											
20...	1525	66	811	8.6	30.0	20.0	75	7.0	96	420	—

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)
13093530 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)										
OCT, 1980										
24...	12	54	23	43	28	1.2	5.2	217	1.1	75
DEC										
08...	--	--	--	--	--	--	--	314	1.5	--
FEB, 1981										
02...	18	75	38	62	34	1.9	4.8	322	1.8	150
APR										
08...	--	--	--	--	--	--	--	307	1.5	--
MAY										
11...	8	55	23	43	28	1.2	5.2	265	1.0	75
12...	--	--	--	--	--	--	--	213	1.7	--
JUN										
10...	--	--	--	--	--	--	--	288	1.6	--
JUL										
06...	33	86	26	58	28	1.3	5.3	237	.9	110
07...	--	--	--	--	--	--	--	282	1.1	--
AUG										
28...	--	--	--	--	--	--	--	291	1.4	--

DATE	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
13093530 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)										
OCT, 1980										
24...	32	.7	20	383	.52	271	.010	1.4	.84	.060
DEC										
08...	--	--	--	--	--	--	.060	4.5	1.0	.070
FEB, 1981										
02...	52	.8	27	623	.85	72.3	.030	3.4	.89	.090
APR										
08...	--	--	--	--	--	--	.050	3.9	1.3	.060
MAY										
11...	33	.8	21	403	.55	95.8	.080	.97	2.8	.110
12...	--	--	--	--	--	--	.080	1.1	1.8	.110
JUN										
10...	--	--	--	--	--	--	.010	.62	2.6	.130
JUL										
06...	36	.7	32	466	.64	182	.040	1.6	1.2	.110
07...	--	--	--	--	--	--	.040	1.8	1.1	.090
AUG										
28...	--	--	--	--	--	--	.060	2.1	1.2	.090

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	ARSENIC, TOTAL (UG/L AS AS)	BORON, TOTAL RECOVERABLE (UG/L AS B)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM

13043330 - CEDAR DRAW ABOVE MOUTH NEAR FILER, IDAHO (LAT 42 38 57 LONG 114 39 33)

OCT 1980										
24...	.88	2.3	--	.060	.25	--	--	--	39	83
DEC										
08...	1.10	5.6	--	.040	.25	--	--	--	8	92
FEB 1981										
02...	.90	4.4	--	.040	.24	--	--	--	12	92
APR										
06...	1.40	5.3	--	.100	.31	--	--	--	2	--
MAY										
11...	2.10	3.1	--	.220	.67	8	300	.1	152	98
12...	1.90	3.8	--	.320	.98	--	--	--	137	97
JUN										
16...	2.70	3.3	--	.210	.64	--	--	--	242	89
JUL										
06...	1.30	2.9	--	.100	.30	12	260	.1	24	87
07...	1.20	3.8	--	.250	.77	--	--	--	42	96
AUG										
26...	1.30	3.4	--	.300	1.1	--	--	--	186	97

APPENDIX B

ARCHAEOLOGICAL SURVEY

IDAHO STATE HISTORICAL SOCIETY
610 NORTH JULIA DAVIS DRIVE BOISE, 83702

November 15, 1983

Mr. David B. Diehl
Land Planning and Management
22627 - 152nd SE
Kent, WA 98031

Dear Mr. Diehl:

Enclosed are three copies of the archaeological survey report for the Cedar Draw Hydroelectric Project. This report was prepared by our office for no fee. It can be attached to Exhibit E of the FERC application.

We reiterate our earlier statements: This project will have no effect on archaeological or historic properties.

Sincerely,

Thomas J. Green
State Archaeologist
State Historic Preservation Office

Enc.

TG/kh

CULTURAL RESOURCE REPORT NARRATIVE

IDAHO ARCHAEOLOGICAL SURVEY

A. NAME AND FULL DESCRIPTION OF THE PROPOSED UNDERTAKING (Key to Map)
(Be specific and describe all direct and indirect impacts expected)

Project Name: Cedar Draw Hydroelectric Project.

Project: The proposed project will consist of: (1) a 6' high, 30' long diversion structure; (2) a 60", 2,500' long conduit; (3) a 54", 150' long penstock; (4) a powerhouse. See Project Map.

B. LOCATION AND GENERAL ENVIRONMENTAL SETTING (Key to Map)

The project is located in the southern (upper) end of Cedar Draw. The upper end is rugged with talus extending to the creek. Cedar Draw is a box canyon, and the creek enters the draw by way of a waterfall. (See photograph)

USGS Topographic Map(s): Niagara Springs, Idaho, 1950.

USGS Topograhic map(s):

C. PRE-FIELD RESEARCH

1. Sources of information checked:
[]Overview []Site sensitivity map []GLO plats [X]SHPO file
[]Other(list)
2. Summary of previous studies in this general area, in similar terrain:

Title	Distance/Direction	Results

A) Carley & Sappington, 1982. Archaeological Survey of the Clear Lakes Project on the Snake River. Southeast Idaho, 1981.

B) Plew, 1982. Test excavations at Lower Rock Creek.

C) Plew, 1983. Test excavations at Auger Falls.

D. EXPECTED HISTORIC AND PREHISTORIC LAND USE AND SITE SENSITIVITY

1. Are there sites known in this area? []Yes [X]No
2. Are sites expected? []Yes(Where?) [X]No(Why?) Explain below:

The canyon is very rugged, rocky, and inaccessible. There is almost no flat ground. There are few areas of deposition where a site would be expected. It is possible that rock art or burials could occur in such a canyon, but they are usually in more accessible areas.

E. FIELD METHODS (Be specific and complete)

1. Areas examined and type of coverage:(Key to Map)

The project area was walked intensively on the east side of the creek, and flat areas were spot-checked on the west side of the creek.

2. Areas not examined and Reasons Why:(Key to Map)

There were some areas too steep to survey.

4. Personnel conducting or assisting in the survey:

Dr. Thomas J. Green

5. Dates of survey: October 13, 1983

6. Surface and subsurface visibility (%):

Surface: 25-100% variable

Subfurface: badger holes in flats

7. Problems encountered:

Access and steep terrain

F. RESULTS

1. All cultural resources recorded for this area: (Key to Map) ☒None

Field No.	State No.	Type of Site

2. Cultural resources noted but not formally recorded: (Key to Map) ☒None

Field No.	Description	Reason not Recorded

G. CONCLUSIONS AND RECOMMENDATIONS

(Possible impacts, relation of sites to impacts, avoidance options, additional work needed, etc.)

The project will have no effect on any archaeological or historic property.

H. ATTACHMENTS

1. IMACS Site Form attached for each site? ☐Yes
2. Maps attached? ☒Yes
3. Other attachments? (List) ☒Yes

Photos

I. CERTIFICATION OF RESULTS

I certify that I conducted the investigation reported here, that my observations and methods are fully documented, and that this report is complete and accurate to the best of my knowledge.

