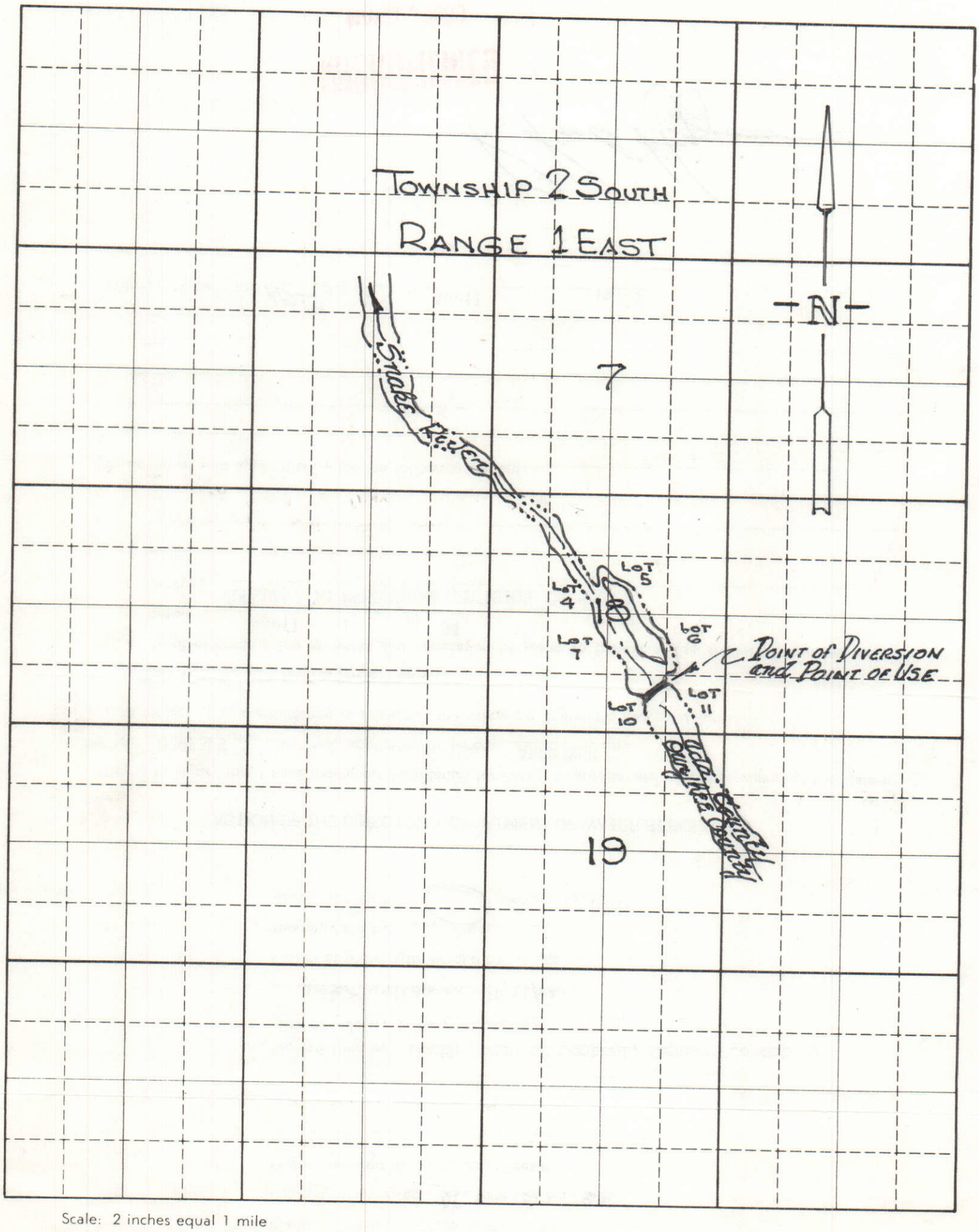
11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile

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

MICROFILMED
MAY 15 1989

C. E. Bissell

(Applicant) C E Bissell
Vice President - Power Plant
Construction and Operations

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:

02-7379
IDAHO POWER CO.
P.O. BOX 70, BOISE, ID 83707
Source: SNAKE RIVER tributary to COLUMBIA RIVER
Date Filed: 03/31/1982
Amount: 6550.00 CFS
Diversion Point: LOT 10 LOT 11 Sec 18 T 02S R 01E, ADA Co.
Use: POWER (6550.00 CFS) from 01/01 to 12/31
Place of Use: LOT 11 Sec 18 T 02S R 01E
Diversion Means: POWER PLANT & POWER HOUSE

63-9895
REALTY INVESTMENT CO.
P.O. BOX 8042, BOISE, ID 83707
Source: GROUNDWATER
Date Filed: 04/23/1982
Amount: 0.12 CFS
Diversion Point: NESE Sec 30 T 04N R 02E, ADA Co.
Use: IRRIGATION (0.06 CFS) from 03/15 to 11/15
DOMESTIC (0.12 CFS) from 01/01 to 12/31
Place of Use: SENE NESE Sec 30 T 04N R 02E FOR 2 ACRES
Diversion Means: PUMP, PIPELINE & SPRINKLER IRR.

63-9894
BRADLEY, BERT &/or EVELYN
274 HARVEY ST., EAGLE, ID 83616
Source: GROUNDWATER
Date Filed: 04/23/1982
Amount: 0.07 CFS
Diversion Point: NWSW Sec 10 T 04N R 01E, ADA Co.
Use: IRRIGATION (0.03 CFS) from 03/15 to 11/15
DOMESTIC (0.04 CFS) from 01/01 to 12/31
Place of Use: NWSW Sec 10 T 04N R 01E FOR 1 ACRES
Diversion Means: PUMP, PIPELINE & SPRINKLER IRR.

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, 92 S. Cole Road, Boise, Idaho 83709 on or before MAY 24, 1982.

A. KENNETH DUNN
Director

Pub. May 6, 13, 1982 3121

RECEIVED
MAY 14 1982

Department of Water Resources
Western Regional Office

STATE OF IDAHO)
)ss.
COUNTY OF ADA)

Margaret Rose Storrs, 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 regular edition of The Idaho Statesman for

two insertions, beginning with the issue of May 6, 1982, and ending with the issue of May 13, 1982.

Margaret Rose Storrs

Subscribed and sworn to before me this 13th day of May, 1982.

Dorothy Figures

Notary Public for Idaho, Residing at Boise, Idaho

MICROFILMED
MAY 15 1989

PROOF OF PUBLICATION

RECEIVED
MAY 17 1982
Department of Water Resources
Western Regional Office

STATE OF IDAHO, County of Owyhee, s.s.

I, MICK HODGES, being first duly sworn, on oath says that he is the Publisher of the OWYHEE NUGGET, a newspaper of general circulation, published weekly by MICK HODGES, publisher and printer thereof, at Marsing, County of Owyhee, State of Idaho;

That the annexed notice was published in said newspaper once a week and every week for 2 consecutive weeks, the first publication being on the 5 day of May, 1982, and the last publication being on the 12 day of May, 1982;

That the said newspaper has been published continuously and uninterruptedly in said county during a period of more than seventy - eight consecutive weeks prior to the first publication of the attached notice.

Mick Hodges
PUBLISHER

Subscribed and sworn to before me this 12 day of May, 1982.

Kyle Hodges
NOTARY PUBLIC

My commission expires 3-86

(SEAL)

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:

02-7379 ✓ JP

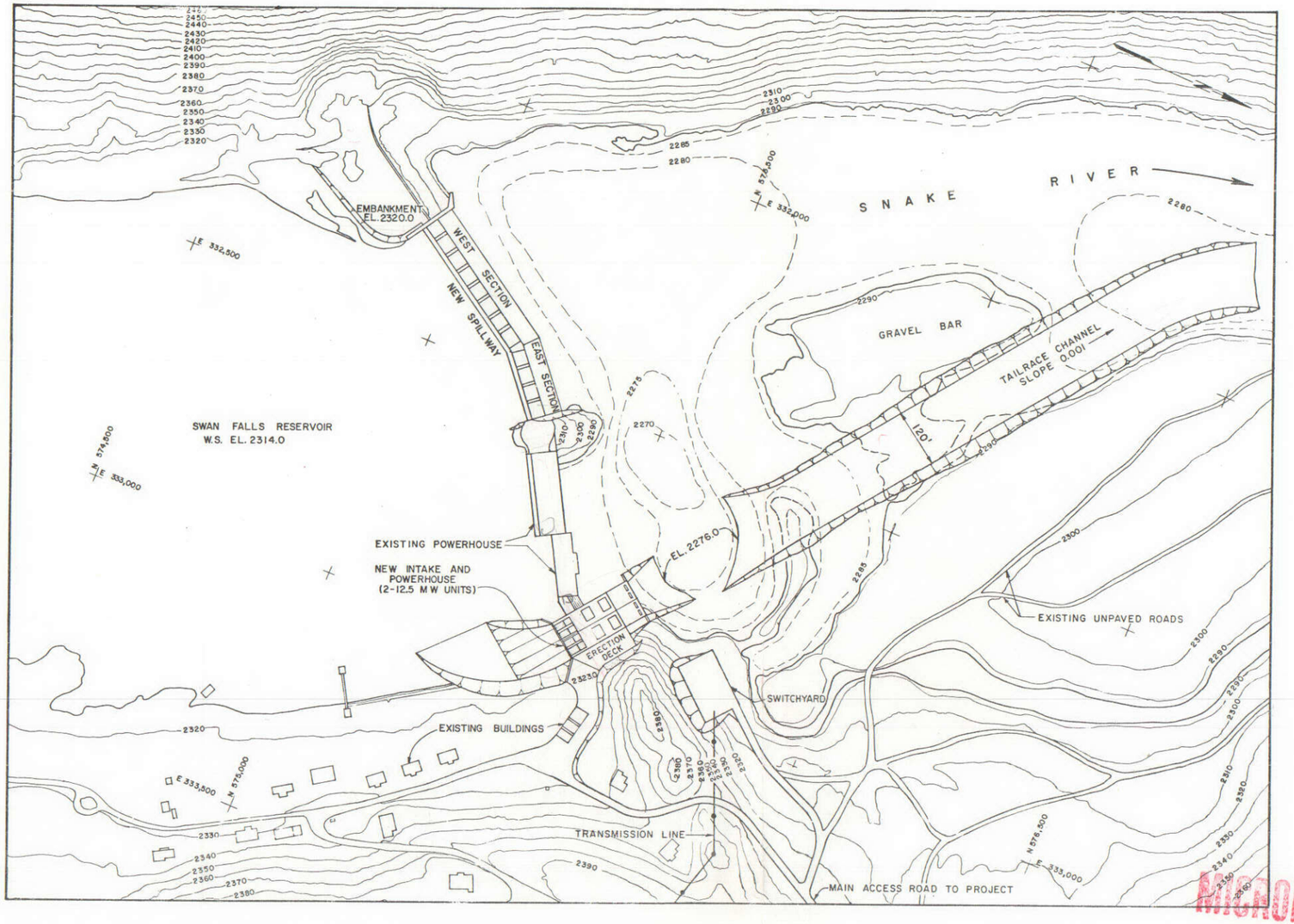
IDAHO POWER CO.
P.O. BOX 70, BOISE, ID 83707
Source: SNAKE RIVER tributary to COLUMBIA RIVER
Date Filed: 03/31/1982
Amount: 6550.00 CFS
Diversion Point: LOT 10 LOT 11 Sec 18 T 02S R 01E, ADA Co. POINT OF DIVERSION ALSO IN OWYHEE COUNTY.
Use: POWER (6550.00 CFS) from 01/01 to 12/31
Place of Use: LOT 11 Sec 18 T 02S R 01E
Diversion Means: POWER PLANT & POWER HOUSE

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, 92 S. Cole Road, Boise, Idaho 83709 on or before May 24, 1982.

A. Kenneth Dunn
Director

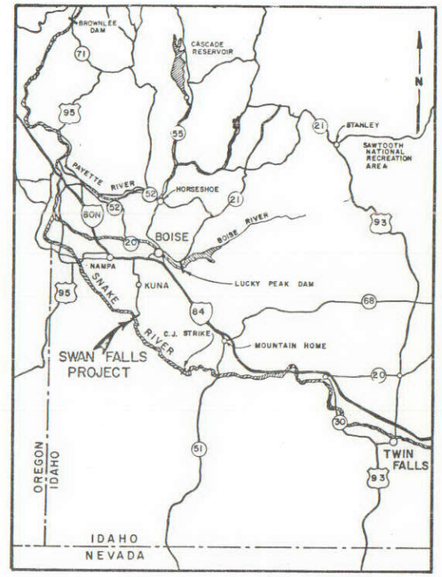
Published in the Owyhee Nugget, Marsing, Owyhee County, Id., 5/5 & 5/12/82.

MICROFILMED
MAY 15 1989



PROJECT PLAN

SCALE 0 100 200 300 400 500 FEET
(1" = 100')



LOCATION MAP

SCALE 0 10 20 30 40 50 MILES

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

MICROFILMED
MAY 15 1989

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U. S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

PROJECT 503 – IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

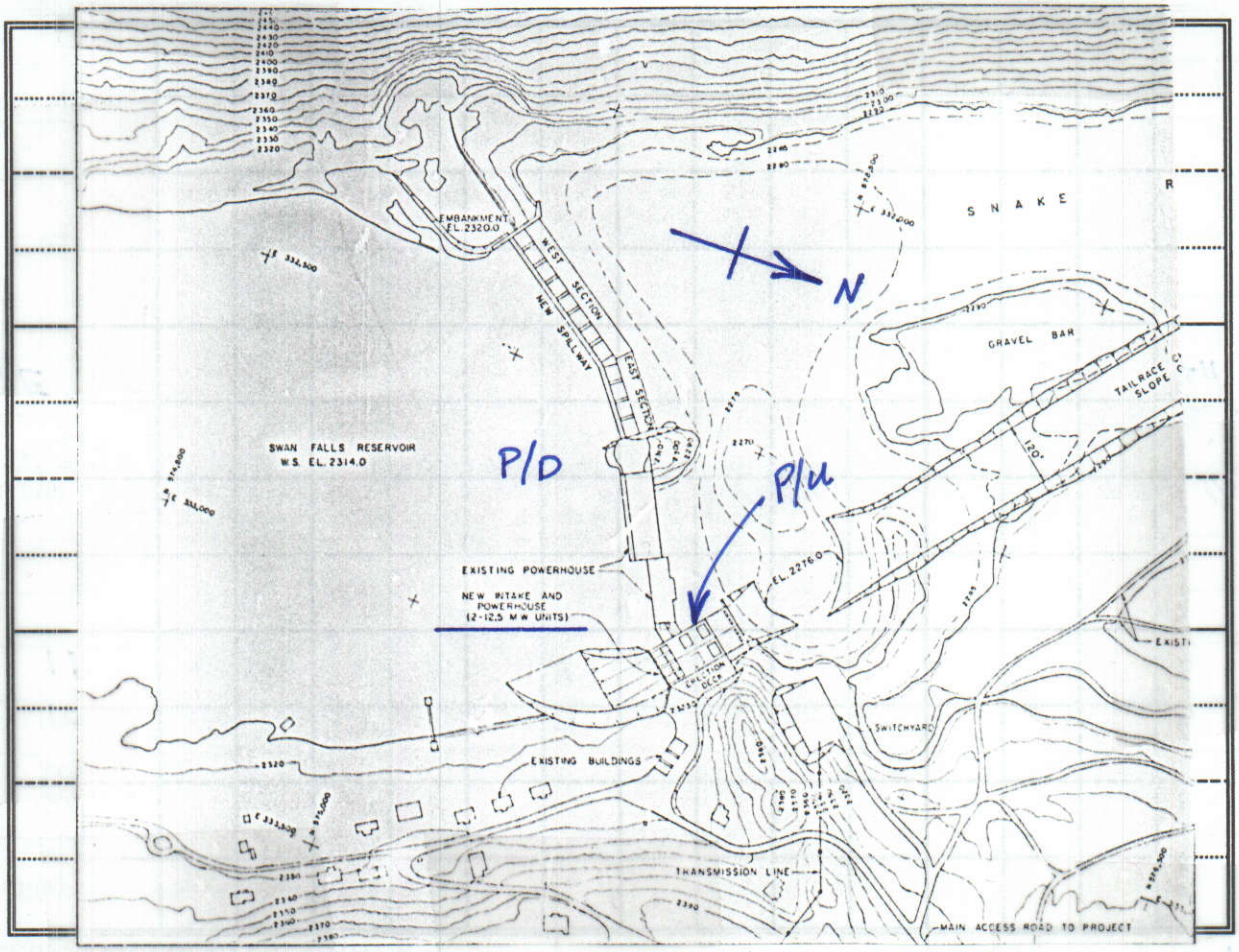
GENERAL PLAN

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 1 OF 6 06E-44791

RECEIVED
APR 28 1982
Department of Water Resources
Western Regional Office

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



Scale: 1" = None.

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

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

✓ Photo of Diversion and System Attached

4. Swan Falls Dam and Power Plant: Turbines

Well or Diversion Identification No.*	Generators ~~Motor~~ Make	~~Hp~~	Generators ~~Motor~~ Serial No.	Turbines ~~Pump~~ Make	~~Pump~~ Serial No. or Discharge Size
Unit No. 1	CEGELEC		913-902-922	Voest-	MB9-096/1
Unit No. 2	MOTEURS		913-902-921	Alpine,	MB9-096/2
	1992			M.C.E.	

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

Each Power Unit is rated at 12.5 MW, 22.5' Head, and 7350 cfs flow.

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
1) Hill Diagrams,	Computer	Program,	Print out,	Control Room Display.		
2) USGS Stream	Gage	near Murphy,	ID,	Station No. 13172500.		

2. **Measurements:** None taken - 1) Control room display had 5200 cfs for each unit. 10,400 cfs total. 2) USGS Murphy Gage had 11,200 cfs.

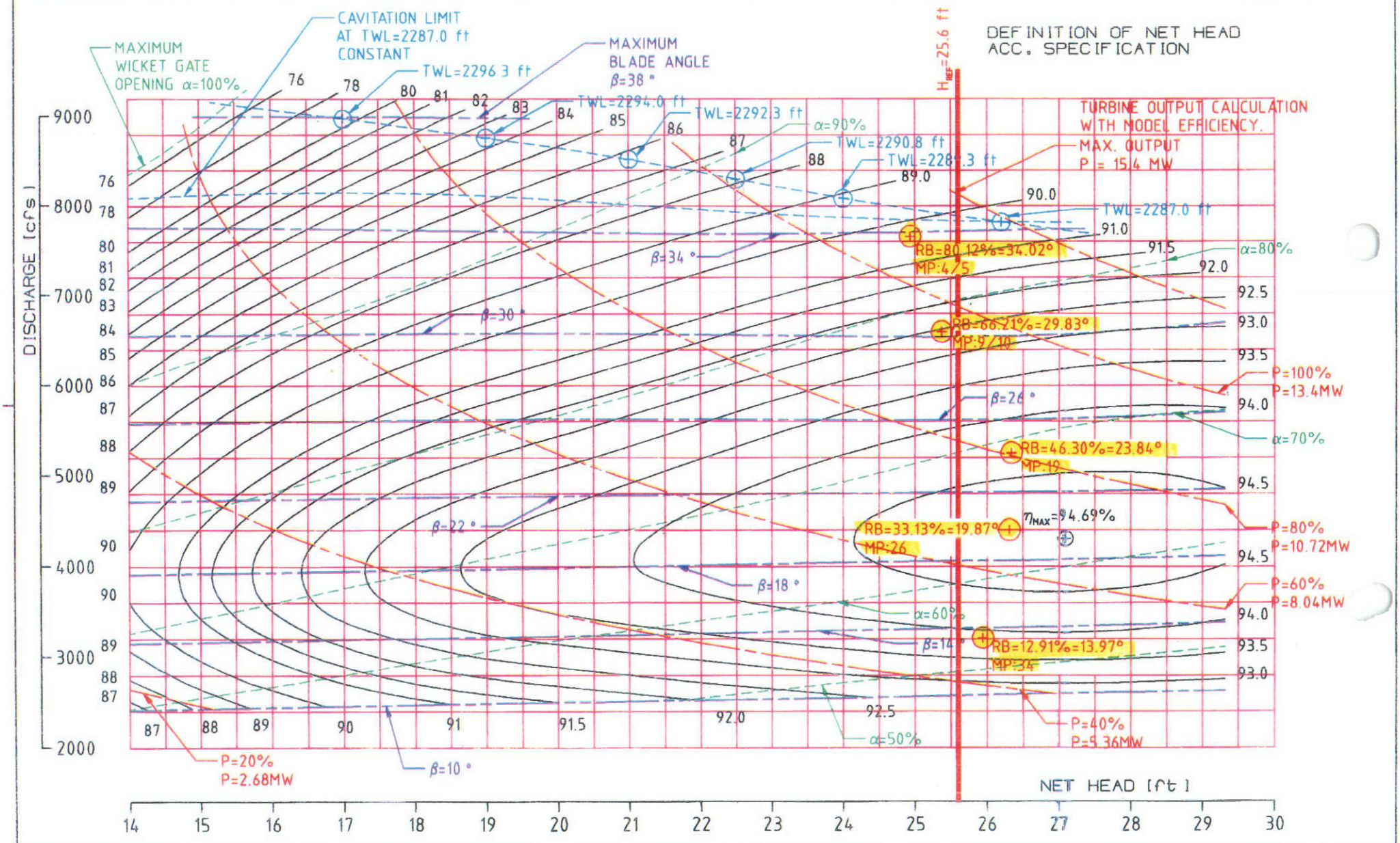
VOEST-ALPINE M.C.E.

SWAN FALLS
HILL DIAGRAM

RUNNER DIAMETER = 5.334 m
CENTERLINE RUNNER = 2267.000 ft

INDEX TEST UNIT # 1

MB8-158.0464/1



VOEST-ALPINE Machinery, Construction & Engineering
Gesellschaft m.b.H. Lunzerstr. 78 A-4031 Linz Austria

DH 2
1994-MAY-31

02-07379

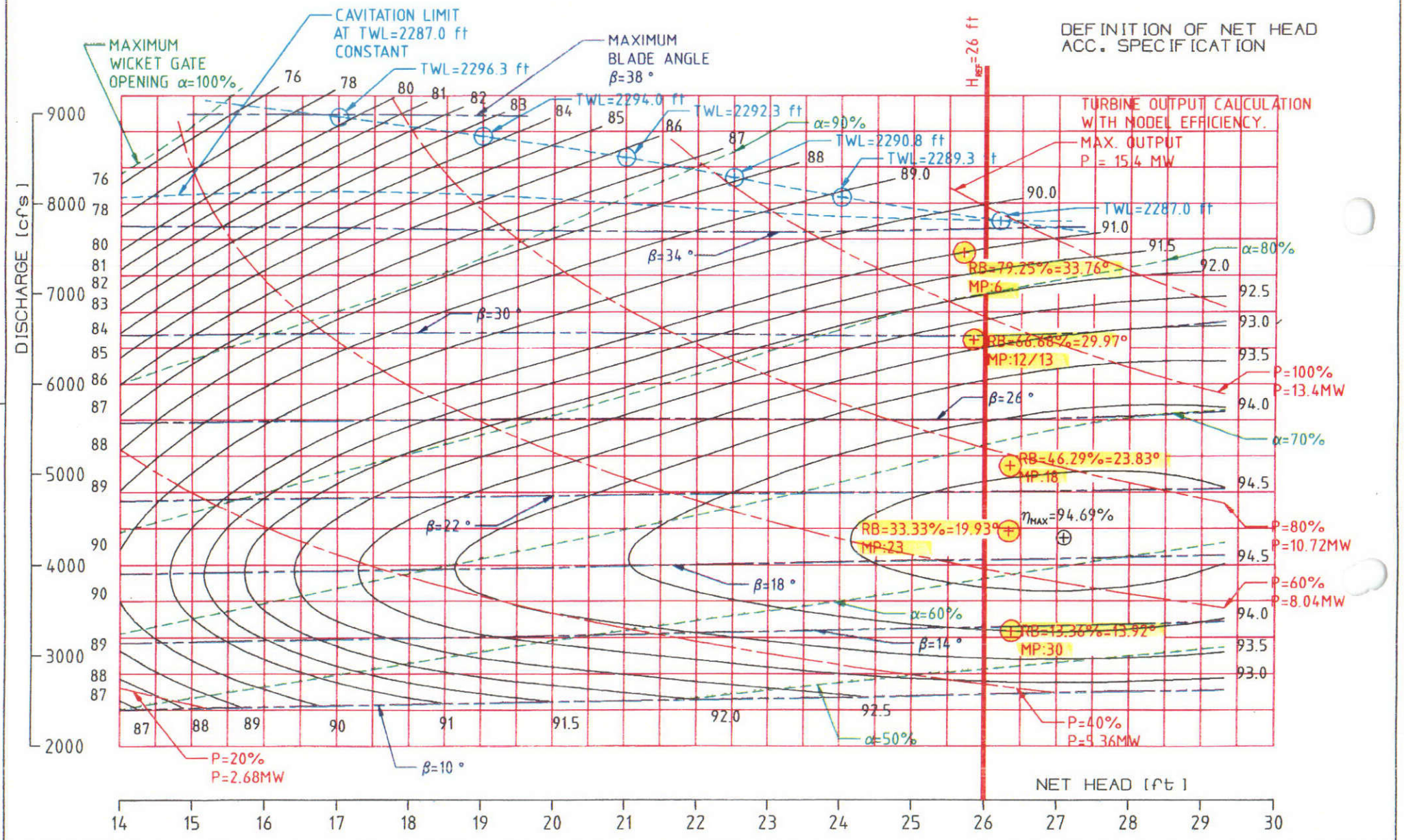
VOEST-ALPINE M.C.E.

SWAN FALLS
HILL DIAGRAM

RUNNER DIAMETER = 5.334 m
CENTERLINE RUNNER = 2267.000 ft

INDEX TEST UNIT # 2

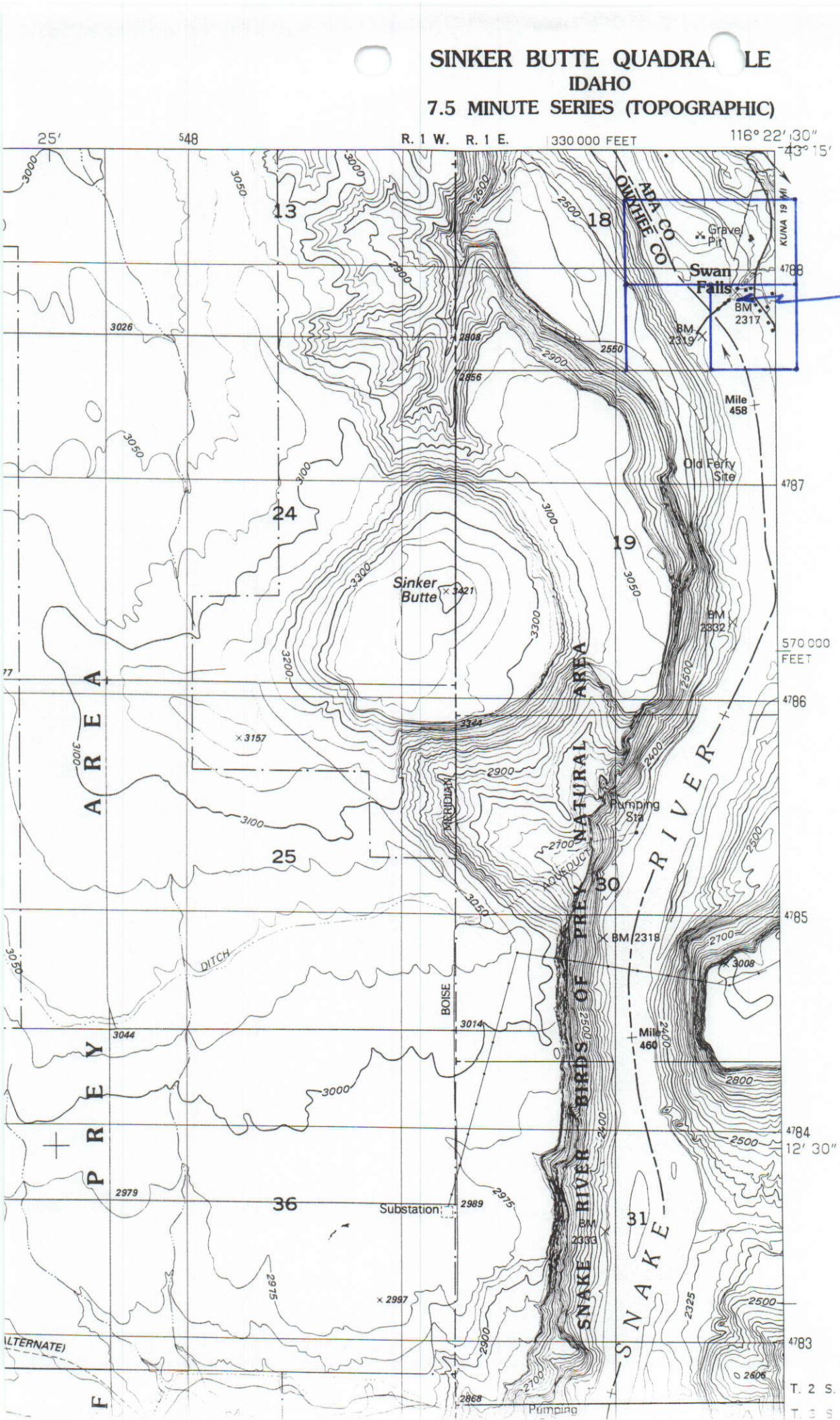
MB8-158.0464/3



VOEST-ALPINE Machinery, Construction & Engineering
Gesellschaft m.b.H. Lunzerstr. 78 A-4031 Linz Austria

DH 2
1994-MAY-31

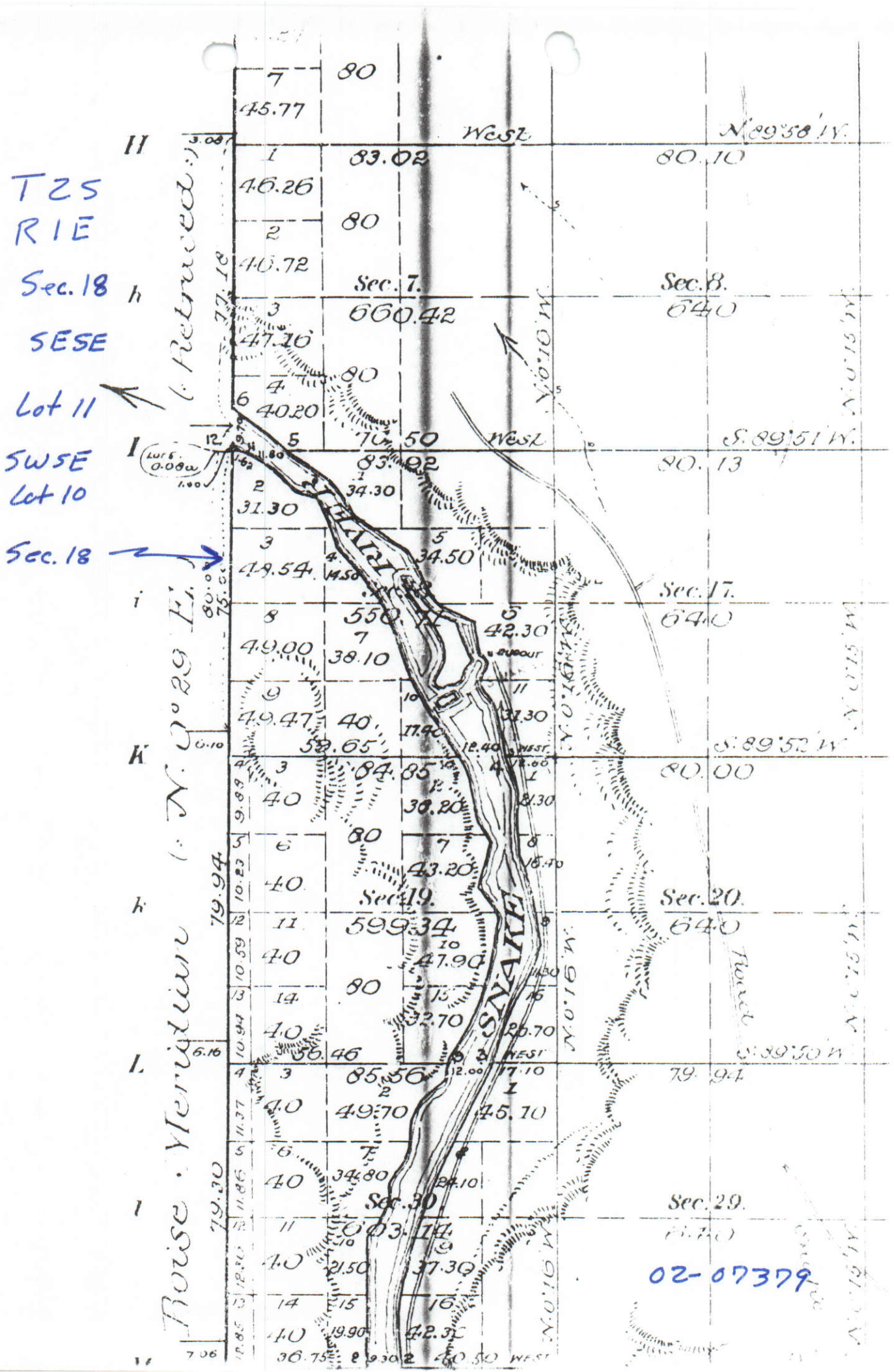
02-07379



P/D
P/u

T2S
R1E
Sec. 18
SESE
Lot 11
SWSE
Lot 10

02-07379


T25
R1E
Sec. 18
SESE
Lot 11
SWSE
Lot 10
Sec. 18
Boise Meridian (N. 0° 29 E.)
SNAKE
Sec. 7.
Sec. 8.
Sec. 17.
Sec. 19.
Sec. 20.
Sec. 30.
Sec. 29.
West
N. 89° 38' W.
S. 89° 51' W.
S. 89° 52' W.
S. 89° 50' W.
02-07379

1 of 4

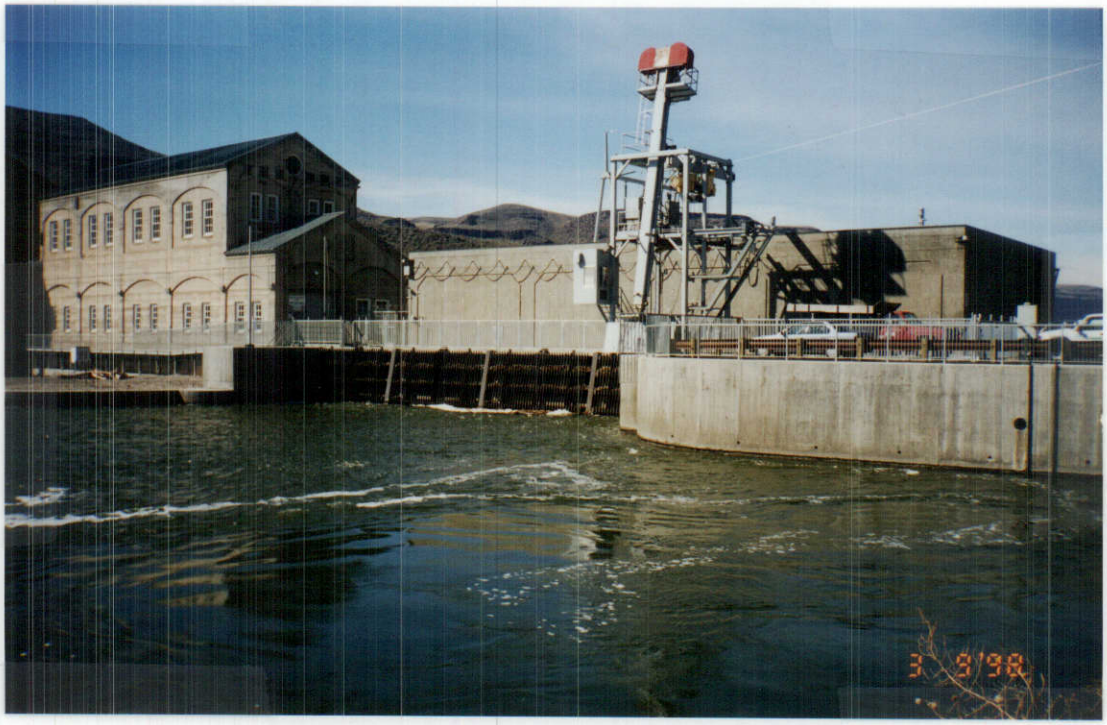


View Looking North-West

P/D, P/U

Swen Falls Dam and Power Plant.

New Power Plant is on right side, old plants adjacent on left, and spillway on left side.



View looking Northwest.

P/U

Reservoir intake to new Power-plant.

Two Power units housed in Concrete Powerhouse.

old power houses on left.

02-07379

2 of 4



View looking Southeast

P/u Tailrace of new Power Plant, on left. Old Powerhouses on right.



P/u Control Room — background, inside new Powerhouse. Control room is place of flow measurement.

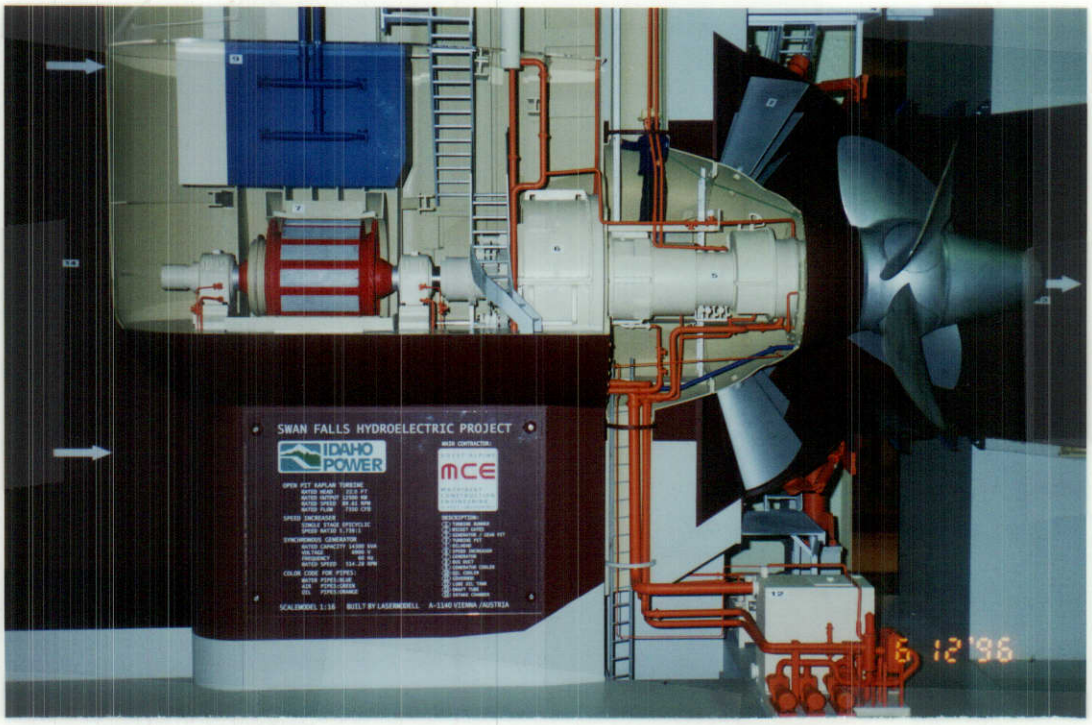
02-09379



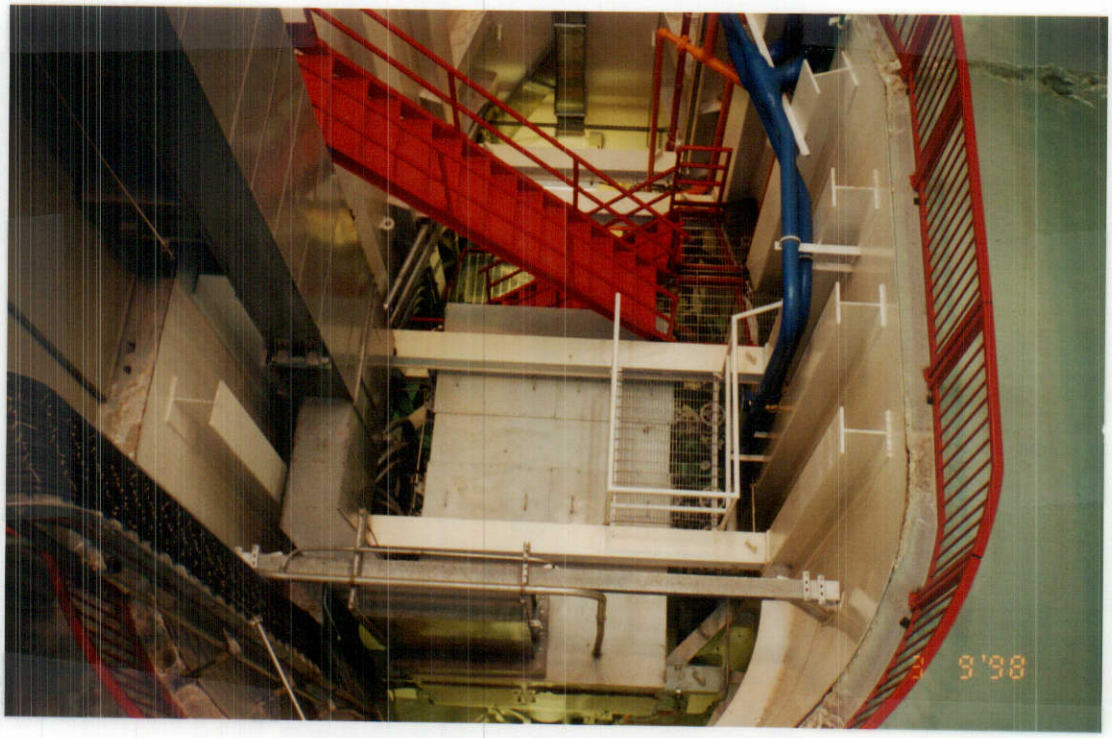
Control Room instrumentation Panel.

First two red displays above white paper recorders show flow through units.

Computer for flow Calculation and printer are located in this room.



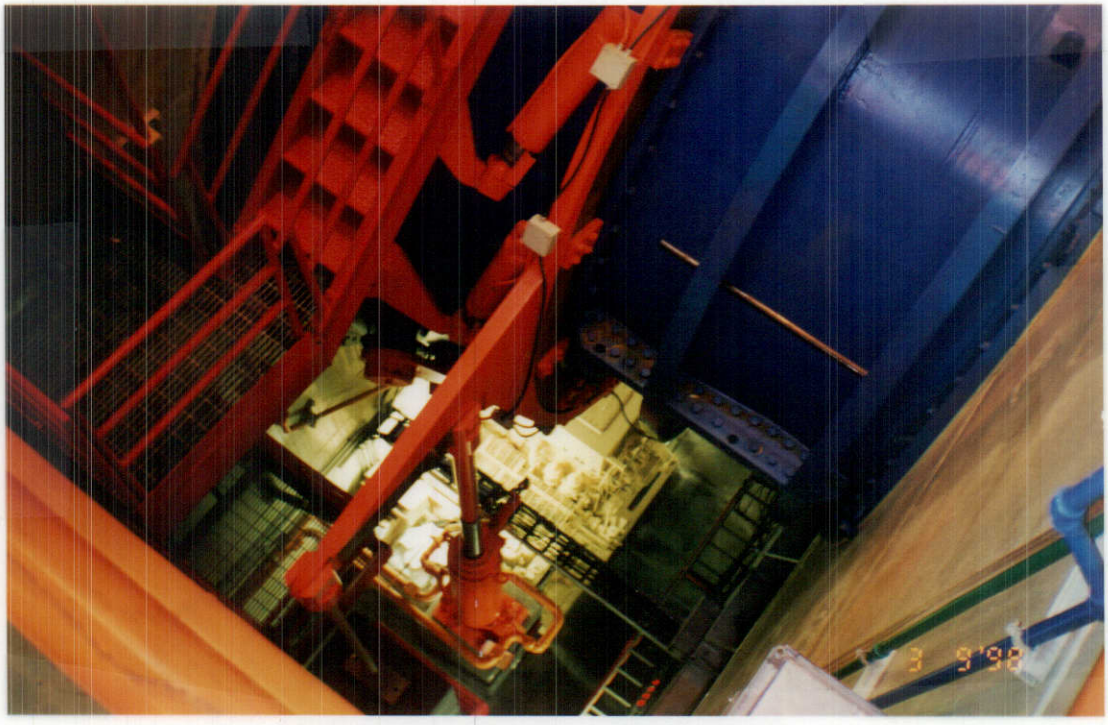
Power Unit Model display in Powerhouse.



Looking down on Power Unit No. 2.

White Rect. Structure houses the generator.

[Unit No. 1 is the same]

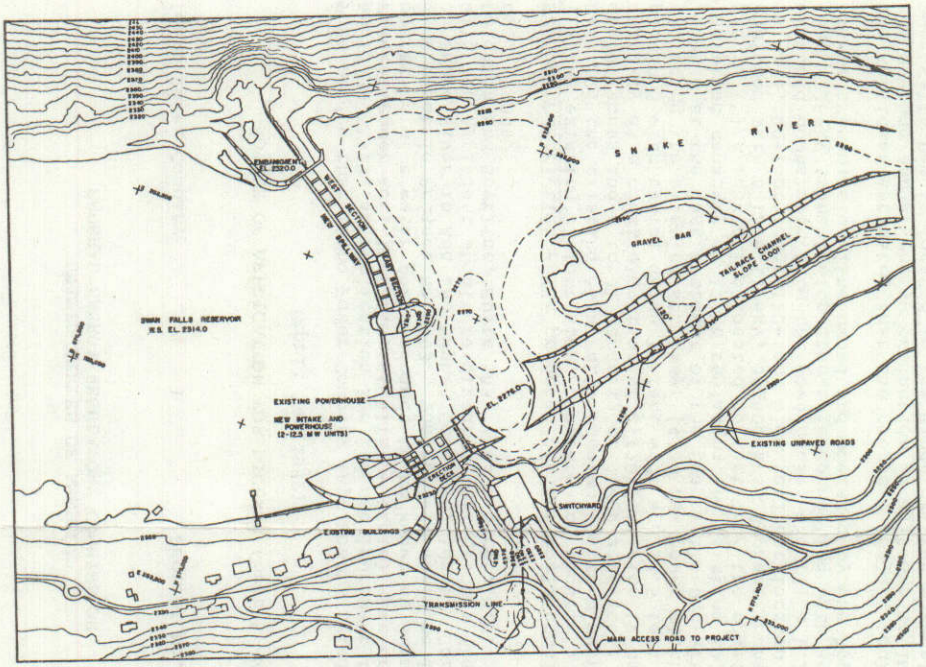


Wicket Gate Hydraulic Ram and Control Arms.

Kaplan Turbine is inside blue conduit.

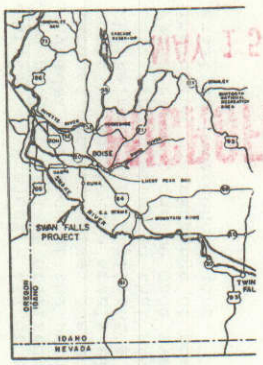
Unit 2.

02-07379



PROJECT PLAN

SCALE 0 100 200 300 400 500 FEET
11" x 100'



LOCATION MAP

SCALE 0 10 20 30 40 50 MILES

CERTIFICATE

This drawing is part of the application f
made by the undersigned on this 26th
October 1981.

IDAHO POWER COMP
By
CHAIRMAN OF THE BOA
CHIEF EXECUTIVE O

PROJECT 503 - IDAHO
SWAN FALLS HYDROELECT
GENERAL PLA
IDAHO POWER COMPAN
BOISE, IDAH
OCTOBER 1981 SHEET 1 OF 8

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.0004929.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

MICROFILMED
MAY 15 1989

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D. C. 20426
EQUAL OPPORTUNITY EMPLOYER

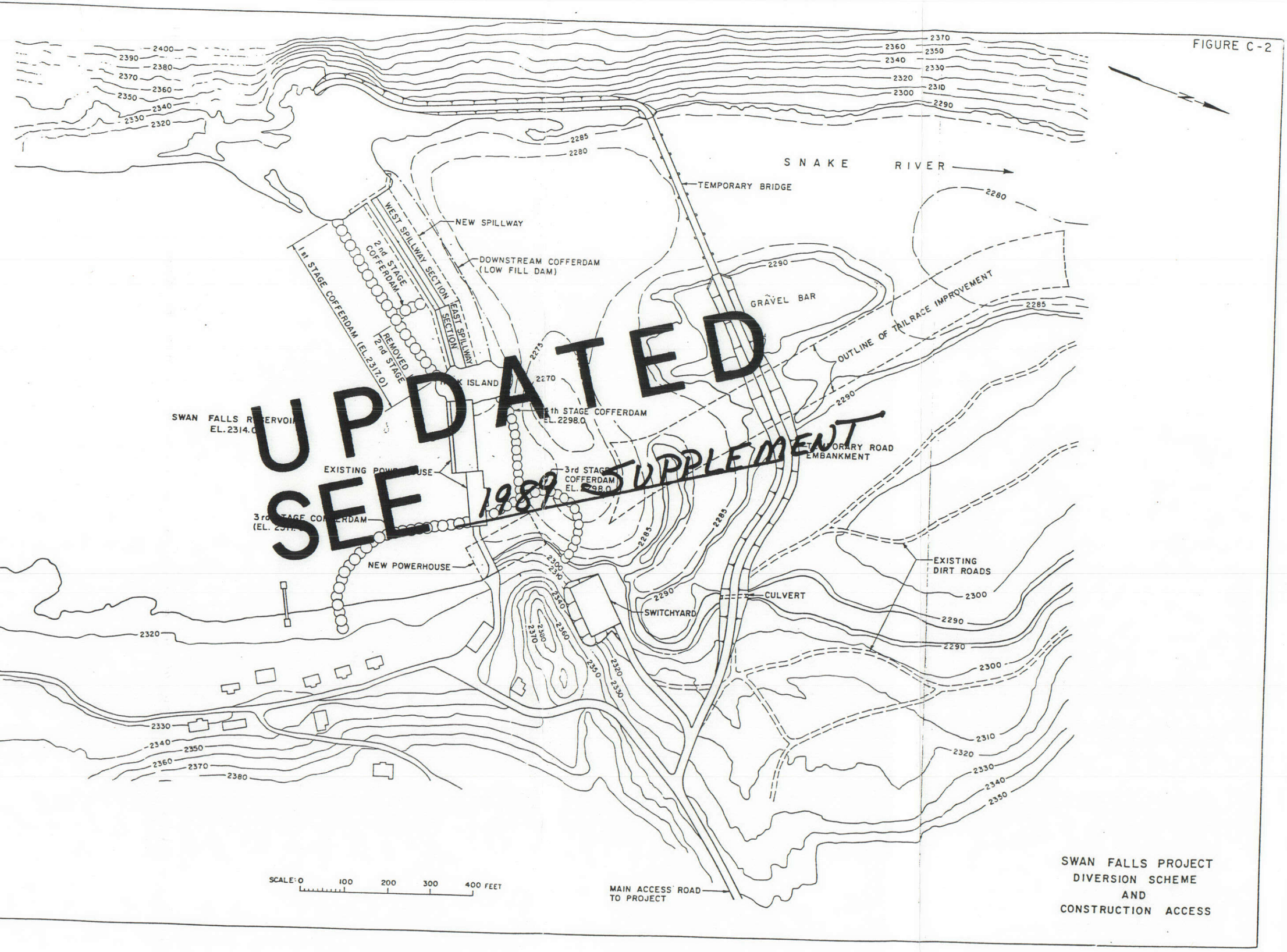
POSTAGE AND FEES PAID
FEDERAL ENERGY REGULATORY COMMISSION
FERC-361
FIRST CLASS MAIL

RECEIVED
APR 23 1982
Department of Water Resources

State of Idaho P-503
Department of Water Resources
State House
Boise, ID 83720

MICROFILMED
MAY 15 1989

FIGURE C-2

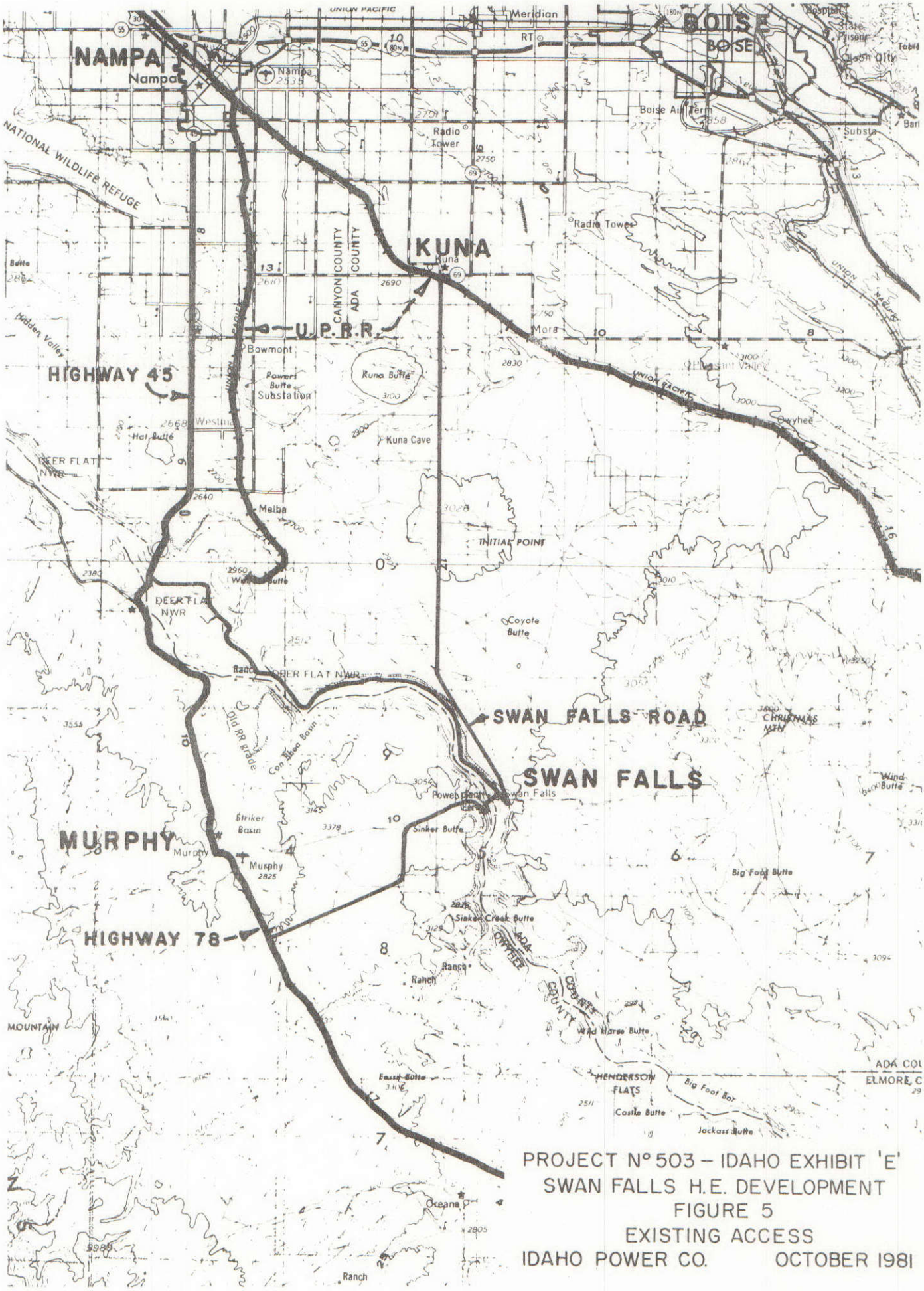


UPDATED

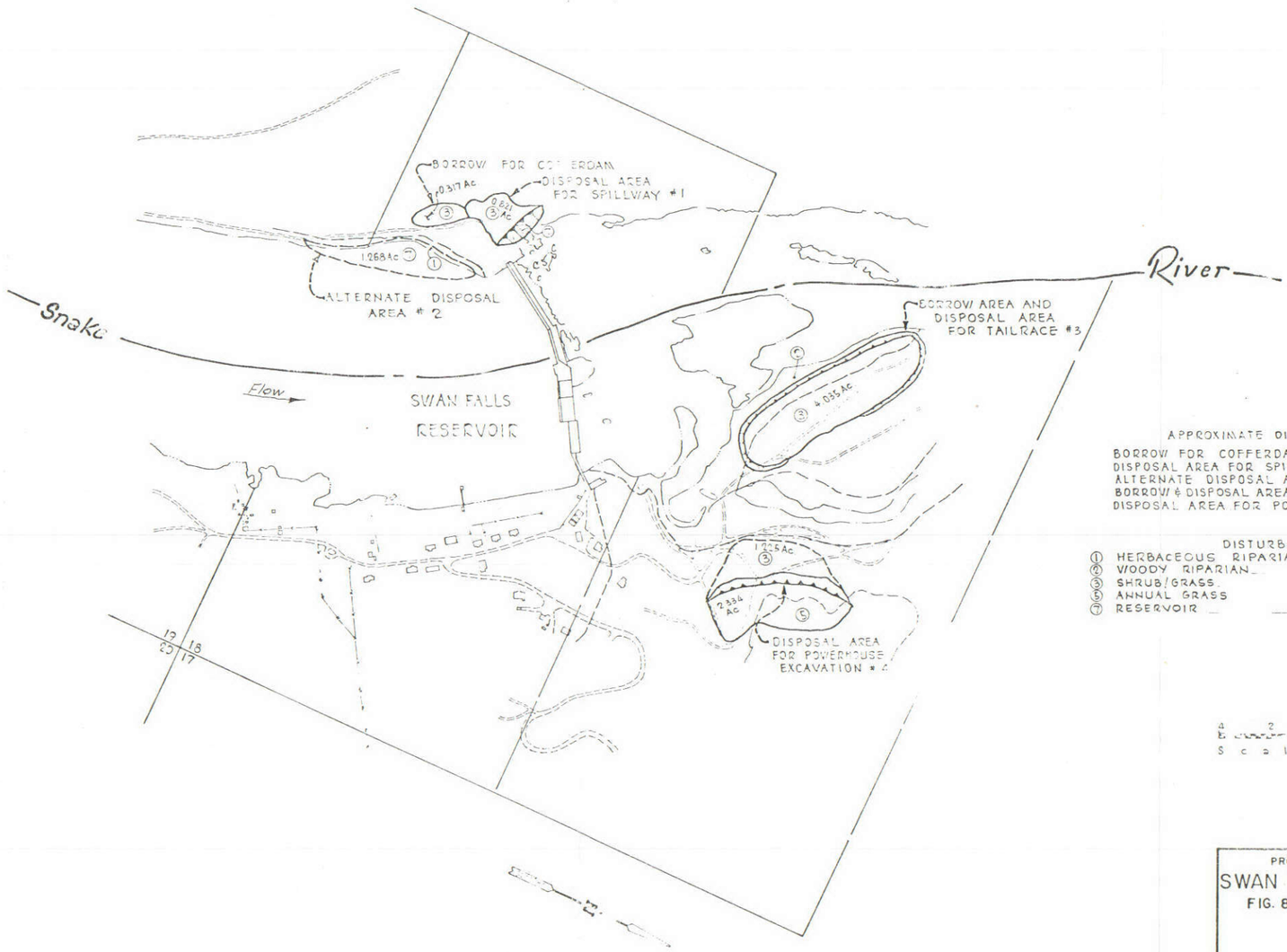
SEE 1989 SUPPLEMENT

SWAN FALLS PROJECT
DIVERSION SCHEME
AND
CONSTRUCTION ACCESS

PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 4
EXISTING PROJECT
IDAHO POWER CO. OCTOBER 1981



PROJECT N° 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 5
EXISTING ACCESS
IDAHO POWER CO. OCTOBER 1981



APPROXIMATE DISPOSAL and BORROW AREAS

BORROW FOR COFFERDAM	0.317 Ac
DISPOSAL AREA FOR SPILLWAY #1	0.821 Ac
ALTERNATE DISPOSAL AREA #2	1.268 Ac
BORROW & DISPOSAL AREA FOR TAILRACE EXCAVATION #3	4.035 Ac
DISPOSAL AREA FOR POWER HOUSE EXCAVATION #4	3.559 Ac
TOTAL	10.000 Ac

DISTURBED THRU CONSTRUCTION

①	HERBACEOUS RIPARIAN	0.202 Ac
②	WOODY RIPARIAN	1.225 Ac
③	SHRUB/GRASS	6.657 Ac
④	ANNUAL GRASS	0.778 Ac
⑤	RESERVOIR	1.138 Ac
	TOTAL	10.000 Ac

4 2 0 2 4 6 8

Scale in hundreds of Feet

A PORTION OF SEC. 18,
T. 2 S., R. 1 E., B.M.,
ADA COUNTY, IDAHO

PROJECT NO. 503 - IDAHO EXHIBIT E

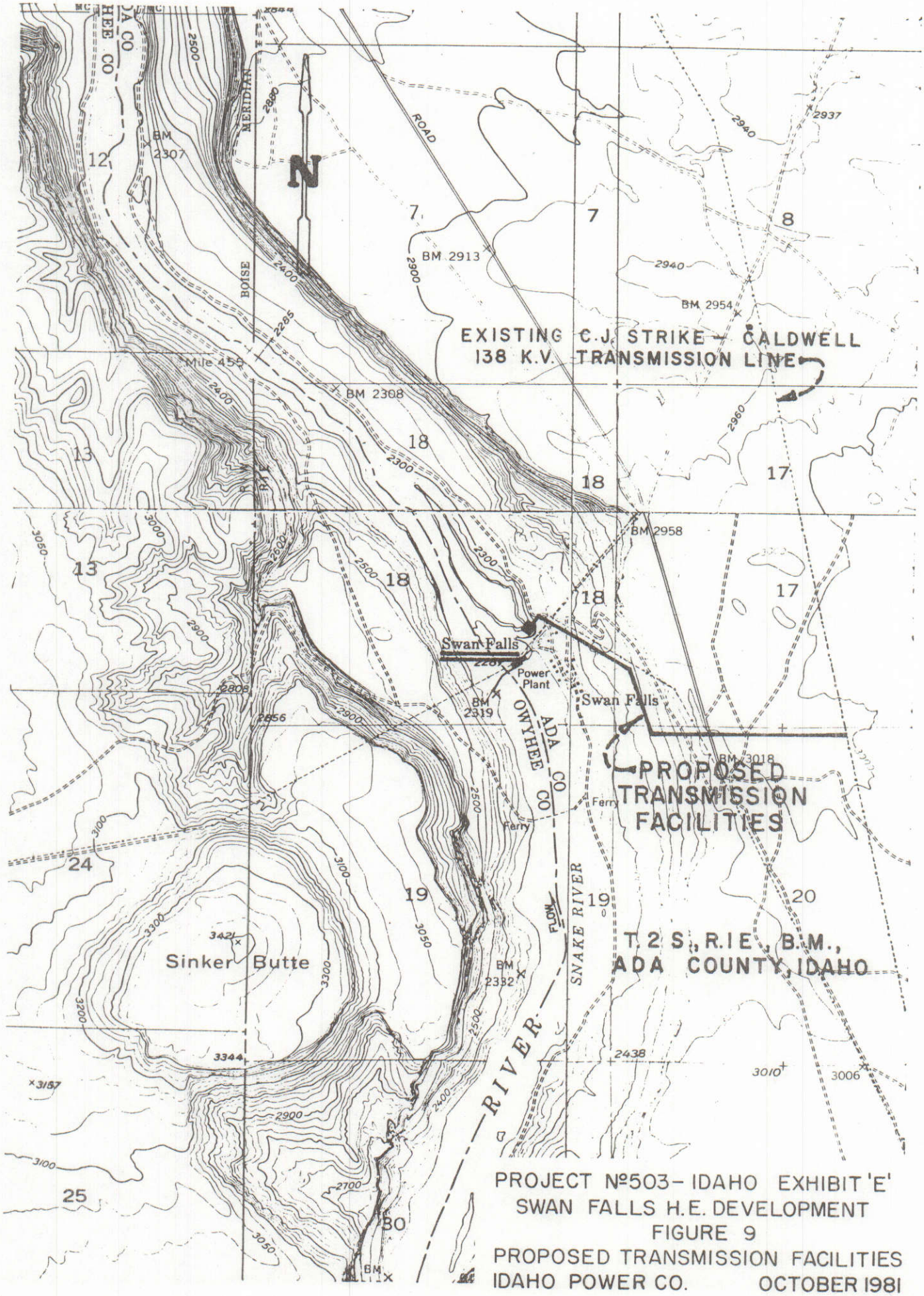
SWAN FALLS H.E. DEVELOPMENT

FIG. 8 SPOILS AND BORROW AREAS

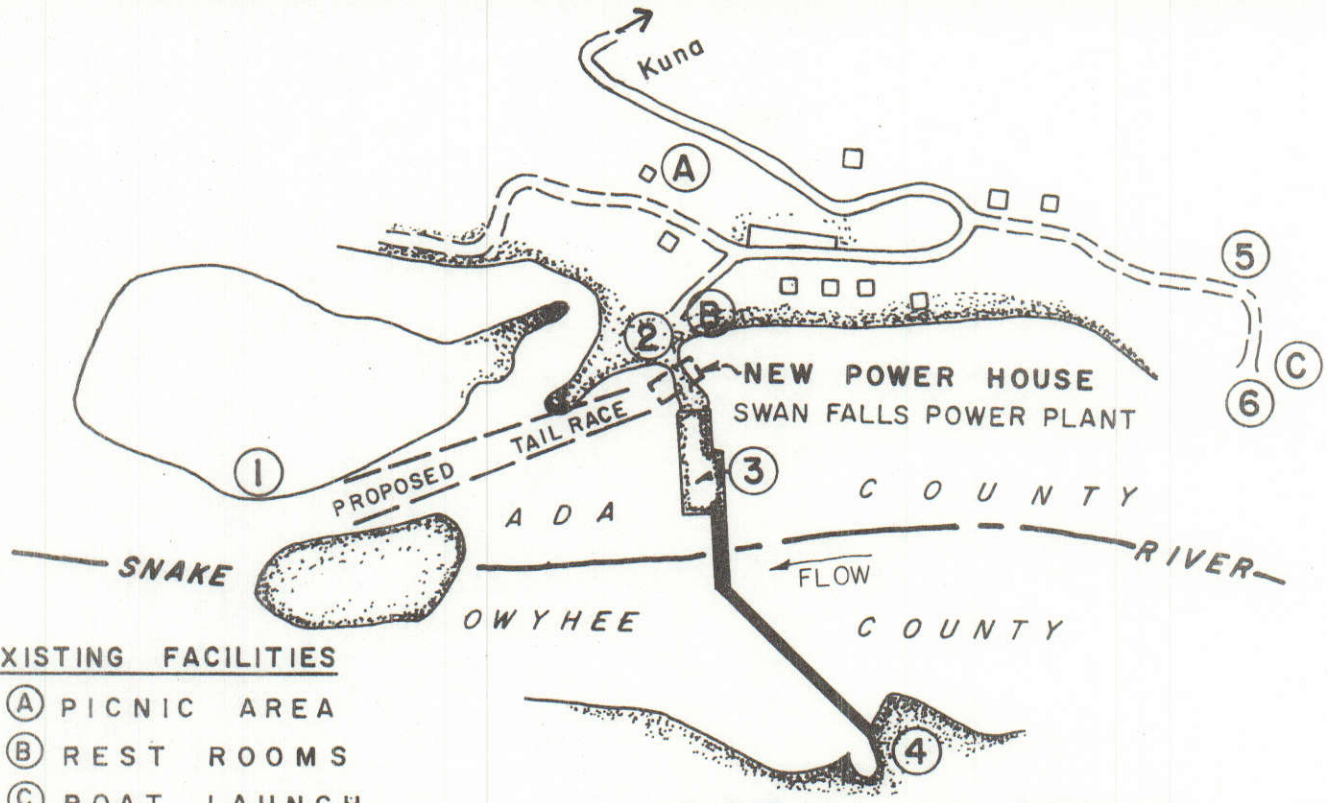
IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1" = 200'

OCTOBER 1981 SHEET 1 OF 1 06E-44770

3A-3



PROJECT Nº503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 9
PROPOSED TRANSMISSION FACILITIES
IDAHO POWER CO. OCTOBER 1981



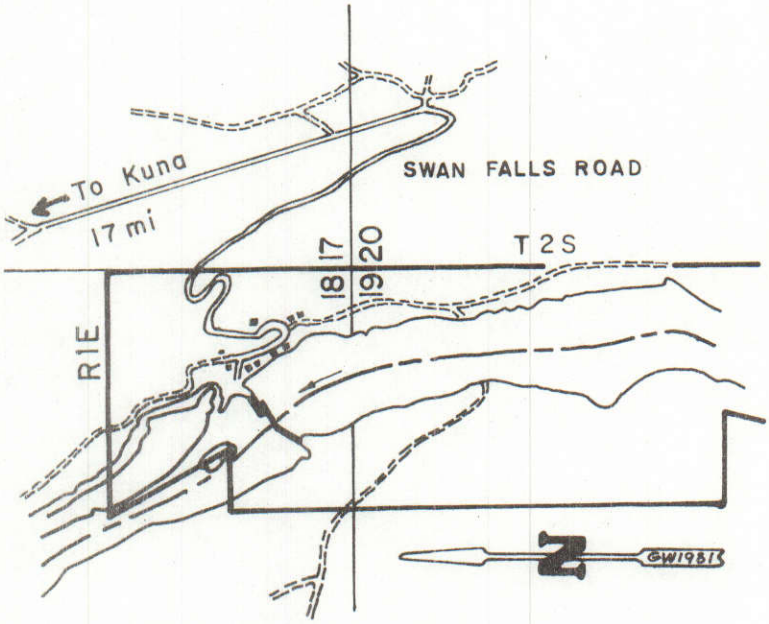
EXISTING FACILITIES

- (A) PICNIC AREA
- (B) REST ROOMS
- (C) BOAT LAUNCH

DETAIL-NO SCALE

PROPOSED FACILITIES

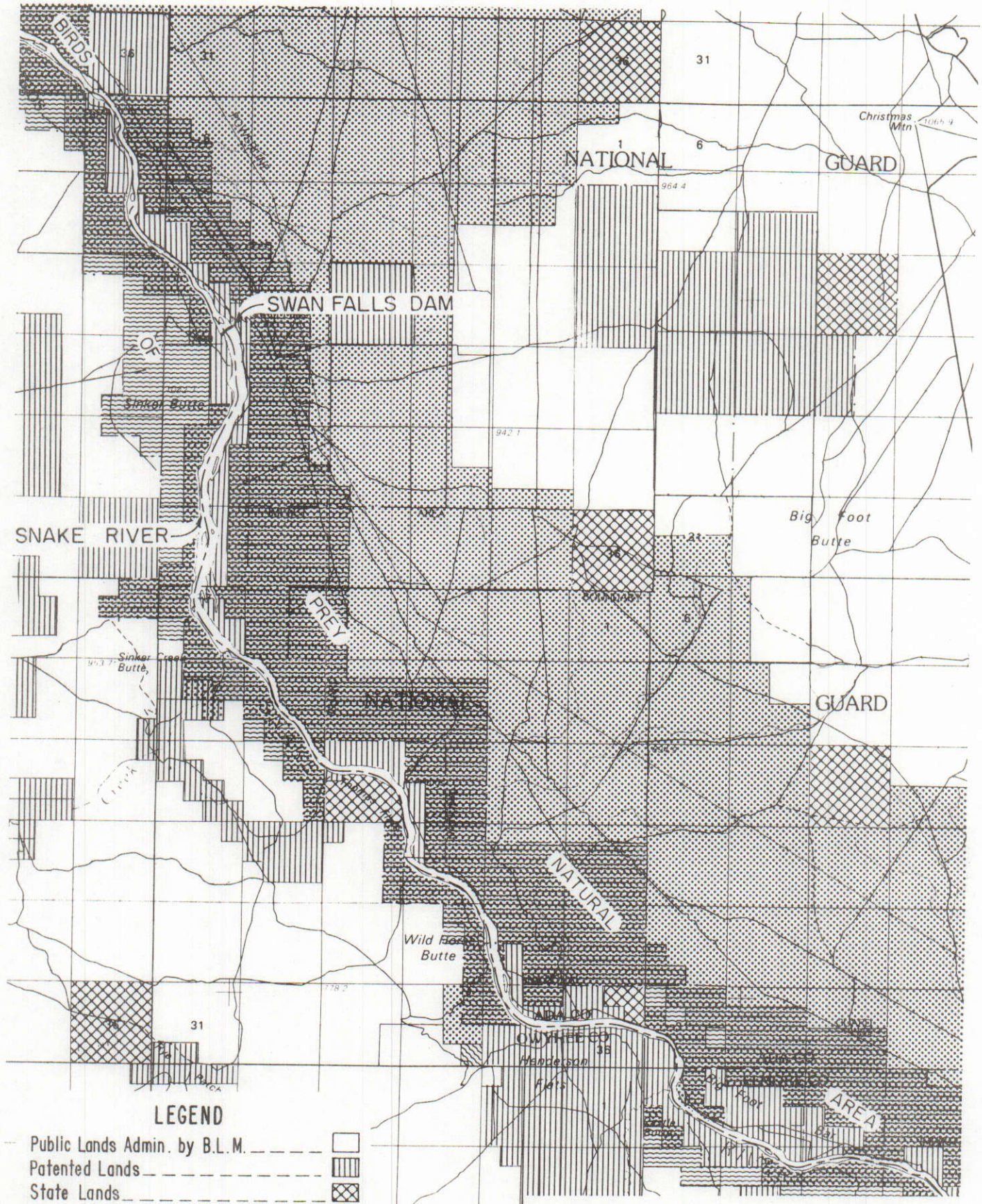
1. CANOE / RAFT LAUNCH
2. AIR COMPRESSOR
3. TURBINE / GENERATOR DISPLAY
4. PORTAGE TRAIL
5. LANDFILL
6. IMPROVE BOAT LAUNCH FACILITIES.



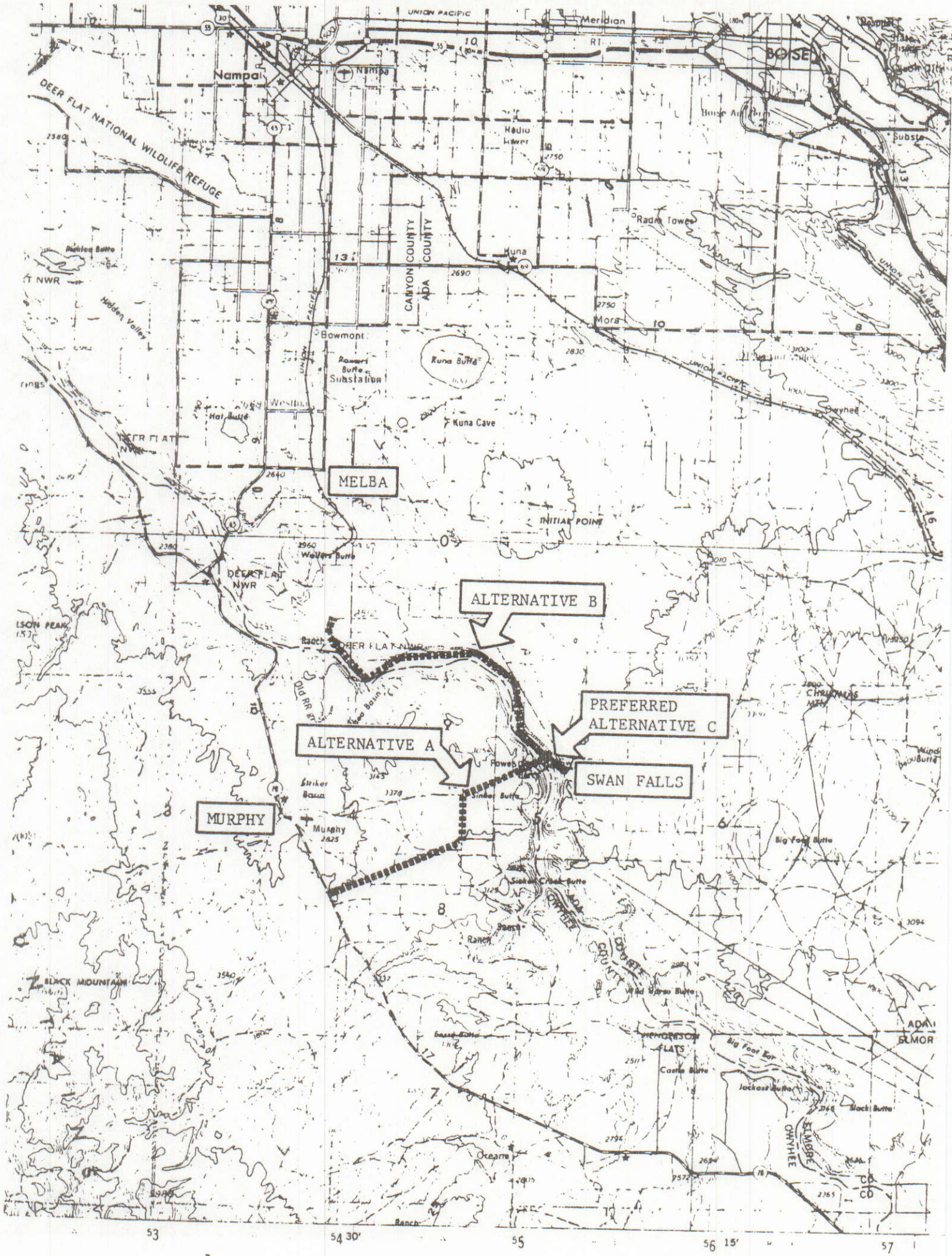
VICINITY MAP

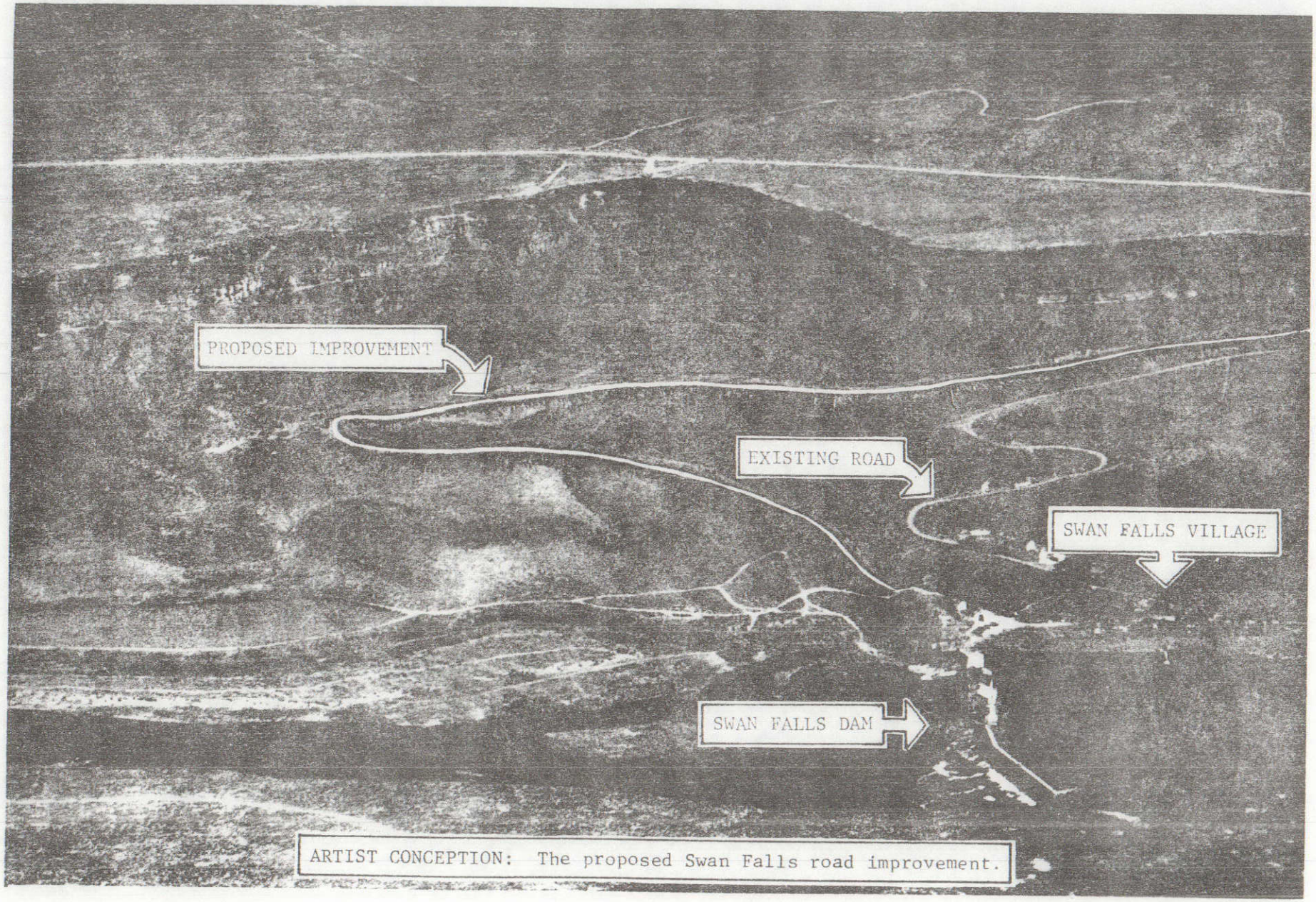
1" = 2000'

PROJECT Nº 503 — IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 10
EXISTING AND PROPOSED
RECREATION DEVELOPMENT
IDAHO POWER CO. OCTOBER 1981

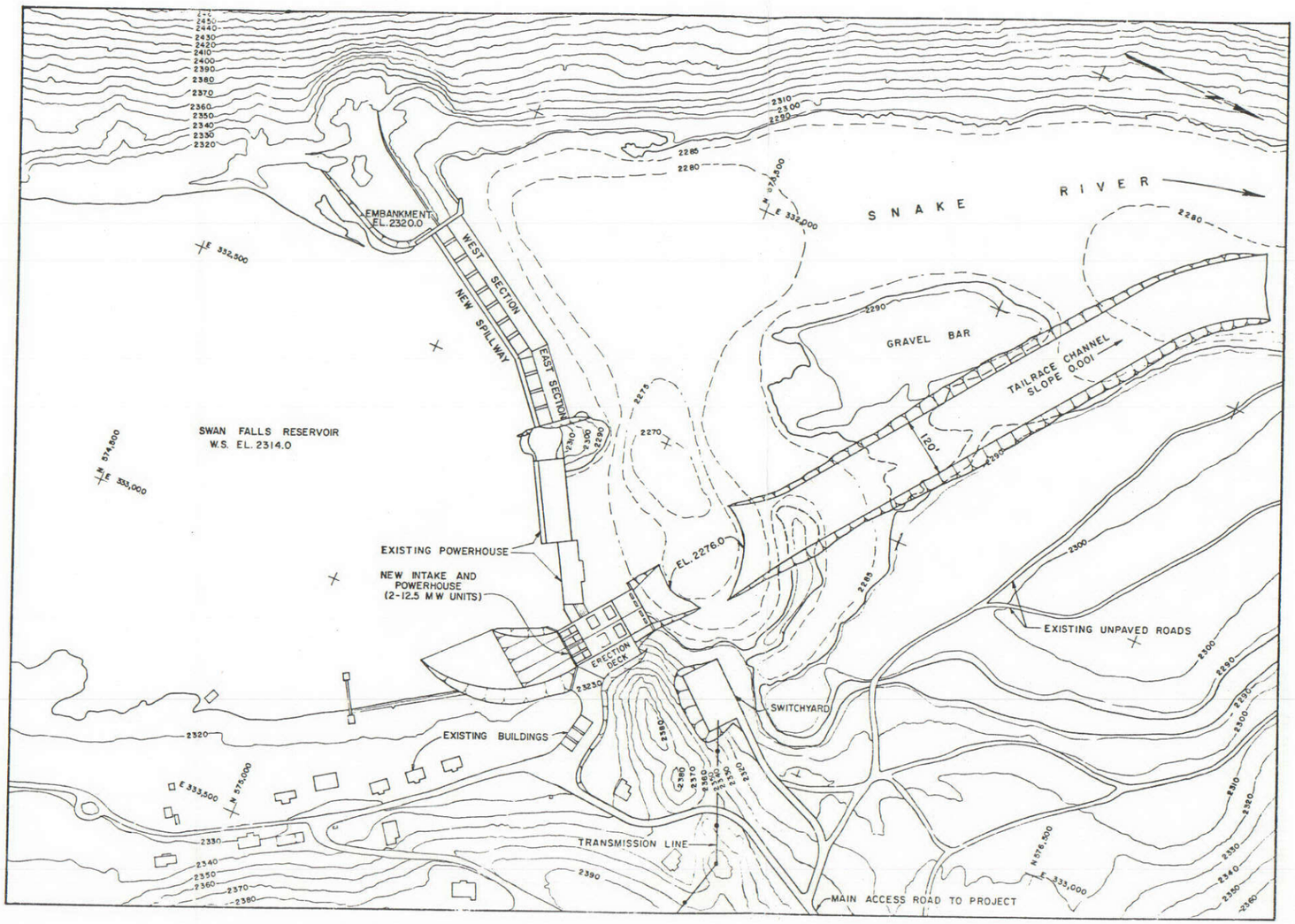


PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE II
LAND STATUS
IDAHO POWER CO. OCTOBER 1981


MELBA
INITIAL POINT
ALTERNATIVE B
PREFERRED ALTERNATIVE C
ALTERNATIVE A
SWAN FALLS
MURPHY
DEER FLAT NATIONAL WILDLIFE REFUGE
Nampa
Meridian
BOISE
Kuna
Bowmont
Radio Tower
Kuna Cave
Hat Butte
Rabbit Butte
Kuna Butte
Powers Butte Substation
Wolters Butte
Old RR Bed
Black Mountain
Big Foot Butte
Henderson Flats
Castle Butte
Jackass Butte
Black Butte
Owyhee
Oreana
Ranch
53
54 30'
55
56 15'
57

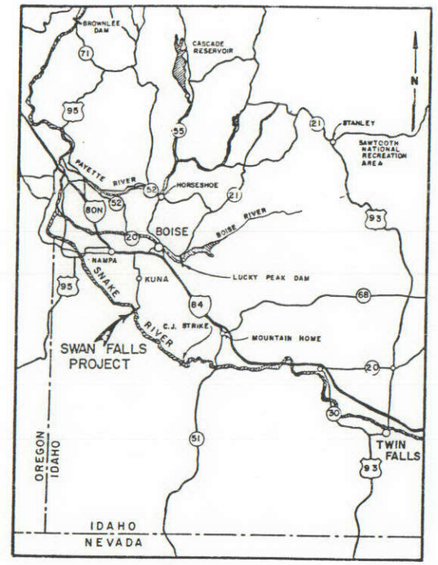


ARTIST CONCEPTION: The proposed Swan Falls road improvement.



PROJECT PLAN

SCALE 0 100 200 300 400 500 FEET
(1" = 100')



LOCATION MAP

SCALE 0 10 20 30 40 50 MILES

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U. S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

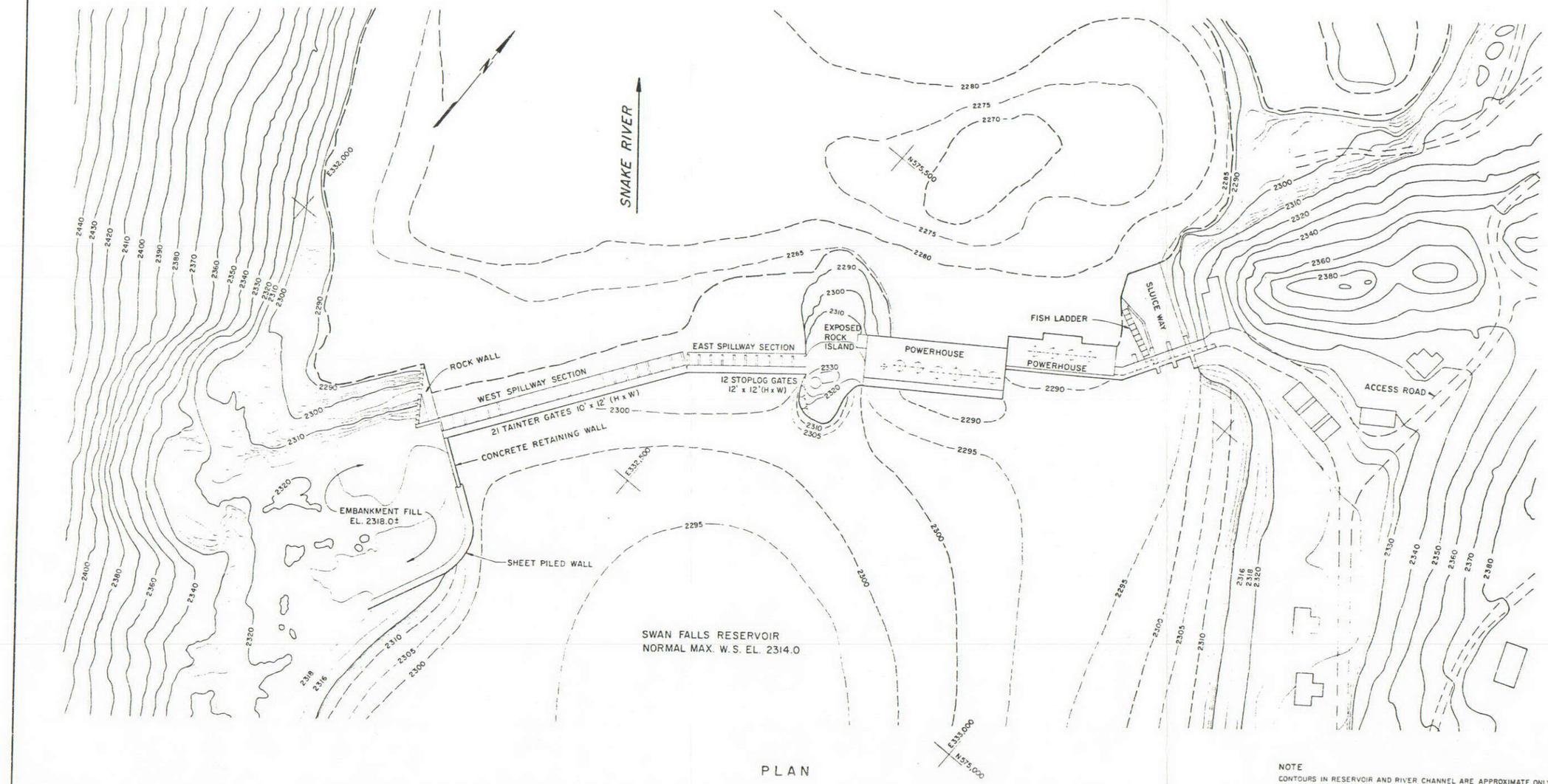
SWAN FALLS HYDROELECTRIC PROJECT

GENERAL PLAN

IDAHO POWER COMPANY
BOISE, IDAHO

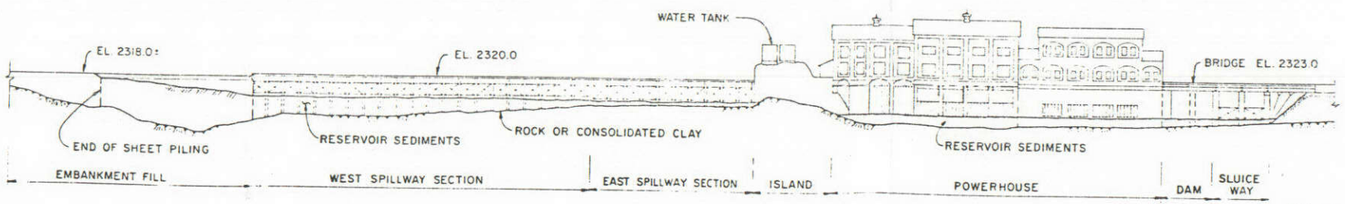
OCTOBER 1981 SHEET 1 OF 6 06E-44791

38 3



PLAN

NOTE
CONTOURS IN RESERVOIR AND RIVER CHANNEL ARE APPROXIMATE ONLY.



UPSTREAM ELEVATION

SCALE 0 50 100 150 200 250 FEET
(1" = 50')

PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

EXISTING STRUCTURES
PLAN AND ELEVATION

IDAHO POWER COMPANY
BOISE, IDAHO

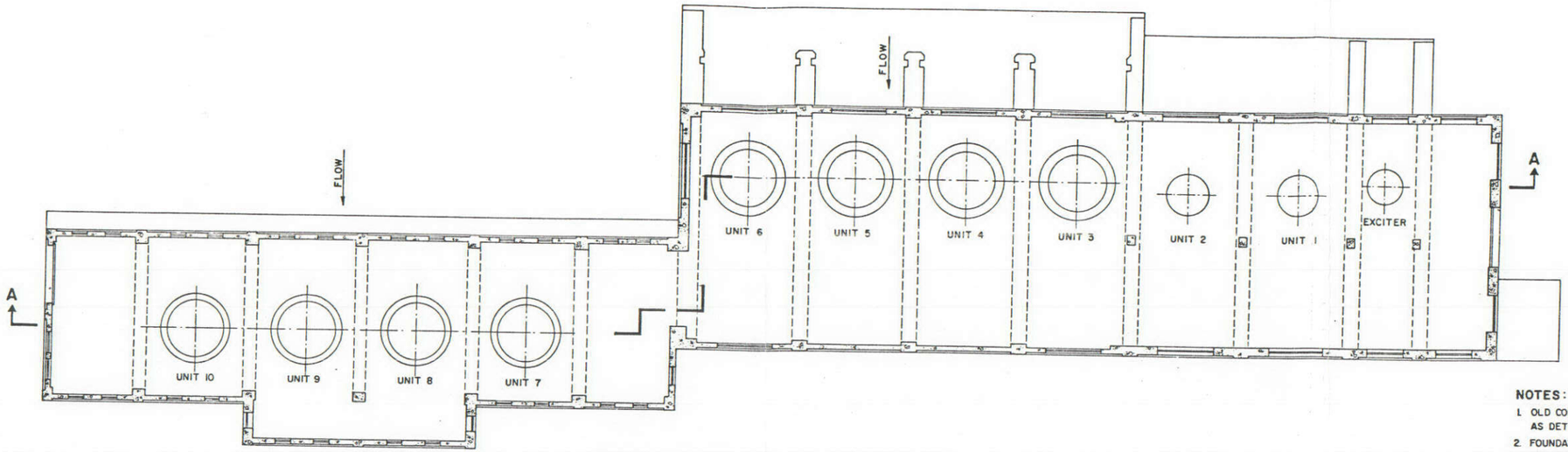
OCTOBER 1981 SHEET 2 OF 6 06E-44791

CERTIFICATE

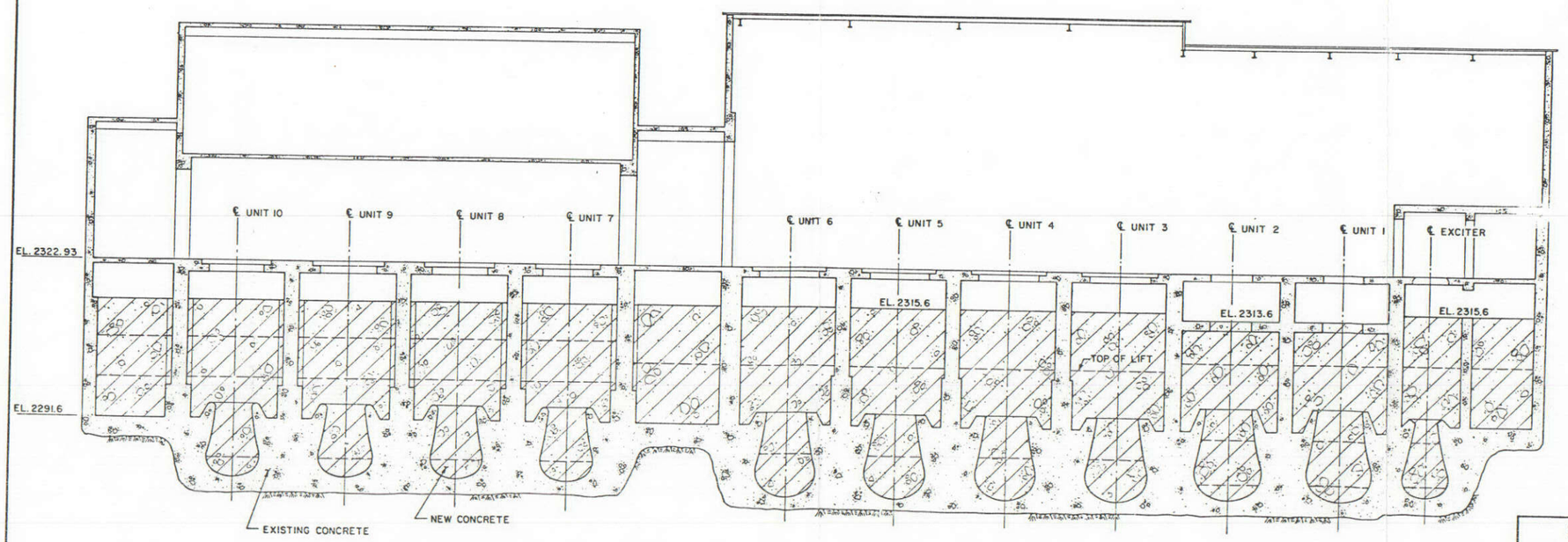
This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER



MAIN FLOOR PLAN - EL. 2322.93



SECTION A-A

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

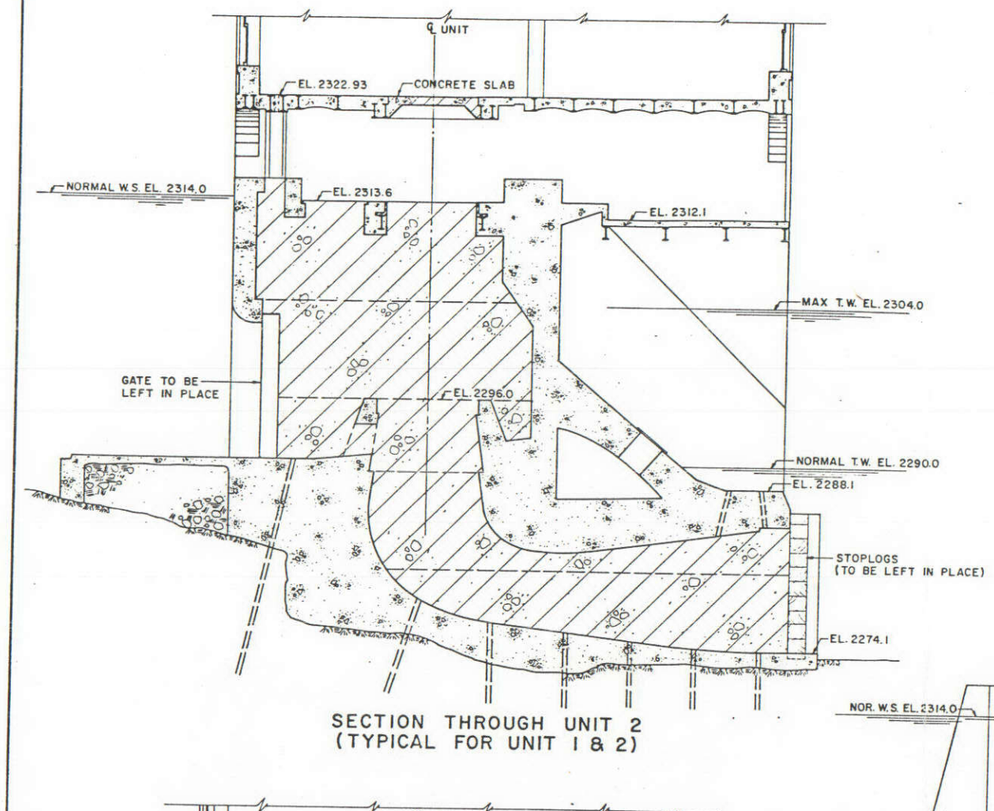
SWAN FALLS HYDROELECTRIC PROJECT

EXISTING POWERHOUSE STRUCTURE
PLAN AND SECTION

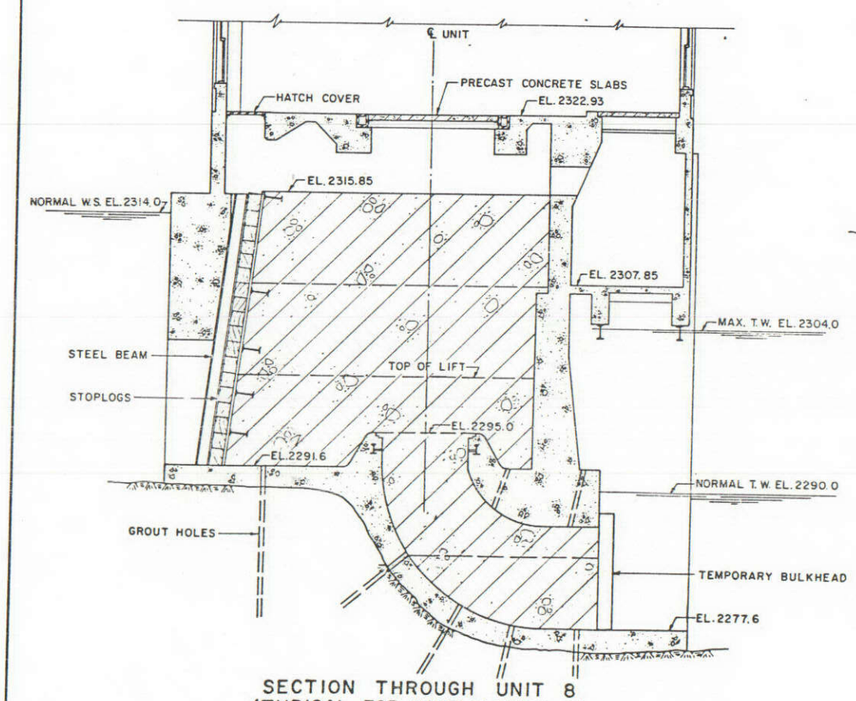
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 3 OF 6 06E-4479

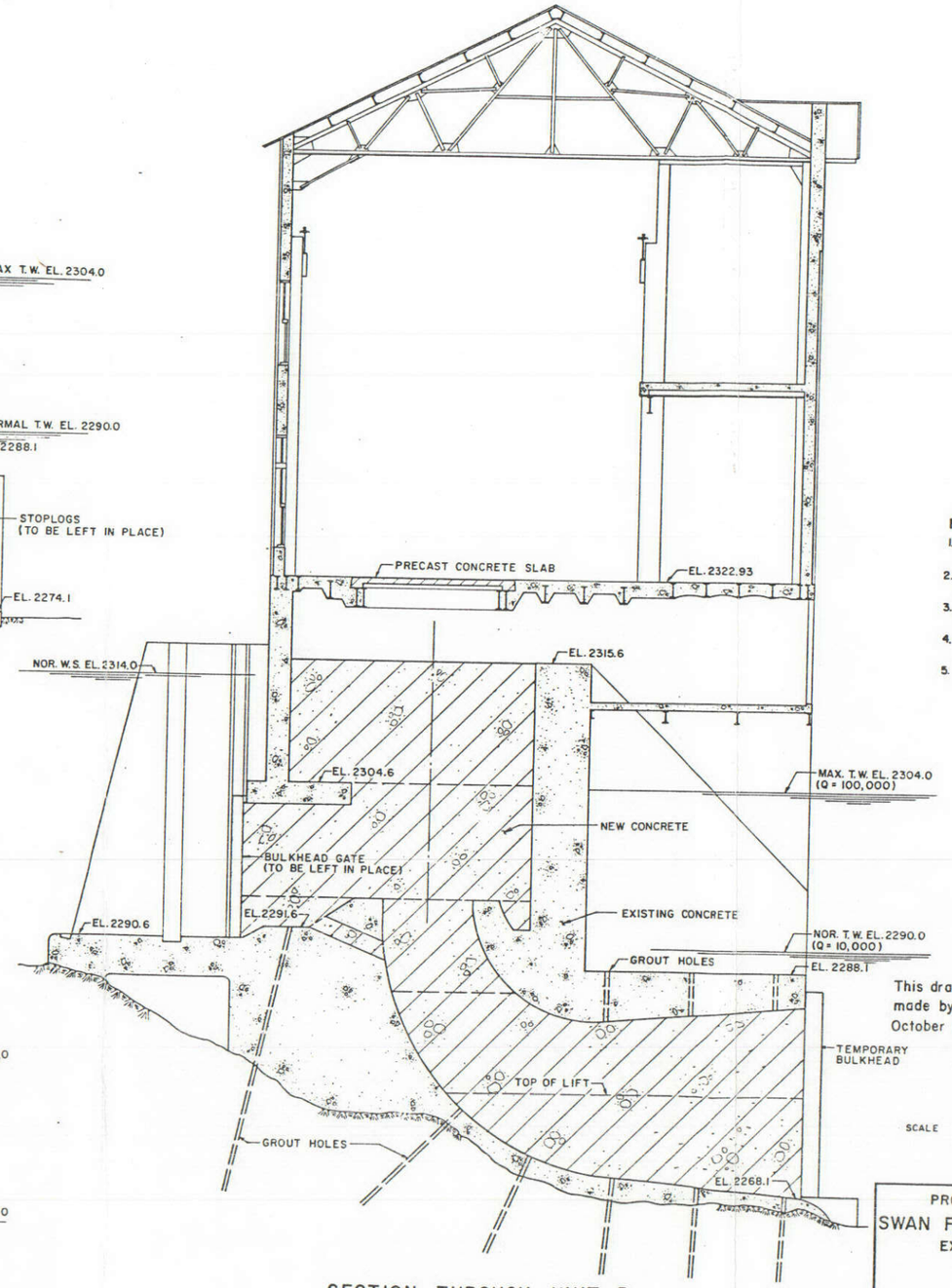
3E 1



SECTION THROUGH UNIT 2
(TYPICAL FOR UNIT 1 & 2)



SECTION THROUGH UNIT 8
(TYPICAL FOR UNIT 7 THRU 10)



SECTION THROUGH UNIT 5
(TYPICAL FOR UNIT 3 THRU 6)

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 5 10 15 20 FEET

PROJECT 503 - IDAHO EXHIBIT F

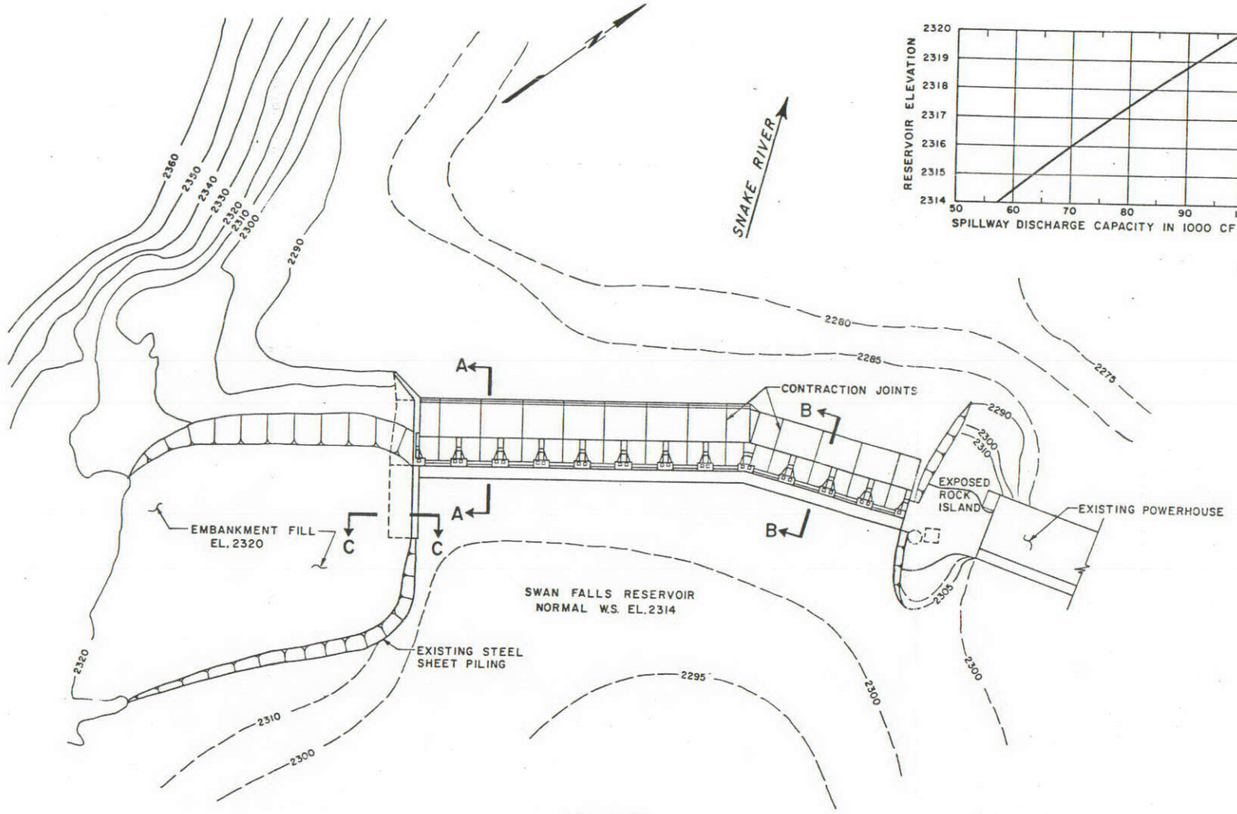
SWAN FALLS HYDROELECTRIC PROJECT

EXISTING POWERHOUSE STRUCTURE
SECTIONS

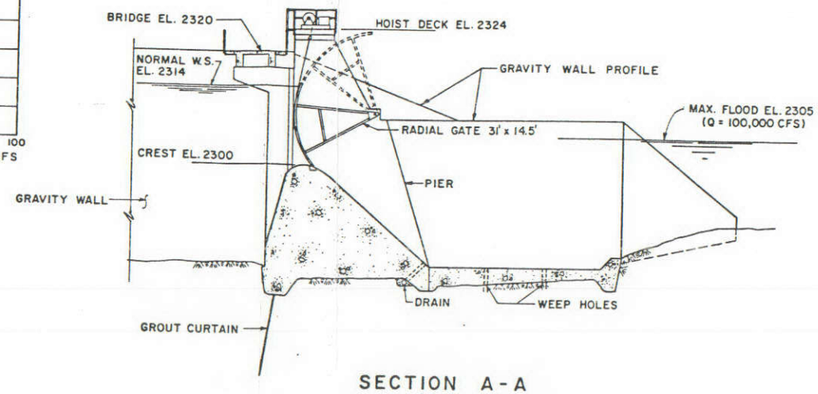
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 4 OF 6 06E-4791

383

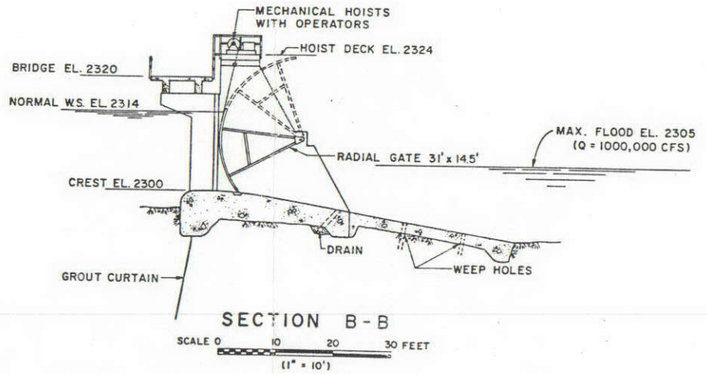


PLAN



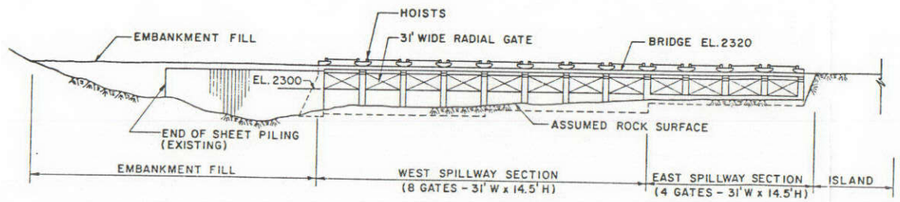
SECTION A-A

SCALE 0 10 20 30 FEET (1" = 10')

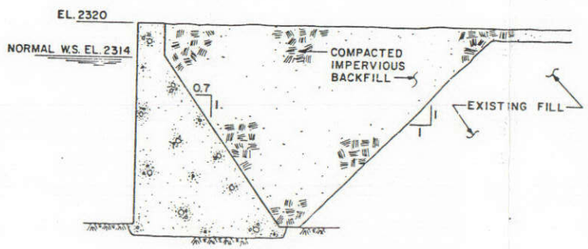


SECTION B-B

SCALE 0 10 20 30 FEET (1" = 10')



UPSTREAM ELEVATION



SECTION C-C

SCALE 0 10 20 30 FEET (1" = 10')

SCALE 0 50 100 150 200 FEET (1" = 50') EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____

CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

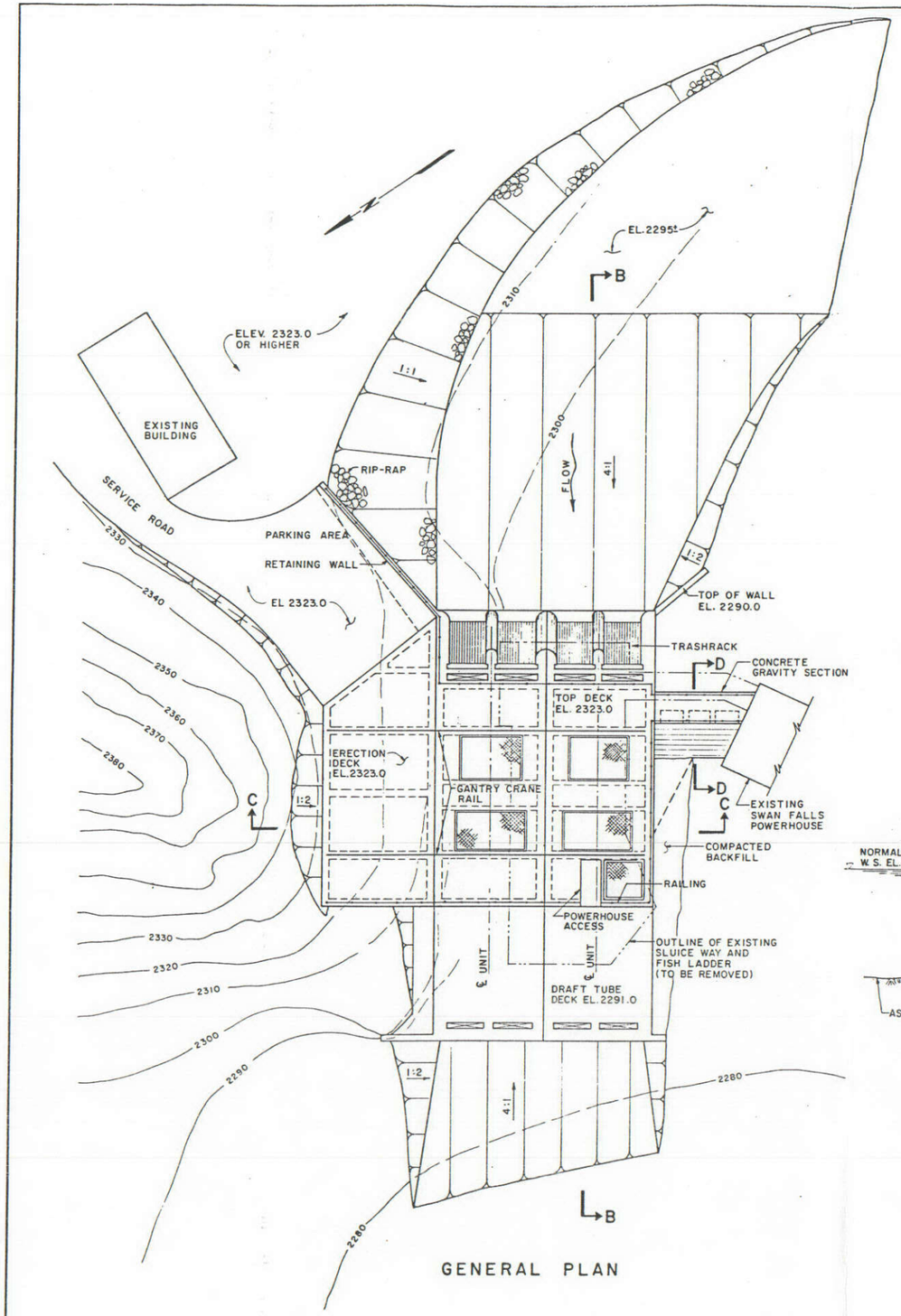
SWAN FALLS HYDROELECTRIC PROJECT

NEW SPILLWAY
PLAN AND SECTION

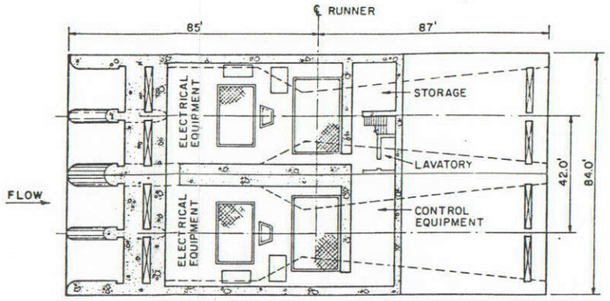
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 5 OF 6 06E-44791

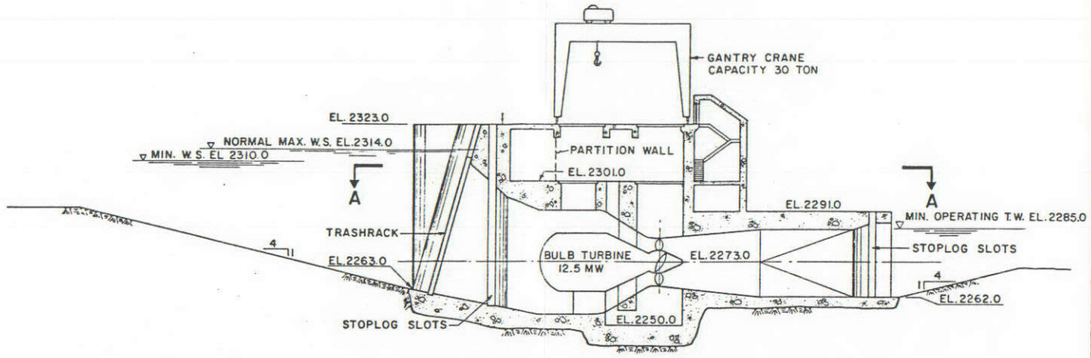
38-3



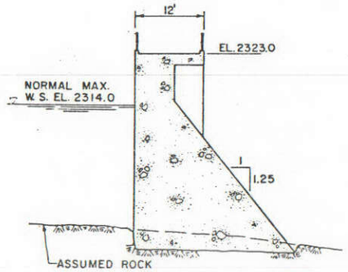
GENERAL PLAN



SECTION A-A

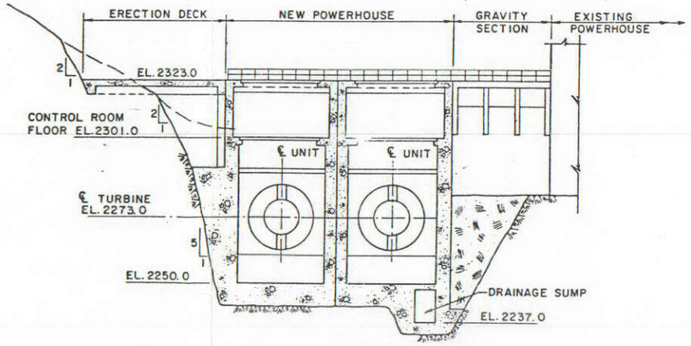


SECTION B-B



SECTION D-D

0 10 20



SECTION C-C

SCALE 0 20 40 60 80 FEET
(1" = 20')
EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

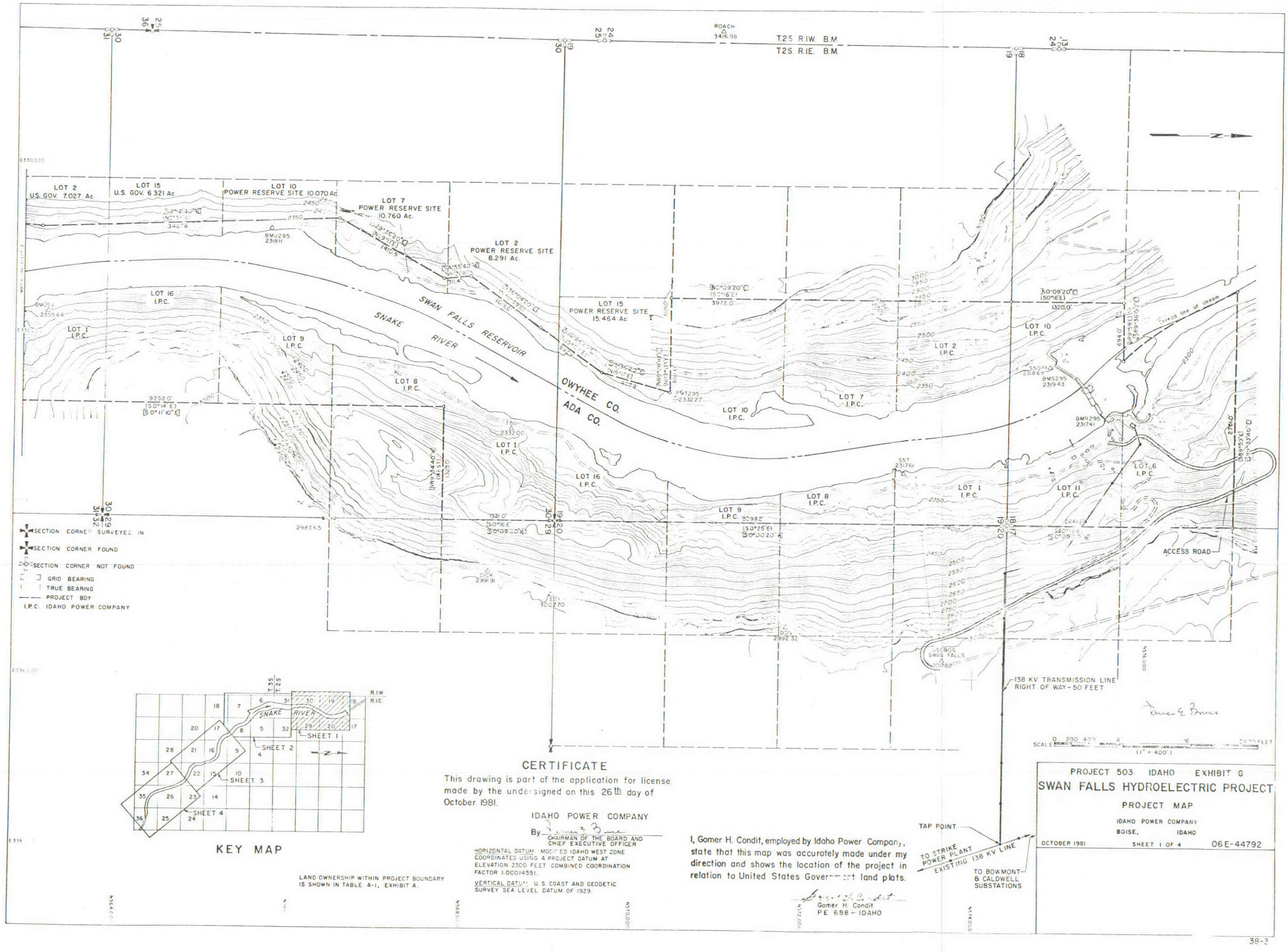
SWAN FALLS HYDROELECTRIC PROJECT

NEW POWERHOUSE PLAN AND SECTIONS

IDAHO POWER COMPANY

BOISE, IDAHO

OCTOBER 1981 SHEET 6 OF 6 06E-44791



CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
PE 698 - IDAHO

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

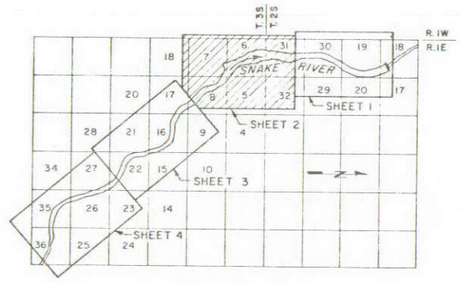
OCTOBER 1981 SHEET 1 OF 4 06E-44792

38-3

SECTION CORNER SURVEYED IN
SECTION CORNER FOUND
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
— — PROJECT BDY
I.P.C. IDAHO POWER COMPANY

T3S.R1W. B.M.
T3S.R1E. B.M.
T2S.R1W. B.M.
T2S.R1E. B.M.

LOT 3 U.S. GOV. 5.248 Ac.
LOT 4 U.S. GOV. 0.132 Ac.
LOT 15 U.S. GOV. 5.130 Ac.
LOT 5 U.S. GOV. 9.496 Ac.
LOT 2 U.S. GOV.
LOT 10 U.S. GOV. 6.056 Ac.
LOT 7 U.S. GOV. 7.174 Ac.
LOT 8 U.S. GOV. 11.672 Ac.
SNAKE RIVER
SWAN FALLS RESERVOIR
OWYHEE CO.
ADA CO.
NW ¼ OF NE ¼ U.S. GOV. 10.804 Ac.
LOT 11 U.S. GOV. 13.583 Ac.
Sinker Creek
LOT 1 U.S. GOV. 6.688 Ac.
LOT 7 PRIVATE
LOT 6 PRIVATE
LOT 2 U.S. GOV. 19.948 Ac.
LOT 16 I.P.C.
LOT 9 I.P.C.
LOT 8 I.P.C.
LOT 1 I.P.C.
NE ¼ OF SE ¼ PRIVATE
LOT 12 PRIVATE
LOT 3 U.S. GOV. 5.806 Ac.
LOT 2 U.S. GOV. 5.130 Ac.
LOT 5 U.S. GOV. 4.557 Ac.
LOT 6 U.S. GOV. 3.557 Ac.
LOT 4 U.S. GOV. 6.292 Ac.
LOT 1 U.S. GOV. 11.290 Ac.
LOT 5 U.S. GOV. 7.585 Ac.



KEY MAP

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.0001455.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
PE 689 - IDAHO
BERN 302818

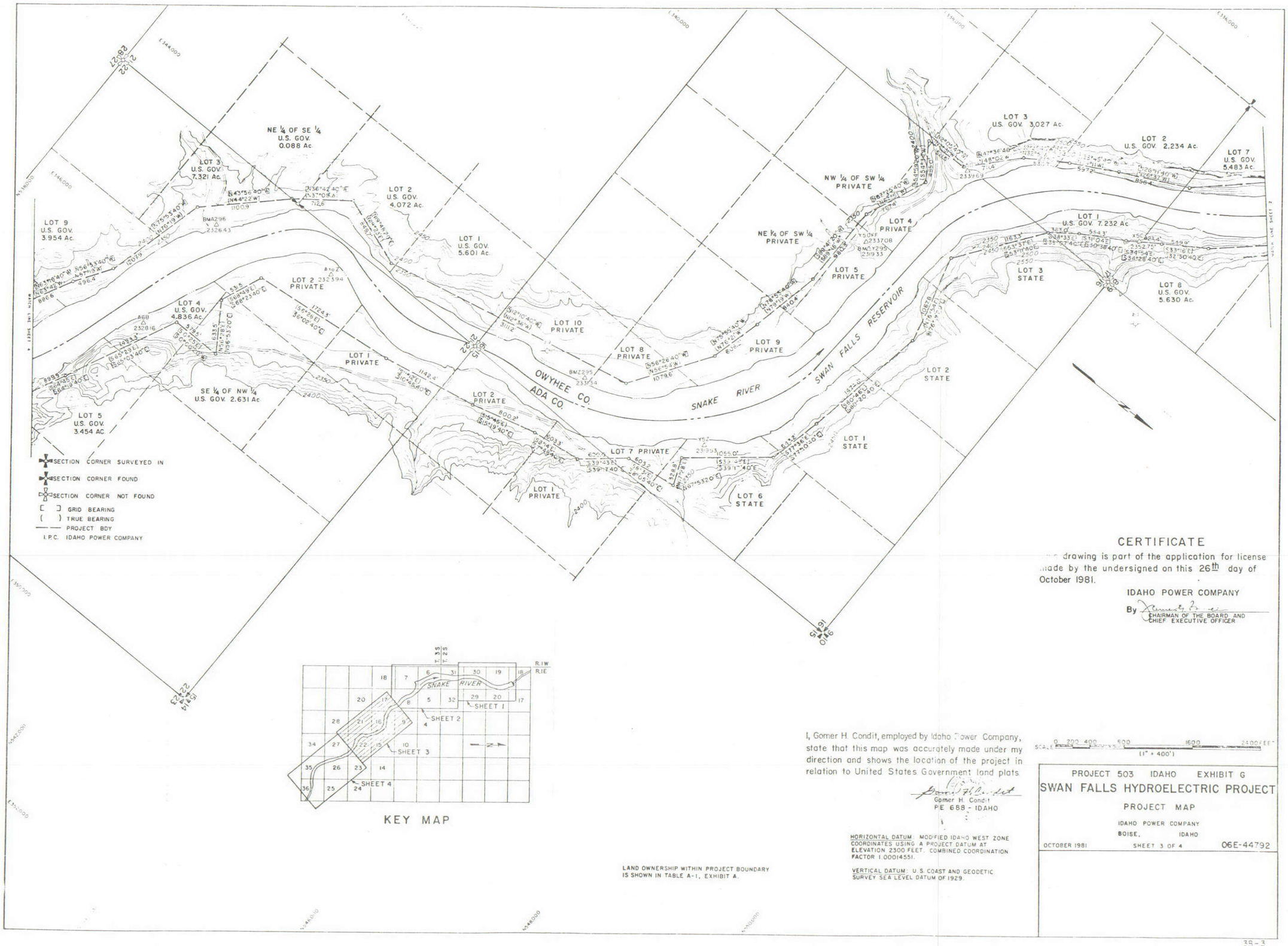
CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY
By James E. Bruce
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 200 400 800 1600 2400 FEET (1" = 400')

PROJECT 503 IDAHO EXHIBIT G
SWAN FALLS HYDROELECTRIC PROJECT
PROJECT MAP
IDAHO POWER COMPANY
BOISE, IDAHO
OCTOBER 1981 SHEET 2 OF 4 06E-44792



CERTIFICATE

... drawing is part of the application for license ...ade by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
PE 688 - IDAHO

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

SCALE 0 200 400 800 1600 2400 FEET (1" = 400')

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 3 OF 4 06E-44792

SECTION CORNER SURVEYED IN
SECTION CORNER FOUND
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
PROJECT BDY
I.P.C. IDAHO POWER COMPANY

T3S R1E BM
T4S R1E BM
T3S R2E BM
T4S R2E BM

LOT 9 PRIVATE
LOT 8 PRIVATE
LOT 7 PRIVATE
LOT 6 PRIVATE
LOT 5 PRIVATE
LOT 4 PRIVATE
LOT 3 PRIVATE
LOT 2 PRIVATE
LOT 7 PRIVATE
LOT 4 U.S. GOV. 8.570 Ac.
LOT 3 U.S. GOV. 5.880 Ac.
LOT 1 PRIVATE
LOT 2 1.220 Ac.
LOT 6 1.544 Ac.
LOT 7 U.S. GOV. 5.806 Ac.
LOT 5 PRIVATE
LOT 6 PRIVATE
LOT 4 U.S. GOV. 2.234 Ac.
LOT 3 U.S. GOV. 4.307 Ac.
LOT 3 U.S. GOV. 4.763 Ac.
LOT 5 PRIVATE
LOT 4 U.S. GOV. 9.876 Ac.
NE ¼ OF SW ¼ PRIVATE
LOT 2 U.S. GOV. 9.026 Ac.
LOT 2 U.S. GOV. 3.690 Ac.
LOT 8 U.S. GOV. 10.643 Ac.
LOT 1 U.S. GOV. 1.352 Ac.
LOT 1 U.S. GOV. 3.572 Ac.
LOT 7 U.S. GOV. 5.968 Ac.
LOT 6 U.S. GOV. 0.662 Ac.
LOT 5

SNAKE RIVER
SWAN FALLS RESERVOIR
OWYHEE CO.
ADA CO.
U.S. GOV.

E 348000
E 346000
E 354000
E 358000
N 3360000
N 3340000
N 3320000
N 3300000
N 3280000
N 3260000

E6 OFF 2328590
E6F 2340100
F6GA 233730
EMB296 235382
BMC296 235343
235474
234172

SECTION 25 T3S R1E
SECTION 30 T3S R2E
SECTION 36 T3S R1E
SECTION 31 T3S R2E

KEY MAP

T.3S T.2S
R.1W R.1E
SHEET 1
SHEET 2
SHEET 3
SHEET 4

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 200 400 800 1600 2400 FEET
(1" = 400')

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

_____
Gomer H. Condit
P.E. 688 - IDAHO

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

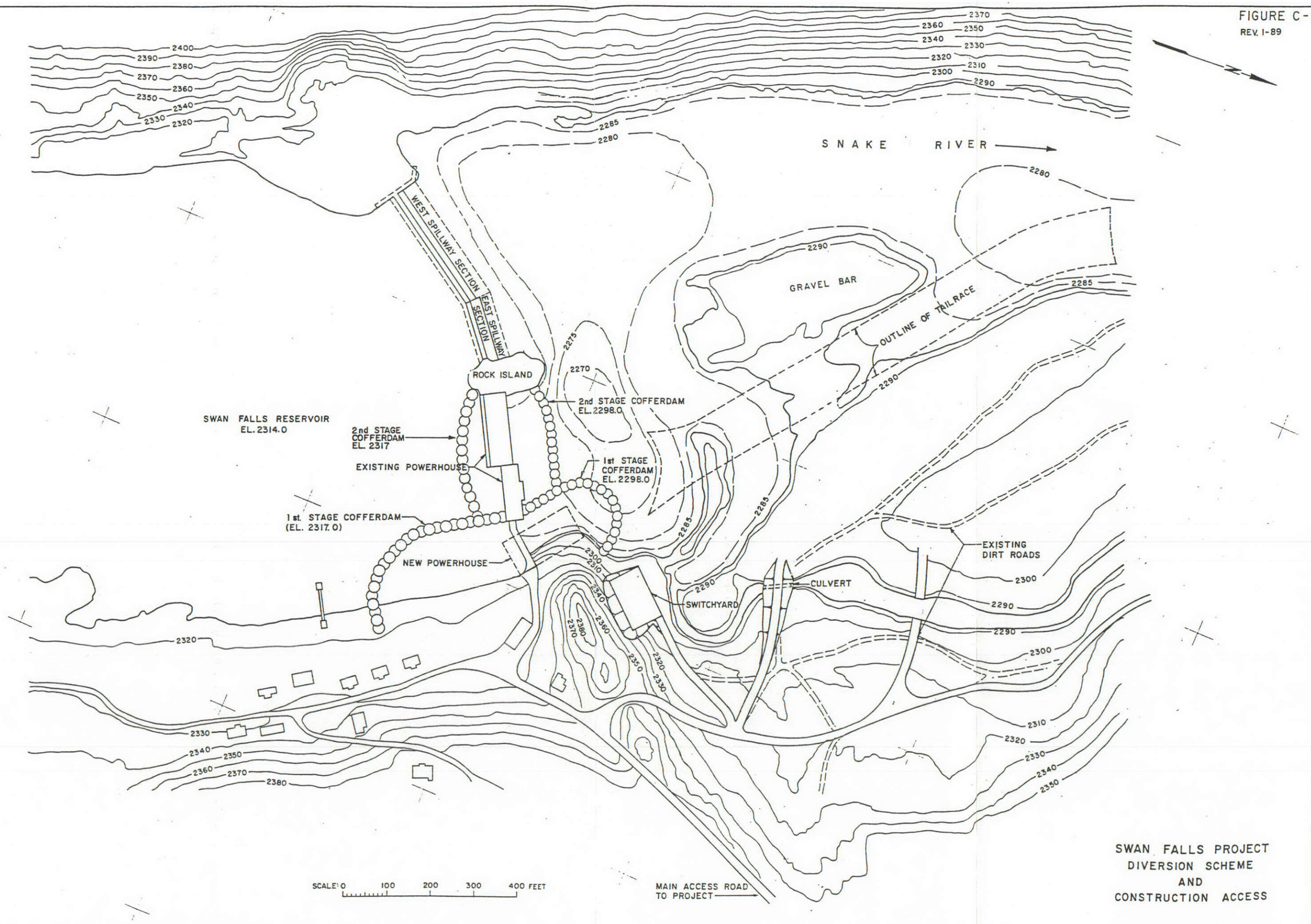
PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 4 OF 4 06E-44792

38-3

FIGURE C-2
REV. 1-89



SWAN FALLS PROJECT
DIVERSION SCHEME
AND
CONSTRUCTION ACCESS

OWYHEE COUNTY
BANK

ISLAND

MAINLAND

SWITCHYARD

SNAKE RIVER

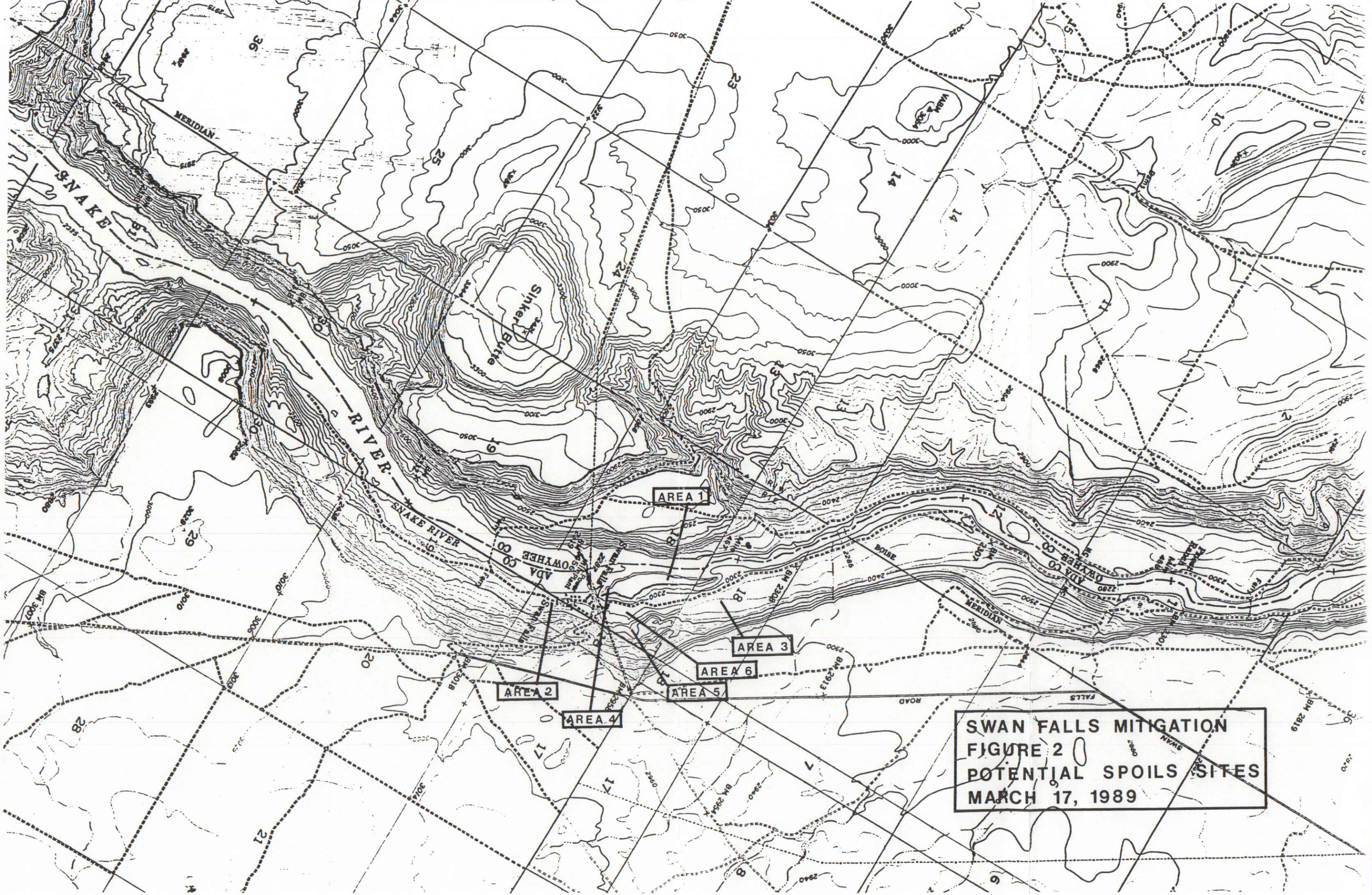
Sinker Butte

MERIDIAN

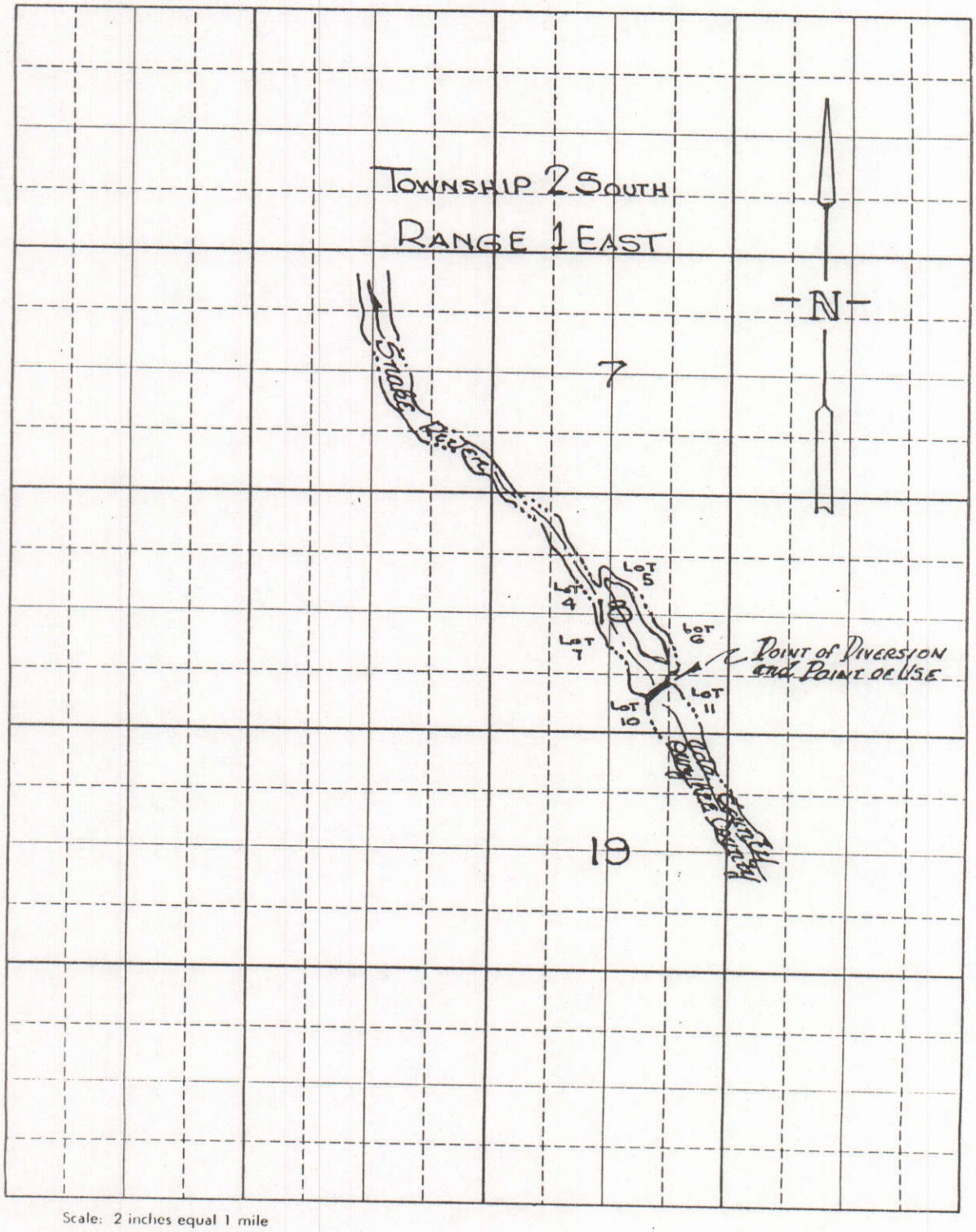
ADA CO

OWYHEE CO

SWAN FALLS MITIGATION
FIGURE 1
AREAS DITURBED
BY CONSTRUCTION
MARCH 17, 1989


AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
AREA 6
SNAKE RIVER
SNAKE RIVER
Sinker Butte
ADA CO
OWYHEE CO
MERIDIAN
SWAN FALLS MITIGATION
FIGURE 2
POTENTIAL SPOILS SITES
MARCH 17, 1989

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



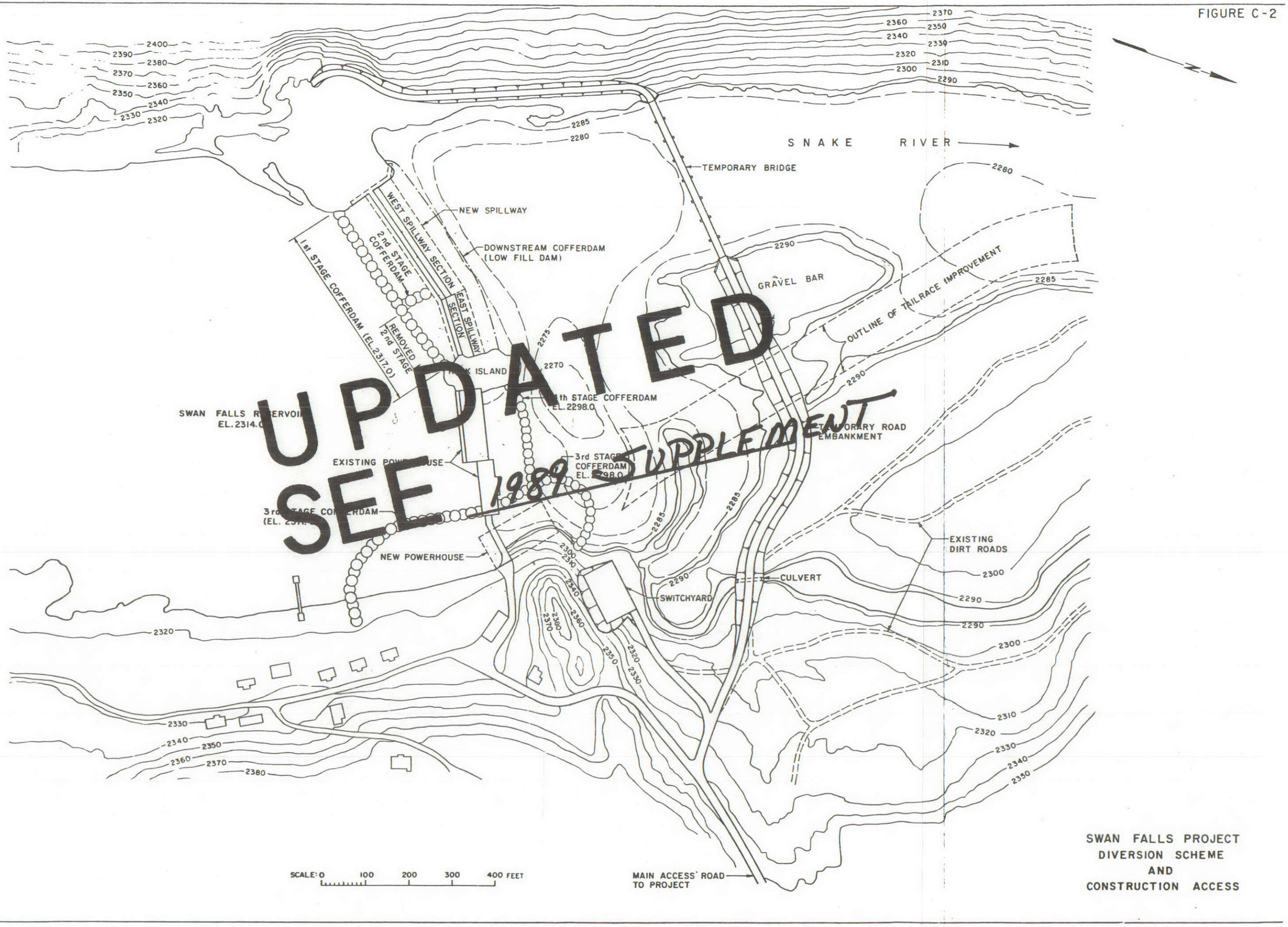
Scale: 2 inches equal 1 mile

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

C. E. Bissell

(Applicant) C E Bissell
Vice President - Power Plant
Construction and Operations

FIGURE C-2

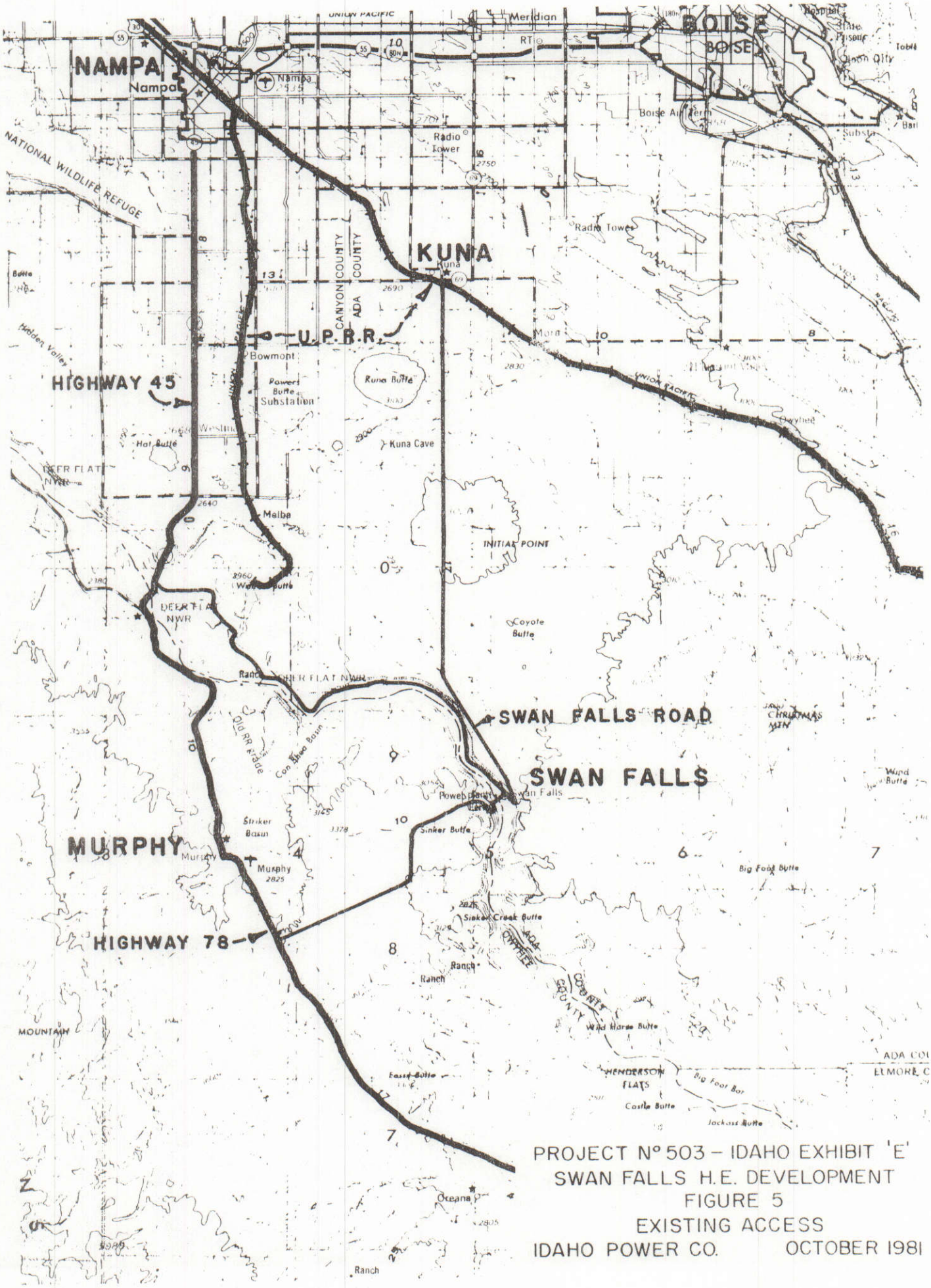


UPDATED

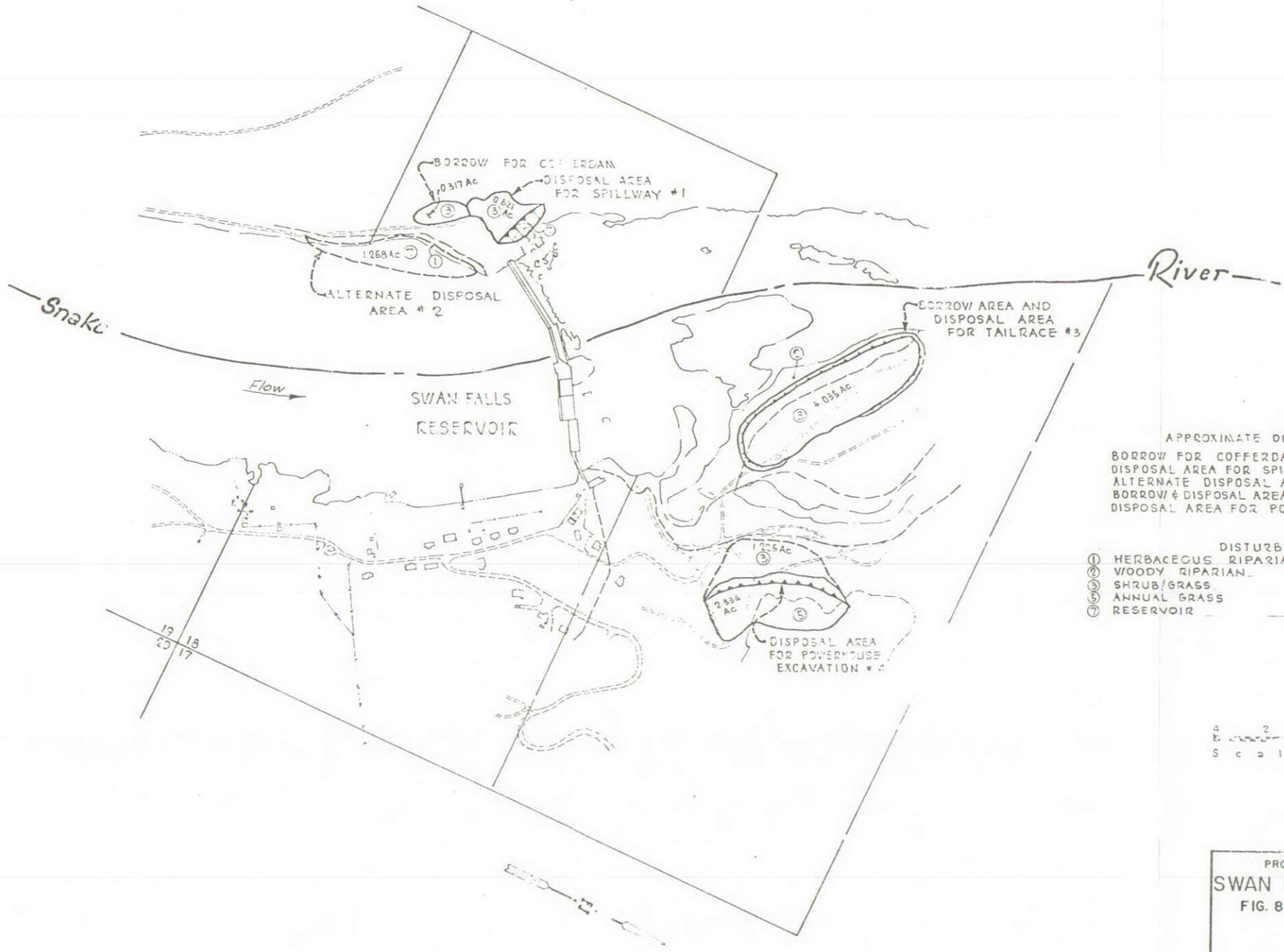
SEE 1989 SUPPLEMENT

SWAN FALLS PROJECT
DIVERSION SCHEME
AND
CONSTRUCTION ACCESS

PROJECT No. 503 - IDAHO EXHIBIT 'E'
SWAN FALLS HE DEVELOPMENT
FIGURE 4
EXISTING PROJECT
IDAHO POWER CO OCTOBER 1981



PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 5
EXISTING ACCESS
IDAHO POWER CO. OCTOBER 1981



APPROXIMATE DISPOSAL and BORROW AREAS

BORROW FOR COFFERDAM	0.317 Ac
DISPOSAL AREA FOR SPILLWAY #1	0.821 Ac
ALTERNATE DISPOSAL AREA #2	1.268 Ac
BORROW & DISPOSAL AREA FOR TAILRACE EXCAVATION #3	4.035 Ac
DISPOSAL AREA FOR POWER HOUSE EXCAVATION #4	3.559 Ac
TOTAL	10.000 Ac

DISTURBED THRU CONSTRUCTION

① HERBACEOUS RIPARIAN	0.202 Ac
② WOODY RIPARIAN	1.025 Ac
③ SHRUB/GRASS	6.657 Ac
⑤ ANNUAL GRASS	0.778 Ac
⑦ RESERVOIR	1.136 Ac
TOTAL	10.000 Ac

A PORTION OF SEC. 18,
T. 2 S., R. 1 E., B.M.,
ADA COUNTY, IDAHO

Scale in hundreds of Feet

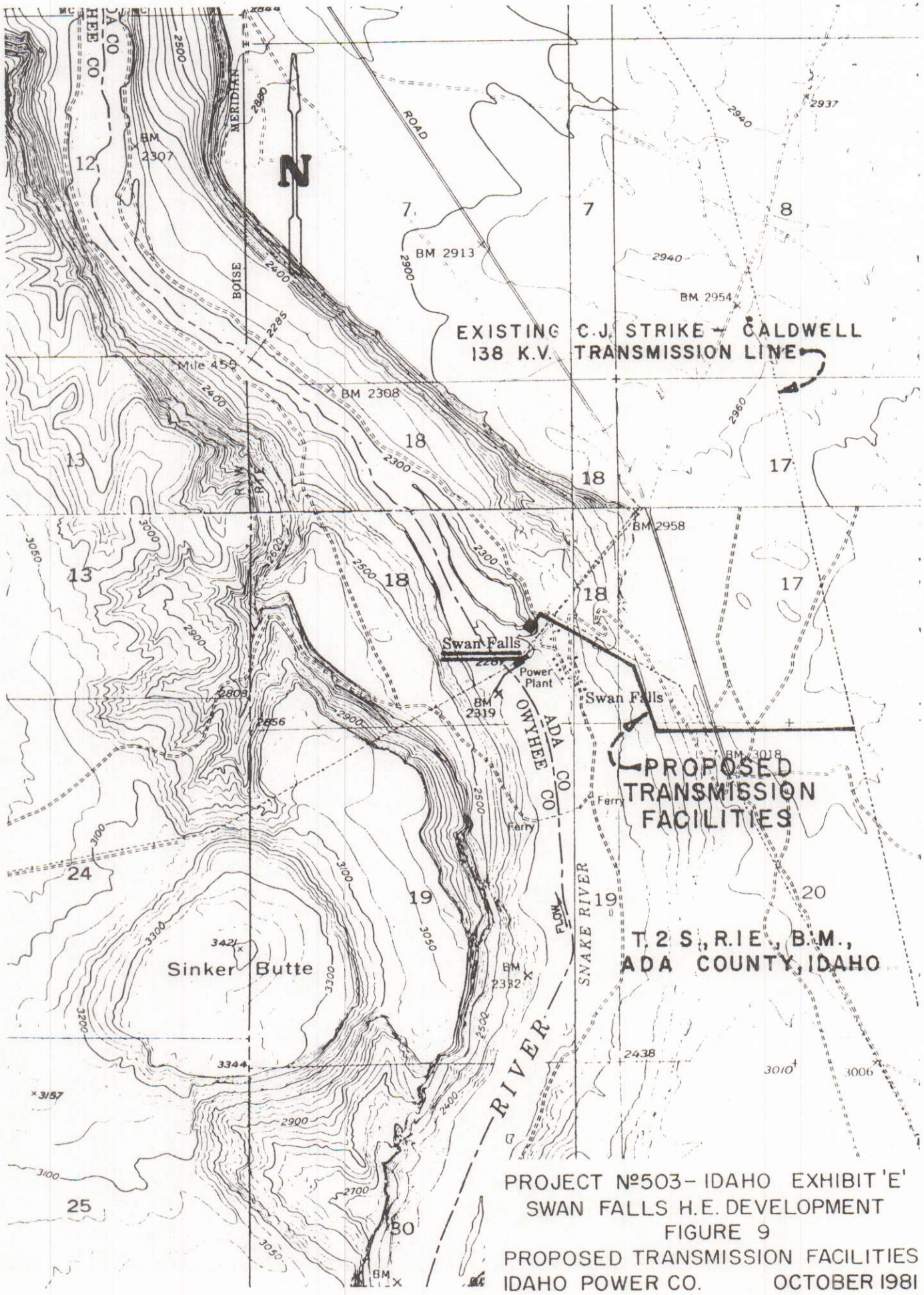
PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT

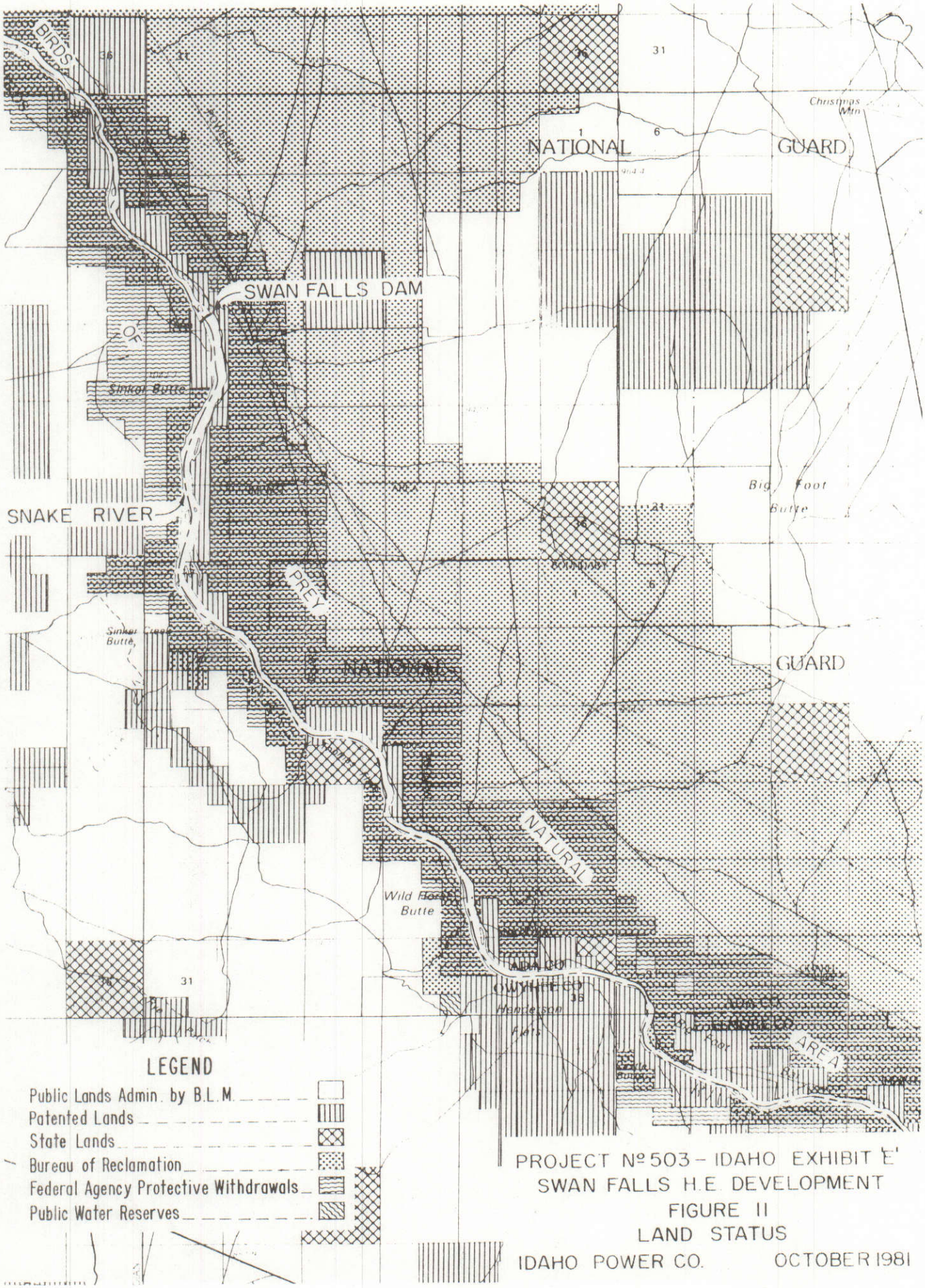
FIG. 8 SPOILS AND BORROW AREAS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1" = 200'

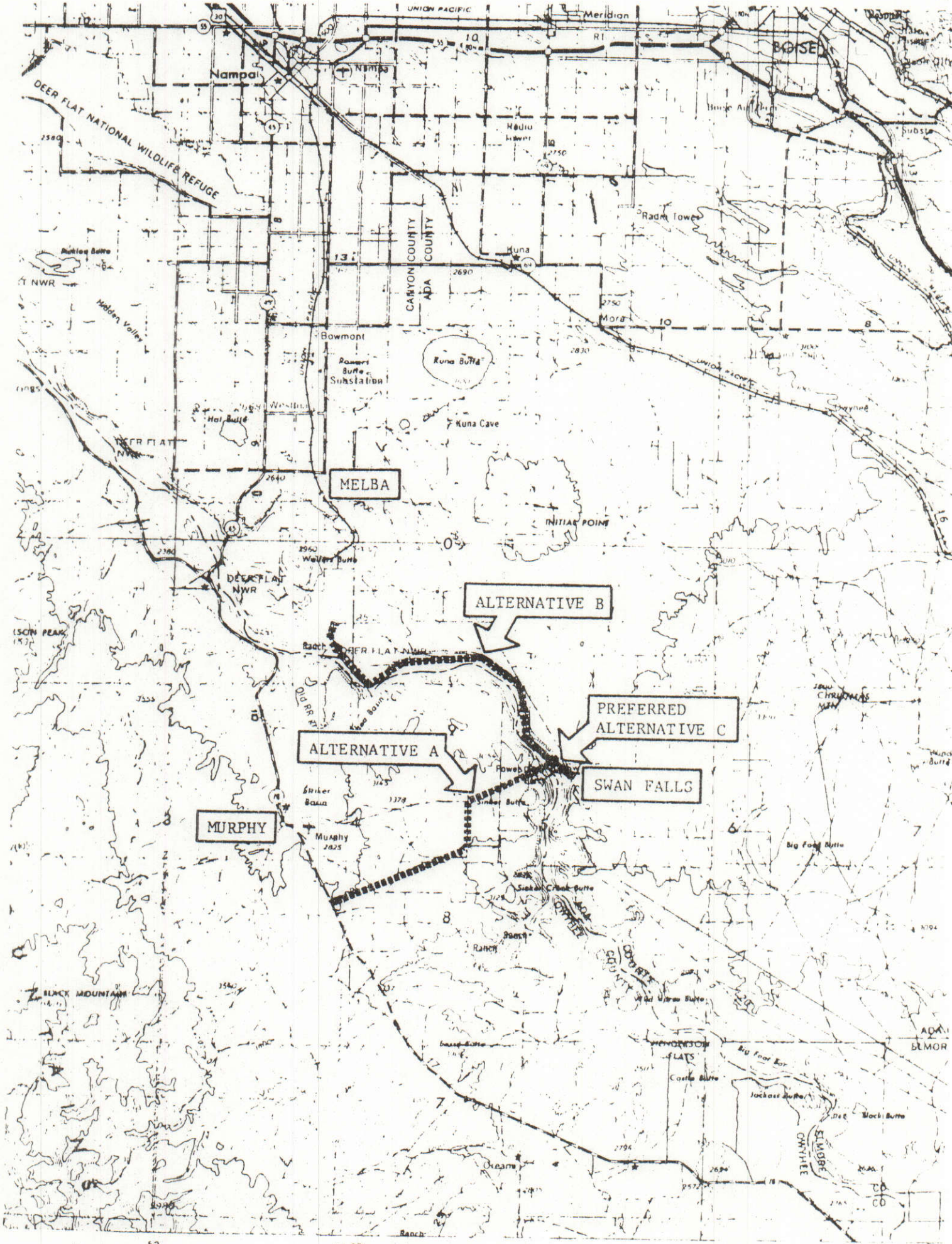
OCTOBER 1981 SHEET 1 OF 1 06E-44770

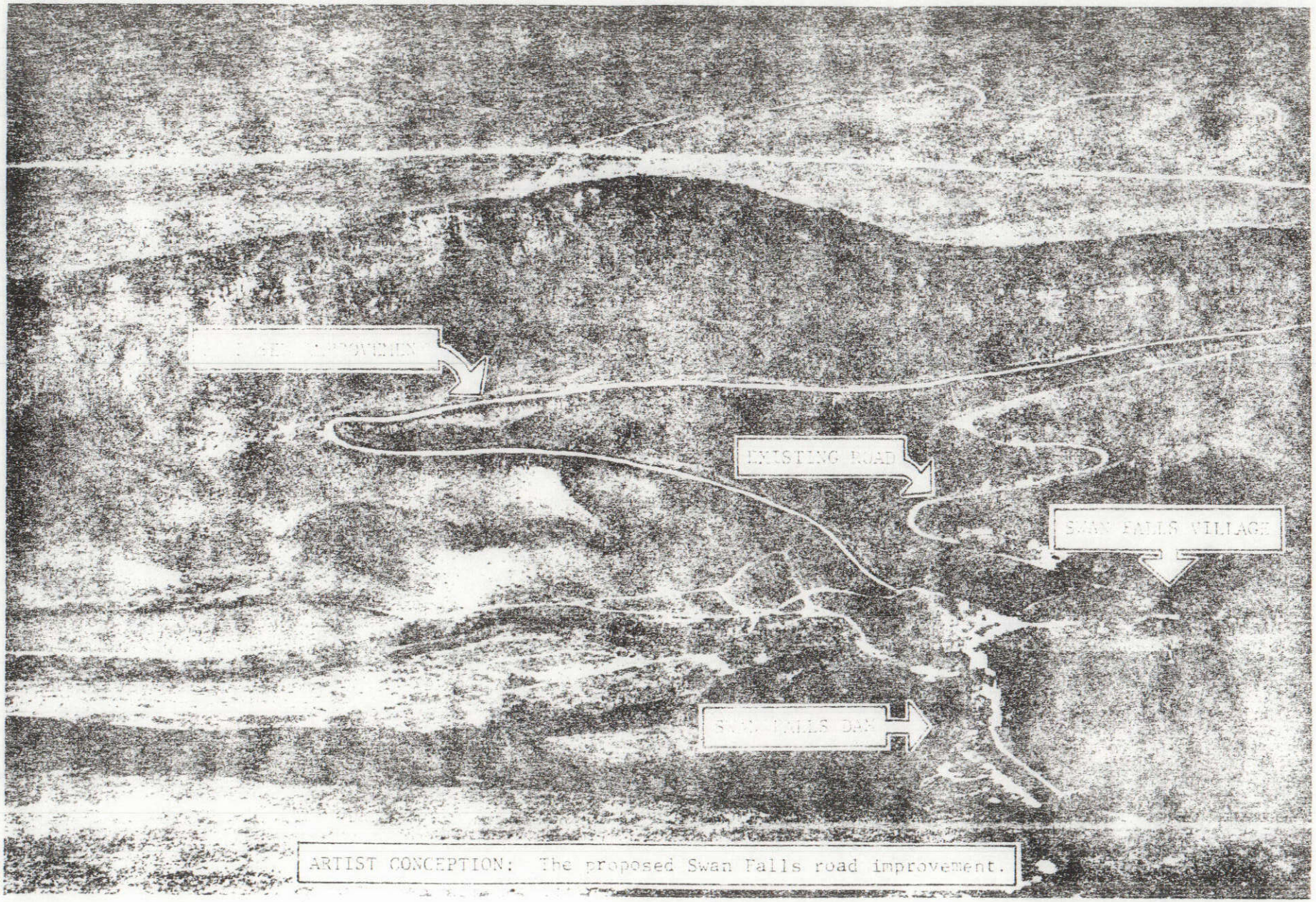


PROJECT Nº503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 9
PROPOSED TRANSMISSION FACILITIES
IDAHO POWER CO. OCTOBER 1981

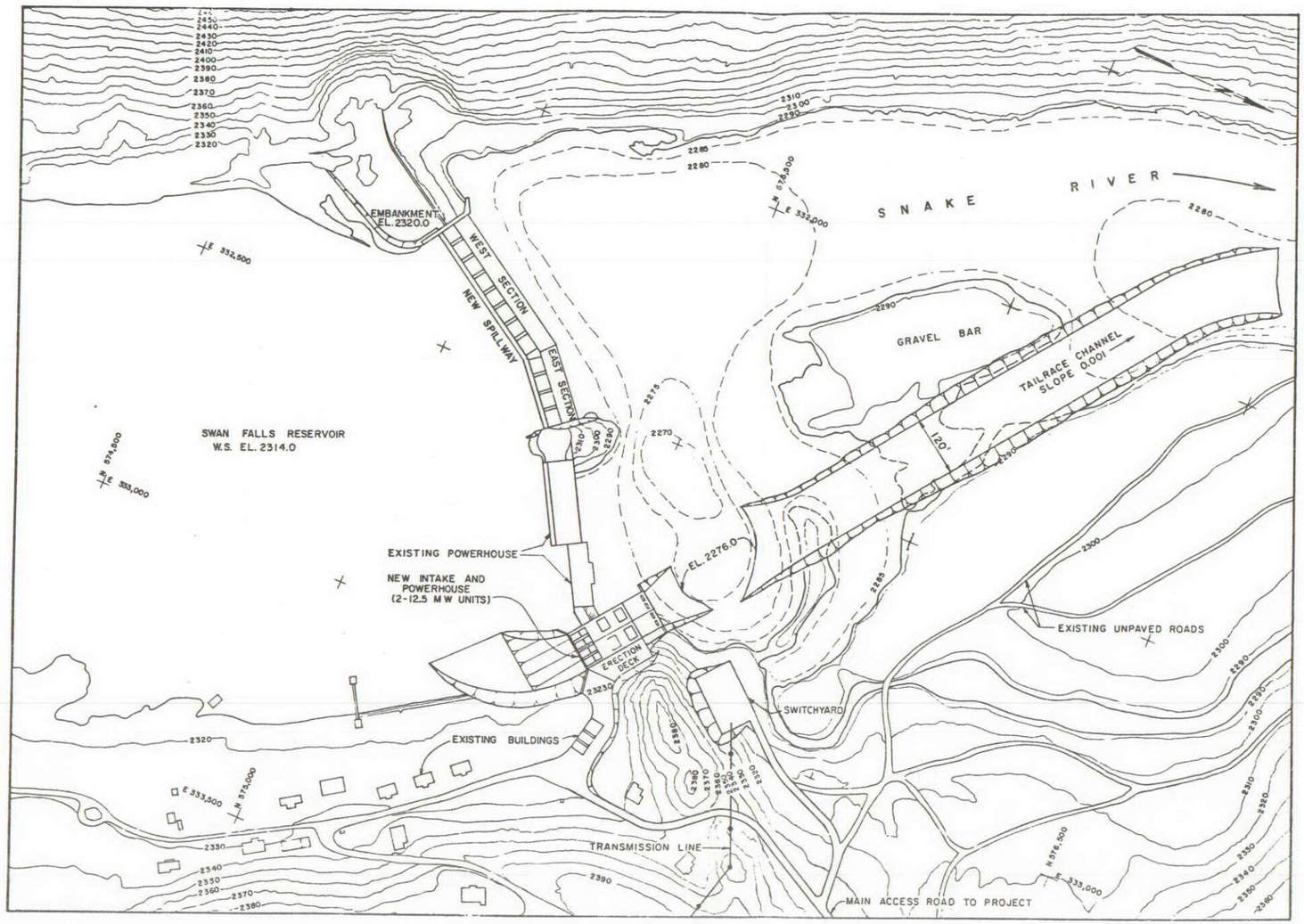


PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE II
LAND STATUS
IDAHO POWER CO. OCTOBER 1981


MELBA
ALTERNATIVE B
PREFERRED ALTERNATIVE C
ALTERNATIVE A
SWAN FALLS
MURPHY
DEER FLAT NATIONAL WILDLIFE REFUGE
Nampa
Meridian
BOISE
Kuna
Bowmont
Kuna Butte
Kuna Cave
INITIAL POINT
Murphy
Black Mountain
53
54 30'
55
56 15'
57

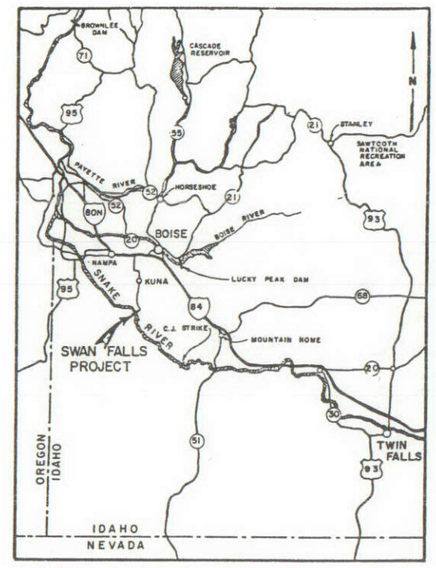


ARTIST CONCEPTION: The proposed Swan Falls road improvement.



PROJECT PLAN

SCALE 0 100 200 300 400 500 FEET
(1" = 100')



LOCATION MAP

SCALE 0 10 20 30 40 50 MILES

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U. S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

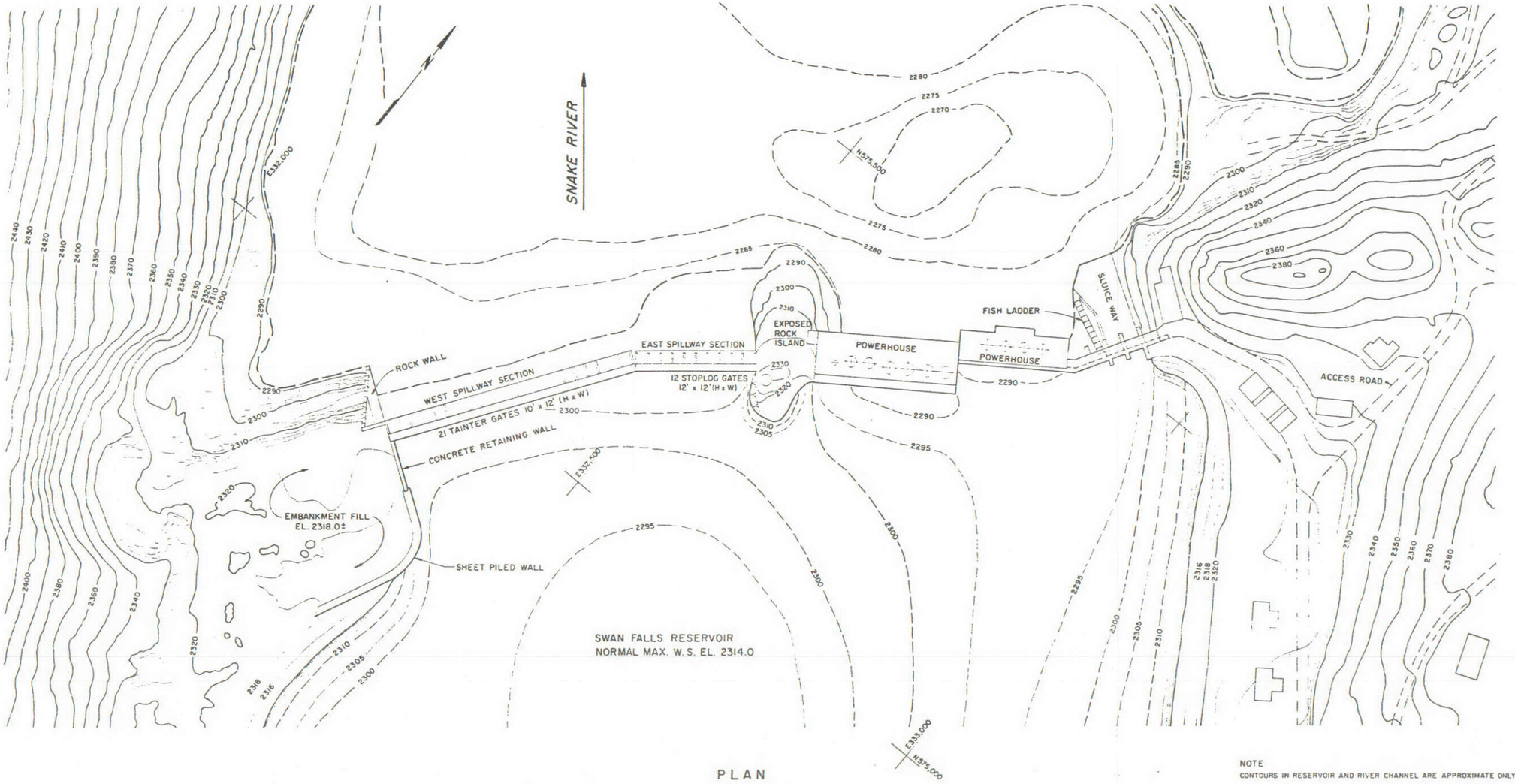
PROJECT 503 – IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

GENERAL PLAN

IDAHO POWER COMPANY
BOISE, IDAHO

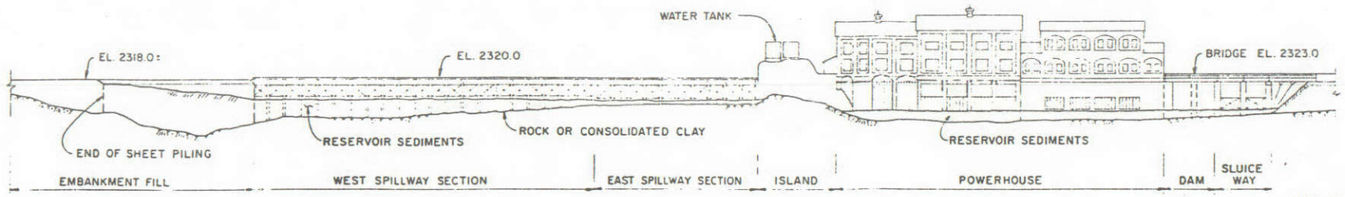
OCTOBER 1981 SHEET 1 OF 6 06E-44791



PLAN

NOTE
CONTOURS IN RESERVOIR AND RIVER CHANNEL ARE APPROXIMATE ONLY.

SCALE 0 50 100 150 200 250 FEET
(1" = 50')



UPSTREAM ELEVATION

PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

EXISTING STRUCTURES
PLAN AND ELEVATION
IDAHO POWER COMPANY
BOISE, IDAHO

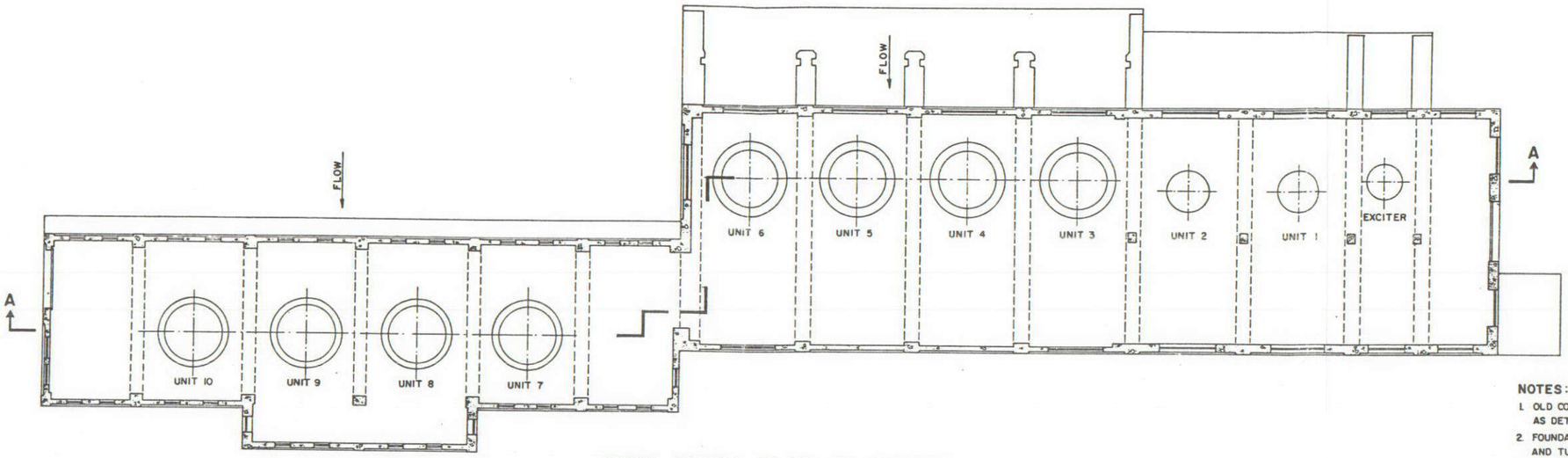
OCTOBER 1981 SHEET 2 OF 6 06E-44791

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

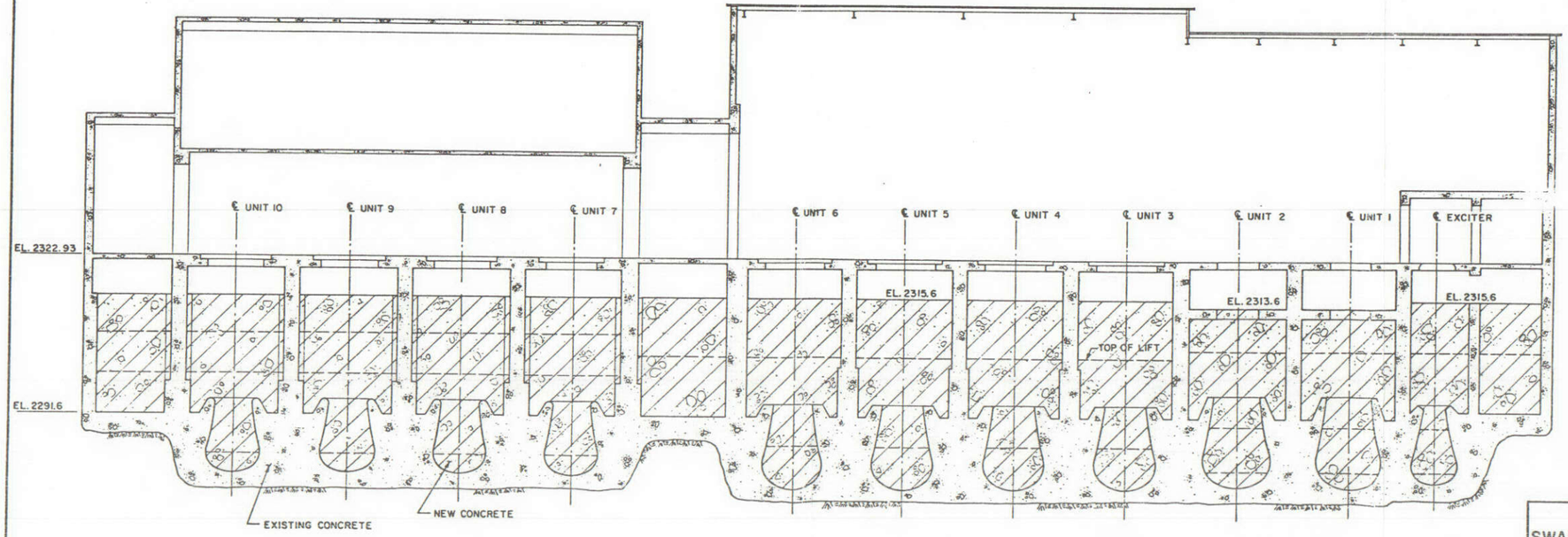
BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER



MAIN FLOOR PLAN - EL. 2322.93

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.



SECTION A-A

0 10 20 30 40 FEET

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

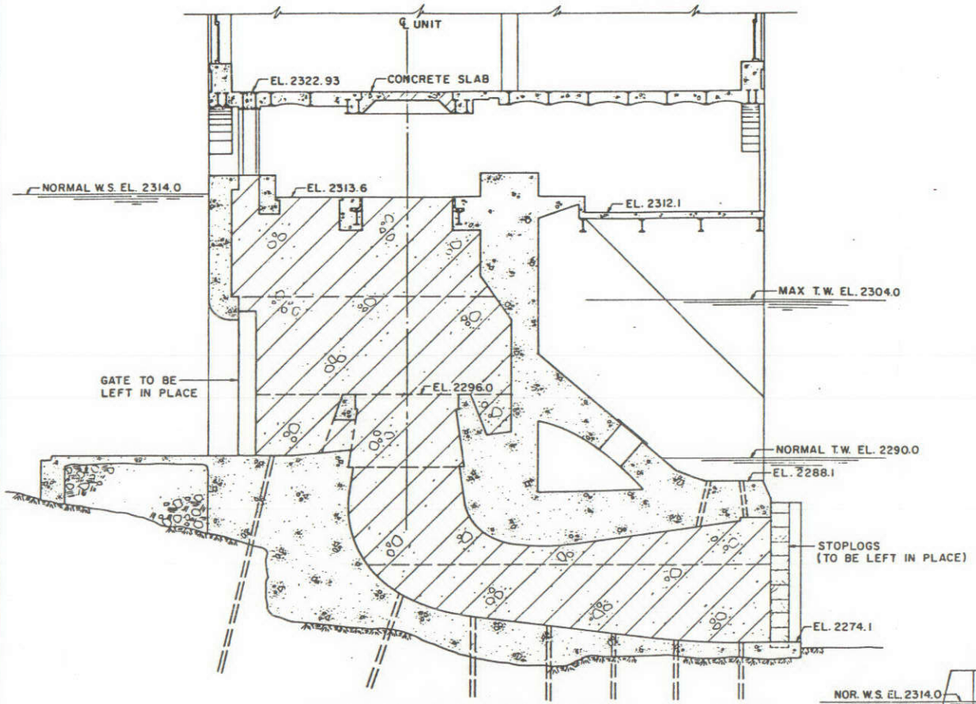
PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

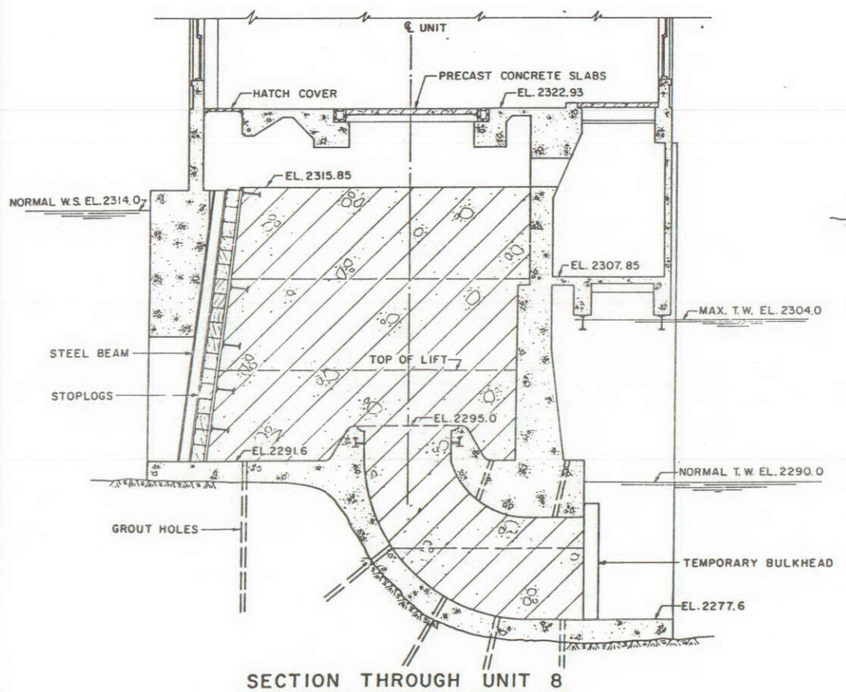
EXISTING POWERHOUSE STRUCTURE
PLAN AND SECTION

IDAHO POWER COMPANY
BOISE, IDAHO

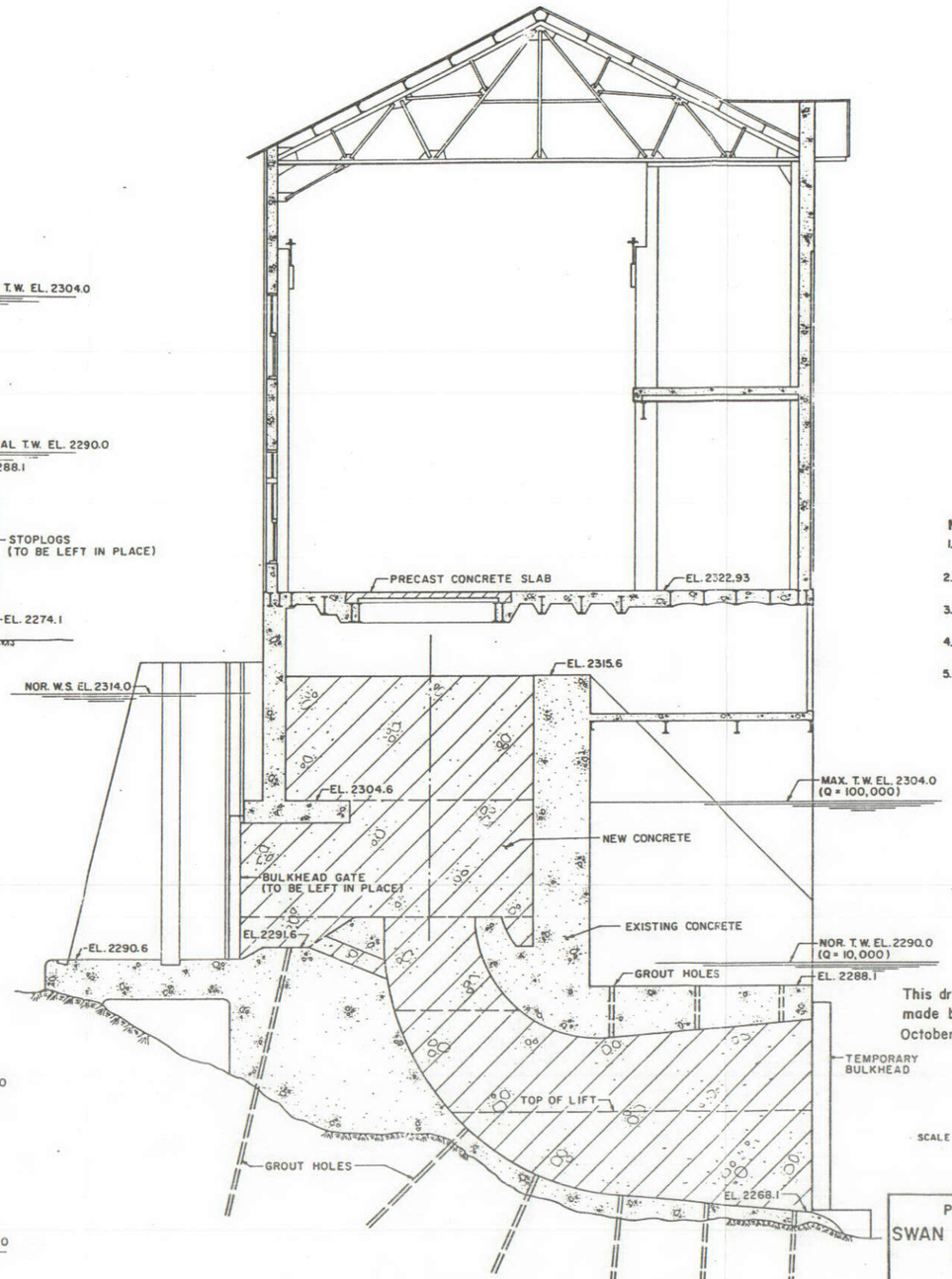
OCTOBER 1981 SHEET 3 OF 6 06E-44791



SECTION THROUGH UNIT 2
(TYPICAL FOR UNIT 1 & 2)



SECTION THROUGH UNIT 8
(TYPICAL FOR UNIT 7 THRU 10)



SECTION THROUGH UNIT 5
(TYPICAL FOR UNIT 3 THRU 6)

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 5 10 15 20 FEET

PROJECT 503 - IDAHO EXHIBIT F

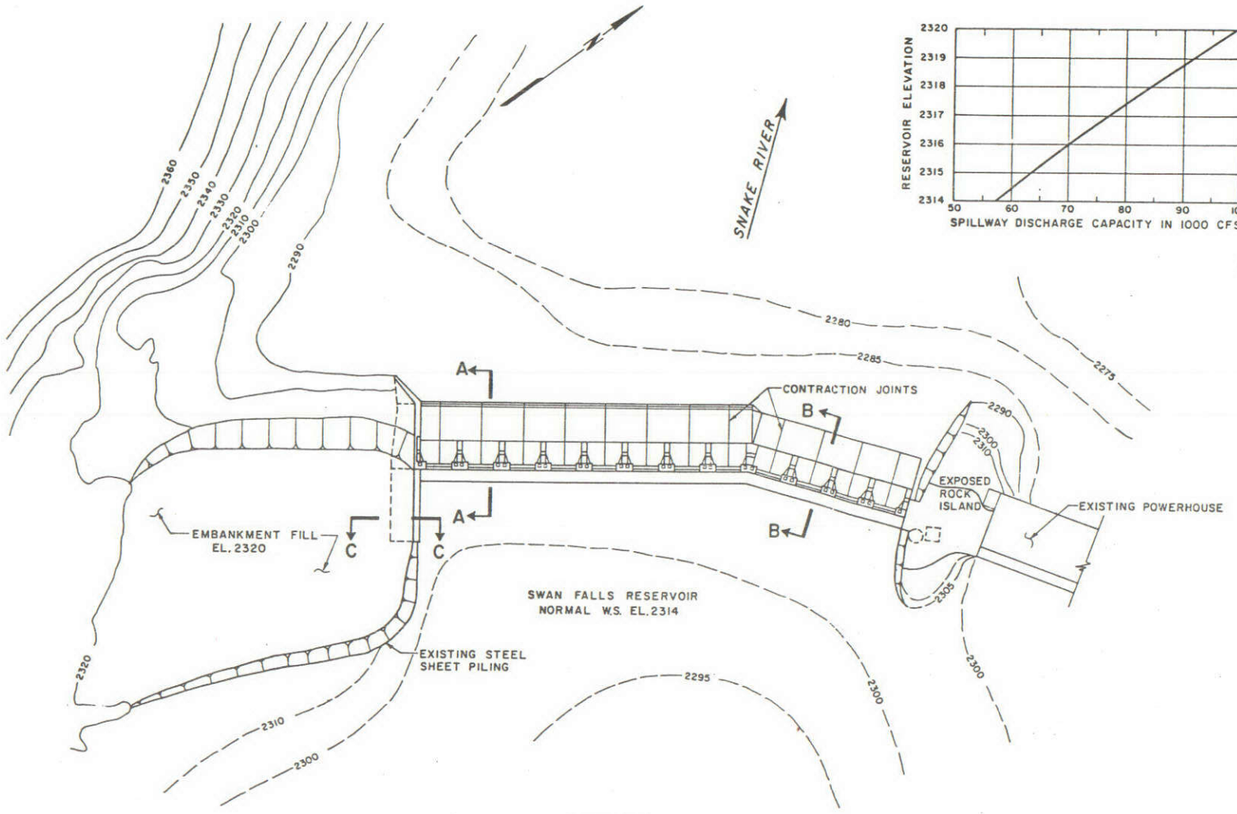
SWAN FALLS HYDROELECTRIC PROJECT

EXISTING POWERHOUSE STRUCTURE
SECTIONS

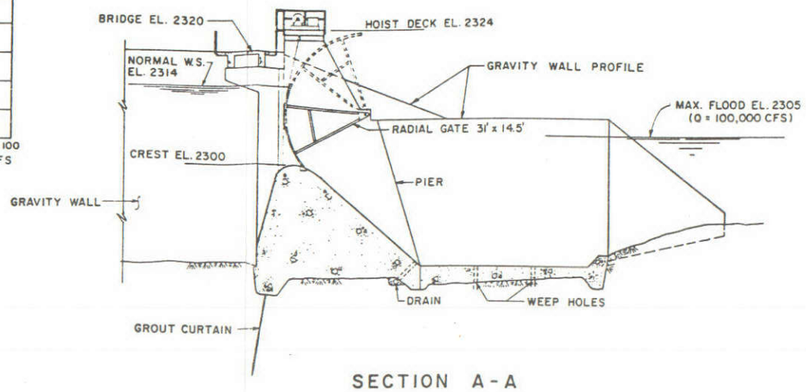
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 4 OF 6 06E-44791

38-3

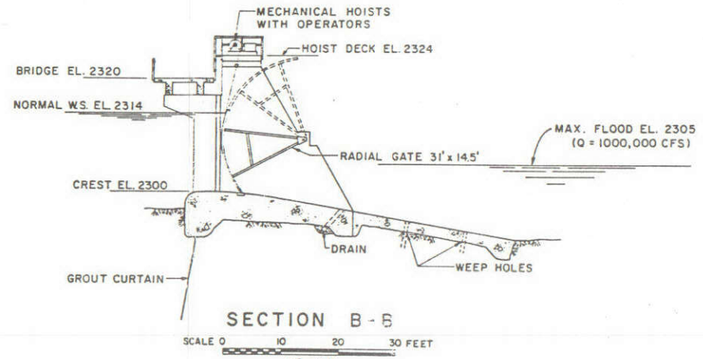


PLAN



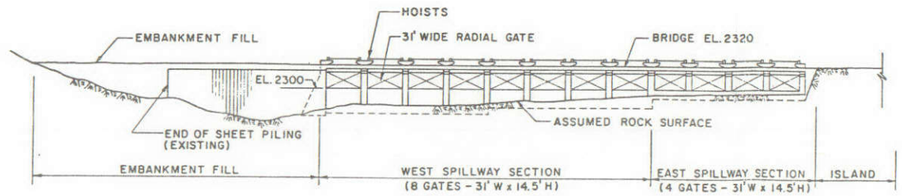
SECTION A-A

SCALE 0 10 20 30 FEET (1" = 10')

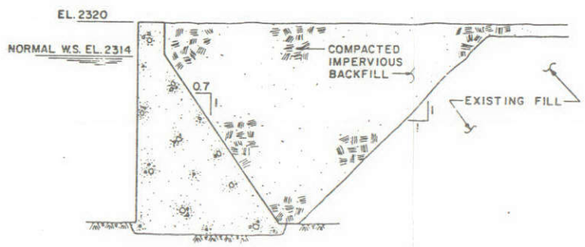


SECTION B-B

SCALE 0 10 20 30 FEET (1" = 10')



UPSTREAM ELEVATION



SECTION C-C

SCALE 0 10 20 30 FEET (1" = 10')

SCALE 0 50 100 150 200 FEET (1" = 50') EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____

CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

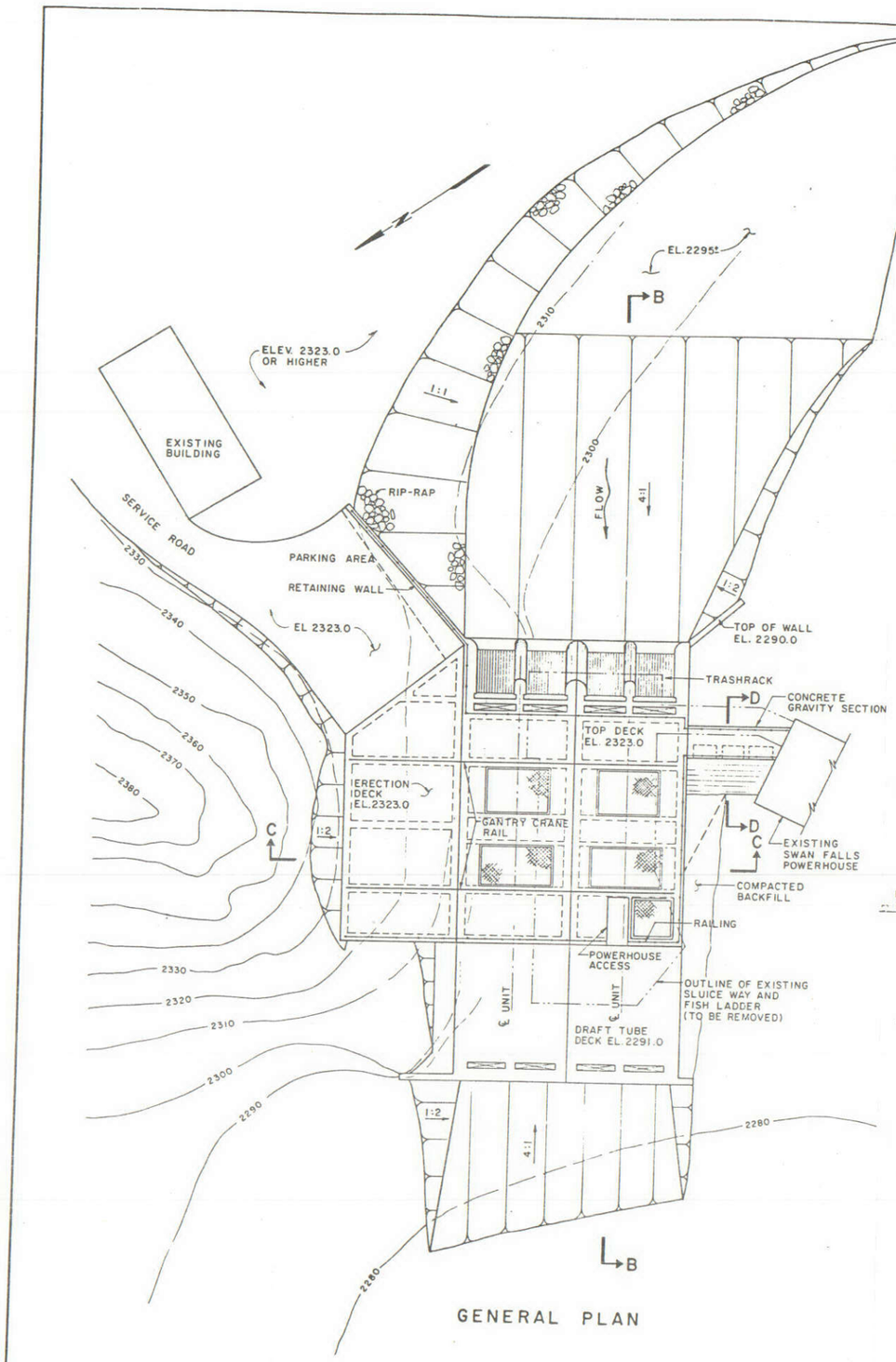
PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

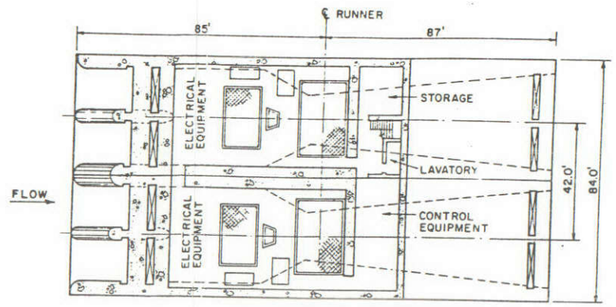
NEW SPILLWAY
PLAN AND SECTION

IDAHO POWER COMPANY
BOISE, IDAHO

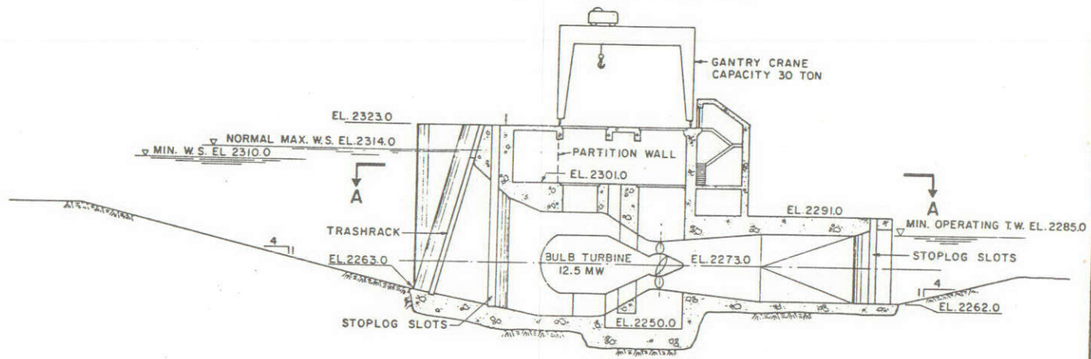
OCTOBER 1981 SHEET 5 OF 6 06E-44791



GENERAL PLAN



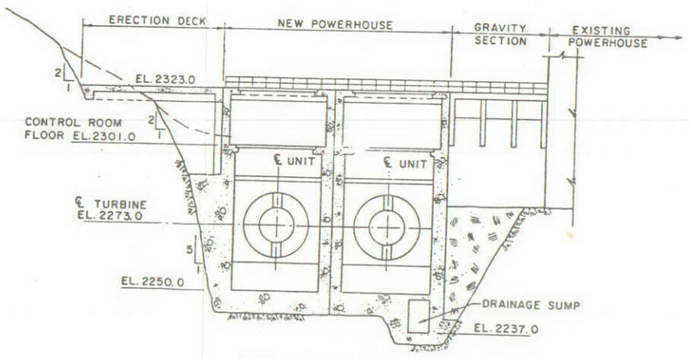
SECTION A-A



SECTION B-B



SECTION D-D



SECTION C-C

SCALE 0 20 40 60 80 FEET
(1" = 20')
EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 28th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

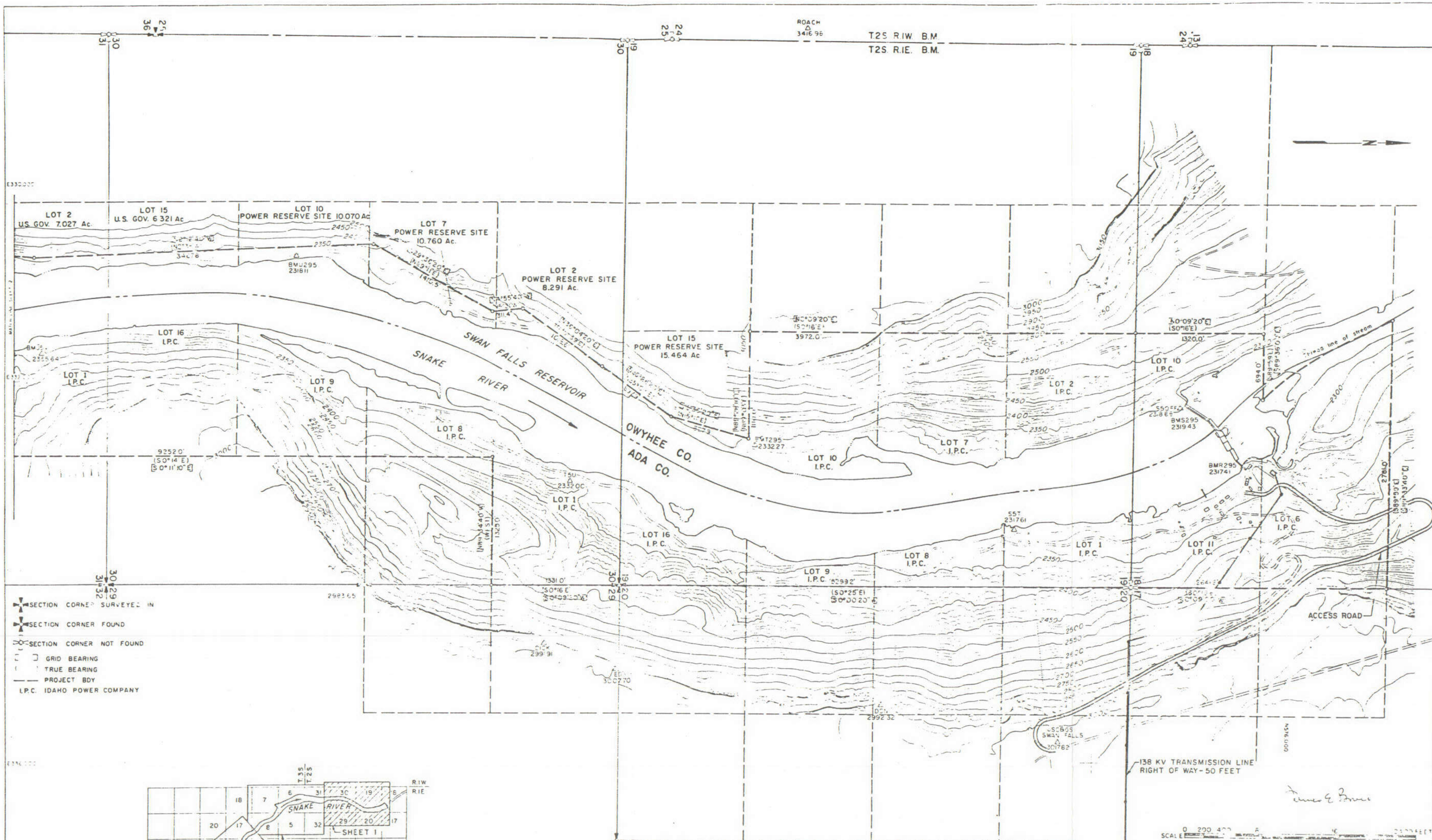
PROJECT 503 - IDAHO EXHIBIT F

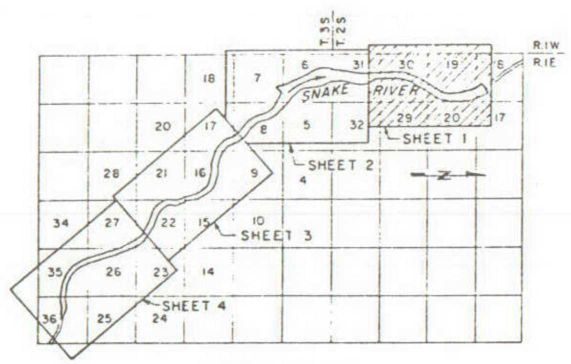
SWAN FALLS HYDROELECTRIC PROJECT

NEW POWERHOUSE
PLAN AND SECTIONS

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 6 OF 6 06E-44791





KEY MAP

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By ______
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
P.E. 698 - IDAHO

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 1 OF 4 06E-44792

SECTION CORNER SURVEYED IN
SECTION CORNER FOUNC
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
—— PROJECT BDY
I.P.C. IDAHO POWER COMPANY

T3S R1W B.M.
T3S R1E B.M.
T2S R1W B.M.
T2S R1E B.M.
T2S RIE B.M.
T3S RIE B.M.

LOT 3 U.S. GOV. 5.248 Ac.
LOT 4 U.S. GOV. 0.132 Ac.
LOT 15 U.S. GOV. 5.130 Ac.
LOT 2 U.S. GOV.
LOT 5 U.S. GOV. 9.496 Ac.
SNAKE RIVER
SWAN FALLS RESERVOIR
LOT 10 U.S. GOV. 6.056 Ac.
LOT 7 U.S. GOV. 7.174 Ac.
LOT 8 U.S. GOV. 11.672 Ac.
OWYHEE CO.
ADA CO.
NW ¼ OF NE ¼ U.S. GOV. 10.804 Ac.
LOT 11 U.S. GOV. 13.583 Ac.
LOT 7 PRIVATE
LOT 6 PRIVATE
LOT 2 U.S. GOV. 19.948 Ac.
LOT 16 I.P.C.
LOT 9 I.P.C.
LOT 8 I.P.C.
LOT 1 I.P.C.
Sinker Creek
LOT 1 U.S. GOV. 6.688 Ac.
NE ¼ OF SE ¼ PRIVATE
LOT 12 PRIVATE
LOT 5 U.S. GOV. 4.557 Ac.
LOT 3 U.S. GOV 5.806 Ac.
LOT 2 U.S. GOV. 5.130 Ac.
LOT 6 U.S. GOV. 3.557 Ac.
LOT 4 U.S. GOV. 6.292 Ac.
LOT 1 U.S. GOV. 11.290 Ac.
LOT 5 U.S. GOV. 7.585 Ac.

KEY MAP
SHEET 1
SHEET 2
SHEET 3
SHEET 4

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
P.E. 688 - IDAHO

CERTIFICATE

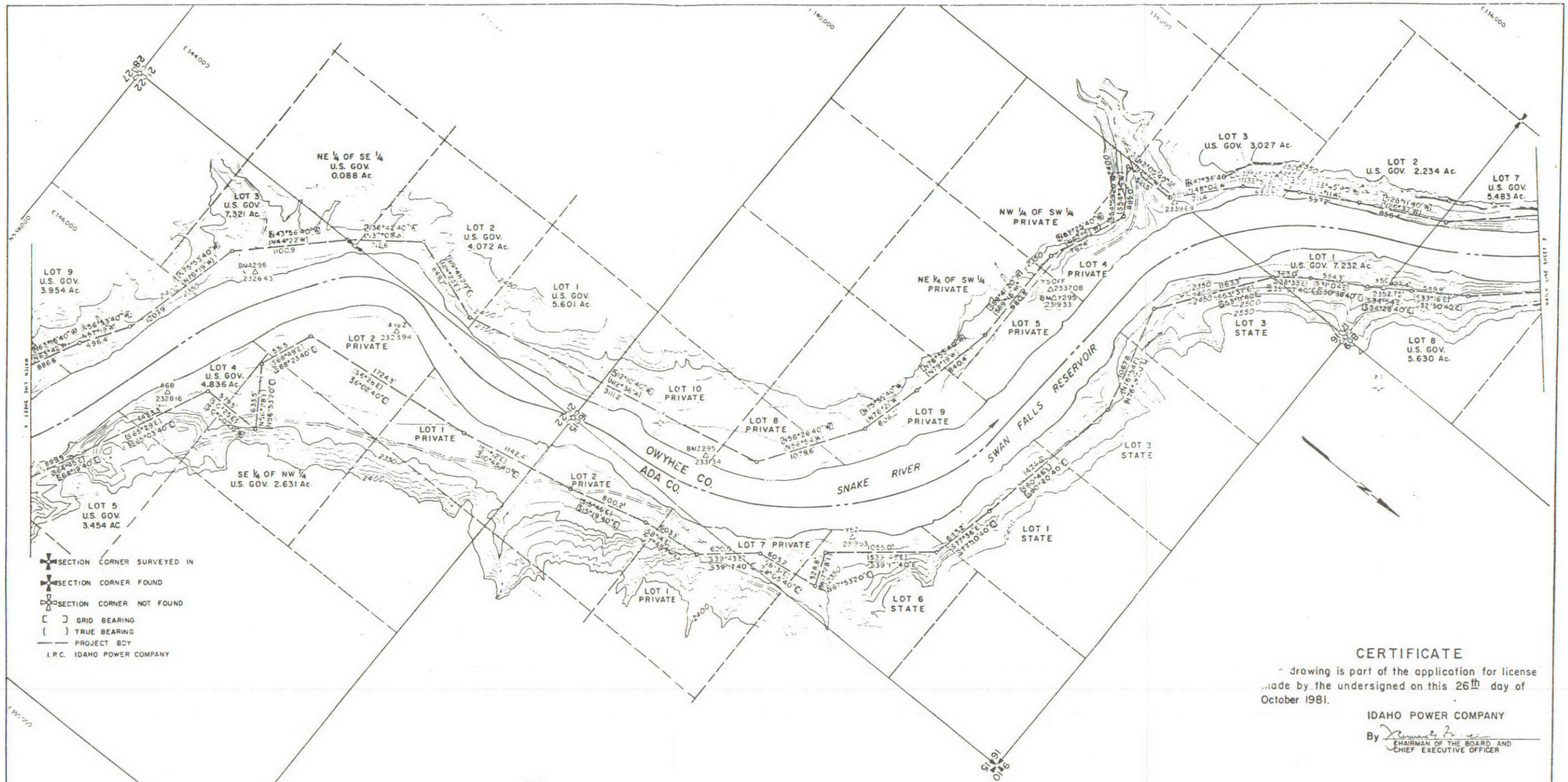
This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

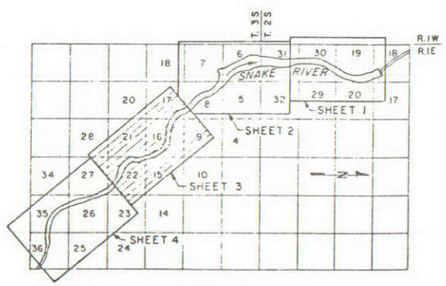
IDAHO POWER COMPANY
By
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 200 400 800 1600 2400 FEET (1" = 400')

PROJECT 503 IDAHO EXHIBIT G
SWAN FALLS HYDROELECTRIC PROJECT
PROJECT MAP
IDAHO POWER COMPANY
BOISE, IDAHO
OCTOBER 1981 SHEET 2 OF 4 06E-44792

35-2





KEY MAP

CERTIFICATE

drawing is part of the application for license ..ade by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

_____
Gomer H. Condit
PE 688 - IDAHO

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.0001455.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

SCALE 0 200 400 800 1600 2400 FEET
(1" = 400')

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 3 OF 4 06E-44792

SECTION CORNER SURVEYED IN
SECTION CORNER FOUND
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
—— PROJECT BDY
I.P.C. IDAHO POWER COMPANY

T3S R1E B.M.
T4S R1E B.M.

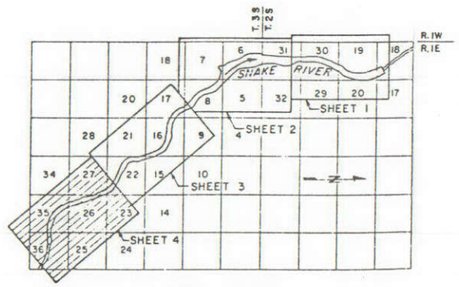
LOT 9 PRIVATE
LOT 8 PRIVATE
LOT 7 PRIVATE
LOT 6 PRIVATE
LOT 5 PRIVATE
LOT 4 PRIVATE
LOT 3 PRIVATE
LOT 2 PRIVATE
LOT 1 PRIVATE

LOT 4 U.S. GOV. 8.570 Ac.
LOT 3 U.S. GOV. 5.880 Ac.
LOT 7 U.S. GOV. 5.806 Ac.
LOT 6 1.544 Ac.
LOT 2 1.220 Ac.
LOT 4 U.S. GOV. 2.234 Ac.
LOT 3 U.S. GOV. 4.307 Ac.
LOT 3 U.S. GOV. 4.763 Ac.
LOT 2 U.S. GOV. 3.690 Ac.
LOT 8 U.S. GOV. 10.643 Ac.
LOT 4 U.S. GOV. 9.878 Ac.
LOT 2 U.S. GOV. 9.026 Ac.
LOT 1 U.S. GOV. 1.352 Ac.
LOT 1 U.S. GOV. 3.572 Ac.
LOT 7 U.S. GOV. 5.968 Ac.
LOT 6 U.S. GOV. 0.662 Ac.
LOT 5

SNAKE RIVER
SWAN FALLS RESERVOIR
OWYHEE CO.
ADA CO.
NE ¼ OF SW ¼ PRIVATE

T3S RIE. B.M.
T3S. R2E. B.M.

KEY MAP



LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY
By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

_____
Gomer H. Condit
PE 688 - IDAHO

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

SCALE 0 200 400 800 1600 FEET
(1" = 400')

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 4 OF 4 06E-44732

39-3

Form No. 217
7/94

RECEIVED
APR 25 1996
Department of Water Resources

FOR OFFICE USE ONLY
Amt. of Fee $: 600.00
Receipt No. C035190
Receipt By: JW
Date Receipted: 4-1-96

RECEIVED
APR 1 _ 1996
Department of Water Resources

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

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

1. Permit No. 02-07379 Telephone No. 208-388-2424 (Roger Fuhrman)

2. Name(s) of Permit Holder(s): IDAHO POWER COMPANY

3. Mailing Address: P. O. Box 70, Boise, Idaho, 83707

4. Source of Water: Snake River If **GROUNDWATER** (well), Date Drilled: mo._____ / yr._____

a. Well Driller: _____ Drilling Permit Number: ____-____-____-____

b. *OPTIONAL:*
Pump Horsepower: _____ Pressure (psi): _____ Dynamic pumping level (ft): _____

5. Use(s) (as authorized by the water right permit):

Domestic (No. of households): _____ Stockwater (No. and type of stock): _____

Irrigation (No. of acres): _____ Other: Power Generation

6. Total rate of diversion and/or volume for which proof is submitted: 6550 cfs **OR** _____ acre feet

7. Measuring Device Requirement: **(refer to the approval conditions on your permit and respond accordingly)**
(This question is not optional. Please check either yes or no. Proofs returned not checked accordingly, will be considered incomplete)

Measuring Device:	Is a measuring device required?	Yes ____ or	No X
	Has the measuring device been installed?	Yes ____ or	No X
Flow Measurement Port:	Is a flow measurement port required?	Yes ____ or	No X
	Has the measurement port been installed?	Yes ____ or	No X

8. Fee Enclosed: $ 600.00 (See Fee Schedule on back of the instructions for filing proof of beneficial use)

9. Person to contact to accompany the Department representative during field examination of the water system.

Name: Roger Fuhrman Telephone Number: 208-388-2424

Address: P.O. Box 70, Boise, ID 83707

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

APR 29 1996

Signature of permit holder: _____ Date: 4-24-96
(include your title, if on behalf of company of organization)

Form 204
11-91

RECEIVED
MAR 09 1994
Department of Water Resources

For Office Use Only
$15 Fee Receipted by JW
Date 3-10-94
Receipt No. C029769

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

REQUEST FOR EXTENSION OF TIME

TO PROVIDE ADDITIONAL TIME IN WHICH TO SUBMIT PROOF OF BENEFICIAL USE FOR A WATER RIGHT PERMIT

The Idaho Department of Water Resources will consider this form as a request that the permit holder(s) be granted an additional period of time in which to complete development of water right under the provisions of Section 42-204, Idaho Code.

Permit No. 02-07379

Name(s) of Permit Holder: Idaho Power Company

Mailing Address: P. O. Box 70, Boise, ID 83707

Date Proof is Due April 1, 1994 Telephone No. 208-383-2676

Describe what work has been completed toward the development of this water right:
(This must be filled out! If no work has been completed, show "none".)

Idaho Power is constructing two open pit type turbines, each with a maximum rating of 12,500 kw, and associated hydropower facilities consisting in part, of two generators, each with a maximum rating of 14,300 KVA. Unit #1 is expected to begin commercial operation by 3/9/94 Costing $ See Attached

The permit holder(s) has been unable to complete the remainder of the work for the following reasons:

See attached.

Permit holder(s) request an extension to July 1, 19 96.

FEE: $15.00

(Signature)*

*If other than permit holder, Power of Attorney must be supplied.

ACTION OF THE DEPARTMENT OF WATER RESOURCES

IT IS HEREBY ORDERED that the above request for extension of time be APPROVED and the time in which to submit proof of beneficial use is extended to April 1, 1996.

APPROVED

APR 29 1996

Signed this 11th day March, 19 94

Chief, Water Allocation Bureau

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

In the matter of Application for Permit No. 02-7379 in the Name of Idaho Power Company	MEMORANDUM DECISION AND ORDER

This matter having come before the Idaho Department of Water Resources (department) as a result of reviewing Application for Permit 02-7379 for approval, the department Finds, Concludes and Orders as follows:

FINDINGS OF FACT

1. On March 31, 1982, the Idaho Power Company (applicant) filed an application for permit with the department proposing the diversion of 6,550 cubic feet per second (cfs) of water of the Snake River at a point within lots 10 and 11, Section 18, T2S, R1E, BM, Ada and Owyhee counties. The proposed use of the water is for power generation purposes at the existing Swan Falls dam site located in Lot 11, Section 18, T2S, R1E, BM and the proposed season of use is January 1 through December 31 of each year.

2. The application was published on May 5 and 12, 1982 in the Owyhee Nugget, a newspaper of general circulation in Owyhee County, Idaho and on May 6 and 13, 1982 in The Idaho Statesman, a newspaper of general circulation in Ada County, Idaho.

3. On May 20, 1982, the application was protested by the South Board of Control, Owyhee Project. On October 25, 1982, the protest was withdrawn.

4. The appropriation sought is for a run-of-river project and there will be no change in the upstream or downstream flow of the river. Storage will not be increased over the storage impounded for the existing project.

5. On December 22, 1982, the Federal Energy Regulatory Commission (FERC) issued a new license (Major) in connection with the existing Swan Falls Project (No. 503). The license authorized redevelopment of the project including a new spillway, a new powerhouse and an increased total installed capacity of 25 MW, replacing the existing capacity of 10.4 MW.

6. On April 30, 1987, FERC issued an amended license deleting authorization to add 14.6 MW of new capacity to the existing facility.

7. The applicant is in the process of submitting a second application to amend the FERC license which would allow the applicant to again add 14.6 MW of new capacity to the existing facility.

8. Section 42-203A(5), Idaho Code, provides that an application may be rejected or partially approved if the proposed use is such:

a) that it will reduce the quantity of water under existing water rights, or

b) that the water supply itself is insufficient for the purpose for which it is sought to be appropriated, or

c) where it appears to the satisfaction of the department that such application is not made in good faith, is made for delay or speculative purposes, or

d) that the applicant has not sufficient financial resources with which to complete the work involved therein, or

e) that it will conflict with the the local public interest.

9. The applicant is a party to the contract and agreement affecting rights to water use at Swan Falls dam and to use of water tributary to the Snake River upstream from Swan Falls dam.

CONCLUSIONS OF LAW

1. The proposed use of water is non-consumptive in nature and will not increase or decrease the flows of the Snake River which exist in connection with the existing project.

2. The proposed use will not increase the amount of water stored over the amount already stored in connection with the existing project.

3. The proposed use is non-consumptive in nature and will not reduce the quantity of water under existing water rights.

4. The flows of the Snake River are sufficient at times to provide the water to increase the power generation capability of the Swan Falls facility.

5. The application is made in good faith, since the applicant is in the process of obtaining other permits needed to construct and operate the project.

6. The applicant has sufficient financial resources with which to complete the project.

7. The application is in the local public interest.

8. The department should approve the application and issue a permit, provided, however, such permit should include conditions as necessary to acknowledge certain agreements and contracts.

ORDER

It is therefore, hereby, ORDERED that Application for Permit No. 02-7379 be approved subject to the following conditions:

1. The Idaho Power Company (permit holder) shall either install a measuring device or provide a certified measurement or flow computation prepared

RECEIVED
MAY 15 1989

by a professional engineer based upon system design to show the amount of water beneficially used in the power generating facility.

2. The diversion and use of water under this permit is subject to the control of the watermaster of any water district established on the reach of the Snake River which includes Swan Falls dam.

3. 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.

4. 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 FERC. 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.

5. The water right acquired under this permit shall be junior and subordinate to all rights to the use of water from the Snake River and sources tributary thereto upstream from Swan Falls dam within the state of Idaho that are initiated later in time than the priority date of this permit and shall not give rise to any right or claim against future rights to the use of water within the state of Idaho initiated later in time than the priority of this permit.

6. The director retains jurisdiction of this permit in order to limit the use of water for hydropower generation purposes to a specific term of years as required by Section 42-203B(7), Idaho Code.

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

8. This permit is specifically subject to the agreement among the state of Idaho, the Governor, the Attorney General and Idaho Power Company dated October 25, 1984. It is also subject to the Contract between the state of Idaho and the Idaho Power Company dated October 25, 1984.

9. Without regard to the right granted to the permit holder to the beneficial use of 6,550 cfs pursuant to Permit 02-7379, water may only be claimed and used thereunder if and when the water is physically available and such permit shall not give rise to any claim on the part of the permit holder to a flow requirement in the Snake River which exceeds 3,900 cfs during the summer season and 5,600 cfs during the winter season as specified in the above described agreement and contract.

10. Diversion and use of water by the reconstructed Swan Falls power project shall be pursuant to water rights held by the permit holder (including Permit 02-7379) and as such rights are modified by the agreement and contract and not otherwise.

11. Approval of this permit is subject to the requirement that the permit holder shall advise the FERC through its licensing process [Section 9(b) FPA] that the permit holder has been issued a water right permit for the flow required to operate the planned power project subject to conditions.

Mar 1 3 1989

12. The failure of the permit holder to comply with the conditions of the permit or to obtain appropriate approvals from the FERC to construct and operate this proposed project pursuant thereto is cause for the department to cancel this permit.

13. Plans of the proposed redevelopment of the project shall be submitted to the department for review and approval pursuant to provisions of Sections 42-1709 through 42-1721, Idaho Code, and the Safety of Dams Rules and Regulations before construction is authorized.

14. Proof of construction of works and application of water to beneficial use shall be submitted to the department on or before April 1, 1994.

Dated this 10TH day of April, 1989.

R. KEITH HIGGINSON
Director

CERTIFICATE OF MAILING

I HEREBY CERTIFY That on this the 11th day of April, 1989, a true and correct copy of the foregoing MEMORANDUM DECISION AND ORDER was mailed postage prepaid to:

Idaho Power Company
P. O. Box 70
Boise, ID 83707

RITA I. FLECK
Secretary/Records Manager

RECEIVED
MAY 15 1989

Form 202
3/78

Ident. No. 02-7379

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

Application

To appropriate the public waters of the State of Idaho

1. Name of applicant Idaho Power Company Phone 383-2200

   Post office address P O Box 70, Boise, Idaho 83707

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

3. Location of point of diversion is _____ ¼ of _____ ¼ of Section 18 Township 2S

   Range 1 E B.M. Ada County, additional points of diversion if any: _____

   Lots 10 and 11, Section 18, T 2S, R 1 E, BM, Ada and Owyhee Counties

4. Water will be used for the following purposes:

   Amount 6550 cfs (cfs or acre-feet per annum) for power generation purposes from Jan 1 to Dec 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. 6550 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Power plant, replacement of existing spillway, and upgrading the existing powerhouse to serve as a dam with discontinuance of its present operation.

   b. Height of storage dam 25 feet, active reservoir capacity 900 acre-feet; total reservoir capacity 900 acre-feet, materials used in storage dam: _____

   Period of year when water will be diverted to storage Jan 1 (Month/Day) to Dec 31 (Month/Day) inclusive.

   c. Proposed well diameter is NA inches; proposed depth of well is NA 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: Lot 11 _____ of Section 18 Township 2S

      Range 1E B.M.

      (2) Amount of power to be generated: 17,835 horsepower under 24 feet of head.

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

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

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

RECEIVED
MAY 13 1969

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. Water Right No. 02-2032, Old No 14362 (4,000 cfs, priority - 7/29/19); Water License, August 4, 1911, signed by A E Robinson (1840 cfs, priority - 1/17/00) Water License dated August 6, 1911 signed by A E Robinson (1460 cfs, priority 4/17/00); CT Decree - Trade Dollar vs Cruzen, et al, (2150 cfs - priority 1/17/00).

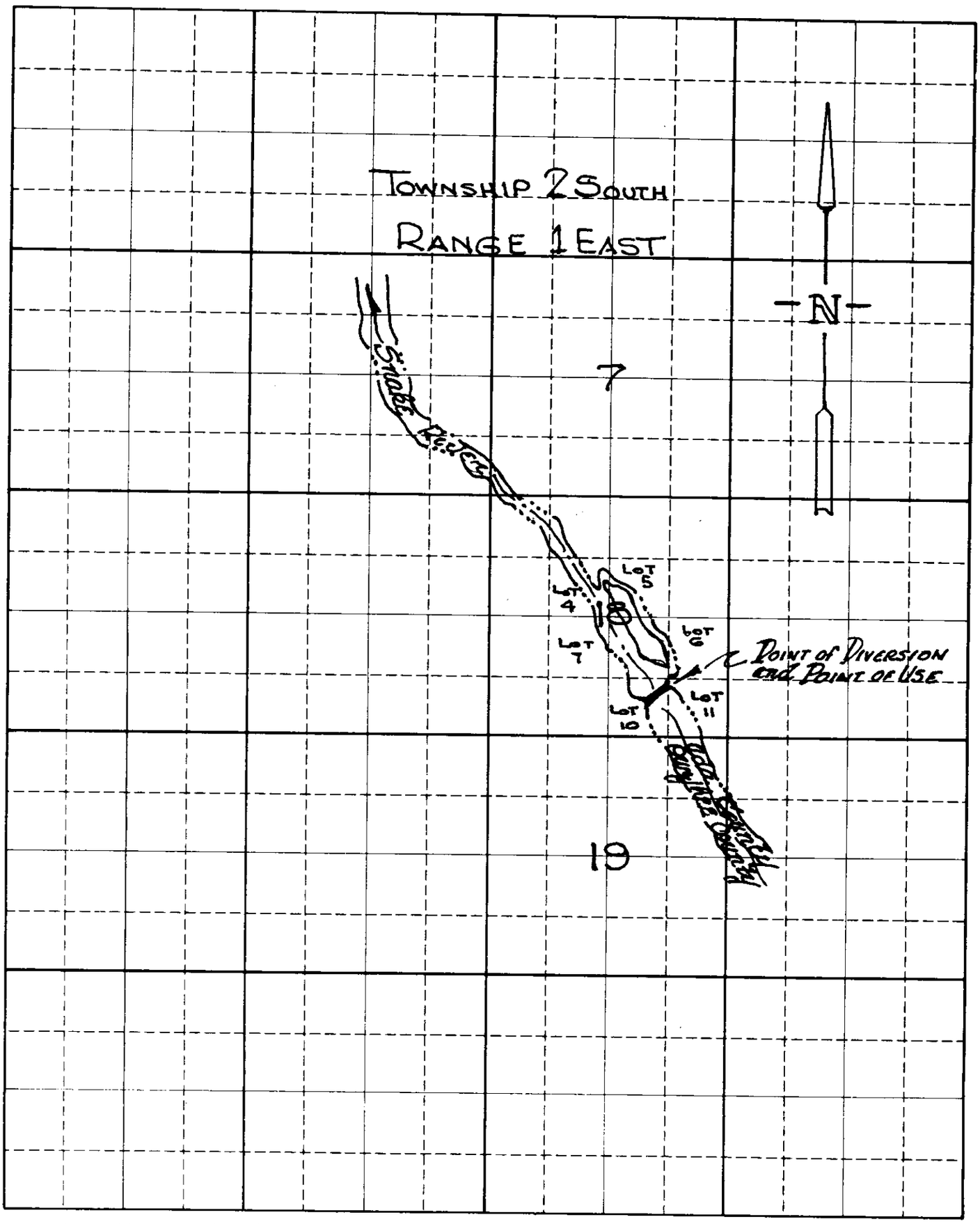
9. a. Who owns the property at the point of diversion Idaho Power Company

b. Who owns the land to be irrigated or place of use NA

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing _____

10. Remarks This application is for water to be used in Idaho Power Company's planned rehabilitating, reconstructing, rennovating, and upgrading of its Swan Falls Project. Power generation is to be increased from 10 MW to 25 MW without raising the dam or reservoir surface elevation. To do this, Idaho Power Company will utilize 16,000 cfs total, 9,450 cfs of which is already under license or decree.

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



Scale: 2 inches equal 1 mile

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

FILMED
MAY 15 1989

C. E. Bissell

(Applicant) C E Bissell
Vice President - Power Plant
Construction and Operations

Proposed priority March 31, 1982

Received by JP Date 3/31/82 Time 3:00 #
Preliminary check by JG Fee $ 9,275.00 22840
Receipted by JP Date 4/1/82
Publication prepared by jp Date 4/29/82
Published in Idaho Statesman & Owyhee Nugget
Publication dates 5/6 & 5/13/82
Publication approved JP Date 5/24 82
Priority reduced to _____ Reason _____

Protests filed by: South Board of Control, Owyhee Project by
Roderick B. Wood, Attorney
protest withdrawn 10/26/82
Copies of protests forwarded by jp
Hearing held by _____ Date _____
Recommended for (approval) denial by DBS

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. 02-7379, 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 April 1, 1994.

   c. Other: PURSUANT TO MEMORANDUM DECISION AND ORDER.

2. Denial of said application is for the following reasons: _____

Witness my hand this 10TH day of April 1989.

R. Keith Higginson
Director

MICROFILMED
MAY 1 3 1989

Gem Irrigation District

Ridgeview Irrigation District

DBS

South Board of Control, Owyhee Project

Homedale, Idaho 83628

Phone 337-3760

BEVERLY FISHER
Treasurer

Clyde Hutton, Jr.
~~XXXXXXXXXXXX~~
Secy.-Mgr.

October 25, 1982

Department of Water Resources
State Office
373 W. Franklin St.
Boise, Idaho 83720

Attn: Dave Shaw

Dear Mr. Shaw:

In June of this year, our attorney, Barry Wood, filed a protest on behalf of the Gem Irrigation District against a water filing made by Idaho Power on the Snake River.

After reviewing their plans for the amended application for a new license (Project No. 503 - Swan Falls Hydro-Electric Project), we find nothing that will interfere with the water right now being used by the South Board of Control in the name of the Gem Irrigation District at the Gem Pumping Plant located 2½ miles above the Marsing Townsite on the West bank of the Snake River.

Please consider our protest withdrawn.

Sincerely,

C Clyde Hutton, Jr.

Clyde Hutton, Jr.

cc: Mr. Barry Wood, Atty.

CH/jy

MICROFILMED

MAY 1 3 1989

RECEIVED

OCT 26 1982

Department of Water Resources
Western Regional Office

SOUTH BOARD OF CONTROL
P.O. BOX 67
HOMEDALE, IDAHO 83628

BOISE, ID 837
PM
25 OCT
1982

DEFEAT
MUSCULAR DYS
SUPPORT
20

Department of Water Resources
State Office
373 W. Franklin St.
Boise, Idaho 83720

Attn: Mr. Dave Shaw

Form 205/206
7/81

No. 02-7379

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

RECEIVED
APR 28 1982
Department of Water Resources
Western Regional Office

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

1. Individual Applicant or Individual Members of a Partnership:

I, _____ of _____,
(name) (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, Paul L Jauregui of Boise,
(name) (city)

County of Ada, State of Idaho, being duly sworn, depose and say: That I am the designated registered agent of the Idaho Power 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 Boise (city) Idaho, wherein are kept the corporate records required by Section 30-1-52, Idaho Code: and that Idaho Power 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)

[x] 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.

Idaho Power Company
By: Paul L Jauregui
Applicant Secretary

State of Idaho)
County of Ada) ss.

On this 26th day of April, 19 82, personally appeared before me the signer(s) of the above instrument, who duly acknowledged to me that he (she) (they) executed the same.

Sally L Dupont
Notary Public residing at
Boise, Idaho

seal

My commission expires:
12-31-82

MICROFILMED
MAY 15 1989

DBS

RICHARD B. EISMANN
ATTORNEY AT LAW
112 W. IDAHO AVENUE
POST OFFICE BOX 36
HOMEDALE, IDAHO 83628

ASSOCIATES:
DANIEL T. EISMANN
RODERICK B. WOOD

TELEPHONE:
(208) 337-3134
(208) 337-3139

May 20, 1982

RECEIVED
MAY 2 1 1982
Department of Water Resources
Western Regional Office

Director
Idaho Department of Water Resources
92 South Cole Road
Boise, Idaho 83709

Re: Protest of Application No. 02-7379

Dear Director:

I represent the South Board of Control. Pursuant to Idaho Code Section 43-203, I submit the following:

NAME OF PROTESTANT: South Board of Control, Owyhee Project

ADDRESS OF PROTESTANT: P. O. Box 67, Homedale, Idaho 83628

THE APPLICATION: The application to which the protestant objects is that application for a permit to appropriate the public water of the State of Idaho filed by Idaho Power Company, No. 02-7379, a copy of which is attached hereto as Exhibit A and is by this reference incorporated herein.

OBJECTIONS: The primary objection at this point is that, if the application is granted, this would or could substantially reduce the minimum flow of the river at the South Board's Marsing Pumping Plant, thereby affecting the necessary water supply. Additionally, the State currently has no means of policing the river's flow to protect the required flow to keep the pumps going during irrigation season. The amount applied for, 6550.00 cfs may be all of the water in the river during peak pumping time.

The South Board of Control reserves the right to amend this protest to set forth additional objections as more facts are discovered.

REQUEST FOR A MORE DEFINITE STATEMENT: Request is hereby made for a more definite statement regarding the above numbered application for a permit so that we may be in a better position to decide whether or

MICROFILMED
MAY 15 1989

not to continue this protest. The more definite statement should consist of the following things among others:

1. the plan;
2. the map;
3. the site of diversion or damming;
4. the description of the proposed storage;
5. the description of all of the proposed works;
6. the anticipated fluctuation of the river flow during the irrigation pumping season.

We would further request that the hearings on this protest be held at the Magistrate Courthouse, Homedale, Owyhee County, Idaho.

Upon receipt of the above requested materials from your office, I will then contact the above named applicant, and request that we get together prior to a hearing date to see if we can resolve this matter between ourselves.

If you have any further questions or suggestions regarding this matter, please advise.

Thank you very much for your prompt attention to this matter and your cooperation on the same.

Very truly yours,

Roderick B. Wood

Roderick B. Wood
RBW/js

CLT: South Board of Control

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

RECEIVED
MAY 1 1982

EXHIBIT A

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:

02-7379

IDAHO POWER CO.
P.O. BOX 70, BOISE, ID 83707
Source: SNAKE RIVER tributary to COLUMBIA RIVER
Date Filed: 03/31/1982
Amount: 6550.00 CFS
Diversion Point: LOT 10 LOT 11 Sec 18 T 02S R 01E, ADA Co. POINT OF DIVERSION ALSO IN OWYHEE COUNTY.
Use: POWER (6550.00 CFS) from 01/01 to 12/31
Place of Use: LOT 11 Sec 18 T 02S R 01E
Diversion Means: POWER PLANT & POWER HOUSE

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, 92 S. Cole Road, Boise, Idaho 83709 on or before May 24, 1982.

A. Kenneth Dunn
Director

Published in the Owyhee Nugget, Marsing, Owyhee County, Id., 5/5 & 5/12/82.

MICROFILMED
MAY 15 1982

RICHARD B. EISMANN
ATTORNEY AT LAW
HOMEDALE, IDAHO 83628

HOMEDALE
MAY
1982

CERTIFIED
P21 [illegible]459059
MAIL

ADDRESS CORRECTION REQUESTED

TABLE D-1

SWAN FALLS PROJECT
SUMMARY OF ESTIMATED COST

FERC Account	Item	Oct.1981 Cost ($)
	PRODUCTION PLANT	
330	Land and Land Rights	-
331	Structures and Improvements	12,260,500
332	Reservoirs, Dams and Waterways	8,081,000
333	Turbines and Generators	10,690,000
334	Accessary Electrical Equipment	1,057,000
335	Miscellaneous P.H. Equipment	1,342,500
	Subtotal Production Plant	33,431,000
	TRANSMISSION PLANT	
350	Land and Land Rights	-
352	Sutstation Structures	86,000
353	Substation Equipment	490,000
354 & 356	Transmission Line and Tap	201,000
	Subtotal Transmission Plant	777,000
	GENERAL PLANT	
395	Shop, tools and garage equipment	100,000
	Subtotal	34,308,000
	Contigencies (15%+)	5,142,000
	Subtotal	39,450,000
	Engineering and Adm (12%+)	4,750,000
	Subtotal Direct Cost	44,200,000
	Interest During Construction	5,005,000
	SUBTOTAL CAPITAL COST	49,205,000
	Archaeological Excavations	20,000
	Recreation Facilities	14,500
	TOTAL CAPITAL COST	49,239,500

SWAN FALLS PROJECT
ANNUAL COSTS
1981 DOLLARS

	$000	Mills/KWH
(i) Cost of Capital[1]	$5,939	$36.7
(ii) Taxes[2]	1,591	9.8
(iii) Depreciation Expense	20	0.1
(iv) O & M Expense	175	1.1
Total Annual Cost (1981 Level)	$7,725	$47.7

(1) 1981 capital structure as approved by Idaho Public Utilities Commission for return on plant investment for avoided cost calculations pursuant to PURPA:

	PERCENT OF TOTAL	COST (%)	Weighted Cost (%)
Debt	50	10.5	5.250
Preferred Equity	10	10.12	1.012
Common Equity	40	14.5	5.800
Total	100		12.062

(2) Federal and State income tax rate 49.5%; property tax rate, 0.83%; ITC rate, 10%. Assumed 50-year book life and 40-year tax depreciation life.

SWAN FALLS PROJECT
ANNUAL VALUE OF PROJECT POWER
1981 DOLLARS

	ANNUAL COSTS	
	$000	(Mills/KWH)
Investment Carrying Charge(1)	$6,873.9	42.4
Fixed O & M Expense(2)	412.5	2.5
Fuel & Variable O & M Expense	2,920.9	18.0
Levelized Annual Cost over 50-year Life of Swan Falls Project(3)		100.2

(1) 25,000 KW x $1254/KW x .245262. Annual carrying charge based upon 50-year investment in coal-fired generation having individual plant life of 31 years. Capital structure and tax rates are consistent with Table D-2. Assumed long-term inflation rate, 8%.

(2) $16.50/KW x 25,000 KW.

(3) Inflation rate assumed equal to 8%, discount rate equal to 12.06%.

RECEIVED
MAY 15 1989

BALANCE SHEET
As of July 31, 1981

(Subject to Approval of Independent Auditors)

ASSETS

Electric Utility Plant (Note 1):	
Electric plant in-service (at original cost)	$1,249,887,385
Less accumulated provision for depreciation (Note 2)	217,938,897
Electric plant in-service (net)	1,031,948,488
Electric plant held for future use	1,624,687
Construction work in progress	169,969,646
Electric utility plant less accumulated provision for depreciation	1,203,542,821
Other Property and Investments:	
Nonutility property	2,946,204
Investment in subsidiary (Note 3)	2,509,046
Sinking funds	186,692
Other	1,359,947
Total other property and investments	7,001,889
Current Assets:	
Cash	3,695,226
Accounts receivable (less allowance for uncollectible accounts - $803,417)	22,275,583
Income tax refund receivable	195,000
Materials and supplies (at average cost)	10,129,524
Fuel stock (at average cost)	8,568,326
Prepayments	1,966,577
Total current assets	46,830,236
Deferred Debits:	
Unamortized debt expense (Note 13)	3,210,049
Advance coal royalties	6,952,931
Cancellation charges (Note 12)	11,361,131
American Falls Water Rights (Note 11)	22,095,000
Other	9,980,644
Total deferred debits	53,599,755
Total	$1,310,974,701

The accompanying Notes to Financial Statements are an integral part of this statement.

RECEIVED
MAY 15 1989

BALANCE SHEET
As of July 31, 1981
(Subject to Approval of Independent Auditors)

LIABILITIES

	Shares Authorized	Shares Outstanding	
Proprietary Capital:			
Common stock	25,000,000	13,732,128	$ 68,660,640
4% preferred stock	215,000	215,000	21,500,000
Serial preferred stock	150,000		
7.68% Series		150,000	15,000,000
Serial preferred stock	3,000,000		
9.50% Series		250,000	25,000,000
12.25% Series		82,500	33,000,000
Premium on capital stock			194,651,081
Capital stock expense			(1,957,823)
Retained earnings (Note 6)			124,668,995
Undistributed subsidiary earnings			45,953
Total proprietary capital			480,568,846
Long-Term Debt:			
Long-term debt			494,142,821
Project financing - Boardman (Note 10)			61,816,727
American Falls bond guarantee (Note 11)			22,095,000
Unamortized premium on long-term debt			1,781,102
Unamortized discount on long-term debt - Debit			293,125
Total long-term debt			579,542,525
Current Liabilities:			
Notes payable (Notes 4 & 5)			48,500,000
Accounts payable			12,803,764
Notes payable to associated companies			2,482,735
Taxes accrued			8,281,015
Interest accrued			11,357,840
Dividends declared			10,374,954
Other			6,104,552
Total current liabilities			99,904,860
Deferred Credits:			
Customer advances for construction			6,229,228
Accumulated deferred investment tax credits (Note 7)			38,411,926
Accumulated deferred income taxes (Note 8):			
Accelerated amortization property			1,385,200
Other property			70,716,431
Other			19,495,000
Other			12,774,357
Total deferred credits			149,012,142
Operating Reserves			1,946,328
Total			$1,310,974,701

The accompanying Notes to Financial Statements are an integral part of this statement.

MAY 1 1 1989

Idaho Power Company
CLASSIFICATION OF ELECTRIC UTILITY PLANT AND ACCUMULATED
PROVISION FOR DEPRECIATION AND AMORTIZATION
As of July 31, 1981
(Subject to Approval of Independent Auditors)

Classification of Electric Plant

Electric Utility Plant

		Amount
1. Electric plant in-service:		
(a) Intangible plant	$ 2,137,859	
(b) Steam plant	333,020,407	
(c) Hydro-production plant	362,446,780	
(d) Other production plant	6,580,326	
(e) Transmission plant	210,022,560	
(f) Distribution plant	306,799,849	
(g) General plant	28,879,604	$1,249,887,385
2. Electric plant held for future use		1,624,687
3. Construction work in progress		169,969,646
Total electric utility plant		$1,421,481,718

Classification of Accumulated Provision for Depreciation and Amortization Applicable to Electric Plant

Accumulated provision for depreciation of electric plant	$ 217,417,858
Accumulated provision for amortization of electric plant	521,039
Total accumulated provision for depreciation and amortization	$ 217,938,897

RECEIVED
JUL 15 1989

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
NOTES TO FINANCIAL STATEMENTS
As of July 31, 1981
(Subject to Approval of Independent Auditors)

1. Electric Plant

The cost of additions to electric plant in service represents the original cost of contracted services, direct labor and material, allowance for funds used during construction and indirect charges for engineering, supervision and similar overhead items. Maintenance and repairs of property and replacements and renewals of items determined to be less than units of property are charged to operations. For property replaced or renewed, except for extraordinary retirements, the original cost plus removal cost less salvage, is charged to accumulated provision for depreciation, cost of related replacements and renewals is added to electric plant.

2. Depreciation

Electric plant is depreciated on the straight-line method except for production facilities constructed prior to January 1, 1968 of the T E Roach Hells Canyon Development (consisting of the Brownlee, Oxbow and Hells Canyon hydroelectric power plants) for which depreciation is based on the five percent present-worth method.

3. Investment in Subsidiary

The Company uses the equity method of accounting for its investment in Idaho Energy Resources Co., a wholly-owned subsidiary. This subsidiary is a joint venturer in Bridger Coal Company, which operates the mine supplying coal for the Jim Bridger steam generation plant. Coal purchased by the Company from the joint venture amounted to $27,448,811 for the twelve months ended July 31, 1981. As of July 31, 1981, the total assets, total liabilities and total net worth of Idaho Energy Resources Co. were $4,868,634, $2,359,588, and $2,509,046, respectively. Idaho Energy Resources Co. declared a dividend of $8,000,000 to the Company on November 26, 1980 and $5,800,000 on July 30, 1981, thereby reducing the Company's investment in subsidiary as well as payables to subsidiary.

4. Notes Payable

At July 31, 1981 the total lines of credit maintained with various banks amounted to $119,800,000. Commercial paper may be issued in an amount not to exceed 25% of operating revenues for the latest twelve-month period and must be supported by bank lines of credit of an equal amount. Under borrowing arrangements with seven of the banks, the Company is currently required to pay a fee of 1/2 of 1% on the available lines of credit which total $95,000,000.

5. Unsecured Bank Loans Outstanding at July 31, 1981:

Commercial Paper:

17.60 note dated June 29, 1981 due Aug 3, 1981	$ 1,200,000
18.10 note dated June 30, 1981 due Aug 3, 1981	450,000
17.85 note dated June 30, 1981 due Aug 14, 1981	1,000,000
18.35 note dated July 1, 1981 due Aug 14, 1981	1,100,000
19.10 note dated July 24, 1981 due Aug 26, 1981	5,000,000
19.10 note dated July 24, 1981 due Sept 8, 1981	10,000,000
18.60 note dated July 24, 1981 due Sept 1, 1981	4,350,000
18.10 note dated July 27, 1981 due Sept 3, 1981	9,250,000
18.10 note dated July 27, 1981 due Sept 10, 1981	1,000,000
18.10 note dated July 28, 1981 due Sept 10, 1981	2,550,000
18.10 note dated July 28, 1981 due Aug 27, 1981	2,650,000

MAY 15 1989

5. Unsecured Bank Loans Outstanding at July 31, 1981 (Cont'd):

Commercial Paper:

18.35 note dated July 30, 1981 due Sept 14, 1981	$ 2,600,000
18.10 note dated July 31, 1981 due Aug 3, 1981	3,000,000
18.10 note dated July 31, 1981 due Aug 31, 1981	2,950,000
18.10 note dated July 31, 1981 due Sept 10, 1981	1,400,000
Total	$48,500,000

6. Retained Earnings

The agreement relating to the Company's outstanding debentures provides that the Company will not declare or pay any dividend or make any other distribution on its common stock (other than in common stock), or acquire any shares of its common stock, if the aggregate amount and cost thereof after 1957 shall exceed the aggregate net income (as defined) attributable to the common stock after 1957 plus $7,500,000 and plus the amount of proceeds from sales of common stock after 1957. No portion of the retained earnings at July 31, 1981 was restricted under this provision. Undistributed subsidiary earnings represented $45,953 of the July 31, 1981 retained earnings balance. Pursuant to Section 10(d) of the Federal Power Act, which requires the creation of a reserve account after twenty years of operation of a licensed project for earnings in excess of a specified rate, the Company has computed a Federal amortization reserve on certain of its licensed hydroelectric projects. Such a reserve constitutes an appropriation of retained earnings which, at July 31, 1981 amounted to $1,543,966.

7. Investment Tax Credit

For income tax reductions arising from the investment tax credit an equivalent amount has been charged to operating expenses and the resulting credit deferred to be amortized to income over the estimated service lives of the related properties.

8. Income Taxes

The Company, for income tax purposes, uses liberalized depreciation methods for assets acquired prior to 1971 and the "class" life system for assets acquired in 1971 and thereafter. Deferred income taxes (commonly referred to as normalized accounting) are provided on coal-fired generation facilities for the difference between income tax depreciation and financial accounting depreciation as well as for certain other capitalized costs (taxes and operator training) related to coal-fired plant construction. On other facilities, deferred income taxes are provided for the difference between actual income tax depreciation and straight-line depreciation using "guideline" lives. Deferred income taxes are also provided for the tax reduction or increase applicable to various items that are capitalized or deferred on the books and expensed or considered income for tax purposes. This accounting is consistent with indicated rate-making policy of the state regulatory authority having principal jurisdiction.

9. Allowance For Funds Used During Construction ("AFDC")

The allowance, a non-cash item, represents the estimated composite interest costs of debt, shown as a reduction of interest charges, and a return on equity funds, shown as an addition to other income, used to finance construction. Based on the uniform formula adopted by the Federal Energy Regulatory

MAY 13 1982

9. Allowance For Funds Used During Construction ("AFDC") (Cont'd)

Commission, the Company's AFDC rate (net of applicable income taxes) is 8.50% for the year of 1981. The Company's AFDC rate related to the Boardman plant project financing was computed at the actual cost thereon (see Note 10).

10. Project Financing

Since February 22, 1979, the Company has financed a major portion of its 10 percent interest in the Boardman coal-fired plant through the sale of commercial paper issued by a financing intermediary which is backed by a bank credit agreement. At July 31, 1981, the amount of commercial paper outstanding pursuant to the Agreement totalled $61,633,000. The Company is authorized to guarantee up to $80,000,000 of commercial paper issued in connection with the project. Under the agreement, the Company is required to satisfy the actual obligation incurred by the financing intermediary within three years commencing January 1, 1984. The Company included its portion of the costs of construction applicable to the Boardman plant in construction work in progress. The principal amount of commercial paper outstanding together with capitalized interest and related fees thereon, is included in long-term debt. For the twelve months ended July 31, 1981 interest and related fees were $9,780,827.

11. American Falls Bond Guarantee

In 1976 the Company signed a contract which expires in the year 2025 with the American Falls Reservoir District wherein it agreed to make falling water payments to the District for the use of water released from the American Falls Replacement Dam. Such payments are to defray in part the costs of construction associated with the American Falls Replacement Dam Program. In addition, the Company agreed to guarantee bonds of the District for the project at the time of issuance. On December 18, 1980, $22,095,000 of bonds were issued, and the Company, pursuant to the agreement, executed a guarantee. Under the contract, the Company is required to make falling water payments of approximately $2.4 million annually which are sufficient to cover the total debt service applicable to the bonds.

12. Cancellation Charges

Approval to construct the proposed Pioneer coal-fired generating plant on the site selected by the Company was denied by the Idaho Public Utilities Commission in 1976. Total cancellation charges of $11,361,131 ($5,567,000 net of applicable income taxes) have been incurred in connection with this project consisting of preliminary investigation charges, primarily engineering and environmental studies, and cancellation charges on equipment. If it is determined that the work performed to date has to be abandoned, the Company intends to request rate relief sufficient to recover, over a ten-year amortization period, the actual costs incurred. However, should the request be denied, the charges, net of applicable income taxes, will be written off against income of the period during which such denial occurs. The Company's management has assessed the potential impact on the financial statements of an adverse determination of the recoverability of these charges through rate relief, and has concluded that the effect of any adjustments which would be required would not be material to the financial position of the Company.

13. Other Accounting Policies

Revenues are recognized on the basis of cycle billings and are recorded when customers are billed. Debt discount, expense and premium are being amortized over the terms of the respective debt issues.

FILED
MAY 15 1989

Idaho Power Company
STATEMENT OF INCOME
For The Twelve Months Ended July 31, 1981
(Subject to Approval of Independent Auditors)

Operating revenues	$295,739,466
Operating expenses:	
Purchased power	26,297,981
Fuel	32,006,841
Other operation	52,946,610
Maintenance expense	26,253,059
Depreciation expense (Note 2)	27,893,223
Amortization of limited-term electric plant	122,688
Taxes other than income taxes	12,606,199
Income taxes - Federal (Note 8)	2,074,100
Income taxes - Other (Note 8)	1,622,600
Provision for deferred income taxes (Note 8)	15,571,400
Provision for deferred income taxes - Credit (Note 8)	(3,474,200)
Investment tax credit adjustments (Note 7)	8,824,100
Total operating expenses	202,744,601
Operating Income	92,994,865
Other Income and Deductions:	
Equity in earnings of subsidiary (Note 3)	3,558,183
Allowance for other funds used during construction (Note 9)	2,921,176
Other income and deductions - Net	(337,064)
Net other income and deductions	6,142,295
Income Before Interest Charges	99,137,160
Interest Charges:	
Interest on first mortgage bonds	32,555,000
Interest on other long-term debt (Note 10)	13,351,353
Interest on short-term debt	10,585,518
Amortization of debt premium discount and expense - Net (Note 13)	86,030
Amortization of gain on reacquired debt - Credit	(66,984)
Other interest expense	736,494
Total interest charges	57,247,411
Allowance for borrowed funds used during construction - Credit (Notes 9 and 10)	(7,070,007)
Net interest charges	50,177,404
Net Income	$ 48,959,756

The accompanying Notes to Financial Statements are an integral part of this statement.

MAY 1 5 1989

Idaho Power Company
STATEMENT OF RETAINED EARNINGS
AND
UNDISTRIBUTED SUBSIDIARY EARNINGS
For The Twelve Months Ended July 31, 1981

(Subject to Approval of Independent Auditors)

Retained Earnings

Retained earnings (at beginning of period)	$104,839,399
Balance transferred from income	45,401,574
Dividends received (Subsidiary - Note 3)	13,800,000
Total	164,040,973
Dividends:	
4% preferred stock	860,000
7.68% series serial preferred stock	1,152,000
9.50% series serial preferred stock	2,375,000
12.25% series serial preferred stock	112,292
Common stock	34,872,686
Total	39,371,978
Retained earnings (at end of period) (Note 6)	$124,668,995

Undistributed Subsidiary Earnings (Note 3)

Balance (at beginning of period)	$ 10,287,770
Equity in earnings for the period	3,558,183
Dividends paid (Debit - Note 3)	(13,800,000)
Balance (at end of period)	$ 45,953

RECEIVED
MAY 13 1982

The accompanying Notes to Financial Statements are an integral part of this statement.

RECEIVED

SNAKE RIVER



HYDRO POWER

MAR 30 1982
Department of Water Resources

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

March 29, 1982

Department of Water Resources
State of Idaho
450 West State
Boise, Idaho 83702

To Whom it May Concern:

Enclosed for filing is an application for permit to appropriate additional public waters of the State of Idaho for power generation purposes at Idaho Power Company's existing Swan Falls Hydroelectric Project scheduled for reconstruction and uprating. A draft in the amount of $9,275.00 to cover such filing is also enclosed.

If there are any questions regarding this matter, feel free to contact me at 383-2673. Thank you.

Sincerely,

Nicolas R. Ysursa

Nicolas R Ysursa
Attorney

NRY:ke
Enclosure

MICROFILMED
MAY 15 1989

RECEIVED
MAR 31 1982
Department of Water Resources
Western Regional Office

RECEIVED
MAY 14 1982
Department of Water Resources
Western Regional Office

STATE OF IDAHO)
)ss.
COUNTY OF ADA)

Margaret Rose Storrs, 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 regular edition of The Idaho Statesman for

two insertions, beginning with the

issue of May 6, 1982, and ending with the

issue of May 13, 1982.

Margaret Rose Storrs

Subscribed and sworn to before me this 13th

day of May, 1982.

Notary Public for Idaho, Residing at Boise, Idaho

MICROFILMED
MAY 15 1989

PROOF OF PUBLICATION

RECEIVED
MAY 17 1982
Department of Water Resources
Western Regional Office

STATE OF IDAHO, County of Owyhee, s.s.

I, MICK HODGES, being first duly sworn, on oath says that he is the Publisher of the OWYHEE NUGGET, a newspaper of general circulation, published weekly by MICK HODGES, publisher and printer thereof, at Marsing, County of Owyhee, State of Idaho;

That the annexed notice was published in said newspaper once a week and every week for 2 **consecutive weeks, the first publication being on the** 5 **day of** May, 198**2**, **and the last publication being on the** 12 **day of** May, **19**82**;**

That the said newspaper has been published continuously and uninterruptedly in said county during a period of more than seventy - eight consecutive weeks prior to the first publication of the attached notice.

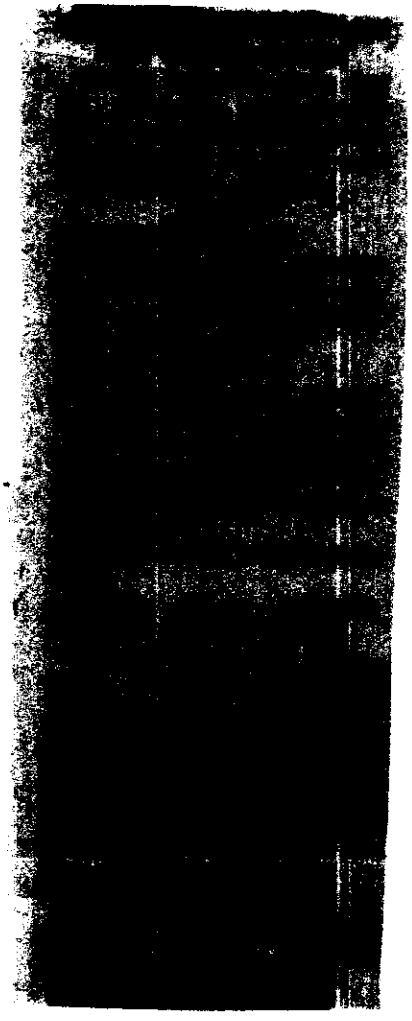
Mick Hodges
PUBLISHER

Subscribed and sworn to before me this 12 **day of** May, **198**2.

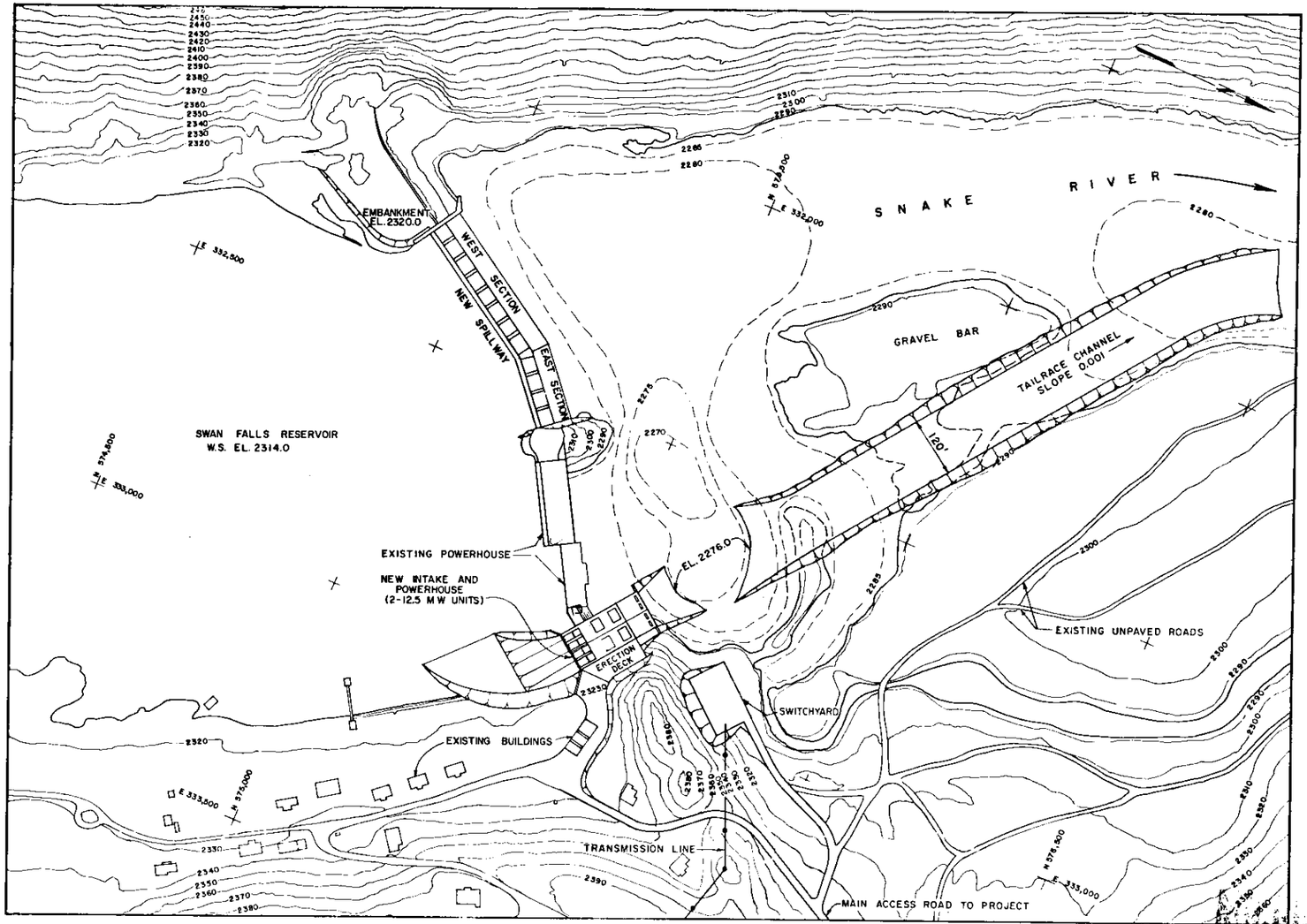
Kyle Hodges
NOTARY PUBLIC

My commission expires 3-86

(SEAL)

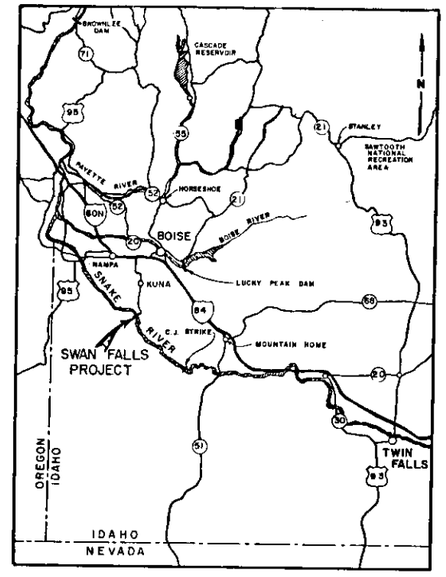


MICROFILMED
MAY 15 1989



PROJECT PLAN

SCALE 0 100 200 300 400 500 FEET
(1" = 100')



LOCATION MAP

SCALE 0 10 20 30 40 50 MILES

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

RECEIVED
MAY 15 1989

HORIZONTAL DATUM: ~~MODIFIED~~ IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.0001455I.

VERTICAL DATUM: U. S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

GENERAL PLAN

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 1 OF 6 06E-4479I

RECEIVED
APR 28 1982
Department of Water Resources
Western Regional Office

38 3

2/29/2000
Gary Spackman
called concerning
this field exam.
He wants us to
hold any action
towards licensing
until May of 2000
when Dan Tomich
is back in office.
kw

Form 219
6/92

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

BENEFICIAL USE FIELD REPORT

RECEIVED
MAR 16 1998
Department of Water Resources

A. GENERAL INFORMATION

Permit No. 02-07379

1. Owner: Idaho Power Company Phone No. (208) 388-2424

Current Address: P.O. Box 70, Boise ID 83707

2. Accompanied by: Jim Leonard EXAM DATE: 3-9-98

Address: (same) (1221 W. Idaho Street) Phone No. (208) 388-2365

Relationship to Permit Holder: Employee - Engineer, Hydro Production

3. Source: Snake River tributary to Columbia River

B. OVERLAP REVIEW

1. Other water rights with the same place of use: A02-00100, A02-04000, A02-04001

2. Other water rights with the same point of diversion: A02-02032 (All 4 - Power; same P/D & P/U)

C. DIVERSION AND DELIVERY SYSTEM

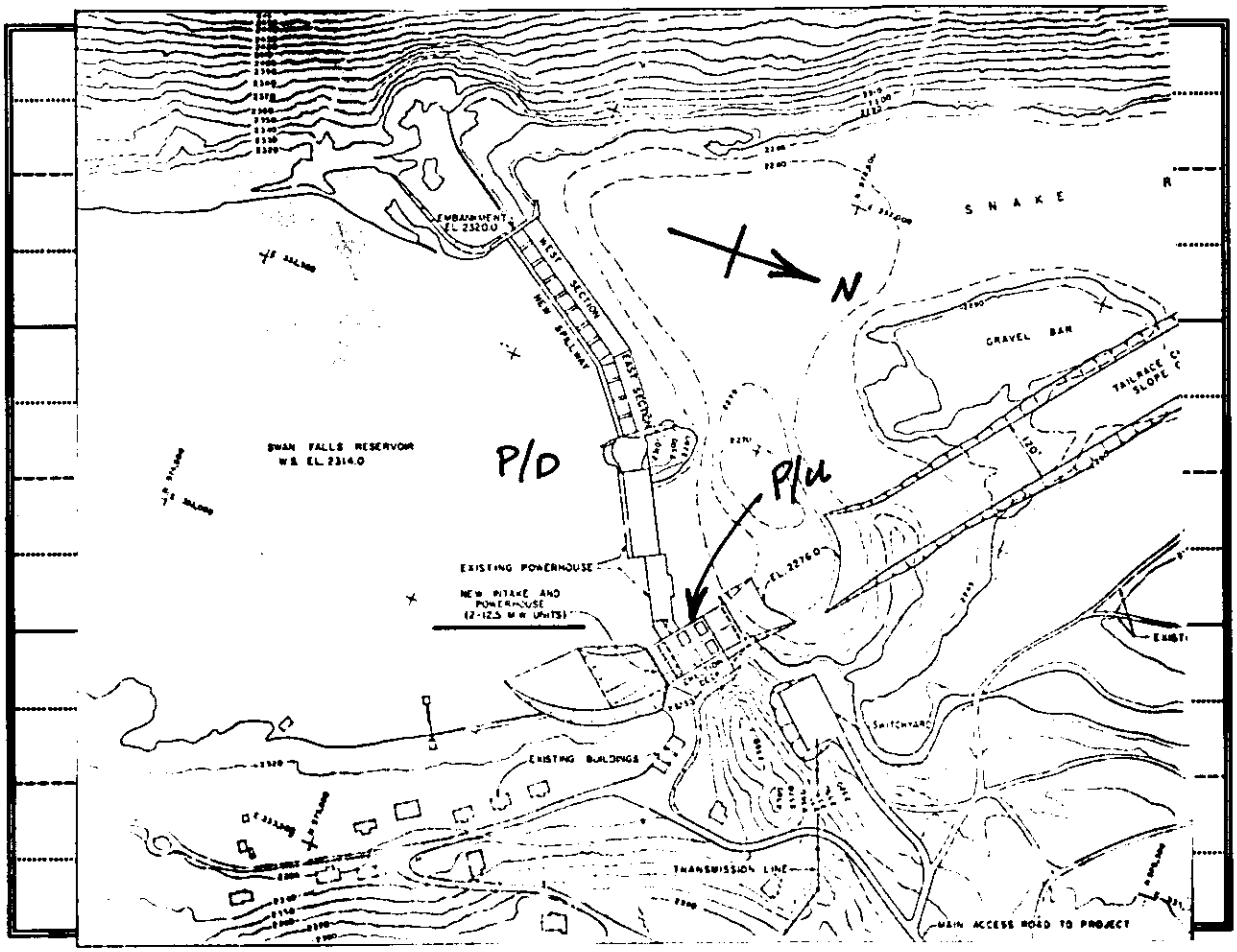
1. **Point(s) of Diversion:**

Ident No.	Gov't Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
	10		SW	SE	18	2S	1E	Owyhee	Site Visit, Map
	11		SE	SE	18	2S	1E	Ada	" " "

2. **Place(s) of Use:** Indicate Method of Determination Site Visit Map

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
2S	1E	18																P Lot 11	

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



Scale: 1" - None

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

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

✓ Photo of Diversion and System Attached

4. Swen Falls Dam and Power Plant: Turbines

Well or Diversion Identification No.*	~~Motor~~ Generators Make	~~Hp~~	~~Motor~~ Generators Serial No.	~~Pump~~ Turbines Make	~~Pump~~ Serial No. or Discharge Size
Unit No. 1	CEGELEC		913-902-922	Voest-	MB9-096/1
Unit No. 2	MOTEURS		913-902-921	Alpine,	MB9-096/2
	1992			M.C.E.	

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

Each Power Unit is rated at 12.5 MW, 22.5' Head, and 7350 cfs flow.

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
1) Hill Diagrams,	Computer	Program,	Print out,	Control Room Display.		
2) USGS Stream	Gage	near Murphy,	ID,	Station No. 13172500.		

2. **Measurements:** None taken - 1) Control room display 4ed 5200 cfs for each unit. 10,400 cfs total. 2) USGS Murphy Gage 4ed 11,200 cfs.

E. NARRATIVE/REMARKS/COMMENTS

See three page typed sheets

Have conditions of permit approval been met? ✓ yes ___ no

Hill Diagrams for flow measurement were provided by Jim Leonard, M.E., Idaho Power Co.

F. FLOW CALCULATIONS ____ Additional Computation Sheets Attached

Measured Method: None :

From Hill Diagrems for both power units:

At maximum power output of 15.4 MW,
at 25.6' of Net Head, the flow is
8200 cfs for each unit. Total flow = 16,400 cfs.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: 16,400 cfs > 16,000 cfs of total permits.
Allow 6550 cfs for this permit.

$V_{I.R}$ = (Acres Irrigated) x (Irrigation Requirement) = _____

$V_{D.R.}$ = [Diversion Rate (cfs)] x (Days in Irrigation Season) x 1.9835 = _____

V = Smaller of $V_{I.R.}$ and $V_{D.R.}$ = _____

2. Volume Calculations for Other Uses: Power - Non-Consumptive use.

AFA would be = (6550 cfs)(365 Days/Ann.)(1.9835)

= 4,742,052 AFA if water was available.

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use From	Period of Use To	Rate of Diversion Q (cfs)	Annual Volume V (afa)
Power	01/01	12/31	6550.0	
		Totals:	6550.0	

2. Recommended Amendments

___ Change P.D. as reflected above ___ Add P.D. as reflected above ✓ None

___ Change P.U. as reflected above ___ Add P.U. as reflected above ___ Other

I. AUTHENTICATION

Field Examiner's Name Dan Tomich Date 3-12-98

Reviewer _____ Date _____ SEAL

WATER RIGHT 02-07379

IDAHO POWER COMPANY

SWAN FALLS DAM AND POWER PLANT

E. NARRATIVE/REMARKS/COMMENTS

General Information

The existing Swan Falls Dam and Power Plant has evolved from a series of construction and licensing activities taking place during the period from 1901 to 1944, and more recently, from 1979 to 1996. The original power plant was constructed in three different sections, and contained 10 power units with a rated capacity of 10.4 MW, and a maximum output of about 12.0 MW with a maximum discharge of about 8,000 cfs.

When the Swan Falls Project, FERC Project No. 503-000, was relicensed in 1982, the license contained the authorization to build a new power plant and upgrade the capacity to 25.0 MW. After numerous delays, the actual construction took place in 1991-1994, and the new power plant was operational in the spring of 1994.

Other construction activities included reconstruction of the spillway, stabilization of the old powerhouses, a new switchyard and power transmission facilities, and a new tailrace channel. The spillway now has 12 radial gates, and a portion of the old powerhouses has been converted to a museum with two old generators on display and all of the old turbines encased in concrete. All of the flow under the water rights at the dam are now used by the new power plant.

Water Rights

Old rights:	A02-00100	D	01/17/1900	2150.0	cfs
	A02-04000	L	01/17/1900	1840.0	cfs
	A02-04001	L	04/17/1900	1460.0	cfs
	A02-02032	L	07/29/1919	4000.0	cfs
				9450.0	cfs
New right:	02-07379	P	03/31/1982	6550.0	cfs
Total rights:				16,000.0	cfs

New Power Plant

The new power plant was constructed adjacent to the right(north) abutment of the dam, and consists of two equal sized Open Pit Kaplan Turbines, two equal sized generators, a control room in the powerhouse building, and associated electrical and mechanical equipment. Unit No. 1 is on the right side, and Unit No. 2 is on the left side of the power plant.

Turbines: Open Pit Kaplan furnished by Voest-Alpine, Machinery Construction Engineering, Linz, Austria, 1993. Each unit is rated as follows:

Rated Head:	22.5 ft.
Rated Output:	12,500 KW
Rated Flow:	7350 cfs

Serial No.(s); Unit 1, MB9-096/1 Unit 2, MB9-096/2

Generators: Alternator-Synchronous manufactured by Cegelec Moteurs, 1992, with the following ratings for each unit:

Rated Capacity:	14,300	KVA
Voltage:	6900	Volts
Frequency:	60	Hz

Serial No.(s); Unit 1, 913-902-922 Unit 2, 913-902-921

The power plant is operated as a run-of-the-river plant with the reservoir maintained at a constant normal elevation of 2314.0, and the tailwater elevation fluctuating as the flow changes.

Flow Measurement at the Power Plant

As required in the water permit, flow through the new power plant is measured by the use of a computer system which uses the attached Hill Diagrams. The Hill Diagrams were developed based on performance parameters furnished by Voest-Alpine, M.C.E. Company, and index tests performed on May 31, 1994. The index tests were flow tests performed to determine the actual output of the units under various conditions.

The Hill Diagrams determine the flow through each unit depending on Net Head(Reservoir - Tailwater elevation), Wicket Gate opening, and power output demand(MW). The diagrams also show the efficiency of the units under various operating heads, flow, and power output.

The computer system in the control room monitors the various parameters for each unit such as water surface elevations, wicket gate settings, power output, etc., and then computes the flow through each unit using the Hill Diagrams. The flow through each unit is displayed on the control room instrumentation panel, and is recorded by the computer and printed out as needed.

As shown on the Hill Diagrams, maximum power output of the units is considered to be 15.4 MW at 25.6 feet of Net Head, and a flow of 8200 cfs for each unit. The total flow through the power plant would be 16,400 cfs under these conditions, which is greater than the total of the water rights of 16,000 cfs. The flow through each unit was 5200 cfs at the time of the exam.

USGS Murphy Stream Gage

The power plant also monitors and records the river flow measured at the USGS Murphy gage located about 4.2 miles downstream of the plant. River flows at this gage are compared to the flow computed at the plant. There is a difference in flows observed at various times depending on the volume of flow, latest calibration of the stream gage, any water being passed through the spillway, and other factors. At the time of the exam, the stream gage was recording a flow of about 11,200 cfs while the plant was computing a flow of 10,400 cfs.

Ramp Gage

The power plant has a gage to monitor the tailwater elevation at the end of the draft tubes. Since the tailwater fluctuates due to turbulence from the turbine discharge, another tailwater gage was installed about 1/2 mile downstream. This gage is called the Ramp Gage, and is used to measure the tailwater for compliance of allowable river fluctuations required by FERC. The tailwater elevation cannot exceed a rise or fall of 1 ft/hour, or 3 ft/day. Both of these tailwater gages are monitored and recorded in the control room.

Maximum Flow Test of May 17, 1995

On May 17, 1995, Idaho Power Company conducted a turbine hydraulic capacity test to determine the maximum flow capability of the new power plant units. The reservoir elevation was 2314.00 feet at the start of the tests, the wicket gates were set at 100% open, and no water was passing the spillway.

The test began at about 1:00 pm and continued for about one hour. A maximum flow was recorded at the USGS Murphy Stream Gage of 20,420 cfs with a gage height of 8.07 feet. Normally, the plant would not operate under these extreme conditions, and would have a wicket gate setting of 85% or less.

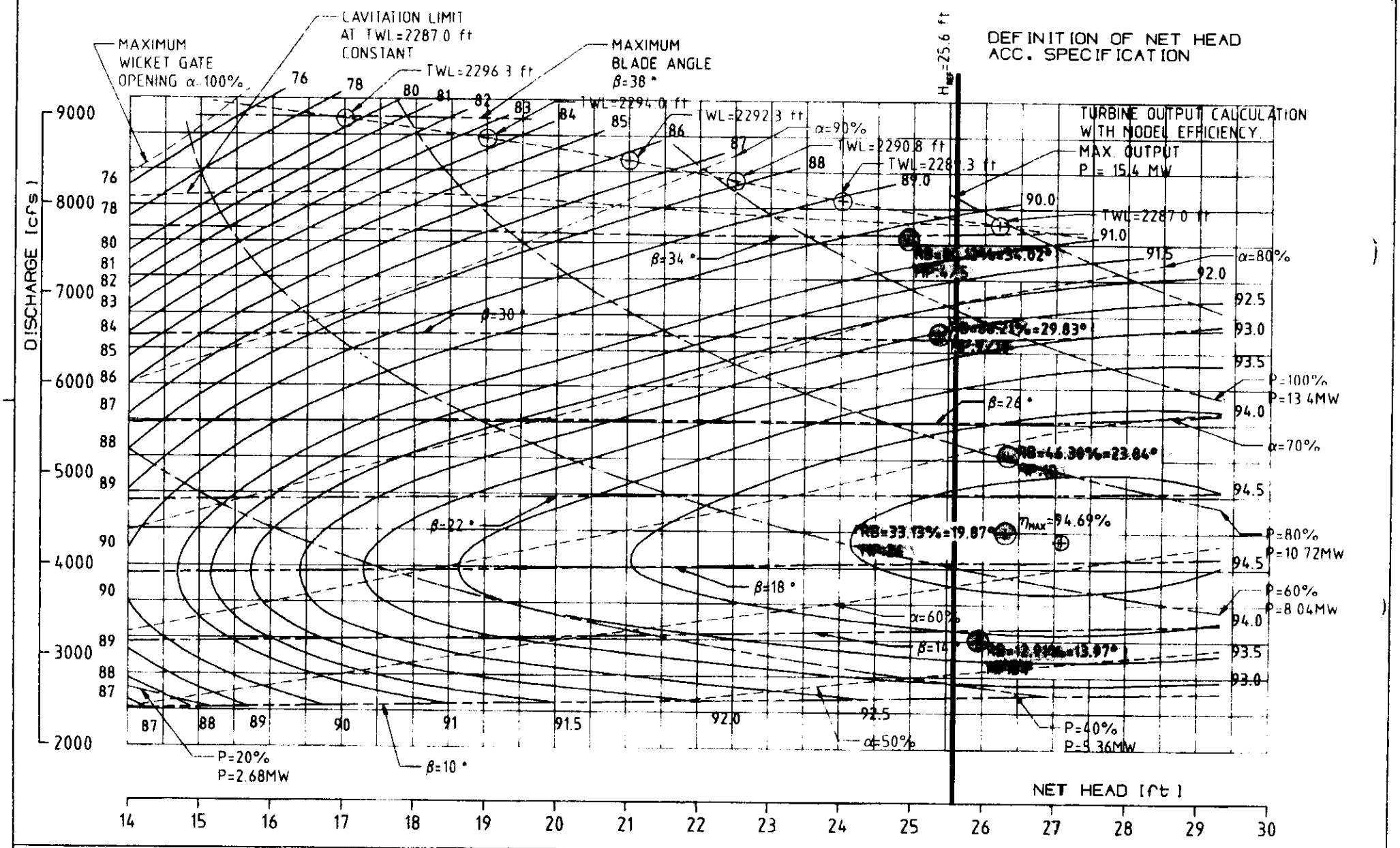
VOEST-ALPINE
M.C.E.

SWAN FALLS
HILL DIAGRAM

RUNNER DIAMETER = 5.334 m
CENTERLINE RUNNER = 2267.000 ft

INDEX TEST UNIT # 1

MB8-158.0464/1



VOEST-ALPINE Machinery, Construction & Engineering
Gesellschaft m.b.H. Lunzerstr. 78 A-4031 Linz Austria

DH 2
1994-MAY-31

02-07379

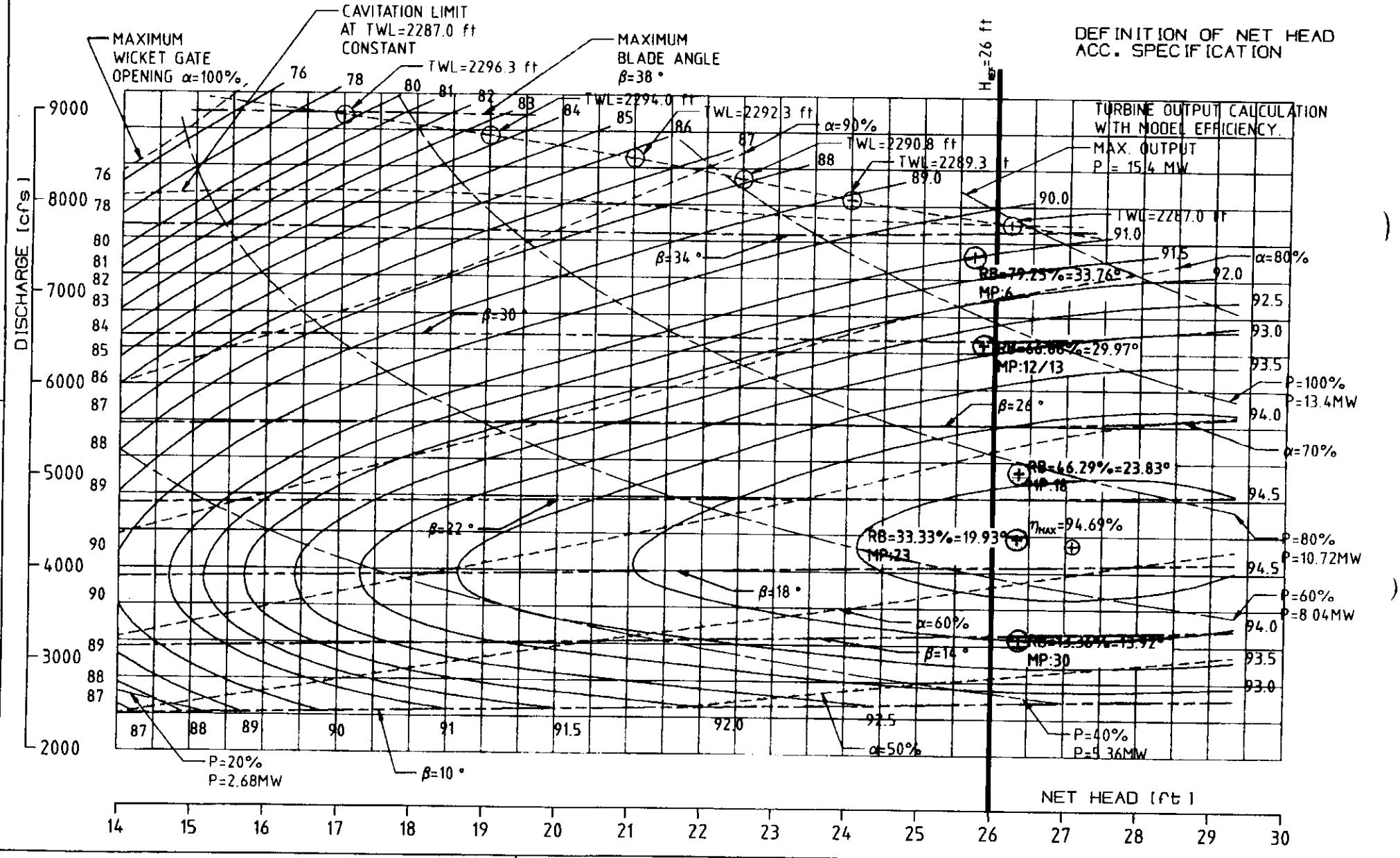
VOEST-ALPINE M.C.E.

SWAN FALLS
HILL DIAGRAM

RUNNER DIAMETER = 5.334 m
CENTERLINE RUNNER = 2267.000 ft

INDEX TEST UNIT # 2

MB8-158.0464/3



VOEST-ALPINE Machinery, Construction & Engineering
Gesellschaft m.b.H. Lunzerstr. 78 A-4031 Linz Austria

DH 2
1994-MAY-31

02-07379

Swan Falls Dam and Power Plant

```
;H
2J
1;24r
1;1H
1;1H
DAYFILES >
D=-2
DAYFILES >
G/10,18 SWAI
```

cfs

SWAI	98MAR09	GH	Q	HJ
	10:00	4.89	11143.46	0.00
	10:15	4.88	11114.75	0.00
	10:30	4.88	11114.75	0.00
	10:45	4.88	11114.75	0.00
	11:00	4.88	11114.75	0.00
	11:15	4.88	11114.75	0.00
	11:30	4.89	11143.46	0.00
	11:45	4.88	11114.75	0.00
	12:00	4.89	11143.46	0.00
	12:15	4.89	11143.46	0.00
	12:30	4.89	11143.46	0.00
	12:45	4.89	11143.46	0.00
	13:00	4.89	11143.46	0.00
	13:15	4.89	11143.46	0.00
	13:30	4.89	11143.46	0.00
	13:45	4.89	11143.46	0.00
	14:00	4.89	11143.46	0.00
	14:15	4.89	11143.46	0.00
	14:30	4.89	11143.46	0.00
	14:45	4.89	11143.46	0.00
	15:00	4.89	11143.46	0.00
	15:15	4.90	11172.19	0.00
	15:30	4.90	11172.19	0.00
	15:45	4.91	11200.90	0.00
	16:00	4.91	11200.90	0.00
	16:15	4.91	11200.90	0.00
	16:30	4.91	11200.90	0.00
	16:45	4.91	11200.90	0.00
	17:00	4.91	11200.90	0.00
	17:15	4.91	11200.90	0.00
	17:30	4.90	11172.19	0.00
	17:45	4.88	11114.75	0.00
	18:00	4.87	11086.04	0.00

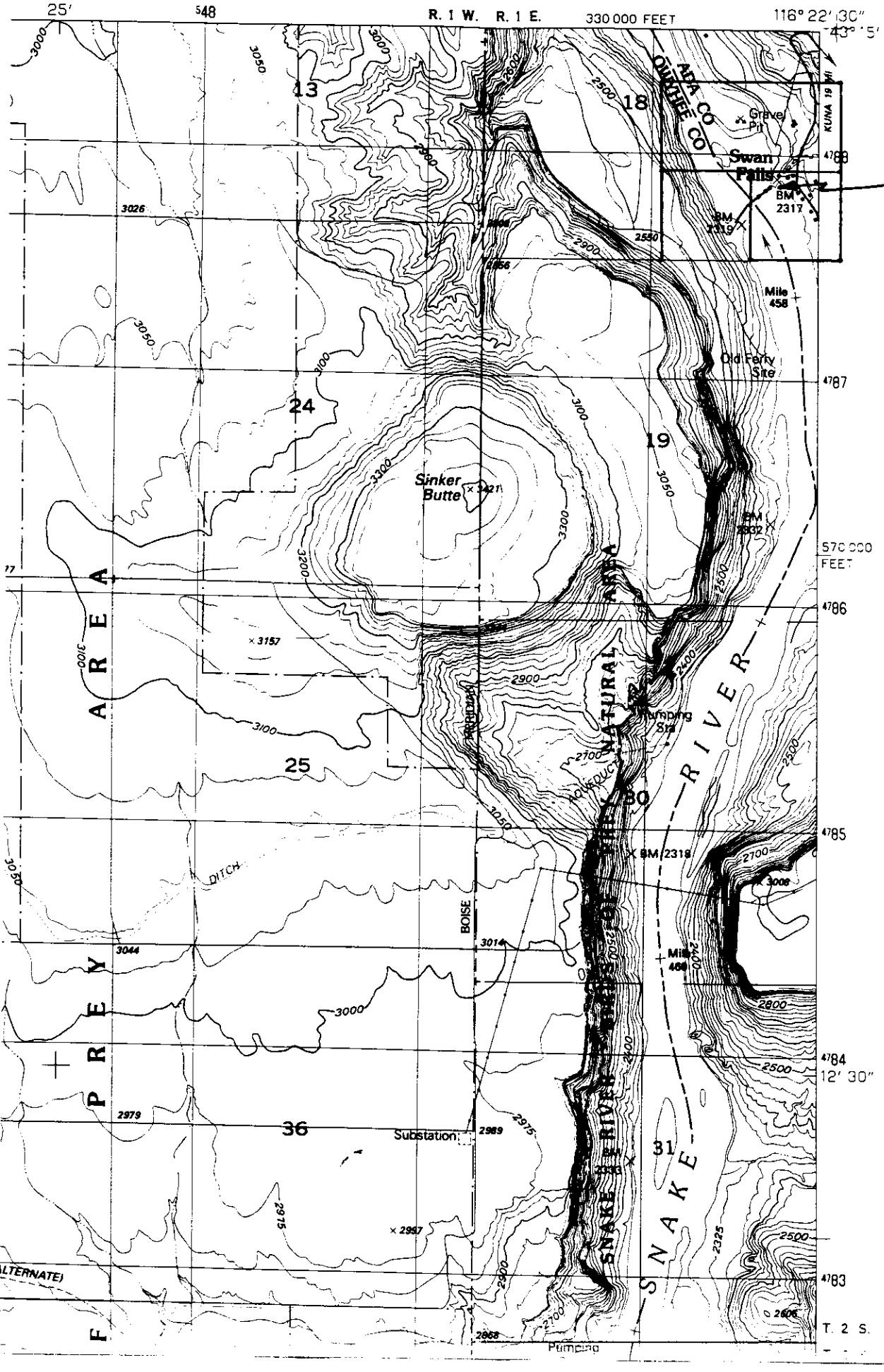
River flow recorded at the USGS Murphy Stream Gage at the time of the exam on 3-9-98.

```
DAYFILES >
EX


m
$ LO
  WRD          logged out at 11-MAR-1998 07:40:47.46
```

02-07379

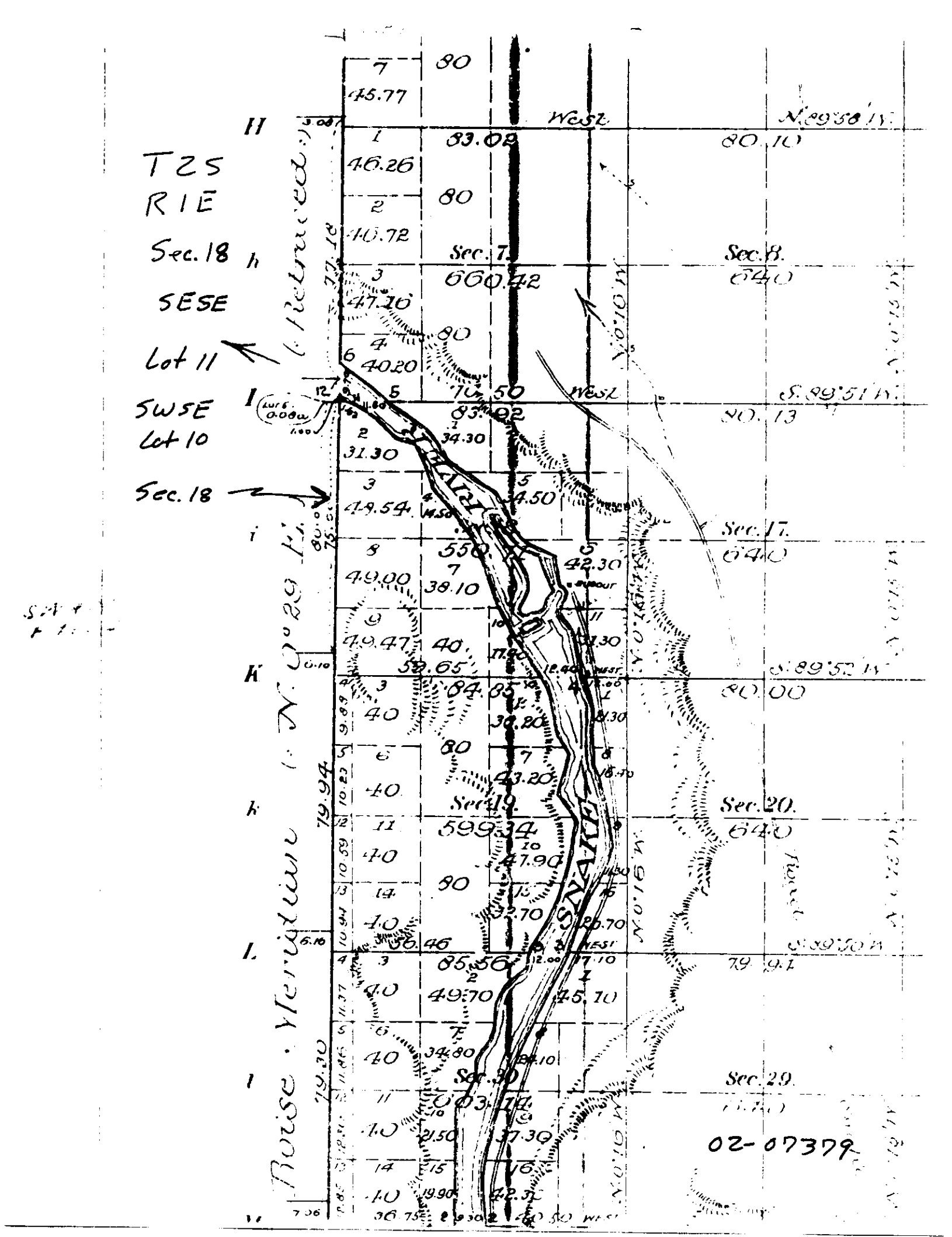
SINKER BUTTE QUADRANGLE
IDAHO
7.5 MINUTE SERIES (TOPOGRAPHIC)

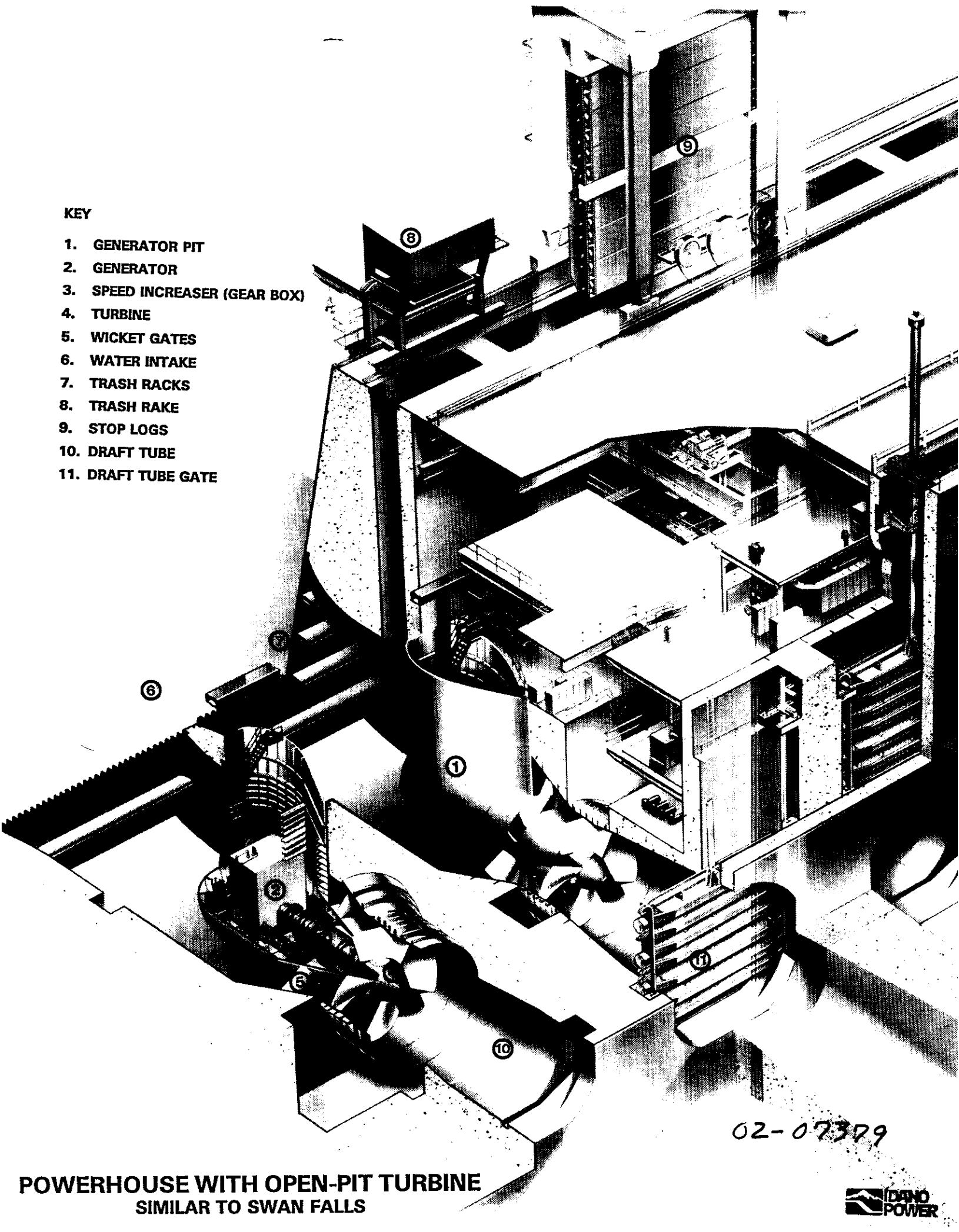


P/D
P/u

T2S
RIE
Sec. 18
SESE
Lot 11
SWSE
Lot 10

02-07379

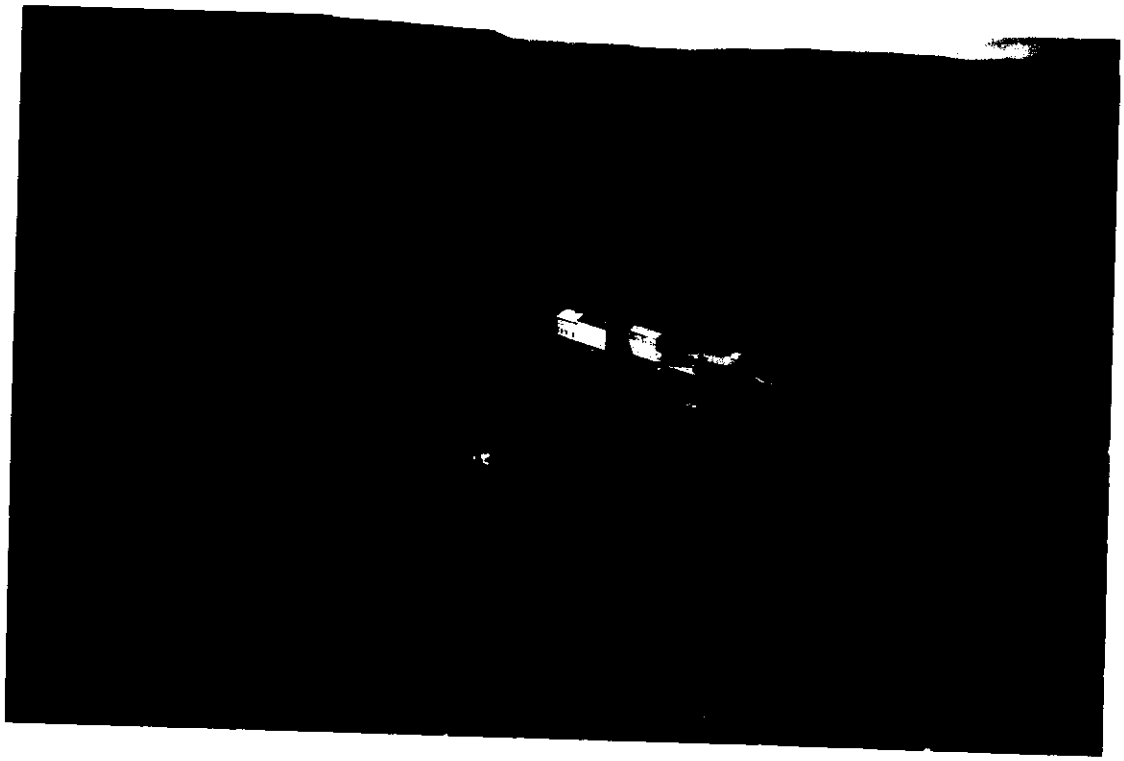

T25
R1E
Sec. 18
SESE
Lot 11
SWSE
Lot 10
Sec. 18
Boise Meridian
SNAKE
Sec. 7.
Sec. 8.
Sec. 17.
Sec. 18.
Sec. 19.
Sec. 20.
Sec. 29.
Sec. 30.
West
N. 89° 58' W.
S. 89° 51' W.
S. 89° 52' W.
S. 89° 50' W.
02-07379



02-07309

POWERHOUSE WITH OPEN-PIT TURBINE
SIMILAR TO SWAN FALLS

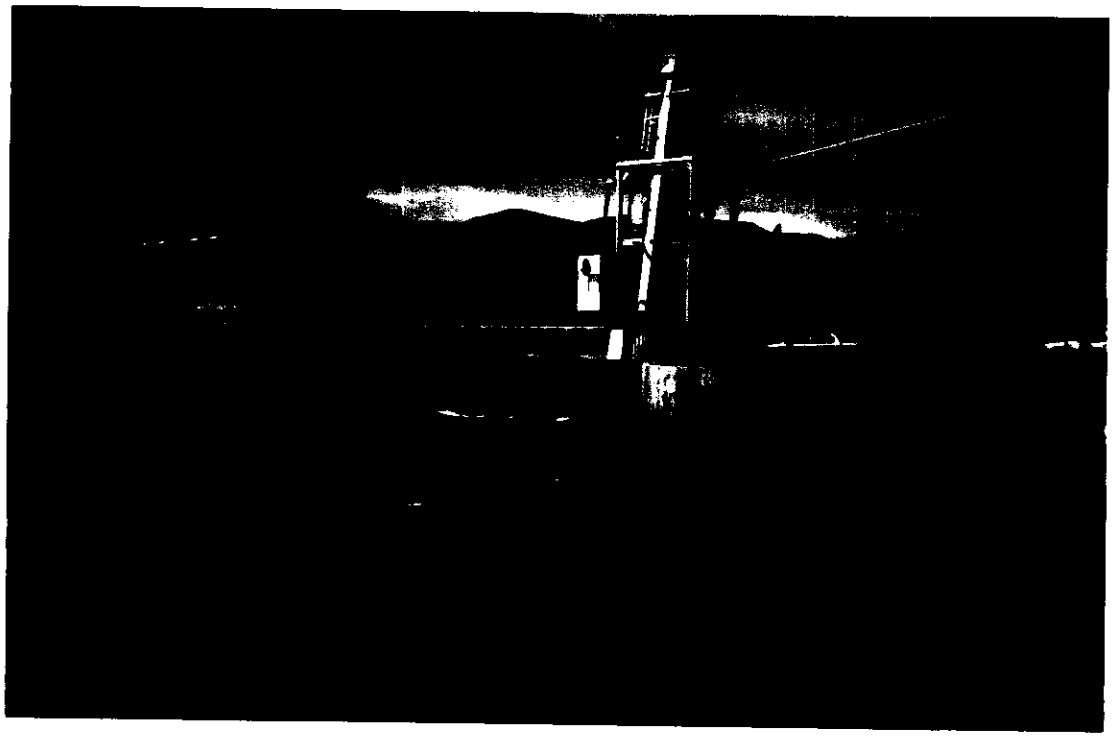
IDAHO POWER



View Looking North-West

P/D, P/U
Swan Falls Dam and Power Plant.

New Power Plant is on right side, old plants adjacent on left, and spillway on left side.



View looking Northwest

P/U
Reservoir intake to new Power-plant.

Two Power units housed in Concrete Powerhouse.

old power houses on left.

02-07379



View looking Southeast

P/u
Tailrace of new Power Plant, on left.

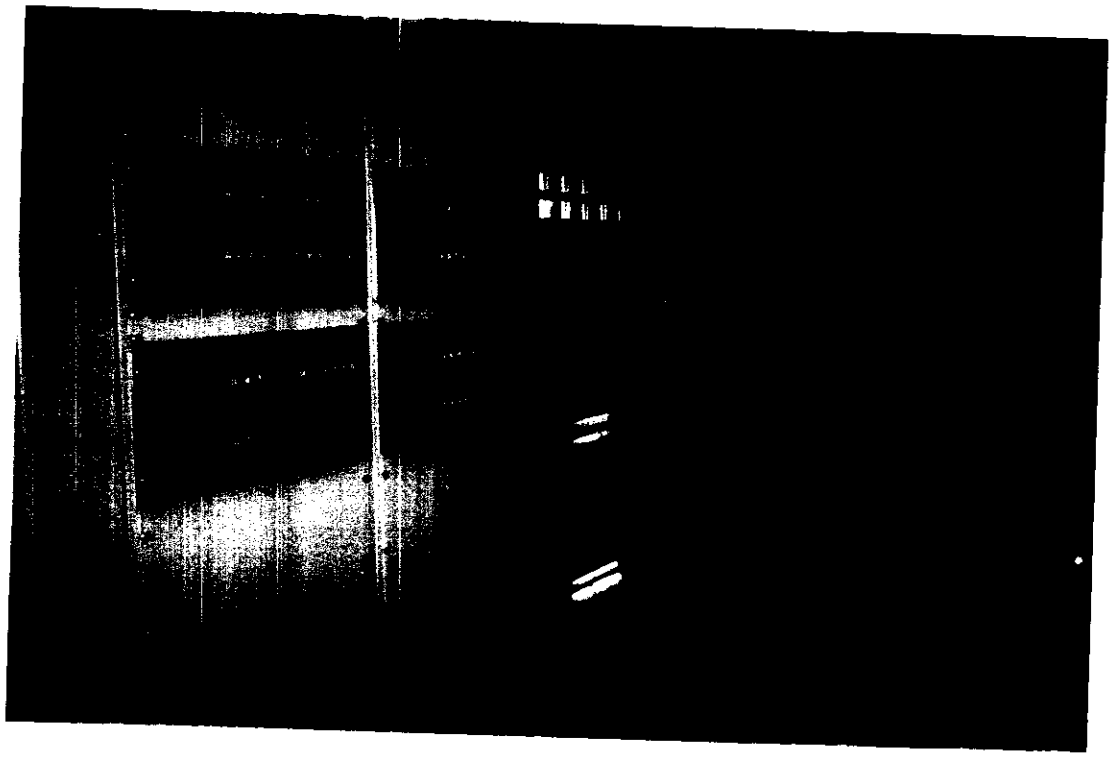
Old Powerhouses on right.



P/u
Control Room — background, inside new Powerhouse.

Control room is place of flow measurement.

02-09379



Control Room instrumentation Panel.

First two red displays above white paper recorders show flow through units.

Computer for flow Calculation and printer are located in this room.



Power Unit Model display in Powerhouse.

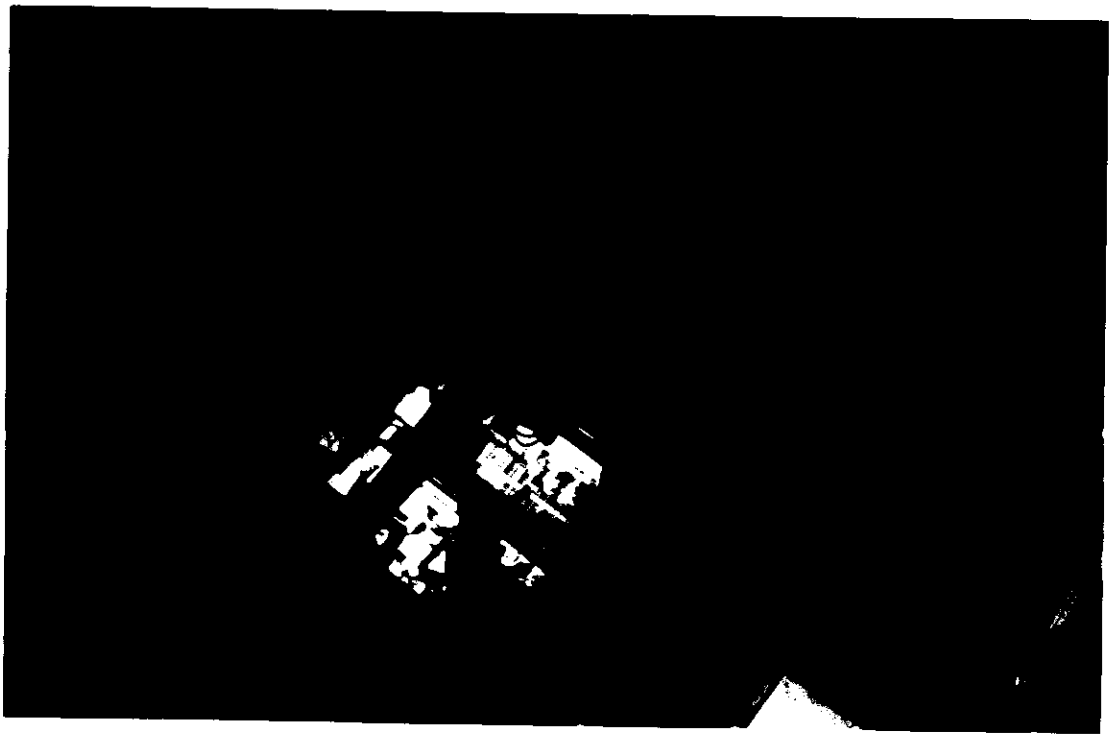
02-07379



Looking down on Power Unit No. 2.

White Rect. Structure houses the generator.

[Unit No. 1 is the same]



Wicket Gate Hydraulic Ram and Control Arms.

Kaplan Turbine is inside blue Conduit.

Unit 2.

SWAN FALLS PROJECT owned by Idaho Power Co. and located 25 miles south of the city of Boise or 10 miles southeast of the town of Melba in Sec. 18, T. 2 S., R. 1 E., B.M.

Water Right No.	Water Right and Date or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit License/Decree
02-00100	Trade Dollar Consolid. Mining Co. Decree	4-02-1907, 02-A, p. 2	1-17-1900[1] (4-02-1907)[2]	2,150	No
02-04000	Licensed on 8-04-1911		1-17-1900[1] (4-03-1911)[2]	1,840	Yes[3]
02-04001	Licensed on 8-16-1911		4-17-1900[1] (7-01-1911)[2]	1,460	Yes[3]
02-02032	Permitted on 10-31-1919 Licensed on 5-20-1920	Licensed for 4,000 cfs	7-29-1919 (5-26-1930)[2]	(4,000) 2,950[4]	No No
	Subtotal of water rights Subtotal--capacity			(9,450) 8,400[4]	
02-07379	Permitted on 4-10-1989 Beneficial use rec. 4-26-1996		3-31-1982	(6,550) 6,300[5]	Yes
02-0????	Expected application		12-1996 (?)	[5]	Yes
Subtotal of non-subordinated water rights without Swan Falls Agreement Total				5,100 cfs[6] 14,700 cfs[5]	

[1] No date given in the Decree. Licenses 02-04000 & 02-04001 indicate the date of posting notice for diverting 10,000 cfs at the diversion point was January 17, 1900, the date of filing with the Owyhee County Recorder was February 2, 1900, and the date of filing with the State Engineer was February 4, 1900. The month of priority in license 02-04001 is spelled out as "April" even though the earlier dates of posting and filing are described earlier in the license.

[2] Priority dates listed but not ruled upon in the Amended Summary Judgement in Idaho Power Co. vs. The State of Idaho, on June 3, 1980 in Case No. 62237 in the Fourth Judicial District

[3] The license says it is "subject, also, to the local or community customs, rules and regulations which have been or may be adopted from time to time by a majority of the users from a common source of supply from which such water may be taken, when such rules and regulations have for their object the economical use of such water."

[4] The hydraulic capacity was 8,400 cfs before the rebuild and enlargement undertaken in about 1989. The total rights can not exceed the project's hydraulic capacity. See Idaho Power Co. v. State (104 Idaho 575, 578). "However, it is undisputed that the Swan Falls power plant's hydroelectric capacity is 8400 cfs, and therefore the water rights at Swan Falls are limited to 8400 cfs."

[5] James C. Tucker, Idaho Power Co.'s contract attorney indicated by telephone that the application will bring the total water rights up to the current as-built condition; however, the Idaho Power Emergency Action Plan Swan Falls revised on September 20, 1996 submitted to the IDWR by the company indicates on page 16 that the normal penstock capacity is 14,700 cfs .

[6] The Swan Falls agreement of October 25, 1984 subordinates with conditions the use of this water to a summer-fall (April 1 to October 31) flow of 3,900 cfs and a winter-spring (November 1 to March 31) flow of 5,600 cfs measured at the Murphy gage located below Swan Falls Dam. Regardless of the 5,100 cfs of non-subordinated water rights at Swan Falls, 5,600 cfs is needed at the Murphy gage to provide for the non-subordinated water rights at the Lower Salmon Falls Project as well as at the Bliss and Upper Salmon Falls Projects. For subordination conditions see Idaho Code 42-203C.

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

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

April 26, 1996

IDAHO POWER COMPANY
PO BOX 70
BOISE ID 83707

PROOF ACKNOWLEDGEMENT LETTER

RE: PERMIT NO. 02-07379

Dear Permit Holder:

The department acknowledges receipt of the proof of beneficial use form submitted for the above referenced permit.

The next step in the process of developing a water right is for the department to conduct a field examination to determine and confirm the use being made of the water.

If you have questions concerning the field examination, please feel free to contact the WESTERN Regional Office in Boise, at (208)334-2190.

Sincerely,

Julie L. Yarbrough

JULIE L. YARBROUGH
Senior Secretary

c: IDWR - Region, Sharon Strickland

RECEIVED
APR 29 1996

ROSHOLT, ROBERTSON & TUCKER
Chartered
ATTORNEYS AT LAW

JOHN A. ROSHOLT
J. EVAN ROBERTSON
JAMES C. TUCKER
GARY D. SLETTE
JERRY V. JENSEN
BRUCE M. SMITH
JOHN K. SIMPSON
PATRICK D. MADIGAN
PAUL W. SAMUELSON
TIMOTHY J. STOVER
NORMAN M. SEMANKO

Twin Falls Office
142 3rd Ave. North
P.O. BOX 1906
TWIN FALLS, IDAHO 83303-1906
TELEPHONE (208) 734-0700
FAX (208) 736-0041

Boise Office
1221 WEST IDAHO, SUITE 600
P.O. BOX 2139
BOISE, IDAHO 83701-2139
TELEPHONE (208) 336-0700
FAX (208) 344-6034

April 24, 1996

RECEIVED
APR 25 1996
Department of Water Resources

Julie L. Yarbrough
Senior Secretary
Department of Water Resources
1301 North Orchard
Statehouse Mail
Boise, Idaho 83720-9000

RE: PERMIT NO. 02-07379

Dear Julie:

In follow-up to your letter of April 17th, we are enclosing the Proof of Beneficial Use form on the above-referenced permit, which has been signed by James C. Tucker, attorney for Idaho Power Company. I'm also enclosing a copy of the Limited Power of Attorney authorizing Mr. Tucker's signature.

I understand from our telephone conversation that the priority date on this permit will not be advanced due to this oversight, but will remain March 31, 1982, the date of receipt of the application.

Thank you for your assistance in this matter.

Sincerely,

SHARON HART STRICKLAND
Certified Legal Assistant

Encls.

shs.96\ipc.sf

MICROFILMED
APR 29 1996

RECEIVED
APR 2 5 1996
Department of Water Resources

LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

Idaho Power Company, an Idaho corporation, hereby nominates and appoints James C. Tucker of the law firm of Rosholt, Robertson & Tucker, with offices in Boise, Idaho, and Twin Falls, Idaho, as attorney-in-fact with full authority to act for and on behalf of Idaho Power Company, to authorize, prepare, and/or sign any and all documents, claim forms, amendments, or any other document or instrument required or necessary to protect the interest of Idaho Power Company related to its water rights, including, but not limited to, any and all documents necessary to be filed in the Snake River Basin Adjudication.

Idaho Power Company's agent is hereby authorized to sign, seal, and deliver, as its act and deed, those said instruments of writing that may be necessary or proper to carry into execution and effect all claims relating to Idaho Power Company's water rights as above-mentioned. Further, Idaho Power Company hereby declares that each and every agreement, receipt, or payment which shall be by its said agent given, made or done for the aforesaid purposes shall be as good, valid, and effectual as if they had been signed, sealed, and delivered by Idaho Power Company in its own proper representative; and Idaho Power Company hereby undertakes at all times to ratify whatsoever its said agent shall lawfully do or cause to be done in or concerning the said premises by virtue of these presents.

IN WITNESS WHEREOF, Idaho Power Company has hereunto executed this Limited Power of Attorney this 14th day of August, 1992.

IDAHO POWER COMPANY

By: J. LaMont Keen

ATTEST:

By: Kelt W. Earl
Secretary

APR 29 1996

STATE OF IDAHO)
)ss.
County of Ada)

On this 14th day of August, 1992, before me, a Notary Public, in and for said County and State, personally appeared J. LaMont Keen and Robert W. Stahman, known or identified to me to be the Vice-President and Secretary, respectively, of the Idaho Power Company, the corporation that executed the foregoing instrument, 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 in this certificate first above written.

Sally A. Hanlon
NOTARY PUBLIC FOR IDAHO
Residing at: Boise
My commission expires: 12.31.92

RECEIVED
APR 1 _ 1996
Department of Water Resources
Boise Office

ROSHOLT, ROBERTSON & TUCKER
Chartered
ATTORNEYS AT LAW

JOHN A. ROSHOLT
J. EVAN ROBERTSON
JAMES C. TUCKER
GARY D. SLETTE
JERRY V. JENSEN
BRUCE M. SMITH
JOHN K. SIMPSON
PATRICK D. MADIGAN
PAUL W. SAMUELSON
TIMOTHY J. STOVER
NORMAN M. SEMANKO

Twin Falls Office
142 3rd Ave. North
P.O. BOX 1906
TWIN FALLS, IDAHO 83303-1906
TELEPHONE (208) 734-0700
FAX (208) 736-0041

1221 WEST IDAHO, SUITE 600
P.O. BOX 2139
BOISE, IDAHO 83701-2139
TELEPHONE (208) 336-0700
FAX (208) 344-6034

March 29, 1996

Attn: Julie L. Yarbrough
Senior Secretary
Idaho Department of Water Resources
1301 N. Orchard St., Statehouse Mail
Boise, Idaho 83720-9000

Re: Swan Falls Proof of Beneficial Use

Dear Julie:

Enclosed is a completed IDWR Form 217 - Proof of Beneficial Use for Permit No. 02-07379 along with our check in the amount of $600.00 as required by ¶ 8 of the form.

Also enclosed is an affidavit by Timothy J. Brewer, P.E., a registered engineer employed by the Idaho Power Company (IPCo) together with a memo dated July 26, 1995 from Rick Kirtley, the Superintendent at the Swan Falls Power Plant, to Roger Fuhrman of IPCo. These documents are being submitted in an effort to satisfy the Department's requirement for a beneficial use examination. As you can see from the material enclosed, the tested capacity of the Swan Falls facility is in excess of the total of the current rights held by IPCo (W/R #'s 02-02032, A02-00100, A02-04000 & A02-04001) and the subject permitted right (02-07379).[1] We trust this information is sufficient under the Department's current POBU requirements. If additional information is required, please advise and IPCo will endeavor to provide such information or respond to any questions the Department may have. If an independent POBU is not required, we would appreciate being advised if some refund of the examination fee might be appropriate.

Thank you for your consideration.

Very truly yours,

JAMES C. TUCKER

Encls.
jct.96\ipc\sf.ltr

[1] In this regard, IPCo is currently considering filing water right applications for the additional capacity not covered by its existing rights.

MICROFILMED
APR 29 1996

State of Idaho)
)
County of Ada)

AFFIDAVIT OF TIMOTHY J. BREWER, P.E.

Timothy J. Brewer, being first duly sworn upon oath, deposes and says:

1) I am a registered professional engineer employed by Idaho Power Company and in that capacity am familiar with the Company's Swan Falls Dam and Powerplant and the hydrology of the Snake River, including, but not limited to, the tributary relationship of the area above and below the Swan Falls Powerplant to the Snake River.

2) Idaho Power Company's Swan Falls Dam and Powerplant are located on the Snake River at river mile 457.7. The U.S. Geological Survey (USGS) operates and maintains a streamgage on the Snake River at river mile 453.5. This gage is known as the "Snake River nr Murphy, ID (Station Number 13172500)". It is approximately 4.2 miles downstream from the Swan Falls Dam and Powerplant and is the nearest gage below Swan Falls Dam. Project releases are measured at this gage as required by the Federal Energy Regulatory Commission License for the Swan Falls project, License No. 503.

3) The Snake River flows generally northwesterly through this part of Idaho. The Owyhee Mountains are situated to the southwest of the river. Although several small streams flow out of the Owyhee Mountains into the Snake River, none enter the river between Swan Falls Dam and the Murphy streamgage. Occasionally,

APR 29 1996



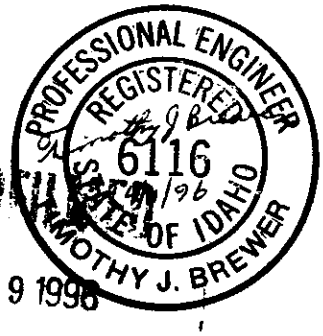
there is some local runoff in this area from the hills adjacent to the Snake River following locally heavy storms. However, this overland flow of water is typically of short duration and would not constitute a significant percentage of the flow in the Snake River without the Swan Falls Powerplant operators being aware of it.

4) Northeast of the Snake River in the area of Swan Falls, the land contour is a relatively flat plain that is primarily agricultural or undeveloped. This area also does not provide significant flow into the Snake River between Swan Falls Dam and the Murphy streamgage.

5) There are no significant diversions or withdrawals from the Snake River between Swan Falls Dam and the Murphy streamgage.

6) Based upon the foregoing, in my opinion reference to the Murphy streamgage is an appropriate method of measuring the flow that passes through the Swan Falls Dam and Powerplant.

7) I have reviewed and am familiar with the "turbine hydraulic capacity test" that was performed by the Company on May 17, 1995 and that is the subject of the memorandum dated July 26, 1995 from Rick Kirtley to Roger Fuhrman, a true and correct copy of that memorandum being attached to this Affidavit as Exh. A. In my opinion the test performed by Company personnel accurately demonstrated the hydraulic capacity of the turbines at the Swan Falls Powerplant is at least 20,400 cfs and accurately reflects the approximate amount of water that can be



APR 29 1996

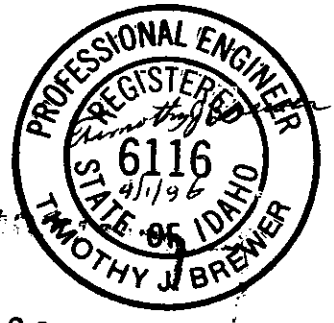
beneficially used for power production at that powerplant. I base these conclusions on the following:

a. To push the maximum flow possible through a hydraulic turbine in a powerplant, the net head must be as high as possible. This results from a combination of high headwater, low tailwater and minimum restriction within the turbine and associated controls. For the Swan Falls Powerplant, the maximum headwater would be a full pool. The minimum tailwater would occur when there is no flow through the spillway gates and there are no obstructions in the downstream reach. The minimum restrictions within the turbine would occur at full wicket gate opening.

b. In conducting a test of this nature, the objective is to operate the project in as close to optimum conditions as possible. Given "real-world" conditions such as available streamflow and weather, some deviations from optimum are to be expected. However, the procedure remains the same and the results reflect the inherent uncertainty of "real-world" conditions.

c. The "Turbine Hydraulic Capacity Test" report dated July 26, 1995, Exh. A, indicates that the test was conducted under the following conditions:

1) the reservoir was 0.2 foot below full at the start of the test,



APR 29 1996

2) there was no spill through the spillway, and

3) the wicket gates were opened to 100 percent.

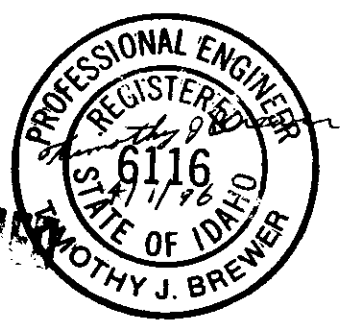
These conditions are close to optimum. The deviation that would have reduced the flow was the fact that the reservoir headwater level was 0.2 foot below full. This would slightly reduce the amount of water flowing through the turbine compared to the maximum possible.

d. When the flow in the river is changed by actions at a powerplant, the flow in the river needs time to stabilize at a downstream gage before recording the flow. The test report indicates that the maximum flow was maintained for about one (1) hour. The USGS streamflow records show that the river stage at the streamgage was at the peak value of 8.07 feet for three (3) 15-minute recordings. This indicates that the powerplant operators provided the maximum flows for a sufficient time to allow the flows to stabilize at the streamgage.

8) While I was not present when the capacity test was conducted at the Swan Falls Powerplant, the procedures utilized by the powerplant personnel who conducted the test, as described in Exh. A, are the same procedures I would have used if I had personally conducted the test.

Timothy J Brewer

Timothy J. Brewer, P.E.



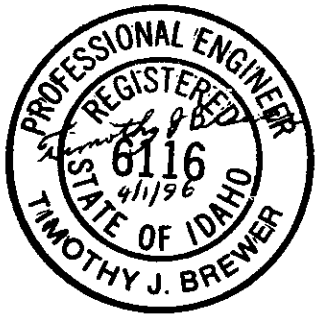
APR 29 1996

STATE OF IDAHO)
:ss.
County of Ada)

On the 1 day of April, 1996, before me, a Notary Public, in and for said County and State, personally appeared TIMOTHY J. BREWER, known or identified to me to be the individual whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

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

Nancy Salamon
NOTARY PUBLIC FOR IDAHO
Residing at Sweet, Id
My commission expires: 10/7/99



MICROFILMED
APR 29 1996

Re: Turbine Hydraulic Capacity Test

Date: July 26, 1995

To: Roger Fuhrman

From: Rick Kirtley

Per your request, on May 17, 1995, we conducted a turbine hydraulic capacity test to determine the "maximum flow" capability of Idaho Power's turbines at Swan Falls Dam. The test was conducted under the following conditions:

1) Swan Falls reservoir elevation was 2314.00 feet at the beginning of the test. The reservoir is full at 2314.20 feet.

2) No spill occurred from the spillgates.

3) The wicket gates were opened 100% and the flow through them was maintained for approximately one hour.

At approximately 13:00, the turbines installed at Swan Falls Dam began operating at full hydraulic capacity and continued to do so for nearly one hour. The hydraulic capacity of the turbines produced a sustained reading on the Snake River near Murphy gage of 8.07 feet. This is demonstrated in the attached USGS data printout where beginning at 13:15, there are three consecutive 15-minute gage height readings of 8.07 feet. With an effective date of 10/01/83 through the present and no variable shift in effect, USGS rating table number 8.1 indicates that the flow under the best conditions was 20,420 cfs.

I witnessed and directed the above test and the statements in the above dissertation are true to the best of my knowledge.

Rick Kirtley
Supt., Swan Falls Power Plant

8-28-95
Date

Signature Witness

8-28-95
Date

APR 29 1996

PROFESSIONAL ENGINEER REGISTERED 6116 STATE OF IDAHO TIMOTHY J. BREWER

EXHIBIT A

January 31, 1996

IDAHO POWER CO
P O BOX 70
BOISE ID 83707

PROOF DUE NOTICE

RE: PERMIT NO. 02-07379

Dear Permit Holder:

One of the conditions of approval of the above referenced water permit was that proof of the extent of your beneficial use must be submitted to this office on or before April 1, 1996. (See last page of your approved permit or your last approved extension request.) Enclosed is a form which when accompanied by the license examination fee or a complete field examination report prepared by a certified water right examiner may be used to submit the required proof.

If you have not fully completed your project, and you or a previous owner of this permit have not received a prior extension of time, you may request an extension of time if the delay is for reasonable cause as provided in Section 42-204, Idaho Code. If you have been prevented from proceeding by a governmental agency or by litigation which might bring title to the water in question, more than one extension of time can be granted. An extension of time request form is enclosed for your convenience.

Either an acceptable proof of beneficial use submittal or an acceptable request for an extension of time must be received by this department on or before the above described proof due date. If neither is received, the department will send you a lapse notice. Within sixty (60) days of the mailing of the lapse notice, the permit will no longer be of any force nor effect.

SINCERELY,

JULIE L. YARBROUGH
Senior Secretary

Enclosures

MICROFILMED

APR 29 1996

CERTIFIED MAIL
NO. 142513

March 11, 1994

Idaho Power Company
P.O. Box 70
Boise, ID 83707

RE: Permit No. 02-07379

Dear Permit Holder:

Enclosed is a copy of the approved request for extension of time. The time within which to submit proof of beneficial use is extended to April 1, 1996. Please note that the department has granted this extension based on due diligence. It is important that you work diligently toward the completion of this project during the construction period allowed since the department **will not** be able to grant additional extensions based on due diligence.

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

Sincerely,

JULIE L. YARBROUGH
Senior Secretary

Enclosure

C: IDWR - Regional Office

MICROFILMED

APR 29 1996

Attachment to REQUEST FOR EXTENSION OF TIME

The permit holder(s) has been unable to complete the remainder of the work for the following reasons:

Construction work remaining on Unit #2 includes completing equipment installation, final alignments, load tests and final adjustments. This work is expected to be completed, and Unit #2 begin commercial operation, by May 15, 1994. Other work remaining on this project includes decommissioning and renovation of the old power house, and removal of the causeway and temporary transmission facilities located downstream of the new power plant. The entire project is expected to be completed by December, 1994.

Dollars spent:

To date, the expenditures on this project have been in excess of forty-eight million dollars.

\wpdata\srba\exttime

APR 29 1996

January 31, 1994

IDAHO POWER CO.
P.O. BOX 70
BOISE ID 83707

PROOF DUE NOTICE

RE: PERMIT NO. 02-07379

Dear Permit Holder:

One of the conditions of approval of the above referenced water permit was that proof of the extent of your beneficial use must be submitted to this office on or before April 1, 1994. (See last page of your approved permit or your last approved extension request.) Enclosed is a form which when accompanied by the license examination fee or a complete field examination report prepared by a certified water right examiner may be used to submit the required proof.

If you have not fully completed your project, and you or a previous owner of this permit have not received a prior extension of time, you may request an extension of time if the delay is for reasonable cause as provided in Section 42-204, Idaho Code. If you have been prevented from proceeding by a governmental agency or by litigation which might bring title to the water in question, more than one extension of time can be granted. An extension of time request form is enclosed for your convenience.

Either an acceptable proof of beneficial use submittal or an acceptable request for an extension of time must be received by this department on or before the above described proof due date. If neither is received, the department will send you a lapse notice. Within sixty (60) days of the mailing of the lapse notice, the permit will no longer be of any force nor effect.

SINCERELY,

JULIE L. YARBROUGH
Senior Secretary

Enclosures

RECEIVED
APR 29 1996

CERTIFIED MAIL
NO. 141061

AUG 28 1991
Department of Water Resources

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company

Project No. 503-009
Idaho

NOTICE OF AVAILABILITY OF ENVIRONMENTAL ASSESSMENT

(August 22, 1991)

In accordance with the National Environment Policy Act of 1969 and the Federal Energy Regulatory Commission's regulations, 18 CFR Part 380 (Order No. 486, 52 F.R. 47910), the Office of Hydropower Licensing (OHL) has reviewed the application to amend the license for the Swan Falls Project to construct a new operators village consisting of five single family homes. The project is located on the Upper Snake River in Ada and Owyhee County, Idaho. The staff of OHL's Division of Project Compliance and Administration has prepared an Environmental Assessment (EA) for the proposed action. In the EA, staff concludes that approval of the amendment of license would not constitute a major federal action significantly affecting the quality of the human environment.

Copies of the EA are available for review in the Reference and Information Center, Room 3308, of the Commission's Offices at 941 North Capitol Street, NE, Washington, DC 20426.

Lois D. Cashell
Secretary

DC-A-19

RECEIVED
9 1991

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company — Project No. 503-009
Idaho

ORDER AMENDING LICENSE
(Issued August 20, 1991)

On July 3, 1991, Idaho Power Company (licensee) filed an application to amend the license for the Swan Falls Project. Supplemental information was filed on August 3, 1991. The licensee proposes to construct a new operator's village at the Swan Falls Project.

The housing at the existing village is obsolete and no longer suitable. The new village will consist of five single family homes, approximately 750 feet upstream from the existing operator's village. The homes will be single story, wood frame structures of about 1500 square feet with an attached garage, positioned on 125-foot square adjoining lots. Sewage will be treated by a new pressurized septic system. Access to the village will be by a gravel spur road off the existing road.

The State Historic Preservation Officer (SHPO), by letter dated June 7, 1991, stated that the project will not affect significant cultural resources and recommended avoiding small structural remains which are adjacent to the construction area. The licensee agreed to avoid impacting the structural remains.

The existing Swan Falls village is eligible for the National Register of Historic Places. By letter dated July 24, 1991, the SHPO stated that, because the proposed village is located approximately 750 feet away, it will not have an adverse effect on the existing village.

By letters dated July 24 and 30, 1991 the U.S. Fish and Wildlife Service stated that the proposal will not affect threatened, endangered, or Federal candidate species.

The existing housing is dysfunctional. The proposal would provide safe and comfortable housing for the employees. Staff's independent environmental assessment 1/ addresses the licensee's

1/ Environmental Assessment, Application to Amend License: Swan Falls Project No. 503-009, Federal Energy Regulatory Commission, dated August 16, 1991. The document is available in the Commission's public files associated with the proceeding.

APR 29 1996

plans to construct the village, and the licensee's proposed mitigation measures. Approval of this amendment would not constitute a major federal action significantly affecting the human environment.

The Director orders:

(A) The amendment of license, filed July 3, 1991, as modified by paragraph B, is approved.

(B) The licensee's mitigation measures listed in Idaho Power Company's letter, titled Swan Falls Village-Mitigation of Construction Impacts, dated July 23, 1991, are approved.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

Tan R Crawford

J. Mark Robinson
Director, Division of Project Compliance and Administration

RECEIVED
AUG 26 1991
Department of Water Resources

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

April 11, 1989

Idaho Power Company
P. O. Box 70
Boise, ID 83707

Gentlemen:

Re: Application for Permit No. 02-7379

Enclosed is a copy of the approved Application for Permit No. 13-7449 along with a copy of the Memorandum Decision and Order Please note the conditions of approval as set forth in the Memorandum Decision and Order.

Enclosed is a form entitled "Instructions for Proof of Beneficial Use". Please read the instructions carefully since you must take further action to develop this permit. Also enclosed is a Proof of Beneficial Use form, which should be submitted when the project is complete.

Be sure to note the special condition requiring you to install a measuring device or a flow measurement port or to provide a certified measurement or computation of flow based upon the design of the system to be prepared by a professsional engineer.

Any person who does not agree with the decision of the department may request a rehearing before the Director within 20 days, or may appeal directly to the district court within 30 days of the date the decision is mailed.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

LGS:rf

Enclosures

MICROFILMED
MAY 15 1989

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

ROBERT J. O'CONNOR
Chairman and
Chief Executive Officer

April 3, 1989

Mr Keith Higginson
Director
Department of Water Resources
State of Idaho
1301 North Orchard Street
Boise, Idaho 83706

Re: Swan Falls - FERC No 503

Dear Mr Higginson:

Thank you for your prompt attention to the Swan Falls consultation package you recently received from Idaho Power. With specific reference to your March 15, 1989, letter to me, you are correct in your understanding that Idaho Power expects the additional water right for the Swan Falls Project to reflect the terms and conditions of the Agreement between the State of Idaho and Idaho Power often referred to as the Swan Falls Agreement. Therefore, subordinating the state water permit to upstream depletionary uses in a manner consistent with the Agreement is proper.

The plans and specifications for any modification to the dam will be filed with your Department prior to commencing any construction so that you may perform your jurisdictional duties. In the meantime, I have been assured that the Independent Consultant's Report that prompted Idaho Power's decision to rebuild the facility has been forwarded to your dam safety personnel for their review.

Please let me know if I can be of any further assistance.

Sincerely,

R. J. O'Connor

RJO:ac

MICROFILMED
MAY 15 1989

State of Idaho
DEPARTMENT OF WATER RESOURCES (208) 327-7900
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -[redacted]

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

March 15, 1989

Mr. Robert J. O'Connor, Chairman
of the Board and Chief Executive Officer
Idaho Power Company
Box 70
Boise, ID 83707

Dear Mr. O'Connor:

The February 17, 1989 letter from Mr. David W. Meyers of your company provided a copy of the October 1981 license application and supplemental information for the authorization to build a new powerhouse and upgrade the capacity of the Swan Falls Project (FERC No. 503) to 25 MW. The letter requested that we expedite the review and comment period and provide a "waiver of further consultation: if appropriate, as soon as possible.

Officials of the company requested and were granted the opportunity to inform the Idaho Water Resource Board of their proposed actions at a work session of the board on March 2, 1989. In addition, Mr. Lanham briefed me on the company's proposed action on March 1, 1989.

It will be necessary for the company to obtain a water right for the additional flow for the increased generating facility. The company applied for a water right (#02-7379) in 1982. Protests filed in response to the application have been resolved and the department can act on the application. If approved, I understand the company will possess sufficient water rights to operate the Swan Falls hydropower generating plant at the proposed 25 MW capacity.

It will be necessary to condition the water right to reflect the terms accepted by the company and state in the Swan Falls Agreement. I would propose to condition the right to be subordinate to all future upstream uses. My understanding is the company will agree to such a condition.

MICROFILMED
MAY 15 1989

It is important that FERC understand the position of both the state and company relative to the condition to be placed on the water right. I suggest the company inform FERC of their acceptance of the subordination for the water right and request that the FERC license acknowledge this fact.

Plans and specifications for modification to the dam are to be filed with IDWR for review and approval prior to commencing construction. IDWR's dam safety section will appreciate receiving the consultant's studies identifying the problems with the dam which have prompted the implementation of this project.

Please let me know if this letter reflects your understanding of this matter and is acceptable to the company.

Sincerely,

R. Keith Higginson,
Director

RKH:ky

cc: Governor's Office
IWRB

MICROFILMED
MAY 1 0 1989

02-7372
02-2032
02-4100, 02-4001
02-4000, 02-4001

RECEIVED
DEC 22 1987
Department of Water Resources

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company Project No. 503-004

ORDER APPROVING "AS-BUILT" EXHIBITS

(Issued December 10, 1987)

On October 29, 1987, Idaho Power Company, licensee for the Swan Falls Project, filed revised license exhibits showing the constructed configuration of the licensed project works. The "as-built" exhibits conform to the Commission's regulations and confirm that the constructed project works do not differ significantly from the design approved in the license, as amended on April 30, 1987.

The Director orders:

(A) The Exhibit A and the following revised Exhibit F and G drawings are approved and made a part of the license:

Exhibits	FERC Drawing No. 503-	Showing	Superseding FERC Drawing No. 503-
F-1	124	General Plan	103
F-2	125	Existing Structure Plan and Elevation	106
F-5	126	New Spillway, Plan and Elevation	109
G-1	127	Project Map	111

(B) Ordering Paragraph (B)(2), item (3), of the license is amended as follows:

"(3) a spillway with crest elevation of 2,300 feet msl with 12 bays each provided with radial gates, 31 feet wide and 15.5 feet high;".

(C) Within 90 days from the date of this order, the licensee must file with the Commission's Secretary one original and one Diazo-type duplicate set of aperture cards showing each approved exhibit drawing. The originals must be reproduced on silver or gelatin 35 mm microfilm and mounted on Type D (3 1/4" x 7 3/8") aperture cards. The licensee must also submit at the same time a set of Diazo-type duplicate aperture cards to the Commission's Portland Regional Office. The FERC drawing

MICROFILMED
MAY 15 1989

number shall be shown in the margin below the title block of the microfilm drawing. The top lines(s) of the aperture card shall show the appropriate FERC exhibit, Project Number, Drawing Number, Drawing Title, and the date of this order.

(D) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.

Edward A. Abrams

Edward A. Abrams
Acting Director, Division
of Project Management

Reviewed PJZ
SAXTON
1 folder

INTER-DEPARTMENT MEMO — 1

DATE 9-3-87

FROM Jim

TO File

SUBJECT This file was reviewed on this date

No change in status

Call-up in 1 yr.

MICROFILMED

MAY 15 1989

SIGNATURE

MEMORANDUM

TO: Norm Young, Glen Saxton, Dave Hollingshead

FR: Ken Arment

DATE: July 17, 1987

RE: Requests by Idaho Power and Utah Power and Light to Have FERC Licensed Dams Exempt From State Dam Safety Requirements, or Alternatively to Conform State Regulation of FERC Sites to FERC Regulations

---

These requests, in legal terms, may be boiled down to two main issues. Number one, and most important for the Idaho Department of Water Resources (Department), is the duty of the Department to carry out the responsibilities imposed by the Idaho legislature. The second issue is the degree of involvement of state dam safety rules and regulations in matters which involve the jurisdiction of the Federal Energy Regulatory Commission (FERC), and whether the Department may be pre-empted from state regulation by FERC, and who decides whether the Department is pre-empted from the regulation of dam safety at FERC-licensed sites. At this point, it must be noted that the legal supports for the above-referenced requests were very general, scant, or nonexistent. Consequently, this memo is written in an informal and general fashion.

STATE DAM SAFETY LAWS

The State of Idaho has been charged with the regulation of dams and embankments holding water which may be unsafe or endangering life and property at least since 1895. See, I.C. § 42-1709. Idaho has a long history of exercising its inherent and traditional police power, for the safety of its citizens, in the dam safety area. The Idaho legislature has codified the responsibilities of the state, and assigned those duties to the Department in Chapter 17 of the Idaho Code. Idaho Code §§ 42-1709 through 42-1721 are recognized and referred to as the Idaho Dam Safety Act. Violations of the Dam Safety Act are criminal. I.C. § 42-1720.

The Dam Safety Act contains no provisions or exclusions by which the Department may shift its statutory duties and police powers in the favor of any other private or governmental entity. To the contrary, I.C. § 42-1710 states that the regulation of dams, to the extent required for the protection of public safety, is exclusively held by the state. Furthermore, that "[a]ll dams, reservoirs and mine tailing impoundment structures in the state are under jurisdiction of the department of water resources." Id.

MICROFILMED

MAY 15 1989

The Department, under "the police power of the state, shall supervise the construction, enlargement, alteration, repair, maintenance, operation, and removal of dams, reservoirs and mine tailings impoundment structures for the protection of life and property. Id. (emphasis added). On this issue, the highlighted word "shall" is crucial. The Department is required by the legislature to supervise every dam or impoundment for the protection of life and property within Idaho, no exceptions.

FEDERAL PRE-EMPTION

There are a few areas of federal law where federal regulation is so extensive and complete, that the United States Supreme Court has ruled that the U.S. Congress intended for federal law to pre-empt or supersede all state and local laws in the area. Total pre-emption, however, is rare and limited. In most instances, the Supreme Court has applied a second test in fields where both federal and state laws may overlap. In these areas the Court has ruled that the federal government and states exercise concurrent jurisdiction. Compliance with both federal and state law is required unless the particular regulation by the state is directly contrary to the federal regulation or purpose. What elements constitute a direct conflict is a matter of judicial interpretation under the particular facts of the case.

In regards to the referenced requests, much of the legal authority cited by the power companies indicates that Congress intended that the states have concurrent jurisdiction with FERC in regards to dam safety. Sections 9(a)(2) and 10(a)(2) of the Federal Power Act require the FERC applicant to show compliance with state law, and require FERC to consider the recommendations of state agencies exercising control over flood control and other relevant areas in licensing considerations, respectively. Furthermore, 18 CFR Part 12, Subpart C requires applicants or licensees to develop their emergency action plans "in consultation and cooperation with appropriate Federal, state, and local agencies responsible for public health and safety." Consequently, it appears that Congress did not intend to exclude state regulation in that area of dam safety in FERC matters. This general conclusion also makes sense in light of the historic and traditional role of state regulation in dam safety. The states have been exercising this role before the U.S. Was created. The Federal Power Act contains no language expressly reversing the traditional role of the states. Indeed, it has only been within the last decade that FERC has developed serious regulations regarding dam safety. To accept the power companies' view would mean that Congress did not want dam safety regulation for the public safety in the intervening four or more decades since enactment of the Federal Power Act. In addition, FERC has never asserted before, or notified the Department that its role in dam safety regulation in Idaho at FERC-licensed sites is unnecessary or unwanted, let alone pre-empted.

MICROFILMED

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company) Project No. 503-002

ORDER AMENDING LICENSE

(Issued April 30, 1987)

On December 22, 1982, Idaho Power Company (IPC) was issued a new license for the Swan Falls Project No. 503.[1/] That license authorized IPC, among other things, to replace the existing powerhouse and generating units, thereby increasing the total rated capacity of the project from 10.4 MW to 25 MW. IPC has applied for amendment of its license, proposing to postpone this work until such time as the additional capacity is needed.

Notice of the application has been published and comments have been received from interested federal and state agencies. The Idaho Department of Fish and Game comments that it has no objections to granting the amendment, as long as the mitigation features of the license will be applied at the time of construction. The mitigation measures specified by the articles of the new license are not affected by this amendment. The Idaho Department of Water Resources (IDWR) intervened in order to maintain its party status in any further proceedings including but not limited to any hearings regarding further license conditions for water management purposes. IDWR does not comment on this amendment. There have been no objections to amending the license. Additional concerns are discussed below.

ENVIRONMENTAL CONSIDERATIONS

Cultural Resources

Project facilities affected by the proposed amendment of license are components of the historic Swan Falls Dam and Power Plant (Dam and Power Plant), a property listed in the National Register of Historic Places. Article 40 of the new license required that these and other facilities associated with the Dam and Power Plant that would be affected by the construction authorized in the new license be recorded prior to construction according to the documentation standards of the Historic American Engineering Record (HAER) of the U.S. Department of the Interior (Interior). The article also required the excavation of an archeological site (site 10 AA 17), determined eligible for the National Register of Historic Places, that is located adjacent to the Dam and Power Plant in a construction staging area. Prior to issuance of the license, the Advisory Council on Historic Preservation concurred that the article provided adequate measures to mitigate the effects of the project on the Dam and Power Plant and site 10 AA 17.

1/ Idaho Power Company, 21 FERC ¶62,519 (1982).

RECEIVED
MAY 11 1987
Department of Water Resources

Because of the reduced scope of construction activities associated with the amendment of license, IPC recommends that article 40 be deleted from the license as it relates to the Dam and Power Plant. Interior questions the recommended deletion. Interior states that any structures that are to be replaced should be photographed and drawn in accordance with HAER standards. Interior also notes that IPC has not referenced archeological site 10 AA 17 in relation to article 40. Interior recommends that IPC provide information concerning whether the site has been or would be protected during the limited construction under the proposed amendment.

IPC previously filed information indicating that the significant data at site 10 AA 17 has been recovered and that the site no longer requires protection. Although the proposed amendment will reduce the scope of construction previously authorized under the new license, the mitigative measures identified in article 40 concerning the Dam and Power Plant would be necessary to satisfactorily mitigate the impacts of any construction authorized under the proposed amendment. Therefore, article 40 should remain in the project license unchanged to protect the Dam and Power Plant. The impacts and necessary documentation, however, would be less under the amendment of license.

Recreational Resources

Interior is concerned that the recreational development authorized under the license might no longer be applicable. The recreation plan approved under the new license is not affected by this amendment of license.

ENGINEERING CONSIDERATIONS

The Swan Falls Project has ten generating units having a combined capacity of 10.4 MW. The annual generation has averaged 83 GWh over the past few years giving a plant factor of 0.91. Power generated by Swan Falls is used by IPC to meet system demands.

IPC was issued a new license for the Swan Falls Project on December 22, 1982. IPC was authorized to increase the installed capacity from 10.4 MW to 25.0 MW, rebuild the spillway, retire the powerhouse, and construct a new powerhouse containing two bulb type turbines. Based on a recent review and analysis of its loads and resource plans and upon the completion of new generating resources including North Valmy Unit No. 2, IPC has determined it does not need the additional 14.6 MW from Swan Falls to meet its load requirements until the late 1990's. Therefore, IPC has proposed to postpone the construction of a new Swan Falls Powerhouse.

The economic analysis used in the relicensing proceeding to determine the feasibility of expanding the Swan Falls Project was based on the assumption that the project would have value, as soon as it would be constructed, to delay the construction of a coal fueled steam electric plant. That assumption is no longer valid in the Pacific Northwest region. The Pacific Northwest Power Planning Council does not project the need for additional large thermal resources to meet energy requirements until about the year 2002 based on the medium-high load growth forecasts.

The financial feasibility of expanding the project has been re-evaluated assuming the net increase in project energy would have only coal fuel replacement value from the time the plant would come on-line until the year 2002, and would have the full replacement value of energy, including coal plant construction costs, thereafter.

The levelized cost of the project expansion would be approximately $8,400,000 per year, and the levelized value of the 72 GWh increase in project net energy would be approximately $5,140,000 per year. Therefore, under the currently projected power supply situation in the region, the expansion is not financially feasible. This order deletes the project expansion from the license.

Article 49 of the license for Project No. 503 requires IPC to commence construction of the newly authorized project works within 18 months from the effective date of the license and to complete such construction within 6 years from the starting date of construction. Rather than allowing an indefinite postponement of this construction, this order deletes this installation from the license. IPC may apply for amendment of its license at a more appropriate time. In the interim the Commission retains authority under article 9 to require the installation of new capacity if economically sound and in the public interest.

The Commission's policy on relicensing is to limit the term of new licenses to 30 years from the end of the prior license, if no substantial new construction or redevelopment is proposed.[2/] Because the formerly proposed modification of project works is no longer authorized, the term of the new license will be reduced to 30 years instead of the 40 years previously authorized.

FINDING OF NO SIGNIFICANT IMPACT

The amendment of license will minimally affect the environmental resources of the project area. No federally listed threatened or endangered species will be affected. Cultural

2/ See The Montana Power Co., 56 F.P.C. 2008 (1976).

resources will be protected. On the basis of the record, issuance of an amendment of license for the project will not constitute a major federal action significantly affecting the quality of the human environment.

The Director orders:

(A) The license for the Swan Falls Project No. 503 is amended to delete authorization to add 14.6 MW of new capa

(B) Ordering paragraph (A) of the license for Project No. 503 is amended as follows:

> (A) This license is issued to the Idaho Power Company (Licensee), of Boise, Idaho, under Part I of the Federal Power Act (Act), for a period of 30 years from the expiration date of the original license, hence terminating on June 30, 2000, for the continued operation and maintenance of the Swan Falls Project No. 503, located in Ada and Owyhee Counties, Idaho, on the Snake River, a navigable waterway of the United States, and occupying lands of the United States within the Birds of Prey Natural Area, which is administered by the U.S. Department of the Interior. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(C) Ordering Paragraph (B)(2) of the license for Project No. 503 is amended as follows:

> (2) Project works consisting of: (1) the 25-foot-high, 1,218-foot-long concrete and rockfill Swan Falls Dam; (2) the Swan Falls Reservoir with a 900-acre surface area and a 4,800-acre-foot storage capacity; (3) a concrete spillway with a crest elevation of 2,300 feet msl with 12 bays, each provided with a 31-foot-wide, 14.5-foot-high radial gate; (4) an existing powerhouse containing ten generating units with a total rated capacity of 10.4 MW; (5) a 1,400-foot-long, 120-foot-wide (bottom width) tailrace; (6) one 69-kV and two 47-kV transmission lines connecting to the Licensee's distribution system; (7) a 700-foot-long access road; and (8) appurtenant facilities.
>
> The location, nature, and character of these project works are generally shown and described by the exhibits cited above and more specifically shown and described by certain other exhibits that form a part of the applications for license or amendment of license and that are designated and described as:

MAY 15 1989

Exhibit A - Section A.2 - Existing Project

FERC Drawing No.	Exhibit F	Showing
503-106	2	Existing Structures - Plan and Elevation
503-109	5	New Spillway - Plan & Section

FERC Drawing No.	Exhibit L	Showing
503-115	ZE-3707 Sheet 1	General Key Plan and Elevations of Power House
503-116	ZE-1507A Sheet 1	Main Floor Plan of Southwest Section of Power House
503-117	ZE-3707 Sheet 2	Main Floor Plan of Middle Section of Power House
503-118	ZE-1507A Sheet 3	Main Floor Plan of Northeast Section of Power House
503-119	ZE-1507A Sheet 4	Gallery Floor Plan of Power House
503-120	ZE-1507 Sheet 2	Cross Section of Power House
503-121	ZE-1507A Sheet 5	Cross Section of Power House Through Unit No. 2
503-122	ZE-3707 Sheet 3	Cross Section of Power House Through Unit No. 5
503-123	ZE-1507 Sheet 4	Cross Section of Power House Through Unit No. 8

(D) Ordering Paragraph (C) of the license for Project No. 503 is amended as follows:

(C) Exhibits A, F, G, except to the extent that it shows the no longer authorized project expansion, and L, designated in ordering paragraph (B), are approved and made a part of the license.

(E) Effective the first day of the month in which this order is issued, article 42(a) is amended as follows:

(a) For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 13,900 horsepower.

(F) Article 46 is amended as follows:

Article 46. The licensee shall file for approval as-built exhibits A, F, and G, reflecting only licensed project works, within six months from the date of this amendment.

(G) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order. Failure to file a petition appealing this order to the Commission shall constitute acceptance of this order.

Fred E. Springer
Acting Director, Office
of Hydropower Licensing

MICROFILMED
APR 19 1989

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company — Project No. 503-004

ORDER APPROVING "AS-BUILT" EXHIBITS

(Issued December 10, 1987)

On October 29, 1987, Idaho Power Company, licensee for the Swan Falls Project, filed revised license exhibits showing the constructed configuration of the licensed project works. The "as-built" exhibits conform to the Commission's regulations and confirm that the constructed project works do not differ significantly from the design approved in the license, as amended on April 30, 1987.

The Director orders:

(A) The Exhibit A and the following revised Exhibit F and G drawings are approved and made a part of the license:

Exhibits	FERC Drawing No. 503-	Showing	Superseding FERC Drawing No. 503-
F-1	124	General Plan	103
F-2	125	Existing Structure Plan and Elevation	106
F-5	126	New Spillway, Plan and Elevation	109
G-1	127	Project Map	111

(B) Ordering Paragraph (B)(2), item (3), of the license is amended as follows:

"(3) a spillway with crest elevation of 2,300 feet msl with 12 bays each provided with radial gates, 31 feet wide and 15.5 feet high;".

(C) Within 90 days from the date of this order, the licensee must file with the Commission's Secretary one original and one Diazo-type duplicate set of aperture cards showing each approved exhibit drawing. The originals must be reproduced on silver or gelatin 35 mm microfilm and mounted on Type D (3 1/4" x 7 3/8") aperture cards. The licensee must also submit at the same time a set of Diazo-type duplicate aperture cards to the Commission's Portland Regional Office. The FERC drawing

number shall be shown in the margin below the title block of the microfilm drawing. The top lines(s) of the aperture card shall show the appropriate FERC exhibit, Project Number, Drawing Number, Drawing Title, and the date of this order.

(D) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.

Edward A. Abrams

Edward A. Abrams
Acting Director, Division
of Project Management

MICROFILMED
MAY 15 1989

INTER-DEPARTMENT MEMO — 1

FROM Phil Rassier PJR

DATE Sept. 19, 1986

TO Jim Johnson

SUBJECT Swan Falls right, 02-7379

As far as I can determine, FERC still has not acted on Idaho Power's January 22, 1985 application to amend its FERC license at Swan Falls to postpone work until such time as additional power is needed.

The application is probably being held up because of the Swan Falls Agreement pending before FERC for approval.

I am returning the file to you for safe keeping.

SIGNATURE

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
FEDERAL ENERGY
REGULATORY COMMISSION
FERC-351

Idaho Water Resources Board P-503
430 State House
Boise, Idaho 83707

MICROFILMED
MAY 15 1989

D1. Agency Comments - Federal State, and local agencies that receive this notice through direct mailing from the Commission are requested to provide comments pursuant to the Federal Power Act, the Fish and Wildlife Coordination Act, the Endangered Species Act, the National Historic Preservation Act, the Historical and Archeological Preservation Act, the National Environmental Policy Act, Pub. L No. 88-29, and other applicable statutes. No other formal requests for comments will be made.

Comments should be confined to substantive issues relevant to the issuance of a license. A copy of the application may be obtained directly from the Applicant. If an agency does not file comments with the Commission within the time set for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be set to the Applicants representatives.

Kenneth F. Plumb
Secretary

MICROFILMED
MAY 15 1989

02-2379 ppc
9-16-85

RECEIVED
SEP 12 1985
Department of Water Resources

P-503-002

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Notice of Application Filed with the Commission

(September 5, 1985)

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

a. Type of Application: **Amendment of License**

b. Project No: 503-002

c. Date Filed: January 22, 1985

d. Applicant: Idaho Power Company

e. Name of Project: Swan Falls

f. Location: On the Snake River in Ada and Owyhee Counties, Idaho, partially on lands of the United States administered by the U.S. Department of the Interior.

g. Filed Pursuant to: Federal Power Act, 16 U.S.C. §§791(a) - 825(r)

h. Contact Person: Mr. Paul L. Jaurequi
Idaho Power Company
P.O. Box 70
Boise, ID 83707

i. Comment Date: OCT 15 1985

j. By order issuing new license for Project 503 on December 22, 1982, Applicant was authorized to construct the following new project works, which would replace corresponding existing works: (1) a gated spillway structure; (2) a powerhouse containing two generating units with a total rated capacity of 25 MW (the existing powerhouse has a rated capacity of 10.2 MW); (4) a 1.2-mile-long, 138-kV transmission line connecting to a line owned and operated by Applicant; (5) a 120-foot-wide, 1,400-foot-long tailrace channel; and (6) a 700-foot-long access road.

In its application for amendment, Applicant proposes to postpone replacing the existing powerhouse and generating units until such time as the additional capacity is needed.

k. This notice also consists of the following standard paragraphs: B, C and D1.

MICROFILMED

MAY 15 1989

B. Comments, Protests, or Motions to Intervene - Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of the Rules of Practice and Procedure, 18 C.F.R. §§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.

C. Filing and Service of Responsive Documents - Any filings must bear in all capital letters the title "COMMENTS", "NOTICE OF INTENT TO FILE COMPETING APPLICATION", "COMPETING APPLICATION", "PROTEST" or "MOTION TO INTERVENE", as applicable, and the Project Number of the particular application to which the filing is in response. Any of the above named documents must be filed by providing the original and the number of copies required by the Commission's regulations to: Kenneth F. Plumb, Secretary, Federal Energy Regulatory Commission, 825 North Capitol Street, N.E., Washington, D.C. 20426. An additional copy must be sent to: Mr. Fred E. Springer, Director, Division of Project Management, Federal Energy Regulatory Commission, Room 203-RB, at the above address. A copy of any notice of intent, competing application or motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

Owner
Hans
File

STATE OF IDAHO
OFFICE OF THE ATTORNEY GENERAL
BOISE 83720

JIM JONES
ATTORNEY GENERAL

DEPARTMENT OF WATER RESOURCES
STATEHOUSE, BOISE, IDAHO 83720
TELEPHONE: (208) 334-4448

October 9, 1985

Mr. Kenneth F. Plumb
Secretary
Federal Energy Regulatory
Commission
825 North Capitol Street N.E.
Washington, D.C. 20426

RE: In the Matter of Application for Amendment of License by Idaho Power Company for the Swan Falls Project.
Project No. 503-002 02-7379

Dear Mr. Plumb:

This letter confirms my telephone conversation of October 8, 1985 with personnel of your office. I was assured in my conversation with your office that the Idaho Department of Water Resources is a party in the above-referenced proceeding by virtue of the Commission's notice of September 12, 1984 granting late intervention to the department in the proceeding on Project No. 503-000 for the issuance of a new license to the Idaho Power Company for the Swan Falls Project.

If the Commission does not concur in the assurance given, please consider the Motion to Intervene of Idaho Department of Water Resources filed in Project No. 503-000 to be a motion to intervene in the above-referenced proceeding.

Please file the original of this letter and the fourteen (14) enclosed copies of this letter with the Commission.

Sincerely,

Phillip J. Rassier

PHILLIP J. RASSIER
Deputy Attorney General
Department of Water Resources

PJR:plb
Encl.
cc: Fred Springer
Lee Sherline
Paul L. Jaurequi
Tom Nelson

MICROFILMED
MAY 15 1989

IDAHO DEPARTMENT OF FISH AND GAME
600 South Walnut • Box 25
Boise • Idaho • 83707

RECEIVED
OCT 17 1985
Department of Water Resources

DC-7375-000

October 2, 1985

Mr. Kenneth F. Plumb, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, DC 20426

Re: Swan Falls Hydroelectric Project No. 503. Snake River, Ada and Owyhee Counties, Idaho. Application for Amendment to License. Idaho Power Company.

Dear Mr. Plumb:

We have reviewed the referenced application for amendment in which the applicant proposed to postpone replacing the existing powerhouse and generating units until such time as the additional capacity is needed.

The Department has no objections to granting the amendment, assuming the mitigation features included in the original license will be applied at the time of construction.

Sincerely,

Jerry M. Conley
Director

cc: USFWS (Wolflin)
Idaho Power Company (Jauregui)
IDHW-DOE
[redacted]
Region 3

MICROFILMED
MAY 15 1989

Idaho Department of Water Resources

STATEHOUSE MAIL

Swan Falls

RECEIVED
JAN 23 1985
Department of Water Resources

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

IDAHO POWER COMPANY) PROJECT NO 503-001

APPLICATION FOR AMENDMENT

OF LICENSE

I

Idaho Power Company, "Applicant", applies to the Federal Energy Regulatory Commission for an amendment of license for the Swan Falls water power project.

II

The exact name, business address and telephone number of the Applicant are:

Idaho Power Company
1220 Idaho Street
P O Box 70
Boise, Idaho 83707
1-208-383-2678

The Commission is respectively requested to send copies of all communications, orders, and correspondence on this Application directly to:

Paul L Jauregui
Vice-President, Secretary and
General Counsel
1220 Idaho Street
P O Box 70
Boise, Idaho 83707

Lee S Sherline
Leighton & Sherline
Suite 101
1010 Massachusetts Avenue N W
Washington, D C 20001-5402

MICROFILMED
MAY 15 1989

III

The Applicant is a domestic corporation and licensee of the water power project, designated as Project No 503-001 in the records of the Federal Energy Regulatory Commission, issued on the 22nd day of December, 1982.

IV

The amendment of license proposed and the reasons why the proposed changes are necessary are:

The new license for the project was issued on December 22, 1982 pursuant to a second amended application for new license filed by the Applicant on October 30, 1981. The original license expired June 30, 1970. The second amended application was in direct response to the Regional Engineer's notice received by the Applicant on October 1, 1980. The Regional Engineer ordered, pursuant to Section 10(c) of the Federal Power Act, the Applicant 1) to provide a schedule for significant rehabilitation of the project spillway gates and; 2) to perform appropriate testing of the existing concrete structure to evaluate the strength characteristics of the concrete for all the major project works. The tests were to be analyzed to verify that all principal components of the dam structure were structurally stable under conventional static and seismic design assumptions.

At the time of receipt of the Regional Engineer's notice, the Applicant had already initiated investigations of available alternatives with regard to the Swan Falls project. These alternatives involved adding varying degrees of capacity while maintaining the existing normal reservoir elevation. Since compliance with the Regional Engineer's directive could be incorporated into the alternatives being studied, the Regional Engineer accepted a delay in

MICROFILMED
MAY 1 0 1989

performing the rehabilitation work pending filing of the second amended application for new license.

Prior to and at the time of filing the second amended application, the Applicant was forecasting substantial monthly energy deficiencies during portions of the 1981-1986 period and was seeking authorization for construction of hydroelectric generation resources to meet these forecasted deficiencies. The Regional Engineer's notice of October 1, 1980 sharpened and accelerated the Applicant's interest in Swan Falls as a new resource addition. Adding capacity to existing hydroelectric projects became a part of the Applicant's plans to meet its load requirements. The Applicant chose to include the construction of the additional capacity at Swan Falls along with the spillway rehabilitation work as part of its pending application for a new license. Hence, the new license contained the complete rebuild of the project, including the construction of the additional capacity.

Since filing the second amended application and receipt of the new license for the Swan Falls project, economic trends and forecasts of long-term energy surpluses of Applicant and other entities in the Northwest have resulted in significant reductions in the Applicant's load forecast and resource acquisition plans. The immediate need for new resource acquisitions by Applicant disappeared. A complete record of the changes and transitions that have occurred in the Applicant's load forecasts and resource acquisition plans since the filing of the second amended application and the issuance of the new license for this project is contained in Applicant's filings in the A J Wiley Project No 2845-003, the North Fork Payette River Project No 2930-003 and the Twin Falls Project No 18-000. All relevant matters of those proceedings are incorporated herein and by this reference made a part hereof.

MICROFILMED
MAY 15 1989

The Applicant's May 1984 Resource Plan, which has been supplied to this Commission as part of numerous cogeneration/small power production applications before this Commission (see e.g., the Auger Falls Project No 4797-001), identified completion of the new capacity at the Swan Falls project as 1988 because that was the date required by the new license. With the addition of the Swan Falls project and the Applicant's 50 percent share of the 250 megawatt Unit No 2 at the North Valmy power plant, a coal-fired thermal plant, which is presently under construction and nearly 86% complete, the May 1984 Resource Plan assumed sufficient resource availability to supply the system loads of Applicant through the year 1997.

An extension of time in which to commence construction of the project was received on September 7, 1984. This extension has given Applicant the ability to further evaluate the timing of the complete rebuild of the project, including when the need for additional capacity is projected to occur.

In a recent review and analysis of its loads and resource plans, completed since the May 1984 Resource Plan, Applicant determined that, with the completion of the Unit No 2 at the North Valmy power plant, no new generating resources are needed by the Applicant to meet its load requirements until the late 1990's. The Applicant has therefore concluded that the additional capacity at the Swan Falls project is not needed within the timeframe presently specified by the license, i.e. 1992. Therefore, the complete rebuild and uprate of the project at this time would not be economically feasible.

Applicant proposes to postpone the complete rebuild of the project until such time that the additional capacity would be needed. Specifically, the Applicant requests authority to postpone adding the 12.2 MW of capacity at the project and to postpone replacement of the existing dam, powerhouse

RECEIVED
MAY 15 1989

generating facilities. Applicant proposes to complete the replacement of the existing spillway and conduct such investigations as are necessary to maintain a safe and adequate facility, all as identified in the Regional Engineer's letter of October 1, 1980 and consistent with Section 10(c) of the Federal Power Act.

Applicant hereby requests an amendment to the license to postpone the construction of the additional 12.2 MW of capacity and postpone the complete rebuild of the project as described in the license. The Applicant requests that the project works remain licensed in their present form and that any construction and rebuild work for additional capacity be commenced and completed only when the additional power is needed. This would occur upon notice and opportunity for hearing and upon order and as directed by the Commission or as required by the then existing laws and regulations. Applicant requests that the license be amended to allow it to continue to operate the project with its existing generating capacities. Article 49 of the license should be amended to remove the specific time periods established for the construction and completion of the new generating facilities. It is suggested that Article 9 of the Standard Terms and Conditions, Form L-6 (Revised - October 1975), presently a part of the license, when appropriate, could be used as the vehicle to accomplish the complete rebuild of the existing project as presently described in the license.

Based upon the Applicant's recent review of the May 1984 Resource Plan and the general surplus conditions which continue to exist in the Northwest, the postponement of the complete rebuild and capacity uprate of the project as licensed would give the Applicant the flexibility to [illegible] this

MICROFILMED

MAY 15 1985

additional generation resource on line when the resource is needed. The amendment as proposed by Applicant would be in the public interest.

V

(i) The statutory or regulatory requirements of the state in which the project is located that affect the project as proposed to be amended, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes are:

No special laws with respect to bed and banks are applicable to the project as amended.

Reference is made to the general laws of the State of Idaho relating to the appropriation of waters and attainment of permits and licenses as contained in the Idaho Code Title 42, Chapters 2, 4, and 17.

(ii) The steps which the Applicant has taken or plans to take to comply with each of the laws cited above are:

Applicant has taken all necessary steps to comply with the laws cited above for the project as licensed. Under State law, the project, as proposed to be amended, would not require any additional acts, other than possible extensions of time or new applications for permits, at appropriate times.

VI

This application to amend the license does not alter the actual, total installed capacity of the project as it presently exists. As indicated, the original license for this project expired in 1970. Applicant has previously submitted in this project the application for new license (June of 1969), the first amended application for new license (April of 1979), and the second amended application for new license (October of 1981). The original license contained exhibit drawings depicting the project as it presently exists. The

FILED
MAY 15 1989

second amended application for new license (October 1981) and license contains exhibit drawings depicting the proposed spillway replacement work. Thus, the following exhibit drawings from the original license, the 1981 second amended application and the license are identified as relevant to the requested amendment, are filed herewith and by this reference are made a part hereof:

Exhibits from Original License

Exhibit "L"	Structural Drawings (1922) Sheets 1, 2, 3, 4 & 5 (ZE-1507-A)
Exhibit "L"	Structural Drawings (1922) Sheets 2 & 4 (ZE-1507)
Exhibit "L"	Structural Drawings (1936) Sheets 1, 2 & 3 (ZE-3707)

1981 Second Amended Application and License

Exhibit F	Swan Falls - General Plan Sheet 1, FERC No 503-105 (06E-44791)
Exhibit F	Swan Falls - Existing Structures Plan and Elevation (06E-44791) Sheet 2, FERC No 503-106
Exhibit F	Swan Falls - New Spillway Plan and Section (06E-44791) Sheet 5, FERC No 503-109
Exhibit G	Swan Falls - Project Map (06E-44792) Sheets 1, 2, 3 & 4, FERC Nos 503-111 thru 114

The above enumerated drawings, copies of which are provided with this application, when read together show the present project and the proposed spillway rehabilitation work.

MICROFILMED
MAY 15 1989

In addition, Applicant has revised relevant textual Exhibits A, B, C, and D of the 1981 second amended application for new license to reflect the requested amendment. Revised Exhibits A, B, C, and D are attached hereto and by this reference made a part hereof. Exhibit E and any environmental evaluations and conclusions are not changed by this amendment. Environmental considerations related to the continued operation of the project and the replacement of the spillway have already been addressed in the 1981 second amended application and the license and are still applicable to the project after the requested amendment.

Additional articles or other parts of the license that Applicant has identified as possibly affected by this amendment are:

1. The description of the project should be amended to included an existing powerhouse rated at 12 MW.
2. Exhibits F, Sheet 3 (FERC No 503-107) and Sheet 4 (FERC No 503-108) should be deleted.
3. Article 38 has already been complied with.
4. Article 40 should be amended to delete reference to historical mitigation plans or reports for the Swan Falls Dam and Power Plant.
5. Article 42(a), the authorized installed capacity for the purpose of reimbursing the United States for the costs of administration of Part I of the Federal Power Act should now be 16,000 horsepower.
6. Article 49 should be amended in accordance with the requested amendment.

MICROFILMED

MAY 15 1989

VII

Wherefore, based on the foregoing, the Applicant requests that the license for Project No 503-001 be amended as follows:

1. The Applicant will continue to operate and maintain the project at its present generating capacity until such time as additional generating capacity or other changes to the project are economically feasible and are demonstrated to be needed to meet the load requirements of the Applicant.

2. The Applicant will complete the replacement of the spillway as presently indicated in the license.

3. No additional capacity will be added or changes in the project will be made until notice and opportunity for hearing and upon order of the Commission.

DATED this 18th day of January, 1985.

IDAHO POWER COMPANY

By _____
James E Bruce
Chairman of the Board
and Chief Executive Officer

CORPORATE SEAL

ATTEST:

By _____
Paul L Jauregui
Vice-President, Secretary
and General Counsel

MICROFILMED
MAY 15 1989

ACKNOWLEDGEMENT

STATE OF IDAHO)
) ss
County of Ada)

JAMES E BRUCE, being duly sworn, says that he is the Chairman of the Board and Chief Executive Officer of Idaho Power Company; that he has read the foregoing Application for Amendment of License and knows the contents thereof;

and that the allegations thereof are true and correct to the best of his knowledge, information and belief.

By /s/ James E Bruce

SUBSCRIBED AND SWORN to before me this 18th day of January, 1985.

(NOTARIAL SEAL)

/s/ Sally L Pearson
NOTARY PUBLIC
Residing at Boise, Idaho

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 22nd day of January, 1985, I mailed a true and correct copy of the foregoing Application for Amendment of License upon:

Idaho Department of
Water Resources
450 West State
Boise, Idaho 83702

/s/ Nicolas R Ysursa
Nicolas R Ysursa
Attorney for Idaho Power Company
Idaho Power Company
1220 Idaho Street
P O Box 70
Boise, Idaho 83707

MICROFILMED
MAY 15 1989

EXHIBIT A

MICROFILMED

MAY 15 1983

EXHIBIT A

PROJECT DESCRIPTION

A.1 GENERAL

The existing Swan Falls Project is a hydroelectric development on the Snake River located in the counties of Ada and Owyhee in Idaho about 35 miles south of Boise. There are no other developments of the river in the vicinity of the project. The nearest projects are C.J. Strike, about 38 miles upstream, and Brownlee, about 120 miles downstream. Access to Swan Falls is by road from the town of Kuna, located about 18 miles north of the project.

A.2 EXISTING PROJECT

At Swan Falls, the Snake River flows in a general direction from south to north. It is flanked by the Owyhee Mountains to the south and west and the Danskin Mountains to the north and east. The existing project was constructed on the upstream edge of waterfalls caused by a ridge of basalt extending across the river. The ridge has a high point in the middle of the river forming an island in that location. The average drop across the falls is about 15 feet.

The initial development of the power potential at Swan Falls on the Snake River, consisting of a rock-filled crib dam and a powerhouse with three 300 kW units, took place in the early part of this century. Since then several modifications and additions have been made; the most important ones in 1918 to 1921, in 1936 and in 1944. At the present time the development consists of a spillway located between the island in the middle of the river and the west bank, a powerhouse located on the east side of this island, and a sluiceway and

FILED
MAY 15 1989

a fish ladder located between the powerhouse and the east bank. The powerhouse has been constructed in three different sections, housing a total of 10 generating units as follows:

Installation	Rated Capacity (kW)	Year of Installation
Units 1 & 2 (West Section)	2 x 1100	1944
Units 3 & 4 (Middle Section)	2 x 1250	1913
Units 5 & 6 (Middle Section)	2 x 1250	1918
Units 7 - 10 (East Section)	4 x 800	1918

The total rated capacity is thus about 10,400 kW. Maximum output is about 12,000 kW at a discharge of about 8,000 cfs. The project is operated on a run-of-the-river basis with the reservoir maintained constant at the maximum normal elevation of 2314.0. The tailwater elevation for a discharge of 8000 cfs is about 2288.0. The average annual energy production over the last few years has been about 83 GWh.

The left abutment of the dam consists of a broad earthfill embankment which was placed over some older rockfilled timber cribs built in 1901. A wall of steel sheetpiles was installed in 1936 along the reservoir side of the embankment to provide a positive cutoff and reduce seepage. The top of the embankment is somewhat uneven at about 2318.0.

MICROFILMED
MAR 15 1989

The existing spillway is located between the embankment and the island in the middle of the river. Contiguous with the embankment is a concrete spillway built in 1919 having 21 bays controlled by 12 feet wide and 11 feet high

steel-and-timber radial gates. The crest of the ogee of the spillway is at elevation 2304. The operating deck is at about elevation 2319. In 1936 the spillway was extended towards the island by the construction of a 142-foot-long concrete section having ten 12-foot-wide bays controlled by stoplogs. The crest of this spillway is at elevation 2302.0. The operating deck is at elevation 2319.5.

The total discharge capacity of the spillway is estimated to be 38,000 cfs with all gates open and the reservoir at elevation 2314.0.

The concrete in the existing spillway has deteriorated badly in many places. In addition there is considerable leakage through the gates along the entire length of the spillway. Therefore, a completely new spillway is included in the project as proposed herein. This new spillway is described in a subsequent paragraph.

The powerhouse is made up of three separate but interconnected sections. The west section near the island is a building 49 feet wide and 72 feet long. It houses Units 1 and 2. The middle section, housing Units 3, 4, 5 and 6 is 49 feet wide and 92 feet long. The east section houses units 7, 8, 9 and 10 and is 34 feet wide and 126 feet long. The generator floor in all sections is at about elevation 2323.0.

MICROFILMED

MAY 15 1989

The substructure of the powerhouse is a conglomerate of concrete placed at different times during the period from 1901 to 1944. In general, the concrete is judged to be in good condition based on detailed inspection of the exposed areas and examination of cores obtained from drilling through the concrete to bedrock. However, some local deterioration was observed at the intakes and at

the draft tube outlets, in particular near the water line. There appears to have been no significant reaction between the cement and the aggregates.

The superstructure consists of reinforced concrete walls with roofing supported by concrete beams or steel trusses. The main floor is a concrete slab resting on steel beams. There are no large cracks in the concrete nor any serious deterioration visible which would indicate that the structure is unsafe.

All turbines and generators except Units 1 and 2 have been in service for more than 60 years, which is well beyond the normal economic life assumed for this type of equipment. Units 1 and 2 have been in service for more than 30 years and are approaching the normal economic life.

All units are presently in operation and appear to be in good condition. However, expenses for maintenance and repairs are likely to increase.

The powerhouse contains various accessory electrical equipment such as transformers, cables, buses, breakers, switches and control equipment which has been installed at different times in the past to accommodate the new generating units which then went into operation.

The gap between the powerhouse and right abutment, a distance of about 130 feet, is closed by a concrete gravity structure into which is incorporated a sluiceway and a fishladder. The sluiceway consists of two openings, each 17 feet wide and 12 feet high controlled by a slide gate. The capacity of the sluiceway is about 4000 cfs with the reservoir at elevation 2314.0.

MICROFILMED

MAY 15 1989

Three transmission lines connect the existing plant with the system. One line is 69 kW and extends to the Bowmont substation near Nampa. This line is 21.5 miles long. The other two lines are 47 kV; one is 16.4 miles long and connects the plant also with the Bowmont substation. The other 47 kV line connects to the Ferry substation, located about one mile south of Swan Falls on the right bank of the river.

A.3 PROPOSED PROJECT

The project now proposed includes the following principal works:

- The replacement of the spillway section with a completely new gated spillway structure.
- Continued operation of the existing 12 MW power plant.
- Excavation of a tailrace channel in the riverbed downstream from the powerhouse has been completed.
- New powerhouse permanent access road has been completed.

The existing power plant will continue operation. There will be no significant change in the operation of the reservoir. The maximum normal reservoir level will be maintained at its present elevation 2314.0.

A more detailed description of the various project features is presented below:

MICROFILMED

MAY 15 1989

Reservoir - The Swan Falls Reservoir is a long and narrow body of water confined between steep hills on both sides. Its backwater extends upstream about 12 miles from the dam. The area-capacity curves for the reservoir are presented on Figure A-1. At the normal maximum water surface elevation 2314.0, the reservoir has a surface area of about 900 acres and a total capacity of about 4800 acre-feet.

Left Abutment - It is proposed that the large existing embankment which now serves as the left abutment for the dam be left in place. This embankment is constructed largely from talus deposits along the left bank of the river, and contains a large percentage of pervious material. However, there is no evidence of any seepage directly through this embankment. A small amount of seepage can be observed at river level on the left bank about 100 feet downstream from the embankment, but the origin and leakage path of this water is somewhat obscure. In any case, the embankment is considered to be completely safe, especially since there will be no change in the water pressure on it. Suitable material will be placed on top of the embankment and graded to provide a level surface at about elevation 2320.0.

Spillway - The proposed new spillway will be a concrete structure located in the same position as the existing spillway which will be removed in its entirety. The new spillway also will be divided into two sections. The west section will have 8 bays, separated by concrete piers and provided with radial gates 31 feet wide and 14.5 feet high. The east section will have 4 bays with radial gates also 31 feet wide and 14.5 feet high. The crest of the overflow spillway will be at elevation 2300 in both sections. Access along the spillway will be provided by a deck at elevation 2320.0. The gates will be operated by individual hoists located on a platform above the piers at elevation 2324.0. The

RECEIVED
MAY 15 1989

existing retaining wall against the embankment will be replaced by a new wall to permit the construction of a good connection between the spillway and the embankment.

The entire spillway will be placed on rock which will be excavated, cleaned and treated as necessary. A grout curtain will be provided along the entire length of the spillway. Drainage will be provided behind the curtain to reduce uplift.

The proposed new spillway will have a capacity of 57,000 cfs with the reservoir at elevation 2314.0, which is almost 50 percent more than the capacity of the existing spillway. It will be able to discharge 90,000 cfs with the reservoir at elevation 2319.0, i.e., without overtopping of the dam. With the power plant in operation the total project discharge capacity without overtopping will be about 100,000 cfs. This capacity is comparable with the capacity at the upstream dam C.J. Strike with the reservoir at normal pool level. However, the spillway at C.J. Strike can discharge 140,000 cfs with a surcharge of five feet.

The maximum flood of record at King Hill, about 52 miles upstream from C.J. Strike, occurred in June 1894 and is estimated to have been 83,000 cfs. Since 1909, the highest recorded flood at King Hill and at Murphy, just downstream from Swan Falls, occurred on June 22, 1918 and was 47,300 cfs.

On the basis of the above discharge and flood data, it is considered that the capacity as provided for in the new spillway is quite adequate. Furthermore, the impact downstream from any failure of the dam would be relatively minor since the reservoir is very small.

MICROFILMED

MAY 15 1989

Existing Power Plant - All major equipment will remain in the existing power plant. The powerhouse structure will be left in place.

Tailrace Improvement - A channel has been excavated in the riverbed downstream from the powerhouse to increase the available gross head. The channel has a length of about 1400 feet. It was excavated to about elevation 2276, and is 120 feet wide at the bottom. Most of the excavation was in river alluvium and the average side slope of the channel is two horizontal to one vertical.

Access - Access to the project will be from the north and east by permanent roads. Permanent maintenance access to the spillway will be from the Owyhee County side, with pedestrian access from the powerhouse side. The new permanent access road from the north to the powerhouse side is complete.

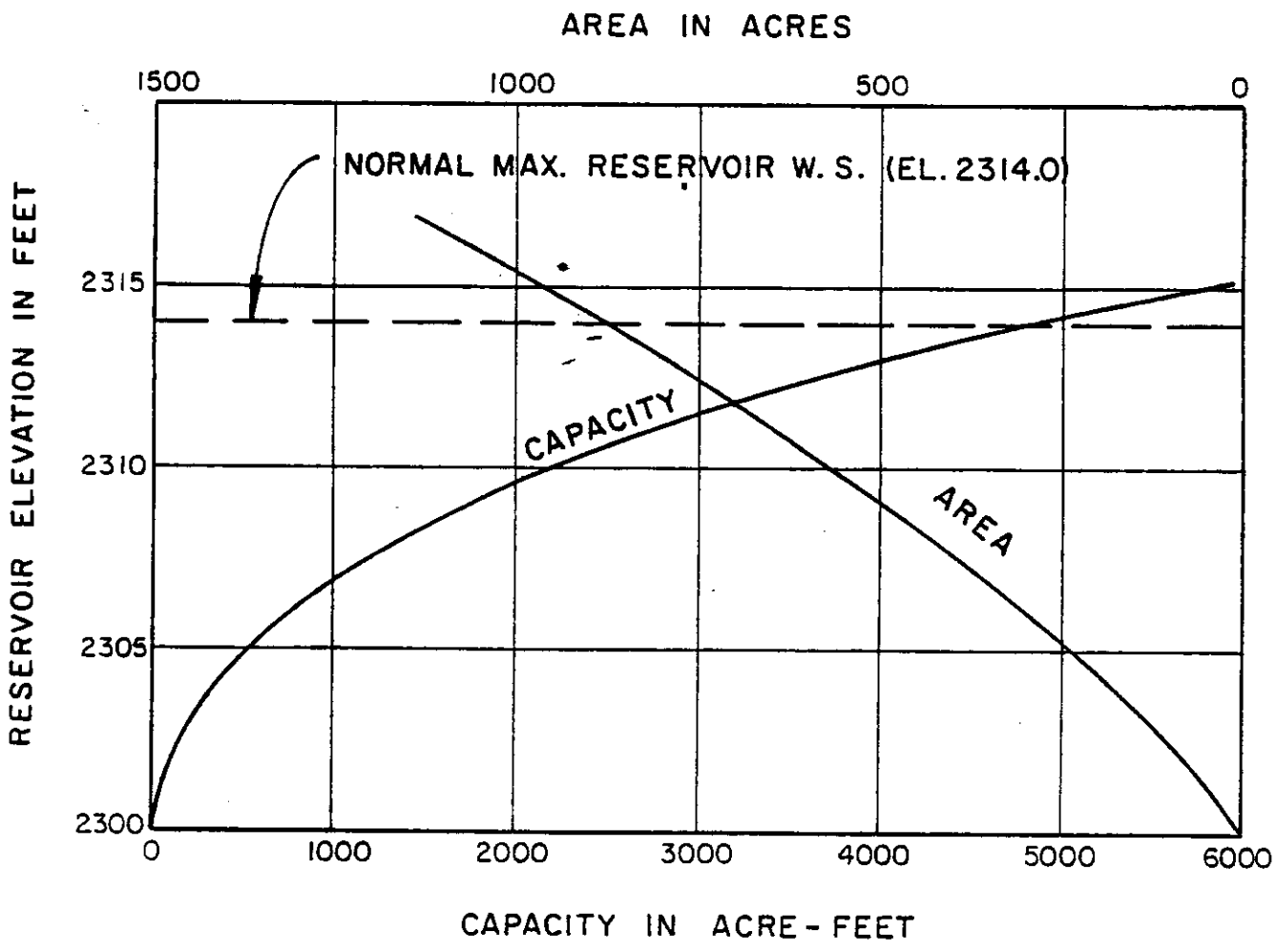
Project Lands - A tabulation of the lands that are enclosed within the project boundary is presented in Table A-1. The project boundary is shown in the Project Map, Exhibit G (4 sheets).

MICROFILMED

MAY 15 1989

FIGURE A-1
1/18/85

SWAN FALLS RESERVOIR
AREA AND CAPACITY CURVES



MICROFILMED
MAY 15 1989

TABLE A-1
1/18/85

SWAN FALLS PROJECT LANDS

PARCEL OF LAND	AREA BETWEEN ORIGINAL H.W. LINE AND PROJECT BOUNDARY IN ACRES	
DESCRIPTION	GOV'T & P.S.R.	PVT & STATE
T.2S.R.1E.B.M.		
Sec. 18 Lot 6		
Lot 11		47.319*
Lot 10		30.502*
Sec. 19 Lot 1		22.594*
Lot 8		16.729*
Lot 9		13.127*
Lot 2		34.030*
Lot 7		42.336*
Lot 10		45.202*
Lot 16		25.725*
Lot 15	15.464	
Sec. 30 Lot 1		43.468*
Lot 8		19.198*
Lot 9		32.840*
Lot 16		42.218*
Lot 2	8.291	
Lot 7	10.760	
Lot 10	10.070	
Lot 15	6.321	
Sec. 31 Lot 1		37.367*
Lot 8		23.461*
Lot 9		31.282*
Lot 16		44.806*
Lot 2	7.027	
Lot 7	7.174	
Lot 10	6.056	
Lot 15	5.130	
T.3S.R.1E.B.M.		
Sec. 6 Lot 2	19.948	
Lot 6		42.365
Lot 3	5.248	
Lot 4	0.132	
Lot 5	9.496	
Lot 7		15.097
Lot 8	11.672	
NE^4SE^4		0.118
Lot 12		8.306
Lot 11	13.583	
Sec. 5 Lot 5	4.557	
Sec. 7 NW^4NE^4	10.804	
Lot 1	6.688	
Sec. 8 Lot 2	5.130	
Lot 3	5.806	
Lot 1	11.290	
Lot 4	6.292	
Lot 5	7.585	
Lot 8	5.630	
Lot 6	3.557	
Lot 7	5.483	
Sec. 17 Lot 1	7.232	
Lot 2	2.234	
Lot 3	3.071	

PARCEL OF LAND	AREA BETWEEN ORIGINAL H.W. LINE AND PROJECT BOUNDARY IN ACRES	
DESCRIPTION	GOV'T & P.S.R.	PVT & STATE
T.3S.R.1E.B.M.		
Sec.16 Lot 4		13.201
NW^4SW^4		0.720
Lot 3		5.512
Lot 2		6.953
Lot 1		6.321
Lot 5		9.217
Lot 6		5.454
Lot 7		4.395
NE^4SW^4		2.955
Lot 9		9.893
Lot 8		6.336
Lot 10		5.424
Sec.15 Lot 1		3.543
Lot 2		8.423
Sec.21 NE^4SE^4	0.088	
Lot 1	5.601	
Lot 2	4.072	
Sec.22 Lot 1		7.424
Lot 2		14.230
SE^4NW^4	2.631	
Lot 4	4.836	
Lot 5	3.454	
Lot 6	0.662	
Lot 7	5.968	
Lot 3	7.321	
Lot 9	3.954	
Lot 8	10.643	
Sec.27 Lot 2	3.690	
Lot 3	4.763	
Lot 1	1.352	
Lot 4	2.234	
Sec.26 Lot 1	3.572	
Lot 2	9.026	
Lot 4	9.878	
Lot 5		12.745
Lot 6	1.544	
Lot 3	4.307	
Lot 7	5.806	
NE^4SW^4		4.836
Sec.35 Lot 1		11.540
Lot 5		12.495
Lot 2	1.220	
Lot 3	5.880	
Lot 4	8.570	
Lot 6		5.968
Lot 9		2.278
Lot 8		5.433
Lot 7		7.085
Sec.36 Lot 4		5.218
Lot 3		3.058
Lot 2		0.544
Lot 5		4.969
Lot 6		5.792
Lot 7		1.588
TOTAL	332.804	325.508

RECLAIMED
JAN 15 1989

Total Area of all Parcels 1158.312 Acres
*Idaho Power Company (Owned in Fee) 566.022 Acres

EXHIBIT B

MICROFILMED
MAY 15 1989

EXHIBIT B

PROJECT OPERATION

B.1 GENERAL

The development at Swan Falls will be operated in a manner similar to the existing project but will make a better utilization of the available resource since more water will pass through the turbines and less water will leak through the spillway. With the existing turbine capacity of 8000 cfs, water is wasted over the spillway about 60 percent of the time. There will be no change in the maximum and minimum operating levels of the reservoir. However the average gross head will increase by about one foot, from 25.5 feet to 26.5 feet as a result of improvements in the tailrace.

B.2 STREAMFLOW

The natural flows of the Snake River at Swan Falls are regulated by several upstream reservoirs and also depleted by upstream diversions. Historically, these regulations and depletions are reflected in the records at Murphy, a gauging station that has been in operation since October, 1913. It was located about one mile downstream from Swan Falls until 1935 when it was moved to about 4 miles downstream from Swan Falls. There are no significant inflows between Swan Falls and the Murphy gauge.

For the purposes of this application, the historical average monthly discharges at Swan Falls were assumed to be equal to the equivalent discharges at Murphy, adjusted to reflect 1977 level of upstream development as determined by the

RECEIVED
MAY 15 1989

Idaho Water Resource Board. These adjusted flows are shown in Table B-1. The flow-duration curve for these discharges is shown on Figure B-1.

B.3 RESERVOIR OPERATION

At the present time the upper four feet of the reservoir is used to re-regulate the discharge from C.J. Strike, located about 38 miles upstream from Swan Falls. The Strike power plant has a discharge capacity of about 13,000 cfs and is presently used for peaking operations, especially during the low flow season. However, the peaking operations are limited by the useful storage at Swan Falls, estimated to be about 2600 acre-feet.

There will be no significant change in the operation of the reservoir. The reservoir drawdown will be limited to four feet as at present. Furthermore, the discharges from Swan Falls will be monitored to conform to the following criteria:

- In the summer season (April 1 - Sept 30) the minimum discharges will be not less than 5000 cfs, except if the average daily inflow is below 5000 cfs, in which case the plant discharge will be maintained equal to the average inflow.

- In the winter season (Oct 1 - March 31), the minimum flow will be not less than 4000 cfs, except if the average daily inflow is below 4000 cfs, in which case the plant discharge will be maintained equal to the average inflow.

MICROFILMED

MAY 15 1989

- Changes in plant discharge will be controlled so that fluctuations in the tailwater will not exceed one foot per hour.

- The maximum daily fluctuation in the tailwater will be limited to three feet.

The above criteria are similar to the operating rules that are being observed for the existing Swan Falls power plant and are contained in Article 39 of the new license.

B.4 TAILWATER

The tailwater rating curve at the Swan Falls power plant with the tailrace improvement is presented on Figure B-2. It shows that the tailwater will range from elevation 2285.0 at a discharge of 4000 cfs to elevation 2293.0 at a discharge of 30,000 cfs. For comparison, Figure B-2 also shows the tailwater rating curve under previous conditions without tailrace improvement.

It is estimated that the tailwater would be at about elevation 2305.0 during a flood of 100,000 cfs. However, discharges of more than 30,000 cfs would be extremely rare with the present development of the Snake River.

B.5 GROSS HEAD

The available gross head across the dam will range from a maximum of about 29 feet at low discharges and with the reservoir at maximum level, elevation 2314.0, to a normal minimum of about 21 feet with the plant operating at maximum discharge, no discharge over the spillway, and with the reservoir at

UNOFFICIAL DOCUMENT
MAY 15 1989

the minimum level, elevation 2310.0. The average gross head is estimated to be about 26.5 feet.