Thomas J. Green 11-14-33

Signature of Reporter Date

APPENDIX C

DON CHAPMAN STUDY AND RELATED FISHERIES DATA

Don Chapman Consultants, Inc.

FISHERY ASSESSMENT
ENVIRONMENTAL IMPACTS
AQUATIC ECOLOGY
FISHERY DEVELOPMENT

P.O. BOX 1332
McCALL, IDAHO 83638
USA
TEL: 208-634-2286

24 March 1983

Mr. Dave Millard
Land Planning and Management
22627 152nd S.E.
Kent, Washington 98031

Dear Mr. Millard,

This constitutes my report on instream flow studies completed in Cedar Draw Creek for your firm.

METHODS

I used IFG-2 (the "one-flow method" or "WSP" model) on two study sites. The lower reach lies about 150 yards upstream from the upper end of the hatchery ponds, and consisted of 9 transects on 224 feet of stream (Figure 1). It can be termed a rubbly glide and riffle with boulders. The upper site (Figure 2) can be called a series of rubbly glides interspersed with boulder-rubble riffles, and consisted of 8 transects on 66 feet of stream. The upper site lay about 1 mile above the lower site.

Slope on the lower site was 0.00297 while that on the upper site was 0.01426. Thus the upper site was steeper, and is more typical of the upper third of your proposed diversion reach. The substrate on both sites tended toward large rock. Most rocks were covered with silt more or less consolidated with what is termed "marl", a calcium carbonate deposit often associated with spring waters high in monocarbonates. Such waters are usually termed "productive".

Our aim was to calibrate the IFG-2 model to predict measured water surface elevations on each transect to the nearest 0.05 feet, and velocities on each vertical profile across the transects to the nearest 0.1 fps or to plus or minus 10% of the target velocity where the target was below about 1 fps. Once the calibration was complete (this requires a series of iterations on the model in which bottom roughness coefficients are modified in Manning's equation), we modeled discharges of 5 to 70 cfs on the lower site and 5 to 80 cfs on the upper site. Calibration (measured) discharge was 30 cfs on each site. This means there was no significant spring inflow between sites.

Hydraulic modeling was married to rainbow trout probability-of-use curves taken directly from U.S. Fish and Wildlife Service data (Figures 3-6). I believe the FWS curves are satisfactory because they were based on micro-habitat work on a small mountain stream in Colorado. We did not model the temperature component of the U.S. Fish and Wildlife curves. The velocity curves represent mostly "nose-point" or "facing" velocities rather than mean column velocities. This means that the model should predict slightly lower

optimum discharge, especially for larger fish, than would curves based totally on mean column velocities.

The IFG-2 model examines the study site on a cell-by-cell basis, backing upstream from lowest to highest transect. As I used it, the model determines hydraulic conditions in each cell, then multiplies these by fish probability of use. Thus, if velocity at a given Q is 1.5 fps, depth 0.8 feet, and substrate is gravel (index 5.0), the model multiplies 1.0 X 1.0 X 1.0 and output states that the cell is fully usable for spawning (see Figure 3). If velocity were 1.0 fps and other characteristics unchanged, the multipliers would be 0.55 X 1.0 X 1.0 (again,see Figure 3). Thus habitat can be weighted (hence WUH, or weighted usable habitat) for fish use at various modeled flows.

The IFG-2 model is recommended for extrapolation to 0.4 to 2.5 times the calibration discharge. I ran 5 cfs, below the recommended range, and several flows above the recommended range, for curiosity.

RESULTS

Tables 1 and 2 include weighted usable habitat output for the two reaches. In Figures 7 and 8, I plotted these same data in square feet per 1000 lineal feet of stream. The plots show that spawning habitat maximizes at 25 cfs on the lower reach and 30-40 cfs on the upper reach. Adult habitat increases with increasing flow throughout the modeled range on both sites. Juvenile habitat maximizes at 15 cfs on the lower site and 30 cfs on the upper site. Habitat for fry maximizes at 10 cfs on the lower reach and 25 cfs on the upper site.

I interpret the plots as showing that there is relatively much less WUH for spawning, fry and juveniles than for adults at all discharges.

Runs at 90, 100, 125 and 150 cfs (Table 3) show that the lower site did not increase in WUH for adults above 90 cfs, but that WUH in the upper site increased to 150 cfs.

A separate IFG-2 run for the lower site, using only the 5 lowest transects, in the best trout habitat of the reach (again, see Figure 1), did not change the basic trend of WUH for adults.

Very Truly Yours,

Don Chapman

ENCL.



FIGURE 1

LOWER REACH, LOOKING UPSTREAM FROM LOWER END.



FIGURE 2

UPPER REACH.