B.6 POWER AND ENERGY

Only minor changes in the power and energy will result from the improved tailrace and reduced spillway leakage. Table B-2 shows the net energy generation from the plant for the past 10 years. The average annual net energy produced was about 83 GWH.

B.7 POWER UTILIZATION

All of the power and energy produced at the Swan Fall Power Plant will continue to be utilized in the Idaho Power Company's system. The physical location of the project in close proximity to the Company's largest load center, Boise, allows this plant to make an important contribution to the area's electrical reliability and stability. Furthermore, the Company is electrically interconnected with all adjoining systems to that any surplus power and energy from Swan Falls can be made available for use in those systems, including the exchange of power with other companies through existing interconnections.

MICROFILMED
MAY 15 1989

TABLE B-1
1/18/85

SWAN FALLS OPERATION STUDY - EXCAVATED CHANNEL
CENTRAL SNAKE STUDY 63. - 1977 DEPLETED FLOWS
25 MW PLANT - 2 BULB TURBINES (12.5 MW EACH)

INFLOW AS 1977 DEPLETED FLOWS - CFS

WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR AVG
1928	10869	12926	15504	16866	20023	15624	20418	7919	9150	6898	7202	8053	12588
1929	9226	13186	11184	9782	9170	12767	13452	7314	6888	6636	6904	8034	9585
1930	9234	9486	11589	8907	9075	11030	7256	8033	6500	6698	7813	8495	8676
1931	9174	8906	10873	9050	7940	8000	6822	6665	6009	6185	6813	7787	7785
1932	8780	8939	8626	8582	8044	9124	7835	8110	7585	6616	6932	8316	8124
1933	9275	9386	8530	9084	8001	8354	7373	7735	6597	6234	6812	8194	7965
1934	9411	9381	8990	9045	8163	7577	6666	6353	5695	5808	6202	6959	7521
1935	8356	8338	8047	8097	7485	7502	7409	6688	6881	6099	6411	7325	7383
1936	8680	8956	8893	8975	9059	8974	9736	7778	8288	6800	7098	8328	8464
1937	9267	9223	10137	8567	7782	8114	8328	7231	6883	6525	6800	7927	8065
1938	9192	9400	9197	9183	8221	9046	8797	10183	8335	7264	7291	8137	8687
1939	9715	10138	11335	9054	8144	10187	9960	7493	6772	6267	7179	8175	8700
1940	9219	9274	10164	9322	8602	8670	8301	7511	6333	5758	6789	8347	8191
1941	9263	9474	8844	9279	8417	8045	7064	7187	7113	5974	7264	8301	8019
1942	9337	9355	9029	9013	8262	8128	8726	7869	8542	6332	7016	8377	8332
1943	9289	9953	9400	10710	9237	15445	29239	9472	8817	8257	7256	8143	11268
1944	9966	13038	11859	13008	11938	11882	12423	7799	7671	6846	6903	8042	10115
1945	9258	9728	11843	9429	8776	9421	12109	8308	7829	7283	7182	8318	9157
1946	8953	12393	12140	12503	15043	16831	18969	8228	7456	6869	7077	8493	11246
1947	9429	12837	11812	9944	12397	14565	13174	8098	7261	6857	7278	8466	10177
1948	9112	9588	11921	9639	12899	14089	11941	9067	10538	7134	6966	8431	10110
1949	9193	11697	11332	9310	8534	17688	12319	12977	6834	6678	7073	8575	10184
1950	9286	9760	11852	9559	13999	15566	21352	7896	6957	7913	7386	9094	10885
1951	11007	13274	17925	16364	22094	20069	19634	13549	7312	6722	7528	8414	13657
1952	9667	12909	11960	14575	18269	16247	26395	17152	9216	8065	7378	8394	13352
1953	9556	9781	11822	11299	12189	12147	11012	8158	10499	7078	7114	8437	9924
1954	9298	9400	11792	9328	9193	12724	16146	8194	7301	6841	6930	8301	9621
1955	9255	9541	10405	9022	8005	7566	12316	7324	6001	6815	6760	8027	8420
1956	9018	9575	11812	10044	15283	20257	19332	8636	8711	6724	7132	8464	11249
1957	9189	12894	12150	11037	18907	15265	19950	14576	8614	6873	7226	8639	12110
1958	9548	10917	11672	9461	13547	12049	12260	13684	7698	6727	7244	8464	10273
1959	9428	9605	12033	9460	8419	8652	8040	7241	6528	6377	6890	8671	8445
1960	9120	9082	11617	8795	8004	9499	11573	6764	6377	6452	6833	7957	8506
1961	8868	9220	8566	8957	8289	7723	7022	6181	5826	5686	6405	8029	7564
1962	8575	9260	9662	8038	9190	10335	12595	10303	7780	6678	7265	8360	9003
1963	9273	9417	10464	9213	9798	11796	11343	7090	14109	6867	7148	8750	9606
1964	9044	9918	11875	9635	9874	13189	14265	10877	10826	6966	7225	8629	10197
1965	9159	12163	14377	16095	17123	18927	22216	10629	9777	7527	8163	10036	13016
1966	11361	12416	16816	15253	12053	12703	8400	6714	6251	5937	6812	8261	10248
1967	9525	10047	10124	9658	8169	9044	8734	6469	10516	6790	6932	8224	8719
1968	9798	11593	11931	9039	12070	12658	9955	6226	6954	6158	8540	8543	9455
1969	10978	13005	11770	13726	19988	16984	16480	11821	8180	6899	6908	8614	12112
1970	9787	9612	11992	10724	13203	13448	10581	13512	10715	7418	7272	9147	10618
1971	9662	12453	12417	27417	22359	19303	25326	20988	12851	10742	7434	9316	15856
1972	11597	19618	18912	27096	21480	27870	19727	13084	12298	7600	7779	10290	16446
1973	13233	14571	16270	15586	13092	14686	13057	9703	6312	6516	6836	8784	11721
1974	9405	12536	12038	18961	18452	19787	26073	13099	12283	6843	7148	8584	13767
1975	11184	12341	13928	16583	18099	17533	17833	20585	10819	11421	7244	9239	13901
1976	11348	13734	18125	20189	18893	21155	23088	20551	7885	6151	8043	9930	14924
1977	11714	12171	15172	13209	12117	10415	7303	6878	6138	5649	6241	7086	9508
1978	7702	7963	8401	8579	8956	10680	13440	12120	6997	5870	6574	9295	8881
1979	9813	12158	12050	14250	14360	15930	14410	7821	6595	5818	7724	7955	10706
AVG.	9628	10887	11776	11702	12129	12994	13619	9735	8120	6841	7123	8445	10250
MAX.	13233	19618	18912	27417	22359	27870	29239	20988	14109	11421	8540	10290	16446
MIN.	7702	7963	8047	8038	7485	7502	6666	6181	5695	5818	6202	6959	7383

SWAN FALLS RESERVOIR

MONTHLY FLOW-DURATION CURVE

1928 - 1979 STREAMFLOWS BASED ON 1977 DEPLETED FLOWS

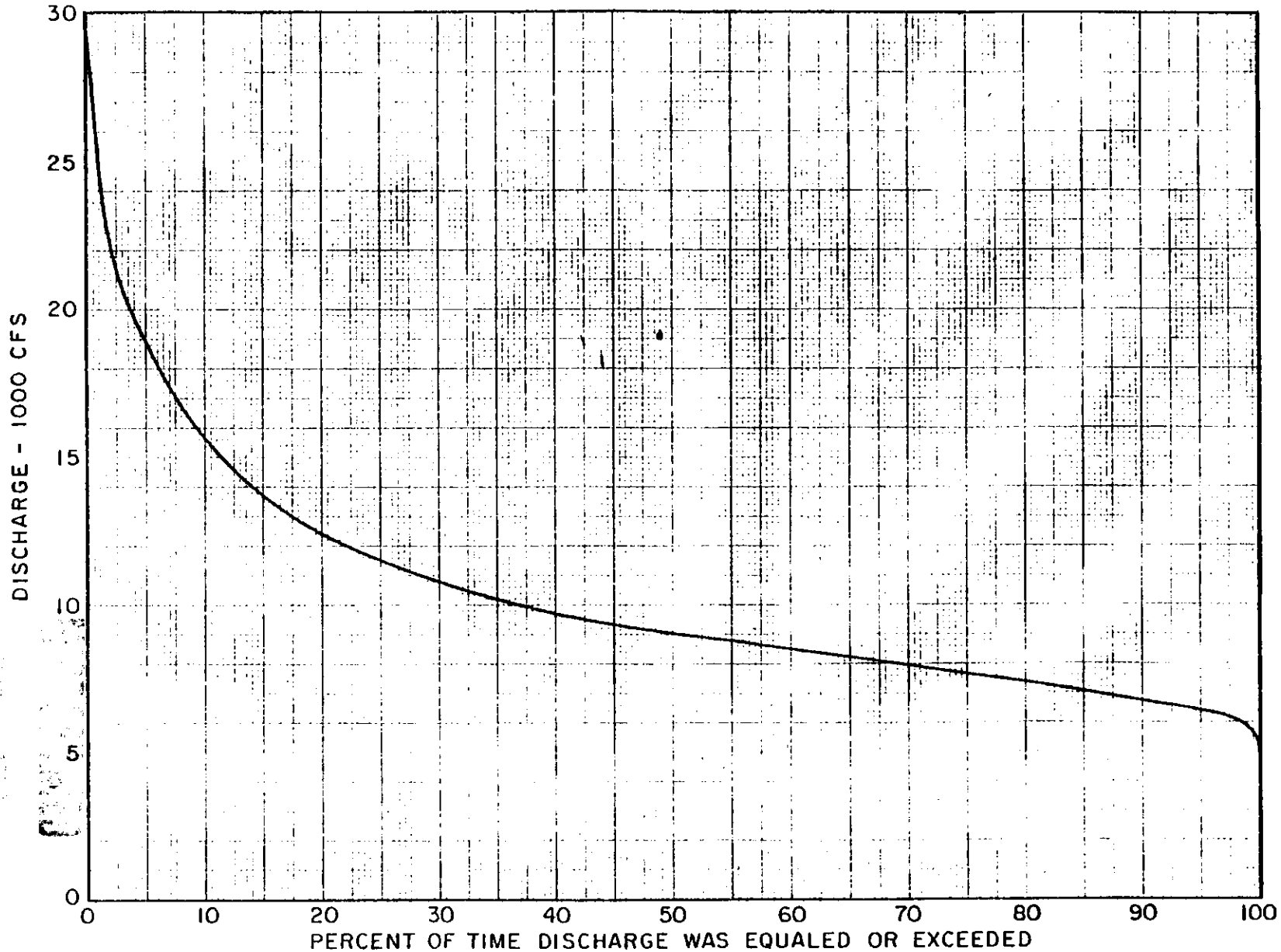


FIGURE B-1
1/18/85

FIGURE B-2
1/18/85

SWAN FALLS POWER PLANT
TAILWATER RATING CURVES

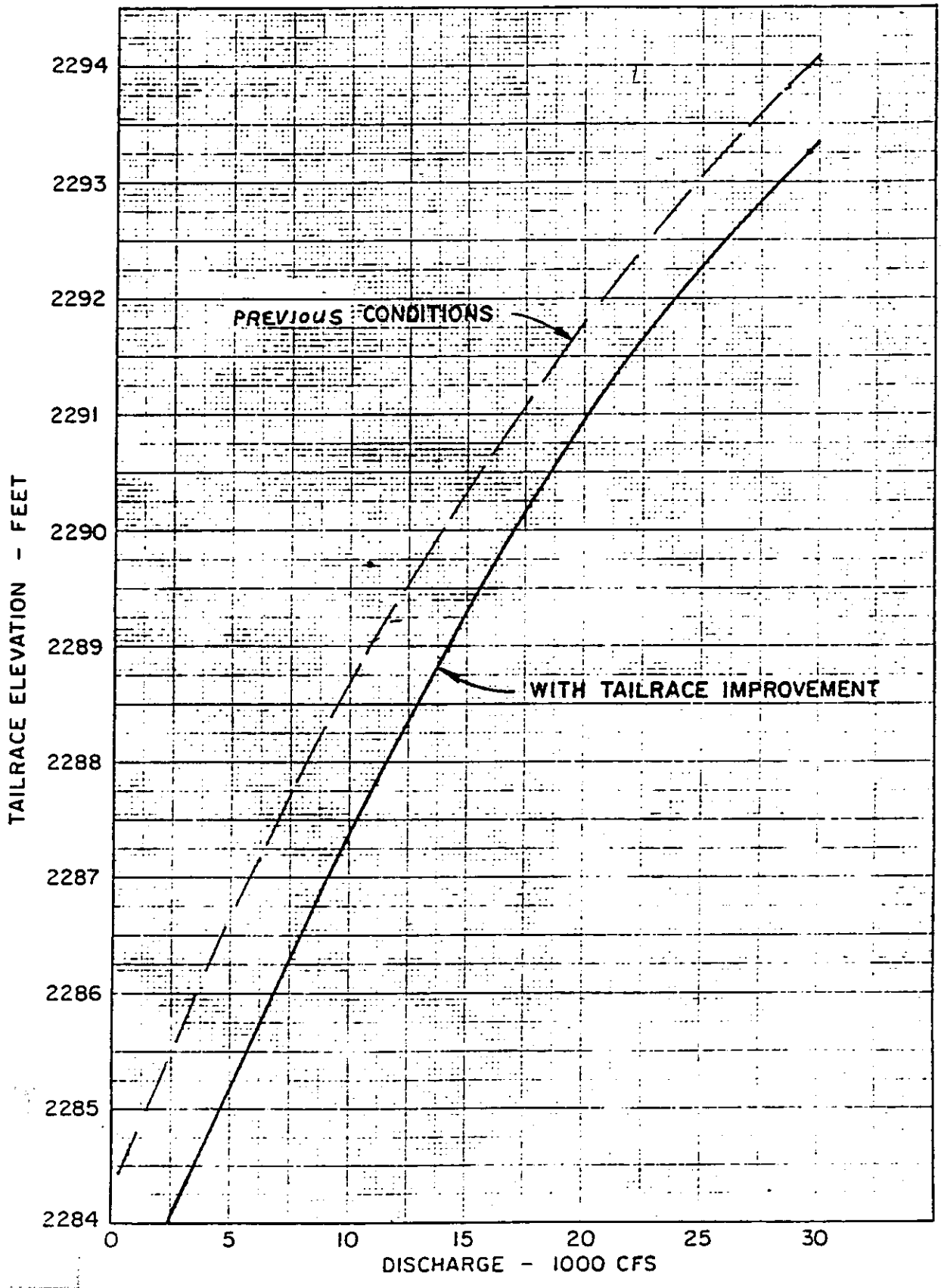


TABLE B-2
1/18/85

IDAHO POWER COMPANY
HISTORICAL NET GENERATION - MWH
SWAN FALLS
1975 - 1984

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	AVERAGE
JANUARY	7006	7525	7644	7660	7384	7819	7643	7398	6893	5409	7238.1
FEBRUARY	6023	6758	6776	6741	6823	7169	6978	6388	5906	5947	6550.9
MARCH	7282	7238	7574	7538	7644	7832	7428	7424	7055	6819	7383.4
APRIL	6309	5642	6193	7209	6765	7503	7413	5909	6234	5192	6436.9
MAY	6230	6255	6993	7983	7174	7483	6686	6161	5037	4223	6422.5
JUNE	7302	7008	6414	7005	6243	6564	5994	7068	5668	3824	6309.0
JULY	6888	6065	5465	5773	4892	5565	4662	7042	6963	6159	5957.4
AUGUST	7320	7579	5922	6780	7255	6005	5515	7297	7575	6511	6775.9
SEPTEMBER	7808	7571	6494	7867	7682	7378	7565	7897	7884	6926	7507.2
OCTOBER	8044	8039	7669	7806	8378	7795	8301	7615	7012	6409	7706.8
NOVEMBER	7608	7665	7486	7749	8112	7386	8248	6716	5749	5810	7252.9
DECEMBER	7504	7455	7619	7599	8121	7683	7757	6781	6119	6395	7303.3
TOTAL	85324	84800	82249	87710	86473	86182	84190	83696	78095	69624	8283.4

MICROFILMED
MAY 15 1989

EXHIBIT C

MICROFILMED

MAR 15 1989

EXHIBIT C

CONSTRUCTION HISTORY AND SCHEDULE

C.1 HISTORY OF EXISTING DAM AND POWER PLANT

The existing Swan Falls Dam and Power Plant, as described in Exhibit A, has evolved from a series of construction activities taking place during the period 1901 to 1944. There have been no significant modifications to the dam or permanent structures since 1936. A chronology of the major construction activities is presented in the following table:

Description of Work	Year of Completion
Crib dam and powerhouse with three 300 kW units	1901
Additional powerhouse with two 650 kW units	1907
Additional powerhouse with two 750 kW units	1910
Reconstruction of original 1901 powerhouse and installation of two 1250 kW units	1913
Reconstruction of original crib dam	1917
Additional two 1250 kW units in reconstructed 1901 powerhouse	1918
New concrete spillway with tainter gates replacing a section of original crib dam	1920
Embankment at west abutment replacing a section of original crib dam; and extension of concrete spillway	1936
Replacement of the two 750 kW units in 1910 powerhouse with two 1100 kW units	1944

MICROFILMED
MAY 15 1989

Road improvement to site and tailrace excavation 1984

C.2 CONSTRUCTION SCHEDULE

The schedule for construction of the proposed new spillway at Swan Falls is shown in Figure C-1.

The construction will be carried out in two stages as follows:

1. Removal of the existing spillway and construction of the east section of the new spillway (4 bays).

2. Construction of the west section of the spillway (8 bays).

The following tabulation shows the estimated completion dates for each of the above two stages:

Stage	Begin	Complete
1	June 1, 1985	April 1, 1986
2	April 1, 1986	December 31, 1987

Construction of the new spillway at Swan Falls is thus estimated to require a total of 31 months.

C.3 CONSTRUCTION PROCEDURES

The staged construction outlined above will permit continuous power and energy production at Swan Falls. The existing plant will be maintained in operation. The work will be carried out behind cofferdams as indicated on Figure C-2. The first stage cofferdam will be installed in the reservoir in front of the existing spillway, extending from the rock island near the existing powerhouse

MICROFILMED
MAY 15 198

around the east spillway section. The spillway work area will be protected on the downstream side by an earthfill type of cofferdam. The river will be discharged through the existing power plant and sluiceway and the west spillway section which will have a combined capacity varying from 24,000 to 28,500 cfs, sufficient to pass the river discharge in the flow season from June through March. The east section of the spillway will be completed in that period. Following completion of this first stage, the cofferdam in front of the east spillway section will be removed, and a cofferdam will be installed between the remaining first stage cofferdam and the east end of the west spillway section. River discharge in excess of power plant capacity will then pass through the completed four bays of the east spillway section and sluiceway. The capacity of this spillway will be about 20,000 cfs which, together with the power plant and sluiceway discharge, will be adequate through all seasons. Construction of the west spillway section (second stage) can then be completed.

Included in the project is the excavation of a 120-foot-wide tailrace channel which was completed in 1984.

Water pumped out of the working area behind the cofferdams will be used for construction purposes to the extent practicable.

Access for construction will be by permanent roads from Kuna, supplemented by short temporary construction roads in the project area as necessary. The proposed access for construction of the spillway is shown on Figure C-2. It would include a road embankment from the east bank to the gravel bar about 700 feet downstream from the existing powerhouse, a bridge across the main river channel, and a short road along the west bank of the river to the left abutment of the dam. This access will be temporary only and will be removed after

FILMED
1 5 1989

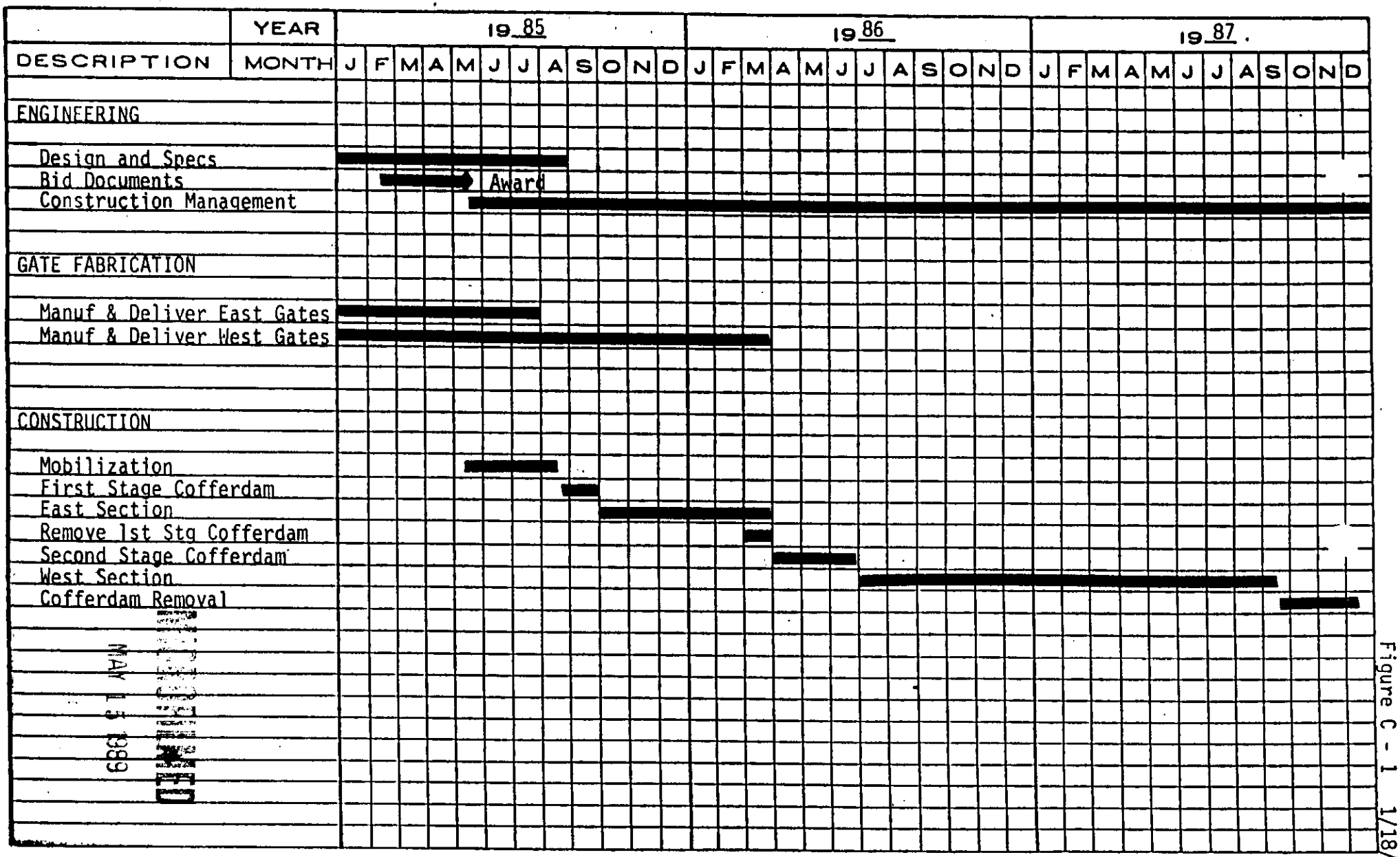
completion of the spillway. Alternatives using bridges over the tailrace and/or to the cofferdam around the spillway will be considered.

Aggregates for concrete have been obtained from the tailrace excavation.

MICROFILMED

MAY 15 1989

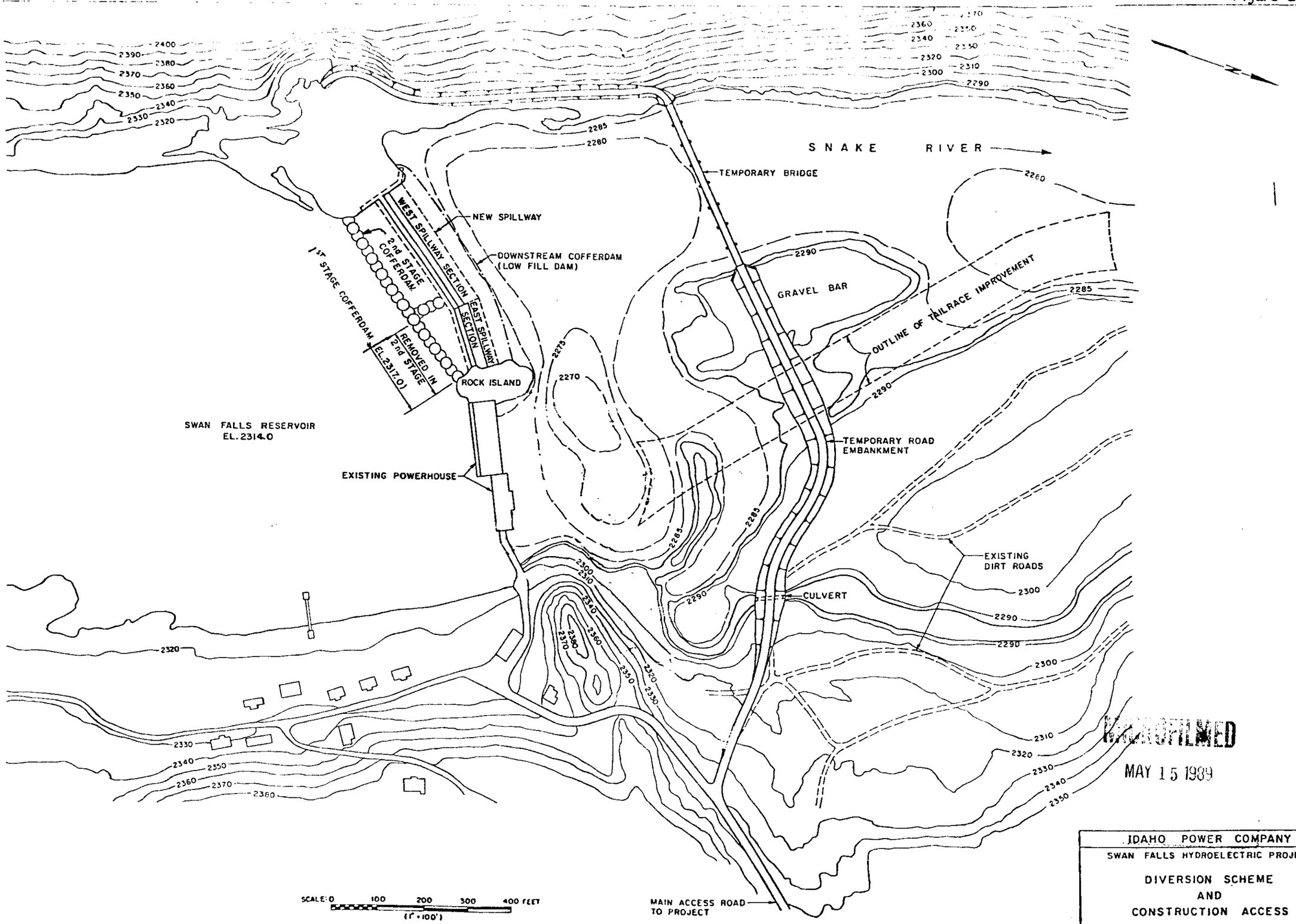
SWAN FALLS SPILLWAY



MAY 15 1989

Figure C - 1 1/18/85

Figure C - 2



MICROFILMED
MAY 15 1989

IDAHO POWER COMPANY

SWAN FALLS HYDROELECTRIC PROJECT

DIVERSION SCHEME AND CONSTRUCTION ACCESS

EXHIBIT D

MICROFILMED

MAY 15 1989

SWAN FALLS PROJECT
SUMMARY OF ESTIMATED COST OF SPILLWAY

FERC Account	Item	June 1985 Cost ($)
	PRODUCTION PLANT	
332	Reservoirs, Dams and Waterways	$ 11,470,100
	Subtotal Production Plant	11,470,100
	Contingencies (13%+)	1,570,000
	Subtotal	13,040,100
	Engineering and Adm (16%+)	2,202,200
	Subtotal	15,242,300
	Interest During Construction	2,408,800
	TOTAL CAPITAL COST	$ 17,651,100

MICROFILMED
MAY 1

Table D-2
1/18/85

SWAN FALLS PROJECT
ANNUAL COSTS
1985 DOLLARS

	$000	Mills/KWH
(i) Cost of Capital 1/ 3/	$2,237	26.9
(ii) Taxes 2/ 3/	548	6.6
(iii) Depreciation Expense 3/	4	0.0
(iv) O & M Expense (1985)	358	4.3
Total Annual Cost	$3,147	37.8

1/ Capital structure as approved by Idaho Public Utilties Commission for return on plant investment for avoided cost calculations pursuant to PURPA:

	PERCENT OF TOTAL	COST %	WEIGHTED COST %
Debt	50	13.00	6.50
Preferred Equity	10	12.00	1.20
Common Equity	40	14.50	5.80
Total	100		13.50

2/ Federal and State income tax rate 49.4%, ITC rate, 10%. Assume 50-year book life and 15-year tax depreciation life.

3/ Levelized costs.

RECEIVED
JAN 15 1989

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D. C. 20426
EQUAL OPPORTUNITY EMPLOYER

POSTAGE AND FEES PAID
FEDERAL ENERGY REGULATORY COMMISSION
FERC-351
FIRST CLASS MAIL



MICROFILMED
MAY 15 1989

State of Idaho P-503
Department of Water Resources
State House
Boise, ID 83720

mission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 34. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 35. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 36. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 37. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

MICROFILMED

MAY 15 1989

so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 27. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 28. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 29. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 30. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 31. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 32. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 33. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the trans-

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the

project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber

MAY 15 1989

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

MICROFILMED

MAY 15 1989

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Power Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Project No. 503-000

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this Order, Idaho Power Company, on this _____ day of _____, 1982, has caused its corporate name to be signed hereto by _____, its President, and its corporate seal to be affixed hereto and attested by _____, its Secretary, pursuant to a resolution of its Board of Directors duly adopted on the _____ day of _____, 1982, a certified copy of the record of which is attached hereto.

By_____
President

Attest:

_____
Secretary

MICROFILMED
MAY 15 1989

Form L-6
(Revised October, 1975)

FEDERAL POWER COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED MAJOR PROJECT AFFECTING NAVIGABLE WATERS AND LANDS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must file a letter to the Director, Office of Electric Power Regulation, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or State agency official consulted, and any Federal or State approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraphs (c) or (d) of this article:

(1) Before conveying the interest, the Licensee shall consult with Federal and State fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the Licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the Licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(F) The Licensee's failure to file a petition appealing this order to the Commission shall constitute acceptance of this license and its terms and conditions; it shall be signed for the Licensee and returned to the Commission within 60 days from the date this order is issued.

Lawrence R. Anderson
Director, Office of Electric
Power Regulation

monthly balances of amounts properly includable in the Licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs for the year, and the common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 51. (a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable State and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to

control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary State and Federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The Licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary State and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and State water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and State approvals have been obtained; (5) private or public marinas that can accommodate no more that 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a

MICROFILMED

MAY 15 1989

Article 41. The Licensee shall consult and cooperate with the Bureau of Land Management (BLM) to ensure that redevelopment of the Swan Falls Project is consistent with existing land management objectives for the area. The Commission reserves the right to resolve any dispute that may occur between the Licensee and BLM regarding land management practices.

Article 42. The Licensee shall pay the United States the following annual charges:

(a) For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 33,300 horsepower.

(b) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 333 acres of its lands a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

(c) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 5 acres of its lands for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

Article 43. The Commission reserves the authority to impose, after notice and opportunity for hearing, further license conditions for water management purposes in the event that the State of Idaho, within 90 days of the effective date of this license, submits specific recommendations and supporting information for placing restrictions in this license for water management purposes.

Article 44. The Commission reserves the authority to order, upon its own motion or upon the recommendation of Federal or State fish and wildlife agencies or affected Indian Tribes, alterations of project structures and operations to take into account to the fullest extent practicable the regional fish and wildlife program developed pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

Article 45. The Licensee shall file prior to start of construction for approval of the Director, Office of Electric Power Regulation, a final supporting design report and shall not commence construction of any project structure until the report is approved.

Article 46. The Licensee shall file as-built Exhibits A, F and G within one year of completion of construction describing the project as constructed.

Article 47. The Licensee shall file with the Commission's Regional Engineer and the Director, Office of Electric Power Regulation, one copy each of the contract drawings and specifications at least 60 days prior to start of construction. The Director, Office of Electric Power Regulation may require changes in the plans and specifications to assure a safe and adequate project.

Article 48. The Licensee shall review and approve the design and construction procedures for contractor-designed cofferdams and deep excavations prior to the start of construction. The Licensee shall file with the Commission's Regional Engineer and Director, Office of Electric Power Regulation, one copy of the letter of approval.

Article 49. The Licensee shall commence construction of the project within eighteen months from the effective date of the license and shall thereafter in good faith and with due diligence prosecute such construction and shall complete construction of such project works within six years from the starting date of construction.

Article 50. Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One half of the project surplus earnings, if any, accumulated under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year under the license, the amount of the deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserve account shall be maintained until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return shall be calculated based on an average of 13

(3) All of the structures, fixtures, equipment, or facilities used or useful in the operation or maintenance of the project and located within the project boundary, all portable property that may be employed in connection with the project, located within or outside the project boundary, as approved by the Commission and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits G-1 through G-4 and Exhibits F-1 through F-6 designated in ordering paragraph (B) above, are approved and made a part of the license.

(D) Pages V-7 through V-10 of the Report on Recreational Resources and pages III-19 through III-21 of the Report on Fish, Wildlife, and Botanical Resources contained in Exhibit E of the application are approved and made a part of the license.

(E) This license is also subject to the terms and conditions set forth in Form L-6 (revised October 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Navigable Waters and Lands of the United States" attached to and made a part of this license. The license is also subject to the following additional articles:

Article 38. Licensee shall, after consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, and the Idaho Department of Fish and Game, develop a plan to ensure protection of raptors from electrocution through the appropriate design of the transmission towers and appropriate spacing of conductors. Further, Licensee shall, within 1 year from the date of issuance of this license, file with the Commission a report on its plan and, for approval, recommended measures to ensure protection of raptor species. Agency letters of comment on the report and recommendations shall be included in the filing.

Article 39. Licensee shall discharge from the Swan Falls Project a continuous minimum flow of 5,000 cubic feet per second (cfs) from April 1 through September 30, and 4,000 cfs from October 1 through March 31 or the inflow into the reservoir, whichever is less, for the purpose of protecting and enhancing the aquatic resource of the Snake River. Further, Licensee shall operate the Swan Falls Powerhouse so that the change in the elevation of the tailwater of the project shall not exceed 1 foot-per-hour and a total of 3 feet-per-day. These flows and changes in tailwater elevations may be temporarily modified, if required, by operating emergencies beyond the control of the Licensee, and for short periods for fishery management purposes upon mutual agreement between the Licensee and the Idaho Department of Fish and Game.

Article 40. The Licensee shall, prior to the initiation of any construction that will impact archeological Site 10AA17 or Swan Falls Dam and Power Plant, and in consultation with the Idaho State Historic Preservation Officer (SHPO) and the Historic American Engineering Record (HAER) of the U.S. Department of the Interior, implement the mitigation plan which was filed in its application with the Commission on October 30, 1981. The plan for Site 10AA17 shall consist of (1) conducting archeological excavations to recover the significant information in the stratified deposit of the site, and (2) the construction of a fence, or the implementation of other measures, as required to protect the portion of the site containing aboriginal house structures. The plan for Site 10AA17 shall be implemented in accordance with the mitigation guidelines for archeological sites of the Advisory Council on Historic Preservation. The plan for Swan Falls Dam and Power Plant shall consist of (1) restoration of the external appearance of the existing powerhouse; (2) documentation of the impact areas according to the standards of the HAER, (3) filing of copies of the existing engineering drawings with the SHPO, (4) construction of a public educational display concerning the historic significance of the facility, and (5) offering of the historical electrical equipment which will be disposed of to the Smithsonian Institution. Restoration of the existing powerhouse shall be undertaken in accordance with the Secretary of the Interior's Standards for Historic Preservation Projects.

Reports documenting the mitigation to Site 10AA17 and Swan Falls Dam and Power Plant, and their acceptance in writing by the SHPO and HAER, respectively, shall be filed with the Commission at least 60 days prior to any construction at the project that will impact the significant archeological and historical attributes of these sites. The Licensee shall make available funds in a reasonable amount for any such work as required.

If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historical resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

MICROFILMED

MAY 15 1989

Need and Economic Feasibility

The Applicant would continue to use the project energy to meet its system load demands. The project is economically feasible when compared to the cost of power generated by a coal-fired steam plant. 3/

Other Aspects of Comprehensive Development

The project does not conflict with any proposed or existing developments and makes good use of the flow and fall of the Snake River. It is concluded that, subject to the terms and conditions of this license, Project No. 503 is best adapted to a comprehensive plan for development of the Snake River for beneficial public uses and that issuance of this license is in the public interest.

License Term

The initial license for the project expired on June 30, 1970. The Applicant has requested that a new license be issued for a term of fifty years. The Applicant's proposed redevelopment involving replacement of the existing spillway and replacement of the existing 10.4-MW powerhouse with a new 25-MW powerhouse is a significant modification of the project. It does not, however, constitute the kind of extensive redevelopment of a project that would warrant the Commission's issuing a new license for a full fifty-year period. In accordance with the Commission policy as stated in The Montana Power Company, Project No. 2301, "Order Issuing New License (Major)" (October 5, 1976), Applicant's proposed modification of project works constitutes substantial new construction for which a forty-year license period is appropriate.

It is ordered that:

(A) This license is issued to the Idaho Power Company (Licensee), of Boise, Idaho, under Part I of the Federal Power Act (Act), for a period of 40 years, effective the first day of the month in which this order is issued and terminating on June 30, 2010, for the proposed redevelopment and continued operation and maintenance of the Swan Falls Project No. 503, located in Ada and Owyhee Counties, Idaho, on the Snake River, a navigable waterway of the United States, and occupying lands of the United States, within the Birds of Prey Natural Area which

3/ The proposed project, with its average annual generation of 162 million kWh, will utilize a renewable resource that will save the equivalent of approximately 266,004 barrels of oil or 75,006 tons of coal per year.

is administered by the U.S. Department of the Interior. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Swan Falls Project No. 503 consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary. The project area and boundary are shown and described by certain exhibits that form part of the application for license and that are designated and described as:

EXHIBIT	FERC NO.	TITLED
G-1	503-111	Project Map
G-2	503-112	Project Map
G-3	503-113	Project Map
G-4	503-114	Project Map

(2) The project works consisting of: (1) the 25-foot-high, 1,218-foot-long concrete and rockfill Swan Falls Dam; (2) the Swan Falls Reservoir with a surface area of 900 acres and a total storage capacity of 4,800 acre-feet; (3) a spillway with crest elevation of 2,300 feet msl with 12 bays each provided with radial gates, 31 feet wide and 14.5 feet high; (4) a powerhouse at the east abutment of the Swan Falls Dam containing two identical horizontal bulb-type turbine-generating units, each with a rated capacity of 12.5 MW; (5) a substation located 30 feet from the powerhouse, equipped with a 13.8/138-kV, 30,000-kVa, 3-phase transformer; (6) a 1,400-foot-long, 120-foot-wide (bottom width) tailrace; (7) a 1.2-mile-long, 138-kV transmission line connecting to an existing 138-kV transmission line owned and operated by the Licensee; and (8) other appurtenant facilities.

The location, nature, and character of these project works are generally shown and described by the exhibits cited above and more specifically shown and described by certain other exhibits that form a part of the application for license and that are designated and described as:

EXHIBIT	FERC NO.	TITLED
F-1	503-105	General Plan
F-2	503-106	Existing Structures - Plan & Elevation
F-3	503-107	Existing Powerhouse - Plan & Section
F-4	503-108	Existing Powerhouse - Sections
F-5	503-109	New Spillway - Plan & Section
F-6	503-110	New Powerhouse - Plan & Sections

with the SHPO; and (4) construction of a public education display concerning the historical significance of the facility. Restoration of the existing powerhouse would be undertaken in accordance with the Secretary of the Interior's Standards for Historic Preservation Projects.

Interior commented that measures should be implemented in consultation with the SHPO to: (1) protect site 10AA17; and (2) document Swan Falls Dam and Power Plant according to the standards of the HAER prior to construction of the project. These measures are included in the modified plan.

The ACHP has been consulted, and has indicated that the impacts to the Guffey Butte-Black Butte Archeological District and Swan Falls Dam and Power Plant can be mitigated with the implementation of this plan with the additional condition that any historical electrical equipment, that may be disposed of, be offered to the Smithsonian Institution.

It is concluded that the Applicant's plan, as modified, would adequately mitigate the impacts of the project on these National Register properties. Article 40 requires implementation of this plan, and the implementation of cultural resources protection measures in the event that unrecorded archeological or historical sites are discovered during construction of the project.

Land Management

Interior recommended that the Applicant be required to consult with the BLM to determine whether the major ground-disturbing activities associated with the redevelopment would be compatible with existing land management objectives for the area. License Article 41 requires the Licensee to consult with BLM to ensure that the redevelopment is consistent with the existing land management objectives for the area.

Water Management Conditions

On December 6, 1982, a letter from John V. Evans, Governor of the State of Idaho, was received requesting that the Commission delay for a period of ninety days its decision on the relicensing application for the Swan Falls Project. The Governor cited a recent State court decision as presenting new information impacting those portions of the Idaho State Water Plan calling for the irrigation of additional lands in the Snake River Basin above Swan Falls and limiting the flexibility of water management within the Basin. The Governor stated that upon completion of review of that State court decision, "[t]he State of Idaho may then want to petition the Commission for placement of adequate conditions on the Swan Falls license or take other action needed to ensure that this license will be in keeping with the public interest of the citizens of Idaho."

In order to accommodate the Governor's request for additional time to assess State of Idaho water management concerns with respect to the Swan Falls Project, Article 43 reserves to the Commission the authority, after notice and opportunity for hearing, to modify the project license for water management purposes in the event such a request is forthcoming from the State of Idaho within ninety days of the issuance of this order. This reservation of authority in no way prejudges the desirability of any such a requirement but merely ensures that the State of Idaho, if it chooses, will have an opportunity to present its recommendations which will then be considered by the Commission to determine whether the comprehensive development of the waterway would be furthered by the imposition of any license requirements for water management purposes.

Environmental Considerations

Construction of the proposed facilities would result in temporary increases in the suspended solids load of the Snake River and erosion from disturbed land surfaces. In addition, increased noise and vehicular traffic associated with construction activities would result in the temporary avoidance of the project area by indigenous wildlife species. Operation of the facility would be limited by the constraints that are currently imposed on the project with respect to reservoir fluctuations and flow releases. As a result, no additional significant impacts on the flow regime of the Snake River would be associated with the proposed redevelopment. Maintenance of the road and transmission line rights-of-way would result in the loss of vegetation and associated wildlife habitat that presently occupy these areas. Excavation of the tailrace would eliminate the aquatic habitat that currently occupies the area; however, no significant impacts to the aquatic habitat of the portion of the river located immediately downstream of the project dam would result.

The peregrine falcon and the bald eagle, both Federally-listed endangered species, would not be significantly impacted from construction and operation of the proposed facilities. These species may temporarily avoid the immediate construction area; however, upon completion of the construction activities these species would be expected to return.

On the basis of the record and Staff's independent analysis, it is concluded that issuance of this license for the project will not constitute a major Federal action significantly affecting the quality of the human environment.

MICROFILMED

MAY 15 1989

Fish and Wildlife Resources

The Idaho Department of Fish and Game (DFG) and the U.S. Department of the Interior (Interior) indicated that minimal impacts to the fish and wildlife resources of the project area would result from construction and operation of the proposed facilities. The DFG and Interior indicated that the mitigative measures proposed in the Applicant's Report on Fish, Wildlife, and Botanical Resources would provide for adequate protection of the fish and wildlife resources. Staff concurs with these agencies. The Applicant's Report on Fish, Wildlife, and Botanical Resources will be approved by this license.

Since the project is located in an area that provides habitat for numerous raptor species, the new 1.2-mile-long transmission line should be constructed in accordance with procedures to minimize adverse effects on these species. Interior recommended that the transmission lines be constructed in accordance with guidelines set forth by the Bureau of Land Management (BLM). Article 38 of this license requires the Licensee to construct the transmission line in accordance with guidelines set forth by the BLM and fish and wildlife agencies so as to minimize the potential for electrocution of raptors.

Recreation

The Idaho Department of Parks and Recreation has indicated that the Applicant's proposed recreation development is adequate; however, there was concern regarding fisherman access to the south bank of the Snake River. The Applicant indicated that it would continue to provide the public with foot access across the Swan Falls Dam to the south bank of the Snake River. Interior considers Applicant's recreation plan adequate to provide for existing recreational use at the project, but Interior is concerned that there may be a need for additional recreational development during the license period. It is concluded that the Applicant's recreation plan, which includes improvement of the boat-launching facility, improvement of an access road, rubber raft/canoe launch facility and portage trail, and interpretive brochure would adequately provide for the present recreational needs of the project area. The Applicant's Report on Recreational Resources will be approved. Under Article 17 of this license, the Commission reserves the right to require the Licensee to construct additional facilities if the need arises in the future.

Water Quality

The water quality of the Snake River ranges from good to fair. Bacteria and suspended sediment, pollutants which are associated with irrigation returns, are the most serious water quality problems. Temperature and dissolved oxygen data, collected for the Swan Falls reach of the Snake River, indicate that the reservoir does not stratify to any appreciable extent, and that the discharges from the reservoir do not adversely impact the temperature and dissolved oxygen levels

of the Snake River downstream. A water quality certificate was issued on November 17, 1981, by the Idaho Department of Health and Welfare, for the proposed redevelopment.

Minimum Flows

The Swan Falls Project is currently operated with a continuous minimum flow of 5,000 cfs from April 1 through September 30, and 4,000 cfs from October 1 through March 31. In addition, discharge from the powerhouse is regulated to ensure that the change in the elevation of the tailwater does not exceed 1 foot-per-hour and the total daily change does not exceed 3 feet. The Applicant indicated that it will continue to operate the project within these constraints. It is concluded that the existing minimum flows are sufficient to maintain the aquatic resource of the Snake River. Article 39 of this license requires the Licensee to release the aforementioned minimum flows and to continue to regulate the rate of change in tailwater elevations.

Historical and Archeological Resources

One archeological site (Site 10AA17) in the Guffey Butte-Black Butte Archeological District and the Swan Falls Dam and Power Plant, which are properties listed in the National Register of Historic Places, would be impacted by the redevelopment of the Swan Falls Project. The Applicant filed a plan prepared in consultation with the Idaho State Historic Preservation Officer (SHPO), to mitigate impacts to these properties. The Staff believes that the plan, with minor modifications, would mitigate the impacts to the properties.

For Site 10AA17, the modified plan, would consist of: (1) conducting archeological excavations to recover the significant information in the stratified deposit of the site; and (2) the construction of a fence, or the implementation of other measures, as required, to protect the portion of the site containing aboriginal house structures. The plan for the site would be implemented in consultation with the SHPO, and in accordance with the mitigation guidelines of the Advisory Council on Historic Preservation (ACHP).

The modified plan for Swan Falls Dam and Power Plant would be implemented in consultation with the SHPO and the Historic American Engineering Record (HAER) of the U.S. Department of the Interior, and consist of: (1) restoration of the external appearance of the existing powerhouse; (2) documentation of the project impact areas according to the standards of the HAER; (3) filing of copies of the existing engineering drawings

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company) Project No. 503-000

ORDER ISSUING NEW LICENSE (MAJOR)

(Issued December 22, 1982)

Idaho Power Company (Applicant) has filed an application for a new license under Part I of the Federal Power Act (Act) for the continued operation, redevelopment, and maintenance of its existing Swan Falls Project No. 503. 1/ 2/ The project is located on the Snake River, a navigable waterway of the United States, in Ada and Owyhee Counties, Idaho, and occupies lands of the United States within The Birds of Prey Natural Area (BPNA) which is administered by the U.S. Department of the Interior.

Notice of the application has been published and comments have been received from interested Federal, State, and local agencies. No protests or petitions to intervene have been

---

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1982). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. 385.1902, FERC Statutes and Regulations ¶29,052, 47 Fed. Reg. 19014 (1982). 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/ The initial license for the Swan Falls Project No. 503 was issued effective January 1, 1928, and expired on June 30, 1970. Since the date of expiration, the project has been operating under successive annual licenses. An application for a new license was filed on June 26, 1969, as amended in April 1979, and was held in abeyance at the request of the Applicant. The application that is before us was filed on October 30, 1981.

MICROFILMED MAY 15 1989

received, and none of the agencies objected to issuance of this license. The significant concerns of the commenting agencies are discussed herein.

The Applicant proposes to redevelop the existing Swan Falls Project (built in 1901) to more effectively utilize the flows of the Snake River. The proposed project would consist of the existing Swan Falls Dam and Reservoir, a new spillway to replace the existing spillway, a new powerhouse to be located at the east abutment of the Swan Falls Dam and having a total installed capacity of 25 MW, replacing the existing 10.4-MW powerhouse, a 1.2-mile-long, 138-kV transmission line, a new 7,000-foot-long access road, and appurtenant facilities.

A more detailed project description is contained in ordering paragraph (B).

Safety and Adequacy

The Swan Falls Project was recently inspected by the Commission's San Francisco Regional Office. This inspection, as well as several previous inspections, have revealed that the spillway portion of the dam is in poor condition and major rehabilitation work is needed. Due to its deteriorated condition, the Applicant has proposed to replace the spillway section.

The Swan Falls Dam is a low hazard structure. The spillway section, gravity section and the existing powerhouse, as proposed to be modified would be safe under extreme loading conditions. The design of the proposed powerhouse presented in the application is preliminary in nature and Article 45 requires submittal of a final supporting design report prior to the start of construction.

Article 46 requires the filing of revised Exhibits A, F, and G within one year of completion of the project showing the project as constructed.

It is concluded that, under the conditions of this license, the project will be safe and adequate.

Swan Falls
02-2032 lic
02-7379 app

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company) Project No. 503-000

NOTICE OF APPLICATION FOR LICENSE (over 5 MW)

(April 14, 1982)

Take notice that Idaho Power Company (Applicant) filed on April 30, 1979, an application for license [pursuant to the Federal Power Act, 16 U.S.C. §§791(a) - 825(r)] for continued operation of a water power project to be known as Swan Falls Hydroelectric Project No. 503. The project would be located on Snake River in Ada and Owyhee Counties, Idaho. Correspondence with the Applicant should be directed to: Mr. Lee Sherline, Leighton and Sherline, Suite 503, 1701 K Stret, N.W., Washington, D.C. 20006.

Project Description - The proposed project would consist of: (1) the existing 25-foot high, concrete and rockfill, Swan Falls Dam; (2) the existing Swan Falls Reservoir with a surface area of 900 acres and a total capacity of 4,800 acre-feet; (3) a new spillway at a crest elevation of 2,420 feet with 12 bays each provided with radial gates 31 feet wide and 14.5 feet high, replacing the existing spillway; (4) a new power plant to be located at the east abutment of the Swan Falls Dam with a total installed capacity of 25 MW replacing the existing 10.4 MW power plant; (5) a substation located 30 feet from the powerhouse, equipped with a 13.8/138-kV, 30,000-kVa, 3-phase transformer; (6) a 1,400-foot long, 120-foot wide tailrace located in the riverbed downstream from the powerhouse; and (7) a 1.2-mile long, 138-kV transmission line interconnecting with an existing 138-kV transmission line owned and operated by the Applicant.

The Applicant estimates that the proposed project would increase the average annual energy production from 90 GWh to 162 GWh. The Swan Falls Dam is located in the Birds of Prey Natural Area administered by the U.S. Department of Interior.

Purpose of Project - All of the power and energy developed by the project will be utilized in the Applicant's system. The physical location of the project in close proximity to the company's largest center, Boise, Idaho allows this plant to make an important contribution to the area's electrical reliability and stability. Furthermore, the Applicant's system is interconnected with all adjoining systems so that any surplus power and energy from Swan Falls Project can be made available for use in those systems, including the exchange of power with other companies through existing interconnections.

DC-A-17

MICROFILMED
OCT 5 1989

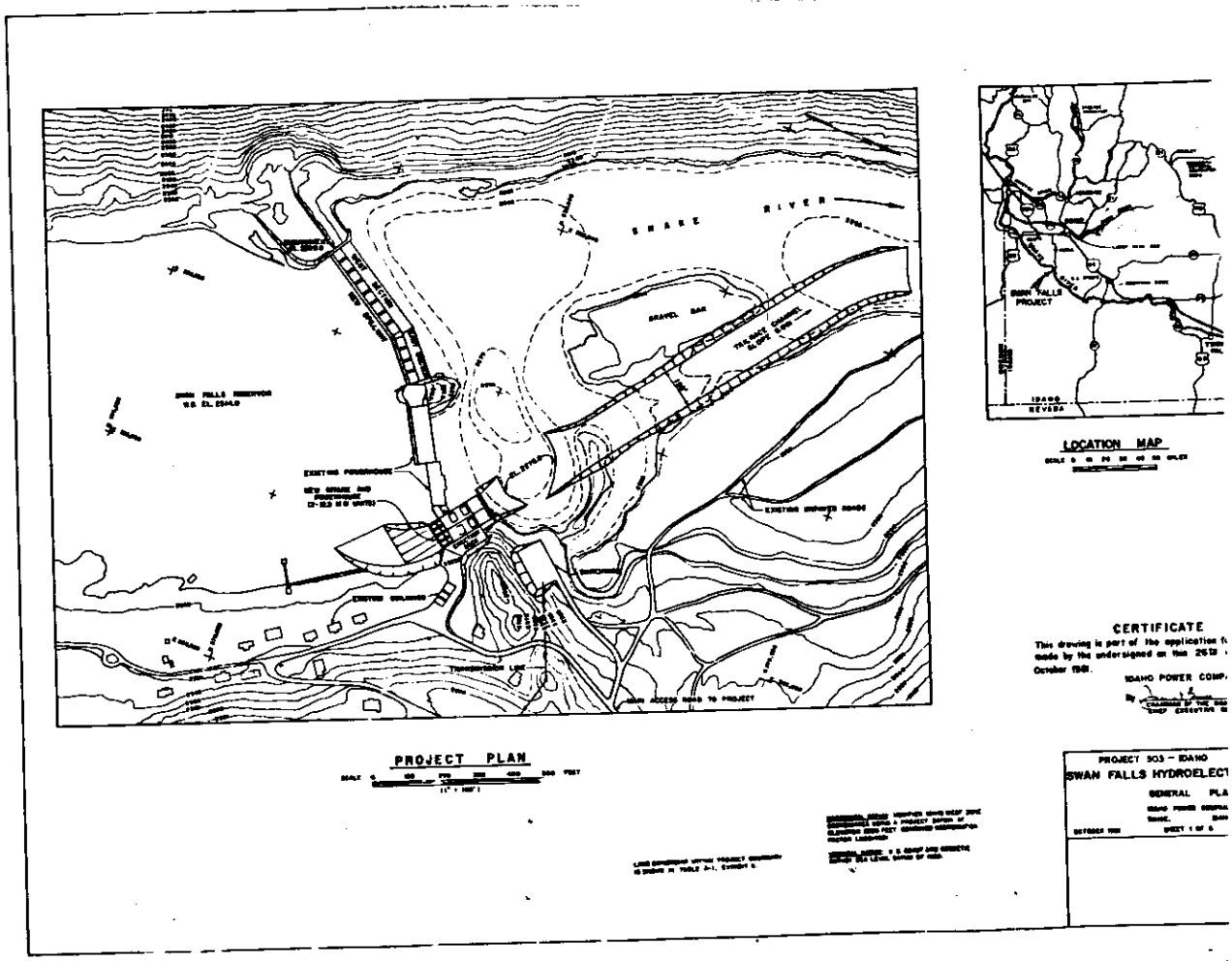
RECEIVED
APR 26 1982
Department of Water Resources

Competing Applications - Anyone desiring to file a competing application must submit to the Commission, or or before JUN 25 1982, either the competing application itself [See 18 C.F.R. §4.33(a) and (d)] or a notice of intent [See 18 C.F.R. §4.33(b) and (c)] to file a competing application. Submission of a timely notice of intent allows an interested person to file an acceptable competing application no later than the time specified in §4.33(c) or §4.101 et. seq. (1981).

Comments, Protests, or Petitions to Intervene - Anyone may submit comments, a protest, or a petition to intervene in accordance with the requirements of the Rules of Practice and Procedure, 18 C.F.R. §1.8 or §1.10 (1980). In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a petition to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or petitions to intervene must be received on or before JUN 25 1982.

Filing and Service of Responsive Documents - Any filings must bear in all capital letters the title "COMMENTS", "NOTICE OF INTENT TO FILE COMPETING APPLICATION", "COMPETING APPLICATION", "PROTEST", or "PETITION TO INTERVENE", as applicable, and the Project Number of this notice. Any of the above named documents must be filed by providing the original and those copies required by the Commission's regulations to: Kenneth F. Plumb, Secretary, Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, D.C. 20426. An additional copy must be sent to: Fred E. Springer, Chief, Applications Branch, Division of Hydropower Licensing, Federal Energy Regulatory Commission, Room 208 RB at the above address. A copy of any notice of intent, competing application, or petition to intervene must also be served upon each representative of the Applicant specified in the first paragraph of this notice.

Kenneth F. Plumb
Secretary



FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D. C. 20426

POSTAGE AND FEES PAID
FEDERAL ENERGY REGULATORY COMMISSION
FERC-351
FIRST CLASS MAIL

RECEIVED
APR 23 1982
Department of Water Resources

State of Idaho P-503
Department of Water Resources
State House
Boise, ID 83720

MICROFILMED
MAY 15 1989

R/2 1/29/84

26 FERC ¶62,010

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company) Project No. 503

ORDER APPROVING RAPTOR PROTECTION PLAN

(Issued January 13, 1984)

Idaho Power Company, Licensee for the Swan Falls Project, FERC No. 503, filed a Raptor Protection Plan on November 29, 1983, pursuant to Article 38 of the license. 1/ The project is located on the Snake River in Ada and Owyhee Counties, Idaho, and occupies lands of the United States within the Birds of Prey Natural Area (administered by the U.S. Department of the Interior).

The Raptor Protection Plan outlines measures to be taken by the Licensee to ensure that the proposed 1.2-mile-long, 138-kilovolt transmission line and related distribution lines do not pose electrocution hazards to raptors. The U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, and Idaho Department of Fish and Game concur with the design measures contained in the plan.

The proposed transmission line design will ensure adequate protection of raptors that utilize the project area. Implementation of the design measures will not adversely impact the environment; therefore, approval of the plan is not a major Federal action significantly affecting the quality of the human environment.

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1983). This order may be appealed to the Commission within 30 days of its issuance 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.

DC-A-3

MAY 15 1984

It is ordered that:

The Raptor Protection Plan, filed on November 29, 1983, consisting of six pages of text and four figures, is approved.

Lawrence R. Anderson
Director, Office of Electric
Power Regulation

FEDERAL ENERGY
REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

MICROFILMED
MAY 15 1989

P-503
David J. Barber Dpty. Att. Gen
Idaho Dept. or Water Resources
450 W. State Street
Boise, Idaho 83720

POSTAGE AND FEES PAID
FEDERAL ENERGY
REGULATORY COMMISSION
FERC 351

RECEIVED
JAN 20 1984

Department of Water Resources

02-

SAXTON — Water right files

INTER-DEPARTMENT MEMO — 1

FROM David J Barker

DATE 7/10/84

TO Norm Young NCH

SUBJECT: A.D. Wadley Hydro Project No. 2845-001

Attached is a copy of the FERC Order on Rehearing in the above-entitled matter.

SIGNATURE

[¶ 61,175]

Idaho Power Company, Project No. 2845-001

Order on Rehearing

(Issued May 4, 1984)

Before Commissioners: Raymond J. O'Connor, Chairman; Georgiana Sheldon, J. David Hughes, A. G. Sousa and Oliver G. Richard III.

Background

On September 26, 1983, we issued an order [1] dismissing without prejudice a license application of the Idaho Power Company ("IPC") for the proposed A. J. Wiley Hydroelectric Project No. 2845-001. Our dismissal was based on our determination that IPC's own forecasts [2] did not indicate a need for the project before the year 2002 and that the project's construction schedule would thus be inconsistent with the requirements of Section 13 of the Federal Power Act, 16 U.S.C. § 806. [3] IPC subsequently filed for rehearing and stay of that order, contending, *inter alia*, that the Commission had erred in relying on IPC's 20-year forecast of loads and resources as the basis for dismissing its license application without affording it adequate notice and opportunity for hearing. By order of December 28, 1983, [4] we stayed our September 26 order and gave IPC until February 26, 1984, "to demonstrate that the power from the proposed A. J. Wiley Project is needed and can be beneficially utilized if the project is licensed in 1984 and construction is commenced within two years and completed three years thereafter." [5]

In response to our December 28 order, IPC filed a report entitled "Idaho Power Company Load Forecast 1984-2003 (September 1983)("1983 Report"). The 1983 Report, which contained the only new statistical information provided to us by IPC relative to the need for the A. J. Wiley Project, [6] describes a base case load forecast which assumes an average annual growth rate of 2.1% for the 20 year period. [7] Under this base case load forecast, IPC anticipates that it will experience monthly average energy surpluses until May of 1999. [8] This report also contains a high growth load forecast of 2.6% annual growth [9] and a low growth load forecast of 1.2% annual growth, [10] which would result in monthly average energy surpluses until September 1995 [11] and mid-2003, [12] respectively. Identical new resources are assumed to be added to IPC's system during the period under each of the forecasts; however, the A. J. Wiley Project is not listed as one of these new resources. [13]

Discussion

Need and Site Banking

We find that the information supplied by IPC fails to demonstrate that the power from the proposed A. J. Wiley Project is needed and can be beneficially utilized by 1989. At best, the high growth load forecast of the 1983 Report indicates that new resources from some source, but not necessarily from the A. J. Wiley Project, [14] will be needed by September 1995; however, this is six years after the date the A. J. Wiley Project would become operational if we were to issue a license for its construction this year. [15] Significantly, IPC does not contend otherwise, but rather states:

> Assuming that "needed" and "beneficially utilized" means that the Company must have a deficiency in the Company's resources for which new generation is to be constructed, then the Company cannot demonstrate, based upon current information, that either the Wiley power is "needed" or can be "beneficially utilized" by 1989. At the earliest, the Company estimates that additional generating resources beyond those already committed, will be needed by 1995. This misses this Commission's time frame established in the Wiley proceeding by six years. [16]

As the applicant, IPC has the burden of presenting adequate evidence in support of its application. [17] Given the information contained in IPC's 1983 Report, dismissal of IPC's application for license is warranted.

Nevertheless, IPC maintains that site selection problems [18] could conceivably result in the issuance of a two-year extension of time for the commencement of construction of the project. It then notes that the on-line date for the project would then be 1991, only four years from the time new resources are forecasted to be needed under the high growth load forecast of the 1983 Report. IPC then argues, in essence, that projections regarding the need for additions to its system could change during the two year extension period and demonstrate an earlier need for the A. J. Wiley Project. Therefore, IPC urges us to issue a license for the project now, while delaying a [illegible]arding its need until

MICROFILMED MAY 15 1989

commencement of construction is at hand in 1988, given a two year extension. Similarly, IPC urges us to adopt the concept of site "banking." [19]

IPC's proposition is untenable. If we were to acquiesce to it, we would be allowing it to tie up or "bank" the site for the A. J. Wiley Project for at least two, and possibly four years, while it and we waited to see if the project power was needed. This "banking" of a site, however, is contrary to the intent behind the time limitations of Section 13 of the Federal Power Act. As we stated in *Idaho Power Company*: [20]

> [T]he time limitations in Section 13, prohibiting delays by licensees in constructing projects, and other provisions of the Act indicate a Congressional intent that water power resources be utilized in the best possible manner and at the earliest possible time.

Presumably, IPC would relinquish the site if and when it determined that it did not need the power from the A. J. Wiley Project. However, in the interim, potential applicants who are ready, willing and able to develop the site will be prohibited from doing so. [21] In addition, our acquiescence to IPC's request would prevent us from considering alternative sources of power to the A. J. Wiley Project during this time. This is clearly not in the public interest. [22]

The Gem State Project

IPC also claims that this Commission would be acting arbitrarily and unreasonably if we were to dismiss IPC's license application for the A. J. Wiley Project after the Director, Office of Electric Power Regulation ("Director"), issued a license to the City of Idaho Falls, Idaho ("Idaho"), for the Gem State Project, FERC Project No. 2952-001. [23] IPC maintains that Idaho has no more need for the Gem State Project than IPC has for the A. J. Wiley Project.

We find IPC's contention to be unfounded. First, the Director found that Idaho would need the power from the Gem State Project to meet a projected 40% increase in its system load [24] and to reduce its reliance on the Bonneville Power Administration ("BPA") under its requirements contract with that agency. [25] Second, the Director found that, although the Pacific Northwest as a region was currently experiencing surpluses, it would need additional regional resources such as the Gem State Project by the early 1990's. [26] Under the medium-high load forecast of 2.1% annual growth contained in the final report of the Northwest Power Planning Council ("Council"), Idaho and the Pacific Northwest region will experience system energy surpluses until 1991. [27] Since the Council's projections assume the timely addition of the Washington Public Power Supply System ("WPPSS") nuclear plants #1, #2 and #3, [28] it appears that the Director was justified in determining that the Council's projections were not conservative enough and that there was a regional need for the Gem State Project before the early 1990's. [29] In contrast, under the base case load forecast of 2.1% annual growth of the 1983 Report, IPC will experience system energy surpluses until 1999. Additionally, because it is not a requirements customer of BPA, IPC and its load forecasts are not as dependent upon resources such as the WPPSS plants being brought into the BPA system.

It is therefore clear that the Director's decision to grant a license to Idaho for the Gem State Project and our determination to dismiss IPC's application for a license for the A. J. Wiley Project have been made on the same basis—the need for the respective projects. [30]

Need for Hearing

IPC claims that a hearing should have been held regarding the need for the A. J. Wiley Hydroelectric Project. Such a hearing is only necessary, however, where there are material issues of fact in dispute. [31] In light of the admissions of IPC regarding the need for the project and the information contained in its 1983 Report, there are now no material facts in dispute and therefore no need for an evidentiary hearing.

The Commission orders:

The December 28, 1983 stay of our September 26, 1983 order is lifted and the license application filed by the Idaho Power Company for the A. J. Wiley Hydroelectric Project No. 2845-001, is dismissed without prejudice to its being refiled with a demonstration of a timely need for the project and, if licensed, a commitment to diligently pursue the construction as required by Section 13 of the Federal Power Act.

— Footnotes —

[1] 24 FERC ¶ 61,344 (1983).

[2] Idaho Power Company Loads and Resources 1983-2002 (Oct. 1982).

[3] Section 13 requires licensees to commence construction within two years of the license issuance; an additional two years for commencing construction may be granted if the Commission finds that it is in the public interest.

[4] 25 FERC ¶ 61,436 (1983).

[5] *Id.* at p. 61,962.

MICROFILMED MAY 15 1989

[6] Peter A. Bowler, an intervenor in this proceeding, had already provided us with a copy of the 1983 Report prior to the issuance of our order on December 28, 1983.

[7] *See* 1983 Report, p. 10.

[8] *See* 1983 Report, figure 9.

[9] *See* 1983 Report, p. 10.

[10] *Id.*

[11] *See* 1983 Report, figure 11.

[12] *See* 1983 Report, figure 12.

[13] The 1983 Report forecasts assume the addition of the Cascade Project, one-half of the Valmy II thermal plant, the Swan Falls Project rebuild, and 240 average megawatts of cogeneration and small power production. *See* "Response to Order on Rehearing" filed by IPC in this proceeding on February 27, 1983, pp. 2-3. The Cascade Project, one-half of Valmy II thermal plant and the Swan Falls Project rebuild will have an installed capacity of 150 megawatts. *See* Idaho Power Company Loads and Resources 1983-2002 (October 1982), table 9.

The 1983 Report and the forecasts contained therein make no mention of or assumptions regarding the addition to IPC's system of the North Fork Payette River Project, FERC Project No. 2930, *Idaho Power Company*, 19 FERC ¶ 62,583 (1982). This licensed project, which will have a total installed capacity of 315.9 megawatts, is required, by the terms of its license, to be completed by June 1, 1989. It would appear that the addition of this project to IPC's system could reduce IPC's need for the 86 megawatt A. J. Wiley Project. Further, IPC has filed a request for a two-year extension of time in which to commence construction of the North Fork Payette River Project, citing, *inter alia*, a "diminished" demand for electricity. *See* "Request for Extension of Time" filed by IPC in that proceeding on February 29, 1984, p. 3.

[14] *See* footnote 13, *supra*.

[15] *See* 25 FERC ¶ 61,436 at p. 61,962 (1983).

[16] "Response to Order on Rehearing" filed by IPC in this proceeding on February 27, 1983, at p. 3.

[17] *See Rocky Mountain Power Company*, 37 FPC 329, 334-5 (1967), and authorities cited therein.

[18] The Final Environmental Impact Statement on the project, FERC/ EIS-0031, A. J. Wiley Hydroelectric Project No. 2845-Idaho, Final Environmental Impact Statement (issued Sept. 1982), identified an alternative dam site which was preferable to the A. J. Wiley Project site.

[19] IPC also notes that a contributing factor to the surpluses contained in the load growth forecasts of the 1983 Report is the energy IPC will have to purchase from cogeneration and small power producers pursuant to Section 210(a) of the Public Utility Regulatory Policies Act of 1978, 16 U.S.C. §824a-3(a). IPC maintains that since it has no control over these resources, requiring it to make these purchases complicates the process by which it plans additions such as A. J. Wiley Project to its system. Therefore, it asks us to determine the need for such cogeneration and small power projects before approving them. Although we fail to see the relevance of IPC's request to our determination on the need for the A. J. Wiley Project, we note that the specific wording of Section 210 evidences a Congressional determination that such projects are needed, since it "requires" utilities to purchase energy from qualifying cogeneration and small power production facilities.

[20] 14 FPC 55, 68 (1955), *aff'd* 237 F.2d 777 (D.C. Cir. 1956), *cert. denied*, 353 U.S. 924 (1956).

[21] "A license under the Federal Power Act is a privilege conferred, not for the benefit of the licensee, but for the benefit of the public." *Public Utility District of Skamania*, 32 FPC 444, 446 (1964). *See also* our discussion on this issue in our Order Dismissing Application for License in this proceeding, 24 FERC ¶ 61, 344 (1983), and authorities cited therein.

[22] *See Udall v. Federal Power Commission*, 387 U.S. 428 (1966).

[23] 25 FERC ¶ 62,345 (1983).

[24] *Id.* n.6 at p. 63,576.

[25] *Id.* at p. 63,567 and n.8 at p. 63,576.

[26] *Id.* at p. 63,567. As to why the Director determined to evaluate the need for the Gem State Project on a regional basis, *see* the Final Environmental Impact Statement, FERC/EIS-0034, Gem State Project No. 2952-Idaho, Final Environmental Impact Statement (issued Apr. 1983), pp. 1-1-1-3.

[27] *See* Northwest Conservation and Electric Power Plan (Apr. 27, 1983), p. 6-3.

[28] *Id.* at p. 6-1.

[29] 25 FERC ¶ 62,345 n.10 at p. 63,577 (1983).

[30] Even if we had determined that the Director's decision relative to the need for the Gem State Project was in error, we were not presented with an opportunity to review on appeal the action of the Director on the Gem State Project, and it does not bind us here. *Modesto Irrigation District*, 19 FERC ¶ 61,038 (1982).

[31] *Citizens for Allegan County v. F.P.C.*, 414 F.2d 1125 (D.C. Cir. 1969).

[¶ 61,176]

Mitex, Inc., Project No. 3749-000;

Energenics Systems, Inc., Project No. 4210-000;

Central Montana Electric Generation and Transmission Cooperative, Inc., Project No. 5006-000

MICROFILMED

MAY 15 1989

02-7379

STATE OF IDAHO
OFFICE OF THE ATTORNEY GENERAL
BOISE 83720

DAVID H. LEROY
ATTORNEY GENERAL

DEPARTMENT OF WATER RESOURCES
STATEHOUSE, BOISE, IDAHO 83720
TELEPHONE: (208) 334-4448

DATE: 6-13-84

MEMO TO FILE

FROM: David J. Barber DJB

SUBJECT: December 9, 1983 Memorandum from Jim Jones, Attorney General Regarding the Application of Idaho Power for Additional Water Rights at Swan Falls

The Department requested that I determine the status of the formal response referred to in the above-entitled memo. The Office of the Attorney General has not made such a response. Following an initial conference, that office requested the Deputy Attorney General assigned to the Department to prepare a background memo on certain matters. Preparation of that memo is still pending.

MICROFILMED
MAY 15 1989

SAXTON —

Put in Swan Falls water right file + lets discuss status of Ipco application

NCY

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

MEMO

TO: Wayne Haas

DATE: May 17, 1984

FROM: Verl G. King

SUBJECT: SWAN FALLS MARGINAL ENERGY COSTS FROM RE-CONSTRUCTION AS PROPOSED BY IPC

The cost information on Swan Falls has again been reviewed to determine what the energy and marginal energy costs are resulting from re-construction. The attached table summarizes the findings.

Alternative No. 1 involves a rebuilding of the whole project as proposed in the second amended FERC application prepared by Idaho Power Co. Note that the carrying factor (50 yrs @ 12.952%) used is lower than that used by IPC. The factor they used does not correspond to 50 yrs & 12.952% as indicated. However, the lower factor used in the analysis resulted in a lower energy cost for building the project (45.1 mills/KWH vs. 55.9 mills/KWH).

The project cost for the total rebuild of the project was broken down into the FERC account numbers. The breakdown of the costs within account 332 was based on judgment; due to the lack of unit cost information.

Alternative No. 2 costs were based on repair of the existing facility. Only those account items were included which would be necessary for repair of the facility. The resulting cost being 13.6 mills/KWH.

The marginal costs were then determined by comparing the increased energy and costs from the total project rebuild to the cost and energy from repairing the project. This value was found to be 87.5 mills/KWH. Note, if the higher carrying factor used by the IPC were used in this analysis, the marginal cost of the power would have increased about 25%.

MICROFILMED
MAY 15 1989

A third alternative (Alternative No. 3) was also considered. This would be to re-build the project as is. Again only those costs were used which would relate to this level of rebuild. The energy costs were found to be 25.9 mills/KWH vs. 45.1 mills/KWH for the proposed total rebuild of the project, with marginal costs being 78.0 mills/KWH.

ALTERNATIVE NO. 1
SWAN FALLS
PROJECT COSTS

FERC Account		Oct. 1981 Cost
331:	New Power Plant	$12,260,500
332:	(a) Level Left Abutment	25,000
	(b) New Spw. Structure, Gates & Gate Mechanisms	4,000,000
	(c) Upgrading Existing Power House to Serve as a Dam	3,756,000
	(d) Tailrace Improvements	300,000
	Sub-Total	$ 8,081,000
333:	Turbines & Generators (2 Horz. Bulb Type)	$10,690,000
334:	Accessory Elec. Equip.	1,057,000
335:	Misc. P.H. Equip.	1,342,500
352:	Substation Stru.	86,000
353:	Substation Equip.	490,000
354 & 356:	Transmission Line & Tap	201,000
395:	Shop, Tools & Garage Equip.	100,000
	Total	$34,308,000
	Contingencies (15%)	$ 5,142,000
	Engineering & Adm. (12%)	4,750,000
	Interest During Constr.	5,005,000
		$49,205,000
	Archaeological Exc.	20,000
	Recreation Facilities	14,500
	Total Cap. Cost	$49,239,500

MICROFILMED
MAY 15 1989

ALTERNATIVE NO. 2
SWAN FALLS
PROJECT COSTS

FERC Account		Oct. 1981 Cost
332:	(a) Level Left Abutment ----------	25,000
	(b) New Spw. Structure, Gates & Gate Mechanisms ----------	4,000,000
	Sub-Total ----------	$ 4,025,000
	Contingencies, Engr. & Adm. and Interest During Constr. ----------	1,748,000
	Total Cap. Cost ---------	$ 5,773,000

MICROFILMED
MAY 15 1989

ALTERNATIVE NO. 3
SWAN FALLS
PROJECT COSTS

FERC Account		Oct. 1981 Cost
331:	Modify & Upgrade Power House ----------	$ 2,000,000
332:	(a) Level Left Abutment ----------	25,000
	(b) New Spw. Structure, Gates & Gate Mechanisms ----------	4,000,000
333:	Turbines & Generators (1 Horz. Bulb Type) ----------	$ 5,345,000
334:	Accessory Elec. Equip. ----------	525,000
335:	Misc. P.H. Equip. ----------	500,000
	Sub-Total ----------	$12,395,000
	Contingencies, Engr. & Adm. and Interest During Constr. ----------	5,382,000
	Total Cap. Cost ---------	$17,777,000

MICROFILMED
MAY 15 1989

IDAHO POWER COMPANY

SWAN FALLS ELECTRIC GENERATION COST OF PROPOSED PROJECT

Alternative	Useful Life	Capital Cost 1981 $ (000)	Capital Cost 1984 $ (000)	CAP[2] MW	Ann Gen MWH (000)	Carrying Charge CAP Factor %	Carrying Charge 1984 $/KW	Carrying Charge Factor	$ (000)	Mills/KWH	1983 O & M Fixed M/KWH	1983 O & M Var. M/KWH	Total Cost Mills/KWH 1984	Total Cost Mills/KWH Level
1 Total Project	50 Yr.	49,239[1]	53,966	25.0	162[3]	74	2159	.12982[4]	7006	43.3	1.00[7]	0.12[6]	44.4	45.1
2 Repair Existing	25 Yr.	5,773	6,327	10.4	90	99	608	.1360[5]	860	9.6	3.30	0.04[8]	12.9	13.6
Marginal				14.6	72				6146	85.4	1.31[9]	0.12	86.8	87.5
3 Rebuild As Is	50 Yr.	17,777	19,484	12	103	98	1624	.12982[4]	2529	24.6	0.75[10]	0.12	25.5	25.9
Marginal					59				4477	75.9	1.31	0.12	77.3	78.0

1/ Table D-1 (FERC Second Amended Application).

2/ The existing facility rated capacity is 10.4 MW with a maximum output of 12 MW. The replacement unit was given a 12 MW capacity.

3/ Taken from Second Amended FERC Application, pg. 8-1.

4/ For a 50-year life with 12.952% cost of capital.

5/ For a 25-year life with 12.952% cost of capital.

6/ IPC estimated cost.

7/ Fixed O & M $6.48/KWH/Yr (25,000 KW)/162,000,000 KWH/Yr = 1.0 Mills/KWH. Variable = 0.12 M/KWH Levelized = 1.79 M/KWH

8/ O & M costs for existing facility (June 1982 FERC Report).

9/ Fixed O & M $6.48/KWH/Yr (14,600 KW)/72,000,000 KWH/Yr = 1.31 Mills/KWH. Variable = 0.12 M/KWH Levelized = 2.27 M/KWH

10/ Fixed O & M $6.48/KWH/Yr (12,000 KW)/103,000,000 KWH/Yr = 0.75 Mills/KWH. Variable = 0.12 M/KWH Levelized = 1.35 M/KWH

MICROFILMED MAY 15 1989

SWAN FALLS TAILRACE IMPROVEMENT

AVE ANNUAL GENERATION = 162,000,000 KWHr

AVE HYDRAULIC HEAD - 26.5'

TAIL WATER IMPROVEMENT - 1.5' 5.6%

$(162,000,000)(0.056)(30 mills/kwh) = \$275,000$

IMPROVEMENT COULD BE as much as 6'

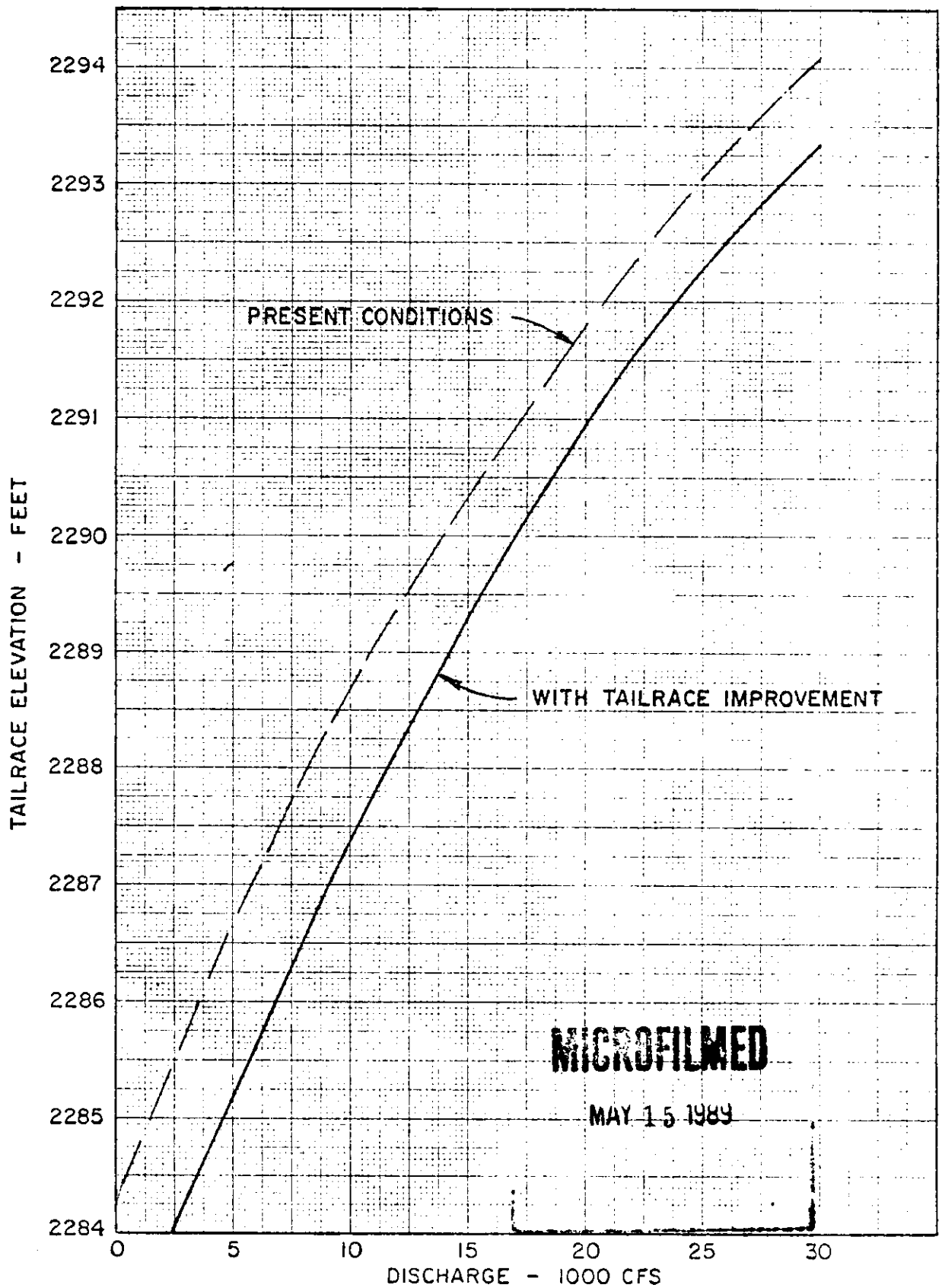
IMPROVEMENT LIKELY TO COST $300,000 & $500,000 — $75,000

74 Winter
54 Summer

MICROFILMED
MAY 15 1989

FIGURE B-2

SWAN FALLS POWER PLANT
TAILWATER RATING CURVES



MICROFILMED
MAY 15 1989

inflow is below 4000 cts, in which case the plant discharge will be maintained equal to the average inflow.

- Changes in plant discharge will be controlled so that fluctuations in the tailwater will not exceed one foot per hour.

- The maximum daily fluctuation in the tailwater will be limited to three feet.

The above criteria are similar to the operating rules that are being observed for the existing Swan Falls powerplant.

B.4 TAILWATER

The tailwater rating curve at the Swan Falls powerplant with the proposed tailrace improvement is presented on Figure B-2. It shows that the tailwater will range from elevation 2285.0 at a discharge of 4000 cfs to elevation 2293.0 at a discharge of 30,000 cfs. At the maximum plant discharge of 14,000 cfs the tailwater will be at about elevation 2289.0. For comparison, Figure B-2 also shows the tailwater rating curve under present conditions without tailrace improvement.

It is estimated that the tailwater would be at about elevation 2305.0 during a flood of 100,000 cfs. However, discharges of more than 30,000 cfs would be extremely rare with the present development of the Snake River.

B.5 GROSS HEAD

The available gross head across the dam will range from a maximum of about 29 feet at low discharges and with the reservoir at maximum level, elevation 2314.0, to a normal minimum of about 21 feet with the

MICROFILMED
MAY 15 1989

plant operating at maximum discharge, no discharge over the spillway, and with the reservoir at the minimum level, elevation 2310.0. The average gross head is estimated to be about 26.5 feet.

B.6 POWER AND ENERGY

Estimates of the power and energy that can be produced by the proposed new development were made on the basis of the average monthly discharges as shown in Table B-1 and the tailwater rating curve as shown on Figure B-2. To take into account reservoir fluctuations, the average drawdown on the reservoir was assumed to be 1.0 foot for discharges up to 8000 cfs, 0.5 foot for discharges between 8000 cfs and the plant discharge capacity (about 14,000 cfs) and no drawdown for discharges higher than the plant capacity. The results of the estimates are shown in Table B-2, which gives the average continuous power which would be produced in each month of the 52-year period 1928 through 1979. The estimated average annual energy output for this period is about 162 GWh.

The peaking capability versus net head is shown graphically on Figure B-3. The dependable capacity is 25,000 kW, which represents the total load carrying ability of the project for a 1-hour time interval during the annual system peak load, assuming a recurrence of the most adverse stream flows of record and is attainable through utilization of the system reservoir capacity.

B.7 POWER UTILIZATION

All of the power and energy produced at the new Swan Falls Power Plant will be utilized in the Idaho Power Company's system. The physical location of the project in close proximity to the Company's largest load center, Boise, allows this plant to make an important contribution to the area's electrical reliability and stability. Furthermore, the

MICROFILMED
MAY 15 1989

RECEIVED
DEC 9 1983
Department of Water Resources

File w/ water right

M E M O R A N D U M

TO: Kenneth Dunn and Phil Rassier
Department of Water Resources

FROM: Jim Jones, Attorney General

RE: Application of Idaho Power for Additional Water Rights at Swan Falls

DATE: December 9, 1983

In response to your request for our input regarding Idaho Power's application, it is my position that no action be taken on the application until my staff can consider the possible ramifications of the application on the pending litigation. I will submit a formal response within two weeks.

MICROFILMED
MAY 15 1989

INTER-DEPARTMENT MEMO — 1

FROM Tyler

DATE 11-22-83

TO Dave T. DRT → Jim —

~~SUBJECT~~

- Suggest we refile in hold drawer since I know of no appropriate action at this time until the Swan Falls issue is further clarified.

SIGNATURE

INTER-DEPARTMENT MEMO — 1

DATE 11-22/83

FROM Dave T

TO Glen

SUBJECT

Suggested follow-up to our letter dated 11-22-82?
Note that the FERC license was issued after that date.

Dave
SIGNATURE

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company) Project No. 503-000

ORDER ISSUING NEW LICENSE (MAJOR)

(Issued December 22, 1982)

Idaho Power Company (Applicant) has filed an application for a new license under Part I of the Federal Power Act (Act) for the continued operation, redevelopment, and maintenance of its existing Swan Falls Project No. 503. 1/ 2/ The project is located on the Snake River, a navigable waterway of the United States, in Ada and Owyhee Counties, Idaho, and occupies lands of the United States within The Birds of Prey Natural Area (BPNA) which is administered by the U.S. Department of the Interior.

Notice of the application has been published and comments have been received from interested Federal, State, and local agencies. No protests or petitions to intervene have been

---

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1982). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. 385.1902, FERC Statutes and Regulations ¶29,052, 47 Fed. Reg. 19014 (1982). 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/ The initial license for the Swan Falls Project No. 503 was issued effective January 1, 1928, and expired on June 30, 1970. Since the date of expiration, the project has been operating under successive annual licenses. An application for a new license was filed on June 26, 1969, and was amended in April 1979, and was held in abeyance at the request of the Applicant. The application that is now before us was filed on October 30, 1981.

received, and none of the agencies objected to issuance of this license. The significant concerns of the commenting agencies are discussed herein.

The Applicant proposes to redevelop the existing Swan Falls Project (built in 1901) to more effectively utilize the flows of the Snake River. The proposed project would consist of the existing Swan Falls Dam and Reservoir, a new spillway to replace the existing spillway, a new powerhouse to be located at the east abutment of the Swan Falls Dam and having a total installed capacity of 25 MW, replacing the existing 10.4-MW powerhouse, a 1.2-mile-long, 138-kV transmission line, a new 7,000-foot-long access road, and appurtenant facilities.

A more detailed project description is contained in ordering paragraph (B).

Safety and Adequacy

The Swan Falls Project was recently inspected by the Commission's San Francisco Regional Office. This inspection, as well as several previous inspections, have revealed that the spillway portion of the dam is in poor condition and major rehabilitation work is needed. Due to its deteriorated condition, the Applicant has proposed to replace the spillway section.

The Swan Falls Dam is a low hazard structure. The spillway section, gravity section and the existing powerhouse, as proposed to be modified would be safe under extreme loading conditions. The design of the proposed powerhouse presented in the application is preliminary in nature and Article 45 requires submittal of a final supporting design report prior to the start of construction.

Article 46 requires the filing of revised Exhibits A, F, and G within one year of completion of the project showing the project as constructed.

It is concluded that, under the conditions of this license, the project will be safe and adequate.

MICROFILMED
MAY 15 1989

Fish and Wildlife Resources

The Idaho Department of Fish and Game (DFG) and the U.S. Department of the Interior (Interior) indicated that minimal impacts to the fish and wildlife resources of the project area would result from construction and operation of the proposed facilities. The DFG and Interior indicated that the mitigative measures proposed in the Applicant's Report on Fish, Wildlife, and Botanical Resources would provide for adequate protection of the fish and wildlife resources. Staff concurs with these agencies. The Applicant's Report on Fish, Wildlife, and Botanical Resources will be approved by this license.

Since the project is located in an area that provides habitat for numerous raptor species, the new 1.2-mile-long transmission line should be constructed in accordance with procedures to minimize adverse effects on these species. Interior recommended that the transmission lines be constructed in accordance with guidelines set forth by the Bureau of Land Management (BLM). Article 38 of this license requires the Licensee to construct the transmission line in accordance with guidelines set forth by the BLM and fish and wildlife agencies so as to minimize the potential for electrocution of raptors.

Recreation

The Idaho Department of Parks and Recreation has indicated that the Applicant's proposed recreation development is adequate; however, there was concern regarding fisherman access to the south bank of the Snake River. The Applicant indicated that it would continue to provide the public with foot access across the Swan Falls Dam to the south bank of the Snake River. Interior considers Applicant's recreation plan adequate to provide for existing recreational use at the project, but Interior is concerned that there may be a need for additional recreational development during the license period. It is concluded that the Applicant's recreation plan, which includes improvement of the boat-launching facility, improvement of an access road, rubber raft/canoe launch facility and portage trail, and interpretive brochure would adequately provide for the present recreational needs of the project area. The Applicant's Report on Recreational Resources will be approved. Under Article 17 of this license, the Commission reserves the right to require the Licensee to construct additional facilities if the need arises in the future.

Water Quality

The water quality of the Snake River ranges from good to fair. Bacteria and suspended sediment, pollutants which are associated with irrigation returns, are the most serious water quality problems. Temperature and dissolved oxygen data, collected for the Swan Falls reach of the Snake River, indicate that the reservoir does not stratify to any appreciable extent, and that the discharges from the reservoir do not adversely impact the temperature and dissolved oxygen levels

MICROFILMED
MAY 15 1989

of the Snake River downstream. A water quality certificate was issued on November 17, 1981, by the Idaho Department of Health and Welfare, for the proposed redevelopment.

Minimum Flows

The Swan Falls Project is currently operated with a continuous minimum flow of 5,000 cfs from April 1 through September 30, and 4,000 cfs from October 1 through March 31. In addition, discharge from the powerhouse is regulated to ensure that the change in the elevation of the tailwater does not exceed 1 foot-per-hour and the total daily change does not exceed 3 feet. The Applicant indicated that it will continue to operate the project within these constraints. It is concluded that the existing minimum flows are sufficient to maintain the aquatic resource of the Snake River. Article 39 of this license requires the Licensee to release the aforementioned minimum flows and to continue to regulate the rate of change in tailwater elevations.

Historical and Archeological Resources

One archeological site (Site 10AA17) in the Guffey Butte-Black Butte Archeological District and the Swan Falls Dam and Power Plant, which are properties listed in the National Register of Historic Places, would be impacted by the redevelopment of the Swan Falls Project. The Applicant filed a plan prepared in consultation with the Idaho State Historic Preservation Officer (SHPO), to mitigate impacts to these properties. The Staff believes that the plan, with minor modifications, would mitigate the impacts to the properties.

For Site 10AA17, the modified plan, would consist of: (1) conducting archeological excavations to recover the significant information in the stratified deposit of the site; and (2) the construction of a fence, or the implementation of other measures, as required, to protect the portion of the site containing aboriginal house structures. The plan for the site would be implemented in consultation with the SHPO, and in accordance with the mitigation guidelines of the Advisory Council on Historic Preservation (ACHP).

The modified plan for Swan Falls Dam and Power Plant would be implemented in consultation with the SHPO and the Historic American Engineering Record (HAER) of the U.S. Department of the Interior, and consist of: (1) restoration of the external appearance of the existing powerhouse; (2) documentation of the project impact areas according to the standards of the HAER; (3) filing of copies of the existing engineering drawings

MICROFILMED
MAY 15 1989

with the SHPO; and (4) construction of a public education display concerning the historical significance of the facility. Restoration of the existing powerhouse would be undertaken in accordance with the Secretary of the Interior's Standards for Historic Preservation Projects.

Interior commented that measures should be implemented in consultation with the SHPO to: (1) protect site 10AA17; and (2) document Swan Falls Dam and Power Plant according to the standards of the HAER prior to construction of the project. These measures are included in the modified plan.

The ACHP has been consulted, and has indicated that the impacts to the Guffey Butte-Black Butte Archeological District and Swan Falls Dam and Power Plant can be mitigated with the implementation of this plan with the additional condition that any historical electrical equipment, that may be disposed of, be offered to the Smithsonian Institution.

It is concluded that the Applicant's plan, as modified, would adequately mitigate the impacts of the project on these National Register properties. Article 40 requires implementation of this plan, and the implementation of cultural resources protection measures in the event that unrecorded archeological or historical sites are discovered during construction of the project.

Land Management

Interior recommended that the Applicant be required to consult with the BLM to determine whether the major ground-disturbing activities associated with the redevelopment would be compatible with existing land management objectives for the area. License Article 41 requires the Licensee to consult with BLM to ensure that the redevelopment is consistent with the existing land management objectives for the area.

Water Management Conditions

On December 6, 1982, a letter from John V. Evans, Governor of the State of Idaho, was received requesting that the Commission delay for a period of ninety days its decision on the relicensing application for the Swan Falls Project. The Governor cited a recent State court decision as presenting new information impacting those portions of the Idaho State Water Plan calling for the irrigation of additional lands in the Snake River Basin above Swan Falls and limiting the flexibility of water management within the Basin. The Governor stated that upon completion of review of that State court decision, "[t]he State of Idaho may then want to petition the Commission for placement of [illegible] conditions on the Swan Falls license or take other action [illegible] to ensure that this license will be in keeping with the public interest of the citizens of Idaho."

DISPOSE MED
MAY 15 1989

In order to accommodate the Governor's request for additional time to assess State of Idaho water management concerns with respect to the Swan Falls Project, Article 43 reserves to the Commission the authority, after notice and opportunity for hearing, to modify the project license for water management purposes in the event such a request is forthcoming from the State of Idaho within ninety days of the issuance of this order. This reservation of authority in no way prejudges the desirability of any such a requirement but merely ensures that the State of Idaho, if it chooses, will have an opportunity to present its recommendations which will then be considered by the Commission to determine whether the comprehensive development of the waterway would be furthered by the imposition of any license requirements for water management purposes.

Environmental Considerations

Construction of the proposed facilities would result in temporary increases in the suspended solids load of the Snake River and erosion from disturbed land surfaces. In addition, increased noise and vehicular traffic associated with construction activities would result in the temporary avoidance of the project area by indigenous wildlife species. Operation of the facility would be limited by the constraints that are currently imposed on the project with respect to reservoir fluctuations and flow releases. As a result, no additional significant impacts on the flow regime of the Snake River would be associated with the proposed redevelopment. Maintenance of the road and transmission line rights-of-way would result in the loss of vegetation and associated wildlife habitat that presently occupy these areas. Excavation of the tailrace would eliminate the aquatic habitat that currently occupies the area; however, no significant impacts to the aquatic habitat of the portion of the river located immediately downstream of the project dam would result.

The peregrine falcon and the bald eagle, both Federally-listed endangered species, would not be significantly impacted from construction and operation of the proposed facilities. These species may temporarily avoid the immediate construction area; however, upon completion of the construction activities these species would be expected to return.

On the basis of the record and Staff's independent analysis, it is concluded that issuance of this license for the project will not constitute a major Federal action significantly affecting the quality of the human environment.

MICROFILME

MAY 15 1989

Need and Economic Feasibility

The Applicant would continue to use the project energy to meet its system load demands. The project is economically feasible when compared to the cost of power generated by a coal-fired steam plant. 3/

Other Aspects of Comprehensive Development

The project does not conflict with any proposed or existing developments and makes good use of the flow and fall of the Snake River. It is concluded that, subject to the terms and conditions of this license, Project No. 503 is best adapted to a comprehensive plan for development of the Snake River for beneficial public uses and that issuance of this license is in the public interest.

License Term

The initial license for the project expired on June 30, 1970. The Applicant has requested that a new license be issued for a term of fifty years. The Applicant's proposed redevelopment involving replacement of the existing spillway and replacement of the existing 10.4-MW powerhouse with a new 25-MW powerhouse is a significant modification of the project. It does not, however, constitute the kind of extensive redevelopment of a project that would warrant the Commission's issuing a new license for a full fifty-year period. In accordance with the Commission policy as stated in The Montana Power Company, Project No. 2301, "Order Issuing New License (Major)" (October 5, 1976), Applicant's proposed modification of project works constitutes substantial new construction for which a forty-year license period is appropriate.

It is ordered that:

(A) This license is issued to the Idaho Power Company (Licensee), of Boise, Idaho, under Part I of the Federal Power Act (Act), for a period of 40 years, effective the first day of the month in which this order is issued and terminating on June 30, 2010, for the proposed redevelopment and continued operation and maintenance of the Swan Falls Project No. 503, located in Ada and Owyhee Counties, Idaho, on the Snake River, a navigable waterway of the United States, and occupying lands of the United States, within the Birds of Prey Natural Area, which

MICROFILMED
MAY 15 1989 D

3/ The proposed project, with its average annual generation of 162 million kWh, will utilize a renewable resource that will save the equivalent of approximately 266,004 barrels of oil or 75,006 tons of coal per year.

is administered by the U.S. Department of the Interior. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Swan Falls Project No. 503 consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary. The project area and boundary are shown and described by certain exhibits that form part of the application for license and that are designated and described as:

EXHIBIT	FERC NO.	TITLED
G-1	503-111	Project Map
G-2	503-112	Project Map
G-3	503-113	Project Map
G-4	503-114	Project Map

(2) The project works consisting of: (1) the 25-foot-high, 1,218-foot-long concrete and rockfill Swan Falls Dam; (2) the Swan Falls Reservoir with a surface area of 900 acres and a total storage capacity of 4,800 acre-feet; (3) a spillway with crest elevation of 2,300 feet msl with 12 bays each provided with radial gates, 31 feet wide and 14.5 feet high; (4) a powerhouse at the east abutment of the Swan Falls Dam containing two identical horizontal bulb-type turbine-generating units, each with a rated capacity of 12.5 MW; (5) a substation located 30 feet from the powerhouse, equipped with a 13.8/138-kV, 30,000-kVa, 3-phase transformer; (6) a 1,400-foot-long, 120-foot-wide (bottom width) tailrace; (7) a 1.2-mile-long, 138-kV transmission line connecting to an existing 138-kV transmission line owned and operated by the Licensee; and (8) other appurtenant facilities.

The location, nature, and character of these project works are generally shown and described by the exhibits cited above and more specifically shown and described by certain other exhibits that form a part of the application for license and that are designated and described as:

EXHIBIT	FERC NO.	TITLED
F-1	503-105	General Plan
F-2	503-106	Existing Structures - Plan & Elevation
F-3	503-107	Existing Powerhouse - Plan & Section
F-4	503-108	Existing Powerhouse - Sections
F-5	503-109	New Spillway - Plan & Section
F-6	503-110	New Powerhouse - Plan & Sections

MICROFILMED
MAY 15 1989

(3) All of the structures, fixtures, equipment, or facilities used or useful in the operation or maintenance of the project and located within the project boundary, all portable property that may be employed in connection with the project, located within or outside the project boundary, as approved by the Commission and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits G-1 through G-4 and Exhibits F-1 through F-6 designated in ordering paragraph (B) above, are approved and made a part of the license.

(D) Pages V-7 through V-10 of the Report on Recreational Resources and pages III-19 through III-21 of the Report on Fish, Wildlife, and Botanical Resources contained in Exhibit E of the application are approved and made a part of the license.

(E) This license is also subject to the terms and conditions set forth in Form L-6 (revised October 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Navigable Waters and Lands of the United States" attached to and made a part of this license. The license is also subject to the following additional articles:

Article 38. Licensee shall, after consultation with the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, and the Idaho Department of Fish and Game, develop a plan to ensure protection of raptors from electrocution through the appropriate design of the transmission towers and appropriate spacing of conductors. Further, Licensee shall, within 1 year from the date of issuance of this license, file with the Commission a report on its plan and, for approval, recommended measures to ensure protection of raptor species. Agency letters of comment on the report and recommendations shall be included in the filing.

Article 39. Licensee shall discharge from the Swan Falls Project a continuous minimum flow of 5,000 cubic feet per second (cfs) from April 1 through September 30, and 4,000 cfs from October 1 through March 31 or the inflow into the reservoir, whichever is less, for the purpose of protecting and enhancing the aquatic resource of the Snake River. Further, Licensee shall operate the Swan Falls Powerhouse so that the change in the elevation of the tailwater of the project shall not exceed 1 foot-per-hour and a total of 3 feet-per-day. These flows and changes in tailwater elevations may be temporarily modified, if required, by operating emergencies beyond the control of the Licensee, and for short periods for fishery management purposes upon mutual agreement betwe the Licensee and the Idaho Department of Fish and Game.

MICROFILMED
MAY 15 1989

Article 40. The Licensee shall, prior to the initiation of any construction that will impact archeological Site 10AA17 or Swan Falls Dam and Power Plant, and in consultation with the Idaho State Historic Preservation Officer (SHPO) and the Historic American Engineering Record (HAER) of the U.S. Department of the Interior, implement the mitigation plan which was filed in its application with the Commission on October 30, 1981. The plan for Site 10AA17 shall consist of (1) conducting archeological excavations to recover the significant information in the stratified deposit of the site, and (2) the construction of a fence, or the implementation of other measures, as required to protect the portion of the site containing aboriginal house structures. The plan for Site 10AA17 shall be implemented in accordance with the mitigation guidelines for archeological sites of the Advisory Council on Historic Preservation. The plan for Swan Falls Dam and Power Plant shall consist of (1) restoration of the external appearance of the existing powerhouse; (2) documentation of the impact areas according to the standards of the HAER, (3) filing of copies of the existing engineering drawings with the SHPO, (4) construction of a public educational display concerning the historic significance of the facility, and (5) offering of the historical electrical equipment which will be disposed of to the Smithsonian Institution. Restoration of the existing powerhouse shall be undertaken in accordance with the Secretary of the Interior's Standards for Historic Preservation Projects.

Reports documenting the mitigation to Site 10AA17 and Swan Falls Dam and Power Plant, and their acceptance in writing by the SHPO and HAER, respectively, shall be filed with the Commission at least 60 days prior to any construction at the project that will impact the significant archeological and historical attributes of these sites. The Licensee shall make available funds in a reasonable amount for any such work as required.

If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historical resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

MICROFILMED
MAY 15 1989

Article 41. The Licensee shall consult and cooperate with the Bureau of Land Management (BLM) to ensure that redevelopment of the Swan Falls Project is consistent with existing land management objectives for the area. The Commission reserves the right to resolve any dispute that may occur between the Licensee and BLM regarding land management practices.

Article 42. The Licensee shall pay the United States the following annual charges:

(a) For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 33,300 horsepower.

(b) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 333 acres of its lands a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

(c) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 5 acres of its lands for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

Article 43. The Commission reserves the authority to impose, after notice and opportunity for hearing, further license conditions for water management purposes in the event that the State of Idaho, within 90 days of the effective date of this license, submits specific recommendations and supporting information for placing restrictions in this license for water management purposes.

Article 44. The Commission reserves the authority to order, upon its own motion or upon the recommendation of Federal or State fish and wildlife agencies or affected Indian Tribes, alterations of project structures and operations to take into account to the fullest extent practicable the regional fish and wildlife program developed pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

Article 45. The Licensee shall file prior to start of construction for approval of the Director, Office of Electric Power Regulation, a final supporting design report and shall not commence construction of any project structure until the report is approved.

MICROFILMED
MAY 15 1989

Article 46. The Licensee shall file as-built Exhibits A, F and G within one year of completion of construction describing the project as constructed.

Article 47. The Licensee shall file with the Commission's Regional Engineer and the Director, Office of Electric Power Regulation, one copy each of the contract drawings and specifications at least 60 days prior to start of construction. The Director, Office of Electric Power Regulation may require changes in the plans and specifications to assure a safe and adequate project.

Article 48. The Licensee shall review and approve the design and construction procedures for contractor-designed cofferdams and deep excavations prior to the start of construction. The Licensee shall file with the Commission's Regional Engineer and Director, Office of Electric Power Regulation, one copy of the letter of approval.

Article 49. The Licensee shall commence construction of the project within eighteen months from the effective date of the license and shall thereafter in good faith and with due diligence prosecute such construction and shall complete construction of such project works within six years from the starting date of construction.

Article 50. Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One half of the project surplus earnings, if any, accumulated under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year under the license, the amount of the deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserve account shall be maintained until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return shall be calculated based on an average of 13

MICROFILMED
MAY 15 1989

monthly balances of amounts properly includable in the Licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs for the year, and the common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 51. (a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable State and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to

MICROFILMED
MAY 15 1989

control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary State and Federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The Licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary State and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and State water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and State approvals have been obtained; (5) private or public marinas that can accommodate no more that 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a

MICROFILMED
MAY 15 1989

particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must file a letter to the Director, Office of Electric Power Regulation, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or State agency official consulted, and any Federal or State approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraphs (c) or (d) of this article:

(1) Before conveying the interest, the Licensee shall consult with Federal and State fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the Licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the Licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

MICROFILMED
MAY 15 1989

Project No. 503-000

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this Order, Idaho Power Company, on this _____ day of _____, 1982, has caused its corporate name to be signed hereto by _____, its President, and its corporate seal to be affixed hereto and attested by _____, its Secretary, pursuant to a resolution of its Board of Directors duly adopted on the _____ day of _____, 1982, a certified copy of the record of which is attached hereto.

By_____
President

Attest:

_____
Secretary

MICROFILMED
MAY 15 1989

November 22, 1982

RE: Application for Permit No. 02-7379

Idaho Power Company
P.O. Box 70
Boise, ID 83707

Gentlemen:

We have completed a preliminary review of the above referenced application. This review has included advertising by the regional office and a verification that all required preliminary information has been provided.

For power projects that are under the jurisdiction of the Federal Energy Regulatory Commission (FERC), we withhold final action on the application pending FERC approval of (1) a preliminary permit, or (2) an exemption. If you have not yet contacted FERC, the address below is a good starting point:

Regional Engineer
San Francisco Regional Office
Federal Energy Regulatory Commission
333 Market Street, Sixth Floor
San Francisco, CA 94105-2195
Telephone No. (415) 974-7177

The continued validity of this application is contingent on your proceeding with due diligence toward obtaining an approval or an exemption from FERC. Please keep this office informed of progress in this regard.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS:kw

MICROFILMED
MAY 15 1989

RECEIVED

FEDE...L ENERGY REGULATORY COM. SSION
WASHINGTON 20426

APR 12 1982
Department of Water Resources

P-02-7379

OEPR-HL
Project No. 503-000 - Idaho
Idaho Power Company

APR 07 1982

TO THE AGENCY ADDRESSED:

Subject: Idaho Power Company's application for license for constructed Swan Falls Project No. 503 located on the Snake River in Ada and Owyhee Counties, Idaho.

The subject application has been accepted for filing by the Commission. Enclosed is a proposed public notice describing the application. Within approximately 30 days, the Applicant will forward to you an appropriate number of copies of the application for your information and any comments and recommendations you may have involving your interests.

Please submit any comments on the application to the Secretary of the Commission, with a copy to the Applicant, within 60 days of the date the applications are mailed. If you have not submitted comments or a request for a specific extension of time within that period, we will assume that you have none.

Sincerely,

Ronald A. Corso

Ronald A. Corso
Director, Division of
Hydropower Licensing

Enclosures:
Proposed Notice
List of Addressees

MICROFILMED
MAY 15 1989

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company) Project No. 503-000

NOTICE OF APPLICATION FOR LICENSE (over 5 MW)

Take notice that Idaho Power Company (Applicant) filed on April 30, 1979, an application for license [pursuant to the Federal Power Act, 16 U.S.C. §§791(a) - 825(r)] for "continued" operation of a water power project to be known as Swan Falls Hydroelectric Project No. 503. The project would be located on Snake River in Ada and Owyhee Counties, Idaho. Correspondence with the Applicant should be directed to: Mr. Lee Sherline, Leighton and Sherline, Suite 503, 1701 K Stret, N.W., Washington, D.C. 20006.

Project Description - The proposed project would consist of: (1) the existing 25-foot high, concrete and rockfill, Swan Falls Dam; (2) the existing Swan Falls Reservoir with a surface area of 900 acres and a total capacity of 4,800 acre-feet; (3) a new spillway at a crest elevation of 2,420 feet with 12 bays each provided with radial gates 31 feet wide and 14.5 feet high, replacing the existing spillway; (4) a new power plant to be located at the east abutment of the Swan Falls Dam with a total installed capacity of 25 MW replacing the existing 10.4 MW power plant; (5) a substation located 30 feet from the powerhouse, equipped with a 13.8/138-kV, 30,000-kVa, 3-phase transformer; (6) a 1,400-foot long, 120-foot wide tailrace located in the riverbed downstream from the powerhouse; and (7) a 1.2-mile long, 138-kV transmission line interconnecting with an existing 138-kV transmission line owned and operated by the Applicant.

The Applicant estimates that the proposed project would increase the average annual energy production from 90 GWh to 162 GWh. The Swan Falls Dam is located in the Birds of Prey Natural Area administered by the U.S. Department of Interior.

Purpose of Project - All of the power and energy developed by the project will be utilized in the Applicant's system. The physical location of the project in close proximity to the company's largest center, Boise, Idaho allows this plant to make an important contribution to the area's electrical reliability and stability. Furthermore, the Applicant's system is interconnected with all adjoining systems so that any surplus power and energy from Swan Falls Project can be made available for use in those systems including the exchange of power with other companies through existing interconnections.

MICROFILMED
MAY 15 1989

Competing Applications - Anyone desiring to file a competing application must submit to the Commission, on or before _____, either the competing application itself [See 18 C.F.R. §4.33(a) and (d)] or a notice of intent [See 18 C.F.R. §4.33(b) and (c)] to file a competing application. Submission of a timely notice of intent allows an interested person to file an acceptable competing application no later than the time specified in §4.33(c) or §4.101 et. seq. (1981).

Comments, Protests, or Petitions to Intervene - Anyone may submit comments, a protest, or a petition to intervene in accordance with the requirements of the Rules of Practice and Procedure, 18 C.F.R. §1.8 or §1.10 (1980). In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a petition to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or petitions to intervene must be received on or before _____.

Filing and Service of Responsive Documents - Any filings must bear in all capital letters the title "COMMENTS", "NOTICE OF INTENT TO FILE COMPETING APPLICATION", "COMPETING APPLICATION", "PROTEST", or "PETITION TO INTERVENE", as applicable, and the Project Number of this notice. Any of the above named documents must be filed by providing the original and those copies required by the Commission's regulations to: Kenneth F. Plumb, Secretary, Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, D.C. 20426. An additional copy must be sent to: Fred E. Springer, Chief, Applications Branch, Division of Hydropower Licensing, Federal Energy Regulatory Commission, Room 208 RB at the above address. A copy of any notice of intent, competing application, or petition to intervene must also be served upon each representative of the Applicant specified in the first paragraph of this notice.

Secretary

MICROFILMED
MAY 15 1989

List of Addressees to Receive Copies of Application for Project No. 503

Addressee	Number of Copies
Chief of Engineers (HQDA) DAEN-CWE-HY Department of the Army Washington, D.C. 20314	4
Chief of the Forest Service Department of Agriculture P.O. Box 2417 Washington, D.C. 20013	5
Honorable James Watt Secretary of the Interior Washington, D.C. 20240	20
Regional Administrator Region X Environmental Protection Agency 1200 Sixth Avenue Seattle, Washington 98101	5
Director Fish and Game Department State of Idaho P.O. Box 25 Boise, Idaho 83707	1
Mr. Merle W. Wells Director Idaho Historical Society 610 North Julia Davis Drive Boise, Idaho 83706	1
Director Department of Parks and Recreation State of Idaho Statehouse Boise, Idaho 83720	1
Director Department of Water Resources State of Idaho Statehouse Boise, Idaho 83720	1

MICROFILMED
MAY 15 1989

List of Addressees Continued

Addressee	Number of Copies
Idaho Public Utilities Commission Statehouse Boise, Idaho 83720	1
Chairman Board of Commissioners Ada County Boise, Idaho 83720	1
Chairman Board of Commissioners Owyhee County Murphy, Idaho 83639	1

MICROFILMED
MAY 15 1989

Application No. 02-7379

SPECIAL NOTE: _____

PROTEST INFORMATION SHEET

Protestant - Name(s)

South Board of Control, Owyhee Project

Address P.O. Box 67, Homedale, ID 83628

Attorney - Name & Address Roderick B. Wood, Attorney, 112 W. Idaho Ave., P. O. Box 36, Homedale, Id. 83628

Date Filed 5/21/82 Protest Date 5/24/82

Issues _____

Applicant - Attorney - Name & Address IPCO Staff Atty. Nicolas R. Yourse, Box 70 83707

Dates:

Acknowledgement letters: 5/24

Hearing Notice: _____

Hearing Date: _____

Protest withdrawn 10/26/82

MICROFILMED MAY 1 2 1984

Other: _____

Protest Information submitted in Computer (following hearing): _____

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

October 26, 1982

Clyde Hutton, Jr.
SOUTH BOARD OF CONTROL, OWYHEE PROJECT
Homedale, ID 83628

Re: Withdrawal of Protest No. 02-7379

Dear Mr. Hutton:

This office acknowledges receipt of the withdrawal of protest against Application No. 02-7379 in the name of Idaho Power Company.

This office now will continue to process the application, since the protest has been withdrawn.

Sincerely,

DAVID B. SHAW
Western Regional Supervisor

DBS:jp

MICROFILMED
MAY 15 1989

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

October 26, 1982

Nicolas R. Ysursa
Attorney
IDAHO POWER COMPANY
Box 70
Boise, ID 83707

Re: Withdrawal of Protest for Application No. 02-7379

Dear Mr. Ysursa:

Enclosed is a copy of a withdrawal of protest against the above referenced application.

This office can now take further action on the application.

Sincerely,

DAVID B. SHAW
Western Regional Supervisor

DBS:jp

Enc:

MICROFILMED
MAY 15 1989

CONVERSATION MEMORANDUM

DATE 7/19/82

FILE 02-2379

NAME OF PARTY Nicolas Ysursa - IPCO

EMPLOYEE David Shaw

RE: Status of app.

IPCo had responded to a letter request from South Board by letter dated May 27, 1982. They had not received a response. If a hearing is necessary they will need some time to prepare.

I tried to call Barry Wood but he was out until 7/26.

Called Barry Wood 10/6/82
He said to call Clyde Hutton - 337-3760

Clyde Hutton - 10/6/82 - will ask Barry to withdraw protest

MICROFILMED
MAY 15 1984

DBS

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

May 27, 1982

Mr Richard B Eismann
Attorney at Law
112 West Idaho Avenue
P O Box 36
Homedale, Idaho 83628

RE: Protest of Application No 02-7379

Dear Mr Eismann:

This concerns your protest of Idaho Power Company's Application for Permit to Appropriate the Public Waters of the State of Idaho filed for an additional 6550 cfs for use as part of the rehabilitation project of the Swan Falls Dam. Enclosed is a copy of the Application made to the Federal Energy Regulatory Commission for a new license which would also act as authority to commence rehabilitation and reconstruction work. Exhibit B particularly describes the contemplated operation of the project. Briefly, the project is a run of river project that requires no change in the upstream or downstream flow of the river. The entire project contemplates utilizing the water that is currently being spilled or is seeping through the old dam for power generation. There will be no increase in storage and no reduction in downstream flows. Only available flows will be used for electric power generation, a nonconsumptive use. Therefore, there should be no interference with or reduction of the minimum flow of the river at the South Board's Marsing Pumping Plant and should not affect the necessary water supply.

Hopefully, this will help explain the project and its intended operation and will help you advise your clients further on the specifics of the project. Also, the application contains the response to specific requests made in your letter to the Department of Water Resources concerning the project. I am available to discuss this with you and your clients at any time and will make appropriate Idaho Power Company personnel available to discuss the technical aspects of the proposed project.

Sincerely,

Nicolas R. Ysursa

Nicolas R Ysursa
Attorney

NRY:ke
Enclosure

cc: Director, Idaho Department of Water Resources
Logan Lanham
Doug Sprenger

MICROFILMED
MAY 15 1989

RECEIVED
MAY 28 1982
Department of Water Resources
Western Regional Office

State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 92 South Cole Road, Boise, Idaho 83709

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

(Office at the corner of
Franklin and Cole Roads)

(208) 334-2190

May 31, 1983

Idaho Power Company
P. O. Box 70
Boise, Idaho 83707

Attn: Nicolas R. Ysursa

Gentlemen:

Enclosed is a copy of a protest(s) filed against the issuance of a permit pursuant to your Application No. 02-7379. The Department suggests you contact the protestants(s) directly in an effort to determine the nature of the protest(s) and to attempt to resolve the protest(s).

If this office has not been advised within twenty (20) days that the protest(s) 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 the application for permit (Section 42-203, Idaho Code:

1. Will the proposed use reduce the quantity of water under existing water 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 under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Yours truly,

DAVID B. SHAW
Western Regional Supervisor

Enc.

MICROFILMED
MAY 15 1983

State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 92 South Cole Road, Boise, Idaho 83709

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

(Office at the corner of
Franklin and Cole Roads)

(208) 334-2190

May 21, 1982

Roderick D. Wood, RICHARD B. SHAW
111 N. Idaho Ave.
P. O. Box 36
Homedale, ID 83628

Re: Protest of Application 02-7379

Dear Mr. Wood:

This office acknowledges receipt of your protest to the issuance of a permit pursuant to the above referenced application. The Department suggests you contact the applicant(s) directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If this office has not been advised 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 quanity of water under existing water 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 under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Yours truly,

DAVID B. SHAW
Western Regional Supervisor

MICROFILMED
MAY 15 1989

IDAHO DEPARTMENT OF FISH AND GAME
REGION 3
109 West Forty-fourth Street
Boise • Idaho • 83704

May 10, 1982

Mr. Dave Shaw
Western Region Supervisor
Idaho Department of Water Resources
92 South Cole Road
Boise, ID 83709

Re: 02-7379 (Idaho Power Company-Snake River)

Dear Dave:

Idaho Department of Fish and Game personnel have reviewed the above referenced application and have no objection to issuance of a permit.

Sincerely,

Stacy Gebhards
Regional Supervisor
Region 3/Boise

cc: Bureau of Program Coordination

RECEIVED
Department of Water Resources
Western Regional Office

MICROFILMED
MAY 15 1989

STATE OF IDAHO
DEPARTMENT OF HEALTH AND WELFARE
Division of Environment - 801 Reserve Street, Boise, Idaho 83702

DIVISION OF ENVIRONMENT
Statehouse
Boise, Idaho 83720

May 4, 1982

Mr. David B. Shaw
Western Region Supervisor
Idaho Department of Water Resources
92 South Cole Road
Boise, Idaho 83709

RE: 02-7379 (Idaho Power)

Dear Mr. Shaw:

This office has reviewed the above described application and has no objections to this appropriation on the Snake River.

Sincerely,

Jon Wroten
Sr. Environmental Specialist

JW/bg

cc: Craig Shepard

RECEIVED
MAY 7 1982
Department of Water Resources
Western Regional Office
MAY 15 1989
MICROFILMED

tate of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 92 South Cole Road, Boise, Idaho 83709

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

(Office at the corner of
Franklin and Cole Roads)

(208) 334-2190

May 3, 1982

Idaho Department of Fish & Game
Region 3
Stacy Gebhards
Regional Supervisor
109 West Forty-Forth St
Boise, ID 83704

RE: 02-7379, 65-12512, 65-12513, 65-12515
67-7569, 77-7176, 77-7177

Dear Stacy:

Enclosed is a copy of the above referenced application for permit which may be of interest to your agency. Please review the application and submit any comments you may have.

This office normally completes the processing of an application within a six-week period and is required to take final action shortly thereafter.

If you have any questions regarding the application, please contact this office.

Sincerely,

DAVID B. SHAW
Western Region Supervisor

DBS:jp

Enclosure

MICROFILMED
MAY 15 1989

State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 92 South Cole Road, Boise, Idaho 83709

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

(Office at the corner of
Franklin and Cole Roads)

(208) 334-2190

May 3, 1982

State of Idaho
Department of Health & Welfare
Division of Environment
Jon Wroten
Sr. Environmental Specialist
801 Reserve St.
Boise, Id. 83702

RE: 02-7379

Dear Mr. Wroten:

Enclosed is a copy of the above referenced application for permit which may be of interest to your agency. Please review the application and submit any comments you may have.

This office normally completes the processing of an application within a six-week period and is required to take final action shortly thereafter.

If you have any questions regarding the application, please contact this office.

Sincerely,

DAVID B. SHAW
Western Region Supervisor

DBS:jp

Enclosure

MICROFILMED
MAY 15 1989

SNAKE RIVER



HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

April 27, 1982

Ms Jan Grover
Senior Water Resource Agent
State of Idaho
Department of Water Resources
Western Region
92 South Cole Road
Boise, Idaho 83709

RE: Application for Permit for the
Swan Falls Hydroelectric Project

Dear Ms Grover:

As requested in your letter of April 15, 1982, enclosed is the Affidavit for water rights to be used for power purposes. Also enclosed in accordance with Section 42-202 of the Idaho Code is:

1. A plan for the facility;

2. An itemized estimate of the cost of constructing the facility; and

3. A statement of the financial resources of the Applicant and the means by which funds are to be provided for construction of the project.

Hopefully, this will complete the Application requirements and allow the processing of the Application to continue. If further information is needed, please advise. Thank you.

Sincerely,

Nicolas R Ysursa

Nicolas R Ysursa
Attorney

NRY:ke
Enclosures

MICROFILMED
MAY 15 1989

RECEIVED
APR 28 1982
Department of Water Resources
Western Regional Office

State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 92 South Cole Road, Boise, Idaho 83709

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

(Office at the corner of
Franklin and Cole Roads)

(208) 334-2190

April 15, 1982

Idaho Power Company
Nicolas R. Ysursa
Box 70
Boise, Idaho 83707

Dear Mr. Ysursa:

We have received the Application for Permit submitted for the Swan Falls Hydroelectric project.

However, with all power applications the enclosed form must be completed and submitted. This form is a combination of an affidavit to establish residence and a question concerning the ownership of the hydropower facilities.

Please complete the form, have it notorized and return it to this office as soon as possible. Upon receipt of this form we will continue processing the application.

Sincerely,

Jan Grover
Senior Water Resource Agent

JG:jp

Enc:

MICROFILMED
MAY 15 1989

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES
Western Region

92 South Cole Road
Boise, Idaho 83709
(208) 334-2190

APRIL 29, 1982

The Idaho Statesman
Box 40
Boise, ID 83707

Gentlemen:

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

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

Please send the affidavit of publication and publication billing to this office before MAY 24, 1982.

Yours truly,

HELEN L. HARRINGTON
Secretary

Encl.

MICROFILMED
MAY 1[illegible] 198[illegible]

02-2329

IDAHO POWER CO.

P.O. BOX 70, BOISE, ID 83707

Source: SNAKE RIVER tributary to COLUMBIA RIVER

Date Filed: 03/31/1982

Amount: 6550.00 CFS

Diversion Point: LOT 10 LOT 11 Sec 18 T 02S R 01E, ADA Co.
POINT OF DIVERSION ALSO IN OWYHEE COUNTY

Use: POWER (6550.00 CFS) from 01/01 to 12/31

Place of Use: LOT 11 Sec 18 T 02S R 01E

Diversion Means: POWER PLANT & POWER HOUSE

MICROFILMED

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

Second Amended Application for New License: Project No. 503

Swan Falls Hydroelectric Project

RE: 02-7379

MICROFILMED
MAY 15 1989

Idaho Power Company
October 1981

BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

SECOND AMENDED APPLICATION FOR NEW LICENSE FOR MAJOR
PROJECT-EXISTING DAM

1. Idaho Power Company, a corporation organized under the laws of the State of Maine, and having its office and principal place of business at Boise, in the State of Idaho, hereby makes a second amended application to the Federal Energy Regulatory Commission for a new license for the Swan Falls Hydroelectric Project as described in the attached exhibits. The project is currently designated as FERC Project No 503 and is operating under an annual license.

2. The location of the project is:

State:	Idaho
Counties:	Ada and Owyhee
Township or nearby town:	The Project is approximately 40 miles southwest of Boise, Idaho and 18 miles south of Kuna, Idaho, and is in the SE¼ of Section 18, Township 2 South, Range 1 East, Boise Meridian.
Stream or other body of water:	Snake River

3. The exact name and business address of the applicant are:

Idaho Power Company
1220 Idaho Street
P O Box 70
Boise, Idaho 83707

The exact name and business address of each person authorized to act as agent for the applicant in this application are:

Lee Sherline
Leighton & Sherline
Suite 803
1701 K Street, N W
Washington, D C 20006

The Commission is also respectfully requested to mail copies of all correspondence in regard to this application directly to:

Paul L Jauregui
Vice President, Secretary and General Counsel
Idaho Power Company
1220 Idaho Street
P O Box 70
Boise, Idaho 83707

4. The Applicant is a corporation organized under the laws of the State of Maine and doing business in the State of Idaho, Oregon, Nevada and Wyoming.

5. Applicant is duly qualified and doing business in the State of Idaho as an electric public utility. No certificate of public convenience and necessity from the Idaho Public Utilities Commission is required for the proposed new development.

No special hydroelectric-water power or irrigation laws of the State of Idaho pertain to the construction and operation of the proposed new development.

The proposed new development will utilize waters of the Snake River in the Counties of Ada and Owyhee, Idaho. Applicant will file an application with the Idaho Department of Water Resources, of the State of Idaho, to appropriate an additional 6550 cubic feet per second of waters of the Snake River for hydroelectric generation purposes at the proposed new development. In addition, Idaho Power Company presently has water rights for the existing plant at the general site, which water would be used in the new plant. Reference is

made to the general laws of the State of Idaho, relating to the appropriation of waters and attainment of permits and licenses therefore as contained in Idaho Code, Title 42, particularly Chapters 2, 4 and 17 thereof.

Applicant does not anticipate any substantial difficulties in obtaining said water permit as the proposed operation of the Project works will serve the public need and will have no harmful affect on the conservation and utilization in the public interest of the available water resources for the purposes of power generation, navigation, irrigation and flood control. The proposed project will not involve a consumptive use of water, as all water will be returned to the river through the power plant tailrace or spillways.

6. Applicant is the owner and operator of existing project facilities.

7. The following exhibits are filed herewith and are hereby made a part of this Second Amended Application:

Exhibit A - Description of the Project.

Exhibit B - Project Operation.

Exhibit C - Construction History and Schedule.

Exhibit D - Costs and Financing.

Exhibit E - Environmental Report.

Exhibit F - General Design Drawings.

Exhibit G - Project Map.

8. This is the second amended application made for a new license for this Project. Initial application was made on June 26, 1969 and set out three alternatives by which this Project could be modified or redeveloped. Because of environmental and political considerations and developments, two of the alternatives involving construction of new dams and a large powerhouse were

eliminated and Applicant made the first amended application in April of 1979 which embodied the alternative of obtaining a new license for the Project as is. Applicant made deficiency notice filings in July of 1980.

On October 1, 1980 Applicant received notice from the Regional Engineer that he was ordering, pursuant to Section 10(c) of the Federal Power Act, (1) Applicant to provide a rehabilitation schedule for significant rehabilitation of the Project's spillway gates; and (2) appropriate testing of the existing concrete structures. To comply with this order, Applicant by letter of January 21, 1981 made application to the Commission to temporarily suspend processing of the First Amended Application so as to allow Applicant time to complete an engineering study to determine if the Project's capacity could be increased while performing the required rehabilitation.

Those studies are now complete and are included in this Second Amended Application. The new development scheme as set out herein provides for an estimated increase in capacity from 10.4 MW to 25 MW without a significant change in normal maximum surface area or the normal maximum surface elevation of the existing impoundment. This limiting factor was imposed so as to impact as little as possible, and only during construction, the existing environment. Therefore, the granting of the new license pursuant to this Second Amended Application will not involve a major federal action significantly affecting the quality of the human environment. This Second Amended Application incorporates by this reference all materials and information previously submitted on this Project since 1969, not inconsistent herewith.

9. In light of the total redevelopment which includes the complete replacement of project works, that is now proposed by the Applicant, Applicant respectfully requests that, pursuant to Commission practices, a new license with a fifty (50) year term be issued.

IN WITNESS WHEREOF, The Applicant has caused its name to be hereunto signed by James E Bruce, its Chairman of the Board and Chief Executive Officer, and its corporate seal to be hereto affixed by Paul L Jauregui, its Secretary, thereunto duly authorized this 30th day of October, 1981.

IDAHO POWER COMPANY

By /s/ James E Bruce
Chairman of the Board and
Chief Executive Officer

(CORPORATE SEAL)

ATTEST:

By /s/ Paul L Jauregui
Secretary

EXHIBIT A

EXHIBIT A

PROJECT DESCRIPTION

A.1 GENERAL

The existing Swan Falls Project is a hydroelectric development on the Snake River located in the counties of Ada and Owyhee in Idaho about 35 miles south of Boise. There are no other developments of the river in the vicinity of the project. The nearest projects are C. J. Strike, about 38 miles upstream, and Brownlee, about 120 miles downstream. Access to Swan Falls is by road from the town of Kuna, located about 18 miles north of the project.

A.2 EXISTING PROJECT

At Swan Falls, the Snake River flows in a general direction from south to north. It is flanked by the Owyhee Mountains to the south and west and the Danskin Mountains to the north and east. The existing project was constructed on the upstream edge of waterfalls caused by a ridge of basalt extending across the river. The ridge has a high point in the middle of the river forming an island in that location. The average drop across the falls is about 15 feet.

The initial development of the power potential at Swan Falls on the Snake River, consisting of a rock-filled crib dam and a powerhouse with three 300 kW units, took place in the early part of this century. Since then, several modifications and additions have been made; the most important ones in 1918 to 1921, in 1936 and in 1944. At the present time the development consists of a spillway located between the island in the middle of the river and the west bank, a powerhouse located on the east side of this island, and a sluiceway and a fish ladder located between the powerhouse and the east bank. The power-

house has been constructed in three different sections, housing a total of 10 generating units as follows:

Installation	Rated Capacity (kW)	Year of Installation
Units 1 & 2 (West Section)	2 x 1100	1944
Units 3 & 4 (Middle Section)	2 x 1250	1913
Units 5 & 6 (Middle Section)	2 x 1250	1918
Units 7 - 10 (East Section)	4 x 800	1918

The total rated capacity is thus about 10,400 kW. Maximum output is about 12,000 kW at a discharge of about 8,000 cfs. The project is operated on a run-of-the-river basis with the reservoir maintained constant at the maximum normal elevation of 2314.0. The tailwater elevation for a discharge of 8000 cfs is about 2288.0. The average annual energy production over the last few years has been about ~~90~~ 83 GWh.

The left abutment of the dam consists of a broad earthfill embankment which was placed over some older rockfilled timber cribs built in 1901. A wall of steel sheetpiles was installed in 1936 along the reservoir side of the embankment to provide a positive cutoff and reduce seepage. The top of the embankment is somewhat uneven at about ~~2318.0~~ 2320.0.

~~The existing spillway is located between the embankment and the island in the middle of the river. Contiguous with the embankment is a concrete spillway built in 1919 having 21 bays controlled by 12 feet wide and 11 feet high steel-and-timber radial gates. The crest of the ogee of the spillway is at elevation 2304. The operating deck is at about elevation 2319. In 1936 the spillway was extended towards the island by the construction of a 142-foot-long concrete section having ten 12-foot-wide bays controlled by stoplogs. The crest of this spillway is at elevation 2302.0. The operating deck is at elevation 2319.5.~~ 1989 Supp. Pg. A-1

The total discharge capacity of the spillway is estimated to be 38,000 cfs with all gates open and the reservoir at elevation 2314.0.

The concrete in the existing spillway has deteriorated badly in many places. In addition there is considerable leakage through the gates along the entire length of the spillway. Therefore, a completely new spillway is included in the project as proposed herein. This new spillway is described in a subsequent paragraph. 1989 Supp. Pg. A-1

The powerhouse is made up of three separate but interconnected sections. The west section near the island is a building 49 feet wide and 72 feet long. It houses Units 1 and 2. The middle section, housing Units 3, 4, 5 and 6 is 49 feet wide and 92 feet long. The east section houses Units 7, 8, 9 and 10 and is 34 feet wide and 126 feet long. The generator floor in all sections is at about elevation 2323.0.

The substructure of the powerhouse is a conglomerate of concrete placed at different times during the period from 1901 to 1944. In general, the concrete is judged to be in good condition based on detailed inspection of the exposed areas and examination of cores obtained from drilling through the concrete to bedrock. However, some local deterioration was observed at the intakes and at the draft tube outlets, in particular near the water line. There appears to have been no significant reaction between the cement and the aggregates. 1989 Supp. Pg. A-1

The superstructure consists of reinforced concrete walls with roofing supported by concrete beams or steel trusses. The main floor is a concrete slab resting on steel beams. There are no large cracks in the concrete nor any serious deterioration visible which would indicate that the structure is unsafe. However, there is an apparent need for surface improvement. In addition, special maintenance would be required on a regular basis for as long as the structure is in service.

All turbines and generators except Units 1 and 2 have been in service for more than 60 years, which is well beyond the normal economic life assumed for this type of equipment. Units 1 and 2 have been in service for more than 30 years and are approaching the normal economic life.

All units are presently in operation. ~~and appear to be in good condition.~~ However, expenses for maintenance and repairs are likely to increase until it is no longer economical to keep these units in operation. Another matter is that the efficiencies of these old units are quite low. It is estimated that the overall plant efficiency at the present time is about 74 percent which would be about 16 percent lower than the efficiency of a modern plant. 1989 Supp. Pg. A-1

The powerhouse contains various accessory electrical equipment such as transformers, cables, buses, breakers, switches and control equipment which has been installed at different times in the past to accommodate the new generating units which then went into operation. Consideration of safety efficiency and reliability indicates that this equipment must be replaced if the plant is to continue operation on an extended basis.

The gap between the powerhouse and the right abutment, a distance of about 130 feet, is closed by a concrete gravity structure into which is incorporated a sluiceway and a fishladder. The sluiceway consists of two openings, each 17 feet wide and 12 feet high controlled by a slide gate. The capacity of the sluiceway is about 4000 cfs with the reservoir at elevation 2314.0.

Three transmission lines connect the existing plant with the system. One line is 69 kW and extends to the Bowmont substation near Nampa. This line is 21.5 miles long. The other two lines are 47 kV; one is 16.4 miles long and connects the plant also with the Bowmont substation. The other 47 kV line connects to the Ferry substation, located about one mile south of Swan Falls on the right bank of the river.

A.3 PROPOSED PROJECT

The project now proposed includes the following principal works:

- The replacement of the spillway section with a completely new gated spillway structure.
- Construction of a new 25 MW power plant in the general location of the existing sluiceway.
- Removal of all equipment from the existing power plant, and filling the draft tubes and turbine pits with concrete to about elevation 2315. Surface improvement of the existing powerhouse superstructure.
- Construction of a new switchyard on the right bank about 200 feet downstream from the powerhouse.
- Excavation of a tailrace channel in the riverbed downstream from the proposed powerhouse.

The existing powerplant will be taken out of operation following completion of the new power plant. However, there will be no significant change in the operation of the reservoir. The maximum normal reservoir level will be maintained at elevation 2314.0 as at present.

A more detailed description of the various project features is presented below:

Reservoir - The Swan Falls Reservoir is a long and narrow body of water confined between steep hills on both sides. Its backwater extends upstream about 12 miles from the dam. The area-capacity curves for the reservoir are presented on Figure A-1. At the normal maximum water

surface elevation 2314.0, the reservoir has a surface area of about 900 acres and a total capacity of about 4800 acre-feet.

Left Abutment - It is proposed that the large existing embankment which now serves as the left abutment for the dam be left in place. This embankment is constructed largely from talus deposits along the left bank of the river, and contains a large percentage of pervious material. However, there is no evidence of any seepage directly through this embankment. A small amount of seepage can be observed at river level on the left bank about 100 feet downstream from the embankment, but the origin and leakage path of this water is somewhat obscure. In any case, the embankment is considered to be completely safe, especially since there will be no change in the water pressure on it. Suitable material will be placed on top of the embankment and graded to provide a level surface at about elevation 2320.0.

Spillway - The proposed new spillway will be a concrete structure located in the same position as the existing spillway which will be removed in its entirety. The new spillway also will be divided into two sections. The west section will have 8 bays, separated by concrete piers and provided with radial gates 31 feet wide and 14.5 feet high. The east section will have 4 bays with radial gates also 31 feet wide and 14.5 feet high. The crest of the overflow spillway will be at eleva- tion 2300 in both sections. Access along the spillway will be provided by a deck at elevation 2320.0. The gates will be operated by indivi- dual hoists located on a platform above the piers at elevation 2324.0. The existing retaining wall against the embankment will be replaced by a new wall to permit the construction of a good connection between the spillway and the embankment.

1989 Supp. Pg. A-2

The entire spillway will be placed on rock which will be excavated, cleaned and treated as necessary. A grout curtain will be provided along the entire length of the spillway. Drainage will be provided behind the curtain to reduce uplift.

The proposed new spillway will have a capacity of 57,000 cfs with the reservoir at elevation 2314.0, which is almost 50 percent more than the capacity of the existing spillway. It will be able to discharge 90,000 cfs with the reservoir at elevation 2319.0, i.e., without overtopping of the dam. With the power plant in operation the total project discharge capacity without overtopping will be about 100,000 cfs. This capacity is comparable with the capacity at the upstream dam C. J. Strike with the reservoir at normal pool level. However, the spillway at C. J. Strike can discharge 140,000 cfs with a surcharge of five feet.

The maximum flood of record at King Hill, about 52 miles upstream from C. J. Strike, occurred in June 1894 and is estimated to have been 83,000 cfs. Since 1909, the highest recorded flood at Kings Hill and at Murphy, just downstream from Swan Falls, occurred on June 22, 1918 and was 47,300 cfs.

On the basis of the above discharge and flood data, it is considered that the capacity as provided for in the new spillway is quite adequate. Furthermore, the impact downstream from any failure of the dam would be relatively minor since the reservoir is very small.

Existing Power Plant - All major equipment will be removed from the existing power plant. However, the powerhouse structure will be left in place and upgraded to serve as a dam. The proposed construction will be as follows:

- Gates and stoplogs will be installed at the intake of all units to close off all water conduits at the upstream end. Also, a cofferdam will be constructed across the tailrace downstream of the powerhouse. The draft tubes and tailrace will then be dewatered to permit access to the lower part of the powerhouse.

1989 Supp. Pg. A-2

- All electrical and mechanical equipment will be removed, leaving only the basic structure and stairways, hatches, windows and doors, except that all outside metal walkways and grating will be removed.

- The foundations under the powerhouse will be grouted under low pressure.

- The concrete surfaces in the draft tubes and turbine pits will be chipped and sandblasted to obtain a clean and hard surface. Bulkheads will be provided at the downstream end of the draft tubes. Concrete will then be placed in the draft tubes and turbine pits to about elevation 2315 in lifts of 10 feet or less. The contact between the new and the old concrete in the top of the draft tubes will be grouted as required under low pressure to ensure that all voids have been filled.

- The entire superstructure will be inspected and repaired as necessary. Steel and concrete surfaces will be sandblasted and painted. Windows and doors will be repaired or replaced as necessary. Any openings in the main floor will be covered with steel plates or precast concrete slabs. The lighting system will be checked and upgraded as necessary.

The final product of the work on the existing powerhouse will be a massive concrete substructure up to about elevation 2315 and a superstructure consisting of roof and outer walls with windows and doors. The main floor at elevation 2323 will provide the only permanent access to the spillway. The island between the powerhouse and the spillway will be levelled to elevation 2323 to facilitate this access.

Most of the equipment and materials removed from the powerhouse will be disposed of as salvage. However, it is intended that one unit be saved for posterity. It will be assembled and installed for public display

in a suitable location on the main floor of the powerhouse. Public access will be restircted to the main floor at elevation 2323.0.

New Power Plant - The new Swan Falls power plant will be a concrete structure located at the east abutment of the existing dam. The existing gravity dam and the fishladder will be removed completely. The new powerhouse will be flanked by concrete retaining walls on both sides which will fill the gaps to the existing powerhouse and to the east bank.

The new powerhouse will contain two horizontal bulb-type turbine-generators. The entire unit will be located within the waterway and with the generator in a bulb-shaped casing in front of the turbine. The power cables and the control cables will be brought out from the generator casing in a vertical steel shaft which will also serve as access for inspection and maintenance of the generator.

The powerhouse structure will consist of two identical bays, one for each unit. Each bay will have a width of 42 feet and an overall length of about 172 feet from the intake to the draft tube outlet. The centerline of the unit has been selected at elevation 2273.0 so that the draft tube outlet will be submerged at all times. The accessory electrical equipment is located on a floor above the units at elevation 2301.0. The unloading and assembly of equipment will take place on a separate erection deck at elevation 2323.0.

The turbines will be of the propeller type with adjustable blades, operating at a speed of 106 r.p.m. Each unit is rated to produce 12,500 kW at the generator when operating at a net head of 24.0 feet.

The bulb turbine package unit will come complete with turbine, governor, generator, turbine control board and generator control board. The generator is rated 13,890 kVA at 0.9 power factor and an output voltage of 13.8 kV. Additional electrical systems and equipment located in the

power plant will include generator breakers, surge protection equipment, grounding systems, control switchboard, station service systems, lighting systems, cables, wires, bus ducts, and battery chargers. The electrical system for operation of the power plant will be designed for local-manual, local automatic, and remote automatic control.

Miscellaneous systems and equipment provided for the operation of the power plant include unwatering system, compressed air system, fire protection, water supply and drainage system, and heating and ventilation equipment. A gantry crane of 30 ton capacity will be provided for the installation of powerhouse equipment and subsequent maintenance and repairs. The installation of trashracks and stoplogs will be by means of a mobile crane.

Substation - The generators will be connected by cables to a 13.8/138 kV, 30,000 kVA, OA/FA/FOA 3-phase main transformer located in the substation about 200 feet from the power plant at elevation 2300.0. Other substation equipment includes circuit breakers, disconnect switches, lightning arrestors, potential device and a take-off structure for the transmission line.

~~Tailrace Improvement~~ - ~~A channel will be excavated in the riverbed downstream from the new powerhouse to increase the available gross head. The channel will have a length of about 1400 feet. It will be excavated to about elevation 2276, and will be 120 feet wide at the bottom. It is anticipated that most of the excavation will be in river alluvium and that the average side slope of the channel will be two horizontal to one vertical.~~ 1989 Supp. Pg. A-2

Access - Access to the project will be from the north and east by permanent roads. Permanent access to the spillway will be through the existing powerhouse.

Transmission Line - A new 1.2-mile transmission line will connect the Swan Falls substation with an existing 138 kV line from the Strike Power Plant to the Bowmont and Caldwell substations. The new line will follow the right-of-way of an existing line up the east side of the valley and then continue eastward to a tap point on the existing line from Strike. The new line will be 138 kV, single circuit with 246.9 MCM conductors. It will be supported by single-pole or H-frame wood structures as dictated by the terrain.

Project Lands - A tabulation of the lands that are enclosed within the project boundary is presented in Table A-1. The project boundary is shown on the Project Map, Exhibit G (4 sheets).

TABLE A-1

SWAN FALLS PROJECT LANDS

PARCEL OF LAND	AREA BETWEEN ORIGINAL H.W. LINE AND PROJECT BOUNDARY IN ACRES	
DESCRIPTION	GOV'T & P.S.R.	PVT & STATE
T.2S.R.1E.B.M.		
Sec. 18 Lot 6		
Lot 11		47.319*
Lot 10		30.502*
Sec. 19 Lot 1		22.594*
Lot 8		16.729*
Lot 9		13.127*
Lot 2		34.030*
Lot 7		42.336*
Lot 10		45.202*
Lot 16		25.725*
Lot 15	15.464	
Sec. 30 Lot 1		43.468*
Lot 8		19.198*
Lot 9		32.840*
Lot 16		42.218*
Lot 2	8.291	
Lot 7	10.760	
Lot 10	10.070	
Lot 15	6.321	
Sec. 31 Lot 1		37.367*
Lot 8		23.461*
Lot 9		31.282*
Lot 16		44.806*
Lot 2	7.027	
Lot 7	7.174	
Lot 10	6.056	
Lot 15	5.130	
T.3S.R.1E.B.M.		
Sec. 6 Lot 2	19.948	
Lot 6		42.365
Lot 3	5.248	
Lot 4	0.132	
Lot 5	9.496	
Lot 7		15.097
Lot 8	11.672	
NE^4SE^4		0.118
Lot 12		8.306
Lot 11	13.583	
Sec. 5 Lot 5	4.557	
Sec. 7 NW^4NE^4	10.804	
Lot 1	6.688	
Sec. 8 Lot 2	5.130	
Lot 3	5.806	
Lot 1	11.290	
Lot 4	6.292	
Lot 5	7.585	
Lot 8	5.630	
Lot 6	3.557	
Lot 7	5.483	
Sec. 17 Lot 1	7.232	
Lot 2	2.234	
Lot 3	3.071	

PARCEL OF LAND	AREA BETWEEN ORIGINAL H.W. LINE AND PROJECT BOUNDARY IN ACRES	
DESCRIPTION	GOV'T & P.S.R.	PVT & STATE
T.3S.R.1E.B.M.		
Sec.16 Lot 4		13.201
NW^4SW^4		0.720
Lot 3		5.512
Lot 2		6.953
Lot 1		6.321
Lot 5		9.217
Lot 6		5.454
Lot 7		4.395
NE^4SW^4		2.955
Lot 9		9.893
Lot 8		6.336
Lot 10		5.424
Sec.15 Lot 1		3.543
Lot 2		8.423
Sec.21 NE^4SE^4	0.088	
Lot 1	5.601	
Lot 2	4.072	
Sec.22 Lot 1		7.424
Lot 2		14.230
SE^4NW^4	2.631	
Lot 4	4.836	
Lot 5	3.454	
Lot 6	0.662	
Lot 7	5.968	
Lot 3	7.321	
Lot 9	3.954	
Lot 8	10.643	
Sec.27 Lot 2	3.690	
Lot 3	4.763	
Lot 1	1.352	
Lot 4	2.234	
Sec.26 Lot 1	3.572	
Lot 2	9.026	
Lot 4	9.878	
Lot 5		12.745
Lot 6	1.544	
Lot 3	4.307	
Lot 7	5.806	
NE^4SW^4		4.836
Sec.35 Lot 1		11.540
Lot 5		12.495
Lot 2	1.220	
Lot 3	5.880	
Lot 4	8.570	
Lot 6		5.968
Lot 9		2.278
Lot 8		5.433
Lot 7		7.085
Sec.36 Lot 4		5.218
Lot 3		3.058
Lot 2		0.544
Lot 5		4.969
Lot 6		5.792
Lot 7		1.588
TOTAL	332.804	825.508

Total Area of all Parcels 1158.312 Acres

*Idaho Power Company (Owned in Fee) 566.022 Acres

FIGURE A-1

SWAN FALLS RESERVOIR
AREA AND CAPACITY CURVES

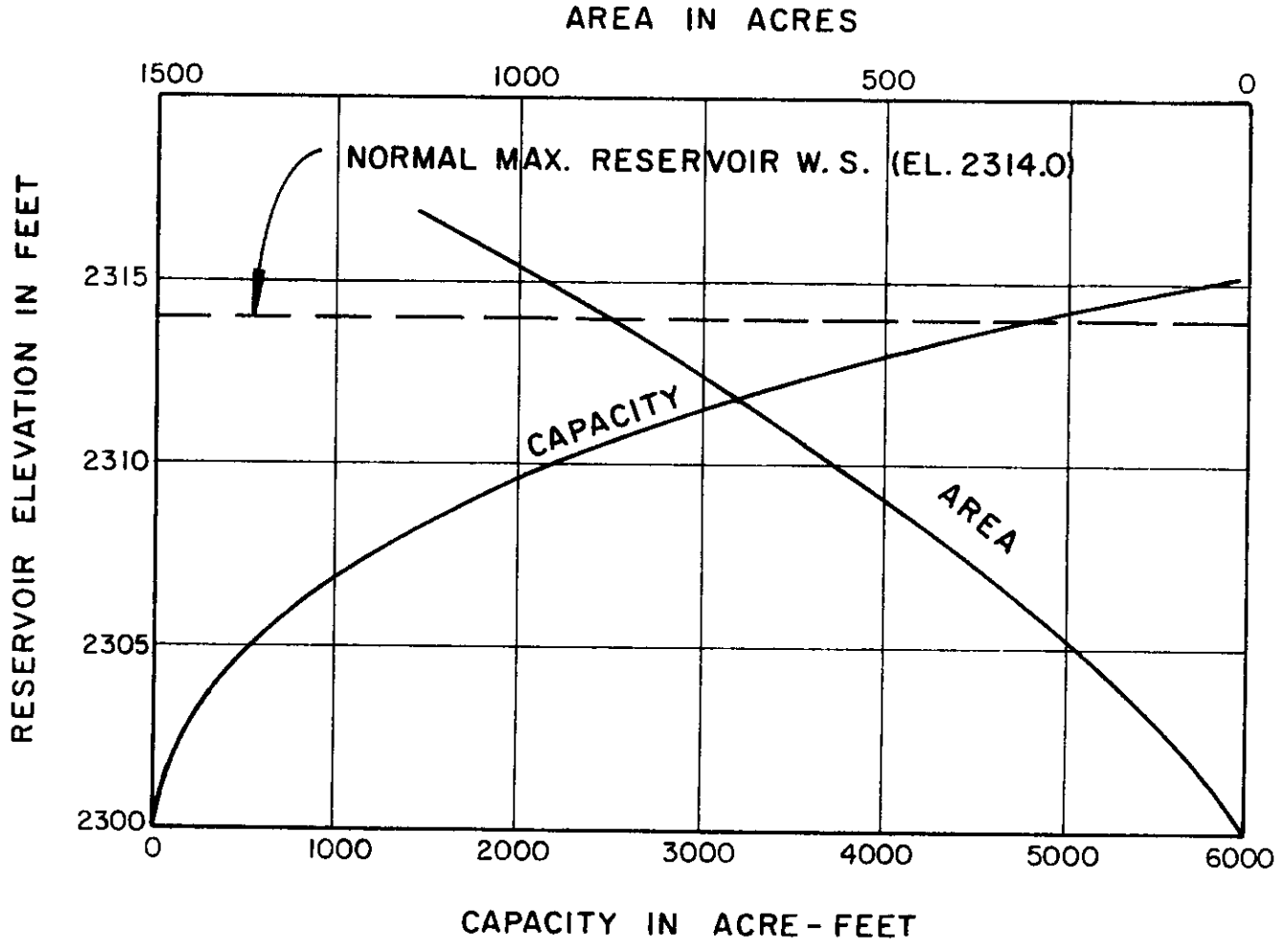


EXHIBIT B

EXHIBIT B
PROJECT OPERATION

B.1 GENERAL

The proposed new development at Swan Falls will be operated in a manner similar to the existing project but will make a better utilization of the available resource since more water will pass through the turbines and less water will be wasted over the spillway. With the existing turbine capacity of 8000 cfs, water is wasted over the spillway about 60 percent of the time. With the proposed new turbines, having a discharge capacity of about 14,000 cfs, water will be wasted only about 15 percent of the time. There will be no change in the maximum and minimum operating levels of the reservoir. However the average gross head will increase by about one foot, from 25.5 feet to 26.5 feet as a result of improvements in the tailrace. The above proposed changes, and the fact that the new units will be much more efficient, will result in an increased energy production of about ~~80~~ 95 percent, from about ~~90~~ 83 GWh to 162 GWh on an average annual basis.

B.2 STREAMFLOW

The natural flows of the Snake River at Swan Falls are regulated by several upstream reservoirs and also depleted by upstream diversions. Historically, these regulations and depletions are reflected in the records at Murphy, a gauging station that has been in operation since October, 1913. It was located about one mile downstream from Swan Falls until 1935 when it was moved to about 4 miles downstream from Swan Falls. There are no significant inflows between Swan Falls and the Murphy gauge. 1989 Supp. Pg. B-1

For the purposes of this application, the historical average monthly discharges at Swan Falls were assumed to be equal to the equivalent

discharges at Murphy, adjusted to reflect 1977 level of upstream development as determined by the Idaho Water Resource Board. These adjusted flows, shown in Table B-1, were then used to determine the potential power and energy production at the proposed new development at Swan Falls. The flow-duration curve for these discharges is shown on Figure B-1.

B.3 RESERVOIR OPERATION

At the present time the upper four feet of the reservoir is used to re-regulate the discharge from C. J. Strike, located about 38 miles upstream from Swan Falls. The Strike power plant has a discharge capacity of about 13,000 cfs and is presently used for peaking operations, especially during the low flow season. However, the peaking operations are limited by the useful storage at Swan Falls, estimated to be about 2600 acre-feet.

There will be no significant change in the operation of the reservoir as a result of the proposed new power development at Swan Falls. There may be some change in the use of the storage, because of the larger turbine capacity provided by the new development, but the reservoir drawdown will be limited to four feet as at present. Furthermore, the discharges from Swan Falls will be monitored to conform to the following criteria:

- In the summer season (April 1 - Sept. 30) the minimum discharges will be not less than 5000 cfs, except if the average daily inflow is below 5000 cfs, in which case the plant discharge will be maintained equal to the average inflow.

- In the winter season (Oct. 1 - March 31), the minimum flow will be not less than 4000 cfs, except if the average daily

inflow is below 4000 cts, in which case the plant discharge will be maintained equal to the average inflow.

- Changes in plant discharge will be controlled so that fluctuations in the tailwater will not exceed one foot per hour.

- The maximum daily fluctuation in the tailwater will be limited to three feet.

The above criteria are similar to the operating rules that are being observed for the existing Swan Falls powerplant.

B.4 TAILWATER

The tailwater rating curve at the Swan Falls powerplant with the proposed tailrace improvement is presented on Figure B-2. It shows that the tailwater will range from elevation 2285.0 at a discharge of 4000 cfs to elevation 2293.0 at a discharge of 30,000 cfs. At the maximum plant discharge of 14,000 cfs the tailwater will be at about elevation 2289.0. For comparison, Figure B-2 also shows the tailwater rating curve under present conditions without tailrace improvement. 1989 Supp. Pg. B-1

It is estimated that the tailwater would be at about elevation 2305.0 during a flood of 100,000 cfs. However, discharges of more than 30,000 cfs would be extremely rare with the present development of the Snake River.

B.5 GROSS HEAD

The available gross head across the dam will range from a maximum of about 29 feet at low discharges and with the reservoir at maximum level, elevation 2314.0, to a normal minimum of about 21 feet with the

plant operating at maximum discharge, no discharge over the spillway, and with the reservoir at the minimum level, elevation 2310.0. The average gross head is estimated to be about 26.5 feet.

B.6 POWER AND ENERGY

Estimates of the power and energy that can be produced by the proposed new development were made on the basis of the average monthly discharges as shown in Table B-1 and the tailwater rating curve as shown on Figure B-2. To take into account reservoir fluctuations, the average drawdown on the reservoir was assumed to be 1.0 foot for discharges up to 8000 cfs, 0.5 foot for discharges between 8000 cfs and the plant discharge capacity (about 14,000 cfs) and no drawdown for discharges higher than the plant capacity. The results of the estimates are shown in Table B-2, which gives the average continuous power which would be produced in each month of the 52-year period 1928 through 1979. The estimated average annual energy output for this period is about 162 GWh. 1989 Supp. Pg. B-1

The peaking capability versus net head is shown graphically on Figure B-3. The dependable capacity is 25,000 kW, which represents the total load carrying ability of the project for a 1-hour time interval during the annual system peak load, assuming a recurrence of the most adverse stream flows of record and is attainable through utilization of the system reservoir capacity.

B.7 POWER UTILIZATION

All of the power and energy produced at the new Swan Falls Power Plant will be utilized in the Idaho Power Company's system. The physical location of the project in close proximity to the Company's largest load center, Boise, allows this plant to make an important contribution to the area's electrical reliability and stability. Furthermore, the 1989 Supp. Pg. B-1

Company is electrically interconnected with all adjoining systems so that any surplus power and energy from Swan Falls can be made available for use in those systems, including the exchange of power with other companies through existing interconnections. The Company is presently operating under the following interconnection and coordination agreements:

FERC Rate Schedule	Purpose	Entity
15	Interconnection Agreement	Montana Power Co, Utah Power & Light Co.
44	AMPS Interconnection Agreement	Washington Water Power Co. Idaho Power Co, Montana Power Co, Pacific Power & Light Co, Utah Power & Light.
22	Exchange Agreement	Bonneville Power Adm.
28	Interconnection Agreement	Pacific Power & Light Co, Washington Water Power Co
51	Interconnection Agreement	Bonneville Power Adm.
Docket No E-9179	Intercompany Pool Agreement	Washington Water Power Co, Idaho Power Co, Montana Power Co, Utah Power & Light Co, Pacific Power & Light Co, Portland General Electric Co, Puget Sound Power & Light Co

The Company also consults on regular basis with other utilities on power system planning through the following formal organizations:

(1) Western Systems Coordination Council

Consisting of approximately 40 utilities in Western United States and Canada.

(2) Associated Mountain Power Systems (AMPS)

Consisting of the following companies:

The Washington Water Power Company
Idaho Power Company
The Montana Power Company
Utah Power & Light Company
Pacific Power & Light Company

This system also consults with BPA and other utilities on matters relating to planning.

(3) PUMI

A group of four companies

Pacific Power & Light Company
The Montana Power Company
Idaho Power Company
Utah Power & Light Company

The group plans and coordinates future generation capacity and transmission needs for their operating areas. Also consults with BPA and other utilities on matters relating to planning of this group.

(4) Intercompany Pool

Of the following companies:

The Washington Water Power Company
Idaho Power Company
The Montana Power Company
Utah Power & Light Company
Pacific Power & Light Company
Puget Sound Power & Light Company
Portland General Electric Co.

Plans and coordinates transactions between member companies.

B.8 FUTURE PROJECTS

Future projects on the Snake River known to the Applicant consist of Kanaka Rapids, A. J. Wiley and Bike projects, located about 135 miles, 115 miles and 100 miles upstream from Swan Falls, respectively. The Applicant has filed an application for license for the Wiley Project (FERC No. 2845), and has been granted a preliminary permit for the Bike Project (FERC No. 2846) and for the Kanaka Rapids Project (FERC No 3477).

1989 Supp. Pg. B-2

SWAN FALLS OPERATION STUDY - EXCAVATED CHANNEL
CENTRAL SNAKE STUDY 63. - 1977 DEPLETED FLOWS
25 MW PLANT - 2 BULB TURBINES (12.5 MW EACH)

INFLOW AS 1977 DEPLETED FLOWS - CFS

WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR AVG
1928	10869	12526	15504	16866	[illegible]	[illegible]628	20418	[illegible]919	9150	6898	7202	8053	12588
1929	9226	13186	11184	9782	9170	12767	13452	[illegible]314	6888	6636	6904	8034	9545
1930	9234	9486	11589	8907	9075	11030	7256	[illegible]033	6500	6698	7813	8495	8676
1931	9178	8906	10073	9050	7940	8000	6822	[illegible]665	6009	6185	6813	7787	7785
1932	8780	8939	8626	8582	[illegible]	[illegible]124	7835	[illegible]110	7585	6616	6932	8316	8124
1933	9275	9386	8530	9084	[illegible]	[illegible]354	7373	[illegible]735	6597	6236	6812	8194	7965
1934	9411	9381	8990	9045	[illegible]	[illegible]577	6666	[illegible]353	5695	5808	6202	6959	7521
1935	8356	8338	8047	8097	[illegible]	[illegible]502	7409	[illegible]688	6841	6099	6411	7325	7383
1936	8680	8956	8893	8975	[illegible]	[illegible]974	9736	[illegible]778	8288	6800	7098	8328	8464
1937	9267	9223	10137	8567	7782	8114	8328	[illegible]231	6883	6525	6800	7927	8065
1938	9192	9400	9197	9183	8221	9046	8797	[illegible]183	8335	7264	7291	8137	8687
1939	9715	10138	11335	9034	8144	10187	9960	[illegible]493	6772	6267	7179	8175	8700
1940	9219	9274	10164	9322	8602	8670	8301	[illegible]511	6333	5758	6789	8347	8191
1941	9263	9474	8844	9279	[illegible]	8045	7064	[illegible]187	7113	5974	7264	8301	8019
1942	9337	9355	9029	9013	[illegible]	8128	8726	[illegible]869	8542	6332	7016	8377	8332
1943	9289	9953	9400	10716	9237	15485	29239	[illegible]472	8817	8257	7256	8143	11268
1944	9966	13038	11859	13008	11938	11882	12423	[illegible]799	7671	6846	6903	8042	10115
1945	9258	9728	11843	9429	8776	9821	12109	[illegible]308	7829	7283	7182	8318	9157
1946	8953	12393	12140	12503	15043	16831	18969	[illegible]228	7456	6869	7077	8493	11246
1947	9429	12837	11812	9944	12397	[illegible]565	13174	[illegible]098	7261	6857	7278	8466	10177
1948	9112	9588	11921	9639	[illegible]	14089	11941	[illegible]067	10538	7134	6966	8431	10110
1949	9193	11697	11332	9316	[illegible]	17688	12319	[illegible]977	6838	6678	7073	8575	10184
1950	9286	9760	11852	9559	[illegible]	15566	21352	[illegible]896	6957	7913	7386	9094	10885
1951	11007	13274	17925	16364	[illegible]	20069	19631	[illegible]549	7312	6722	7524	8414	13657
1952	9667	12909	11960	14575	18269	16247	26395	[illegible]152	9216	8065	7378	8394	13352
1953	9556	9781	11822	11299	12189	12147	11018	[illegible]815A	10499	7078	7114	8437	9924
1954	9298	9400	11792	9328	9193	12724	16148	[illegible]194	7301	6841	6930	8301	9621
1955	9255	9541	10405	9022	[illegible]	7566	12318	[illegible]324	6001	6815	6760	8027	8420
1956	9018	9575	11812	10044	[illegible]	20257	19332	[illegible]636	8711	6724	7132	8464	11249
1957	9189	12894	12150	11031	18907	15265	19950	[illegible]4576	8614	6873	7226	8639	12110
1958	9548	10917	11672	9461	13547	[illegible]049	12260	[illegible]3684	7698	6727	7244	8464	10273
1959	9428	9605	12033	9461	8419	8652	8040	[illegible]241	6528	6377	6890	8671	8445
1960	9120	9082	11617	8791	[illegible]	9499	11573	[illegible]764	6377	6452	6833	7957	8506
1961	8868	9220	8566	8957	[illegible]	7723	7022	[illegible]181	5826	5686	6405	8029	7564
1962	8575	9260	9662	8038	9190	[illegible]033	[illegible]695	[illegible]10303	7780	6678	7265	8360	9003
1963	9273	9417	10464	9213	9798	[illegible]179	[illegible]343	[illegible]7090	14109	6867	7148	8750	9606
1964	9084	9918	11875	9635	[illegible]474	[illegible]318	[illegible]265	[illegible]10877	10826	6966	7225	8629	10197
1965	9159	12163	14377	16094	[illegible]423	[illegible]892	[illegible]411	[illegible]10629	9777	7527	8163	10036	13016
1966	11361	12416	16816	15254	[illegible]453	[illegible]276	[illegible]411	[illegible]6714	6251	5937	6812	8261	10248
1967	9525	10047	10124	9651	[illegible]469	9044	8734	[illegible]6469	10516	6790	6932	8224	8719
1968	9798	11593	11931	9031	[illegible]	[illegible]126	[illegible]955	[illegible]6226	6954	6158	8540	8543	9455
1969	10974	13005	11770	13726	[illegible]9988	[illegible]169	[illegible]880	[illegible]11821	8180	6899	6908	8614	12112
1970	9787	9612	11992	10724	13203	[illegible]134	[illegible]581	[illegible]13512	10715	7418	7272	9147	10618
1971	9662	12453	12417	27417	22359	[illegible]193	[illegible]724	[illegible]20988	12851	10742	7434	9316	15856
1972	11597	19618	18912	[illegible]2709	[illegible]31688	[illegible]278	[illegible]870	[illegible]13084	12298	7600	7779	10290	16446
1973	13233	14571	18270	[illegible]1558	[illegible]1[illegible]	14686	[illegible]13057	[illegible]9703	6312	6516	6836	8784	11721
1974	9405	12536	12036	18961	18452	[illegible]1978	[illegible]3[illegible]	[illegible]13099	12283	6843	7148	8584	13767
1975	11184	12341	13928	16583	18099	[illegible]175	[illegible]735	[illegible]20585	10819	11421	7284	9239	13901
1976	11348	13734	18125	20188	[illegible]8893	[illegible]211	[illegible]088	[illegible]20551	7885	6151	8043	9930	14924
1977	11714	12171	15172	1328[illegible]	[illegible]104	[illegible]778	[illegible]	6878	6138	5649	6241	7086	9508
1978	7702	7963	8401	8579	8956	10680	[illegible]134	12120	6997	5870	6574	9295	8881
1979	9813	12150	12050	14250	14360	15930	14410	7821	6595	5418	7724	7955	10706
AVG.	9628	10887	11776	11702	12129	12994	13619	9735	8120	6841	7123	8445	10250
MAX.	13233	19618	18912	27417	22359	27870	29239	20988	14109	11421	8540	10290	16446
MIN.	7702	7963	8047	8038	7485	7502	6666	6181	5695	5418	6202	6959	7383

UPDATED 1987 SUPPLEMENT USE

SWAN FALLS OPERATION STUDY - EXCAVATED CHANNEL
CENTRAL SNAKE STUDY 63. - 1977 DEPLETED FLOWS
25 MW PLANT - 2 BULB TURBINES (12.5 MW EACH)

POWER GENERATED - KW

WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR AVG
1928	21819	23152	24047	23548	21792	23985	[illegible]433	16049	18442	14220	14780	16592	19921
1929	18561	23833	21454	19420	18473	23410	[illegible]083	14983	14201	13727	14231	16558	18578
1930	18574	18966	21997	18050	18323	21244	[illegible]478	16557	13470	13844	15865	17362	17427
1931	18479	18049	19858	18243	[illegible]085	16498	[illegible]077	13782	12267	12542	14060	15820	15817
1932	17840	18103	17583	175[illegible]	[illegible]576	18400	[illegible]904	16692	15469	13689	14283	17052	16592
1933	18638	18811	17421	183[illegible]	[illegible]500	17118	[illegible]098	15730	13653	12967	14058	16839	16264
1934	18850	18803	18187	182[illegible]	[illegible]785	15455	[illegible]784	13191	11766	11948	12902	14334	15357
1935	17121	17090	16581	[illegible]	[illegible]292	15323	[illegible]155	13825	14113	12408	13301	15003	15157
1936	17673	18131	18027	18163	18298	18161	[illegible]350	15805	17803	14036	14590	17073	17192
1937	18625	18556	19954	17883	15812	16699	[illegible]073	14832	14192	13517	14036	16062	16404
1938	18508	18833	18516	18494	16886	18277	[illegible]86A	20023	17085	14892	14981	16739	17589
1939	19318	19956	21657	18258	16752	20029	[illegible]689	15307	13983	13027	14738	16806	17460
1940	18550	18636	19995	18711	17542	17656	[illegible]026	15339	13152	11868	14015	17106	16633
1941	18619	18948	17986	[illegible]227	16578	16724	[illegible]528	14752	14617	12212	14892	17026	16332
1942	18735	18763	18250	18224	16958	16724	[illegible]750	15962	17441	13151	14440	17158	16963
1943	18660	19678	18833	20793	18578	20878	[illegible]577	18945	17901	16949	14878	16750	18718
1944	19698	23690	22357	23661	22461	22387	[illegible]036	15841	15619	14122	14229	16572	19473
1945	18611	19338	22335	18878	17833	19479	[illegible]671	17038	15893	14927	14743	17055	18234
1946	18126	23001	22707	23127	[illegible]287	23362	[illegible]312	16899	15240	14165	14551	17359	19595
1947	18878	23484	22294	[illegible]	23006	24576	[illegible]821	16671	14887	14143	14918	17312	19471
1948	18381	19124	22438	[illegible]	23548	24868	[illegible]465	18310	20546	14656	14347	17251	19595
1949	18509	22141	21653	[illegible]	17428	22952	[illegible]916	23629	14108	13806	14544	17497	18989
1950	18655	19386	22347	[illegible]	[illegible]924	24015	[illegible]259	16009	14330	13038	15114	18353	19126
1951	21213	23917	22833	23402	[illegible]964	21774	[illegible]982	24175	14980	13889	15362	17222	20159
1952	19245	23559	22498	24569	22661	23662	[illegible]409	23222	18545	16613	15099	17187	20522
1953	19074	19418	22308	21609	22765	22716	[illegible]219	16776	20490	14553	14619	17262	19401
1954	18674	18833	22268	[illegible]	18509	23364	[illegible]714	16839	14960	14113	14280	17026	18442
1955	18607	19051	20352	[illegible]	[illegible]507	15435	[illegible]913	15001	12255	14064	13961	16546	16911
1956	18232	19104	22294	19815	[illegible]162	21698	[illegible]131	17599	17725	13893	14652	17308	19051
1957	18503	23543	22719	21254	[illegible]342	24171	[illegible]826	24569	17562	14173	14823	17604	20258
1958	19862	21086	22108	18928	[illegible]173	22600	[illegible]848	24302	15666	13899	14856	17308	19736
1959	18876	19150	22581	[illegible]	[illegible]231	17626	16569	14851	13523	13236	14205	17658	17836
1960	18394	18334	22838	[illegible]	16505	18986	21975	13968	13236	13379	14098	16114	17074
1961	17986	18552	17482	18133	17805	[illegible]	[illegible]451	12536	11977	11751	13289	16550	15452
1962	17497	18614	19237	16565	18505	[illegible]	[illegible]226	20201	15808	13806	14894	17128	17978
1963	18635	18859	20839	[illegible]	19444	[illegible]	[illegible]668	14575	24856	14162	14681	17790	18627
1964	18337	19625	22378	[illegible]	19559	[illegible]	[illegible]760	21030	20958	14347	14822	17588	19703
1965	18456	22734	24691	237[illegible]	23237	[illegible]	[illegible]915	20677	19412	15367	16785	19803	20679
1966	21692	23028	23369	241[illegible]	22605	23342	17198	13878	12996	12158	14058	16956	18787
1967	19027	19819	19935	[illegible]	[illegible]795	18[illegible]	[illegible]763	14165	20514	14017	14283	16892	17560
1968	19448	22002	22451	18266	22625	23[illegible]	[illegible]681	12948	14324	12500	17438	17443	18535
1969	21167	23658	22239	24381	21807	23[illegible]	[illegible]542	22306	16815	14222	14238	17562	20434
1970	19427	19160	22531	20813	23849	[illegible]	[illegible]608	24139	20800	15172	14907	18437	20327
1971	19237	23078	23029	[illegible]	20859	[illegible]	[illegible]726	21404	23498	20839	15200	18702	20568
1972	22007	21990	22340	[illegible]	[illegible]120A	18974	21936	23735	22892	15495	15807	20182	20481
1973	23878	24572	22660	24004	[illegible]743	[illegible]	[illegible]709	19300	13112	13500	14103	17846	20411
1974	18841	23163	22585	22316	[illegible]569	21[illegible]	[illegible]504	23749	22878	14117	14681	17512	20318
1975	21454	22942	24967	23889	[illegible]746	21[illegible]	[illegible]879	21566	20948	21772	14856	18582	21602
1976	21678	24349	22733	[illegible]	22349	[illegible]	20571	21580	15990	12489	16574	19648	20085
1977	22164	22744	24220	23855	22680	20367	14963	14182	12469	11691	12977	14568	18073
1978	15473	16124	17199	17504	18131	20750	24072	22684	14405	12047	13618	18669	17572
1979	19467	22719	22601	24769	24701	23826	24671	15879	13650	11305	15711	16111	19618
	------	------	------	------	------	------	------	------	------	------	------	------	------
AVG.	19126	20619	21260	20067	20031	20901	20103	17846	16281	14027	14641	17209	18509
MAX.	23878	24572	24967	24769	24924	24868	24760	24569	24856	21772	17438	20182	21602
MIN.	15673	16124	16581	16565	15292	15323	13784	12536	11766	11305	12902	14334	15157

AVERAGE ANNUAL ENERGY = 162,141 MILLION KWH

DRAFT
1989 SUPPLEMENT
DEIS

SWAN FALLS RESERVOIR

MONTHLY FLOW-DURATION CURVE

1928 - 1979 STREAMFLOWS BASED ON 1977 DEPLETED FLOWS

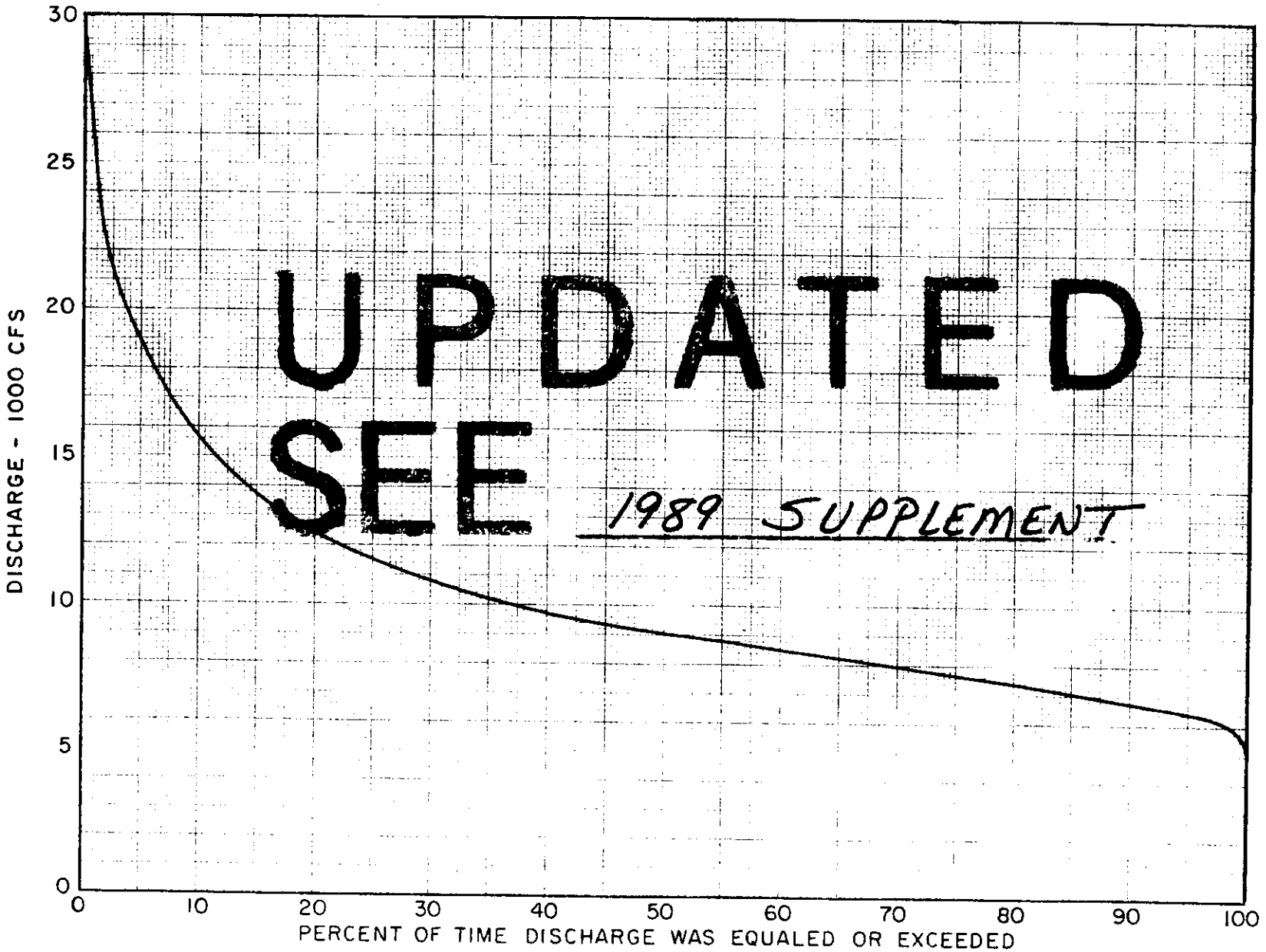
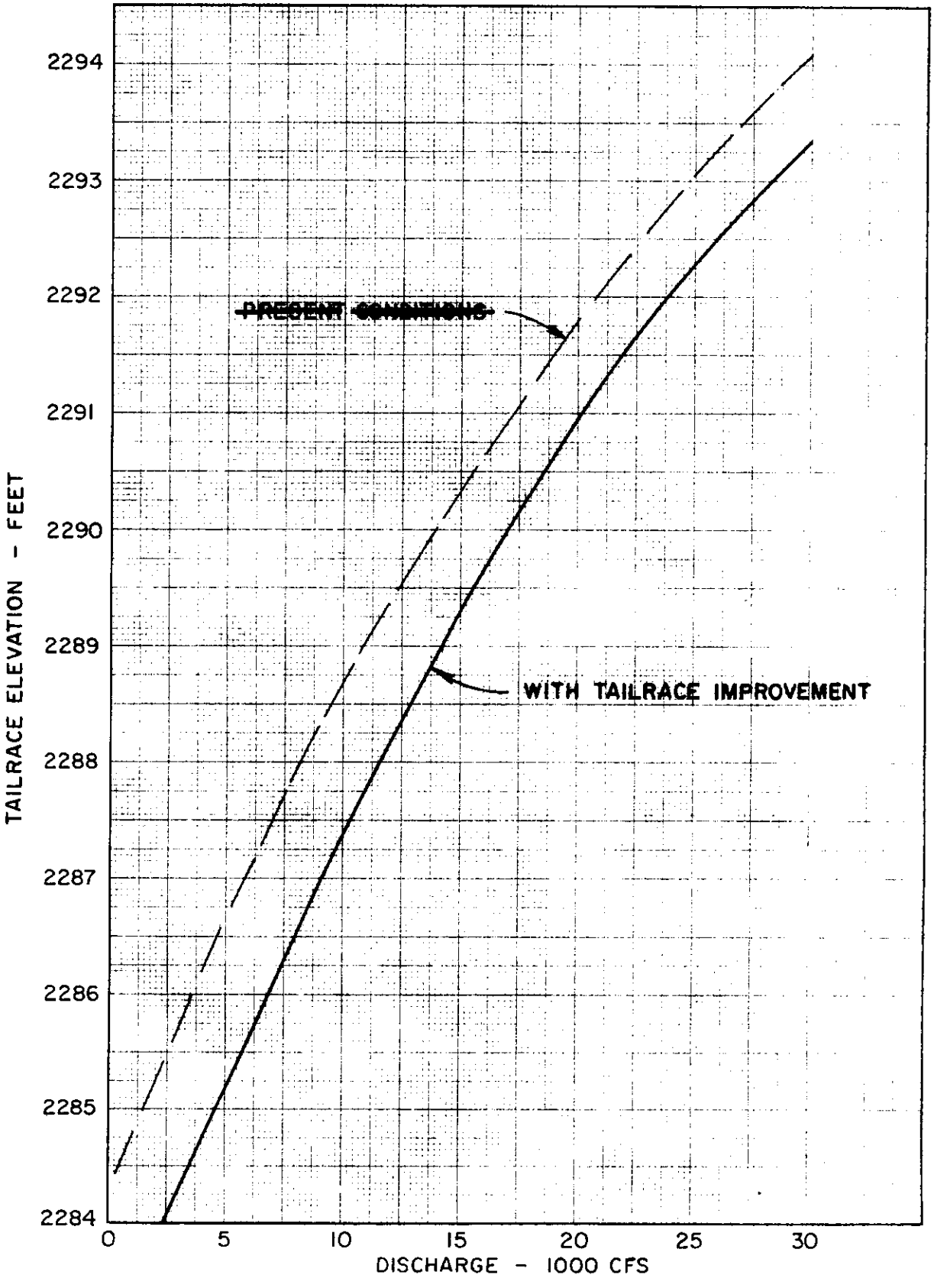


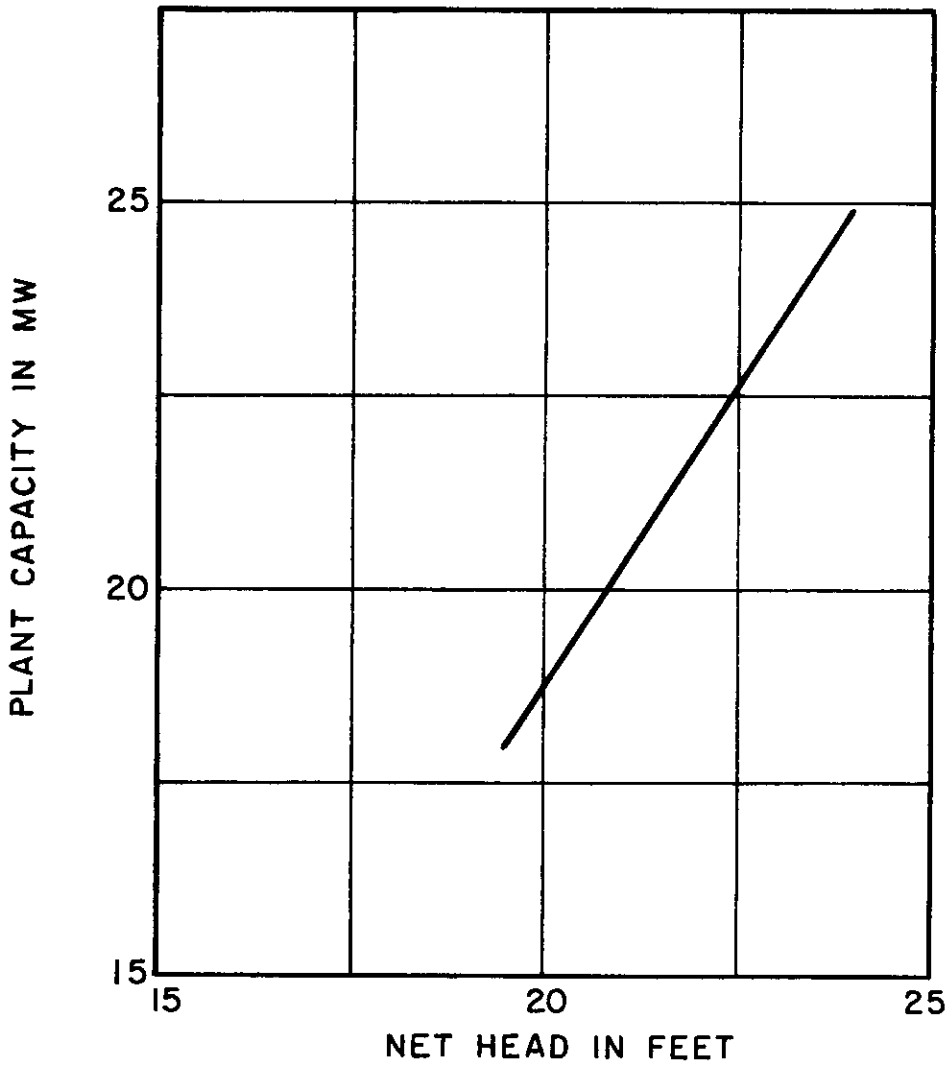
FIGURE B-1

FIGURE B-2

SWAN FALLS POWER PLANT
TAILWATER RATING CURVES



SWAN FALLS POWER PLANT
PLANT CAPACITY VERSUS NET HEAD



NOTES:

1. The maximum plant capacity is 25.0 MW.

2. The minimum plant capacity (19.5 MW) occurs during high flood discharge (assumed 30,000 cfs) with corresponding high tailwater.

EXHIBIT C

EXHIBIT C

CONSTRUCTION HISTORY AND SCHEDULE

C.1 HISTORY OF EXISTING DAM AND POWER PLANT

The existing Swan Falls dam and power plant, as described in Exhibit A, has evolved from a series of construction activities taking place during the period 1901 to 1944. ~~There have been no significant modification to the dam or permanent structures since 1936.~~ A chronology of the major construction activities is presented in the following table:

1989 Supp. Pg. C-1

Description of Work	Year of Completion
Crib dam and powerhouse with three 300 kW units	1901
Additional powerhouse with two 650 kW units	1907
Additional powerhouse with two 750 kW units	1910
Reconstruction of original 1901 powerhouse and installation of two 1250 kW units	1913
Reconstruction of original crib dam	1917
Additional two 1250 kW units in reconstructed 1901 powerhouse	1918
Reconstruction of 1907 powerhouse and installation of four 800 kW units	1918
New Concrete spillway with tainter gates replacing a section of original crib dam	1920
Embankment at west abutment replacing a section of original crib dam; and extension of concrete spillway	1936
Replacement of the two 750 kW units in 1910 powerhouse with two 1100 kW units	1944

C.2 CONSTRUCTION SCHEDULE

The schedule for construction of the proposed new development at Swan Falls is shown in Figure C-1. It is based on the assumption that the FERC license for construction will be issued on October 1, 1982. Allowing about 16 months for preparation of bid documents and award of contracts, construction would then start early in 1984.

The construction will be carried out in four stages as follows:

1. Removal of the existing spillway and construction of the east section of the new spillway (4 bays).

2. Construction of the west section of the spillway (8 bays).

3. Construction of the new powerhouse.

4. Removal of the equipment in the existing powerhouse and upgrading of the structure.

The following tabulation shows the estimated completion dates for each of the above four stages.

Stage	Begin	Complete
1	February 1, 1984	December 31, 1984
2	January 1, 1985	October 1, 1985
3	January 1, 1985	November 30, 1986
4	December 1, 1986	October 31, 1987

Construction of the new development at Swan Falls is thus estimated to require a total of 45 months. However, the first unit will be in operation about 31 months after start of construction.

C.3 CONSTRUCTION PROCEDURES

The staged construction outlined above will permit continuous power and energy production at Swan Falls. The existing plant will be maintained in operation until the new plant is completed. The work will be carried out behind sheet-piled cellular cofferdams as indicated on Figure C-2. The first stage cofferdam will be installed in the reservoir in front of the existing spillway, extending from the embankment to the rock island near the existing powerhouse. The spillway work area will be protected on the downstream side by an earthfill type of cofferdam. The river will be discharged through the existing power plant and sluiceway, which will have a combined capacity of about 13,000 cfs, sufficient to pass the river discharge in the low flow season from June 15 through November. The east section of the spillway will be completed in that period. Following completion of this first stage, the cofferdam in front of the east spillway section will be removed and a connecting cofferdam will be installed between the remaining first stage cofferdam and the east end of the west spillway section. River discharge in excess of power plant capacity will then pass through the completed four bays of the east spillway section. The capacity of this spillway will be about 20,000 cfs which, together with the power plant discharge, will be adequate through all seasons. Construction of the west spillway section (second stage) can then be completed.

1989 Supp. Pg. C-1

The third stage upstream and downstream cofferdams for construction of the new powerhouse will extend from the existing powerhouse to the east bank as indicated on Figure C-2. Construction of these cofferdams will start as soon as the east spillway section is ready for diversion. Construction of the new powerhouse and associated structures can then proceed without interruption until completed.

Work on the existing powerhouse in the fourth stage will start as soon as the new power plant is in operation. The intake openings will be closed by means of gates and stoplogs inserted in slots in the existing

piers. A cofferdam will be constructed across the tailrace from the new powerhouse to the rock island to permit unwatering of the draft tubes.

Included in the project is the excavation of a 120-foot-wide tailrace channel which will extend about 1400 feet downstream from the power-plant. This excavation will be done during the low flow season behind shallow cofferdams constructed of river alluvium. 1989 Supp. Pg. C-1

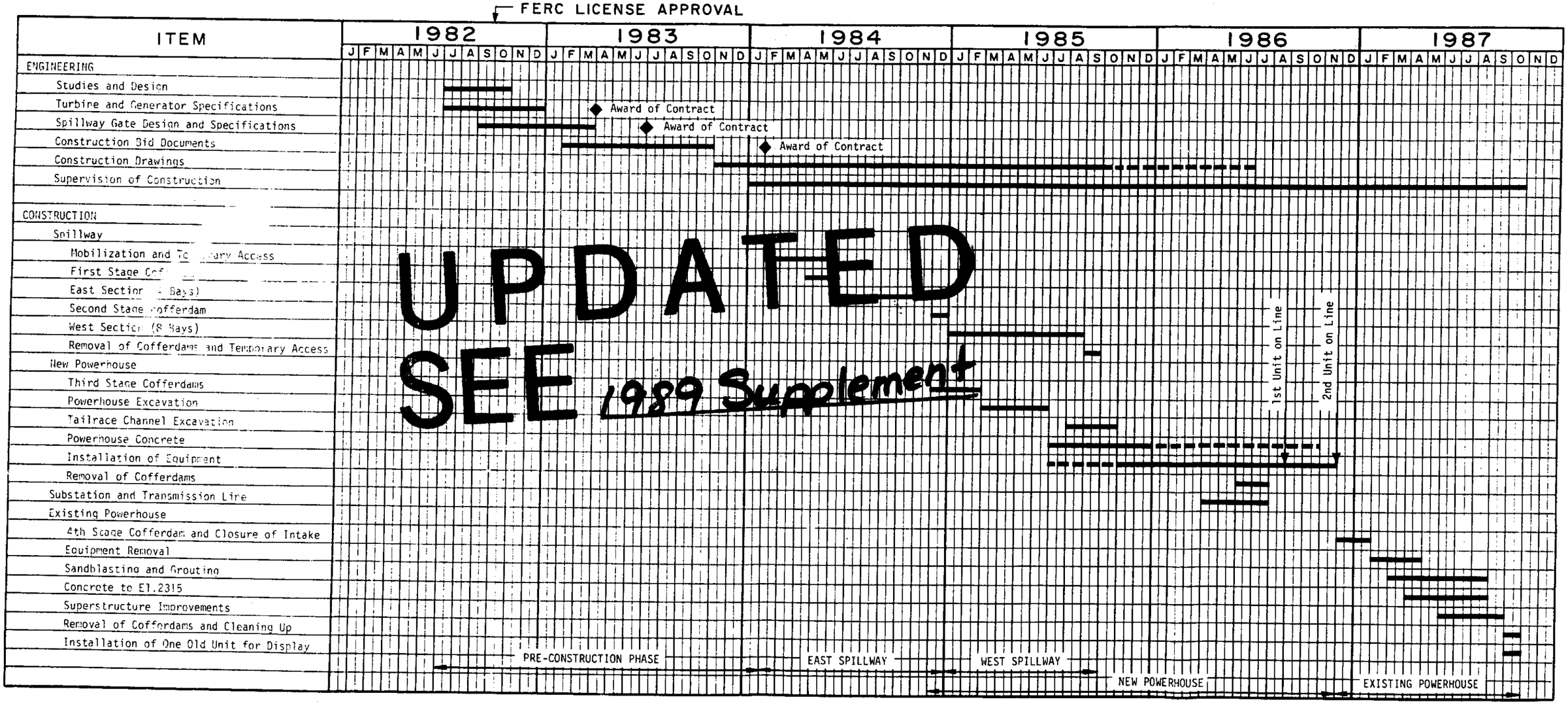
Water pumped out of the working area behind the cofferdams will be used for construction purposes to the extent practicable. Excess water will be discharged into open ponds for settlement of sediments. Effluents from these ponds will be monitored and treated, if necessary, to meet quality standards.

Access for construction of the powerhouse will be by permanent roads from Kuna, supplemented by short temporary construction roads in the project area as necessary. The proposed access for construction of the spillway is shown on Figure C-2. It would include a road embankment from the east bank to the gravel bar about 700 feet downstream from the existing powerhouse; a bridge across the main river channel; and a short road along the west bank of the river to the left abutment of the dam. This access will be temporary only and will be removed after completion of the spillway. 1989 Supp. Pg. C-1

Aggregates for concrete may be obtained from the island which extends downstream from the power plant along the east bank of the river. Tests have indicated that the alluvial deposits of this island is suitable as aggregates with very little processing.

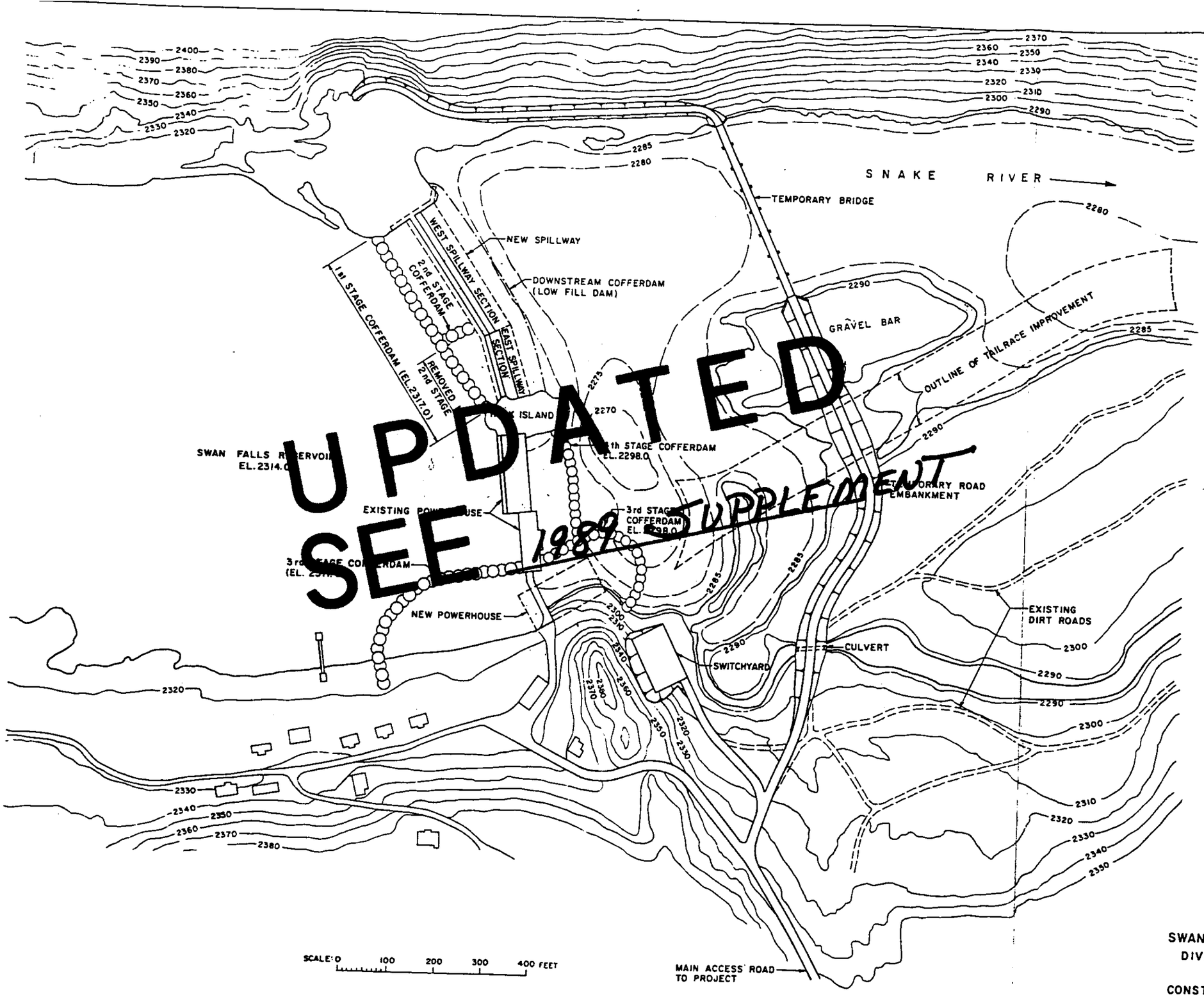
SWAN FALLS PROJECT
IMPLEMENTATION SCHEDULE

FIGURE C-1



UPDATED
SEE 1989 Supplement

FIGURE C-2



UPDATED

SEE 1989 SUPPLEMENT

SWAN FALLS PROJECT
DIVERSION SCHEME
AND
CONSTRUCTION ACCESS

EXHIBIT D

EXHIBIT D

COSTS AND FINANCING

D.1 Estimate of Take Over Value of Existing Project:

(i) Fair Value.

(a) (Reproduction-Cost-New, depreciated). Fair value, expressed as reproduction-cost-new, depreciated, is calculated by applying to Idaho Power Company's (Company) book entries the price-level changes as reflected in the Handy-Whitman Index Numbers through January 1, 1981, with the Company's projections of escalation through January 1, 1983, combined with the Company's estimate of the present value of lands owned in fee and flooding easements.

The estimate of fair value (RCN-D) is presented as of December 31, 1980, and of December 31, 1982, on the assumption that, if the project is not relicensed to the Company, the Project would not be actually taken over before December 31, 1982, at the earliest.

Fair value (RCN-D) is estimated as follows:

December 31, 1980, $2,083,000;
December 31, 1982, $1,313,000.

The foregoing amounts represent, as of the date indicated, the estimated reproduction-cost-new, depreciated value of the Project. This calculation equates the purchasing power of the Project's net investment as expressed in historical expenditures recorded on the Company's books of record, with the purchasing power of dollars to be expended at the time of severance.

(b) (Willing Buyer-Willing Seller). Fair value, expressed as a price agreeable between a traditional willing buyer and willing seller, would

be something in excess of $37,000,000 and $41,000,000 at December 31, 1980 and 1982, respectively. For calculation see "(iii) Severance Damages" below.

(ii) Net Investment.

The original cost of the Project as shown on the Company's books, plus additions, less retirements and less amounts accumulated from earnings in excess of a fair return under Sections 3(13) and 10(d) of the Federal Power Act was $1,788,770 at December 31, 1980.

The historic dollar amounts adjusted to 1980 purchasing power equivalent are estimated at $15,668,000. This amount is the reproduction-cost-new as of December 31, 1980, under (i)(a) above without depreciation. The comparable estimate for December 31, 1982 is $18,106,000.

(iii) Severance Damages.

The following calculation of severance damages is based on the assumption that severance damages are to be measured by the cost to the Company of effectively replacing the utility services provided by the Project to the Company's system with appropriate alternate sources of generation.

The calculation assumes that the alternate power supply would consist of a coal-fired plant providing 13.5-megawatts of capability operating at a 75% plant capacity factor. The coal-fired plant costs are derived from 1985 figures for a 250-megawatt unit converted to year end 1980 and 1982 dollars. If actual takeover were to occur on December 31, 1982 or at any time prior to completion of the alternative generating source, the calculation of severance damages would then have to include the very substantial cost to Idaho for temporary replacement of power. This calculation would add materially to the indicated severance costs.

The estimate of severance damages as so calculated is as follows:

		As of 12/31/80	As of 12/31/82
(a)	Construction costs of alternative power supply equivalent to that of the project:	$15,390,000	$16,929,000
(b)	Present value of annual cost of ownership (other than capital costs) and operation of an alternative power supply equivalent to that of the Project:	37,193,000	40,905,000
	Additional Investment and Annual Costs: Sub-Total	$52,583,000	$57,834,000
(c)	Estimated Net Investment of fair value of the Project:	(1,789,000)	(1,313,000)
(d)	Construction cost of spillway replacement	(10,655,000)	(11,454,000)
(e)	Present value of annual costs of ownership (other than capital costs) and operation of the Project:	(4,661,000)	(5,186,000)
	Project Investment and Annual Costs: Sub-Total	(17,105,000)	(17,953,000)
	Total Severance Damages	$35,478,000*	$39,881,000*

*Excludes severance damages for temporary replacement of power.

The total amount due Idaho in case of takeover as of December 31, 1980 and 1982, for net investment not exceeding fair value plus severance would be $37,267,000 and $41,194,000, respectively.

Substantial additional detriments in changes in operational flexibility, reserves and other matters are not included in the above estimates. These estimates are presented without prejudice to any later

presentation by Idaho of estimates utilizing different capital costs, interest rates, current values, additional detriments, different calculations, or determination of net investment, fair value or severance damages by different theories.

D.2 Estimated Costs of New Development:

The estimated capital cost of the proposed new development at Swan Falls is shown in Table D-1. The estimate is based on ~~October, 1981~~ August, 1988 price level and includes all direct and indirect construction costs; contingencies; engineering, legal and administrative expenses; taxes and interest during construction.

D.3 Estimated Average Annual Costs:

A statement of the estimated average annual cost of the total new development is presented in Table D-2 and includes the cost of capital, taxes, depreciation, operation and maintenance expenses, and administrative and general expenses.

D.4 Estimated Annual Value of Project Power:

A statement of the estimated annual value of project power is presented in Table D-3 and is a calculation of the estimated average annual cost of obtaining an equivalent amount of power (capacity and energy) from the lowest cost alternative (avoided costs for Applicant under PURPA).

D.5 Sources and Extent of Financing:

A statement specifying the sources and extent of financing and annual revenues available to meet the costs identified in Sections D.2 and D.3 above is presented in Table D-4.

SWAN FALLS PROJECT
SUMMARY OF ESTIMATED COST

DRAFT
SEE 1982 SUPPLEMENT

FERC Account	Item	Oct.1981 Cost ($)
	PRODUCTION PLANT	
330	Land and Land Rights	-
331	Structures and Improvements	12,260,500
332	Reservoirs, Dams and Waterways	8,081,000
333	Turbines and Generators	10,690,000
334	Accessary Electrical Equipment	1,057,000
335	Miscellaneous P.H. Equipment	1,342,500
	Subtotal Production Plant	33,431,000
	TRANSMISSION PLANT	
350	Land and Land Rights	-
352	Substation Structures	86,000
353	Substation Equipment	490,000
354 & 356	Transmission Line and Tap	201,000
	Subtotal Transmission Plant	777,000
	GENERAL PLANT	
395	Shop, tools and garage equipment	100,000
	Subtotal	34,308,000
	Contigencies (15%)	5,142,000
	Subtotal	39,450,000
	Engineering and Adm (12%+)	4,750,000
	Subtotal Direct Cost	44,200,000
	Interest During Construction	5,005,000
	SUBTOTAL CAPITAL COST	49,205,000
	Archaeological Excavations	20,000
	Recreation Facilities	14,500
	TOTAL CAPITAL COST	49,239,500

SWAN FALLS PROJECT
ANNUAL COSTS
1981 DOLLARS

	$000	Mills/KWH
(i) Cost of Capital[1]	$5,939	$36.7
(ii) Taxes[2]	1,591	9.8
(iii) Depreciation Expense	20	0.1
(iv) O & M Expense	175	1.1
Total Annual Cost (1981 Level)	$7,725	$47.7

UPDATED SEE 1982 SUPPLEMENT

(1) 1981 capital structure as approved by Idaho Public Utilities Commission for return on plant investment for avoided cost calculations pursuant to PURPA:

	PERCENT OF TOTAL	COST (%)	Weighted Cost (%)
Debt	50	10.5	5.250
Preferred Equity	[illegible]	10.12	1.012
Common Equity	[illegible]	14.5	5.800
Total	100		12.062

(2) Federal and State income tax rate 49.5%; property tax rate, 0.83%; ITC rate, 10%. Assumed 50-year book life and 40-year tax depreciation life.

SWAN FALLS PROJECT
ANNUAL VALUE OF PROJECT POWER
1981 DOLLARS

	ANNUAL COSTS $000	ANNUAL COSTS (Mills/KWH)
Investment Carrying Charge(1)	6,873.9	42.4
Fixed O & M Expense(2)	412.5	2.5
Fuel & Variable O & M Expense	2,920.9	18.0
Levelized Annual Cost over 50-year Life of Swan Falls Project(3)		100.2

UPDATED SEE 1982 SUPPLEMENT

(1) 25,000 KW x $1254/KW x [illegible]52. Annual carrying charge based upon 50-year investment in [illegible] generation having individual plant life of 31 years. Capital structure and tax rates are consistent with Table D-2. Assumed long-term inflation rate, 8%.

(2) $16.50/KW x 25,000 KW.

(3) Inflation rate assumed equal to 8%, discount rate equal to 12.06%.

TABLE D-4

Idaho Power Company
BALANCE SHEET
As of July 31, 1981

(Subject to Approval of Independent Auditors)

ASSETS

Electric Utility Plant (Note 1):	
Electric plant in-service (at original cost)	$1,249,887,385
Less accumulated provision for depreciation (Note 2)	217,938,897
Electric plant in-service (net)	1,031,948,488
Electric plant held for future use	1,624,687
Construction work in progress	169,969,646
Electric utility plant less accumulated provision for depreciation	1,203,542,821
Other Property and Investments:	
Nonutility property	2,946,204
Investment in subsidiary (Note 3)	2,509,046
Sinking funds	186,692
Other	1,359,947
Total other property and investments	7,001,889
Current Assets:	
Cash	3,695,226
Accounts receivable (less allowance for uncollectible accounts - $803,477)	22,275,583
Income tax refund receivable	195,000
Materials and supplies (at average cost)	10,129,524
Fuel stock (at average cost)	8,568,326
Prepayments	1,966,577
Total current assets	46,830,236
Deferred Debits:	
Unamortized debt expense (Note 19)	3,210,049
Advance coal royalties	6,952,931
Cancellation charges (Note 12)	11,361,131
American Falls Water Rights (Note 11)	22,095,000
Other	9,980,644
Total deferred debits	53,599,755
Total	$1,310,974,701

The accompanying Notes to Financial Statements are an integral part of this statement.

UPDATED SEE 1989 SUPPLEMENT

Idaho Power Company
BALANCE SHEET
As of July 31, 1981

(Subject to Approval of Independent Auditors)

LIABILITIES

	Shares Authorized	Shares Outstanding	
Proprietary Capital:			
Common stock	25,000,000	13,732,128	$ 68,660,640
4% preferred stock	215,000	215,000	21,500,000
Serial preferred stock	150,000		
7.68% Series		150,000	15,000,000
Serial preferred stock	3,000,000		
9.50% Series		250,000	25,000,000
12.25% Series		82,500	33,000,000
Premium on capital stock			194,651,081
Capital stock expense			(1,957,823)
Retained earnings (Note 6)			124,668,995
Undistributed subsidiary earnings			45,953
Total proprietary capital			480,568,846
Long-Term Debt:			
Long-term debt			494,142,821
Project financing - Boardman (Note 10)			61,816,727
American Falls bond guarantee (Note [illegible])			22,095,000
Unamortized premium on long-term debt			1,781,102
Unamortized discount on long-term debt - Debit			293,125
Total long-term debt			579,542,525
Current Liabilities:			
Notes payable (Notes 4 & 5)			48,500,000
Accounts payable			12,803,764
Notes payable to associated companies			2,482,735
Taxes accrued			8,281,015
Interest accrued			11,357,840
Dividends declared			10,374,954
Other			6,104,552
Total current liabilities			99,904,860
Deferred Credits:			
Customer advances for construction			6,229,228
Accumulated deferred investment tax credits (Note 7)			38,411,926
Accumulated deferred income taxes (Note 8)			
Accelerated amortization property			1,385,200
Other property			70,716,431
Other			19,495,000
Other			12,774,357
Total deferred credits			149,012,142
Operating Reserves			1,946,328
Total			$1,310,974,701

UPDATED SEE 1989 SUPPLEMENT

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
CLASSIFICATION OF ELECTRIC UTILITY PLANT AND ACCUMULATED
PROVISION FOR DEPRECIATION AND AMORTIZATION
As of July 31, 1981
(Subject to Approval of Independent Auditors)

UPDATED 1989 SUPPLEMENT
DO NOT USE

Classification of Electric Plant

Electric Utility Plant		Amount
1. Electric plant in-service:		
(a) Intangible plant	$ 2,137,859	
(b) Steam plant	333,020,407	
(c) Hydro-production plant	362,446,780	
(d) Other production plant	6,580,326	
(e) Transmission plant	210,022,560	
(f) Distribution plant	306,799,849	
(g) General plant	28,879,604	$1,249,887,385
2. Electric plant held for future use		1,624,687
3. Construction work in progress		169,969,646
Total electric utility plant		$1,421,481,718

Classification of Accumulated Provision for Depreciation and Amortization

Applicable to Electric Plant	
Accumulated provision for depreciation of electric plant	$ 217,417,858
Accumulated provision for amortization of electric plant	521,039
Total accumulated provision for depreciation and amortization	$ 217,938,897

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
NOTES TO FINANCIAL STATEMENTS
As of July 31, 1981
(Subject to Approval of Independent Auditors)

1. Electric Plant

The cost of additions to electric plant in service represents the original cost of contracted services, direct labor and material, allowance for funds used during construction and indirect charges for engineering, supervision and similar overhead items. Maintenance and repairs of property and replacements and renewals of items determined to be less than units of property are charged to operations. For property replaced or renewed, except for extraordinary retirements, the original cost plus removal cost less salvage, is charged to accumulated provision for depreciation, cost of related replacements and renewals is added to electric plant.

2. Depreciation

Electric plant is depreciated on the straight-line method except for production facilities constructed prior to January 1, 1968 of the T E Roach Hells Canyon Development (consisting of the Brownlee, Oxbow and Hells Canyon hydroelectric power plants) for which depreciation is based on the five percent present-worth method.

3. Investment in Subsidiary

The Company uses the equity method of accounting for its investment in Idaho Energy Resources Co., a wholly-owned subsidiary. This subsidiary is a joint venturer in Bridger Coal Company which operates the mine supplying coal for the Jim Bridger steam generating plant. Coal purchased by the Company from the joint venture amounted to $27,4[illegible] for the twelve months ended July 31, 1981. As of July 31, 1981, the total assets, total liabilities and total net worth of Idaho Energy Resources Co. were $4,868,634, $2[illegible]9,588, and $2,509,046, respectively. Idaho Energy Resources declared a dividend of $8,000,000 to the Company on November 26, 1980 and $5[illegible]00,000 on July 30, 1981, thereby reducing the Company's investment in subsidiary as well as payables to subsidiary.

4. Notes Payable

At July 31, 1981 the total lines of credit maintained with various banks amounted to $119,800,000. Commercial paper may be issued in an amount not to exceed 25% of operating revenues for the latest twelve-month period and must be supported by bank lines of credit of an equal amount. Under borrowing arrangements with seven of the banks, the Company is currently required to pay a fee of 1/2 of 1% on the available lines of credit which [illegible],000,000.

5. Unsecured Bank Loans Outstanding at July 31, 1981

Commercial Paper:

17.60 note dated June 29, 1981 due Aug 3, 1981	$ 1,200,000
18.10 note dated June 30, 1981 due Aug 3, 1981	450,000
17.85 note dated June 30, 1981 due Aug 14, 1981	1,000,000
18.35 note dated July 1, 1981 due Aug 14, 1981	1,100,000
19.10 note dated July 24, 1981 due Aug 26, 1981	5,000,000
19.10 note dated July 24, 1981 due Sept 8, 1981	10,000,000
18.60 note dated July 24, 1981 due Sept 1, 1981	4,350,000
18.10 note dated July 27, 1981 due Sept 3, 1981	9,250,000
18.10 note dated July 27, 1981 due Sept 10, 1981	1,000,000
18.10 note dated July 28, 1981 due Sept 10, 1981	2,550,000
18.10 note dated July 28, 1981 due Aug 27, 1981	2,650,000

DRAFT
1981 SUPPLEMENT
SEE

5. Unsecured Bank Loans Outstanding at July 31, 1981 (Cont'd):

Commercial Paper:

18.35 note dated July 30, 1981 due Sept 14, 1981	$ 2,600,000
18.10 note dated July 31, 1981 due Aug 3, 1981	3,000,000
18.10 note dated July 31, 1981 due Aug 31, 1981	2,950,000
18.10 note dated July 31, 1981 due Sept 10, 1981	1,400,000
Total	$48,500,000

6. Retained Earnings

The agreement relating to the Company's outstanding debentures provides that the Company will not declare or pay any dividend or make any other distribution on its common stock (other than in common stock), or acquire any shares of its common stock, if the aggregate amount and cost thereof after 1957 shall exceed the aggregate net income (as defined) attributable to the common stock after 1957 plus $7,500,000 and plus the amount of proceeds from sales of common stock after 1957. No portion of the retained earnings at July 31, 1981 was restricted under this provision. Undistributed subsidiary earnings represented $45,953 of the July 31, 1981 retained earnings balance. Pursuant to Section 10(d) of the Federal Power Act, which requires the creation of a reserve account after twenty years of operation of a licensed project for earnings in excess of a specified rate, the Company has computed a Federal amortization reserve on certain of its licensed hydroelectric projects. Such a reserve constitutes an appropriation of retained earnings which, at July 31, 1981 amounted to $1,543,966.

7. Investment Tax Credit

For income tax reductions arising from the investment tax credit an equivalent amount has been charged to operating expenses and the resulting credit deferred to be amortized to income over the estimated service lives of the related properties.

8. Income Taxes

The Company, for income tax purposes, uses liberalized depreciation methods for assets acquired prior to 1971 and the "class" life system for assets acquired in 1971 and thereafter. Deferred taxes (commonly referred to as normalized accounting) are provided on coal-fired generation facilities for the difference between income tax depreciation and financial accounting depreciation as well as for certain other capitalized costs (taxes and operator training) related to coal-fired plant construction. On other facilities, deferred income taxes are provided for the difference between actual income tax depreciation and straight-line depreciation using "guideline" lives. Deferred income taxes are also provided for the tax reduction or increase applicable to various items that are capitalized or deferred on the books and expensed or considered income for tax purposes. This accounting is consistent with indicated rate-making policy of the state regulatory authority having principal jurisdiction.

9. Allowance For Funds Used During Construction ("AFDC")

The allowance, a non-cash item, represents the estimated composite interest costs of debt, shown as a reduction of interest charges, and a return on equity funds, shown as an addition to other income, used to finance construction. Based on the uniform formula adopted by the Federal Energy Regulatory

DRAFT 1982 ANNUAL

9. Allowance For Funds Used During Construction ("AFDC") (Cont'd)

Commission, the Company's AFDC rate (net of applicable income taxes) is 8.50% for the year of 1981. The Company's AFDC rate related to the Boardman plant project financing was computed at the actual cost thereon (see Note 10).

10. Project Financing

Since February 22, 1979, the Company has financed a major portion of its 10 percent interest in the Boardman coal-fired plant through the sale of commercial paper issued by a financing intermediary which is backed by a bank credit agreement. At July 31, 1981, the amount of commercial paper outstanding pursuant to the Agreement totall[illegible]33,000. The Company is authorized to guarantee up to $30,000,000 o[illegible] commer[illegible]ial paper issued in connection with the project. Under the agreement [illegible]pany is re[illegible]ired to satisfy the actual obligation incurred by the financing intermedia[illegible] within three years commencing January 1, 1984. The Company included its portio[illegible] of the costs of construction applicable to the Boardman pl[illegible]nt in c[illegible]nstructio[illegible]ork in progress. The principal amount of commercial pap[illegible]r o[illegible]tst[illegible]nding toget[illegible]er with capitalized interest and related fees thereon, is [illegible]nc[illegible]de[illegible] in long-t[illegible] debt. For the twelve months ended July 31, 1981 interest and related fees we[illegible] $9,780,827.

11. American Falls Bond Guarantee

In 1976 the Company signed a [illegible] which exp[illegible]s in the year 2025 with the American Falls Reservoir Dist[illegible]ict wherein it ag[illegible]d to make falling water payments to the District for the use of water releas[illegible]d from the American Falls Replacement Dam. Such payments are to defray in [illegible]art the costs of construction associated with the Americ[illegible]ls Replacem[illegible]t Dam Program. In addition, the Company agreed to guarant[illegible]ds of the D[illegible]ict for the project at the time of issuance. On December [illegible]80, $22,09[illegible]00 of bonds were issued, and the Company, pursuant to the agreement, execute[illegible] guarantee. Under the contract, the Company is required to make falling [illegible]er payments of approximately $2.4 million annually which a[illegible]ficient to cov[illegible]r the total debt service applicable to the bonds.

12. Cancellation Charges

Approval to construct the proposed Pione[illegible] c[illegible]l-[illegible]red generating plant on the site selected by the Company wa[illegible]enied b[illegible] th[illegible] Id[illegible]o Public Utilities Commission in 1976. Total cancella[illegible]on charges[illegible]61,131 ($5,567,000 net of applicable income taxes) have bee[illegible] incurred in connection with this project consisting of preliminary inv[illegible]stigation [illegible]ar[illegible]es, primarily engineering and environmental studies, and cancellation [illegible]ar[illegible]es [illegible] equipment. If it is determined that the work performed to date [illegible]s to be abandoned, the Company intends to request rate relief suffi[illegible]ent to [illegible]ver, over a ten-year amortization period, the actual costs incur[illegible]ed. H[illegible]eve[illegible], should the request be denied, the charges, net of a[illegible]le in[illegible] ta[illegible]es, will be written off against income of the period during which such denial occurs. The Company's management has assessed the potential impact on the financial statements of an adverse determination of the recoverability of these charges through rate relief, and has concluded that the effect of any adjustments which would be required would not be material to the financial position of the Company.

13. Other Accounting Policies

Revenues are recognized on the basis of cycle billings and are recorded when customers are billed. Debt discount, expense and premium are being amortized over the terms of the respective debt issues.

DRAFT 1981 SUPPLEMENT

Idaho Power Company
STATEMENT OF INCOME
For The Twelve Months Ended July 31, 1981
(Subject to Approval of Independent Auditors)

UPDATED 1982 SUPPLEMENT SEE

Operating revenues	$295,739,466
Operating expenses:	
Purchased power	26,297,981
Fuel	32,006,841
Other operation	52,946,610
Maintenance expense	26,253,059
Depreciation expense (Note 2)	27,893,223
Amortization of limited-term electric plant	122,688
Taxes other than income taxes	12,606,199
Income taxes - Federal (Note 8)	2,074,100
Income taxes - Other (Note 8)	1,622,600
Provision for deferred income taxes (Note 8)	15,571,400
Provision for deferred income taxes - Credit (Note 8)	(3,474,200)
Investment tax credit adjustments (Note 7)	8,824,100
Total operating expenses	202,744,601
Operating Income	92,994,865
Other Income and Deductions:	
Equity in earnings of subsidiary (Note 3)	3,558,183
Allowance for other funds used during construction (Note 9)	2,921,176
Other income and deductions - Net	(337,064)
Net other income and deductions	6,142,295
Income Before Interest Charges	99,137,160
Interest Charges:	
Interest on first mortgage bonds	32,555,000
Interest on other long-term debt (Note 10)	13,351,353
Interest on short-term debt	10,585,518
Amortization of debt premium discount and expense - Net (Note 13)	86,030
Amortization of gain on reacquired debt - Credit	(66,984)
Other interest expense	736,494
Total interest charges	57,247,411
Allowance for borrowed funds used during construction - Credit (Notes 9 and 10)	(7,070,007)
Net interest charges	50,177,404
Net Income	$ 48,959,756

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
STATEMENT OF RETAINED EARNINGS
AND
UNDISTRIBUTED SUBSIDIARY EARNINGS
For The Twelve Months Ended July 31, 1981

(Subject to Approval of Independent Auditors)

UPDATED SEE 1982 SUPPLEMENT

Retained Earnings	
Retained earnings (at beginning of period)	$104,839,399
Balance transferred from income	45,401,574
Dividends received (Subsidiary - Note 3)	13,800,000
Total	164,040,973
Dividends:	
4% preferred stock	860,000
7.68% series serial preferred stock	1,152,000
9.50% series serial preferred stock	2,375,000
12.25% series serial preferred stock	112,292
Common stock	34,872,686
Total	39,371,978
Retained earnings (at end of period) (Note 6)	$124,668,995
Undistributed Subsidiary Earnings (Note 3)	
Balance (at beginning of period)	$ 10,287,770
Equity in earnings for the period	3,558,183
Dividends paid (Debit - Note 3)	(13,800,000)
Balance (at end of period)	$ 45,953

The accompanying Notes to Financial Statements are an integral part of this statement.

EXHIBIT E

INTRODUCTION

This Environmental Report has been divided into seven sections corresponding to the seven itemized topics required in the Final Rule. Also, as required, pertinent local, state, and Federal agencies were consulted in the preparation of this report. Appendix A contains documentation of consultation with those agencies having jurisdiction over resources in the project area.

The project area as defined for this Environmental Report is illustrated in Figure 1. This area includes the new powerhouse construction site, the existing Swan Falls Reservoir, and in general terms, the western half of the Snake River Plain.

The Snake River Plain curves in an arc, approximately 350 miles long and 50 to 70 miles wide, across the southern part of Idaho. It is a physiographic feature among the northern Rocky Mountains, and is a lava plain, ranging in altitude from 6,500 feet in the east to 2,300 feet in the west.

For reasons of consistency in available data, the socioeconomic portions of the report discusses the four-county area adjoining the project boundary. These are Ada, Canyon, Elmore and Owyhee Counties, Idaho.

The existing Swan Falls Dam is located within the Snake River Birds of Prey Natural Area (BPNA). The BPNA was established in 1971 by the Secretary of the Interior to protect eagles, hawks, falcons, owls, osprey and vultures; birds that are collectively known as raptors.

The natural area presently encompasses more than 31,000 acres, 26,000 of which are federally administered public lands.[1]

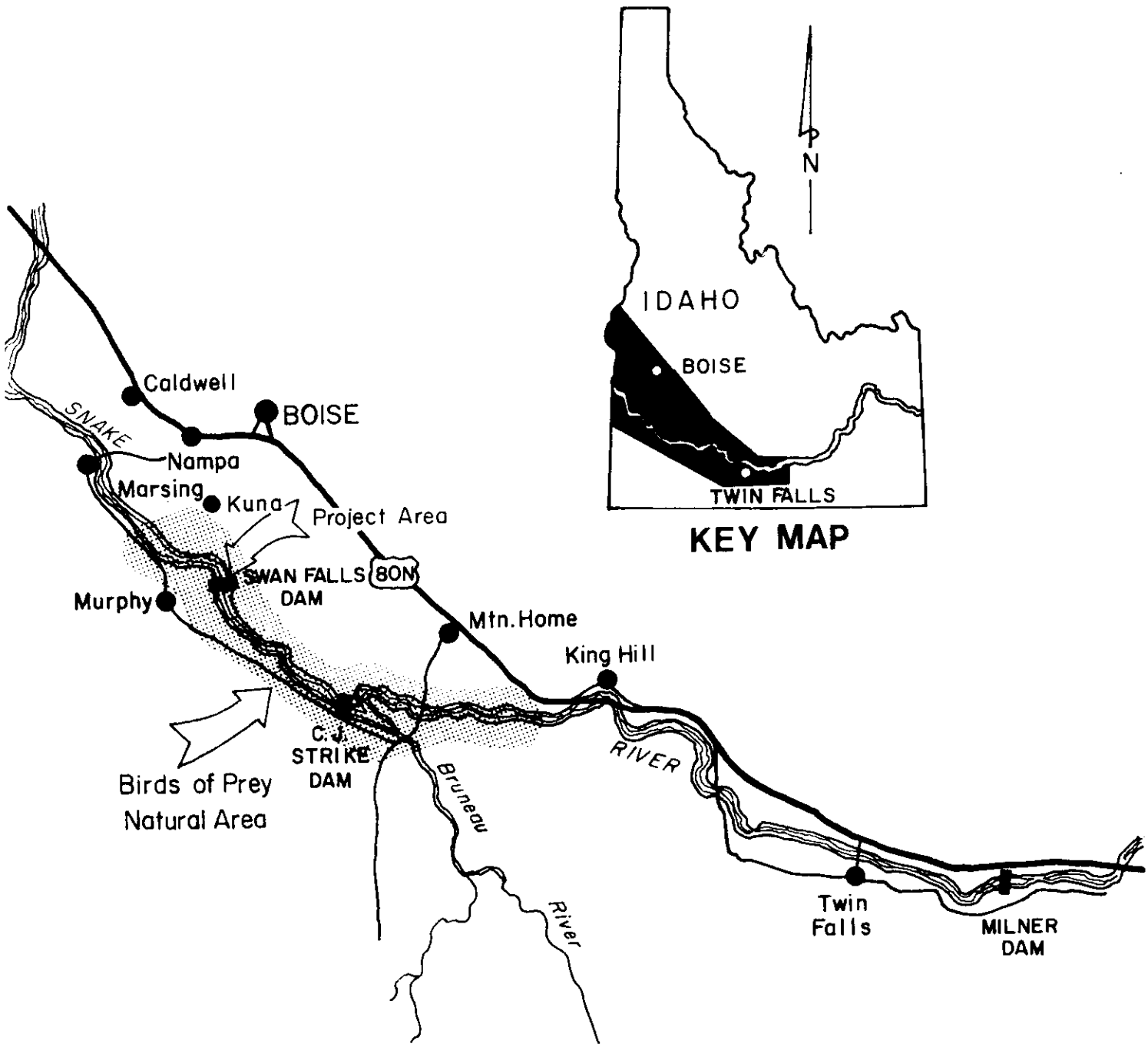
During the fall of 1972 the Bureau of Land Management (BLM) initiated a study of raptors to gather basic information for the management of their populations and habitats. Researchers subsequently determined that the original boundary area encompassed only a portion of the major nesting habitat and very little of the hunting territory used by the birds.

In 1975 the BLM issued a temporary moratorium on processing Desert Land and Carey Act applications for 278,227 acres of public land adjacent to the Natural Area and to an additional 40 miles of river canyon upstream from the Natural Area. This new addition is known as the Natural Area Extension. All of these lands -- the Birds of Prey Study Area (BPSA) -- were considered to be significant habitat for raptors and their prey.

The Secretary of the Interior issued a directive on September 29, 1977, for the BLM and the Bureau of Reclamation to establish a new study area boundary (including an additional 234,025 acres) based on research findings.

Extensive information on the ecology of the Birds of Prey Study Area is available through the Bureau of Land Management. Where appropriate, that information has been utilized in the development of this report.

PROJECT LOCATION MAP



PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 1
LOCATION MAP
IDAHO POWER CO. OCTOBER 1981

I. GENERAL DESCRIPTION OF THE LOCAL ENVIRONMENT - THE SETTING

1.1 CLIMATE

Winters in the vicinity of the project area are cold, although generally not severe. In summer, days are hot and nights are fairly cool. Precipitation, except in mountainous areas, is low in summer and higher in the spring and winter. The snowpack at high elevations supplies much of the surface water. The average annual precipitation ranges from about 24 inches at the higher elevations of the Boise front to slightly less than eight inches at Swan Falls Dam. The average throughout most of the surrounding area is about 10 to 12 inches.

Due to the protected location of Swan Falls Dam, weather data in the immediate vicinity differ somewhat from those of the surrounding area. Generally, precipitation is slightly lower and temperatures are slightly higher. Figures 2 and 3 illustrate the difference between mean monthly temperatures and mean monthly precipitation at Swan Falls Dam, located in the Snake River Canyon, and at the town of Kuna, 18 miles to the north and located on the flats above the canyon. Wind is a common phenomenon throughout the area and sometimes contributes to minor air quality problems. However, air quality is generally excellent.

1.2 PHYSIOGRAPHY AND TOPOGRAPHY

The existing Swan Falls Dam lies within the Columbia Intermountain geomorphic province, commonly referred to as the Columbia Plateau. This province extends into parts of north central Idaho from Washington and Oregon and crosses southern Idaho in the Snake River Plain. The area is characterized by thick accumulations of nearly horizontal sheets of basalt. Included within the province are mountains with complex structure and block-fault mountains. There are six subsections in the Columbia Intermountain Province; the area of study is in the 10,000 square-mile Malheur-Boise-King Hill section.

Most of the Columbia Intermountain Province is drained by the Snake River and its tributaries. From its headwaters in Wyoming,

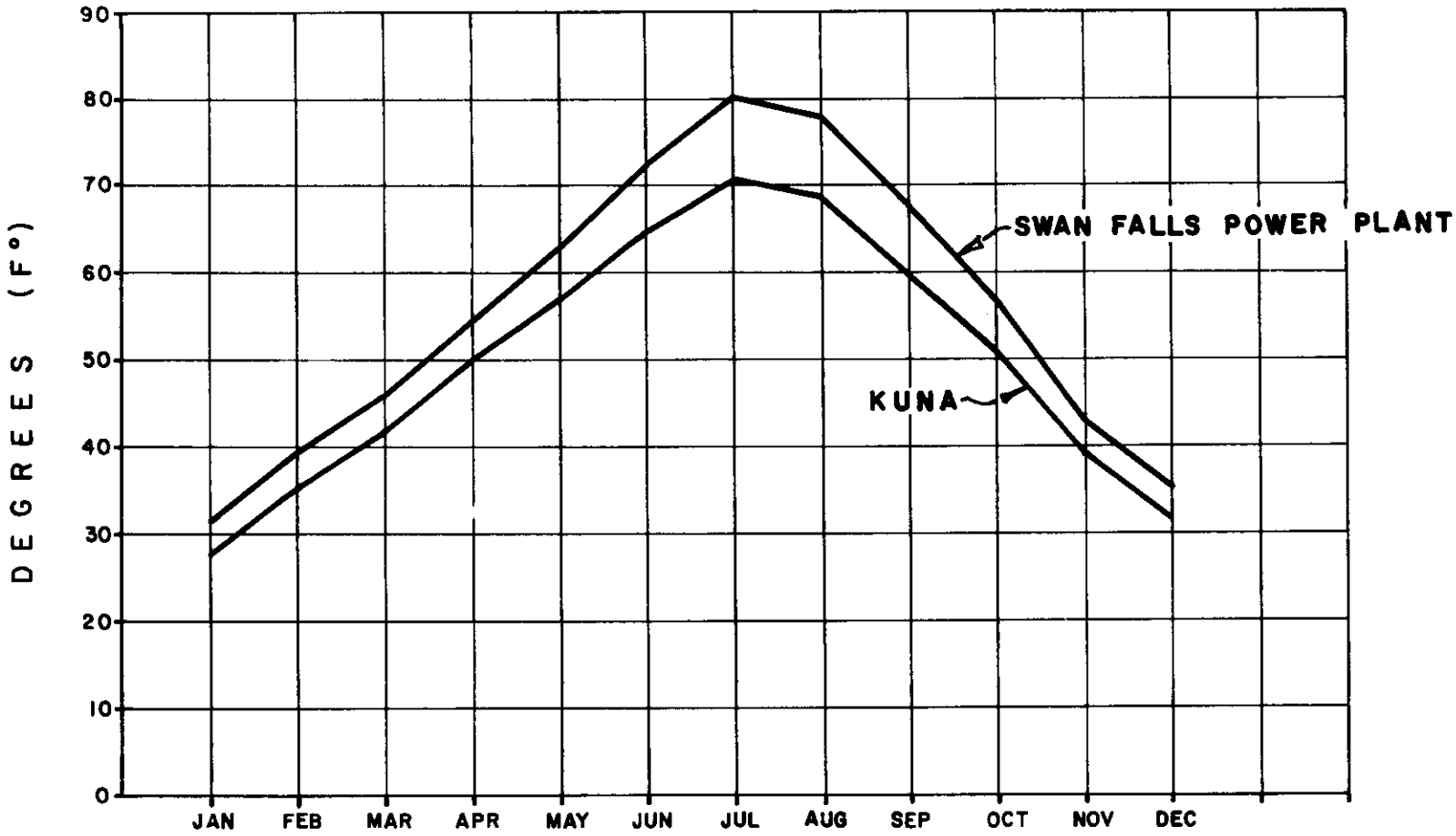


FIGURE 2

MONTHLY MEAN TEMPERATURE (F°)
1956 – 1965

SOURCE: CLIMATOLOGICAL HANDBOOK – COLUMBIA BASIN STATES
TEMPERATURE VOL. I , PART A

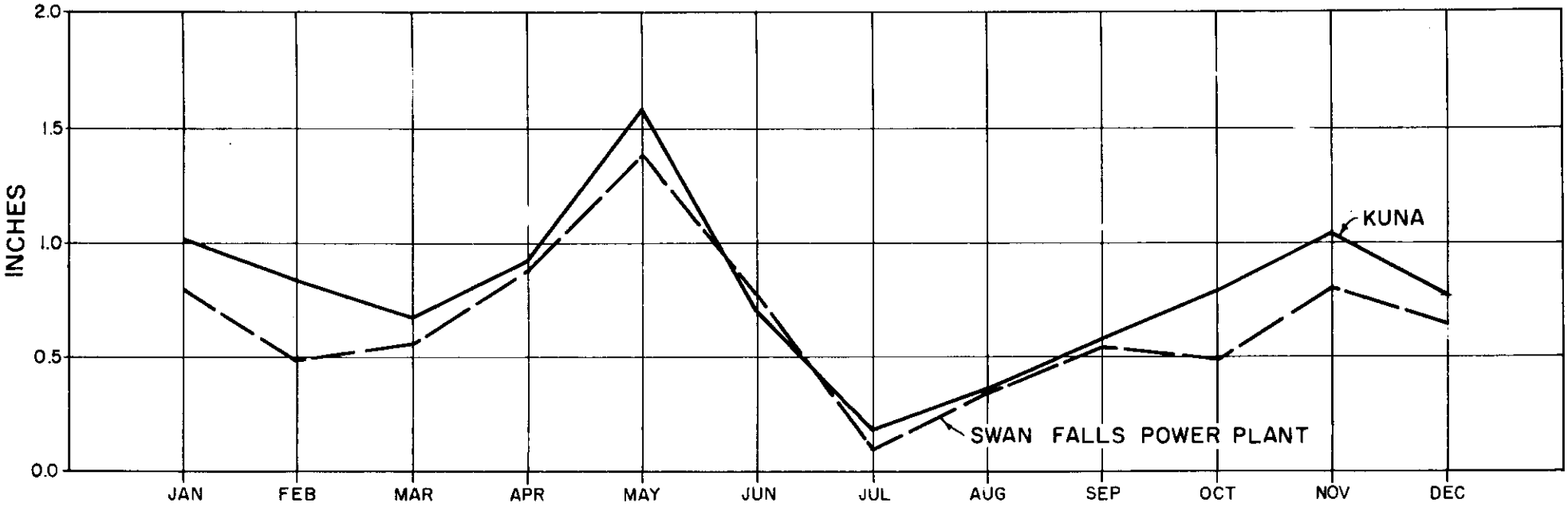


FIGURE 3

MONTHLY MEAN PRECIPITATION
1956 - 1965

SOURCE: CLIMATOLOGICAL HANDBOOK - COLUMBIA BASIN STATES:
PRECIPITATION VOL. 2

the Snake River flows westward across the Snake River Plain of southern Idaho. The portion of the Snake River basin in Idaho consists of a central lowland rimmed with terraces and mountain ranges. The westward lowland, west of King Hill, is a narrow valley or canyon through which the river flows. The main valley is cut several hundred feet beneath the surrounding upland. East of King Hill the Snake River Plain is a broad, curving lowland 30 to 75 miles wide. It is characterized by slopes where volcanic features, such as vents, rise above the terrain, or where streams have cut deep canyons.

In general, the river flows through a lowland that existed prior to the outpourings of lava that began about 10 million years ago.

Elevations within the Snake River Plain range from 3,500 feet above sea level in the eastern portion to 2,500 feet near the Idaho-Oregon border. To the southwest lies the Owyhee Uplands subsection with elevations of 4,000 to 5,000 feet, except where several mountain masses rise to 8,000 feet.

Volcanism, stream erosion, and wind deposition have been the most important processes in the modification of the landscape in the Columbia Intermountain region. More recently, most of the province has been faulted, warped or dissected by river canyons.

The portion of the Snake River affected by the project generally flows in a narrow canyon several hundred feet below the surrounding plateau. The Swan Falls damsite lies 650 feet below the rim of the canyon. The canyon at the Swan Falls damsite is about 1,400 feet wide.

The lands that lie above the right wall of the river canyon (to the north and east) generally contrast with the area above the left wall (to the south and west of the canyon). To the northeast lies a gently rolling basaltic plain, with occasional gently sloped buttes of volcanic origin. To the southwest lies a dissected plateau of lowland that increases in elevation southwestward toward the Owyhee Mountains. The elevations are about equal on both sides of the canyon.

Several buttes that rise above the surrounding tablelands, near the edge of the Snake River Canyon, are dominant topographical features. These include Guffey-Butte (elevation 3,130), Sinker Butte (elevation 3,421), Sinker Creek Butte (elevation 3,129), Wild Horse Butte (elevation 2,852), and Black Butte (elevation 3,245).

1.3 VEGETATION

Vegetation within the study area is characteristic of the Snake River Plain desert habitat type of big sagebrush/Sandberg bluegrass. Much of the vegetation is composed of mixed associations of big sagebrush, winterfat, shadscale, and budsage occurring in distinct mosaic patterns. Agricultural land is scattered through the area with cheatgrass occupying areas disturbed through farming, burning and military activities.

The stands of winterfat are larger than normal. In fact, the winterfat areas are a significant anomaly, being the largest collection of stands in the United States. These communities are usually found in the most favorable soils and contain the densest plant populations and, therefore, abundant food and cover for small rodents. Winterfat is an important livestock forage species due to its protein content, palatability, and tolerance to heavy winter grazing.

Greasewood occupies much of the area within the Snake River Canyon itself, as well as south of the river.

A riparian zone of varying size exists along the river and reservoir edge.

Habitat types occurring within the project area are discussed in greater detail in Section III.

1.4 LAND USE

The dominant land use near the study area is livestock grazing. Public lands are used primarily as spring, fall and winter range for cattle. Summer grazing is supported on BLM allotments, National Forest Lands, or private lands located elsewhere. North of the Snake River, cattle typically enter the

PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 4
EXISTING PROJECT
IDAHO POWER CO. OCTOBER 1981

area in early spring and stay for approximately 2½ months. South of the river, the majority of grazing use is during the winter months.

About 238,144 acres of the 833,000 acres of the surrounding Birds of Prey Study Area is in private ownership. About 159,000 acres of the private lands are presently being farmed for potatoes, sugar beets, beans, corn, grain and alfalfa.

The Idaho National Guard and other military units, conduct maneuvers on 122,600 acres of public land near the project area.

Murphy, Bruneau, Grandview and Melba contain some 840 people who economically depend on livestock grazing and farming. The Mountain Home Air Force Base and the City of Mountain Home are other population centers located near the project area. Boise, the largest urban area in the state, is located about 30 miles to the north of the project.

1.5 POPULATION AND SOCIOECONOMIC CONDITIONS

Socioeconomic considerations discussed will be described in the context of both a regional setting and a project area setting.

1.5.1 Population

The population of the four-county region (Ada, Canyon, Elmore, Owyhee) is 286,317 according to 1980 Census Data. Approximately 90% of the region's population resides in Ada and Canyon counties. The City of Boise is the capital and the largest city in the State with a population of 102,125, 35.7% of the area total. Elmore County has a population density of 6.98 persons per square mile (1978). Owyhee County's population density is only 1.03 persons per square mile.

The population of the region has grown rapidly in the past ten years. From 1970 to 1980 population has grown with an additional 88,898 people, an increase of 45%. Continued growth is projected through 1990, but at a slower rate of approximately 2.8% annually. The population of Boise increased proportionally to the region's increase in population during the period 1970-80.

The project area is thinly populated. Grandview had a population of 349 in 1980. The remainder of the project area contains scattered ranches and farmhouses.

1.5.2 Income

Per capita income in Ada County grew from $3,939 in 1970, 99.8% of the national average, to $8,823 in 1978, 112.5% of the national average. Per capita income in Canyon, Elmore, and Owyhee counties remained below the national average during this period.

1.5.3 Employment

The civilian labor force in the regional study area increased at a faster rate than population during the period 1970-76, resulting in an increase in the labor force participation rate (the ratio of civilian labor force to population) for the four-county region. The relatively high labor force participation rate in Ada County restricts the high in-migration of population in the 16 to 65 working age group. The low rate for Elmore County (28%) is related to the high number of military personnel at the Mountain Home Air Force Base. Military personnel are not counted in the civilian labor force.

Unemployment in the Region has been consistently below state and national averages during the 1970s. Statistics for 1978 show an unemployment rate of 2.9% in Ada County, as compared to a U.S. rate of 6.2% and an Idaho rate of 5.0%. For the four-county region, the unemployment rate was 3.8% in July, 1978. This rate is among the lowest for any area in the United States.

The primary employer in the four-county region is government, with 21.5% of all workers in 1978. Included in this figure are federal, military, state, local and public education workers. In Ada County, 13.88% of the work force was employed by state and local government in 1978. Military personnel stationed at the Mountain Home Air Force Base made up 41% of the work force in Elmore County. The base is also the primary civilian employer in the county.

Trade is the second leading basic employment category in the four-county region with 29,440 workers employed in 1978, or 21.07% of the region's total employment. Over 96% of trade workers in the region work in Ada or Canyon Counties.

The services sectors are third in importance as a basic employer in the region, representing 20,758 workers in 1978, or 14.85% of the total regional employment. Approximately 75% of the service employees in the region work in Ada County.

Manufacturing businesses are well developed in Ada and Canyon Counties with a total of 16,188 persons employed in 1978.

Agricultural workers totalled 5,516 in the region, making up almost 4% of the region's total employment in 1978.

There were 7,840 construction workers in the four-county region in 1978, 5.6% of the regional employment total. Of these, 6,427 construction workers (82% of the regional total) lived in Ada County. Construction employment has more than doubled in Ada County from 1970-78. Construction employment has been slightly altered in the last few years because of an unpredictable national economic outlook, but is still expected to grow, at a slow pace, through 1990 in Ada County, paralleling an expected continuation in overall growth and development.

Employment in the project area is principally agricultural, with some trade and service employment concentrated in Grandview.

1.5.4 Housing

New housing unit permits issued annually is virtually unchanged in the four-county region from 1976-78. Ada County had 37,145 housing units in 1970 as compared to 67,823 in 1980, an 82.6% increase. Canyon, Elmore, and Owyhee Counties had 51.2%, 52.1%, and 41.3% increases in housing respectively in 1980.

The housing market in the Boise area (Ada County) is in a restricted situation. Vacancies are estimated at 1.3% for sales housing and 40% for rental housing. A 4-6% vacancy rate for sales housing and a 6-8% vacancy rate for rental housing are considered to be normal by housing analysts. Although there has been a recent slump in building activities, it is still progressing at a

slower rate than the late 1970s. The average price for existing housing in late 1977 was $39,000, as compared to $63,000 (includes houses and rental units) in September, 1981, according to the Idaho Board of Realtors. Units are generally sold within 74.02 days. The outlook for the rental market is for a stable situation in the Boise area through 1982.

There has been an increasing trend in the use of mobile homes in Ada County. In response to development pressure, lot prices have increased to a minimum of $8,500 for a developed site. No shortage in mobile home sites is anticipated through 1982.

1.5.5 Local Community Setting

Kuna is the nearest community to Swan Falls. The town is 18 road miles north of Swan Falls and 21 road miles southwest of Boise.

Traditionally, Kuna has been an agriculture-oriented community; however, recent growth and development is changing the character of the town. Kuna grew in population from 941 in 1976 to 1,765 in 1980, a 94% growth rate.

Kuna has two elementary schools, a new junior high school to start under construction, and a new high school. Electricity is provided by Idaho Power Company, natural gas by Intermountain Gas Company, and telephone services by Mountain Bell. Water service is provided by the City of Kuna. Sanitary works are presently handled by septic tanks.

Kuna has a municipal volunteer fire department with two full time employees and a growing police department.

Melba, five miles to the northwest of the Swan Falls damsite in Canyon County, is a small agriculturally-based community with a population of 276 in 1980. A grade school and a high school are located in Melba.

Murphy, nine miles west of the Swan Falls damsite on State Route #78, is the county seat of Owyhee County, with a present population estimated at 50 persons.

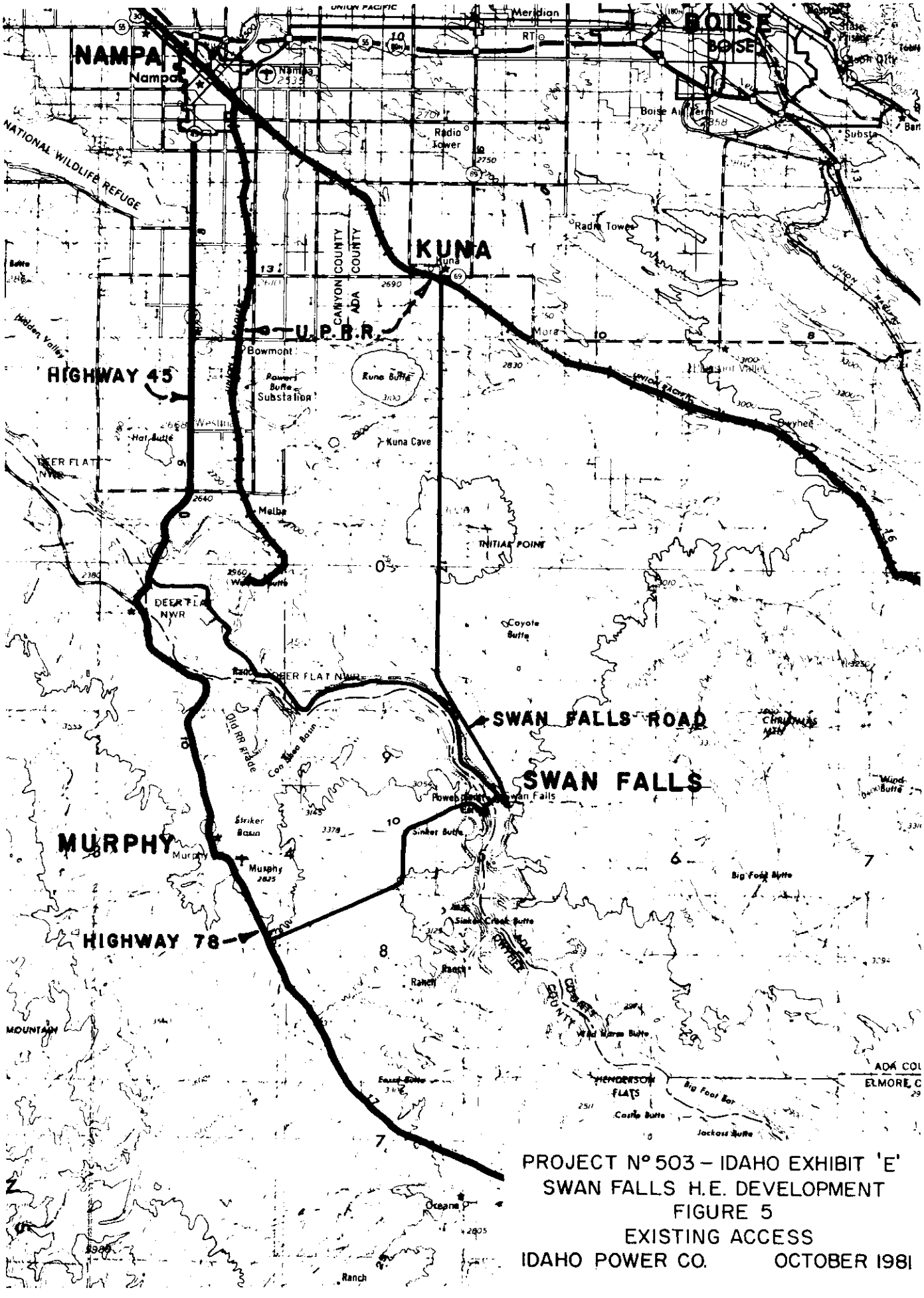
1.6 Transportation Access

Access to the project area is entirely by road. The primary access to the dam is by Swan Falls Road, which originates at the town of Kuna. Other access directly to the dam is of low quality and seldom used.

Access from State Highway #78, located to the west and southwest of the project, is provided by a low quality dirt road originating near the town of Murphy. Access to the project is also available via a low quality dirt road from downstream, which parallels the river in the canyon bottom.

North of the project, the Union Pacific Railroad maintains a mainline track, which services much of southwest Idaho. A short spur is maintained to the community of Melba.

Interstate Highway #80 is located about 30 miles north of the project. Figure 5 illustrates access to and around the project area.



PROJECT N° 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 5
EXISTING ACCESS
IDAHO POWER CO. OCTOBER 1981

II. REPORT ON WATER USE AND QUALITY; CONSUMPTIVE USE OF PROJECT WATERS AND THE IMPACT OF THE PROJECT ON WATER QUALITY

2.1 EXISTING AND PROPOSED USES OF PROJECT WATERS

Swan Falls reservoir water is used primarily for irrigation of the surrounding uplands and for power generation at Swan Falls Power Plant operated by the Idaho Power Company.

2.1.1 Power Generation

The existing Idaho Power plant utilizes about 8,000 cfs to generate a maximum of 12,000 kW. This is less than the amount of energy which could be generated with the amount of water available. Therefore, a new, larger power plant is being proposed which will have an estimated capacity of 14,000 cfs and generate an estimated maximum of 25,000 kW.

The Idaho Power Company presently has an adjudicated right for 9,450 cfs for power generation at the existing facility. In addition an application will be filed with the Idaho Department of Water Resources for a permit of an additional 6,550 cfs for power generation at the proposed facility.

The proposed project will not involve a consumptive use of water, as all water will be returned to the river through the power plant or spillways.

2.1.2 Irrigation

Idaho Department of Water Resource (IDWR) records indicate sixty-three individuals and corporations have a total water right of 3588.42 cfs for irrigation purposes in the project boundaries.

2.1.3 Irrigation Storage

Idaho Department of Water Resource records indicate that one individual has a total water right of 235 cfs for irrigation storage purposes.

2.1.4 Power Usage

There is a combined total water right of 12,750 cfs, used for generating electricity.

Records therefore show combined water rights of individuals and corporations in the Swan Falls project boundary totals 16,573.42 cfs.

2.1.5 Other

Other possible uses of Snake River water such as domestic water supplies, steam generation, plant cooling, or industrial uses, apparently do not occur in the project boundary.

2.1.6 Proposed Uses

The Swan Falls project is located within the potential Mountain Home Division, Guffey Unit, of the Bureau of Reclamation's Southwest Idaho Development Project (SWID). Planning activities are currently inactive, but a water right is being held for the SWID project. In the event SWID is constructed, Applicant's power plant would be inundated. The plans for this area are not firm and the inclusion of part of the area within the Birds of Prey Natural Area makes the irrigation project unlikely.

2.2 EXISTING WATER QUALITY

2.2.1 Applicable Water Quality Standards

Applicable water quality standards are outlined in "Idaho Water Quality Standards and Wastewater Treatment Requirements" - Idaho Department of Health and Welfare, Division of Environment, Title 1, Chapter 2, Water Quality Standards and Wastewater Treatment Requirements: Effective June 28, 1973: and as amended January 30, 1980; March 11, 1980; March 20, 1980; March 25, 1980; April 1, 1980.

The following table summarizes the proposed water uses to be protected for the Snake River between C.J. Strike Dam and the Boise River, definition of the uses and standards are also included.

TABLE 2.1 DESIGNATED USES AND WATER QUALITY STANDARDS OF THE SNAKE RIVER BETWEEN C. J. STRIKE DAM AND THE BOISE RIVER, SOUTHWEST IDAHO BASIN

1) Domestic Water Supply - Waters which are suitable or intended to be made suitable for drinking water supplies.

STANDARDS

Substance	Maximum Concentration (mg/l)	Degrees Celsius
Arsenic	0.050	
Barium	1.000	
Cadmium	0.010	
Chromium	0.050	
Cyanide	0.200	
Flouride*		
"	2.400	Up to 12.0
"	2.200	12.1 - 14.6
"	2.000	14.7 - 17.6
"	1.800	17.7 - 21.4
"	1.600	21.5 - 26.1
"	1.400	26.3 - 32.5
Lead	0.050	
Mercury	0.002	
Nitrate (as N)	10.000	
Selenium	0.010	
Silver	0.050	
Endrin	0.0002	
Lindane	0.004	
Methoxychlor	0.100	
Toxaphene	0.005	
2.4D	0.100	
2,4,5 TP with Silver	0.010	

* As determined by the average annual maximum daily air temperature for the area where the water is to be used.

2) Agricultural Water Supply* - Waters which are suitable or intended to be made suitable for the irrigation of crops or as drinking water for livestock.

STANDARDS - None

3) Cold Water Biota** - Waters which are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and population of significant aquatic species*** which have optimal growing temperatures below 18°C (64.4°F).

STANDARDS

a) D.O. concentrations to exceed 6 mg/1 at all times (with qualifications for reservoir).

b) Hydrogen ion concentrations (ph) 6.5 to 9.0.

c) Water temperature 22°C (71.6°F) or less with maximum daily average no greater than 19°C (66.2°F).

d) Total dissolved gas not exceeding 110% of saturation at atmospheric pressure at the point of collection.

e) Mean concentrations of un-ionized ammonia at 0.04 mg/1 or less based on minimum of five samples taken over 30 days for near optimal water. Otherwise 0.02 mg/1 based on minimum of five samples over a 30-day period.

4) Salmonid Spawning** - Waters which provide or could provide a habitat for active self-propagating populations of salmonid fishes.

STANDARDS

During spawning and incubation periods:

a) D.O. 6 mg/1 or 90% saturation whichever is greater.

b) ph 6.5 to 9.0.

c) Temperature 13°C (55.4°F) or less with a maximum daily average not greater than 9°C (48.2°F).

d) Total dissolved gas not exceeding 110% saturation at atmospheric pressure.

e) Un-ionized ammonia
   1. near optimal water 0.04 mg/1 or less based on minimum of five samples over 30 days.

5) Primary contact recreation** - Surface waters which are suitable or intended to be made suitable for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such waters included but are not restricted, to those used for swimming, water skiing, or skin diving.

STANDARDS

Fecal caliform bacteria

a) 500/100 ml at any time.

b) 200/100 ml in more than 10% of total samples taken over a 30-day period.

c) geometric mean of 50/100 ml based on a minimum of five samples taken over a 30-day period.

6) Dissolved Oxygen Standards for Water Discharged from Dams, Reservoirs and Hydroelectric Facilities

a) 5.0 mg/1 based on the average of at least four consecutive measurements taken within any 60 minute period.

* Protected for general use.

** Protected for future use.

*** Significant aquatic species generally, species indigenous to the area or those introduced by the Idaho Department of Fish and Game. The desirability of a species in a specific water will be determined by the Idaho Department of Fish and Game.

2.2.2 Water Quality in the Project Impoundment

2.2.2.1 Dissolved Oxygen and Temperature

Depth, temperature and dissolved oxygen profiles of Swan Falls reservoir were developed by the Applicant during the summer of 1981. Table 2.2 summarizes data collected from within the reservoir. Profile locations are indicated on Figure 6.

Dissolved oxygen and temperature were also monitored at the Swan Falls damsite. A permanent D.O./temperature monitor collected data on a twenty-four-hour basis. The permanent probe was calibrated on a bi-weekly basis during and following the hottest summer days. The monitoring effort demonstrated that at no time did dissolved oxygen concentrations fall below the minimum standard of 5 ppm. Forebay and tailrace calibration checks are summarized on Table 2.3. Concentrations varied from 6.4 to 10.4 ppm.

Other water quality parameters within the reservoir were not measured. However, it is unlikely that they would change appreciably from waters flowing into the reservoir.

FOREBAY AND TAILRACE D.O. AND TEMPERATURE SUMMARY (1981)

FOREBAY DEPTH	JULY 7		JULY 8		JULY 14		JULY 16		JULY 21		JULY 28		AUGUST 4	
	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP
SURFACE	8.2		8.1	20.5	8.5	19.5	10.4	23.0	7.0	21.5	6.8	23.0	7.9	20.5
1 METER	8.0		8.4	19.5	8.4	19.5	10.4	22.5	7.05	21.3	7.0	22.9	7.9	20.75
2 METERS	8.2		8.3	19.5	8.3	19.5	10.4	22.5	7.2	21.0	7.2	22.3	7.6	21.0
3 METERS	7.9		8.4	19.0	8.2	19.5	9.6	22.0	7.0	21.0	7.0	22.0	7.4	21.0
4 METERS	8.2		8.3	19.0	8.1	19.5	9.6	21.5	7.0	21.0	7.1	22.0	7.3	20.75
TAILRACE			8.2	20.0	7.9	20.2	10.0	21.0	7.2	20.67	7.88	22.0	8.2	20.0

FOREBAY DEPTH	AUGUST 7		AUGUST 11		AUGUST 18		AUGUST 20		AUGUST 25		AUGUST 27		SEPT 1	
	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP
SURFACE	9.2	21.75	8.2	22.0	9.4	22.5	10.1	23.0	9.5	22.0	9.5	21.25	9.4	20.5
1 METER	9.0	21.75	7.9	22.0	9.4	22.0	10.1	23.0	9.45	22.0	9.5	21.25	9.3	20.5
2 METERS	8.8	21.5	7.5	22.0	9.2	22.0	9.8	23.0	9.45	22.0	9.4	21.25	9.1	20.5
3 METERS	8.7	21.3	6.8	22.0	9.2	22.0	9.85	23.0	9.35	22.0	9.3	21.25	9.2	20.5
4 METERS	8.7	21.0	6.4	22.0	9.0	22.0	9.85	22.5	9.3	22.0	9.3	21.25	9.2	20.5
TAILRACE	9.1	22.0	8.36	21.9	9.5	21.5	9.9	22.0	9.55	21.0	9.5	21.0	9.5	19.75

FOREBAY DEPTH	SEPT 4		SEPT 8		SEPT 11		SEPT 15		SEPT 17		SEPT 22		SEPT 24	
	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP
SURFACE	8.75	20.0	9.1	20.5	9.4	19.75	9.4	19.0	9.6	19.5	9.4	17.25	9.2	16.0
1 METER	8.7	20.25	9.0	20.25	9.4	19.5	9.4	19.0	9.6	19.5	9.3	17.25	8.8	16.75
2 METERS	8.7	20.0	9.1	20.0	9.2	19.25	9.2	19.0	9.5	19.5	9.1	17.25	8.7	17.0
3 METERS	8.6	20.0	8.9	20.0	9.1	19.25	9.2	19.0	9.5	19.5	9.1	17.25	8.7	17.0
4 METERS	8.6	20.0	9.0	20.0	9.1	19.0	9.2	19.0	9.45	19.5	9.0	17.25	8.7	17.0
TAILRACE	8.9	19.75	9.25	19.75	9.6	18.25	9.7	18.0	9.75	19.0	9.4	16.0	9.15	16.0

Table 2.3

SWAN FALLS RESERVOIR

DEPTH, TEMPERATURE, & D.O. PROFILE

DATE: July 16, 1981 LOCATION: Clarks Ferry

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	19.0	8.4	23.0	7.8	21.0	9.0
.75 Meter					21.0	9.5
1 Meter	19.5	8.0	22.0	7.6		
2 Meters	19.7	7.9	21.0	7.6		
2.2 Meters			20.0	7.75		
Secchi Disc.	33" (83.82 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Clarks Ferry

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	20.0	7.14	19.75	7.2	20.0	7.8
1 Meter	20.0	7.1	19.75	7.25	20.0	7.8
2 Meters	20.0	7.1	20.0	7.15		
Secchi DISC.	45" (114.3 cm)		Same		Same	

DATE: July 16, 1981 LOCATION: Thomas Flats

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.0	7.9	22.0	7.65	20.5	9.0
1 Meter	22.0	7.75	22.0	7.65	20.5	8.65
2 Meters	21.5	7.7	21.5	8.0	21.0	8.65
2.25 Meters					21.0	8.2
3 Meters	21.5	7.8	21.5	7.7		
4 Meters			20.75	8.0		
Secchi Disc.	31" (78.74 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Thomas Flats

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	Temp C°	D.O.
Surface	21.5	7.5	22.0	7.4	21.5	7.4
1 Meter	21.5	7.3	22.0	7.3	21.5	7.4
2 Meters	21.5	7.2	21.5	7.2	21.5	7.4
2.7 Meters	21.5	7.0				
3 Meters			21.5	7.3	21.5	7.3
3.5 Meters			21.5	7.2	21.5	7.0
Secchi Disc.	33" (83.82 cm)		Same		34" (86.36 cm)	

DATE: July 16, 1981 LOCATION: Ball Point

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	21.0	10.5	21.0	9.6	21.0	9.95
1 Meter	21.5	9.8	21.0	9.65	21.5	9.8
2 Meters	21.0	9.4	21.0	9.4	21.5	9.3
3 Meters	21.0	9.4	21.0	9.5	21.0	9.4
3.3 Meters					21.0	9.3
4 Meters	21.0	9.25	21.0	8.9		
Secchi Disc.	33" (83.82 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Ball Point

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.25	8.9	22.0	9.15	22.0	9.08
1 Meter	22.25	8.9	22.5	9.0	22.5	9.25
2 Meters	22.5	8.85	22.5	9.0	23.0	8.9
3 Meters	22.5	8.7	22.5	8.8	23.0	8.7
3.4 Meters					23.0	8.4
3.7 Meters			22.5	8.8		
4 Meters	22.25	8.8				
4.4 Meters	22.25	8.7				
Secchi Disc.	34" (86.36 cm)		Same		Same	

DATE: July 16, 1981 LOCATION: Old Ferry

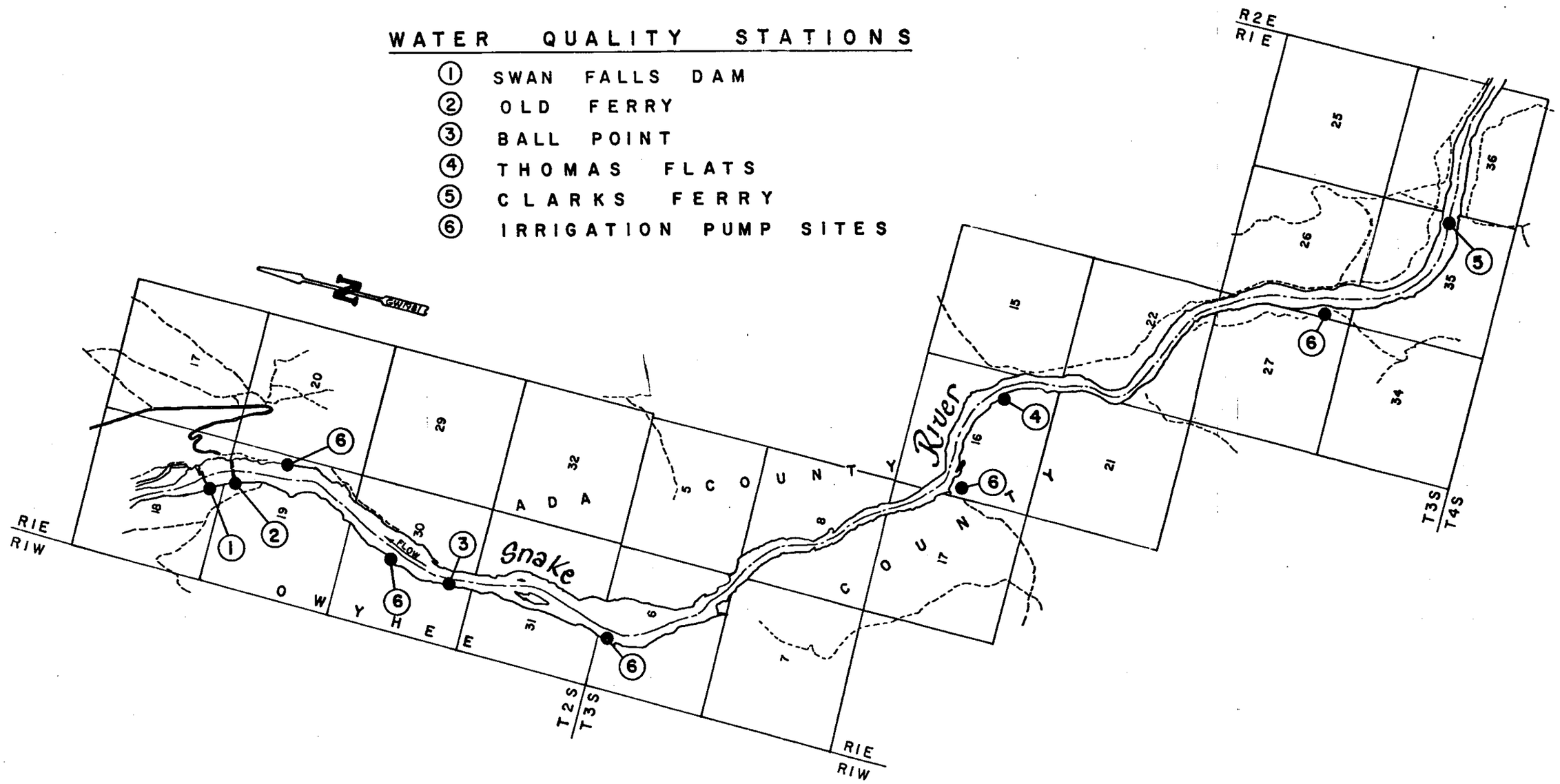
DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.5	10.2	21.0	10.45	20.75	10.8
1 Meter	22.0	9.8	21.0	10.4	21.0	10.6
2 Meters	21.5	9.6	21.0	9.65	21.25	10.0
2.5 Meters	21.0	9.8				
3 Meters			21.0	9.25	21.0	9.8
4 Meters			20.75	9.2	21.0	9.45
4.25 Meters			20.5	9.4		
5 Meters					21.0	9.5
Secchi Disc.	33" (83.82 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Old Ferry

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.0	8.5	21.5	8.45	21.25	8.6
1 Meter	22.0	8.5	21.75	8.7	21.75	8.4
2 Meters	22.0	8.3	22.0	8.6	22.0	8.25
2.2 Meters	22.0	8.0				
3 Meters			22.0	8.1	22.0	8.1
4 Meters			22.0	8.3	22.0	8.0
5 Meters					22.0	8.175
5.4 Meters					22.0	8.0
Secchi Disc.	33" (83.82 cm)		35" (88.9 cm)		35" (88.9 cm)	

WATER QUALITY STATIONS

① SWAN FALLS DAM
② OLD FERRY
③ BALL POINT
④ THOMAS FLATS
⑤ CLARKS FERRY
⑥ IRRIGATION PUMP SITES



PROJECT Nº 503—IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 6
WATER QUALITY STATIONS AND
IRRIGATION PUMP LOCATIONS
IDAHO POWER CO. OCTOBER 1981

2.2.2.2 Dissolved Gas

Previous studies indicate that there is no dissolved gas problem associated with Applicant's projects in the upper Snake River. No problems are expected to develop due to the proposed project.

2.2.3 Downstream Water Quality

The Division of Environment, Idaho Department of Health and Welfare, maintains a water quality surveillance system consisting of an ambient monitoring network and intensive or special surveys. The ambient monitoring system is used to measure trends in water quality at major rivers and tributaries. Stations are located at state and hydrologic basin boundaries, on significant tributaries, and at locations which bracket major land use or pollution source areas.

The system determines ambient water quality, provides for evaluation of trends or shifts in water quality, and assists in assessing the effectiveness of the water pollution control program.

The Southwest basin drains an area of approximately 19,250 square miles. Major tributaries to the Snake River are the Bruneau River, Boise River, Payette River and Weiser River. The tributaries in Oregon which drain into the Snake River (but are not included in the Southwest Basin) are the Owyhee River, Malheur River, Burnt River and Powder River.

The Southwest Basin contains some of the most highly industrialized and urbanized areas in the State. Ada and Canyon counties contain 25% of the state's population and includes the cities of Boise, Meridian, Nampa and Caldwell. Agriculture and the food processing industry are of major importance to the economy.

Water quality is monitored in the Southwest Basin by three trend stations on the Snake River, and by four stations on tributaries - the Boise, Payette, Weiser and Bruneau Rivers. The quality of the Snake River as it enters this basin at King Hill is impaired by high nutrient concentrations and elevated summer temperatures. As the Snake River flows through the Southwest

Basin, bacterial densities, suspended sediment and nutrients increase.

The Bruneau River empties into the Snake River on the south side at C.J. Strike Reservoir. The Bruneau River carries a large amount of sediment in the spring during runoff and during the irrigation season. Sediment concentrations were high in Water Year 1979 and appear to be increasing with time. Hot springs also influence the lower Bruneau River by increasing dissolved solids and raising fluoride levels above drinking water standards.

According to the Idaho Water Resource Board, 1972, because of less extensive riverbank development upstream from Marsing, and therefore more opportunity for the assimilation of wastes in this stretch of the river, the quality of water around Marsing is better than in reaches further upstream and downstream.

The Snake River between King Hill and Weiser is an area in the Southwest Basin where water depletion could impact water quality.

The Snake River at Marsing has on overall fair-to-poor water quality rating due to a combination of natural and manmade effects. Summertime daily temperatures are high and the pH remains near the maximum pH criteria, both of which are related to natural and man-made causes. In addition, bacterial densities and nutrients are, on the average, near water quality limits.

The Boise River, Payette River and Weiser River stations record the effects on water quality of intensively developed agricultural areas. The Boise River station shows the worst water quality conditions since irrigation water is often used several times by the time it reaches this location. Suspended sediment, nutrients, and bacterial densities are very high and summertime temperatures exceed recommended maxima for salmonid species. In addition, agricultural pesticides have been detected in fish at this station in concentrations which are harmful to fish and their predators. The Payette River and Weiser River stations show similar problems to the Boise River but with less severity, and pesticides did not show up as a problem in fish tissues.

The Snake River at Weiser station shows the effect of the three tributaries discussed above and other drainages in the Treasure Valley on water quality. In comparison to the Marsing Station upstream bacterial densities, nutrients and suspended solids have increased resulting in the poorest overall water quality condition measured in the Snake River in Idaho. Also, pesticides were detected in fish tissues at these stations at levels that are potentially harmful to aquatic life. By contrast, water quality improves greatly after passing through Brownlee, Oxbow, and Hells Canyon Reservoirs. Below Hells Canyon Dam bacterial densities, turbidity (aesthetics), and suspended solids have improved greatly and are similar to levels found near the headwaters of the Snake River in Idaho at Heise. Nutrient concentrations are the only major pollutant category that continue to show water quality concerns below the dam.

Ambient water quality conditions are summarized and evaluated by using EPA's Water Quality Index (WQI). The Water Quality Index reduces the mass of monthly data to a single overall measure which expresses the quality of a stream or river. The index is an aggregation of a standardized set of parameters and associated criteria which provides a means for measuring and comparing water quality status with respect to water quality goals. Sub-indices are calculated for ten pollution categories. An overall WQI number for each station is then calculated from these sub-indices which are weighted by the relative severity of the criteria being exceeded for each group.

The WQI numbers span a scale from zero to 100, with zero meaning no evidence of pollution and 100 indicating severe pollution. Twenty is used as a break point for parameters which exceed a minimum criteria. Therefore, less than 20 indicates a stream which on the average experiences no or minimal pollution. Sixty is used as the break point indicating severe pollution. For this report the WQI was divided into additional categories and given a descriptive rating of very good, good, fair, poor and very poor (see Table 2.4).

Table 2.4: WATER QUALITY PROFILE - Southwest Basin

		TEMPERATURE	DISSOLVED OXYGEN	pH	BACTERIA	TROPHIC	AESTHETICS	SOLIDS	INORGANIC TOXICITY	ORGANIC TOXICITY	RADIATION	OVERALL WATER QUALITY CONDITION
STATION: 1 Bruneau River near Bruneau	W.Q. INDEX RATING TREND SOURCES	11/33 Fair no change NS (AG)	6/13 Good no change NS (AG)	6/10 Good no change	18/26 Good/Fair no change AG	16/21 Good no change AG	11/28 Good no change AG	29/72 Fair degraded AG	--- Fair no change NS	--- I.D.	--- Fair	26/57 Fair
SEGMENTS: SWB 110 and 120 PROTECTED USES EXCLUDED: Domestic Water Supply												
STATION: 2 Snake River at Marsing	W.Q. INDEX RATING TREND SOURCES	13/42 Fair/Poor no change HM, AG	2/5 Good no change	23/31 Fair no change	19/28 Fair degraded AG (M)	20/25 Fair no change AG, US (M)	6/8 Good no change	18/21 Good/Fair no change	--- Good no change	--- I.D.	--- I.D.	27/50 Fair/Poor
SEGMENTS: SWB 20 PROTECTED USES EXCLUDED:												
STATION: 3 Boise River near Parma	W.Q. INDEX RATING TREND SOURCES	9/29 Fair no change AG (HM)	5/9 Good no change	10/12 Good no change	54/63 Poor no change AG (M, URB)	44/54 Poor no change AG, M (URB)	10/13 Good no change	35/48 Fair/Poor no change AG (URB)	16/18 Good I.D.	--- V. Poor	--- I.D.	70/87 V. Poor
SEGMENTS: SWB 260 - 280 PROTECTED USES EXCLUDED: Domestic Water Supply												

Idaho Water Quality Status Report - 1980
Idaho Department of Health and Welfare - Division of Environment - July, 1980

Table 2.4: WATER QUALITY PROFILE - SOUTHWEST BASIN (continued)

		TEMPERATURE	DISSOLVED OXYGEN	pH	BACTERIA	TROPHIC	AESTHETICS	SOLIDS	INORGANIC TOXICITY	ORGANIC TOXICITY	RADIATION	OVERALL WATER QUALITY CONDITION
STATION: 4 Payette River near Payette	W.Q. INDEX RATING TREND SOURCES	8/27 Fair no change HM (AG)	4/7 Good no change	6/7 Good no change	31/44 Fair no change AG (M)	22/28 Fair no change AG (M)	8/11 Good no change AG	19/29 Fair no change	--- Good no change	--- I.D.	--- Good I.D.	31/57 Fair
SEGMENTS: SWB 310 - 340 PROTECTED USES EXCLUDED:												
STATION: 5 Weiser River near Weiser	W.Q. INDEX RATING TREND SOURCES	11/36 Fair no change AG (HM)	3/6 Good no change	7/9 Good no change	27/44 Fair no change AG (M)	25/34 Fair no change AG (M)	12/18 Good no change AG	17/28 Good/Fair no change	--- Good no change	--- I.D.	--- Good I.D.	29/58 Fair
SEGMENTS: SWB 410 - 420 PROTECTED USES EXCLUDED: Domestic Water Supply												
STATION: 6 Snake River at Weiser	W.Q. INDEX RATING TREND SOURCES	12/28 Fair no change US, AG	4/7 Good no change	25/29 Fair no change	46/56 Poor degraded AG (M)	26/30 Fair no change AG (M)	9/14 Good no change AG	23/33 Fair degraded AG	--- Good no change	--- Poor I.D.	--- I.D.	50/73 Poor
SEGMENTS: SWB 30 and 40 PROTECTED USES EXCLUDED:												
STATION: 7 Snake River below Hells Canyon Dam	W.Q. INDEX RATING TREND SOURCES	10/28 Fair no change HM	10/24 Good/Fair no change HM, US	12/18 Good no change	3/5 V. Good no change	21/25 Fair/Good no change US	2/4 V. Good no change	10/12 Good no change	--- Good no change	--- Fair I.D.	--- I.D.	15/25 Good/Fai
SEGMENTS: SWB 50 and 60 PROTECTED USES EXCLUDED:												

Within the profile table, two WQI numbers are shown. The first is the average condition by water year. The second is the average of the high three months for the water year. The second WQI number, therefore, illustrates the seasonal extremes for the period covered. For temperature and dissolved oxygen categories the high three month WQI was used for the rating. For the other categories, the average WQI was used for the rating.

2.3 MINIMUM FLOW RELEASES

2.3.1 Changes in the Design of Project Works and in the Project Operation

The backwaters of Swan Falls reservoir extend upstream about 12 miles from the dam. The area-capacity curves for the reservoir are presented in Exhibit B on Figure B-2. They show that the surface area is about 900 acres and the capacity about 5000 acre-feet at the normal maximum reservoir level, elevation 2314.0.

At the present time the upper four feet of the reservoir is used to re-regulate the discharge from C.J. Strike, located about 38 miles upstream from Swan Falls. The C.J. Strike Power Plant has a discharge capacity of about 13,000 cfs and is presently used for peaking operations, especially during the low flow season. However, the peaking operations are limited by the useful storage at Swan Falls, estimated to be about 2500 acre-feet.

There will be no significant change in the operation of the reservoir as a result of the proposed new power development at Swan Falls. There may be some change in the use of the storage, because of the larger turbine capacity provided by the new development, but the reservoir drawdown will be limited to four feet as at present. Furthermore, the discharges from Swan Falls will be monitored to conform to the following guidelines.

2.3.1.1 In the summer season (April 1 - September 30) the minimum discharges will be not less than 5000 cfs, except if the average daily inflow is below 5000 cfs, in which case the

plant discharge will be maintained equal to the average inflow.

2.3.1.2 In the winter season (October 1 - March 31), the minimum flow will not be less than 4000 cfs, except if the daily average inflow is less than 4000 cfs. In which case the plant discharge will be maintained equal to the average inflow.

2.3.1.3 Changes in plant discharge will be controlled so that fluctuations in the tailwater will not exceed one foot per hour.

2.3.1.4 The maximum daily fluctuation in the tailwater will be limited to three feet.

The above guidelines are similar to the guidelines that govern the operation of the existing Swan Falls Power Plant.

2.4 MEASURES TO PROTECT OR IMPROVE WATER QUALITY

2.4.1 Existing Measures

At the present time, no special measures are taken to insure that water quality standards are maintained at or below Swan Falls Dam.

2.4.2 Agency Recommended Measures

State and Federal Agencies charged with the protection of state water quality have not specified any special measures to protect the existing water quality below the Swan Falls Dam. Water quality is not expected to change as a result of implementation and operation of the proposed project.

2.4.3 New Measures

No additional or different measures are contemplated or needed to protect existing water quality.

III. REPORT ON FISH, WILDLIFE AND BOTANICAL RESOURCES

3.1 VEGETATION

Human use of the Snake River Plain and canyon within the project area is not a recent occurrence. Petroglyphs and other archaeological sites show that Indian use of the area predates the coming of the earliest fur trappers and explorers by several thousand years.

The first cattle to enter the area probably date back to early white settlements. By 1900, much of the area had undoubtedly been grazed. Cheatgrass was first reported in Idaho in 1900. Cheatgrass is quick to occupy areas where native vegetation has been degraded by overgrazing and other disturbances.

The construction of Swan Falls Dam in 1901 caused alteration of the native plant cover within the project area. Conversion to agricultural use of land within and adjacent to the study area further altered the native plant communities. The establishment of the reservoir behind Swan Falls Dam altered the existing riparian vegetation. No information is available as to how long it took the present riparian growth to become re-established.

At present, the two major stresses on the noncultivated vegetation of the study area appears to be livestock grazing and vehicular activity. Evidences of grazing can be seen wherever slopes are not too steep or rocky to discourage livestock use. Vehicular use is apparently increasing. Several roads exist that were not present when the U.S. Geological Survey's 7.5 minutes quadrangle maps of the area were compiled a decade ago. Erosion is severe along the roads, particularly where they traverse sedimentary deposits rather than basalt, and ruts often cut deep into the soil. The vegetation along these roads usually consists of Russian Thistle, peppergrass, sunflower and puncture vine and extends several feet on either side of the road.

3.2 HABITAT DISTRIBUTION AND VEGETATION

Several habitat types occur in the vicinity of the project boundary. They are herbaceous riparian, woody riparian, shrub/

grass, cliff/talus slope, annual grass, agricultural lands, reservoir water and river water.

Submergent, floating and emergent aquatic plants occur within the open water portions of the study area. Floating plants, such as duckweed, watershield, pond lily and pondweed are found in areas of calm water. Submerged plants, including elodea, water milfoil, stonewort and mare's tail are reported from the area.

Table 3.1 lists a number of aquatic plants reported by the Bureau of Land Management as occurring in the Snake River.

TABLE 3.1 - AQUATIC PLANTS* FOUND IN THE SNAKE RIVER
(Bureau of Land Management 1976)

FLOATING PLANTS	
Lemna spp.	Duckweed
Spirodela spp.	Great duckweed
Brasenia spp.	Water-shield
Nuphar spp.	Pond lily
Potamogeton spp.	Floating pondweed
Algae	Bluegreen and green algae
SUBMERGENT PLANTS	
Chara spp.	Stonewort
Utricularia spp.	Bladderwort
Ceratophyllum spp.	Hornwort
Hippurus spp.	Mare's tail
Elodea spp.	Elodea
EMERGENT PLANTS	
Sparganium spp.	Bur-reed
Alisma spp.	Waterplantain
Glyceria spp.	Mannagrass
Beckmannia spp.	Sloughgrass

3.2.1 *Herbaceous riparian* habitat occurs along the riverbanks, at the mouths of some streams and on low-lying islands and bars

throughout the area. It includes several distinct plant communities as well as mixtures of others. In the waters behind Swan Falls Dam, shallow banks and low bars support extensive bulrush communities which extend from high water lines well out into the water. Common reed cattail are often minor components which extend from high water lines well out into the water. Common reed and cattail are often minor components which extend from high water lines well out into the water. Common reed and cattail are often minor components of the bulrush communities. Bulrush stands can also be seen in slow-moving shallow water elsewhere. Low-growing willow- (under three feet high) occurs in patches along the banks, often as part of the riverbank composite community (i.e., dominated by members of the composite family). This narrow (one to six feet wide) bank of herbs and low shrubs is usually present from the area between apparent high and low water lines. Cocklebur is somewhat more abundant than other species, but begger ticks, sneezeweed, goldenrod, Indian tobacco, horseweed, sunflower and western mugwort are plentiful. Sedges, dogbane and horsetail are often present.

3.2.2 Wood riparian habitat includes all woody vegetation over three feet high. Its composition varies, apparently depending on proximity to water, aspect, slope and soil. Willows are the most common trees at the river's edge. In some areas, such as just below Swan Falls Dam and at the mouth of Sinker Creek, the willows form dense thickets and few other shrubs or trees are present. In other areas, the willows grow common, sometimes occurring near the river's edge.

3.2.3 The Shrub/Grass type includes a variety of plant communities ranging from stands of predominantly cheatgrass mixed sparsely with brush to dense shrub stands. Greasewood, sagebrush, spiny hopsage, shadscale, saltbrush, rabbitbrush, cheatgrass, alkali saltgrass and tansy mustard are the most common species in the shrub/grass areas. Shadscale is more frequent on north facing slopes. Cheatgrass is found in nearly all communities and alkali

saltgrass occurs in dense stands on lower terraces and playas. Higher terraces often support a mixed stand of rabbitbrush, snakeweed and cheatgrass. Patches of big sagebrush occur throughout the project area. Greasewood stands are also common, commonly occurring near the river's edge.

3.2.4 Rocky Cliffs/Talus Slopes

Very little vegetation occurs on rocky cliffs and talus slopes. Pockets of soil on the cliffs support individual plants such as buckwheat and bladder-fern. Talus slopes support few plants unless the rock cover is thin or fine textured. Desert parsley, spiny hopsage, greasewood, horsebrush and shaggy fleabane ar example of the plants which can be found on talus slopes.

3.2.5 Annual grass habitat is composed of almost pure stands of cheatgrass. It occurs in areas which have experienced a high degree of disturbance, either by fire, range practices or other activities.

3.2.6 Agricultural Lands

Only one small area of agricultural lands are located within the project boundary. It is near the upper end of the reservoir and supports a variety of agricultural crops, depending on what is planted in a given year.

3.2.7 Reservoir habitat consists of Swan Falls reservoir itself and extends approximately 12 miles upstream, behind the dam.

3.2.8 Open river water is located in the river channel which is not impounded behind the dam.

A plant list which includes the common taxa known to occur within or around the project boundary is contained in the following table.

TABLE 3.2 A PARTIAL CHECKLIST OF VEGETATION OF THE SNAKE RIVER CANYON AND ASSOCIATED ECOSYSTEMS

Common Name	Scientific name
Western scouring rush	Equisetum hymenale
Horsetail	E. variegatum
Cattail	Typha latifolia
Arrowhead	Sagittaria cuneata
Ticklegrass	Agrostis scabra
Bluebunch wheatgrass	Agropyron spicatum
Crested wheatgrass	A. cristatum
Cheatgrass	Bromus tectorum
Bermuda grass	Cynodon dactylon
Saltgrass	Distichilis stricta
Barnyard grass	Echinochloa crusgalli
Giant wildrye	Elymus cinerea
Foxtail barley	Hordeum jubatum
Mouse barley	H. murinum
Indian ricegrass	Oryzopsis hymenoides
Witchgrass	Panicum capillare
Reed canary grass	Phalaris arundiracea
Common reed	Phragmites communis
Pacific Bluegrass	Poa gracillima
Rabbitfoot grass	Polypogon monspeliensis
Green bristlegrass	Setaria lutescens
Sand dropseed	Sporobolus cryptandrus
Alkali sacaton	S. airoides
Needle-and-thread	Stipa comata
Three-awn	Aristida longiseta
Hardstem bulrush	Scirpus acutus
Softstem bulrush	S. validus
Sedge	Carex hystricina
Sedge	C. langinosa
Spike rush	Eleocharis palustris
Rush	Juncus articulatus
Rush	J. torreyi
Asparagus	Asparagus officinalis
Cottonwood	Populus deltoides
Peachleaf willow	Salix anygdaloides
Sandbar willow	S. exigua
Willow	S. lasiandra
Hackberry	Celtis douglasii
Stinging nettle	Urtica dioica
Eriogonum	Eriogorum acaule
Water persicaria	Polygonum coccinium
Persicaria	P. hydropiper
Indian tobacco	Rumex crispus
Lamb's quarters	Chenopolium album
Four-winged saltbrush	Atriplex canescens
Shadscale	A. confertifolia

Nuttall saltbrush	A. nuttallii
Red orache	A. rosea
Spiny hopsage	Grayia spinosa
Green molly	Kochia americana
Seepweed	Suaeda nigra
Seepweed	S. occidentalis
Greasewood	Sarcobatus vermiculatus
Bassia	Bassia hyssopifolia
Russian thistle	Salsola kali
Amaramth, pigweed	Amaranthus retroflexus
Buttercup	Ranneulus cymbalaria
Whitetop	Cardaria draba
Peppergrass	Lepidium perfoliatum
Thelypodium	Thelypodium sagittatum
Golden currant	Ribes aureum
Currant	R. viscossimum
Wild rose	Rosa woodsii
Blackberry	Rubus occidentalis
American licorice	Glycyrrhiza lepidota
Squaw bush	Rhus trilobata
Poison ivy	Toxico-endron radicans
Tamarisk	Tamarix pentandra
Russian olive	Eleaganus angustifolia
Fireweed	Epilobium watsonii
Evening primrose	Oneothera biennis
Gaura	Gaura parviflora
Water milfoil	Myriophyllum spicatum
Poison hemlock	Conium maculatum
Water hemlock	Berula erecta
Ash	Fraxinus latifolia
Dogbane	Apocynum androsaemifolium
Dogbane	A. cannabinum
Milkweed	Asclepsis fasicularis
Milkweed	A. speciosa
Dodder	Cuscuta indecora
Verbena	Verbena bracteata
American bugleweed	Lycopus americanus
Bugleweed	L. asper
Spearmint	Mentha spicata
Mint	Teuerium canadense
Bittersweet	Solanum dulcamara
Monkey flower	Mimulus guttatus
Speedwell	Veronica anagallis-aquatica
Teasel	Dipsacus sylvestris
Ragweed	Ambrosia artemesiafolia
Cudweed	Artemisia dracurclus
Wormwood	A. ludoviciana
Sagebrush	A. tridentata
Aster	Aster canescens
Aster	A. chilensis
Aster	A. hesperius
Nodding beggar ticks	Bidens cernua
Rubber rabbitbrush	Chrysothamnus nauseosus
Sticky rabbitbrush	C. viscidiflorus

Thistle	Cirsium vulgare
Gum plant	Grindella squarrosa
Snakeweed	Gutierrezia sarothrae
Sneezeweed	Helenium autumnale
Sunflower	Helianthus annus
Yarrow	Achillea millefolium
Poverty weed	Iva axillaris
Prickly lettuce	Lactuca serriola
Goldenrod	Solidago gigantea
Horsebrush	Tetradymia glabrata
Cocklebur	Xanthium strumarium
Winterfat	Eurotia lanata

Sigler, et al, 1972.

3.3 ENDANGERED OR THREATENED PLANT SPECIES

The U.S. Fish and Wildlife Service presently list four plant species as threatened or endangered which may occur within the vicinity of the project boundary. They include the following: (Federal Register, Monday, December 15, 1980)

Lepidium davisii

Astragalus mulfordae

Astragalus purshii var. ophiogenes

Astragalus comptopus

One species, A. purshii var. ophiogenes does not qualify for listing under the Endangered Species Act. The Fish and Wildlife Service is presently planning to remove it from the list.

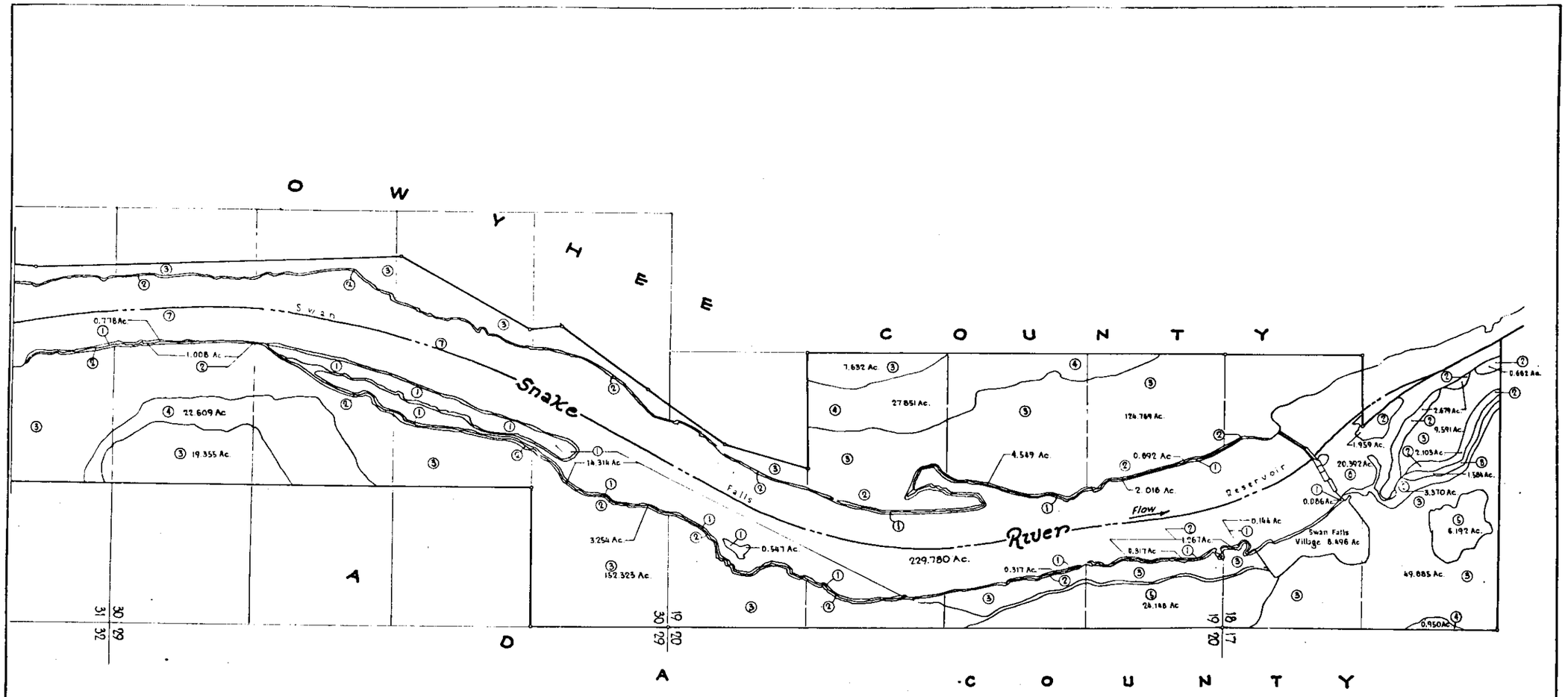
The Applicant consulted with knowledgeable botanists and visited local herberia collections to gather information relative to the known distribution and collections of listed plants. From herberia data, habitat descriptions were formulated and field investigations of potential impact areas were conducted.

Areas of potential impact were investigated periodically during the spring and summer months.

No endangered or threatened plant species were located within the areas of anticipated impact.

3.4 AQUATIC BIOLOGY

The construction of dams on the Snake River resulted in changes in and availability of fish habitat, and the introduction



SWAN FALLS H.E DEVELOPMENT
GENERALIZED VEGETATION MAP
APPROXIMATION IN ACRES

	Swan Falls Village	Herbaceous Riparian	Woody Riparian	Shrub Grass	Cliff/Talus Slope	Annual Grass	Agricultural Land	Reservoir Area	River Area
Sheet 1	8.496	18.519	21.543	363.555	51.410	30.340	*	229.780	21.976
Sheet 2	*	12.972	70.139	231.216	8.698	*	*	251.623	*
Sheet 3	*	5.127	24.135	178.021	*	*	*	187.498	*
Sheet 4	*	3.301	65.053	143.027	*	*	9.389	197.735	*
TOTALS	8.496	39.919	180.870	911.819	60.108	30.340	9.389	846.636	21.976

Existing Vegetation

1. Herbaceous Riparian
2. Woody Riparian
3. Shrub / Grass
4. Cliff / Talus Slope
5. Annual Grass
6. Agricultural Land
7. Reservoir
8. River

Scale in Hundreds of Feet

T. 2 S., R. 1 E., B.M.,

PROJECT NO. 503 - IDAHO EXHIBIT E

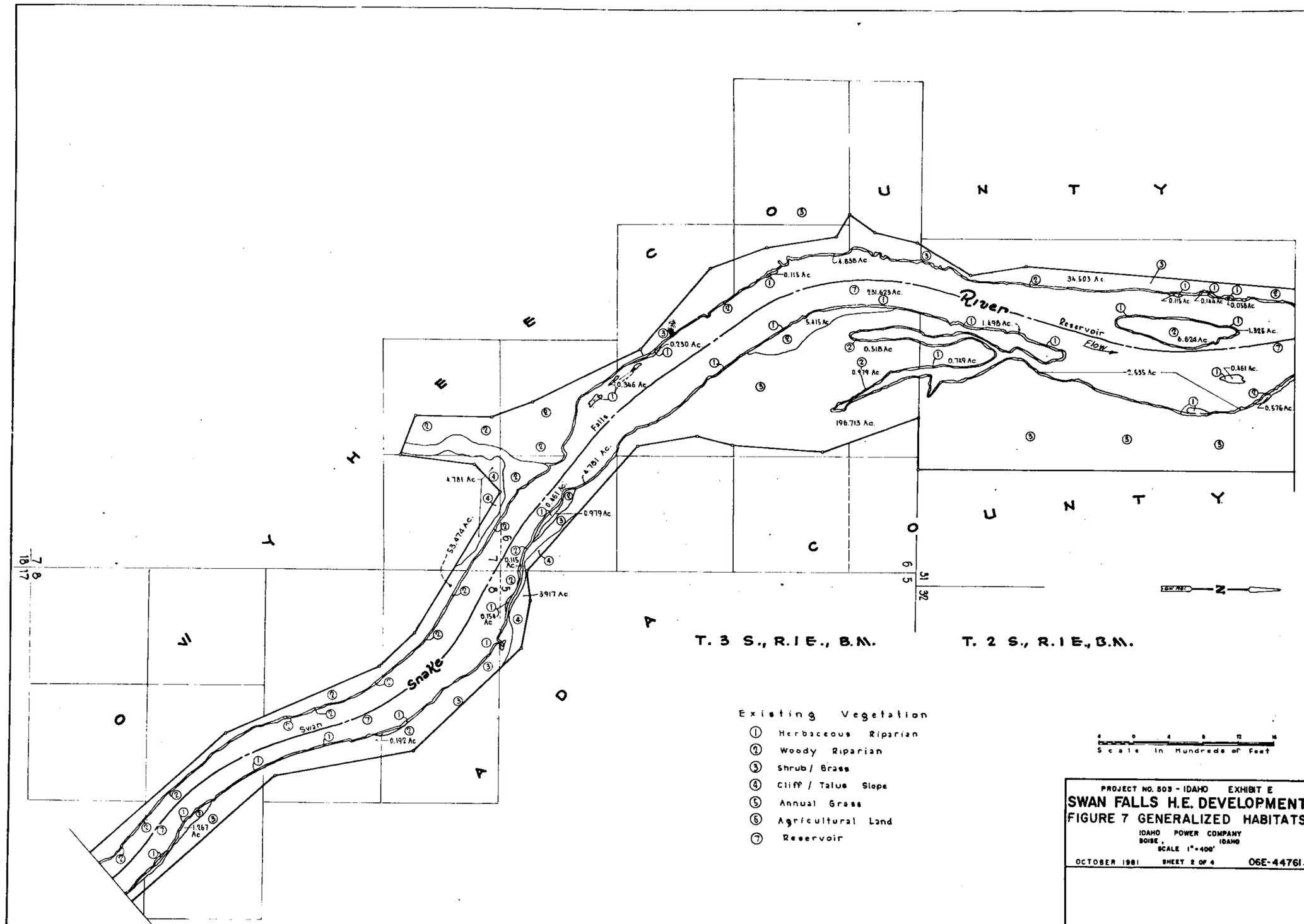
SWAN FALLS H.E. DEVELOPMENT
FIGURE 7 GENERALIZED HABITATS

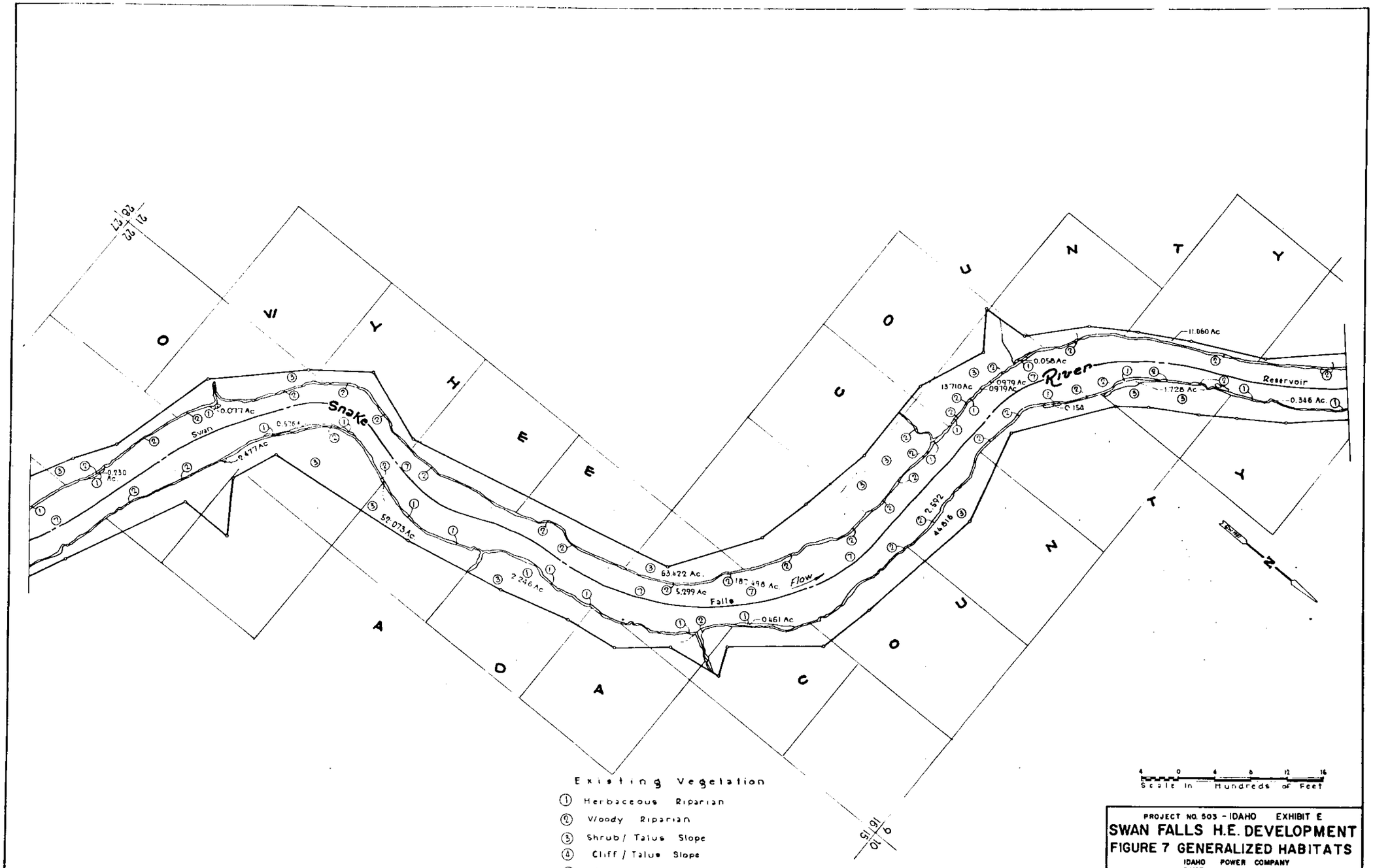
IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1"=400'

OCTOBER 1981 SHEET 1 OF 4 06E-44761.

FIGURE

FERC No. 30-3


ELMORE COUNTY
OWYHEE COUNTY
Snake River
Reservoir
Flow
Falls
Swan
0.230 Ac
0.346 Ac
4.781 Ac
53.474 Ac
0.461 Ac
0.979 Ac
0.115 Ac
3.917 Ac
0.158 Ac
0.192 Ac
1.267 Ac
4.838 Ac
0.115 Ac
231.625 Ac
5.815 Ac
0.518 Ac
0.979 Ac
196.713 Ac
34.503 Ac
0.115 Ac
0.144 Ac
0.058 Ac
1.498 Ac
6.624 Ac
1.928 Ac
0.749 Ac
2.535 Ac
0.861 Ac
0.576 Ac
T. 3 S., R. 1 E., B.M.
T. 2 S., R. 1 E., B.M.
Existing Vegetation
1 Herbaceous Riparian
2 Woody Riparian
3 Shrub / Grass
4 Cliff / Talus Slope
5 Annual Grass
6 Agricultural Land
7 Reservoir
Scale in Hundreds of Feet
PROJECT NO. 503 - IDAHO EXHIBIT E
SWAN FALLS H.E. DEVELOPMENT
FIGURE 7 GENERALIZED HABITATS
IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1"=400'
OCTOBER 1981 SHEET 2 OF 4 06E-44761.
FIGURE
FERC No
3R-3



PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT

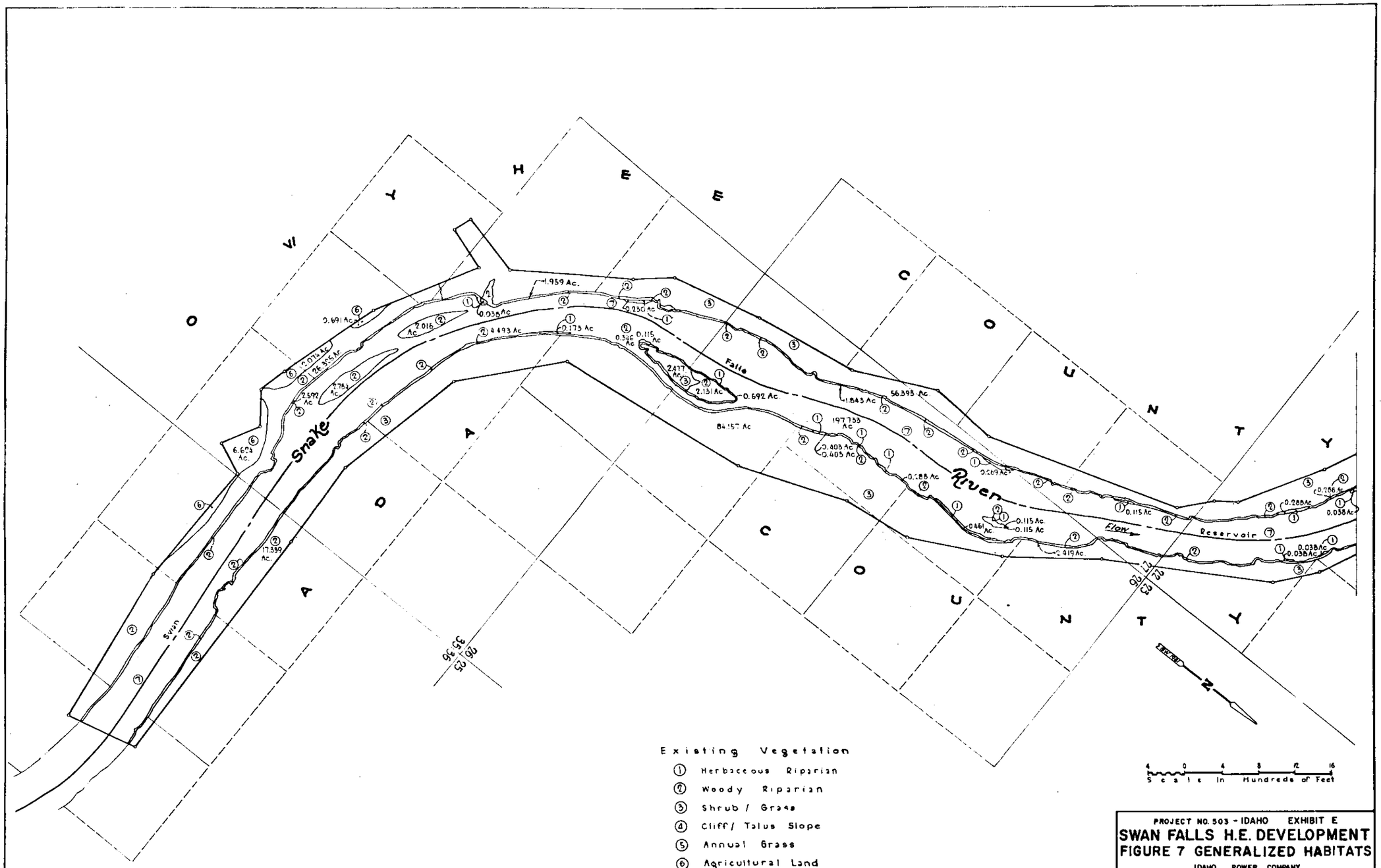
FIGURE 7 GENERALIZED HABITATS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1"=400'

OCTOBER 1981 SHEET 3 OF 4 06E-44761

FIGURE

FERC Nº 38-3



PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT

FIGURE 7 GENERALIZED HABITATS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1" = 400'

OCTOBER 1981 SHEET 4 OF 4 06E-44761

FIGURE

FERC Nº 38 3

of warm water fishes resulted in the elimination or reduction of anadromous fish species and their numbers in much of the Snake River. Today, white sturgeon, mountain whitefish, channel catfish and smallmouth bass are the primary game fish in the river. Edson reports that in 1893, 100 adult channel catfish were stocked in the Boise River and carp were found in the Snake River near Glenns Ferry as early as 1894. The introduction and subsequent establishment of these and other speciies, such as yellow perch and black crappie, soon followed.

The construction of three dams (Swan Falls, Arrowrock and Black Canyon) resulted in a 70% reduction of waterways and spawning areas available to anadromous fish upstream of Hells Canyon. The first dam on the Snake River was built at Swan Falls in 1901. A fish ladder included in the structure allowed only limited fish passage. Construction of the Arrowrock Dam in 1914 blocked the entire upper Boise River drainage. The Black Canyon Dam completed in 1924 effectively blocked the Payette River.

Originally, the Snake River was entirely free-flowing with a steep gradient and contained deep holes, swift-flowing rapids and shallow riffle areas which provided a range of fish cover, spawning and food-producing areas.

Today, with the construction of dams to meet flood control, irrigation and power needs, only two types of aquatic habitat exist in the river; a reservoir or lentic habitat in waters impounded behind dams, and a free-flowing or lotic habitat in waters downstream of dams. Warm water fish species such as carp and sucker typically occur in the lentic habitat, while species such as sturgeon, whitefish and trout prefer the lotic habitat.

The river from Swan Falls Dam (RM 456) upstream to about Big Foot Bar (RM 466) is represented by lentic habitat created by the Swan Falls impoundment.

Irving and Cuplin state that the Swan Falls impoundment has three important characteristics:

1) the volume of water is not much greater than an average river section of equal length;

2) the area of an average cross-section of the impoundment is not much greater than that of an average river section of equal length, and

3) as a result of characteristics one and two, the exchange of water occurs at a relatively rapid rate.

Sigler, et al. conclude that despite these apparent similar hydrological characteristics before and after impoundment, the existing Swan Falls reservoir does not seem to have the proper limnological characteristics to encourage either standing-water or running-water game fish.

The shoreline of the Swan Falls impoundment is predominantly mud, which is poor habitat for fish except carp and suckers. Sigler report that a nearly flat mudbank is exposed during low reservoir levels. The aquatic plants are primarily emergent bulrushes, with no evident submerged plants. During daily water level fluctuations (up to 1.5 feet), the bulrushes are in water too shallow for use as fish habitat. The shoreline can be characterized as typical of fluctuating reservoirs carrying medium to heavy sediment load.

Sigler, also found few aquatic insects along the mudbanks. Midges were dominant. The caddisflies and mayflies that were present were not indigenous, but probably flew upstream from below the dam. The limited number of available invertebrates is relatively poor food for fish other than carp and sucker.

There are no recent data available describing the plankton community in the study area. However, the numerous impoundments and multiple use of the Snake River water have changed many stretches into fertile, warm water habitats. The Swan Falls impoundment is typical of lentic habitats in that turbidity and algal growth appear relatively high. Chapman believes that reservoir eutrophication, with corresponding increases in algal biomass, would result in increased fish biomass, predominantly of warm water species. The most abundant plankton expected to occur in

the study area would be diatoms, green algae and copepods or cladocerans.

The portion of the Snake River below Swan Falls Dam is a free-flowing system with generally swift current and alternating pools, rapids and occasional riffles. Approximately one mile downstream of the dam the river is narrow and deep (60-80 feet). Further downstream the river widens and becomes more shallow.

The visible substrate below Swan Falls Dam is sand, gravel and rock with a small percentage of mud in areas of back-eddy. This type of substrate would be suitable for benthic invertebrates such as caddisflies, mayflies and stoneflies, all of which are important food sources for game fish.

The shoreline is heavily vegetated with semi-aquatic grasses and emergents like Scirpus (bulrush) and other sedges. Submerged species such as Potamogeton are also present and probably provide good fish habitat. Because the Swan Falls installation is used to regulate the fluctuating flows released from the C.J. Strike Dam upstream, daily water level fluctuations are not severe below Swan Falls and shoreline plants remain accessible to fish. Overall, the Snake River below Swan Falls Dam appears to provide a greater diversity of fish habitat and much better habitat for game fish than does the Swan Falls reservoir.

3.5 STUDY AREA FISHERY

Sigler, et al. reported that the proportion of species downstream of Swan Falls Dam was 26.5 percent game fish and 73.4 percent nongame fish. The most abundant game fish were channel catfish, followed by smallmouth bass, black crappie and mountain whitefish. However, the three most abundant fish were the nongame species: large scale sucker, carp and northern squawfish. The fish population in the Swan Falls reservoir was almost entirely nongame species (97.9 percent of the entire catch), with large scale sucker, carp and northern squawfish again dominant.

Hook and line fishing between Swan Falls Dam and the Guffey site resulted in game fish catch/effort values of four smallmouth bass and ten carp per hour.

Northern squawfish, chiselmouth, channel catfish, rainbow trout and carp were also caught, but in smaller numbers. In a similar but limited effort in Swan Falls reservoir, no game fish were taken.

Sigler noted that the three dominant nongame species (sucker, carp, squawfish) were similarly abundant above and below the dam. However, the fish species diversity index was significantly higher below the dam, which reflects the influence of the better and more varied fish habitat. In general, diversity tends to be low (i.e., sensitive to physical-chemical limiting factors) in physically controlled ecosystems like the Swan Falls reservoir, and high in free-flowing biologically controlled ecosystems where overall habitat stability is a major factor in regulating species diversity.

Surveys by Reid found the river from Swan Falls Dam downstream comparatively rich in game fish. Of the 1,399 fish collected, 17.8 percent were game fish, the majority of which were channel catfish, black crappie and smallmouth bass. The most abundant species were nongame fish such as carp, sucker, northern squawfish and chiselmouth. Of 1,784 fish captured in the Swan Falls reservoir, 94.5 percent were nongame fish with carp over 30 centimeters in length comprising the bulk of the biomass.

The proportion of game and nongame fish collected by Reid in the reach of the river from the upstream end of the Swan Falls reservoir to Grandview was between the values noted downstream of the dam and in the reservoir. Eight of 14 species collected and 11.3 percent of the catch (total of 1,425 individuals) were game fish. Mountain whitefish, bluegill and black crappie were the most abundant game species, although few were of catchable size. Carp and sucker were the dominant nongame species.

Reid reported that the Swan Falls Reservoir appeared to be an excellent spawning and/or rearing area for sucker and squawfish as evidenced by the large numbers of juveniles collected. They attributed the relatively low densities of juveniles nongame fish downstream of the dam in part to the diverse number of game fish present and their probable use of the juveniles for food.

Sigler reported that sport fishing between Swan Falls Dam and the Guffey site focuses primarily on channel catfish, black crappie, smallmouth bass and white sturgeon. In 1972, 28 sturgeon one to seven feet in length were caught in this river reach.

Godnight reports that several small white sturgeon were caught below Swan Falls Dam, indicating successful reproduction in that area of the river within the past 10 years.

A rod and reel effort between the Swan Falls Dam and Guffey site in mid-July, 1972, produced three white sturgeon with lengths from 12.5 to 83 inches and ages from one to 28 years. This report also documented catches of 19 other sturgeon in this same area, 16 of which were juveniles about a foot long. Reid concludes that the occurrence of yearling sturgeon below Swan Falls documented successful reproduction in the area, and that this reach of river is one of two known remaining areas in the Snake River where signifianct reproduction is apparent (the other being the Hells Canyon reach).

Evans reported that the reaches from upstream of the Swan Falls reservoir to C.J. Strike Dam and upstream of the Brownlee reservoir to Swan Falls Dam are two of four free-flowing areas of the Snake River which contain sturgeon habitat. White sturgeon require extensive shallow riffle areas for production of food, and swift-running water (preferably rough rapids) for spawning.

The river below Swan Falls Dam contains this type of habitat. The white sturgeon's ventral, protrusible, suction-like mouth makes it well-adapted to feeding on stream-bottom organisms. Bowler believes juvenile white sturgeon in some areas of the Snake River feed heavily on caddisfly larvae. Sturgeon also feed on small freshwater mollusks and aquatic insect larvae. Scott and Crossman report that fish and crayfish were primary food of sturgeon greater than 19 inches in length.

The white sturgeon is a relatively slow-growing, long lived fish and is listed as a species of special concern by the State of Idaho. Because of its status, all fish taken by anglers must be released. Scott and Crossman suggest the life span of the white sturgeon exceeds 100 years and cite reports of an 82-year-old

specimen taken in the Columbia River. They report the largest sturgeon as one purportedly weighing over 1,800 pounds taken from the Fraser River, British Columbia. The apparent angler record is a 394-pound fish caught below Swan Falls Dam. The age of this specimen was not reported, but comparisons to published age-length data suggest it was at least 35 years old.

White sturgeon seldom spawn before they reach 10-15 years of age. Scott and Crossman report that in the Fraser River, British Columbia males first spawn at 11-22 years of age and females at 26-34 years of age. The number of eggs produced increases markedly with age. It has been determined that a 25-year-old female produces approximately 600,000 eggs and 50-year-old fish produces approximately 4,000,000 eggs.

Spawning may occur every three or four years and takes place from May through July at water temperatures of 50° to 60°F. The eggs sink, adhere to the bottom, and hatch in one to two weeks. The fry then move to shallow bays.

The river above Swan Falls reservoir to Grandview also provides favorable fish habitat for game species such as black crappie, bluegill, smallmouth bass, channel catfish and yellow perch. These species prefer cool to warm water, and during different life history stages, utilize one or more of the various flow conditions (pools, riffles, rapids, backwater) and substrate types (vegetation, sand, gravel, boulders) occurring in these river reaches.

3.6 NON-GAME BIRDS

Few studies of non-game birds have been made in the proposed project area.

In general, a low diversity of species found in the areas surrounding the study area due to low diversity in habitat structure.[1] However, several habitats occur within the proposed project area. Of major importance is an intermittent strip of riparian habitat that is used by a wide variety of bird species. The number of species in the bottomland is further increased by

the close proximity of habitat types of such as cliff face, talus slope, shrubland, grassland, riparian, marsh and aquatic areas.

3.7 UPLAND GAME BIRDS

Ring-necked Pheasant, Chukar, Gray Partridge, Mourning Dove and (most abundantly) California Quail are the major upland game-birds of the project area. The quail is closely associated with the riparian vegetation of the riverbank, channel islands, and side canyon ravines.

The chukar is relatively abundant and restricted to the desert shrub and talus slopes of the river canyon and associated drainages that are in close proximity to water. During the hot summer and fall, the riparian habitat becomes essential to these birds.

The Ring-necked Pheasant, Mourning Dove, and to a lesser degree, the Gray Partridge, occur primarily in the agricultural areas of the canyon and adjacent rimland. The greatest densities of pheasants are found in agricultural areas which contain small tracts of weedy vegetation. Sigler indicated that some of the channel islands between Swan Falls and Bernard's Ferry serve as refuge areas from hunting and predation and also as wintering and nesting areas. The Gray Partridge is found in a variety of habitat types, but is generally most abundant in cultivated areas adjacent to the shrub-grassland habitat.

3.8 WATERFOWL

The project area is used by substantial numbers of ducks and geese for nesting, wintering and resting during migration.

There are several islands in the Snake River, within the project area, that are valuable nesting areas for ducks and geese. The stretch of river between Grandview and the existing Swan Falls reservoir typically contains 10,000 to 15,000 wintering ducks.

3.9 MAMMALS

A variety of small mammals inhabit the Snake River region, including ground squirrels, pocket mice, harvest mice, marmots,

hares, rabbits, white-footed mice, woodrats and kangaroo rats. The unique combination of suitable climate, soils, topography and vegetation allows the small mammals of the region to reach high densities and diversity along the Snake River Canyon and adjacent rimlands (Ada Council of Governments, 1973).

3.10 BIRDS OF PREY

3.10.1 Population

The Birds of Prey Natural Area (BPNA) annually supports over 220 pairs of nesting raptors and ravens (Table 3.3), a higher density of nesting raptors than any similar segment of the Snake River.

The Prairie Falcon is the most abundant nesting raptor in the project area, comprising over 40% of the raptor breeding population.

The total populations and population densities of the raptors at the BPNA have been presented at several worldwide meetings of raptor biologists in recent years, particularly at the World Conference on Birds of Prey in Vienna in 1975. No challenge has arisen to the statement that the BPNA is unique as habitat for raptors.

It is estimated that there are slightly more nesting raptors in some sections of the BPNA now than in 1948.

Raptors and ravens of the project area during the last few years have exhibited high levels of productivity (reproductive success) and have maintained stable population levels. For example, although the Prairie Falcon population has exhibited yearly fluctuations since 1971, the changes have not been large.

Table 3.3 summarizes the breeding populations of the 14 main raptor species (including the raven) in the BPNA and BPSA for the last few years.

Species	BPNA				BPSA		
	1975	1976	1977	1978	1975	1976	1977
Turkey Vulture	0	1	1	1	0	1	1
Red-tailed Hawk	30	23	31	29	52	52	63
Swaninson's Hawk	0	0	0	0	0	1	1
Ferruginous Hawk	7	4	6	7	10	13	13
Golden Eagle	11	11	11	14	33	32	30
Marsh Hawk	4	6	8	9	8	19	22
Prairie Falcon	118	114	127	113	188	195	205
American Kestrel	12	11	18	19	22	20	43
Barn Owl	3	4	10	22	8	14	40
Screech Owl	1	2	3	0	1	2	6
Great Horned Owl	12	5	10	4	17	15	19
Long-eared Owl	1	2	2	6	1	2	3
Burrowing Owl	0	0	0	2	2	10	8
Common Raven	56	40	57	55	100	98	120
TOTAL	255	223	284	281	442	474	574

3.10.2 Nesting Habitat

Breeding raptors utilize a variety of nesting structures (e.g., trees, cliffs, powerline structures), but over 92 percent of the breeding attempts in the project area during 1978 were in or on the cliffs of the river canyon.

The riparian habitat along the riverbanks and channel islands supplies several raptor species with suitable nesting habitat. Marsh Hawks nest on the ground on several of the channel islands of the project area. Screech and long-eared owls nest in trees along the river.

3.10.3 Prey

Small mammals, and to a lesser extent, birds and reptiles, are the major prey species of the birds of prey of the project area. Black-tailed jackrabbits and cottontails are heavily preyed upon by the Golden Eagle and some hawk species. Kochert found a strong relationship between jackrabbit densities and Golden Eagle productivity. The Townsend's ground squirrel is utilized extensively by the Prairie Falcon, Red-tailed Hawk, and Ferruginous Hawk. Kochert reported that breeding activities of raptor species such as the Prairie Falcon appear to be associated with the

phenology of their major prey species, the Townsend's ground squirrel.

The highest density of these prey species is found on the canyon rim and desert plateau adjacent to the project site in the BPSA. Kochert and Dunstan found that many of the birds of prey (i.e., Prairie Falcon, Golden Eagle, Red-tailed Hawk) maintained roughly elliptical hunting territories extending several miles away from the canyon. The presence of this prey base plays a major role in the occurrence of high numbers of nesting raptorial birds in the project area. In areas above and below the BPSA, the lack of an adequate prey base appears to limit the number of nesting raptors despite suitable cliffs for nesting.

An example is a canyon, very similar to that in the BPNA, just north of Twin Falls on the Snake River. The land surrounding either side of river is irrigated agriculture, and the area now supports very few raptors.

Prevailing winds in the canyon create strong updrafts that are beneficial to the foraging patterns of the birds of prey in the project area. These updrafts allow the birds to soar out of the canyon and to reach the primary foraging areas above the nesting sites. The juxtaposition of the prey base above the canyon also reduces the effort required of the adults in transporting prey to the young below.

Almost without exception in other raptor nesting areas in North America, the birds have to lift their quarry up from several hundred feet to over two thousand feet vertically to return to their nesting sites. The raptors living in the BPNA, most of which hunt on the plateau, have a distinct advantage in the productive prey base being above their nesting areas. It is probably a significant factor in the high density of raptors found in this area.

Although the canyon proper is not a primary foraging area for the major raptor species of the project area, Marsh Hawks and several species of owls (including long-eared, screech, short-eared, great horned and barn owls) forage for prey species in the riparian and agricultural habitat of the canyon. In addition, the

abundance of riparian birds may provide a secondary prey base for Prairie Falcons, especially in years when ground squirrels are scarce. Should peregrine falcons become established in the study area, the riparian birds would probably form an important part of their prey base.

3.10.4 Endangered Species - Birds

Two endangered species occur in the project area, the American Peregrine Falcon and the Bald Eagle.

A single female Peregrine Falcon occupied an eyrie from 1970 and 1976. In 1971 and 1972, adult male peregrine were released in hopes of forming a pair bond with this female. However, these efforts were unsuccessful and the males left the area after release. Since then, five captive-bred young peregrines, three in 1977 and two in 1978, have been successfully raised in the BPNA using nesting Prairie Falcons as foster parents.

The Bald Eagle occurs in low numbers in the project area during winter. As many as twelve have been reported. The extent of their foraging in Swan Falls reaches is unknown. They may be transient in the project area.

3.11 AGENCY RECOMMENDED MITIGATION MEASURES

The consensus of Federal and State agencies consulted in the development of this report is that the proposed project will have minimal impacts to the existing environment. It is generally recognized that most of the potential impacts have already occurred as the result of past construction and operation activities. Agency recommendations include:

1) Road modifications be conducted at a time of the year which will avoid conflict with nesting raptors. It is recommended that road construction should occur between July 1 and January 31.

2) Several agencies recommended that measures be taken to minimize turbidity and sedimentation during construction.

The Idaho Department of Fish and Game recommended that breaching of the cofferdams be scheduled to avoid conflict with sturgeon and bass spawning.

3) The Idaho Department of Fish and Game expressed concern about potential violations of fish and game regulations by the construction force.

4) It was recommended that wildlife values of disturbed areas be evaluated and that an appropriate mitigation plan be developed.

3.12 APPLICANT'S RECOMMENDED MITIGATION MEASURES

The Applicant is in agreement with all of the measures recommended by State and Federal agencies to minimize adverse impacts to the biological resources of the project area.

3.12.1 Road Modifications

The Applicant recommends that road modifications be made during the summer of 1982. Construction is recommended to begin on July 1 and be completed by January 31, 1983. Road construction can begin with the issuance of proper Bureau of Land Management permits. (Right-of-way application pending - See Appendix B.)

3.12.2 Efforts to Minimize Sedimentation and Turbidity

The staged plan of construction, as described in Exhibit C, will tend to minimize downstream turbidity and sedimentation. Overall, construction activities will be conducted in sections of the river where water movement has been minimized by use of spillways, cofferdams or the existing or proposed powerhouses.

In the event the island downstream from the dam is used as an aggregate source, excavation will be confined to the interior of the island. The un-excavated perimeter of the island will act as a barrier to sedimentary material.

Generally, breaching of cofferdams are scheduled to avoid conflict with fishery resources occurring downstream. Bass and

sturgeon spawning takes place in the spring of the year or early summer. Sturgeon spawning is believed to take place in March or April, although no reliable data is available for the Snake River. Bass spawning occurs when water temperatures reach 60 to 65 degrees. At Swan Falls this happens in late April, May or early June. It is the Applicant's opinion that little conflict occurs between the schedules for cofferdam removal and sturgeon and bass spawning requirements.

During excavation of the tailrace channel, the generation of turbidity is considered minimal. The area will be isolated from the main river channel by cofferdams. However, these activities are scheduled to take place during the late summer and early fall of the year. Water flows should be relatively low at that time. Fish spawning generally occurs in the early spring or early summer.

3.12.3 Enforcement of Fish and Game Regulations

The Applicant will cooperate with fish and wildlife management agencies to assure that the presence of the construction force will not adversely impact wildlife resources.

The use of private vehicles will be limited to authorized parking zones. Travel will be limited to that necessary to perform job duties.

To assure the success of these measures, the Applicant will periodically consult with appropriate agencies to evaluate their effectiveness.

3.12.4 Habitat Rehabilitation

Until final engineering plans are developed, it is not possible to develop a detailed habitat rehabilitati n scheme. However, the Applicant will consult with the Bureau of Land Management, Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service to develop an appropriate mitigation plan for areas impacted (spoils and borrow locations).

3.13 EXISTING MEASURES OR FACILITIES

An existing fish ladder is located near the sluiceway of the existing facilities. The ladder was built several years ago to facilitate the passage of anadromous fish around the dam. During the years when this stretch of the Snake River was still available to salmon and steelhead, the ladder was not well utilized. At present, the fish ladder is of no practical value.

There are no other existing measures at the project to mitigate for adverse impacts to the biological resources.

3.14 SPECIFICATION FOR RECOMMENDED MEASURES

At this time, there are no specific facilities which have been recommended for mitigation purposes. However, the Applicant will consult with appropriate management agencies to develop an acceptable mitigation plan.

3.15 ADDITIONAL MEASURES OR FACILITIES

No additional measures or facilities are expected or necessary for the mitigation of adverse impacts to the biological resources of the project area.

3.16 ANTICIPATED CONTINUING IMPACTS TO FISH, WILDLIFE AND BOTANICAL RESOURCES

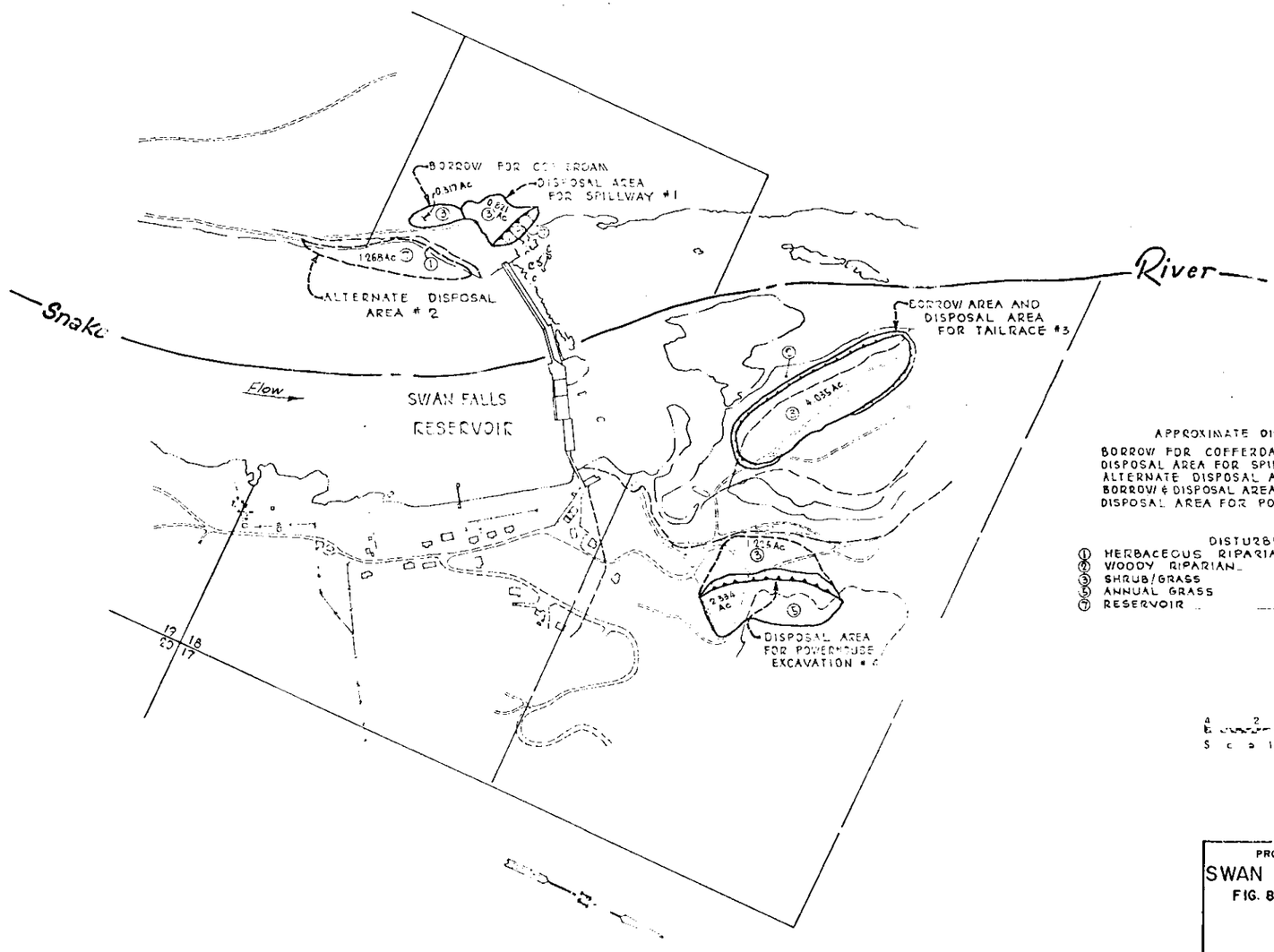
No long-term adverse impacts are expected to occur to the biological resources of the project area.

3.17 IMPLEMENTATION SCHEDULE

It is recommended by the Applicant that development of an appropriate mitigation plan be done prior to startup of construction activities. A most appropriate time would be during the spring and summer months of 1982. Implementation of the plan would follow construction activities.

3.18 COST

Cost estimates of a habitat rehabilitation plan cannot be developed at this time.



A PORTION OF SEC. 18,
T. 2 S., R. 1 E., B.M.,
OWYHEE COUNTY, IDAHO

APPROXIMATE DISPOSAL and BORROW AREAS

BORROW FOR COFFERDAM	0.317 Ac
DISPOSAL AREA FOR SPILLWAY #1	0.821 Ac
ALTERNATE DISPOSAL AREA #2	1.268 Ac
BORROW & DISPOSAL AREA FOR TAILRACE EXCAVATION #3	4.035 Ac
DISPOSAL AREA FOR POWER HOUSE EXCAVATION #4	3.559 Ac
TOTAL	10.000 Ac

DISTURBED THRU CONSTRUCTION

①	HERBACEOUS RIPARIAN	0.202 Ac
②	WOODY RIPARIAN	1.225 Ac
③	SHRUB/GRASS	6.657 Ac
④	ANNUAL GRASS	0.778 Ac
⑤	RESERVOIR	1.138 Ac
	TOTAL	10.000 Ac

0 2 0 2 4 6 8
Scale in Hundreds of Feet

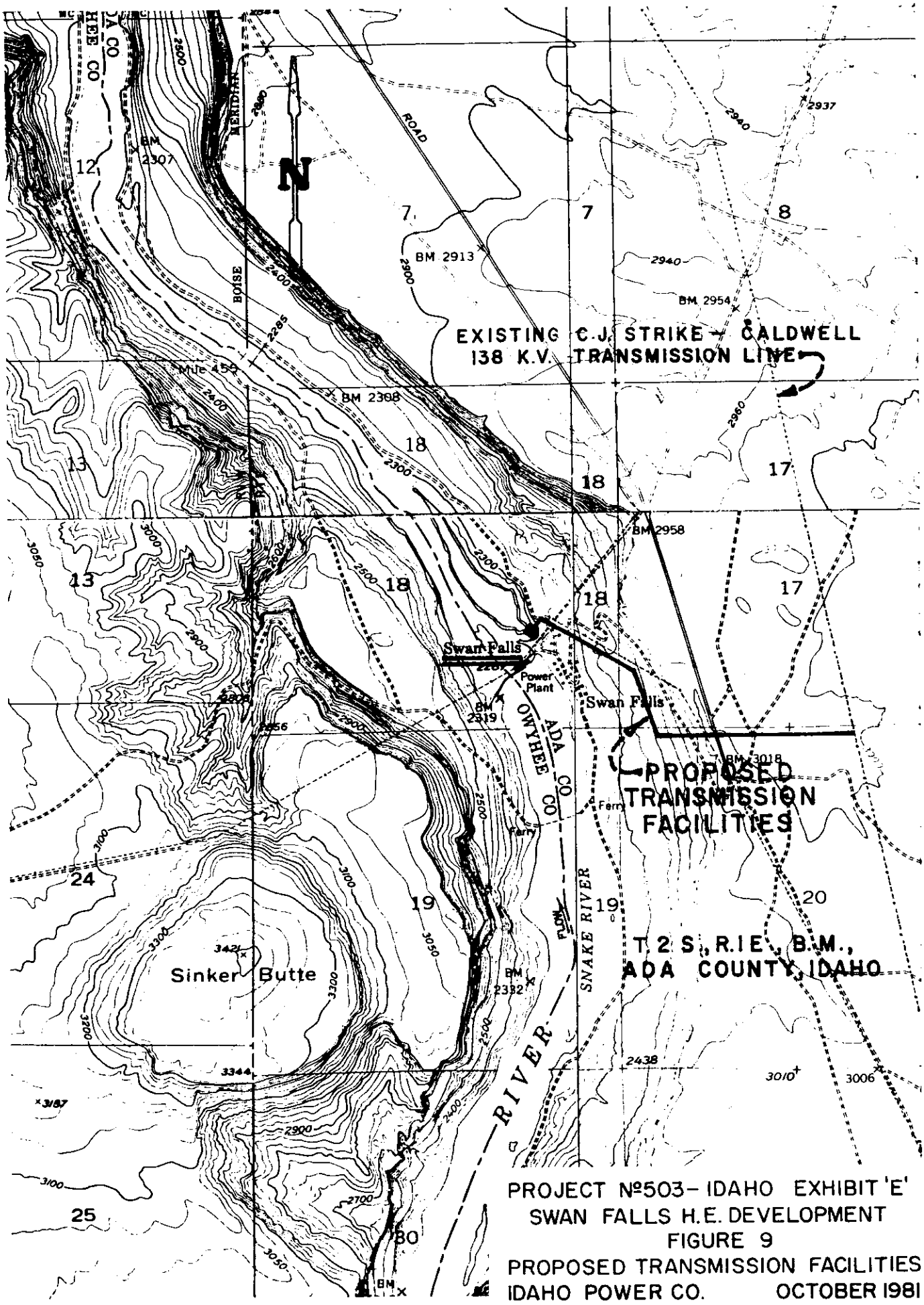
PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT

FIG. 8 SPOILS AND BORROW AREAS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1" = 200'

OCTOBER 1981 SHEET 1 OF 1 06E-44770



PROJECT Nº503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 9
PROPOSED TRANSMISSION FACILITIES
IDAHO POWER CO. OCTOBER 1981

IV. HISTORICAL AND ARCHAEOLOGICAL RESOURCES

4.1 BACKGROUND

The remote cultural history of the area is not yet fully understood, but prehistoric populations were in southwest Idaho as early as 6,000 years ago.

There were probably settlement concentrations, mainly winter villages, along the Snake River in this area from about 1,000 B.C.

The river provided salmon, sturgeon, mussels and waterfowl to these early people, and the canyon provided a sheltered environment in winter. Therefore, their settlements were concentrated along the riverbanks or on the few tributaries. The country above the canyon rim, at least in more recent millenia, was a relatively barren sagebrush semi-desert.

Present day Indian tribes in the region are the Shoshone-Bannock and the Shoshone-Paiute. They live mainly in the Duck Valley Reservation on the Nevada border, south of the project area, or in the Fort Hall reservation, on the Snake River in southeast Idaho.

Historic groups began to replace aboriginal populations during the first half of the 19th century. Early explorations through the project area were by fur trappers in search of new sources of beaver pelts. By 1840, a stream of settlers had begun to cross the Snake River Plain on the Oregon Trail. The south alternate of this trail passes along the south border of the project area. From 1863, mining for gold and silver increased in the region and led to the construction of ferries, roads and railroads and eventually to the introduction of irrigated farming and hydroelectric power production.

Most of the archaeological sites in the area must be regarded chiefly as a scientific and educational, rather than a recreation resource. The Idaho Historical Society maintain accurate records of site locations.

The project area has been intensively studied. In 1958, a preliminary two-week survey was conducted by D. R. Tuohy and C. Hulse of the Idaho State College Museum. The findings of this

brief survey pointed the way to a comprehensive survey by R. W. Keeler and D. G. Koko in the summer of 1971. This survey examined essentially the entire area that was to be inundated by a proposed reservoir or that would be subject to increased human use. Each of the sites discovered in this survey has been mapped, described, recorded and given a standard Smithsonian Institute number. Since 1971, ongoing survey work by BLM archaeologists has revealed many more sites. These too have been mapped, described, recorded and numbered. During the summer of 1978, an additional survey was carried out in the field by K. Murphy for the BLM. In the course of this work, many additional sites were mapped. In April 1976, a report was produced by N. Tobias illustrating a very detailed study of one specific site, the Wees Bar Petroglyph Field, four to five miles downstream from Swan Falls Dam. Only a few sites in the project area have been subject to controlled excavation.

4.2 ARCHAEOLOGICAL RESOURCES

The surveys discussed above concentrated on the areas likely to be affected by two proposed reservoirs (Swan Falls-Guffey Project). Those reservoirs are no longer considered feasible. However, it is probable that relatively few sites exist outside these areas since the early people were so dependent on the river.

In the spring of 1981, the project site was inspected by Dr. Thomas Green and Dr. Ken Swanson, Idaho State Historical Society, and Dr. Ken Ames of Boise State University. They specifically examined areas which could be disturbed by various construction activities, particularly Site No. 10AA17, which is located near the right abutment of Swan Falls Dam. As a result of the inspection, Applicant contracted with Dr. Ames to dig a series of test pits to determine the site's age, the nature of the subsurface deposits and the overall size of the site.

Test excavations were dug during the late summer of 1981. The test pits revealed that much of the site had been destroyed through past ground disturbing activities, however, two portions of the site remained intact enough to contain information of scientific or educational value.

One portion of the site contains remnants of an aboriginal house structure which appears to have been destroyed by a prehistoric fire. Another portion of the site contains stratified remains which reflect a series of occupational uses. A copy of Dr. Ames report will be supplied as a supplement to this report when it is completed.

4.3 HISTORICAL RESOURCES

There are a number of historic sites near the project area. Guffey townsite (which is also a prehistoric settlement, Site Number 10E244) was a former station on the Boise, Nampa and Owyhee Railroad during the 1880s. Guffey Railroad bridge, about a mile upstream of the old townsite, was constructed in 1898; the tracks were removed about 1940. Both of these sites are located about a dozen miles downstream from Swan Falls Dam. At Halverson Bar, about six miles downstream, there was extensive placer mining, and the remnants of stone houses line the riverbank.

The existing Swan Falls Dam was built in stages between 1901 and 1936. The south alternate route of the Oregon Trail and associated graves lie south of the project area, mostly above the cliff line.

Almost all of the sites in the project vicinity are included in the Guffey Butte-Black Butte Archaeological District. This was nominated to the National Register of Historic Places in the spring of 1977, and put on the Register on October 10, 1978.

Swan Falls Dam, because of its historic value was put on the National Register of Historic Places on July 6, 1976. The dam is also an Idaho Historic Site (Number 63).

4.4 AGENCY RECOMMENDED MEASURE TO PROTECT ARCHAEOLOGICAL OR HISTORICAL RESOURCES

4.4.1 Archaeological Resources

The Idaho Historical Society recommended that Site No. 10AA17 be evaluated to determine its age, the nature of subsurface

deposits and the overall size of the site. It was also recommended that this evaluation be utilized to develop an appropriate mitigation effort for the site.

Consultation with the Idaho Historical Society took the form of several visits with Society personnel to discuss the proposed project, invitation of the Society in a preliminary scoping meeting, an on-site visit by State archaeologists and a dialog aimed at the development of an appropriate mitigation effort.

In order to protect the scientific and educational values of Site No. 10AA17, it was recommended that:

1. The portion of the site which contains the remains of prehistoric dwellings be identified and fenced to avoid disturbance to the site during construction activities.

2. The portion of the site which contains stratified information be either fenced or if that is impractical, be excavated to recover significant information which it may contain.

4.4.2 Historical Resources

The only historical site within the general vicinity of the proposed project which will be directly impacted is Swan Falls Dam. The Historical Society's recommendations to protect the historical flavor of the structure include:

1. Preservation of the exterior appearance of the existing structure to the greatest extent practical.

2. In conjunction with the National Parks Service's development of an adequate Historic Engineering Record of construction techniques used in construction of the old dam, particularly in the area of the existing spillway.

3. The Idaho Historical Society be provided with copies of existing engineering drawings of the existing Swan Falls Dam

in order that they may be preserved and protected for posterity.

4.5 IMPACTS OF THE PROPOSED PROJECT ON HISTORICAL/ARCHAEOLOGICAL PROPERTIES

4.5.1 Archaeological Site Number 10AA17

Portions of this archaeological site will likely be destroyed by construction activities. A small, intact segment of the site is located in the same area as the construction staging yard and batch plant operations. It is highly unlikely that this portion of the site can be avoided during construction. Because the site in this location is fairly shallow, construction activities will probably severely impact its integrity, if not destroy it completely.

The more valuable portion of the site, that contains the remnants of prehistoric dwelling(s) can be avoided during construction. No impact is expected to occur to this portion of the site.

4.5.2 Swan Falls Dam

The impacts to Swan Falls Dam are described in detail in Exhibit A - Project Description. Essentially, the existing spillway will be replaced, a new powerhouse will be installed at the present location of the existing sluiceway and the existing powerhouse will be decommissioned.

The new spillway will be located in the same location as the existing spillway. Decommissioning of the existing powerhouse will involve removal of most of the existing generators, turbines and associated electrical equipment. Turbine wells will be filled with concrete, and the interior fixtures, such as stairways and ladders will be removed. Windows and doors will be sealed.

In an effort to preserve the historic and aesthetic flavor of the existing dam, the superstructure of the existing powerhouse will be preserved and maintained. The exterior of the powerhouse

superstructure will be maintained similar to its present appearance.

4.6 APPLICANT'S SUGGESTED MEASURES TO PROTECT HISTORICAL AND ARCHAEOLOGICAL RESOURCES

4.6.1 Archaeological Resources

During the late summer of 1981 Archaeological Site No. 10AA17 was evaluated to determine the nature of the subsurface deposits as recommended by the State Archaeologist. The Applicant concurs with the recommendations of the Idaho State Historical Society.

1. Portions of the site which contain prehistoric dwellings will be fenced or in some way identified and avoided during construction activities.

2. Portions of the site which have been identified to contain archaeological significance will be excavated to recover the educational and scientific value of the site.

Due to the location of portions of Site No. 10AA17, the Applicant feels that it would be very difficult, if not impossible to avoid some of the sites during construction. Excavation of these portions should constitute total mitigation of the disturbed area. This will allow the site to be used for construction purposes, as well as possibly serve as a part of a proposed spoils area. The Idaho Historical Society is in agreement with this reasoning.

4.6.2 Historical Resources

The Applicant is in agreement with the suggested agency recommendations to protect or mitigate historical values of the Swan Falls Dam. The Applicant recommends one additional measure to be taken to provide the public an opportunity to appreciate the historical engineering values of the generating facilities and to serve as an educational/recreational media. The Applicant intends

to develop a display of an existing turbine and generator, to be mounted in the existing superstructure of the Swan Falls powerhouse.

4.7 SCHEDULE OF ACTIVITIES

It is proposed that excavation of portions of Archaeological Site No. 10AA17 be conducted during the summer of 1982, prior to construction activities at the dam. This will avoid conflicts between construction and excavation.

The development of a historical engineering record will need to be an ongoing effort throughout various stages of construction. A schedule for such activities will need to be developed in conjunction with the Idaho State Historical Society and the National Park Service. As yet, no schedule has been developed.

Rehabilitation of the existing powerhouse to retain its aesthetic appeal will occur after construction of the new powerhouse. Construction schedule calls for this work to be completed during June, July, August and September of 1987.

Installation of the turbine/generator display will be one of the final construction activities, scheduled for October of 1987.

4.8 COST

Cost of archaeological excavations of Site No. 10AA17 is estimated to be approximately $20,000.00.

Cost of rehabilitation of the superstructure of existing powerhouse is anticipated to be $220,000.00.

Cost of developing an adequate Historical Engineering Record is anticipated to be $3,000.00.

Cost of installing the turbine/generator display is $100,000.00.

Both of these costs are included in the construction cost estimates.

V. RECREATIONAL RESOURCES

5.1 EXISTING RECREATION FACILITIES AND OPPORTUNITIES: REGIONAL SETTING

The Snake River plateau and canyon is rich in various recreation opportunities that include sightseeing, camping, picnicking, boating, off-road vehicle (ORV) use, fishing and hunting.

The Swan Falls project is located within Region 3 of the 1977 Idaho State Comprehensive Outdoor Recreation Plan (SCORP). This region includes ten counties in southwestern Idaho. The Birds of Prey Natural Area (BPNA) is listed within the SCORP as one of the nationally significant recreation resources within Idaho.

Although the total annual recreation use within the project site is not known it was estimated in 1977 that approximately 11,500 recreationists visited the BPNA and 52,100 recreationists visited the remaining portion of the study area along the Snake River from May to August (Recreation User Survey, Snake River Birds of Prey Natural Area and Study Area, BLM, 1977).

During 1977 the Bruneau Sand Dunes State Park within the SCORP Region, approximately 55 miles upstream of the project, received 71,981 visitors, mostly day users. The Idaho Department of Fish and Game has also conducted two Snake River fisheries investigations in the area. The first, from March 22, 1971, to January 9, 1972, surveyed recreation use from Bernard's Ferry downstream of the project, upstream to and including, C.J. Strike Reservoir. This survey estimated 39,777 days of recreation use during the nine month census period. The following Table 5.1 summarizes this use by section of river:

Table 5.1

	Angler Days	Hunter Days	Other Days
C.J. Strike Reservoir	7,343	2,095	10,668
Strike Dam to Grandview	6,649	83	2,099
Grandview to Swan Falls Dam	2	368	232
Swan Falls Dam to Guffey	3,321	236	879
Guffey to Bernard's Ferry	4,359	576	867
TOTALS	21,674	3,358	14,745

The second fisheries investigation from March 1, 1975, to February 29, 1976, measured recreation use from the headwaters of C.J. Strike Reservoir at Loveridge Bridge to Lower Salmon Falls Dam. In this survey, recreation use was measured in hours rather than days. For the portion of the census area within the BPNA, 8,969 hours of use occurred during the twelve-month period. Of these, 3,663 were angler hours, 5,306 hunter hours, and 3,167 hours were from other recreation users.

Besides the Snake River Canyon and the Bruneau Sand Dunes, visitors are drawn to several other geological attractions in the SCORP Region. These include Crater Rings and Kuna, Higby and Tank Caves.

Several recreation sites with day and overnight facilities exist at C.J. Strike Reservoir. One is the BLM's Cove Recreation Site; another is one administered by the Idaho Department of Fish and Game. The C.J. Strike picnic area, operated by the Applicant, is located adjacent to the dam. Camping use at this site is also popular. Just north of the C.J. Strike picnic area, the U.S. Air Force administers a recreation facility. In addition, the Black Sands Resort is located on the southwest side of the reservoir. Additional camping and day use opportunities are available at Bruneau Sand Dunes State Park, eight miles northeast of the town of Bruneau. The Idaho Department of Fish and Game provides several boating access facilities on the reservoir and on the Snake River.

Several popular off-road vehicle (ORV) areas are within the Region. Weekend unorganized ORV use is common in these areas, and every year the BLM issues several permits for competitive motorcycle events.

5.2 EXISTING RECREATIONAL FACILITIES

All recreational facilities at the existing project are available for public use. Existing facilities maintained by the Applicant are:

1. A boat ramp facility located approximately one-half mile upstream of the existing dam.

2. A small day-use park maintained within Swan Falls Village.

3. Restroom facilities located near the right side of the existing dam.

Additionally, the road leading from the top of the canyon rim to the dam and its environs is maintained by the Applicant and open to public use. This road constitutes the major access to the canyon area.

5.3 EXISTING RECREATIONAL USE OF THE PROJECT FACILITIES

The Applicant has maintained accurate records of recreational visitors to the Swan Falls project area since 1976. A summary of these records is contained in Table 5.2.

TABLE 5.2 RECREATION VISITATIONS-SWAN FALLS PROJECT

1976-1980

	Number of People					Expected Use
	1976	1977	1978	1979	1980	2000
JAN	1,058	533	1,265	555	1,149	1,110
FEB	1,228	869	1,554	1,125	1,167	2,250
MAR	2,268	1,232	2,102	2,242	1,656	4,484
APR	2,346	2,479	1,491	1,954	2,586	3,908
MAY	4,303	1,876	2,346	2,631	2,940	2,562
JUN	3,208	2,213	2,298	2,194	2,632	4,388
JUL	3,374	1,976	1,965	1,439	3,555	2,878
AUG	2,187	1,302	1,247	1,347	3,444	2,694
SEP	2,131	1,095	2,135	587	2,046	1,174
OCT	851	710	1,225	816	1,641	2,000
NOV	792	544	655	858	1,452	1,500
DEC	992	622	803	681	474	1,700
TOTALS	24,738	15,451	19,086	16,429	24,742	30,648

Applicant records do not accurately reflect what type of recreation activity was participated in by visitors. However, BLM studies show that the majority of recreation use in the project vicinity occurs from Guffey Butte (approximately 12 miles downstream) to approximately one mile above the dam. Little recreation occurs above the dam to the town of Grandview. Poor fishing, poor access and the remote nature upstream of the dam is generally credited with the low recreation use.

The studies also indicate that only 3 percent of the use recreation occurring within the canyon takes place above the dam. The remaining use is located downstream, or above the canyon rim. Fishing represented the largest single recreation activity. Nature study, camping, picnicking and sightseeing are other major activities. Table 5.3 summarizes BLM findings relating to recreational activities occurring near the project area.

TABLE 5.3 RECREATIONAL ACTIVITIES AND FREQUENCY OF VISITS WITHIN AND NEAR THE PROJECT AREA*

Fishing	63.0%
Nature Study	10.4%
Camping	7.4%
Picnicking	6.0%
Sightseeing	5.4%
Motorcycle Riding	3.8%
Boating	3.8%
Rafting	.5%
Horseback Riding	.4%

Visits Per Year	Percent of Total
First Time	19%
1 - 5	46%
6 - 10	17%
11 - 15	9%
16 - 20	7%
Over 20	2%

* Recreation Users Survey - Snake River Birds of Prey Natural Area and Study Area 1977 - Bureau of Land Management

Recreational use of existing project facilities is day use only. Overnight use is not permitted at the existing project facilities.

Approximately 75% of the recreational use of the Birds of Prey Natural Area is day use, with visitors spending an average of 6 to 7 hours in the area. The remaining 25% of the visitors stay for more than two days. Approximately 86% of the recreation users of the BPNA reside in Ada and Canyon counties. Only 1.2% of the visitors were from Elmore County. All other Idaho counties showed less than one percent each.

The majority of the recreation users visit the area one to five times per year. Thirty-five percent visit the area more than six times a year. Frequency of visitations to the Birds of Prey Study Area are summarized in Table 5.3.

5.4 PROJECTED RECREATION USE

According to the 1977 Idaho Outdoor Recreation Plan, outdoor recreation activities within Region 3 is expected to approximately double by the year 2000. The Bureau of Land Management Interm Management Report concurs with the SCORP document. Recreation use of the project facilities are projected to the year 2000 on Table 5.2. It is anticipated that the percentage of various recreational activities will remain approximately proportional to those occurring at present.

5.5 AGENCY RECOMMENDATION FOR THE DEVELOPMENT OF RECREATIONAL FACILITIES

The Bureau of Land Management has developed three management objectives for the Birds of Prey Natural Area. They are:

1. To protect and maintain a complete ecosystem which includes a unique and fragile combination of desert, river and volcanic cliff complex and which supports and maintains the highest known density of nesting raptors in North America.

2. To protect and maintain the raptors, their habitat, and the scenic, archaeological, educational, recreational and other values associated with the involved public lands for public enjoyment and study in perpetuity.

3. To update, revise and continue implementation of a long-range multiple use and sustain yield management plan that emphasizes management and protection of raptor habitat as well as the management and use of other natural resources.

State and Federal agencies consulted agreed that future recreation developments at the project site should reflect the management goals of the BPNA.

The Applicant has worked closely with the BLM and Idaho Department of Parks and Recreation to develop an acceptable, low-key recreation plan which is consistent with long-range management plans for the area.

The elements of the agencies' recommendations are summarized below.

1. Development of a portage trail around the dam.

2. Improvements to existing boat launch facilities in the reservoir.

3. Cleaning up an unsightly garbage disposal area.

4. Development of canoe/rubber boat launch facility downstream of the dam.

5. Participation with the Bureau of Land Management in the updating of an informational brochure which includes both the Birds of Prey Natural Area and the historic Swan Falls Dam.

6. Continuation and maintenance of existing recreational facilities located within the project area.

7. Periodic review of recreational facilities to evaluate the extent they meet future demands.

5.6 APPLICANT'S PROPOSED RECREATION FACILITIES

The Applicant's proposed recreation facilities include all of the elements of the agencies' recommendations, plus some additional measures. The Applicant's proposed recreation developments include:

5.6.1 Repair and Improve the Existing Boat Launch Facilities

As part of the existing project, the Applicant has built a boat launch ramp which extends sufficiently into the Swan Falls reservoir to be useable to the public regardless of the surface water elevation. The present facilities are not heavily used due in part to the poor fishing in the reservoir and to very high summertime air temperatures. Over a period of years the access road which leads directly to the launch ramp has badly deteriorated as well as the boat launch itself. As a part of this second amended application for a new license it is proposed that the access road to the facilities be improved and maintained in a satisfactory condition and the existing boat launch ramp be repaired or replaced. Estimated cost for the initial improvement is approximately $3,000.

5.6.2 Cleanup an Existing Garbage Disposal Area

Over a period of several years an unmanaged refuse pile has developed in the vicinity of the existing boat launch ramp. This refuse consists primarily of old cans, auto parts, wire and picnic paraphernalia. It is proposed that this site be cleaned up to enhance the recreation experience of the area and to improve the overall aesthetic appeal. Cost is estimated to be approximately $500.00.

5.6.3 Development of an Access Road, Parking Area and Rubber Raft/Canoe Launch Facility

The Snake River below the project dam is presently used by

fishermen, hunters, photographers and sightseers. River traffic generally consists of people utilizing rubber rafts, canoes or jet powerboats.

Downstream launching areas are considered adequate for jet boat use. However, launching of rubber rafts and canoes is difficult due to riverbank conditions. The Bureau of Land Management considers it undesirable to encourage jet boat traffic within the BPNA. The encouragement of river rafting and canoeing is considered to be consistent with the management goals outlined previously.

The Applicant proposes to develop canoe/raft launch facilities and necessary access immediately below the tailrace channel of the proposed project. An existing road on the island below the dam would provide access to the site and the construction bridge to the island would provide necessary access from the mainland. It is anticipated that the facilities would be low-key in nature, consisting primarily of access, parking and contouring of the riverbank to accommodate launching. Cost of the proposed activities is estimated to be $5,000.

5.6.4 Installation of an Air Compressor Suitable for use by Rafters

Swan Falls Dam is situated in a relatively remote area. In order to accommodate river rafters utilizing inflatable rubber rafts, it is proposed that an appropriate air compressor, available for public use be installed near the new powerhouse, near the right abutment of the dam. The proposed location will be easily accessible to the public. Locating the compressor near the powerhouse will minimize the risk of vandalism. Estimated cost of the facility is $2,000.

5.6.5 Development of a Raft/Canoe Portage Trail Around the Project Dam

In order to accommodate rubber raft and canoe traffic which originate upstream of the existing project, it is proposed that a portage trail sufficient for use by moderate to large rubber boats

and canoes be developed near the left abutment of the dam. The proposal is to utilize the remnants of an old road by developing boat removal areas on the reservoir side of the dam, approximately 200 yards upstream. Below the dam, access to the river will be developed to accommodate launching of boats and canoes which have been carried around the dam. Launch facilities would be built to accommodate boaters at lowest anticipated flows. The development of a portage trail is consistent with the management goals of BPNA and of the desires of the State and Federal recreation and land management agencies consulted in the development of this report. Estimated cost of the portage trails is $4,000.

5.6.6 Development of an Interpretive Brochure, in Cooperation With the Bureau of Land Managment, of the Swan Falls Dam and the Surrounding BPNA

The Bureau of Land Management presently prints and distributes an interpretive brochure explaining the natural resources of the Birds of Prey Natural Area. It is proposed that the Applicant, in cooperation with the Bureau of Land Management, develop, print and distribute a joint brochure explaining not only the BPNA, but also the historic Swan Falls Dam and surrounding area. Cost for this proposal has not yet been developed, pending further negotiations with the Bureau of Land Management.

5.6.7 Development of a Turbine/Generator Display

The Applicant proposes to exhibit an existing turbine and generator inside the shell of the existing powerhouse. This display will also be consistent with historic and educational goals discussed elsewhere in this report. Cost for the display is not included under recreation development, but is included as projected cost for historic preservation.

5.6.8 Periodic Review of Recreational Facilities

It is the desire of the Applicnat to work closely with the Bureau of Land Management in accommodating recreational development harmonious with the BPNA. As part of the ongoing recreation

plan for the Swan Falls project, it is proposed that the Applicant consult with the Bureau of Land Management and the Idaho Department of Parks and Recreation no less frequently than every 10 years in order to access the impacts of recreational activities upon the BPNA and to review the adequacy of the Applicant's recreational facilities.

5.7 COST SUMMARY

A summary of anticipated cost of the proposed recreational facilities described herein are included in the following table.

TABLE 5.4 ANTICIPATED RECREATION COST

1.	Improvement to existing boat launch facilities	$ 3,000
2.	Cleanup of garbage	$ 500
3.	Development of raft/canoe launch	$ 5,000
4.	Air compressor	$ 2,000
5.	Portage trail	$ 4,000
6.	Interpretive brochure	to be determined
	TOTAL	$ 14,500

All maintenance and cost associated with the proposed facilities will be borne by the Applicant.

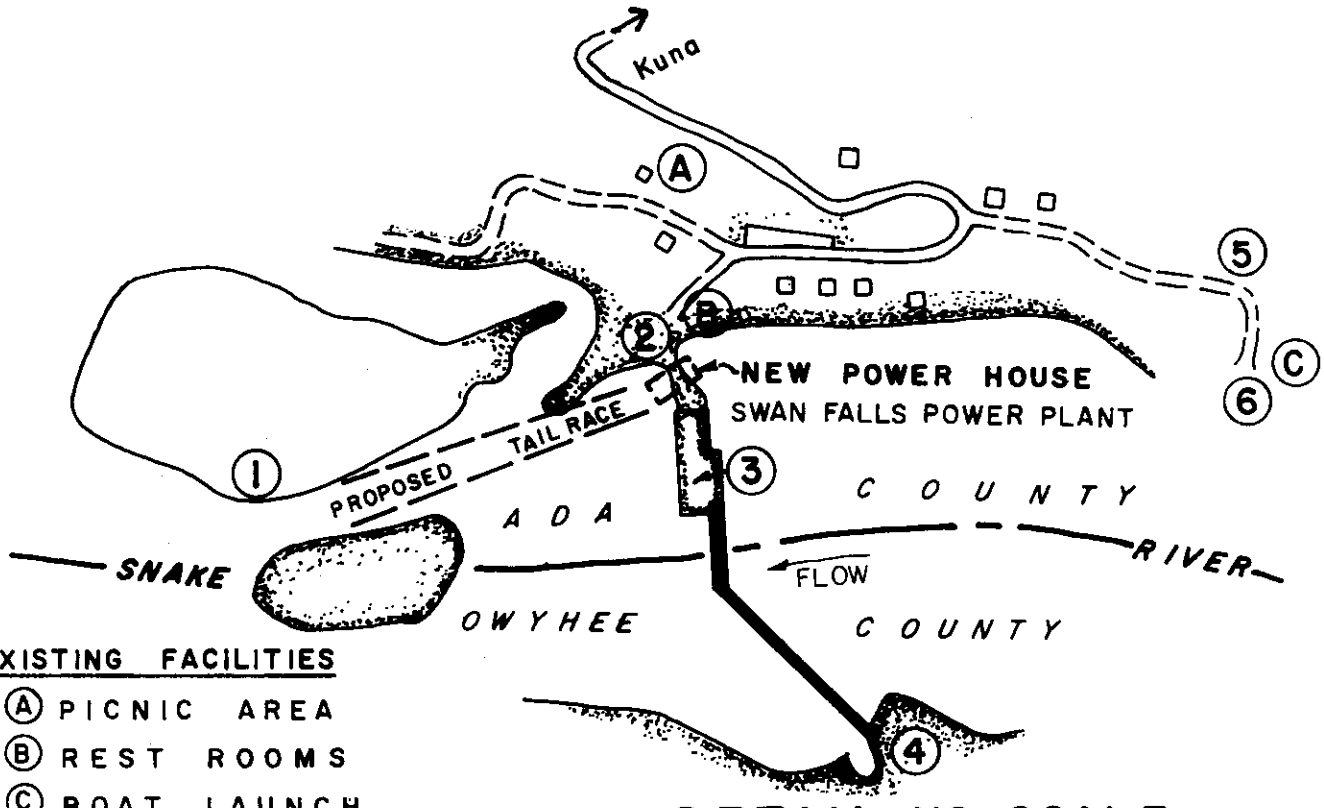
5.8 SCHEDULE OF CONSTRUCTION

Construction and implementation of the proposed recreational facilities will follow the construction of the proposed facilities. Construction of the recreation facilities will occur during October of 1987.

Figure 10 is a map of existing and proposed recreation facilities.

5.9 CONSULTATION

The proposed recreation plan was developed in conjunction with the Bureau of Land Management, Idaho Department of Parks and Recreation and the National Parks Service (formerly Heritage Conservation and Recreation Service). Letters from these agencies are attached in Appendix A.



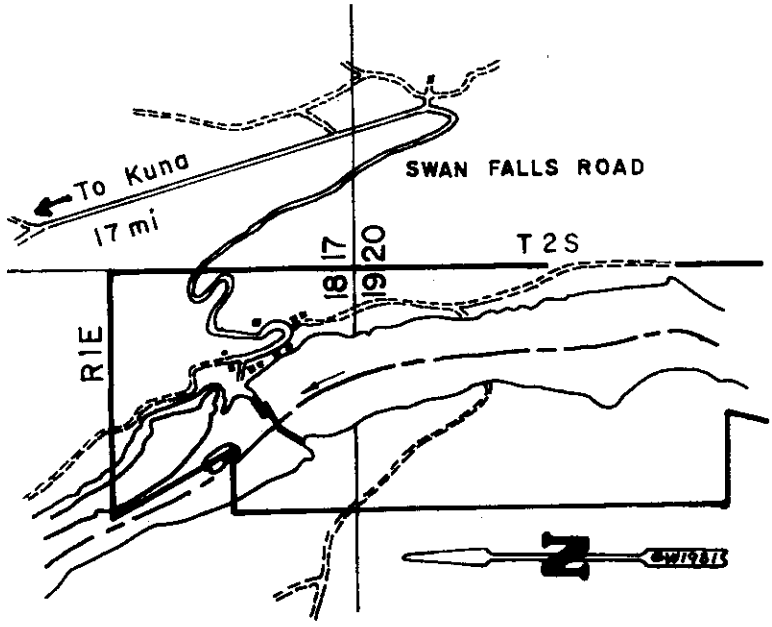
EXISTING FACILITIES

- (A) PICNIC AREA
- (B) REST ROOMS
- (C) BOAT LAUNCH

DETAIL-NO SCALE

PROPOSED FACILITIES

1. CANOE / RAFT LAUNCH
2. AIR COMPRESSOR
3. TURBINE/GENERATOR DISPLAY
4. PORTAGE TRAIL
5. LANDFILL
6. IMPROVE BOAT LAUNCH FACILITIES.



VICINITY MAP

1" = 2000'

PROJECT Nº 503 — IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 10
EXISTING AND PROPOSED
RECREATION DEVELOPMENT
IDAHO POWER CO. OCTOBER 1981

VI. EXISTING LAND DEVELOPMENT

6.1 LAND MANAGEMENT

Lands under the management and control of Federal and State agencies but which may be operated by individuals, groups or companies under a lease or rental arrangement, comprise a significant portion of the lands adjacent to the project area. These consist of public domain lands under the administrative jurisdiction of the Bureau of Land Management, public lands that have been withdrawn for their power site or irrigation potential, and lands controlled by the State of Idaho. The several land classifications are described below.

6.1.1 Public Domain

Lands of the United States that have not been appropriated or reserved for other specific purposes and which are managed in the public interest by the Bureau of Land Management under provisions of the Taylor Grazing Act are designated as public domain. Most of these lands are leased to stockgrowers under controlled grazing densities, but ultimate resource management responsibilities remain with the Bureau of Land Management. Entry under the Homestead and other land transfer enactments is no longer permitted on these lands, but the Bureau can make public domain available through sale when such transfer is in the public interest.

6.1.2 Power Site Withdrawal

These are public lands that have been judged to be promising as hydroelectric power sites and consequently withdrawn from the public domain. Lands in a power site withdrawal cannot be disposed of in the manner of public domain lands, but can be leased for grazing and other nonpermanent purposes until needed for hydroelectric development. Lands in this category include potential damsites as well as those areas potentially flooded by power reservoirs or occupied by transmission facilities.

6.1.3 Reclamation Withdrawal

Large compact blocks of public land that exhibit productive capabilities for large scale irrigation development have been reserved for possible future development by the Bureau of Reclamation. In the Swan Falls project area, most of the land withdrawn for reclamation lies north of the Snake River and is part of the Bureau of Reclamation's proposed Mountain Home project. Reclamation withdrawal lands are leased for grazing and farming as well as other nonpermanent uses until mandated by the requirements of irrigation development.

6.1.4 Reclamation and Power Site Withdrawal

Some of the land immediately adjacent to the Snake River Canyon is designated as both reclamation and power site withdrawal. This means that a portion of the tract may be flooded or otherwise used for future power-related purposes while the remainder could become part of an irrigation development. In the event that this dual category is used for power purposes, the provisions of the power site withdrawal would prevail and irrigation development would not proceed. These withdrawals can be leased for nonpermanent uses as in the other withdrawals until committed to one of the designated uses.

6.1.5 State Lands

Lands granted to the State of Idaho under provisions of the Statehood Act for the support of public schools are identified as state lands. These primarily consist of Sections 6 and 36 in each survey township as well as islands in the Snake River. In some instances, land trades or selection of substitute lands may have occurred. The result has been that the State controls some irregular-sized and shaped tracts that are not necessarily related to the school sections. Some of the state lands have been acquired through purchase or gift and some have been sold, when the State Land Board found the best interest of the school trust would be served by those actions.

6.1.6 Private Land Ownership (Patented Lands)

Lands that have been converted from the public domain or state land trust to fee ownership by individuals or groups, are defined as private land ownership. In large measure, these are the more productive lands, particularly those adjacent to the Snake River where water availability has traditionally been an asset. Most of the private land ownerships are large acreages located upstream from Swan Falls and also directly north of the damsite.

The Idaho Power Company owns the Swan Falls site and lands extending from two miles below the site to three miles upstream. Recently, the Nature Conservancy, a nonprofit organization, has acquired options on five parcels of land above Swan Falls. Three of these parcels were later sold to the Bureau of Land Management. The conservancy presently retains two parcels. The objective of the Nature Conservancy in this area is to provide a land base for educational purposes within the Snake River Birds of Prey Natural Area.

6.1.7 Land Use

A land use classification system developed by the Soil Conservation Service (1978) is used in describing the existing land uses which occur near the project area. The land use category is first defined, followed by a characterization of project area land uses.

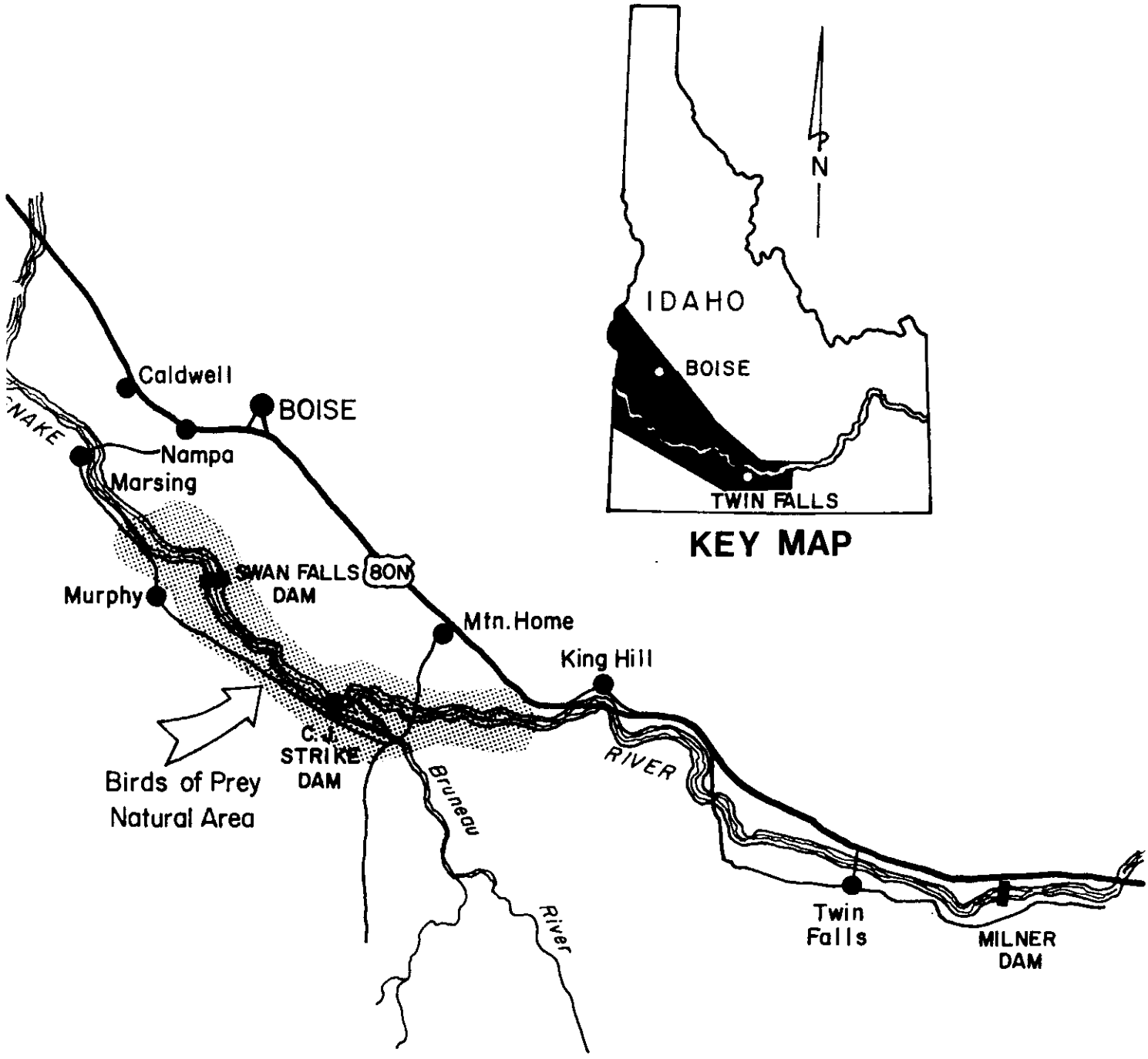
6.1.7.1 Croplands/Pastureland

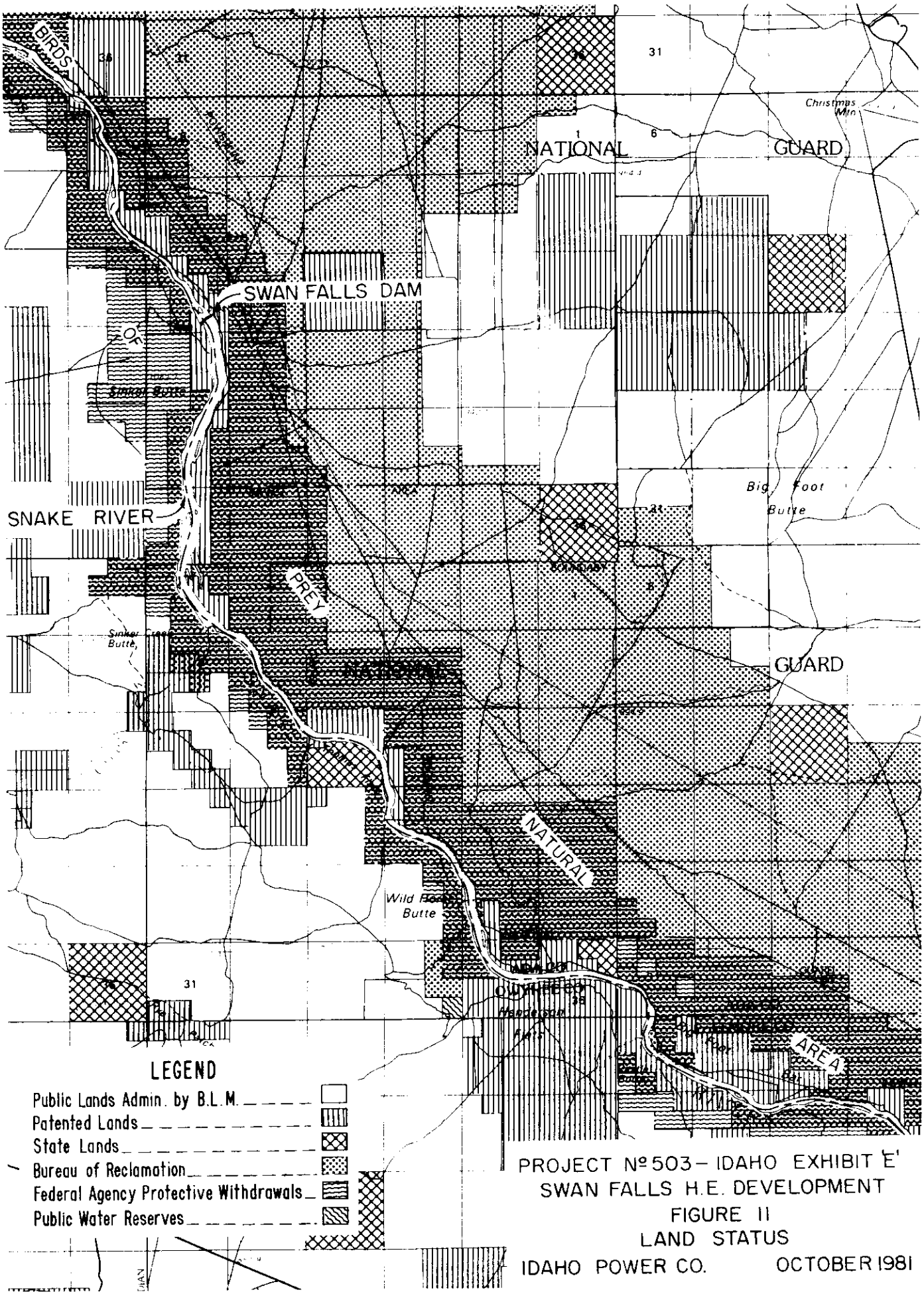
Cropland is land primarily used for the production of adapted cultivated and close-growing crops for harvest, alone or in association with sod crops.

Pastureland is land primarily used for the production of adapted domesticated forage plants for livestock.

Croplands and pasturelands within the project area are principally surface irrigated. Principal cash crops grown in and near the canyon include alfalfa hay, potatoes, grains,

PROJECT LOCATION MAP





PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 11
LAND STATUS
IDAHO POWER CO. OCTOBER 1981

barley and sugar beets. Cattle grazing is the predominant livestock use.

6.1.7.2 Residential Land is primarily used for permanent dwellings. Commercial land is used mostly for buying, selling or processing of goods and services.

6.2 APPLICANT'S PROPOSAL TO ENSURE THAT TOPOGRAPHIC ALTERATIONS BLEND WITH THE SURROUNDING ENVIRONMENT

Topographic alterations which will occur to the existing environment will be confined to those areas immediately surrounding the dam and powerhouse facilities. They include spoil and borrow areas, tailrace alterations and the proposed improvements to the existing road.

Three potential disposal areas have been identified. They are illustrated on Figure 11. Disposal Area 1 is located on the west side of the river, immediately below the spillway. It will be used to store spoil materials excavated from the area of the existing spillway. The area impacted presently supports a shrub/grass type vegetation cover. After construction the area will be covered with top soil, contoured and planted to a suitable vegetation cover. Cover to be planted will be developed as part of the habitat impact mitigation plan.

Disposal Area 3 is located on the island immediately downstream from the dam. This site will also be used as a source of concrete aggregate material. The excavation which results from aggregate removal will be filled with disposal materials. The final configuration of the island after filling is accomplished is speculative at this time, pending results of aggregate testing. However, spoils will be covered with topsoil and planted to a suitable vegetation cover.

Disposal Area 4 is located on the east shore of the river, slightly downstream of the dam. Two alternative configurations are shown for the area. Alternative 1 will allow the spoils to be deposited as a smooth contoured configuration. However, use of

Alternative 1 configuration will cover portions of an archaeological site. It is proposed that the archaeological site will be fully excavated prior to project construction. In the event FERC determines that excavation of the archaeological property does not constitute full mitigation to the site, the Alternative 1 configuration may not be allowed. The Alternative 2 configuration will result in a much steeper bank than Alternative 1. This configuration will not blend as well with the surrounding topography as the preferred alternative. In either case, the disposal area will be covered with topsoil and planted to an acceptable vegetation cover.

Two borrow areas are identified on Figure 8. The first of these is located on the west bank of the river, immediately adjacent to the spillway and Disposal Area 1. This location is adjacent to an area which was used as a borrow site during original construction of the Swan Falls facilities. It will essentially appear as an extension of the existing borrow site. Borrow Area 2 is located on the island downstream from the dam. It coincides with Disposal Area 3. Back-filling of the borrow site with disposal material will be accomplished and the resulting disposal pile revegetated.

Modifications to the existing road will result in some topographic alterations. The road right-of-way has been selected in conjunction with consultation with the Bureau of Land Management. A conceptual drawing of the road is included in the narrative report submitted as part of the right-of-way application. (See Appendix B.) The road follows existing contours of the land as much as practical, and will blend with the existing environment.

Alterations to the tailrace will result in a permanent channel existing year round where the natural channel is filled with water only during periods of high water flows. Alterations to the existing topography will be minimal. Materials excavated from the tailrace may also be used as aggregate, if it is found suitable.

6.3 WETLANDS OR FLOOD PLAINS WITHIN OR ADJACENT TO THE PROJECT BOUNDARY

The U.S. Fish and Wildlife Service, Idaho Department of Fish

and Game and Bureau of Land Management have not formerly identified any wetlands which occur with project boundary. However, the habitat type identified as herbaceous riparian on Figure 7 probably includes all areas which are identifiable as wetlands. No longer term impact to these areas will occur as a result of the proposed project.

VII. REFERENCES AND CONTACTS

7.1 THE REFERENCES section includes an alphabetical listing of all references used in development of this report.

7.2 CONTACTS made by the Applicant during the course of preparing this report are listed alphabetically. The listing includes name, position, affiliation and date of first contact (only the first date of contact is listed, although in many cases more than one contact was made).

REFERENCES

Bureau of Land Management (BLM),
U.S. Department of the Interior

Census of Population and Housing (corrected preliminary)
Boise State University Library

County Profiles of Idaho - Fourth Edition 1980
Boise State University Library

Department of Water Resources
Health and Welfare
Water Quality Division

EDAW, Inc., BEAK Consultants, Inc.
International Engineering Company, Inc.
Morlan Nelson - December, 1978
Swan Falls-Guffey Hydroelectric Project
Preliminary Environmental Assessment

Idaho Water Quality Standards and
Wastewater Treatment Requirements
Idaho Department of Health and Welfare
Division of Environment - 1980

Idaho Water Quality Status Report - July, 1980
Idaho Department of Health and Welfare
Division of Environment
Bureau of Water Quality

Snake River Birds of Prey Environmental Statement, 1979
Bureau of Land Management
U.S. Department of the Interior

Snake River 1973 Dissolved Gas Studies
Idaho Power Company

Soil Conservation Service, 1978
Land Use Classification System

Swan Falls Hydroelectric Project
Application for Relicense
Idaho Power Company, December, 1979

U.S. Geological Survey
Snake River Main Stem
Marsing, King Hill and Murphy Water Years

Vascular Plant Species of Concern in Idaho, June, 1981
University of Idaho, Moscow

William F Sigler, Michael L Wolfe,
William T Helm and John M Neuhold
November 1, 1972
The Potential Impact and Assessment of Mitigation
of Swan Falls and Guffey

CONTACTS

Ada County Zoning Clerk
Ada County Zoning Building
Boise, Idaho
August 20, 1981

Ames, Kenneth
Archaeologist
Boise State University
Boise, Idaho
March 10, 1981

Bentryn, Gerrard
Heritage Conservation and Recreation Service
Northwest Region
Seattle, Washington

Sather Blair, Signe
U.S. Fish and Wildlife Service
Boise, Idaho
August 8, 1981

Buffington, Bob
State Director
Bureau of Land Management
Boise, Idaho
April 24, 1981

Canyon County Zoning Clerk
Murphy, Idaho
August 5, 1981

Christiansen, Dale R
Director
Idaho Department of Parks and Recreation
Boise, Idaho April 24, 1981

Clark, Bill
Idaho Department of Health and Welfare
Division of Environment
Boise, Idaho
May 15, 1981

Conley, Jerry
Director
Idaho Department of Fish and Game
Boise, Idaho
April 24, 1981

Denton, Don
Recreation Planner
State Comprehensive Outdoor Plan
Boise, Idaho

Dunn, Kenneth
Director
Idaho Department of Water Resources
Boise, Idaho
April 24, 1981

Fisher, Richard J
Field Supervisor
U.S. Fish and Wildlife Service
Boise, Idaho
April 24, 1981

Garrett, Roberta
Department of Water Resources
Health and Welfare Building
Boise, Idaho
October 1, 1981

Green, Thomas J
Archaeologist
State Historic Preservation Office
Boise, Idaho
February 24, 1981

Graff, Todd
Department of Parks and Recreation
Boise, Idaho
September 14, 1981

Hagdorn, Bill
Department of Parks and Recreation
Boise, Idaho
May 28, 1981

Hilliard, Mark
Bureau of Land Management
Boise, Idaho
May 15, 1981

Howard, Roger, Chairman
Owyhee County Joint Planning Commission
Murphy, Idaho
April 24, 1981

International Engineering Company
San Francisco, California
February 6, 1981

Klein, Milt
Director (resigned)
Department of Health and Welfare
Boise, Idaho
April 24, 1981

Korte, Chris
Chief
Ada County Planning and Zoning Commission
Boise, Idaho
April 24, 1981

Lewis, Dave
U.S. Fish and Wildlife Service - Ecological Service
Boise, Idaho
May 15, 1981

Meyer, Wallie
Recreational Planner, Boise District
Bureau of Land Management
Department of the Interior

Mochnick, Roger K
Acting Chief
Regional Administrator, Region X
Seattle, Washington
April 24, 1981

Murray, Al
Chief
Bureau of Water Quality
Idaho Department of Health and Welfare
Boise, Idaho
April 24, 1981

Packard, Pat, Dr.
Botanist
College of Idaho
Caldwell, Idaho
July 25, 1981

Peugh, Butch
Bruneau Area Manager
Bureau of Land Management
Boise, Idaho
March 10, 1981

Polityka, Charles S
Regional Environmental Officer
Department of the Interior
Portland, Oregon
April 24, 1981

Powell, Mark
Wildlife Biologist
Bureau of Land Management
Department of the Interior
Boise, Idaho

Ray, Walter
Assistant Director
Boise Regional Office
U.S. Fish and Wildlife Service
Boise, Idaho

Richards, Monte
Idaho Department of Fish and Game
Boise, Idaho
May 15, 1981

Sanders, Dave
Idaho Department of Fish and Game
Boise, Idaho
May 15, 1981

Schwartz, Judy
Environmental Protection Agency
Environmental Evaluation Branch
Seattle, Washington
May 27, 1981

Sivley, W E
Chief
Engineering Division
Department of the Army
Walla Walla District Corps of Engineers
Walla Walla, Washington
April 24, 1981

Smith, Michael A, P.E.
Environmental Engineer
Idaho Department of Health and Welfare
Boise, Idaho
May 19, 1981

Steal, Bob
Intermountain Range and Experimental Station Botanist
Forest Service
Boise, Idaho
August 4, 1981

Swanson, Ken
Archaeologist
Idaho State Historical Society
Boise, Idaho
March 10, 1981

Swisher, Perry
President
Idaho Public Utilities Commission
Boise, Idaho
April 24, 1981

Trombley, Gordon
Chief
Idaho Department of Lands
Boise, Idaho
April 24, 1981

Wells, Merle, Dr.
State Historic Preservation Officer
Idaho State Historical Society
Boise, Idaho
April 24, 1981

Winterfeld, Curt
Idaho Public Utilities Commission
Boise, Idaho
May 15, 1981

Winters, Richard L
Assistant Regional Director
Heritage, Conservation and Recreation Service
Seattle, Washington
April 24, 1981

Zimmer, Joe
District Manager
Bureau of Land Management
Boise, Idaho
April 24, 1981

APPENDIX A

DOCUMENTATION OF CONSULTATION

STATE, FEDERAL AND COUNTY AGENCIES

United States Department of the Interior
Bureau of Reclamation
PACIFIC NORTHWEST REGION
FEDERAL BUILDING & U.S. COURTHOUSE
BOX 043-550 WEST FORT STREET
BOISE, IDAHO 83724

IN REPLY
REFER TO: PN 460
772.

Mr. Allan R. Ansell
Environmental Biologist
P.O. Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

We have reviewed the application for relicense of Swan Falls Project, FERC No. 503, furnished by your letter of April 24, 1981, and have no objection to a relicense of this project. The Swan Falls Project is located within the potential Mountain Home Division, Guffey Unit, of our Southwest Idaho Water Development Project. Planning activities are currently inactive but a water right is being held for the SWID Project. In the event SWID is constructed, the applicant's powerplant would be inundated. The plans for this area are not firm and the inclusion of part of this area within the Birds of Prey Reservation expansion makes an irrigation project unlikely in the near future.

Please direct future correspondence on this issue to Code 460 or telephone Mr. Al Bolin at 334-1187.

Sincerely yours,

John W. Keys, III

ACTING Regional Director

cc: Regional Environmental Officer, Department of the Interior,
500 NE. Multnomah Street, Suite 1692, Portland, Oregon

UNITED STATES
DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
NORTHWEST REGION
915 SECOND AVENUE, RM. 990
SEATTLE, WASHINGTON 98174

(206) 442-4706
1201-03
FERC #503

MAY 27 1981

Allan R. Ansell, Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

We have received the information packet prepared for the proposed expansion of the Swan Falls project, and have the following comments for your consideration.

Recreation

The six point recreation development plan which is outlined on pages 13 and 14, follows the earlier recommendations of the Idaho Department of Parks and Recreation. The plan, which was developed after consultation with the Bureau of Land Management (BLM) and the Idaho Department of Parks and Recreation seems adequate for the proposed project.

We note on page 13 that BLM and the SCORP estimates indicate that recreational use of project facilities could double by the year 2000. A plan to monitor recreational use of the area should be established with BLM and the Idaho Department of Parks and Recreation to assure consideration of expanded recreational facilities should recreational use of the area double. An outline of such a plan should be included in the Exhibit E.

Cultural Resources

We are pleased to note on page 12 that the company intends to maintain the historic flavor of Swan Falls Dam, which is on the National Register of Historic Places.

The SHPO's office should be consulted to determine what effect the expansion will have on the dam. Guidelines to be followed are found in 36 CFR 800.4(b). If the effect is adverse, adequate mitigation measures must be taken.

The project site is also rich in historic value and possible archeological deposits. The mitigation plan outlined in the Exhibit E should include a survey plan designed to locate, identify and evaluate cultural resources. The survey should be conducted by a qualified archeologist. The State Historic Preservation Officer (SHPO) should also be consulted in developing an adequate assessment program. If significant archeological or historical artifacts are discovered, appropriate mitigation measures must be taken. The SHPO for Idaho State is Dr. Merle W. Wells, Idaho State Historical Society, 610 N. Julia Davis Dr., Boise, Idaho 83706.

Thank you for the opportunity to provide early consultation on the proposed expansion of the Swan Falls project.

Sincerely,

Richard L Winters

Richard L. Winters
Acting Regional Director

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
Box 036 Federal Building, Room 365
550 West Fort Street
Boise, Idaho 83724

May 11, 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
P.O. Box 70
Boise, ID 83707

Dear Mr. Ansell:

This letter acknowledges receipt of the information packet sent by your April 24, 1981, letter to me. I believe that it is not necessary for this agency to attend the May 15, 1981, coordination and scoping meeting.

You are aware, no doubt, that the existing FPC Project No. 503 provides to the Geological Survey annual operation costs for one stream-gaging station, Number 13-1725, Snake River near Murphy, Idaho. The new license for continued operation should have this same stipulation as hydrologic data are essential for the historical record below the Swan Falls Dam.

Please direct any future correspondence or coordination matters regarding FPC Project 503 to me.

Sincerely yours,

E. F. Hubbard

E. F. Hubbard
District Chief

HAR/tmh

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
BUILDING 602, CITY-COUNTY AIRPORT
WALLA WALLA, WASHINGTON 99362

REPLY TO
ATTENTION OF:
NPWEN-PL

5 May 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

Thank you for your 24 April 1981 notification of the proposed Swan Falls expansion.

Our review of the information packet provided with your letter reveals that the proposal should not significantly affect our jurisdictional responsibilities of navigation, flood control, or hydropower development, and would not conflict with any projects planned or constructed by the Corps. The Snake River, at this location, is not considered by the Corps to be a navigable water of the United States; therefore, a permit under Section 10 of the 1899 River and Harbor Act is not required. However, any activity which would require the permanent or temporary discharge of dredge or fill material into waters of the United States, including adjacent wetlands, will require a permit issued under Section 404 of the Clean Water Act of 1977. Permit requirements are contained in 33 CFR 320-327.

We do not plan to attend the interagency coordination and scoping meeting on 15 May 1981, but would like to be kept informed of developments as you proceed with the project. The point of contact will be Witt Anderson. He can be reached at telephone 509-525-5500, Ext. 351.

Also, Mr. Sivley has retired from the Corps and I am now Chief of Engineering Division.

The opportunity to review and comment on this project is appreciated.

Sincerely,

M. G. Brammer

M. G. BRAMMER
Chief, Engineering Division

United States Department of the Interior

OFFICE OF THE SECRETARY

PACIFIC NORTHWEST REGION
500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232

April 29, 1981

Allan R. Ansell, Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

This is in regard to your letter of April 24, 1981 concerning this Department's review of your proposed plans to increase generating capacity at Swan Falls Dam.

Please provide copies of the subject proposal to agencies of this Department which I have listed below. I have instructed them to provide their review comments directly to you.

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

Sincerely,

Charles S. Polityka

Charles S. Polityka
Regional Environmental Officer

U.S. DEPARTMENT OF THE INTERIOR AGENCIES

Area Manager
U.S. Fish & Wildlife Service
4620 Overland Road, Room 238
Boise, Idaho 83705

State Director
Bureau of Land Management
Room 334, Federal Building
550 West Fort Street
Boise, Idaho 83702

Regional Director
National Park Service
931 Fourth & Pike Building
Seattle, Washington 98101

Regional Director
Heritage Conservation & Recreation Ser.
Federal Building, Room 990
915 Second Avenue
Seattle, Washington 98174

District Chief, WRD
U.S. Geological Survey
Box 036, Federal Building
550 West Fort Street
Boise, Idaho 83702

Regional Director
Water & Power Resources Service
Box 043, Federal Building
550 West Fort Street
Boise, Idaho 83702

UNITED STATES GOVERNMENT

memorandum

DATE: APR 1 ; 1981

N-3/2300

REPLY TO ATTN OF: BPNA Wildlife Management Biologist

SUBJECT: Swan Falls Road Improvement Meeting

TO: Bruneau Area Manager

On April 9, John Doremus and I met with Idaho Power Company (IPCO) representatives Allan Ansell and Doug Sprenger at Swan Falls to make an on-site evaluation of the proposed Swan Falls road realignment and improvement. Mr. Morley Nelson, a consultant to IPCO, was also present.

Two prairie falcon aeries are located above the existing road, and a third is located above the proposed road extension. John, Allan, Morley, and I agree that these birds and nest sites should remain unaffected if construction activities take place between July 1 and January 31.

Construction initially was planned for 1981, but Allan said it now appears that IPCO will begin work in 1982 instead. This should allow sufficient time for preparation of an Environmental Assessment by IPCO, which Allan felt they could do if we provide them with adequate guidelines.

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 BOISE, IDAHO 83707

February 18, 1981

Joe Zimmer, District Manager
Bureau of Land Management
3948 Development Street
Boise, ID 83705

Dear Joe:

Enclosed please find a copy of Idaho Power's Long Range System plans and a copy of sheets seven (7) and eight (8) of FERC Exhibit K, transmission line plan for the proposed North Fork Payette River hydroelectric project. Your office was sent a complete copy of the FERC application in June of last year.

The Exhibit K maps indicate the company's present plan to provide transmission facilities for the indicated hydro project. Construction of the facilities for the proposal is to occur in two phases. Phase I, construction (sheet seven, up to the existing Emmett-Stibnite line) is scheduled to begin approximately May of 1982. Phase II (sheet eight, rebuilding the existing Emmett-Stibnite line as a double-circuit line) is scheduled to begin approximately April of 1984. BLM managed lands occur at only one location in the Phase I section of line and on several locations in the Phase II section. BLM lands on sheet seven are located in the NW¼ NE¼ of Section 26, Township 9 North, Range 1 East, B.M.

As yet, the company is unsure of the scope of work required for the existing Swan Falls Dam. As I indicated last week, the Federal Energy Regulatory Commission has directed the company to perform repairs to the structure. Extensive work is anticipated. In the meantime, as ordered, stringent measures to restrict access downstream of the dam have been implemented. This restriction applies to the public and to power plant personnel. Additionally, the structure is being continually monitored to minimize the chance of failure, especially in the area of the spillway gates. I will keep you informed of further developments as they become available.

The company is presently planning to update the Long Range forecast this spring. At that time, the new forecast will be made available to the Bureau and other interested parties.

I hope this information will be of some use to you and look forward to working closely with the Boise District as future projects become required.

Allan R. Ansell
Environmental Biologist

ARA:lf
Enc.

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

REPLY TO
ATTN OF: M/S 443

JUN 02 1981

Allan R. Ansell
Idaho Power Company
Box 70
Boise, Idaho 83707

Subject: Amendment to FERC License for Swan Falls Project No. 503

Dear Mr. Ansell:

Thank you for providing us with information about the above proposed license amendment. While we were unable to attend your interagency coordination meeting, we hope our comments in this letter will be useful.

From this packet and from conversations with you, it is our understanding that once the proprosed construction is completed, the project will continue to be operated in a run-of-the-river mode. The only operational change planned is for some of the flow which is currently spilled to pass through the powerhouse instead.

As you may know, EPA is considering proposing changes to the State of Idaho water quality standards. In particular, EPA is considering raising the dissolved oxygen (DO) standard below dams from 5 ppm to 6 ppm. This change is considered necessary to maintain the cold water biota of the river.

Your information packet (page 8) states that no violations of state DO standards are occurring but does not state what standard was used. Your application should include actual and projected DO and temperature levels, with special attention to the low flow periods. If DO levels could fall below 6 ppm at any time, then project changes would be necessary to avoid this problem. Possible changes to increase DO levels may include increased spilling over the dam or alternative turbine designs. For example, TVA has successfully increased DO levels by making minor changes in turbine designs while experiencing only minor power production losses.

We appreciate the opportunity to provide comments to you at this time and look forward to reviewing the completed license amendment application. If you have any questions, please contact me or Judi Schwarz of my staff. We can be reached at (206) 442-1285.

Sincerely yours,

Elizabeth Corbyn, Chief
Environmental Evaluation Branch

cc: Dave Lewis, USFWS, Boise
FERC

STATE OF IDAHO
DEPARTMENT OF HEALTH AND WELFARE
DIVISION OF ENVIRONMENT
Statehouse
Boise, Idaho 83720

May 19, 1981

Allan R. Ansell
Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

After the attendance of your May 15, 1981, scoping meeting by Bill Clark of our Boise field office and in reviewing the information packet on the Swan Falls Project (FPC Project No. 503), we do not foresee any water quality problems except intermittent, increased turbidity during construction. However, before we can provide formal water quality certification of the project, we must review the environmental assessment to be provided in your FERC license application.

Sincerely,

Michael A. Smith

Michael A. Smith, P.E.
Senior Environmental Engineer

MAS:par
cc: Dave Sanders/Bill Clark
Monte Richards, IF&G

EQUAL OPPORTUNITY EMPLOYER

DAHO DEPAR.MENT of PARKS & RECREATION

atehouse Mail, 2177 Warm Springs Ave., Boise, Idaho 83720 (208) 334-2154

ale R. Christiansen, Director
obert L. Meinen, Deputy Director

John V. Evans, Governor

June 26, 1981

Mr. Allen Ansel
Idaho Power Company
1220 W. Idaho
Boise, ID 83702

RE: 543.10.1B - Swan Falls

Dear Allen:

With regards to the above referenced project, we feel that the proposed recreation development included in the study is most adequate for meeting the immediate and the future needs for the recreation facilities in the area of Swan Falls Dam.

We feel that the seven points discussed in the recreation section of your plan would address the type of recreation needs that exist in the area.

We appreciate your continual consultation with us and your desire to satisfy the outdoor recreation needs as identified in our Outdoor Recreation Plan. We will look forward to our continual coordination on this project.

Our only additional comment is that we would recommend that a joint review, every five years, be made to determine if conditions warrant additional recreation facility development. If so then provisions for amending the recreation element should be addressed.

Sincerely,

DALE R. CHRISTIANSEN
DIRECTOR

William G. Hagdorn, Chief
Comprehensive Planning Bureau

WGH/eh

EQUAL OPPORTUNITY EMPLOYER

STATE OF IDAHO

DEPARTMENT OF FISH AND GAME 600 SO. WALNUT ST. · P. O. BOX 25
BOISE, IDAHO 83707

June 8, 1981

Mr. Alan R. Ansell
Environmental Biologist
Idaho Power Company
P. O. Box 70
Boise, ID 83707

Dear Mr. Ansell:

The information packet you forwarded with your letter of April 24, 1981, concerning amendment of the relicensing application for Swan Falls Project (FPC No. 503) to increase generating capacity, has been reviewed by our Department. Department staff also attended the scoping meeting held by Idaho Power Company on May 15.

Based on information available to date, it does not appear the proposed project would have any significant adverse impacts on fish and wildlife resources provided care is taken to prevent sedimentation during construction. You have our comment on timing downstream coffer dam breaching so that any increased sedimentation would not occur during fish spawning or egg incubation processes.

Sincerely,

Jerry M. Conley
Director

cc: USFWS (Buechler)
IDHW (Bill Clark)
Region 3
Bur. Fisheries

EQUAL OPPORTUNITY EMPLOYER

STATE OF IDAHO

DEPARTMENT OF LANDS

STATEHOUSE, BOISE, IDAHO 83720

GORDON C. TROMBLEY
DIRECTOR

STATE BOARD OF LAND COMMISSIONERS
JOHN V. EVANS
GOVERNOR AND PRESIDENT
PETE T. CENARRUSA
SECRETARY OF STATE
DAVID H. LEROY
ATTORNEY GENERAL
JOE R. WILLIAMS
STATE AUDITOR
JERRY L. EVANS
SUP'T OF PUBLIC INSTRUCTION

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
P.O. Box 70
Boise, ID 83707

Dear Mr. Ansell:

I appreciate the notification of your plans to upgrade the Swan Falls Dam. Review of your information packet revealed no issues with which the Department of Lands has concern. Therefore, I see no need to attend your meeting to address the scope of your environmental assessment.

If you wish to send additional correspondence to this office, you may send it to Dale Edstrom, Natural Resource Planner.

Sincerely,

GORDON C. TROMBLEY
Director

GCT:kg

EQUAL OPPORTUNITY EMPLOYER

IDAHO PUBLIC UTILITIES COMMISSION

STATEHOUSE
BOISE, IDAHO 83720
334-3143

PERRY SWISHER
President

JOHN V. EVANS
Governor

May 11, 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
P. O. Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

Please tell the Idaho Power Company that Curt Winterfeld, Director of Division of Rates and Engineering will represent us at the Swan Falls license hearing May 15.