FIGURE 3

RAINBOW TROUT

11110 SPAWNING 78/01/24.

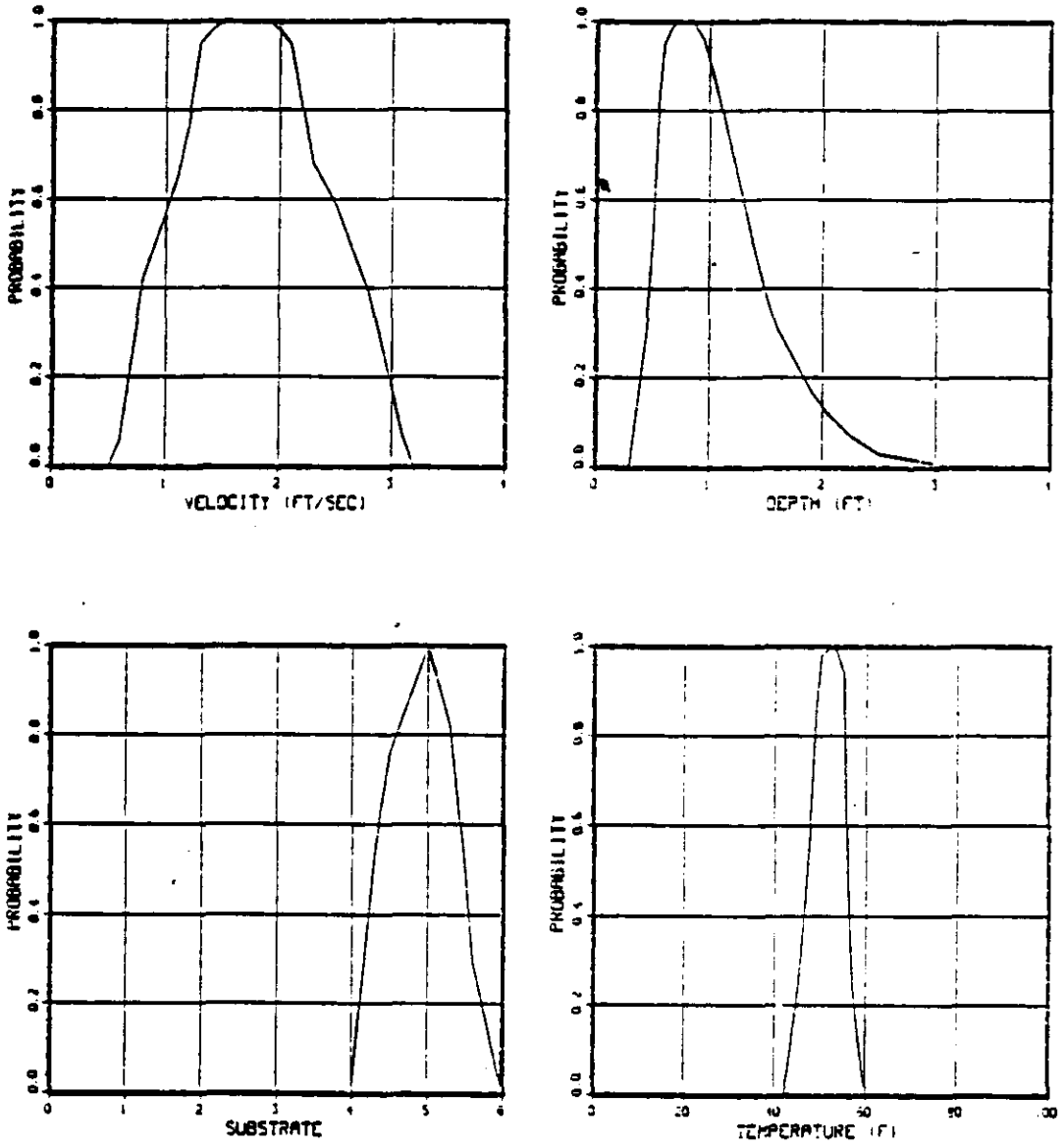


FIGURE 4

RAINBOW TROUT

11102 ADULT 78/01/24.

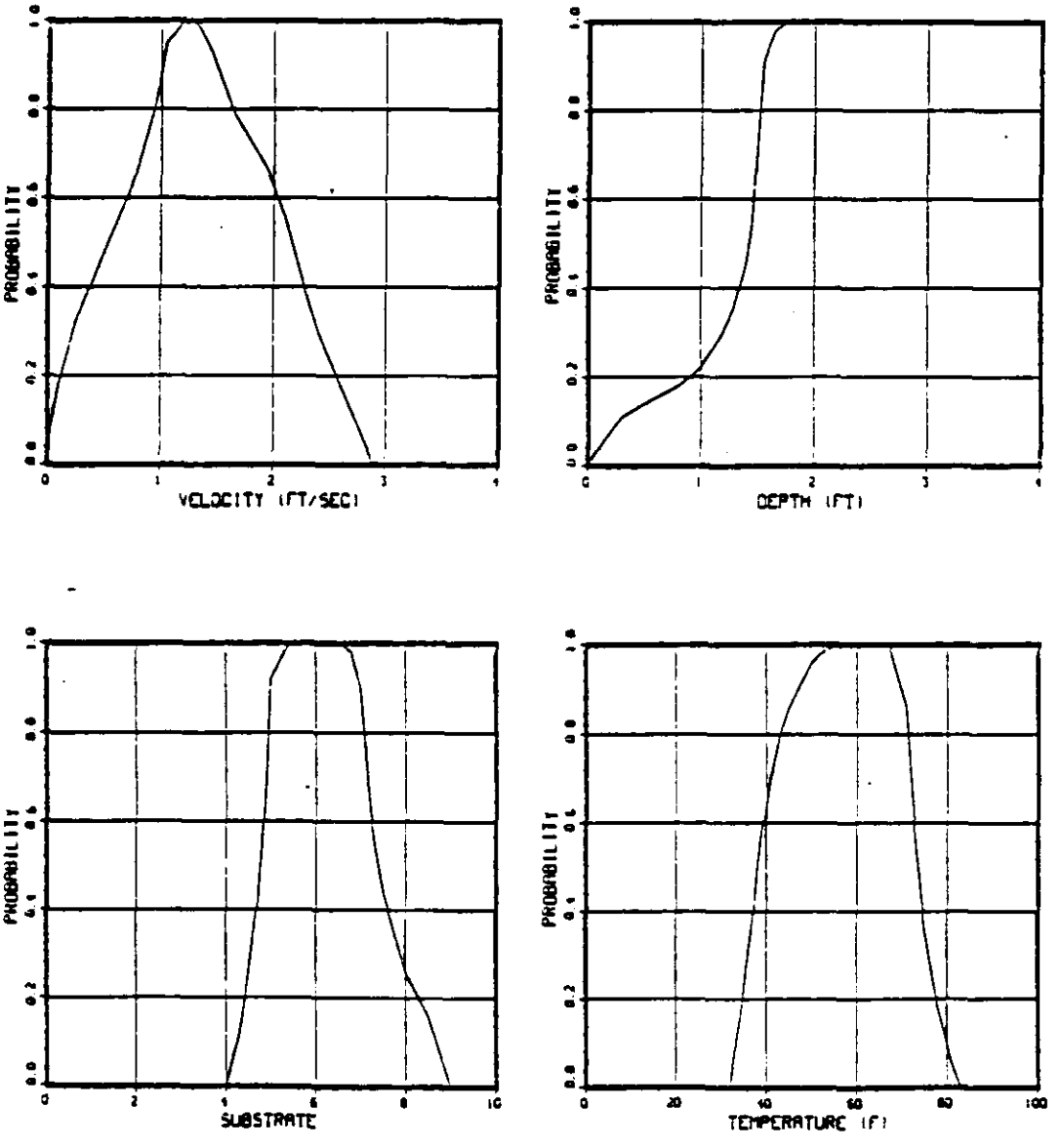


FIGURE 5

RAINBOW TROUT

11101 JUVENILES 78/01/24.

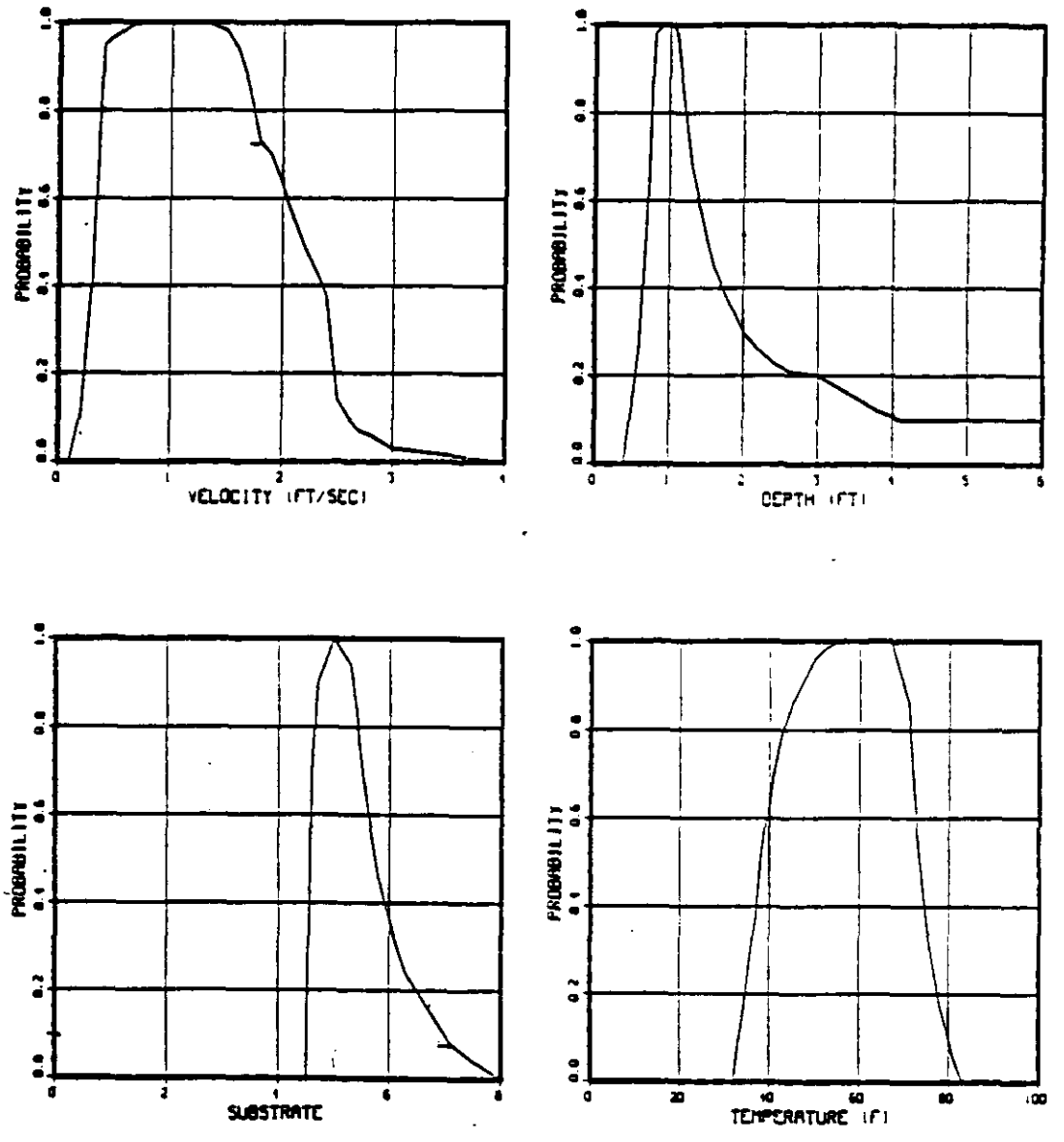


FIGURE 6

RAINBOW TROUT