Unfortunately the entire Commission is tied up this week in field hearings, or one of us would be there. There is still the chance that one of us will make it, but Mr. Winterfeld will have been briefed and will be there in any event.

Thanks for

Very truly yours,

Perry Swisher

ps:mw

IDAHO STATE HISTORICAL SOCIETY
610 NORTH JULIA DAVIS DRIVE BOISE, IDAHO 83706

STATE MUSEUM

March 10, 1981

Mr. Allen Ansel
Idaho Power Company
1220 W. Idaho
Boise, ID 83702

Dear Allen:

On March 2, 1981 Ken Swanson of the Idaho State Historical Society, Ken Ames of Boise State University and myself inspected the lands involved in the Swan Falls Dam rehabilitation project. We specifically looked at the area where the road realignment is planned, in the possible staging area in front of the dam on the north side, and on the Idaho Power owned lands upstream from the dam.

This area has been archaeologically surveyed on three different occasions: in 1958 by Donald Tuohy; in 1971 by Robert Keller and David Koko, and in 1978 by Kelly Murphy while working for the BLM. Only one archaeological site is located in this area, site 10 AA 17 (map enclosed). It is listed on the National Register of Historic Places as part of the Guffey-Black Butte archaeological district. The Swan Falls Dam is also listed on the National Register. We also located a rock fence up the canyon wall. The rock wall had barb wire string across the top of it. It does not appear eligible for the National Register.

We know little about the subsurface deposits at site 10 AA 17. They appear to be about one meter deep, based on an exposed cut bank. We do not know if they contain features, such as hearths, or houses. Also we do not know how old the site is. In order to determine what mitigation may be necessary if the site is effected, we recommend that an archaeologist dig test pits into the site to determine its age, the nature of the subsurface deposits, and the overall size of the site. Once his information is gathered, intelligent decisions concerning possible mitigation needs can be made if this site will be affected.

Concerning the Swan Falls Dam itself we should consult with Dr. Merle Wells to get his views on the construction and what compliance procedures are necessary.

Sincerely,

Tom

Thomas J. Green
State Archaeologist
State Historic Preservation Office

TJG/kmh

Owyhee County Planning Commission

MURPHY, IDAHO 83650

May 13, 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Re: FPC Project No. 503

Dear Mr. Ansell:

On the 12th day of May, 1981, the Board reviewed your letter of April 24, 1981 pertaining to the proposed increase capacity of the Swan Falls Project. This is to inform you that at this time the Board unanimously supports said project proposal.

Any further correspondence can be directed to Roger Howard, Chairman, at the above mentioned address to the attention of Merry Taylor.

Sincerely,

Merry Taylor

Merry Taylor
Secretary

APPENDIX B

NARRATIVE REPORT - APPLICATION TO BUREAU OF RECLAMATION FOR ROAD IMPROVEMENTS

PROPOSED SWAN FALLS ROAD IMPROVEMENT

NARRATIVE REPORT

1.1 DESCRIPTION OF THE PROPOSED PROJECT

Idaho Power Company owns and operates hydroelectric generating facilities known as Swan Falls Dam. The dam is located on the Snake River approximately 35 miles southwest of Boise, Idaho. The portion of the river affected by the dam generally flows in a narrow canyon, several hundred feet below the surrounding plateau. The damsite itself lies about 650 feet below the canyon rim. From the canyon rim, access to the dam is via a narrow winding road. The existing road is substandard and not adequate to meet projected needs.

It is proposed that the road leading to the dam be improved. Beginning at the top of the canyon rim, the first 2,000 feet of improvement would involve uprating the existing road. The remainder would involve new road construction. Total road length would be approximately 7000 feet, of which approximately 1500 feet would be located on public lands administered by the Bureau of Land Management.

The proposed road, its location, and design specifcations are more completely described in the application map which accompanies this report.

1.2 Need for the Proposed Project

The proposed road will be a multi-purpose facility

designed to meet several needs which are presently being inadequately served by the existing road.

Swan Falls Dam, the oldest dam on the Snake River, was built in 1901 and has had several additions added to it over the years. The existing spillway, built in 1936, is in very poor condition. The Applicant has been directed by the Federal Energy Regulatory Commission to conduct necessary repairs to the structure. These repairs will include replacing the spillway section of the dam with a new and completely modern concrete structure with gates and/or an overflow section of sufficient capacity to pass required flood flows.

The Idaho Power Company has applied to the Federal Energy Regulatory Commission (FERC) for the issuance of a new license for continued operation and maintenance of the Swan Falls facilities. The company is presently amending its relicense application to include a planned expansion that would approximately double the generating capabilities of the project.

In the event of emergency situations prior to issuance of a new FERC license and startup of the proposed reconstruction, the proposed road would expedite remedial actions. Realignment of the existing road to the proposed route will provide adequate and safe access to and from the dam for the life of the structure. The existing road is not of sufficient quality to use for construction purposes or to provide the required access. The life of the

rebuilt hydroelectric facilities will be a minimum of fifty years.

The proposed road alignment will improve the living and safety conditions in Swan Falls village. Swan Falls village is a housing project which houses the dam operators and their families. Although the population of the village fluctuates, it usually provides homes for approximately 30 to 35 people. The present road alignment passes directly through the village. Although the road is private, it has traditionally been available for public use. Public traffic therefore is funneled through the village.

The proposed road alignment will provide safe and adequate public access to the Swan Falls area.

Maintenance of the new road will be improved over the existing road.

1.3 ALTERNATIVES TO THE PROPOSED ACTION

1.3.1 Alternative A

Alternative access could be developed utilizing the west canyon wall. An existing road, which was once used as part of a ferry operation above the Swan Falls Dam is presently located in this vicinity. It would be necessary to begin access from State Highway #78, approximately 3.5 miles south of the town of Murphy. Approximately four miles of new road will be required to be built. Travel distance from Boise will be approximately 66 miles. Use of this route will require

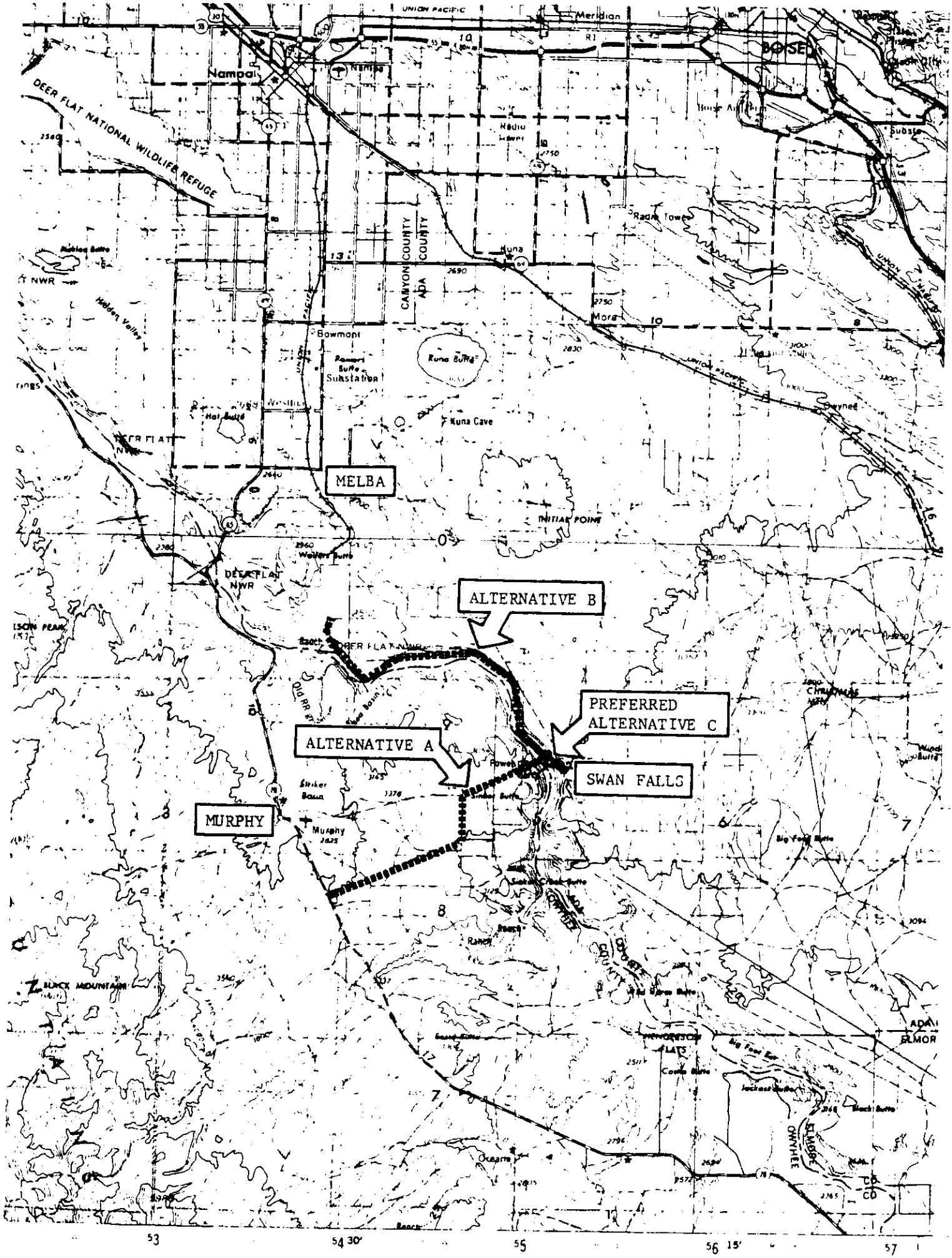
the construction of a permanent bridge across the Snake River to provide access to the powerhouse and Swan Falls village. Initial construction cost of this alternative is estimated to be approximately 2 to 2.5 times that of the preferred alternative.

1.3.2 Alternative B

This route would involve using an existing county road south from the town of Melba to the Snake River. From there, the route of an existing low quality road could be followed up river to the dam. This would involve the construction of approximately 11.5 miles of new road along the existing route. Improvement would also have to be made to the existing road leading to the river. Travel distance from Boise would be approximately 51.5 miles. The route would require the construction of temporary access across the Snake River at the dam for construction purposes. Initial construction cost is estimated to be approximately four to five times that of the proposed facility.

1.3.3 Alternative C

Alternative C is a "no action" alternative. The existing road into Swan Falls Dam is very substandard. Many sections are only one lane wide and in places the grade approaches 20%. Maintenance costs are high. The road is considered to be unsatisfactory for the proposed construction. Use of the existing road would not alleviate the safety hazard to the village residents nor improve long


MELBA
ALTERNATIVE B
PREFERRED ALTERNATIVE C
ALTERNATIVE A
SWAN FALLS
MURPHY
DEER FLAT NATIONAL WILDLIFE REFUGE
Nampa
Meridian
BOISE
Kuna
Bowmont
Kuna Cave
INITIAL POINT
CANYON COUNTY
ADA COUNTY
Owyhee
Murphy
53
54 30'
55
56 15'
57

term access. Temporary access would need to be built across the Snake River to facilitate construction of the dam.

DISCUSSION

Any of the alternatives, except C, could meet access needs for the proposed reconstruction of the dam. Transportation cost would be greater utilizing options A or B. Alternative A, B and C do not meet the long term requirements for the dam. Nearly 100% of the dam related traffic, including recreation, is to and from the towns north of the Snake River where population centers, schools, shopping, etc, are located. It is likely that the existing road would continue to be used rather than alternatives A or B. This would result in two roads leading into the area, but with only one receiving the bulk of the use. Maintenance for both roads would be required for the life of the project. A no action alternative would not be acceptable from a construction point of view, nor would it do anything to improve safety conditions in the village and long term access problems.

SCHEDULE

It is anticipated that, if the proposed alternative is allowed, construction of the road improvements would begin in July of 1982. The bulk of the construction is anticipated to be completed by February 1 of 1983. This timing is proposed to minimize potential adverse impacts to birds of prey.

It would be desirable to obtain the necessary right-of-way permit(s) no later than the early fall of 1981 to facilitate

final road design and other pre-construction activities. A similar time frame would be anticipated with Alternative A or B, however a longer construction time would be required for both alternatives.

SPECIAL CONSIDERATION

The area of the proposed road improvements and the vicinity of Swan Falls Dam has been surveyed for archaeological properties on at least three different occasions. It was evaluated a fourth time by Dr Thomas Green, Idaho State Archaeologist, in March of this year. Only one archaeological site is known to occur in the vicinity of the road project. Site 10-AA-17 is located at approximately the right abutment of the dam. The proposed road improvement will not involve this site. Other sites in the immediate vicinity will not be affected by either alternative A or Alternative C. Alternative B, building a road on the north side of the river through the canyon, has the potential of affecting several such sites. It has not been surveyed for purposes of this report.

Site 10-AA-17 will be evaluated during the summer of 1981 in conjunction with the FERC application for relicense.

Several prairie falcon eyries are located above and adjacent to the existing Swan Falls road. These are probably alternative nest locations for one or two pairs of birds, rather than for several individual pair. This spring, 1981, at least one pair of falcons are using the cliff above the road. Additionally, one pair of ravens are nesting on the same cliff.

Timing of the road construction is proposed to miss the critical use period for these nest sites, thus avoiding adverse impacts.

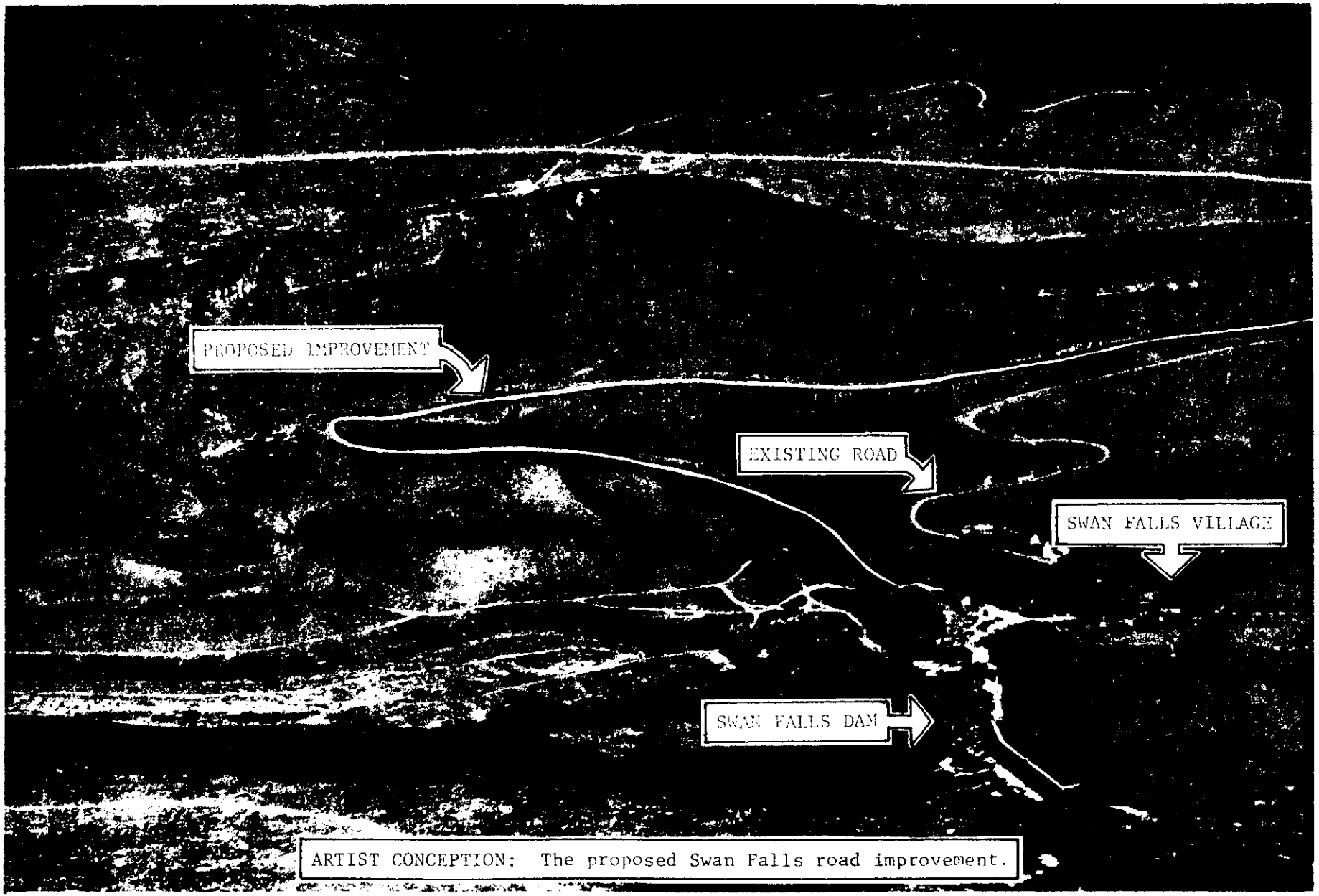
ALTERNATIVES SUMMARY

ALTERNATIVE	DISTANCE FROM BOISE	MILES OF NEW CONSTRUCTION	RELATIVE COST
Preferred	Unchanged 38 miles	1.5	1
A	66 Miles	4	2 to 2.5
B	51.5 Miles	11.5	4 to 5
C	Unchanged 38 miles	0	0 to 1

	Impacts to BPNA	Archaeological Impacts	Safety to Village
Preferred	Minimal	None	Excellent
A	Minimal	None	Potentially Improved
B	Adverse	Potentially Severe	Potentially Improved
C	No Change	No Change	Poor

	Construction Access	Bridge Requirements
Preferred	Excellent	Temporary
A	Adequate	Permenant
B	Adequate	Temporary
C	Inadequate	Temporary

	Long Term Access	Maintenance Requirements (Relative)
Preferred	Excellent	1
A	Poor	2 to 3
B	Poor	2 to 3
C	Poor	1 to 2



ARTIST CONCEPTION: The proposed Swan Falls road improvement.

APPENDIX C

REQUEST FOR

WATER QUALITY CERTIFICATION

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

October 30, 1981

Mr Al Murrey, P.E.
Chief, Bureau of Water Quality
Division of Environment
Idaho Department of Health and Welfare
Statehouse
Boise, ID 83720

RE: Swan Falls H.E. Facilities - Project 503
Water Quality Certification

Dear Mr Murrey,

As you know, Idaho Power Company proposes to reconstruct the hydroelectric facilities at Swan Falls Dam. A Water Quality Certificate is required to obtain a renewed FERC license for improved facilities. The Company hereby requests that a Water Quality Certificate be issued, pursuant to Section 401 of the Federal Water Pollution Control Act, for the facility.

Enclosed is a copy of the Application for License. As Exhibit E of the Application indicates, the potential of the proposed facility to adversely affect existing water quality is low. No special measures are anticipated to meet water quality standards.

If you have questions, or need further information, please contact me at your convenience.

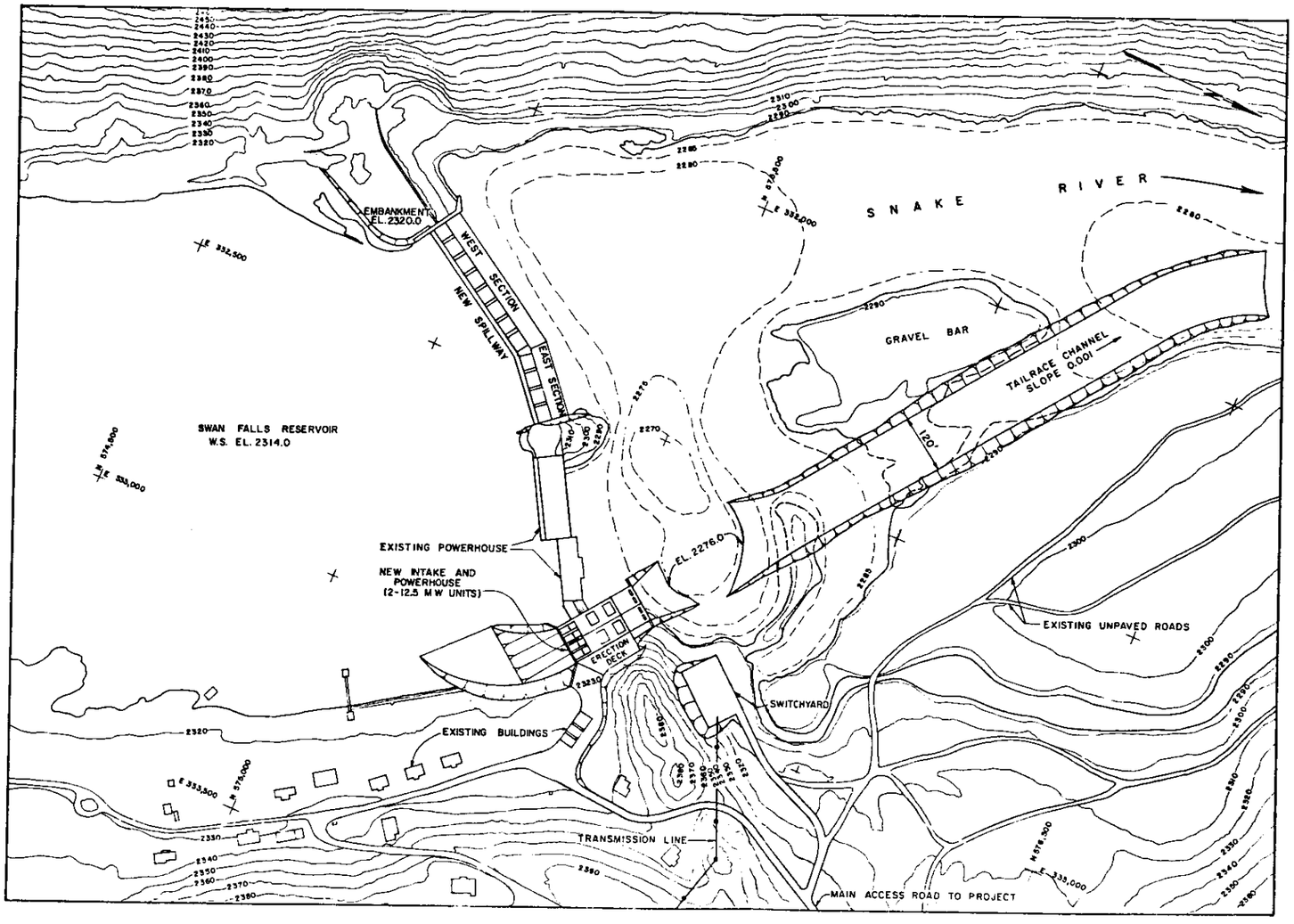
Sincerely,

Allan R Ansell

Allan R Ansell
Environmental Biologist

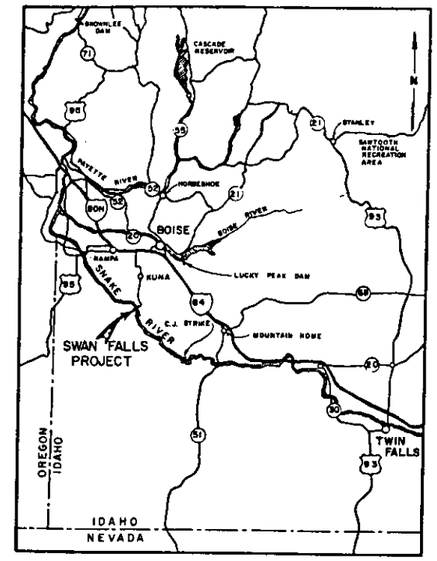
ARA:lf

EXHIBIT F



PROJECT PLAN

SCALE 0 100 200 300 400 500 FEET
(1" = 100')



LOCATION MAP

SCALE 0 10 20 30 40 50 MILES

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

PROJECT 503 - IDAHO EXHIBIT F

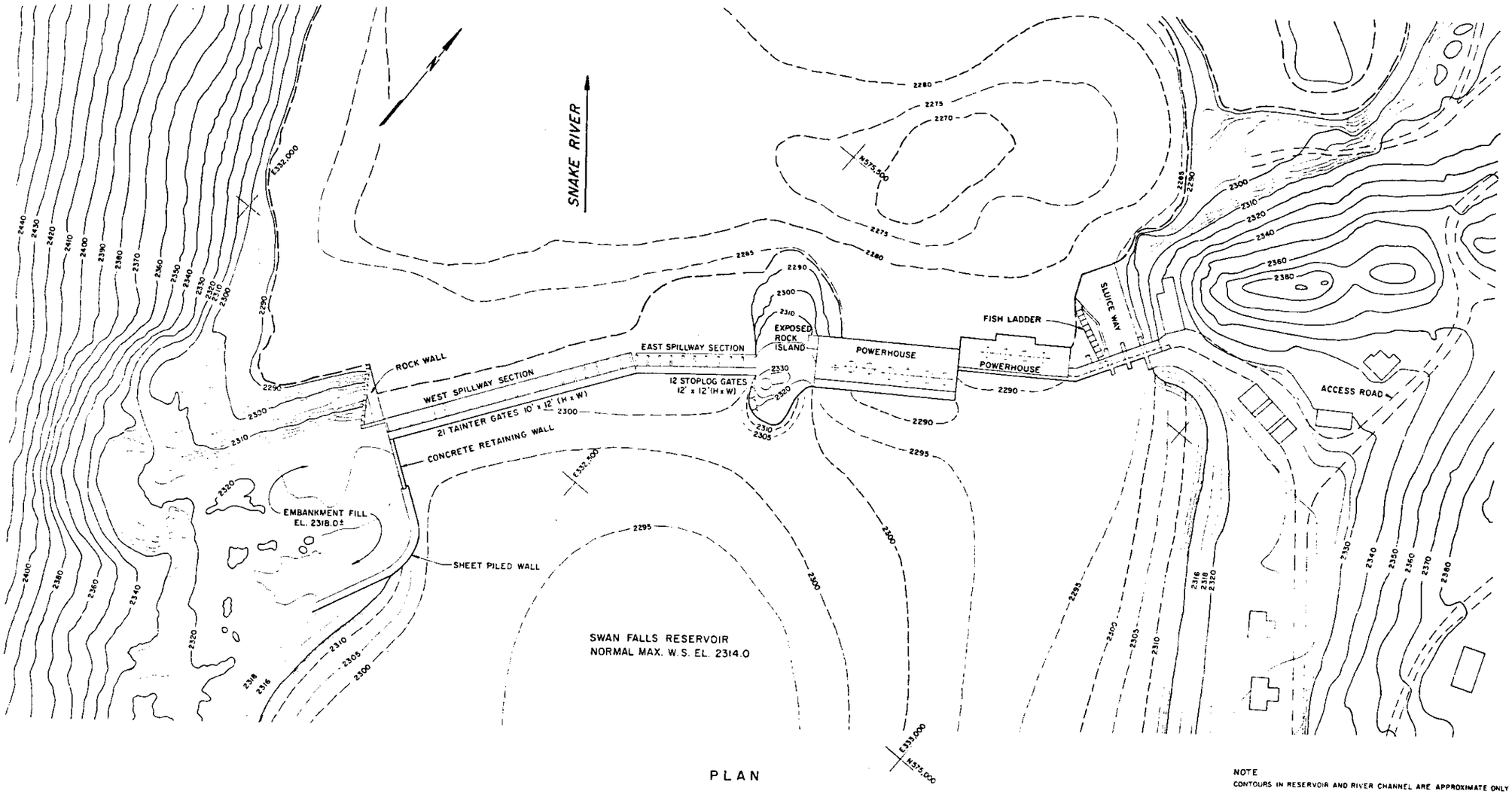
SWAN FALLS HYDROELECTRIC PROJECT

GENERAL PLAN

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 1 OF 6 06E-44791

38 3



CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

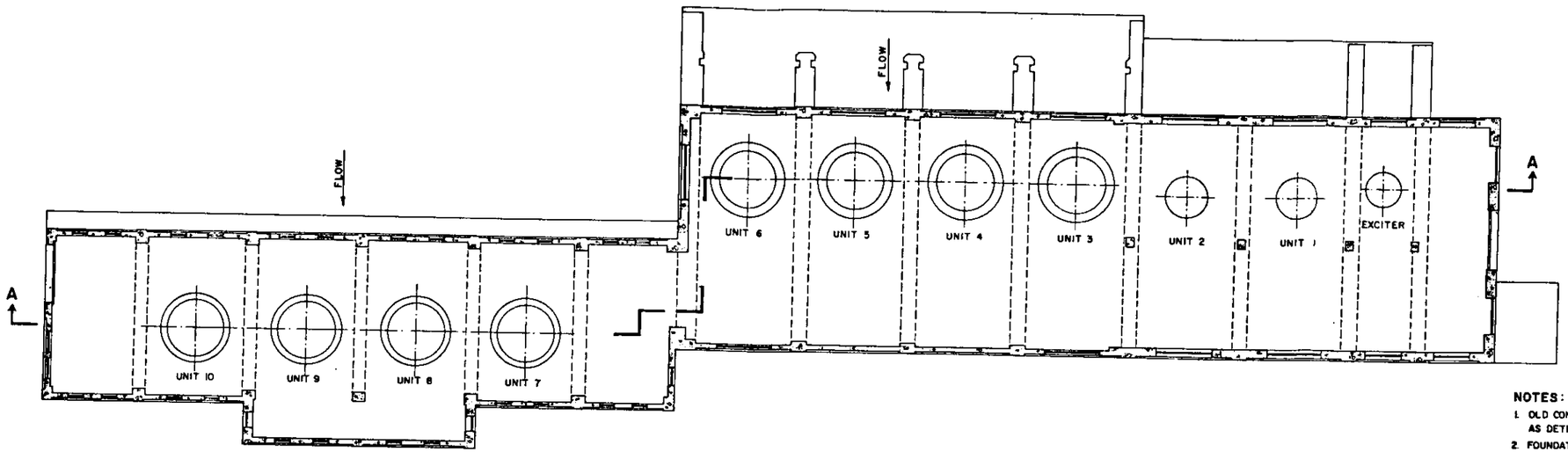
SWAN FALLS HYDROELECTRIC PROJECT

EXISTING STRUCTURES
PLAN AND ELEVATION

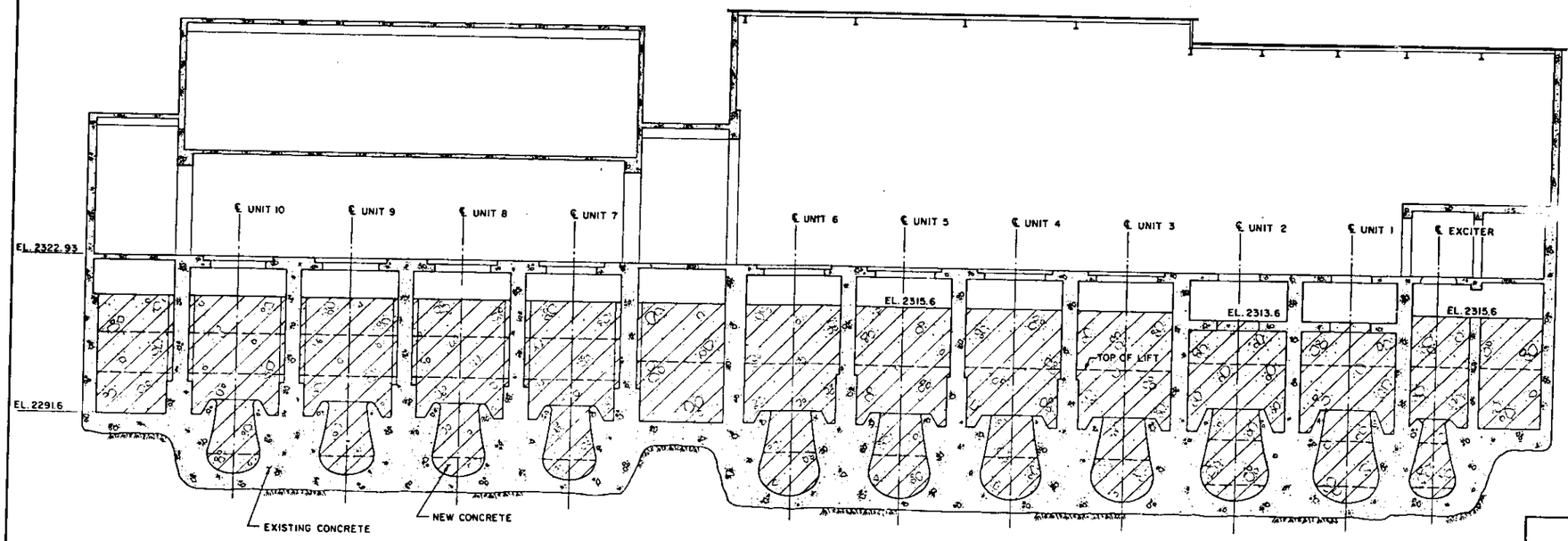
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 2 OF 6 06E-44791

36 3



MAIN FLOOR PLAN - EL. 2322.93



SECTION A-A

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.

0 10 20 30 40 FEET

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

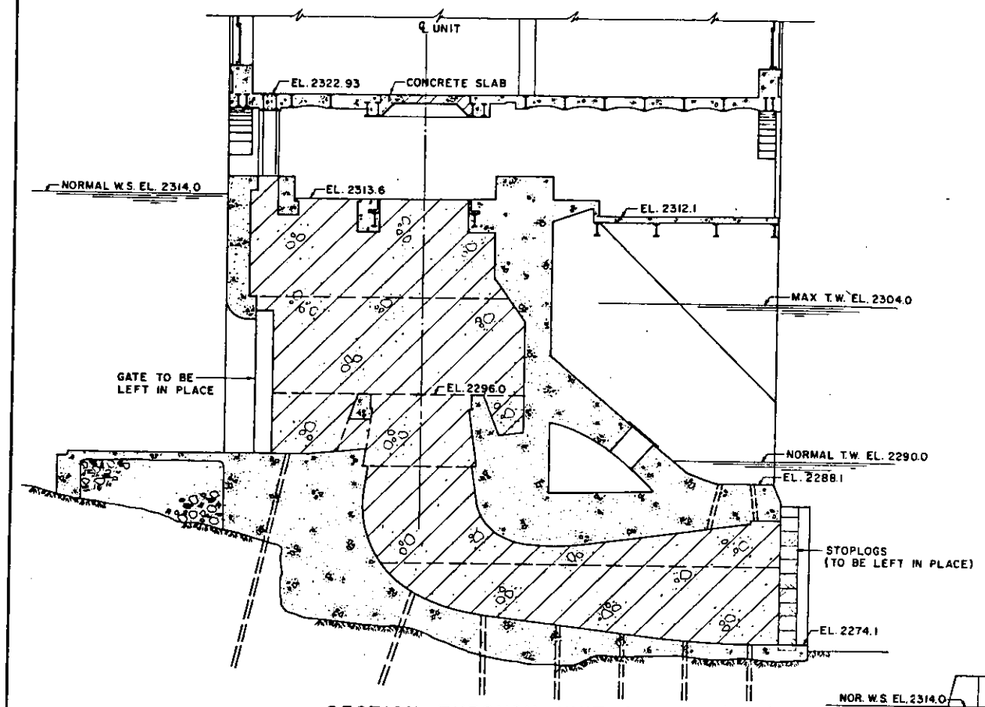
PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

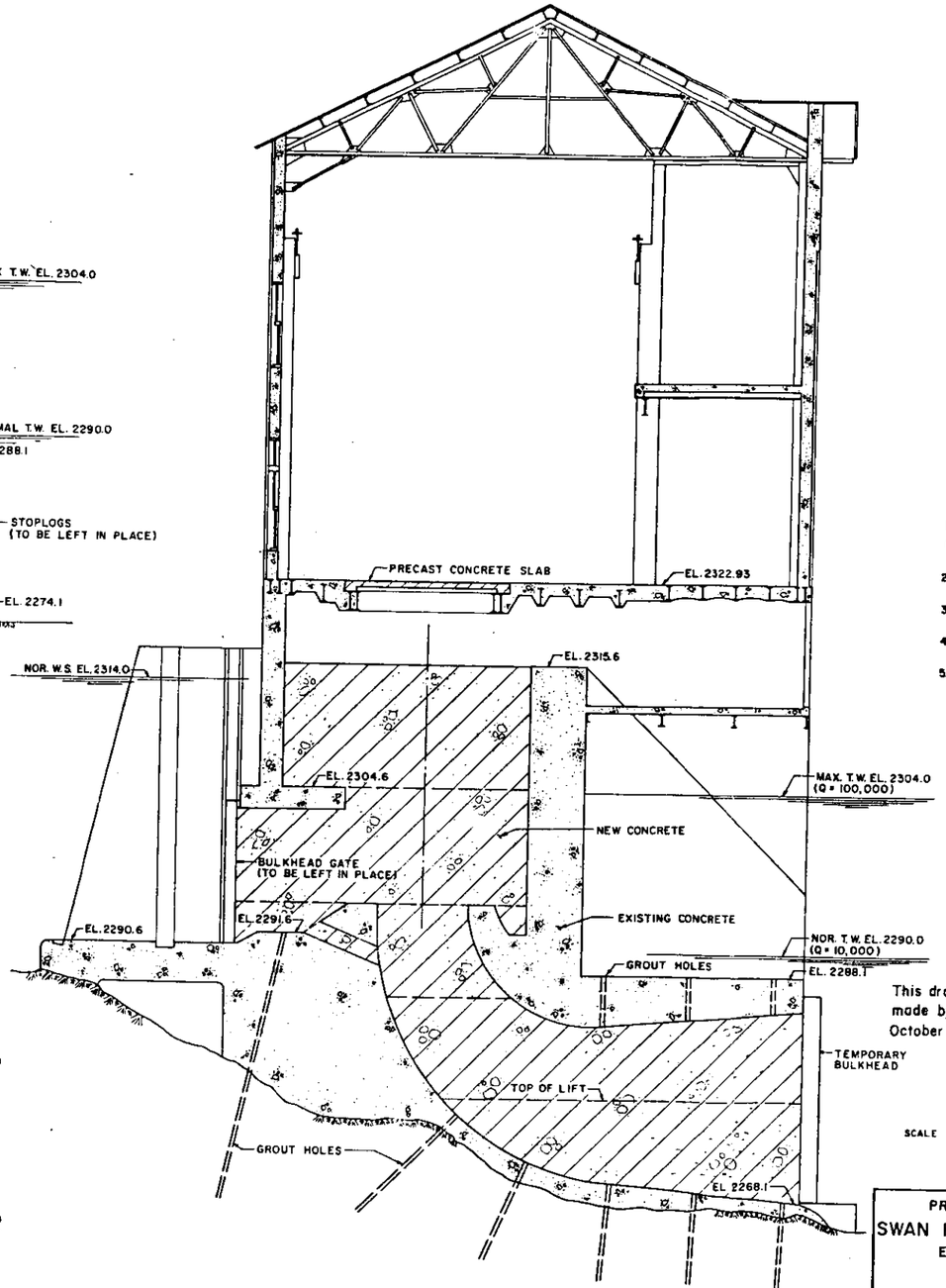
EXISTING POWERHOUSE STRUCTURE
PLAN AND SECTION

IDAHO POWER COMPANY
BOISE, IDAHO

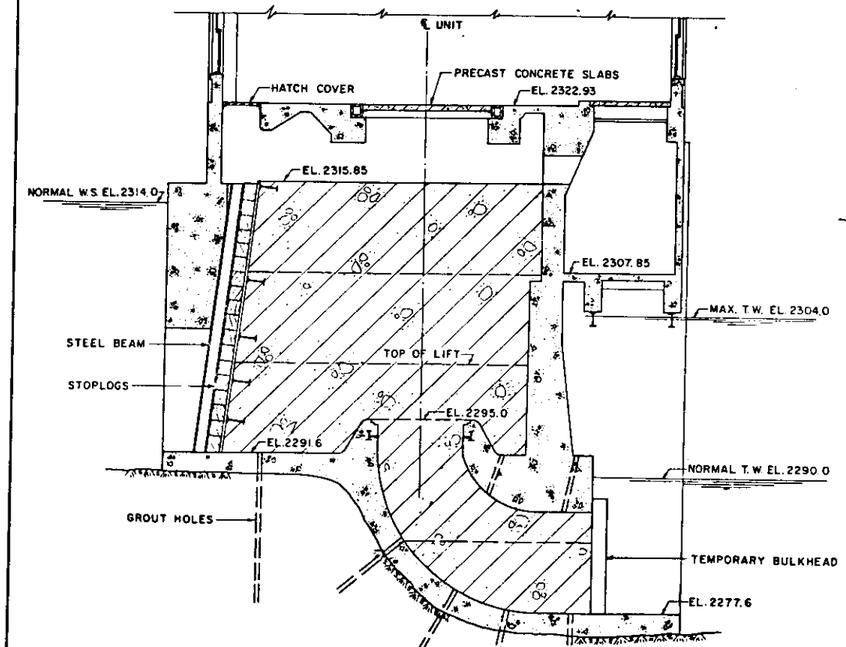
OCTOBER 1981 SHEET 3 OF 6 06E-44791



SECTION THROUGH UNIT 2
(TYPICAL FOR UNIT 1 & 2)



SECTION THROUGH UNIT 5
(TYPICAL FOR UNIT 3 THRU 6)



SECTION THROUGH UNIT 8
(TYPICAL FOR UNIT 7 THRU 10)

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 5 10 15 20 FEET

PROJECT 503 - IDAHO EXHIBIT F

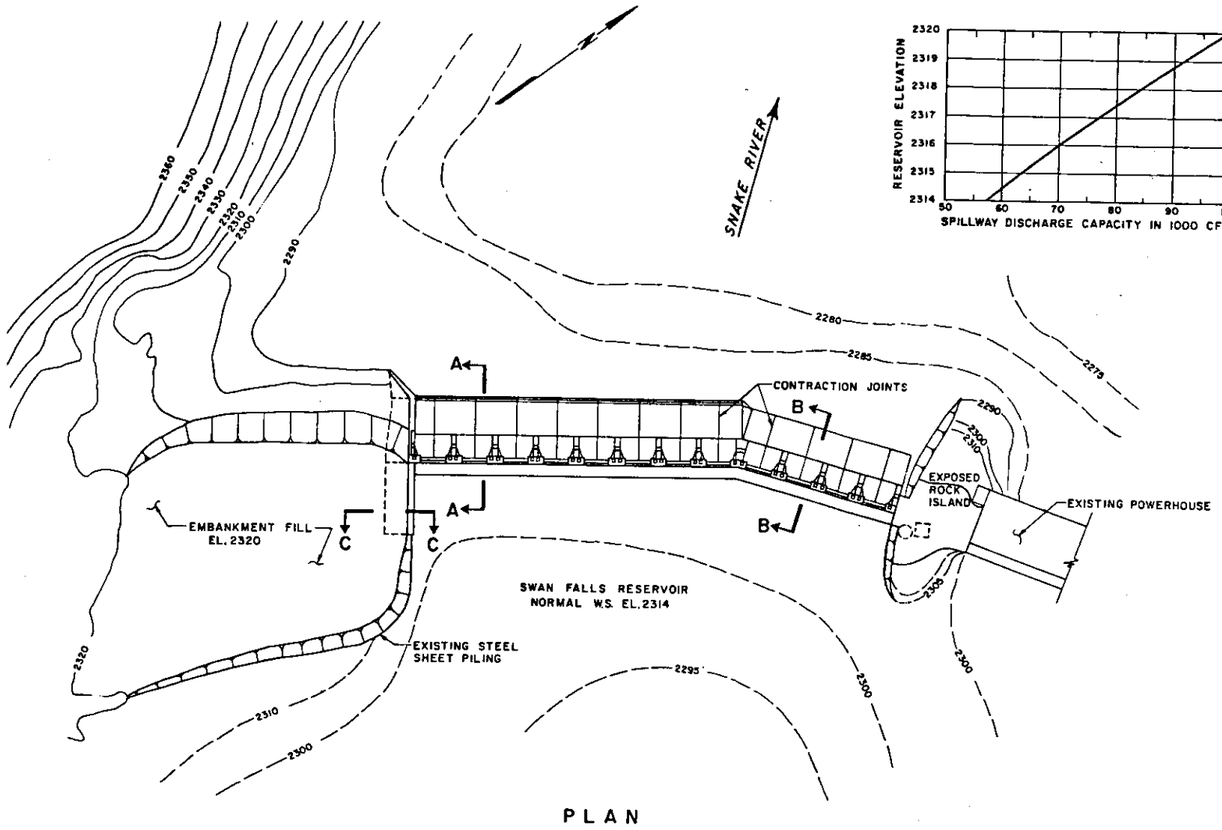
SWAN FALLS HYDROELECTRIC PROJECT

EXISTING POWERHOUSE STRUCTURE
SECTIONS

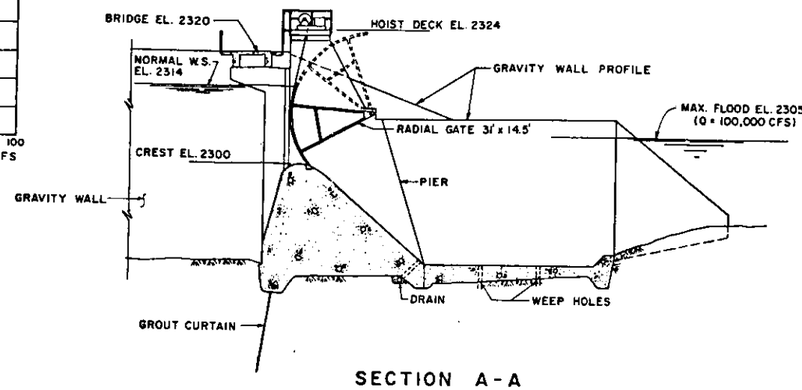
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 4 OF 6 06E-4479

38 3

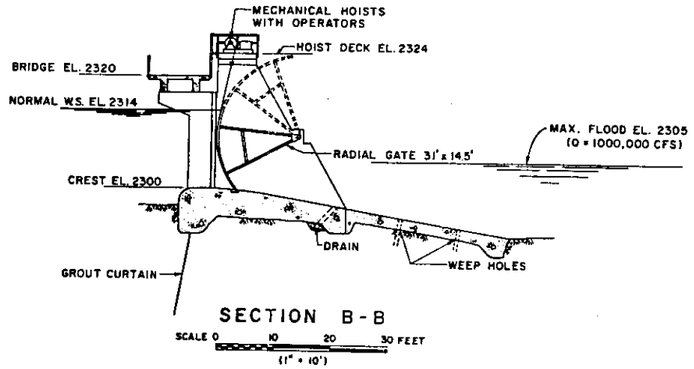


PLAN



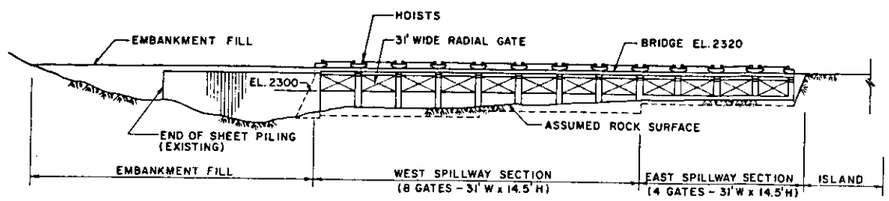
SECTION A-A

SCALE 0 10 20 30 FEET (1" = 10')

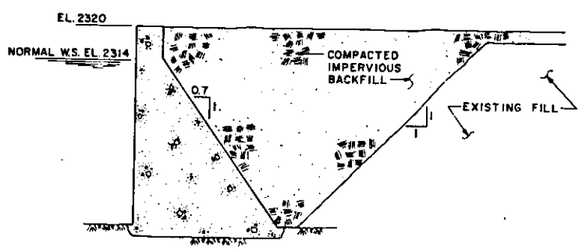


SECTION B-B

SCALE 0 10 20 30 FEET (1" = 10')



UPSTREAM ELEVATION



SECTION C-C

SCALE 0 10 20 30 FEET (1" = 10')

SCALE 0 50 100 150 200 FEET (1" = 50') EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

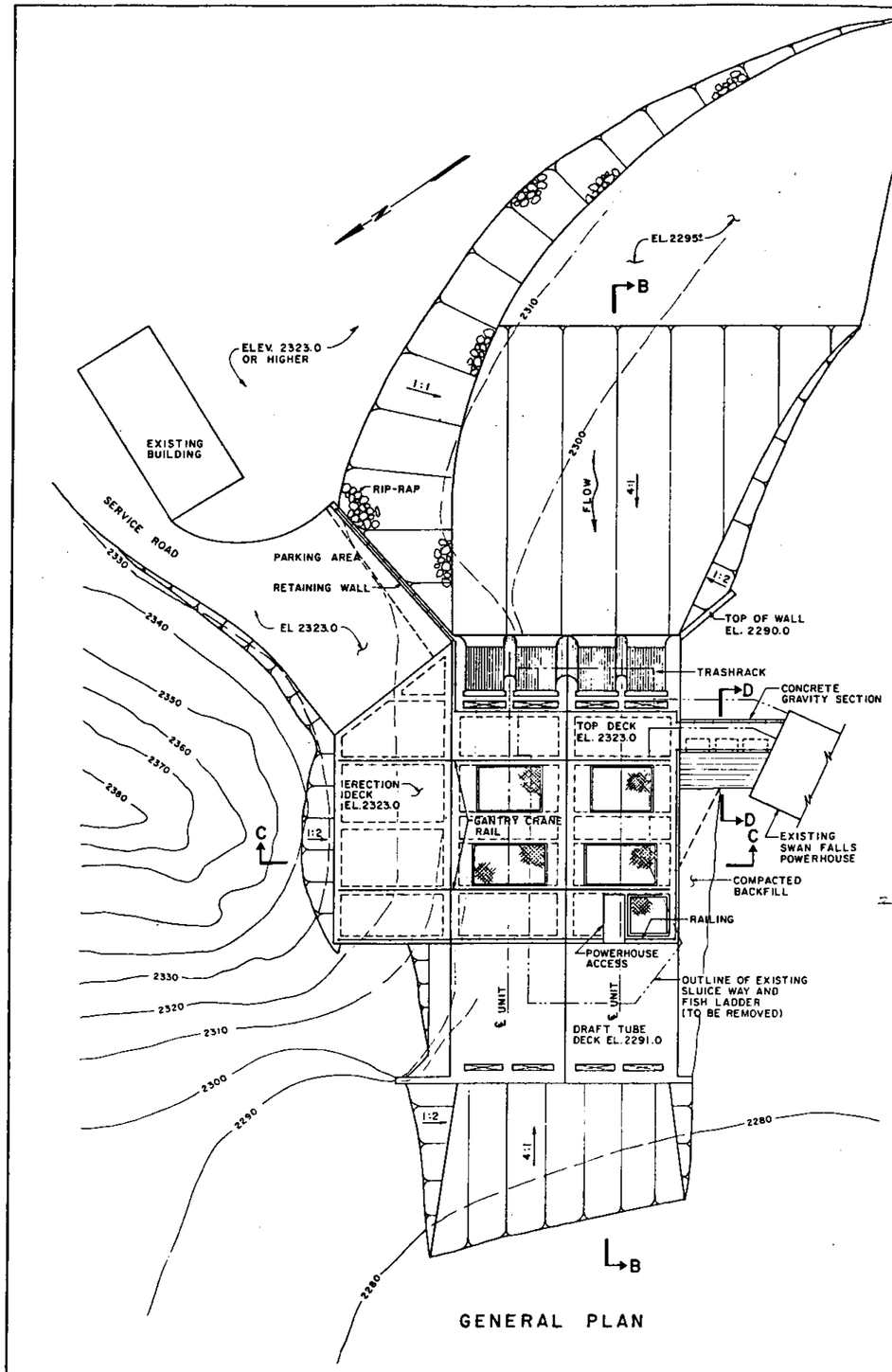
SWAN FALLS HYDROELECTRIC PROJECT

NEW SPILLWAY
PLAN AND SECTION

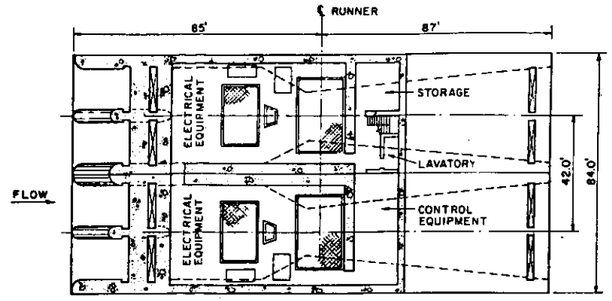
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 5 OF 6 06E-4479 1

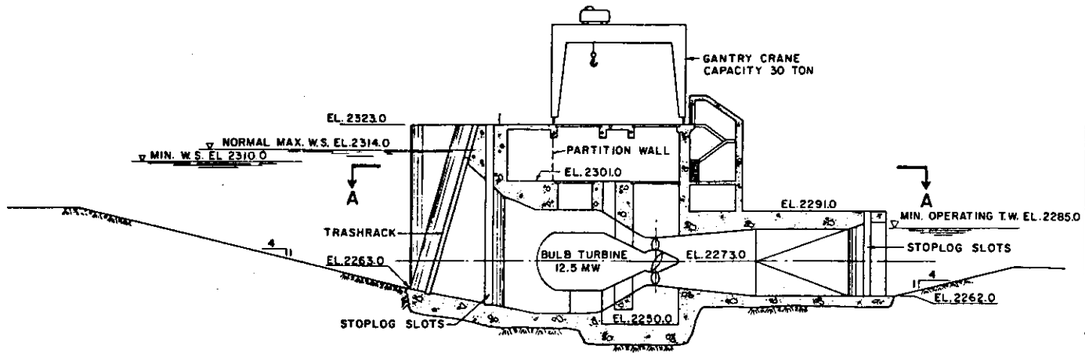
38-3



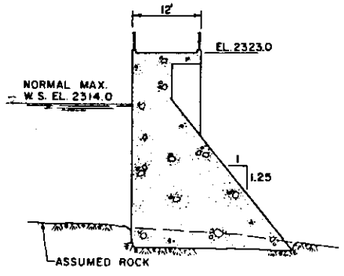
GENERAL PLAN



SECTION A-A

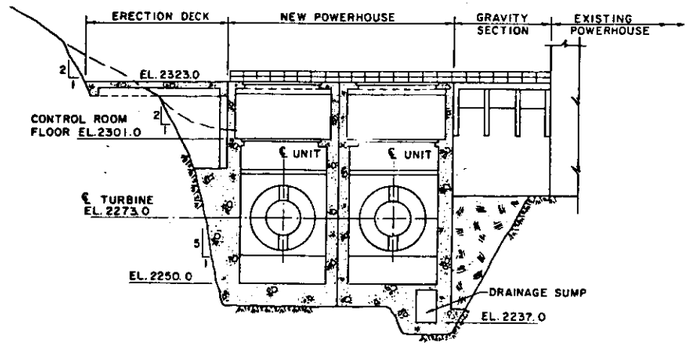


SECTION B-B



SECTION D-D

0 10 20



SECTION C-C

SCALE 0 20 40 60 80 FEET
(1" = 20')
EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

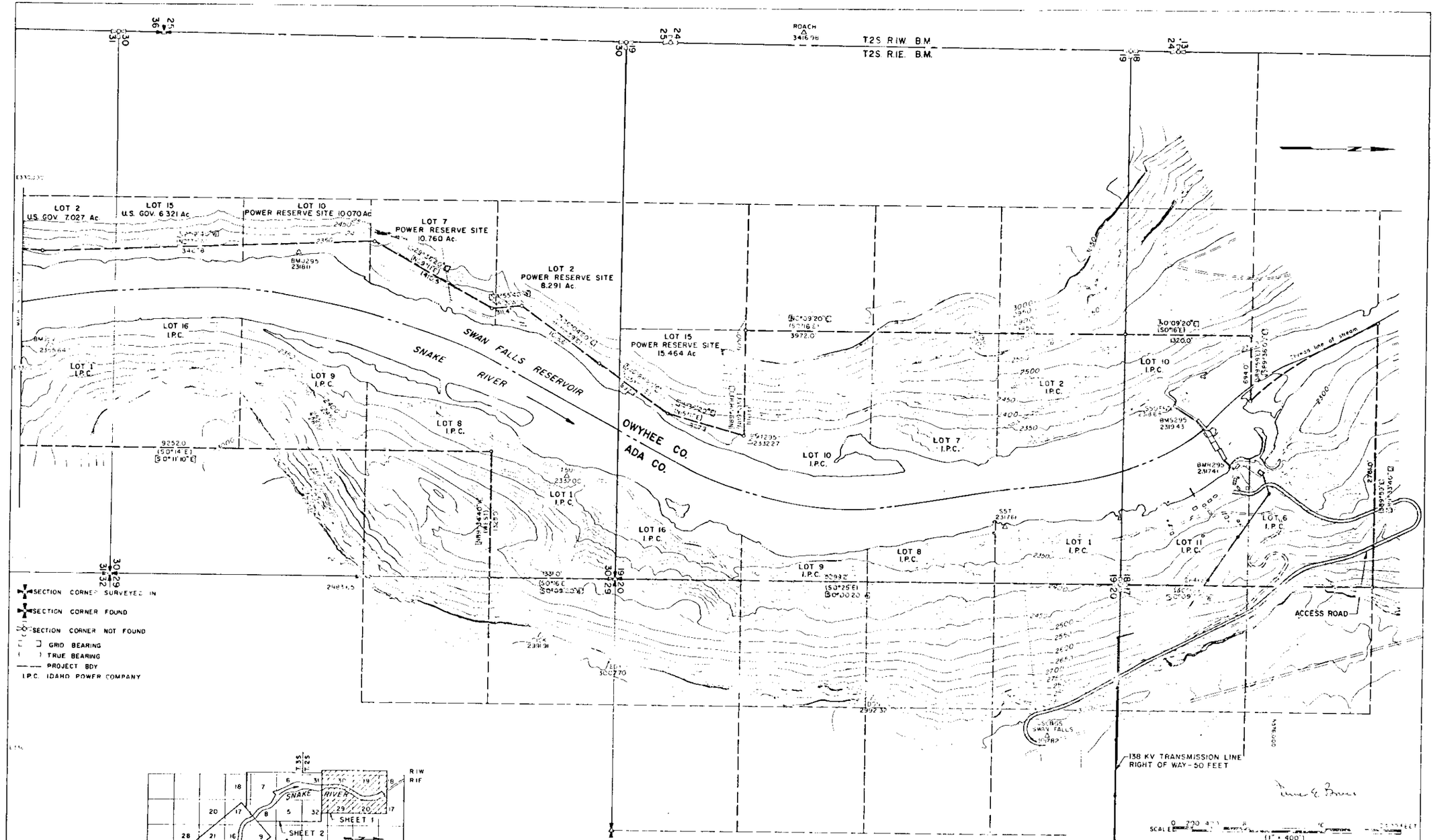
SWAN FALLS HYDROELECTRIC PROJECT

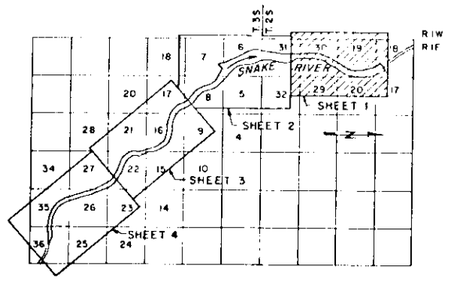
NEW POWERHOUSE
PLAN AND SECTIONS

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 6 OF 6 06E-44791

EXHIBIT G





KEY MAP

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2500 FEET COMBINED COORDINATION FACTOR 1.00014551

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
P.E. 688 - IDAHO

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 1 OF 4 06E-44792

38-3

SECTION CORNER SURVEYED IN
SECTION CORNER FOUND
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
PROJECT BDY
I P C IDAHO POWER COMPANY

T3S R1W BM
T3S R1E BM

T2S R1W BM
T2S R1E BM

LOT 3 U.S. GOV. 5.248 Ac.
LOT 4 U.S. GOV. 0.132 Ac.
LOT 15 U.S. GOV. 5.130 Ac.
LOT 2 U.S. GOV.
LOT 5 U.S. GOV. 9.496 Ac.
SNAKE RIVER
SWAN FALLS RESERVOIR
LOT 10 U.S. GOV. 6.056 Ac.
LOT 7 U.S. GOV. 7.174 Ac.
LOT 8 U.S. GOV. 11.672 Ac.
OWYHEE CO.
ADA CO.
NW ¼ OF NE ¼ U.S. GOV. 10.804 Ac.
LOT 11 U.S. GOV. 13.583 Ac.
LOT 7 PRIVATE
LOT 6 PRIVATE
LOT 2 U.S. GOV. 19.948 Ac.
LOT 16 I.P.C.
LOT 9 I.P.C.
LOT 8 I.P.C.
LOT 1 I.P.C.
LOT 1 U.S. GOV. 6.688 Ac
NE ¼ OF SE ¼ PRIVATE
LOT 12 PRIVATE
LOT 5 U.S. GOV 4.557 Ac.
LOT 3 U.S. GOV. 5.806 Ac.
LOT 2 U.S. GOV. 5.130 Ac.
LOT 6 U.S. GOV. 3.557 Ac.
LOT 4 U.S. GOV. 6.292 Ac.
LOT 1 U.S. GOV. 11.290 Ac.
LOT 5 U.S. GOV. 7.585 Ac.

KEY MAP
SHEET 1
SHEET 2
SHEET 3
SHEET 4

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

I, Gomer H Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H Condit
PE 689 - IDAHO
BERY 302419 A

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY
By
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 200 400 800 1600 2400 FEET (1" = 400')

PROJECT 503 IDAHO EXHIBIT G

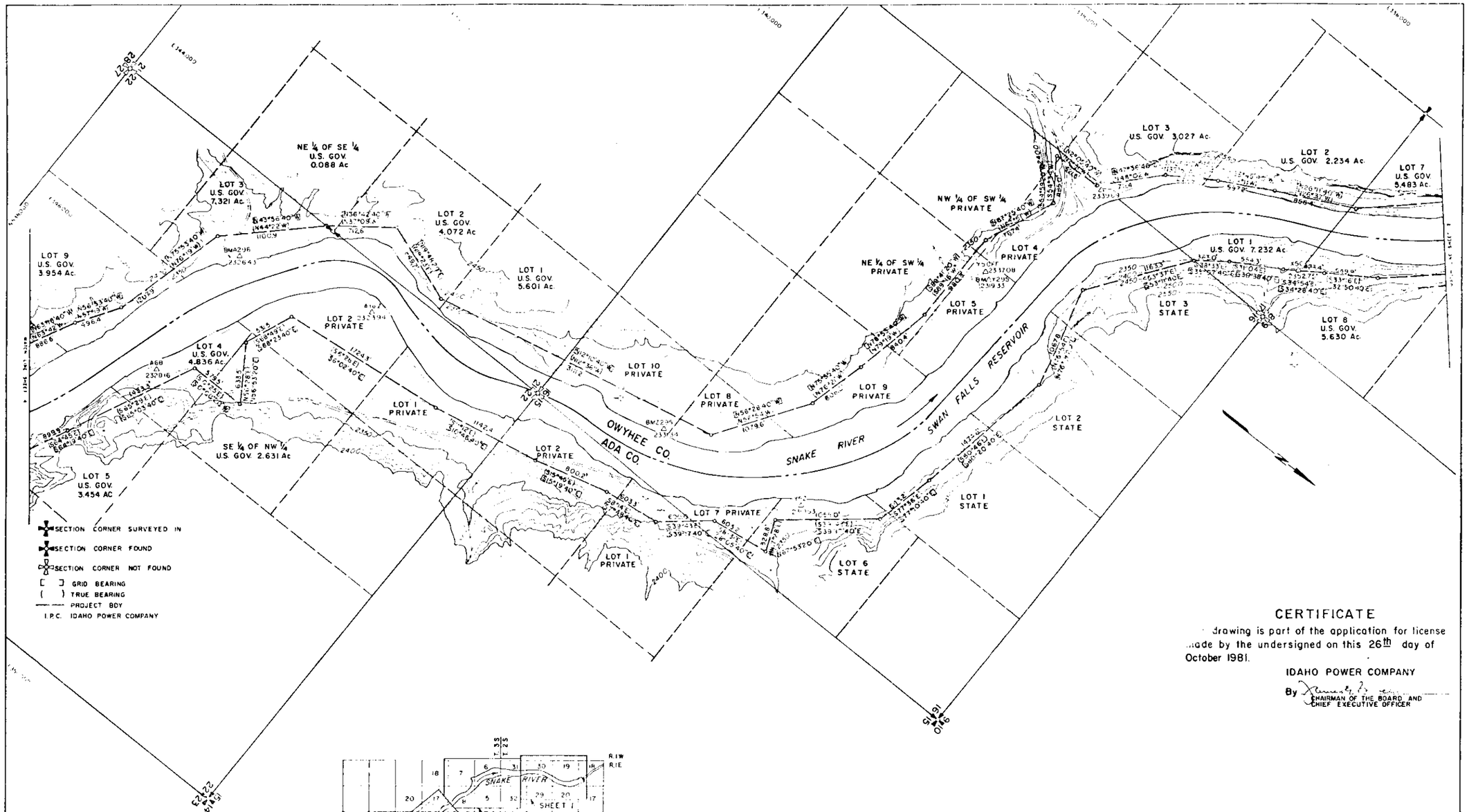
SWAN FALLS HYDROELECTRIC PROJECT

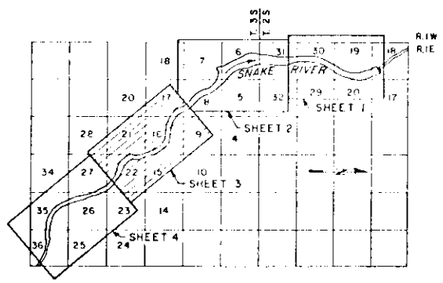
PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 2 OF 4 06E-44792

35-3





KEY MAP

CERTIFICATE

drawing is part of the application for license ..ade by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats

_____
Gomer H. Condit
PE 688 - IDAHO

HORIZONTAL DATUM MODIFIED IDA-0 WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET COMBINED COORDINATION FACTOR 1.0001455)

VERTICAL DATUM U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A

0 200 400 800 1600 2400 FEET
(1" = 400')

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 3 OF 4 06E-44792

SECTION CORNER SURVEYED IN
SECTION CORNER FOUND
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
—— PROJECT BDY
I.P.C. IDAHO POWER COMPANY

T3S RIE BM
T4S RIE BM
T3S R2E BM

SNAKE RIVER
SWAN FALLS RESERVOIR
OWYHEE CO.
ADA CO.

LOT 1 PRIVATE
LOT 2 1.220 Ac.
LOT 3 U.S. GOV. 4.307 Ac.
LOT 4 U.S. GOV. 8.570 Ac.
LOT 5 U.S. GOV. 5.880 Ac.
LOT 6 1.544 Ac.
LOT 7 U.S. GOV. 5.806 Ac.
LOT 8 PRIVATE
LOT 9 PRIVATE
LOT 1 U.S. GOV. 3.572 Ac.
LOT 2 U.S. GOV. 9.026 Ac.
LOT 3 U.S. GOV. 4,763 Ac.
LOT 4 U.S. GOV. 2.234 Ac.
LOT 4 U.S. GOV. 9.878 Ac.
LOT 5 PRIVATE
LOT 6 PRIVATE
LOT 7 PRIVATE
LOT 8 U.S. GOV. 10.643 Ac.
LOT 1 U.S. GOV. 1.352 Ac.
LOT 2 U.S. GOV. 3.690 Ac.
LOT 3 PRIVATE
LOT 4 PRIVATE
LOT 5 PRIVATE
LOT 6 U.S. GOV. 0.662 Ac.
LOT 7 U.S. GOV. 5.968 Ac.
NE ¼ OF SW ¼ PRIVATE

KEY MAP

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY
By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
P.E. 688 - IDAHO

HORIZONTAL DATUM MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551

VERTICAL DATUM U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

SCALE 0 200 400 800 1600 FEET
(1" = 400')

PROJECT 503 IDAHO EXHIBIT G
SWAN FALLS HYDROELECTRIC PROJECT
PROJECT MAP
IDAHO POWER COMPANY
BOISE, IDAHO
OCTOBER 1981 SHEET 4 OF 4 06E-44792

38-3

Re: 02-7379

1989 Supplement
To
Second Amended Application
For
New License: Project No 503

EXHIBIT A
PROJECT DESCRIPTION

As shown and modified in the Second Amended Application except as follows;

A.2 EXISTING PROJECT -

Spillway (pg A-2 & 3) - The spillway construction was completed in 1986, and the existing spillway should now be described as follows:

The spillway which was reconstructed in 1986, is located between the embankment and the island in the middle of the river. The western section, contiguous with the embankment, is a gated concrete ogee section with 8 radial gates, and the eastern section, adjacent to the island, is a broad-crested weir with 4 radial gates. The spillway has a capacity of 71,000 cfs with the reservoir at normal operating elevation 2314.0. It can discharge 80,000 cfs without overtopping the dam and will be capable of discharging 106,000 cfs without overtopping when the right abutment dam is replaced by the new powerhouse.

Powerhouse (pg A-3) - The existing powerhouse stability has been reviewed in 1988, in conformance with Part 12 Independent Consultant Inspection requirements. The analysis, as submitted to the FERC on January 6, 1989, recommends that stability improvements be performed within the next five-year period. It is the applicant's intent to stabilize the existing power plant as shown on the Exhibit F drawings.

Plant Equipment (pg A-4) - The existing units range from 45 to 75 years in age and have been in service much longer than the normal economic life assumed for this type of equipment. Operation and maintenance expenditures are well in excess of system averages and are increasing annually on a real-cost basis. Such expenditures are becoming increasingly difficult to justify in light of the units and auxiliary equipment age.

MICROFILMED
MAY 15 1989

A.3 PROPOSED PROJECT -

Spillway (pg A-6) - The spillway as described was completed in 1986, and is fully operational.

Existing Power Plant (pg A-7) - The proposed construction may require the installation of cofferdams, upstream of the existing powerhouse, to facilitate unit dewatering in a stable condition.

Tailrace Improvement (pg A-10) - The tailrace improvement has been completed.

EXHIBIT B
PROJECT OPERATION

As shown and modified in the Second Amended Application except as follows;

B.2 STREAMFLOW -

Average monthly discharges at Swan Falls have been updated to reflect discharges at Murphy, adjusted to 1985 level of upstream development as determined by the Idaho Water Resource Board. Table B-1 and Figure B-1 have been revised and included herein. Monthly flow duration curves have also been added as FIGURE B-1-1 thru 12. The following additional streamflow information is also provided. The Snake River above the Murphy gage drains approximately 41,900 square miles of land. Return intervals are listed for the following streamflows, based on the historical period of record at the Murphy gage.

Flow (24 hr ave)	Return Interval
36,000 cfs	20 years
41,250 cfs	50 years
45,100 cfs	100 years
54,100 cfs	500 years
58,000 cfs	1000 years

B.4 TAILWATER -

The tailwater improvement has been completed and the new powerhouse will operate on the improved curve.

B.6 POWER AND ENERGY -

Estimates of power and energy are based on the flows described above in section B.2. A revised Table B-2 depicting study results is included herein.

B.7 POWER UTILIZATION

Safety and operational considerations dictate construction of the new plant to replace the existing generating facility by 1993. All of the power and energy produced at the new Swan Falls Plant is intended for utilization in Idaho Power Company's system. Idaho Power's most recent Economic Forecast, which is the basis for a new load forecast and resource plan currently under development, reveals an increased expectation for economic growth in the State of Idaho which should permit the Company to absorb this additional resource close to the 1993 on-line date. During any period of time that the additional generation of the Swan Falls Plant is not required for Idaho Power system loads, the generation will be available to serve regional loads.

Measured either as an Idaho Power Company system resource or as a regional resource, construction of the Swan Falls Plant by 1993 is cost effective. Tables D-2 and D-3 show that, on a levelized life-cycle

basis, the annual value of the Swan Falls Project exceeds costs regardless of whether the value is calculated on the basis of the Company's own avoided system costs, or upon the cost of alternative thermal resources.

B.8 FUTURE PROJECTS

Future projects on the Snake River sponsored by the Applicant consists of Twin Falls located about 160 miles upstream of the Swan Falls Project. The Applicant has filed an application for new license for the Twin Falls Project (FERC No 18) and it is currently pending.

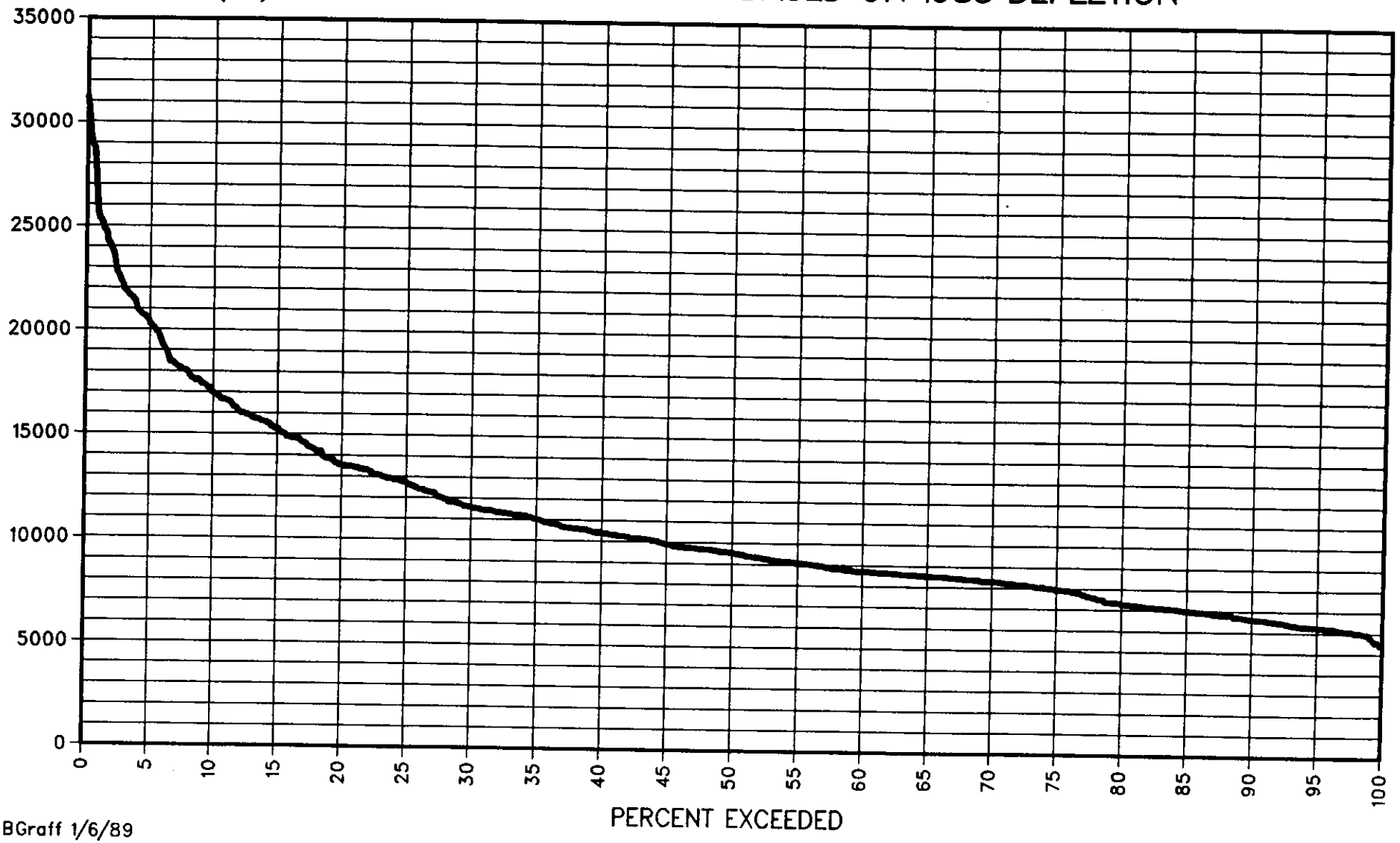
TABLE B-1
SWAN FALLS FLOWS (CFS)
(1928-1985 DEPLETED FLOWS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVERAGE
28	14216	13861	9391	22463	15738	8892	6311	7346	8647	10368	13545	11818	11883
29	12886	9036	9833	12288	12484	7165	6262	6894	8525	8675	10579	11533	9680
30	9381	9353	9324	7602	7262	6818	6365	6972	8632	8694	9991	9746	8345
31	9070	8506	8144	7263	6628	6583	6300	6889	8227	8496	8719	9004	7819
32	8747	8055	8789	7935	7490	7764	6056	6733	8140	8802	9708	9560	8148
33	9148	8676	8464	7570	7621	7366	6298	7068	8649	8496	9134	9059	8129
34	8724	8215	7823	7169	6372	6077	5576	6341	7516	8457	8562	8222	7421
35	7982	8161	7922	7364	6672	7008	5530	5987	7219	8573	8831	8744	7499
36	8596	8907	8828	9226	7851	7912	6279	6998	8389	8717	9542	9354	8383
37	8594	8294	7944	7854	7158	6835	6079	6826	8499	8743	9589	9676	8008
38	9000	8566	8501	9159	9835	8717	6700	6990	8387	11292	13821	11967	9411
39	9295	10330	12410	12263	8701	6795	6482	7203	8619	8686	9482	9313	9132
40	9070	8589	8635	8707	7368	6716	6007	6839	8378	8503	9668	9477	8163
41	9066	8580	8023	7243	6794	6318	5826	7058	8183	8464	10505	9716	7981
42	8579	8305	8280	10063	8002	7936	6103	6592	8303	8725	10769	9921	8465
43	9955	13858	17212	28755	16176	11378	7651	7112	9688	10174	12938	13506	13200
44	14670	10548	9593	11782	7872	7511	6230	6538	8108	8716	10648	11198	9451
45	9067	9810	9165	14617	12803	8507	6597	6953	9725	10583	13110	14569	10459
46	15628	12698	10588	17228	15556	8506	6199	7054	8557	11023	12999	12171	11517
47	13494	11758	9386	18165	7181	7116	6238	6935	8294	10436	12853	11983	10320
48	13718	12318	8087	9597	15249	12046	6570	7086	8641	10983	11638	10957	10574
49	9913	11809	14886	15082	12920	7279	6215	6935	8389	11031	11527	11613	10633
50	10815	15273	10331	25745	11497	9811	7280	7377	9830	10887	17419	17599	12822
51	17399	18091	14802	21494	14855	7111	6114	7167	9783	10633	13518	16662	13136
52	18051	13900	9750	28989	19908	13045	7025	7141	8380	10711	13130	11315	13445
53	12749	11546	9731	9560	11707	11196	6516	7084	8615	8789	11303	11252	10004
54	10656	11778	10077	20795	7236	7136	6438	6948	8661	8553	10434	11221	9994
55	8662	8317	8975	11454	9562	6282	5935	6483	8303	8842	10418	11837	8756
56	12569	15372	15934	20171	15244	13423	6296	6967	10091	10802	13096	13639	12800
57	13551	13336	9497	24725	16872	11240	6210	6790	8538	11321	12982	11453	12210
58	12050	10660	10814	11286	17313	7726	6087	6886	8595	8787	10320	10432	10080
59	9253	8841	9510	11463	7999	6802	5987	6600	8641	8506	9603	10876	8673
60	8418	8309	10834	12626	7208	6716	5934	6654	8073	8229	9626	9033	8472
61	8517	8402	7900	7374	6338	6008	5571	6271	8313	8449	10318	9121	7715
62	8526	9403	10142	19013	11051	8252	6090	6815	8183	9752	11206	11333	9981
63	9701	12857	9180	13474	8316	15720	6178	6626	8451	8581	10223	11622	10077
64	9017	10391	8321	22591	11451	14845	6187	6844	8434	10607	13249	13454	11283
65	16329	15802	14000	24124	17602	12426	7248	7676	10504	11458	17415	17646	14353
66	15764	11335	11549	9701	7930	6882	6257	7104	8945	9130	10194	9625	9535
67	9165	8636	8391	16612	8018	14357	6557	6733	8192	10618	13419	11954	10221
68	13097	11144	10585	10454	9155	10174	6103	7929	10173	11217	13671	12084	10482
69	19492	18040	13493	16012	15096	8327	6597	6933	8725	10142	12409	11395	12222
70	12606	15950	8381	16412	13079	14880	6617	7000	10130	10622	12759	13481	11826
71	18397	21694	15626	24238	27905	20308	9777	8155	10266	15050	20121	18227	17480
72	21839	19289	24857	20689	21595	17698	7085	7514	10403	12326	16787	17986	16506
73	19799	9866	11222	14404	13371	6965	6023	6678	8244	11139	12797	13372	11157
74	14789	14893	13337	29449	16615	20715	6275	6800	9348	10295	13348	16697	14380
75	17025	14221	11060	22184	20894	16293	7072	7091	9459	10807	18208	18357	14389
76	20479	15911	16929	25063	25356	10183	6147	7374	10286	11612	12937	15996	14856
77	12523	11414	9718	7708	7203	6512	5792	6180	7034	8005	9273	8975	8361
78	8542	8112	8796	14200	15506	7272	6246	6483	10007	10013	12374	10437	9832
79	16667	11839	10690	16029	7818	6630	5664	6408	8057	8834	9278	8869	9732
80	9217	9199	7587	10898	13281	16076	6266	6538	9054	9914	11118	10648	9983
81	9806	9155	8061	8861	6407	9095	5392	6024	8052	8436	10086	9238	8218
82	8192	14232	14613	21783	23920	14332	8962	7345	10146	15603	18457	17780	14614
83	21957	14850	14400	19084	22829	23666	10289	10288	9765	16950	20620	21020	17143
84	23250	15750	13880	25420	31250	30750	11360	9763	10200	18460	21370	16530	18999
85	18700	17600	15380	19930	12850	8133	6469	7400	10260	10170	11630	12280	12567
AVE	12523	11786	10854	15403	12551	10314	6550	7024	8859	10187	12297	12181	10878
MIN	7982	8055	7587	7169	6338	6008	5392	5987	7034	8005	8562	8222	7421
MAX	23250	21694	24857	29449	31250	30750	11360	10288	10504	18460	21370	21020	18999

TABLE B-2
SWAN FALLS 25 MW STUDY
POWER GENERATION (MWH)
(1928-1985 DEPLETED FLOWS)

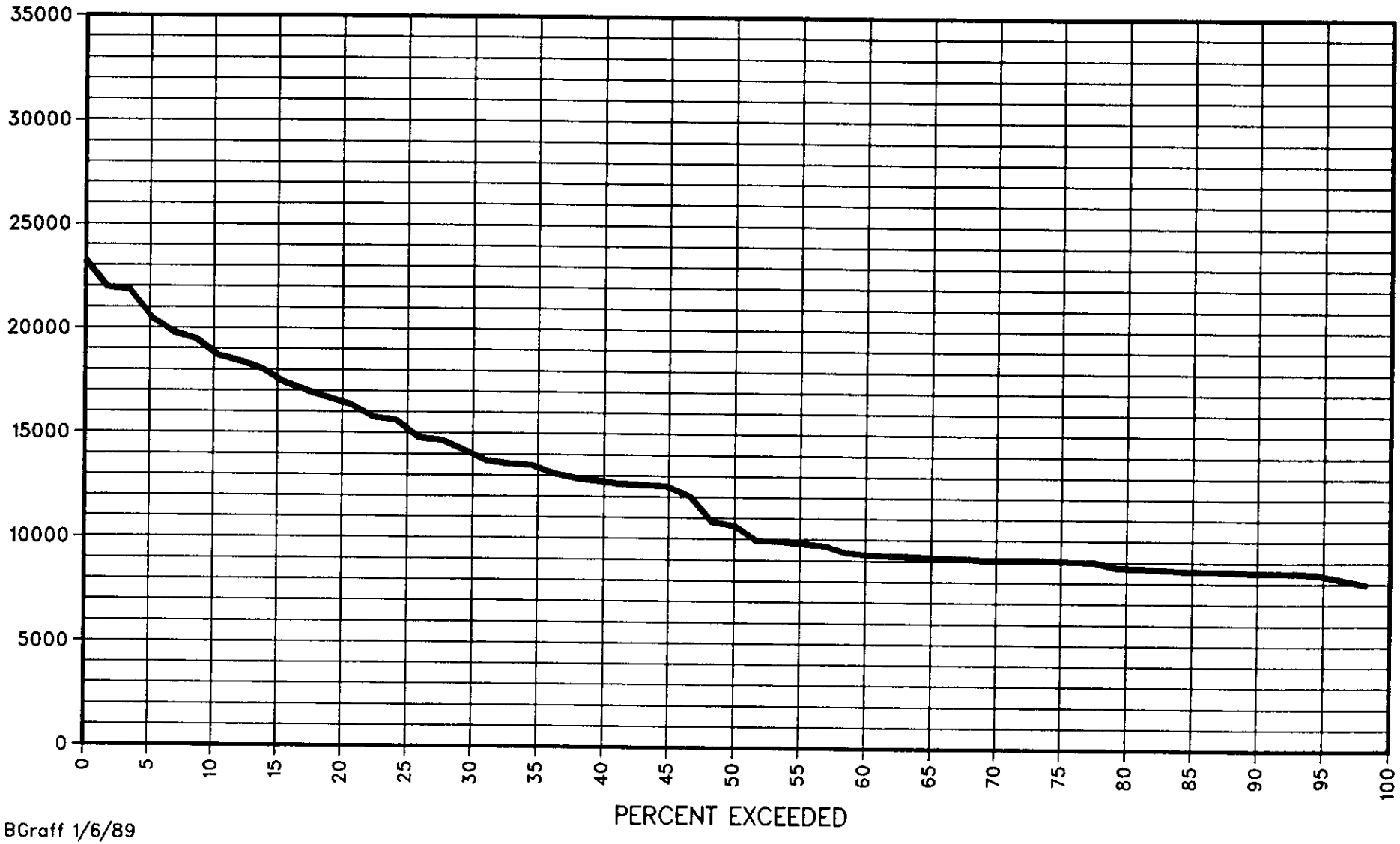
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
28	18191	16692	13670	16252	18366	12639	9814	11131	12344	15058	17424	16685	178266
29	17640	12063	14230	16650	17418	10539	9746	10526	12196	12790	14815	16452	165065
30	13658	12416	13589	10932	11020	10087	9889	10632	12326	12814	13952	14127	145442
31	13279	11463	12120	10665	10166	9862	9799	10520	11831	12566	12431	13198	137900
32	12880	10823	12932	11346	11152	11134	9457	10308	11724	12948	13627	13904	142235
33	13375	11657	12526	10892	11321	10636	9796	10760	12346	12566	12927	13266	142068
34	12851	11127	11581	10544	9899	9181	8813	9856	10825	12517	12241	12219	131654
35	11784	11064	11708	10633	10225	10335	8747	9360	10609	12663	12566	12876	132570
36	12692	11918	12981	13036	11617	11318	9769	10666	12030	12843	13406	13626	145902
37	12689	11219	11736	11246	10881	10110	9489	10435	12164	12875	13489	14043	140376
38	13193	11531	12572	12956	14233	12428	10264	10656	12028	16176	17688	16851	160576
39	13554	13680	17338	16623	12823	10057	10051	10941	12310	12804	13336	13576	157093
40	13279	11558	12740	12416	10993	9954	9388	10452	12017	12575	13581	13774	142727
41	13274	11547	11836	10640	10391	9507	9171	10747	11777	12526	14730	14091	140237
42	12670	11231	12293	14036	11809	11347	9523	10203	11925	12853	15032	14335	147257
43	14375	16689	18005	15169	18259	15750	11360	10819	13604	14636	17124	17966	183756
44	18611	13918	13944	16108	11644	10818	9701	10129	11684	12841	14894	16067	160359
45	13276	12943	13396	17964	17553	12174	10210	10606	13647	15314	17297	18519	172899
46	18393	15895	15320	17420	18410	12173	9658	10742	12235	15831	17185	17077	180339
47	17954	15225	13664	17198	10912	10476	9712	10582	11914	15139	17038	16869	166683
48	18176	15708	12047	13498	18486	16392	10173	10785	12337	15784	16036	15754	175176
49	14325	15196	18582	17929	17676	10686	9680	10582	12030	15873	15914	16543	175016
50	15588	16840	15013	15615	16411	13746	11043	11005	13768	15672	17375	17910	179986
51	17959	16211	18607	16453	18591	10469	9539	10893	13714	15373	17398	18139	183346
52	17799	16726	14132	15134	17344	17232	10703	10858	12019	15465	17317	16202	180931
53	17496	15006	14109	13455	16649	15547	10098	10782	12305	12932	15666	16130	170175
54	15400	15164	14520	16598	10985	10501	9990	10599	12361	12638	14648	16094	159498
55	12774	11245	13162	15834	13906	9458	9287	10053	11925	12998	14630	16707	151979
56	17305	16818	18318	16727	18487	17306	9793	10625	14068	15572	17283	18098	190400
57	18010	16216	13798	15782	18088	15596	9673	10386	12212	16209	17168	16360	179498
58	16943	14038	15586	15647	17980	11087	9501	10516	12281	12930	14516	15134	166159
59	13503	11844	13814	15844	11806	10066	9360	10214	12337	12579	13505	15659	150531
60	12468	11236	15610	16806	10948	9954	9285	10201	11516	12228	13532	13234	147018
61	12592	11343	11680	10646	9851	9087	8806	9758	11937	12507	14514	13342	136063
62	12604	12471	14598	16997	15897	11862	9505	10420	11777	14134	15558	16223	162046
63	14073	16048	13414	17355	12339	17778	9628	10163	12106	12673	14220	16553	166350
64	13214	13747	12345	16225	16358	17994	9641	10459	12085	15342	17136	17914	172460
65	18221	16722	17988	15907	17909	16795	11001	11392	14729	16366	17376	17898	192304
66	18359	14786	16470	13619	11718	10171	9739	10809	12702	13353	14187	13982	159895
67	13396	11611	12434	17566	11830	17732	10155	10308	11788	15355	17302	16837	166314
68	17860	14585	15316	14671	13383	14164	9523	11716	14163	16089	17545	16981	175996
69	17446	16223	17953	17708	18523	11954	10210	10579	12438	14598	16777	16294	180703
70	17344	16689	12421	17614	17841	17984	10151	10669	14113	15360	16942	17941	185069
71	17714	15454	18393	15883	15804	16699	14164	12134	14270	18534	16738	17756	193543
72	16927	15944	16280	16620	16979	17309	10783	11183	14612	17246	17525	17815	189223
73	17371	13004	16095	17774	17830	10279	9411	10234	11852	15999	16981	17831	174661
74	18611	16931	17796	15066	18151	16614	9764	10399	13179	14970	17233	18131	186845
75	18050	16582	15907	16309	17130	17642	10766	10791	13309	15578	17188	17724	186976
76	17219	16698	18074	15716	16195	14174	9585	11001	14293	16541	17123	18303	184922
77	17256	14868	14093	11065	10941	9767	9123	9631	10369	11813	13091	13162	145179
78	12624	11007	12941	17590	18423	10677	9723	10053	13971	14444	16741	15140	163334
79	18138	15227	15440	17704	11575	9840	8940	9949	11496	12988	13097	13032	157426
80	13459	12245	11277	15179	17740	17693	9751	10129	12832	14326	15459	15391	165481
81	14198	12196	11884	12602	9947	12881	8548	9412	11490	12490	14062	13485	143195
82	12181	16591	18559	16393	16481	17709	13146	11130	14132	18399	17129	17865	189715
83	16902	16943	18363	16980	16715	16002	14773	14772	13693	18069	16634	17103	196949
84	16625	16734	18335	15663	15292	14873	16254	14147	14194	17699	16478	18172	194466
85	17640	16321	18454	16779	17602	11715	10033	11035	14263	14631	16028	17196	181697
AVE	15437	14101	14689	15063	14636	12895	10096	10686	12589	14415	15566	15923	166102
MIN	11784	10823	11277	10544	9851	9087	8548	9360	10369	11813	12241	12219	131654
MAX	18611	16943	18607	17964	18591	17994	16254	14772	14729	18534	17688	18519	196949

FIGURE B–1
ANNUAL FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



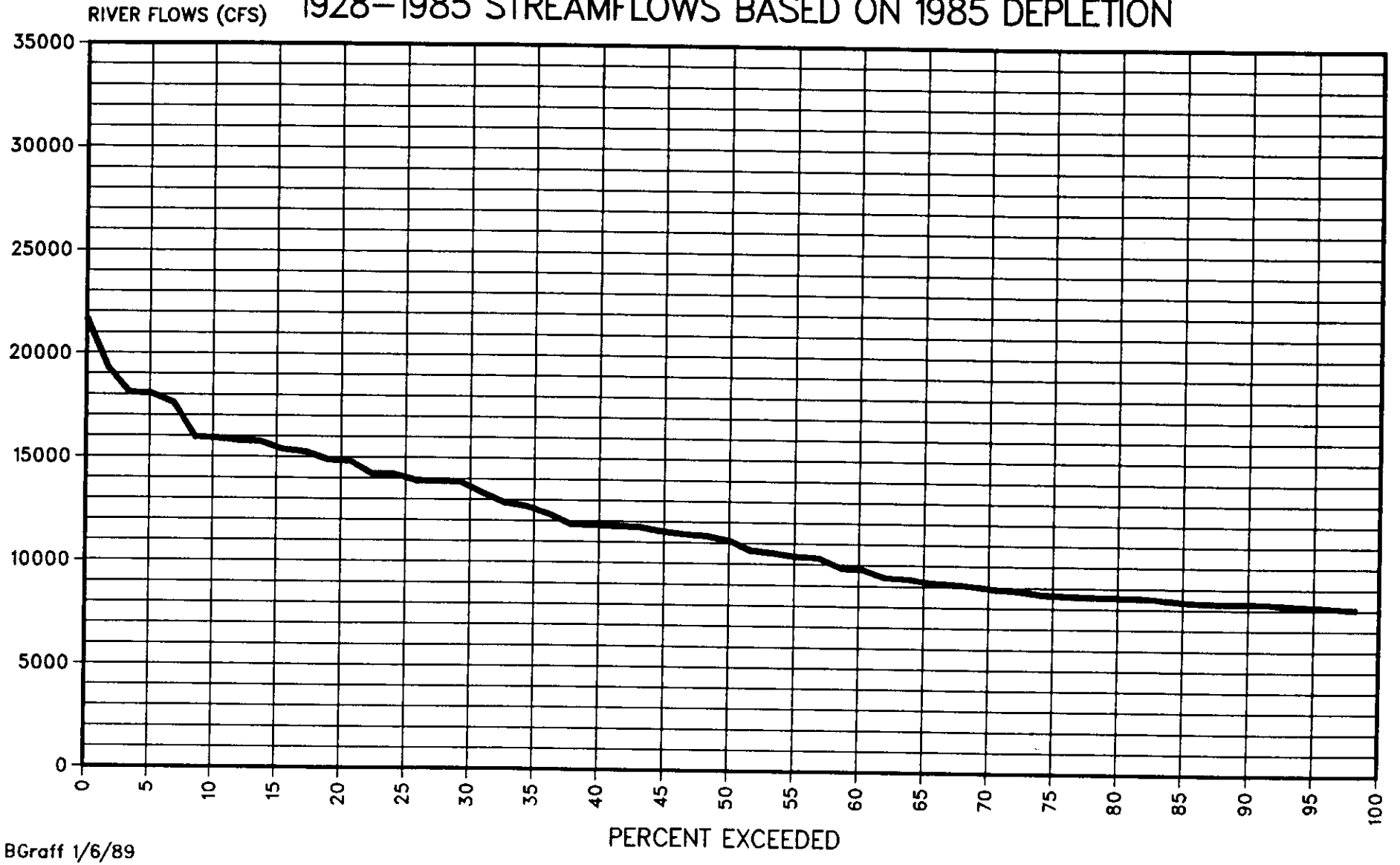
BGraff 1/6/89

FIGURE B–1–1
JANUARY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



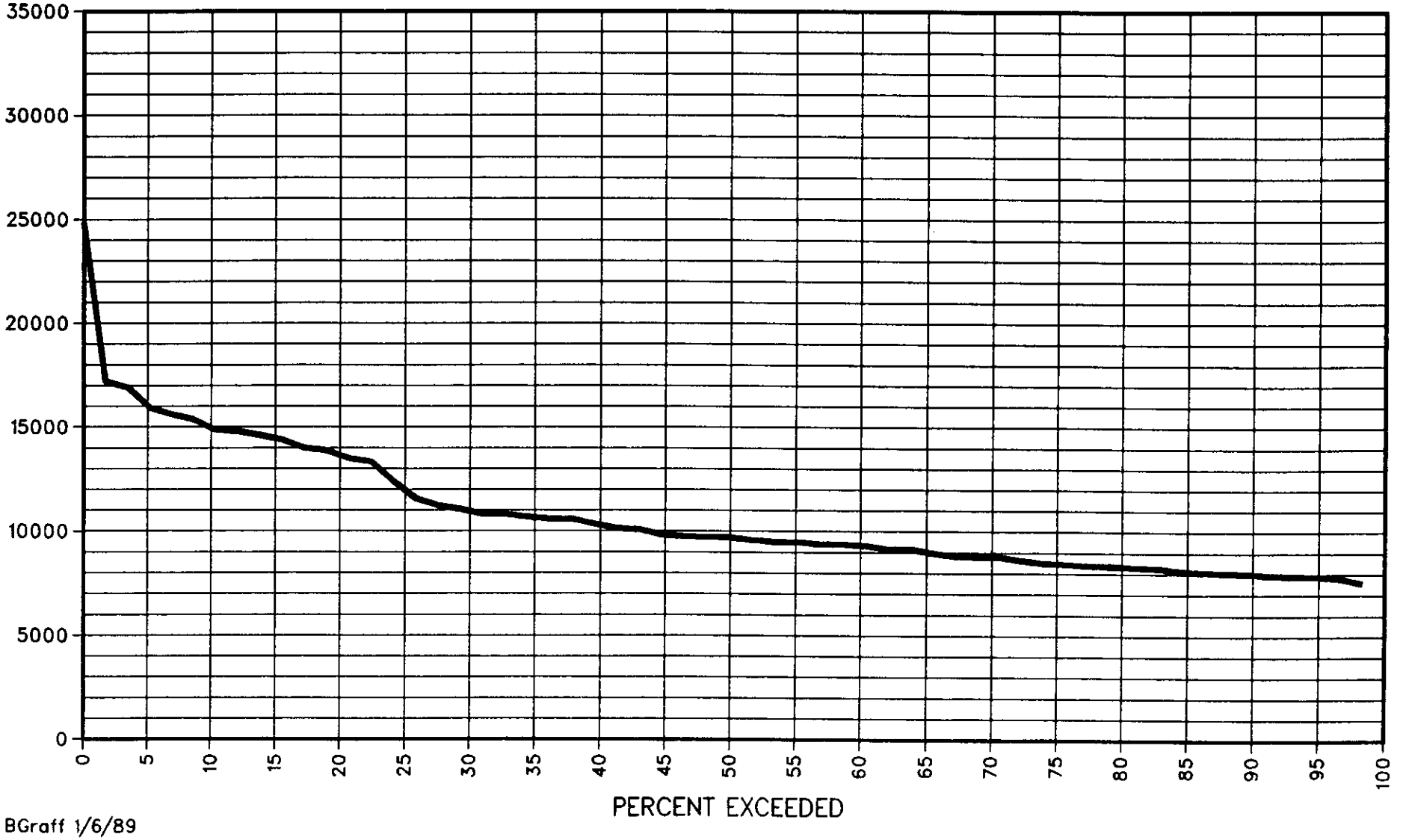
BGraff 1/6/89

FIGURE B–1–2
FEBRUARY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



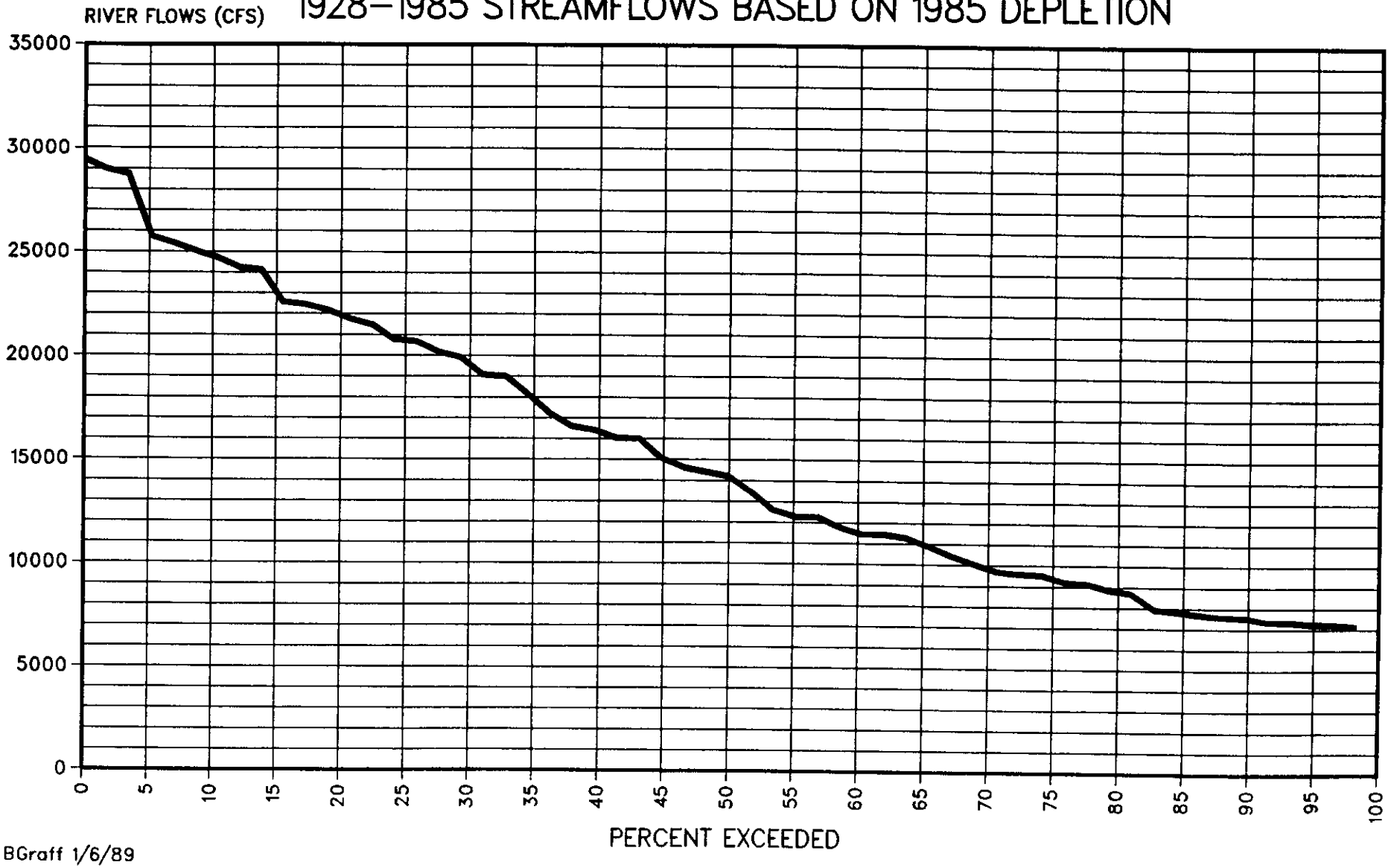
BGraff 1/6/89

FIGURE B–1–3
MARCH FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



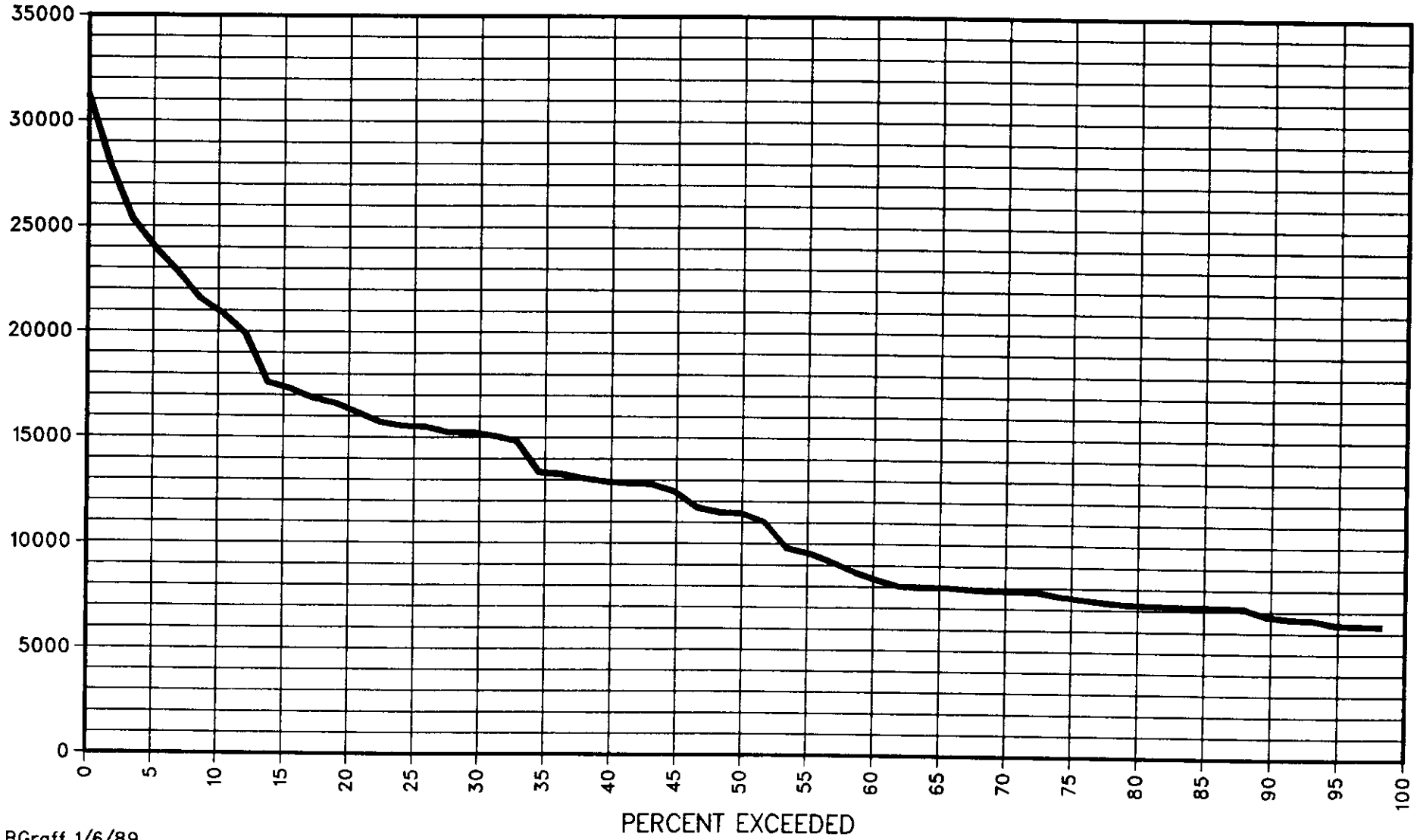
BGraff 1/6/89

FIGURE B–1–4
APRIL FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



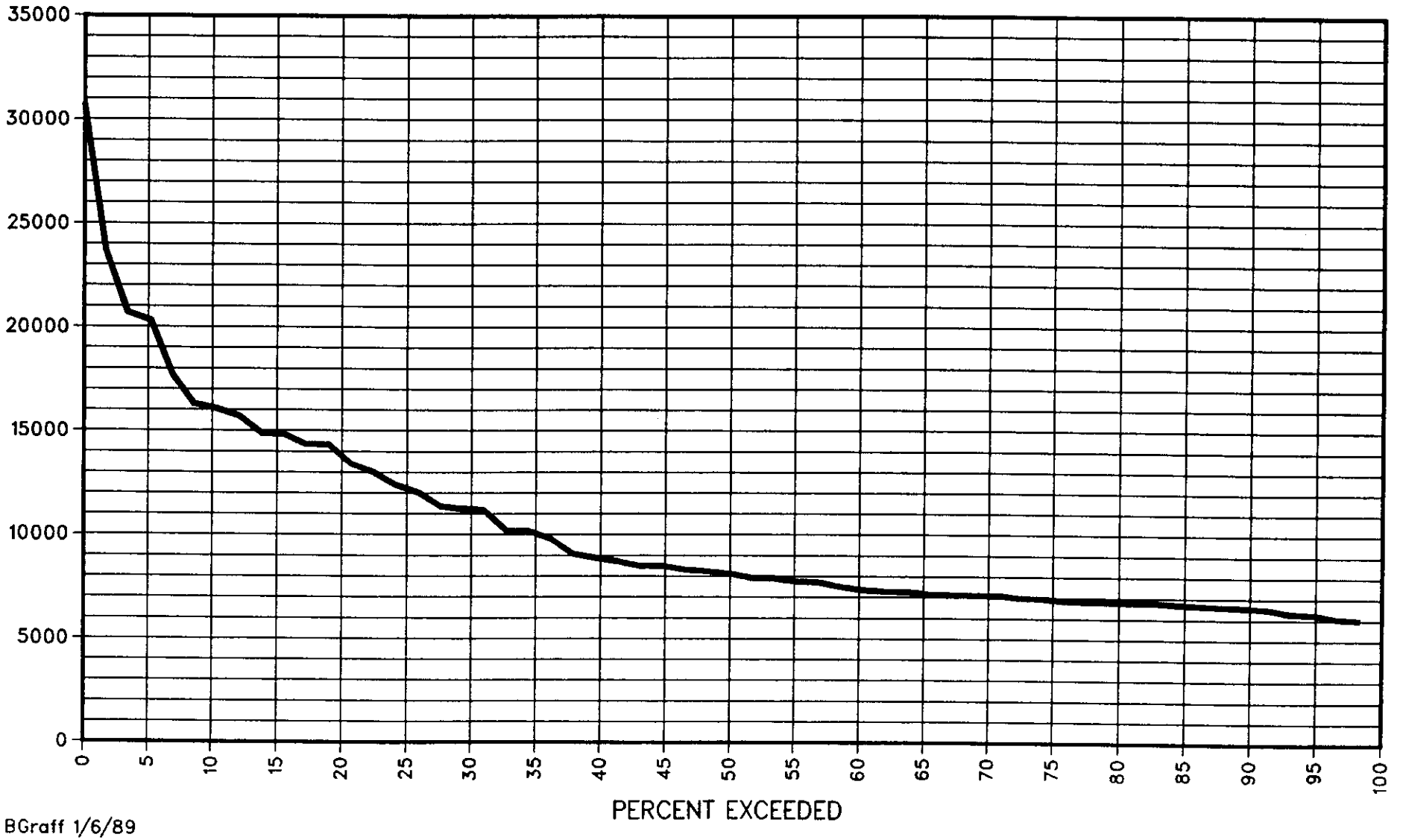
BGraff 1/6/89

FIGURE B–1–5
MAY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



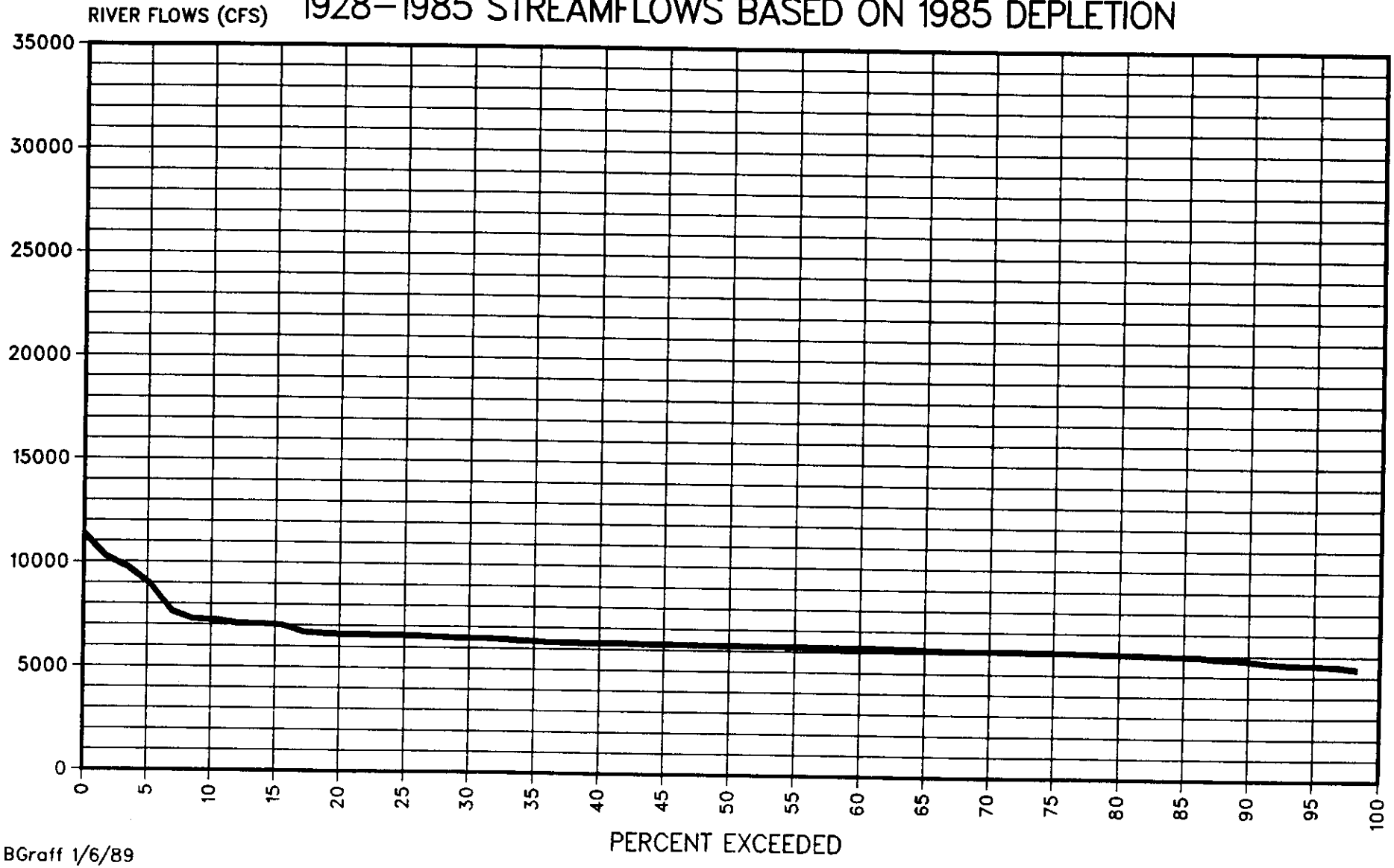
BGraff 1/6/89

FIGURE B–1–6
JUNE FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



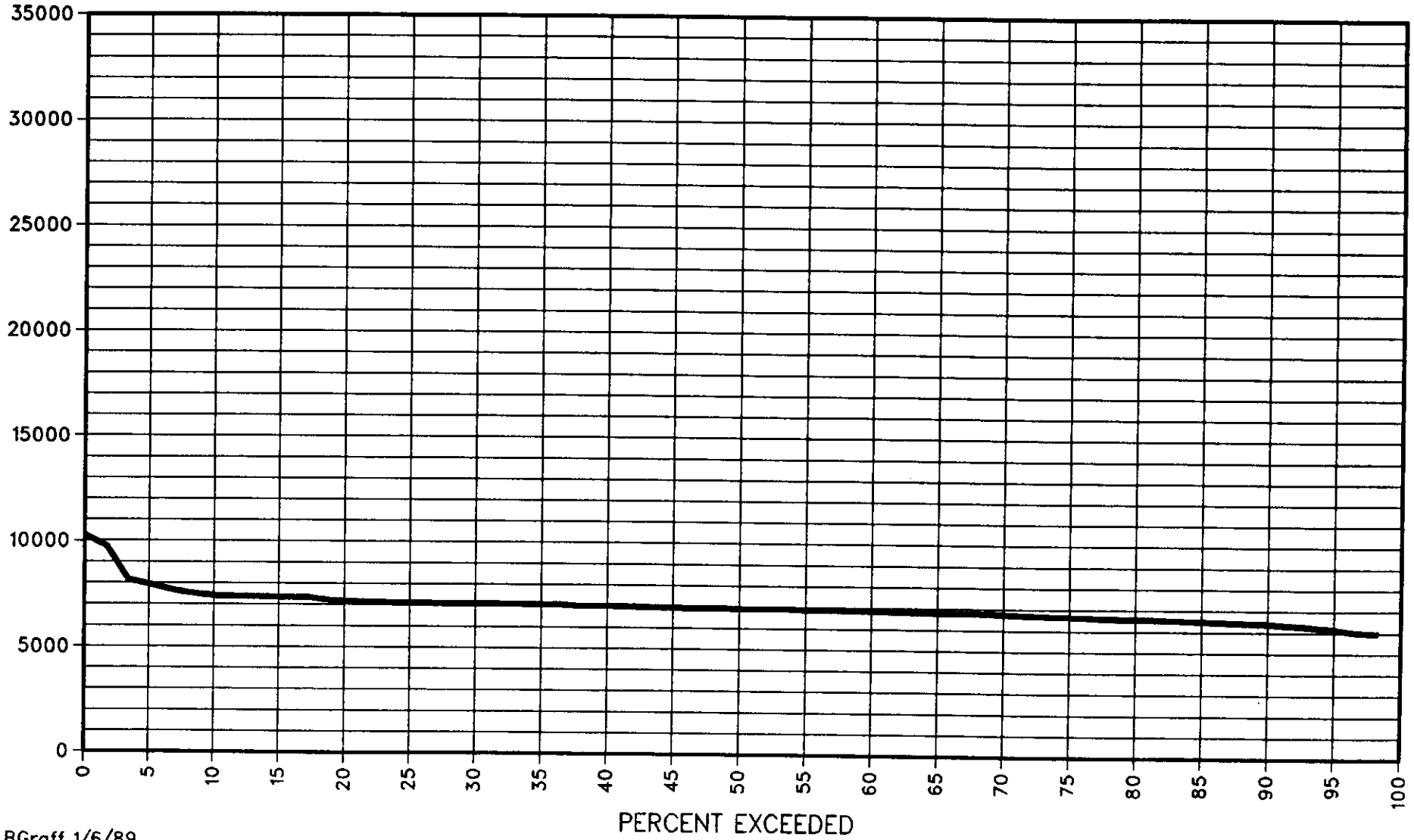
BGraff 1/6/89

FIGURE B–1–7
JULY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



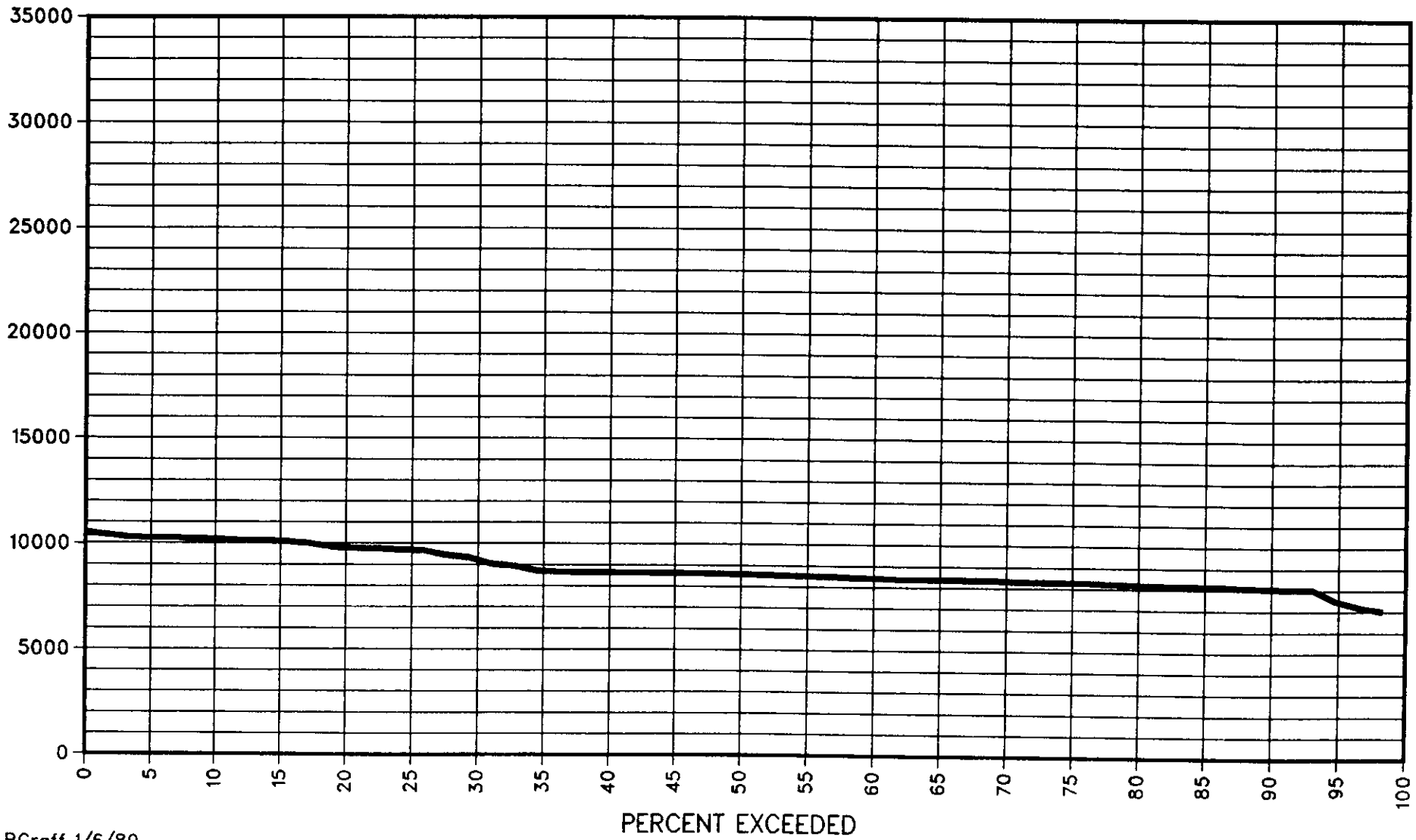
BGraff 1/6/89

FIGURE B–1–8
AUGUST FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



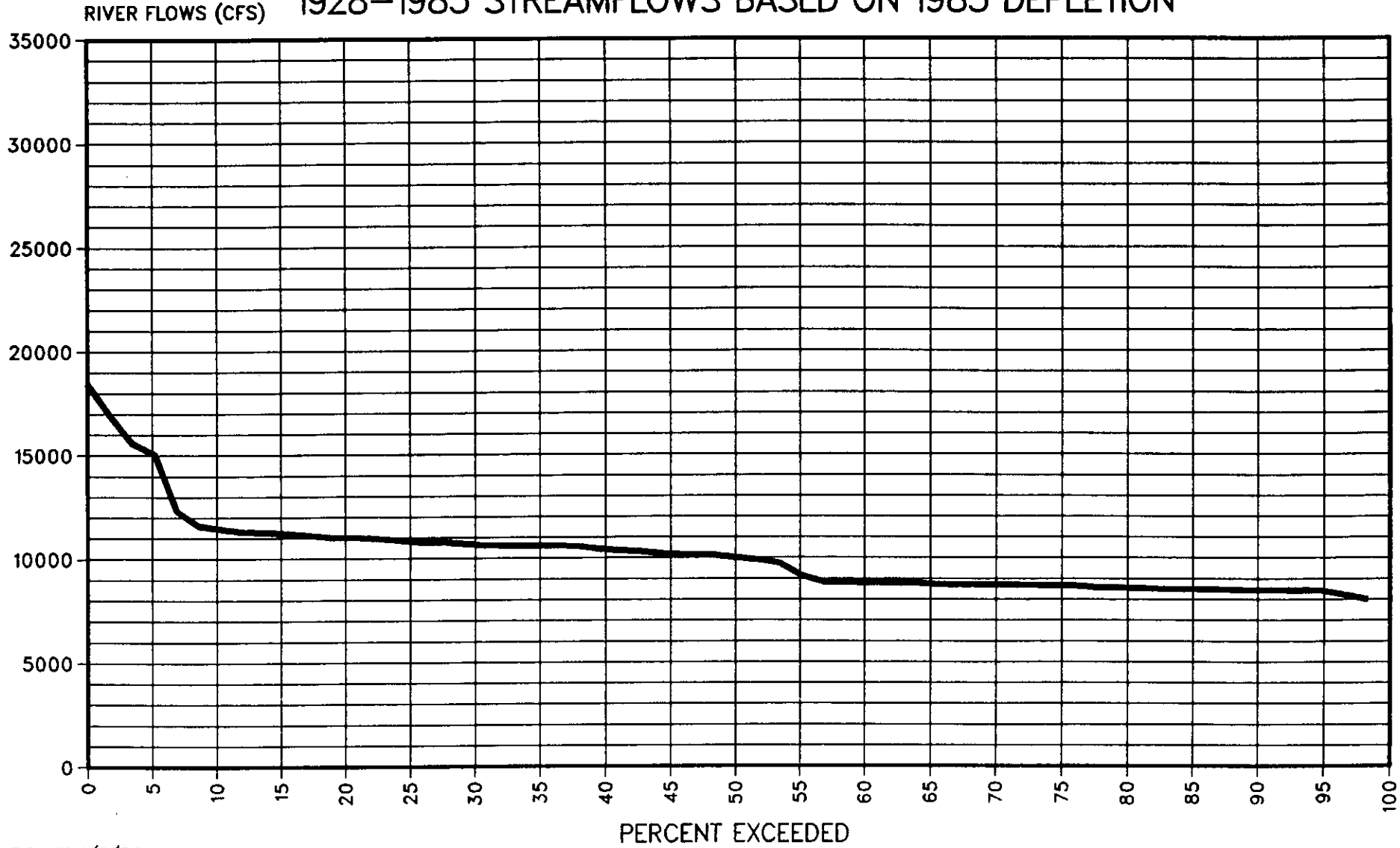
BGraff 1/6/89

FIGURE B–1–9
SEPTEMBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



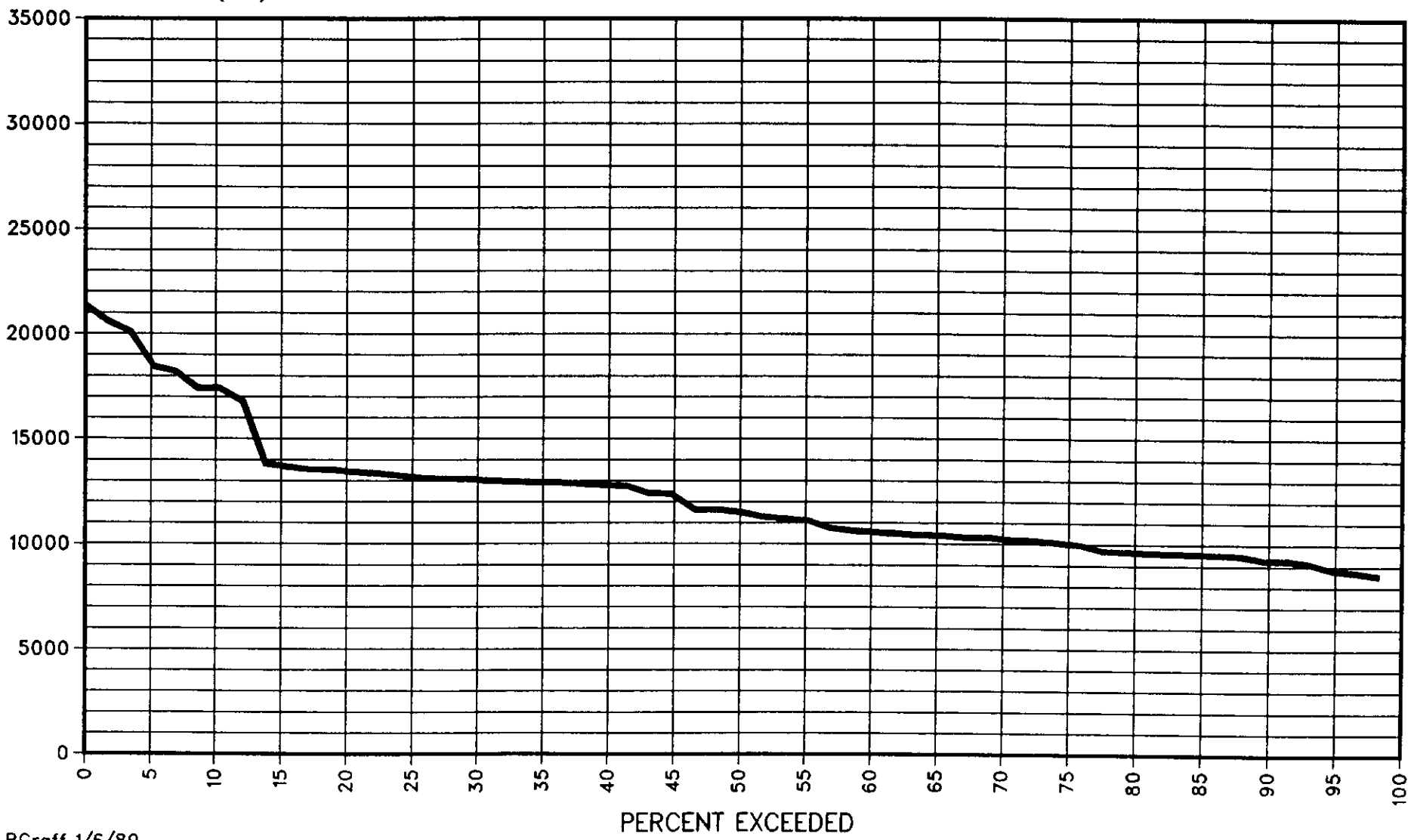
BGraff 1/6/89

FIGURE B–1–10
OCTOBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



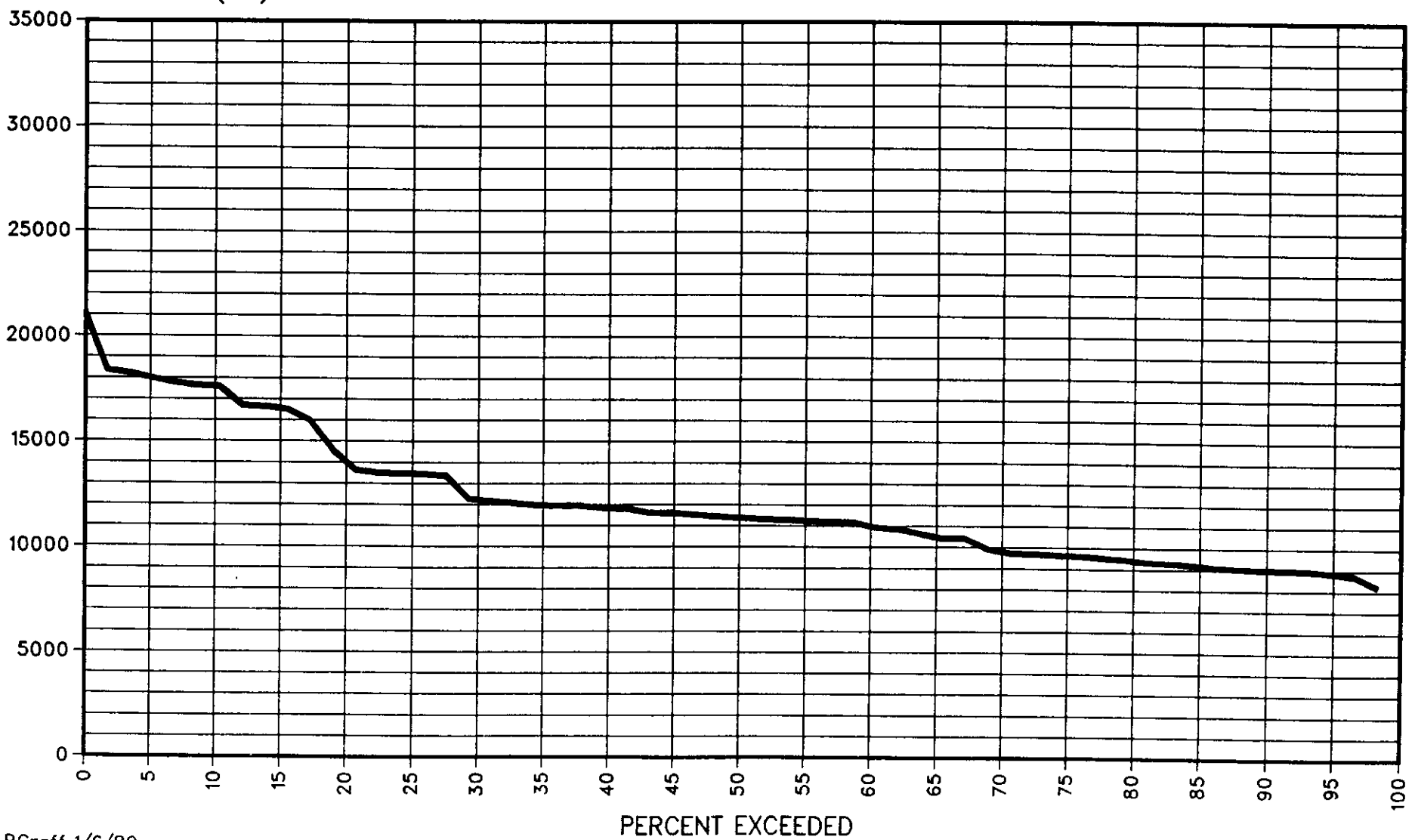
BGraff 1/6/89

FIGURE B–1–11
NOVEMBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



BGraff 1/6/89

FIGURE B–1–12
DECEMBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



BGraff 1/6/89

EXHIBIT C
CONSTRUCTION HISTORY AND SCHEDULE

As shown and modified in the Second Amended Application except as follows;

C.1 HISTORY OF EXISTING DAM AND POWER PLANT -

Significant project modifications in addition to those listed include the improvement and construction of the project access road in 1983 and the construction of the new spillway, which was completed in 1986.

C.2 CONSTRUCTION SCHEDULE

This section has been modified to reflect the construction schedule for the project based on the assumption that the FERC license will be issued on July 1, 1989, and the fact that the spillway construction has been completed. A revised Figure C-1 is included herein. Construction would start in 1990, and would be completed in early 1994. However, the new powerhouse units will be in operation in early 1993.

C.3 CONSTRUCTION PROCEDURES

The construction procedures will be as described except that construction stages relating to spillway construction have been deleted. In addition, the construction may require the installation of a cofferdam, upstream of the existing powerhouse, to facilitate unit dewatering in a stable condition. A revised Figure C-2 is included herein and depicts the proposed cofferdam and construction access layout.

FIGURE C–1
SWAN FALLS PROJECT DEVELOPMENT SCHEDULE

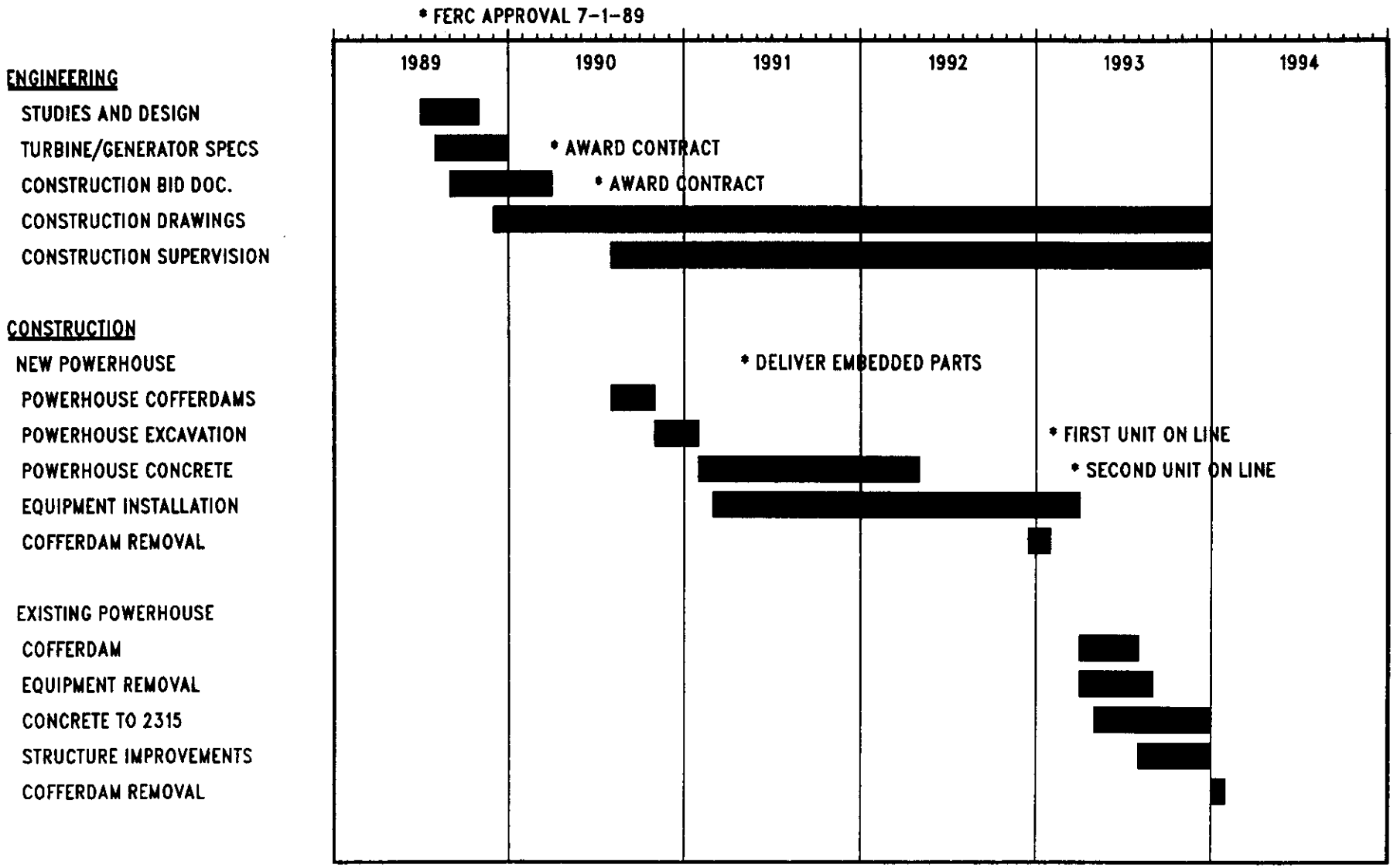
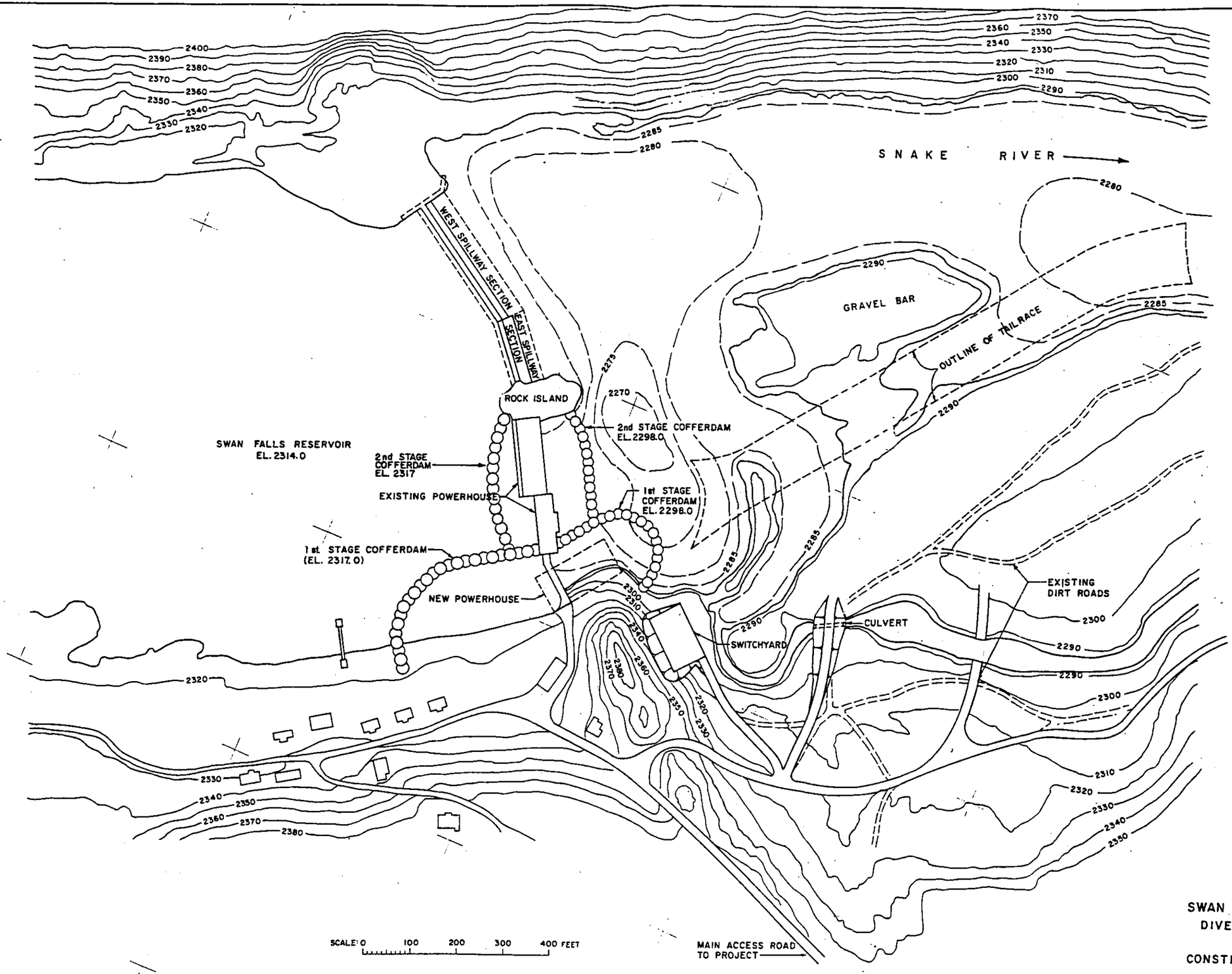


FIGURE C-2
REV. 1-89



SWAN FALLS PROJECT
DIVERSION SCHEME
AND
CONSTRUCTION ACCESS

EXHIBIT D
COSTS AND FINANCING

As shown and modified in the Second Amended Application except as follows;

D.2 ESTIMATED COSTS OF NEW DEVELOPMENT

Included herein is a revised Table D-1 reflecting project costs based on August 1988 price levels.

D.3 ESTIMATED AVERAGE ANNUAL COSTS

Included herein is a revised Table D-2 reflecting costs based on Revised Table D-1.

D.4 ESTIMATED ANNUAL VALUE OF PROJECT POWER

Included herein is a revised Table D-3 reflecting estimated annual value based on current conditions for both system avoided cost and thermal replacement.

D.5 SOURCES AND EXTENT OF FINANCING

Included herein is a revised Table D-4.

Table D-1
SWAN FALLS POWERHOUSE PROJECT

(Summary of Estimated Costs)

FERC Acct	Items	August, 1988 Costs ($)
	Direct Costs:	
	(Production Plant)	
330	Land & Land Rights	-
331	Powerhouse	13,878,800
332	Reservoir, Dams & Waterways:	
	Existing Powerhouse Modification	3,304,900
	Intake Structure	826,200
	Draft Tube Gates	745,200
	332 Subtotal	4,876,300
333	Turbines & Generators	12,531,200
334	Accessory Electrical Equipment	1,603,700
335	Miscellaneous Power Plant Equipment	1,384,000
	(Transmission Plant)	
352	Substation Structures & Improvements	133,800
353	Substation Equipment	581,000
354	Transmission	5,400
	(General Plant)	
394	Shop Tools & Equipment	108,000
	Subtotal (Direct Costs)	35,102,200 (1)
	Contingency (15%)	5,265,300
	Subtotal	40,367,500
	Engr, Constr Mgmt, & Admin (11%)	4,440,400
	Subtotal	44,807,900
	Property Taxes	488,000
	Interest During Construction (10.4%)	6,531,200
	Total Estimated Project Cost (to complete)	51,827,100
	Cash Expenditures (CWIP), as of 6/30/88	1,987,700
	Total Estimated Project Cost	53,814,800

(1) Includes Idaho Sales Tax (5%).

SWAN FALLS PROJECT
ANNUAL COSTS
1988 DOLLARS

	$000	Mills/KWH
(i) Cost of Capital[1]	$5,726	34.5
(ii) Taxes[2]	1,629	9.8
(iii) Depreciation Expense	28	.2
(iv) O&M Expense	300	1.8
Total Annual Cost (1988 Level)	$7,683	46.3

(1) Capital structure:

	Percent of Total	Cost (%)	Weighted Cost (%)
Debt	50	10.60	5.300
Preferred Equity	10	10.19	1.019
Common Equity	40	12.25	4.900
Total	100		11.219

(2) Federal and State income tax rate 38.1%, property tax rate, 1.00%. Assumed 50-year book life and 20-year tax depreciation life.

SWAN FALLS PROJECT
ANNUAL VALUE OF PROJECT POWER
(1988 DOLLARS)

I Value of Project Power Based on System Avoided Costs:

	Annual Costs	
	$000	Mills/KWH
Investment Carrying Charge	$3,704	22.3
Fixed O&M Expense	764	4.6
Energy	4,966	29.9
Levelized Annual Cost over 50-Year Life	$9,434	56.8

II Value of Project Power for Thermal Replacement:

	Annual Costs	
	$000	Mills/KWH
Investment Carrying Charge (1)	$7,300	43.9
Fixed O&M Expense (2)	585	3.5
Fuel & Variable O&M Expense	3,571	21.5
Levelized Annual Cost Over 50 Year Life of Swan Falls Project (3)		86.9

Notes:
(1) 25,000 KW x $1289 x .22652. Annual carrying charge based upon 50-year investment in coal-fired generation having individual plant life of 31 years. Capital structure and tax rates are consistent with Table D-2. Assumed long-term inflation rate, 4.4%.

(2) $23.38/KW x 25,000 KW.

(3) Inflation rate assumed equal to 4.4%, discount rate equal to 11.219%.

IDAHO POWER COMPANY
BALANCE SHEET
As of July 31, 1988
(Subject to Approval of Independent Auditors)

ASSETS

Electric Utility Plant (Note 1):	
Electric plant in service	$1,860,745,329
Less accumulated provision for depreciation (Note 2)	476,896,729
Electric plant in service - Net	1,383,848,600
Electric plant held for future use	3,607,329
Construction work in progress	22,727,666
Electric utility plant less accumulated provision for depreciation	1,410,183,595
Investments and Other Property:	
Nonutility property	4,556,548
Investment in subsidiary companies (Note 3)	9,449,530
Other	4,576,277
Total investments and other property	18,582,355
Current Assets:	
Cash	939,028
Temporary cash investments	7,700,000
Accounts receivable (less allowance for uncollectible accounts - $1,339,659)	31,510,762
Interest and dividends receivable	367,875
Materials and supplies (at average cost)	18,322,630
Fuel stock (at average cost)	13,384,805
Prepayments	4,050,602
Accrued unbilled revenues (Note 4)	20,551,366
Total current assets	96,827,068
Deferred Debits:	
American Falls water rights (Note 5)	21,620,000
Advance coal royalties	5,594,188
Unrecovered plant and regulatory study costs	5,968,641
Unamortized debt expense (Note 12)	5,734,719
Conservation programs	6,962,588
Cogeneration and small power purchases (Note 11)	417,696
Other	27,519,295
Total deferred debits	73,817,127
Total	$1,599,410,145

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
BALANCE SHEET
As of July 31, 1988
(Subject to Approval of Independent Auditors)

CAPITALIZATION AND LIABILITIES

	Shares Authorized	Shares Outstanding	
Proprietary Capital:			
Common stock	50,000,000	33,977,000	$ 84,942,500
Preferred stock			59,157,000
Premium on capital stock			275,579,342
Capital stock expense			(2,675,224)
Retained earnings			198,432,013
Undistributed subsidiary earnings			3,586,436
Total proprietary capital			619,022,067
Long-Term Debt:			
First mortgage bonds			392,000,000
Pollution control revenue bonds			176,170,000
Pollution control revenue proceeds retained by trustee (Note 6)			(36,902,946)
American Falls bond guarantee (Note 5)			21,620,000
Unamortized premium on long-term debt			1,137,122
Unamortized discount on long-term debt (Debit)			207,025
Total long-term debt			553,817,151
Current Liabilities:			
Long-term debt due within one year			30,250,000
Notes payable (Note 7)			0
Accounts payable			22,481,258
Payables to subsidiary companies (Note 3)			29,597,388
Taxes accrued			9,061,686
Interest accrued			14,429,559
Dividends declared			16,554,667
Other			6,895,062
Total current liabilities			129,269,620
Deferred Credits:			
Customer advances for construction			667,480
Accumulated deferred investment tax credits (Note 8)			87,506,947
Accumulated deferred income taxes (Note 9):			
Accelerated amortization property			583,200
Other property			172,331,728
Other			9,589,287
Other			22,847,270
Total deferred credits			293,525,912
Operating Reserves			3,775,395
Total			$1,599,410,145

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
CLASSIFICATION OF ELECTRIC UTILITY PLANT AND ACCUMULATED
PROVISION FOR DEPRECIATION AND AMORTIZATION
As of July 31, 1988
(Subject to Approval of Independent Auditors)

Classification of Electric Plant

Electric Utility Plant

1.	Electric plant in service:		
	(a) Intangible plant.....	$ 8,673,721	
	(b) Steam plant.....	656,753,155	
	(c) Hydro production plant.....	407,736,887	
	(d) Other production plant.....	6,522,045	
	(e) Transmission plant.....	273,147,272	
	(f) Distribution plant.....	425,330,175	
	(g) General plant.....	82,582,074	$1,860,745,329
2.	Electric plant held for future use.....		3,607,329
3.	Construction work in progress.....		22,727,666
	Total electric utility plant.....		$1,887,080,324

Classification of Accumulated Provision for Depreciation and Amortization

Applicable to Electric Plant

Accumulated provision for depreciation of electric plant...	$ 474,621,354
Accumulated provision for amortization of electric plant...	2,275,375
Total accumulated provision for depreciation and amortization.....	$ 476,896,729

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
NOTES TO FINANCIAL STATEMENTS
As of July 31, 1988
(Subject to Approval of Independent Auditors)

1. Electric Plant:

The cost of additions to electric plant in service represents the original cost of contracted services, direct labor and material, allowance for funds used during construction and indirect charges for engineering, supervision and similar overhead items. Maintenance and repairs of property and replacements and renewals of items determined to be less than units of property are charged to operations. For property replaced or renewed, except for extraordinary retirements, the original cost plus removal cost less salvage is charged to accumulated provision for depreciation while the cost of related replacements and renewals is added to electric plant.

2. Depreciation:

Electric plant is depreciated on the straight-line method except for production facilities constructed prior to January 1, 1968 at the T E Roach Hells Canyon Development (consisting of the Brownlee, Oxbow and Hells Canyon hydroelectric power plants) for which depreciation is based on the five percent present-worth method.

3. Investment in Subsidiary Companies:

The Company uses the equity method of accounting for its investment in Idaho Energy Resources Co. (IERCo), Idaho Utility Products Company (IUPCo), Power Products Incorporated (PPI), and IDACORP, INC; all wholly-owned subsidiaries.

IERCo is a joint venturer in Bridger Coal Company, which operates the mine supplying coal for the Jim Bridger steam generation plant. Coal purchased by the Company from the joint venture amounted to $35,884,695 for the twelve months ended July 31, 1988. For rate-making purposes, the state regulatory authority having principal jurisdiction requires that the equity in earnings of IERCo be considered as a part of utility operating income and that the investment in IERCo be included in utility rate base. IERCo maintains only a minimum amount of cash in its own account. Excess funds are transferred to the Company and recorded as payables with interest computed at the Company's average monthly short-term investment rate or effective cost of short-term borrowings, as appropriate. IERCo declared a dividend of $5,000,000 to the Company on September 30, 1987 thereby reducing the Company's investment in IERCo.

IUPCo was formed in 1983 to develop and market products directly and indirectly to the utility industry. During the twelve months ended July 31, 1988 no significant business transactions occurred within the subsidiary and as of July 31, 1988, the Company's investment in IUPCo was $264,510.

PPI was formed in 1985 to develop, license and sell electronic instrumentation and monitoring equipment. During the twelve months ended July 31, 1988 no significant business transactions occurred within this subsidiary and as of July 31, 1988, the Company's investment in PPI was $165,384.

3. Investment in Subsidiary Companies (cont'd):

IDACORP, INC was formally organized on July 2, 1986 in order to commence a diversification program by investing in non-regulated activities in order to vary business risks and improve shareholder returns. On July 11, 1986, the Company made an initial investment of $2,000,000 in IDACORP. On December 18, 1987 the Idaho Public Utilities Commission issued an order which exempts IDACORP from regulation and agreed not to include its business activities in future rate proceedings of the Company. As of July 31, 1988, the Company's investment in IDACORP was $2,166,428.

4. Accounting Change - Unbilled Revenues:

In order to match revenues with associated expenses, the Company includes estimated consumption and related revenues for electric services delivered to customers but not yet billed at month-end. This is consistent with the Company's ratemaking treatment as well as the inclusion of unbilled revenues as taxable income as required under the Tax Reform Act of 1986.

5. American Falls Bond Guarantee:

The Company has a contract which expires in the year 2025 with the American Falls Reservoir District wherein it agreed to make falling water payments to the District for the use of water released from the American Falls Dam. Such payments are designed to offset some of the costs of construction associated with the American Falls Replacement Dam Program.

In addition, the Company agreed to guarantee bonds of the District for the project at the time of issuance. On December 18, 1980, $22,095,000 of bonds were issued, and the Company, pursuant to the agreement, executed a guarantee. As of July 31, 1988, $475,000 of these bonds had matured leaving $21,620,000 outstanding with an overall effective interest cost of 10.80%. Under the contract, the Company is required to make falling water payments of approximately $2,400,000 annually which are sufficient to cover the total debt service applicable to the bonds.

6. Pollution Control Revenue Bonds:

Pollution Control Revenue Bonds, Series 1983-A through D due December 1, 2013 and Series 1984-A due December 1, 2014, in the aggregate principal amount of $68.1 million, are being used to provide for the tax exempt financing of the Company's portion of the required retrofit of environmental equipment for the first three units at the Jim Bridger Project which is scheduled for completion in September 1990. The funds not yet spent are held by the Trustee and are being requisitioned by the Company on a monthly basis.

7. Notes Payable:

At January 1, 1988, the Company had regulatory authority to incur up to $150,000,000 of bank borrowings. Under this authority, total lines of credit maintained with various banks amounted to $55,000,000. Under borrowing arrangements with these banks, the Company is required to pay a fee of between 3/16 and 1/4 of 1% on the available and committed lines of credit. Commercial paper may be issued in an amount not to

7. Notes Payable (cont'd):
exceed 25% of operating revenues for the latest twelve-month period and must be supported by bank lines of credit of an equal amount.

8. Investment Tax Credit:
For income tax reductions arising from the investment tax credit an equivalent amount has been charged to operating expenses and the resulting credit is deferred and amortized to income over the estimated service lives of the related properties.

9. Income Taxes:
Consistent with orders and directives of the Idaho Public Utilities Commission, the regulatory authority having principal jurisdiction, deferred income taxes (commonly referred to as normalized accounting) are provided on coal-fired generation facilities for the difference between income tax depreciation and financial accounting depreciation. On other facilities, deferred income taxes are provided for the difference between accelerated income tax depreciation and straight-line depreciation using tax guideline lives on assets acquired prior to 1981 and book lives on assets acquired in 1981 and thereafter. The Company does not provide deferred income taxes for various other long-term items that are capitalized on the books and expensed or considered income for tax purposes unless specifically required.

10. Allowance for Funds Used During Construction (AFDC):
The allowance, a non-cash item, represents the composite interest costs of debt, shown as a reduction of interest charges, and a return on equity funds, shown as an addition to other income, used to finance construction. While cash is not realized currently from such allowance, it is realized under the rate-making process over the service life of the related property through increased revenues resulting from higher rate base and higher depreciation expense. Based on the uniform formula adopted by the Federal Energy Regulatory Commission, the Company's weighted average monthly AFDC rate for the twelve months ended July 31, 1988 was 10.2%.

11. Cogeneration and Small Power Purchases:
As a result of the enactment of the Public Utility Regulatory Policies Act of 1978 (PURPA) and the adoption of avoided cost standards by the regulatory agencies, the Company has been required to enter into numerous contracts for the purchase of capacity and energy from private cogeneration and small power production (CSPP) facilities. Based upon various orders received from the appropriate regulatory agencies, the Company is amortizing to operating expense the permitted cost recovery of certain previously deferred capacity and energy purchases plus interest. The Company continues to defer the net purchased power cost of new CSPP projects connected after the latest rate order. As of July 31, 1988 there were 49 CSPP facilities connected to the Company's system providing on average approximately 58 megawatts of energy with an annual contractual payment obligation of approximately $28.9 million.

12. Other Accounting Policies:
Debt discount, expense and premium are being amortized over the terms of the respective debt issues.

IDAHO POWER COMPANY

The following statement as to each class of the capital stock of applicant is as of July 31, 1988, the date of the balance sheet submitted with this application:

Common Stock

(1) Description - Common Stock, $2.50 par value; 1 vote per share
(2) Amount authorized - 50,000,000 shares ($125,000,000 par value)
(3) Amount outstanding - 33,977,000 shares
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporations - None
(7) Amount held in any fund - None

Applicant's Common Stock is registered (Pursuant to Section 12(b) of the Securities Exchange Act of 1934) and is listed on the New York and Pacific stock exchanges.

4% Preferred Stock

(1) Description - 4% Preferred Stock, cumulative, $100 par value; 20 votes per share
(2) Amount authorized - 215,000 shares ($21,500,000 par value)
(3) Amount outstanding - 191,570 shares
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporations - None
(7) Amount held in any fund - None

Applicant's 4% Preferred Stock is registered pursuant to Section 12(g) of the Securities Exchange Act of 1934.

7.68% Series Serial Preferred Stock

(1) Description - 7.68% Series Serial Preferred Stock, cumulative, $100 par value; 1 vote per share
(2) Amount authorized - 150,000 shares ($15,000,000 par value)
(3) Amount outstanding - 150,000 shares
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporations - None
(7) Amount held in any fund - None

Applicant's 7.68% Series Serial Preferred Stock is registered pursuant to Section 12(g) of the Securities Exchange Act of 1934.

Serial Preferred Stock

(1) Description - Serial Preferred Stock, without par value
(2) Amount authorized - 3,000,000 shares
(3) Amount outstanding - 250,000 shares, 9.50% Series, cumulative, $100 stated value, 1 vote per share
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporation - None
(7) Amount held in any fund - None

Applicant's Serial Preferred Stock is registered pursuant to Section 12(g) of the Securities Exchange Act of 1934.

Provisions of the Articles of Incorporation authorize the Board of Directors to fix dividend rates and redemption prices for the authorized but unissued Serial Preferred Stock.

For a full statement concerning the terms and provisions relating to the Common, 4% Preferred and Serial Preferred Stocks of applicant, reference is made to the Applicant's Articles of Incorporation presently on file with the Commission.

IDAHO POWER COMPANY

The following statement as to funded debt of applicant is as of July 31, 1988, the date of the balance sheet submitted with this application.

First Mortgage Bonds

(1) Description	(3) Amount Outstanding
FIRST MORTGAGE BONDS:	
4 1/2% Series due Oct 1988, dated as of Oct 15, 1958, due Oct 15, 1988	$ 15,000,000
5 % Series due 1989, dated as of May 15, 1959, due May 15, 1989	15,000,000
4 7/8% Series due 1990, dated as of Nov 15, 1960, due Nov 15, 1990	15,000,000
4 1/2% Series due 1991, dated as of Nov 1, 1961, due Nov 1, 1991	10,000,000
5 1/4% Series due 1996, dated as of Apr 1, 1966, due Apr 1, 1996	20,000,000
6 1/8% Series due 1996, dated as of Oct 1, 1966, due Oct 1, 1996	30,000,000
7 3/4% Series due 2002, dated as of Sep 1, 1972, due Sep 1, 2002	30,000,000
8 3/8% Series due 2004, dated as of Jan 15, 1974, due Jan 15, 2004	35,000,000
10 % Series due 2004, dated as of Oct 15, 1974, due Oct 15, 2004	50,000,000
8 1/2% Series due 2006, dated as of Nov 15, 1976, due Nov 15, 2006	30,000,000
9 % Series due 2008, dated as of Aug 15, 1978, due Aug 15, 2008	60,000,000
10 1/4% Series due 2003, dated as of Sep 1, 1979, due Sep 1, 2003	62,000,000
16.10 % Series due 1991-1992, dated as of May 12, 1982, due May 12, 1991-1992	50,000,000
	$422,000,000

(2) Amount authorized - Limited within the maximum of $900,000,000 (or such other maximum amount as may be fixed by supplemental indenture) and by property, earnings, and other provisions of the Mortgage.
(4) Amount held as reacquired securities - None
(5) Amount pledged - None
(6) Amount owned by affiliated corporations - None
(7) Amount of sinking or other funds - None

For a full statement of the terms and provisions relating to the respective Series and amounts of applicant's outstanding First Mortgage Bonds above referred to, reference is made to the Mortgage and Deed of Trust dated as of October 1, 1937, and First to Twenty-Seventh Supplemental Indentures thereto, by Idaho Power Company to Bankers Trust Company and James F Conlan, Trustees, presently on file with the Commission, under which said bonds were issued.

IDAHO POWER COMPANY

Pollution Control Revenue Bonds

(A) 5.90% Series due 2003:
- (1) Description - Pollution Control Revenue Bonds, 5.90% Series due 2003, County of Sweetwater, Wyoming, dated as of September 1, 1973, due September 1, 2003.
- (2) Amount authorized - $27,000,000
- (3) Amount outstanding - $27,000,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - $550,000

(B) 6.0% Series due 2007:
- (1) Description - Pollution Control Revenue Bonds, 6.0% Series due 2007, County of Sweetwater, Wyoming, dated as of April 1, 1977, due April 1, 2007.
- (2) Amount authorized - $24,000,000
- (3) Amount outstanding - $24,000,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - None

(C) 7.25% Series due 2008:
- (1) Description - Pollution Control Revenue Bonds, 7.25% Series due 2008, Port of Morrow, Oregon, dated as of August 1, 1978, due August 1, 2008.
- (2) Amount authorized - $4,360,000
- (3) Amount outstanding - $4,360,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - None

(D) 12.25% Series due 2011:
- (1) Description - Pollution Control Revenue Bonds, 12.25% Series due 2011, Port of Morrow, Oregon, dated as of July 1, 1981, due August 1, 2011.
- (2) Amount authorized - $3,160,000
- (3) Amount outstanding - $3,160,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - None

(E) 7 5/8% Series 1983-1984 due 2013-2014:
- (1) Description - Pollution Control Revenue Bonds, 7 5/8% Series 1983-1984 due 2013-2014, County of Sweetwater, Wyoming, dated as of December 15, 1983 and December 13, 1984, due December 1, 2013-2014.
- (2) Amount authorized - $68,100,000
- (3) Amount outstanding - $68,100,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None

IDAHO POWER COMPANY

Pollution Control Revenue Bonds (Cont'd)

(E) 7 5/8% Series 1983-1984 due 2013-2014 (cont'd):
(6) Amount owned by affiliated corporations - None
(7) Amount in sinking or other funds - $36,902,946

(F) 8.3% Series due 2014:
(1) Description - Pollution Control Revenue Bonds, 8.3% Series due 2014, County of Humboldt, Nevada, dated as of December 20, 1984 due December 1, 2014.
(2) Amount authorized - $49,800,000
(3) Amount outstanding - $49,800,000
(4) Amount held as reacquired securities - None
(5) Amount pledged - None
(6) Amount owned by affiliated corporations - None
(7) Amount in sinking or other funds - None

For a full statement of the terms and provisions relating to the applicant's outstanding Pollution Control Revenue Bonds above referred to, reference is made to (A) copies of Equipment Lease and Sublease Agreement between Idaho Power Company and County of Sweetwater, Wyoming, Indenture of Trust by Sweetwater County, Wyoming, to the First National Bank of Chicago, Trustee, and Guaranty Agreement between Idaho Power Company and The First National Bank of Chicago, Trustee, all dated September 1, 1973, under which the 5.90% bonds were issued, (B) copies of Financing Agreement between Idaho Power Company and County of Sweetwater, Wyoming, and Indenture of Trust by Sweetwater County, Wyoming, to The First National Bank of Chicago, Trustee, all dated April 1, 1977, under which the 6.0% bonds were issued, (C) copies of Equipment Lease and Sublease Agreements between Idaho Power Company and Port of Morrow, Oregon, Indentures of Trust by Port of Morrow, Oregon, to the Seattle-First National Bank, Trustee, and Guaranty Agreements between Idaho Power Company and Seattle-First National Bank, Trustee, all dated August 1, 1978 and July 1, 1981, respectively, under which the 7.25% and the 12.25% bonds were issued, (D) copies of Indenture of Trust by Sweetwater County, Wyoming, to Morgan Guaranty Trust Company of New York, Trustee; Loan Agreement between Idaho Power Company and Sweetwater County, Wyoming; both dated December 1, 1983-1984; Agreement between Idaho Power Company, Goldman, Sachs & Co. and Kidder, Peabody & Co. Inc.; dated October 1986 under which the 7 5/8% Series bonds were purchased and (E) copies of Loan Agreement between Idaho Power Company and Humboldt County, Nevada; Indenture of Trust between Humboldt County, Nevada and Morgan Guaranty Trust Company of New York; Escrow Agreement between Humboldt County, Nevada and Bankers Trust Company and Idaho Power Company; Placement Agreement between Humboldt County, Nevada and Bankers Trust Company; all dated December 1, 1984; agreement among Idaho Power Company, Bankers Trust Company, as Remarketing Agent, Goldman, Sachs & Co., and Kidder, Peabody & Co. Inc. dated May 20 1986; Pledge agreement between Idaho Power Company and Morgan Guaranty Trust Company of New York dated May 1, 1986; under which the 8.3% Series bonds were issued.

IDAHO POWER COMPANY
STATEMENT OF INCOME
For the Twelve Months Ended July 31, 1988
(Subject to Approval of Independent Auditors)

Operating Revenues (Note 4)	$404,109,873
Operating Expenses:	
Purchased power (Note 11)	40,436,429
Fuel	72,521,702
Other operation expense	86,220,142
Maintenance expense	31,803,762
Depreciation expense (Note 2)	50,961,030
Amortization of limited-term electric plant	314,159
Taxes other than income taxes	19,204,643
Income taxes - Federal (Note 9)	11,673,402
Income taxes - Other (Note 9)	2,582,532
Provision for deferred income taxes (Note 9)	14,909,173
Provision for deferred income taxes - Credit (Note 9)	7,266,501
Investment tax credit adjustments (Note 8)	(3,859,282)
Total operating expenses	319,501,191
Operating Income	84,608,682
Other Income and Deductions:	
Equity in earnings of subsidiary companies (Note 3)	4,584,455
Allowance for other funds used during construction (Note 10)	2,949,137
Other income and deductions - Net	(476,670)
Net other income and deductions	7,056,922
Income Before Interest Charges	91,665,604
Interest Charges:	
Interest on first mortgage bonds	38,579,479
Interest on other long-term debt	13,070,450
Interest on short-term debt	225,074
Amortization of debt premium, discount and expense - Net (Note 12)	252,410
Other interest expense	3,460,291
Total interest charges	55,587,704
Allowance for borrowed funds used during construction - Credit (Note 10)	2,166,278
Net interest charges	53,421,426
Net Income	$ 38,244,178

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
STATEMENT OF RETAINED EARNINGS
AND
UNDISTRIBUTED SUBSIDIARY EARNINGS
For the Twelve Months Ended July 31, 1988
(Subject to Approval of Independent Auditors)

Retained Earnings

Retained earnings (at beginning of period)	$225,226,230
Balance transferred from income	33,659,722
Dividends received from subsidiary - (Note 3)	5,000,000
Total	263,885,952
Dividends:	
4% preferred stock	768,339
7.68% Series, serial preferred stock	1,152,000
9.50% Series, serial preferred stock	2,375,000
Common stock	61,158,600
Total	65,453,939
Retained earnings (at end of period)	$198,432,013

Undistributed Subsidiary Earnings (Note 3)

Balance (at beginning of period)	$ 4,001,981
Equity in earnings for the period	4,584,455
Dividends paid (Debit)	5,000,000
Balance (at end of period)	$ 3,586,436

The accompanying Notes to Financial Statements are an integral part of this statement.

EXHIBIT E
ENVIRONMENTAL

As shown in the Second Amended Application and updated as follows:

E.3.0 SWAN FALLS STUDY AGREEMENT -

Pursuant to Public Law 100-216 and specifically Section 1(a), therein, directing the Federal Energy Regulatory Commission to issue an order for and Section 3(a)(1), therein, directing good faith negotiations regarding joint studies of fish and wildlife resources within the Snake River, an agreement entitled "Joint Agreement Regarding Fish and Wildlife Studies" (Docket No EL83-38-000) was consummated. This accord was agreed to by Idaho Power Company; the The U.S. Department of Interior, by and through its U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

The parties to this agreement have formed an Interparty Coordinating Committee and established several technical subgroups to develop design specifications for each of the study disciplines required by the agreement. The agreement was reached through the process of good faith negotiations.

Utilizing a multi-interest, but coordinated, approach, the study encompasses three general disciplines. There are: 1) a study plan for anadromous fish; 2) a study plan for resident fish and wildlife, Snake River Birds of Prey Natural Area, and Deer Flat National Wildlife Refuge; and 3) a study plan for hydrology.

The total cost (including contingencies) of implementing the studies pursuant to the agreement has been established at $2,574,490. Funding for the studies envisioned in this agreement are to be shared among the three parties as follows:

Idaho Power Company	$910,830
Department of Interior (USFWS)	931,630
National Marine Fisheries Service	732,030

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company	Docket No. EL83-38-000
	JOINT AGREEMENT REGARDING FISH AND WILDLIFE STUDIES

The National Marine Fisheries Service, the United States Department of the Interior, and the Idaho Power Company, the parties to this Agreement, agree as follows:

I

PREAMBLE

1.1 On March 25, 1988, the Federal Energy Regulatory Commission issued an Order in accordance with Section 1(a) of the Act of December 29, 1987, Pub. L. No. 100-216, 101 Stat. 1450 (1987).

1.2 Section 3(a)(1) of Pub. L. No. 100-216, 101 Stat. 1450 (1987) directed the parties to this Agreement to enter into good faith negotiations regarding joint studies of fish and wildlife resources within the Snake River.

1.3 The parties to this Agreement desire to enter in a joint agreement in accordance with Section 3(a)(1) of Pub. L. No. 100-216, 101 Stat. at 1451.

II

DEFINITIONS

2.1 The following definitions apply for the purpose of this Agreement:

A. "Commission" means the Federal Energy Regulatory Commission.

B. "Interior" means the United States Department of the Interior.

C. "IPCo" means the Idaho Power Company.

D. "NMFS" means the National Marine Fisheries Service.

III

FRAMEWORK FOR

SNAKE RIVER FISH AND WILDLIFE STUDIES

3.1 The parties have agreed upon a framework for the Snake River fish and wildlife studies set out in the Appendix, which is attached hereto and incorporated herein by reference. The parties agree to develop detailed study plans through an Interparty Coordinating Committee as provided for in Section IV of this Agreement. The parties will cooperate fully in the design and conduct of studies under this Agreement.

3.2 The parties disagree upon the scope of studies required by Pub. L. No. 100-216. In order to avoid litigation, however, the parties have agreed to the inclusion of certain studies in this Agreement that some parties contend are outside the scope of Pub. L. No. 100-216, upon the condition that those parties desiring the studies pay for them. The parties agree that they will not object to the inclusion of these studies in the Commission Order issued pursuant to Section 1 of Pub. L. No. 100-216. Further, the inclusion of these studies in this Agreement shall not be deemed a waiver of any objections that a party may have to the validity of the completed studies or to the Commission's consideration of the studies.

3.3 The parties recognize that there are significant Federal interests in fish and wildlife values in the Snake River system above Milner Dam (for example, habitat for whooping cranes, bald eagles, peregrine falcons, waterfowl, game birds, big game animals, and sensitive subspecies of cutthroat trout) which may be impacted by water management options developed in the studies detailed in the framework attached as the Appendix to this Agreement. Interior will investigate the need for, and scope of, any additional studies necessary to protect those values.

IV

INTERPARTY COORDINATING COMMITTEE

4.1 In order to implement this Agreement, the parties agree to form an Interparty Coordinating Committee (Committee), consisting of equal representation of each party to this Agreement, to facilitate cooperative action by the parties. The Committee shall be responsible for resolving funding and policy issues that may arise in connection with the design and conduct of the studies required by this Agreement. Recognizing the responsibility of the Federal parties to provide for consultation with the affected Indian tribes and other interested public or private persons, the parties further agree that meetings of the Committee shall be open to the public. The Committee shall operate by the unanimous consent of the parties funding a particular study except that the parties agree that the United States Fish and Wildlife Service as an Interior representative also will have a vote on all fish and wildlife issues not funded by Interior.

4.2 The parties shall seek and allow the non-voting participation of the affected Indian tribes and the State of Idaho. Prior to taking any action which may affect Indian tribal interests at a Committee meeting, the Federal parties shall caucus with tribal representatives present at the meeting.

4.3 The parties shall establish a technical subgroup or subgroups to develop design specifications for each of the studies required by this Agreement. The technical subgroup(s) shall be responsible for oversight of technical issues that may arise in connection with the studies. The technical subgroup(s) shall submit study designs and specifications to the Committee for review. Any technical subgroup shall be composed of only those individuals with appropriate technical skills necessary for the design and implementation of the studies. A party may request such qualified technical assistance from interested entities or persons as that party deems appropriate. Disagreements within a technical subgroup shall be referred to the Committee for resolution.

4.4 All study data and reports shall be made available to the Committee and technical subgroup participants as soon as reasonably possible. Draft study reports will be circulated for comment. Final reports will either incorporate the comments or attach them in an appendix.

4.5 Notice of Committee and technical subgroup meetings shall be given to the participants in accordance with guidelines established by the Committee.

V

DISPUTE RESOLUTION

5.1 In the event of a dispute that is not resolved by the Committee, the disputing parties agree to seek the assistance of a mediator, to be selected by unanimous consent of the disputing parties, and to share equally the costs of such services. The mediator will make a recommendation that will not be binding on the parties unless otherwise agreed.

5.2 In the event that the dispute is not resolved through mediation, the parties agree that any party may submit the dispute to the Commission or any other appropriate forum for resolution. By so agreeing, no party necessarily concedes that the Commission or other forum would have jurisdiction over such dispute.

VI

FUNDING

6.1 The governmental parties' responsibilities to expend monies or perform work under this Agreement are contingent upon congressional appropriations or allotments being made. Each party covenants to make a good faith effort to obtain necessary funding for their responsibilities under this Agreement. Each party agrees not to interfere with the funding efforts of any of the other parties.

6.2 In the event of inadequate funding for full participation by one or more of the governmental entities: (i) the parties may agree to reallocation of available funding which shall be subject to the establishment of priorities by the Committee, or (ii) any party may seek additional funding.

6.3 Each party agrees to seek adequate funding for the participation of its representatives on the Committee and the technical subgroup(s).

6.4 The Federal parties' expenditure of monies and performance of work under this Agreement will be pursuant to Federal acquisition procedures. Where appropriate, these procedures may involve memoranda of understanding, cooperative or interagency agreements, grants, or contracts.

6.5 A party is not required to provide funding for a particular study unless and until other participants in the study have acquired funding for the study.

VII

GENERAL PROVISIONS

7.1 This Agreement has been reached in the process of good faith negotiations for the purpose of complying with the requirements of Pub. L. 100-216. All parties agree that no statements, conclusions, or offers of any party made in the course of negotiating this Agreement shall be construed as admissions against interest, nor shall any party offer such statements, comments, conclusions, or offers into evidence against any other party in any administrative or judicial proceeding, hearing, or action.

7.2 This Agreement sets forth all the covenants, promises, provisions, agreements, conditions, and understandings currently existing between the parties as to this proceeding. The parties contemplate that future agreements, understandings, grants, or contracts may be necessary to design and implement the studies described herein.

7.3 Statements made in the course of any study required by this Agreement shall not be construed as an admission against interest nor shall any party offer such statements of any other party into evidence against any party in any administrative or judicial proceeding, hearing, or action. This section, however, shall not preclude a party from offering into evidence any statements or conclusions contained in the final study reports made available to the Commission.

7.4 Any party may offer into evidence the data developed in these studies in any proceeding, hearing, or action. Although a party may seek to use interpretations or conclusions contained in the studies in any proceeding, hearing, or action, no party waives any objections to the admissibility of the interpretations or the conclusions.

7.5 Nothing contained in this Agreement requires, authorizes, or grants the Commission any authority to take any action based upon the findings, recommendations, results, or conclusions of the studies, nor shall this Agreement be construed to modify, change, expand, or limit the authority of the Commission under the Federal Power Act or other applicable laws relating to fish and wildlife.

7.6 No waiver, modification, or amendment of this Agreement shall be valid unless in writing duly executed by the parties. The parties further agree that the provisions of this section may not be waived, modified, or amended except as herein set forth.

7.7 Section headings in this Agreement are not to be construed as interpretations of the text but rather are inserted for convenience and reference only.

7.8 The provisions of this Agreement shall bind and inure to the benefit of the respective successors and assigns of the parties.

7.9 The parties hereby assure that no member of or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of this Agreement, or any agreement, understanding, grant, or contract developed pursuant to this Agreement or to any benefit that may arise from them. This clause shall not be construed to extend to this Agreement or any agreements, understandings, grants, or contracts pursuant to this Agreement to the extent they are made with a corporation or company for its general benefit.

7.10 Each party to this Agreement hereby represents and acknowledges that it has full legal authority to execute this Agreement and shall be fully bound by the terms hereof.

7.11 This Agreement is not severable except by unanimous consent of the parties.

7.12 The parties consent to the submission of this Agreement to the Commission for the purpose of complying with Section 3(a)(1) of Pub. L. No. 100-216, 101 Stat. 1450 (1987).

7.13 This Agreement is executed in quadruplicate. Each of the four (4) Agreements with an original signature of each party shall be an original.

This Agreement shall be effective upon the date of the last signature hereto.

MAY 20, 1988
Date

Roland A. Schmitten, Regional Director
National Marine Fisheries Service

MAY 20, 1988
Date

Rolf L. Wallenstrom, Regional Director
Fish and Wildlife Service
United States Department of the Interior

MAY 20, 1988
Date

Robert J. O'Connor, Chairman
of the Board and Chief Executive Officer
Idaho Power Company

APPENDIX: FRAMEWORK FOR SNAKE RIVER FISH AND WILDLIFE STUDIES

The two study categories selected are: anadromous fish (Section I); and resident fish and wildlife (Section II). Section III, hydrology, has been included to identify supporting hydrologic analyses not already specifically identified in Sections I and II.

I. STUDY PLAN FOR ANADROMOUS FISH

A. Water Supply Studies to Promote Juvenile Anadromous Fish Migration.

Identify sources of additional water within the Snake River basin to provide for migrating juvenile anadromous fish by evaluating several alternatives. Most of the hydrologic work would be performed by simulation of the Snake River system under existing and alternative management conditions, using appropriate models. Water supply studies will be conducted considering flows of 85,000 and 140,000 cfs at Lower Granite Dam during the period of juvenile migration.

1. Existing Storage and Marketing.

a. Compile information on existing Federal storage capacities and constraints on use of that storage contained in project authorizations, project water rights, contracts between the Federal Government and storage users, and other possible factors governing storage operation to provide a base for alternative management conditions.

Review and evaluate the Snake River Optimization Study (Bureau of Reclamation, in progress), existing studies on economics and water marketing, and other relevant information to determine the feasibility of water marketing and transfer mechanisms that could be used for improvement of instream flows for juvenile anadromous fish. If sufficient information is not available, make recommendations as to further analyses or studies needed.

b. Evaluate the possible effects on existing values and uses of providing flows for anadromous fish smolt migration using existing storage at Federal projects in the Snake River drainage. Coordinate this evaluation with similar evaluations for resident fish (II.B.6.) and wildlife (II.C.6.).

2. Energy storage.

Assess legal/institutional issues regarding: (a) energy/capacity exchanges and storage agreements among Northwest utilities and the Bonneville Power Administration and/or other entities, and (b) the feasibility of using or modifying such exchanges and agreements to improve flows for juvenile anadromous fish.

3. New storage opportunities.

Review available literature and studies addressing opportunities for development of additional storage capacity, including the Corps of Engineers' study of the Galloway Project (Corps of Engineers, in progress); the Snake River Optimization Study; and the Columbia River Inter-Tribal Fish Commission (CRITFC) study (in progress). Summarize available information obtained from reviews of available literature and studies and identify: (a) potential new storage sites in the basin, and (b) the legal/institutional/environmental issues connected with development of such sites. The technical subgroup will make recommendations as to further analyses needed, if any.

4. Changes in project operations.

Review and analyze available literature and studies, including the Corps of Engineers' study on rule curve modifications (Corps of Engineers, in progress) and the CRITFC study. On the basis of such review and analysis, summarize the feasibility of modifying project operations to improve flows for juvenile anadromous fish migration. The technical subgroup will make recommendations as to further analyses needed, if any.

5. Water conservation opportunities and trends.

Review and analyze available literature of existing water use trends with the Snake River system and

potentially useful approaches in water conservation. Identify conservation strategies that may result in net gain of water supplies available to improve flows for juvenile anadromous fish migration.

B. Alternative Flow Regime Studies.

1. Estimate future water use conditions that would result in the low mean daily flows at Murphy being reduced to 3,900 cfs.

2. Run trial simulations (monthly) which result in low flows in this range.

3. Define changes in Brownlee operation (if any) that would stem from the reduced inflow.

4. Compare the flows during juvenile anadromous fish migration at Lower Granite Dam computed in the simulation with base condition flows. (See III.A.)

C. Instream Flows for Anadromous Fish Downstream From Hell's Canyon Dam.

1. Conduct a preliminary study to determine the need for evaluating habitat/discharge relationships for fall chinook salmon and steelhead trout in the Snake River below Hell's Canyon Dam. Coordinate this with a similar study on the possible need for evaluating habitat/discharge relationships for resident fish in this reach (II.B.2.). The technical subgroup shall determine whether biologically significant changes in flow are predicted for the reach below Hell's Canyon Dam.

2. Evaluate the anadromous fish spawning and rearing habitat/discharge relationships between Hell's Canyon Dam and Lower Granite Dam using the United States Fish and Wildlife Service's Instream Flow Incremental Methodology (IFIM). Where appropriate, coordinate this study with studies to evaluate the same relationships for resident fish habitat downstream of Hell's Canyon Dam (II.B.2.).

Conduct a literature search to identify anadromous fish (Snake River fall chinook salmon and steelhead) habitat suitability index curves to be used in this study. Where needed, modify or develop habitat suitability curves.

Identify appropriate instream flow regimes below Hell's Canyon Dam to protect and enhance anadromous fish resources.

II. STUDY PLAN FOR RESIDENT FISH AND WILDLIFE, SNAKE RIVER BIRDS OF PREY NATURAL AREA, AND DEER FLAT NATIONAL WILDLIFE REFUGE

A. Assumptions.

1. Resident Fish Studies.

a. The U.S. Geological Survey (U.S.G.S.) proposal for a hydraulic model using a step-backwater technique (step-backwater model), as described at II.C., or other river profiling methods will be implemented. (The resident fish IFIM studies are in part dependent upon this study.)

b. The proposed IFIM studies for anadromous fish downstream from Hell's Canyon Dam, as described at I.C.1.d., will be performed. (The resident fish IFIM studies are in part dependent upon this study.)

c. Resident fish IFIM studies will be performed. (Estimates of future fish habitat are dependent upon this study).

d. Predictions from hydrologic studies (III.) of future annual hydrographs (monthly mean flows) and monthly hydrographs (daily mean flows) for critical months will be available to support estimates of future resident fish habitat.

2. Wildlife Studies.

a. An acceptable habitat inventory of existing conditions does not exist.

b. The step-backwater model (II.C.3.) or other river profiling methods will provide accurate information on water levels occurring around islands and adjacent riparian zones within the

study reaches. The model will be developed for islands and adjacent shorelines of the Snake River in the Birds of Prey Natural Area (Birds of Prey) and Deer Flat National Wildlife Refuge (Refuge) area between C.J. Strike Dam and the Oregon border. Additional river profiling will be performed in the vicinity of select islands upstream of C.J. Strike Dam.

c. The study reach will extend from the backwaters of Brownlee Reservoir to Milner Dam, excluding reservoirs.

d. Operation of run-of-the-river hydroelectric projects will remain unchanged from current conditions.

e. Fish and Wildlife Service false color infrared aerial photography used for the National Wetlands Inventory will be available and of sufficient scale and quality for use in this study.

B. Study Proposals for Resident Fish.

1. Literature Search.

Conduct a literature search for available information on resident fish in the Snake River from Lower Granite Pool to Milner Dam and prepare an annotated bibliography. The literature search should target:

(a) Species composition of defined reach.

(b) Presence or absence of candidate species for Federal listing under the Endangered Species Act.

(c) Population abundance estimates of species present.

(d) Life history information of species present, especially:

(1) White Sturgeon, and

(2) Endangered, threatened, and candidate species.

(e) Habitat preference curves for game species and candidate species present.

(f) Preferred food items of some species and preferred habitat of those food items.

(g) Preferred aquatic prey for raptors living or migrating through the study reach.

(h) Preferred habitat for aquatic prey base of raptors.

2. Stage/discharge relationships for resident fish.

Conduct Instream Flow Incremental Method (IFIM) study for select resident target species (to be determined by the technical subgroup) of the Snake River in selected reaches as follows:

a. Lower Granite Pool to Hells Canyon Dam -- Potential species that should be considered: rainbow trout, smallmouth bass, channel catfish, and white sturgeon;[1]

b. Brownlee Pool to Swan Falls Dam -- Potential species that should be considered: smallmouth bass, flathead catfish, channel catfish, white sturgeon, whitefish, and rainbow trout;[2]

c. Swan Falls Pool to C. J. Strike Dam -- Potential species that should be considered: smallmouth bass, flathead catfish, channel catfish, white sturgeon, whitefish, and rainbow trout;[2]

d. C. J. Strike Pool to Lower Salmon Dam -- Potential species that should be considered: smallmouth bass, white sturgeon, rainbow trout, and whitefish; and

e. Upper Salmon Falls Pool to Milner Dam -- Potential species that should be considered: rainbow trout, whitefish, and smallmouth bass.

Existing preference curves for each target species and life stage shall be evaluated as to suitability to each study reach. The parties are unaware of existing preference curves for white sturgeon. Feasibility of curve development for white sturgeon should be assessed and that determination will dictate the type of IFIM that

---

[1] This study will be coordinated with and partially supported by the anadromous fish IFIM study. (II.C.).

[2] This study will be coordinated with and partially supported by the step-backwater study. (II.C.3.).

would be employed in the study of habitats for that target species. If preference curve development is not feasible, the results of Cochnauer's[3] (1977) rainbow trout, whitefish, and smallmouth bass.

Estimates of flows required for white sturgeon will be added. Additional studies of white sturgeon flow requirement may still be needed downstream from Hell's Canyon Dam.

Using the results of the preliminary study in I.C., the technical subgroup will determine whether biologically significant changes in flow are predicted for the reach below Hell's Canyon Dam. IFIM studies below Hell's Canyon Dam should be implemented if significant changes in flow are predicted for that reach.

3. Stage/discharge relationship for candidate species. Determine if either an IFIM procedure or flows from Cochnauer (1977) would adequately protect the species present in the Snake River between C. J. Strike Pool and Shoshone Falls that are candidates for Federal listing pursuant to the Endangered Species Act: three invertebrates (mollusks) and one fish (Shoshone sculpin). This may require life history investigations and use of existing inventories.

4. Stage/discharge relationship(s) for water quality.

Determine if IFIM water quality model is appropriate for the Snake River. If appropriate, determine data requirements and collect data necessary for input to IFIM water quality model. Coordinate with the IFIM studies for resident (II.B.2) and anadromous fish (I.C.). Investigate availability of historic empirical water quality data and use where applicable to determine relationship(s). Overall methods development should include water quality prediction at stage/discharge. Data collected should include but not be limited to: water temperature, dissolved oxygen (24-hour basis), pH, conductivity, and total gas pressure.

---

[3]Cochnauer, Tim. 1977. Snake River Stream Resource Maintenance Flow Studies 1975-1976. FAFR Project F-66-R-2, Job II. Idaho Department of Fish and Game. 14 pp.

5. Effect of Swan Falls Agreement on NPDES permits.

Determine the number of NPDES permits that have been issued in the flow-affected reach between Milner and Lower Granite Reservoir, which will require coordination with the Idaho Department of Health and Welfare and the United States Environmental Protection Agency. Determine those permits which would require modification to stay within existing water quality standards.

6. Estimates of Future Resident Fish Habitat.

Interface the outputs from the IFIM studies (II.B.2.) with results from hydrologic modeling (III.) to predict available habitat and water quality at any assumed stage/discharge, including provision of Water Budget flows (Columbia River Fish and Wildlife Program), future flow regimes, and optimization flow regimes.

7. Fishery Implications of Changes in Reservoir Operations at Brownlee.

Conduct studies to determine the impact of possible future operational changes in selected resident fish in Brownlee Reservoir. Effects on other reservoirs may have to be addressed if operational changes would occur.

C. Study Proposals for Wildlife.

1. Quantification of effects: Conduct a baseline inventory of existing conditions in the Snake River reaches between Milner Dam and the backwaters of Brownlee Reservoir.

a. An inventory of existing habitat structure (aerial photography (scale 1:5,000 to 1:6,000), mapping, and ground truthing.

b. An inventory of associated wildlife, including a comprehensive literature review, which should include at least one full year of wildlife census data for each cover type mapped.

c. A Habitat Evaluation Procedure (HEP) of wetland, riparian, and island habitats to quantify and qualify existing habitat conditions.

d. A HEP of wetland, riparian, and island habitats should be applied to the Swan Falls Agreement flows.

2. Predation and flow relationship.

Hypothesis: Bridging of islands during critical wildlife periods (March-June) would result in an increase in predation on important wildlife species.

Establish a relation between river flow and predation of waterfowl nests, using existing Fish and Wildlife Service refuge notes maintained since 1953, and USGS flow data. (II.C.3.b.) Analysis of Fish and Wildlife Service records maintained over the past four years, which is presently underway and may be available as early as the fall of 1988, should be used in determining the magnitude of predation occurring to nesting waterfowl.

Obtain and evaluate data concerning use of Snake River islands by deer and upland game birds. Obtain and evaluate data concerning the presence or absence of predator populations. This study should be done in conjunction with studies described at II.C.1.

3. Swan Falls Flows and Predation.

a. Estimate all reasonably foreseeable future levels of predation by conducting a literature search and reviewing and evaluating: data collected under II.C.1. and II.C.2.; data generated by the step-backwater model study (II.C.3.b.) and the hydrologic modeling (III.).

b. The objectives of the step-backwater analyses are to: (1) Develop a hydraulic model that will reliably identify water-surface elevations at island nesting areas in the Refuge and Birds of Prey areas of the Snake River for sustained and varied streamflows, including 3,900 cfs, and (2) collect data on velocity distribution, pH, dissolved oxygen (DO), temperature, and specific conductance data at select locations in the study areas that could be used to assess impacts of reduced flows on the white sturgeon and other resident fish populations.

The study will be performed in three separate reaches of the Snake River. They are: (1) The upper Refuge area or that part of the Snake River between Swan Falls Dam and the Oregon Border which

corresponds to the confluence of the Owyhee and Boise Rivers with the Snake River (Reach 1); (2) the Birds of Prey area, or that part of the river between C.J. Strike and Swan Falls Dams (Reach 2); and (3) select islands from the backwaters of C.J. Strike Reservoir to King Hill (Reach 3).

The simultaneous evaluation of data collected at numerous cross sections in each of the three reaches will identify water-surface elevations for varied river discharge assuming streamflow is sufficiently sustained to achieve approximate equilibrium in the reaches. The location of the cross sections will be influenced by the presence of island nesting areas, valuable riparian areas, and additional data requirements of the model. Aerial photographs and site reconnaissance will be used to assist in locating the cross sections.

Once all cross section sites are established, velocity and water-quality profiles will be performed using a HydroLab Surveyor III to obtain water depth, DO, temperature, and specific conductance. The March-McBirney velocity meter will be used to obtain water velocity. Both instruments will be coupled with a datalogger to facilitate data acquisition. Data obtained using the datalogger can be input directly to the computer for data processing. Although the DO, temperature, and specific conductance data are not germane to the step-backwater model, the water quality data will aid the technical subgroup in its assessment of stream flows and resident fish populations. Depths determined for each of the cross sections will constitute the most important data set for input to the step-backwater analyses.

All cross sections will be revisited and a second set of data obtained showing water-surface elevation, water depth, and velocity. Site visits will be coordinated with low flows in the river to ensure a more stable discharge. During this time, discharge measurements, DO, temperature, and specific conductance determinations will only be obtained at about one-fourth of the sites.

After the model is calibrated and verified for known elevations of flow, water-surface elevations will be generated for projected flows in the river, water-surface elevations will be generated for projected flows in the river of 3,900 cfs at Swan Falls Dam and examined in the vicinity of existing island habitat areas to determine whether the formation of land bridges is likely. The model can also project water-surface elevations at

flows greater or less than 3,900 cfs.
Results of the step-backwater analyses will be published in a report in the U.S. Geological Survey's Water Resources Investigation series. The report will include an evaluation of the survey techniques used in establishing the cross sections, a description of each cross section, and a description of the hydraulic model and step-backwater analyses and its use to determine water-surface elevations. Maps outlining the river and land areas, and depths of water at each cross section of 3,900 cfs and select discharges in the river at Swan Falls Dam, will also be included in the report.

4. Waterfowl Nesting Sites.

Conduct a literature search on the nesting requirements of the Canada goose and mallard and other representative species as determined by the technical subgroup and prepare an annotated bibliography. Produce a usable definition of the nesting requirements of these waterfowl species.

Studies will focus on the Canada goose and the mallard duck as two principal waterfowl species using the Snake River Islands as nesting habitat. While the nesting requirements of these two species would encompass the requirements of some of the nesting waterfowl on the islands, the requirements of certain other nesting waterfowl are different than that of the Canada goose and mallard.

5. Critical time periods for island habitat maintenance.

Conduct a review of existing literature regarding predator habitat requirements and prepare an annotated bibliography. Incorporate the literature review with data gleaned from studies proposed earlier in this report (II.C.1.,4.) in order to develop a comprehensive chronology of critical periods for these types of islands. On larger islands capable of maintaining predator populations, but which do not presently have such, critical time periods extend throughout the year. Sufficient literature exists to demonstrate increased predation would occur if predator populations became established on these islands. On smaller islands, not capable of supporting a resident predator population, critical time periods probably involve only the breeding seasons (March-June).

The literature review and annotated bibliography should

be sufficient to determine which islands would be capable of supporting predator populations. This task could be combined with other studies proposed herein (II.C.1.).

6. Relationship between stage/discharge and (1) goose nesting habitat and island integrity; (2) raptor and prey production and island integrity; (3) riparian habitat; and (4) human disturbance.

The HEP process discussed in II. C.1. should provide an estimate of habitat value (quality and quantity) for the species in question. Specific information about limiting factors is not available and must be defined in studies regarding selected species:

a. Goose nesting: Evaluate the possible effects of various flow regimes (from hydrologic modeling in III) on goose production through an evaluation of the step-backwater model or other river profiling methods. Use existing data regarding goose nesting chronology to predict the effects of flow fluctuation on goose nesting success. Water fluctuation should include at least two types of negative impacts; impacts related to high flow levels once nesting has commenced (nest flooding) and low flow impacts (increased predation). This evaluation is anticipated to be included in the analysis of nesting data presently being performed by the Fish and Wildlife Service and expected to be available in the fall of 1988.

b. Raptor production and prey production: Evaluate the possible effects of various flow regimes (from hydrologic modeling, III) through an evaluation of the step-backwater model or other river profiling methods. Existing data are available regarding raptor nesting chronology that would allow a prediction of the effects of flow fluctuation on birds of prey which may use the riparian zones and islands. Review data and produce a report specific to riparian habitat use.

c. Riparian habitat: Assume that the short-term relationship between stage/discharge and riparian habitat is not expected to modify existing habitat conditions.

Evaluate possible influences of various flow regimes on riparian and wetland habitats through the use of the step-backwater model study (II.C.3.b.), the results of hydrologic modeling (III.C.), and possible soil moisture work.

d. Human disturbance: Assume that human activities occurring on the river produce a negative impact on nesting waterfowl although the magnitude of such an impact is unknown. Primary recreation which may impact islands is associated with boating activity. Obtain and evaluate base line human use data during the biologically critical period (March-June).

7. Literature/data searches.

Conduct literature searches and develop annotated bibliographies regarding all studies listed in II.C.

III. STUDY PLAN FOR HYDROLOGY

This section describes proposed hydrologic studies of the Snake River, some of which are described above, to be used for: assessment of impacts, if any, on wildlife, resident fish, and downstream anadromous fish. The hydrological response to possible methods of flow augmentation to protect, enhance, or mitigate fish and wildlife resources will be tested.

Flow simulation will be performed with an appropriate model of the Snake River system and its major regulated tributaries using either the model developed by the Idaho Department of Water Resources (IDWR model) and currently used by the Bureau of Reclamation (BR) or other appropriate models. These models could be used to satisfy planning or operational aspects of flow simulation.

A. Updated Base Study

Update the data base study of the IDWR model to 1988 to use as a basis for comparison. (The IDWR model is currently calibrated for the period 1928-83.) Extend the simulated period of the IDWR model from 1983 to 1988. Recalibrate the IDWR model for 1988 conditions. (1985 conditions for the Snake River have been described in an IDWR open file report.[4]) Provide access to the IDWR model to the parties. Costs associated with such access shall be paid by the party requesting the access.

---

[4] Robertson, et al. 1986. Stream Flows in the Snake River Basin, 1985 Conditions of Use and Management. IDWR (02-70-510-1101). 29 pp.

B. Depletions Studies.

Upon completion of the base study, perform simulations for a series of up to seven alternative future levels of streamflow depletion, including a simulation representing conditions that would result in the lowest monthly flows in the driest years corresponding to a minimum daily flow of 3,900 cfs at the Murphy gage, as described under I.B. Results of the depletion studies would depict future flows which could occur within the context of the Swan Falls Agreement. To display flow sequences for shorter durations than the model-generated monthly numbers, it would be necessary to disaggregate changes from base conditions for sample months in recently observed hydrographs. River simulations generate flow data at nearly all long-record stream gage sites within the basin so that flow effects on resident fish and wildlife at the Refuge and on the anadromous fish could be estimated.

C. Augmentation Studies

Run simulations of flow augmentation for anadromous fish and/or resident fish and wildlife. Test target flow rates in appropriate river reaches, as specified by the technical subgroup, against alternative uses of existing and possible new storage in the basin. Final simulations for the lower river would require assumptions of regulation schedules by Brownlee Reservoir.

Run trial studies to determine the feasibility of augmenting existing flows to achieve target flows. With/without flows and reservoir contents in all reaches would be generated so that gains and losses as well as third party impacts could be evaluated.

D. Withdrawal Decline Study

Given recent changes in management of the Snake River system, including decreases in agricultural diversions over the past 10 year period (appropriately 800,000 acre feet per year), assess the effect of the declines in diversions on river flows in the Milner to Weiser reach of the Snake River (as well as the lower river). Evaluate the effect of projected levels of reduced diversions, to be identified by the technical subgroup, on the Snake Plain aquifer at equilibrium conditions by use of the IDWR Snake Plain ground-water model or other appropriate ground-water models. Compute modified aquifer discharge with the ground-water

models. Input these reduced outflows as well as the reduced diversions into the IDWR model to simulate possible flow conditions in the refuge reaches as well as further downstream.

E.3.11.1 BIRDS OF PREY MITIGATION STUDIES

Article 42 of the Swan Falls license required Idaho Power to develop a plan to prevent the accidental electrocution of birds of prey on the proposed transmission line. After consultation with appropriate agencies (U.S. Fish and Wildlife Service, Bureau of Land Management and Idaho Department of Fish and Game) such a plan was developed. The plan was filed with FERC on November 29, 1983. The FERC issued an order approving the plan on January 13, 1984.

The reconstruction of the spillway of the Swan Falls hydroelectric dam, located in the Snake River Birds of Prey Area (BOPA), provided a unique opportunity to study the effects, if any, of heavy industrial construction and recreational activities on nesting prairie falcons. Each year more than 700 pairs of raptors representing 14 different species come to the area to nest and raise their young. Included in this number are approximately 5-10% of entire North American population of prairie falcons. Recognition of the opportunity to gather factual data on such effects lead to the voluntary implementation of this study. In 1984 Idaho Power Company and the Bureau of Land Management entered into a cooperative agreement to undertake the effort. In 1985 Pacific Gas and Electric joined into the agreement.

A considerable effort was made to determine the effects of human activities on falcon behavior. More than 9,300 hours of observation were made over a period of 632 observation days. In 1985 the study was expanded to include some experimental manipulation. In Reynolds Creek, a nearby drainage outside the BOPA, a series of controlled explosions adjacent to several nesting prairie falcons was conducted. The behavioral data demonstrate that the impact of human activities studied in this investigation were negligible at most.

During the course of this study, aeries used for observation were subjected to 4 categories of human activity: (1) industrial construction (2) recreation disturbance (3) controlled blasting and (4) minimal human disturbance (control). Each year 4 - 6 aeries were used for behavioral observation in each of the BOPA study locations. Controlled blasting was conducted outside the BOPA in the Owyhee Mountains.

Human activities were estimated by collecting daily traffic data and by daily visitor surveys. Aeries were ranked according to their exposure to human activities. The frequency and duration of a falcon behavior was calculated for each aerie, observation day and sex.

Behavior of male and female falcons did not show a strong relationship with visitors or traffic. The behavioral repertoire of falcons did not show a relationship with construction, recreation or blasting activities. However, behavior showed considerable variation between individuals and between years.

Behavior which was considered critical for a successful nesting attempt included copulation, incubation, brooding, prey deliveries and time present or absent from the nest.

Copulation rates per day were similar among study locations and nesting seasons. No differences between study areas were noted in the time spent incubating eggs. Prey delivery rates and hunting effort estimates did not differ among study locations when all nesting seasons or nesting stages were combined. Estimates of hunting behavior showed substantial differences among nesting seasons. This appeared to be related to prey density. Percent absence/pair/day was similar during pre-incubation and incubation, but differences between years for the brood rearing stage were detected. There was no evidence of increased predation rates of chicks between study locations.

Annual variation in behaviors such as hunting time and prey delivery rates were strongly associated with densities of the major prey items of the prairie falcon, the Townsend ground squirrel. The impact of prey density and availability on the behavior of prairie falcons was so strong that minor deviations in behavior due to human activities are unlikely to be detected.

The overall conclusion that can be made from the results of this study is that the level of human activity to which nesting prairie falcon pairs were exposed was within the tolerance range of the species. Construction and recreation activities had no detectable adverse effects on nesting prairie falcons.

A list of technical papers completed in 1984-1987 which have been generated as a result of this study is as follows:

Technical Papers Completed in 1984-1989 Based on the Prairie Falcon Study

Published Articles

Holthuijzen, A.M.A., P.A. Duley, J.C. Hagar, S.A. Smith, and K.N. Wood. 1987. Piracy, insectivory and cannibalism of prairie falcons (Falco mexicanus) nesting in southwestern Idaho. J. Raptor Res. 21:32-33.

Holthuijzen, A.M.A., P.A. Duley, J.C. Hagar, S.A. Smith, and K.N. Wood. 1987. Bathing behavior of nesting prairie falcons (Falco mexicanus) in southwestern Idaho. Wilson Bull. 99:134-135.

Articles in Preparation

Holthuijzen, A.M.A. 1989. Copulation frequency and timing in the prairie falcon: an evaluation of three hypotheses. (under internal review; will be submitted to Animal Behaviour).

Holthuijzen, A.M.A. 1989. Nest defence in prairie falcons. (under internal review; will be submitted to Animal Behaviour).

Holthuijzen, A.M.A. 1989. Prey delivery, caching, and retrieval rates in nesting prairie falcons. (under internal review; will be submitted to Auk).

Holthuijzen, A.M.A., W.G. Eastland, A.R. Ansell, M.N. Kochert, L.S. Young, and R.D. Williams. 1989. Effects of blasting on behavior and productivity of nesting prairie falcons. (under internal review; will be submitted to the Journal of Wildlife Management).

Holthuijzen, A.M.A. 1989. Effects of field observation techniques on behaviors of nesting prairie falcons. (in prep.; will be submitted to the Wilson Bulletin).

Holthuijzen, A.M.A. 1989. The breeding biology of nesting prairie falcons in southwestern Idaho. (in prep.; will be submitted to Condor).

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young, and R.D. Williams. 1989. Behavior and productivity of nesting prairie falcons exposed to construction and recreational activities. (in prep.; will be submitted to the Journal of Wildlife Management).

Reports

Holthuijzen, A.M.A. 1989. The effects of human activities on the behavior and productivity of nesting prairie falcons in the Snake River Birds of Prey Area. Final Report. U.S. Dept. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 206pp.

Holthuijzen, A.M.A. 1987. Behavior and productivity of nesting prairie falcons in relation to construction activities at Swan Falls Dam. Pages 56-93. In: K. Steenhof and M.N. Kochert (eds.), Snake River Birds of Prey Research Project Annual Report 1987. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 159pp.

Holthuijzen, A.M.A. 1986. Behavior and productivity of nesting prairie falcons in relation to construction activities at Swan Falls Dam. Pages 73-130. In: K. Steenhof and M.N. Kochert (eds.), Snake River Birds of Prey Research Project Annual Report 1986. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 172pp.

Holthuijzen, A.M.A. 1985. Behavior and productivity of nesting prairie falcons in relation to construction at Swan Falls Dam and experimental blasting. Pages 73-130. In: K. Steenhof, ed. Snake River Birds of Prey Research Project Annual Report 1985. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 161pp.

Holthuijzen, A.M.A. 1984. The effects of reconstruction activities at the Swan Falls hydroelectric power plant in southwestern Idaho on a breeding population of prairie falcons. Pages 76-120. Snake River Birds of Prey Research Project Annual Report 1984. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 145pp.

Popular Articles

Holthuijzen, A.M.A. 1988. Adapting to the desert. Idaho Wildlife 8:34.

Holthuijzen, A.M.A. 1986. Nesting prairie falcons evaluated on Snake River. Biocurrents 2:14-15.

Holthuijzen, A.M.A. 1984. Impacts of human disturbance on breeding prairie falcons in the Snake River Birds of Prey Natural Area, Idaho. Eyas 7:16.

Technical Presentations in 1984-1987 Based on the Prairie Falcon Study

Presentations

Holthuijzen, A.M.A. 1989. Copulation frequency and timing in the prairie falcon. Annual Meeting of the Idaho Chapter of the Wildlife Society, February 1989, Boise, Idaho.

Holthuijzen, A.M.A., R.D. Williams, M.N. Kochert, and L.S. Young. 1989. Mate guarding in the prairie falcon: with particular reference to the sperm competition hypothesis. Annual Meeting of the Western Section of the Wildlife Society, January 1989.

Holthuijzen, A.M.A., R.D. Williams, M.N. Kochert, and L.S. Young. 1988. Mate guarding in the prairie falcon (Falco mexicanus). Presented at the Annual Meeting of the Ecological Society, August 1988, Davis, California.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and K. Steenhof. 1988. Prey delivery rates of nesting prairie falcons. Idaho Chapter of the Wildlife Society, February 1988, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1988. Territorial aggression of nesting prairie falcons. Idaho Chapter of the Wildife Society, Febraury 1988, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and K. Steenhof. 1987. Prey delivery rates of nesting prairie falcons. Annual Meeting of the Raptor Research Foundation, November 1987, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1987. Territorial aggression of nesting prairie falcons. Annual Meeting of the Raptor Research Foundation, November 1987, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1987. Breeding prairie falcons (Falco mexicanus) and industrial construction: a contradiction? Annual Meeting of the Idaho Chapter of the Wildlife Society, February 1987, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1986. Breeding prairie falcons (Falco mexicanus) and industrial construction: a contradiction? Annual Meeting of the Raptor Research Foundation, November 1986, Univ. of Gainesville, Florida.

Holthuijzen, A.M.A., A.R. Ansell, and M.N. Kochert. 1986. Behavior and productivity of nesting prairie falcons (Falco mexicanus) exposed to human disturbance activities. Fourth World Congress of Ecology, Ecological Society of America, August 1986, State University of New York, Syracuse, New York.

Holthuijzen, A.M.A. 1986. The effects of construction activities at Swan Falls Dam and experimental blasting on nesting prairie falcons. Friends of Fish and Wildlife, March 1986, Boise, Idaho.

Holthuijzen, A.M.A., and W.G. Eastland. 1986. Responses of breeding prairie falcons (Falco mexicanus)to experimental blasting. Annual Meeting of the Idaho Chapter of the Wildlife Society, March 1986, Boise, Idaho.

Holthuijzen, A.M.A., and W.G. Eastland. 1985. Responses of breeding prairie falcons (Falco mexicanus) to experimental blasting. Annual Meeting of the Raptor Research Foundation. November 1985, Sacramento, California.

Holthuijzen, A.M.A., and A.R. Ansell. 1985. The effects of construction activities at the Swan Falls Hydroelectric Power Plant in southwestern Idaho on a breeding population of prairie falcons (Falco mexicanus). Eleventh Annual Edison Electric Institute Power Biologists Meeting. September 1985, Claremont, California.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, K. Steenhof and L. Young. 1985. The effects of industrial construction activities on breeding prairie falcons (Falco mexicanus) in southwestern Idaho. Annual Meeting of the Idaho Chapter of the Wildlife Society, March 1985, Boise, Idaho.

Holthuijzen, A.M.A. 1985. The effect of human disturbance on the behavior of raptors: a preliminary review. Idaho Wildlife Workshop, Bureau of Land Management. February 1985, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, J.C. Smith, K. Steenhof and L. Young. 1985. The effects of industrial construction activities on breeding prairie falcons (Falco mexicanus) in southwestern Idaho. Issues and Technology in the Management of Impacted Western Wildlife, Thorne Ecological Institute. February 1985, Colorado Springs, Colorado.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, K. Steenhof and L. Young. 1984. The effects of industrial construction activities on breeding prairie falcons (Falco mexicanus) in southwestern Idaho. Annual Meeting of the Raptor Research Foundation. October 1984, Blacksburg, Virginia.

Holthuijzen, A.M.A., and J.C. Smith. 1984. Breeding biology and behavior of prairie falcons (Falco mexicanus) in southwestern Idaho. Annual Meeting of the Raptor Research Foundation. October 1984, Blacksburg, Virginia.

Holthuijzen, A.M.A., and A.R. Ansell. 1984. The effects of construction activities at the Swan Falls Hydroelectric Power Plant in southwestern Idaho on a breeding population of prairie falcons (Falco mexicanus). Tenth Annual Edison Electric Institute Power Biologists Meeting. September 1984, Baltimore, Maryland.

E.4.4.1 The mitigation plan for archaeological site 10AA17 has been completed.

E.4.4.2 The mitigation Plan for Swan Falls Dam and Powerhouse is as follows:

a) restoration of the external appearance of the existing powerhouse

b) documentation of the impact areas according to HAER standards

c) file copies of selected engineering drawings with the SHPO

d) construct a public information display concerning the historic significance of the facility

e) offering of the historical electrical equipment which will be disposed of to the Smithsonian Institution.

In the summer of 1984, two efforts to document the impact area were undertaken. One effort involved the development of a historic photographic record of the Spillway, powerhouse, and associated electrical equipment. Views were selected after consultation with the NPS and SHPO and as a result of a site visit in the company of a SHPO representative. Seventy-seven large format photographs were made, according to HAER specifications. The second effort involved the documentation of the old Swan Falls blacksmith shop. This documentation was not specifically required in Article 40. The shop, along with several other out-buildings was scheduled for destruction prior to construction of the new powerhouse. Measured line drawings of the blacksmith shop were also developed. Equipment contained in the shop was donated to the Idaho State Historical Society and presently is on display at the Old Idaho Penitentiary, which functions as a historical museum. A complete list of photographs taken is included in this summary. A narrative report to accompany the historic documentation remains to be written.

Items (a) (c) (d) and (e) remain to be fulfilled. In a letter written to the Council of Historic Preservation from the Idaho SHPO, Article 40 was clarified to include preservation of the internal appearance of the powerhouse. This clarification contemplated leaving the generator covers in place, as well as some appropriate control panels, transformers and other electrical equipment, in order to preserve the historical flavor of the building. It was intended that the powerhouse could be modified as necessary to allow for the passage of vehicles and to accommodate public safety (screening of windows, blockage or removal of stairways etc).

The following are historical black and white shots of Swan Falls Dam and surrounding area taken by Mike Cordell. There are four prints and two negatives of each shot.

ENVELOPE	PHOTO DESCRIPTION
1	Single phase transformers looking directly downstream - east south east
2	Powerhouse, upstream view, looking downstream
3	Looking approximately south - Generator #1, upstream corner, Bank #1, Bay #1 with exciter and rheostats.
4	Same basic shot as envelope #3. This view shows relationship of overhead crane and control room.
5	Overview of dam from road - upstream, looking approximately northwest.
6	View of sluiceway from riverbank looking approximately northwest, north north west.
7	Gable end view/roof oldest and middle buildings - looking approximately north, north east, taken from top of watertank looking toward Ada County riverbank.
8	Sluiceway cintch metchanism - approximate view - north, northwest. Detail contained in #6.
9	Transformers upstairs in corner of gallery in oldest building. Looking approximately west, southwest, upstairs on downstream side of oldest building - spillway end.
10	Transformers - olive drab and black - Gallery - older building. Looking approximately southwest - west south west upstairs, downstream side.
11	Spillway - downstream view - looking south, southwest from construction area.
12	Powerhouse - downstream view freom rocks at base of sluiceway run, looking west, southwest toward Owyhee County bank.
13	Spillway from above - looking down on spillway from watertank in southwest/west south west direction.
14	Fish ladder - above sluiceway looking approximately west, northwest/northwest.
15	Inside sluiceway - motorhouse, looking southwest from Ada County Side of motorhouse.

ENVELOPE	PHOTO DESCRIPTION
16	Upstairs - round window and wall #1 - looking southwest - upstairs in "newest" building.
17	Powerhouse - downstream view, newest building and sluiceway, looking southeast.
18	Electrical equipment for units #1 and #2, looking southeast through door - Bay #2 downstream side of building.
19	Iron power pole - looking toward Owyhee County bank approximately due west. Taken from window of building portion created for sump tank pit and compressor.
20	Electrical equipment for Generators. Bay #5, looking south
21	Sluiceway, gates open. Looking from rocks at base of sluicewy looking approximately south/south, southwest
22	Main floor from gallery looking toward control room - powerhouse. Looking southwest.
23	Main entrance, walking above sluiceway - powerhouse. Looking approximately west, southwest.
24	Typical colling fan Generator #6, looking upstream, approixmately southeast.
25	End view of earliest building from below coolant tank. Looking from walkway to spillway, northeast.
26	Gable end views - newest and middle buildings with intake gate opening equipment and sluiceway - powerhouse. Taken from fency by pasture/orchard, approximately 6' elevation (from stone bank) looking west.
27	Upstairs interior - newest building wall above main entrance, looking approixmately nroth, northwest.
28	Sluiceway - upstream view (cable end) powerhouse. This view shows more of stone wall and powerhouse-gable end than view #6.
29	Below Generator #6, powerhouse. At water level below Generator #6, looking approximately south, southwest, basically upstream toward Osyhee County Bank.
30	Spillway - upstream view from boat dock looking approixmately northwest.

ENVELOPE	PHOTO DESCRIPTION
31	Unit #2, through access cover - powerhouse, looking down at main shaft of unit #2. Please note welder's signature in shadows - upper left corner and my strobe power cable in lower right corner. Basic camera orientation: lens end toward Owyhee County bank, perpendicular to river flow in west, southwest direction.
32	Concrete roof structures: newest building - powerhouse, upstairs, facing Ada County bank. Facing north, northeast.
33	Exciter unit from above - powerhouse, looking south
34	Spillway from Owyhee County side, looking approximately east, northeast.
35	Spillway - Hanging out over spillway looking toward Owyhee county Side. Approximately west, southwest.
36	Entire downstream side looking from large mount of debris 30' x 40' above river looking approximately south.
37	Portion of old stone walls, looking west, Owyhee County river bank.
38	Underview of generator cover unit #2, main shaft turning under Unit #2, looking approximately east.
39	Genrator shaft, brake unit #10 in lower level, looking approximately north.
40	Exciter generators - looking north from below control room stairway.
41	Rheostats - generators #3-6 in newer building - powerhouse from beside exciter looking approximately west, southwest.
42	Exciter, powerhouse - looking apprxoimately south, southwest into corner below control room from base of control room stairway.
43	Sump pump room - powerhouse, straight down into valves and pipes from Ada County side of sump pit perpendicular to river flow.
44	Stop gate covers - powerhouse, looking from just insdie main entry - Ada County side, approixmate view - toward south, southwest.
45	Underside generator #10, powerhouse - looking up approximately north, northwest.

ENVELOPE	PHOTO DESCRIPTION
46	Main floor - overview from control room door - powerhouse, looking north, northeast.
47	Overhead detail Generator #6 - from gallery straight down, looking upstream, approximately southeast.
48	Overhead detail Generator #2 - powerhouse, looking straight down, pointed upstream taken from gallery.
49	Portion of crane and stop gates - powerhouse - taken from just inside main entrance, Ada County side, looking northwest.
50	Wicket gate control Unit #10 - Powerhouse - taken from about 20' inside main entrance looking approximately north.
51	Cooling pumps in lower level of newer building - powerhouse - looking approximately south, southwest in lower level basically looking upstream.
52	Single phase transformers Units 1-2 - powerhouse - looking downstream, approixmately north, northwest.
53	Transformers (silver) - powerhouse - looking approximately north, northeast in gallery, downstream side of middle building.
54	Compressor newer building - powerhouse - approximately toward north, northwest, downstream.
55	Rheostats - Generators 7-10, oldest building of powerhouse. Looking west into downstream corner toward Owyhee County side of river.
56	Control panels - control room - powerhouse. Looking east, upstream from downstream wall of control room.
57	Inside generator cover windings - powerhouse - typical electrical generator detail looking perpendicular to river flow.
58	Typical turbine - turbine well - powerhouse - looking straight down turbine well from just above normal water level.
59	Single phase transformers, middle building - powerhouse - looking downstream - approximately north, northwest.
60	Turbine (under construction), turbine well, powerhouse
61	Single phase transformers - Unit #5 - powerhouse - looking downstream - approximate north, northwest

ENVELOPE	PHOTO DESCRIPTION
62	Exciter room interior, lower level - powerhouse - looking north, northwest from Owyhee County side/upstream corner - looking downstream.
63	Gallery - oldest building - transformers - powerhouse - looking approximately west, northwest.
64	Trashracks - Unit #10) lower level, newer building - powerhouse - looking north, northeast toward main entrance.
65	Exciter sluiceway - below and outside of oldest building - powerhouse - looking directly downstrem - north, northwest.
66	Spillway gate opening mechanism - spillway - looking approixmately north, northeast from Owyhee County side.
67	Spillway gate opening mechanism - spillway - looking north, northeast toward Ada County side of river.
68	Overview of interior - newer building from stairs - powerhouse - looking northeast from stairway in downstream - Owyhee County side of newest building.
69	Control Room - Rheostats, units #1 and 2 - powerhouse - from downstream wall looking south.
70	Transformers in corner nearest spillway in oldest building - see view #9 - powerhouse, looking west.
71	Spillway upstream view, without wind, looking north from Owyhee County bank.
72	Spillway crane - spillway - looking north, northeast.
73	Spillway - downstream view with island - looking south, southwest.
74	Spillway gate opening mechanism - spillway - looking down into gate opening cover approximately north.
75	Sluiceway gate control - sluiceway - looking approximately northwest.
76	Powerhouse - downstream views detail - oldest and middle building looking approixmately southeast.
77	Spillway detail - looking northeast from Owyhee County side showing wooden gates and concrete.

The following photos were taken by Duane W Garrett on 7-21-84of Swan Falls Power Plant.

ENVELOPE	PHOTO DESCRIPTION
1	Blacksmith Shop - Interior fromfront to back, looking west.
2	Blacksmith Shop - Interior from back to front, looking east.
3	Blacksmith Shop - Interior on north wall, looking north.
4	Blacksmith Shop - Interior in south east corner, looking south.
5	Blacksmith Shop - Interior detail on north wall, looking north.
6	Blacksmith Shop Annex - Interior front to back, looking northwest. North wall to right.
7	Blacksmith shop annex - Interior back to front, looking southeast, south wall at right.
8	Blacksmith Shop Annex - Interior concrete pad in floor, looking north.
9	Blacksmith Shop - Exterior East Face, looking west.
10	Blacksmith Shop - Exterior South Face, looking northwest.
11	Blacksmith Shop - Exterior Southeast corner, looking northwest.
12	Blacksmith Shop - Exterior Construction Detail, looking northwest.
13	Blacksmith Shop Annex - Exterior West Face, looking east.
14	Blacksmith Shop Annex - Exterior South Face, looking northwest
15	Blacksmith Shop Annex - Exterior Stone Foundation, looking northwest.
16	Restroom facility, looking northeast.
17	Raw Stock Storage Crib, looking northwest
18	Carpenter Shop - Interior front to back, looking northwest

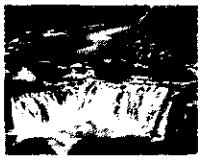
ENVELOPE	PHOTO DESCRIPTION
19	Carpenter Shop - Exterior looking north
20	A-frame gantry - wide angle view, looking west.
21	A-frame gantry - detail looking northwest.
22	Storage Shed #1 - Interior, looking north
23	Storage Shed #1 - Exterior, looking north
24	Wood shop - Interior front to back, looking north.
25	Interior back to front, looking southwest.
26	Wood Shop - Interior detail
27	Wood Shop - Exterior, looking north.
28	Storage Shed #2 - Exterior, looking north.
29	Storage Shed #2 - Interior, looking north.
30	Carpenter Shop Wood Shop complex - Exterior from northeast, looking southwest.
31	Carpenter Shop Wood Shop complex - Exterior from southwest.
32	Storage Shed #3 - Interior front to back, looking northwest, west wall at left.
33	Storage Shed #3 - Back to front, looking southeast - east wall.
34	Storage Shed #3 - Exterior, looking north.
35	Garage - Front Exterior, looking west.
36	Garage - Back exterior, looking northeast.
37	House - front exterior, looking southwest.
38	House - back exterior, looking northeast.
39	North dam and spillway - upstream view, looking east.
40	North dam and spillway - downstream view, looking southwest.
41	North dam and spillway - fish ladder, looking south.

ENVELOPE	PHOTO DESCRIPTION
42	North dam and spillway - detail of gates, looking east.
43	Switchyard, looking north.
44	South dam and spillway - upstream view, looking north.
45	South dam and spillway - Downstream view, looking northwest.
46	South dam and spillway - Details of gates, looking east.
47	Rock Island - wide angle view, looking south.
48	Rock Island - Detail of water tanks, looking north.
49	Overview of dam and canyon - looking west from north canyon rim downstream.
50	Overview of dam and canyon, looking south and east upstream from 1/3 way up canyon road.
51	Overview of dam and canyon - telephoto view looking south and east upstream from 1/3 way up canyon road.

	FACILITY	COMPLETION DATE
E.5.6.1	Improve the existing reservoir boat launch facility. Improve the existing access road to the boat launch facility.	May 1987
E.5.6.2	Clean up garbage disposal area.	April 1987
E.5.6.3	Raft/canoe launch with parking area and access road below the dam.	January 1987
E.6.6.4	Install an air compressor for rafters.	May 1987
E.5.6.5	Develop a raft/canoe portage trail around the dam.	November 1986
E.5.6.6	Develop an interpretive brochure, in cooperation with the BLM, of the Swan Falls Dam and the surrounding Birds of Prey Natural Area.	July 1985
E.5.6.7	Develop a turbine/generator display.	pending approval to construct new powerhouse.
E.5.6.8	Periodic review of recreational facilities in cooperation with the BLM and IDPR occurring no less than every 10 years in order to assess the impacts of recreational activities upon the BPNA and to review the adequacy of the recreational facilities.	since completion of above facilities, ongoing dialogue has occurred, but no formal consultation.

All of the above improvements and developments were coordinated with and approved by the BLM and Idaho Department of Parks and Recreation, The recreational facilities were developed to be harmonious with the Birds of Prey Natural Area Management Plan.

SNAKE RIVER



HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

April 24, 1989

CERTIFIED MAIL

APR 26 1989

Department of Water Resources

Mr. Keith Higginson, Director
Idaho Department of Water Resources
1301 N. Orchard
Boise, ID 83705

Re: Swan Falls - Project No. 503

Dear Mr. Higginson:

When the Swan Falls Project, FERC No. 503, was relicensed in 1982, the license contained the authorization to build a new powerhouse and upgrade the capacity to 25 MW. However, Idaho Power chose to defer installation of the additional capacity at that time. Recently, concerns have arisen surrounding the structural integrity of the old powerhouse. Thus safety and operational considerations dictate that Idaho Power now consider completion of the Project as originally relicensed in 1982. To this end, the Company has asked the FERC for permission to proceed with construction as soon as possible.

No operational changes in the Project or its reservoir have been requested. It is anticipated that the 1982 finding of no significant impact will remain unchanged. A detailed mitigation plan for construction-related activities has been developed in consultation with the appropriate agencies.

In February, we provided you with a draft of the proposal for your comments. Enclosed for your information and review is a copy of the final Application for Amendment being filed with the FERC. If you have any questions, please feel free to contact me, (208) 383-2728, or Allan Ansell, (208) 383-2729.

Sincerely,

David W. Meyers
Manager - Environmental Affairs

DWM mb

enclosures

MICROFILMED

APR 29 1996

Keith

Phil

Wayne

Sterling

(Nay)

Gary

SNAKE RIVER

HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

April 21, 1989

FEDERAL EXPRESS

Lois D Cashell
Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N E
Washington, D C 20426

Re: Swan Falls - Project No 503

Dear Ms Cashell:

Please find enclosed herewith for filing, the original and fourteen (14) copies of an Application for Amendment of License with respect to FERC Project No 503. The Application for Amendment of License is itself a three volume package consisting of the Application, an attachment entitled Idaho Power Company Conservation Plan, April 1989, and an attachment entitled Second Amended Application for New License, dated October 1981, which is an annotated copy of information previously filed with the Commission.

Sincerely,

Steven L Herndon
Attorney for
Idaho Power Company

SLH:srk
Enclosures

c: Richard Taug, FERC, Portland Regional Office
Lee S Sherline

APR 2 9 1996

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

IDAHO POWER COMPANY) PROJECT NO 503

APPLICATION FOR AMENDMENT

OF LICENSE

I

Idaho Power Company, "Applicant", applies to the Federal Energy Regulatory Commission "Commission" for an amendment of license for the Swan Falls water power project.

II

The exact name, business address and telephone number of the Applicant are:

Idaho Power Company
1220 Idaho Street
P O Box 70
Boise, Idaho 83707
1-208-383-2676

The Commission is requested to send copies of all communications, orders, and correspondence on this Application directly to:

Robert W Stahman
Secretary and General Counsel
1220 Idaho Street
P O Box 70
Boise, Idaho 83707

Lee S Sherline
Leighton & Sherline
Suite 101
1010 Massachusetts Avenue, N W
Washington, D C 20001-5402

APR 2 9 1996

III

The Applicant is a domestic corporation and licensee of the water power project, designated as Project No 503 in the records of the Federal Energy Regulatory Commission, issued on the 22nd day of December, 1982.

IV

The amendment of license proposed and the reasons why the proposed changes are necessary are:

The Applicant proposes to complete the rebuild and uprate of the project to 25 MW as originally proposed and accepted by the Commission in the Second Amended Application for New License filed on October 30, 1981. A copy of said Application as updated is filed herewith and included herein by this reference.

The new license for the project was issued on December 22, 1982 pursuant to a second amended application for new license filed by the Applicant on October 30, 1981. The original license expired June 30, 1970. The second amended application was in direct response to the Regional Engineer's notice received by the Applicant on October 1, 1980. The Regional Engineer ordered, pursuant to Section 10(c) of the Federal Power Act, the Applicant 1) to provide a schedule for significant rehabilitation of the project spillway gates and; 2) to perform appropriate testing of the existing concrete structure to evaluate the strength characteristics of the concrete for all the major project works. The tests were to be analyzed to verify that all principal components of the dam structure were structurally stable under conventional static and seismic design assumptions.

At the time of receipt of the Regional Engineer's notice, the Applicant had already initiated investigations of available alternatives with regard to the Swan Falls project. These alternatives involved adding varying degrees of capacity while maintaining the existing normal reservoir elevation. Since compliance with the Regional Engineer's directive could be incorporated into the alternatives being studied, the Regional Engineer accepted a delay in performing the rehabilitation work pending filing of the second amended application for new license.

Prior to and at the time of filing the second amended application, the Applicant was forecasting substantial monthly energy deficiencies during portions of the 1981-1986 period and was seeking authorization for construction of hydroelectric generation resources to meet those forecasted deficiencies. The Regional Engineer's notice of October 1, 1980 sharpened and accelerated the Applicant's interest in Swan Falls as a new resource addition. Adding capacity to existing hydroelectric projects became a part of the Applicant's plans to meet its load requirements. The Applicant chose to include the construction of the additional capacity at Swan Falls along with the spillway rehabilitation work as part of its pending application for a new license. Hence, the new license contained the complete rebuild of the project, including the construction of the additional capacity.

After filing the second amended application, economic trends and forecasts of long-term energy surpluses of Applicant and other entities in the Northwest resulted in significant reductions in the Applicant's load forecast and resource acquisition plans.

In its May 1984 Resource Plan, Applicant determined that, with the completion of the Unit No 2 at the North Valmy power plant, no new generating

resources were needed by the Applicant to meet its load requirements until the late 1990's. The Applicant therefore concluded that the additional capacity at the Swan Falls project was not needed within the timeframe previously specified by the license.

In January of 1985, Applicant proposed to postpone the complete rebuild of the project until such time as the additional capacity would be needed. Specifically, the Applicant requested authority to postpone adding the 14.6 MW of capacity at the project and to postpone replacement of the existing dam, powerhouse and generating facilities. Applicant also proposed to complete the replacement of the existing spillway and conduct such investigations as were necessary to maintain a safe and adequate facility, all as identified in the Regional Engineer's letter of October 1, 1980 and consistent with Section 10(c) of the Federal Power Act.

On April 30, 1987, the FERC issued its Order amending license in response to the Applicant's request deleting the authorization to add 14.6 MW of new capacity and stating in part as follows:

> Article 49 of the license for Project No 503 requires IPC to commence construction of the newly authorized project works within 18 months from the effective date of the license and to complete such construction within 6 years from the starting date of construction. Rather than allowing an indefinite postponement of this construction, this Order deletes this installation from the license. IPC may apply for amendment of its license at a more appropriate time. In the interim the Commission retains authority under Article 9 to require the installation of new capacity if economically sound and in the public interest.

Based upon the Supplement to the Independent Consultant's Report by CH^2M Hill and filed with the FERC on January 9, 1989, safety and operational considerations dictate construction of the new plant to replace the existing

generating facility by 1993. In addition to the safety concerns, the Applicant's most recent Economic Forecast, which is the basis for a new Load Forecast and Resource Plan, currently under development, reveals an increased expectation for economic growth in the Applicant's service territory which will allow the Applicant to absorb this additional resource close to the estimated 1993 on-line date.

The amendment as proposed by Applicant would be in the public interest.

V

(i) The statutory or regulatory requirements of the state in which the project is located that affect the project as proposed to be amended, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes are:

No special laws with respect to bed and banks are applicable to the project as amended.

Reference is made to the general laws of the State of Idaho relating to the appropriation of waters and attainment of permits and licenses as contained in the Idaho Code Title 42, Chapters 2, 4, and 17.

(ii) The steps which the Applicant has taken or plans to take to comply with each of the laws cited above are:

Applicant has taken all necessary steps to comply with the laws cited above for the project as licensed. Under State law, the project, as proposed to be amended, would not require any additional acts, other than possible extensions of time or new applications for permits, at appropriate times.

VI

This application to amend the license does increase the installed capacity of the project as it presently exists. As indicated, the original license for this project expired in 1970. Applicant has previously submitted an application for new license (June of 1969), a first amended application for new license (April of 1979), and a second amended application for new license (October of 1981). The original license contained exhibit drawings depicting the project as it presently exists. The second amended application for new license (October 1981) and license contain the exhibit drawings depicting the proposed rebuild and uprate work. Thus, the following exhibits in the 1981 second amended application are identified as relevant to the requested amendment, are filed herewith and by this reference are made a part hereof:

1981 Second Amended Application and License

Exhibit A - Description of Project.

Exhibit B - Project Operation.

Exhibit C - Construction History and Schedule.

Exhibit D - Costs and Financing.

Exhibit E - Environmental Report.

Exhibit F - General Design Drawings.

Exhibit G - Project Map.

The above enumerated exhibits, copies of which are provided with this application, when read together show the present project and the proposed rebuild and uprate work.

In addition, Applicant has updated relevant textual Exhibits A, B, C, D and E of the 1981 second amended application for new license. The

supplemental material updating Exhibits A, B, C, D and E is attached hereto and by this reference made a part hereof. The Exhibit E environmental evaluations and conclusions are not changed by this amendment. Environmental considerations related to the continued operation of the project and the proposed rebuild were addressed in the 1981 second amended application and the December 22, 1982 Order Issuing license (Major). The finding of no significant impact is still applicable.

VII

Pursuant to 18 CFR § 4.38(f), applicant has identified relevant state and regional comprehensive water resource development plans and programs as follows:

1) The Idaho State Comprehensive Outdoor Recreation Plan, Idaho Department of Parks and Recreation, 1983.

2) The Snake River Birds of Prey Area Management Plan, Bureau of Land Management, Boise District, August 30, 1985.

3) The Idaho Fisheries Management Plan; 1986 - 1990 Idaho Department of Fish and Game, January, 1986

4) The Northwest Conservation and Electric Power Plan, Northwest Power Planning council, 1987.

5) The Columbia River Basin Fish and Wildlife Program, Northwest Power Planning Council, 1987.

6) The Idaho State Water Plan, Idaho Department of Water Resources, 198?.

7) The Idaho Protected Rivers Bill, Idaho Legislature, 2nd Regular Session, 49th, 1988.

8) Existing Land Use Policies and Plans of the Counties of Ada, Elmore and Owyhee.

As well as (potentially) the Joint Agreement Regarding Fish and Wildlife Studies, FERC Docket No EL83-38-000, 1988.

The proposed amendment does not conflict with any of the above mentioned plans.

VIII

Wherefore, based on the foregoing, the Applicant requests that the license for Project No 503 be amended so as to permit the complete rebuild and capacity uprate of the Project as previously licensed with an expiration date that is consistent with the substantial new investment contemplated by this amendment of June 30, 2020.

DATED this 21st day of April, 1989.

IDAHO POWER COMPANY

(CORPORATE SEAL)

By /s/ R J O'Connor
R J O'Connor
Chairman of the Board and
Chief Executive Officer

ATTEST:

By /s/ Robert W Stahman
Robert W Stahman
Secretary

ACKNOWLEDGEMENT

STATE OF IDAHO)
)ss
County of Ada)

R J O'Connor, being duly sworn, says that he is the Chairman of the Board and Chief Executive Officer for Idaho Power Company; that he has read the foregoing Application for Amendment of License and knows the contents thereof;

and that the allegations thereof are true and correct to the best of his knowledge, information and belief.

By /s/ R J O'Connor
R J O'Connor

SUBSCRIBED AND SWORN to before me this 21st day of April, 1989.

(NOTARIAL SEAL)

/s/ Julie A Ryan
Residing at Boise, Idaho

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 21st day of April, 1989, I mailed a true and correct copy of the foregoing Application for Amendment of License by Certified Mail, postage prepaid, to:

(see attached service list)

/s/ Steven L Herndon
Steven L Herndon
Attorney for Idaho Power Company

FEDERAL AGENCIES

Charles Lobdell
U.S. Fish and Wildlife Service
4696 Overland Road, Room 576
Boise, ID 83705

Mr Marvin Plenert
Regional Director
U.S. Fish and Wildlife Service
500 N.E. Multnomah, Suite 1692
Portland, OR 97232
(503) 231-6118

Mr Rolland Schmitten, Director
Northwest Region
National Marine Fisheries Service
7600 Sand Point Way, N.E.
Bin C-15700
Seattle, WA 98115
(206) 526-6150

Mr Einar Wold
Acting Division Chief
National Marine Fisheries Service
847 N.E. 19th Avenue, Suite 350
Portland, OR 97232-2279
(503) 230-5400

Endangered Species Specialist
U.S. Fish and Wildlife Service
500 N.E. Multnomah, Suite 1692
Portland, OR 97232
(503) 231-6134

Mr Charles Odegaard
Regional Director
National Park Service
Pacific Northwest Region
83 South King Street, Suite 212
Seattle, WA 98104
(206) 442-5565

Mr J S Tixier
Regional Forester
U.S. Forest Service
324 25th Street
Ogden, UT 84401
(801) 625-5605

Department of the Interior
Regional Environmental Officer
500 N.E. Multnomah, Suite 1692
Portland, OR 97232
(503) 231-6157

Mr Stanley Speaks
Area Director
Bureau of Indian Affairs
P O Box 3785
Portland, OR 97208
(503) 231-6702

Environmental Impact Review Officer
Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-1760

National Park Service
Regional Environmental Coordinator
83 South King Street, Suite 212
Seattle, WA 98104
(206) 442-4720 or 442-5366

Marv Brammer, Chief
Engineering Division
Corp of Engineers
Building 611A, City/County Airport
Walla Walla, WA 99362

Delmar Vail
State Director
Bureau of Land Management
3380 Americana Terrace
Boise, ID 83706
(208) 334-1401

STATE AGENCIES

Yvonne Ferrell, Director
Idaho Department of Parks and Recreation
Statehouse Mail
Boise, ID 83720
(208) 334-2154

Richard P Donovan, Director
Idaho Department of Health & Welfare
Division of Environmental Quality
Statehouse Mail
Boise, ID 83720
(208) 334-4250

Jerry Conley, Director
Idaho Department of Fish and Game
600 S. Walnut
P O Box 70
Boise, ID 83707
(208) 334-3771

Keith Higginson, Director
Idaho Department of Water Resources
1301 N. Orchard
Boise, ID 83705

Thomas J Green
State Historic Preservation Officer
Idaho Historical Society
610 N. Julia Davis Drive
Boise, ID 83706
(208) 334-3356

Joe Miller, President
Idaho Public Utilities Commission
Statehouse Mail
Boise, ID 83720

Stanley Hamilton, Director
Idaho Department of Lands
Statehouse, Room 121
Boise, ID 83720

COUNTY AGENCIES

Dave Abo
Development Services
Ada County Planning
and Zoning Commission
650 Main Street
Boise, ID 83702

Richard Bass, Chairman
Board of County Commissioners
Owyhee County
P O Box 128
Murphy, ID 83650

1989 Supplement
To
Second Amended Application
For
New License: Project No 503

EXHIBIT A
PROJECT DESCRIPTION

As shown and modified in the Second Amended Application except as follows;

A.2 EXISTING PROJECT -

Spillway (pg A-2 & 3) - The spillway construction was completed in 1986, and the existing spillway should now be described as follows:

The spillway which was reconstructed in 1986, is located between the embankment and the island in the middle of the river. The western section, contiguous with the embankment, is a gated concrete ogee section with 8 radial gates, and the eastern section, adjacent to the island, is a broad-crested weir with 4 radial gates. The spillway has a capacity of 71,000 cfs with the reservoir at normal operating elevation 2314.0. It can discharge 80,000 cfs without overtopping the dam and will be capable of discharging 106,000 cfs without overtopping when the right abutment dam is replaced by the new powerhouse.

Powerhouse (pg A-3) - The existing powerhouse stability has been reviewed in 1988, in conformance with Part 12 Independent Consultant Inspection requirements. The analysis, as submitted to the FERC on January 6, 1989, recommends that stability improvements be performed within the next five-year period. It is the applicant's intent to stabilize the existing power plant as shown on the Exhibit F drawings.

Plant Equipment (pg A-4) - The existing units range from 45 to 75 years in age and have been in service much longer than the normal economic life assumed for this type of equipment. Operation and maintenance expenditures are well in excess of system averages and are increasing annually on a real-cost basis. Such expenditures are becoming increasingly difficult to justify in light of the units and auxiliary equipment age.

A.3 PROPOSED PROJECT -

Spillway (pg A-6) - The spillway as described was completed in 1986, and is fully operational.

Existing Power Plant (pg A-7) - The proposed construction may require the installation of cofferdams, upstream of the existing powerhouse, to facilitate unit dewatering in a stable condition.

Tailrace Improvement (pg A-10) - The tailrace improvement has been completed.

EXHIBIT B
PROJECT OPERATION

As shown and modified in the Second Amended Application except as follows;

B.2 STREAMFLOW -

Average monthly discharges at Swan Falls have been updated to reflect discharges at Murphy, adjusted to 1985 level of upstream development as determined by the Idaho Water Resource Board. Table B-1 and Figure B-1 have been revised and included herein. Monthly flow duration curves have also been added as FIGURE B-1-1 thru 12. The following additional streamflow information is also provided. The Snake River above the Murphy gage drains approximately 41,900 square miles of land. Return intervals are listed for the following streamflows, based on the historical period of record at the Murphy gage.

Flow (24 hr ave)	Return Interval
36,000 cfs	20 years
41,250 cfs	50 years
45,100 cfs	100 years
54,100 cfs	500 years
58,000 cfs	1000 years

B.4 TAILWATER -

The tailwater improvement has been completed and the new powerhouse will operate on the improved curve.

B.6 POWER AND ENERGY -

Estimates of power and energy are based on the flows described above in section B.2. A revised Table B-2 depicting study results is included herein.

The annual average energy for the project is 166.1 GWH and represents an annual plant factor of approximately 76 percent. Energy estimates were computed using characteristics curves for modern design bulb units with the following efficiency, hydraulic capacity and output characteristics:

Units	Gate Opening	Head (ft)	Flow (CFS)	Efficiency (%)	Output (MW)
1	half	30	2100	86.1	4.6
1	best	29	4300	91.7	9.7
1	full	27.5	7300	88.2	15.0
2	half	29.0	2000x2	86.0	8.5
2	best	27.0	4250x2	91.7	17.8
2	full	23.5	7350x2	86.2	25.0

The new power plant electrical system will be designed for operation by local-manual, local-automatic, and remote-automatic control. The plant will be operated as a run-of-river project during adverse, mean and high water years except as detailed in Sections B.3 and B.6 for short peaking operations.

B.7 POWER UTILIZATION

Safety and operational considerations dictate construction of the new plant to replace the existing generating facility by 1993. All of the power and energy produced at the new Swan Falls Plant is intended for utilization in Idaho Power Company's system. Idaho Power's most recent Economic Forecast, which is the basis for a new load forecast and resource plan currently under development, reveals an increased expectation for economic growth in the State of Idaho which should permit the Company to absorb this additional resource close to the 1993 on-line date. During any period of time that the additional generation of the Swan Falls Plant is not required for Idaho Power system loads, the generation will be available to serve regional loads.

Measured either as an Idaho Power Company system resource or as a regional resource, construction of the Swan Falls Plant by 1993 is cost effective. Tables D-2 and D-3 show that, on a levelized life-cycle basis, the annual value of the Swan Falls Project exceeds costs regardless of whether the value is calculated on the basis of the Company's own avoided system costs, or upon the cost of alternative thermal resources.

B.8 FUTURE PROJECTS

Future projects on the Snake River sponsored by the Applicant consists of Twin Falls located about 160 miles upstream of the Swan Falls Project. The Applicant has filed an application for new license for the Twin Falls Project (FERC No 18) and it is currently pending.

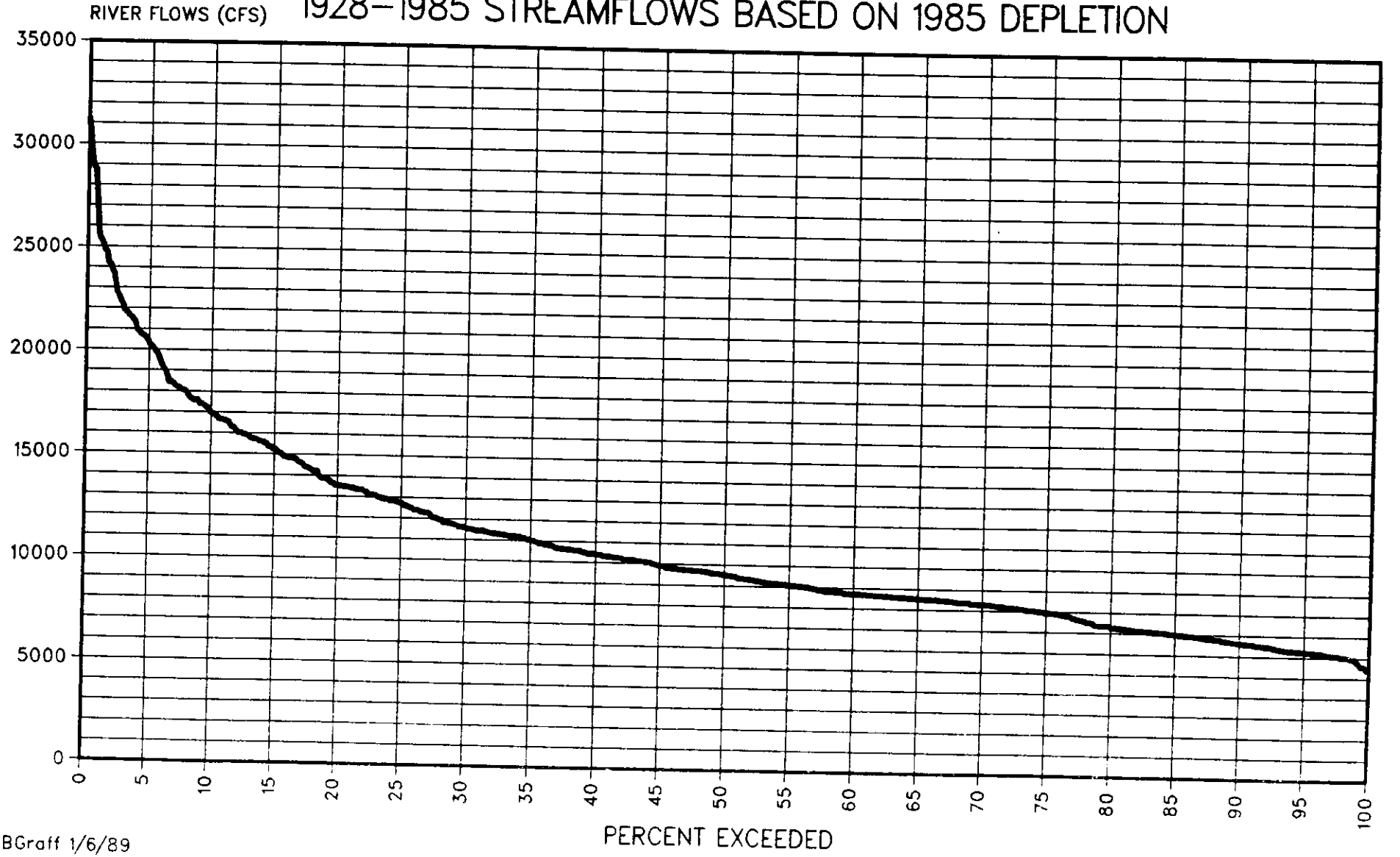
TABLE B-1
SWAN FALLS FLOWS (CFS)
(1928-1985 DEPLETED FLOWS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVERAGE
28	14216	13861	9391	22463	15738	8892	6311	7346	8647	10368	13545	11818	11883
29	12886	9036	9833	12288	12484	7165	6262	6894	8525	8675	10579	11533	9680
30	9381	9353	9324	7602	7262	6818	6365	6972	8632	8694	9991	9746	8345
31	9070	8506	8144	7263	6628	6583	6300	6889	8227	8496	8719	9004	7819
32	8747	8055	8789	7935	7490	7764	6056	6733	8140	8802	9708	9560	8148
33	9148	8676	8464	7570	7621	7366	6298	7068	8649	8496	9134	9059	8129
34	8724	8215	7823	7169	6372	6077	5576	6341	7516	8457	8562	8222	7421
35	7982	8161	7922	7364	6672	7008	5530	5987	7219	8573	8831	8744	7499
36	8596	8907	8828	9226	7851	7912	6279	6998	8389	8717	9542	9354	8383
37	8594	8294	7944	7854	7158	6835	6079	6826	8499	8743	9589	9676	8008
38	9000	8566	8501	9159	9835	8717	6700	6990	8387	11292	13821	11967	9411
39	9295	10330	12410	12263	8701	6795	6482	7203	8619	8686	9482	9313	9132
40	9070	8589	8635	8707	7368	6716	6007	6839	8378	8503	9668	9477	8163
41	9066	8580	8023	7243	6794	6318	5826	7058	8183	8464	10505	9716	7981
42	8579	8305	8280	10063	8002	7936	6103	6592	8303	8725	10769	9921	8465
43	9955	13858	17212	28755	16176	11378	7651	7112	9688	10174	12938	13506	13200
44	14670	10548	9593	11782	7872	7511	6230	6538	8108	8716	10648	11198	9451
45	9067	9810	9165	14617	12803	8507	6597	6953	9725	10583	13110	14569	10459
46	15628	12698	10588	17228	15556	8506	6199	7054	8557	11023	12999	12171	11517
47	13494	11758	9386	18165	7181	7116	6238	6935	8294	10436	12853	11983	10320
48	13718	12318	8087	9597	15249	12046	6570	7086	8641	10983	11638	10957	10574
49	9913	11809	14886	15082	12920	7279	6215	6935	8389	11031	11527	11613	10633
50	10815	15273	10331	25745	11497	9811	7280	7377	9830	10887	17419	17599	12822
51	17399	18091	14802	21494	14855	7111	6114	7167	9783	10633	13518	16662	13136
52	18051	13900	9750	28989	19908	13045	7025	7141	8380	10711	13130	11315	13445
53	12749	11546	9731	9560	11707	11196	6516	7084	8615	8789	11303	11252	10004
54	10656	11778	10077	20795	7236	7136	6438	6948	8661	8553	10434	11221	9994
55	8662	8317	8975	11454	9562	6282	5935	6483	8303	8842	10418	11837	8756
56	12569	15372	15934	20171	15244	13423	6296	6967	10091	10802	13096	13639	12800
57	13551	13336	9497	24725	16872	11240	6210	6790	8538	11321	12982	11453	12210
58	12050	10660	10814	11286	17313	7726	6087	6886	8595	8787	10320	10432	10080
59	9253	8841	9510	11463	7999	6802	5987	6600	8641	8506	9603	10876	8673
60	8418	8309	10834	12626	7208	6716	5934	6654	8073	8229	9626	9033	8472
61	8517	8402	7900	7374	6338	6008	5571	6271	8313	8449	10318	9121	7715
62	8526	9403	10142	19013	11051	8252	6090	6815	8183	9752	11206	11333	9981
63	9701	12857	9180	13474	8316	15720	6178	6626	8451	8581	10223	11622	10077
64	9017	10391	8321	22591	11451	14845	6187	6844	8434	10607	13249	13454	11283
65	16329	15802	14000	24124	17602	12426	7248	7676	10504	11458	17415	17646	14353
66	15764	11335	11549	9701	7930	6882	6257	7104	8945	9130	10194	9625	9535
67	9165	8636	8391	16612	8018	14357	6557	6733	8192	10618	13419	11954	10221
68	13097	11144	10585	10454	9155	10174	6103	7929	10173	11217	13671	12084	10482
69	19492	18040	13493	16012	15096	8327	6597	6933	8725	10142	12409	11395	12222
70	12606	15950	8381	16412	13079	14880	6617	7000	10130	10622	12759	13481	11826
71	18397	21694	15626	24238	27905	20308	9777	8155	10266	15050	20121	18227	17480
72	21839	19289	24857	20689	21595	17698	7085	7514	10403	12326	16787	17986	16506
73	19799	9866	11222	14404	13371	6965	6023	6678	8244	11139	12797	13372	11157
74	14789	14893	13337	29449	16615	20715	6275	6800	9348	10295	13348	16697	14380
75	17025	14221	11060	22184	20894	16293	7072	7091	9459	10807	18208	18357	14389
76	20479	15911	16929	25063	25356	10183	6147	7374	10286	11612	12937	15996	14856
77	12523	11414	9718	7708	7203	6512	5792	6180	7034	8005	9273	8975	8361
78	8542	8112	8796	14200	15506	7272	6246	6483	10007	10013	12374	10437	9832
79	16667	11839	10690	16029	7818	6630	5664	6408	8057	8834	9278	8869	9732
80	9217	9199	7587	10898	13281	16076	6266	6538	9054	9914	11118	10648	9983
81	9806	9155	8061	8861	6407	9095	5392	6024	8052	8436	10086	9238	8218
82	8192	14232	14613	21783	23920	14332	8962	7345	10146	15603	18457	17780	14614
83	21957	14850	14400	19084	22829	23666	10289	10288	9765	16950	20620	21020	17143
84	23250	15750	13880	25420	31250	30750	11360	9763	10200	18460	21370	16530	18999
85	18700	17600	15380	19930	12850	8133	6469	7400	10260	10170	11630	12280	12567
AVE	12523	11786	10854	15403	12551	10314	6550	7024	8859	10187	12297	12181	10878
MIN	7982	8055	7587	7169	6338	6008	5392	5987	7034	8005	8562	8222	7421
MAX	23250	21694	24857	29449	31250	30750	11360	10288	10504	18460	21370	21020	18999

TABLE B-2
SWAN FALLS 25 MW STUDY
POWER GENERATION (MWH)
(1928-1985 DEPLETED FLOWS)

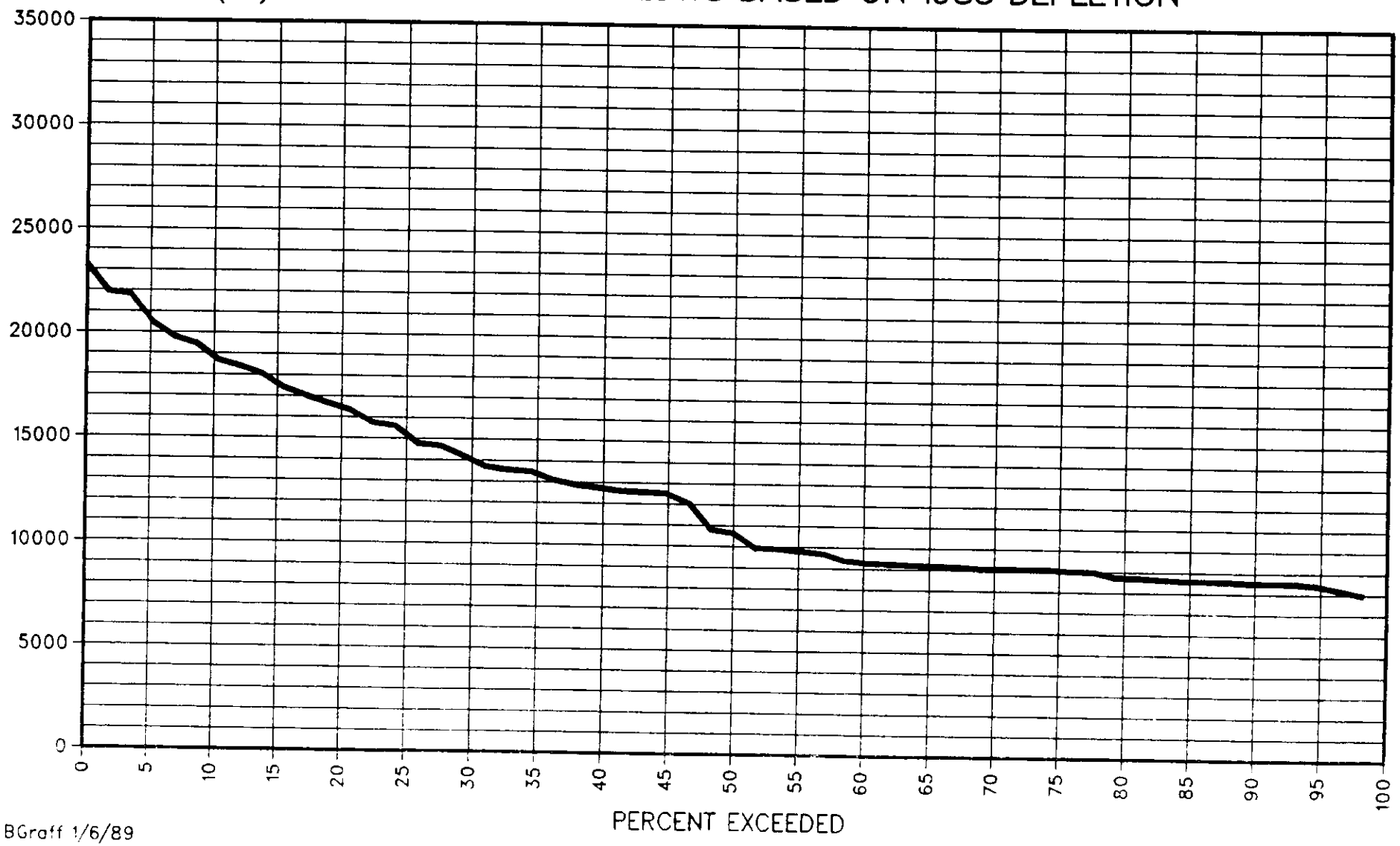
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
28	18191	16692	13670	16252	18366	12639	9814	11131	12344	15058	17424	16685	178266
29	17640	12063	14230	16650	17418	10539	9746	10526	12196	12790	14815	16452	165065
30	13658	12416	13589	10932	11020	10087	9889	10632	12326	12814	13952	14127	145442
31	13279	11463	12120	10665	10166	9862	9799	10520	11831	12566	12431	13198	137900
32	12880	10823	12932	11346	11152	11134	9457	10308	11724	12948	13627	13904	142235
33	13375	11657	12526	10892	11321	10636	9796	10760	12346	12566	12927	13266	142068
34	12851	11127	11581	10544	9899	9181	8813	9856	10825	12517	12241	12219	131654
35	11784	11064	11708	10633	10225	10335	8747	9360	10609	12663	12566	12876	132570
36	12692	11918	12981	13036	11617	11318	9769	10666	12030	12843	13406	13626	145902
37	12689	11219	11736	11246	10881	10110	9489	10435	12164	12875	13489	14043	140376
38	13193	11531	12572	12956	14233	12428	10264	10656	12028	16176	17688	16851	160576
39	13554	13680	17338	16623	12823	10057	10051	10941	12310	12804	13336	13576	157093
40	13279	11558	12740	12416	10993	9954	9388	10452	12017	12575	13581	13774	142727
41	13274	11547	11836	10640	10391	9507	9171	10747	11777	12526	14730	14091	140237
42	12670	11231	12293	14036	11809	11347	9523	10203	11925	12853	15032	14335	147257
43	14375	16689	18005	15169	18259	15750	11360	10819	13604	14636	17124	17966	183756
44	18611	13918	13944	16108	11644	10818	9701	10129	11684	12841	14894	16067	160359
45	13276	12943	13396	17964	17553	12174	10210	10606	13647	15314	17297	18519	172899
46	18393	15895	15320	17420	18410	12173	9658	10742	12235	15831	17185	17077	180339
47	17954	15225	13664	17198	10912	10476	9712	10582	11914	15139	17038	16869	166683
48	18176	15708	12047	13498	18486	16392	10173	10785	12337	15784	16036	15754	175176
49	14325	15196	18582	17929	17676	10686	9680	10582	12030	15873	15914	16543	175016
50	15588	16840	15013	15615	16411	13746	11043	11005	13768	15672	17375	17910	179986
51	17959	16211	18607	16453	18591	10469	9539	10893	13714	15373	17398	18139	183346
52	17799	16726	14132	15134	17344	17232	10703	10858	12019	15465	17317	16202	180931
53	17498	15006	14109	13455	16649	15547	10098	10782	12305	12932	15666	16130	170175
54	15400	15164	14520	16598	10985	10501	9990	10599	12361	12638	14648	16094	159498
55	12774	11245	13162	15834	13906	9458	9287	10053	11925	12998	14630	16707	151979
56	17305	16818	18318	16727	18487	17306	9793	10625	14068	15572	17283	18098	190400
57	18010	16216	13798	15782	18088	15596	9673	10386	12212	16209	17168	16360	179498
58	16943	14038	15586	15647	17980	11087	9501	10516	12281	12930	14516	15134	166159
59	13503	11844	13814	15844	11806	10066	9360	10214	12337	12579	13505	15659	150531
60	12468	11236	15610	16806	10948	9954	9285	10201	11516	12228	13532	13234	147018
61	12592	11343	11680	10646	9851	9087	8806	9758	11937	12507	14514	13342	136063
62	12604	12471	14598	16997	15897	11862	9505	10420	11777	14134	15558	16223	162046
63	14073	16048	13414	17355	12339	17778	9628	10163	12106	12673	14220	16553	166350
64	13214	13747	12345	16225	16358	17994	9641	10459	12085	15342	17136	17914	172460
65	18221	16722	17988	15907	17909	16795	11001	11392	14729	16366	17376	17898	192304
66	18359	14786	16470	13619	11718	10171	9739	10809	12702	13353	14187	13982	159895
67	13396	11611	12434	17566	11830	17732	10155	10308	11788	15355	17302	16837	166314
68	17860	14585	15316	14671	13383	14164	9523	11716	14163	16089	17545	16981	175996
69	17446	16223	17953	17708	18523	11954	10210	10579	12438	14598	16777	16294	180703
70	17344	16689	12421	17614	17841	17984	10151	10669	14113	15360	16942	17941	185069
71	17714	15454	18393	15883	15804	16699	14164	12134	14270	18534	16738	17756	193543
72	16927	15944	16280	16620	16979	17309	10783	11183	14612	17246	17525	17815	189223
73	17371	13004	16095	17774	17830	10279	9411	10234	11852	15999	16981	17831	174661
74	18611	16931	17796	15066	18151	16614	9764	10399	13179	14970	17233	18131	186845
75	18050	16582	15907	16309	17130	17642	10766	10791	13309	15578	17188	17724	186976
76	17219	16698	18074	15716	16195	14174	9585	11001	14293	16541	17123	18303	184922
77	17256	14868	14093	11065	10941	9767	9123	9631	10369	11813	13091	13162	145179
78	12624	11007	12941	17590	18423	10677	9723	10053	13971	14444	16741	15140	163334
79	18138	15227	15440	17704	11575	9840	8940	9949	11496	12988	13097	13032	157426
80	13459	12245	11277	15179	17740	17693	9751	10129	12832	14326	15459	15391	165481
81	14198	12196	11884	12602	9947	12881	8548	9412	11490	12490	14062	13485	143195
82	12181	16591	18559	16393	16481	17709	13146	11130	14132	18399	17129	17865	189715
83	16902	16943	18363	16980	16715	16002	14773	14772	13693	18069	16634	17103	196949
84	16625	16734	18335	15663	15292	14873	16254	14147	14194	17699	16478	18172	194466
85	17640	16321	18454	16779	17602	11715	10033	11035	14263	14631	16028	17196	181697
AVE	15437	14101	14689	15063	14636	12895	10096	10686	12589	14415	15566	15923	166102
MIN	11784	10823	11277	10544	9851	9087	8548	9360	10369	11813	12241	12219	131654
MAX	18611	16943	18607	17964	18591	17994	16254	14772	14729	18534	17688	18519	196949

FIGURE B–1
ANNUAL FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



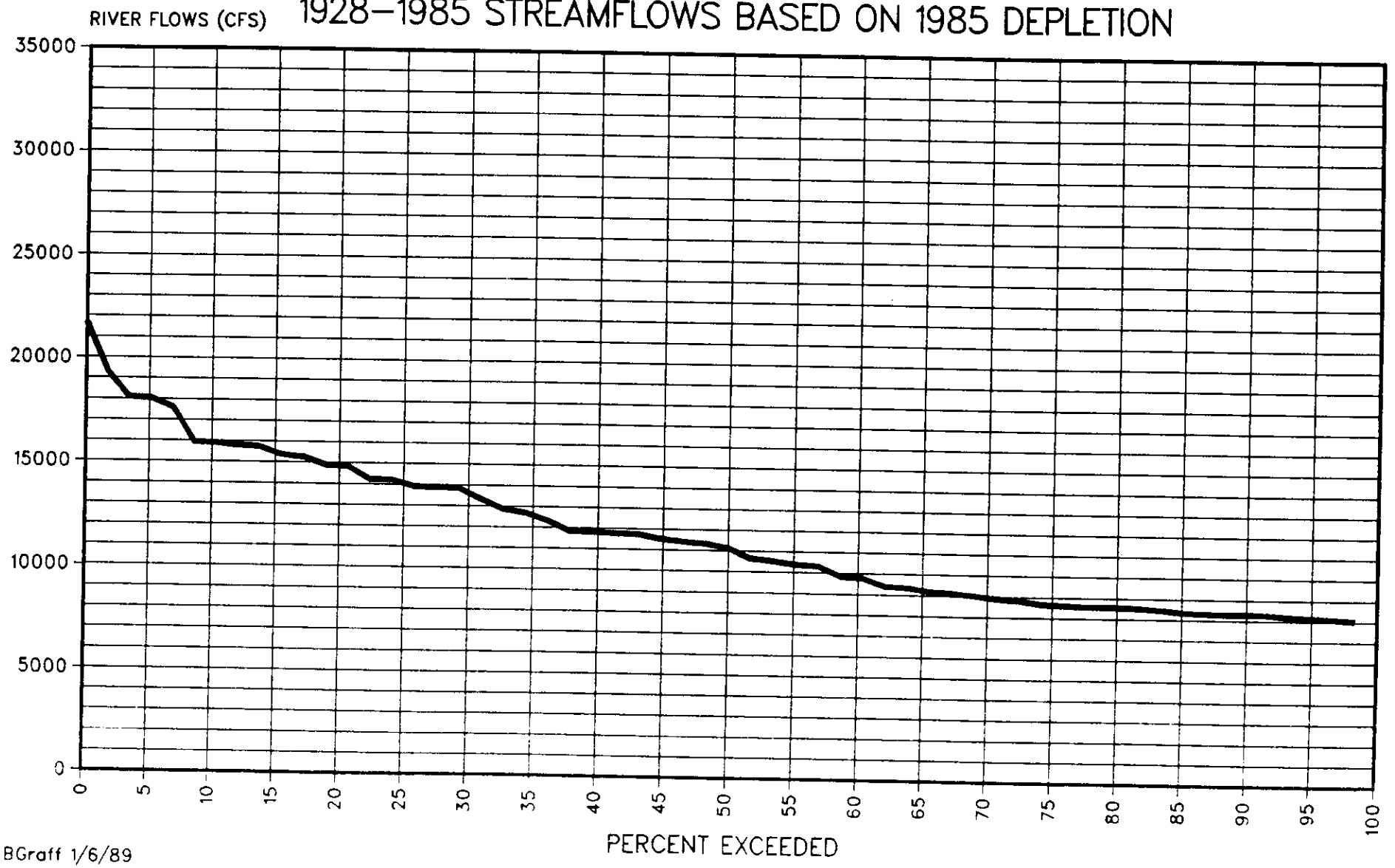
BGraff 1/6/89

FIGURE B–1–1
JANUARY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



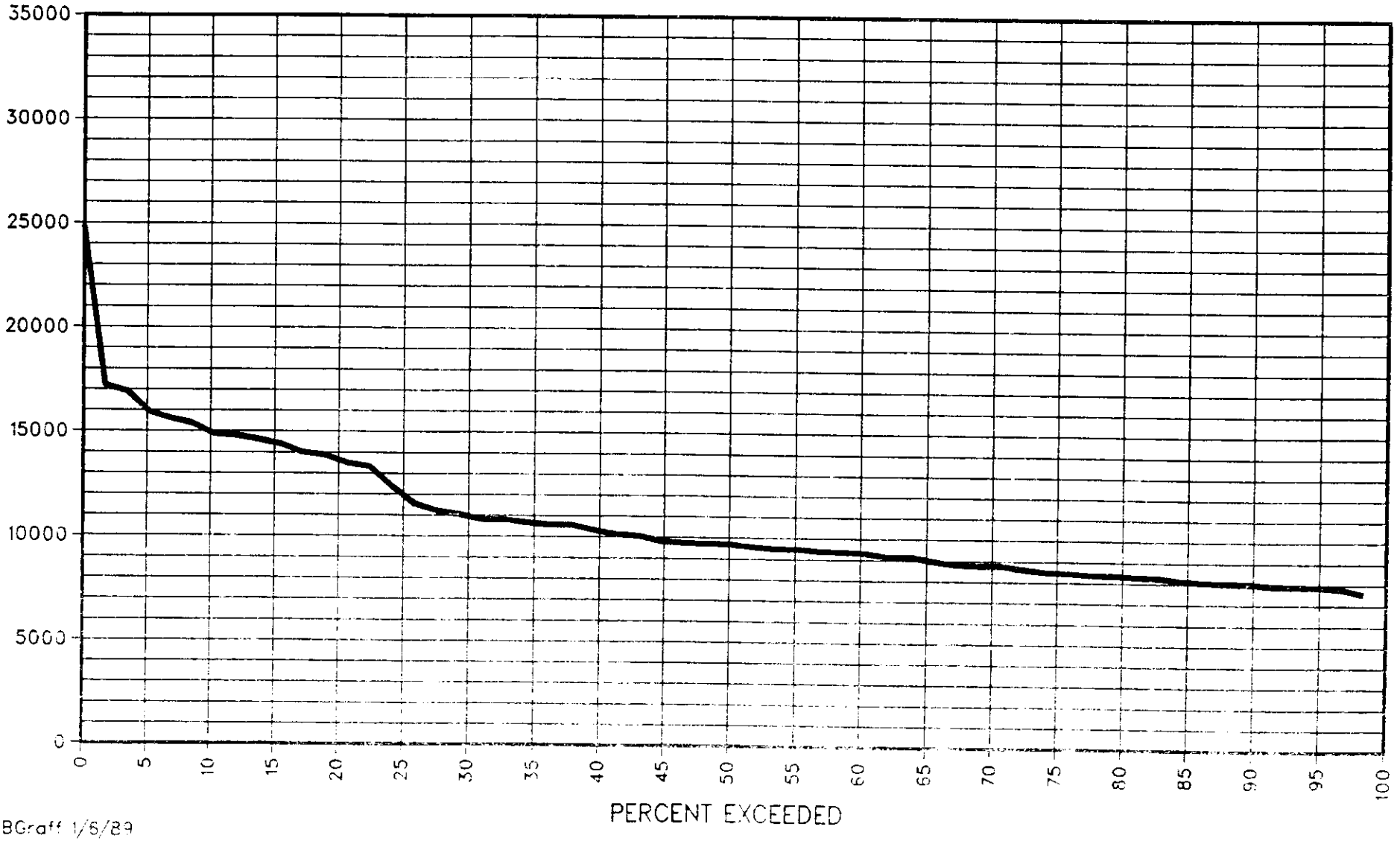
BGraff 1/6/89

FIGURE B–1–2
FEBRUARY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



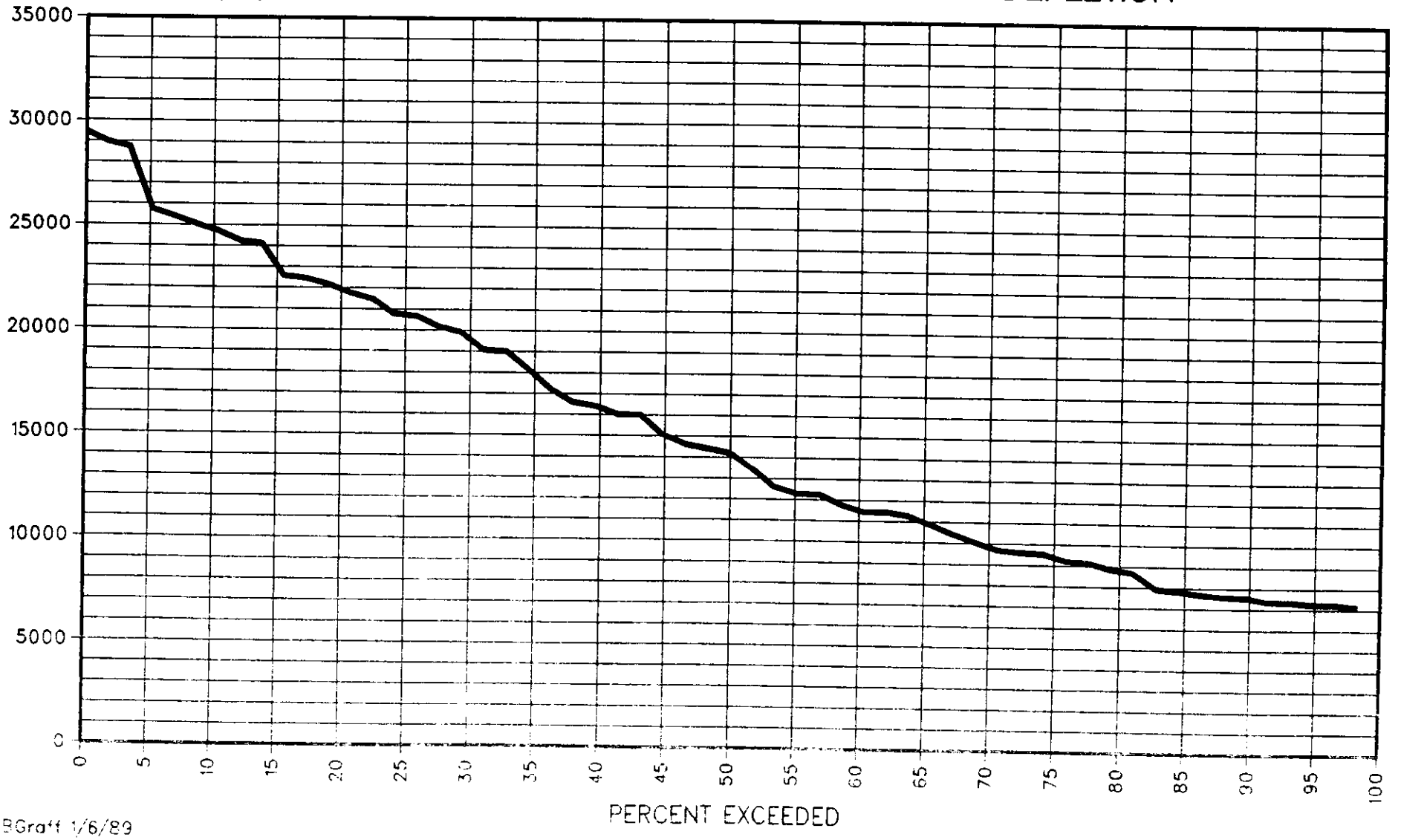
BGraff 1/6/89

FIGURE B–1–3
MARCH FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



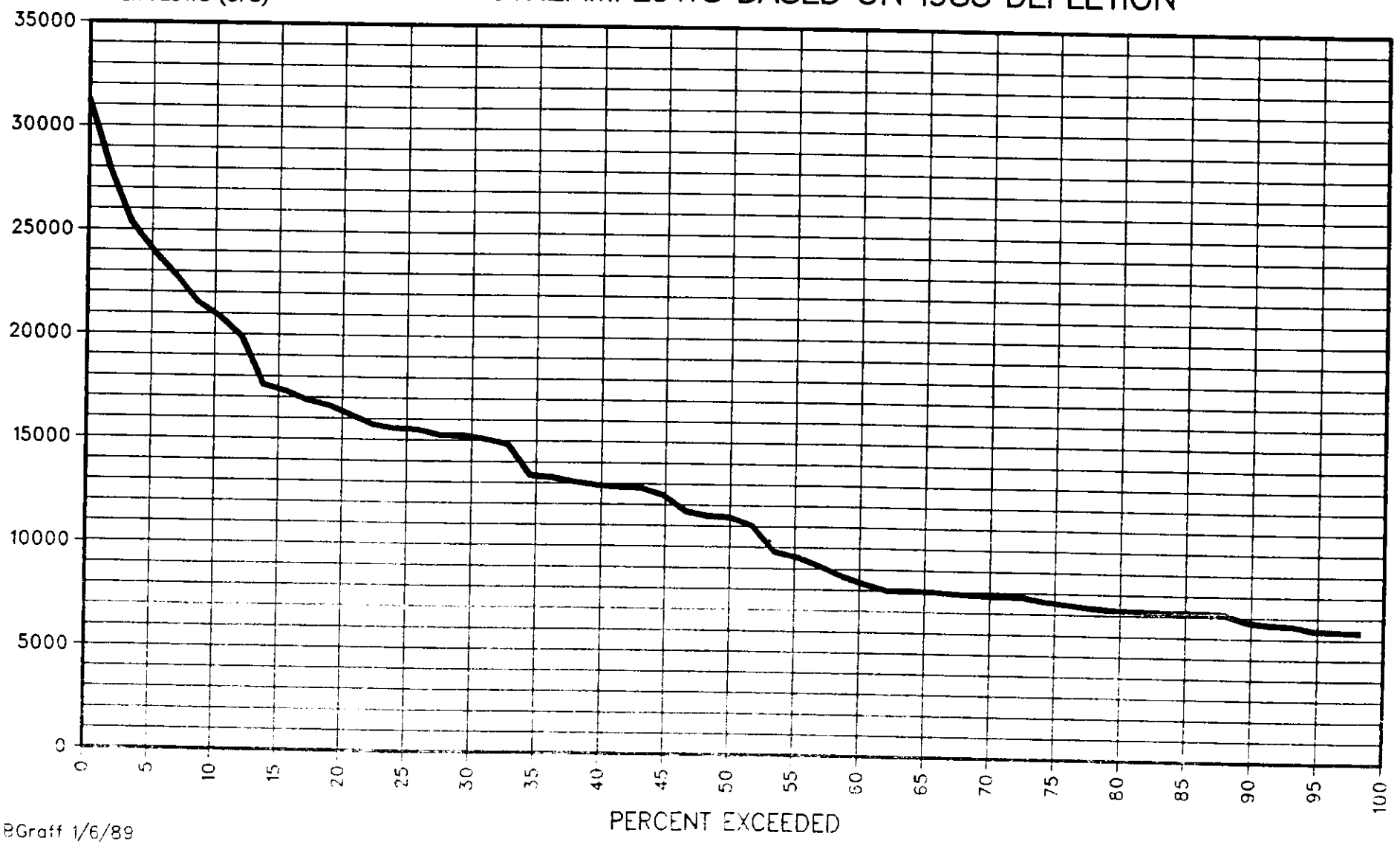
BGraff 1/6/89

FIGURE B–1–4
APRIL FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



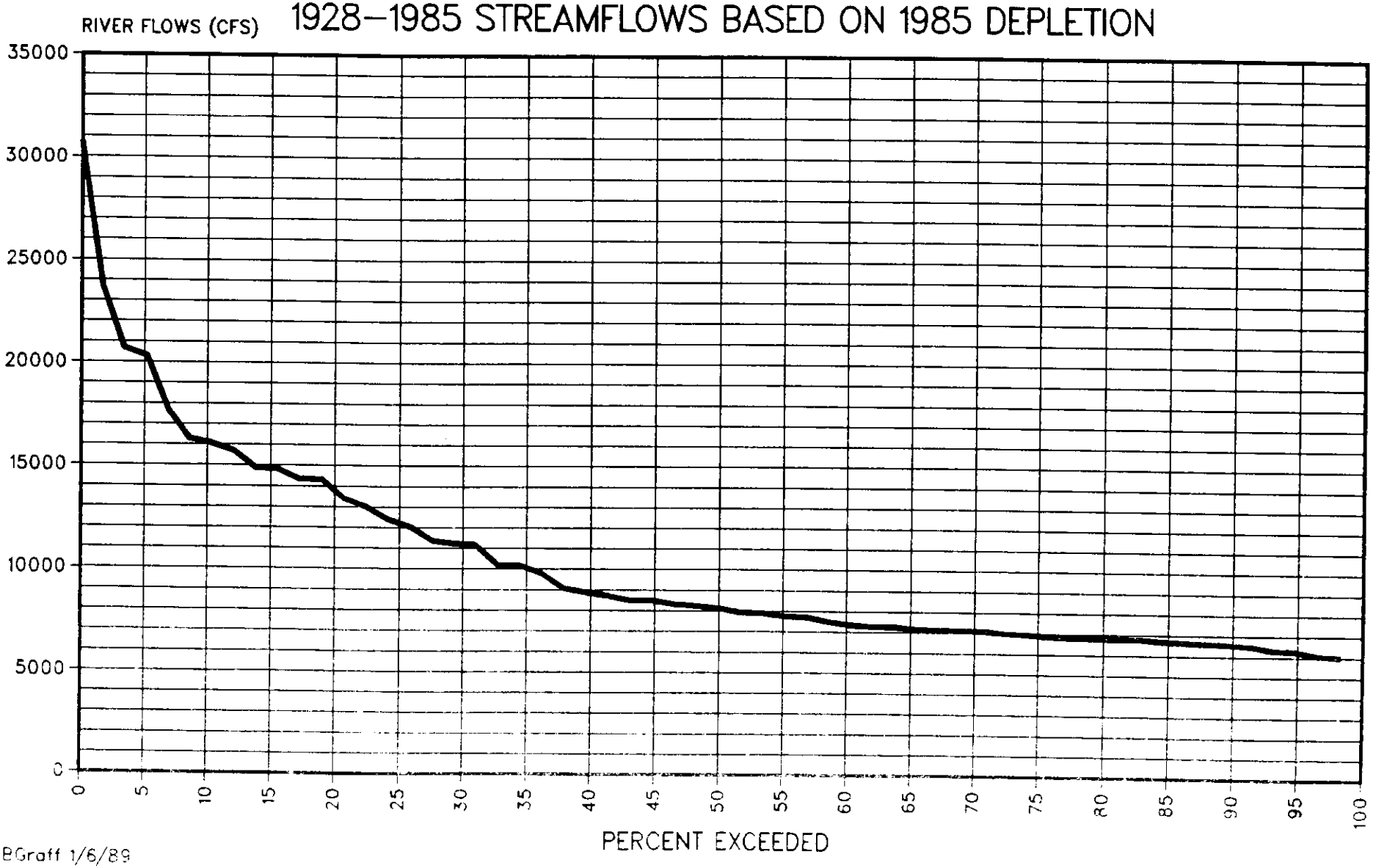
BGraff 1/6/89

FIGURE B–1–5
MAY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



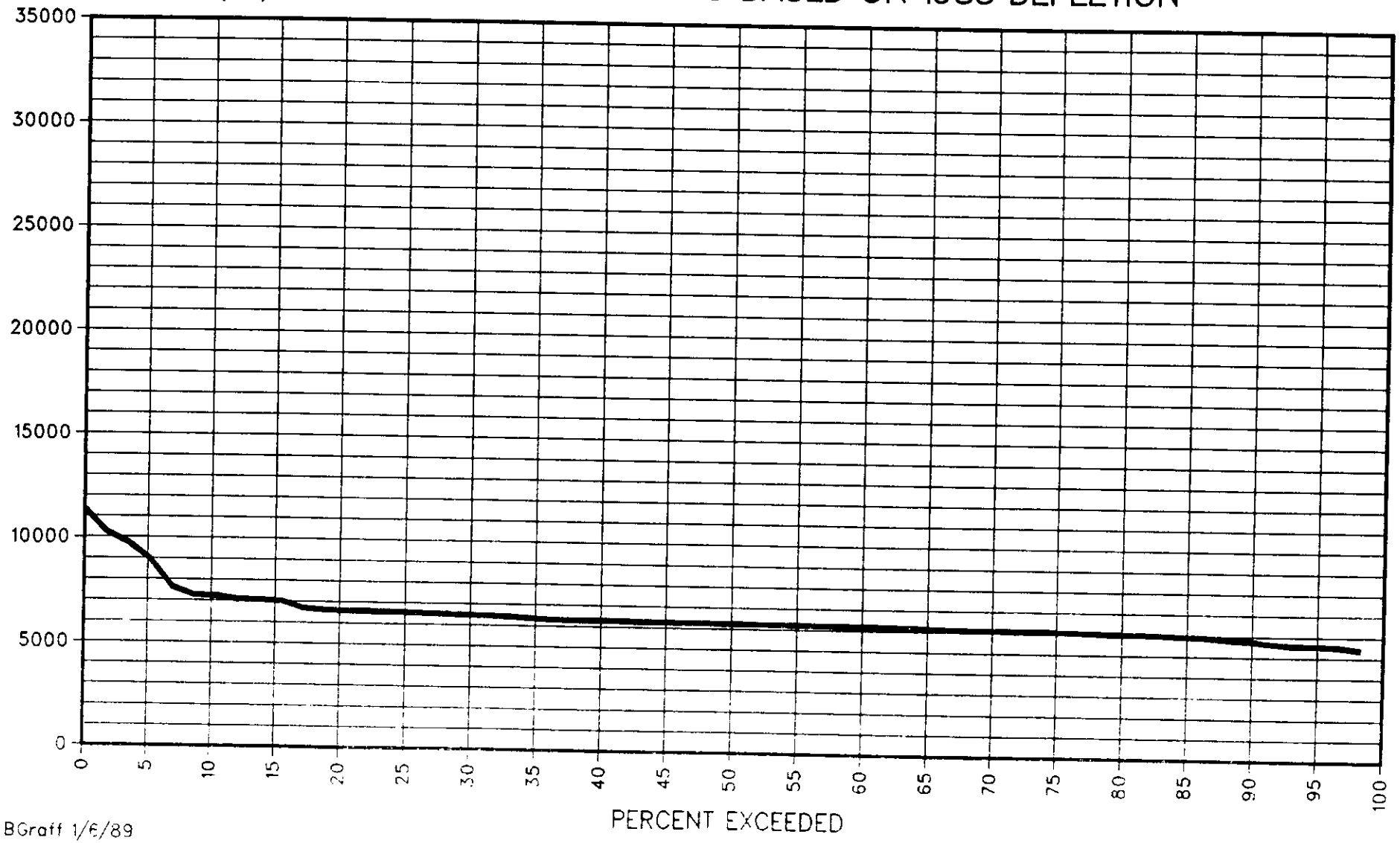
BGraff 1/6/89

FIGURE B–1–6
JUNE FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



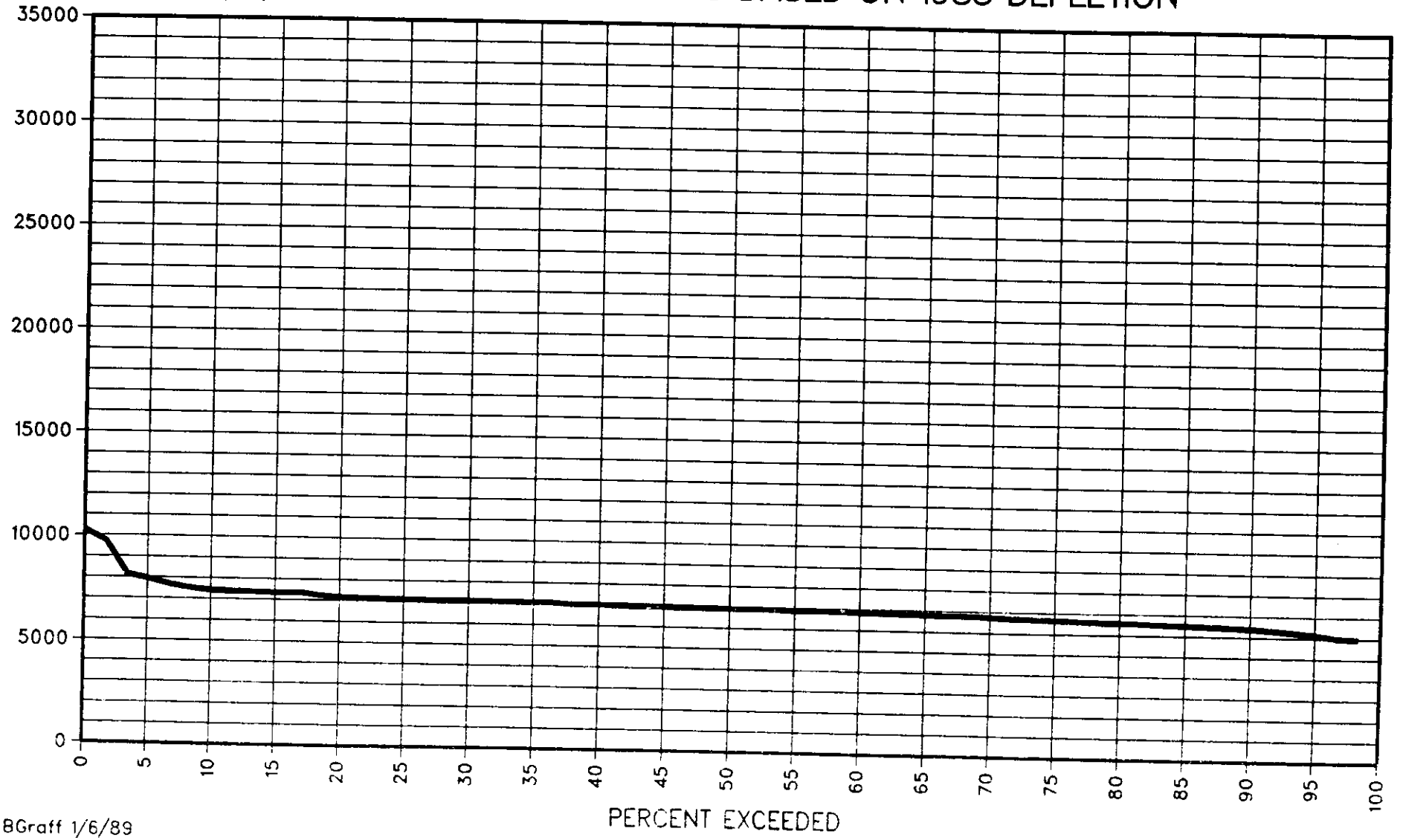
BGraff 1/6/89

FIGURE B–1–7
JULY FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



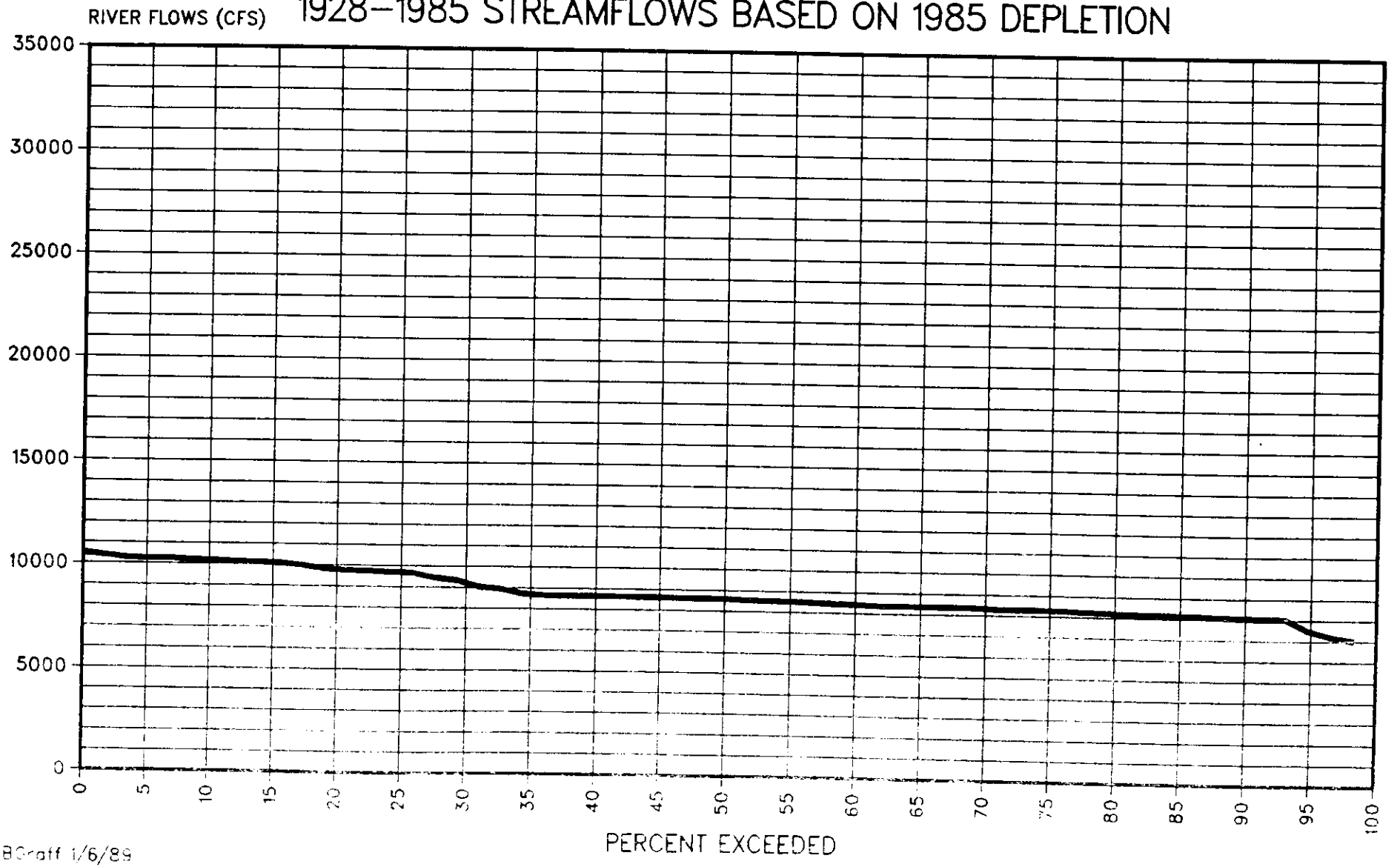
BGraff 1/6/89

FIGURE B–1–8
AUGUST FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



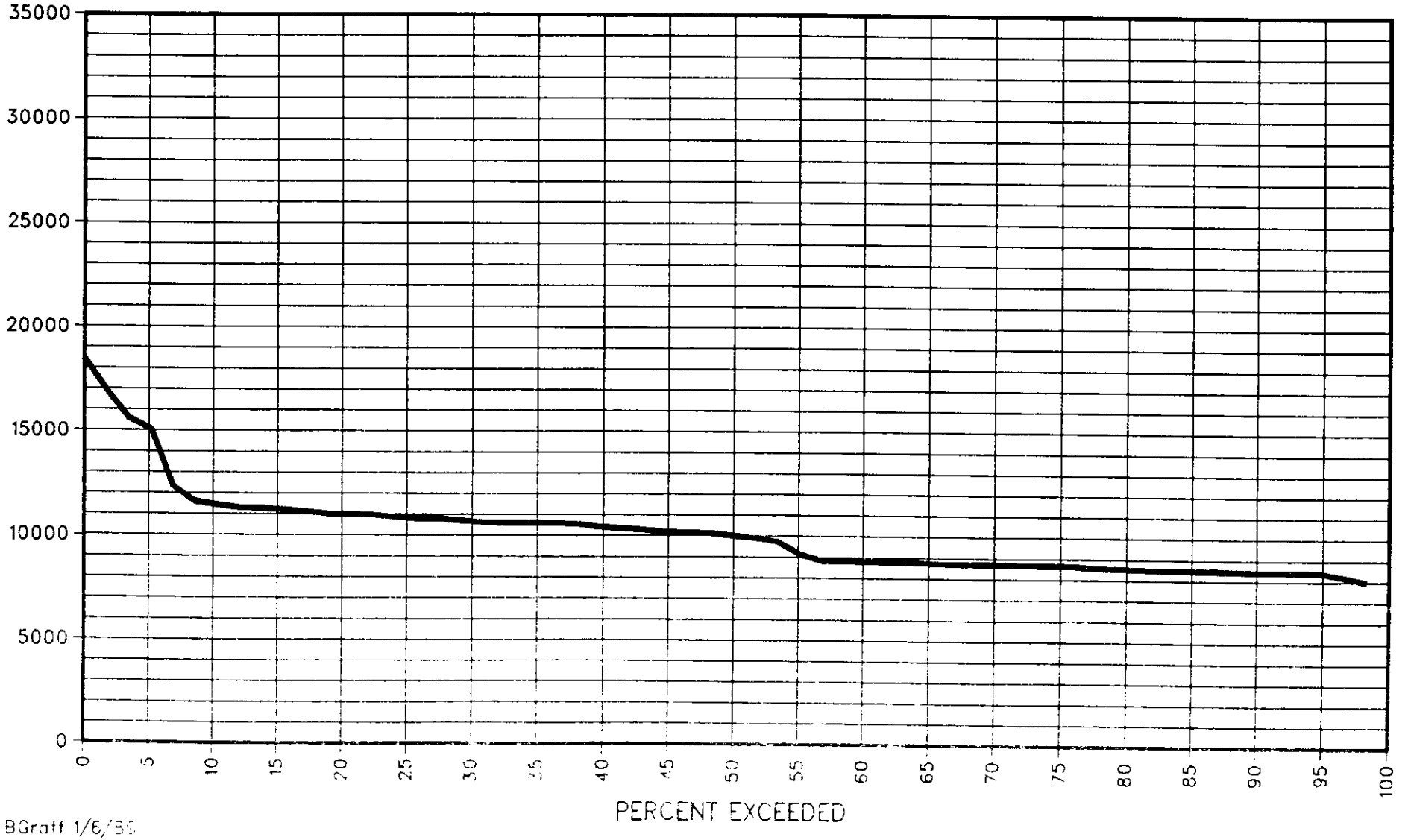
BGraff 1/6/89

FIGURE B–1–9
SEPTEMBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



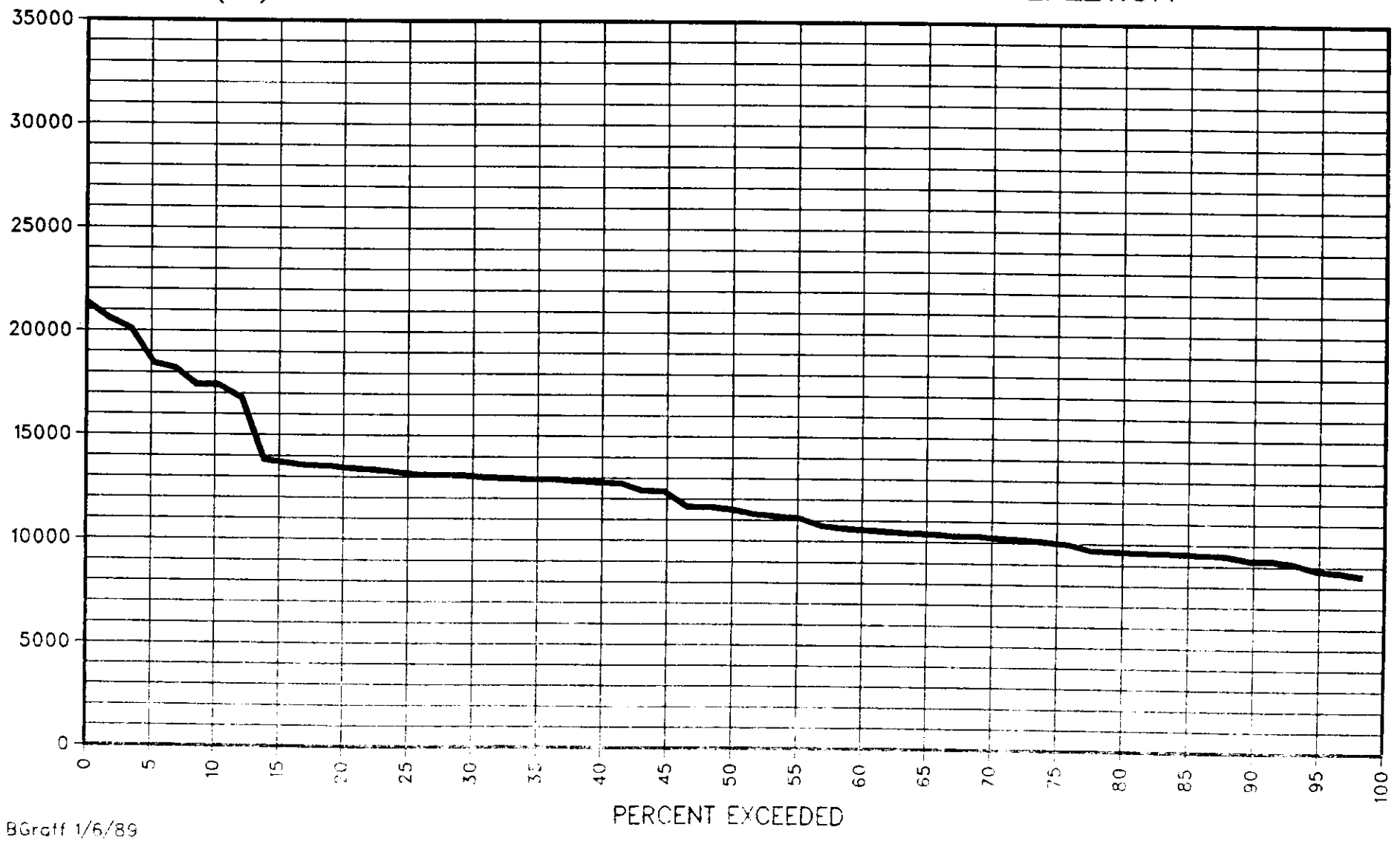
BCraff 1/6/89

FIGURE B–1–10
OCTOBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



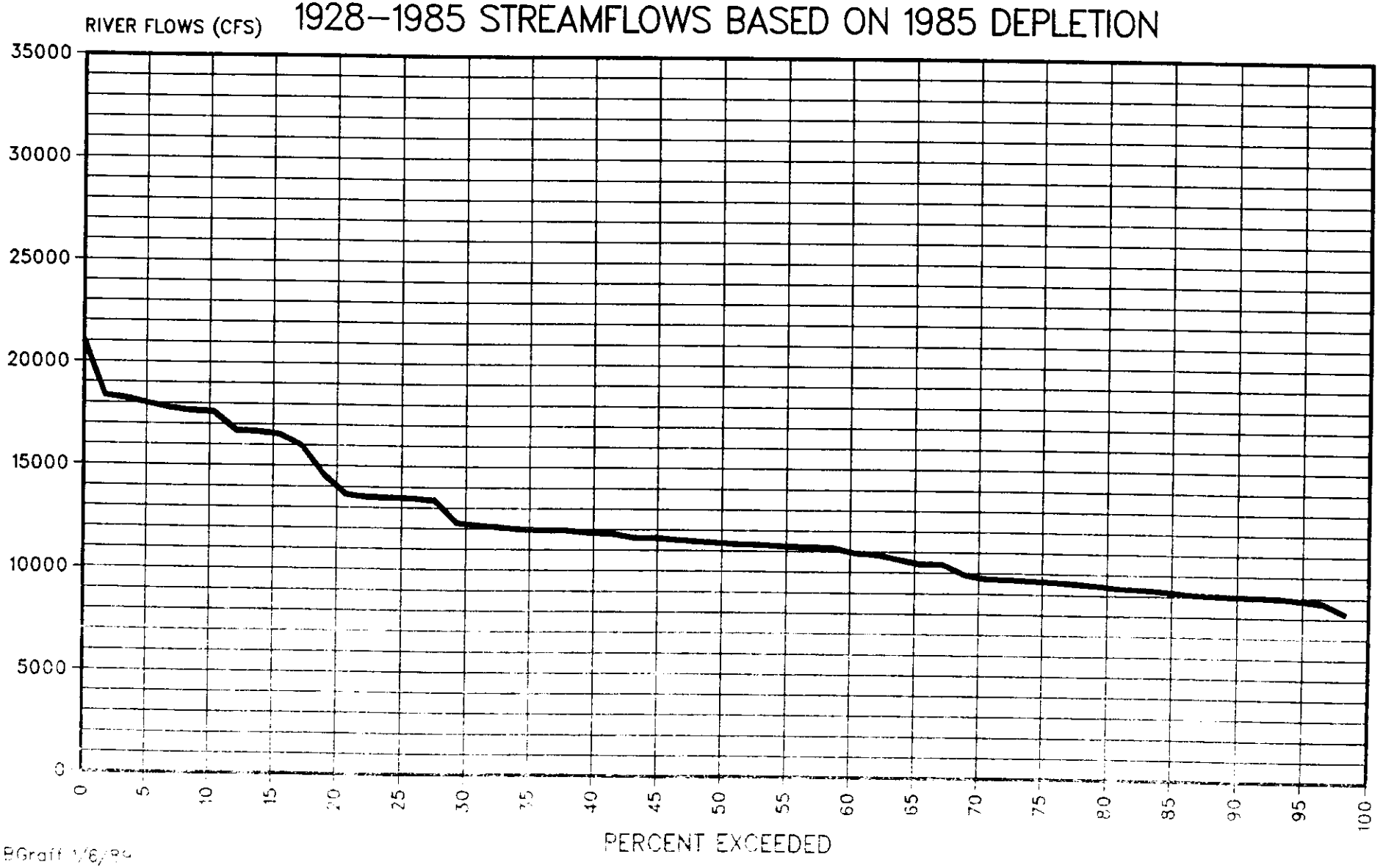
BGraff 1/6/88

FIGURE B–1–11
NOVEMBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



BGraff 1/6/89

FIGURE B–1–12
DECEMBER FLOW DURATION CURVE – MURPHY GAGE
1928–1985 STREAMFLOWS BASED ON 1985 DEPLETION



BGraff 1/8/86

EXHIBIT C
CONSTRUCTION HISTORY AND SCHEDULE

As shown and modified in the Second Amended Application except as follows;

C.1 HISTORY OF EXISTING DAM AND POWER PLANT -

Significant project modifications in addition to those listed include the improvement and construction of the project access road in 1983 and the construction of the new spillway, which was completed in 1986.

C.2 CONSTRUCTION SCHEDULE

This section has been modified to reflect the construction schedule for the project based on the assumption that the FERC license will be issued on July 1, 1989, and the fact that the spillway construction has been completed. A revised Figure C-1 is included herein. Construction would start in 1990, and would be completed in early 1994. However, the new powerhouse units will be in operation in early 1993.

C.3 CONSTRUCTION PROCEDURES

The construction procedures will be as described except that construction stages relating to spillway construction have been deleted. In addition, the construction may require the installation of a cofferdam, upstream of the existing powerhouse, to facilitate unit dewatering in a stable condition. A revised Figure C-2 is included herein and depicts the proposed cofferdam and construction access layout.

FIGURE C–1
SWAN FALLS PROJECT DEVELOPMENT SCHEDULE

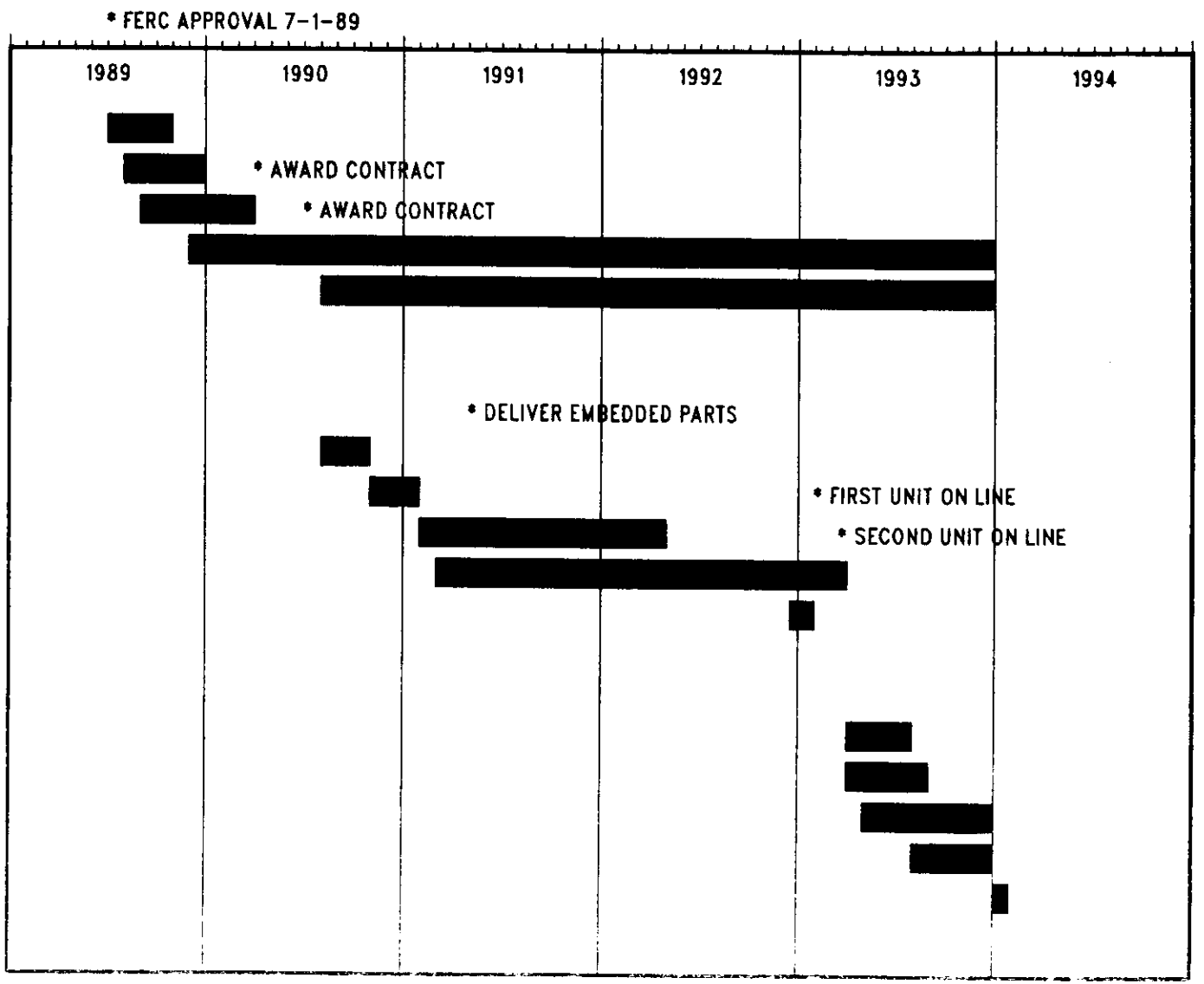


EXHIBIT D
COSTS AND FINANCING

As shown and modified in the Second Amended Application except as follows;

D.2 ESTIMATED COSTS OF NEW DEVELOPMENT

Included herein is a revised Table D-1 reflecting project costs based on August 1988 price levels.

D.3 ESTIMATED AVERAGE ANNUAL COSTS

Included herein is a revised Table D-2 reflecting costs based on Revised Table D-1.

D.4 ESTIMATED ANNUAL VALUE OF PROJECT POWER

Included herein is a revised Table D-3 reflecting estimated annual value based on current conditions for both system avoided cost and thermal replacement.

D.5 SOURCES AND EXTENT OF FINANCING

Included herein is a revised Table D-4.

Table D-1
SWAN FALLS POWERHOUSE PROJECT

(Summary of Estimated Costs)

FERC Acct	Items	August, 1988 Costs ($)
	Direct Costs:	
	(Production Plant)	
330	Land & Land Rights	-
331	Powerhouse	13,878,800
332	Reservoir, Dams & Waterways:	
	Existing Powerhouse Modification	3,304,900
	Intake Structure	826,200
	Draft Tube Gates	745,200
	332 Subtotal	4,876,300
333	Turbines & Generators	12,531,200
334	Accessory Electrical Equipment	1,603,700
335	Miscellaneous Power Plant Equipment	1,384,000
	(Transmission Plant)	
352	Substation Structures & Improvements	133,800
353	Substation Equipment	581,000
354	Transmission	5,400
	(General Plant)	
394	Shop Tools & Equipment	108,000
	Subtotal (Direct Costs)	35,102,200 (1)
	Contingency (15%)	5,265,300
	Subtotal	40,367,500
	Engr, Constr Mgmt, & Admin (11%)	4,440,400
	Subtotal	44,807,900
	Property Taxes	488,000
	Interest During Construction (10.4%)	6,531,200
	Total Estimated Project Cost (to complete)	51,827,100
	Cash Expenditures (CWIP), as of 6/30/88	1,987,700
	Total Estimated Project Cost	53,814,800

(1) Includes Idaho Sales Tax (5%).

SWAN FALLS PROJECT
ANNUAL COSTS
1988 DOLLARS

	$000	Mills/KWH
(i) Cost of Capital[1]	$5,726	34.5
(ii) Taxes[2]	1,629	9.8
(iii) Depreciation Expense	28	.2
(iv) O&M Expense	300	1.8
Total Annual Cost (1988 Level)	$7,683	46.3

(1) Capital structure:

	Percent of Total	Cost (%)	Weighted Cost (%)
Debt	50	10.60	5.300
Preferred Equity	10	10.19	1.019
Common Equity	40	12.25	4.900
Total	100		11.219

(2) Federal and State income tax rate 38.1%, property tax rate, 1.00%. Assumed 50-year book life and 20-year tax depreciation life.

SWAN FALLS PROJECT
ANNUAL VALUE OF PROJECT POWER
(1988 DOLLARS)

I Value of Project Power Based on System Avoided Costs:

	Annual Costs	
	$000	Mills/KWH
Investment Carrying Charge	$3,704	22.3
Fixed O&M Expense	764	4.6
Energy	4,966	29.9
Levelized Annual Cost over 50-Year Life	$9,434	56.8

II Value of Project Power for Thermal Replacement:

	Annual Costs	
	$000	Mills/KWH
Investment Carrying Charge (1)	$7,300	43.9
Fixed O&M Expense (2)	585	3.5
Fuel & Variable O&M Expense	3,571	21.5
Levelized Annual Cost Over 50 Year Life of Swan Falls Project (3)		86.9

Notes:
(1) 25,000 KW x $1289 x .22652. Annual carrying charge based upon 50-year investment in coal-fired generation having individual plant life of 31 years. Capital structure and tax rates are consistent with Table D-2. Assumed long-term inflation rate, 4.4%.

(2) $23.38/KW x 25,000 KW.

(3) Inflation rate assumed equal to 4.4%, discount rate equal to 11.219%.

IDAHO POWER COMPANY
BALANCE SHEET
As of July 31, 1988
(Subject to Approval of Independent Auditors)

ASSETS

Electric Utility Plant (Note 1):	
Electric plant in service	$1,860,745,329
Less accumulated provision for depreciation (Note 2)	476,896,729
Electric plant in service - Net	1,383,848,600
Electric plant held for future use	3,607,329
Construction work in progress	22,727,666
Electric utility plant less accumulated provision for depreciation	1,410,183,595
Investments and Other Property:	
Nonutility property	4,556,548
Investment in subsidiary companies (Note 3)	9,449,530
Other	4,576,277
Total investments and other property	18,582,355
Current Assets:	
Cash	939,028
Temporary cash investments	7,700,000
Accounts receivable (less allowance for uncollectible accounts - $1,339,659)	31,510,762
Interest and dividends receivable	367,875
Materials and supplies (at average cost)	18,322,630
Fuel stock (at average cost)	13,384,805
Prepayments	4,050,602
Accrued unbilled revenues (Note 4)	20,551,366
Total current assets	96,827,068
Deferred Debits:	
American Falls water rights (Note 5)	21,620,000
Advance coal royalties	5,594,188
Unrecovered plant and regulatory study costs	5,968,641
Unamortized debt expense (Note 12)	5,734,719
Conservation programs	6,962,588
Cogeneration and small power purchases (Note 11)	417,696
Other	27,519,295
Total deferred debits	73,817,127
Total	$1,599,410,145

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
BALANCE SHEET
As of July 31, 1988
(Subject to Approval of Independent Auditors)

CAPITALIZATION AND LIABILITIES

	Shares Authorized	Shares Outstanding	
Proprietary Capital:			
Common stock	50,000,000	33,977,000	$ 84,942,500
Preferred stock			59,157,000
Premium on capital stock			275,579,342
Capital stock expense			(2,675,224)
Retained earnings			198,432,013
Undistributed subsidiary earnings			3,586,436
Total proprietary capital			619,022,067
Long-Term Debt:			
First mortgage bonds			392,000,000
Pollution control revenue bonds			176,170,000
Pollution control revenue proceeds retained by trustee (Note 6)			(36,902,946)
American Falls bond guarantee (Note 5)			21,620,000
Unamortized premium on long-term debt			1,137,122
Unamortized discount on long-term debt (Debit)			207,025
Total long-term debt			553,817,151
Current Liabilities:			
Long-term debt due within one year			30,250,000
Notes payable (Note 7)			0
Accounts payable			22,481,258
Payables to subsidiary companies (Note 3)			29,597,388
Taxes accrued			9,061,686
Interest accrued			14,429,559
Dividends declared			16,554,667
Other			6,895,062
Total current liabilities			129,269,620
Deferred Credits:			
Customer advances for construction			667,480
Accumulated deferred investment tax credits (Note 8)			87,506,947
Accumulated deferred income taxes (Note 9):			
Accelerated amortization property			583,200
Other property			172,331,728
Other			9,589,287
Other			22,847,270
Total deferred credits			293,525,912
Operating Reserves			3,775,395
Total			$1,599,410,145

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
CLASSIFICATION OF ELECTRIC UTILITY PLANT AND ACCUMULATED
PROVISION FOR DEPRECIATION AND AMORTIZATION
As of July 31, 1988
(Subject to Approval of Independent Auditors)

Classification of Electric Plant

Electric Utility Plant

1.	Electric plant in service:		
	(a) Intangible plant.....	$ 8,673,721	
	(b) Steam plant.....	656,753,155	
	(c) Hydro production plant.....	407,736,887	
	(d) Other production plant.....	6,522,045	
	(e) Transmission plant.....	273,147,272	
	(f) Distribution plant.....	425,330,175	
	(g) General plant.....	82,582,074	$1,860,745,329
2.	Electric plant held for future use.....		3,607,329
3.	Construction work in progress.....		22,727,666
	Total electric utility plant.....		$1,887,080,324

Classification of Accumulated Provision for Depreciation and Amortization

Applicable to Electric Plant

Accumulated provision for depreciation of electric plant...	$ 474,621,354
Accumulated provision for amortization of electric plant...	2,275,375
Total accumulated provision for depreciation and amortization.....	$ 476,896,729

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
NOTES TO FINANCIAL STATEMENTS
As of July 31, 1988
(Subject to Approval of Independent Auditors)

1. Electric Plant:

The cost of additions to electric plant in service represents the original cost of contracted services, direct labor and material, allowance for funds used during construction and indirect charges for engineering, supervision and similar overhead items. Maintenance and repairs of property and replacements and renewals of items determined to be less than units of property are charged to operations. For property replaced or renewed, except for extraordinary retirements, the original cost plus removal cost less salvage is charged to accumulated provision for depreciation while the cost of related replacements and renewals is added to electric plant.

2. Depreciation:

Electric plant is depreciated on the straight-line method except for production facilities constructed prior to January 1, 1968 at the T E Roach Hells Canyon Development (consisting of the Brownlee, Oxbow and Hells Canyon hydroelectric power plants) for which depreciation is based on the five percent present-worth method.

3. Investment in Subsidiary Companies:

The Company uses the equity method of accounting for its investment in Idaho Energy Resources Co. (IERCo), Idaho Utility Products Company (IUPCo), Power Products Incorporated (PPI), and IDACORP, INC; all wholly-owned subsidiaries.

IERCo is a joint venturer in Bridger Coal Company, which operates the mine supplying coal for the Jim Bridger steam generation plant. Coal purchased by the Company from the joint venture amounted to $35,884,695 for the twelve months ended July 31, 1988. For rate-making purposes, the state regulatory authority having principal jurisdiction requires that the equity in earnings of IERCo be considered as a part of utility operating income and that the investment in IERCo be included in utility rate base. IERCo maintains only a minimum amount of cash in its own account. Excess funds are transferred to the Company and recorded as payables with interest computed at the Company's average monthly short-term investment rate or effective cost of short-term borrowings, as appropriate. IERCo declared a dividend of $5,000,000 to the Company on September 30, 1987 thereby reducing the Company's investment in IERCo.

IUPCo was formed in 1983 to develop and market products directly and indirectly to the utility industry. During the twelve months ended July 31, 1988 no significant business transactions occurred within the subsidiary and as of July 31, 1988, the Company's investment in IUPCo was $264,510.

PPI was formed in 1985 to develop, license and sell electronic instrumentation and monitoring equipment. During the twelve months ended July 31, 1988 no significant business transactions occurred within this subsidiary and as of July 31, 1988, the Company's investment in PPI was $165,384.

3. Investment in Subsidiary Companies (cont'd):

IDACORP, INC was formally organized on July 2, 1986 in order to commence a diversification program by investing in non-regulated activities in order to vary business risks and improve shareholder returns. On July 11, 1986, the Company made an initial investment of $2,000,000 in IDACORP. On December 18, 1987 the Idaho Public Utilities Commission issued an order which exempts IDACORP from regulation and agreed not to include its business activities in future rate proceedings of the Company. As of July 31, 1988, the Company's investment in IDACORP was $2,166,428.

4. Accounting Change - Unbilled Revenues:

In order to match revenues with associated expenses, the Company includes estimated consumption and related revenues for electric services delivered to customers but not yet billed at month-end. This is consistent with the Company's ratemaking treatment as well as the inclusion of unbilled revenues as taxable income as required under the Tax Reform Act of 1986.

5. American Falls Bond Guarantee:

The Company has a contract which expires in the year 2025 with the American Falls Reservoir District wherein it agreed to make falling water payments to the District for the use of water released from the American Falls Dam. Such payments are designed to offset some of the costs of construction associated with the American Falls Replacement Dam Program.

In addition, the Company agreed to guarantee bonds of the District for the project at the time of issuance. On December 18, 1980, $22,095,000 of bonds were issued, and the Company, pursuant to the agreement, executed a guarantee. As of July 31, 1988, $475,000 of these bonds had matured leaving $21,620,000 outstanding with an overall effective interest cost of 10.80%. Under the contract, the Company is required to make falling water payments of approximately $2,400,000 annually which are sufficient to cover the total debt service applicable to the bonds.

6. Pollution Control Revenue Bonds:

Pollution Control Revenue Bonds, Series 1983-A through D due December 1, 2013 and Series 1984-A due December 1, 2014, in the aggregate principal amount of $68.1 million, are being used to provide for the tax exempt financing of the Company's portion of the required retrofit of environmental equipment for the first three units at the Jim Bridger Project which is scheduled for completion in September 1990. The funds not yet spent are held by the Trustee and are being requisitioned by the Company on a monthly basis.

7. Notes Payable:

At January 1, 1988, the Company had regulatory authority to incur up to $150,000,000 of bank borrowings. Under this authority, total lines of credit maintained with various banks amounted to $55,000,000. Under borrowing arrangements with these banks, the Company is required to pay a fee of between 3/16 and 1/4 of 1% on the available and committed lines of credit. Commercial paper may be issued in an amount not to

7. Notes Payable (cont'd):
exceed 25% of operating revenues for the latest twelve-month period and must be supported by bank lines of credit of an equal amount.

8. Investment Tax Credit:
For income tax reductions arising from the investment tax credit an equivalent amount has been charged to operating expenses and the resulting credit is deferred and amortized to income over the estimated service lives of the related properties.

9. Income Taxes:
Consistent with orders and directives of the Idaho Public Utilities Commission, the regulatory authority having principal jurisdiction, deferred income taxes (commonly referred to as normalized accounting) are provided on coal-fired generation facilities for the difference between income tax depreciation and financial accounting depreciation. On other facilities, deferred income taxes are provided for the difference between accelerated income tax depreciation and straight-line depreciation using tax guideline lives on assets acquired prior to 1981 and book lives on assets acquired in 1981 and thereafter. The Company does not provide deferred income taxes for various other long-term items that are capitalized on the books and expensed or considered income for tax purposes unless specifically required.

10. Allowance for Funds Used During Construction (AFDC):
The allowance, a non-cash item, represents the composite interest costs of debt, shown as a reduction of interest charges, and a return on equity funds, shown as an addition to other income, used to finance construction. While cash is not realized currently from such allowance, it is realized under the rate-making process over the service life of the related property through increased revenues resulting from higher rate base and higher depreciation expense. Based on the uniform formula adopted by the Federal Energy Regulatory Commission, the Company's weighted average monthly AFDC rate for the twelve months ended July 31, 1988 was 10.2%.

11. Cogeneration and Small Power Purchases:
As a result of the enactment of the Public Utility Regulatory Policies Act of 1978 (PURPA) and the adoption of avoided cost standards by the regulatory agencies, the Company has been required to enter into numerous contracts for the purchase of capacity and energy from private cogeneration and small power production (CSPP) facilities. Based upon various orders received from the appropriate regulatory agencies, the Company is amortizing to operating expense the permitted cost recovery of certain previously deferred capacity and energy purchases plus interest. The Company continues to defer the net purchased power cost of new CSPP projects connected after the latest rate order. As of July 31, 1988 there were 49 CSPP facilities connected to the Company's system providing on average approximately 58 megawatts of energy with an annual contractual payment obligation of approximately $28.9 million.

12. Other Accounting Policies:
Debt discount, expense and premium are being amortized over the terms of the respective debt issues.

IDAHO POWER COMPANY

The following statement as to each class of the capital stock of applicant is as of July 31, 1988, the date of the balance sheet submitted with this application:

Common Stock

(1) Description - Common Stock, $2.50 par value; 1 vote per share
(2) Amount authorized - 50,000,000 shares ($125,000,000 par value)
(3) Amount outstanding - 33,977,000 shares
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporations - None
(7) Amount held in any fund - None

Applicant's Common Stock is registered (Pursuant to Section 12(b) of the Securities Exchange Act of 1934) and is listed on the New York and Pacific stock exchanges.

4% Preferred Stock

(1) Description - 4% Preferred Stock, cumulative, $100 par value; 20 votes per share
(2) Amount authorized - 215,000 shares ($21,500,000 par value)
(3) Amount outstanding - 191,570 shares
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporations - None
(7) Amount held in any fund - None

Applicant's 4% Preferred Stock is registered pursuant to Section 12(g) of the Securities Exchange Act of 1934.

7.68% Series Serial Preferred Stock

(1) Description - 7.68% Series Serial Preferred Stock, cumulative, $100 par value; 1 vote per share
(2) Amount authorized - 150,000 shares ($15,000,000 par value)
(3) Amount outstanding - 150,000 shares
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporations - None
(7) Amount held in any fund - None

Applicant's 7.68% Series Serial Preferred Stock is registered pursuant to Section 12(g) of the Securities Exchange Act of 1934.

Serial Preferred Stock

(1) Description - Serial Preferred Stock, without par value
(2) Amount authorized - 3,000,000 shares
(3) Amount outstanding - 250,000 shares, 9.50% Series, cumulative, $100 stated value, 1 vote per share
(4) Amount held as reacquired securities - None
(5) Amount pledged by applicant - None
(6) Amount owned by affiliated corporation - None
(7) Amount held in any fund - None

Applicant's Serial Preferred Stock is registered pursuant to Section 12(g) of the Securities Exchange Act of 1934.

Provisions of the Articles of Incorporation authorize the Board of Directors to fix dividend rates and redemption prices for the authorized but unissued Serial Preferred Stock.

For a full statement concerning the terms and provisions relating to the Common, 4% Preferred and Serial Preferred Stocks of applicant, reference is made to the Applicant's Articles of Incorporation presently on file with the Commission.

IDAHO POWER COMPANY

The following statement as to funded debt of applicant is as of July 31, 1988, the date of the balance sheet submitted with this application.

First Mortgage Bonds

(1) Description	(3) Amount Outstanding
FIRST MORTGAGE BONDS:	
4 1/2% Series due Oct 1988, dated as of Oct 15, 1958, due Oct 15, 1988	$ 15,000,000
5 % Series due 1989, dated as of May 15, 1959, due May 15, 1989	15,000,000
4 7/8% Series due 1990, dated as of Nov 15, 1960, due Nov 15, 1990	15,000,000
4 1/2% Series due 1991, dated as of Nov 1, 1961, due Nov 1, 1991	10,000,000
5 1/4% Series due 1996, dated as of Apr 1, 1966, due Apr 1, 1996	20,000,000
6 1/8% Series due 1996, dated as of Oct 1, 1966, due Oct 1, 1996	30,000,000
7 3/4% Series due 2002, dated as of Sep 1, 1972, due Sep 1, 2002	30,000,000
8 3/8% Series due 2004, dated as of Jan 15, 1974, due Jan 15, 2004	35,000,000
10 % Series due 2004, dated as of Oct 15, 1974, due Oct 15, 2004	50,000,000
8 1/2% Series due 2006, dated as of Nov 15, 1976, due Nov 15, 2006	30,000,000
9 % Series due 2008, dated as of Aug 15, 1978, due Aug 15, 2008	60,000,000
10 1/4% Series due 2003, dated as of Sep 1, 1979, due Sep 1, 2003	62,000,000
16.10 % Series due 1991-1992, dated as of May 12, 1982, due May 12, 1991-1992	50,000,000
	$422,000,000

(2) Amount authorized - Limited within the maximum of $900,000,000 (or such other maximum amount as may be fixed by supplemental indenture) and by property, earnings, and other provisions of the Mortgage.
(4) Amount held as reacquired securities - None
(5) Amount pledged - None
(6) Amount owned by affiliated corporations - None
(7) Amount of sinking or other funds - None

For a full statement of the terms and provisions relating to the respective Series and amounts of applicant's outstanding First Mortgage Bonds above referred to, reference is made to the Mortgage and Deed of Trust dated as of October 1, 1937, and First to Twenty-Seventh Supplemental Indentures thereto, by Idaho Power Company to Bankers Trust Company and James F Conlan, Trustees, presently on file with the Commission, under which said bonds were issued.

IDAHO POWER COMPANY

Pollution Control Revenue Bonds

(A) 5.90% Series due 2003:
- (1) Description - Pollution Control Revenue Bonds, 5.90% Series due 2003, County of Sweetwater, Wyoming, dated as of September 1, 1973, due September 1, 2003.
- (2) Amount authorized - $27,000,000
- (3) Amount outstanding - $27,000,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - $550,000

(B) 6.0% Series due 2007:
- (1) Description - Pollution Control Revenue Bonds, 6.0% Series due 2007, County of Sweetwater, Wyoming, dated as of April 1, 1977, due April 1, 2007.
- (2) Amount authorized - $24,000,000
- (3) Amount outstanding - $24,000,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - None

(C) 7.25% Series due 2008:
- (1) Description - Pollution Control Revenue Bonds, 7.25% Series due 2008, Port of Morrow, Oregon, dated as of August 1, 1978, due August 1, 2008.
- (2) Amount authorized - $4,360,000
- (3) Amount outstanding - $4,360,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - None

(D) 12.25% Series due 2011:
- (1) Description - Pollution Control Revenue Bonds, 12.25% Series due 2011, Port of Morrow, Oregon, dated as of July 1, 1981, due August 1, 2011.
- (2) Amount authorized - $3,160,000
- (3) Amount outstanding - $3,160,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None
- (6) Amount owned by affiliated corporations - None
- (7) Amount in sinking or other funds - None

(E) 7 5/8% Series 1983-1984 due 2013-2014:
- (1) Description - Pollution Control Revenue Bonds, 7 5/8% Series 1983-1984 due 2013-2014, County of Sweetwater, Wyoming, dated as of December 15, 1983 and December 13, 1984, due December 1, 2013-2014.
- (2) Amount authorized - $68,100,000
- (3) Amount outstanding - $68,100,000
- (4) Amount held as reacquired securities - None
- (5) Amount pledged - None

IDAHO POWER COMPANY

Pollution Control Revenue Bonds (Cont'd)

(E) 7 5/8% Series 1983-1984 due 2013-2014 (cont'd):
(6) Amount owned by affiliated corporations - None
(7) Amount in sinking or other funds - $36,902,946

(F) 8.3% Series due 2014:
(1) Description - Pollution Control Revenue Bonds, 8.3% Series due 2014, County of Humboldt, Nevada, dated as of December 20, 1984 due December 1, 2014.
(2) Amount authorized - $49,800,000
(3) Amount outstanding - $49,800,000
(4) Amount held as reacquired securities - None
(5) Amount pledged - None
(6) Amount owned by affiliated corporations - None
(7) Amount in sinking or other funds - None

For a full statement of the terms and provisions relating to the applicant's outstanding Pollution Control Revenue Bonds above referred to, reference is made to (A) copies of Equipment Lease and Sublease Agreement between Idaho Power Company and County of Sweetwater, Wyoming, Indenture of Trust by Sweetwater County, Wyoming, to the First National Bank of Chicago, Trustee, and Guaranty Agreement between Idaho Power Company and The First National Bank of Chicago, Trustee, all dated September 1, 1973, under which the 5.90% bonds were issued, (B) copies of Financing Agreement between Idaho Power Company and County of Sweetwater, Wyoming, and Indenture of Trust by Sweetwater County, Wyoming, to The First National Bank of Chicago, Trustee, all dated April 1, 1977, under which the 6.0% bonds were issued, (C) copies of Equipment Lease and Sublease Agreements between Idaho Power Company and Port of Morrow, Oregon, Indentures of Trust by Port of Morrow, Oregon, to the Seattle-First National Bank, Trustee, and Guaranty Agreements between Idaho Power Company and Seattle-First National Bank, Trustee, all dated August 1, 1978 and July 1, 1981, respectively, under which the 7.25% and the 12.25% bonds were issued, (D) copies of Indenture of Trust by Sweetwater County, Wyoming, to Morgan Guaranty Trust Company of New York, Trustee; Loan Agreement between Idaho Power Company and Sweetwater County, Wyoming; both dated December 1, 1983-1984; Agreement between Idaho Power Company, Goldman, Sachs & Co. and Kidder, Peabody & Co. Inc.; dated October 1986 under which the 7 5/8% Series bonds were purchased and (E) copies of Loan Agreement between Idaho Power Company and Humboldt County, Nevada; Indenture of Trust between Humboldt County, Nevada and Morgan Guaranty Trust Company of New York; Escrow Agreement between Humboldt County, Nevada and Bankers Trust Company and Idaho Power Company; Placement Agreement between Humboldt County, Nevada and Bankers Trust Company; all dated December 1, 1984; agreement among Idaho Power Company, Bankers Trust Company, as Remarketing Agent, Goldman, Sachs & Co., and Kidder, Peabody & Co. Inc. dated May 20 1986; Pledge agreement between Idaho Power Company and Morgan Guaranty Trust Company of New York dated May 1, 1986; under which the 8.3% Series bonds were issued.

IDAHO POWER COMPANY
STATEMENT OF INCOME
For the Twelve Months Ended July 31, 1988
(Subject to Approval of Independent Auditors)

Operating Revenues (Note 4)	$404,109,873
Operating Expenses:	
Purchased power (Note 11)	40,436,429
Fuel	72,521,702
Other operation expense	86,220,142
Maintenance expense	31,803,762
Depreciation expense (Note 2)	50,961,030
Amortization of limited-term electric plant	314,159
Taxes other than income taxes	19,204,643
Income taxes - Federal (Note 9)	11,673,402
Income taxes - Other (Note 9)	2,582,532
Provision for deferred income taxes (Note 9)	14,909,173
Provision for deferred income taxes - Credit (Note 9)	7,266,501
Investment tax credit adjustments (Note 8)	(3,859,282)
Total operating expenses	319,501,191
Operating Income	84,608,682
Other Income and Deductions:	
Equity in earnings of subsidiary companies (Note 3)	4,584,455
Allowance for other funds used during construction (Note 10)	2,949,137
Other income and deductions - Net	(476,670)
Net other income and deductions	7,056,922
Income Before Interest Charges	91,665,604
Interest Charges:	
Interest on first mortgage bonds	38,579,479
Interest on other long-term debt	13,070,450
Interest on short-term debt	225,074
Amortization of debt premium, discount and expense - Net (Note 12)	252,410
Other interest expense	3,460,291
Total interest charges	55,587,704
Allowance for borrowed funds used during construction - Credit (Note 10)	2,166,278
Net interest charges	53,421,426
Net Income	$ 38,244,178

The accompanying Notes to Financial Statements are an integral part of this statement.

IDAHO POWER COMPANY
STATEMENT OF RETAINED EARNINGS
AND
UNDISTRIBUTED SUBSIDIARY EARNINGS
For the Twelve Months Ended July 31, 1988
(Subject to Approval of Independent Auditors)

Retained Earnings

Retained earnings (at beginning of period)	$225,226,230
Balance transferred from income	33,659,722
Dividends received from subsidiary - (Note 3)	5,000,000
Total	263,885,952
Dividends:	
4% preferred stock	768,339
7.68% Series, serial preferred stock	1,152,000
9.50% Series, serial preferred stock	2,375,000
Common stock	61,158,600
Total	65,453,939
Retained earnings (at end of period)	$198,432,013

Undistributed Subsidiary Earnings (Note 3)

Balance (at beginning of period)	$ 4,001,981
Equity in earnings for the period	4,584,455
Dividends paid (Debit)	5,000,000
Balance (at end of period)	$ 3,586,436

The accompanying Notes to Financial Statements are an integral part of this statement.

EXHIBIT E
ENVIRONMENTAL

As shown in the Second Amended Application and updated as follows:

SWAN FALLS STUDY AGREEMENT -

Pursuant to Public Law 100-216 and specifically Section 1(a), therein, directing the Federal Energy Regulatory Commission to issue an order for and Section 3(a)(1), therein, directing good faith negotiations regarding joint studies of fish and wildlife resources within the Snake River, an agreement entitled "Joint Agreement Regarding Fish and Wildlife Studies" (Docket No EL83-38-000) was consummated. This accord was agreed to by Idaho Power Company; the The U.S. Department of Interior, by and through its U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

The parties to this agreement have formed an Interparty Coordinating Committee and established several technical subgroups to develop design specifications for each of the study disciplines required by the agreement. The agreement was reached through the process of good faith negotiations.

Utilizing a multi-interest, but coordinated, approach, the study encompasses three general disciplines. There are: 1) a study plan for anadromous fish; 2) a study plan for resident fish and wildlife, Snake River Birds of Prey Natural Area, and Deer Flat National Wildlife Refuge; and 3) a study plan for hydrology.

The total cost (including contingencies) of implementing the studies pursuant to the agreement has been established at $2,574,490. Funding for the studies envisioned in this agreement are to be shared among the three parties as follows:

Idaho Power Company	$910,830
Department of Interior (USFWS)	931,630
National Marine Fisheries Service	732,030

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Idaho Power Company	Docket No. EL83-38-000
	JOINT AGREEMENT REGARDING FISH AND WILDLIFE STUDIES

The National Marine Fisheries Service, the United States Department of the Interior, and the Idaho Power Company, the parties to this Agreement, agree as follows:

I

PREAMBLE

1.1 On March 25, 1988, the Federal Energy Regulatory Commission issued an Order in accordance with Section 1(a) of the Act of December 29, 1987, Pub. L. No. 100-216, 101 Stat. 1450 (1987).

1.2 Section 3(a)(1) of Pub. L. No. 100-216, 101 Stat. 1450 (1987) directed the parties to this Agreement to enter into good faith negotiations regarding joint studies of fish and wildlife resources within the Snake River.

1.3 The parties to this Agreement desire to enter in a joint agreement in accordance with Section 3(a)(1) of Pub. L. No. 100-216, 101 Stat. at 1451.

II

DEFINITIONS

2.1 The following definitions apply for the purpose of this Agreement:

A. "Commission" means the Federal Energy Regulatory Commission.

B. "Interior" means the United States Department of the Interior.

C. "IPCo" means the Idaho Power Company.

D. "NMFS" means the National Marine Fisheries Service.

III

FRAMEWORK FOR

SNAKE RIVER FISH AND WILDLIFE STUDIES

3.1 The parties have agreed upon a framework for the Snake River fish and wildlife studies set out in the Appendix, which is attached hereto and incorporated herein by reference. The parties agree to develop detailed study plans through an Interparty Coordinating Committee as provided for in Section IV of this Agreement. The parties will cooperate fully in the design and conduct of studies under this Agreement.

3.2 The parties disagree upon the scope of studies required by Pub. L. No. 100-216. In order to avoid litigation, however, the parties have agreed to the inclusion of certain studies in this Agreement that some parties contend are outside the scope of Pub. L. No. 100-216, upon the condition that those parties desiring the studies pay for them. The parties agree that they will not object to the inclusion of these studies in the Commission Order issued pursuant to Section 1 of Pub. L. No. 100-216. Further, the inclusion of these studies in this Agreement shall not be deemed a waiver of any objections that a party may have to the validity of the completed studies or to the Commission's consideration of the studies.

3.3 The parties recognize that there are significant Federal interests in fish and wildlife values in the Snake River system above Milner Dam (for example, habitat for whooping cranes, bald eagles, peregrine falcons, waterfowl, game birds, big game animals, and sensitive subspecies of cutthroat trout) which may be impacted by water management options developed in the studies detailed in the framework attached as the Appendix to this Agreement. Interior will investigate the need for, and scope of, any additional studies necessary to protect those values.

IV

INTERPARTY COORDINATING COMMITTEE

4.1 In order to implement this Agreement, the parties agree to form an Interparty Coordinating Committee (Committee), consisting of equal representation of each party to this Agreement, to facilitate cooperative action by the parties. The Committee shall be responsible for resolving funding and policy issues that may arise in connection with the design and conduct of the studies required by this Agreement. Recognizing the responsibility of the Federal parties to provide for consultation with the affected Indian tribes and other interested public or private persons, the parties further agree that meetings of the Committee shall be open to the public. The Committee shall operate by the unanimous consent of the parties funding a particular study except that the parties agree that the United States Fish and Wildlife Service as an Interior representative also will have a vote on all fish and wildlife issues not funded by Interior.

4.2 The parties shall seek and allow the non-voting participation of the affected Indian tribes and the State of Idaho. Prior to taking any action which may affect Indian tribal interests at a Committee meeting, the Federal parties shall caucus with tribal representatives present at the meeting.

4.3 The parties shall establish a technical subgroup or subgroups to develop design specifications for each of the studies required by this Agreement. The technical subgroup(s) shall be responsible for oversight of technical issues that may arise in connection with the studies. The technical subgroup(s) shall submit study designs and specifications to the Committee for review. Any technical subgroup shall be composed of only those individuals with appropriate technical skills necessary for the design and implementation of the studies. A party may request such qualified technical assistance from interested entities or persons as that party deems appropriate. Disagreements within a technical subgroup shall be referred to the Committee for resolution.

4.4 All study data and reports shall be made available to the Committee and technical subgroup participants as soon as reasonably possible. Draft study reports will be circulated for comment. Final reports will either incorporate the comments or attach them in an appendix.

4.5 Notice of Committee and technical subgroup meetings shall be given to the participants in accordance with guidelines established by the Committee.

V

DISPUTE RESOLUTION

5.1 In the event of a dispute that is not resolved by the Committee, the disputing parties agree to seek the assistance of a mediator, to be selected by unanimous consent of the disputing parties, and to share equally the costs of such services. The mediator will make a recommendation that will not be binding on the parties unless otherwise agreed.

5.2 In the event that the dispute is not resolved through mediation, the parties agree that any party may submit the dispute to the Commission or any other appropriate forum for resolution. By so agreeing, no party necessarily concedes that the Commission or other forum would have jurisdiction over such dispute.

VI

FUNDING

6.1 The governmental parties' responsibilities to expend monies or perform work under this Agreement are contingent upon congressional appropriations or allotments being made. Each party covenants to make a good faith effort to obtain necessary funding for their responsibilities under this Agreement. Each party agrees not to interfere with the funding efforts of any of the other parties.

6.2 In the event of inadequate funding for full participation by one or more of the governmental entities: (i) the parties may agree to reallocation of available funding which shall be subject to the establishment of priorities by the Committee, or (ii) any party may seek additional funding.

6.3 Each party agrees to seek adequate funding for the participation of its representatives on the Committee and the technical subgroup(s).

6.4 The Federal parties' expenditure of monies and performance of work under this Agreement will be pursuant to Federal acquisition procedures. Where appropriate, these procedures may involve memoranda of understanding, cooperative or interagency agreements, grants, or contracts.

6.5 A party is not required to provide funding for a particular study unless and until other participants in the study have acquired funding for the study.

VII

GENERAL PROVISIONS

7.1 This Agreement has been reached in the process of good faith negotiations for the purpose of complying with the requirements of Pub. L. 100-216. All parties agree that no statements, conclusions, or offers of any party made in the course of negotiating this Agreement shall be construed as admissions against interest, nor shall any party offer such statements, comments, conclusions, or offers into evidence against any other party in any administrative or judicial proceeding, hearing, or action.

7.2 This Agreement sets forth all the covenants, promises, provisions, agreements, conditions, and understandings currently existing between the parties as to this proceeding. The parties contemplate that future agreements, understandings, grants, or contracts may be necessary to design and implement the studies described herein.

7.3 Statements made in the course of any study required by this Agreement shall not be construed as an admission against interest nor shall any party offer such statements of any other party into evidence against any party in any administrative or judicial proceeding, hearing, or action. This section, however, shall not preclude a party from offering into evidence any statements or conclusions contained in the final study reports made available to the Commission.

7.4 Any party may offer into evidence the data developed in these studies in any proceeding, hearing, or action. Although a party may seek to use interpretations or conclusions contained in the studies in any proceeding, hearing, or action, no party waives any objections to the admissibility of the interpretations or the conclusions.

7.5 Nothing contained in this Agreement requires, authorizes, or grants the Commission any authority to take any action based upon the findings, recommendations, results, or conclusions of the studies, nor shall this Agreement be construed to modify, change, expand, or limit the authority of the Commission under the Federal Power Act or other applicable laws relating to fish and wildlife.

7.6 No waiver, modification, or amendment of this Agreement shall be valid unless in writing duly executed by the parties. The parties further agree that the provisions of this section may not be waived, modified, or amended except as herein set forth.

7.7 Section headings in this Agreement are not to be construed as interpretations of the text but rather are inserted for convenience and reference only.

7.8 The provisions of this Agreement shall bind and inure to the benefit of the respective successors and assigns of the parties.

7.9 The parties hereby assure that no member of or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of this Agreement, or any agreement, understanding, grant, or contract developed pursuant to this Agreement or to any benefit that may arise from them. This clause shall not be construed to extend to this Agreement or any agreements, understandings, grants, or contracts pursuant to this Agreement to the extent they are made with a corporation or company for its general benefit.

7.10 Each party to this Agreement hereby represents and acknowledges that it has full legal authority to execute this Agreement and shall be fully bound by the terms hereof.

7.11 This Agreement is not severable except by unanimous consent of the parties.

7.12 The parties consent to the submission of this Agreement to the Commission for the purpose of complying with Section 3(a)(1) of Pub. L. No. 100-216, 101 Stat. 1450 (1987).

7.13 This Agreement is executed in quadruplicate. Each of the four (4) Agreements with an original signature of each party shall be an original.

This Agreement shall be effective upon the date of the last signature hereto.

MAY 20, 1988
Date

Roland A. Schmitten, Regional Director
National Marine Fisheries Service

MAY 20, 1988
Date

Rolf L. Wallenstrom, Regional Director
Fish and Wildlife Service
United States Department of the Interior

MAY 20, 1988
Date

Robert J. O'Connor, Chairman
of the Board and Chief Executive Officer
Idaho Power Company

APPENDIX: FRAMEWORK FOR SNAKE RIVER FISH AND WILDLIFE STUDIES

The two study categories selected are: anadromous fish (Section I); and resident fish and wildlife (Section II). Section III, hydrology, has been included to identify supporting hydrologic analyses not already specifically identified in Sections I and II.

I. STUDY PLAN FOR ANADROMOUS FISH

A. Water Supply Studies to Promote Juvenile Anadromous Fish Migration.

Identify sources of additional water within the Snake River basin to provide for migrating juvenile anadromous fish by evaluating several alternatives. Most of the hydrologic work would be performed by simulation of the Snake River system under existing and alternative management conditions, using appropriate models. Water supply studies will be conducted considering flows of 85,000 and 140,000 cfs at Lower Granite Dam during the period of juvenile migration.

1. Existing Storage and Marketing.

a. Compile information on existing Federal storage capacities and constraints on use of that storage contained in project authorizations, project water rights, contracts between the Federal Government and storage users, and other possible factors governing storage operation to provide a base for alternative management conditions.

Review and evaluate the Snake River Optimization Study (Bureau of Reclamation, in progress), existing studies on economics and water marketing, and other relevant information to determine the feasibility of water marketing and transfer mechanisms that could be used for improvement of instream flows for juvenile anadromous fish. If sufficient information is not available, make recommendations as to further analyses or studies needed.

b. Evaluate the possible effects on existing values and uses of providing flows for anadromous fish smolt migration using existing storage at Federal projects in the Snake River drainage. Coordinate this evaluation with similar evaluations for resident fish (II.B.6.) and wildlife (II.C.6.).

2. Energy storage.

Assess legal/institutional issues regarding: (a) energy/capacity exchanges and storage agreements among Northwest utilities and the Bonneville Power Administration and/or other entities, and (b) the feasibility of using or modifying such exchanges and agreements to improve flows for juvenile anadromous fish.

3. New storage opportunities.

Review available literature and studies addressing opportunities for development of additional storage capacity, including the Corps of Engineers' study of the Galloway Project (Corps of Engineers, in progress); the Snake River Optimization Study; and the Columbia River Inter-Tribal Fish Commission (CRITFC) study (in progress). Summarize available information obtained from reviews of available literature and studies and identify: (a) potential new storage sites in the basin, and (b) the legal/institutional/environmental issues connected with development of such sites. The technical subgroup will make recommendations as to further analyses needed, if any.

4. Changes in project operations.

Review and analyze available literature and studies, including the Corps of Engineers' study on rule curve modifications (Corps of Engineers, in progress) and the CRITFC study. On the basis of such review and analysis, summarize the feasibility of modifying project operations to improve flows for juvenile anadromous fish migration. The technical subgroup will make recommendations as to further analyses needed, if any.

5. Water conservation opportunities and trends.

Review and analyze available literature of existing water use trends with the Snake River system and

potentially useful approaches in water conservation. Identify conservation strategies that may result in net gain of water supplies available to improve flows for juvenile anadromous fish migration.

B. Alternative Flow Regime Studies.

1. Estimate future water use conditions that would result in the low mean daily flows at Murphy being reduced to 3,900 cfs.

2. Run trial simulations (monthly) which result in low flows in this range.

3. Define changes in Brownlee operation (if any) that would stem from the reduced inflow.

4. Compare the flows during juvenile anadromous fish migration at Lower Granite Dam computed in the simulation with base condition flows. (See III.A.)

C. Instream Flows for Anadromous Fish Downstream From Hell's Canyon Dam.

1. Conduct a preliminary study to determine the need for evaluating habitat/discharge relationships for fall chinook salmon and steelhead trout in the Snake River below Hell's Canyon Dam. Coordinate this with a similar study on the possible need for evaluating habitat/discharge relationships for resident fish in this reach (II.B.2.). The technical subgroup shall determine whether biologically significant changes in flow are predicted for the reach below Hell's Canyon Dam.

2. Evaluate the anadromous fish spawning and rearing habitat/discharge relationships between Hell's Canyon Dam and Lower Granite Dam using the United States Fish and Wildlife Service's Instream Flow Incremental Methodology (IFIM). Where appropriate, coordinate this study with studies to evaluate the same relationships for resident fish habitat downstream of Hell's Canyon Dam (II.B.2.).

Conduct a literature search to identify anadromous fish (Snake River fall chinook salmon and steelhead) habitat suitability index curves to be used in this study. Where needed, modify or develop habitat suitability curves.

Identify appropriate instream flow regimes below Hell's Canyon Dam to protect and enhance anadromous fish resources.

II. STUDY PLAN FOR RESIDENT FISH AND WILDLIFE, SNAKE RIVER BIRDS OF PREY NATURAL AREA, AND DEER FLAT NATIONAL WILDLIFE REFUGE

A. Assumptions.

1. Resident Fish Studies.

a. The U.S. Geological Survey (U.S.G.S.) proposal for a hydraulic model using a step-backwater technique (step-backwater model), as described at II.C., or other river profiling methods will be implemented. (The resident fish IFIM studies are in part dependent upon this study.)

b. The proposed IFIM studies for anadromous fish downstream from Hell's Canyon Dam, as described at I.C.1.d., will be performed. (The resident fish IFIM studies are in part dependent upon this study.)

c. Resident fish IFIM studies will be performed. (Estimates of future fish habitat are dependent upon this study).

d. Predictions from hydrologic studies (III.) of future annual hydrographs (monthly mean flows) and monthly hydrographs (daily mean flows) for critical months will be available to support estimates of future resident fish habitat.

2. Wildlife Studies.

a. An acceptable habitat inventory of existing conditions does not exist.

b. The step-backwater model (II.C.3.) or other river profiling methods will provide accurate information on water levels occurring around islands and adjacent riparian zones within the

study reaches. The model will be developed for islands and adjacent shorelines of the Snake River in the Birds of Prey Natural Area (Birds of Prey) and Deer Flat National Wildlife Refuge (Refuge) area between C.J. Strike Dam and the Oregon border. Additional river profiling will be performed in the vicinity of select islands upstream of C.J. Strike Dam.

c. The study reach will extend from the backwaters of Brownlee Reservoir to Milner Dam, excluding reservoirs.

d. Operation of run-of-the-river hydroelectric projects will remain unchanged from current conditions.

e. Fish and Wildlife Service false color infrared aerial photography used for the National Wetlands Inventory will be available and of sufficient scale and quality for use in this study.

B. Study Proposals for Resident Fish.

1. Literature Search.

Conduct a literature search for available information on resident fish in the Snake River from Lower Granite Pool to Milner Dam and prepare an annotated bibliography. The literature search should target:

(a) Species composition of defined reach.

(b) Presence or absence of candidate species for Federal listing under the Endangered Species Act.

(c) Population abundance estimates of species present.

(d) Life history information of species present, especially:

(1) White Sturgeon, and

(2) Endangered, threatened, and candidate species.

(e) Habitat preference curves for game species and candidate species present.

(f) Preferred food items of some species and preferred habitat of those food items.

(g) Preferred aquatic prey for raptors living or migrating through the study reach.

(h) Preferred habitat for aquatic prey base of raptors.

2. Stage/discharge relationships for resident fish.

Conduct Instream Flow Incremental Method (IFIM) study for select resident target species (to be determined by the technical subgroup) of the Snake River in selected reaches as follows:

a. Lower Granite Pool to Hells Canyon Dam -- Potential species that should be considered: rainbow trout, smallmouth bass, channel catfish, and white sturgeon;[1]

b. Brownlee Pool to Swan Falls Dam -- Potential species that should be considered: smallmouth bass, flathead catfish, channel catfish, white sturgeon, whitefish, and rainbow trout;[2]

c. Swan Falls Pool to C. J. Strike Dam -- Potential species that should be considered: smallmouth bass, flathead catfish, channel catfish, white sturgeon, whitefish, and rainbow trout;[2]

d. C. J. Strike Pool to Lower Salmon Dam -- Potential species that should be considered: smallmouth bass, white sturgeon, rainbow trout, and whitefish; and

e. Upper Salmon Falls Pool to Milner Dam -- Potential species that should be considered: rainbow trout, whitefish, and smallmouth bass.

Existing preference curves for each target species and life stage shall be evaluated as to suitability to each study reach. The parties are unaware of existing preference curves for white sturgeon. Feasibility of curve development for white sturgeon should be assessed and that determination will dictate the type of IFIM that

---

[1] This study will be coordinated with and partially supported by the anadromous fish IFIM study. (II.C.).

[2] This study will be coordinated with and partially supported by the step-backwater study. (II.C.3.).

would be employed in the study of habitats for that target species. If preference curve development is not feasible, the results of Cochnauer's[3] (1977) rainbow trout, whitefish, and smallmouth bass.

Estimates of flows required for white sturgeon will be added. Additional studies of white sturgeon flow requirement may still be needed downstream from Hell's Canyon Dam.

Using the results of the preliminary study in I.C., the technical subgroup will determine whether biologically significant changes in flow are predicted for the reach below Hell's Canyon Dam. IFIM studies below Hell's Canyon Dam should be implemented if significant changes in flow are predicted for that reach.

3. Stage/discharge relationship for candidate species. Determine if either an IFIM procedure or flows from Cochnauer (1977) would adequately protect the species present in the Snake River between C. J. Strike Pool and Shoshone Falls that are candidates for Federal listing pursuant to the Endangered Species Act: three invertebrates (mollusks) and one fish (Shoshone sculpin). This may require life history investigations and use of existing inventories.

4. Stage/discharge relationship(s) for water quality.

Determine if IFIM water quality model is appropriate for the Snake River. If appropriate, determine data requirements and collect data necessary for input to IFIM water quality model. Coordinate with the IFIM studies for resident (II.B.2) and anadromous fish (I.C.). Investigate availability of historic empirical water quality data and use where applicable to determine relationship(s). Overall methods development should include water quality prediction at stage/discharge. Data collected should include but not be limited to: water temperature, dissolved oxygen (24-hour basis), pH, conductivity, and total gas pressure.

---

[3] Cochnauer, Tim. 1977. Snake River Stream Resource Maintenance Flow Studies 1975-1976. FAFR Project F-66-R-2, Job II. Idaho Department of Fish and Game. 14 pp.

5. Effect of Swan Falls Agreement on NPDES permits.

Determine the number of NPDES permits that have been issued in the flow-affected reach between Milner and Lower Granite Reservoir, which will require coordination with the Idaho Department of Health and Welfare and the United States Environmental Protection Agency. Determine those permits which would require modification to stay within existing water quality standards.

6. Estimates of Future Resident Fish Habitat.

Interface the outputs from the IFIM studies (II.B.2.) with results from hydrologic modeling (III.) to predict available habitat and water quality at any assumed stage/discharge, including provision of Water Budget flows (Columbia River Fish and Wildlife Program), future flow regimes, and optimization flow regimes.

7. Fishery Implications of Changes in Reservoir Operations at Brownlee.

Conduct studies to determine the impact of possible future operational changes in selected resident fish in Brownlee Reservoir. Effects on other reservoirs may have to be addressed if operational changes would occur.

C. Study Proposals for Wildlife.

1. Quantification of effects: Conduct a baseline inventory of existing conditions in the Snake River reaches between Milner Dam and the backwaters of Brownlee Reservoir.

a. An inventory of existing habitat structure (aerial photography (scale 1:5,000 to 1:6,000), mapping, and ground truthing.

b. An inventory of associated wildlife, including a comprehensive literature review, which should include at least one full year of wildlife census data for each cover type mapped.

c. A Habitat Evaluation Procedure (HEP) of wetland, riparian, and island habitats to quantify and qualify existing habitat conditions.

d. A HEP of wetland, riparian, and island habitats should be applied to the Swan Falls Agreement flows.

2. Predation and flow relationship.

Hypothesis: Bridging of islands during critical wild life periods (March-June) would result in an increase in predation on important wildlife species.

Establish a relation between river flow and predation of waterfowl nests, using existing Fish and Wildlife Service refuge notes maintained since 1953, and USGS flow data. (II.C.3.b.) Analysis of Fish and Wildlife Service records maintained over the past four years, which is presently underway and may be available as early as the fall of 1988, should be used in determining the magnitude of predation occurring to nesting waterfowl.

Obtain and evaluate data concerning use of Snake River islands by deer and upland game birds. Obtain and evaluate data concerning the presence or absence of predator populations. This study should be done in conjunction with studies described at II.C.1.

3. Swan Falls Flows and Predation.

a. Estimate all reasonably foreseeable future levels of predation by conducting a literature search and reviewing and evaluating: data collected under II.C.1. and II.C.2.; data generated by the step-backwater model study (II.C.3.b.) and the hydrologic modeling (III.).

b. The objectives of the step-backwater analyses are to: (1) Develop a hydraulic model that will reliably identify water-surface elevations at island nesting areas in the Refuge and Birds of Prey areas of the Snake River for sustained and varied streamflows, including 3,900 cfs, and (2) collect data on velocity distribution, pH, dissolved oxygen (DO), temperature, and specific conductance data at select locations in the study areas that could be used to assess impacts of reduced flows on the white sturgeon and other resident fish populations.

The study will be performed in three separate reaches of the Snake River. They are: (1) The upper Refuge area or that part of the Snake River between Swan Falls Dam and the Oregon Border which

corresponds to the confluence of the Owyhee and Boise Rivers with the Snake River (Reach 1); (2) the Birds of Prey area, or that part of the river between C.J. Strike and Swan Falls Dams (Reach 2); and (3) select islands from the backwaters of C.J. Strike Reservoir to King Hill (Reach 3).

The simultaneous evaluation of data collected at numerous cross sections in each of the three reaches will identify water-surface elevations for varied river discharge assuming streamflow is sufficiently sustained to achieve approximate equilibrium in the reaches. The location of the cross sections will be influenced by the presence of island nesting areas, valuable riparian areas, and additional data requirements of the model. Aerial photographs and site reconnaissance will be used to assist in locating the cross sections.

Once all cross section sites are established, velocity and water-quality profiles will be performed using a HydroLab Surveyor III to obtain water depth, DO, temperature, and specific conductance. The March-McBirney velocity meter will be used to obtain water velocity. Both instruments will be coupled with a datalogger to facilitate data acquisition. Data obtained using the datalogger can be input directly to the computer for data processing. Although the DO, temperature, and specific conductance data are not germane to the step-backwater model, the water quality data will aid the technical subgroup in its assessment of stream flows and resident fish populations. Depths determined for each of the cross sections will constitute the most important data set for input to the step-backwater analyses.

All cross sections will be revisited and a second set of data obtained showing water-surface elevation, water depth, and velocity. Site visits will be coordinated with low flows in the river to ensure a more stable discharge. During this time, discharge measurements, DO, temperature, and specific conductance determinations will only be obtained at about one-fourth of the sites.

After the model is calibrated and verified for known elevations of flow, water-surface elevations will be generated for projected flows in the river, water-surface elevations will be generated for projected flows in the river of 3,900 cfs at Swan Falls Dam and examined in the vicinity of existing island habitat areas to determine whether the formation of land bridges is likely. The model can also project water-surface elevations at

flows greater or less than 3,900 cfs.
Results of the step-backwater analyses will be published in a report in the U.S. Geological Survey's Water Resources Investigation series. The report will include an evaluation of the survey techniques used in establishing the cross sections, a description of each cross section, and a description of the hydraulic model and step-backwater analyses and its use to determine water-surface elevations. Maps outlining the river and land areas, and depths of water at each cross section of 3,900 cfs and select discharges in the river at Swan Falls Dam, will also be included in the report.

4. Waterfowl Nesting Sites.

Conduct a literature search on the nesting requirements of the Canada goose and mallard and other representative species as determined by the technical subgroup and prepare an annotated bibliography. Produce a usable definition of the nesting requirements of these waterfowl species.

Studies will focus on the Canada goose and the mallard duck as two principal waterfowl species using the Snake River Islands as nesting habitat. While the nesting requirements of these two species would encompass the requirements of some of the nesting waterfowl on the islands, the requirements of certain other nesting waterfowl are different than that of the Canada goose and mallard.

5. Critical time periods for island habitat maintenance.

Conduct a review of existing literature regarding predator habitat requirements and prepare an annotated bibliography. Incorporate the literature review with data gleaned from studies proposed earlier in this report (II.C.1.,4.) in order to develop a comprehensive chronology of critical periods for these types of islands. On larger islands capable of maintaining predator populations, but which do not presently have such, critical time periods extend throughout the year. Sufficient literature exists to demonstrate increased predation would occur if predator populations became established on these islands. On smaller islands, not capable of supporting a resident predator population, critical time periods probably involve only the breeding seasons (March-June).

The literature review and annotated bibliography should

be sufficient to determine which islands would be capable of supporting predator populations. This task could be combined with other studies proposed herein (II.C.1.).

6. Relationship between stage/discharge and (1) goose nesting habitat and island integrity; (2) raptor and prey production and island integrity; (3) riparian habitat; and (4) human disturbance.

The HEP process discussed in II. C.1. should provide an estimate of habitat value (quality and quantity) for the species in question. Specific information about limiting factors is not available and must be defined in studies regarding selected species:

a. Goose nesting: Evaluate the possible effects of various flow regimes (from hydrologic modeling in III) on goose production through an evaluation of the step-backwater model or other river profiling methods. Use existing data regarding goose nesting chronology to predict the effects of flow fluctuation on goose nesting success. Water fluctuation should include at least two types of negative impacts; impacts related to high flow levels once nesting has commenced (nest flooding) and low flow impacts (increased predation). This evaluation is anticipated to be included in the analysis of nesting data presently being performed by the Fish and Wildlife Service and expected to be available in the fall of 1988.

b. Raptor production and prey production: Evaluate the possible effects of various flow regimes (from hydrologic modeling, III) through an evaluation of the step-backwater model or other river profiling methods. Existing data are available regarding raptor nesting chronology that would allow a prediction of the effects of flow fluctuation on birds of prey which may use the riparian zones and islands. Review data and produce a report specific to riparian habitat use.

c. Riparian habitat: Assume that the short-term relationship between stage/discharge and riparian habitat is not expected to modify existing habitat conditions.

Evaluate possible influences of various flow regimes on riparian and wetland habitats through the use of the step-backwater model study (II.C.3.b.), the results of hydrologic modeling (III.C.), and possible soil moisture work.

d. Human disturbance: Assume that human activities occurring on the river produce a negative impact on nesting waterfowl although the magnitude of such an impact is unknown. Primary recreation which may impact islands is associated with boating activity. Obtain and evaluate base line human use data during the biologically critical period (March-June).

7. Literature/data searches.

Conduct literature searches and develop annotated bibliographies regarding all studies listed in II.C.

III. STUDY PLAN FOR HYDROLOGY

This section describes proposed hydrologic studies of the Snake River, some of which are described above, to be used for: assessment of impacts, if any, on wildlife, resident fish, and downstream anadromous fish. The hydrological response to possible methods of flow augmentation to protect, enhance, or mitigate fish and wildlife resources will be tested.

Flow simulation will be performed with an appropriate model of the Snake River system and its major regulated tributaries using either the model developed by the Idaho Department of Water Resources (IDWR model) and currently used by the Bureau of Reclamation (BR) or other appropriate models. These models could be used to satisfy planning or operational aspects of flow simulation.

A. Updated Base Study

Update the data base study of the IDWR model to 1988 to use as a basis for comparison. (The IDWR model is currently calibrated for the period 1928-83.) Extend the simulated period of the IDWR model from 1983 to 1988. Recalibrate the IDWR model for 1988 conditions. (1985 conditions for the Snake River have been described in an IDWR open file report.[4]) Provide access to the IDWR model to the parties. Costs associated with such access shall be paid by the party requesting the access.

---

[4]Robertson, et al. 1986. Stream Flows in the Snake River Basin, 1985 Conditions of Use and Management. IDWR (02-70-510-1101). 29 pp.

B. Depletions Studies.

Upon completion of the base study, perform simulations for a series of up to seven alternative future levels of streamflow depletion, including a simulation representing conditions that would result in the lowest monthly flows in the driest years corresponding to a minimum daily flow of 3,900 cfs at the Murphy gage, as described under I.B. Results of the depletion studies would depict future flows which could occur within the context of the Swan Falls Agreement. To display flow sequences for shorter durations than the model-generated monthly numbers, it would be necessary to disaggregate changes from base conditions for sample months in recently observed hydrographs. River simulations generate flow data at nearly all long-record stream gage sites within the basin so that flow effects on resident fish and wildlife at the Refuge and on the anadromous fish could be estimated.

C. Augmentation Studies

Run simulations of flow augmentation for anadromous fish and/or resident fish and wildlife. Test target flow rates in appropriate river reaches, as specified by the technical subgroup, against alternative uses of existing and possible new storage in the basin. Final simulations for the lower river would require assumptions of regulation schedules by Brownlee Reservoir.

Run trial studies to determine the feasibility of augmenting existing flows to achieve target flows. With/without flows and reservoir contents in all reaches would be generated so that gains and losses as well as third party impacts could be evaluated.

D. Withdrawal Decline Study

Given recent changes in management of the Snake River system, including decreases in agricultural diversions over the past 10 year period (appropriately 800,000 acre feet per year), assess the effect of the declines in diversions on river flows in the Milner to Weiser reach of the Snake River (as well as the lower river). Evaluate the effect of projected levels of reduced diversions, to be identified by the technical subgroup, on the Snake Plain aquifer at equilibrium conditions by use of the IDWR Snake Plain ground-water model or other appropriate ground-water models. Compute modified aquifer discharge with the ground-water

models. Input these reduced outflows as well as the reduced diversions into the IDWR model to simulate possible flow conditions in the refuge reaches as well as further downstream.

E.2.2.1(3) Cold Water Biota. Waters designated for cold water biota are to exhibit the following characteristics:

a. Dissolved Oxygen Concentrations exceeding 6 mg/l at all times. In lakes and reservoirs this standard does not apply to:

   i. The bottom twenty percent (20%) of water depth in natural lakes and reservoirs where depths are thirty-five (35) meters or less.

   ii. The bottom seven (7) meters of water depth in natural lakes and reservoirs where depths are greater than thirty-five (35) meters.

   iii. Those waters of the hypolimnion in stratified lakes and reservoirs.

b. Hydrogen Ion Concentration (pH) values within the range of 6.5 and 9.0.

c. Water temperatures of 22° C or less with a maximum daily average of no greater than 19° C.

d. The total concentration of dissolved gas not exceeding one hundred ten percent (110%) of saturation at atmospheric pressure at the point of sample collection.

e. Mean concentration of un-ionized ammonia at a level of 004. mg/l or less as based on a minimum of five (5) samples taken over a thirty (30) day period if water quality characteristics are near optimal for the protected use. IN all other cases, the mean concentration of un-ionized ammonia is to be 002. mg/l or less as based on a minimum of five (5) samples taken over a thirty (30) day period.

E.2.2.1(4) Salmonid Spawning. Waters designed for salmonid spawning are to exhibit the following characteristics during the spawning period and incubation for the particular species inhabiting those waters:

a. Dissolved Oxygen concentrations exceeding 6 mg/1 or ninety percent (90%) of saturation, whichever is greater.

b. Hydrogen Ion Concentration (pH) values within the range of 6.5 to 9.0.

c. Water temperatures of 13° C or less with a maximum daily average no greater than 9° C.

d. Total concentration of dissolved gas not exceeding one hundred ten percent (110%) of saturation at atmospheric pressure at the point of sample collection.

e. Mean concentration of un-ionized ammonia at a level of 004. mg/1 or less as based on a minimum of five (5) samples taken over a thirty (30) day period if water quality characteristics are near optimal for the protected use. In all other cases, the mean concentration of un-ionized ammonia is to be 002. mg/1 or less as based on a minimum of five (5) samples taken over a thirty (30) day period.

E.2.2.1(6)(a)

Time Period (annually)	mg/1 Dissolved Oxygen 30-day Mean	7-Day Mean Minimum	Instantaneous Minimum
June 15-Oct 15	6.0	4.7	3.5

E.3.11.1 BIRDS OF PREY MITIGATION STUDIES

Article 42 of the Swan Falls license required Idaho Power to develop a plan to prevent the accidental electrocution of birds of prey on the proposed transmission line. After consultation with appropriate agencies (U.S. Fish and Wildlife Service, Bureau of Land Management and Idaho Department of Fish and Game) such a plan was developed. The plan was filed with FERC on November 29, 1983. The FERC issued an order approving the plan on January 13, 1984.

The reconstruction of the spillway of the Swan Falls hydroelectric dam, located in the Snake River Birds of Prey Area (BOPA), provided a unique opportunity to study the effects, if any, of heavy industrial construction and recreational activities on nesting prairie falcons. Each year more than 700 pairs of raptors representing 14 different species come to the area to nest and raise their young. Included in this number are approximately 5-10% of entire North American population of prairie falcons. Recognition of the opportunity to gather factual data on such effects lead to the voluntary implementation of this study. In 1984 Idaho Power Company and the Bureau of Land Management entered into a cooperative agreement to undertake the effort. In 1985 Pacific Gas and Electric joined into the agreement.

A considerable effort was made to determine the effects of human activities on falcon behavior. More than 9,300 hours of observation were made over a period of 632 observation days. In 1985 the study was expanded to include some experimental manipulation. In Reynolds Creek, a nearby drainage outside the BOPA, a series of controlled explosions adjacent to several nesting prairie falcons was conducted. The behavioral data demonstrate that the impact of human activities studied in this investigation were negligible at most.

During the course of this study, aeries used for observation were subjected to 4 categories of human activity: (1) industrial construction (2) recreation disturbance (3) controlled blasting and (4) minimal human disturbance (control). Each year 4 - 6 aeries were used for behavioral observation in each of the BOPA study locations. Controlled blasting was conducted outside the BOPA in the Owyhee Mountains.

Human activities were estimated by collecting daily traffic data and by daily visitor surveys. Aeries were ranked according to their exposure to human activities. The frequency and duration of a falcon behavior was calculated for each aerie, observation day and sex.

Behavior of male and female falcons did not show a strong relationship with visitors or traffic. The behavioral repertoire of falcons did not show a relationship with construction, recreation or blasting activities. However, behavior showed considerable variation between individuals and between years.

Behavior which was considered critical for a successful nesting attempt included copulation, incubation, brooding, prey deliveries and time present or absent from the nest.

Copulation rates per day were similar among study locations and nesting seasons. No differences between study areas were noted in the time spent incubating eggs. Prey delivery rates and hunting effort estimates did not differ among study locations when all nesting seasons or nesting stages were combined. Estimates of hunting behavior showed substantial differences among nesting seasons. This appeared to be related to prey density. Percent absence/pair/day was similar during pre-incubation and incubation, but differences between years for the brood rearing stage were detected. There was no evidence of increased predation rates of chicks between study locations.

Annual variation in behaviors such as hunting time and prey delivery rates were strongly associated with densities of the major prey items of the prairie falcon, the Townsend ground squirrel. The impact of prey density and availability on the behavior of prairie falcons was so strong that minor deviations in behavior due to human activities are unlikely to be detected.

The overall conclusion that can be made from the results of this study is that the level of human activity to which nesting prairie falcon pairs were exposed was within the tolerance range of the species. Construction and recreation activities had no detectable adverse effects on nesting prairie falcons.

A list of technical papers completed in 1984-1987 which have been generated as a result of this study is as follows:

Technical Papers Completed in 1984-1989 Based on the Prairie Falcon Study

Published Articles

Holthuijzen, A.M.A., P.A. Duley, J.C. Hagar, S.A. Smith, and K.N. Wood. 1987. Piracy, insectivory and cannibalism of prairie falcons (Falco mexicanus) nesting in southwestern Idaho. J. Raptor Res. 21:32-33.

Holthuijzen, A.M.A., P.A. Duley, J.C. Hagar, S.A. Smith, and K.N. Wood. 1987. Bathing behavior of nesting prairie falcons (Falco mexicanus) in southwestern Idaho. Wilson Bull. 99:134-135.

Articles in Preparation

Holthuijzen, A.M.A. 1989. Copulation frequency and timing in the prairie falcon: an evaluation of three hypotheses. (under internal review; will be submitted to Animal Behaviour).

Holthuijzen, A.M.A. 1989. Nest defence in prairie falcons. (under internal review; will be submitted to Animal Behaviour).

Holthuijzen, A.M.A. 1989. Prey delivery, caching, and retrieval rates in nesting prairie falcons. (under internal review; will be submitted to Auk).

Holthuijzen, A.M.A., W.G. Eastland, A.R. Ansell, M.N. Kochert, L.S. Young, and R.D. Williams. 1989. Effects of blasting on behavior and productivity of nesting prairie falcons. (under internal review; will be submitted to the Journal of Wildlife Management).

Holthuijzen, A.M.A. 1989. Effects of field observation techniques on behaviors of nesting prairie falcons. (in prep.; will be submitted to the Wilson Bulletin).

Holthuijzen, A.M.A. 1989. The breeding biology of nesting prairie falcons in southwestern Idaho. (in prep.; will be submitted to Condor).

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young, and R.D. Williams. 1989. Behavior and productivity of nesting prairie falcons exposed to construction and recreational activities. (in prep.; will be submitted to the Journal of Wildlife Management).

Reports

Holthuijzen, A.M.A. 1989. The effects of human activities on the behavior and productivity of nesting prairie falcons in the Snake River Birds of Prey Area. Final Report. U.S. Dept. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 206pp.

Holthuijzen, A.M.A. 1987. Behavior and productivity of nesting prairie falcons in relation to construction activities at Swan Falls Dam. Pages 56-93. In: K. Steenhof and M.N. Kochert (eds.), Snake River Birds of Prey Research Project Annual Report 1987. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 159pp.

Holthuijzen, A.M.A. 1986. Behavior and productivity of nesting prairie falcons in relation to construction activities at Swan Falls Dam. Pages 73-130. In: K. Steenhof and M.N. Kochert (eds.), Snake River Birds of Prey Research Project Annual Report 1986. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 172pp.

Holthuijzen, A.M.A. 1985. Behavior and productivity of nesting prairie falcons in relation to construction at Swan Falls Dam and experimental blasting. Pages 73-130. In: K. Steenhof, ed. Snake River Birds of Prey Research Project Annual Report 1985. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 161pp.

Holthuijzen, A.M.A. 1984. The effects of reconstruction activities at the Swan Falls hydroelectric power plant in southwestern Idaho on a breeding population of prairie falcons. Pages 76-120. Snake River Birds of Prey Research Project Annual Report 1984. U.S. Dep. Int., Bur. Land Manage., Boise Distr., Boise, Idaho. 145pp.

Popular Articles

Holthuijzen, A.M.A. 1988. Adapting to the desert. Idaho Wildlife 8:34.

Holthuijzen, A.M.A. 1986. Nesting prairie falcons evaluated on Snake River. Biocurrents 2:14-15.

Holthuijzen, A.M.A. 1984. Impacts of human disturbance on breeding prairie falcons in the Snake River Birds of Prey Natural Area, Idaho. Eyas 7:16.

Technical Presentations in 1984-1987 Based on the Prairie Falcon Study

Presentations

Holthuijzen, A.M.A. 1989. Copulation frequency and timing in the prairie falcon. Annual Meeting of the Idaho Chapter of the Wildlife Society, February 1989, Boise, Idaho.

Holthuijzen, A.M.A., R.D. Williams, M.N. Kochert, and L.S. Young. 1989. Mate guarding in the prairie falcon: with particular reference to the sperm competition hypothesis. Annual Meeting of the Western Section of the Wildlife Society, January 1989.

Holthuijzen, A.M.A., R.D. Williams, M.N. Kochert, and L.S. Young. 1988. Mate guarding in the prairie falcon (Falco mexicanus). Presented at the Annual Meeting of the Ecological Society, August 1988, Davis, California.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and K. Steenhof. 1988. Prey delivery rates of nesting prairie falcons. Idaho Chapter of the Wildlife Society, February 1988, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1988. Territorial aggression of nesting prairie falcons. Idaho Chapter of the Wildife Society, Febraury 1988, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and K. Steenhof. 1987. Prey delivery rates of nesting prairie falcons. Annual Meeting of the Raptor Research Foundation, November 1987, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1987. Territorial aggression of nesting prairie falcons. Annual Meeting of the Raptor Research Foundation, November 1987, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1987. Breeding prairie falcons (Falco mexicanus) and industrial construction: a contradiction? Annual Meeting of the Idaho Chapter of the Wildlife Society, February 1987, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, L.S. Young and R.D. Williams. 1986. Breeding prairie falcons (Falco mexicanus) and industrial construction: a contradiction? Annual Meeting of the Raptor Research Foundation, November 1986, Univ. of Gainesville, Florida.

Holthuijzen, A.M.A., A.R. Ansell, and M.N. Kochert. 1986. Behavior and productivity of nesting prairie falcons (Falco mexicanus) exposed to human disturbance activities. Fourth World Congress of Ecology, Ecological Society of America, August 1986, State University of New York, Syracuse, New York.

Holthuijzen, A.M.A. 1986. The effects of construction activities at Swan Falls Dam and experimental blasting on nesting prairie falcons. Friends of Fish and Wildlife, March 1986, Boise, Idaho.

Holthuijzen, A.M.A., and W.G. Eastland. 1986. Responses of breeding prairie falcons (Falco mexicanus)to experimental blasting. Annual Meeting of the Idaho Chapter of the Wildlife Society, March 1986, Boise, Idaho.

Holthuijzen, A.M.A., and W.G. Eastland. 1985. Responses of breeding prairie falcons (Falco mexicanus) to experimental blasting. Annual Meeting of the Raptor Research Foundation. November 1985, Sacramento, California.

Holthuijzen, A.M.A., and A.R. Ansell. 1985. The effects of construction activities at the Swan Falls Hydroelectric Power Plant in southwestern Idaho on a breeding population of prairie falcons (Falco mexicanus). Eleventh Annual Edison Electric Institute Power Biologists Meeting. September 1985, Claremont, California.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, K. Steenhof and L. Young. 1985. The effects of industrial construction activities on breeding prairie falcons (Falco mexicanus) in southwestern Idaho. Annual Meeting of the Idaho Chapter of the Wildlife Society, March 1985, Boise, Idaho.

Holthuijzen, A.M.A. 1985. The effect of human disturbance on the behavior of raptors: a preliminary review. Idaho Wildlife Workshop, Bureau of Land Management. February 1985, Boise, Idaho.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, J.C. Smith, K. Steenhof and L. Young. 1985. The effects of industrial construction activities on breeding prairie falcons (Falco mexicanus) in southwestern Idaho. Issues and Technology in the Management of Impacted Western Wildlife, Thorne Ecological Institute. February 1985, Colorado Springs, Colorado.

Holthuijzen, A.M.A., A.R. Ansell, M.N. Kochert, K. Steenhof and L. Young. 1984. The effects of industrial construction activities on breeding prairie falcons (Falco mexicanus) in southwestern Idaho. Annual Meeting of the Raptor Research Foundation. October 1984, Blacksburg, Virginia.

Holthuijzen, A.M.A., and J.C. Smith. 1984. Breeding biology and behavior of prairie falcons (Falco mexicanus) in southwestern Idaho. Annual Meeting of the Raptor Research Foundation. October 1984, Blacksburg, Virginia.

Holthuijzen, A.M.A., and A.R. Ansell. 1984. The effects of construction activities at the Swan Falls Hydroelectric Power Plant in southwestern Idaho on a breeding population of prairie falcons (Falco mexicanus). Tenth Annual Edison Electric Institute Power Biologists Meeting. September 1984, Baltimore, Maryland.

3.19 SWAN FALLS WILDLIFE MITIGATION PLAN

Introduction

In October of 1981, Idaho Power Company applied to the Federal Energy Regulatory Commission for a new license for its Swan Falls hydroelectric facility (FERC No 503). As part of the license application, the Company requested permission to rebuild both the existing spillway and the powerhouse. In December of 1982 FERC renewed the existing license, and at the same time granted permission to proceed with the proposed changes. Later, the Company requested FERC defer the rebuild of the powerhouse. Subsequently, deferral of construction of the powerhouse was granted. At the present time, the company desires to proceed with the addition of the new powerhouse as contemplated earlier. Through the original FERC licensing process, the Company committed to consulting with the BLM, IDFG and USFWS to develop a mitigation plan for areas impacted by construction activities. This reclamation plan is being developed in fulfillment of that commitment.

Four distinct areas have been or will be impacted by construction and are illustrated on figure 1. These are located on both private lands owned by Idaho Power and public lands administered by the Bureau of Land Management. They include a spillway borrow and disposal area located on the Owyhee County side, a large island located immediately below the dam, a construction staging area located on the mainland on the Ada County side and the site of the new switchyard. Portions of these areas have been reclaimed and no additional work is anticipated.

Site Description of Disturbed Lands

Owyhee County Bank

This site consists of a large cut made in the side of the canyon slope during original dam construction. Material from the spillway excavation was spoiled in this large cut area. After completion of the spillway this area was seeded with a mixture of range grasses. Prior to seeding a caterpillar was used to 'track' the surface of the slope. Seed was then dispersed by a two man crew using hand held seeders. No additional reclamation work is anticipated at this location.

The Island

The island is about 900m long and 230m wide on the upstream portion and narrows to about 75m on its downstream end. During periods of low water, it is connected with the mainland. Initially, construction plans called for using the island as a borrow site, a spoils area and as a source for concrete aggregate. However, with the deferral of powerhouse construction and the high quality aggregate excavated from the tailrace it was not used as an aggregate

source. Dredged sand and gravels from the tailrace excavation were stockpiled on the island and later processed into concrete aggregate for the spillway construction. Cofferdam materials were stockpiled on the island at the close of spillway construction in anticipation of the need for a source of concrete aggregates for future powerhouse construction. This area was also used as a laydown area, borrow and spoil area for spillway excavation and construction refuse. Impacts to the site include a loss of vegetation cover, removal of top soil and reshaping of the shoreline. Along portions of the shore, much of the riparian habitat on the river side was removed. For purposes of this discussion the island has been divided into two sections, areas A and B (figure 1). Area A consists of the upper one third of the island. In this section, no reclamation has occurred. Under permit by the BLM, it has been used as a stockpile site. A fence and gate has been maintained to restrict access to the island. It is anticipated that once powerhouse construction is completed this portion of the island would receive treatment similar to what the lower portion received in 1986 and as discussed under the Reclamation section of this report.

The Mainland

This segment is located entirely on private property. Reclamation is not governed by the BLM land use permit, but would be covered through the FERC license. The area was and would be used as an equipment laydown and assembly yard. Previous to construction, this site was leased for cattle grazing. As a result of construction and past land use activities, the area has suffered soil compaction and a substantial loss of the already limited vegetation cover. The soil is quite sandy and alkaline, although it contains a higher loam component than does the island.

The Substation

A substation will be constructed about 200 feet from the power plant. Substation equipment will include a transformer, circuit breakers, disconnect switches, lightning arresters and other associated electrical equipment. Construction of the substation will necessitate the removal of two rocky knobs located immediately to the northwest of the new plant. Spoils generated as a result of substation construction would be incorporated into those resulting from construction of the powerhouse.

Other Impacts

Approximately 70,000 cubic yards of spoils material will be generated as a result of the powerhouse construction. Spoils material would consist primarily of shot basalt but would probably also contain some sand and gravels. Several alternative spoils sites were considered. On March 7, 1989 an interdisciplinary study team visited the project area to determine the most desirable location for the spoils area. Team members consisted of John Doremous of the Bureau of Land Management, Roy Heberger of the U.S. Fish and Wildlife Service, Bill Horton of the Idaho Department of Fish and Game and Tom Green of the State Historic Preservation Office. It also included Allan Ansell and Dave Taylor of Idaho Power Company. Sites visited by the team are illustrated on figure 2 and discussed below.

Spoils Area 1

This area is located on the large island below the dam and is administered by the BLM. The portion of the island available for disposal includes the downstream two thirds of it. Spoil material could be spread in a relatively thin layer (2-3 feet deep) along the full length of the disposal area. However, this portion of the island was revegetated in 1984 consistent with BLM permit requirements. Use of the area as a spoils site would destroy the reclamation work accomplished to date. Furthermore, due to the type of material being spoiled, it would be necessary to import soil material to reestablish the reclamation effort made to date.

Spoils Area 2

The second spoils area considered is located upstream of the operators village. This would be located on private lands owned by Idaho Power Company. The disadvantage of this site would be the necessity of hauling material through the operators village and a longer haul distance during construction.

Spoils Area 3

Alternative 3 would involve transporting the material downstream of the construction site and depositing it on private lands owned by Idaho Power. The area considered is located approximately 3/4 of a mile from the construction site. Both public and private lands would be impacted. Use of this site would necessitate additional haul distance, acquisition of a BLM special use permit to transport material over public lands, and potential impacts to a large archeology site located in the vicinity.

Spoils Area 4

This alternative would utilize submerged lands near the head of the island. Material could be either deposited below the mean high water line or be used to enlarge the upper end of the island. Use of this alternative would require the acquisition of a Corp of Engineer 404 permit and possibly limit access and use of the recreation boat launch located below the powerhouse.

Spoils Area 5

A fifth alternative would be to spoil the material in the loop of the Swan Falls access road.

Spoils Area 6

This alternative would involve wasting material adjacent to the existing road bank. In effect, the shoulder of the road would extended in selected areas to the extent necessary. Additional archeological investigations would be required in order to clear this site for use.

After the field inspection, it was determined alternative 6 would best meet construction needs as well as minimize impacts to the existing environment. Although the materials being spoiled would be fairly substantial, it is anticipated it would blend well with the existing road bank and probably be perceived simply as a graveled parking area or turnout. If necessary, a portion of alternative 5 would be used if the selected alternative proved to contain insufficient space to hold the spoils.

Reclamation Plan

Seeding would be made at a rate of about 20lbs. to the acre with no supplemental fertilization. An additional small group of cottonwood saplings would be planted on the island. Not fewer than six trees would be planted. Supplemental irrigation water would be applied to the reclaimed area if necessary. It may be necessary to disk and drill this portion of the island or a pickup mounted broadcast seeder may be used to disperse seed. Following seeding, the ground would be harrowed, if necessary. The plantings would be monitored annually by Idaho Power for a period of five years to determine the success of the effort. Maintenance of the main access gate would preclude the need to fence the reclaimed area. In the event it is necessary to remove the gate, the reclaimed area would be fenced to minimize disturbance. In the event the monitoring program indicates the mitigation effort is unsuccessful after five years, it is proposed that the applicant meet with representatives of the BLM, IDFG and USFWS to discuss and develop appropriate remedial actions.

Because of the compacted condition of the soil the area of the laydown yard would likely require disking and drilling. A seed mixture similar to that used on the island would be applied. A list of candidate species being considered for planting may be found in Appendix II. If necessary, irrigation would be used during the first year of growth. In the future, livestock grazing would be eliminated from the area. A soil analysis report which was prepared in 1986 may be found in Appendix III. In addition to the reclamation effort, an archeological survey will be conducted on the selected spoils disposal site. Also, a single goose nesting platform would be installed and maintained on the small island located near the center of the river, immediately downstream of the dam. Spoils area 6 would be contoured and revegetated with native grasses, forbs and shrubs to blend with the surrounding landscape.

Schedule

1. Archeology survey of disposal area and orchard - spring 1989
2. Project construction - spring 1989-spring 1994
3. Implement mitigation plan - spring 1994
4. Monitoring and consultation - 1995-2000

Acreage (approximate)

Island -	7	acres (excluding 3.5 acres reclaimed to date)
Laydown yard -	10	acres
Office area -	2.5	acres
Total	19.5	acres

In addition between 2.3 and 4.3 acres of spoils material would be generated.

Cost

A definitive cost estimate of the mitigation effort is not available at this time. However, it is anticipated reclamation cost would be approximately $65,000-$85,000.

Agency Comments

A summary of agency comments to the proposed mitigation plan is included below. Letters from the agencies may be found in Appendix I.

1. Bureau of Land Management - The BLM approved of the mitigation plan but did comment that in the event Bureau managed properties are used for spoils deposition, a right-of-way or a special use permit would be required. Also BLM recommended that if it is necessary for visual continuity with the landscape, spoil area 6 should be revegetated with a mixture of native grasses, forbs and shrubs so that it blends naturally with its surroundings.

2. Idaho Department of Fish and Game - IDFG approved of the proposed plan, but did point out the draft they reviewed failed to discuss the location and impacts at the location of the proposed substation. A brief description of the substation location has been included in the final report. Also, IDFG indicated a contingency plan should be established in the event monitoring of the mitigation plan indicated it was not successful. In the event mitigation proves to be unsuccessful, contingency plans would be developed at that time. The monitoring proposal has been changed to include a provision that at the end of 5 years the effort be reviewed by participating agencies.

3. U.S Fish and Wildlife Service - The USFWS approved of the plan but with two conditions. First, no spoils material would be placed below the mean high waterline of the river. Second, the lower portion of the island which has already been reclaimed (figure 1, area B) not be used as a spoils site. USFWS recommended use of one of the upland sites, but did not indicate a preference for which location.

In addition, but apart from the construction related mitigation plan, the Service indicated Idaho Power, Idaho Department of Fish and Game and U.S Fish and Wildlife Service undertake discussions concerning the needs for anadromous fish passage facilities at Swan Falls Dam. The issue of fish passage facilities is discussed at page E-7.

4. State Historic Preservation Office - The SHPO office approved of the plan. Although not specifically stated in the attached letter, during the field tour SHPO indicated an archeological survey of spoils sites 5 and 6 be conducted prior to their use. Also, the SHPO indicated that in the event the buildings of the Swan Falls operators village are no longer needed after construction of the new power plant, long-term preservation plans for the structures be considered. An archeological survey of the spoils areas has been tentatively scheduled for mid-April of 1989. The question of preservation of the village site is not addressed because it will not be impacted by the proposed project.

Appendix I

Letters of Consultation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
BOISE FIELD OFFICE
4696 Overland Road, Room 576
Boise, Idaho 83705

March 24, 1989

Mr. Allan Ansell
Environmental Coordinator
Idaho Power Company
Box 70
Boise, Idaho 83707

Re: FERC 503, Swan Falls Hydro Project
Draft Mitigation Plan
SE-FWS-1-4-89-SP-155

Dear Mr. Ansell:

Thank you for your letter of March 10, 1989 requesting Fish and Wildlife Service (Service) comments concerning the referenced project. On March 7 the Service participated in a visit to view the spoils island, candidate upland spoils sites, and the new powerhouse site. We have reviewed the draft and have the following comments.

We recommend that you avoid disposing of spoils below ordinary high water mark in the Snake River. We also recommend avoidance of the lower half of the spoils island (spoils area 1) that has been partially revegetated since reconstruction of the spillway. The other spoils sites are in upland areas. We recommend using these upland sites.

On a separate, but related matter, we have the following comments. Since the Swan Falls project was relicensed in 1982, Congress passed a bill into law that directs the Service to initiate an evaluation of the possibility of returning anadromous fish to above Brownlee Reservoir. Larry Weimer, Idaho Power Company, is participating on a steering committee that will be organizing a workshop to examine the question from a conceptual perspective. The Service envisions that the products of the workshop would be equivalent to a pre-reconnaissance evaluation only.

Congressional interest in returning anadromous fish to above Brownlee presents us with an immediate problem. If, through this workshop or subsequent efforts, it becomes evident that returning anadromous fish to above Brownlee Reservoir is feasible, fish passage at Swan Falls Dam may be needed. The Service did not address this in 1982 for obvious reasons; however, it now appears that the possible need for fish passage at Swan Falls should be evaluated.

We suggest that this might best be addressed at a meeting involving Idaho Power Company, Idaho Department of Fish and Game (Region 3 and Headquarters), and the Service. Given the uncertainties, we believe more can be accomplished in such a discussion than by other means. Please contact Roy Heberger (334-1931) to discuss this suggestion.

The Service has determined, to the best of its present knowledge, that no federally listed or proposed threatened or endangered species exist in the project area.

Thank you for this opportunity to comment.

Sincerely yours,

Charles H. Lobdell
Field Supervisor

cc: IDFG, Hdqtrs., Boise
IDFG, Region 3, Boise
BLM, State Office, Boise
BLM, Boise District, Boise
NMFS, Portland
FERC, OHL, Washington, D.C.
FERC, Portland
FWS, SE, Boise
FWS, FWE, Portland

IDAHO FISH & GAME
600 South Walnut / Box 25
Boise, Idaho 83707

March 21, 1989

Mr. Allan R. Ansell
Idaho Power Company
P.O. Box 70
Boise, ID 83707

RE: Swan Falls Hydro Project, FERC No. 503, Draft Reclamation Plan

Dear Mr. Ansell:

I reviewed the referenced plan that you developed for mitigation of the areas to be impacted by the reconstruction of the powerhouse. The on-site tour March 7, 1989 helped immensely in understanding where and how disposal of spoils will take place.

I have two comments for the final plan. The omission of the description of work to be done in the switchyard area needs to be corrected for the final (as discussed March 13 in our telephone conversation). The reclamation portion should include addition of contingency language which addresses additional plantings if revegetation is unsuccessful or does not meet the satisfaction of the Bureau of Land Management. Your comments are limited to just monitoring the success.

The Department will have comments about other phases of the project as it progresses.

Sincerely,

William D. Horton

William D. Horton
Staff Biologist

cc: Region 3
USFWS - Boise
FERC - Portland
BLM - Boise

WDH:mw

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

Working for wildlife since 1938

IDAHO STATE HISTORICAL SOCIETY

CECIL D. ANDRUS, Governor

Dr. David L. Crowder
Director
210 Main St.
Boise, Idaho 83702
208-334-3890

Archaeology
210 Main St.
Boise, Idaho 83702
208-334-3847

Education
610 N. Julia Davis Dr.
Boise, Idaho 83702
208-334-2120

Genealogical Library
610 N. Julia Davis Dr.
Boise, Idaho 83702
208-334-2305

Historic Preservation
210 Main St.
Boise, Idaho 83702
208-334-3847, 3861

Library and Archives
610 N. Julia Davis Dr.
Boise, Idaho 83702
208-334-3356

Museum
610 N. Julia Davis Dr.
Boise, Idaho 83702
208-334-2120

Old Idaho Penitentiary
2445 Old Penitentiary Rd
Boise, Idaho 83712
208-334-2844

Oral History
210 Main St.
Boise, Idaho 83702
208-334-3863

Publications
610 N. Julia Davis Dr.
Boise, Idaho 83702
208-334-3428

March 16, 1988

Mr. Allan Ansell
Environmental Studies Coordinator
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707

Dear Allan:

Thank you for sending the draft mitigation plan for the areas impacted by the construction activities at Swan Falls Dam. The plan satisfactorially addresses the issues identified during the field trip on March 7 concerning the archaeological and historic properties in the area.

Sincerely.

Thomas J. Green

Thomas J. Green
Deputy State Historic Preservation Officer

Celebrate IDAHO 1890 · CENTENNIAL · 1990

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
BOISE DISTRICT OFFICE
3948 DEVELOPMENT AVENUE
BOISE, IDAHO 83705

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
BOP 2300
Mgt Corr

March 28, 1989

Mr. Allan Ansell
Environmental Studies Coordinator
Idaho Power Company
P. O. Box 70
Boise, Idaho 83707

Dear Allan:

We have completed our review of the draft mitigation plan for the areas impacted by construction activities at Swan Falls Dam. As noted in your letter, the plan does accurately reflect our March 7 discussions held during the field trip to the area. The only modification we suggest be made to the plan is for Spoils Area 6 where, if necessary for visual continuity with the landscape, the area will be revegetated with a mixture of native grasses, forbs and shrubs so that it blends naturally with the surrounding area. That is more or less implied in the plan but not so stated. Other than that, the plan will meet the needs it addresses.

Sincerely,

J. David Brunner
District Manager

Appendix II

Candidate Species List

Grass

Indian rice grass	Oryzpsis hymenoides
Tall wheat grass	Agropyron elongatum

Nitrogen fixers

Alfalfa	Medicago sativa
Yellow sweet clover	Melilotus officinalis

Shrubs

Bitterbrush	Purshia tridentata
Four wing saltbrush	Atriplex canescens
Rubber rabbitbrush	Chrysothamnus nauseosas
Sagebrush	Artemisia tridentata
Spiney hopsage	Atriplex spinosa

Trees

Cottonwood	Populus deltodies
Cottonwood	Populus longifolia

Appendix III

Soil Analysis

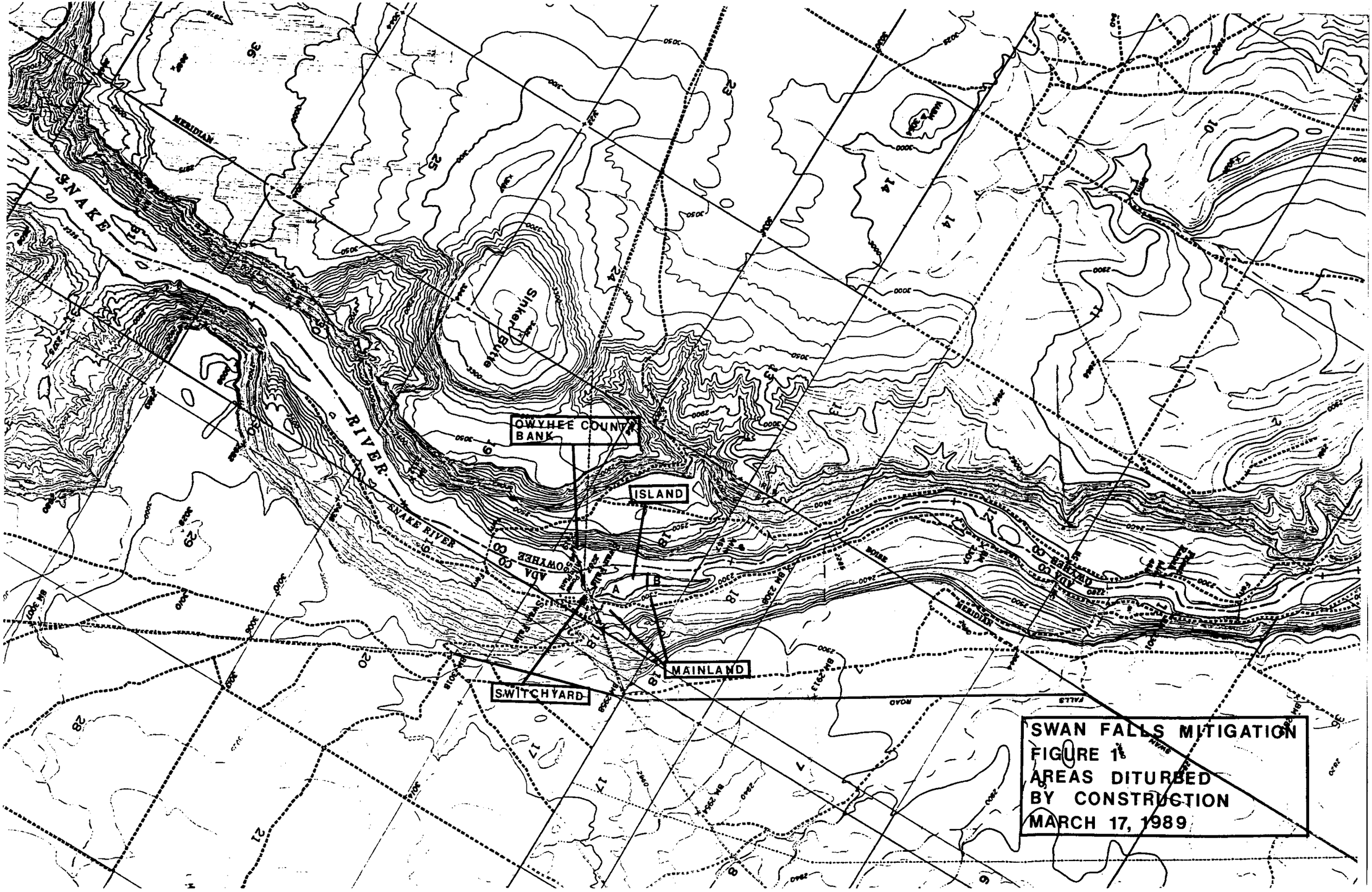
Date: October 23, 1986
Project: Swan Falls Island

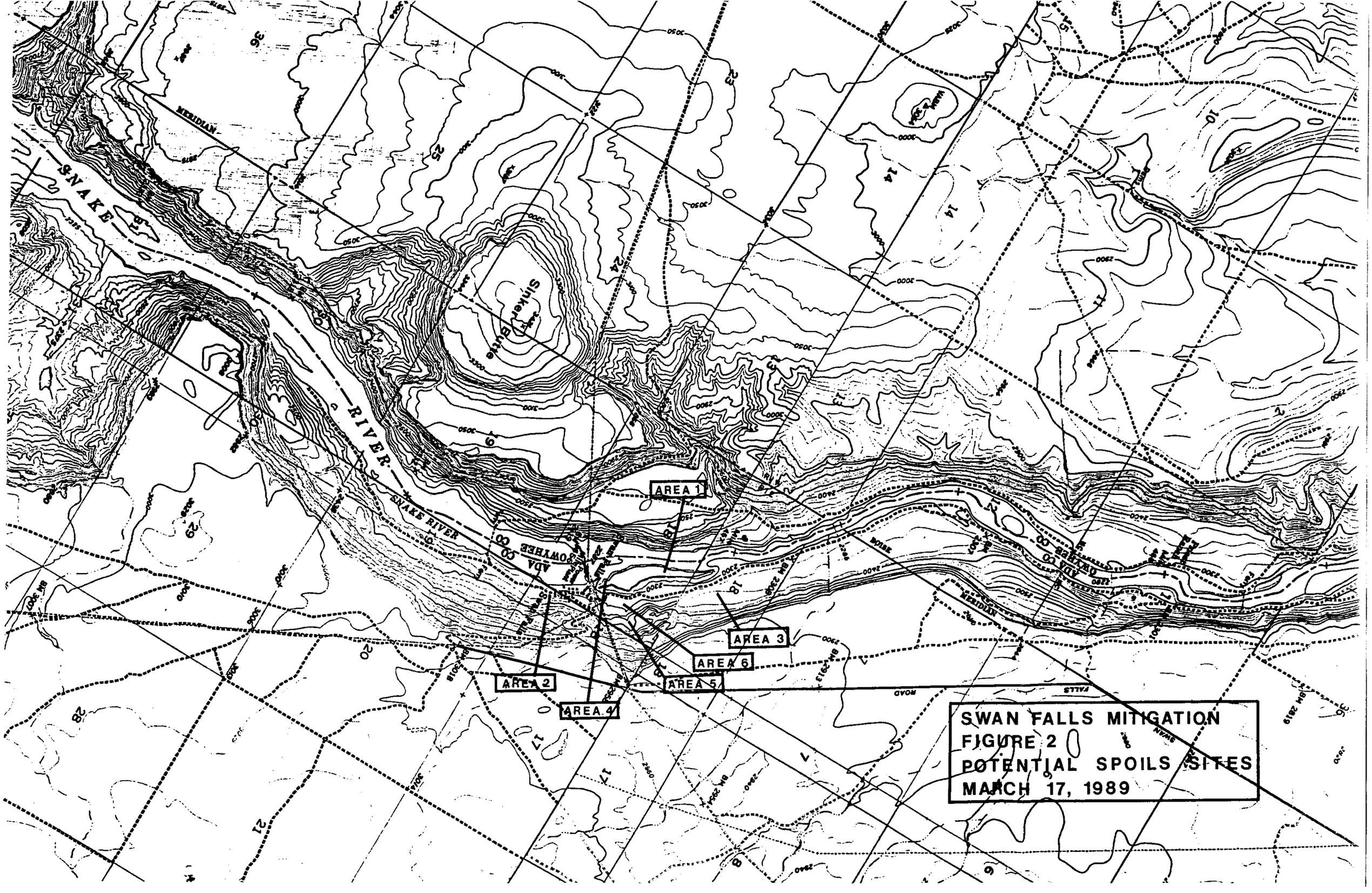
All samples were collected on October 22, air dried for forty eight hours and analyzed. Samples were collected at about 100m intervals, beginning near the downstream end of the island. A small hole was dug 6 to 8 cm below ground level. A sample was collected from the hole. It was placed in a clean plastic jar for storage and transportation. Care was taken not to touch the sample or otherwise contaminate it. All samples contained a high component of sand. One sample (Number 3) was taken from the location of a disposal pit which had been dug earlier and later filled. The pit had been dug to a depth of about 3 m. Soil to that depth appeared to consist of pure sand. Sample Number 6 was taken from the mainland, in front of the construction office. In general, the test indicate the soils are low in nitrogen, low to moderate in potassium, moderate to high in potash and very alkaline. The alkalinity of the soil may limit the availability of nutrients for plant growth.