11100 FRY 78/01/24.

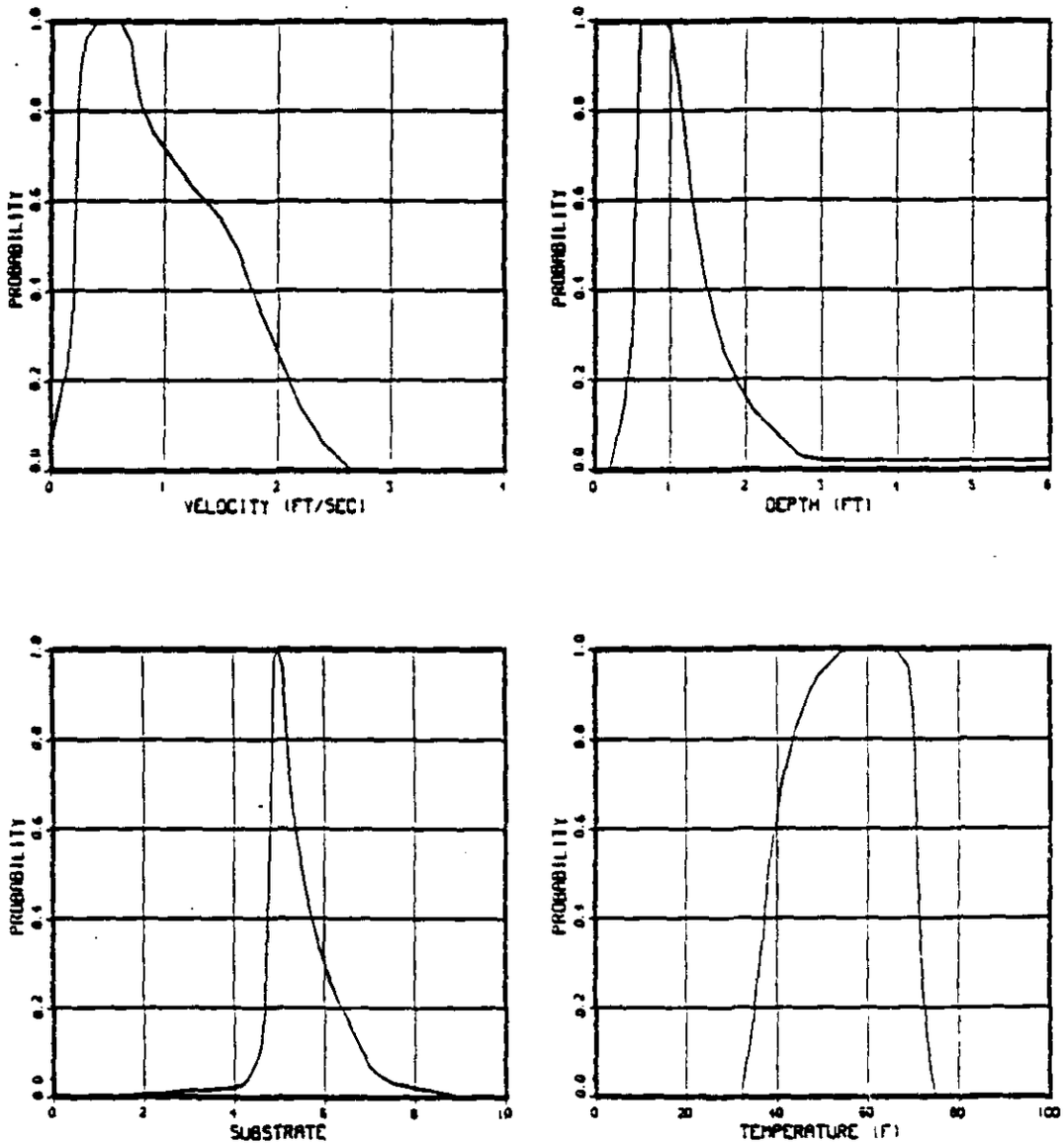


FIGURE 7

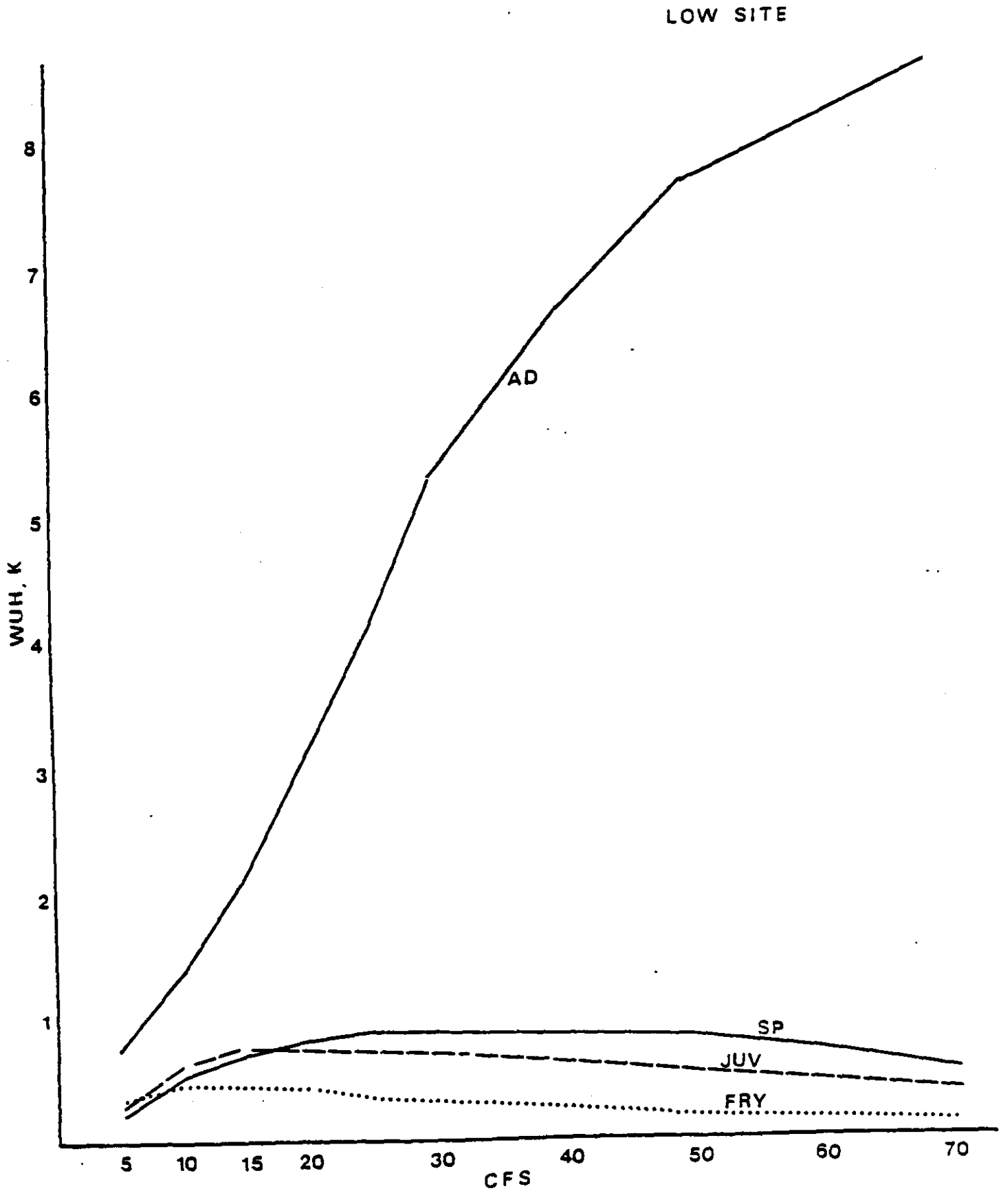
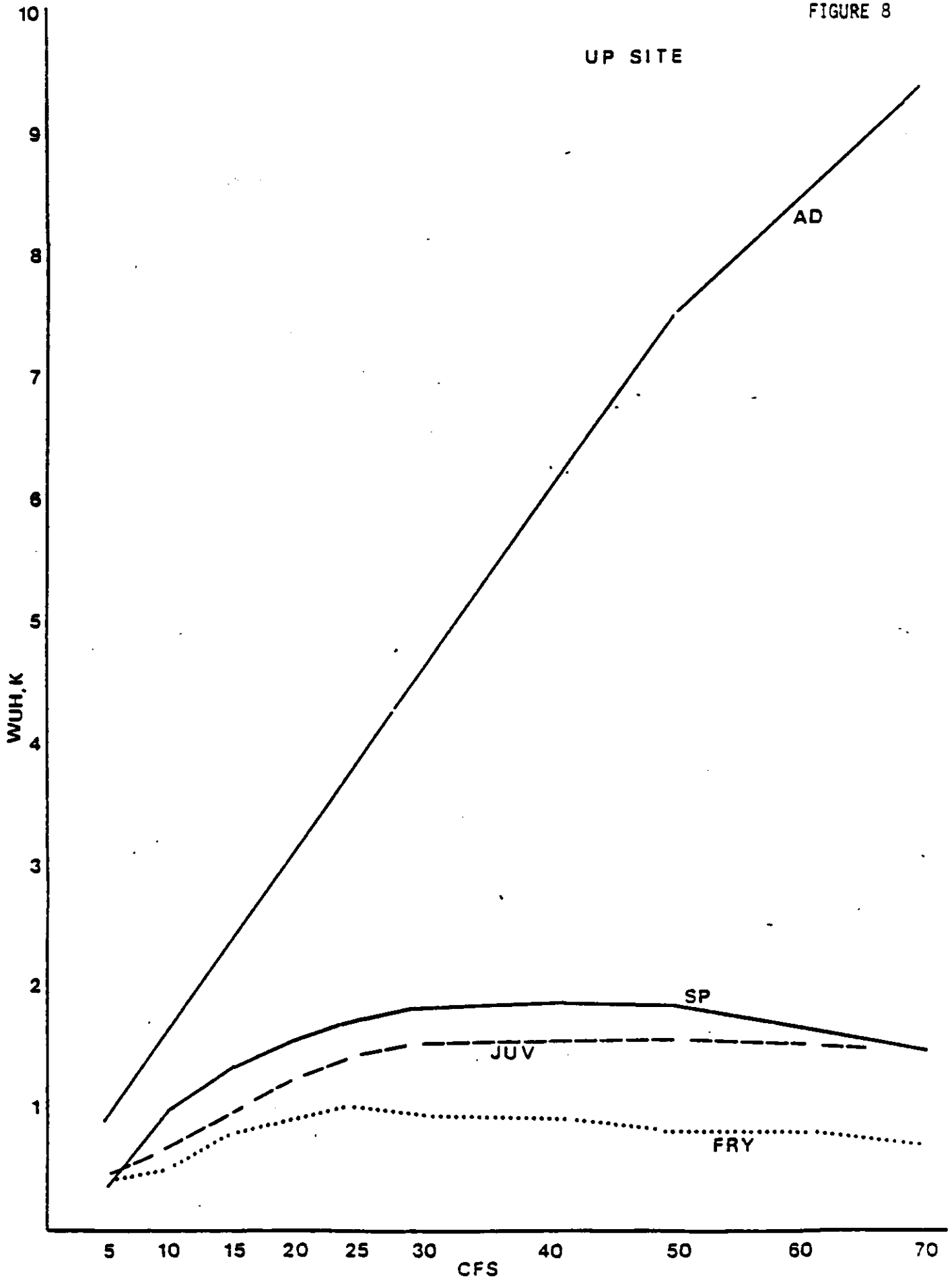