Results:

Sample (ppm)	Nitrogen (ppm)	Phosphorus (ppm)	Potash	pH
1	3	-	-	9
2	2	5	15	9
3	2	3.5	20	8
4	2	2.5	10	10
5	3	-	5	10
6	2	1.5	10	10

Analysis performed using a Sudbury Soil Test Kit


OWYHEE COUNTY BANK
ISLAND
MAINLAND
SWITCHYARD
A
B
SNAKE RIVER
ADA COUNTY
OWYHEE COUNTY
Sinker Butte
MERIDIAN
SWAN FALLS MITIGATION
FIGURE 1
AREAS DITURBED
BY CONSTRUCTION
MARCH 17, 1989


AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
AREA 6
SNAKE RIVER
MERIDIAN
Sinker Butte
ADA CO
OWYHEE CO
BOISE
SWAN FALLS MITIGATION
FIGURE 2
POTENTIAL SPOILS SITES
MARCH 17, 1989

3.20 ANADROMOUS FISH PASSAGE FACILITIES

The need for fish passage facilities at Swan Falls at some point in the future has been raised by the Idaho Department of Fish & Game and the United States Fish & Wildlife Service as a result of an appropriation by Congress to initiate an investigation into the reintroduction of anadromous fish above Hells Canyon.

In the context of the current application for license amendment to build a new powerhouse at Swan Falls, applicant does not believe it is prudent to make substantial expenditures at this time because:

a. The studies being contemplated by the government are preliminary in nature, may extend over a considerable period of time and will consider a number of alternatives, many of which may not involve Swan Falls;

b. Swan Falls is a low-head dam, and addition of facilities for upstream migrants will be relatively easy to retrofit; and

c. Downstream fish passage although a more difficult problem can also be accomplished on a retrofit basis without any lost opportunities.

Applicant proposes, during the construction of the new powerhouse at Swan Falls, to make provisions for future coffer damming both upstream and downstream of the powerhouse such that future passage facilities, if required, can be constructed in such a manner that there will be no lost opportunity costs associated with this amendment.

E.4.6.1 The mitigation plan for archaeological site 10AA17 has been completed.

E.4.6.2 The mitigation Plan for Swan Falls Dam and Powerhouse is as follows:

a) restoration of the external appearance of the existing powerhouse

b) documentation of the impact areas according to HAER standards

c) file copies of selected engineering drawings with the SHPO

d) construct a public information display concerning the historic significance of the facility

e) offering of the historical electrical equipment which will be disposed of to the Smithsonian Institution.

In the summer of 1984, two efforts to document the impact area were undertaken. One effort involved the development of a historic photographic record of the Spillway, powerhouse, and associated electrical equipment. Views were selected after consultation with the NPS and SHPO and as a result of a site visit in the company of a SHPO representative. Seventy-seven large format photographs were made, according to HAER specifications. The second effort involved the documentation of the old Swan Falls blacksmith shop. This documentation was not specifically required in Article 40. The shop, along with several other out-buildings was scheduled for destruction prior to construction of the new powerhouse. Measured line drawings of the blacksmith shop were also developed. Equipment contained in the shop was donated to the Idaho State Historical Society and presently is on display at the Old Idaho Penitentiary, which functions as a historical museum. A complete list of photographs taken is included in this summary. A narrative report to accompany the historic documentation remains to be written.

Items (a) (c) (d) and (e) remain to be fulfilled. In a letter written to the Council of Historic Preservation from the Idaho SHPO, Article 40 was clarified to include preservation of the internal appearance of the powerhouse. This clarification contemplated leaving the generator covers in place, as well as some appropriate control panels, transformers and other electrical equipment, in order to preserve the historical flavor of the building. It was intended that the powerhouse could be modified as necessary to allow for the passage of vehicles and to accommodate public safety (screening of windows, blockage or removal of stairways etc).

The following are historical black and white shots of Swan Falls Dam and surrounding area taken by Mike Cordell. There are four prints and two negatives of each shot.

ENVELOPE	PHOTO DESCRIPTION
1	Single phase transformers looking directly downstream - east south east
2	Powerhouse, upstream view, looking downstream
3	Looking approximately south - Generator #1, upstream corner, Bank #1, Bay #1 with exciter and rheostats.
4	Same basic shot as envelope #3. This view shows relationship of overhead crane and control room.
5	Overview of dam from road - upstream, looking approximately northwest.
6	View of sluiceway from riverbank looking approximately northwest, north north west.
7	Gable end view/roof oldest and middle buildings - looking approximately north, north east, taken from top of watertank looking toward Ada County riverbank.
8	Sluiceway cintch metchanism - approximate view - north, northwest. Detail contained in #6.
9	Transformers upstairs in corner of gallery in oldest building. Looking approximately west, southwest, upstairs on downstream side of oldest building - spillway end.
10	Transformers - olive drab and black - Gallery - older building. Looking approximately southwest - west south west upstairs, downstream side.
11	Spillway - downstream view - looking south, southwest from construction area.
12	Powerhouse - downstream view freom rocks at base of sluiceway run, looking west, southwest toward Owyhee County bank.
13	Spillway from above - looking down on spillway from watertank in southwest/west south west direction.
14	Fish ladder - above sluiceway looking approximately west, northwest/northwest.
15	Inside sluiceway - motorhouse, looking southwest from Ada County Side of motorhouse.

ENVELOPE	PHOTO DESCRIPTION
16	Upstairs - round window and wall #1 - looking southwest - upstairs in "newest" building.
17	Powerhouse - downstream view, newest building and sluiceway, looking southeast.
18	Electrical equipment for units #1 and #2, looking southeast through door - Bay #2 downstream side of building.
19	Iron power pole - looking toward Owyhee County bank approximately due west. Taken from window of building portion created for sump tank pit and compressor.
20	Electrical equipment for Generators. Bay #5, looking south
21	Sluiceway, gates open. Looking from rocks at base of sluicewy looking approximately south/south, southwest
22	Main floor from gallery looking toward control room - powerhouse. Looking southwest.
23	Main entrance, walking above sluiceway - powerhouse. Looking approximately west, southwest.
24	Typical colling fan Generator #6, looking upstream, approixmately southeast.
25	End view of earliest building from below coolant tank. Looking from walkway to spillway, northeast.
26	Gable end views - newest and middle buildings with intake gate opening equipment and sluiceway - powerhouse. Taken from fency by pasture/orchard, approximately 6' elevation (from stone bank) looking west.
27	Upstairs interior - newest building wall above main entrance, looking approixmately nroth, northwest.
28	Sluiceway - upstream view (cable end) powerhouse. This view shows more of stone wall and powerhouse-gable end than view #6.
29	Below Generator #6, powerhouse. At water level below Generator #6, looking approximately south, southwest, basically upstream toward Osyhee County Bank.
30	Spillway - upstream view from boat dock looking approixmately northwest.

ENVELOPE	PHOTO DESCRIPTION
31	Unit #2, through access cover - powerhouse, looking down at main shaft of unit #2. Please note welder's signature in shadows - upper left corner and my strobe power cable in lower right corner. Basic camera orientation: lens end toward Owyhee County bank, perpendicular to river flow in west, southwest direction.
32	Concrete roof structures: newest building - powerhouse, upstairs, facing Ada County bank. Facing north, northeast.
33	Exciter unit from above - powerhouse, looking south
34	Spillway from Owyhee County side, looking approximately east, northeast.
35	Spillway - Hanging out over spillway looking toward Owyhee county Side. Approximately west, southwest.
36	Entire downstream side looking from large mount of debris 30' x 40' above river looking approximately south.
37	Portion of old stone walls, looking west, Owyhee County river bank.
38	Underview of generator cover unit #2, main shaft turning under Unit #2, looking approximately east.
39	Genrator shaft, brake unit #10 in lower level, looking approximately north.
40	Exciter generators - looking north from below control room stairway.
41	Rheostats - generators #3-6 in newer building - powerhouse from beside exciter looking approximately west, southwest.
42	Exciter, powerhouse - looking apprxoimately south, southwest into corner below control room from base of control room stairway.
43	Sump pump room - powerhouse, straight down into valves and pipes from Ada County side of sump pit perpendicular to river flow.
44	Stop gate covers - powerhouse, looking from just insdie main entry - Ada County side, approixmate view - toward south, southwest.
45	Underside generator #10, powerhouse - looking up approximately north, northwest.

ENVELOPE	PHOTO DESCRIPTION
46	Main floor - overview from control room door - powerhouse, looking north, northeast.
47	Overhead detail Generator #6 - from gallery straight down, looking upstream, approximately southeast.
48	Overhead detail Generator #2 - powerhouse, looking straight down, pointed upstream taken from gallery.
49	Portion of crane and stop gates - powerhouse - taken from just inside main entrance, Ada County side, looking northwest.
50	Wicket gate control Unit #10 - Powerhouse - taken from about 20' inside main entrance looking approximately north.
51	Cooling pumps in lower level of newer building - powerhouse - looking approximately south, southwest in lower level basically looking upstream.
52	Single phase transformers Units 1-2 - powerhouse - looking downstream, approixmately north, northwest.
53	Transformers (silver) - powerhouse - looking approximately north, northeast in gallery, downstream side of middle building.
54	Compressor newer building - powerhouse - approximately toward north, northwest, downstream.
55	Rheostats - Generators 7-10, oldest building of powerhouse. Looking west into downstream corner toward Owyhee County side of river.
56	Control panels - control room - powerhouse. Looking east, upstream from downstream wall of control room.
57	Inside generator cover windings - powerhouse - typical electrical generator detail looking perpendicular to river flow.
58	Typical turbine - turbine well - powerhouse - looking straight down turbine well from just above normal water level.
59	Single phase transformers, middle building - powerhouse - looking downstream - approximately north, northwest.
60	Turbine (under construction), turbine well, powerhouse
61	Single phase transformers - Unit #5 - powerhouse - looking downstream - approximate north, northwest

ENVELOPE	PHOTO DESCRIPTION
62	Exciter room interior, lower level - powerhouse - looking north, northwest from Owyhee County side/upstream corner - looking downstream.
63	Gallery - oldest building - transformers - powerhouse - looking approximately west, northwest.
64	Trashracks - Unit #10) lower level, newer building - powerhouse - looking north, northeast toward main entrance.
65	Exciter sluiceway - below and outside of oldest building - powerhouse - looking directly downstrem - north, northwest.
66	Spillway gate opening mechanism - spillway - looking approixmately north, northeast from Owyhee County side.
67	Spillway gate opening mechanism - spillway - looking north, northeast toward Ada County side of river.
68	Overview of interior - newer building from stairs - powerhouse - looking northeast from stairway in downstream - Owyhee County side of newest building.
69	Control Room - Rheostats, units #1 and 2 - powerhouse - from downstream wall looking south.
70	Transformers in corner nearest spillway in oldest building - see view #9 - powerhouse, looking west.
71	Spillway upstream view, without wind, looking north from Owyhee County bank.
72	Spillway crane - spillway - looking north, northeast.
73	Spillway - downstream view with island - looking south, southwest.
74	Spillway gate opening mechanism - spillway - looking down into gate opening cover approximately north.
75	Sluiceway gate control - sluiceway - looking approximately northwest.
76	Powerhouse - downstream views detail - oldest and middle building looking approixmately southeast.
77	Spillway detail - looking northeast from Owyhee County side showing wooden gates and concrete.

The following photos were taken by Duane W Garrett on 7-21-84of Swan Falls Power Plant.

ENVELOPE	PHOTO DESCRIPTION
1	Blacksmith Shop - Interior fromfront to back, looking west.
2	Blacksmith Shop - Interior from back to front, looking east.
3	Blacksmith Shop - Interior on north wall, looking north.
4	Blacksmith Shop - Interior in south east corner, looking south.
5	Blacksmith Shop - Interior detail on north wall, looking north.
6	Blacksmith Shop Annex - Interior front to back, looking northwest. North wall to right.
7	Blacksmith shop annex - Interior back to front, looking southeast, south wall at right.
8	Blacksmith Shop Annex - Interior concrete pad in floor, looking north.
9	Blacksmith Shop - Exterior East Face, looking west.
10	Blacksmith Shop - Exterior South Face, looking northwest.
11	Blacksmith Shop - Exterior Southeast corner, looking northwest.
12	Blacksmith Shop - Exterior Construction Detail, looking northwest.
13	Blacksmith Shop Annex - Exterior West Face, looking east.
14	Blacksmith Shop Annex - Exterior South Face, looking northwest
15	Blacksmith Shop Annex - Exterior Stone Foundation, looking northwest.
16	Restroom facility, looking northeast.
17	Raw Stock Storage Crib, looking northwest
18	Carpenter Shop - Interior front to back, looking northwest

ENVELOPE	PHOTO DESCRIPTION
19	Carpenter Shop - Exterior looking north
20	A-frame gantry - wide angle view, looking west.
21	A-frame gantry - detail looking northwest.
22	Storage Shed #1 - Interior, looking north
23	Storage Shed #1 - Exterior, looking north
24	Wood shop - Interior front to back, looking north.
25	Interior back to front, looking southwest.
26	Wood Shop - Interior detail
27	Wood Shop - Exterior, looking north.
28	Storage Shed #2 - Exterior, looking north.
29	Storage Shed #2 - Interior, looking north.
30	Carpenter Shop Wood Shop complex - Exterior from northeast, looking southwest.
31	Carpenter Shop Wood Shop complex - Exterior from southwest.
32	Storage Shed #3 - Interior front to back, looking northwest, west wall at left.
33	Storage Shed #3 - Back to front, looking southeast - east wall.
34	Storage Shed #3 - Exterior, looking north.
35	Garage - Front Exterior, looking west.
36	Garage - Back exterior, looking northeast.
37	House - front exterior, looking southwest.
38	House - back exterior, looking northeast.
39	North dam and spillway - upstream view, looking east.
40	North dam and spillway - downstream view, looking southwest.
41	North dam and spillway - fish ladder, looking south.

ENVELOPE	PHOTO DESCRIPTION
42	North dam and spillway - detail of gates, looking east.
43	Switchyard, looking north.
44	South dam and spillway - upstream view, looking north.
45	South dam and spillway - Downstream view, looking northwest.
46	South dam and spillway - Details of gates, looking east.
47	Rock Island - wide angle view, looking south.
48	Rock Island - Detail of water tanks, looking north.
49	Overview of dam and canyon - looking west from north canyon rim downstream.
50	Overview of dam and canyon, looking south and east upstream from 1/3 way up canyon road.
51	Overview of dam and canyon - telephoto view looking south and east upstream from 1/3 way up canyon road.

	FACILITY	COMPLETION DATE
E.5.6.1	Improve the existing reservoir boat launch facility. Improve the existing access road to the boat launch facility.	May 1987
E.5.6.2	Clean up garbage disposal area.	April 1987
E.5.6.3	Raft/canoe launch with parking area and access road below the dam.	January 1987
E.6.6.4	Install an air compressor for rafters.	May 1987
E.5.6.5	Develop a raft/canoe portage trail around the dam.	November 1986
E.5.6.6	Develop an interpretive brochure, in cooperation with the BLM, of the Swan Falls Dam and the surrounding Birds of Prey Natural Area.	July 1985
E.5.6.7	Develop a turbine/generator display.	pending approval to construct new powerhouse.
E.5.6.8	Periodic review of recreational facilities in cooperation with the BLM and IDPR occurring no less than every 10 years in order to assess the impacts of recreational activities upon the BPNA and to review the adequacy of the recreational facilities.	since completion of above facilities, ongoing dialogue has occurred, but no formal consultation.

All of the above improvements and developments were coordinated with and approved by the BLM and Idaho Department of Parks and Recreation, The recreational facilities were developed to be harmonious with the Birds of Prey Natural Area Management Plan.

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

April 17, 1989

Mr. Al Murrey
Director - Water Quality Bureau
Division of Environmental Quality
Idaho Department of Health & Welfare
450 West State, 5th Floor
Boise, ID 83720

Re: Swan Falls Hydroelectric Project - No. 503
Water Quality Certification

Dear Mr. Murrey:

Idaho Power is proposing to build a new powerhouse at the Swan Falls Project and increase the capacity to 25 MW. As discussed in my letter to your agency on February 13, 1989, this proposal was approved by the FERC and a license issued in 1982, but construction was subsequently deferred by Idaho Power. We hereby request that a water quality certificate be issued, pursuant to section 401 of the Federal Water Pollution Control Act, for the Swan Falls facility.

Enclosed is a copy of the application for amendment of the FERC license. As explained in the application, the proposed project is the same as originally licensed in 1982 and certified by your agency at that time.

Sincerely,

David W. Meyers
Manager - Environmental Affairs

DWM mb

enclosure

AGENCY CONSULTATION

I. INTRODUCTION

The Second Amended Application for new license as filed with the Commission in October of 1981 was developed in consultation with appropriate agencies pursuant to 18 CFR § 4.38.

Applicant does not advocate any change in the Project as proposed in 1981.

The 1989 Supplement to the Second Amended Application for license updates the prior data and was served, along with a copy of the 1981 Application, upon the relevant agencies on February 17, 1989. The 1989 Supplement has been further updated only by the addition of an agency approved mitigation plan for impacts during construction.

Applicant has received no adverse agency comment.

Applicant believes that its prior agency consultation, together with its February 17, 1989 submission to the agencies, constitutes compliance with both the first and the second stage of consultation pursuant to 18 CFR § 4.38(b)(1) and § 4.38(b)(2).

II. LIST OF AGENCIES

On February 17, 1989 Applicant mailed its draft Application (1981 Second Amended Application and 1989 Supplement) to the following agencies for comment:

FEDERAL AGENCIES

Charles Lobdell
U.S. Fish and Wildlife Service
4696 Overland Road, Room 576
Boise, ID 83705

Mr Marvin Plenert
Regional Director
U.S. Fish and Wildlife Service
500 N.E. Multnomah, Suite 1692
Portland, OR 97232
(503) 231-6118

Mr Rolland Schmitten, Director
Northwest Region
National Marine Fisheries Service
7600 Sand Point Way, N.E.
Bin C-15700
Seattle, WA 98115
(206) 526-6150

Mr Einar Wold
Acting Division Chief
National Marine Fisheries Service
847 N.E. 19th Avenue, Suite 350
Portland, OR 97232-2279
(503) 230-5400

Endangered Species Specialist
U.S. Fish and Wildlife Service
500 N.E. Multnomah, Suite 1692
Portland, OR 97232
(503) 231-6134

Mr Charles Odegaard
Regional Director
National Park Service
Pacific Northwest Region
83 South King Street, Suite 212
Seattle, WA 98104
(206) 442-5565

Mr J S Tixier
Regional Forester
U.S. Forest Service
324 25th Street
Ogden, UT 84401
(801) 625-5605

Department of the Interior
Regional Environmental Officer
500 N.E. Multnomah, Suite 1692
Portland, OR 97232
(503) 231-6157

Mr Stanley Speaks
Area Director
Bureau of Indian Affairs
P O Box 3785
Portland, OR 97208
(503) 231-6702

Environmental Impact Review Officer
Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-1760

National Park Service
Regional Environmental Coordinator
83 South King Street, Suite 212
Seattle, WA 98104
(206) 442-4720 or 442-5366

Marv Brammer, Chief
Engineering Division
Corp of Engineers
Building 611A, City/County Airport
Walla Walla, WA 99362

Delmar Vail
State Director
Bureau of Land Management
3380 Americana Terrace
Boise, ID 83706
(208) 334-1401

STATE AGENCIES

Yvonne Ferrell, Director
Idaho Department of Parks and Recreation
Statehouse Mail
Boise, ID 83720
(208) 334-2154

Richard P Donovan, Director
Idaho Department of Health & Welfare
Division of Environmental Quality
Statehouse Mail
Boise, ID 83720
(208) 334-4250

Jerry Conley, Director
Idaho Department of Fish and Game
600 S. Walnut
P O Box 70
Boise, ID 83707
(208) 334-3771

Keith Higginson, Director
Idaho Department of Water Resources
1301 N. Orchard
Boise, ID 83705

Thomas J Green
State Historic Preservation Officer
Idaho Historical Society
610 N. Julia Davis Drive
Boise, ID 83706
(208) 334-3356

Joe Miller, President
Idaho Public Utilities Commission
Statehouse Mail
Boise, ID 83720

Stanley Hamilton, Director
Idaho Department of Lands
Statehouse, Room 121
Boise, ID 83720

COUNTY AGENCIES

Dave Abo
Development Services
Ada County Planning and Zoning Commission
650 Main Street
Boise, ID 83702

Richard Bass, Chairman
Board of County Commissioners
Owyhee County
P O Box 128
Murphy, ID 83650

III. SUMMARY OF AGENCY COMMENTS

1. United States Department of the Interior - Fish and Wildlife Service. In its letter of comment dated March 24, 1989, the Fish and Wildlife Service raised a concern having to do with Congressional interest in returning anadromous fish to the Snake River above Brownlee Dam. In subsequent consultation with both the Fish and Wildlife Service and the Idaho Department of Fish and Game, the parties have agreed that the concern is adequately addressed by Applicant's proposal to make provisions for future coffer dams above and below the proposed project such that passage facilities can be addressed on a retrofit basis in the future.

2. National Marine Fisheries Service. By comment letter dated March 29, 1989, has no comment.

3. National Park Service. No letter of comment has been received. Applicant has contacted the Service by telephone and has been advised by Richard Winters that the National Park Service has no comment on the proposal (per A. Ansell 4-5-89).

4. United States Department of Agriculture - Forest Service. By letter dated March 1, 1989, the Forest Service has no comment.

5. Department of the Interior - Bureau of Indian Affairs. No letter of comment has been received. Applicant has contacted the Bureau by telephone and has been advised by Gerald Cobell that BIA would only comment if the Project involved tribal lands or tribal rights (per A. Ansell 4-5-89).

6. Environmental Protection Agency. Has noted no special concerns in its letter of comment.

7. Department of the Army - Corps of Engineers. By comment letter dated February 23, 1989, has made reference to prior comments.

8. Department of the Interior - Bureau of Land Management. Has no further comment.

9. Idaho Department of Parks and Recreation. By comment letter dated April 10, 1989, still has some unanswered questions that will be addressed.

10. Idaho Department of Health and Welfare. By comment letter dated April 18, 1989, the Department has no objections to the project at this time.

11. Idaho Department of Water Resources. The Department has issued a water permit conditioned upon notice of its terms being served on the FERC (see attached).

12. Idaho State Historic Preservation Officer. By comment letter dated March 16, 1989, still believes that the mitigation measures previously developed are appropriate.

13. Ada County. By letter dated February 28, 1989, has no special concerns with the proposal.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
BOISE FIELD OFFICE
4696 Overland Road, Room 576
Boise, Idaho 83705

March 24, 1989

Mr. Allan Ansell
Environmental Coordinator
Idaho Power Company
Box 70
Boise, Idaho 83707

Re: FERC 503, Swan Falls Hydro Project
Draft Mitigation Plan
SE-FWS-1-4-89-SP-155

Dear Mr. Ansell:

Thank you for your letter of March 10, 1989 requesting Fish and Wildlife Service (Service) comments concerning the referenced project. On March 7 the Service participated in a visit to view the spoils island, candidate upland spoils sites, and the new powerhouse site. We have reviewed the draft and have the following comments.

We recommend that you avoid disposing of spoils below ordinary high water mark in the Snake River. We also recommend avoidance of the lower half of the spoils island (spoils area 1) that has been partially revegetated since reconstruction of the spillway. The other spoils sites are in upland areas. We recommend using these upland sites.

On a separate, but related matter, we have the following comments. Since the Swan Falls project was relicensed in 1982, Congress passed a bill into law that directs the Service to initiate an evaluation of the possibility of returning anadromous fish to above Brownlee Reservoir. Larry Weimer, Idaho Power Company, is participating on a steering committee that will be organizing a workshop to examine the question from a conceptual perspective. The Service envisions that the products of the workshop would be equivalent to a pre-reconnaissance evaluation only.

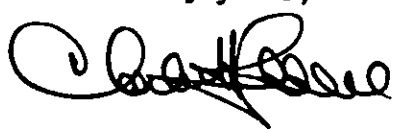
Congressional interest in returning anadromous fish to above Brownlee presents us with an immediate problem. If, through this workshop or subsequent efforts, it becomes evident that returning anadromous fish to above Brownlee Reservoir is feasible, fish passage at Swan Falls Dam may be needed. The Service did not address this in 1982 for obvious reasons; however, it now appears that the possible need for fish passage at Swan Falls should be evaluated.

We suggest that this might best be addressed at a meeting involving Idaho Power Company, Idaho Department of Fish and Game (Region 3 and Headquarters), and the Service. Given the uncertainties, we believe more can be accomplished in such a discussion than by other means. Please contact Roy Heberger (334-1931) to discuss this suggestion.

The Service has determined, to the best of its present knowledge, that no federally listed or proposed threatened or endangered species exist in the project area.

Thank you for this opportunity to comment.

Sincerely yours,



Charles H. Lobdell
Field Supervisor

cc: IDFG, Hdqtrs., Boise
IDFG, Region 3, Boise
BLM, State Office, Boise
BLM, Boise District, Boise
NMFS, Portland
FERC, OHL, Washington, D.C.
FERC, Portland
FWS, SE, Boise
FWS, FWE, Portland

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
ENVIRONMENTAL & TECHNICAL SERVICES DIVISION
847 NE 19th AVENUE, SUITE 350
PORTLAND, OREGON 97232-2279
(503) 230-5400

MAR 29 1989

F/NWR5:17

Mr. David W. Meyers
Manager, Environmental Affairs
Idaho Power Company
Box 70
Boise, ID 83707

Re: Rehabilitiation of Swan Falls Hydroelectric Project
(FERC No. 1982)

Dear Mr. Meyers:

This responds to your February 17, 1989, request for comments from the National Marine Fisheries Service (NMFS) regarding rehabilitation of the Swan Falls hydroelectric project. NMFS has responsibility for the protection of marine, estuarine, and anadromous fishery resources and their supporting habitats. It does not appear that the referenced activity will adversely impact resources within our jurisdiction.

Should we learn that resources within our jurisdiction will be adversely impacted by the proposed project, we will supplement our comments.

Thank you for the opportunity to provide these comments.

Sincerely,

for Einar Wold
Division Chief

cc: FWS, Boise
IDFG, Boise
Nez Perce Tribe
Shoshone Bannock Tribe

United States Department of Agriculture
Forest Service
Intermountain Region
324 25th Street
Ogden, UT 84401

Reply to 2770

Date MAR 0 1 1989

Mr. David W. Meyers
Manager, Environmental Affairs
Idaho Power Company
Box 70
Boise, ID 83707

Dear Mr. Meyers:

Your Swan Falls Project No. 503 is not on nor does it affect any National Forest land. Therefore, we have no comment on this project.

Sincerely,

W. C. Roediger

J. S. TIXIER
Regional Forester

- he returned both volumes w/ this letter - DM - 3/2/89

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
IDAHO OPERATIONS OFFICE
422 WEST WASHINGTON STREET
BOISE, IDAHO 83702

April 18, 1989

Mr. David W. Meyers
Manager - Environmental Affairs
Idaho Power Company
Box 70
Boise, Idaho 83707

RE: FERC No. 503, Swan Falls Hydroelectric Project

Dear Mr. Meyers:

This is in regard to your request for comments from the U.S. Environmental Protection Agency concerning the referenced project.

From the information you provided, it is our understanding that you propose no significant operational changes in the project or its reservoir. Environmental impacts should be limited to the construction of the project.

In general, we recommend that you adequately isolate the construction work from the flowing water and that you dispose of all material in an upland location. We further recommend that you coordinate with us when you begin application to the Corps of Engineers for a Department of the Army permit pursuant to Section 404 of the Clean Water Act. We will be glad to provide input concerning specific mitigation measures which might be required for construction-related activities in the Snake River or any wetlands.

Thank you for this opportunity to comment. For further coordination on this project, please contact John Olson of this office at 334-9488.

Sincerely,

Warren T. McFall
Chief, Water Section

cc: USFWS, Boise
IDHW, Boise
COE, Walla Walla
EPA, Seattle (WD-136)

#1447B

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
WALLA WALLA, WASHINGTON 99362-9265

REPLY TO
ATTENTION OF:

February 23, 1989

Planning Division

Mr. David W. Meyers
Manager, Environmental Affairs
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707

Dear Mr. Meyers:

This letter is in response to your February 17, 1989, letter to Mr. Marvin Brammer requesting review of supplemental information on your license application for Swan Falls Project (FERC Number 503).

We have previously commented on this project in response to a request from the Federal Energy Regulatory Commission. The revisions you have made to the application do not change those comments.

The proposed modifications to the Swan Falls project would not affect the Corps of Engineers responsibilities of flood control and navigation. However, in compliance with Section 404 of the Clean Water Act, a Department of the Army permit is required for any discharge of dredged or fill material into the waters of the United States, including activities associated with hydropower development. The requirements are contained in 33 CFR 320-327. Accordingly, you should submit your permit application at least six months prior to initiation of construction. Applications for 404 permits should be directed to Mr. G. Dean Hilliard, Chief, Regulatory Functions Branch, Operations Division. His telephone number is (509) 522-6720.

In addition to the Section 404 permit requirement, the Corps of Engineers must be a cooperating agency for any environmental impact statement.

Other than for the Section 404 permitting process, unless the 1982 determination of "No Significant Impact" is changed, there is no further need for consultation with us on this project.

Sincerely,

Ronald G. Barrett

Ronald G. Barrett
Acting Chief, Planning Division

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
BOISE DISTRICT OFFICE
3948 DEVELOPMENT AVENUE
BOISE, IDAHO 83705

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

BOP/2300
Mgt Corr

Mr. David W. Meyers
Manager - Environmental Affairs
Idaho Power Company
P. O. Box 70
Boise, Idaho 83707

Dear Mr. Meyers:

We have completed our review of the materials you submitted to this office regarding the reconstructiion of the powerhouse at Swan Falls. The amended draft reclamation plan adequately addresses projected reclamation needs. Should there be a need to place spoils materials on public land in Spoils Area 5 in an area that is outside of the existing right-of-way for the road, the right-of way would have to be amended accordingly.

Other than the matter relating to spoils disposal, no new issues regarding the reconstruction were identified in the review process. Therefore, this letter is our waiver of further consultation regarding the powerhouse reconstruction project, as presented in the documents submitted to BLM.

Sincerely,

J. David Brunner

cc: BLM State Director (930)

IDAHO DEPARTMENT of PARKS & RECREATION

Cecil D. Andrus, Governor

Yvonne S. Ferrell, Director

April 10, 1989

Mr. David W. Meyers
Idaho Power Company
Box 70
Boise, ID 83707

Dear Mr. Meyers:

We received your February 17 letter concerning the Swan Falls Project, FERC No. 503. This past week our Recreation Specialist, Mary Lucachick, went on a site tour with Duane Wood from your department. The main purpose of the trip was to look at the recreation facilities for necessary improvements or changes associated with the construction of the new powerhouses. The areas looked at and questions of concern include:

1. A mountain bike path has been proposed for the far side of the river using a path that runs upstream approximately 1/2 mile, then heading up an old existing road headed downstream until it joins another existing path located on the river bank. For the mountain bikers to access this path they would need to roll their bikes around the power plant, then carry them up one short flight of stairs, and down a second. When the new power plant is constructed, will it involve changing the path around the powerhouse?

2. Could the path reconstruction be designed to allow handicapped people in wheel chairs access to the facilities as well?

3. Will the new locations of the turbines change the flow pattern below the reservoir making the boat ramp located below the dam on the near side dangerous?

4. It is unfortunate that so many of the recreation facilities are accessed by driving through the village. Will that be changed in the near future?

5. We realize that it is outside the scope of the project, but have you considered updating the restroom facilities, making them handicapped accessible?

During the construction process there will be many changes to the access points and the facilities due to materials movement. After the new power

plant is in place, we would like the opportunity to review the facilities to see if they are still useable and well placed.

Both the 1981 license application and the supplemental information are acceptable. We are anticipating the final draft of the application amendment.

Sincerely,

Yvonne Ferrell

Yvonne S. Ferrell
Director

MJL/nh/4806E

STATE OF IDAHO
DEPARTMENT OF HEALTH
AND WELFARE

DIVISION OF ENVIRONMENTAL QUALITY
BOISE FIELD OFFICE
801 Reserve Street
Boise, Idaho 83712
(208) 334-3823

April 18, 1989

David W. Meyers
Manager - Environmental Affairs
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707

Re: FERC #503 Swan Falls Project

Dear Mr. Meyers:

We have no objections to the project at this time.

Sincerely,

Craig Shepard
Water Quality Field Supervisor

CS:ad

State of Idaho
DEPARTMENT OF WATER RESOURCES (208) 327-7900
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -

c: W W Anderson
J W Marshall
L E Lanham
C E Bissell
R W Stahman
S L Herndon

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

March 15, 1989

Mr. Robert J. O'Connor, Chairman
of the Board and Chief Executive Officer
Idaho Power Company
Box 70
Boise, ID 83707

Dear Mr. O'Connor:

The February 17, 1989 letter from Mr. David W. Meyers of your company provided a copy of the October 1981 license application and supplemental information for the authorization to build a new powerhouse and upgrade the capacity of the Swan Falls Project (FERC No. 503) to 25 MW. The letter requested that we expedite the review and comment period and provide a "waiver of further consultation: if appropriate, as soon as possible.

Officials of the company requested and were granted the opportunity to inform the Idaho Water Resource Board of their proposed actions at a work session of the board on March 2, 1989. In addition, Mr. Lanham briefed me on the company's proposed action on March 1, 1989.

It will be necessary for the company to obtain a water right for the additional flow for the increased generating facility. The company applied for a water right (#02-7379) in 1982. Protests filed in response to the application have been resolved and the department can act on the application. If approved, I understand the company will possess sufficient water rights to operate the Swan Falls hydropower generating plant at the proposed 25 MW capacity.

It will be necessary to condition the water right to reflect the terms accepted by the company and state in the Swan Falls Agreement. I would propose to condition the right to be subordinate to all future upstream uses. My understanding is the company will agree to such a condition.

It is important that FERC understand the position of both the state and company relative to the condition to be placed on the water right. I suggest the company inform FERC of their acceptance of the subordination for the water right and request that the FERC license acknowledge this fact.

Plans and specifications for modification to the dam are to be filed with IDWR for review and approval prior to commencing construction. IDWR's dam safety section will appreciate receiving the consultant's studies identifying the problems with the dam which have prompted the implementation of this project.

Please let me know if this letter reflects your understanding of this matter and is acceptable to the company.

Sincerely,

R. Keith Higginson,
Director

RKH:ky

cc: Governor's Office
IWRB

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

ROBERT J O'CONNOR
Chairman and
Chief Executive Officer

April 3, 1989

Mr Keith Higginson
Director
Department of Water Resources
State of Idaho
1301 North Orchard Street
Boise, Idaho 83706

Re: Swan Falls - FERC No 503

Dear Mr Higginson:

Thank you for your prompt attention to the Swan Falls consultation package you recently received from Idaho Power. With specific reference to your March 15, 1989, letter to me, you are correct in your understanding that Idaho Power expects the additional water right for the Swan Falls Project to reflect the terms and conditions of the Agreement between the State of Idaho and Idaho Power often referred to as the Swan Falls Agreement. Therefore, subordinating the state water permit to upstream depletionary uses in a manner consistent with the Agreement is proper.

The plans and specifications for any modification to the dam will be filed with your Department prior to commencing any construction so that you may perform your jurisdictional duties. In the meantime, I have been assured that the Independent Consultant's Report that prompted Idaho Power's decision to rebuild the facility has been forwarded to your dam safety personnel for their review.

Please let me know if I can be of any further assistance.

Sincerely,

R. J. O'Connor

RJO:ac

bc: W W Anderson
J W Marshall
L E Lanham
R W Stahman
T G Nelson

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

April 11, 1989

Idaho Power Company
P. O. Box 70
Boise, ID 83707

Gentlemen:

Re: Application for Permit No. 02-7379

Enclosed is a copy of the approved Application for Permit No. 13-7449 along with a copy of the Memorandum Decision and Order Please note the conditions of approval as set forth in the Memorandum Decision and Order.

Enclosed is a form entitled "Instructions for Proof of Beneficial Use". Please read the instructions carefully since you must take further action to develop this permit. Also enclosed is a Proof of Beneficial Use form, which should be submitted when the project is complete.

Be sure to note the special condition requiring you to install a measuring device or a flow measurement port or to provide a certified measurement or computation of flow based upon the design of the system to be prepared by a professsional engineer.

Any person who does not agree with the decision of the department may request a rehearing before the Director within 20 days, or may appeal directly to the district court within 30 days of the date the decision is mailed.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

LGS:rf

Enclosures

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

In the matter of Application for Permit No. 02-7379 in the Name of Idaho Power Company	MEMORANDUM DECISION AND ORDER

This matter having come before the Idaho Department of Water Resources (department) as a result of reviewing Application for Permit 02-7379 for approval, the department Finds, Concludes and Orders as follows:

FINDINGS OF FACT

1. On March 31, 1982, the Idaho Power Company (applicant) filed an application for permit with the department proposing the diversion of 6,550 cubic feet per second (cfs) of water of the Snake River at a point within lots 10 and 11, Section 18, T2S, R1E, BM, Ada and Owyhee counties. The proposed use of the water is for power generation purposes at the existing Swan Falls dam site located in Lot 11, Section 18, T2S, R1E, BM and the proposed season of use is January 1 through December 31 of each year.

2. The application was published on May 5 and 12, 1982 in the Owyhee Nugget, a newspaper of general circulation in Owyhee County, Idaho and on May 6 and 13, 1982 in The Idaho Statesman, a newspaper of general circulation in Ada County, Idaho.

3. On May 20, 1982, the application was protested by the South Board of Control, Owyhee Project. On October 25, 1982, the protest was withdrawn.

4. The appropriation sought is for a run-of-river project and there will be no change in the upstream or downstream flow of the river. Storage will not be increased over the storage impounded for the existing project.

5. On December 22, 1982, the Federal Energy Regulatory Commission (FERC) issued a new license (Major) in connection with the existing Swan Falls Project (No. 503). The license authorized redevelopment of the project including a new spillway, a new powerhouse and an increased total installed capacity of 25 MW, replacing the existing capacity of 10.4 MW.

6. On April 30, 1987, FERC issued an amended license deleting authorization to add 14.6 MW of new capacity to the existing facility.

7. The applicant is in the process of submitting a second application to amend the FERC license which would allow the applicant to again add 14.6 MW of new capacity to the existing facility.

8. Section 42-203A(5), Idaho Code, provides that an application may be rejected or partially approved if the proposed use is such:

a) that it will reduce the quantity of water under existing water rights, or

b) that the water supply itself is insufficient for the purpose for which it is sought to be appropriated, or

c) where it appears to the satisfaction of the department that such application is not made in good faith, is made for delay or speculative purposes, or

d) that the applicant has not sufficient financial resources with which to complete the work involved therein, or

e) that it will conflict with the the local public interest.

9. The applicant is a party to the contract and agreement affecting rights to water use at Swan Falls dam and to use of water tributary to the Snake River upstream from Swan Falls dam.

CONCLUSIONS OF LAW

1. The proposed use of water is non-consumptive in nature and will not increase or decrease the flows of the Snake River which exist in connection with the existing project.

2. The proposed use will not increase the amount of water stored over the amount already stored in connection with the existing project.

3. The proposed use is non-consumptive in nature and will not reduce the quantity of water under existing water rights.

4. The flows of the Snake River are sufficient at times to provide the water to increase the power generation capability of the Swan Falls facility.

5. The application is made in good faith, since the applicant is in the process of obtaining other permits needed to construct and operate the project.

6. The applicant has sufficient financial resources with which to complete the project.

7. The application is in the local public interest.

8. The department should approve the application and issue a permit, provided, however, such permit should include conditions as necessary to acknowledge certain agreements and contracts.

ORDER

It is therefore, hereby, ORDERED that Application for Permit No. 02-7379 be approved subject to the following conditions:

1. The Idaho Power Company (permit holder) shall either install a measuring device or provide a certified measurement or flow computation prepared

by a professional engineer based upon system design to show the amount of water beneficially used in the power generating facility.

2. The diversion and use of water under this permit is subject to the control of the watermaster of any water district established on the reach of the Snake River which includes Swan Falls dam.

3. 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.

4. 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 FERC. 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.

5. The water right acquired under this permit shall be junior and subordinate to all rights to the use of water from the Snake River and sources tributary thereto upstream from Swan Falls dam within the state of Idaho that are initiated later in time than the priority date of this permit and shall not give rise to any right or claim against future rights to the use of water within the state of Idaho initiated later in time than the priority of this permit.

6. The director retains jurisdiction of this permit in order to limit the use of water for hydropower generation purposes to a specific term of years as required by Section 42-203B(7), Idaho Code.

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

8. This permit is specifically subject to the agreement among the state of Idaho, the Governor, the Attorney General and Idaho Power Company dated October 25, 1984. It is also subject to the Contract between the state of Idaho and the Idaho Power Company dated October 25, 1984.

9. Without regard to the right granted to the permit holder to the beneficial use of 6,550 cfs pursuant to Permit 02-7379, water may only be claimed and used thereunder if and when the water is physically available and such permit shall not give rise to any claim on the part of the permit holder to a flow requirement in the Snake River which exceeds 3,900 cfs during the summer season and 5,600 cfs during the winter season as specified in the above described agreement and contract.

10. Diversion and use of water by the reconstructed Swan Falls power project shall be pursuant to water rights held by the permit holder (including Permit 02-7379) and as such rights are modified by the agreement and contract and not otherwise.

11. Approval of this permit is subject to the requirement that the permit holder shall advise the FERC through its licensing process [Section 9(b) FPA] that the permit holder has been issued a water right permit for the flow required to operate the planned power project subject to conditions.

12. The failure of the permit holder to comply with the conditions of the permit or to obtain appropriate approvals from the FERC to construct and operate this proposed project pursuant thereto is cause for the department to cancel this permit.

13. Plans of the proposed redevelopment of the project shall be submitted to the department for review and approval pursuant to provisions of Sections 42-1709 through 42-1721, Idaho Code, and the Safety of Dams Rules and Regulations before construction is authorized.

14. Proof of construction of works and application of water to beneficial use shall be submitted to the department on or before April 1, 1994.

Dated this 10TH day of April, 1989.

R. KEITH HIGGINSON
Director

CERTIFICATE OF MAILING

I HEREBY CERTIFY That on this the 11th day of April, 1989, a true and correct copy of the foregoing MEMORANDUM DECISION AND ORDER was mailed postage prepaid to:

Idaho Power Company
P. O. Box 70
Boise, ID 83707

RITA I. FLECK
Secretary/Records Manager

Form 217
03/86

For Office Use Only
Fee Received _____
Date _____
Receipt # _____
Received by _____
Reviewed by _____
Sent to region ____

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

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

Permit No. _____

Name(s) of Permit Holder: _____

Post Office Address: _____

_____ Telephone No. _____

Source of Water: _____

Extent of Use:

Domestic _____ (number of households) Stockwater _____ (number and type of stock)

Irrigation _____ (acres) Other/Remark _____

_____

Total rate and/or volume for which proof is submitted _____ cfs _____ acre-feet

Show the date water was first diverted and beneficially used under this permit: _____

Measuring Device: Required? ___ Yes ___ No Fee enclosed $_____
Installed? ___ Yes ___ No (See License Examination Fee Schedule)

Flow Measurement Port: Required? ___ Yes ___ No
Installed? ___ Yes ___ No

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

_____
(Name) (Telephone Number)

_____
(Address)

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

_____ _____
Date Signature of Permit Holder (and title, if appropriate)

Form No. I-217
1-86

State of Idaho
Department of Water Resources

INSTRUCTIONS FOR PROOF OF BENEFICIAL USE

TION TO MAKE PROOF:
In order for a permit holder to fulfill the conditions of the permit and obtain a water right license, the permit holder must submit the Proof of Beneficial Use form (proof) together with the examination fee OR submit the proof together with a completed field examination report prepared by a certified water right examiner on or before the date set for such proof in the permit. The information submitted by the permit holder will enable the department to determine the extent of beneficial use before the license is issued. The information entered on the proof form should show the extent of actual development of the project and should correspond to that authorized by the permit. If it does not, an amendment to the permit may be required.

WHAT TO DO IN CASE YOU HAVE NOT FULLY APPLIED THE WATER TO BENEFICIAL USE:
If the development authorized by the permit has not been completed in the time allowed, the permit holder may submit a request for extension of time. In order for a request for extension of time to be considered without loss of priority, it must be filed prior to the date on which proof of beneficial use is due. Each request for extension of time will be considered on its own merits.

WHAT IF YOU FAIL TO MAKE PROOF OF BENEFICIAL USE ON TIME:
If you have applied the water to beneficial use, but did not submit the proof of beneficial use on or before the date set for such proof, the permit will lapse. A lapsed permit may be reinstated within sixty (60) days from the date that a lapse notice is sent. In order for the department to reinstate a permit, the permit holder must show reasonable cause why such permit should be reinstated. Submission of an acceptable proof of beneficial use form within the sixty (60) day period will be considered as reasonable cause for reinstatement.

EXAMINATION FEE:
House Bill 671 enacted by the 1986 Idaho Legislature and codified as amendments to Sec. 42-217 and Sec. 42-221, Idaho Code requires an examination fee as part of the proof of beneficial use submittal if a completed field examination report prepared by a certified water right examiner is not submitted as part of the proof. The fee is based upon the rate of diversion or volume of water claimed on the proof of beneficial use form.

The appropriate fee can be determined from the license examination fee schedule.

ISSUANCE OF LICENSE:
The department will issue a license of water right based on the determination of the amount of water beneficially used in compliance with existing law. The license will include specific information to describe the water right developed.

State of Idaho

Department of Water Resources

LICENSE EXAMINATION FEE SCHEDULE

(c.f.s. = cubic feet per second
AF = acre feet)

cfs	AF	Fee
0 - 0.04	0 - 4	$ 0
.05 - 0.20	5 - 20	50.00
.21 - 1.0	21 - 100	100.00
1.01 - 2.0	101 - 200	125.00
2.01 - 3.0	201 - 300	150.00
3.01 - 4.0	301 - 400	175.00
4.01 - 5.0	401 - 500	200.00
5.01 - 6.0	501 - 600	225.00
6.01 - 7.0	601 - 700	250.00
7.01 - 8.0	701 - 800	275.00
8.01 - 9.0	801 - 900	300.00
9.01 - 10.0	901 - 1000	325.00
10.01 - 11.0	1001 - 1100	350.00
11.01 - 12.0	1101 - 1200	375.00
12.01 - 13.0	1201 - 1300	400.00
13.01 - 14.0	1301 - 1400	425.00
14.01 - 15.0	1401 - 1500	450.00
15.01 - 16.0	1501 - 1600	475.00
16.01 - 17.0	1601 - 1700	500.00
17.01 - 18.0	1701 - 1800	525.00
18.01 - 19.0	1801 - 1900	550.00
19.01 - 20.0	1901 - 2000	575.00
20.01 & over	2001 & over	600.00

Checks should be made payable to the
Department of Water Resources

No fee is required for single family
domestic use or stockwater use.

Form 202
3/78

Ident. No. 02-7379

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant Idaho Power Company Phone 383-2200

   Post office address P O Box 70, Boise, Idaho 83707

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

3. Location of point of diversion is _____ ¼ of _____ ¼ of Section 18 Township 2S

   Range 1 E B.M. Ada County, additional points of diversion if any: _____

   Lots 10 and 11, Section 18, T 2S, R 1 E, BM, Ada and Owyhee Counties

4. Water will be used for the following purposes:

   Amount 6550 cfs (cfs or acre-feet per annum) for power generation purposes from Jan 1 to Dec 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. 6550 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Power plant, replacement of existing spillway, and upgrading the existing powerhouse to serve as a dam with discontinuance of its present operation.

   b. Height of storage dam 25 feet, active reservoir capacity 900 acre-feet; total reservoir capacity 900 acre-feet, materials used in storage dam: _____

   Period of year when water will be diverted to storage Jan 1 (Month/Day) to Dec 31 (Month/Day) inclusive.

   c. Proposed well diameter is NA inches; proposed depth of well is NA 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: Lot 11 _____ of Section 18 Township 2S

      Range 1E B.M.

      (2) Amount of power to be generated: 17,835 horsepower under 24 feet of head.

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

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

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

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. Water Right No. 02-2032, Old No 14362 (4,000 cfs, priority - 7/29/19); Water License, August 4, 1911, signed by A E Robinson (1840 cfs, priority - 1/17/00) Water License dated August 6, 1911 signed by A E Robinson (1460 cfs, priority 4/17/00); CT Decree - Trade Dollar vs Cruzen, et al, (2150 cfs - priority 1/17/00).

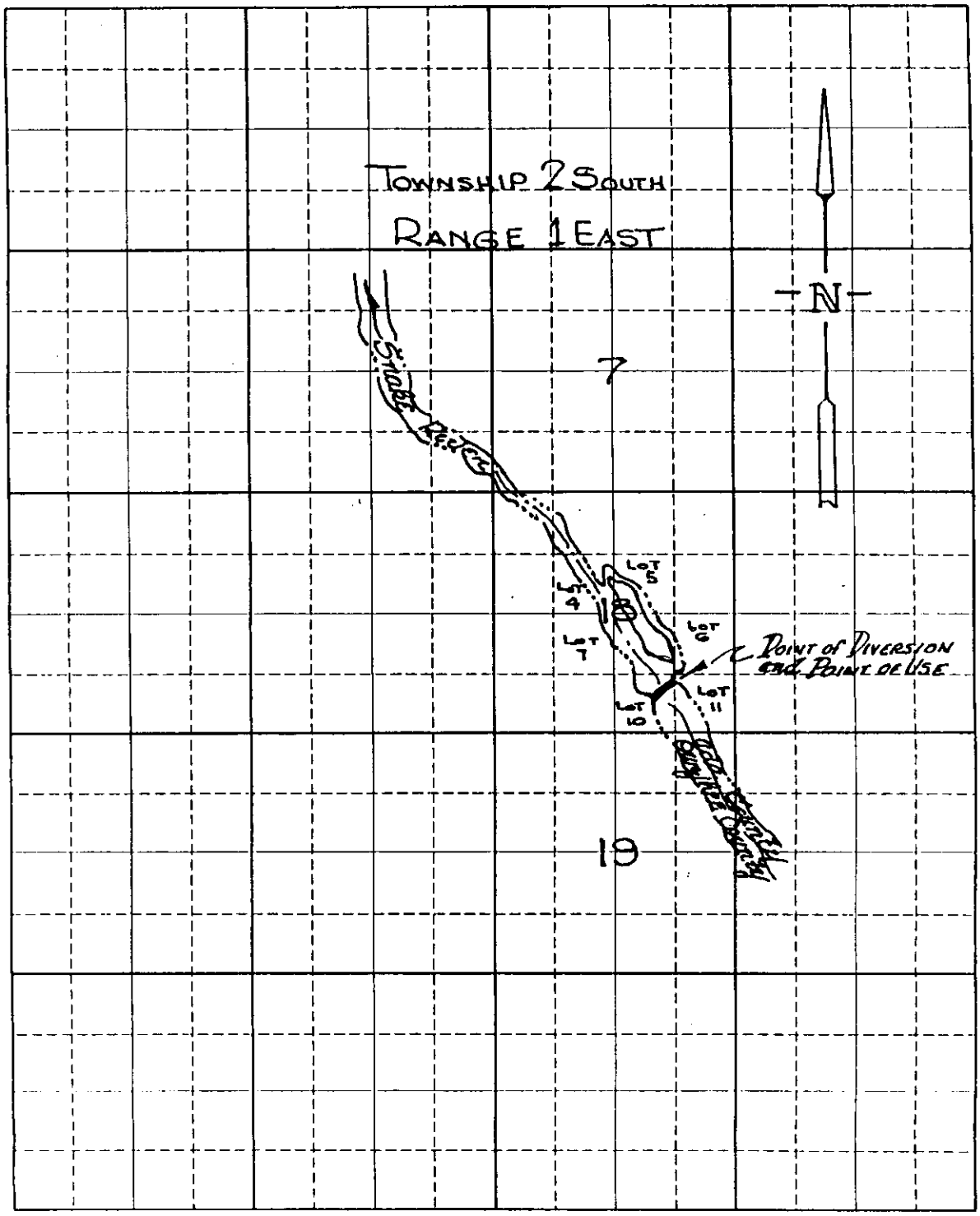
9. a. Who owns the property at the point of diversion Idaho Power Company

b. Who owns the land to be irrigated or place of use NA

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing _____

10. Remarks This application is for water to be used in Idaho Power Company's planned rehabilitating, reconstructing, rennovating, and upgrading of its Swan Falls Project. Power generation is to be increased from 10 MW to 25 MW without raising the dam or reservoir surface elevation. To do this, Idaho Power Company will utilize 16,000 cfs total, 9,450 cfs of which is already under license or decree.

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



Scale: 2 inches equal 1 mile

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

C. E Bissell

(Applicant) C E Bissell
Vice President - Power Plant
Construction and Operations

Proposed priority March 31, 1982

Received by JP Date 3/31/82 Time 3:00 *

Preliminary check by JG Fee $ 9,275.00 22840

Receipted by JP Date 4/1/82

Publication prepared by jp Date 4/29/82

Published in Idaho Statesman & Owyhee Nuggets

Publication dates 5/6 & 5/13/82

Publication approved JP Date 5/24/82

Priority reduced to _____ Reason _____

Protests filed by: South Board of Control, Owyhee Project by Roderick B. Wood, Attorney

protest withdrawn 10/26/82

Copies of protests forwarded by jp

Hearing held by _____ Date _____

Recommended for (approval) denial by DBS

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. 02-7379, 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 April 1, 1994.

   c. Other: PURSUANT TO MEMORANDUM DECISION AND ORDER.

2. Denial of said application is for the following reasons: _____

Witness my hand this 10TH day of April 1989.

R. Keith Higginson
Director

IDAHO STATE HISTORICAL SOCIETY

CECIL D. ANDRUS, Governor

Dr. David L. Crowder
Director
210 Main St
Boise, Idaho 83702
208 334 3890

Archaeology
210 Main St
Boise, Idaho 83702
208-334-3847

Education
610 N. Julia Davis Dr.
Boise, Idaho 83702
208-334-2120

Genealogical Library
610 N. Julia Davis Dr.
Boise, Idaho 83702
208-334-2305

Historic Preservation
210 Main St.
Boise, Idaho 83702
208-334-3847, 3861

Library and Archives
610 N Julia Davis Dr.
Boise, Idaho 83702
208-334-3356

Museum
610 N Julia Davis Dr.
Boise Idaho 83702
208-334-2120

Old Idaho Penitentiary
2445 Old Penitentiary Rd.
Boise Idaho 83712
208 334 2844

Oral History
210 Main St
Boise, Idaho 83702
208-334-3863

Publications
610 N Julia Davis Dr.
Boise, Idaho 83702
208-334-3428

March 16, 1989

Mr. David W. Meyers
Manager - Environmental Affairs
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Meyers,

Thank you for informing us of Idaho Power's intention to build a new powerhouse at Swan Falls Dam. As you know, the Swam Falls Dam is listed in the National Register of Hitoric Places. Your project will have an effect (following 36 CFR 800.5) on the Swan Falls Dam.

Prior to the relicensing on the facility in 1982, there were extensive discussions between the Idaho Power Company and our office concerning measures to protect the historic qualities of the dam. The measures developed at the time are listed on page E-4 of the 1989 Supplement to the Second Amended Application. We still agree that these measures are appropriate mitigation.

It is our understanding that the new powerhouse will be automated and will require only a few employees to live in the village at the dam. Although the village was not included in the Swan Falls Dam National Register nomination, it should have been. These buildings are eligible for the National Register because of their relationship to the dam. We hope that the Idaho Power company will develop some long term preservation plans for these buildings.

Celebrate IDAHO
1890 · CENTENNIAL · 1990

In addition, we cannot find a Memorandum of Agreement (MOA) between the Advisory Council on Historic Places (ACHP), Ferc, the Idaho SHPO and the Idaho Power Company in our files. Because of the effect to the dam, the ACHP must be given an opportunity, by FERC, to comment on the project. This comment opportunity usually ends in an MOA where all parties agree on the proposed mitigation. If one was not signed in 1982, FERC should initiate one at this time. A sample agreement is enclosed.

Sincerely,

Thomas J. Green

Thomas J. Green
Deputy State Historic
Preservation Officer

MEMORANDUM OF AGREEMENT

WHEREAS, the Federal Energy Regulatory Commission and Idaho Power Company have determined that the Swan Falls Project, FERC No. 503 will have an effect on the Swan Falls Dam, a property listed in the National Register of Historic Places, and has requested the comments of the Advisory Council on Historic Preservation pursuant to Section 106 of the National Historic Preservation Act(16 U.S.C. 470) and its implementing regulations, "Protection of Historic and Cultural Properties(36 CFR 800),"

NOW, THEREFORE, the Federal Energy Regulatory Commission, the Idaho Power Company, the Idaho State Historic Preservation Officer, and the Advisory Council on Historic Preservation agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

1. The existing two story powerhouse will be retained. The planned restoration of the external appearance of the structure will follow the Secretary of Interior's Standards for Rehabilitation.

2. The historic electrical equipment in the existing powerhouse will be offered to the Smithsonian Institution or to other museums who may be interested in it. If a suitable repository is not found, the equipment may be disposed of.

3. A public information display concerning the historic significance of the facility will be constructed in the existing powerhouse. Some of the existing equipment should be used in this display.

4. The Federal Energy Regulatory Commission and the Idaho Power Company shall request the National Park Service (Historic American Engineering Record) to determine what documentation shall be required to adequately record the Swan Falls Dam. The Federal Energy Regulatory Commission and the Idaho Power Company shall ensure that unless otherwise agreed to by the National Park Service, all documentation is completed and accepted by the National Park Service prior to the alteration of the facility and that copies of this documentation are made available to the SHPO.

5. The significant portions of archaeological site 10 AA 17 as identified in the testing program in 1981 and 1982 will be avoided by all construction activities. The fence that was placed to protect the site in 1982 will be maintained during all construction phases.

Execution of this Memorandum of Agreement evidences that the Federal Energy Regulatory Commission and the Idaho Power Company have afforded the Council a reasonable opportunity to comment on the Swan Falls Project and its effects on historic properties and the agencies have taken into account the effects of their undertaking on historic properties.

Federal Energy Regulatory Commission — Date

Idaho Power Company — Date

Idaho State Historic Preservation Office — Date

Chairman
Advisory Council on
Historic Preservation — Date

MAR 1 1999

DEVELOPMENT SERVICES
DEPARTMENT
650 Main
Boise, Idaho 83702

BUILDING DIVISION Phone: (208) 383-4423
PLANNING DIVISION (208) 383-4424
ZONING DIVISION (208) 383-4424

February 28, 1999

David W. Meyers,
Manager-Environmental Affairs
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707

RE: NEW POWERHOUSE FOR SWAN FALLS PROJECT, FERC NO. 503

Dear Sir:

I have reviewed the new materials describing the Swan Falls powerhouse upgrade and our existing Zoning Division file (84-26-CU). A conditional use permit and zoning certificate were issued for this project in December 1984 and floodproofing certificate was issued in April 1984.

Your request for review shows that the previous zoning approval is still valid and within the scope of the permits already issued. However, the powerhouse structure may be required to comply with building code requirements as reviewed by the Building Division of Ada County Development Services. Please contact Arlan Smith, our Plans Examiner to clarify building permit requirements.

Thank you for the opportunity to comment and to receive an update on your progress.

Sincerely,

Mike McClenahan
PLANNER II
Ada County Development Services

MM/dd

cc: Arlan Smith, Building Division

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

Second Amended Application for New License: Project No. 503

Swan Falls Hydroelectric Project

MICROFILMED
APR 29 1996

Idaho Power Company
October 1981

BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

SECOND AMENDED APPLICATION FOR NEW LICENSE FOR MAJOR
PROJECT-EXISTING DAM

1. Idaho Power Company, a corporation organized under the laws of the State of Maine, and having its office and principal place of business at Boise, in the State of Idaho, hereby makes a second amended application to the Federal Energy Regulatory Commission for a new license for the Swan Falls Hydroelectric Project as described in the attached exhibits. The project is currently designated as FERC Project No 503 and is operating under an annual license.

2. The location of the project is:

State:	Idaho
Counties:	Ada and Owyhee
Township or nearby town:	The Project is approximately 40 miles southwest of Boise, Idaho and 18 miles south of Kuna, Idaho, and is in the SE¼ of Section 18, Township 2 South, Range 1 East, Boise Meridian.
Stream or other body of water:	Snake River

3. The exact name and business address of the applicant are:

Idaho Power Company
1220 Idaho Street
P O Box 70
Boise, Idaho 83707

The exact name and business address of each person authorized to act as agent for the applicant in this application are:

Lee Sherline
Leighton & Sherline
Suite 803
1701 K Street, N W
Washington, D C 20006

The Commission is also respectfully requested to mail copies of all correspondence in regard to this application directly to:

Paul L Jauregui
Vice President, Secretary and General Counsel
Idaho Power Company
1220 Idaho Street
P O Box 70
Boise, Idaho 83707

4. The Applicant is a corporation organized under the laws of the State of Maine and doing business in the State of Idaho, Oregon, Nevada and Wyoming.

5. Applicant is duly qualified and doing business in the State of Idaho as an electric public utility. No certificate of public convenience and necessity from the Idaho Public Utilities Commission is required for the proposed new development.

No special hydroelectric-water power or irrigation laws of the State of Idaho pertain to the construction and operation of the proposed new development.

The proposed new development will utilize waters of the Snake River in the Counties of Ada and Owyhee, Idaho. Applicant will file an application with the Idaho Department of Water Resources, of the State of Idaho, to appropriate an additional 6550 cubic feet per second of waters of the Snake River for hydroelectric generation purposes at the proposed new development. In addition, Idaho Power Company presently has water rights for the existing plant at the general site, which water would be used in the new plant. Reference is

made to the general laws of the State of Idaho, relating to the appropriation of waters and attainment of permits and licenses therefore as contained in Idaho Code, Title 42, particularly Chapters 2, 4 and 17 thereof.

Applicant does not anticipate any substantial difficulties in obtaining said water permit as the proposed operation of the Project works will serve the public need and will have no harmful affect on the conservation and utilization in the public interest of the available water resources for the purposes of power generation, navigation, irrigation and flood control. The proposed project will not involve a consumptive use of water, as all water will be returned to the river through the power plant tailrace or spillways.

6. Applicant is the owner and operator of existing project facilities.

7. The following exhibits are filed herewith and are hereby made a part of this Second Amended Application:

Exhibit A - Description of the Project.

Exhibit B - Project Operation.

Exhibit C - Construction History and Schedule.

Exhibit D - Costs and Financing.

Exhibit E - Environmental Report.

Exhibit F - General Design Drawings.

Exhibit G - Project Map.

8. This is the second amended application made for a new license for this Project. Initial application was made on June 26, 1969 and set out three alternatives by which this Project could be modified or redeveloped. Because of environmental and political considerations and developments, two of the alternatives involving construction of new dams and a large powerhouse were

eliminated and Applicant made the first amended application in April of 1979 which embodied the alternative of obtaining a new license for the Project as is. Applicant made deficiency notice filings in July of 1980.

On October 1, 1980 Applicant received notice from the Regional Engineer that he was ordering, pursuant to Section 10(c) of the Federal Power Act, (1) Applicant to provide a rehabilitation schedule for significant rehabilitation of the Project's spillway gates; and (2) appropriate testing of the existing concrete structures. To comply with this order, Applicant by letter of January 21, 1981 made application to the Commission to temporarily suspend processing of the First Amended Application so as to allow Applicant time to complete an engineering study to determine if the Project's capacity could be increased while performing the required rehabilitation.

Those studies are now complete and are included in this Second Amended Application. The new development scheme as set out herein provides for an estimated increase in capacity from 10.4 MW to 25 MW without a significant change in normal maximum surface area or the normal maximum surface elevation of the existing impoundment. This limiting factor was imposed so as to impact as little as possible, and only during construction, the existing environment. Therefore, the granting of the new license pursuant to this Second Amended Application will not involve a major federal action significantly affecting the quality of the human environment. This Second Amended Application incorporates by this reference all materials and information previously submitted on this Project since 1969, not inconsistent herewith.

9. In light of the total redevelopment which includes the complete replacement of project works, that is now proposed by the Applicant, Applicant respectfully requests that, pursuant to Commission practices, a new license with a fifty (50) year term be issued.

IN WITNESS WHEREOF, The Applicant has caused its name to be hereunto signed by James E Bruce, its Chairman of the Board and Chief Executive Officer, and its corporate seal to be hereto affixed by Paul L Jauregui, its Secretary, thereunto duly authorized this 30th day of October, 1981.

IDAHO POWER COMPANY

By /s/ James E Bruce
Chairman of the Board and
Chief Executive Officer

(CORPORATE SEAL)

ATTEST:

By /s/ Paul L Jauregui
Secretary

EXHIBIT A

EXHIBIT A

PROJECT DESCRIPTION

A.1 GENERAL

The existing Swan Falls Project is a hydroelectric development on the Snake River located in the counties of Ada and Owyhee in Idaho about 35 miles south of Boise. There are no other developments of the river in the vicinity of the project. The nearest projects are C. J. Strike, about 38 miles upstream, and Brownlee, about 120 miles downstream. Access to Swan Falls is by road from the town of Kuna, located about 18 miles north of the project.

A.2 EXISTING PROJECT

At Swan Falls, the Snake River flows in a general direction from south to north. It is flanked by the Owyhee Mountains to the south and west and the Danskin Mountains to the north and east. The existing project was constructed on the upstream edge of waterfalls caused by a ridge of basalt extending across the river. The ridge has a high point in the middle of the river forming an island in that location. The average drop across the falls is about 15 feet.

The initial development of the power potential at Swan Falls on the Snake River, consisting of a rock-filled crib dam and a powerhouse with three 300 kW units, took place in the early part of this century. Since then, several modifications and additions have been made; the most important ones in 1918 to 1921, in 1936 and in 1944. At the present time the development consists of a spillway located between the island in the middle of the river and the west bank, a powerhouse located on the east side of this island, and a sluiceway and a fish ladder located between the powerhouse and the east bank. The power-

house has been constructed in three different sections, housing a total of 10 generating units as follows:

Installation	Rated Capacity (kW)	Year of Installation
Units 1 & 2 (West Section)	2 x 1100	1944
Units 3 & 4 (Middle Section)	2 x 1250	1913
Units 5 & 6 (Middle Section)	2 x 1250	1918
Units 7 - 10 (East Section)	4 x 800	1918

The total rated capacity is thus about 10,400 kW. Maximum output is about 12,000 kW at a discharge of about 8,000 cfs. The project is operated on a run-of-the-river basis with the reservoir maintained constant at the maximum normal elevation of 2314.0. The tailwater elevation for a discharge of 8000 cfs is about 2288.0. The average annual energy production over the last few years has been about ~~90~~ 83 GWh.

The left abutment of the dam consists of a broad earthfill embankment which was placed over some older rockfilled timber cribs built in 1901. A wall of steel sheetpiles was installed in 1936 along the reservoir side of the embankment to provide a positive cutoff and reduce seepage. The top of the embankment is somewhat uneven at about ~~2318.0~~ 2320.0.

~~The existing spillway is located between the embankment and the island in the middle of the river. Contiguous with the embankment is a concrete spillway built in 1919 having 21 bays controlled by 12 feet wide and 11 feet high steel-and-timber radial gates. The crest of the ogee of the spillway is at elevation 2304. The operating deck is at about elevation 2319. In 1936 the spillway was extended towards the island by the construction of a 142-foot-long concrete section having ten 12-foot-wide bays controlled by stoplogs. The crest of this spillway is at elevation 2302.0. The operating deck is at elevation 2319.5.~~ 1989 Supp. Pg. A-1

The total discharge capacity of the spillway is estimated to be 38,000 cfs with all gates open and the reservoir at elevation 2314.0.

The concrete in the existing spillway has deteriorated badly in many places. In addition there is considerable leakage through the gates along the entire length of the spillway. Therefore, a completely new spillway is included in the project as proposed herein. This new spillway is described in a subsequent paragraph.

1989 Supp. Pg. A-1

The powerhouse is made up of three separate but interconnected sections. The west section near the island is a building 49 feet wide and 72 feet long. It houses Units 1 and 2. The middle section, housing Units 3, 4, 5 and 6 is 49 feet wide and 92 feet long. The east section houses Units 7, 8, 9 and 10 and is 34 feet wide and 126 feet long. The generator floor in all sections is at about elevation 2323.0.

The substructure of the powerhouse is a conglomerate of concrete placed at different times during the period from 1901 to 1944. In general, the concrete is judged to be in good condition based on detailed inspection of the exposed areas and examination of cores obtained from drilling through the concrete to bedrock. However, some local deterioration was observed at the intakes and at the draft tube outlets, in particular near the water line. There appears to have been no significant reaction between the cement and the aggregates.

1989 Supp. Pg. A-1

The superstructure consists of reinforced concrete walls with roofing supported by concrete beams or steel trusses. The main floor is a concrete slab resting on steel beams. There are no large cracks in the concrete nor any serious deterioration visible which would indicate that the structure is unsafe. However, there is an apparent need for surface improvement. In addition, special maintenance would be required on a regular basis for as long as the structure is in service.

All turbines and generators except Units 1 and 2 have been in service for more than 60 years, which is well beyond the normal economic life assumed for this type of equipment. Units 1 and 2 have been in service for more than 30 years and are approaching the normal economic life.

All units are presently in operation. ~~and appear to be in good condition.~~ However, expenses for maintenance and repairs are likely to increase until it is no longer economical to keep these units in operation. Another matter is that the efficiencies of these old units are quite low. It is estimated that the overall plant efficiency at the present time is about 74 percent which would be about 16 percent lower than the efficiency of a modern plant. 1989 Supp. Pg. A-1

The powerhouse contains various accessory electrical equipment such as transformers, cables, buses, breakers, switches and control equipment which has been installed at different times in the past to accommodate the new generating units which then went into operation. Consideration of safety efficiency and reliability indicates that this equipment must be replaced if the plant is to continue operation on an extended basis.

The gap between the powerhouse and the right abutment, a distance of about 130 feet, is closed by a concrete gravity structure into which is incorporated a sluiceway and a fishladder. The sluiceway consists of two openings, each 17 feet wide and 12 feet high controlled by a slide gate. The capacity of the sluiceway is about 4000 cfs with the reservoir at elevation 2314.0.

Three transmission lines connect the existing plant with the system. One line is 69 kW and extends to the Bowmont substation near Nampa. This line is 21.5 miles long. The other two lines are 47 kV; one is 16.4 miles long and connects the plant also with the Bowmont substation. The other 47 kV line connects to the Ferry substation, located about one mile south of Swan Falls on the right bank of the river.

A.3 PROPOSED PROJECT

The project now proposed includes the following principal works:

- The replacement of the spillway section with a completely new gated spillway structure.

- Construction of a new 25 MW power plant in the general location of the existing sluiceway.

- Removal of all equipment from the existing power plant, and filling the draft tubes and turbine pits with concrete to about elevation 2315. Surface improvement of the existing powerhouse superstructure.

- Construction of a new switchyard on the right bank about 200 feet downstream from the powerhouse.

- Excavation of a tailrace channel in the riverbed downstream from the proposed powerhouse.

The existing powerplant will be taken out of operation following completion of the new power plant. However, there will be no significant change in the operation of the reservoir. The maximum normal reservoir level will be maintained at elevation 2314.0 as at present.

A more detailed description of the various project features is presented below:

Reservoir - The Swan Falls Reservoir is a long and narrow body of water confined between steep hills on both sides. Its backwater extends upstream about 12 miles from the dam. The area-capacity curves for the reservoir are presented on Figure A-1. At the normal maximum water

surface elevation 2314.0, the reservoir has a surface area of about 900 acres and a total capacity of about 4800 acre-feet.

Left Abutment - It is proposed that the large existing embankment which now serves as the left abutment for the dam be left in place. This embankment is constructed largely from talus deposits along the left bank of the river, and contains a large percentage of pervious material. However, there is no evidence of any seepage directly through this embankment. A small amount of seepage can be observed at river level on the left bank about 100 feet downstream from the embankment, but the origin and leakage path of this water is somewhat obscure. In any case, the embankment is considered to be completely safe, especially since there will be no change in the water pressure on it. Suitable material will be placed on top of the embankment and graded to provide a level surface at about elevation 2320.0.

Spillway - The proposed new spillway will be a concrete structure located in the same position as the existing spillway which will be removed in its entirety. The new spillway also will be divided into two sections. The west section will have 8 bays, separated by concrete piers and provided with radial gates 31 feet wide and 14.5 feet high. The east section will have 4 bays with radial gates also 31 feet wide and 14.5 feet high. The crest of the overflow spillway will be at eleva- tion 2300 in both sections. Access along the spillway will be provided by a deck at elevation 2320.0. The gates will be operated by indivi- dual hoists located on a platform above the piers at elevation 2324.0. The existing retaining wall against the embankment will be replaced by a new wall to permit the construction of a good connection between the spillway and the embankment.

1989 Supp. Pg. A-2

The entire spillway will be placed on rock which will be excavated, cleaned and treated as necessary. A grout curtain will be provided along the entire length of the spillway. Drainage will be provided behind the curtain to reduce uplift.

The proposed new spillway will have a capacity of 57,000 cfs with the reservoir at elevation 2314.0, which is almost 50 percent more than the capacity of the existing spillway. It will be able to discharge 90,000 cfs with the reservoir at elevation 2319.0, i.e., without overtopping of the dam. With the power plant in operation the total project discharge capacity without overtopping will be about 100,000 cfs. This capacity is comparable with the capacity at the upstream dam C. J. Strike with the reservoir at normal pool level. However, the spillway at C. J. Strike can discharge 140,000 cfs with a surcharge of five feet.

The maximum flood of record at King Hill, about 52 miles upstream from C. J. Strike, occurred in June 1894 and is estimated to have been 83,000 cfs. Since 1909, the highest recorded flood at Kings Hill and at Murphy, just downstream from Swan Falls, occurred on June 22, 1918 and was 47,300 cfs.

On the basis of the above discharge and flood data, it is considered that the capacity as provided for in the new spillway is quite adequate. Furthermore, the impact downstream from any failure of the dam would be relatively minor since the reservoir is very small.

Existing Power Plant - All major equipment will be removed from the existing power plant. However, the powerhouse structure will be left in place and upgraded to serve as a dam. The proposed construction will be as follows:

- Gates and stoplogs will be installed at the intake of all units to close off all water conduits at the upstream end. Also, a cofferdam will be constructed across the tailrace downstream of the powerhouse. The draft tubes and tailrace will then be dewatered to permit access to the lower part of the powerhouse.

1989 Supp. Pg. A-2

- All electrical and mechanical equipment will be removed, leaving only the basic structure and stairways, hatches, windows and doors, except that all outside metal walkways and grating will be removed.

- The foundations under the powerhouse will be grouted under low pressure.

- The concrete surfaces in the draft tubes and turbine pits will be chipped and sandblasted to obtain a clean and hard surface. Bulkheads will be provided at the downstream end of the draft tubes. Concrete will then be placed in the draft tubes and turbine pits to about elevation 2315 in lifts of 10 feet or less. The contact between the new and the old concrete in the top of the draft tubes will be grouted as required under low pressure to ensure that all voids have been filled.

- The entire superstructure will be inspected and repaired as necessary. Steel and concrete surfaces will be sandblasted and painted. Windows and doors will be repaired or replaced as necessary. Any openings in the main floor will be covered with steel plates or precast concrete slabs. The lighting system will be checked and upgraded as necessary.

The final product of the work on the existing powerhouse will be a massive concrete substructure up to about elevation 2315 and a superstructure consisting of roof and outer walls with windows and doors. The main floor at elevation 2323 will provide the only permanent access to the spillway. The island between the powerhouse and the spillway will be levelled to elevation 2323 to facilitate this access.

Most of the equipment and materials removed from the powerhouse will be disposed of as salvage. However, it is intended that one unit be saved for posterity. It will be assembled and installed for public display

in a suitable location on the main floor of the powerhouse. Public access will be restircted to the main floor at elevation 2323.0.

New Power Plant - The new Swan Falls power plant will be a concrete structure located at the east abutment of the existing dam. The existing gravity dam and the fishladder will be removed completely. The new powerhouse will be flanked by concrete retaining walls on both sides which will fill the gaps to the existing powerhouse and to the east bank.

The new powerhouse will contain two horizontal bulb-type turbine-generators. The entire unit will be located within the waterway and with the generator in a bulb-shaped casing in front of the turbine. The power cables and the control cables will be brought out from the generator casing in a vertical steel shaft which will also serve as access for inspection and maintenance of the generator.

The powerhouse structure will consist of two identical bays, one for each unit. Each bay will have a width of 42 feet and an overall length of about 172 feet from the intake to the draft tube outlet. The centerline of the unit has been selected at elevation 2273.0 so that the draft tube outlet will be submerged at all times. The accessory electrical equipment is located on a floor above the units at elevation 2301.0. The unloading and assembly of equipment will take place on a separate erection deck at elevation 2323.0.

The turbines will be of the propeller type with adjustable blades, operating at a speed of 106 r.p.m. Each unit is rated to produce 12,500 kW at the generator when operating at a net head of 24.0 feet.

The bulb turbine package unit will come complete with turbine, governor, generator, turbine control board and generator control board. The generator is rated 13,890 kVA at 0.9 power factor and an output voltage of 13.8 kV. Additional electrical systems and equipment located in the

power plant will include generator breakers, surge protection equipment, grounding systems, control switchboard, station service systems, lighting systems, cables, wires, bus ducts, and battery chargers. The electrical system for operation of the power plant will be designed for local-manual, local automatic, and remote automatic control.

Miscellaneous systems and equipment provided for the operation of the power plant include unwatering system, compressed air system, fire protection, water supply and drainage system, and heating and ventilation equipment. A gantry crane of 30 ton capacity will be provided for the installation of powerhouse equipment and subsequent maintenance and repairs. The installation of trashracks and stoplogs will be by means of a mobile crane.

Substation - The generators will be connected by cables to a 13.8/138 kV, 30,000 kVA, OA/FA/FOA 3-phase main transformer located in the substation about 200 feet from the power plant at elevation 2300.0. Other substation equipment includes circuit breakers, disconnect switches, lightning arrestors, potential device and a take-off structure for the transmission line.

Tailrace Improvement - A channel will be excavated in the riverbed downstream from the new powerhouse to increase the available gross head. The channel will have a length of about 1400 feet. It will be excavated to about elevation 2276, and will be 120 feet wide at the bottom. It is anticipated that most of the excavation will be in river alluvium and that the average side slope of the channel will be two horizontal to one vertical.

1989 Supp. Pg. A-2

Access - Access to the project will be from the north and east by permanent roads. Permanent access to the spillway will be through the existing powerhouse.

Transmission Line - A new 1.2-mile transmission line will connect the Swan Falls substation with an existing 138 kV line from the Strike Power Plant to the Bowmont and Caldwell substations. The new line will follow the right-of-way of an existing line up the east side of the valley and then continue eastward to a tap point on the existing line from Strike. The new line will be 138 kV, single circuit with 246.9 MCM conductors. It will be supported by single-pole or H-frame wood structures as dictated by the terrain.

Project Lands - A tabulation of the lands that are enclosed within the project boundary is presented in Table A-1. The project boundary is shown on the Project Map, Exhibit G (4 sheets).

TABLE A-1

SWAN FALLS PROJECT LANDS

PARCEL OF LAND	AREA BETWEEN ORIGINAL H.W. LINE AND PROJECT BOUNDARY IN ACRES	
DESCRIPTION	GOV'T & P.S.R.	PVT & STATE
T.2S.R.1E.B.M.		
Sec. 18 Lot 6		
Lot 11		47.319*
Lot 10		30.502*
Sec. 19 Lot 1		22.594*
Lot 8		16.729*
Lot 9		13.127*
Lot 2		34.030*
Lot 7		42.336*
Lot 10		45.202*
Lot 16		25.725*
Lot 15	15.464	
Sec. 30 Lot 1		43.468*
Lot 8		19.198*
Lot 9		32.840*
Lot 16		42.218*
Lot 2	8.291	
Lot 7	10.760	
Lot 10	10.070	
Lot 15	6.321	
Sec. 31 Lot 1		37.367*
Lot 8		23.461*
Lot 9		31.282*
Lot 16		44.806*
Lot 2	7.027	
Lot 7	7.174	
Lot 10	6.056	
Lot 15	5.130	
T.3S.R.1E.B.M.		
Sec. 6 Lot 2	19.948	
Lot 6		42.365
Lot 3	5.248	
Lot 4	0.132	
Lot 5	9.496	
Lot 7		15.097
Lot 8	11.672	
NE^4SE^4		0.118
Lot 12		8.306
Lot 11	13.583	
Sec. 5 Lot 5	4.557	
Sec. 7 NW^4NE^4	10.804	
Lot 1	6.688	
Sec. 8 Lot 2	5.130	
Lot 3	5.806	
Lot 1	11.290	
Lot 4	6.292	
Lot 5	7.585	
Lot 8	5.630	
Lot 6	3.557	
Lot 7	5.483	
Sec. 17 Lot 1	7.232	
Lot 2	2.234	
Lot 3	3.071	

PARCEL OF LAND	AREA BETWEEN ORIGINAL H.W. LINE AND PROJECT BOUNDARY IN ACRES	
DESCRIPTION	GOV'T & P.S.R.	PVT & STATE
T.3S.R.1E.B.M.		
Sec.16 Lot 4		13.201
NW^4SW^4		0.720
Lot 3		5.512
Lot 2		6.953
Lot 1		6.321
Lot 5		9.217
Lot 6		5.454
Lot 7		4.395
NE^4SW^4		2.955
Lot 9		9.893
Lot 8		6.336
Lot 10		5.424
Sec.15 Lot 1		3.543
Lot 2		8.423
Sec.21 NE^4SE^4	0.088	
Lot 1	5.601	
Lot 2	4.072	
Sec.22 Lot 1		7.424
Lot 2		14.230
SE^4NW^4	2.631	
Lot 4	4.836	
Lot 5	3.454	
Lot 6	0.662	
Lot 7	5.968	
Lot 3	7.321	
Lot 9	3.954	
Lot 8	10.643	
Sec.27 Lot 2	3.690	
Lot 3	4.763	
Lot 1	1.352	
Lot 4	2.234	
Sec.26 Lot 1	3.572	
Lot 2	9.026	
Lot 4	9.878	
Lot 5		12.745
Lot 6	1.544	
Lot 3	4.307	
Lot 7	5.806	
NE^4SW^4		4.836
Sec.35 Lot 1		11.540
Lot 5		12.495
Lot 2	1.220	
Lot 3	5.880	
Lot 4	8.570	
Lot 6		5.968
Lot 9		2.278
Lot 8		5.433
Lot 7		7.085
Sec.36 Lot 4		5.218
Lot 3		3.058
Lot 2		0.544
Lot 5		4.969
Lot 6		5.792
Lot 7		1.588
TOTAL	332.804	825.508

Total Area of all Parcels 1158.312 Acres

*Idaho Power Company (Owned in Fee) 566.022 Acres

FIGURE A-1

SWAN FALLS RESERVOIR
AREA AND CAPACITY CURVES

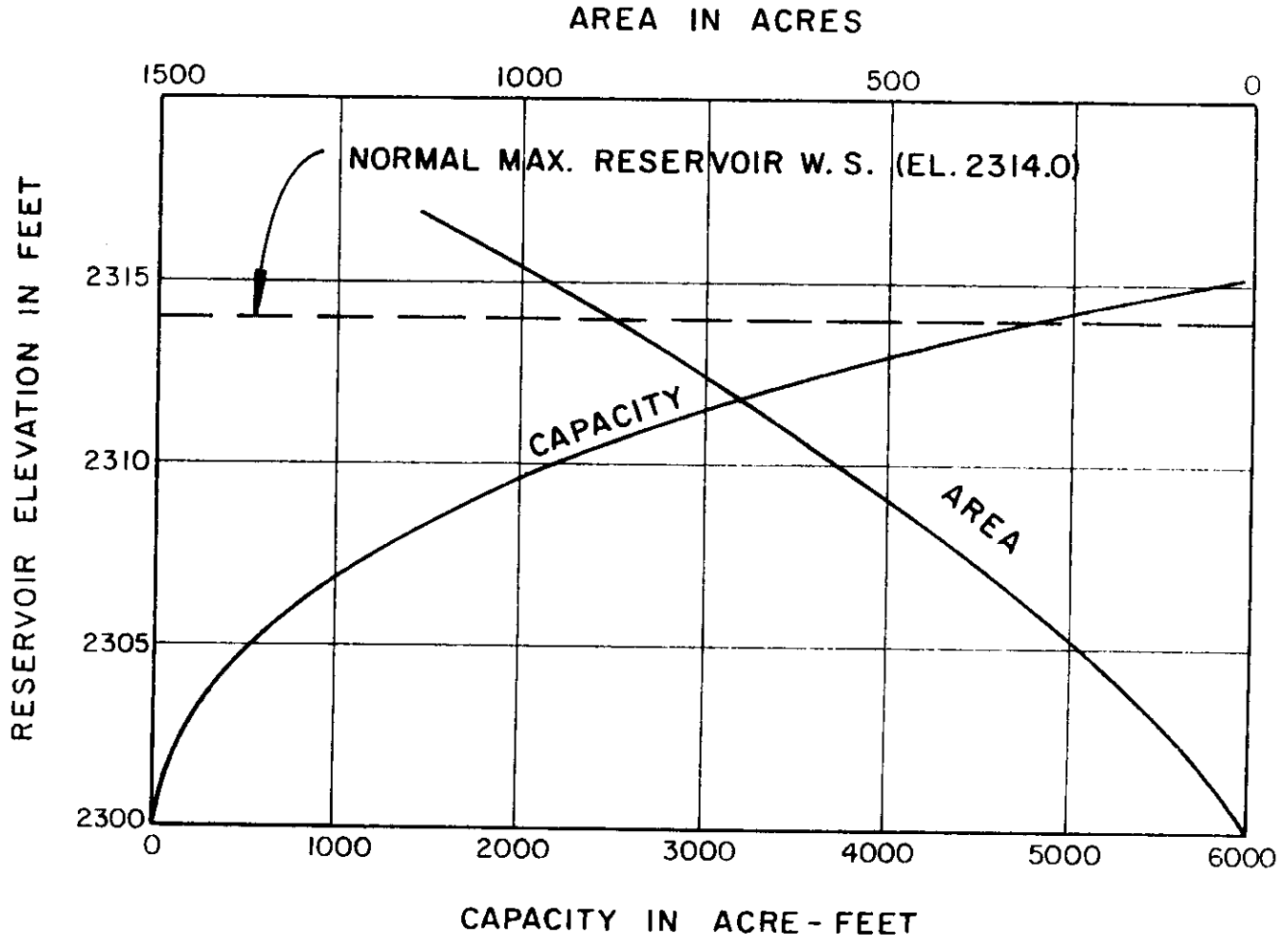


EXHIBIT B

EXHIBIT B

PROJECT OPERATION

B.1 GENERAL

The proposed new development at Swan Falls will be operated in a manner similar to the existing project but will make a better utilization of the available resource since more water will pass through the turbines and less water will be wasted over the spillway. With the existing turbine capacity of 8000 cfs, water is wasted over the spillway about 60 percent of the time. With the proposed new turbines, having a discharge capacity of about 14,000 cfs, water will be wasted only about 15 percent of the time. There will be no change in the maximum and minimum operating levels of the reservoir. However the average gross head will increase by about one foot, from 25.5 feet to 26.5 feet as a result of improvements in the tailrace. The above proposed changes, and the fact that the new units will be much more efficient, will result in an increased energy production of about 80 95 percent, from about 90 83 GWh to 162 GWh on an average annual basis.

B.2 STREAMFLOW

The natural flows of the Snake River at Swan Falls are regulated by several upstream reservoirs and also depleted by upstream diversions. Historically, these regulations and depletions are reflected in the records at Murphy, a gauging station that has been in operation since October, 1913. It was located about one mile downstream from Swan Falls until 1935 when it was moved to about 4 miles downstream from Swan Falls. There are no significant inflows between Swan Falls and the Murphy gauge.

1989 Supp. Pg. B-1

For the purposes of this application, the historical average monthly discharges at Swan Falls were assumed to be equal to the equivalent

discharges at Murphy, adjusted to reflect 1977 level of upstream development as determined by the Idaho Water Resource Board. These adjusted flows, shown in Table B-1, were then used to determine the potential power and energy production at the proposed new development at Swan Falls. The flow-duration curve for these discharges is shown on Figure B-1.

B.3 RESERVOIR OPERATION

At the present time the upper four feet of the reservoir is used to re-regulate the discharge from C. J. Strike, located about 38 miles upstream from Swan Falls. The Strike power plant has a discharge capacity of about 13,000 cfs and is presently used for peaking operations, especially during the low flow season. However, the peaking operations are limited by the useful storage at Swan Falls, estimated to be about 2600 acre-feet.

There will be no significant change in the operation of the reservoir as a result of the proposed new power development at Swan Falls. There may be some change in the use of the storage, because of the larger turbine capacity provided by the new development, but the reservoir drawdown will be limited to four feet as at present. Furthermore, the discharges from Swan Falls will be monitored to conform to the following criteria:

- In the summer season (April 1 - Sept. 30) the minimum discharges will be not less than 5000 cfs, except if the average daily inflow is below 5000 cfs, in which case the plant discharge will be maintained equal to the average inflow.

- In the winter season (Oct. 1 - March 31), the minimum flow will be not less than 4000 cfs, except if the average daily

inflow is below 4000 cts, in which case the plant discharge will be maintained equal to the average inflow.

- o Changes in plant discharge will be controlled so that fluctuations in the tailwater will not exceed one foot per hour.

- o The maximum daily fluctuation in the tailwater will be limited to three feet.

The above criteria are similar to the operating rules that are being observed for the existing Swan Falls powerplant.

B.4 TAILWATER

The tailwater rating curve at the Swan Falls powerplant with the proposed tailrace improvement is presented on Figure B-2. It shows that the tailwater will range from elevation 2285.0 at a discharge of 4000 cfs to elevation 2293.0 at a discharge of 30,000 cfs. At the maximum plant discharge of 14,000 cfs the tailwater will be at about elevation 2289.0. For comparison, Figure B-2 also shows the tailwater rating curve under present conditions without tailrace improvement.

1989 Supp. Pg. B-1

It is estimated that the tailwater would be at about elevation 2305.0 during a flood of 100,000 cfs. However, discharges of more than 30,000 cfs would be extremely rare with the present development of the Snake River.

B.5 GROSS HEAD

The available gross head across the dam will range from a maximum of about 29 feet at low discharges and with the reservoir at maximum level, elevation 2314.0, to a normal minimum of about 21 feet with the

plant operating at maximum discharge, no discharge over the spillway, and with the reservoir at the minimum level, elevation 2310.0. The average gross head is estimated to be about 26.5 feet.

B.6 POWER AND ENERGY

Estimates of the power and energy that can be produced by the proposed new development were made on the basis of the average monthly discharges as shown in Table B-1 and the tailwater rating curve as shown on Figure B-2. To take into account reservoir fluctuations, the average drawdown on the reservoir was assumed to be 1.0 foot for discharges up to 8000 cfs, 0.5 foot for discharges between 8000 cfs and the plant discharge capacity (about 14,000 cfs) and no drawdown for discharges higher than the plant capacity. The results of the estimates are shown in Table B-2, which gives the average continuous power which would be produced in each month of the 52-year period 1928 through 1979. The estimated average annual energy output for this period is about 162 GWh.

1989 Supp. Pg. B-1

The peaking capability versus net head is shown graphically on Figure B-3. The dependable capacity is 25,000 kW, which represents the total load carrying ability of the project for a 1-hour time interval during the annual system peak load, assuming a recurrence of the most adverse stream flows of record and is attainable through utilization of the system reservoir capacity.

B.7 POWER UTILIZATION

All of the power and energy produced at the new Swan Falls Power Plant will be utilized in the Idaho Power Company's system. The physical location of the project in close proximity to the Company's largest load center, Boise, allows this plant to make an important contribution to the area's electrical reliability and stability. Furthermore, the

1989 Supp. Pg. B-1

Company is electrically interconnected with all adjoining systems so that any surplus power and energy from Swan Falls can be made available for use in those systems, including the exchange of power with other companies through existing interconnections. The Company is presently operating under the following interconnection and coordination agreements:

FERC Rate Schedule	Purpose	Entity
15	Interconnection Agreement	Montana Power Co, Utah Power & Light Co.
44	AMPS Interconnection Agreement	Washington Water Power Co. Idaho Power Co, Montana Power Co, Pacific Power & Light Co, Utah Power & Light.
22	Exchange Agreement	Bonneville Power Adm.
28	Interconnection Agreement	Pacific Power & Light Co, Washington Water Power Co
51	Interconnection Agreement	Bonneville Power Adm.
Docket No E-9179	Intercompany Pool Agreement	Washington Water Power Co, Idaho Power Co, Montana Power Co, Utah Power & Light Co, Pacific Power & Light Co, Portland General Electric Co, Puget Sound Power & Light Co

The Company also consults on regular basis with other utilities on power system planning through the following formal organizations:

(1) Western Systems Coordination Council

Consisting of approximately 40 utilities in Western United States and Canada.

(2) Associated Mountain Power Systems (AMPS)

Consisting of the following companies:

The Washington Water Power Company
Idaho Power Company
The Montana Power Company
Utah Power & Light Company
Pacific Power & Light Company

This system also consults with BPA and other utilities on matters relating to planning.

(3) PUMI

A group of four companies

Pacific Power & Light Company
The Montana Power Company
Idaho Power Company
Utah Power & Light Company

The group plans and coordinates future generation capacity and transmission needs for their operating areas. Also consults with BPA and other utilities on matters relating to planning of this group.

(4) Intercompany Pool

Of the following companies:

The Washington Water Power Company
Idaho Power Company
The Montana Power Company
Utah Power & Light Company
Pacific Power & Light Company
Puget Sound Power & Light Company
Portland General Electric Co.

Plans and coordinates transactions between member companies.

B.8 FUTURE PROJECTS

Future projects on the Snake River known to the Applicant consist of Kanaka Rapids, A. J. Wiley and Bike projects, located about 135 miles, 115 miles and 100 miles upstream from Swan Falls, respectively. The Applicant has filed an application for license for the Wiley Project (FERC No. 2845), and has been granted a preliminary permit for the Bike Project (FERC No. 2846) and for the Kanaka Rapids Project (FERC No 3477).

1989 Supp. Pg. B-2

SWAN FALLS OPERATION STUDY - EXCAVATED CHANNEL
CENTRAL SNAKE STUDY 63. - 1977 DEPLETED FLOWS
25 MW PLANT - 2 BULB TURBINES (12.5 MW EACH)

INFLOW AS 1977 DEPLETED FLOWS - CFS

SUPERSEDED
1989 SUPPLEMENT

WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR AVG
1928	10869	12526	15504	16866		624	20418	919	9150	6898	7202	8053	12588
1929	9226	13186	11184	9782	9170	12767	13452	314	6888	6636	6908	8034	9545
1930	9238	9486	11549	8907	9075	11030	7256	033	6500	6698	7813	8495	8676
1931	9178	8906	10073	9050	7940	8000	6822	665	6009	6185	6813	7787	7785
1932	8780	8939	8626	8582		124	7835	110	7585	6616	6932	8316	8124
1933	9275	9386	8530	9084		358	7373	735	6597	6236	6812	8194	7965
1934	9411	9381	8990	9045		577	6666	353	5695	5808	6202	6959	7521
1935	8356	8338	8047	8097		502	7409	688	6841	6099	6411	7325	7383
1936	8680	8956	8893	8975		974	9736	778	8288	6800	7098	8328	8466
1937	9267	9223	10137	8567	7782	8114	8328	231	6883	6525	6800	7927	8065
1938	9192	9400	9197	9183	8221	9046	8797	183	8335	7268	7291	8137	8487
1939	9715	10138	11335	9034	8144	10187	9960	493	6772	6267	7179	8175	8700
1940	9219	9274	10164	9322	8602	8670	8301	511	6333	5758	6789	8347	8191
1941	9263	9474	8844	9279	8817	8045	7064	187	7113	5974	7264	8301	8019
1942	9337	9355	9029	9013		8128	8726	869	8542	6332	7016	8377	8332
1943	9289	9953	9400	10710	9237	15445	29239	9472	8817	8257	7256	8143	11268
1944	9966	13038	11859	13008	11938	11882	12423	7799	7671	6846	6903	8042	10115
1945	9258	9728	11843	9429	8776	9821	12109	8308	7829	7283	7182	8318	9157
1946	8953	12393	12140	12503	15043	16831	18969	8228	7456	6869	7077	8493	11246
1947	9429	12837	11812	9948	12397	14565	13174	8098	7261	6857	7278	8466	10177
1948	9112	9588	11921	9639		14089	11941	9067	10538	7134	6966	8431	10110
1949	9193	11697	11332	9316		17688	12319	2977	6834	6678	7073	8575	10184
1950	9286	9760	11852	9559		15566	21352	7896	6957	7913	7386	9094	10885
1951	11007	13274	17925	16364		20069	19634	3549	7312	6722	7528	8414	13657
1952	9667	12909	11960	14575	18269	16287	26195	7152	9216	8065	7378	8394	13352
1953	9556	9781	11822	11299	12189	12147	11013	8158	10499	7078	7114	8437	9924
1954	9298	9400	11792	9328	9193	12724	16148	8194	7301	6841	6930	8301	9621
1955	9255	9541	10405	9022		7566	12316	7324	6001	6815	6760	8027	8420
1956	9018	9575	11812	10044		20257	19332	8636	8711	6728	7152	8464	11249
1957	9189	12898	12150	11031	18907	15265	19950	4576	8614	6873	7226	8639	12110
1958	9548	10917	11672	9461	13547	12049	12260	3684	7698	6727	7244	8464	10273
1959	9428	9605	12033	9466	8419	8652	8040	7241	6528	6377	6890	8671	8845
1960	9120	9082	11617	8791		9499	11573	6764	6377	6452	6833	7957	8506
1961	8868	9220	8566	8957	8289	7723	7022	6181	5826	5686	6405	8029	7564
1962	8575	9260	9662	8038	9190	10395	10595	10303	7780	6678	7265	8360	9003
1963	9273	9817	10464	9213	9798	11795	10643	7090	14109	6867	7148	8750	9606
1964	9088	9918	11875	9635	874	13185	12965	10877	10826	6966	7225	8629	10197
1965	9159	12163	14377	16094	23	16923	14316	10629	9777	7527	8163	10036	13016
1966	11361	12416	16816	15255	63	12760	9316	6714	6251	5937	6812	8261	10298
1967	9525	10047	10124	9653	69	9048	8734	6969	10516	6790	6932	8224	8719
1968	9798	11593	11931	9035		12655	10955	6226	6954	6158	8540	8503	9455
1969	10974	13005	11770	13726	19988	16980	15041	11821	8180	6899	6908	8614	12115
1970	9787	9612	11992	10724	13203	13441	11573	13512	10715	7418	7272	9147	10618
1971	9662	12453	12417	27417	22359	19376	27870	20988	12851	10742	7434	9316	15856
1972	11597	19618	18912	27094	21460	27870	27870	13084	12298	7600	7779	10290	16486
1973	13233	14571	18270	15586		14686	13057	9703	6312	6516	6836	8784	11721
1974	9405	12536	12036	18961	18452	19784	29239	13099	12283	6843	7148	8584	13767
1975	11184	12341	13928	16583	18099	17533	16333	20585	10819	11421	7204	9239	13901
1976	11348	13734	18125	20189	18493	21108	20088	20551	7885	6151	8043	9930	14926
1977	11714	12171	15172	13210		10488	7390	6878	6138	5649	6241	7086	9598
1978	7702	7963	8401	8579	8956	10680	13410	12120	6997	5870	6574	9295	8881
1979	9813	12150	12050	14250	14360	15930	14410	7821	6595	5418	7724	7955	10706
AVG.	9628	10887	11776	11702	12129	12994	13619	9735	8120	6841	7123	8445	10250
MAX.	13233	19618	18912	27417	22359	27870	29239	20988	14109	11421	8540	10290	16486
MIN.	7702	7963	8047	8038	7485	7502	6666	6181	5695	5418	6202	6959	7383

SWAN FALLS OPERATION STUDY - EXCAVATED CHANNEL
CENTRAL SNAKE STUDY 63. - 1977 DEPLETED FLOWS
25 MW PLANT - 2 BULB TURBINES (12.5 MW EACH)

POWER GENERATED - KW

WATER YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR AVG
1928	21019	23152	24047	23344	21792	23985	21633	16049	18442	14220	14780	16592	19921
1929	18561	23833	21454	19420	18473	23410	20083	14983	14201	13727	14231	16558	18578
1930	18574	18966	21997	18050	18323	21244	19478	16557	13470	13844	15865	17362	17927
1931	18479	18049	19858	18287	18085	16498	18077	13782	12267	12542	14060	15820	15817
1932	17840	18103	17583	17[illegible]576	18400	17904	16692	15469	13689	14283	17052	16592
1933	18638	18811	17421	18[illegible]500	17118	15090	15730	13653	12967	14058	16839	16268
1934	18850	18803	18187	18[illegible]785	15855	15784	13191	11766	11948	12902	14334	15357
1935	17121	17090	16581	[illegible]292	15323	14155	13825	14113	12408	13301	15003	15157
1936	17673	18131	18027	18163	18298	18161	16350	15805	17003	14036	14590	17073	17192
1937	18625	18556	19954	17483	15812	16699	14073	14832	14192	13517	14036	16062	16004
1938	18508	18433	18516	18494	16886	18277	18868	20023	17085	14892	14981	16739	17589
1939	19318	19956	21657	18258	16752	20029	16689	15307	13983	13027	14738	16806	17460
1940	18550	18636	19995	18711	17542	17656	16026	15339	13152	11868	14015	17106	16633
1941	18619	18988	17986	[illegible]227	16578	16724	14528	14752	14617	12212	14892	17026	16332
1942	18735	18763	18250	18224	16958	16724	14750	15962	17441	13151	14440	17158	16963
1943	18660	19678	18833	20793	18578	20078	18577	18945	17901	16949	14878	16750	18718
1944	19698	23690	22357	23661	22461	22387	21036	15841	15619	14122	14229	16572	19473
1945	18611	19338	22335	18878	17833	19479	18671	17038	15893	14927	14743	17055	18234
1946	18126	23001	22707	23127	[illegible]287	23362	21312	16899	15240	14165	14551	17359	19595
1947	18878	23484	22294	[illegible]5006	24576	[illegible]821	16671	14887	14143	14918	17312	19471
1948	18381	19124	22438	[illegible]23548	24868	[illegible]465	18310	20546	14656	14347	17251	19595
1949	18509	22141	21653	[illegible]17428	22952	[illegible]916	23629	14100	13806	14544	17497	18989
1950	18655	19386	22347	[illegible]924	24015	[illegible]259	16009	14330	14038	15114	18353	19128
1951	21213	23917	22833	23602	[illegible]964	21774	[illegible]982	24175	14980	13889	15362	17222	20159
1952	19245	23559	22890	24569	22661	23662	[illegible]409	23222	18545	16613	15099	17187	20522
1953	19078	19418	22308	21609	22765	22716	[illegible]219	16776	20490	14553	14619	17262	19401
1954	18674	18833	22268	[illegible]8509	23364	[illegible]714	16839	14960	14113	14280	17026	18402
1955	18607	19051	20352	[illegible]6507	15435	[illegible]913	15001	12255	14064	13961	16546	16911
1956	18232	19104	22294	19815	[illegible]162	21698	[illegible]131	17599	17725	13893	14652	17308	19051
1957	18503	23543	22719	21254	[illegible]382	24171	[illegible]826	24569	17562	14173	14823	17604	20258
1958	19062	21086	22108	18928	[illegible]173	22600	22848	24302	15666	13899	14856	17308	19736
1959	18876	19150	22581	[illegible]231	17626	16569	14851	13523	13236	14205	17658	17036
1960	18394	18334	22038	17864	16505	18986	21975	13968	13236	13379	14098	16114	17074
1961	17986	18552	17482	18133	17005	[illegible]59	[illegible]451	12536	11977	11751	13289	16550	15952
1962	17497	18614	19237	16565	18505	20[illegible]9	[illegible]226	20201	15808	13806	14894	17128	17978
1963	18635	18859	20439	[illegible]9	19444	22[illegible]3	[illegible]868	14575	24856	14162	14681	17790	18627
1964	18337	19625	22378	[illegible]4	19559	[illegible]4	[illegible]760	21030	20958	14347	14822	17588	19703
1965	18456	22734	24691	237[illegible]	23237	[illegible]4	[illegible]915	20677	19412	15367	16785	19803	20679
1966	21692	23028	23369	241[illegible]	22605	23342	17198	13878	12996	12154	14058	16956	18782
1967	19027	19819	19935	[illegible]795	18[illegible]4	[illegible]763	14165	20514	14017	14283	16892	17560
1968	19484	22002	22451	18266	22625	23[illegible]8	[illegible]681	12948	10324	12500	17438	17443	18535
1969	21167	23658	22239	24341	21807	23[illegible]7	[illegible]542	22306	16815	14222	14238	17562	20434
1970	19427	19160	22531	20813	23849	[illegible]	[illegible]608	24139	20800	15172	14907	18437	20327
1971	19237	23070	23029	[illegible]	20859	[illegible]	[illegible]726	21404	23498	20839	15200	18702	20568
1972	22007	21990	22340	[illegible]	[illegible]208	18974	21936	23735	22892	15895	15807	20182	20481
1973	23878	24572	22660	24004	[illegible]743	[illegible]	[illegible]709	19300	13112	13500	14103	17806	20411
1974	18841	23163	22585	22316	[illegible]569	21[illegible]	[illegible]504	23749	22874	14117	14681	17512	20318
1975	21458	22942	24967	23889	[illegible]746	21[illegible]	[illegible]879	21566	20948	21772	14856	18582	21602
1976	21678	24309	22733	[illegible]	[illegible]349	[illegible]58	[illegible]571	21580	15990	12489	16574	19644	20085
1977	22164	22744	24220	23855	22680	20367	14963	14182	12469	11691	12977	14568	18073
1978	15673	16124	17199	17504	18131	20750	24072	22684	18405	12047	13610	18669	17572
1979	19467	22719	22601	24769	24701	23826	24671	15879	13650	11305	15711	16111	19618
AVG.	19126	20619	21260	20067	20031	20901	20103	17846	16281	14027	14641	17209	18509
MAX.	23878	24572	24967	24769	24924	24868	24760	24569	24856	21772	17438	20182	21602
MIN.	15673	16124	16581	16565	15292	15323	13784	12536	11766	11305	12902	14334	15157

AVERAGE ANNUAL ENERGY = 162,141 MILLION KWH

UPDATED
1989 SUPPLEMENT
SEE

SWAN FALLS RESERVOIR

MONTHLY FLOW-DURATION CURVE

1928 - 1979 STREAMFLOWS BASED ON 1977 DEPLETED FLOWS

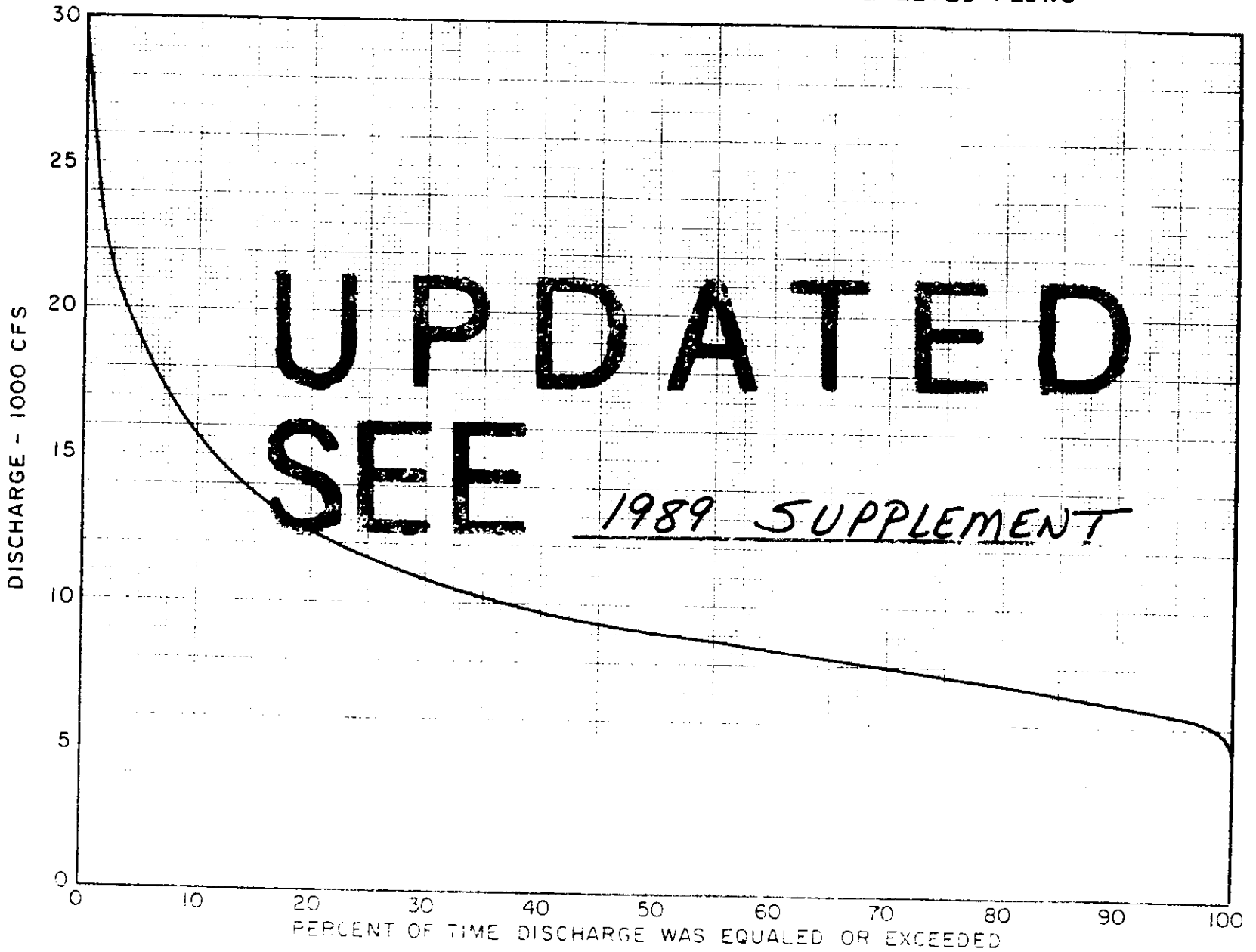
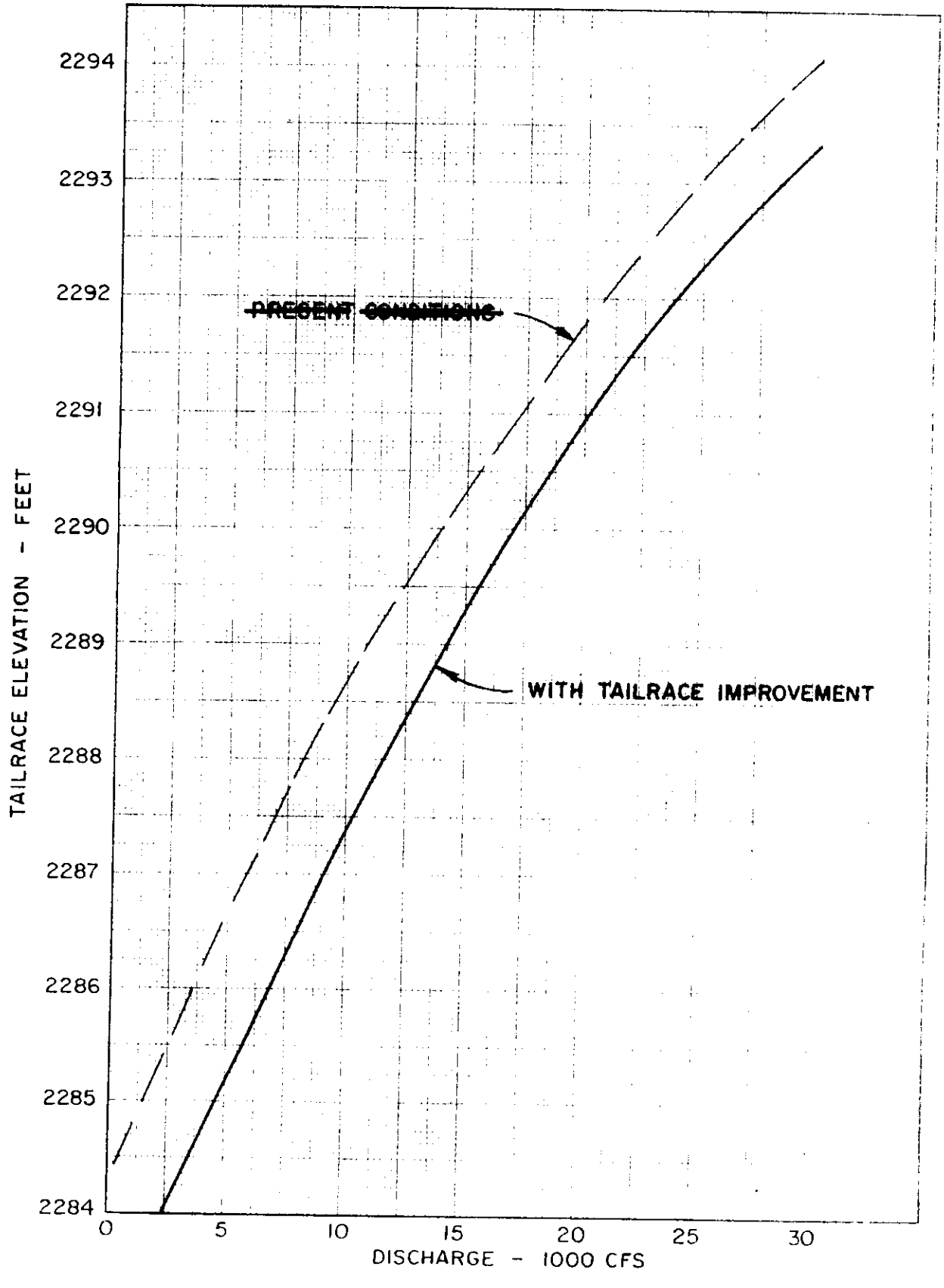


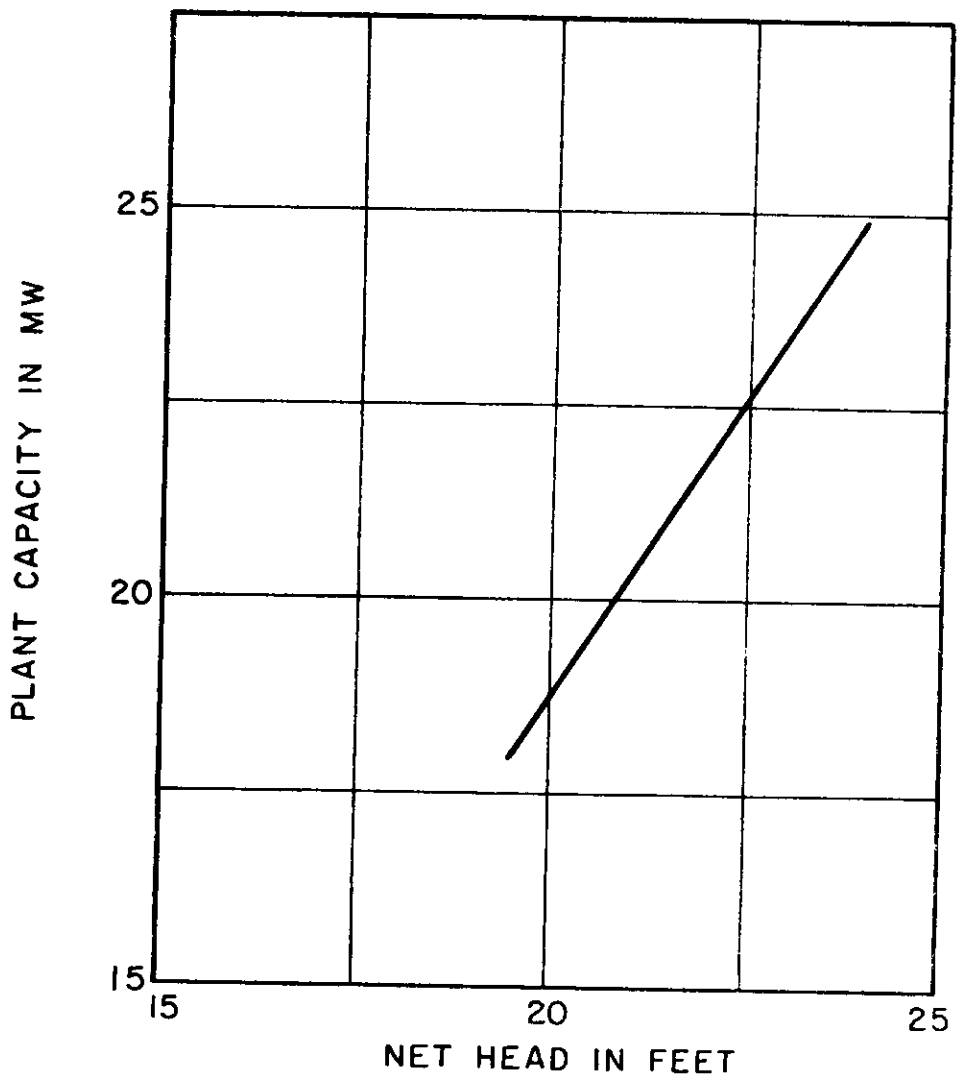
FIGURE B-1

FIGURE B-2

SWAN FALLS POWER PLANT
TAILWATER RATING CURVES



SWAN FALLS POWER PLANT
PLANT CAPACITY VERSUS NET HEAD



NOTES:

1. The maximum plant capacity is 25.0 MW.

2. The minimum plant capacity (19.5 MW) occurs during high flood discharge (assumed 30,000 cfs) with corresponding high tailwater.

EXHIBIT C

EXHIBIT C

CONSTRUCTION HISTORY AND SCHEDULE

C.1 HISTORY OF EXISTING DAM AND POWER PLANT

The existing Swan Falls dam and power plant, as described in Exhibit A, has evolved from a series of construction activities taking place during the period 1901 to 1944. ~~There have been no significant modification to the dam or permanent structures since 1936.~~ A chronology of the major construction activities is presented in the following table:

1989 Supp. Pg. C-1

Description of Work	Year of Completion
Crib dam and powerhouse with three 300 kW units	1901
Additional powerhouse with two 650 kW units	1907
Additional powerhouse with two 750 kW units	1910
Reconstruction of original 1901 powerhouse and installation of two 1250 kW units	1913
Reconstruction of original crib dam	1917
Additional two 1250 kW units in reconstructed 1901 powerhouse	1918
Reconstruction of 1907 powerhouse and installation of four 800 kW units	1918
New Concrete spillway with tainter gates replacing a section of original crib dam	1920
Embankment at west abutment replacing a section of original crib dam; and extension of concrete spillway	1936
Replacement of the two 750 kW units in 1910 powerhouse with two 1100 kW units	1944

C.2 CONSTRUCTION SCHEDULE

The schedule for construction of the proposed new development at Swan Falls is shown in Figure C-1. It is based on the assumption that the FERC license for construction will be issued on October 1, 1982. Allowing about 16 months for preparation of bid documents and award of contracts, construction would then start early in 1984.

The construction will be carried out in four stages as follows:

1. Removal of the existing spillway and construction of the east section of the new spillway (4 bays).

2. Construction of the west section of the spillway (8 bays).

3. Construction of the new powerhouse.

4. Removal of the equipment in the existing powerhouse and upgrading of the structure.

The following tabulation shows the estimated completion dates for each of the above four stages.

Stage	Begin	Complete
1	February 1, 1984	December 31, 1984
2	January 1, 1985	October 1, 1985
3	January 1, 1985	November 30, 1986
4	December 1, 1986	October 31, 1987

Construction of the new development at Swan Falls is thus estimated to require a total of 45 months. However, the first unit will be in operation about 31 months after start of construction.

C.3 CONSTRUCTION PROCEDURES

The staged construction outlined above will permit continuous power and energy production at Swan Falls. The existing plant will be maintained in operation until the new plant is completed. The work will be carried out behind sheet-piled cellular cofferdams as indicated on Figure C-2. The first stage cofferdam will be installed in the reservoir in front of the existing spillway, extending from the embankment to the rock island near the existing powerhouse. The spillway work area will be protected on the downstream side by an earthfill type of cofferdam. The river will be discharged through the existing power plant and sluiceway, which will have a combined capacity of about 13,000 cfs, sufficient to pass the river discharge in the low flow season from June 15 through November. The east section of the spillway will be completed in that period. Following completion of this first stage, the cofferdam in front of the east spillway section will be removed and a connecting cofferdam will be installed between the remaining first stage cofferdam and the east end of the west spillway section. River discharge in excess of power plant capacity will then pass through the completed four bays of the east spillway section. The capacity of this spillway will be about 20,000 cfs which, together with the power plant discharge, will be adequate through all seasons. Construction of the west spillway section (second stage) can then be completed.

1989 Supp. Pg. C-1

The third stage upstream and downstream cofferdams for construction of the new powerhouse will extend from the existing powerhouse to the east bank as indicated on Figure C-2. Construction of these cofferdams will start as soon as the east spillway section is ready for diversion. Construction of the new powerhouse and associated structures can then proceed without interruption until completed.

Work on the existing powerhouse in the fourth stage will start as soon as the new power plant is in operation. The intake openings will be closed by means of gates and stoplogs inserted in slots in the existing

piers. A cofferdam will be constructed across the tailrace from the new powerhouse to the rock island to permit unwatering of the draft tubes.

Included in the project is the excavation of a 120-foot-wide tailrace channel which will extend about 1400 feet downstream from the power-plant. This excavation will be done during the low flow season behind shallow cofferdams constructed of river alluvium. 1989 Supp. Pg. C-1

Water pumped out of the working area behind the cofferdams will be used for construction purposes to the extent practicable. Excess water will be discharged into open ponds for settlement of sediments. Effluents from these ponds will be monitored and treated, if necessary, to meet quality standards.

Access for construction of the powerhouse will be by permanent roads from Kuna, supplemented by short temporary construction roads in the project area as necessary. The proposed access for construction of the spillway is shown on Figure 6-2. It would include a road embankment from the east bank to the gravel bar about 700 feet downstream from the existing powerhouse; a bridge across the main river channel; and a short road along the west bank of the river to the left abutment of the dam. This access will be temporary only and will be removed after completion of the spillway. 1989 Supp. Pg. C-1

Aggregates for concrete may be obtained from the island which extends downstream from the power plant along the east bank of the river. Tests have indicated that the alluvial deposits of this island is suitable as aggregates with very little processing.

SWAN FALLS PROJECT
IMPLEMENTATION SCHEDULE

FIGURE C-1

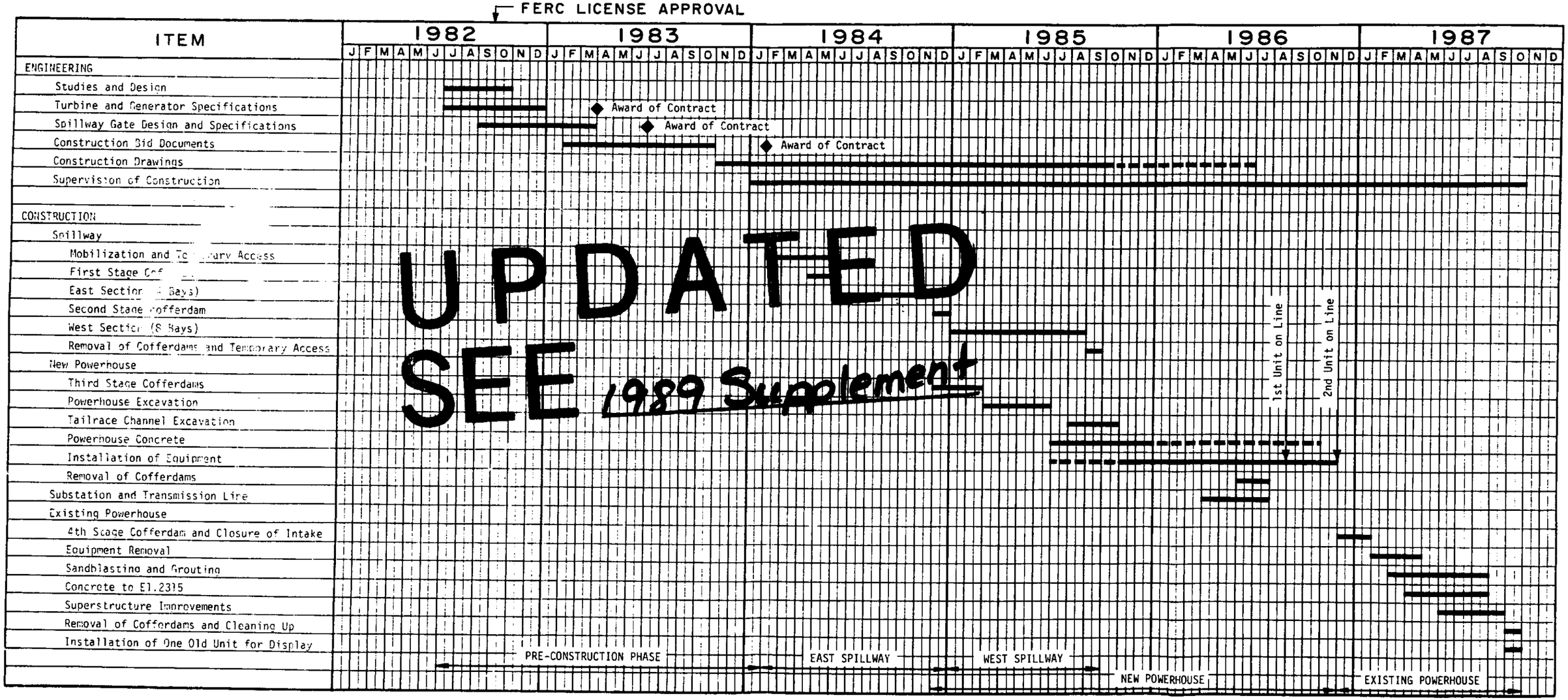
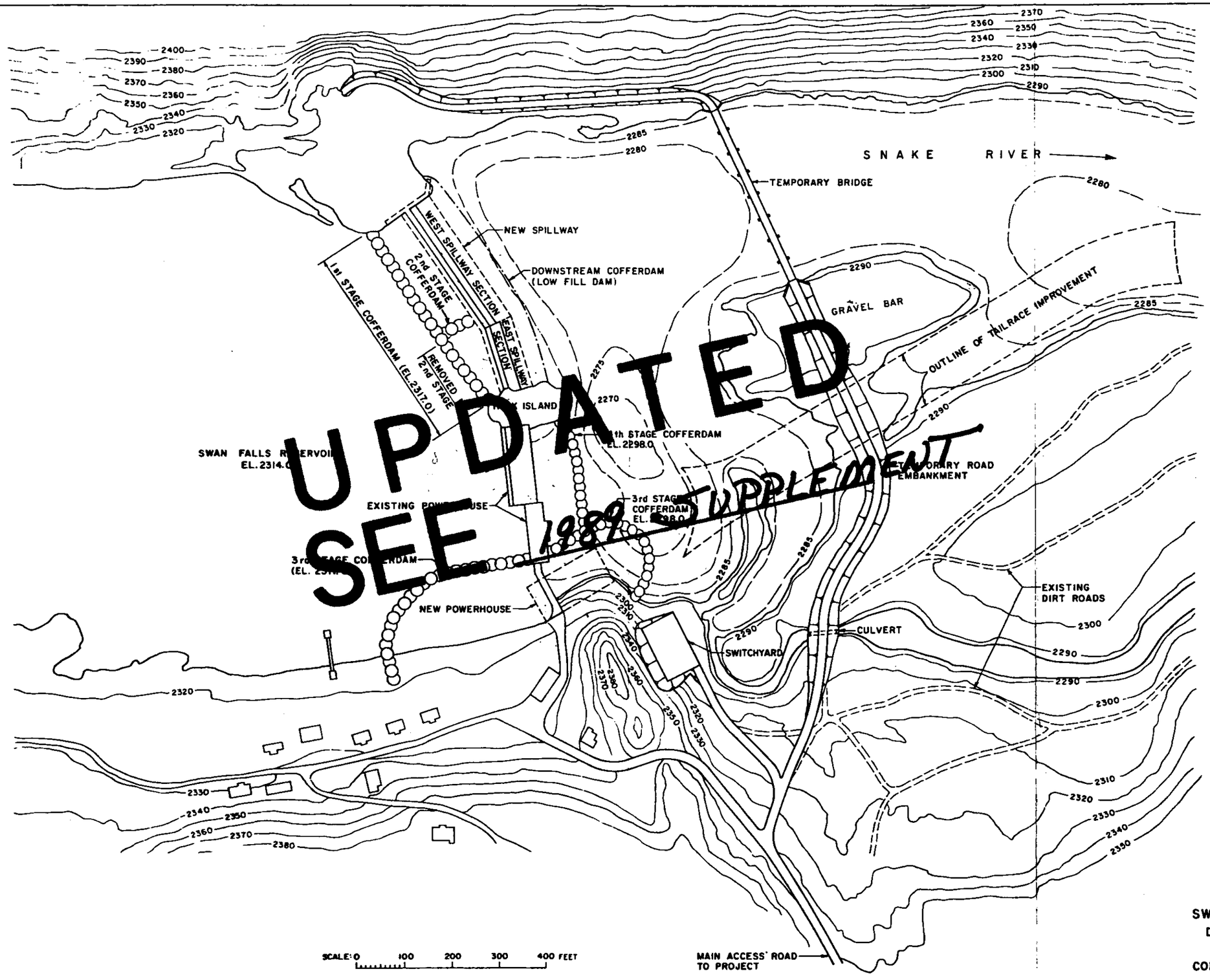


FIGURE C-2



UPDATED

SEE 1989 SUPPLEMENT

SWAN FALLS PROJECT
DIVERSION SCHEME
AND
CONSTRUCTION ACCESS

EXHIBIT D

EXHIBIT D

COSTS AND FINANCING

D.1 Estimate of Take Over Value of Existing Project:

(i) Fair Value.

(a) (Reproduction-Cost-New, depreciated). Fair value, expressed as reproduction-cost-new, depreciated, is calculated by applying to Idaho Power Company's (Company) book entries the price-level changes as reflected in the Handy-Whitman Index Numbers through January 1, 1981, with the Company's projections of escalation through January 1, 1983, combined with the Company's estimate of the present value of lands owned in fee and flooding easements.

The estimate of fair value (RCN-D) is presented as of December 31, 1980, and of December 31, 1982, on the assumption that, if the project is not relicensed to the Company, the Project would not be actually taken over before December 31, 1982, at the earliest.

Fair value (RCN-D) is estimated as follows:

December 31, 1980, $2,083,000;
December 31, 1982, $1,313,000.

The foregoing amounts represent, as of the date indicated, the estimated reproduction-cost-new, depreciated value of the Project. This calculation equates the purchasing power of the Project's net investment as expressed in historical expenditures recorded on the Company's books of record, with the purchasing power of dollars to be expended at the time of severance.

(b) (Willing Buyer-Willing Seller). Fair value, expressed as a price agreeable between a traditional willing buyer and willing seller, would

be something in excess of $37,000,000 and $41,000,000 at December 31, 1980 and 1982, respectively. For calculation see "(iii) Severance Damages" below.

(ii) Net Investment.

The original cost of the Project as shown on the Company's books, plus additions, less retirements and less amounts accumulated from earnings in excess of a fair return under Sections 3(13) and 10(d) of the Federal Power Act was $1,788,770 at December 31, 1980.

The historic dollar amounts adjusted to 1980 purchasing power equivalent are estimated at $15,668,000. This amount is the reproduction-cost-new as of December 31, 1980, under (i)(a) above without depreciation. The comparable estimate for December 31, 1982 is $18,106,000.

(iii) Severance Damages.

The following calculation of severance damages is based on the assumption that severance damages are to be measured by the cost to the Company of effectively replacing the utility services provided by the Project to the Company's system with appropriate alternate sources of generation.

The calculation assumes that the alternate power supply would consist of a coal-fired plant providing 13.5-megawatts of capability operating at a 75% plant capacity factor. The coal-fired plant costs are derived from 1985 figures for a 250-megawatt unit converted to year end 1980 and 1982 dollars. If actual takeover were to occur on December 31, 1982 or at any time prior to completion of the alternative generating source, the calculation of severance damages would then have to include the very substantial cost to Idaho for temporary replacement of power. This calculation would add materially to the indicated severance costs.

The estimate of severance damages as so calculated is as follows:

		As of 12/31/80	As of 12/31/82
(a)	Construction costs of alternative power supply equivalent to that of the project:	$15,390,000	$16,929,000
(b)	Present value of annual cost of ownership (other than capital costs) and operation of an alternative power supply equivalent to that of the Project:	37,193,000	40,905,000
	Additional Investment and Annual Costs: Sub-Total	$52,583,000	$57,834,000
(c)	Estimated Net Investment of fair value of the Project:	(1,789,000)	(1,313,000)
(d)	Construction cost of spillway replacement	(10,655,000)	(11,454,000)
(e)	Present value of annual costs of ownership (other than capital costs) and operation of the Project:	(4,661,000)	(5,186,000)
	Project Investment and Annual Costs: Sub-Total	(17,105,000)	(17,953,000)
	Total Severance Damages	$35,478,000*	$39,881,000*

*Excludes severance damages for temporary replacement of power.

The total amount due Idaho in case of takeover as of December 31, 1980 and 1982, for net investment not exceeding fair value plus severance would be $37,267,000 and $41,194,000, respectively.

Substantial additional detriments in changes in operational flexibility, reserves and other matters are not included in the above estimates. These estimates are presented without prejudice to any later

presentation by Idaho of estimates utilizing different capital costs, interest rates, current values, additional detriments, different calculations, or determination of net investment, fair value or severance damages by different theories.

D.2 Estimated Costs of New Development:

The estimated capital cost of the proposed new development at Swan Falls is shown in Table D-1. The estimate is based on ~~October, 1981~~ August, 1988 price level and includes all direct and indirect construction costs; contingencies; engineering, legal and administrative expenses; taxes and interest during construction.

D.3 Estimated Average Annual Costs:

A statement of the estimated average annual cost of the total new development is presented in Table D-2 and includes the cost of capital, taxes, depreciation, operation and maintenance expenses, and administrative and general expenses.

D.4 Estimated Annual Value of Project Power:

A statement of the estimated annual value of project power is presented in Table D-3 and is a calculation of the estimated average annual cost of obtaining an equivalent amount of power (capacity and energy) from the lowest cost alternative (avoided costs for Applicant under PURPA).

D.5 Sources and Extent of Financing:

A statement specifying the sources and extent of financing and annual revenues available to meet the costs identified in Sections D.2 and D.3 above is presented in Table D-4.

SWAN FALLS PROJECT
SUMMARY OF ESTIMATED COST

UPDATED PDSE 1989 SUPPLEMENT

FERC Account	Item	Oct.1981 Cost ($)
	PRODUCTION PLANT	
330	Land and Land Rights	-
331	Structures and Improvements	12,260,500
332	Reservoirs, Dams and Waterways	8,081,000
333	Turbines and Generators	10,690,000
334	Accessary Electrical Equipment	1,057,000
335	Miscellaneous P.H. Equipment	1,342,500
	Subtotal Production Plant	33,431,000
	TRANSMISSION PLANT	
350	Land and Land Rights	-
352	Substation Structures	86,000
353	Substation Equipment	490,000
354 & 356	Transmission Line and Tap	201,000
	Subtotal Transmission Plant	777,000
	GENERAL PLANT	
395	Shop, tools and garage equipment	100,000
	Subtotal	34,308,000
	Contigencies (15%)	5,142,000
	Subtotal	39,450,000
	Engineering and Admin (12%+)	4,750,000
	Subtotal Direct Cost	44,200,000
	Interest During Construction	5,005,000
	SUBTOTAL CAPITAL COST	49,205,000
	Archaeological Excavations	20,000
	Recreation Facilities	14,500
	TOTAL CAPITAL COST	49,239,500

Table D-2

SWAN FALLS PROJECT
ANNUAL COSTS
1981 DOLLARS

	$000	Mills/KWH
(i) Cost of Capital[1]	$5,939	$36.7
(ii) Taxes[2]	1,591	9.8
(iii) Depreciation Expense	20	0.1
(iv) O & M Expense	175	1.1
Total Annual Cost (1981 Level)	$7,725	$47.7

UPDATED SEE 1982 SUPPLEMENT

(1) 1981 capital structures approved by Idaho Public Utilities Commission for return on plant investment for avoided cost calculations pursuant to PURPA:

	PERCENT OF TOTAL	COST (%)	Weighted Cost (%)
Debt	50	10.5	5.250
Preferred Equity	[illegible]	10.12	1.012
Common Equity	[illegible]	14.5	5.800
Total	100		12.062

(2) Federal and State income tax rate 49.5%; property tax rate, 0.83%; ITC rate, 10%. Assumed 50-year book life and 40-year tax depreciation life.

SWAN FALLS PROJECT
ANNUAL VALUE OF PROJECT POWER
1981 DOLLARS

	ANNUAL COSTS $000	(Mills/KWH)
Investment Carrying Charge(1)	6,873.9	42.4
Fixed O & M Expense(2)	412.5	2.5
Fuel & Variable O & M Expense	2,920.9	18.0
Levelized Annual Cost over 50-year Life of Swan Falls Project(3)		100.2

UPDATED SEE 1982 SUPPLEMENT

(1) 25,000 KW x $1254/KW x .245162. Annual carrying charge based upon 50-year investment in c[illegible] generation having individual plant life of 31 years. Capital structure and tax rates are consistent with Table D-2. Assumed long-term infla[illegible], 8%.

(2) $16.50/KW x 25,000 KW.

(3) Inflation rate assumed equal to 8%, discount rate equal to 12.06%.

TABLE D-4

Idaho Power Company
BALANCE SHEET
As of July 31, 1981

(Subject to Approval of Independent Auditors)

ASSETS

Electric Utility Plant (Note 1):	
Electric plant in-service (at original cost)	$1,249,887,385
Less accumulated provision for depreciation (Note 2)	217,938,897
Electric plant in-service (net)	1,031,948,488
Electric plant held for future use	1,624,687
Construction work in progress	169,969,646
Electric utility plant less accumulated provision for depreciation	1,203,542,821
Other Property and Investments:	
Nonutility property	2,946,204
Investment in subsidiary (Note 3)	2,509,046
Sinking funds	186,692
Other	1,359,947
Total other property and investments	7,001,889
Current Assets:	
Cash	3,695,226
Accounts receivable (less allowance for uncollectible accounts - $803,487)	22,275,583
Income tax refund receivable	195,000
Materials and supplies (at average cost)	10,129,524
Fuel stock (at average cost)	8,568,326
Prepayments	1,966,577
Total current assets	46,830,236
Deferred Debits:	
Unamortized debt expense (Note 1)	3,210,049
Advance coal royalties	6,952,931
Cancellation charges (Note 12)	11,361,131
American Falls Water Rights (Note 11)	22,095,000
Other	9,980,644
Total deferred debits	53,599,755
Total	$1,310,974,701

UPDATED SEE 1989 SUPPLEMENT

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
BALANCE SHEET
As of July 31, 1981

(Subject to Approval of Independent Auditors)

LIABILITIES

	Shares Authorized	Shares Outstanding	
Proprietary Capital:			
Common stock	25,000,000	13,732,128	$ 68,660,640
4% preferred stock	215,000	215,000	21,500,000
Serial preferred stock	150,000		
7.68% Series		150,000	15,000,000
Serial preferred stock	3,000,000		
9.50% Series		250,000	25,000,000
12.25% Series		82,500	33,000,000
Premium on capital stock			194,651,081
Capital stock expense			(1,957,823)
Retained earnings (Note 6)			124,668,995
Undistributed subsidiary earnings			45,953
Total proprietary capital			480,568,846
Long-Term Debt:			
Long-term debt			494,142,821
Project financing - Boardman (Note 10)			61,816,727
American Falls bond guarantee (Note)			22,095,000
Unamortized premium on long-t bt			1,781,102
Unamortized discount on long-t bt - Debit			293,125
Total long-term debt			579,542,525
Current Liabilities:			
Notes payable (Notes 4 & 5)			48,500,000
Accounts payable			12,803,764
Notes payable to associated companies			2,482,735
Taxes accrued			8,281,015
Interest accrued			11,357,840
Dividends declared			10,374,954
Other			6,104,552
Total current liabilities			99,904,860
Deferred Credits:			
Customer advances for construction			6,229,228
Accumulated deferred investment tax cr di s (Note 7)			38,411,926
Accumulated deferred income t e 8)			
Accelerated amortization property			1,385,200
Other property			70,716,431
Other			19,495,000
Other			12,774,357
Total deferred credits			149,012,142
Operating Reserves			1,946,328
Total			$1,310,974,701

UPDATED SEE 1989 SUPPLEMENT

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
CLASSIFICATION OF ELECTRIC UTILITY PLANT AND ACCUMULATED
PROVISION FOR DEPRECIATION AND AMORTIZATION
As of July 31, 1981
(Subject to Approval of Independent Auditors)

UPDATED SEE 1989 SUPPLEMENT

Classification of Electric Plant

Electric Utility Plant		Amount
1. Electric plant in-service:		
(a) Intangible plant	$ 2,137,859	
(b) Steam plant	333,020,407	
(c) Hydro-production plant	362,446,780	
(d) Other production plant	6,580,326	
(e) Transmission plant	210,022,560	
(f) Distribution plant	306,799,849	
(g) General plant	28,879,604	$1,249,887,385
2. Electric plant held for future use		1,624,687
3. Construction work in progress		169,969,646
Total electric utility plant		$1,421,481,718

Classification of Accumulated Provision for Depreciation and Amortization

Applicable to Electric Plant	
Accumulated provision for depreciation of electric plant	$ 217,417,858
Accumulated provision for amortization of electric plant	521,039
Total accumulated provision for depreciation and amortization	$ 217,938,897

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
NOTES TO FINANCIAL STATEMENTS
As of July 31, 1981
(Subject to Approval of Independent Auditors)

1. Electric Plant

The cost of additions to electric plant in service represents the original cost of contracted services, direct labor and material, allowance for funds used during construction and indirect charges for engineering, supervision and similar overhead items. Maintenance and repairs of property and replacements and renewals of items determined to be less than units of property are charged to operations. For property replaced or renewed, except for extraordinary retirements, the original cost plus removal cost less salvage, is charged to accumulated provision for depreciation, cost of related replacements and renewals is added to electric plant.

2. Depreciation

Electric plant is depreciated on the straight-line method except for production facilities constructed prior to January 1, 1968 of the T E Roach Hells Canyon Development (consisting of the Brownlee, Oxbow and Hells Canyon hydroelectric power plants) for which depreciation is based on the five percent present-worth method.

3. Investment in Subsidiary

The Company uses the equity method of accounting for its investment in Idaho Energy Resources Co., a wholly-owned subsidiary. This subsidiary is a joint venturer in Bridger Coal Company which operates the mine supplying coal for the Jim Bridger steam generation plant. Coal purchased by the Company from the joint venture amounted to $27,4[illegible] for the twelve months ended July 31, 1981. As of July 31, 1981, the total assets, total liabilities and total net worth of Idaho Energy Resources Co. were $4,868,634, $2,359,588, and $2,509,046, respectively. Idaho Energy Resources declared a dividend of $8,000,000 to the Company on November 26, 1980 and $5,000,000 on July 30, 1981, thereby reducing the Company's investment in subsidiary as well as payables to subsidiary.

4. Notes Payable

At July 31, 1981 the total lines of credit maintained with various banks amounted to $119,800,000. Commercial paper may be issued in an amount not to exceed 25% of operating revenues for the latest twelve-month period and must be supported by bank lines of credit of an equal amount. Under borrowing arrangements with seven of the banks, the Company is currently required to pay a fee of 1/2 of 1% on the available lines of credit which [illegible],000,000.

5. Unsecured Bank Loans Outstanding at July 31, 1981:

Commercial Paper:

17.60 note dated June 29, 1981 due Aug 3, 1981	$ 1,200,000
18.10 note dated June 30, 1981 due Aug 3, 1981	450,000
17.85 note dated June 30, 1981 due Aug 14, 1981	1,000,000
18.35 note dated July 1, 1981 due Aug 14, 1981	1,100,000
19.10 note dated July 24, 1981 due Aug 26, 1981	5,000,000
19.10 note dated July 24, 1981 due Sept 8, 1981	10,000,000
18.60 note dated July 24, 1981 due Sept 1, 1981	4,350,000
18.10 note dated July 27, 1981 due Sept 3, 1981	9,250,000
18.10 note dated July 27, 1981 due Sept 10, 1981	1,000,000
18.10 note dated July 28, 1981 due Sept 10, 1981	2,550,000
18.10 note dated July 28, 1981 due Aug 27, 1981	2,650,000

UPDATE 1981 SUPPLEMENT
SEE

5. Unsecured Bank Loans Outstanding at July 31, 1981 (Cont'd):

Commercial Paper:

18.35 note dated July 30, 1981 due Sept 14, 1981	$ 2,600,000
18.10 note dated July 31, 1981 due Aug 3, 1981	3,000,000
18.10 note dated July 31, 1981 due Aug 31, 1981	2,950,000
18.10 note dated July 31, 1981 due Sept 10, 1981	1,400,000
Total	$48,500,000

6. Retained Earnings

The agreement relating to the Company's outstanding debentures provides that the Company will not declare or pay any dividend or make any other distribution on its common stock (other than in common stock), or acquire any shares of its common stock, if the aggregate amount and cost thereof after 1957 shall exceed the aggregate net income (as defined) attributable to the common stock after 1957 plus $7,500,000 and plus the amount of proceeds from sales of common stock after 1957. No portion of the retained earnings at July 31, 1981 was restricted under this provision. Undistributed subsidiary earnings represented $45,953 of the July 31, 1981 retained earnings balance. Pursuant to Section 10(d) of the Federal Power Act, which requires the creation of a reserve account after twenty years of operation of a licensed project for earnings in excess of a specified rate, the Company has computed a Federal amortization reserve on certain of its licensed hydroelectric projects. Such a reserve constitutes an appropriation of retained earnings which, at July 31, 1981 amounted to $1,543,966.

7. Investment Tax Credit

For income tax reductions arising from the investment tax credit an equivalent amount has been charged to operating expenses and the resulting credit deferred to be amortized to income over the estimated service lives of the related properties.

8. Income Taxes

The Company, for income tax purposes, uses liberalized depreciation methods for assets acquired prior to 1971 and the "class" life system for assets acquired in 1971 and thereafter. Deferred taxes (commonly referred to as normalized accounting) are provided on coal-fired generation facilities for the difference between income tax depreciation and financial accounting depreciation as well as for certain other capitalized costs (taxes and operator training) related to coal-fired plant construction. On other facilities, deferred income taxes are provided for the difference between actual income tax depreciation and straight-line depreciation using "guideline" lives. Deferred income taxes are also provided for the tax reduction or increase applicable to various items that are capitalized or deferred on the books and expensed or considered income for tax purposes. This accounting is consistent with indicated rate-making policy of the state regulatory authority having principal jurisdiction.

9. Allowance For Funds Used During Construction ("AFDC")

The allowance, a non-cash item, represents the estimated composite interest costs of debt, shown as a reduction of interest charges, and a return on equity funds, shown as an addition to other income, used to finance construction. Based on the uniform formula adopted by the Federal Energy Regulatory

DRAFT
1982 SUPPLEMENT
DRAFT

9. Allowance For Funds Used During Construction ("AFDC") (Cont'd)

Commission, the Company's AFDC rate (net of applicable income taxes) is 8.50% for the year of 1981. The Company's AFDC rate related to the Boardman plant project financing was computed at the actual cost thereon (see Note 10).

10. Project Financing

Since February 22, 1979, the Company has financed a major portion of its 10 percent interest in the Boardman coal-fired plant through the sale of commercial paper issued by a financing intermediary which is backed by a bank credit agreement. At July 31, 1981, the amount of commercial paper outstanding pursuant to the Agreement totall[illegible]33,000. The Company is authorized to guarantee up to $30,000,000 o[illegible] commer[illegible]ial paper issued in connection with the project. Under the agreement [illegible]the Company is required to satisfy the actual obligation incurred by the financing intermedia[illegible]within three years commencing January 1, 1984. The Company included its portio[illegible] of the costs of construction applicable to the Boardman plant in construction work in progress. The principal amount of commercial pap[illegible]r outstanding together with capitalized interest and related fees thereon, is [illegible]included in long-term debt. For the twelve months ended July 31, 1981 interest and related fees we[illegible] $9,780,827.

11. American Falls Bond Guarantee

In 1976 the Company signed a [illegible]which expir[illegible]s in the year 2025 with the American Falls Reservoir Dist[illegible]ict wherein it agre[illegible]d to make falling water payments to the District for the use of water released from the American Falls Replacement Dam. Such payments are to defray in part the costs of construction associated with the Americ[illegible]ls Replacement Dam Program. In addition, the Company agreed to guarant[illegible]onds of the Dist[illegible]ict for the project at the time of issuance. On December [illegible]0, $22,0[illegible]00 of bonds were issued, and the Company, pursuant to the agreement, executed a guarantee. Under the contract, the Company is required to make falling water payments of approximately $2.4 million annually which ar[illegible]sufficient to cover the total debt service applicable to the bonds.

12. Cancellation Charges

Approval to construct the proposed Pionee[illegible] coal-fired generating plant on the site selected by the Company wa[illegible]denied by the Id[illegible]o Public Utilities Commission in 1976. Total cancella[illegible]ion charges[illegible]61,131 ($5,567,000 net of applicable income taxes) have bee[illegible] incurred in connection with this project consisting of preliminary investigation [illegible]harges, primarily engineering and environmental studies, and cancellation [illegible]harges [illegible] equipment. If it is determined that the work performed to date [illegible]to be abandoned, the Company intends to request rate relief sufficient to recover, over a ten-year amortization period, the actual costs incurred. However, should the request be denied, the charges, net of a[illegible]e in[illegible]taxes, will be written off against income of the period during which such denial occurs. The Company's management has assessed the potential impact on the financial statements of an adverse determination of the recoverability of these charges through rate relief, and has concluded that the effect of any adjustments which would be required would not be material to the financial position of the Company.

13. Other Accounting Policies

Revenues are recognized on the basis of cycle billings and are recorded when customers are billed. Debt discount, expense and premium are being amortized over the terms of the respective debt issues.

DRAFT 1982 SUPPLEMENT

Idaho Power Company
STATEMENT OF INCOME
For The Twelve Months Ended July 31, 1981
(Subject to Approval of Independent Auditors)

UPDATED SEE 1982 SUPPLEMENT

Operating revenues	$295,739,466
Operating expenses:	
Purchased power	26,297,981
Fuel	32,006,841
Other operation	52,946,610
Maintenance expense	26,253,059
Depreciation expense (Note 2)	27,893,223
Amortization of limited-term electric plant	122,688
Taxes other than income taxes	12,606,199
Income taxes - Federal (Note 8)	2,074,100
Income taxes - Other (Note 8)	1,622,600
Provision for deferred income taxes (Note 8)	15,571,400
Provision for deferred income taxes - Credit (Note 8)	(3,474,200)
Investment tax credit adjustments (Note 7)	8,824,100
Total operating expenses	202,744,601
Operating Income	92,994,865
Other Income and Deductions:	
Equity in earnings of subsidiary (Note 3)	3,558,183
Allowance for other funds used during construction (Note 9)	2,921,176
Other income and deductions - Net	(337,064)
Net other income and deductions	6,142,295
Income Before Interest Charges	99,137,160
Interest Charges:	
Interest on first mortgage bonds	32,555,000
Interest on other long-term debt (Note 10)	13,351,353
Interest on short-term debt	10,585,518
Amortization of debt premium discount and expense - Net (Note 13)	86,030
Amortization of gain on reacquired debt - Credit	(66,984)
Other interest expense	736,494
Total interest charges	57,247,411
Allowance for borrowed funds used during construction - Credit (Notes 9 and 10)	(7,070,007)
Net interest charges	50,177,404
Net Income	$ 48,959,756

The accompanying Notes to Financial Statements are an integral part of this statement.

Idaho Power Company
STATEMENT OF RETAINED EARNINGS
AND
UNDISTRIBUTED SUBSIDIARY EARNINGS
For The Twelve Months Ended July 31, 1981

(Subject to Approval of Independent Auditors)

UPDATED SEE 1989 SUPPLEMENT

Retained Earnings	
Retained earnings (at beginning of period)	$104,839,399
Balance transferred from income	45,401,574
Dividends received (Subsidiary - Note 3)	13,800,000
Total	164,040,973
Dividends:	
4% preferred stock	860,000
7.68% series serial preferred stock	1,152,000
9.50% series serial preferred stock	2,375,000
12.25% series serial preferred stock	112,292
Common stock	34,872,686
Total	39,371,978
Retained earnings (at end of period) (Note 6)	$124,668,995
Undistributed Subsidiary Earnings (Note 3)	
Balance (at beginning of period)	$ 10,287,770
Equity in earnings for the period	3,558,183
Dividends paid (Debit - Note 3)	(13,800,000)
Balance (at end of period)	$ 45,953

The accompanying Notes to Financial Statements are an integral part of this statement.

EXHIBIT E

INTRODUCTION

This Environmental Report has been divided into seven sections corresponding to the seven itemized topics required in the Final Rule. Also, as required, pertinent local, state, and Federal agencies were consulted in the preparation of this report. Appendix A contains documentation of consultation with those agencies having jurisdiction over resources in the project area.

The project area as defined for this Environmental Report is illustrated in Figure 1. This area includes the new powerhouse construction site, the existing Swan Falls Reservoir, and in general terms, the western half of the Snake River Plain.

The Snake River Plain curves in an arc, approximately 350 miles long and 50 to 70 miles wide, across the southern part of Idaho. It is a physiographic feature among the northern Rocky Mountains, and is a lava plain, ranging in altitude from 6,500 feet in the east to 2,300 feet in the west.

For reasons of consistency in available data, the socioeconomic portions of the report discusses the four-county area adjoining the project boundary. These are Ada, Canyon, Elmore and Owyhee Counties, Idaho.

The existing Swan Falls Dam is located within the Snake River Birds of Prey Natural Area (BPNA). The BPNA was established in 1971 by the Secretary of the Interior to protect eagles, hawks, falcons, owls, osprey and vultures; birds that are collectively known as raptors.

The natural area presently encompasses more than 31,000 acres, 26,000 of which are federally administered public lands.[1]

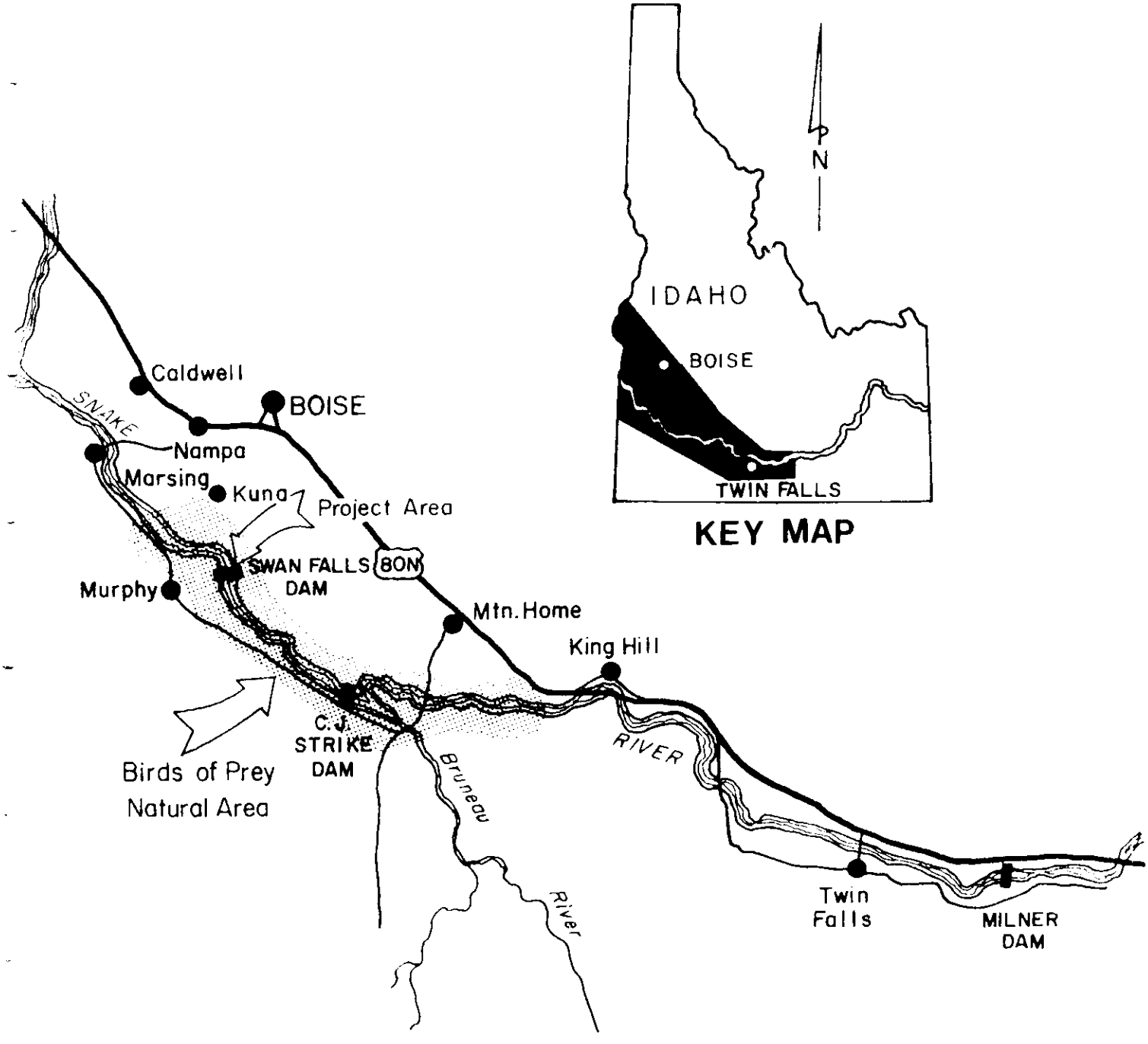
During the fall of 1972 the Bureau of Land Management (BLM) initiated a study of raptors to gather basic information for the management of their populations and habitats. Researchers subsequently determined that the original boundary area encompassed only a portion of the major nesting habitat and very little of the hunting territory used by the birds.

In 1975 the BLM issued a temporary moratorium on processing Desert Land and Carey Act applications for 278,227 acres of public land adjacent to the Natural Area and to an additional 40 miles of river canyon upstream from the Natural Area. This new addition is known as the Natural Area Extension. All of these lands -- the Birds of Prey Study Area (BPSA) -- were considered to be significant habitat for raptors and their prey.

The Secretary of the Interior issued a directive on September 29, 1977, for the BLM and the Bureau of Reclamation to establish a new study area boundary (including an additional 234,025 acres) based on research findings.

Extensive information on the ecology of the Birds of Prey Study Area is available through the Bureau of Land Management. Where appropriate, that information has been utilized in the development of this report.

PROJECT LOCATION MAP



PROJECT Nº 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 1
LOCATION MAP
IDAHO POWER CO. OCTOBER 1981

I. GENERAL DESCRIPTION OF THE LOCAL ENVIRONMENT - THE SETTING

1.1 CLIMATE

Winters in the vicinity of the project area are cold, although generally not severe. In summer, days are hot and nights are fairly cool. Precipitation, except in mountainous areas, is low in summer and higher in the spring and winter. The snowpack at high elevations supplies much of the surface water. The average annual precipitation ranges from about 24 inches at the higher elevations of the Boise front to slightly less than eight inches at Swan Falls Dam. The average throughout most of the surrounding area is about 10 to 12 inches.

Due to the protected location of Swan Falls Dam, weather data in the immediate vicinity differ somewhat from those of the surrounding area. Generally, precipitation is slightly lower and temperatures are slightly higher. Figures 2 and 3 illustrate the difference between mean monthly temperatures and mean monthly precipitation at Swan Falls Dam, located in the Snake River Canyon, and at the town of Kuna, 18 miles to the north and located on the flats above the canyon. Wind is a common phenomenon throughout the area and sometimes contributes to minor air quality problems. However, air quality is generally excellent.

1.2 PHYSIOGRAPHY AND TOPOGRAPHY

The existing Swan Falls Dam lies within the Columbia Intermountain geomorphic province, commonly referred to as the Columbia Plateau. This province extends into parts of north central Idaho from Washington and Oregon and crosses southern Idaho in the Snake River Plain. The area is characterized by thick accumulations of nearly horizontal sheets of basalt. Included within the province are mountains with complex structure and block-fault mountains. There are six subsections in the Columbia Intermountain Province; the area of study is in the 10,000 square-mile Malheur-Boise-King Hill section.

Most of the Columbia Intermountain Province is drained by the Snake River and its tributaries. From its headwaters in Wyoming,

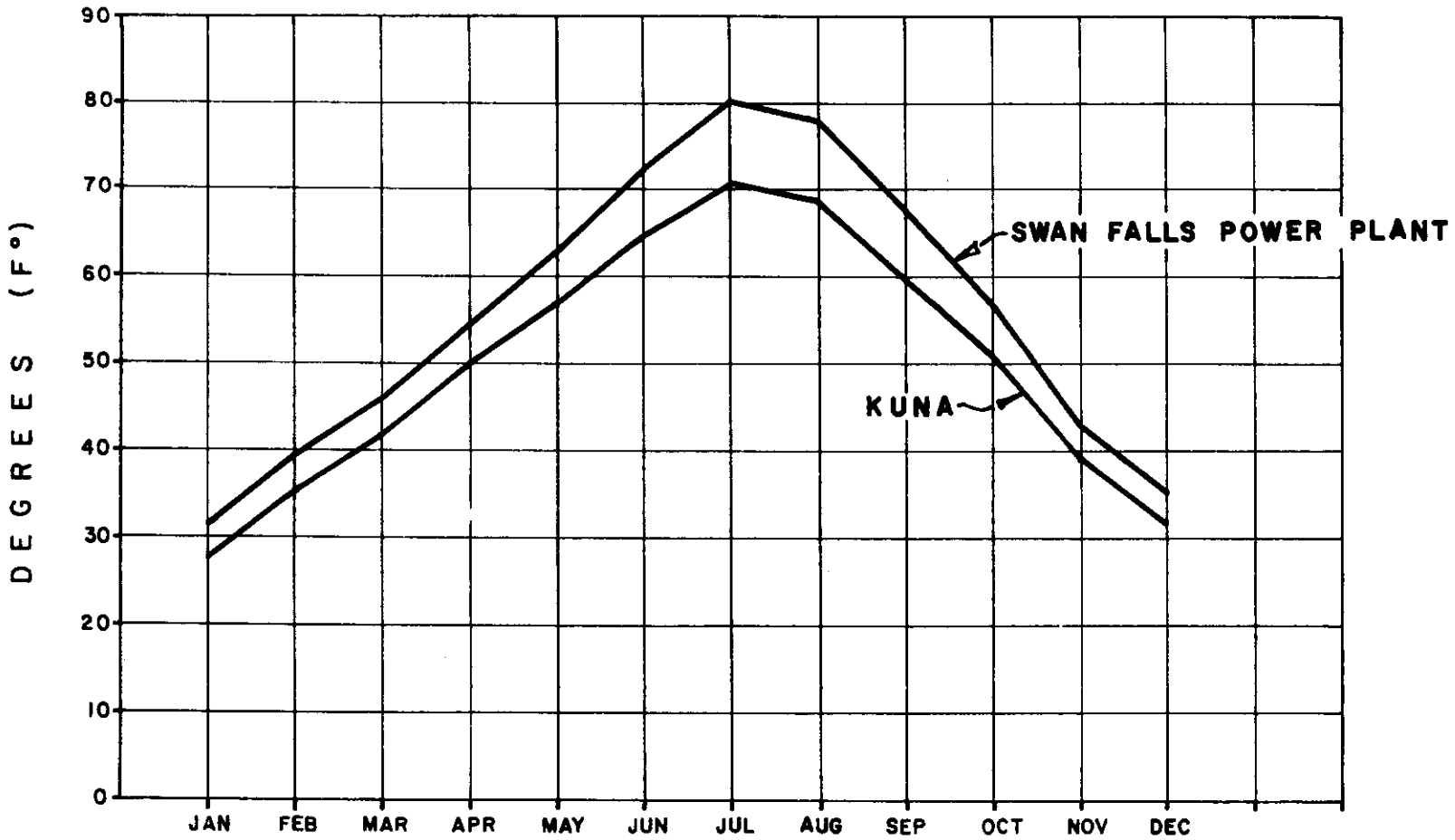


FIGURE 2

MONTHLY MEAN TEMPERATURE (F°)
1956 - 1965

SOURCE: CLIMATOLOGICAL HANDBOOK - COLUMBIA BASIN STATES
TEMPERATURE VOL. I , PART A

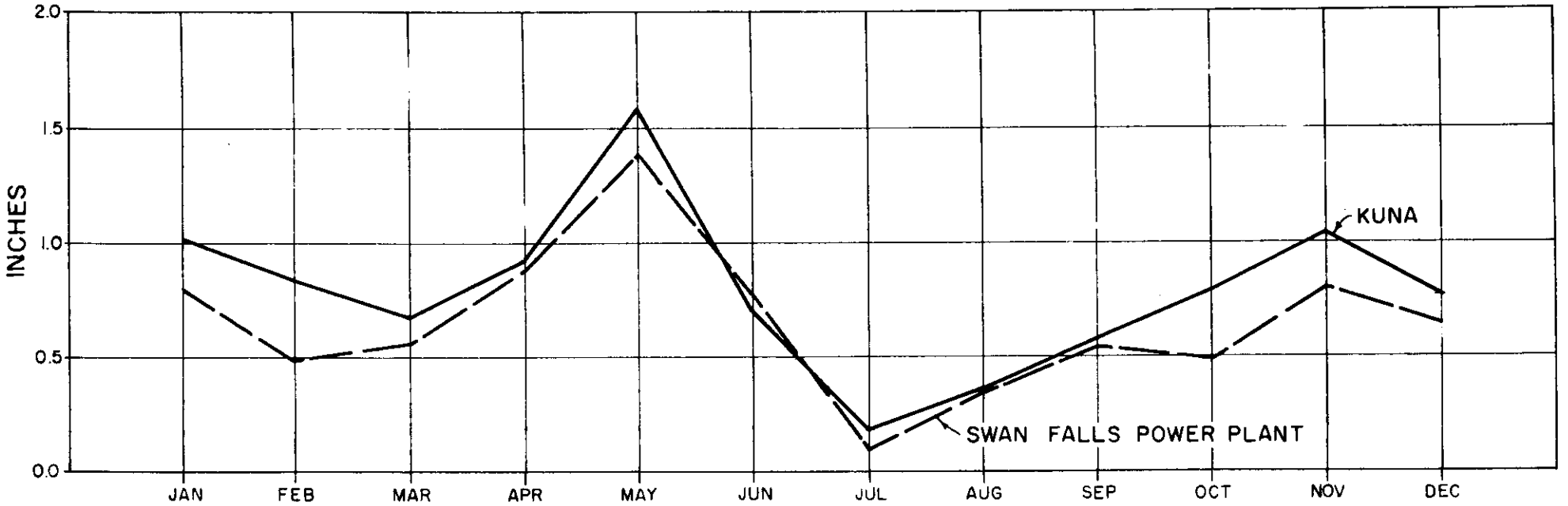


FIGURE 3

MONTHLY MEAN PRECIPITATION
1956 - 1965

SOURCE: CLIMATOLOGICAL HANDBOOK - COLUMBIA BASIN STATES
PRECIPITATION VOL. 2

the Snake River flows westward across the Snake River Plain of southern Idaho. The portion of the Snake River basin in Idaho consists of a central lowland rimmed with terraces and mountain ranges. The westward lowland, west of King Hill, is a narrow valley or canyon through which the river flows. The main valley is cut several hundred feet beneath the surrounding upland. East of King Hill the Snake River Plain is a broad, curving lowland 30 to 75 miles wide. It is characterized by slopes where volcanic features, such as vents, rise above the terrain, or where streams have cut deep canyons.

In general, the river flows through a lowland that existed prior to the outpourings of lava that began about 10 million years ago.

Elevations within the Snake River Plain range from 3,500 feet above sea level in the eastern portion to 2,500 feet near the Idaho-Oregon border. To the southwest lies the Owyhee Uplands subsection with elevations of 4,000 to 5,000 feet, except where several mountain masses rise to 8,000 feet.

Volcanism, stream erosion, and wind deposition have been the most important processes in the modification of the landscape in the Columbia Intermountain region. More recently, most of the province has been faulted, warped or dissected by river canyons.

The portion of the Snake River affected by the project generally flows in a narrow canyon several hundred feet below the surrounding plateau. The Swan Falls damsite lies 650 feet below the rim of the canyon. The canyon at the Swan Falls damsite is about 1,400 feet wide.

The lands that lie above the right wall of the river canyon (to the north and east) generally contrast with the area above the left wall (to the south and west of the canyon). To the northeast lies a gently rolling basaltic plain, with occasional gently sloped buttes of volcanic origin. To the southwest lies a dissected plateau of lowland that increases in elevation southwestward toward the Owyhee Mountains. The elevations are about equal on both sides of the canyon.

Several buttes that rise above the surrounding tablelands, near the edge of the Snake River Canyon, are dominant topographical features. These include Guffey-Butte (elevation 3,130), Sinker Butte (elevation 3,421), Sinker Creek Butte (elevation 3,129), Wild Horse Butte (elevation 2,852), and Black Butte (elevation 3,245).

1.3 VEGETATION

Vegetation within the study area is characteristic of the Snake River Plain desert habitat type of big sagebrush/Sandberg bluegrass. Much of the vegetation is composed of mixed associations of big sagebrush, winterfat, shadscale, and budsage occurring in distinct mosaic patterns. Agricultural land is scattered through the area with cheatgrass occupying areas disturbed through farming, burning and military activities.

The stands of winterfat are larger than normal. In fact, the winterfat areas are a significant anomaly, being the largest collection of stands in the United States. These communities are usually found in the most favorable soils and contain the densest plant populations and, therefore, abundant food and cover for small rodents. Winterfat is an important livestock forage species due to its protein content, palatability, and tolerance to heavy winter grazing.

Greasewood occupies much of the area within the Snake River Canyon itself, as well as south of the river.

A riparian zone of varying size exists along the river and reservoir edge.

Habitat types occurring within the project area are discussed in greater detail in Section III.

1.4 LAND USE

The dominant land use near the study area is livestock grazing. Public lands are used primarily as spring, fall and winter range for cattle. Summer grazing is supported on BLM allotments, National Forest Lands, or private lands located elsewhere. North of the Snake River, cattle typically enter the

PROJECT No. 503 - IDAHO EXHIBIT 1
SWAN FALLS HE DEVELOPMENT
FIGURE 4
EXISTING PROJECT
IDAHO POWER CO

area in early spring and stay for approximately 2½ months. South of the river, the majority of grazing use is during the winter months.

About 238,144 acres of the 833,000 acres of the surrounding Birds of Prey Study Area is in private ownership. About 159,000 acres of the private lands are presently being farmed for potatoes, sugar beets, beans, corn, grain and alfalfa.

The Idaho National Guard and other military units, conduct maneuvers on 122,600 acres of public land near the project area.

Murphy, Bruneau, Grandview and Melba contain some 840 people who economically depend on livestock grazing and farming. The Mountain Home Air Force Base and the City of Mountain Home are other population centers located near the project area. Boise, the largest urban area in the state, is located about 30 miles to the north of the project.

1.5 POPULATION AND SOCIOECONOMIC CONDITIONS

Socioeconomic considerations discussed will be described in the context of both a regional setting and a project area setting.

1.5.1 Population

The population of the four-county region (Ada, Canyon, Elmore, Owyhee) is 286,317 according to 1980 Census Data. Approximately 90% of the region's population resides in Ada and Canyon counties. The City of Boise is the capital and the largest city in the State with a population of 102,125, 35.7% of the area total. Elmore County has a population density of 6.98 persons per square mile (1978). Owyhee County's population density is only 1.03 persons per square mile.

The population of the region has grown rapidly in the past ten years. From 1970 to 1980 population has grown with an additional 88,898 people, an increase of 45%. Continued growth is projected through 1990, but at a slower rate of approximately 2.8% annually. The population of Boise increased proportionally to the region's increase in population during the period 1970-80.

The project area is thinly populated. Grandview had a population of 349 in 1980. The remainder of the project area contains scattered ranches and farmhouses.

1.5.2 Income

Per capita income in Ada County grew from $3,939 in 1970, 99.8% of the national average, to $8,823 in 1978, 112.5% of the national average. Per capita income in Canyon, Elmore, and Owyhee counties remained below the national average during this period.

1.5.3 Employment

The civilian labor force in the regional study area increased at a faster rate than population during the period 1970-76, resulting in an increase in the labor force participation rate (the ratio of civilian labor force to population) for the four-county region. The relatively high labor force participation rate in Ada County restricts the high in-migration of population in the 16 to 65 working age group. The low rate for Elmore County (28%) is related to the high number of military personnel at the Mountain Home Air Force Base. Military personnel are not counted in the civilian labor force.

Unemployment in the Region has been consistently below state and national averages during the 1970s. Statistics for 1978 show an unemployment rate of 2.9% in Ada County, as compared to a U.S. rate of 6.2% and an Idaho rate of 5.0%. For the four-county region, the unemployment rate was 3.8% in July, 1978. This rate is among the lowest for any area in the United States.

The primary employer in the four-county region is government, with 21.5% of all workers in 1978. Included in this figure are federal, military, state, local and public education workers. In Ada County, 13.88% of the work force was employed by state and local government in 1978. Military personnel stationed at the Mountain Home Air Force Base made up 41% of the work force in Elmore County. The base is also the primary civilian employer in the county.

Trade is the second leading basic employment category in the four-county region with 29,440 workers employed in 1978, or 21.07% of the region's total employment. Over 96% of trade workers in the region work in Ada or Canyon Counties.

The services sectors are third in importance as a basic employer in the region, representing 20,758 workers in 1978, or 14.85% of the total regional employment. Approximately 75% of the service employees in the region work in Ada County.

Manufacturing businesses are well developed in Ada and Canyon Counties with a total of 16,188 persons employed in 1978.

Agricultural workers totalled 5,516 in the region, making up almost 4% of the region's total employment in 1978.

There were 7,840 construction workers in the four-county region in 1978, 5.6% of the regional employment total. Of these, 6,427 construction workers (82% of the regional total) lived in Ada County. Construction employment has more than doubled in Ada County from 1970-78. Construction employment has been slightly altered in the last few years because of an unpredictable national economic outlook, but is still expected to grow, at a slow pace, through 1990 in Ada County, paralleling an expected continuation in overall growth and development.

Employment in the project area is principally agricultural, with some trade and service employment concentrated in Grandview.

1.5.4 Housing

New housing unit permits issued annually is virtually unchanged in the four-county region from 1976-78. Ada County had 37,145 housing units in 1970 as compared to 67,823 in 1980, an 82.6% increase. Canyon, Elmore, and Owyhee Counties had 51.2%, 52.1%, and 41.3% increases in housing respectively in 1980.

The housing market in the Boise area (Ada County) is in a restricted situation. Vacancies are estimated at 1.3% for sales housing and 40% for rental housing. A 4-6% vacancy rate for sales housing and a 6-8% vacancy rate for rental housing are considered to be normal by housing analysts. Although there has been a recent slump in building activities, it is still progressing at a

slower rate than the late 1970s. The average price for existing housing in late 1977 was $39,000, as compared to $63,000 (includes houses and rental units) in September, 1981, according to the Idaho Board of Realtors. Units are generally sold within 74.02 days. The outlook for the rental market is for a stable situation in the Boise area through 1982.

There has been an increasing trend in the use of mobile homes in Ada County. In response to development pressure, lot prices have increased to a minimum of $8,500 for a developed site. No shortage in mobile home sites is anticipated through 1982.

1.5.5 Local Community Setting

Kuna is the nearest community to Swan Falls. The town is 18 road miles north of Swan Falls and 21 road miles southwest of Boise.

Traditionally, Kuna has been an agriculture-oriented community; however, recent growth and development is changing the character of the town. Kuna grew in population from 941 in 1976 to 1,765 in 1980, a 94% growth rate.

Kuna has two elementary schools, a new junior high school to start under construction, and a new high school. Electricity is provided by Idaho Power Company, natural gas by Intermountain Gas Company, and telephone services by Mountain Bell. Water service is provided by the City of Kuna. Sanitary works are presently handled by septic tanks.

Kuna has a municipal volunteer fire department with two full time employees and a growing police department.

Melba, five miles to the northwest of the Swan Falls damsite in Canyon County, is a small agriculturally-based community with a population of 276 in 1980. A grade school and a high school are located in Melba.

Murphy, nine miles west of the Swan Falls damsite on State Route #78, is the county seat of Owyhee County, with a present population estimated at 50 persons.

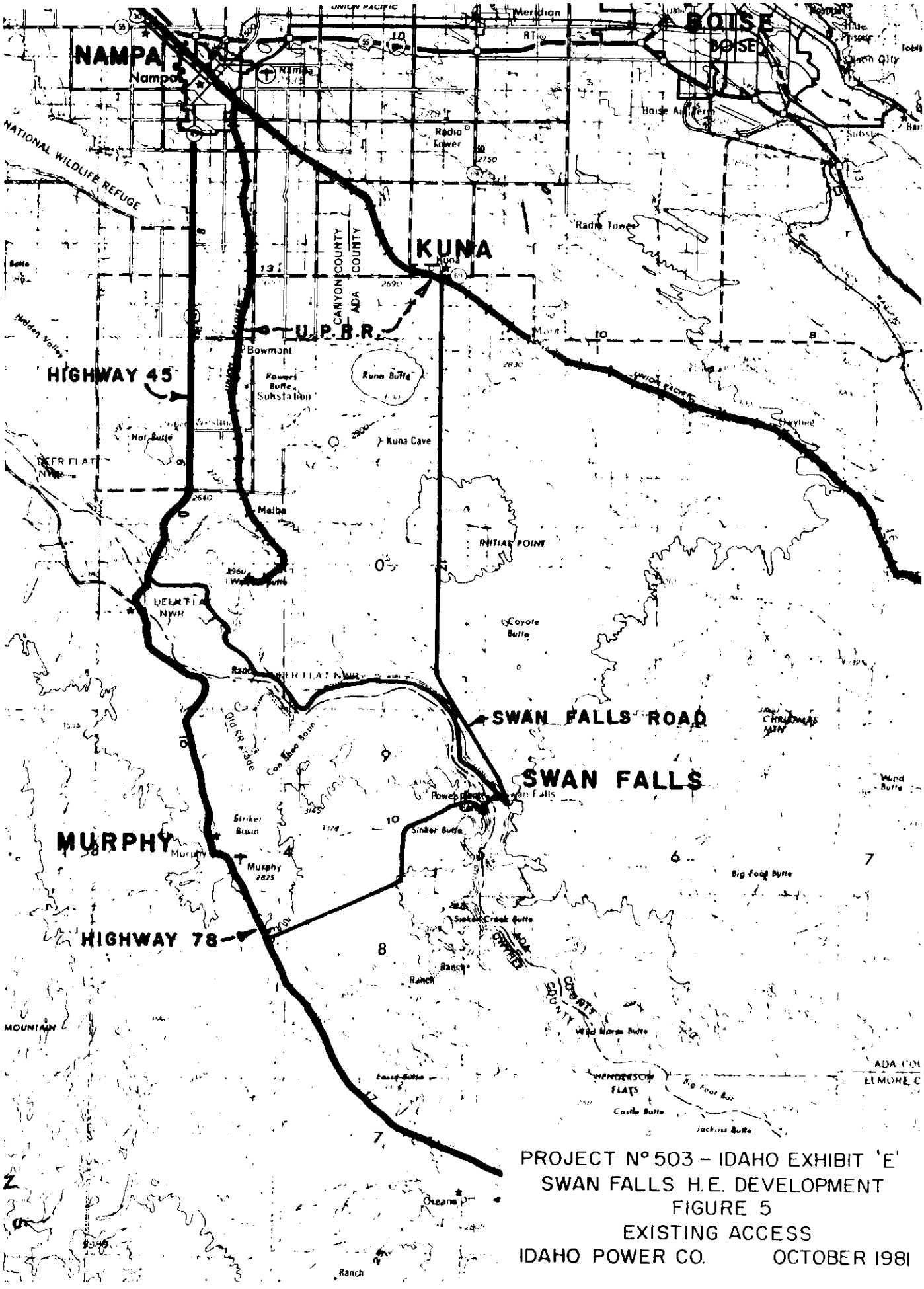
1.6 Transportation Access

Access to the project area is entirely by road. The primary access to the dam is by Swan Falls Road, which originates at the town of Kuna. Other access directly to the dam is of low quality and seldom used.

Access from State Highway #78, located to the west and southwest of the project, is provided by a low quality dirt road originating near the town of Murphy. Access to the project is also available via a low quality dirt road from downstream, which parallels the river in the canyon bottom.

North of the project, the Union Pacific Railroad maintains a mainline track, which services much of southwest Idaho. A short spur is maintained to the community of Melba.

Interstate Highway #80 is located about 30 miles north of the project. Figure 5 illustrates access to and around the project area.



PROJECT N° 503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 5
EXISTING ACCESS
IDAHO POWER CO. OCTOBER 1981

II. REPORT ON WATER USE AND QUALITY; CONSUMPTIVE USE OF PROJECT WATERS AND THE IMPACT OF THE PROJECT ON WATER QUALITY

2.1 EXISTING AND PROPOSED USES OF PROJECT WATERS

Swan Falls reservoir water is used primarily for irrigation of the surrounding uplands and for power generation at Swan Falls Power Plant operated by the Idaho Power Company.

2.1.1 Power Generation

The existing Idaho Power plant utilizes about 8,000 cfs to generate a maximum of 12,000 kW. This is less than the amount of energy which could be generated with the amount of water available. Therefore, a new, larger power plant is being proposed which will have an estimated capacity of 14,000 cfs and generate an estimated maximum of 25,000 kW.

The Idaho Power Company presently has an adjudicated right for 9,450 cfs for power generation at the existing facility. In addition an application will be filed with the Idaho Department of Water Resources for a permit of an additional 6,550 cfs for power generation at the proposed facility.

The proposed project will not involve a consumptive use of water, as all water will be returned to the river through the power plant or spillways.

2.1.2 Irrigation

Idaho Department of Water Resource (IDWR) records indicate sixty-three individuals and corporations have a total water right of 3588.42 cfs for irrigation purposes in the project boundaries.

2.1.3 Irrigation Storage

Idaho Department of Water Resource records indicate that one individual has a total water right of 235 cfs for irrigation storage purposes.

2.1.4 Power Usage

There is a combined total water right of 12,750 cfs, used for generating electricity.

Records therefore show combined water rights of individuals and corporations in the Swan Falls project boundary totals 16,573.42 cfs.

2.1.5 Other

Other possible uses of Snake River water such as domestic water supplies, steam generation, plant cooling, or industrial uses, apparently do not occur in the project boundary.

2.1.6 Proposed Uses

The Swan Falls project is located within the potential Mountain Home Division, Guffey Unit, of the Bureau of Reclamation's Southwest Idaho Development Project (SWID). Planning activities are currently inactive, but a water right is being held for the SWID project. In the event SWID is constructed, Applicant's power plant would be inundated. The plans for this area are not firm and the inclusion of part of the area within the Birds of Prey Natural Area makes the irrigation project unlikely.

2.2 EXISTING WATER QUALITY

2.2.1 Applicable Water Quality Standards

Applicable water quality standards are outlined in "Idaho Water Quality Standards and Wastewater Treatment Requirements" - Idaho Department of Health and Welfare, Division of Environment, Title 1, Chapter 2, Water Quality Standards and Wastewater Treatment Requirements: Effective June 28, 1973: and as amended January 30, 1980; March 11, 1980; March 20, 1980; March 25, 1980; April 1, 1980-, January 10, 1986.

The following table summarizes the proposed water uses to be protected for the Snake River between C.J. Strike Dam and the Boise River, definition of the uses and standards are also included.

TABLE 2.1 DESIGNATED USES AND WATER QUALITY STANDARDS OF THE SNAKE RIVER BETWEEN C. J. STRIKE DAM AND THE BOISE RIVER, SOUTHWEST IDAHO BASIN

1) Domestic Water Supply - Waters which are suitable or intended to be made suitable for drinking water supplies.

STANDARDS

Substance	Maximum Concentration (mg/l)	Degrees Celsius
Arsenic	0.050	
Barium	1.000	
Cadmium	0.010	
Chromium	0.050	
Cyanide	0.200	
Flouride*		
"	2.400	Up to 12.0
"	2.200	12.1 - 14.6
"	2.000	14.7 - 17.6
"	1.800	17.7 - 21.4
"	1.600	21.5 - 26.1
"	1.400	26.3 - 32.5
Lead	0.050	
Mercury	0.002	
Nitrate (as N)	10.000	
Selenium	0.010	
Silver	0.050	
Endrin	0.0002	
Lindane	0.004	
Methoxychlor	0.100	
Toxaphene	0.005	
2.4D	0.100	
2,4,5 TP with Silverx	0.010	

* As determined by the average annual maximum daily air temperature for the area where the water is to be used.

2) Agricultural Water Supply* - Waters which are suitable or intended to be made suitable for the irrigation of crops or as drinking water for livestock.

STANDARDS - None

3) Cold Water Biota** - Waters which are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and population of significant aquatic species*** which have optimal growing temperatures below 18°C (64.4°F). 1989 Supp. Pg. E-2

STANDARDS

a) B.O.D. concentrations to exceed 6 mg/l at all times (with qualifications for reservoir).

b) Hydrogen ion concentrations (ph) 6.5 to 9.0.

c) Water temperature 22°C (71.6°F) or less with maximum daily average no greater than 19°C (66.2°F). 1989 Supp. Pg. E-2

d) Total dissolved gas not exceeding 110% of saturation at atmospheric pressure at the point of collection.

e) Mean concentrations of un-ionized ammonia at 0.04 mg/l or less based on minimum of five samples taken over 30 days for near optimal water. Otherwise 0.02 mg/l based on minimum of five samples over a 30-day period.

4) Salmonid Spawning** - Waters which provide or could provide a habitat for active self-propagating populations of salmonid fishes. 1989 Supp. Pg. E-3

STANDARDS

During spawning and incubation periods.

a) B.O.D. 6 mg/l or 90% saturation whichever is greater.

b) ph 6.5 to 9.0.

c) Temperature 13°C (55.4°F) or less with a maximum daily average not greater than 9°C (48.2°F).

d) Total dissolved gas not exceeding 110% saturation at atmospheric pressure.

e) Un-ionized ammonia
   i. near optimal water 0.04 mg/l or less based on minimum of five samples over 30 days.

5) Primary contact recreation** - Surface waters which are suitable or intended to be made suitable for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such waters included but are not restricted, to those used for swimming, water skiing, or skin diving.

STANDARDS

Fecal caliform bacteria

a) 500/100 ml at any time.

b) 200/100 ml in more than 10% of total samples taken over a 30-day period.

c) geometric mean of 50/100 ml based on a minimum of five samples taken over a 30-day period.

6) Dissolved Oxygen Standards for Water Discharged from Dams, Reservoirs and Hydroelectric Facilities

a) 5.0 mg/l based on the average of at least four consecutive measurements taken within any 60 minute period. 1989 Supp Pg. E-3

* Protected for general use.

** Protected for future use.

*** Significant aquatic species generally, species indigenous to the area or those introduced by the Idaho Department of Fish and Game. The desirability of a species in a specific water will be determined by the Idaho Department of Fish and Game.

2.2.2 Water Quality in the Project Impoundment

2.2.2.1 Dissolved Oxygen and Temperature

Depth, temperature and dissolved oxygen profiles of Swan Falls reservoir were developed by the Applicant during the summer of 1981. Table 2.2 summarizes data collected from within the reservoir. Profile locations are indicated on Figure 6.

Dissolved oxygen and temperature were also monitored at the Swan Falls damsite. A permanent D.O./temperature monitor collected data on a twenty-four-hour basis. The permanent probe was calibrated on a bi-weekly basis during and following the hottest summer days. The monitoring effort demonstrated that at no time did dissolved oxygen concentrations fall below the minimum standard of 5 ppm. Forebay and tailrace calibration checks are summarized on Table 2.3. Concentrations varied from 6.4 to 10.4 ppm.

Other water quality parameters within the reservoir were not measured. However, it is unlikely that they would change appreciably from waters flowing into the reservoir.

FOREBAY AND TAILRACE D.O. AND TEMPERATURE SUMMARY (1981)

FOREBAY DEPTH	JULY 7		JULY 8		JULY 14		JULY 16		JULY 21		JULY 28		AUGUST 4	
	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP
SURFACE	8.2		8.1	20.5	8.5	19.5	10.4	23.0	7.0	21.5	6.8	23.0	7.9	20.5
1 METER	8.0		8.4	19.5	8.4	19.5	10.4	22.5	7.05	21.3	7.0	22.9	7.9	20.75
2 METERS	8.2		8.3	19.5	8.3	19.5	10.4	22.5	7.2	21.0	7.2	22.3	7.6	21.0
3 METERS	7.9		8.4	19.0	8.2	19.5	9.6	22.0	7.0	21.0	7.0	22.0	7.4	21.0
4 METERS	8.2		8.3	19.0	8.1	19.5	9.6	21.5	7.0	21.0	7.1	22.0	7.3	20.75
TAILRACE			8.2	20.0	7.9	20.2	10.0	21.0	7.2	20.67	7.88	22.0	8.2	20.0

FOREBAY DEPTH	AUGUST 7		AUGUST 11		AUGUST 18		AUGUST 20		AUGUST 25		AUGUST 27		SEPT 1	
	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP
SURFACE	9.2	21.75	8.2	22.0	9.4	22.5	10.1	23.0	9.5	22.0	9.5	21.25	9.4	20.5
1 METER	9.0	21.75	7.9	22.0	9.4	22.0	10.1	23.0	9.45	22.0	9.5	21.25	9.3	20.5
2 METERS	8.8	21.5	7.5	22.0	9.2	22.0	9.8	23.0	9.45	22.0	9.4	21.25	9.1	20.5
3 METERS	8.7	21.3	6.8	22.0	9.2	22.0	9.85	23.0	9.35	22.0	9.3	21.25	9.2	20.5
4 METERS	8.7	21.0	6.4	22.0	9.0	22.0	9.85	22.5	9.3	22.0	9.3	21.25	9.2	20.5
TAILRACE	9.1	22.0	8.36	21.9	9.5	21.5	9.9	22.0	9.55	21.0	9.5	21.0	9.5	19.75

FOREBAY DEPTH	SEPT 4		SEPT 8		SEPT 11		SEPT 15		SEPT 17		SEPT 22		SEPT 24	
	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP	D.O.	TEMP
SURFACE	8.75	20.0	9.1	20.5	9.4	19.75	9.4	19.0	9.6	19.5	9.4	17.25	9.2	16.0
1 METER	8.7	20.25	9.0	20.25	9.4	19.5	9.4	19.0	9.6	19.5	9.3	17.25	8.8	16.75
2 METERS	8.7	20.0	9.1	20.0	9.2	19.25	9.2	19.0	9.5	19.5	9.1	17.25	8.7	17.0
3 METERS	8.6	20.0	8.9	20.0	9.1	19.25	9.2	19.0	9.5	19.5	9.1	17.25	8.7	17.0
4 METERS	8.6	20.0	9.0	20.0	9.1	19.0	9.2	19.0	9.45	19.5	9.0	17.25	8.7	17.0
TAILRACE	8.9	19.75	9.25	19.75	9.6	18.25	9.7	18.0	9.75	19.0	9.4	16.0	9.15	16.0

Table 2.3

SWAN FALLS RESERVOIR

DEPTH, TEMPERATURE, & D.O. PROFILE

DATE: July 16, 1981 LOCATION: Clarks Ferry

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	19.0	8.4	23.0	7.8	21.0	9.0
.75 Meter					21.0	9.5
1 Meter	19.5	8.0	22.0	7.6		
2 Meters	19.7	7.9	21.0	7.6		
2.2 Meters			20.0	7.75		
Secchi Disc.	33" (83.82 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Clarks Ferry

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	20.0	7.14	19.75	7.2	20.0	7.8
1 Meter	20.0	7.1	19.75	7.25	20.0	7.8
2 Meters	20.0	7.1	20.0	7.15		
Secchi DISC.	45" (114.3 cm)		Same		Same	

DATE: July 16, 1981 LOCATION: Thomas Flats

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.0	7.9	22.0	7.65	20.5	9.0
1 Meter	22.0	7.75	22.0	7.65	20.5	8.65
2 Meters	21.5	7.7	21.5	8.0	21.0	8.65
2.25 Meters					21.0	8.2
3 Meters	21.5	7.8	21.5	7.7		
4 Meters			20.75	8.0		
Secchi Disc.	31" (78.74 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Thomas Flats

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	Temp C°	D.O.
Surface	21.5	7.5	22.0	7.4	21.5	7.4
1 Meter	21.5	7.3	22.0	7.3	21.5	7.4
2 Meters	21.5	7.2	21.5	7.2	21.5	7.4
2.7 Meters	21.5	7.0				
3 Meters			21.5	7.3	21.5	7.3
3.5 Meters			21.5	7.2	21.5	7.0
Secchi Disc.	33" (83.82 cm)		Same		34" (86.36 cm)	

DATE: July 16, 1981 LOCATION: Ball Point

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	21.0	10.5	21.0	9.6	21.0	9.95
1 Meter	21.5	9.8	21.0	9.65	21.5	9.8
2 Meters	21.0	9.4	21.0	9.4	21.5	9.3
3 Meters	21.0	9.4	21.0	9.5	21.0	9.4
3.3 Meters					21.0	9.3
4 Meters	21.0	9.25	21.0	8.9		
Secchi Disc.	33" (83.82 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Ball Point

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.25	8.9	22.0	9.15	22.0	9.08
1 Meter	22.25	8.9	22.5	9.0	22.5	9.25
2 Meters	22.5	8.85	22.5	9.0	23.0	8.9
3 Meters	22.5	8.7	22.5	8.8	23.0	8.7
3.4 Meters					23.0	8.4
3.7 Meters			22.5	8.8		
4 Meters	22.25	8.8				
4.4 Meters	22.25	8.7				
Secchi Disc.	34" (86.36 cm)		Same		Same	

DATE: July 16, 1981 LOCATION: Old Ferry

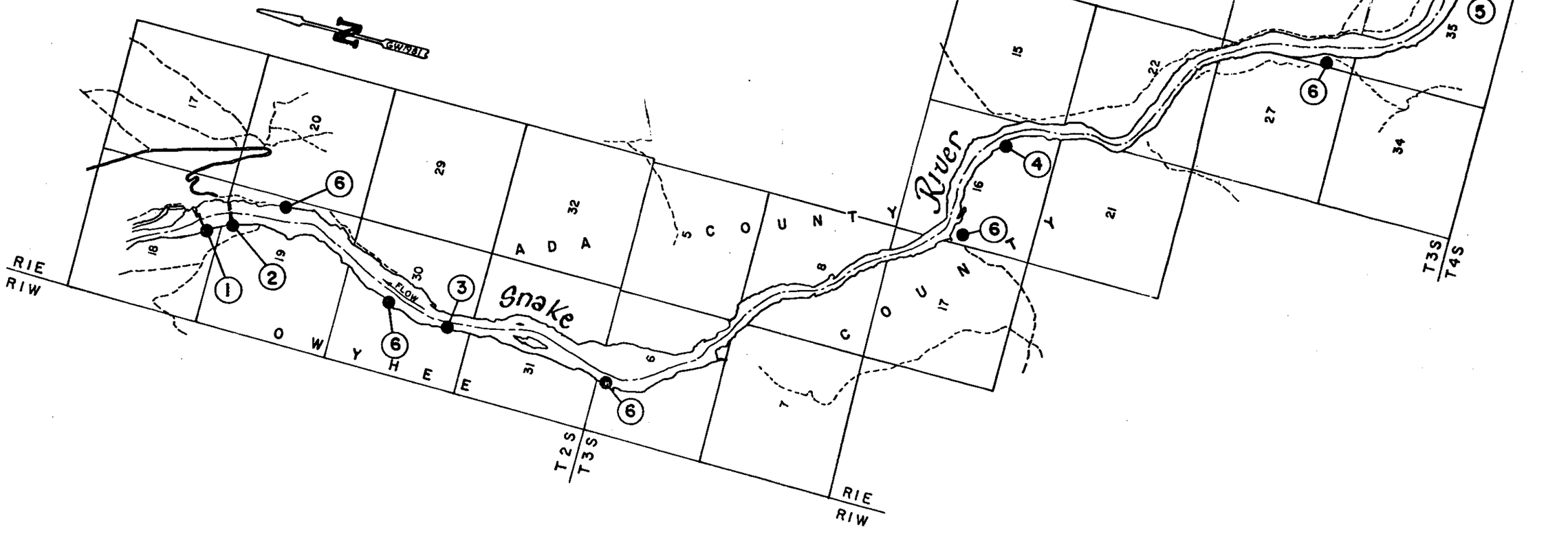
DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.5	10.2	21.0	10.45	20.75	10.8
1 Meter	22.0	9.8	21.0	10.4	21.0	10.6
2 Meters	21.5	9.6	21.0	9.65	21.25	10.0
2.5 Meters	21.0	9.8				
3 Meters			21.0	9.25	21.0	9.8
4 Meters			20.75	9.2	21.0	9.45
4.25 Meters			20.5	9.4		
5 Meters					21.0	9.5
Secchi Disc.	33" (83.82 cm)		Same		Same	

DATE: August 13, 1981 LOCATION: Old Ferry

DEPTH	1/3 DISTANCE FROM SOUTH SHORE		CENTER OF RESERVOIR		1/3 DISTANCE FROM NORTH SHORE	
	TEMP C°	D.O.	TEMP C°	D.O.	TEMP C°	D.O.
Surface	22.0	8.5	21.5	8.45	21.25	8.6
1 Meter	22.0	8.5	21.75	8.7	21.75	8.4
2 Meters	22.0	8.3	22.0	8.6	22.0	8.25
2.2 Meters	22.0	8.0				
3 Meters			22.0	8.1	22.0	8.1
4 Meters			22.0	8.3	22.0	8.0
5 Meters					22.0	8.175
5.4 Meters					22.0	8.0
Secchi Disc.	33" (83.82 cm)		35" (88.9 cm)		35" (88.9 cm)	

WATER QUALITY STATIONS

1. SWAN FALLS DAM
2. OLD FERRY
3. BALL POINT
4. THOMAS FLATS
5. CLARKS FERRY
6. IRRIGATION PUMP SITES



PROJECT Nº 503—IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 6
WATER QUALITY STATIONS AND
IRRIGATION PUMP LOCATIONS
IDAHO POWER CO. OCTOBER 1981

2.2.2.2 Dissolved Gas

Previous studies indicate that there is no dissolved gas problem associated with Applicant's projects in the upper Snake River. No problems are expected to develop due to the proposed project.