FIGURE 8


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   NOS TEXT EDITOR  -  VERSION 83/03/04.  CEDLH9T
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   1.
   83/03/14.                CEDAR DRAW - LOWER REACH    FIELD DATA BY ANDERSON    DATA ANALYSIS BY CHAPMAN
   14.07.58.                                            ONE FLOW:  3-2-83

   ************************************************
   *     PHYSICAL HABITAT SIMULATION-SYSTEM       *
   *       INSTREAM FLOW GROUP, USFWS             *
   *       VERSION OF AUGUST, 1981                *
   *     RUN DATE -83/03/14.-TIME -14.07.58.      *
   ************************************************


                                  H     H    AAAAA    BBBBBB    TTTTTTT    AAAAA    TTTTTTT
                                  H     H   A     A   B     B      T      A     A      T
                                  H     H   A     A   B     B      T      A     A      T
                                  HHHHHHH   AAAAAAA   BBBBBB       T      AAAAAAA      T
                                  H     H   A     A   B     B      T      A     A      T
                                  H     H   A     A   B     B      T      A     A      T
                                  H     H   A     A   BBBBBB       T      A     A      T


          HABTAT PROGRAM VERSION NUMBER 3-1
          LAST UPDATED ON  9 AUGUST 1981.
   IOC      10000     00101     00000     00000

   HEADER      4.    10.    10.    10.     0.00     0.00     0.00     0.00     0.00     0.00

   VELOCITY BRACKETS      0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00

   DEPTH BRACKETS         0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00

   SUBSTRATE BRACKETS     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00

   CURVE ID NUMBERS   11110   11102   11101   11100

   CURVE SET DEFINITION DATA WAS OBTAINED FROM THE FILE -
            CHAPMAN FILE OF SUITABILITY CURVES
          LAST UPDATED ON  82/10/23.  13.24.58.


          Q VS. AVAILABLE HABITAT AREA PER 1000 FEET OF STREAM FOR RAINBOW

          MONTH       Q      SPAWNING     ADULT      JUVENILE     FRY
            1        5.00     229.17      789.58      275.99      359.58
            2       10.00     531.37     1395.28      634.36      497.60
            3       15.00     721.41     2165.57      782.15      460.21
            4       20.00     845.99     3082.54      781.66      417.58
            5       25.00     985.85     4097.72      754.31      366.89
            6       30.00     988.04     5294.54      707.75      336.26
            7       40.00     862.84     6643.07      646.48      261.17
            8       50.00     837.48     7634.66      569.82      194.12
            9       60.00     716.53     8134.50      476.94      146.58
           10       70.00     533.25     8476.23      413.45      107.70


     Q VS. AVAILABLE HABITAT AREA AS A PERCENTAGE OF THE GROSS AREA FOR RAINBOW

          MONTH       Q       GROSS      SPAWNING    ADULT      JUVENILE     FRY
            1         5.      22471.      1.02        3.51       1.22        1.60
            2        10.      25927.      2.05        5.38       2.45        1.92
            3        15.      28470.      2.53        7.61       2.75        1.62
            4        20.      30643.      2.82       10.26       2.60        1.39
            5        25.      31528.      2.87       13.00       2.39        1.16
            6        30.      33148.      2.72       15.97       2.14        1.01
            7        40.      34449.      2.50       19.28       1.88         .76
            8        50.      34979.      2.39       21.83       1.63         .55
            9        60.      35472.      2.32       22.93       1.34         .41
           10        70.      36828.      1.48       23.53       1.15         .38
1

   SSS NORMAL COMPLETION OF JOB
   -END OF INFORMATION-
I>
```

NOS TEXT EDITOR - VERSION 83/03/04. CEDUR8T

TABLE 2

83/03/17. 09.01.28. CEDAR DRAW - UPPER REACH FIELD DATA BY ANDERSON DATA ANALYSIS BY CHAPMAN ONE FLOW: 3-4-83