2.2.3 Downstream Water Quality

The Division of Environment, Idaho Department of Health and Welfare, maintains a water quality surveillance system consisting of an ambient monitoring network and intensive or special surveys. The ambient monitoring system is used to measure trends in water quality at major rivers and tributaries. Stations are located at state and hydrologic basin boundaries, on significant tributaries, and at locations which bracket major land use or pollution source areas.

The system determines ambient water quality, provides for evaluation of trends or shifts in water quality, and assists in assessing the effectiveness of the water pollution control program.

The Southwest basin drains an area of approximately 19,250 square miles. Major tributaries to the Snake River are the Bruneau River, Boise River, Payette River and Weiser River. The tributaries in Oregon which drain into the Snake River (but are not included in the Southwest Basin) are the Owyhee River, Malheur River, Burnt River and Powder River.

The Southwest Basin contains some of the most highly industrialized and urbanized areas in the State. Ada and Canyon counties contain 25% of the state's population and includes the cities of Boise, Meridian, Nampa and Caldwell. Agriculture and the food processing industry are of major importance to the economy.

Water quality is monitored in the Southwest Basin by three trend stations on the Snake River, and by four stations on tributaries - the Boise, Payette, Weiser and Bruneau Rivers. The quality of the Snake River as it enters this basin at King Hill is impaired by high nutrient concentrations and elevated summer temperatures. As the Snake River flows through the Southwest

Basin, bacterial densities, suspended sediment and nutrients increase.

The Bruneau River empties into the Snake River on the south side at C.J. Strike Reservoir. The Bruneau River carries a large amount of sediment in the spring during runoff and during the irrigation season. Sediment concentrations were high in Water Year 1979 and appear to be increasing with time. Hot springs also influence the lower Bruneau River by increasing dissolved solids and raising fluoride levels above drinking water standards.

According to the Idaho Water Resource Board, 1972, because of less extensive riverbank development upstream from Marsing, and therefore more opportunity for the assimilation of wastes in this stretch of the river, the quality of water around Marsing is better than in reaches further upstream and downstream.

The Snake River between King Hill and Weiser is an area in the Southwest Basin where water depletion could impact water quality.

The Snake River at Marsing has on overall fair-to-poor water quality rating due to a combination of natural and manmade effects. Summertime daily temperatures are high and the pH remains near the maximum pH criteria, both of which are related to natural and man-made causes. In addition, bacterial densities and nutrients are, on the average, near water quality limits.

The Boise River, Payette River and Weiser River stations record the effects on water quality of intensively developed agricultural areas. The Boise River station shows the worst water quality conditions since irrigation water is often used several times by the time it reaches this location. Suspended sediment, nutrients, and bacterial densities are very high and summertime temperatures exceed recommended maxima for salmonid species. In addition, agricultural pesticides have been detected in fish at this station in concentrations which are harmful to fish and their predators. The Payette River and Weiser River stations show similar problems to the Boise River but with less severity, and pesticides did not show up as a problem in fish tissues.

The Snake River at Weiser station shows the effect of the three tributaries discussed above and other drainages in the Treasure Valley on water quality. In comparison to the Marsing Station upstream bacterial densities, nutrients and suspended solids have increased resulting in the poorest overall water quality condition measured in the Snake River in Idaho. Also, pesticides were detected in fish tissues at these stations at levels that are potentially harmful to aquatic life. By contrast, water quality improves greatly after passing through Brownlee, Oxbow, and Hells Canyon Reservoirs. Below Hells Canyon Dam bacterial densities, turbidity (aesthetics), and suspended solids have improved greatly and are similar to levels found near the headwaters of the Snake River in Idaho at Heise. Nutrient concentrations are the only major pollutant category that continue to show water quality concerns below the dam.

Ambient water quality conditions are summarized and evaluated by using EPA's Water Quality Index (WQI). The Water Quality Index reduces the mass of monthly data to a single overall measure which expresses the quality of a stream or river. The index is an aggregation of a standardized set of parameters and associated criteria which provides a means for measuring and comparing water quality status with respect to water quality goals. Sub-indices are calculated for ten pollution categories. An overall WQI number for each station is then calculated from these sub-indices which are weighted by the relative severity of the criteria being exceeded for each group.

The WQI numbers span a scale from zero to 100, with zero meaning no evidence of pollution and 100 indicating severe pollution. Twenty is used as a break point for parameters which exceed a minimum criteria. Therefore, less than 20 indicates a stream which on the average experiences no or minimal pollution. Sixty is used as the break point indicating severe pollution. For this report the WQI was divided into additional categories and given a descriptive rating of very good, good, fair, poor and very poor (see Table 2.4).

Table 2.4: WATER QUALITY PROFILE - Southwest Basin

		TEMPERATURE	DISSOLVED OXYGEN	pH	BACTERIA	TROPHIC	AESTHETICS	SOLIDS	INORGANIC TOXICITY	ORGANIC TOXICITY	RADIATION	OVERALL WATER QUALITY CONDITION
STATION: 1 Bruneau River near Bruneau	W.Q. INDEX	11/33	6/13	6/10	18/26	16/21	11/28	29/72	---	---	---	26/57
	RATING	Fair	Good	Good	Good/Fair	Good	Good	Fair	Fair	I.D.	Fair	Fair
	TREND	no change	no change	no change	no change	no change	no change	degraded	no change			
	SOURCES	NS (AG)	NS (AG)		AG	AG	AG	AG	NS			
SEGMENTS: SWB 110 and 120												
PROTECTED USES EXCLUDED: Domestic Water Supply												
STATION: 2 Snake River at Marsing	W.Q. INDEX	13/42	2/5	23/31	19/28	20/25	6/8	18/21	---	---	---	27/50
	RATING	Fair/Poor	Good	Fair	Fair	Fair	Good	Good/Fair	Good	I.D.	I.D.	Fair/Poor
	TREND	no change	no change	no change	degraded	no change	no change	no change	no change			
	SOURCES	HM, AG			AG (M)	AG, US (M)						
SEGMENTS: SWB 20												
PROTECTED USES EXCLUDED:												
STATION: 3 Boise River near Parma	W.Q. INDEX	9/29	5/9	10/12	54/63	44/54	10/13	35/48	16/18	---	---	70/87
	RATING	Fair	Good	Good	Poor	Poor	Good	Fair/Poor	Good	V. Poor	I.D.	V. Poor
	TREND	no change	no change	no change	no change	no change	no change	no change	I.D.			
	SOURCES	AG (HM)			AG (M, URB)	AG, M (URB)		AG (URB)				
SEGMENTS: SWB 260 - 280												
PROTECTED USES EXCLUDED: Domestic Water Supply												

Idaho Water Quality Status Report - 1980
Idaho Department of Health and Welfare - Division of Environment - July, 1980

Table 2.4: WATER QUALITY PROFILE - SOUTHWEST BASIN (continued)

		TEMPERATURE	DISSOLVED OXYGEN	pH	BACTERIA	TROPHIC	AESTHETICS	SOLIDS	INORGANIC TOXICITY	ORGANIC TOXICITY	RADIATION	OVERALL WATER QUALITY CONDITION
STATION: 4 Payette River near Payette	W.Q. INDEX RATING TREND SOURCES	8/27 Fair no change HM (AG)	4/7 Good no change	6/7 Good no change	31/44 Fair no change AG (M)	22/28 Fair no change AG (M)	8/11 Good no change AG	19/29 Fair no change	--- Good no change	--- I.D.	--- Good I.D.	31/57 Fair
SEGMENTS: SWB 310 - 340 PROTECTED USES EXCLUDED:												
STATION: 5 Weiser River near Weiser	W.Q. INDEX RATING TREND SOURCES	11/36 Fair no change AG (HM)	3/6 Good no change	7/9 Good no change	27/44 Fair no change AG (M)	25/34 Fair no change AG (M)	12/18 Good no change AG	17/28 Good/Fair no change	--- Good no change	--- I.D.	--- Good I.D.	29/58 Fair
SEGMENTS: SWB 410 - 420 PROTECTED USES EXCLUDED: Domestic Water Supply												
STATION: 6 Snake River at Weiser	W.Q. INDEX RATING TREND SOURCES	12/28 Fair no change US, AG	4/7 Good no change	25/29 Fair no change	46/56 Poor degraded AG (M)	26/30 Fair no change AG (M)	9/14 Good no change AG	23/33 Fair degraded AG	--- Good no change	--- Poor I.D.	--- I.D.	50/73 Poor
SEGMENTS: SWB 30 and 40 PROTECTED USES EXCLUDED:												
STATION: 7 Snake River below Hells Canyon Dam	W.Q. INDEX RATING TREND SOURCES	10/28 Fair no change HM	10/24 Good/Fair no change HM, US	12/18 Good no change	3/5 V. Good no change	21/25 Fair/Good no change US	2/4 V. Good no change	10/12 Good no change	--- Good no change	--- Fair I.D.	--- I.D.	15/25 Good/Fai
SEGMENTS: SWB 50 and 60 PROTECTED USES EXCLUDED:												

Within the profile table, two WQI numbers are shown. The first is the average condition by water year. The second is the average of the high three months for the water year. The second WQI number, therefore, illustrates the seasonal extremes for the period covered. For temperature and dissolved oxygen categories the high three month WQI was used for the rating. For the other categories, the average WQI was used for the rating.

2.3 MINIMUM FLOW RELEASES

2.3.1 Changes in the Design of Project Works and in the Project Operation

The backwaters of Swan Falls reservoir extend upstream about 12 miles from the dam. The area-capacity curves for the reservoir are presented in Exhibit B on Figure B-2. They show that the surface area is about 900 acres and the capacity about 5000 acre-feet at the normal maximum reservoir level, elevation 2314.0.

At the present time the upper four feet of the reservoir is used to re-regulate the discharge from C.J. Strike, located about 38 miles upstream from Swan Falls. The C.J. Strike Power Plant has a discharge capacity of about 13,000 cfs and is presently used for peaking operations, especially during the low flow season. However, the peaking operations are limited by the useful storage at Swan Falls, estimated to be about 2500 acre-feet.

There will be no significant change in the operation of the reservoir as a result of the proposed new power development at Swan Falls. There may be some change in the use of the storage, because of the larger turbine capacity provided by the new development, but the reservoir drawdown will be limited to four feet as at present. Furthermore, the discharges from Swan Falls will be monitored to conform to the following guidelines.

2.3.1.1 In the summer season (April 1 - September 30) the minimum discharges will be not less than 5000 cfs, except if the average daily inflow is below 5000 cfs, in which case the

plant discharge will be maintained equal to the average inflow.

2.3.1.2 In the winter season (October 1 - March 31), the minimum flow will not be less than 4000 cfs, except if the daily average inflow is less than 4000 cfs. In which case the plant discharge will be maintained equal to the average inflow.

2.3.1.3 Changes in plant discharge will be controlled so that fluctuations in the tailwater will not exceed one foot per hour.

2.3.1.4 The maximum daily fluctuation in the tailwater will be limited to three feet.

The above guidelines are similar to the guidelines that govern the operation of the existing Swan Falls Power Plant.

2.4 MEASURES TO PROTECT OR IMPROVE WATER QUALITY

2.4.1 Existing Measures

At the present time, no special measures are taken to insure that water quality standards are maintained at or below Swan Falls Dam.

2.4.2 Agency Recommended Measures

State and Federal Agencies charged with the protection of state water quality have not specified any special measures to protect the existing water quality below the Swan Falls Dam. Water quality is not expected to change as a result of implementation and operation of the proposed project.

2.4.3 New Measures

No additional or different measures are contemplated or needed to protect existing water quality.

III. REPORT ON FISH, WILDLIFE AND BOTANICAL RESOURCES

3.1 VEGETATION

Human use of the Snake River Plain and canyon within the project area is not a recent occurrence. Petroglyphs and other archaeological sites show that Indian use of the area predates the coming of the earliest fur trappers and explorers by several thousand years.

The first cattle to enter the area probably date back to early white settlements. By 1900, much of the area had undoubtedly been grazed. Cheatgrass was first reported in Idaho in 1900. Cheatgrass is quick to occupy areas where native vegetation has been degraded by overgrazing and other disturbances.

The construction of Swan Falls Dam in 1901 caused alteration of the native plant cover within the project area. Conversion to agricultural use of land within and adjacent to the study area further altered the native plant communities. The establishment of the reservoir behind Swan Falls Dam altered the existing riparian vegetation. No information is available as to how long it took the present riparian growth to become re-established.

At present, the two major stresses on the noncultivated vegetation of the study area appears to be livestock grazing and vehicular activity. Evidences of grazing can be seen wherever slopes are not too steep or rocky to discourage livestock use. Vehicular use is apparently increasing. Several roads exist that were not present when the U.S. Geological Survey's 7.5 minutes quadrangle maps of the area were compiled a decade ago. Erosion is severe along the roads, particularly where they traverse sedimentary deposits rather than basalt, and ruts often cut deep into the soil. The vegetation along these roads usually consists of Russian Thistle, peppergrass, sunflower and puncture vine and extends several feet on either side of the road.

3.2 HABITAT DISTRIBUTION AND VEGETATION

Several habitat types occur in the vicinity of the project boundary. They are herbaceous riparian, woody riparian, shrub/

grass, cliff/talus slope, annual grass, agricultural lands, reservoir water and river water.

Submergent, floating and emergent aquatic plants occur within the open water portions of the study area. Floating plants, such as duckweed, watershield, pond lily and pondweed are found in areas of calm water. Submerged plants, including elodea, water milfoil, stonewort and mare's tail are reported from the area.

Table 3.1 lists a number of aquatic plants reported by the Bureau of Land Management as occurring in the Snake River.

TABLE 3.1 - AQUATIC PLANTS* FOUND IN THE SNAKE RIVER
(Bureau of Land Management 1976)

FLOATING PLANTS	
Lemna spp.	Duckweed
Spirodela spp.	Great duckweed
Brasenia spp.	Water-shield
Nuphar spp.	Pond lily
Potamogeton spp.	Floating pondweed
Algae	Bluegreen and green algae
SUBMERGENT PLANTS	
Chara spp.	Stonewort
Utricularia spp.	Bladderwort
Ceratophyllum spp.	Hornwort
Hippurus spp.	Mare's tail
Elodea spp.	Elodea
EMERGENT PLANTS	
Sparganium spp.	Bur-reed
Alisma spp.	Waterplantain
Glyceria spp.	Mannagrass
Beckmannia spp.	Sloughgrass

3.2.1 Herbaceous riparian habitat occurs along the riverbanks, at the mouths of some streams and on low-lying islands and bars

throughout the area. It includes several distinct plant communities as well as mixtures of others. In the waters behind Swan Falls Dam, shallow banks and low bars support extensive bulrush communities which extend from high water lines well out into the water. Common reed cattail are often minor components which extend from high water lines well out into the water. Common reed and cattail are often minor components which extend from high water lines well out into the water. Common reed and cattail are often minor components of the bulrush communities. Bulrush stands can also be seen in slow-moving shallow water elsewhere. Low-growing willow- (under three feet high) occurs in patches along the banks, often as part of the riverbank composite community (i.e., dominated by members of the composite family). This narrow (one to six feet wide) bank of herbs and low shrubs is usually present from the area between apparent high and low water lines. Cocklebur is somewhat more abundant than other species, but begger ticks, sneezeweed, goldenrod, Indian tobacco, horseweed, sunflower and western mugwort are plentiful. Sedges, dogbane and horsetail are often present.

3.2.2 Wood riparian habitat includes all woody vegetation over three feet high. Its composition varies, apparently depending on proximity to water, aspect, slope and soil. Willows are the most common trees at the river's edge. In some areas, such as just below Swan Falls Dam and at the mouth of Sinker Creek, the willows form dense thickets and few other shrubs or trees are present. In other areas, the willows grow common, sometimes occurring near the river's edge.

3.2.3 The Shrub/Grass type includes a variety of plant communities ranging from stands of predominantly cheatgrass mixed sparsely with brush to dense shrub stands. Greasewood, sagebrush, spiny hopsage, shadscale, saltbrush, rabbitbrush, cheatgrass, alkali saltgrass and tansy mustard are the most common species in the shrub/grass areas. Shadscale is more frequent on north facing slopes. Cheatgrass is found in nearly all communities and alkali

saltgrass occurs in dense stands on lower terraces and playas. Higher terraces often support a mixed stand of rabbitbrush, snakeweed and cheatgrass. Patches of big sagebrush occur throughout the project area. Greasewood stands are also common, commonly occurring near the river's edge.

3.2.4 Rocky Cliffs/Talus Slopes

Very little vegetation occurs on rocky cliffs and talus slopes. Pockets of soil on the cliffs support individual plants such as buckwheat and bladder-fern. Talus slopes support few plants unless the rock cover is thin or fine textured. Desert parsley, spiny hopsage, greasewood, horsebrush and shaggy fleabane ar example of the plants which can be found on talus slopes.

3.2.5 Annual grass habitat is composed of almost pure stands of cheatgrass. It occurs in areas which have experienced a high degree of disturbance, either by fire, range practices or other activities.

3.2.6 Agricultural Lands

Only one small area of agricultural lands are located within the project boundary. It is near the upper end of the reservoir and supports a variety of agricultural crops, depending on what is planted in a given year.

3.2.7 Reservoir habitat consists of Swan Falls reservoir itself and extends approximately 12 miles upstream, behind the dam.

3.2.8 Open river water is located in the river channel which is not impounded behind the dam.

A plant list which includes the common taxa known to occur within or around the project boundary is contained in the following table.

TABLE 3.2 A PARTIAL CHECKLIST OF VEGETATION OF THE SNAKE RIVER CANYON AND ASSOCIATED ECOSYSTEMS

Common Name	Scientific name
Western scouring rush	Equisetum hymenale
Horsetail	E. variegatum
Cattail	Typha latifolia
Arrowhead	Sagittaria cuneata
Ticklegrass	Agrostis scabra
Bluebunch wheatgrass	Agropyron spicatum
Crested wheatgrass	A. cristatum
Cheatgrass	Bromus tectorum
Bermuda grass	Cynodon dactylon
Saltgrass	Distichilis stricta
Barnyard grass	Echinochloa crusgalli
Giant wildrye	Elymus cinerea
Foxtail barley	Hordeum jubatum
Mouse barley	H. murinum
Indian ricegrass	Oryzopsis hymenoides
Witchgrass	Panicum capillare
Reed canary grass	Phalaris arundiracea
Common reed	Phragmites communis
Pacific Bluegrass	Poa gracillima
Rabbitfoot grass	Polypogon monspeliensis
Green bristlegrass	Setaria lutescens
Sand dropseed	Sporobolus cryptandrus
Alkali sacaton	S. airoides
Needle-and-thread	Stipa comata
Three-awn	Aristida longiseta
Hardstem bulrush	Scirpus acutus
Softstem bulrush	S. validus
Sedge	Carex hystricina
Sedge	C. langinosa
Spike rush	Eleocharis palustris
Rush	Juncus articulatus
Rush	J. torreyi
Asparagus	Asparagus officinalis
Cottonwood	Populus deltoides
Peachleaf willow	Salix anygdaloides
Sandbar willow	S. exigua
Willow	S. lasiandra
Hackberry	Celtis douglasii
Stinging nettle	Urtica dioica
Eriogonum	Eriogorum acaule
Water persicaria	Polygonum coccinium
Persicaria	P. hydropiper
Indian tobacco	Rumex crispus
Lamb's quarters	Chenopolium album
Four-winged saltbrush	Atriplex canescens
Shadscale	A. confertifolia

Nuttall saltbrush	A. nuttallii
Red orache	A. rosea
Spiny hopsage	Grayia spinosa
Green molly	Kochia americana
Seepweed	Suaeda nigra
Seepweed	S. occidentalis
Greasewood	Sarcobatus vermiculatus
Bassia	Bassia hyssopifolia
Russian thistle	Salsola kali
Amaramth, pigweed	Amaranthus retroflexus
Buttercup	Ranneulus cymbalaria
Whitetop	Cardaria draba
Peppergrass	Lepidium perfoliatum
Thelypodium	Thelypodium sagittatum
Golden currant	Ribes aureum
Currant	R. viscossimum
Wild rose	Rosa woodsii
Blackberry	Rubus occidentalis
American licorice	Glycyrrhiza lepidota
Squaw bush	Rhus trilobata
Poison ivy	Toxico-endron radicans
Tamarisk	Tamarix pentandra
Russian olive	Eleaganus angustifolia
Fireweed	Epilobium watsonii
Evening primrose	Oneothera biennis
Gaura	Gaura parviflora
Water milfoil	Myriophyllum spicatum
Poison hemlock	Conium maculatum
Water hemlock	Berula erecta
Ash	Fraxinus latifolia
Dogbane	Apocynum androsaemifolium
Dogbane	A. cannabinum
Milkweed	Asclepsis fasicularis
Milkweed	A. speciosa
Dodder	Cuscuta indecora
Verbena	Verbena bracteata
American bugleweed	Lycopus americanus
Bugleweed	L. asper
Spearmint	Mentha spicata
Mint	Teuerium canadense
Bittersweet	Solanum dulcamara
Monkey flower	Mimulus guttatus
Speedwell	Veronica anagallis-aquatica
Teasel	Dipsacus sylvestris
Ragweed	Ambrosia artemesiafolia
Cudweed	Artemisia dracurclus
Wormwood	A. ludoviciana
Sagebrush	A. tridentata
Aster	Aster canescens
Aster	A. chilensis
Aster	A. hesperius
Nodding beggar ticks	Bidens cernua
Rubber rabbitbrush	Chrysothamnus nauseosus
Sticky rabbitbrush	C. viscidiflorus

Thistle	Cirsium vulgare
Gum plant	Grindella squarrosa
Snakeweed	Gutierrezia sarothrae
Sneezeweed	Helenium autumnale
Sunflower	Helianthus annus
Yarrow	Achillea millefolium
Poverty weed	Iva axillaris
Prickly lettuce	Lactuca serriola
Goldenrod	Solidago gigantea
Horsebrush	Tetradymia glabrata
Cocklebur	Xanthium strumarium
Winterfat	Eurotia lanata

Sigler, et al, 1972.

3.3 ENDANGERED OR THREATENED PLANT SPECIES

The U.S. Fish and Wildlife Service presently list four plant species as threatened or endangered which may occur within the vicinity of the project boundary. They include the following: (Federal Register, Monday, December 15, 1980)

Lesquerella davisii

Astragalus mulfordae

Astragalus purshii var. ophiogenes

Astragalus comptopus

One species, A. purshii var. ophiogenes does not qualify for listing under the Endangered Species Act. The Fish and Wildlife Service is presently planning to remove it from the list.

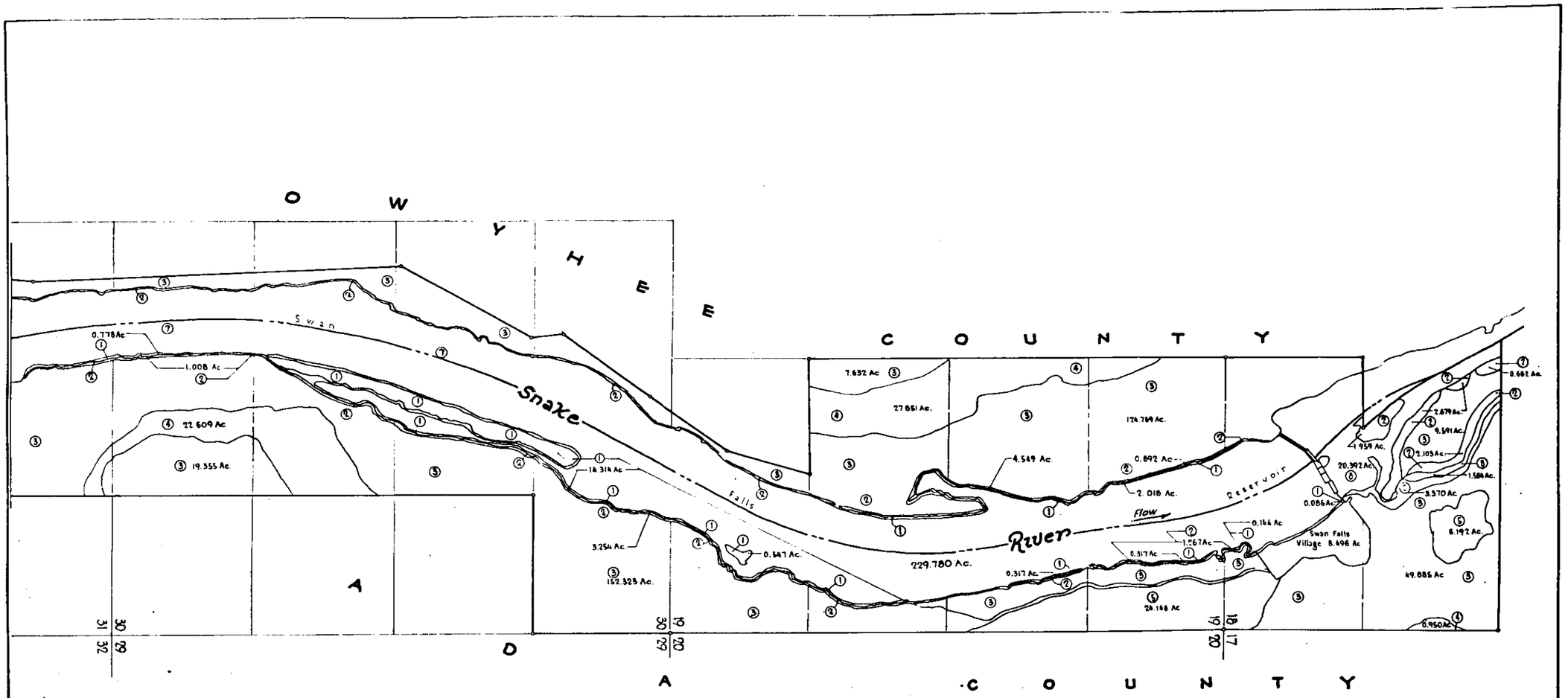
The Applicant consulted with knowledgeable botanists and visited local herberia collections to gather information relative to the known distribution and collections of listed plants. From herberia data, habitat descriptions were formulated and field investigations of potential impact areas were conducted.

Areas of potential impact were investigated periodically during the spring and summer months.

No endangered or threatened plant species were located within the areas of anticipated impact.

3.4 AQUATIC BIOLOGY

The construction of dams on the Snake River resulted in changes in and availability of fish habitat, and the introduction



SWAN FALLS H.E DEVELOPMENT
GENERALIZED VEGETATION MAP
APPROXIMATION IN ACRES

	Swan Falls Village	Herbaceous Riparian	Woody Riparian	Shrub Grass	Cliff/Talus Slope	Annual Grass	Agricultural Land	Reservoir Area	River Area
Sheet 1	8.496	18.519	21.563	363.555	51.410	30.340	*	229.780	21.976
Sheet 2	*	12.972	70.159	231.276	8.698	*	*	291.923	*
Sheet 3	*	5.127	24.155	178.021	*	*	9.389	187.498	*
Sheet 4	*	3.301	65.063	143.927	*	*	*	197.735	*
TOTALS	8.496	39.919	180.870	911.819	60.108	30.340	9.389	846.634	21.976

Existing Vegetation

1. Herbaceous Riparian
2. Woody Riparian
3. Shrub / Grass
4. Cliff / Talus Slope
5. Annual Grass
6. Agricultural Land
7. Reservoir
8. River

Scale in Hundreds of Feet

PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT
FIGURE 7 GENERALIZED HABITATS

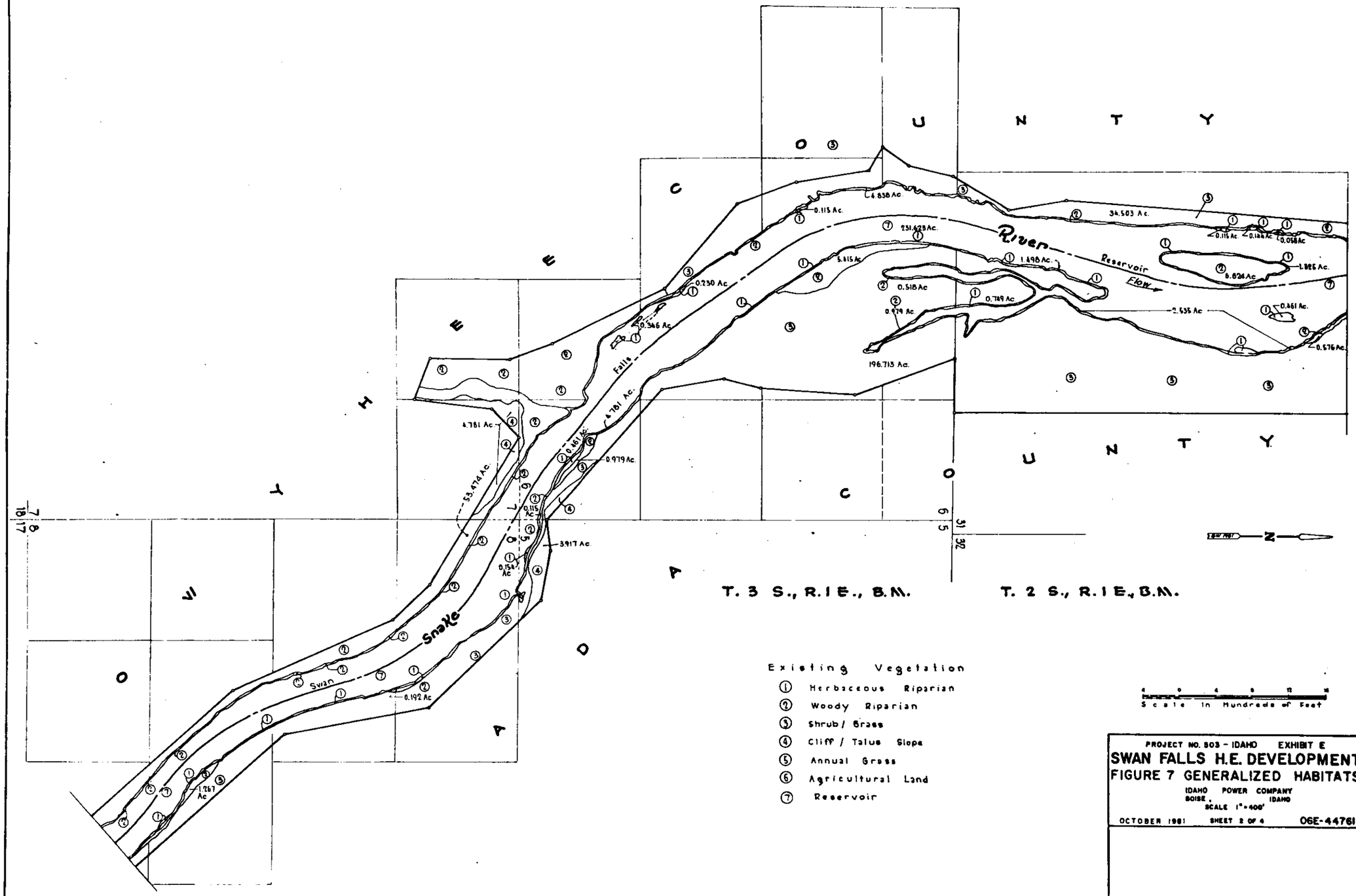
IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1"=400'

OCTOBER 1981 SHEET 1 OF 4 06E-44761

T. 2 S., R. 1 E., B.M.,

FIGURE

FERC N° 30-3



Existing Vegetation

1. Herbaceous Riparian
2. Woody Riparian
3. Shrub / Grass
4. Cliff / Talus Slope
5. Annual Grass
6. Agricultural Land
7. Reservoir

Scale in Hundreds of Feet

PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT

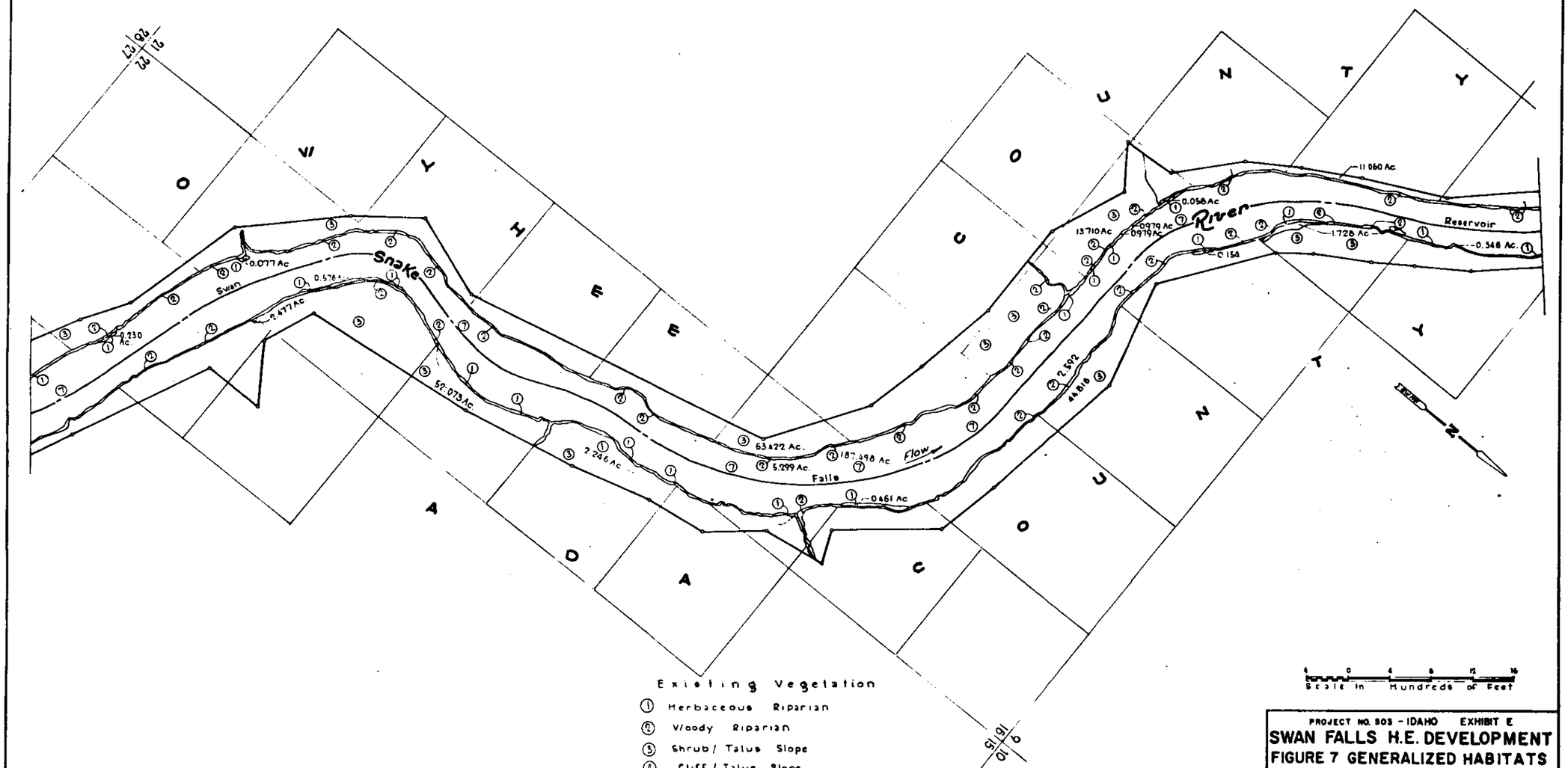
FIGURE 7 GENERALIZED HABITATS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1"=400'

OCTOBER 1981 SHEET 2 OF 4 OGE-44761.

FIGURE

FERC Nº 38-3



PROJECT NO. 503 - IDAHO EXHIBIT E

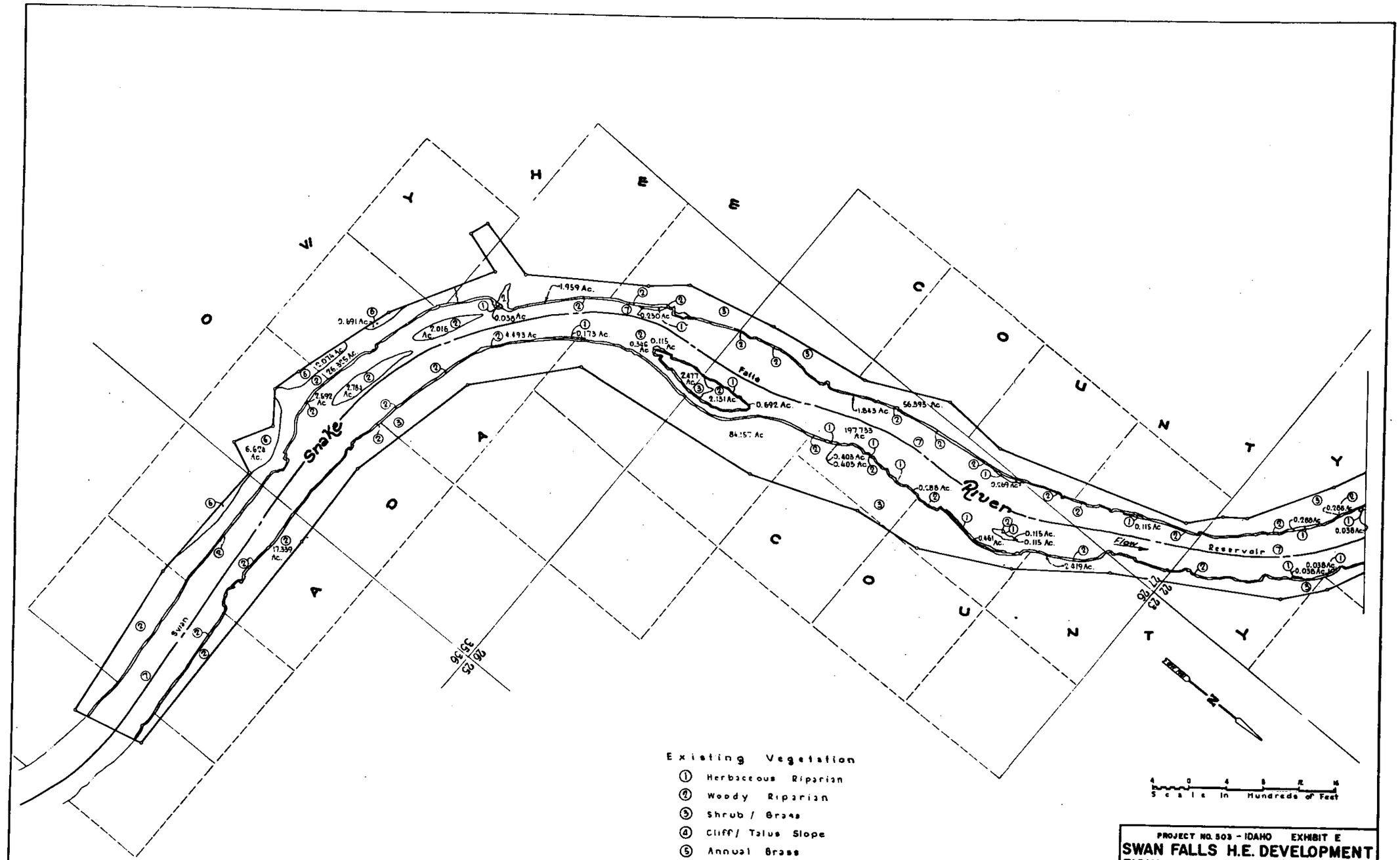
SWAN FALLS H.E. DEVELOPMENT
FIGURE 7 GENERALIZED HABITATS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1" = 400'

OCTOBER 1981 SHEET 3 OF 4 06E-4476.1

FIGURE

FERC No. 38-3



PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT
FIGURE 7 GENERALIZED HABITATS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1" = 400'

OCTOBER 1981 SHEET 4 OF 4 06E-4476I

FIGURE

FERC N°

38-3

of warm water fishes resulted in the elimination or reduction of anadromous fish species and their numbers in much of the Snake River. Today, white sturgeon, mountain whitefish, channel catfish and smallmouth bass are the primary game fish in the river. Edson reports that in 1893, 100 adult channel catfish were stocked in the Boise River and carp were found in the Snake River near Glenns Ferry as early as 1894. The introduction and subsequent establishment of these and other speciies, such as yellow perch and black crappie, soon followed.

The construction of three dams (Swan Falls, Arrowrock and Black Canyon) resulted in a 70% reduction of waterways and spawning areas available to anadromous fish upstream of Hells Canyon. The first dam on the Snake River was built at Swan Falls in 1901. A fish ladder included in the structure allowed only limited fish passage. Construction of the Arrowrock Dam in 1914 blocked the entire upper Boise River drainage. The Black Canyon Dam completed in 1924 effectively blocked the Payette River.

Originally, the Snake River was entirely free-flowing with a steep gradient and contained deep holes, swift-flowing rapids and shallow riffle areas which provided a range of fish cover, spawning and food-producing areas.

Today, with the construction of dams to meet flood control, irrigation and power needs, only two types of aquatic habitat exist in the river; a reservoir or lentic habitat in waters impounded behind dams, and a free-flowing or lotic habitat in waters downstream of dams. Warm water fish species such as carp and sucker typically occur in the lentic habitat, while species such as sturgeon, whitefish and trout prefer the lotic habitat.

The river from Swan Falls Dam (RM 456) upstream to about Big Foot Bar (RM 466) is represented by lentic habitat created by the Swan Falls impoundment.

Irving and Cuplin state that the Swan Falls impoundment has three important characteristics:

1) the volume of water is not much greater than an average river section of equal length;

2) the area of an average cross-section of the impoundment is not much greater than that of an average river section of equal length, and

3) as a result of characteristics one and two, the exchange of water occurs at a relatively rapid rate.

Sigler, et al. conclude that despite these apparent similar hydrological characteristics before and after impoundment, the existing Swan Falls reservoir does not seem to have the proper limnological characteristics to encourage either standing-water or running-water game fish.

The shoreline of the Swan Falls impoundment is predominantly mud, which is poor habitat for fish except carp and suckers. Sigler report that a nearly flat mudbank is exposed during low reservoir levels. The aquatic plants are primarily emergent bulrushes, with no evident submerged plants. During daily water level fluctuations (up to 1.5 feet), the bulrushes are in water too shallow for use as fish habitat. The shoreline can be characterized as typical of fluctuating reservoirs carrying medium to heavy sediment load.

Sigler, also found few aquatic insects along the mudbanks. Midges were dominant. The caddisflies and mayflies that were present were not indigenous, but probably flew upstream from below the dam. The limited number of available invertebrates is relatively poor food for fish other than carp and sucker.

There are no recent data available describing the plankton community in the study area. However, the numerous impoundments and multiple use of the Snake River water have changed many stretches into fertile, warm water habitats. The Swan Falls impoundment is typical of lentic habitats in that turbidity and algal growth appear relatively high. Chapman believes that reservoir eutrophication, with corresponding increases in algal biomass, would result in increased fish biomass, predominantly of warm water species. The most abundant plankton expected to occur in

the study area would be diatoms, green algae and copepods or cladocerans.

The portion of the Snake River below Swan Falls Dam is a free-flowing system with generally swift current and alternating pools, rapids and occasional riffles. Approximately one mile downstream of the dam the river is narrow and deep (60-80 feet). Further downstream the river widens and becomes more shallow.

The visible substrate below Swan Falls Dam is sand, gravel and rock with a small percentage of mud in areas of back-eddy. This type of substrate would be suitable for benthic invertebrates such as caddisflies, mayflies and stoneflies, all of which are important food sources for game fish.

The shoreline is heavily vegetated with semi-aquatic grasses and emergents like Scirpus (bulrush) and other sedges. Submerged species such as Potamogeton are also present and probably provide good fish habitat. Because the Swan Falls installation is used to regulate the fluctuating flows released from the C.J. Strike Dam upstream, daily water level fluctuations are not severe below Swan Falls and shoreline plants remain accessible to fish. Overall, the Snake River below Swan Falls Dam appears to provide a greater diversity of fish habitat and much better habitat for game fish than does the Swan Falls reservoir.

3.5 STUDY AREA FISHERY

Sigler, et al. reported that the proportion of species downstream of Swan Falls Dam was 26.5 percent game fish and 73.4 percent nongame fish. The most abundant game fish were channel catfish, followed by smallmouth bass, black crappie and mountain whitefish. However, the three most abundant fish were the nongame species: large scale sucker, carp and northern squawfish. The fish population in the Swan Falls reservoir was almost entirely nongame species (97.9 percent of the entire catch), with large scale sucker, carp and northern squawfish again dominant.

Hook and line fishing between Swan Falls Dam and the Guffey site resulted in game fish catch/effort values of four smallmouth bass and ten carp per hour.

Northern squawfish, chiselmouth, channel catfish, rainbow trout and carp were also caught, but in smaller numbers. In a similar but limited effort in Swan Falls reservoir, no game fish were taken.

Sigler noted that the three dominant nongame species (sucker, carp, squawfish) were similarly abundant above and below the dam. However, the fish species diversity index was significantly higher below the dam, which reflects the influence of the better and more varied fish habitat. In general, diversity tends to be low (i.e., sensitive to physical-chemical limiting factors) in physically controlled ecosystems like the Swan Falls reservoir, and high in free-flowing biologically controlled ecosystems where overall habitat stability is a major factor in regulating species diversity.

Surveys by Reid found the river from Swan Falls Dam downstream comparatively rich in game fish. Of the 1,399 fish collected, 17.8 percent were game fish, the majority of which were channel catfish, black crappie and smallmouth bass. The most abundant species were nongame fish such as carp, sucker, northern squawfish and chiselmouth. Of 1,784 fish captured in the Swan Falls reservoir, 94.5 percent were nongame fish with carp over 30 centimeters in length comprising the bulk of the biomass.

The proportion of game and nongame fish collected by Reid in the reach of the river from the upstream end of the Swan Falls reservoir to Grandview was between the values noted downstream of the dam and in the reservoir. Eight of 14 species collected and 11.3 percent of the catch (total of 1,425 individuals) were game fish. Mountain whitefish, bluegill and black crappie were the most abundant game species, although few were of catchable size. Carp and sucker were the dominant nongame species.

Reid reported that the Swan Falls Reservoir appeared to be an excellent spawning and/or rearing area for sucker and squawfish as evidenced by the large numbers of juveniles collected. They attributed the relatively low densities of juveniles nongame fish downstream of the dam in part to the diverse number of game fish present and their probable use of the juveniles for food.

Sigler reported that sport fishing between Swan Falls Dam and the Guffey site focuses primarily on channel catfish, black crappie, smallmouth bass and white sturgeon. In 1972, 28 sturgeon one to seven feet in length were caught in this river reach.

Godnight reports that several small white sturgeon were caught below Swan Falls Dam, indicating successful reproduction in that area of the river within the past 10 years.

A rod and reel effort between the Swan Falls Dam and Guffey site in mid-July, 1972, produced three white sturgeon with lengths from 12.5 to 83 inches and ages from one to 28 years. This report also documented catches of 19 other sturgeon in this same area, 16 of which were juveniles about a foot long. Reid concludes that the occurrence of yearling sturgeon below Swan Falls documented successful reproduction in the area, and that this reach of river is one of two known remaining areas in the Snake River where signifianct reproduction is apparent (the other being the Hells Canyon reach).

Evans reported that the reaches from upstream of the Swan Falls reservoir to C.J. Strike Dam and upstream of the Brownlee reservoir to Swan Falls Dam are two of four free-flowing areas of the Snake River which contain sturgeon habitat. White sturgeon require extensive shallow riffle areas for production of food, and swift-running water (preferably rough rapids) for spawning.

The river below Swan Falls Dam contains this type of habitat. The white sturgeon's ventral, protrusible, suction-like mouth makes it well-adapted to feeding on stream-bottom organisms. Bowler believes juvenile white sturgeon in some areas of the Snake River feed heavily on caddisfly larvae. Sturgeon also feed on small freshwater mollusks and aquatic insect larvae. Scott and Crossman report that fish and crayfish were primary food of sturgeon greater than 19 inches in length.

The white sturgeon is a relatively slow-growing, long lived fish and is listed as a species of special concern by the State of Idaho. Because of its status, all fish taken by anglers must be released. Scott and Crossman suggest the life span of the white sturgeon exceeds 100 years and cite reports of an 82-year-old

specimen taken in the Columbia River. They report the largest sturgeon as one purportedly weighing over 1,800 pounds taken from the Fraser River, British Columbia. The apparent angler record is a 394-pound fish caught below Swan Falls Dam. The age of this specimen was not reported, but comparisons to published age-length data suggest it was at least 35 years old.

White sturgeon seldom spawn before they reach 10-15 years of age. Scott and Crossman report that in the Fraser River, British Columbia males first spawn at 11-22 years of age and females at 26-34 years of age. The number of eggs produced increases markedly with age. It has been determined that a 25-year-old female produces approximately 600,000 eggs and 50-year-old fish produces approximately 4,000,000 eggs.

Spawning may occur every three or four years and takes place from May through July at water temperatures of 50° to 60°F. The eggs sink, adhere to the bottom, and hatch in one to two weeks. The fry then move to shallow bays.

The river above Swan Falls reservoir to Grandview also provides favorable fish habitat for game species such as black crappie, bluegill, smallmouth bass, channel catfish and yellow perch. These species prefer cool to warm water, and during different life history stages, utilize one or more of the various flow conditions (pools, riffles, rapids, backwater) and substrate types (vegetation, sand, gravel, boulders) occurring in these river reaches.

3.6 NON-GAME BIRDS

Few studies of non-game birds have been made in the proposed project area.

In general, a low diversity of species found in the areas surrounding the study area due to low diversity in habitat structure.[1] However, several habitats occur within the proposed project area. Of major importance is an intermittent strip of riparian habitat that is used by a wide variety of bird species. The number of species in the bottomland is further increased by

the close proximity of habitat types of such as cliff face, talus slope, shrubland, grassland, riparian, marsh and aquatic areas.

3.7 UPLAND GAME BIRDS

Ring-necked Pheasant, Chukar, Gray Partridge, Mourning Dove and (most abundantly) California Quail are the major upland game-birds of the project area. The quail is closely associated with the riparian vegetation of the riverbank, channel islands, and side canyon ravines.

The chukar is relatively abundant and restricted to the desert shrub and talus slopes of the river canyon and associated drainages that are in close proximity to water. During the hot summer and fall, the riparian habitat becomes essential to these birds.

The Ring-necked Pheasant, Mourning Dove, and to a lesser degree, the Gray Partridge, occur primarily in the agricultural areas of the canyon and adjacent rimland. The greatest densities of pheasants are found in agricultural areas which contain small tracts of weedy vegetation. Sigler indicated that some of the channel islands between Swan Falls and Bernard's Ferry serve as refuge areas from hunting and predation and also as wintering and nesting areas. The Gray Partridge is found in a variety of habitat types, but is generally most abundant in cultivated areas adjacent to the shrub-grassland habitat.

3.8 WATERFOWL

The project area is used by substantial numbers of ducks and geese for nesting, wintering and resting during migration.

There are several islands in the Snake River, within the project area, that are valuable nesting areas for ducks and geese. The stretch of river between Grandview and the existing Swan Falls reservoir typically contains 10,000 to 15,000 wintering ducks.

3.9 MAMMALS

A variety of small mammals inhabit the Snake River region, including ground squirrels, pocket mice, harvest mice, marmots,

hares, rabbits, white-footed mice, woodrats and kangaroo rats. The unique combination of suitable climate, soils, topography and vegetation allows the small mammals of the region to reach high densities and diversity along the Snake River Canyon and adjacent rimlands (Ada Council of Governments, 1973).

3.10 BIRDS OF PREY

3.10.1 Population

The Birds of Prey Natural Area (BPNA) annually supports over 220 pairs of nesting raptors and ravens (Table 3.3), a higher density of nesting raptors than any similar segment of the Snake River. 1989 Supp. Pg. E-6

The Prairie Falcon is the most abundant nesting raptor in the project area, comprising over 40% of the raptor breeding population.

The total populations and population densities of the raptors at the BPNA have been presented at several worldwide meetings of raptor biologists in recent years, particularly at the World Conference on Birds of Prey in Vienna in 1975. No challenge has arisen to the statement that the BPNA is unique as habitat for raptors.

It is estimated that there are slightly more nesting raptors in some sections of the BPNA now than in 1948.

Raptors and ravens of the project area during the last few years have exhibited high levels of productivity (reproductive success) and have maintained stable population levels. For example, although the Prairie Falcon population has exhibited yearly fluctuations since 1971, the changes have not been large.

Table 3.3 summarizes the breeding populations of the 14 main raptor species (including the raven) in the BPNA and BPSA for the last few years.

Species	BPNA				BPSA		
	1975	1976	1977	1978	1975	1976	1977
Turkey Vulture	0	1	1	1	0	1	1
Red-tailed Hawk	30	23	31	29	52	52	63
Swaninson's Hawk	0	0	0	0	0	1	1
Ferruginous Hawk	7	4	6	7	10	13	13
Golden Eagle	11	11	11	14	33	32	30
Marsh Hawk	4	6	8	9	8	19	22
Prairie Falcon	118	114	127	113	188	195	205
American Kestrel	12	11	18	19	22	20	43
Barn Owl	3	4	10	22	8	14	40
Screech Owl	1	2	3	0	1	2	6
Great Horned Owl	12	5	10	4	17	15	19
Long-eared Owl	1	2	2	6	1	2	3
Burrowing Owl	0	0	0	2	2	10	8
Common Raven	56	40	57	55	100	98	120
TOTAL	255	223	284	281	442	474	574

3.10.2 Nesting Habitat

Breeding raptors utilize a variety of nesting structures (e.g., trees, cliffs, powerline structures), but over 92 percent of the breeding attempts in the project area during 1978 were in or on the cliffs of the river canyon.

The riparian habitat along the riverbanks and channel islands supplies several raptor species with suitable nesting habitat. Marsh Hawks nest on the ground on several of the channel islands of the project area. Screech and long-eared owls nest in trees along the river.

3.10.3 Prey

Small mammals, and to a lesser extent, birds and reptiles, are the major prey species of the birds of prey of the project area. Black-tailed jackrabbits and cottontails are heavily preyed upon by the Golden Eagle and some hawk species. Kochert found a strong relationship between jackrabbit densities and Golden Eagle productivity. The Townsend's ground squirrel is utilized extensively by the Prairie Falcon, Red-tailed Hawk, and Ferruginous Hawk. Kochert reported that breeding activities of raptor species such as the Prairie Falcon appear to be associated with the

phenology of their major prey species, the Townsend's ground squirrel.

The highest density of these prey species is found on the canyon rim and desert plateau adjacent to the project site in the BPSA. Kochert and Dunstan found that many of the birds of prey (i.e., Prairie Falcon, Golden Eagle, Red-tailed Hawk) maintained roughly elliptical hunting territories extending several miles away from the canyon. The presence of this prey base plays a major role in the occurrence of high numbers of nesting raptorial birds in the project area. In areas above and below the BPSA, the lack of an adequate prey base appears to limit the number of nesting raptors despite suitable cliffs for nesting.

An example is a canyon, very similar to that in the BPNA, just north of Twin Falls on the Snake River. The land surrounding either side of river is irrigated agriculture, and the area now supports very few raptors.

Prevailing winds in the canyon create strong updrafts that are beneficial to the foraging patterns of the birds of prey in the project area. These updrafts allow the birds to soar out of the canyon and to reach the primary foraging areas above the nesting sites. The juxtaposition of the prey base above the canyon also reduces the effort required of the adults in transporting prey to the young below.

Almost without exception in other raptor nesting areas in North America, the birds have to lift their quarry up from several hundred feet to over two thousand feet vertically to return to their nesting sites. The raptors living in the BPNA, most of which hunt on the plateau, have a distinct advantage in the productive prey base being above their nesting areas. It is probably a significant factor in the high density of raptors found in this area.

Although the canyon proper is not a primary foraging area for the major raptor species of the project area, Marsh Hawks and several species of owls (including long-eared, screech, short-eared, great horned and barn owls) forage for prey species in the riparian and agricultural habitat of the canyon. In addition, the

abundance of riparian birds may provide a secondary prey base for Prairie Falcons, especially in years when ground squirrels are scarce. Should peregrine falcons become established in the study area, the riparian birds would probably form an important part of their prey base.

3.10.4 Endangered Species - Birds

Two endangered species occur in the project area, the American Peregrine Falcon and the Bald Eagle.

A single female Peregrine Falcon occupied an eyrie from 1970 and 1976. In 1971 and 1972, adult male peregrine were released in hopes of forming a pair bond with this female. However, these efforts were unsuccessful and the males left the area after release. Since then, five captive-bred young peregrines, three in 1977 and two in 1978, have been successfully raised in the BPNA using nesting Prairie Falcons as foster parents.

The Bald Eagle occurs in low numbers in the project area during winter. As many as twelve have been reported. The extent of their foraging in Swan Falls reaches is unknown. They may be transient in the project area.

3.11 AGENCY RECOMMENDED MITIGATION MEASURES

The consensus of Federal and State agencies consulted in the development of this report is that the proposed project will have minimal impacts to the existing environment. It is generally recognized that most of the potential impacts have already occurred as the result of past construction and operation activities. Agency recommendations include:

1) Road modifications be conducted at a time of the year which will avoid conflict with nesting raptors. It is recommended that road construction should occur between July 1 and January 31.

2) Several agencies recommended that measures be taken to minimize turbidity and sedimentation during construction.

The Idaho Department of Fish and Game recommended that breaching of the cofferdams be scheduled to avoid conflict with sturgeon and bass spawning.

3) The Idaho Department of Fish and Game expressed concern about potential violations of fish and game regulations by the construction force.

4) It was recommended that wildlife values of disturbed areas be evaluated and that an appropriate mitigation plan be has been developed.

3.12 APPLICANT'S RECOMMENDED MITIGATION MEASURES

The Applicant is in agreement with all of the measures recommended by State and Federal agencies to minimize adverse impacts to the biological resources of the project area.

3.12.1 Road Modifications

The Applicant recommends that road modifications be made during the summer of 1982. Construction is recommended to begin on July 1 and be completed by January 31, 1983. Road construction can begin with the issuance of proper Bureau of Land Management permits. (Right-of-way application pending - See Appendix B.)

3.12.2 Efforts to Minimize Sedimentation and Turbidity

The staged plan of construction, as described in Exhibit C, will tend to minimize downstream turbidity and sedimentation. Overall, construction activities will be conducted in sections of the river where water movement has been minimized by use of spillways, cofferdams or the existing or proposed powerhouses.

In the event the island downstream from the dam is used as an aggregate source, excavation will be confined to the interior of the island. The un-excavated perimeter of the island will act as a barrier to sedimentary material.

Generally, breaching of cofferdams are scheduled to avoid conflict with fishery resources occurring downstream. Bass and

sturgeon spawning takes place in the spring of the year or early summer. Sturgeon spawning is believed to take place in March or April, although no reliable data is available for the Snake River. Bass spawning occurs when water temperatures reach 60 to 65 degrees. At Swan Falls this happens in late April, May or early June. It is the Applicant's opinion that little conflict occurs between the schedules for cofferdam removal and sturgeon and bass spawning requirements.

During excavation of the tailrace channel, the generation of turbidity is considered minimal. The area will be isolated from the main river channel by cofferdams. However, these activities are scheduled to take place during the late summer and early fall of the year. Water flows should be relatively low at that time. Fish spawning generally occurs in the early spring or early summer.

3.12.3 Enforcement of Fish and Game Regulations

The Applicant will cooperate with fish and wildlife management agencies to assure that the presence of the construction force will not adversely impact wildlife resources.

The use of private vehicles will be limited to authorized parking zones. Travel will be limited to that necessary to perform job duties.

To assure the success of these measures, the Applicant will periodically consult with appropriate agencies to evaluate their effectiveness.

3.12.4 Habitat Rehabilitation

~~Until final engineering plans are developed, it is not possible to develop a detailed habitat rehabilitation scheme. However, the Applicant will consult with the Bureau of Land Management, Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service to develop an appropriate mitigation plan for areas impacted (spoils and borrow locations).~~ 1989 Supp. Pg. E-6

3.13 EXISTING MEASURES OR FACILITIES

An existing fish ladder is located near the sluiceway of the existing facilities. The ladder was built several years ago to facilitate the passage of anadromous fish around the dam. During the years when this stretch of the Snake River was still available to salmon and steelhead, the ladder was not well utilized. At present, the fish ladder is of no practical value.

There are no other existing measures at the project to mitigate for adverse impacts to the biological resources.

3.14 SPECIFICATION FOR RECOMMENDED MEASURES

At this time, there are no specific facilities which have been recommended for mitigation purposes. However, the Applicant will consult with appropriate management agencies to develop an acceptable mitigation plan. 1989 Supp. Pg. E-6

3.15 ADDITIONAL MEASURES OR FACILITIES

No additional measures or facilities are expected or necessary for the mitigation of adverse impacts to the biological resources of the project area. 1989 Supp. Pg. E-6

3.16 ANTICIPATED CONTINUING IMPACTS TO FISH, WILDLIFE AND BOTANICAL RESOURCES

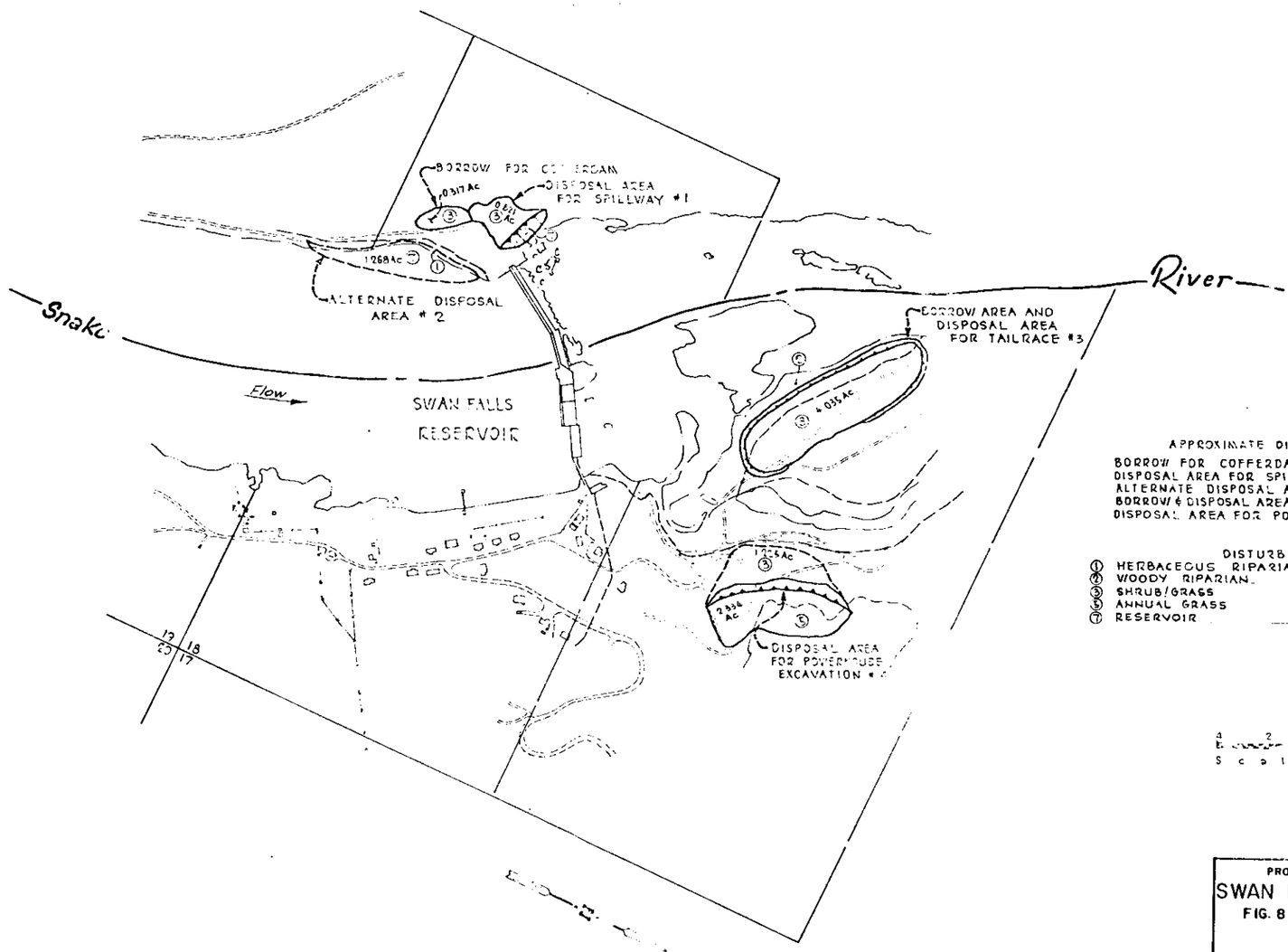
No long-term adverse impacts are expected to occur to the biological resources of the project area.

3.17 IMPLEMENTATION SCHEDULE

It is recommended by the Applicant that development of an appropriate mitigation plan be done prior to startup of construction activities. A most appropriate time would be during the spring and summer months of 1982. Implementation of the plan would follow construction activities. 1989 Supp Pg. E-6

3.18 COST

Cost estimates of a habitat rehabilitation plan cannot be developed at this time. 1989 Supp Pg. E-6



APPROXIMATE DISPOSAL and BORROW AREAS

BORROW FOR COFFERDAM	0.317 Ac
DISPOSAL AREA FOR SPILLWAY #1	0.821 Ac
ALTERNATE DISPOSAL AREA #2	1.268 Ac
BORROW & DISPOSAL AREA FOR TAILRACE EXCAVATION #3	4.035 Ac
DISPOSAL AREA FOR POWER HOUSE EXCAVATION #4	3.559 Ac
TOTAL	10.000 Ac

DISTURBED THRU CONSTRUCTION

① HERBACEOUS RIPARIAN	0.202 Ac
② WOODY RIPARIAN	1.225 Ac
③ SHRUB/GRASS	6.657 Ac
⑤ ANNUAL GRASS	0.778 Ac
⑦ RESERVOIR	1.138 Ac
TOTAL	10.000 Ac

4 2 0 2 4 6 8
Scale in Hundreds of Feet

A PORTION OF SEC. 18,
T. 2 S., R. 1 E., B.M.,
[illegible]

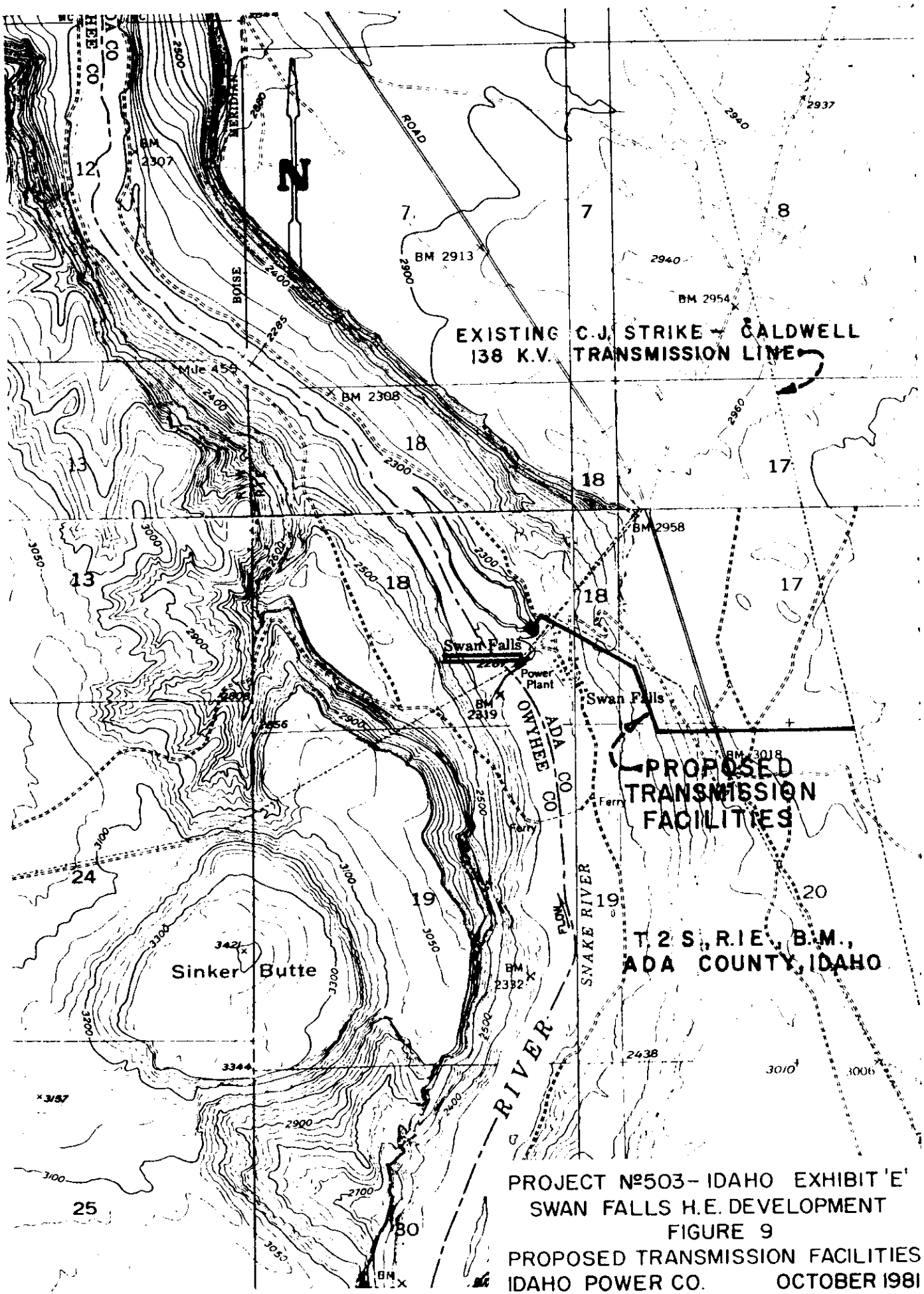
PROJECT NO. 503 - IDAHO EXHIBIT E

SWAN FALLS H.E. DEVELOPMENT

FIG. 8 SPOILS AND BORROW AREAS

IDAHO POWER COMPANY
BOISE, IDAHO
SCALE 1" = 200'

OCTOBER 1981 SHEET 1 OF 1 OGE-44770



PROJECT Nº503 – IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 9
PROPOSED TRANSMISSION FACILITIES
IDAHO POWER CO. OCTOBER 1981

IV. HISTORICAL AND ARCHAEOLOGICAL RESOURCES

4.1 BACKGROUND

The remote cultural history of the area is not yet fully understood, but prehistoric populations were in southwest Idaho as early as 6,000 years ago.

There were probably settlement concentrations, mainly winter villages, along the Snake River in this area from about 1,000 B.C.

The river provided salmon, sturgeon, mussels and waterfowl to these early people, and the canyon provided a sheltered environment in winter. Therefore, their settlements were concentrated along the riverbanks or on the few tributaries. The country above the canyon rim, at least in more recent millenia, was a relatively barren sagebrush semi-desert.

Present day Indian tribes in the region are the Shoshone-Bannock and the Shoshone-Paiute. They live mainly in the Duck Valley Reservation on the Nevada border, south of the project area, or in the Fort Hall reservation, on the Snake River in southeast Idaho.

Historic groups began to replace aboriginal populations during the first half of the 19th century. Early explorations through the project area were by fur trappers in search of new sources of beaver pelts. By 1840, a stream of settlers had begun to cross the Snake River Plain on the Oregon Trail. The south alternate of this trail passes along the south border of the project area. From 1863, mining for gold and silver increased in the region and led to the construction of ferries, roads and railroads and eventually to the introduction of irrigated farming and hydroelectric power production.

Most of the archaeological sites in the area must be regarded chiefly as a scientific and educational, rather than a recreation resource. The Idaho Historical Society maintain accurate records of site locations.

The project area has been intensively studied. In 1958, a preliminary two-week survey was conducted by D. R. Tuohy and C. Hulse of the Idaho State College Museum. The findings of this

brief survey pointed the way to a comprehensive survey by R. W. Keeler and D. G. Koko in the summer of 1971. This survey examined essentially the entire area that was to be inundated by a proposed reservoir or that would be subject to increased human use. Each of the sites discovered in this survey has been mapped, described, recorded and given a standard Smithsonian Institute number. Since 1971, ongoing survey work by BLM archaeologists has revealed many more sites. These too have been mapped, described, recorded and numbered. During the summer of 1978, an additional survey was carried out in the field by K. Murphy for the BLM. In the course of this work, many additional sites were mapped. In April 1976, a report was produced by N. Tobias illustrating a very detailed study of one specific site, the Wees Bar Petroglyph Field, four to five miles downstream from Swan Falls Dam. Only a few sites in the project area have been subject to controlled excavation.

4.2 ARCHAEOLOGICAL RESOURCES

The surveys discussed above concentrated on the areas likely to be affected by two proposed reservoirs (Swan Falls-Guffey Project). Those reservoirs are no longer considered feasible. However, it is probable that relatively few sites exist outside these areas since the early people were so dependent on the river.

In the spring of 1981, the project site was inspected by Dr. Thomas Green and Dr. Ken Swanson, Idaho State Historical Society, and Dr. Ken Ames of Boise State University. They specifically examined areas which could be disturbed by various construction activities, particularly Site No. 10AA17, which is located near the right abutment of Swan Falls Dam. As a result of the inspection, Applicant contracted with Dr. Ames to dig a series of test pits to determine the site's age, the nature of the subsurface deposits and the overall size of the site.

Test excavations were dug during the late summer of 1981. The test pits revealed that much of the site had been destroyed through past ground disturbing activities, however, two portions of the site remained intact enough to contain information of scientific or educational value.

One portion of the site contains remnants of an aboriginal house structure which appears to have been destroyed by a prehistoric fire. Another portion of the site contains stratified remains which reflect a series of occupational uses. A copy of Dr. Ames report will be supplied as a supplement to this report when it is completed.

4.3 HISTORICAL RESOURCES

There are a number of historic sites near the project area. Guffey townsite (which is also a prehistoric settlement, Site Number 10E244) was a former station on the Boise, Nampa and Owyhee Railroad during the 1880s. Guffey Railroad bridge, about a mile upstream of the old townsite, was constructed in 1898; the tracks were removed about 1940. Both of these sites are located about a dozen miles downstream from Swan Falls Dam. At Halverson Bar, about six miles downstream, there was extensive placer mining, and the remnants of stone houses line the riverbank.

The existing Swan Falls Dam was built in stages between 1901 and 1936. The south alternate route of the Oregon Trail and associated graves lie south of the project area, mostly above the cliff line.

Almost all of the sites in the project vicinity are included in the Guffey Butte-Black Butte Archaeological District. This was nominated to the National Register of Historic Places in the spring of 1977, and put on the Register on October 10, 1978.

Swan Falls Dam, because of its historic value was put on the National Register of Historic Places on July 6, 1976. The dam is also an Idaho Historic Site (Number 63).

4.4 AGENCY RECOMMENDED MEASURE TO PROTECT ARCHAEOLOGICAL OR HISTORICAL RESOURCES

4.4.1 Archaeological Resources

The Idaho Historical Society recommended that Site No. 10AA17 be evaluated to determine its age, the nature of subsurface

deposits and the overall size of the site. It was also recommended that this evaluation be utilized to develop an appropriate mitigation effort for the site.

Consultation with the Idaho Historical Society took the form of several visits with Society personnel to discuss the proposed project, invitation of the Society in a preliminary scoping meeting, an on-site visit by State archaeologists and a dialog aimed at the development of an appropriate mitigation effort.

In order to protect the scientific and educational values of Site No. 10AA17, it was recommended that:

1. The portion of the site which contains the remains of prehistoric dwellings be identified and fenced to avoid disturbance to the site during construction activities.

2. The portion of the site which contains stratified information be either fenced or if that is impractical, be excavated to recover significant information which it may contain.

4.4.2 Historical Resources

The only historical site within the general vicinity of the proposed project which will be directly impacted is Swan Falls Dam. The Historical Society's recommendations to protect the historical flavor of the structure include:

1. Preservation of the exterior appearance of the existing structure to the greatest extent practical.

2. In conjunction with the National Parks Service's development of an adequate Historic Engineering Record of construction techniques used in construction of the old dam, particularly in the area of the existing spillway.

3. The Idaho Historical Society be provided with copies of existing engineering drawings of the existing Swan Falls Dam

in order that they may be preserved and protected for posterity.

4.5 IMPACTS OF THE PROPOSED PROJECT ON HISTORICAL/ARCHAEOLOGICAL PROPERTIES

4.5.1 Archaeological Site Number 10AA17

Portions of this archaeological site will likely be destroyed by construction activities. A small, intact segment of the site is located in the same area as the construction staging yard and batch plant operations. It is highly unlikely that this portion of the site can be avoided during construction. Because the site in this location is fairly shallow, construction activities will probably severely impact its integrity, if not destroy it completely.

The more valuable portion of the site, that contains the remnants of prehistoric dwelling(s) can be avoided during construction. No impact is expected to occur to this portion of the site.

4.5.2 Swan Falls Dam

The impacts to Swan Falls Dam are described in detail in Exhibit A - Project Description. Essentially, the existing spillway will be replaced, a new powerhouse will be installed at the present location of the existing sluiceway and the existing powerhouse will be decommissioned.

The new spillway will be located in the same location as the existing spillway. Decommissioning of the existing powerhouse will involve removal of most of the existing generators, turbines and associated electrical equipment. Turbine wells will be filled with concrete, and the interior fixtures, such as stairways and ladders will be removed. Windows and doors will be sealed.

In an effort to preserve the historic and aesthetic flavor of the existing dam, the superstructure of the existing powerhouse will be preserved and maintained. The exterior of the powerhouse

superstructure will be maintained similar to its present appearance.

4.6 APPLICANT'S SUGGESTED MEASURES TO PROTECT HISTORICAL AND ARCHAEOLOGICAL RESOURCES

4.6.1 Archaeological Resources

During the late summer of 1981 Archaeological Site No. 10AA17 was evaluated to determine the nature of the subsurface deposits as recommended by the State Archaeologist. The Applicant concurs with the recommendations of the Idaho State Historical Society. 1989 Supp. Pg. E-8

1. Portions of the site which contain prehistoric dwellings will be fenced or in some way identified and avoided during construction activities.

2. Portions of the site which have been identified to contain archaeological significance will be excavated to recover the educational and scientific value of the site.

Due to the location of portions of Site No. 10AA17, the Applicant feels that it would be very difficult, if not impossible to avoid some of the sites during construction. Excavation of these portions should constitute total mitigation of the disturbed area. This will allow the site to be used for construction purposes, as well as possibly serve as a part of a proposed spoils area. The Idaho Historical Society is in agreement with this reasoning.

4.6.2 Historical Resources

The Applicant is in agreement with the suggested agency recommendations to protect or mitigate historical values of the Swan Falls Dam. The Applicant recommends one additional measure to be taken to provide the public an opportunity to appreciate the historical engineering values of the generating facilities and to serve as an educational/recreational media. The Applicant intends

to develop a display of an existing turbine and generator, to be mounted in the existing superstructure of the Swan Falls powerhouse.

4.7 SCHEDULE OF ACTIVITIES

It is proposed that excavation of portions of Archaeological Site No. 10AA17 be conducted during the summer of 1982, prior to construction activities at the dam. This will avoid conflicts between construction and excavation. 1989 Supp. Pg. E-8

The development of a historical engineering record will need to be an ongoing effort throughout various stages of construction. A schedule for such activities will need to be developed in conjunction with the Idaho State Historical Society and the National Park Service. As yet, no schedule has been developed.

Rehabilitation of the existing powerhouse to retain its aesthetic appeal will occur after construction of the new powerhouse. Construction schedule calls for this work to be completed during June, July, August and September of 1987.

Installation of the turbine/generator display will be one of the final construction activities, scheduled for October of 1987.

4.8 COST

Cost of archaeological excavations of Site No. 10AA17 is estimated to be approximately $20,000.00.

Cost of rehabilitation of the superstructure of existing powerhouse is anticipated to be $220,000.00.

Cost of developing an adequate Historical Engineering Record is anticipated to be $3,000.00.

Cost of installing the turbine/generator display is $100,000.00.

Both of these costs are included in the construction cost estimates.

V. RECREATIONAL RESOURCES

5.1 EXISTING RECREATION FACILITIES AND OPPORTUNITIES: REGIONAL SETTING

The Snake River plateau and canyon is rich in various recreation opportunities that include sightseeing, camping, picnicking, boating, off-road vehicle (ORV) use, fishing and hunting.

The Swan Falls project is located within Region 3 of the 1977 Idaho State Comprehensive Outdoor Recreation Plan (SCORP). This region includes ten counties in southwestern Idaho. The Birds of Prey Natural Area (BPNA) is listed within the SCORP as one of the nationally significant recreation resources within Idaho.

Although the total annual recreation use within the project site is not known it was estimated in 1977 that approximately 11,500 recreationists visited the BPNA and 52,100 recreationists visited the remaining portion of the study area along the Snake River from May to August (Recreation User Survey, Snake River Birds of Prey Natural Area and Study Area, BLM, 1977).

During 1977 the Bruneau Sand Dunes State Park within the SCORP Region, approximately 55 miles upstream of the project, received 71,981 visitors, mostly day users. The Idaho Department of Fish and Game has also conducted two Snake River fisheries investigations in the area. The first, from March 22, 1971, to January 9, 1972, surveyed recreation use from Bernard's Ferry downstream of the project, upstream to and including, C.J. Strike Reservoir. This survey estimated 39,777 days of recreation use during the nine month census period. The following Table 5.1 summarizes this use by section of river:

Table 5.1

	Angler Days	Hunter Days	Other Days
C.J. Strike Reservoir	7,343	2,095	10,668
Strike Dam to Grandview	6,649	83	2,099
Grandview to Swan Falls Dam	2	368	232
Swan Falls Dam to Guffey	3,321	236	879
Guffey to Bernard's Ferry	4,359	576	867
TOTALS	21,674	3,358	14,745

The second fisheries investigation from March 1, 1975, to February 29, 1976, measured recreation use from the headwaters of C.J. Strike Reservoir at Loveridge Bridge to Lower Salmon Falls Dam. In this survey, recreation use was measured in hours rather than days. For the portion of the census area within the BPNA, 8,969 hours of use occurred during the twelve-month period. Of these, 3,663 were angler hours, 5,306 hunter hours, and 3,167 hours were from other recreation users.

Besides the Snake River Canyon and the Bruneau Sand Dunes, visitors are drawn to several other geological attractions in the SCORP Region. These include Crater Rings and Kuna, Higby and Tank Caves.

Several recreation sites with day and overnight facilities exist at C.J. Strike Reservoir. One is the BLM's Cove Recreation Site; another is one administered by the Idaho Department of Fish and Game. The C.J. Strike picnic area, operated by the Applicant, is located adjacent to the dam. Camping use at this site is also popular. Just north of the C.J. Strike picnic area, the U.S. Air Force administers a recreation facility. In addition, the Black Sands Resort is located on the southwest side of the reservoir. Additional camping and day use opportunities are available at Bruneau Sand Dunes State Park, eight miles northeast of the town of Bruneau. The Idaho Department of Fish and Game provides several boating access facilities on the reservoir and on the Snake River.

Several popular off-road vehicle (ORV) areas are within the Region. Weekend unorganized ORV use is common in these areas, and every year the BLM issues several permits for competitive motorcycle events.

5.2 EXISTING RECREATIONAL FACILITIES

All recreational facilities at the existing project are available for public use. Existing facilities maintained by the Applicant are:

1. A boat ramp facility located approximately one-half mile upstream of the existing dam.

2. A small day-use park maintained within Swan Falls Village.

3. Restroom facilities located near the right side of the existing dam.

Additionally, the road leading from the top of the canyon rim to the dam and its environs is maintained by the Applicant and open to public use. This road constitutes the major access to the canyon area.

5.3 EXISTING RECREATIONAL USE OF THE PROJECT FACILITIES

The Applicant has maintained accurate records of recreational visitors to the Swan Falls project area since 1976. A summary of these records is contained in Table 5.2.

TABLE 5.2 RECREATION VISITATIONS-SWAN FALLS PROJECT

1976-1980

	Number of People					Expected Use
	1976	1977	1978	1979	1980	2000
JAN	1,058	533	1,265	555	1,149	1,110
FEB	1,228	869	1,554	1,125	1,167	2,250
MAR	2,268	1,232	2,102	2,242	1,656	4,484
APR	2,346	2,479	1,491	1,954	2,586	3,908
MAY	4,303	1,876	2,346	2,631	2,940	2,562
JUN	3,208	2,213	2,298	2,194	2,632	4,388
JUL	3,374	1,976	1,965	1,439	3,555	2,878
AUG	2,187	1,302	1,247	1,347	3,444	2,694
SEP	2,131	1,095	2,135	587	2,046	1,174
OCT	851	710	1,225	816	1,641	2,000
NOV	792	544	655	858	1,452	1,500
DEC	992	622	803	681	474	1,700
TOTALS	24,738	15,451	19,086	16,429	24,742	30,648

Applicant records do not accurately reflect what type of recreation activity was participated in by visitors. However, BLM studies show that the majority of recreation use in the project vicinity occurs from Guffey Butte (approximately 12 miles downstream) to approximately one mile above the dam. Little recreation occurs above the dam to the town of Grandview. Poor fishing, poor access and the remote nature upstream of the dam is generally credited with the low recreation use.

The studies also indicate that only 3 percent of the use recreation occurring within the canyon takes place above the dam. The remaining use is located downstream, or above the canyon rim. Fishing represented the largest single recreation activity. Nature study, camping, picnicking and sightseeing are other major activities. Table 5.3 summarizes BLM findings relating to recreational activities occurring near the project area.

TABLE 5.3 RECREATIONAL ACTIVITIES AND FREQUENCY OF VISITS WITHIN AND NEAR THE PROJECT AREA*

Fishing	63.0%
Nature Study	10.4%
Camping	7.4%
Picnicking	6.0%
Sightseeing	5.4%
Motorcycle Riding	3.8%
Boating	3.8%
Rafting	.5%
Horseback Riding	.4%

Visits Per Year	Percent of Total
First Time	19%
1 - 5	46%
6 - 10	17%
11 - 15	9%
16 - 20	7%
Over 20	2%

* Recreation Users Survey - Snake River Birds of Prey Natural Area and Study Area 1977 - Bureau of Land Management

Recreational use of existing project facilities is day use only. Overnight use is not permitted at the existing project facilities.

Approximately 75% of the recreational use of the Birds of Prey Natural Area is day use, with visitors spending an average of 6 to 7 hours in the area. The remaining 25% of the visitors stay for more than two days. Approximately 86% of the recreation users of the BPNA reside in Ada and Canyon counties. Only 1.2% of the visitors were from Elmore County. All other Idaho counties showed less than one percent each.

The majority of the recreation users visit the area one to five times per year. Thirty-five percent visit the area more than six times a year. Frequency of visitations to the Birds of Prey Study Area are summarized in Table 5.3.

5.4 PROJECTED RECREATION USE

According to the 1977 Idaho Outdoor Recreation Plan, outdoor recreation activities within Region 3 is expected to approximately double by the year 2000. The Bureau of Land Management Interim Management Report concurs with the SCORP document. Recreation use of the project facilities are projected to the year 2000 on Table 5.2. It is anticipated that the percentage of various recreational activities will remain approximately proportional to those occurring at present.

5.5 AGENCY RECOMMENDATION FOR THE DEVELOPMENT OF RECREATIONAL FACILITIES

The Bureau of Land Management has developed three management objectives for the Birds of Prey Natural Area. They are:

1. To protect and maintain a complete ecosystem which includes a unique and fragile combination of desert, river and volcanic cliff complex and which supports and maintains the highest known density of nesting raptors in North America.

2. To protect and maintain the raptors, their habitat, and the scenic, archaeological, educational, recreational and other values associated with the involved public lands for public enjoyment and study in perpetuity.

3. To update, revise and continue implementation of a long-range multiple use and sustain yield management plan that emphasizes management and protection of raptor habitat as well as the management and use of other natural resources.

State and Federal agencies consulted agreed that future recreation developments at the project site should reflect the management goals of the BPNA.

The Applicant has worked closely with the BLM and Idaho Department of Parks and Recreation to develop an acceptable, low-key recreation plan which is consistent with long-range management plans for the area.

The elements of the agencies' recommendations are summarized below.

1. Development of a portage trail around the dam.

2. Improvements to existing boat launch facilities in the reservoir.

3. Cleaning up an unsightly garbage disposal area.

4. Development of canoe/rubber boat launch facility downstream of the dam.

5. Participation with the Bureau of Land Management in the updating of an informational brochure which includes both the Birds of Prey Natural Area and the historic Swan Falls Dam.

6. Continuation and maintenance of existing recreational facilities located within the project area.

7. Periodic review of recreational facilities to evaluate the extent they meet future demands.

5.6 APPLICANT'S PROPOSED RECREATION FACILITIES

The Applicant's proposed recreation facilities include all of the elements of the agencies' recommendations, plus some additional measures. The Applicant's proposed recreation developments include:

5.6.1 Repair and Improve the Existing Boat Launch Facilities

As part of the existing project, the Applicant has built a boat launch ramp which extends sufficiently into the Swan Falls reservoir to be useable to the public regardless of the surface water elevation. The present facilities are not heavily used due in part to the poor fishing in the reservoir and to very high summertime air temperatures. Over a period of years the access road which leads directly to the launch ramp has badly deteriorated as well as the boat launch itself. As a part of this second amended application for a new license it is proposed that the access road to the facilities be improved and maintained in a satisfactory condition and the existing boat launch ramp be repaired or replaced. Estimated cost for the initial improvement is approximately $3,000. 1989 Supp. Pg. E-9

5.6.2 Cleanup an Existing Garbage Disposal Area

Over a period of several years an unmanaged refuse pile has developed in the vicinity of the existing boat launch ramp. This refuse consists primarily of old cans, auto parts, wire and picnic paraphernalia. It is proposed that this site be cleaned up to enhance the recreation experience of the area and to improve the overall aesthetic appeal. Cost is estimated to be approximately $500.00. 1989 Supp. Pg. E-9

5.6.3 Development of an Access Road, Parking Area and Rubber Raft/Canoe Launch Facility

The Snake River below the project dam is presently used by 1989 Supp. Pg. E-9

fishermen, hunters, photographers and sightseers. River traffic generally consists of people utilizing rubber rafts, canoes or jet powerboats.

Downstream launching areas are considered adequate for jet boat use. However, launching of rubber rafts and canoes is difficult due to riverbank conditions. The Bureau of Land Management considers it undesirable to encourage jet boat traffic within the BPNA. The encouragement of river rafting and canoeing is considered to be consistent with the management goals outlined previously.

The Applicant proposes to develop canoe/raft launch facilities and necessary access immediately below the tailrace channel of the proposed project. An existing road on the island below the dam would provide access to the site and the construction bridge to the island would provide necessary access from the mainland. It is anticipated that the facilities would be low-key in nature, consisting primarily of access, parking and contouring of the riverbank to accommodate launching. Cost of the proposed activities is estimated to be $5,000.

5.6.4 Installation of an Air Compressor Suitable for use by Rafters

Swan Falls Dam is situated in a relatively remote area. In order to accommodate river rafters utilizing inflatable rubber rafts, it is proposed that an appropriate air compressor, available for public use be installed near the new powerhouse, near the right abutment of the dam. The proposed location will be easily accessible to the public. Locating the compressor near the powerhouse will minimize the risk of vandalism. Estimated cost of the facility is $2,000. 1989 Supp. Pg. E-9

5.6.5 Development of a Raft/Canoe Portage Trail Around the Project Dam

In order to accommodate rubber raft and canoe traffic which originate upstream of the existing project, it is proposed that a portage trail sufficient for use by moderate to large rubber boats 1989 Supp. Pg. E-9

and canoes be developed near the left abutment of the dam. The proposal is to utilize the remnants of an old road by developing boat removal areas on the reservoir side of the dam, approximately 200 yards upstream. Below the dam, access to the river will be developed to accommodate launching of boats and canoes which have been carried around the dam. Launch facilities would be built to accommodate boaters at lowest anticipated flows. The development of a portage trail is consistent with the management goals of BPNA and of the desires of the State and Federal recreation and land management agencies consulted in the development of this report. Estimated cost of the portage trails is $4,000.

5.6.6 Development of an Interpretive Brochure, in Cooperation With the Bureau of Land Managment, of the Swan Falls Dam and the Surrounding BPNA

The Bureau of Land Management presently prints and distributes an interpretive brochure explaining the natural resources of the Birds of Prey Natural Area. It is proposed that the Applicant, in cooperation with the Bureau of Land Management, develop, print and distribute a joint brochure explaining not only the BPNA, but also the historic Swan Falls Dam and surrounding area. Cost for this proposal has not yet been developed, pending further negotiations with the Bureau of Land Management. 1989 Supp. Pg. E-9

5.6.7 Development of a Turbine/Generator Display

The Applicant proposes to exhibit an existing turbine and generator inside the shell of the existing powerhouse. This display will also be consistent with historic and educational goals discussed elsewhere in this report. Cost for the display is not included under recreation development, but is included as projected cost for historic preservation. 1989 Supp. Pg. E-9

5.6.8 Periodic Review of Recreational Facilities

It is the desire of the Applicnat to work closely with the Bureau of Land Management in accommodating recreational development harmonious with the BPNA. As part of the ongoing recreation 1989 Supp. Pg. E-9

plan for the Swan Falls project, it is proposed that the Applicant consult with the Bureau of Land Management and the Idaho Department of Parks and Recreation no less frequently than every 10 years in order to access the impacts of recreational activities upon the BPNA and to review the adequacy of the Applicant's recreational facilities.

5.7 COST SUMMARY

A summary of anticipated cost of the proposed recreational facilities described herein are included in the following table.

TABLE 5.4 ANTICIPATED RECREATION COST

1.	Improvement to existing boat launch facilities	$ 3,000
2.	Cleanup of garbage	$ 500
3.	Development of raft/canoe launch	$ 5,000
4.	Air compressor	$ 2,000
5.	Portage trail	$ 4,000
6.	Interpretive brochure	to be determined
	TOTAL	$ 14,500

All maintenance and cost associated with the proposed facilities will be borne by the Applicant.

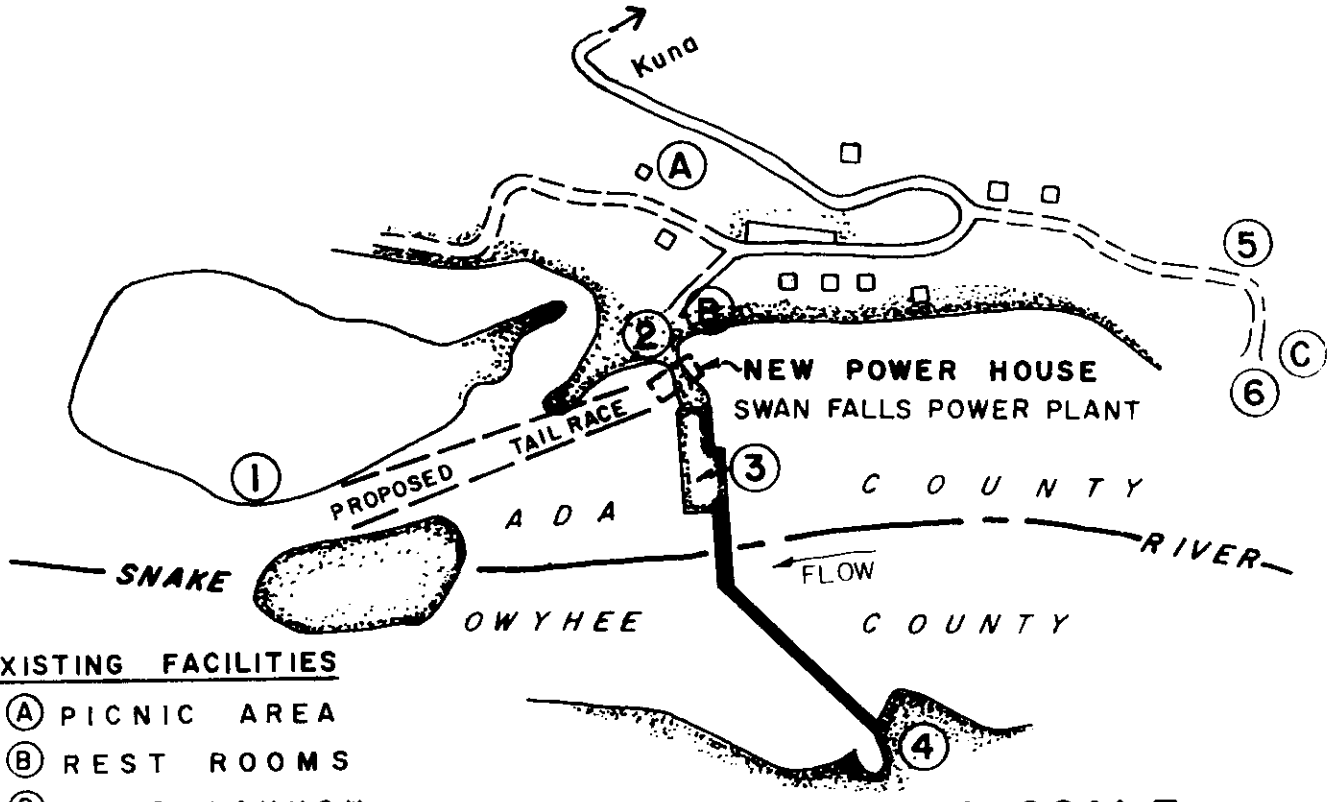
5.8 SCHEDULE OF CONSTRUCTION

Construction and implementation of the proposed recreational facilities will follow the construction of the proposed facilities. Construction of the recreation facilities will occur during October of 1987.

Figure 10 is a map of existing and proposed recreation facilities.

5.9 CONSULTATION

The proposed recreation plan was developed in conjunction with the Bureau of Land Management, Idaho Department of Parks and Recreation and the National Parks Service (formerly Heritage Conservation and Recreation Service). Letters from these agencies are attached in Appendix A.



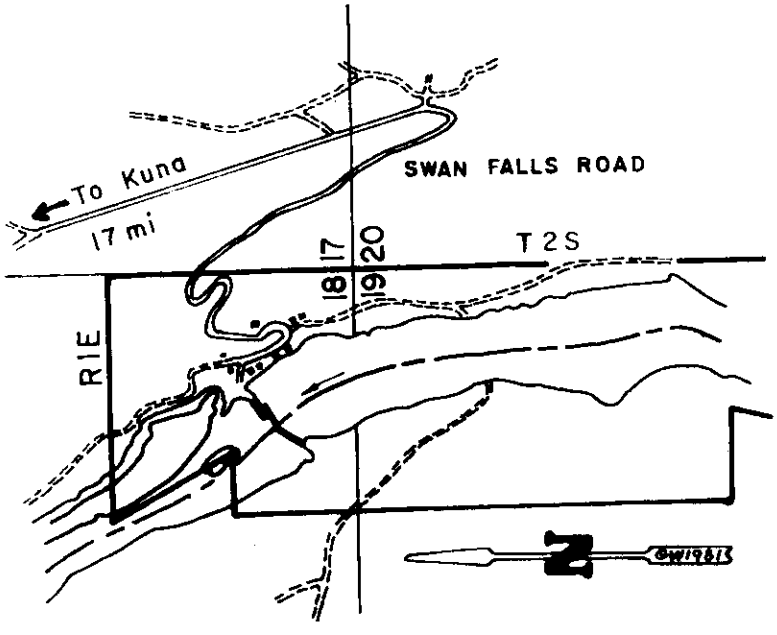
EXISTING FACILITIES

- (A) PICNIC AREA
- (B) REST ROOMS
- (C) BOAT LAUNCH

DETAIL-NO SCALE

PROPOSED FACILITIES

1. CANOE / RAFT LAUNCH
2. AIR COMPRESSOR
3. TURBINE/GENERATOR DISPLAY
4. PORTAGE TRAIL
5. LANDFILL
6. IMPROVE BOAT LAUNCH FACILITIES.



VICINITY MAP

1" = 2000'

PROJECT Nº 503 — IDAHO EXHIBIT 'E'
SWAN FALLS H.E. DEVELOPMENT
FIGURE 10
EXISTING AND PROPOSED
RECREATION DEVELOPMENT
IDAHO POWER CO. OCTOBER 1981

VI. EXISTING LAND DEVELOPMENT

6.1 LAND MANAGEMENT

Lands under the management and control of Federal and State agencies but which may be operated by individuals, groups or companies under a lease or rental arrangement, comprise a significant portion of the lands adjacent to the project area. These consist of public domain lands under the administrative jurisdiction of the Bureau of Land Management, public lands that have been withdrawn for their power site or irrigation potential, and lands controlled by the State of Idaho. The several land classifications are described below.

6.1.1 Public Domain

Lands of the United States that have not been appropriated or reserved for other specific purposes and which are managed in the public interest by the Bureau of Land Management under provisions of the Taylor Grazing Act are designated as public domain. Most of these lands are leased to stockgrowers under controlled grazing densities, but ultimate resource management responsibilities remain with the Bureau of Land Management. Entry under the Homestead and other land transfer enactments is no longer permitted on these lands, but the Bureau can make public domain available through sale when such transfer is in the public interest.

6.1.2 Power Site Withdrawal

These are public lands that have been judged to be promising as hydroelectric power sites and consequently withdrawn from the public domain. Lands in a power site withdrawal cannot be disposed of in the manner of public domain lands, but can be leased for grazing and other nonpermanent purposes until needed for hydroelectric development. Lands in this category include potential damsites as well as those areas potentially flooded by power reservoirs or occupied by transmission facilities.

6.1.3 Reclamation Withdrawal

Large compact blocks of public land that exhibit productive capabilities for large scale irrigation development have been reserved for possible future development by the Bureau of Reclamation. In the Swan Falls project area, most of the land withdrawn for reclamation lies north of the Snake River and is part of the Bureau of Reclamation's proposed Mountain Home project. Reclamation withdrawal lands are leased for grazing and farming as well as other nonpermanent uses until mandated by the requirements of irrigation development.

6.1.4 Reclamation and Power Site Withdrawal

Some of the land immediately adjacent to the Snake River Canyon is designated as both reclamation and power site withdrawal. This means that a portion of the tract may be flooded or otherwise used for future power-related purposes while the remainder could become part of an irrigation development. In the event that this dual category is used for power purposes, the provisions of the power site withdrawal would prevail and irrigation development would not proceed. These withdrawals can be leased for nonpermanent uses as in the other withdrawals until committed to one of the designated uses.

6.1.5 State Lands

Lands granted to the State of Idaho under provisions of the Statehood Act for the support of public schools are identified as state lands. These primarily consist of Sections 6 and 36 in each survey township as well as islands in the Snake River. In some instances, land trades or selection of substitute lands may have occurred. The result has been that the State controls some irregular-sized and shaped tracts that are not necessarily related to the school sections. Some of the state lands have been acquired through purchase or gift and some have been sold, when the State Land Board found the best interest of the school trust would be served by those actions.

6.1.6 Private Land Ownership (Patented Lands)

Lands that have been converted from the public domain or state land trust to fee ownership by individuals or groups, are defined as private land ownership. In large measure, these are the more productive lands, particularly those adjacent to the Snake River where water availability has traditionally been an asset. Most of the private land ownerships are large acreages located upstream from Swan Falls and also directly north of the damsite.

The Idaho Power Company owns the Swan Falls site and lands extending from two miles below the site to three miles upstream. Recently, the Nature Conservancy, a nonprofit organization, has acquired options on five parcels of land above Swan Falls. Three of these parcels were later sold to the Bureau of Land Management. The conservancy presently retains two parcels. The objective of the Nature Conservancy in this area is to provide a land base for educational purposes within the Snake River Birds of Prey Natural Area.

6.1.7 Land Use

A land use classification system developed by the Soil Conservation Service (1978) is used in describing the existing land uses which occur near the project area. The land use category is first defined, followed by a characterization of project area land uses.

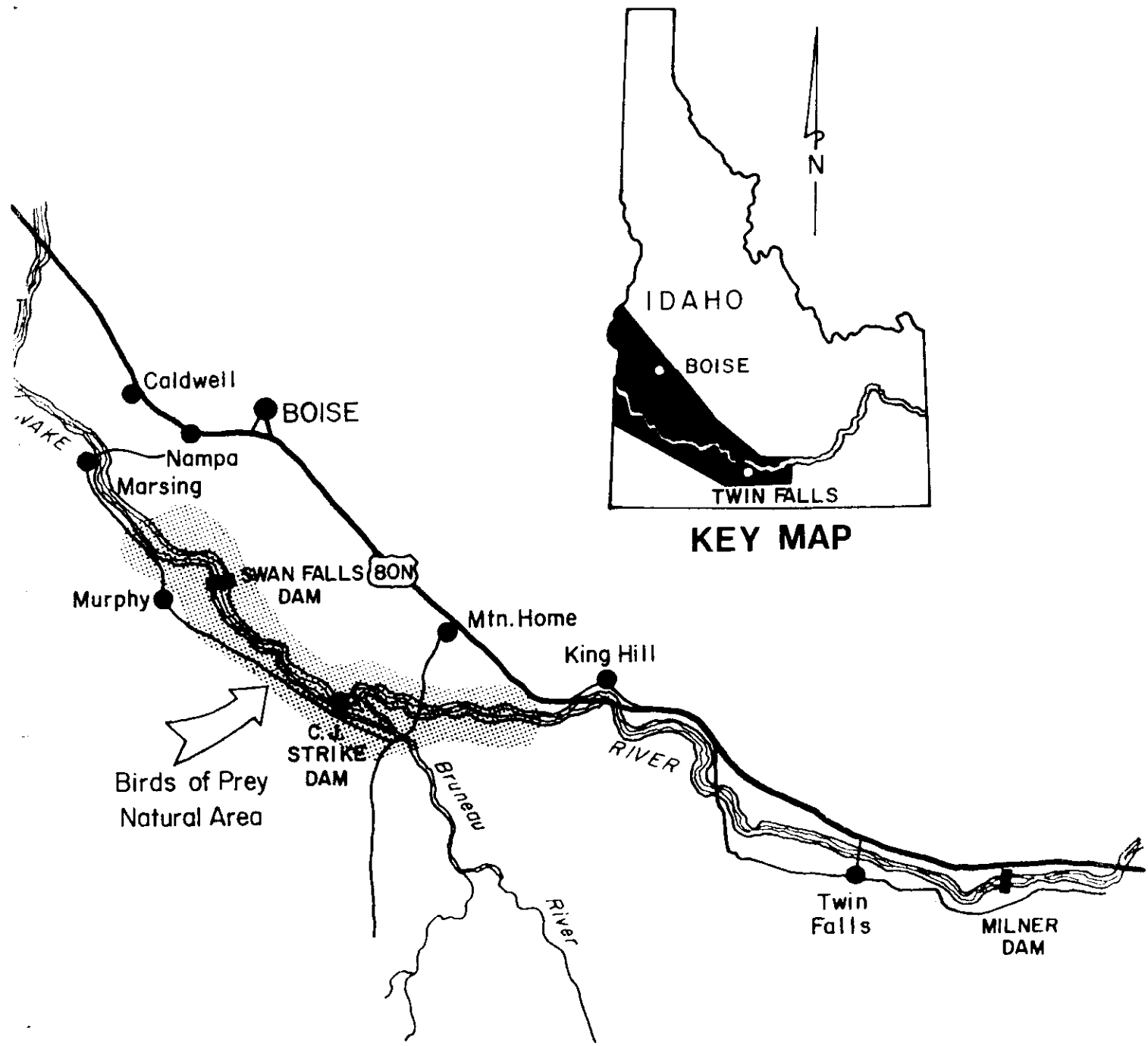
6.1.7.1 Croplands/Pastureland

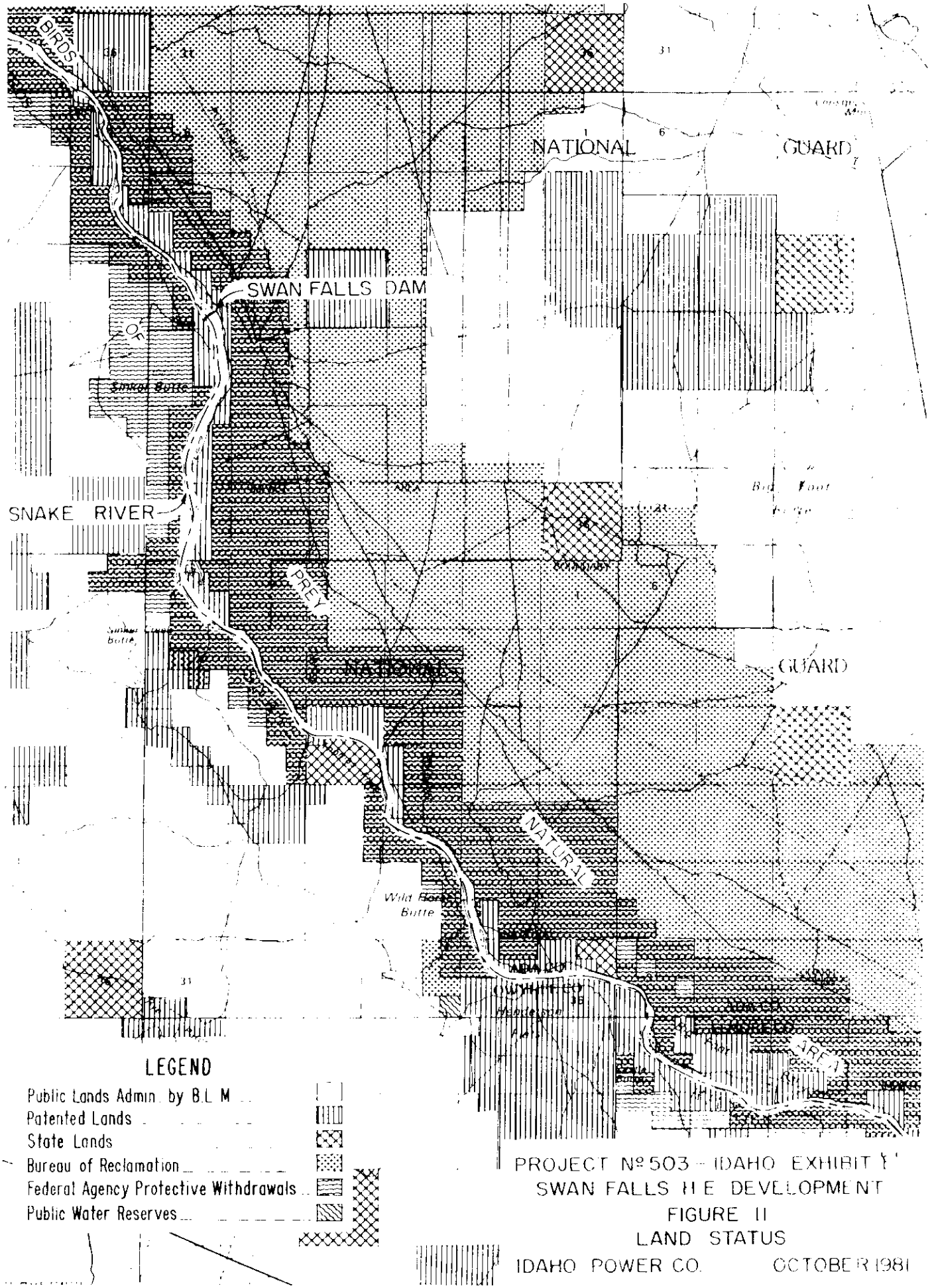
Cropland is land primarily used for the production of adapted cultivated and close-growing crops for harvest, alone or in association with sod crops.

Pastureland is land primarily used for the production of adapted domesticated forage plants for livestock.

Croplands and pasturelands within the project area are principally surface irrigated. Principal cash crops grown in and near the canyon include alfalfa hay, potatoes, grains,

PROJECT LOCATION MAP





PROJECT Nº 503 - IDAHO EXHIBIT Y

SWAN FALLS H.E. DEVELOPMENT

FIGURE II

LAND STATUS

IDAHO POWER CO. OCTOBER 1981

barley and sugar beets. Cattle grazing is the predominant livestock use.

6.1.7.2 Residential Land is primarily used for permanent dwellings. Commercial land is used mostly for buying, selling or processing of goods and services.

6.2 APPLICANT'S PROPOSAL TO ENSURE THAT TOPOGRAPHIC ALTERATIONS BLEND WITH THE SURROUNDING ENVIRONMENT

Topographic alterations which will occur to the existing environment will be confined to those areas immediately surrounding the dam and powerhouse facilities. They include spoil and borrow areas, tailrace alterations and the proposed improvements to the existing road.

Three potential disposal areas have been identified. They are illustrated on Figure 11. Disposal Area 1 is located on the west side of the river, immediately below the spillway. It will be used to store spoil materials excavated from the area of the existing spillway. The area impacted presently supports a shrub/grass type vegetation cover. After construction the area will be covered with top soil, contoured and planted to a suitable vegetation cover. Cover to be planted will be developed as part of the habitat impact mitigation plan.

Disposal Area 3 is located on the island immediately downstream from the dam. This site will also be used as a source of concrete aggregate material. The excavation which results from aggregate removal will be filled with disposal materials. The final configuration of the island after filling is accomplished is speculative at this time, pending results of aggregate testing. However, spoils will be covered with topsoil and planted to a suitable vegetation cover.

Disposal Area 4 is located on the east shore of the river, slightly downstream of the dam. Two alternative configurations are shown for the area. Alternative 1 will allow the spoils to be deposited as a smooth contoured configuration. However, use of

Alternative 1 configuration will cover portions of an archaeological site. It is proposed that the archaeological site will be fully excavated prior to project construction. In the event FERC determines that excavation of the archaeological property does not constitute full mitigation to the site, the Alternative 1 configuration may not be allowed. The Alternative 2 configuration will result in a much steeper bank than Alternative 1. This configuration will not blend as well with the surrounding topography as the preferred alternative. In either case, the disposal area will be covered with topsoil and planted to an acceptable vegetation cover.

Two borrow areas are identified on Figure 8. The first of these is located on the west bank of the river, immediately adjacent to the spillway and Disposal Area 1. This location is adjacent to an area which was used as a borrow site during original construction of the Swan Falls facilities. It will essentially appear as an extension of the existing borrow site. Borrow Area 2 is located on the island downstream from the dam. It coincides with Disposal Area 3. Back-filling of the borrow site with disposal material will be accomplished and the resulting disposal pile revegetated.

Modifications to the existing road will result in some topographic alterations. The road right-of-way has been selected in conjunction with consultation with the Bureau of Land Management. A conceptual drawing of the road is included in the narrative report submitted as part of the right-of-way application. (See Appendix B.) The road follows existing contours of the land as much as practical, and will blend with the existing environment.

Alterations to the tailrace will result in a permanent channel existing year round where the natural channel is filled with water only during periods of high water flows. Alterations to the existing topography will be minimal. Materials excavated from the tailrace may also be used as aggregate, if it is found suitable.

6.3 WETLANDS OR FLOOD PLAINS WITHIN OR ADJACENT TO THE PROJECT BOUNDARY

The U.S. Fish and Wildlife Service, Idaho Department of Fish

and Game and Bureau of Land Management have not formerly identified any wetlands which occur with project boundary. However, the habitat type identified as herbaceous riparian on Figure 7 probably includes all areas which are identifiable as wetlands. No longer term impact to these areas will occur as a result of the proposed project.

VII. REFERENCES AND CONTACTS

7.1 THE REFERENCES section includes an alphabetical listing of all references used in development of this report.

7.2 CONTACTS made by the Applicant during the course of preparing this report are listed alphabetically. The listing includes name, position, affiliation and date of first contact (only the first date of contact is listed, although in many cases more than one contact was made).

REFERENCES

Bureau of Land Management (BLM),
U.S. Department of the Interior

Census of Population and Housing (corrected preliminary)
Boise State University Library

County Profiles of Idaho - Fourth Edition 1980
Boise State University Library

Department of Water Resources
Health and Welfare
Water Quality Division

EDAW, Inc., BEAK Consultants, Inc.
International Engineering Company, Inc.
Morlan Nelson - December, 1978
Swan Falls-Guffey Hydroelectric Project
Preliminary Environmental Assessment

Idaho Water Quality Standards and
Wastewater Treatment Requirements
Idaho Department of Health and Welfare
Division of Environment - 1980

Idaho Water Quality Status Report - July, 1980
Idaho Department of Health and Welfare
Division of Environment
Bureau of Water Quality

Snake River Birds of Prey Environmental Statement, 1979
Bureau of Land Management
U.S. Department of the Interior

Snake River 1973 Dissolved Gas Studies
Idaho Power Company

Soil Conservation Service, 1978
Land Use Classification System

Swan Falls Hydroelectric Project
Application for Relicense
Idaho Power Company, December, 1979

U.S. Geological Survey
Snake River Main Stem
Marsing, King Hill and Murphy Water Years

Vascular Plant Species of Concern in Idaho, June, 1981
University of Idaho, Moscow

William F Sigler, Michael L Wolfe,
William T Helm and John M Neuhold
November 1, 1972
The Potential Impact and Assessment of Mitigation
of Swan Falls and Guffey

CONTACTS

Ada County Zoning Clerk
Ada County Zoning Building
Boise, Idaho
August 20, 1981

Ames, Kenneth
Archaeologist
Boise State University
Boise, Idaho
March 10, 1981

Bentryn, Gerrard
Heritage Conservation and Recreation Service
Northwest Region
Seattle, Washington

Sather Blair, Signe
U.S. Fish and Wildlife Service
Boise, Idaho
August 8, 1981

Buffington, Bob
State Director
Bureau of Land Management
Boise, Idaho
April 24, 1981

Canyon County Zoning Clerk
Murphy, Idaho
August 5, 1981

Christiansen, Dale R
Director
Idaho Department of Parks and Recreation
Boise, Idaho April 24, 1981

Clark, Bill
Idaho Department of Health and Welfare
Division of Environment
Boise, Idaho
May 15, 1981

Conley, Jerry
Director
Idaho Department of Fish and Game
Boise, Idaho
April 24, 1981

Denton, Don
Recreation Planner
State Comprehensive Outdoor Plan
Boise, Idaho

Dunn, Kenneth
Director
Idaho Department of Water Resources
Boise, Idaho
April 24, 1981

Fisher, Richard J
Field Supervisor
U.S. Fish and Wildlife Service
Boise, Idaho
April 24, 1981

Garrett, Roberta
Department of Water Resources
Health and Welfare Building
Boise, Idaho
October 1, 1981

Green, Thomas J
Archaeologist
State Historic Preservation Office
Boise, Idaho
February 24, 1981

Graff, Todd
Department of Parks and Recreation
Boise, Idaho
September 14, 1981

Hagdorn, Bill
Department of Parks and Recreation
Boise, Idaho
May 28, 1981

Hilliard, Mark
Bureau of Land Management
Boise, Idaho
May 15, 1981

Howard, Roger, Chairman
Owyhee County Joint Planning Commission
Murphy, Idaho
April 24, 1981

International Engineering Company
San Francisco, California
February 6, 1981

Klein, Milt
Director (resigned)
Department of Health and Welfare
Boise, Idaho
April 24, 1981

Korte, Chris
Chief
Ada County Planning and Zoning Commission
Boise, Idaho
April 24, 1981

Lewis, Dave
U.S. Fish and Wildlife Service - Ecological Service
Boise, Idaho
May 15, 1981

Meyer, Wallie
Recreational Planner, Boise District
Bureau of Land Management
Department of the Interior

Mochnick, Roger K
Acting Chief
Regional Administrator, Region X
Seattle, Washington
April 24, 1981

Murray, Al
Chief
Bureau of Water Quality
Idaho Department of Health and Welfare
Boise, Idaho
April 24, 1981

Packard, Pat, Dr.
Botanist
College of Idaho
Caldwell, Idaho
July 25, 1981

Peugh, Butch
Bruneau Area Manager
Bureau of Land Management
Boise, Idaho
March 10, 1981

Polityka, Charles S
Regional Environmental Officer
Department of the Interior
Portland, Oregon
April 24, 1981

Powell, Mark
Wildlife Biologist
Bureau of Land Management
Department of the Interior
Boise, Idaho

Ray, Walter
Assistant Director
Boise Regional Office
U.S. Fish and Wildlife Service
Boise, Idaho

Richards, Monte
Idaho Department of Fish and Game
Boise, Idaho
May 15, 1981

Sanders, Dave
Idaho Department of Fish and Game
Boise, Idaho
May 15, 1981

Schwartz, Judy
Environmental Protection Agency
Environmental Evaluation Branch
Seattle, Washington
May 27, 1981

Sivley, W E
Chief
Engineering Division
Department of the Army
Walla Walla District Corps of Engineers
Walla Walla, Washington
April 24, 1981

Smith, Michael A, P.E.
Environmental Engineer
Idaho Department of Health and Welfare
Boise, Idaho
May 19, 1981

Steal, Bob
Intermountain Range and Experimental Station Botanist
Forest Service
Boise, Idaho
August 4, 1981

Swanson, Ken
Archaeologist
Idaho State Historical Society
Boise, Idaho
March 10, 1981

Swisher, Perry
President
Idaho Public Utilities Commission
Boise, Idaho
April 24, 1981

Trombley, Gordon
Chief
Idaho Department of Lands
Boise, Idaho
April 24, 1981

Wells, Merle, Dr.
State Historic Preservation Officer
Idaho State Historical Society
Boise, Idaho
April 24, 1981

Winterfeld, Curt
Idaho Public Utilities Commission
Boise, Idaho
May 15, 1981

Winters, Richard L
Assistant Regional Director
Heritage, Conservation and Recreation Service
Seattle, Washington
April 24, 1981

Zimmer, Joe
District Manager
Bureau of Land Management
Boise, Idaho
April 24, 1981

APPENDIX A

DOCUMENTATION OF CONSULTATION

STATE, FEDERAL AND COUNTY AGENCIES

United States Department of the Interior

Bureau of Reclamation

PACIFIC NORTHWEST REGION
FEDERAL BUILDING & U.S. COURTHOUSE
BOX 043-550 WEST FORT STREET
BOISE, IDAHO 83724

IN REPLY
REFER TO PN 460
772.

Mr. Allan R. Ansell
Environmental Biologist
P.O. Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

We have reviewed the application for relicense of Swan Falls Project, FERC No. 503, furnished by your letter of April 24, 1981, and have no objection to a relicense of this project. The Swan Falls Project is located within the potential Mountain Home Division, Guffey Unit, of our Southwest Idaho Water Development Project. Planning activities are currently inactive but a water right is being held for the SWID Project. In the event SWID is constructed, the applicant's powerplant would be inundated. The plans for this area are not firm and the inclusion of part of this area within the Birds of Prey Reservation expansion makes an irrigation project unlikely in the near future.

Please direct future correspondence on this issue to Code 460 or telephone Mr. Al Bolin at 334-1187.

Sincerely yours,

John W. Keys, III

ACTING Regional Director

cc: Regional Environmental Officer, Department of the Interior,
500 NE. Multnomah Street, Suite 1692, Portland, Oregon

UNITED STATES
DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
NORTHWEST REGION
915 SECOND AVENUE, RM. 990
SEATTLE, WASHINGTON 98174

(206) 442-4706
1201-03
FERC #503

MAY 27 1981

Allan R. Ansell, Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

We have received the information packet prepared for the proposed expansion of the Swan Falls project, and have the following comments for your consideration.

Recreation

The six point recreation development plan which is outlined on pages 13 and 14, follows the earlier recommendations of the Idaho Department of Parks and Recreation. The plan, which was developed after consultation with the Bureau of Land Management (BLM) and the Idaho Department of Parks and Recreation seems adequate for the proposed project.

We note on page 13 that BLM and the SCORP estimates indicate that recreational use of project facilities could double by the year 2000. A plan to monitor recreational use of the area should be established with BLM and the Idaho Department of Parks and Recreation to assure consideration of expanded recreational facilities should recreational use of the area double. An outline of such a plan should be included in the Exhibit E.

Cultural Resources

We are pleased to note on page 12 that the company intends to maintain the historic flavor of Swan Falls Dam, which is on the National Register of Historic Places.

The SHPO's office should be consulted to determine what effect the expansion will have on the dam. Guidelines to be followed are found in 36 CFR 800.4(b). If the effect is adverse, adequate mitigation measures must be taken.

The project site is also rich in historic value and possible archeological deposits. The mitigation plan outlined in the Exhibit E should include a survey plan designed to locate, identify and evaluate cultural resources. The survey should be conducted by a qualified archeologist. The State Historic Preservation Officer (SHPO) should also be consulted in developing an adequate assessment program. If significant archeological or historical artifacts are discovered, appropriate mitigation measures must be taken. The SHPO for Idaho State is Dr. Merle W. Wells, Idaho State Historical Society, 610 N. Julia Davis Dr., Boise, Idaho 83706.

Thank you for the opportunity to provide early consultation on the proposed expansion of the Swan Falls project.

Sincerely,

Richard L Winters

Richard L. Winters
Acting Regional Director

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
Box 036 Federal Building, Room 365
550 West Fort Street
Boise, Idaho 83724

May 11, 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
P.O. Box 70
Boise, ID 83707

Dear Mr. Ansell:

This letter acknowledges receipt of the information packet sent by your April 24, 1981, letter to me. I believe that it is not necessary for this agency to attend the May 15, 1981, coordination and scoping meeting.

You are aware, no doubt, that the existing FPC Project No. 503 provides to the Geological Survey annual operation costs for one stream-gaging station, Number 13-1725, Snake River near Murphy, Idaho. The new license for continued operation should have this same stipulation as hydrologic data are essential for the historical record below the Swan Falls Dam.

Please direct any future correspondence or coordination matters regarding FPC Project 503 to me.

Sincerely yours,

E. F. Hubbard

E. F. Hubbard
District Chief

HAR/tmh

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
BUILDING 602, CITY-COUNTY AIRPORT
WALLA WALLA, WASHINGTON 99362

REPLY TO
ATTENTION OF

NPWEN-PL

5 May 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

Thank you for your 24 April 1981 notification of the proposed Swan Falls expansion.

Our review of the information packet provided with your letter reveals that the proposal should not significantly affect our jurisdictional responsibilities of navigation, flood control, or hydropower development, and would not conflict with any projects planned or constructed by the Corps. The Snake River, at this location, is not considered by the Corps to be a navigable water of the United States; therefore, a permit under Section 10 of the 1899 River and Harbor Act is not required. However, any activity which would require the permanent or temporary discharge of dredge or fill material into waters of the United States, including adjacent wetlands, will require a permit issued under Section 404 of the Clean Water Act of 1977. Permit requirements are contained in 33 CFR 320-327.

We do not plan to attend the interagency coordination and scoping meeting on 15 May 1981, but would like to be kept informed of developments as you proceed with the project. The point of contact will be Witt Anderson. He can be reached at telephone 509-525-5500, Ext. 351.

Also, Mr. Sivley has retired from the Corps and I am now Chief of Engineering Division.

The opportunity to review and comment on this project is appreciated.

Sincerely,

M. G. BRAMMER
Chief, Engineering Division

United States Department of the Interior

OFFICE OF THE SECRETARY

PACIFIC NORTHWEST REGION
500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232

April 29, 1981

Allan R. Ansell, Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

This is in regard to your letter of April 24, 1981 concerning this Department's review of your proposed plans to increase generating capacity at Swan Falls Dam.

Please provide copies of the subject proposal to agencies of this Department which I have listed below. I have instructed them to provide their review comments directly to you.

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

Sincerely,

Charles S. Polityka

Charles S. Polityka
Regional Environmental Officer

U.S. DEPARTMENT OF THE INTERIOR AGENCIES

Area Manager
U.S. Fish & Wildlife Service
4620 Overland Road, Room 238
Boise, Idaho 83705

Regional Director
National Park Service
931 Fourth & Pike Building
Seattle, Washington 98101

District Chief, WRD
U.S. Geological Survey
Box 036, Federal Building
550 West Fort Street
Boise, Idaho 83702

State Director
Bureau of Land Management
Room 334, Federal Building
550 West Fort Street
Boise, Idaho 83702

Regional Director
Heritage Conservation & Recreation Ser.
Federal Building, Room 990
915 Second Avenue
Seattle, Washington 98174

Regional Director
Water & Power Resources Service
Box 043, Federal Building
550 West Fort Street
Boise, Idaho 83702

UNITED STATES GOVERNMENT

memorandum

DATE: APR 1 1981

REPLY TO ATTN OF: BPNA Wildlife Management Biologist

N-3/2300

SUBJECT: Swan Falls Road Improvement Meeting

TO: Bruneau Area Manager

On April 9, John Doremus and I met with Idaho Power Company (IPCO) representatives Allan Ansell and Doug Sprenger at Swan Falls to make an on-site evaluation of the proposed Swan Falls road realignment and improvement. Mr. Morley Nelson, a consultant to IPCO, was also present.

Two prairie falcon aeries are located above the existing road, and a third is located above the proposed road extension. John, Allan, Morley, and I agree that these birds and nest sites should remain unaffected if construction activities take place between July 1 and January 31.

Construction initially was planned for 1981, but Allan said it now appears that IPCO will begin work in 1982 instead. This should allow sufficient time for preparation of an Environmental Assessment by IPCO, which Allan felt they could do if we provide them with adequate guidelines.

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 BOISE, IDAHO 83707

February 18, 1981

Joe Zimmer, District Manager
Bureau of Land Management
3948 Development Street
Boise, ID 83705

Dear Joe:

Enclosed please find a copy of Idaho Power's Long Range System plans and a copy of sheets seven (7) and eight (8) of FERC Exhibit K, transmission line plan for the proposed North Fork Payette River hydroelectric project. Your office was sent a complete copy of the FERC application in June of last year.

The Exhibit K maps indicate the company's present plan to provide transmission facilities for the indicated hydro project. Construction of the facilities for the proposal is to occur in two phases. Phase I, construction (sheet seven, up to the existing Emmett-Stibnite line) is scheduled to begin approximately May of 1982. Phase II (sheet eight, rebuilding the existing Emmett-Stibnite line as a double-circuit line) is scheduled to begin approximately April of 1984. BLM managed lands occur at only one location in the Phase I section of line and on several locations in the Phase II section. BLM lands on sheet seven are located in the NW¼ NE¼ of Section 26, Township 9 North, Range 1 East, B.M.

As yet, the company is unsure of the scope of work required for the existing Swan Falls Dam. As I indicated last week, the Federal Energy Regulatory Commission has directed the company to perform repairs to the structure. Extensive work is anticipated. In the meantime, as ordered, stringent measures to restrict access downstream of the dam have been implemented. This restriction applies to the public and to power plant personnel. Additionally, the structure is being continually monitored to minimize the chance of failure, especially in the area of the spillway gates. I will keep you informed of further developments as they become available.

The company is presently planning to update the Long Range forecast this spring. At that time, the new forecast will be made available to the Bureau and other interested parties.

I hope this information will be of some use to you and look forward to working closely with the Boise District as future projects become required.

Allan R. Ansell
Environmental Biologist

ARA:lf
Enc.

U.S. EN RONMENTAL PROTECTIOI AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

REPLY TO
ATTN OF: M/S 443

JUN 0 2 1981

Allan R. Ansell
Idaho Power Company
Box 70
Boise, Idaho 83707

Subject: Amendment to FERC License for Swan Falls Project No. 503

Dear Mr. Ansell:

Thank you for providing us with information about the above proposed license amendment. While we were unable to attend your interagency coordination meeting, we hope our comments in this letter will be useful.

From this packet and from conversations with you, it is our understanding that once the proprosed construction is completed, the project will continue to be operated in a run-of-the-river mode. The only operational change planned is for some of the flow which is currently spilled to pass through the powerhouse instead.

As you may know, EPA is considering proposing changes to the State of Idaho water quality standards. In particular, EPA is considering raising the dissolved oxygen (DO) standard below dams from 5 ppm to 6 ppm. This change is considered necessary to maintain the cold water biota of the river.

Your information packet (page 8) states that no violations of state DO standards are occurring but does not state what standard was used. Your application should include actual and projected DO and temperature levels, with special attention to the low flow periods. If DO levels could fall below 6 ppm at any time, then project changes would be necessary to avoid this problem. Possible changes to increase DO levels may include increased spilling over the dam or alternative turbine designs. For example, TVA has successfully increased DO levels by making minor changes in turbine designs while experiencing only minor power production losses.

We appreciate the opportunity to provide comments to you at this time and look forward to reviewing the completed license amendment application. If you have any questions, please contact me or Judi Schwarz of my staff. We can be reached at (206) 442-1285.

Sincerely yours,

Elizabeth Corbyn, Chief
Environmental Evaluation Branch

cc: Dave Lewis, USFWS, Boise
FERC

STATE OF IDAHO
DEPARTMENT OF HEALTH
AND WELFARE

DIVISION OF ENVIRONMENT
Statehouse
Boise, Idaho 83720

May 19, 1981

Allan R. Ansell
Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

After the attendance of your May 15, 1981, scoping meeting by Bill Clark of our Boise field office and in reviewing the information packet on the Swan Falls Project (FPC Project No. 503), we do not foresee any water quality problems except intermittent, increased turbidity during construction. However, before we can provide formal water quality certification of the project, we must review the environmental assessment to be provided in your FERC license application.

Sincerely,

Michael A. Smith

Michael A. Smith, P.E.
Senior Environmental Engineer

MAS:par
cc: Dave Sanders/Bill Clark
Monte Richards, IF&G

EQUAL OPPORTUNITY EMPLOYER

DAHO DEPAR.MENT of PARKS & RECREATION

atehouse Mail, 2177 Warm Springs Ave., Boise, Idaho 83720 (208) 334-2154

ale R. Christiansen, Director
obert L. Meinen, Deputy Director

John V. Evans, Governor

June 26, 1981

Mr. Allen Ansel
Idaho Power Company
1220 W. Idaho
Boise, ID 83702

RE: 543.10.1B - Swan Falls

Dear Allen:

With regards to the above referenced project, we feel that the proposed recreation development included in the study is most adequate for meeting the immediate and the future needs for the recreation facilities in the area of Swan Falls Dam.

We feel that the seven points discussed in the recreation section of your plan would address the type of recreation needs that exist in the area.

We appreciate your continual consultation with us and your desire to satisfy the outdoor recreation needs as identified in our Outdoor Recreation Plan. We will look forward to our continual coordination on this project.

Our only additional comment is that we would recommend that a joint review, every five years, be made to determine if conditions warrant additional recreation facility development. If so then provisions for amending the recreation element should be addressed.

Sincerely,

DALE R. CHRISTIANSEN
DIRECTOR

William Hagdorn

William G. Hagdorn, Chief
Comprehensive Planning Bureau

WGH/eh

STATE OF IDAHO

DEPARTMENT OF FISH AND GAME 600 SO. WALNUT ST. P.O. BOX 25
BOISE, IDAHO 83707

June 8, 1981

Mr. Alan R. Ansell
Environmental Biologist
Idaho Power Company
P. O. Box 70
Boise, ID 83707

Dear Mr. Ansell:

The information packet you forwarded with your letter of April 24, 1981, concerning amendment of the relicensing application for Swan Falls Project (FPC No. 503) to increase generating capacity, has been reviewed by our Department. Department staff also attended the scoping meeting held by Idaho Power Company on May 15.

Based on information available to date, it does not appear the proposed project would have any significant adverse impacts on fish and wildlife resources provided care is taken to prevent sedimentation during construction. You have our comment on timing downstream coffer dam breaching so that any increased sedimentation would not occur during fish spawning or egg incubation processes.

Sincerely,

Jerry M. Conley
Director

cc: USFWS (Buechler)
IDHW (Bill Clark)
Region 3
Bur. Fisheries

EQUAL OPPORTUNITY EMPLOYER

STATE OF IDAHO

DEPARTMENT OF LANDS

STATEHOUSE, BOISE, IDAHO 83720

GORDON C. TROMBLEY
DIRECTOR

STATE BOARD OF LAND COMMISSIONERS
JOHN V. EVANS
GOVERNOR AND PRESIDENT
PETE T. CENARRUSA
SECRETARY OF STATE
DAVID H. LEROY
ATTORNEY GENERAL
JOE R. WILLIAMS
STATE AUDITOR
JERRY L. EVANS
SUP'T OF PUBLIC INSTRUCTION

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
P.O. Box 70
Boise, ID 83707

Dear Mr. Ansell:

I appreciate the notification of your plans to upgrade the Swan Falls Dam. Review of your information packet revealed no issues with which the Department of Lands has concern. Therefore, I see no need to attend your meeting to address the scope of your environmental assessment.

If you wish to send additional correspondence to this office, you may send it to Dale Edstrom, Natural Resource Planner.

Sincerely,

GORDON C. TROMBLEY
Director

GCT:kg

EQUAL OPPORTUNITY EMPLOYER

IDAHO PUBLIC UTILITIES COMMISSION

STATEHOUSE
BOISE, IDAHO 83720
334-3143

PERRY SWISHER
President

JOHN V EVANS
Governor

May 11, 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
P. O. Box 70
Boise, Idaho 83707

Dear Mr. Ansell:

Please tell the Idaho Power Company that Curt Winterfeld, Director of Division of Rates and Engineering will represent us at the Swan Falls license hearing May 15.

Unfortunately the entire Commission is tied up this week in field hearings, or one of us would be there. There is still the chance that one of us will make it, but Mr. Winterfeld will have been briefed and will be there in any event.

Thanks for

Very truly yours,

Perry Swisher

ps:mw

IDAHO STATE HISTORICAL SOCIETY
610 NORTH JULIA DAVIS DRIVE BOISE, IDAHO 83706

STATE MUSEUM

March 10, 1981

Mr. Allen Ansel
Idaho Power Company
1220 W. Idaho
Boise, ID 83702

Dear Allen:

On March 2, 1981 Ken Swanson of the Idaho State Historical Society, Ken Ames of Boise State University and myself inspected the lands involved in the Swan Falls Dam rehabilitation project. We specifically looked at the area where the road realignment is planned, in the possible staging area in front of the dam on the north side, and on the Idaho Power owned lands upstream from the dam.

This area has been archaeologically surveyed on three different occasions: in 1958 by Donald Tuohy; in 1971 by Robert Keller and David Koko, and in 1978 by Kelly Murphy while working for the BLM. Only one archaeological site is located in this area, site 10 AA 17 (map enclosed). It is listed on the National Register of Historic Places as part of the Guffey-Black Butte archaeological district. The Swan Falls Dam is also listed on the National Register. We also located a rock fence up the canyon wall. The rock wall had barb wire string across the top of it. It does not appear eligible for the National Register.

We know little about the subsurface deposits at site 10 AA 17. They appear to be about one meter deep, based on an exposed cut bank. We do not know if they contain features, such as hearths, or houses. Also we do not know how old the site is. In order to determine what mitigation may be necessary if the site is effected, we recommend that an archaeologist dig test pits into the site to determine its age, the nature of the subsurface deposits, and the overall size of the site. Once his information is gathered, intelligent decisions concerning possible mitigation needs can be made if this site will be affected.

Concerning the Swan Falls Dam itself we should consult with Dr. Merle Wells to get his views on the construction and what compliance procedures are necessary.

Sincerely,

Tom

Thomas J. Green
State Archaeologist
State Historic Preservation Office

TJG/kmh

Owyhee County Planning Commission

MURPHY, IDAHO 83650

May 13, 1981

Mr. Allan R. Ansell
Environmental Biologist
Idaho Power Company
Box 70
Boise, Idaho 83707

Re: FPC Project No. 503

Dear Mr. Ansell:

On the 12th day of May, 1981, the Board reviewed your letter of April 24, 1981 pertaining to the proposed increase capacity of the Swan Falls Project. This is to inform you that at this time the Board unanimously supports said project proposal.

Any further correspondence can be directed to Roger Howard, Chairman, at the above mentioned address to the attention of Merry Taylor.

Sincerely,

Merry Taylor

Merry Taylor
Secretary

APPENDIX B

NARRATIVE REPORT - APPLICATION TO BUREAU OF RECLAMATION FOR ROAD IMPROVEMENTS

PROPOSED SWAN FALLS ROAD IMPROVEMENT

NARRATIVE REPORT

1.1 DESCRIPTION OF THE PROPOSED PROJECT

Idaho Power Company owns and operates hydroelectric generating facilities known as Swan Falls Dam. The dam is located on the Snake River approximately 35 miles southwest of Boise, Idaho. The portion of the river affected by the dam generally flows in a narrow canyon, several hundred feet below the surrounding plateau. The damsite itself lies about 650 feet below the canyon rim. From the canyon rim, access to the dam is via a narrow winding road. The existing road is substandard and not adequate to meet projected needs.

It is proposed that the road leading to the dam be improved. Beginning at the top of the canyon rim, the first 2,000 feet of improvement would involve uprating the existing road. The remainder would involve new road construction. Total road length would be approximately 7000 feet, of which approximately 1500 feet would be located on public lands administered by the Bureau of Land Management.

The proposed road, its location, and design specifcations are more completely described in the application map which accompanies this report.

1.2 Need for the Proposed Project

The proposed road will be a multi-purpose facility

designed to meet several needs which are presently being inadequately served by the existing road.

Swan Falls Dam, the oldest dam on the Snake River, was built in 1901 and has had several additions added to it over the years. The existing spillway, built in 1936, is in very poor condition. The Applicant has been directed by the Federal Energy Regulatory Commission to conduct necessary repairs to the structure. These repairs will include replacing the spillway section of the dam with a new and completely modern concrete structure with gates and/or an overflow section of sufficient capacity to pass required flood flows.

The Idaho Power Company has applied to the Federal Energy Regulatory Commission (FERC) for the issuance of a new license for continued operation and maintenance of the Swan Falls facilities. The company is presently amending its relicense application to include a planned expansion that would approximately double the generating capabilities of the project.

In the event of emergency situations prior to issuance of a new FERC license and startup of the proposed reconstruction, the proposed road would expedite remedial actions. Realignment of the existing road to the proposed route will provide adequate and safe access to and from the dam for the life of the structure. The existing road is not of sufficient quality to use for construction purposes or to provide the required access. The life of the

rebuilt hydroelectric facilities will be a minimum of fifty years.

The proposed road alignment will improve the living and safety conditions in Swan Falls village. Swan Falls village is a housing project which houses the dam operators and their families. Although the population of the village fluctuates, it usually provides homes for approximately 30 to 35 people. The present road alignment passes directly through the village. Although the road is private, it has traditionally been available for public use. Public traffic therefore is funneled through the village.

The proposed road alignment will provide safe and adequate public access to the Swan Falls area.

Maintenance of the new road will be improved over the existing road.

1.3 ALTERNATIVES TO THE PROPOSED ACTION

1.3.1 Alternative A

Alternative access could be developed utilizing the west canyon wall. An existing road, which was once used as part of a ferry operation above the Swan Falls Dam is presently located in this vicinity. It would be necessary to begin access from State Highway #78, approximately 3.5 miles south of the town of Murphy. Approximately four miles of new road will be required to be built. Travel distance from Boise will be approximately 66 miles. Use of this route will require

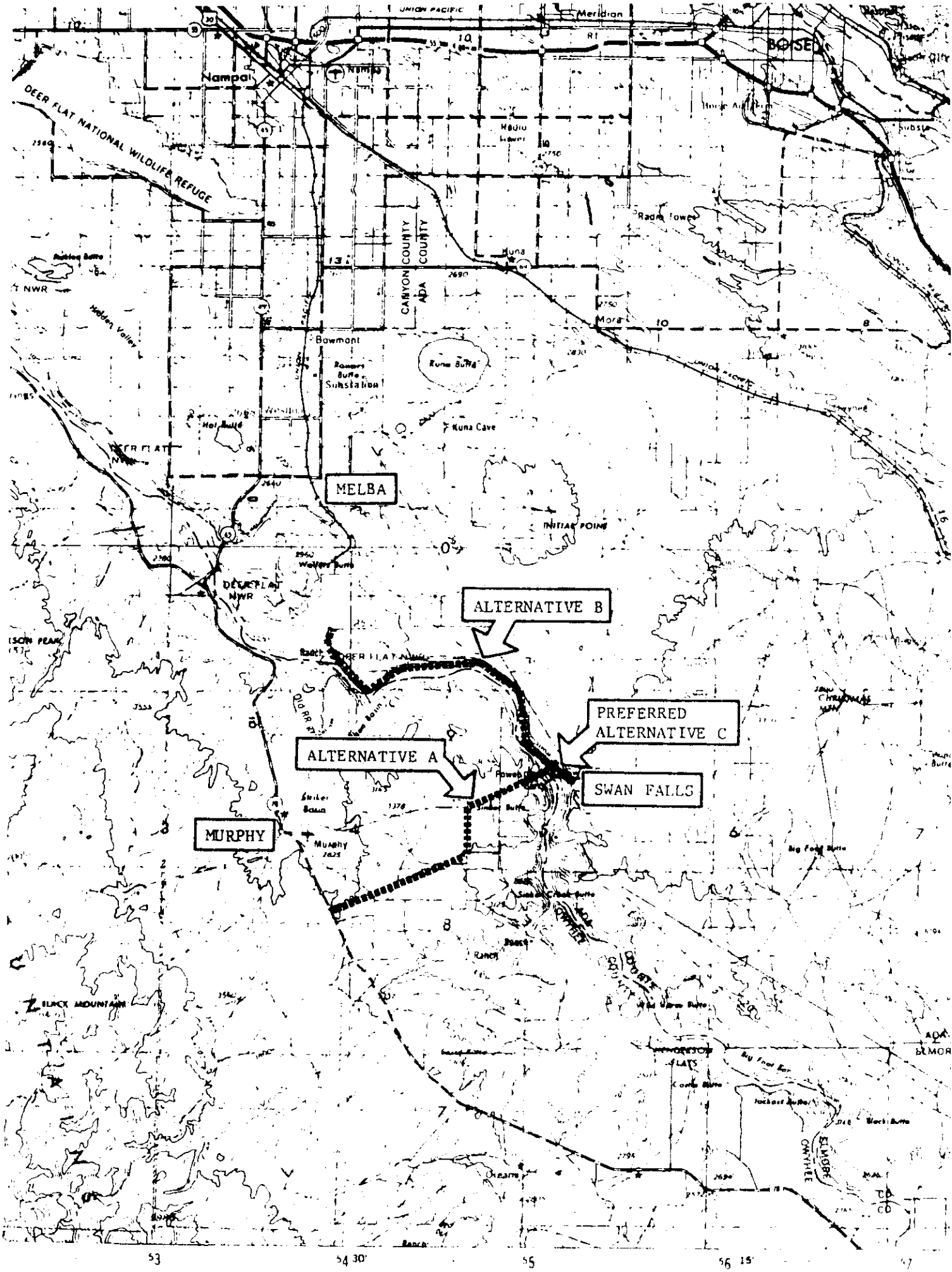
the construction of a permanent bridge across the Snake River to provide access to the powerhouse and Swan Falls village. Initial construction cost of this alternative is estimated to be approximately 2 to 2.5 times that of the preferred alternative.

1.3.2 Alternative B

This route would involve using an existing county road south from the town of Melba to the Snake River. From there, the route of an existing low quality road could be followed up river to the dam. This would involve the construction of approximately 11.5 miles of new road along the existing route. Improvement would also have to be made to the existing road leading to the river. Travel distance from Boise would be approximately 51.5 miles. The route would require the construction of temporary access across the Snake River at the dam for construction purposes. Initial construction cost is estimated to be approximately four to five times that of the proposed facility.

1.3.3 Alternative C

Alternative C is a "no action" alternative. The existing road into Swan Falls Dam is very substandard. Many sections are only one lane wide and in places the grade approaches 20%. Maintenance costs are high. The road is considered to be unsatisfactory for the proposed construction. Use of the existing road would not alleviate the safety hazard to the village residents nor improve long


MELBA
ALTERNATIVE B
PREFERRED ALTERNATIVE C
ALTERNATIVE A
SWAN FALLS
MURPHY
DEER FLAT NATIONAL WILDLIFE REFUGE
Nampa
BOISE
Meridian
Bowmont
Substation
Kuna Cave
INITIAL POINT
DEER FLAT NWR
Old RR Bed
Swiler Basin
Murphy
BLACK MOUNTAIN
CANYON COUNTY
ADA COUNTY
53
54 30'
55
56 15'

term access. Temporary access would need to be built across the Snake River to facilitate construction of the dam.

DISCUSSION

Any of the alternatives, except C, could meet access needs for the proposed reconstruction of the dam. Transportation cost would be greater utilizing options A or B. Alternative A, B and C do not meet the long term requirements for the dam. Nearly 100% of the dam related traffic, including recreation, is to and from the towns north of the Snake River where population centers, schools, shopping, etc, are located. It is likely that the existing road would continue to be used rather than alternatives A or B. This would result in two roads leading into the area, but with only one receiving the bulk of the use. Maintenance for both roads would be required for the life of the project. A no action alternative would not be acceptable from a construction point of view, nor would it do anything to improve safety conditions in the village and long term access problems.

SCHEDULE

It is anticipated that, if the proposed alternative is allowed, construction of the road improvements would begin in July of 1982. The bulk of the construction is anticipated to be completed by February 1 of 1983. This timing is proposed to minimize potential adverse impacts to birds of prey.

It would be desirable to obtain the necessary right-of-way permit(s) no later than the early fall of 1981 to facilitate

final road design and other pre-construction activities. A similar time frame would be anticipated with Alternative A or B, however a longer construction time would be required for both alternatives.

SPECIAL CONSIDERATION

The area of the proposed road improvements and the vicinity of Swan Falls Dam has been surveyed for archaeological properties on at least three different occasions. It was evaluated a fourth time by Dr Thomas Green, Idaho State Archaeologist, in March of this year. Only one archaeological site is known to occur in the vicinity of the road project. Site 10-AA-17 is located at approximately the right abutment of the dam. The proposed road improvement will not involve this site. Other sites in the immediate vicinity will not be affected by either alternative A or Alternative C. Alternative B, building a road on the north side of the river through the canyon, has the potential of affecting several such sites. It has not been surveyed for purposes of this report.

Site 10-AA-17 will be evaluated during the summer of 1981 in conjunction with the FERC application for relicense.

Several prairie falcon eyries are located above and adjacent to the existing Swan Falls road. These are probably alternative nest locations for one or two pairs of birds, rather than for several individual pair. This spring, 1981, at least one pair of falcons are using the cliff above the road. Additionally, one pair of ravens are nesting on the same cliff.

Timing of the road construction is proposed to miss the critical use period for these nest sites, thus avoiding adverse impacts.

ALTERNATIVES SUMMARY

ALTERNATIVE	DISTANCE FROM BOISE	MILES OF NEW CONSTRUCTION	RELATIVE COST
Preferred	Unchanged 38 miles	1.5	1
A	66 Miles	4	2 to 2.5
B	51.5 Miles	11.5	4 to 5
C	Unchanged 38 miles	0	0 to 1

	Impacts to BPNA	Archaeological Impacts	Safety to Village
Preferred	Minimal	None	Excellent
A	Minimal	None	Potentially Improved
B	Adverse	Potentially Severe	Potentially Improved
C	No Change	No Change	Poor

	Construction Access	Bridge Requirements
Preferred	Excellent	Temporary
A	Adequate	Permenant
B	Adequate	Temporary
C	Inadequate	Temporary

	Long Term Access	Maintenance Requirements (Relative)
Preferred	Excellent	1
A	Poor	2 to 3
B	Poor	2 to 3
C	Poor	1 to 2



ARTIST CONCEPTION: The proposed Swan Falls road improvement.

APPENDIX C

REQUEST FOR

WATER QUALITY CERTIFICATION

SNAKE RIVER
HYDRO POWER

IDAHO POWER COMPANY

BOX 70 • BOISE, IDAHO 83707

October 30, 1981

Mr Al Murrey, P.E.
Chief, Bureau of Water Quality
Division of Environment
Idaho Department of Health and Welfare
Statehouse
Boise, ID 83720

RE: Swan Falls H.E. Facilities - Project 503
Water Quality Certification

Dear Mr Murrey,

As you know, Idaho Power Company proposes to reconstruct the hydroelectric facilities at Swan Falls Dam. A Water Quality Certificate is required to obtain a renewed FERC license for improved facilities. The Company hereby requests that a Water Quality Certificate be issued, pursuant to Section 401 of the Federal Water Pollution Control Act, for the facility.

Enclosed is a copy of the Application for License. As Exhibit E of the Application indicates, the potential of the proposed facility to adversely affect existing water quality is low. No special measures are anticipated to meet water quality standards.

If you have questions, or need further information, please contact me at your convenience.

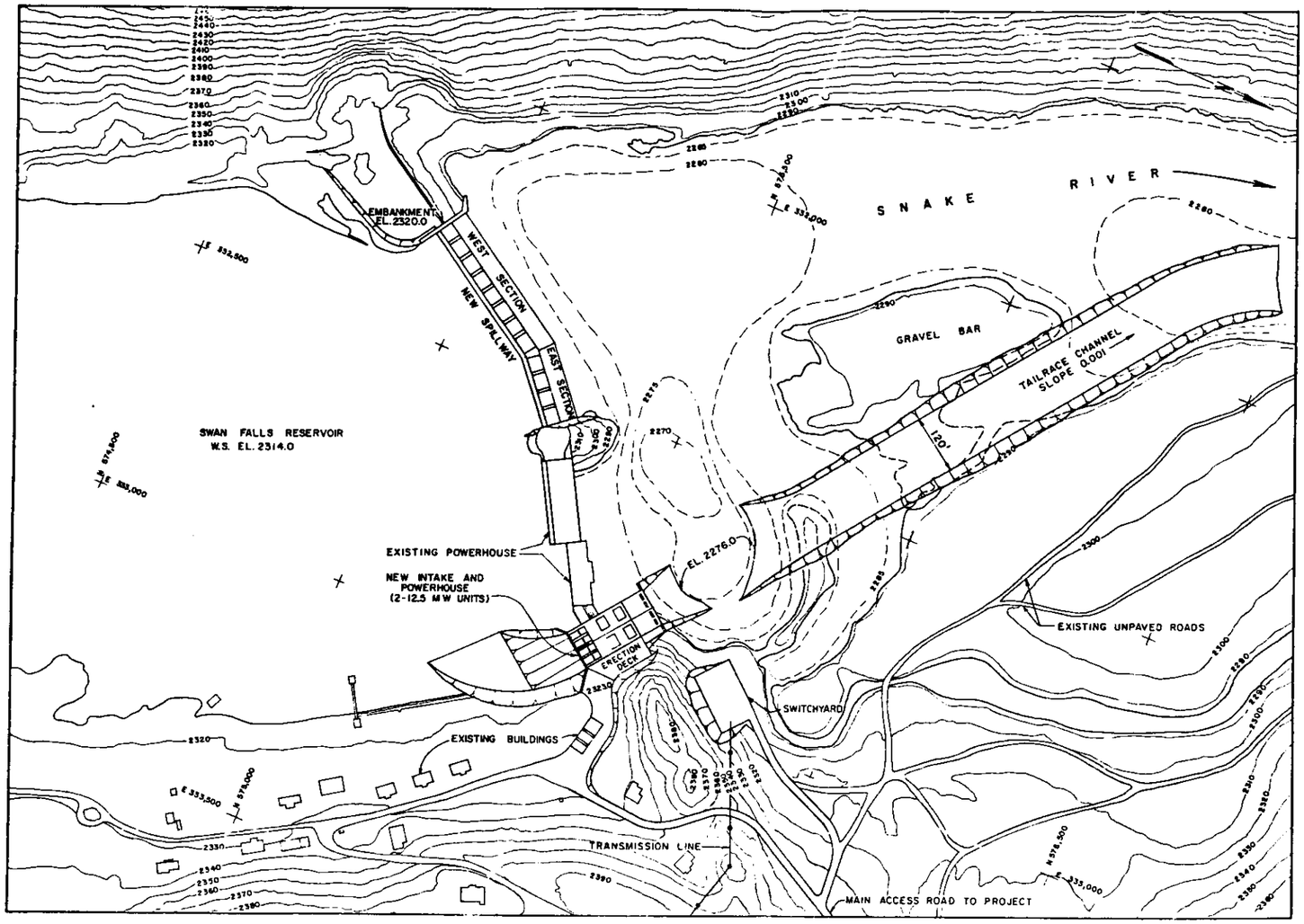
Sincerely,

Allan R Ansell

Allan R Ansell
Environmental Biologist

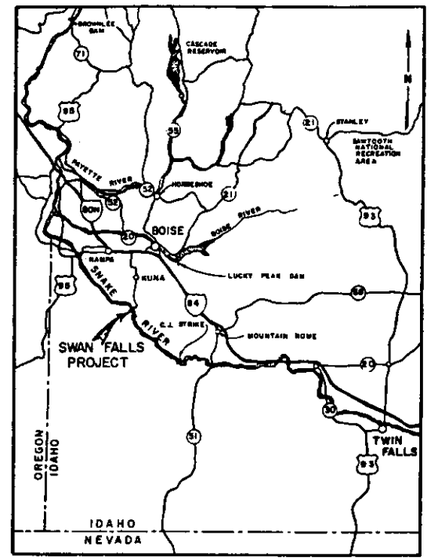
ARA:lf

EXHIBIT F



PROJECT PLAN

SCALE 0 100 200 300 400 500 FEET
(1" = 100')



LOCATION MAP

SCALE 0 10 20 30 40 50 MILES

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2500 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U. S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

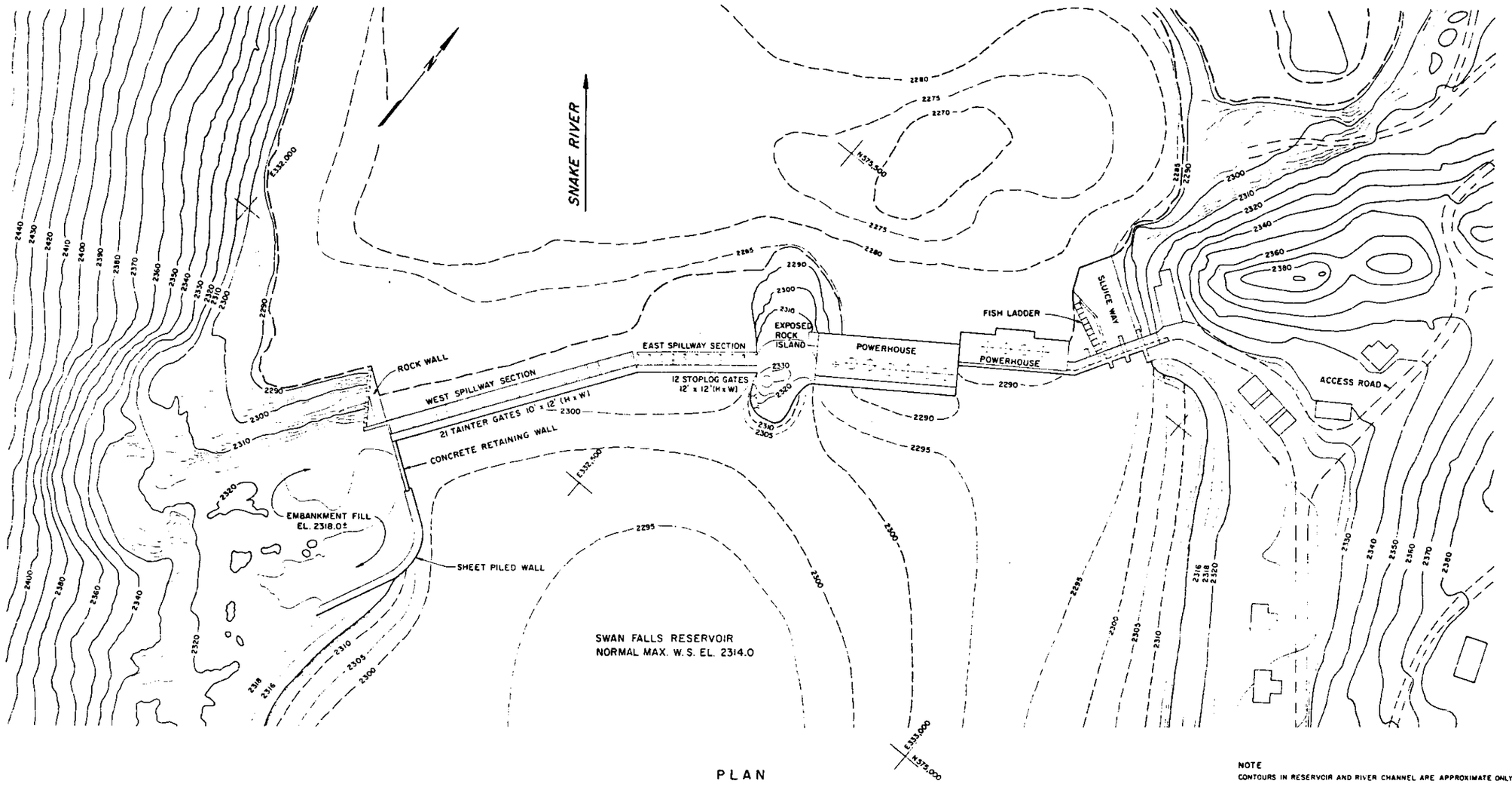
PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

GENERAL PLAN

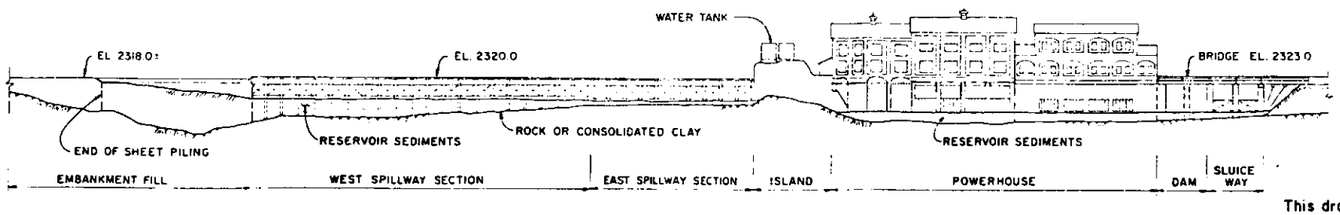
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 1 OF 6 06E-44791



PLAN

NOTE
CONTOURS IN RESERVOIR AND RIVER CHANNEL ARE APPROXIMATE ONLY.



UPSTREAM ELEVATION

SCALE 0 50 100 150 200 250 FEET
(1" = 50')

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

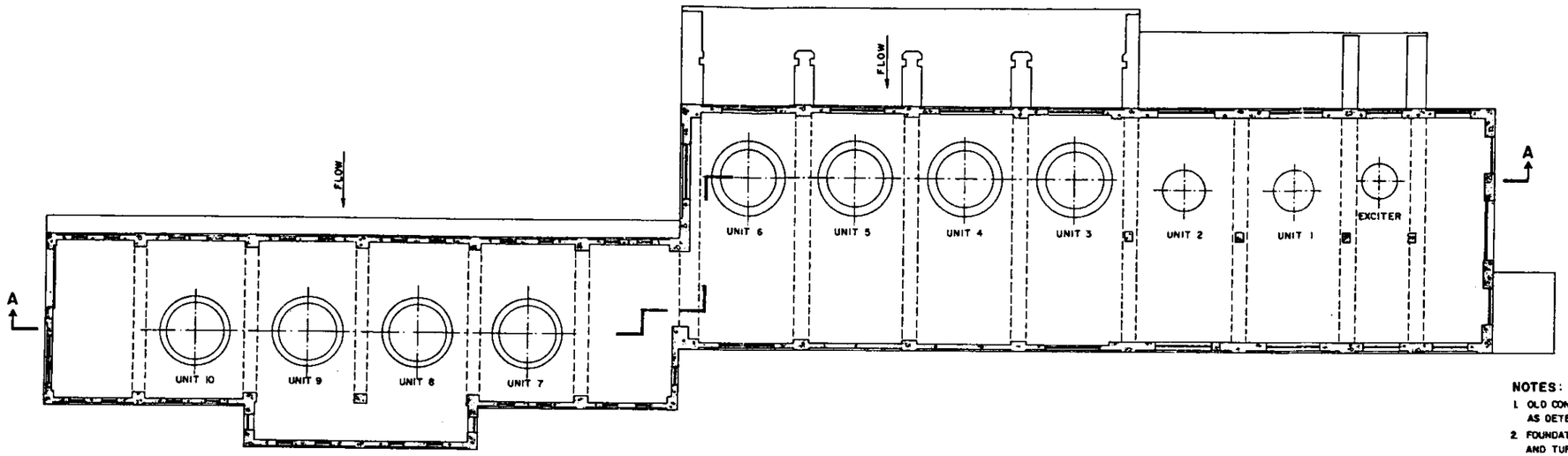
SWAN FALLS HYDROELECTRIC PROJECT

EXISTING STRUCTURES
PLAN AND ELEVATION

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 2 OF 6 06E-4479I

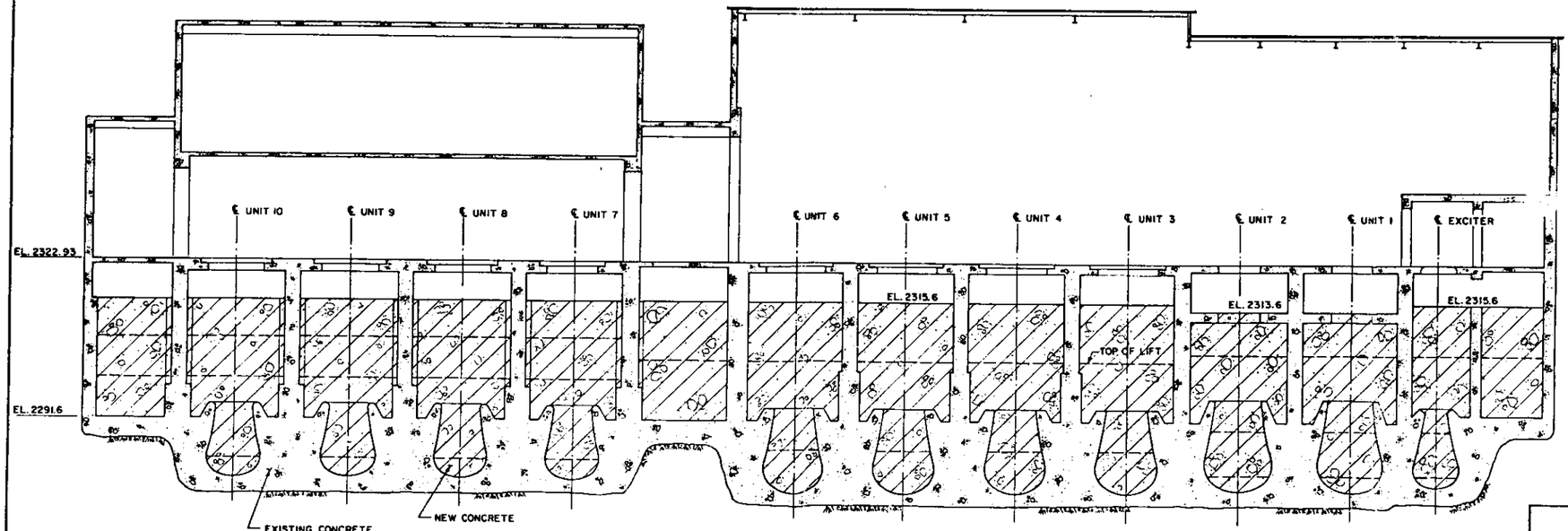
38 3



MAIN FLOOR PLAN - EL. 2322.93

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.



SECTION A-A

0 10 20 30 40 FEET

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

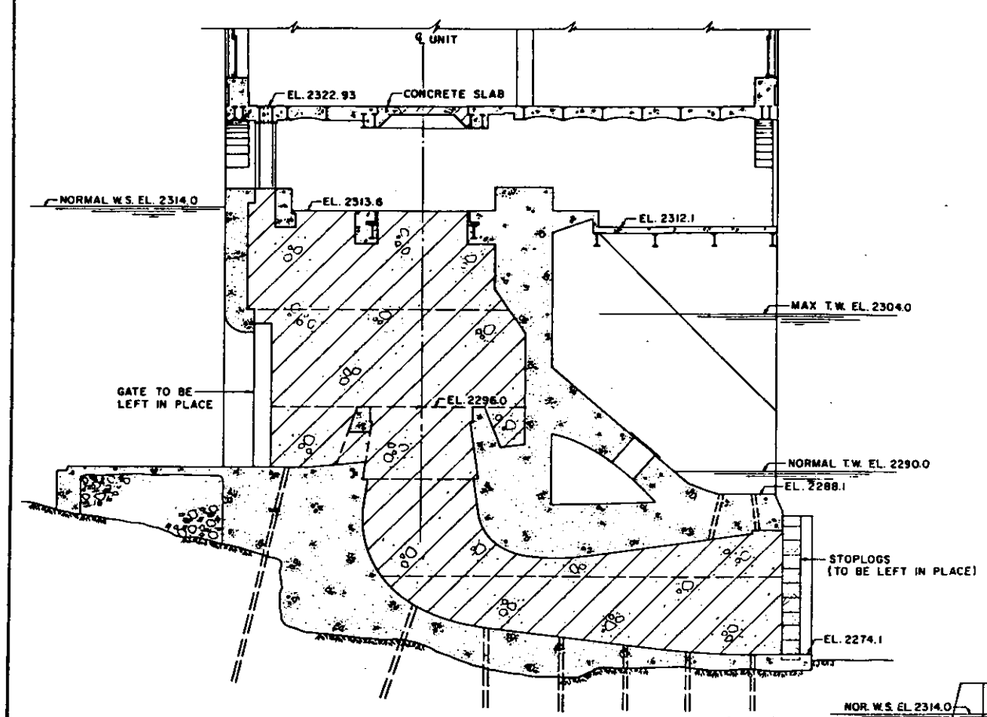
PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

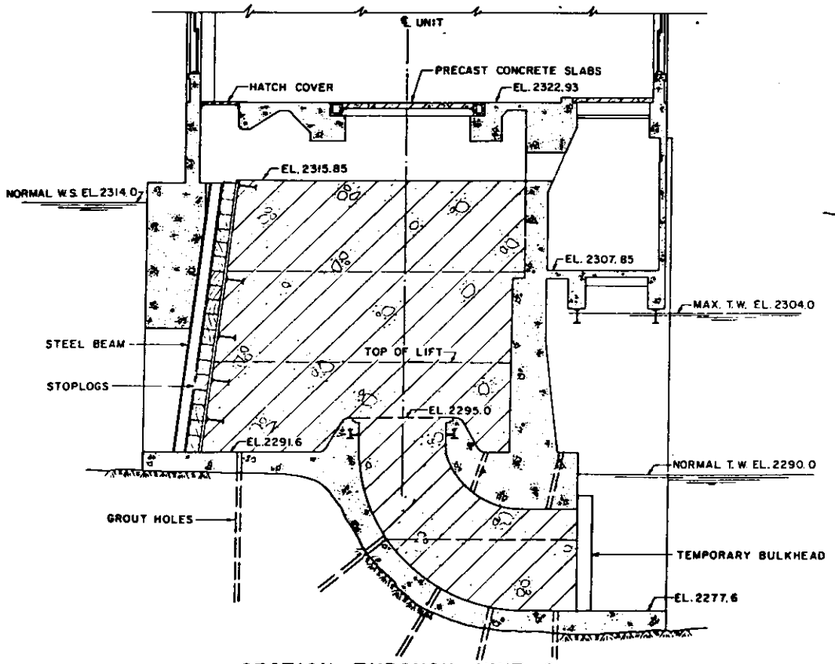
EXISTING POWERHOUSE STRUCTURE
PLAN AND SECTION

IDAHO POWER COMPANY
BOISE, IDAHO

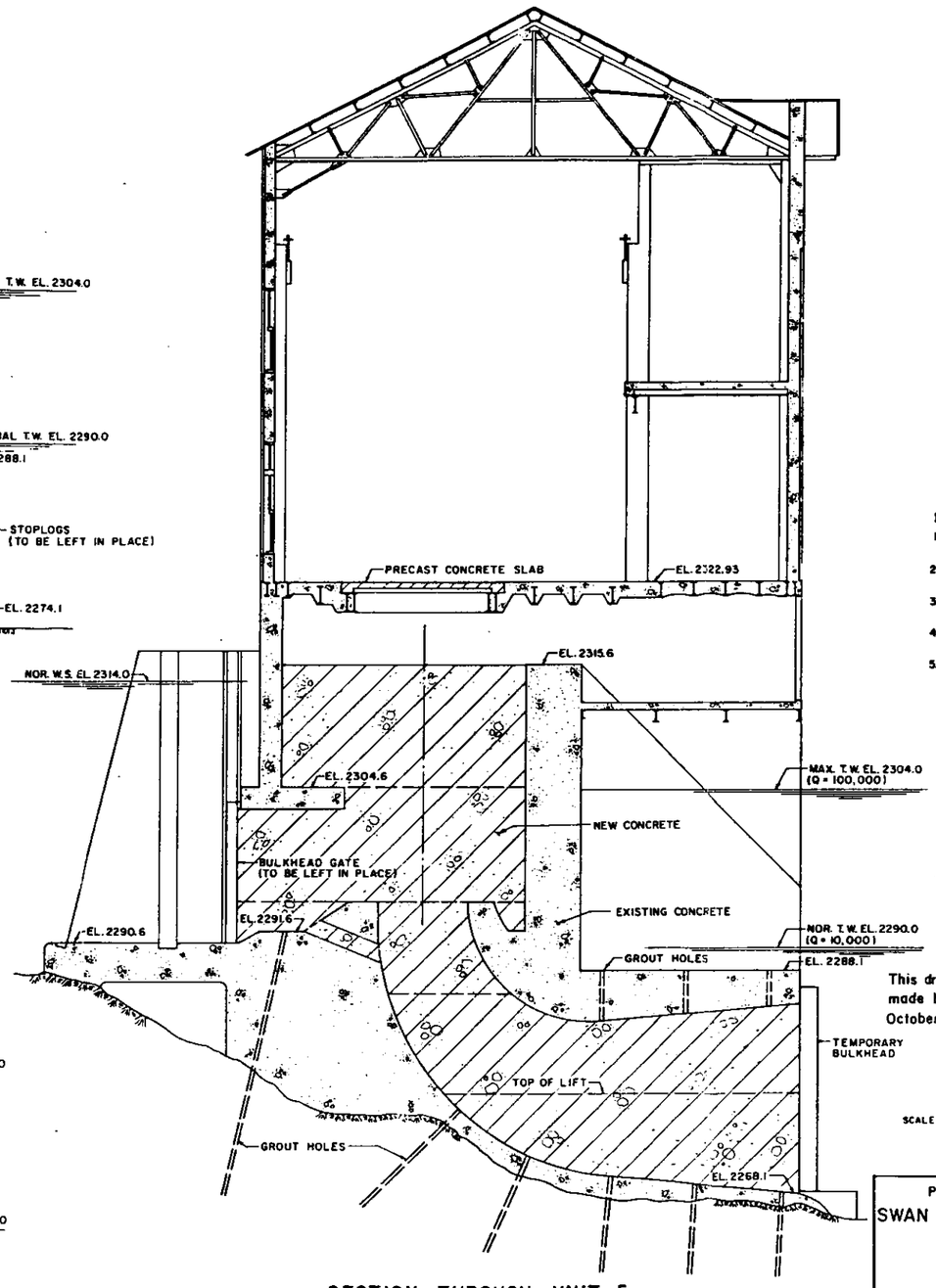
OCTOBER 1981 SHEET 3 OF 6 06E-44791



SECTION THROUGH UNIT 2
(TYPICAL FOR UNIT 1 & 2)



SECTION THROUGH UNIT 8
(TYPICAL FOR UNIT 7 THRU 10)



SECTION THROUGH UNIT 5
(TYPICAL FOR UNIT 3 THRU 6)

NOTES:

1. OLD CONCRETE TO BE SANDBLASTED AND REPAIRED AS DETERMINED NECESSARY.
2. FOUNDATIONS TO BE GROUTED FROM ALL DRAFT TUBES AND TURBINE PITS AS INDICATED.
3. DRAFT TUBES TO BE GROUTED WHEN NEW CONCRETE IS ABOUT THREE WEEKS OLD.
4. BACKFILL CONCRETE TO BE PLACED IN LIFTS AS INDICATED.
5. EXISTING EQUIPMENT (TO BE REMOVED) IS NOT SHOWN.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 5 10 15 20 FEET

PROJECT 503 - IDAHO EXHIBIT F

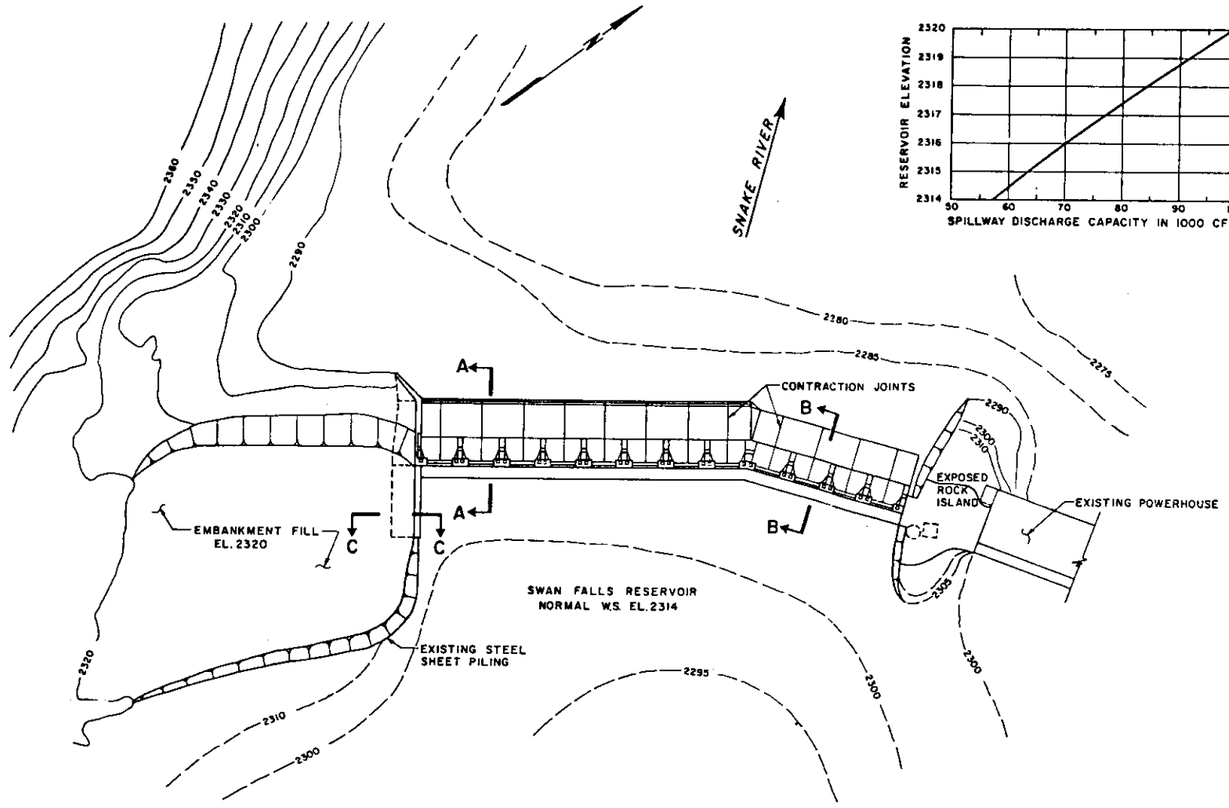
SWAN FALLS HYDROELECTRIC PROJECT

EXISTING POWERHOUSE STRUCTURE SECTIONS

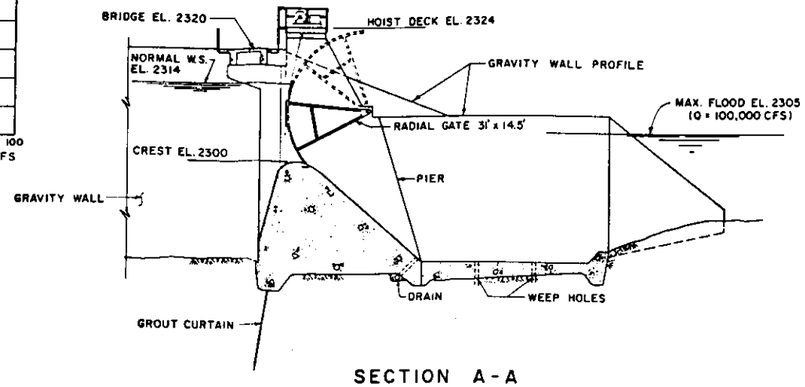
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 4 OF 6 06E-4479

38-3

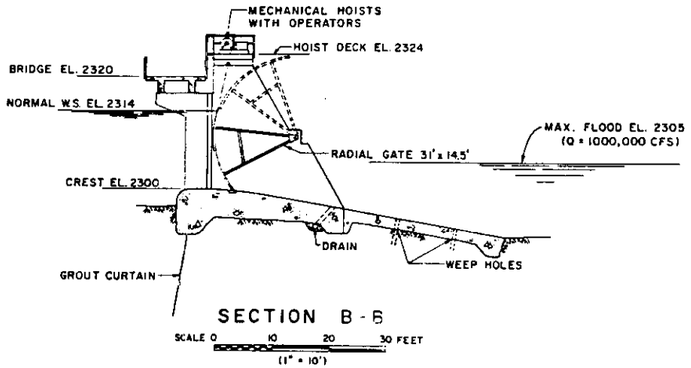


PLAN



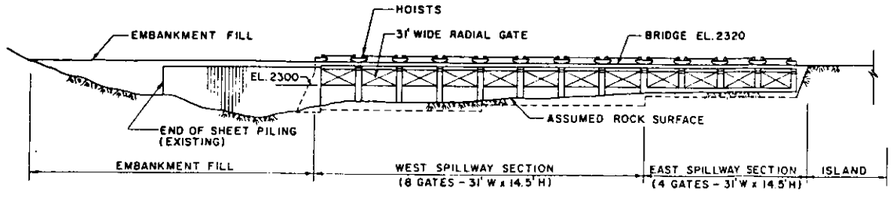
SECTION A-A

SCALE 0 10 20 30 FEET
(1" = 10')

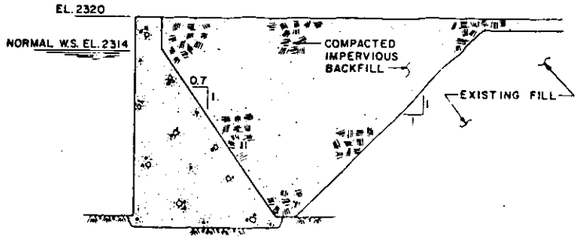


SECTION B-B

SCALE 0 10 20 30 FEET
(1" = 10')



UPSTREAM ELEVATION



SECTION C-C

SCALE 0 10 20 30 FEET
(1" = 10')

SCALE 0 50 100 150 200 FEET
(1" = 50')
EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26TH day of October 1981.

IDAHO POWER COMPANY

BY _____
CHAIRMAN OF THE BOARD AND
CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

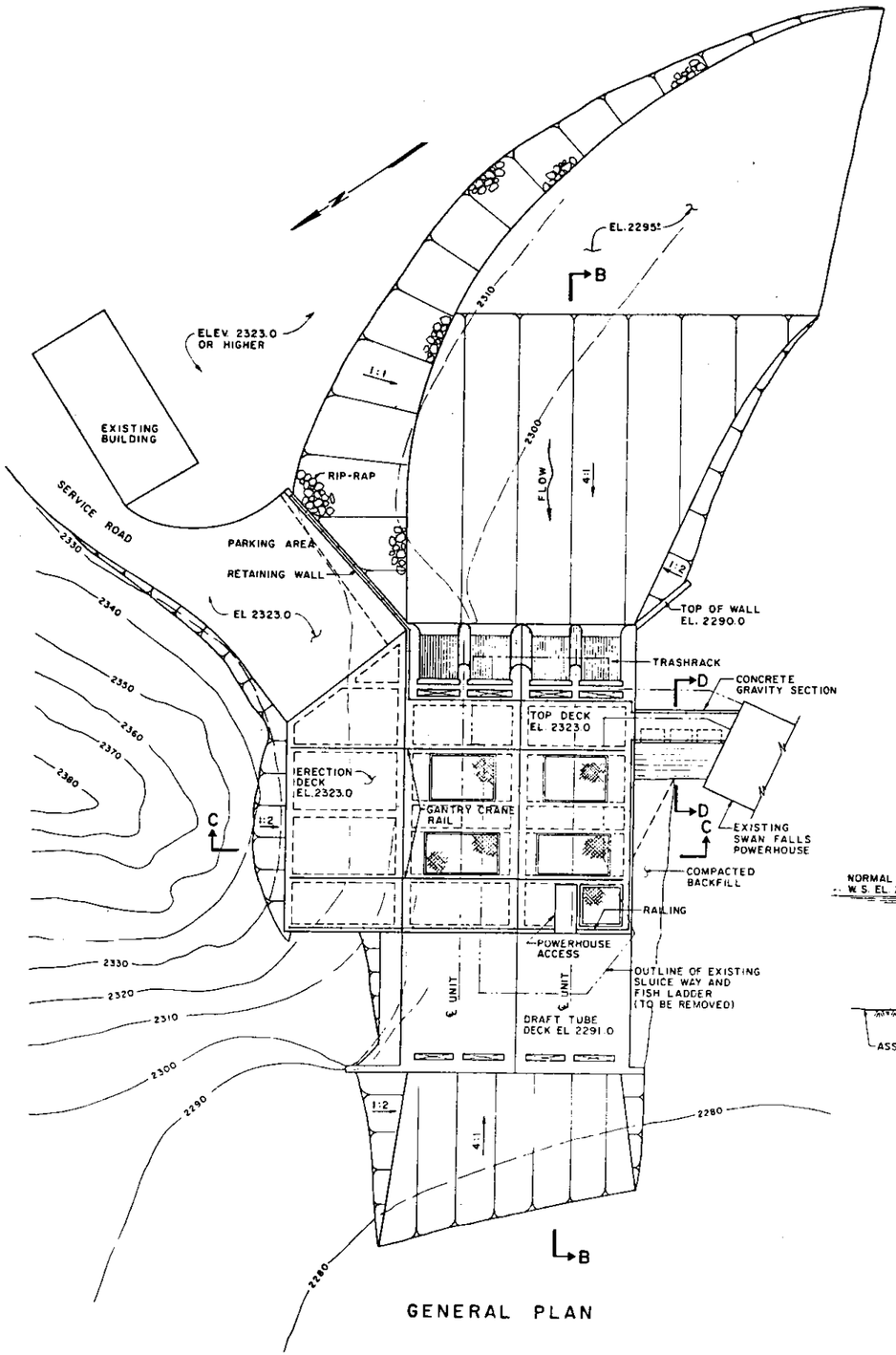
SWAN FALLS HYDROELECTRIC PROJECT

NEW SPILLWAY
PLAN AND SECTION

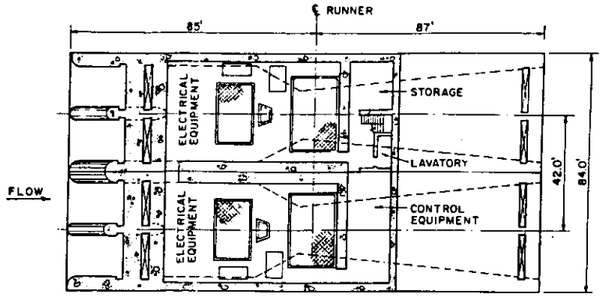
IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 5 OF 6 06E-44791

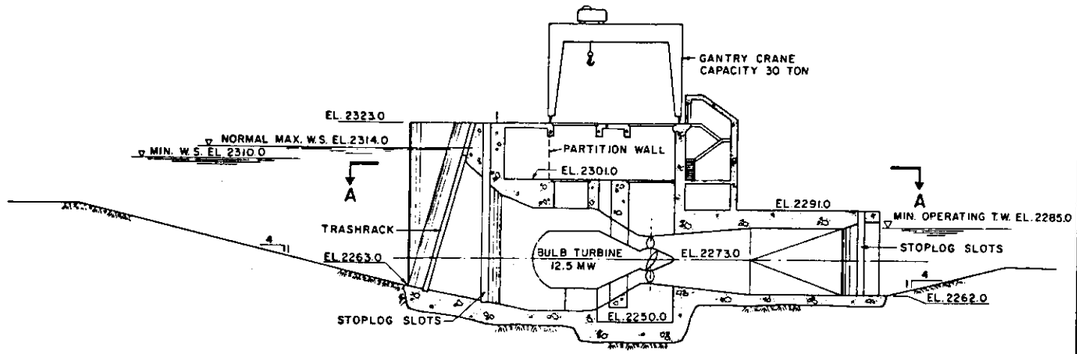
383



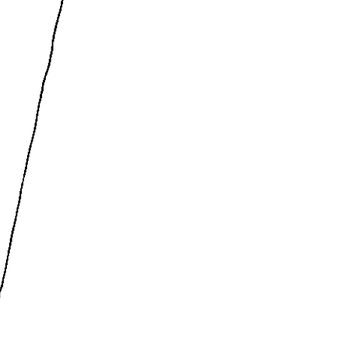
GENERAL PLAN



SECTION A-A

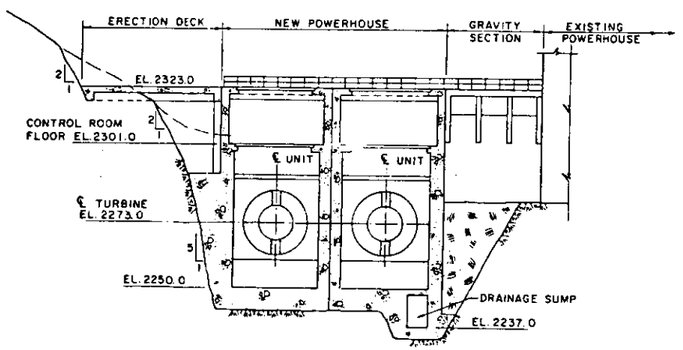


SECTION B-B



SECTION D-D

0 10 20



SECTION C-C

SCALE 0 20 40 60 80 FEET
(1" = 20')
EXCEPT AS NOTED

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

PROJECT 503 - IDAHO EXHIBIT F

SWAN FALLS HYDROELECTRIC PROJECT

NEW POWERHOUSE
PLAN AND SECTIONS

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 6 OF 6 06E-44791

EXHIBIT G

T2S R1W B.M.
T2S R1E. B.M.

ROACH
3416.96

LOT 2
U.S. GOV. 7.027 Ac.

LOT 15
U.S. GOV. 6.321 Ac.

LOT 10
POWER RESERVE SITE 10.070 Ac.

LOT 7
POWER RESERVE SITE
10.760 Ac.

LOT 2
POWER RESERVE SITE
8.291 Ac.

LOT 15
POWER RESERVE SITE
15.464 Ac.

LOT 16
I.P.C.

LOT 1
I.P.C.

LOT 9
I.P.C.

LOT 8
I.P.C.

LOT 1
I.P.C.

LOT 16
I.P.C.

LOT 9
I.P.C.

LOT 8
I.P.C.

LOT 1
I.P.C.

LOT 11
I.P.C.

LOT 6
I.P.C.

LOT 10
I.P.C.

LOT 2
I.P.C.

LOT 7
I.P.C.

LOT 10
I.P.C.

SNAKE RIVER

SWAN FALLS RESERVOIR

OWYHEE CO.

ADA CO.

ACCESS ROAD

138 KV TRANSMISSION LINE
RIGHT OF WAY - 50 FEET

TAP POINT

TO STRIKE POWER PLANT EXISTING 138 KV LINE

TO BOWMONT & CALDWELL SUBSTATIONS

SECTION CORNER SURVEYED IN

SECTION CORNER FOUND

SECTION CORNER NOT FOUND

GRID BEARING

TRUE BEARING

PROJECT BDY

I.P.C. IDAHO POWER COMPANY

KEY MAP

SHEET 1

SHEET 2

SHEET 3

SHEET 4

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET COMBINED COORDINATION FACTOR 1.00014551

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H. Condit
P.E. 688 – IDAHO

SCALE 0 200 400 800 1200 1600 FEET
(1" = 400')

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 1 OF 4 06E-44792

38-7

SECTION CORNER SURVEYED IN
SECTION CORNER FOUND
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
—— PROJECT BDY
I.P.C. IDAHO POWER COMPANY

T3S R1W B.M.
T3S R1E B.M.
T2S R1W B.M.
T2S R1E B.M.

LOT 3 U.S. GOV. 5.248 Ac.
LOT 4 U.S. GOV. 0.132 Ac.
LOT 15 U.S. GOV. 5.130 Ac.
LOT 5 U.S. GOV. 9.496 Ac.
LOT 2 U.S. GOV.
LOT 10 U.S. GOV. 6.056 Ac.
LOT 7 U.S. GOV. 7.174 Ac.
LOT 8 U.S. GOV. 11.672 Ac.
SNAKE RIVER
SWAN FALLS RESERVOIR
OWYHEE CO.
ADA CO.
NW ¼ OF NE ¼ U.S. GOV. 10.804 Ac.
LOT 11 U.S. GOV. 13.583 Ac.
LOT 6 PRIVATE
LOT 2 U.S. GOV. 19.948 Ac.
LOT 16 I.P.C.
LOT 9 I.P.C.
LOT 8 I.P.C.
LOT 1 I.P.C.
LOT 7 PRIVATE
NE ¼ OF SE ¼ PRIVATE
LOT 1 U.S. GOV. 6.688 Ac.
LOT 12 PRIVATE
LOT 5 U.S. GOV 4.557 Ac.
LOT 3 U.S. GOV 5.806 Ac.
LOT 2 U.S. GOV 5.130 Ac.
LOT 6 U.S. GOV. 3.557 Ac.
LOT 4 U.S. GOV. 6.292 Ac.
LOT 1 U.S. GOV. 11.290 Ac.
LOT 5 U.S. GOV. 7.585 Ac.

KEY MAP

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

HORIZONTAL DATUM MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

Gomer H Condit
PE 689 - IDAHO

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY
By
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

SCALE 0 200 400 800 1600 2400 FEET (1" = 400')

PROJECT 503 IDAHO EXHIBIT G

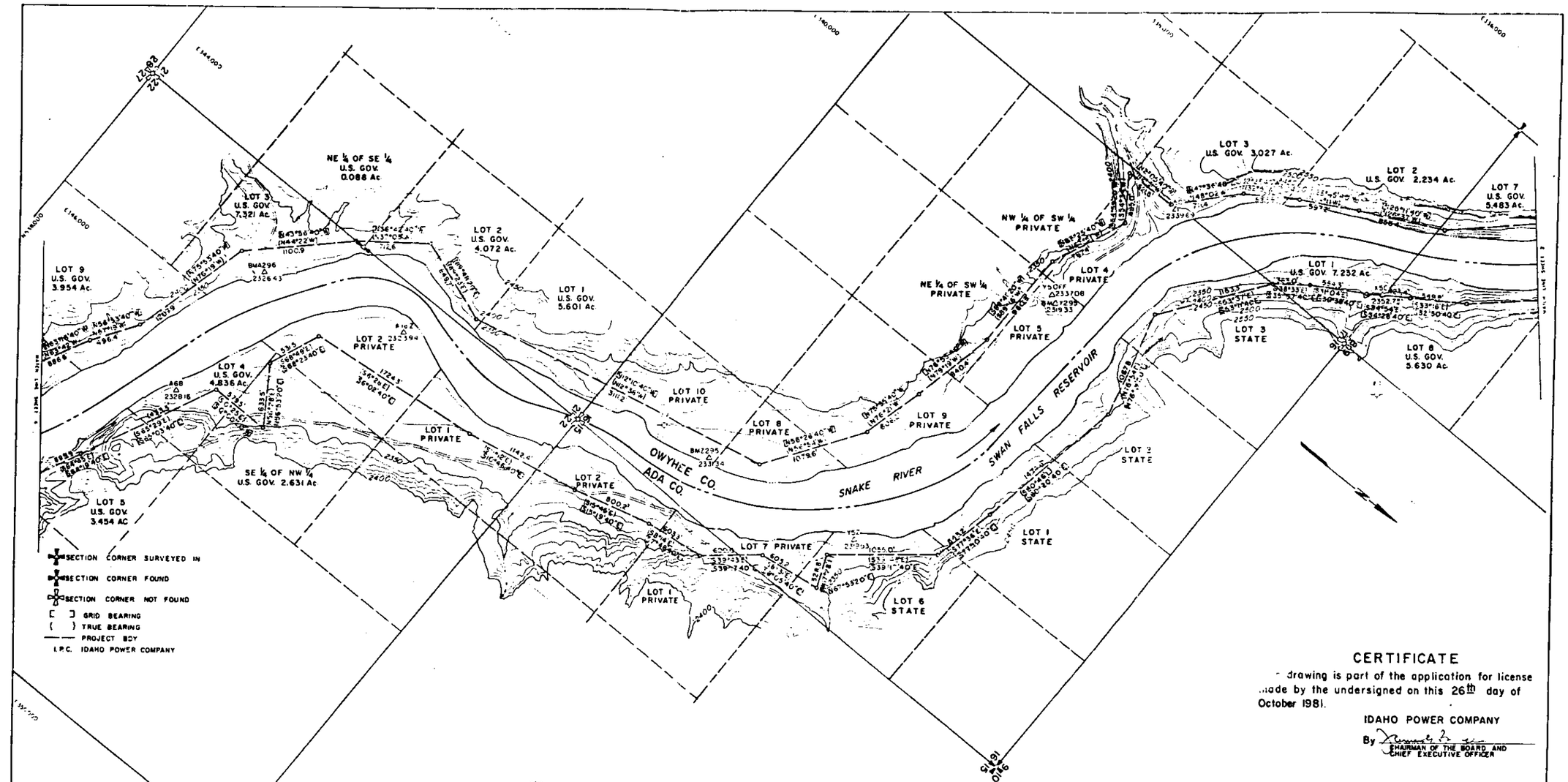
SWAN FALLS HYDROELECTRIC PROJECT

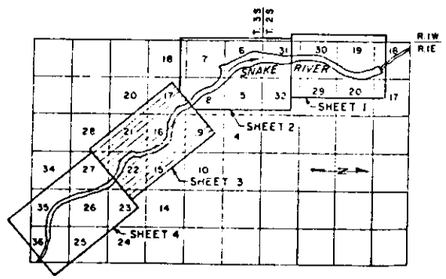
PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 2 OF 4 06E-44792

35-3





KEY MAP

LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A

CERTIFICATE

drawing is part of the application for license ..ade by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats

_____
Gomer H. Condit
PE 688 - IDAHO

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.0001455).

VERTICAL DATUM: U.S. COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

SCALE 0 200 400 800 1600 2400 FEET
(1" = 400')

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 3 OF 4 06E-44792

SECTION CORNER SURVEYED IN
SECTION CORNER FOUND
SECTION CORNER NOT FOUND
[ ] GRID BEARING
( ) TRUE BEARING
—— PROJECT BDY
I.P.C. IDAHO POWER COMPANY

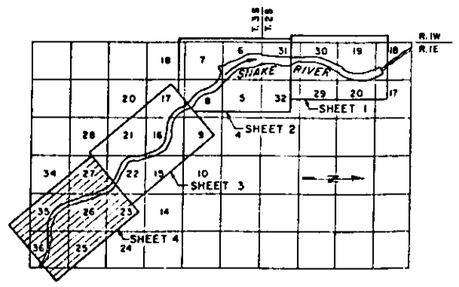
T.3S.,R.6W.
T.3S.,R.5W.
T.4S.,R.6W.
T.4S.,R.5W.

SNAKE RIVER
SWAN FALLS RESERVOIR
OWYHEE CO.
ADA CO.

LOT 9 PRIVATE
LOT 8 PRIVATE
LOT 7 PRIVATE
LOT 6 PRIVATE
LOT 5 PRIVATE
LOT 4 PRIVATE
LOT 3 PRIVATE
LOT 2 PRIVATE
LOT 1 PRIVATE
LOT 4 U.S. GOV. 8.570 Ac.
LOT 3 U.S. GOV. 5.880 Ac.
LOT 7 U.S. GOV. 5.806 Ac.
LOT 6 1.544 Ac. U.S. GOV.
LOT 2 1.220 Ac.
LOT 3 U.S. GOV. 4.307 Ac.
LOT 4 U.S. GOV. 2.234 Ac.
LOT 3 U.S. GOV. 4.763 Ac.
LOT 2 U.S. GOV. 3.690 Ac.
LOT 8 U.S. GOV. 10.643 Ac.
LOT 4 U.S. GOV. 9.878 Ac.
NE ¼ OF SW ¼ PRIVATE
LOT 2 U.S. GOV. 9.026 Ac.
LOT 1 U.S. GOV. 1.352 Ac.
LOT 1 U.S. GOV. 3.572 Ac.
LOT 7 U.S. GOV. 5.968 Ac.
LOT 6 U.S. GOV. 0.662 Ac.
LOT 5

T3S RIE 8M
T3S R2E. 8M.

KEY MAP



LAND OWNERSHIP WITHIN PROJECT BOUNDARY IS SHOWN IN TABLE A-1, EXHIBIT A.

CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 26th day of October 1981.

IDAHO POWER COMPANY

By _____
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

I, Gomer H. Condit, employed by Idaho Power Company, state that this map was accurately made under my direction and shows the location of the project in relation to United States Government land plats.

_____
Gomer H. Condit
PE 688 - IDAHO

HORIZONTAL DATUM: MODIFIED IDAHO WEST ZONE COORDINATES USING A PROJECT DATUM AT ELEVATION 2300 FEET. COMBINED COORDINATION FACTOR 1.00014551.

VERTICAL DATUM: U.S COAST AND GEODETIC SURVEY SEA LEVEL DATUM OF 1929.

SCALE 0 200 400 800 1600 FEET (1" = 400')

PROJECT 503 IDAHO EXHIBIT G

SWAN FALLS HYDROELECTRIC PROJECT

PROJECT MAP

IDAHO POWER COMPANY
BOISE, IDAHO

OCTOBER 1981 SHEET 4 OF 4 06E-44732

38-3