```
*****************************************
*      PHYSICAL HABITAT SIMULATION SYSTEM   *
*      INSTREAM FLOW GROUP, USFWS           *
*      VERSION OF AUGUST, 1981              *
*      RUN DATE  83/03/17. TIME  09.01.28.  *
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H    H   AAAAA   BBBBBB   TTTTTTT   AAAAA   TTTTTTT
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H    H  A     A  B     B     T     A     A     T
HHHHHHH  AAAAAAA  BBBBBB      T     AAAAAAA     T
H    H  A     A  B     B     T     A     A     T
H    H  A     A  B     B     T     A     A     T
H    H  A     A  BBBBBB      T     A     A     T
```

HABTAT PROGRAM VERSION NUMBER 3-1
LAST UPDATED ON 9 AUGUST 1981.

LOC	10000	30101	00000	00000						
HEADER	4	10	10	10	0.00	0.00	0.00	0.00	0.00	0.00
VELOCITY BRACKETS				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DEPTH BRACKETS			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBSTRATE BRACKETS			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
CURVE ID NUMBERS			11113	11102	11101	11100						

CURVE SET DEFINITION DATA WAS OBTAINED FROM THE FILE
CHAPMAN FILE OF SUITABILITY CURVES
LAST UPDATED ON 82/10/23. 13.24.58.

Q VS. AVAILABLE HABITAT AREA PER 1000 FEET OF STREAM FOR RAINBOW

MONTH	Q	SPAWNING	ADULT	JUVENILE	FRY
1	5.00	367.72	938.52	431.97	412.24
2	10.00	950.69	1643.98	665.56	525.83
3	15.00	1326.23	2385.85	932.63	819.80
4	20.00	1576.97	2998.11	1240.55	972.75
5	25.00	1721.34	3799.29	1469.19	1013.51
6	30.00	1818.66	4489.83	1545.57	978.85
7	40.00	1873.20	5921.71	1565.88	932.82
8	50.00	1879.96	7427.44	1588.94	818.69
9	60.00	1678.12	8385.53	1528.31	799.67
10	70.00	353.52	9342.16	1474.84	699.54
11	80.00	1216.34	10013.40	1368.17	598.23

83/03/17. 09.01.28. CEDAR DRAW - UPPER REACH FIELD DATA BY ANDERSON DATA ANALYSIS BY CHAPMAN ONE FLOW: 3-4-83

Q VS. AVAILABLE HABITAT AREA AS A PERCENTAGE OF THE GROSS AREA FOR RAINBOW

MONTH	Q	GROSS	SPAWNING	ADULT	JUVENILE	FRY
1	5.	16806.	2.19	5.58	2.57	2.45
2	10.	21530.	4.42	7.64	3.09	2.44
3	15.	25032.	5.30	9.21	3.73	3.27
4	20.	27766.	5.68	10.80	4.47	3.50
5	25.	31548.	5.46	12.05	4.66	3.21
6	30.	34856.	5.22	12.88	4.43	2.81
7	40.	38348.	4.88	15.44	4.08	2.43
8	50.	39891.	4.71	19.30	4.06	2.09
9	60.	39841.	4.21	21.05	3.82	2.01
10	70.	40689.	1.58	23.01	3.63	1.72
11	80.	41693.	2.92	24.07	3.29	1.44

SSS NORMAL COMPLETION OF JOB
-END OF INFORMATION-

TABLE 3

```
* RHABTAT COMPLETE
C>
C>
   CEDAR DRAW - LOWER REACH   FIELD DATA BY ANDERSON   DATA ANALYSIS BY CHAPMAN
ONE FLOW:  3-3-83
RAINBOW
        DISCHARGE  SPAWNING     ADULT       JUVENILE     FRY
* 1         90.00      315.73     8977.08      316.22       62.55
* 2        100.00      243.32     8957.00      286.74       50.18
* 3        125.00      137.98     8765.34      231.50       33.01
* 4        150.00       92.64     8623.23      193.61       30.20
**************
EOI ENCOUNTERED.
C>


   LOCAL FILE NAME(S).

CEDHAB    CEDIOC    CEDLMDF   CEDLOUT   FISHFIL   IFMLIB    INPUT
INPUT*    OUTPUT    PROCFIL   TAPE4     TAPE8     TP3       TP4
IMAP      ZZZZIC1   ZZZZZC2

   TOTAL = 17
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   CATALOG OF YCHAP1          FM/BCS000  83/03/28. 14.41.19.

   FILE NAME(S)

INDIRECT ACCESS FILE(S)

CEDIOC    CEDLMDF   CEDUHBT   CEDUTP3   PAYHBT    PAYIOC    SNOIOC
CEDLHBT   CEDLTP3   CEDUMDF   FISHFIL   PAYHB1    PAYSHOE

        13 INDIRECT ACCESS FILE(S),   TOTAL PRUS =       175.

C>


   * RHABTAT COMPLETE
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C>
   CEDAR DRAW - UPPER REACH   FIELD DATA BY ANDERSON  DATA ANALYSIS BY CHAPMAN
ONE FLOW:  3-4-83
RAINBOW
        DISCHARGE  SPAWNING     ADULT       JUVENILE     FRY
* 1         90.00     1008.20    10412.41     1246.27      508.45
* 2        100.00      846.96    10888.49     1122.35      419.43
* 3        125.00      522.10    11957.74      854.37      275.79
* 4        150.00      332.43    12588.22      661.95      179.82
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EOI ENCOUNTERED.
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CATALOG OF YCHAP1          FM/BCS000  83/03/28. 14.48.44.

FILE NAME(S)

INDIRECT ACCESS FILE(S)

CEDIOC    CEDLMDF   CEDUHBT   CEDUTP3   PAYHBT    PAYIOC    SNOIOC
CEDLHBT   CEDLTP3   CEDUMDF   FISHFIL   PAYHB1    PAYSHOE

        13 INDIRECT ACCESS FILE(S),   TOTAL PRUS =       175.

C>
C>
   JOB PROCESSING CCUS   156.500
BYE  83/03/28. 14.49.46.
?/
```

APPENDIX D

MILO C. BELL STUDY

Registered
Professional
Engineer

MILO C. BELL
Consulting Engineer
BOX 23
MUKILTEO, WASHINGTON 98275

LETTER REPORT ON PHYSICAL CONDITIONS WITHIN CEDAR DRAW CREEK AS PERTAINING TO TROUT PRODUCTION BELOW THE FALLS

The principal source of the flow is from irrigation, either groud water or waste water return.

Waste water may contain contaminents from land use of chemicals. No report has been made on this possible source of pollution, which can be detrimental to fish production.

The recorded temperatures show a spot temperature of 24° C (75.2° F) which is above that considered desirable for good growth. The elevated temperatures are also in the range of disease-inducing conditions.

Spot readings of turbidity give a level of turbidity which, if maintained, would result in lowered production of food organisms and, consequently, of adult trout. Turbidity levels of 25 to 80 parts per million cause food production losses of 25 per cent. The spot turbidity levels given show only that there would be periods of lowered production and lowered fishing use.

With these negative factors it may be assumed that a good natural annual production level will not be maintained.

It appears that the population present may be replenished from recruits from the waste water or from upstream areas above the fork.

Another recruitment source may be the rearing ponds adjacent to the stream. This is also a source of potential disease organisms.

The stream report by Don Chapman Consultants, Inc., gives the physical description of the wetted area under the described flows. This report also describes the velocity/depth factors needed to define production levels. Other factors are stream gradient, temperature, water clarity and size of bed materials.

Assuming that with optimum flow (30 cfs) the reach will support 670 pounds of fish, an estimate can be made for production levels at lower flows. A flow of 7 cfs would allow for the support of 480 pounds of fish. This suggests that perhaps a "put-and-take" fishery exists, the "put" being from recruits exterior from the reach under discussion. Using this assumption, one means of mitigation could be accomplished by the introduction of trout from hatchery sources during the fishing use periods.

References Reviewed

Chapman, D. W. and T. C. Bjornn. Distribution of salmonids in stream with special reference to food and feeding. In Northcote, T. G. (ed.). Symposium on salmon and trout in streams. H. R. MacMillan Lectures in Fisheries, Vancouver, B.C. 1969.

Chapman, D. W., and E. E. Knudsen. Channelization and livestock impacts on salmonid habitat and biomass in small streams of western Washington. Transactions American Fisheries Society. Volume 109, p. 357-363. 1980.

Cordone, A. J., and D. W. Kelly. The influence of inorganic sediment on the aquatic life of streams. California Fish and Game. Volume 47, Number 2. P. 189-228. 1961.

Fuss, H. J. Age, growth and in-stream movement of Olympic Peninsula coastal cutthroat trout (Salmo clarki clarki). University of Washington Press. 121 p. 1982.

Mongillo, Paul, and Lee Faulconer. Yakima fisheries enhancement study. Final Report. Washington Department of Game. 197 p. 1980.

Washington Department of Fisheries

Juvenile coho population estimates determined by electrofishing in 12 Puget Sound streams, August-October 1976. Progress Report No. 32. 18 p. 1977.

Puget Sound salmon spawning ground data report. Water resource inventory areas 1-19 for escapement years 1978 and 1979. Progress Report No. 109. 145 p. 1980.

Washington Department of Game

Chehalis Basin study. Fish and Wildlife appendix. 1973.

Catalog of stream electroshocking data from selected streams in western Washington. Unpublished.

APPENDIX E

AGENCY CONTACTS AND LETTERS

1. *Letters Transmitting Draft Application for Amendment of License to Agencies*
2. *Agency Comments*

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Al Murrey, Chief
Bureau of Water Quality
Idaho Department of Health and Welfare
Division of Environment
Statehouse
Boise, Idaho 83720

Re: Water Quality Certificate for
Cedar Draw Creek Hydroelectric Project (FERC #8278)
Amendment of License

COPY

Dear Mr. Murrey:

The Idaho Department of Health and Welfare issued a water quality certificate pursuant to Section 401 of the Clean Water Act for the Cedar Draw Creek Hydroelectric Project on November 8, 1984. The Federal Energy Regulatory Commission subsequently issued a license for the project on May 24, 1985. The project, as licensed, is currently under construction.

An Amendment of License is being requested to allow installation of one additional generating unit to take advantage of increased return irrigation flows that were not anticipated at the time the original license application was filed. Installation of the additional turbine is not expected to cause any significant additional environmental impacts.

In order for the license amendment to be approved by FERC, we must receive water quality certification for the proposed additional generating unit. This addition to the project is not expected to cause any water quality impacts that have not already been assessed during the original application review.

A copy of the draft Application for Amendment of License is enclosed for your review. Please provide us with your comments on water quality certification within the 30-day review period provided by CFR 18, Subpart D, Section 4.38.

Please give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure
cc: Russ Renk, Environmental Engineer

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Idaho Department of Fish & Game
Region 4
Box 428
Jerome, ID 83338

Gentlemen:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Nick James Cazakos
District Manager
Bureau of Land Management
Route 3 Box 1
Burley, ID 83318

Dear Mr. Cazakos:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

COPY

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Virgil Moore
Hydropower Coordinator
Idaho Department of Fish & Game
600 South Walnut
Boise, ID 83712

Dear Mr. Moore:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Thomas J. Green
State Archaeologist
610 North Julia Davis Drive
Boise, ID 83702

Dear Mr. Green:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Dale R. Christiansen, Director
Idaho Dept. of Parks & Recreation
Statehouse
Boise, ID 83720

Dear Mr. Christiansen:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

COPY

J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Northwest Power Planning Council
850 S.W. Broadway, Suite 1100
Portland, OR 97205

Gentlemen:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

A copy of the Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project is enclosed. Please provide us with your written comments within the 30-day review period provided by 18 CFR, Subpart D, Section 4.38. Give me a call if you have questions or need additional information.

Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

HWG:ss
Enclosure

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J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. John P. Wolflin
U.S. Fish & Wildlife Service
4696 Overland Road, Room 576
Boise, ID 83705

Dear Mr. Wolflin:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

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On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

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H. Wayne Gibbs
Project Coordinator

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J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Robert S. Burd
Director, Water Division
Region X
1200 Sixth Avenue
Seattle, WA 98101

Dear Mr. Burd:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS. INC. 250 South Beechwood Avenue, Suite I -- Boise, Idaho 83709

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J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

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J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Kenneth Dunn, Director
Idaho Dept. of Water Resources
450 West State Street
Boise, ID 83720

Dear Mr. Dunn:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

COPY

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

The additional generating unit and related components will not be installed until an amendment of license is approved by FERC.

J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

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J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

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J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Mr. Richard L. Winters
National Park Service
Westin Building - Room 1920
2001 Sixth Avenue
Seattle, WA 98121

Dear Mr. Winters:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

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On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

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The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

The environmental impacts of the additional generating unit will be limited to incremental effects. Though the incremental impacts are difficult to quantify, they appear to be insignificant. Most of the environmental impacts related to the overall project have already occurred during project construction.

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J-U-B ENGINEERS, INC. 250 South Beechwood Avenue, Suite I — Boise, Idaho 83709

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H. Wayne Gibbs
Project Coordinator

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J-U-B ENGINEERS, INC.

250 South Beechwood Avenue, Suite I • Boise, Idaho 83709 • Telephone (208) 376-7330

August 21, 1985

Charles S. Polityka
Regional Environmental Engineer
U.S. Department of the Interior
500 N.E. Multnomah Street, Suite 1692
Portland, OR 97232

Dear Mr. Polityka:

Re: Cedar Draw Creek Hydroelectric Project (FERC #8278)
Application for Amendment of License

On behalf of Crystal Springs Hydroelectric Company, we have prepared a Draft Application for Amendment of License for the Cedar Draw Creek Hydroelectric Project. In accordance with Federal Regulations, the draft is being submitted for your review and comment prior to submittal to the Federal Energy Regulatory Commission (FERC).

The FERC issued a license for the Cedar Draw Creek Project (#8278) on May 24, 1985. The licensed project consists of a diversion dam, a steel surge standpipe, a steel penstock, a powerhouse containing three generating units with a combined capacity of 2,146 kW, a tailrace, a transmission line, and an access road. These licensed project facilities are currently under construction.

The Amendment of License is being requested to allow installation of one additional generating unit which would increase the total project capacity to approximately 2,924 kW. This unit is being requested to take advantage of additional return irrigation flows that were not anticipated at the time the original license application was filed. New management practices of the Twin Falls Canal Company have increased flows in Cedar Draw Creek above the historical flows upon which the licensed project was based.

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Sincerely,

J-U-B ENGINEERS, Inc.

H. Wayne Gibbs
Project Coordinator

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APPENDIX F

COPIES OF LETTERS TRANSMITTING THE APPLICATION FOR AMENDMENT OF LICENSE (AS SUBMITTED TO FERC) TO THE AGENCIES