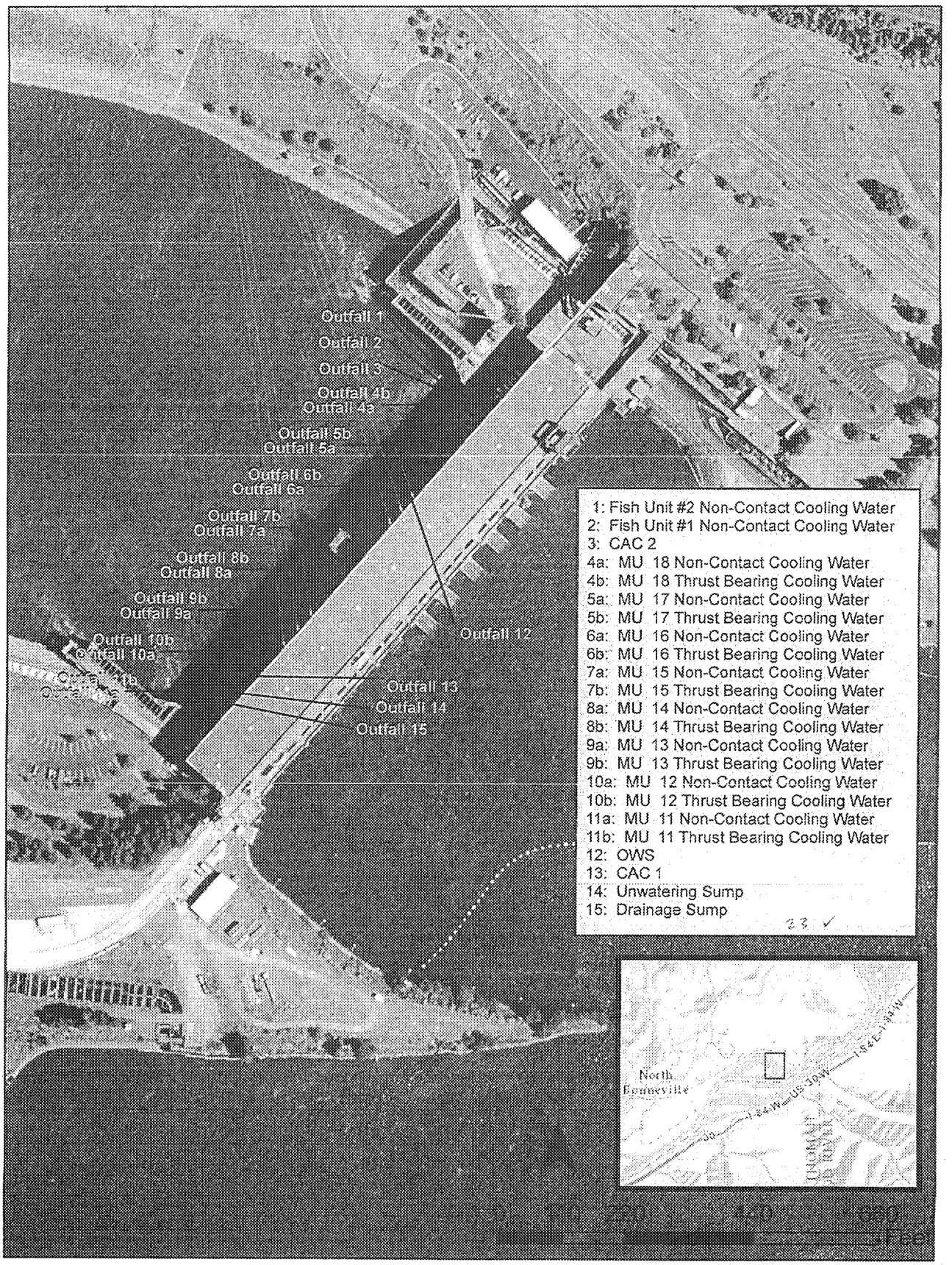
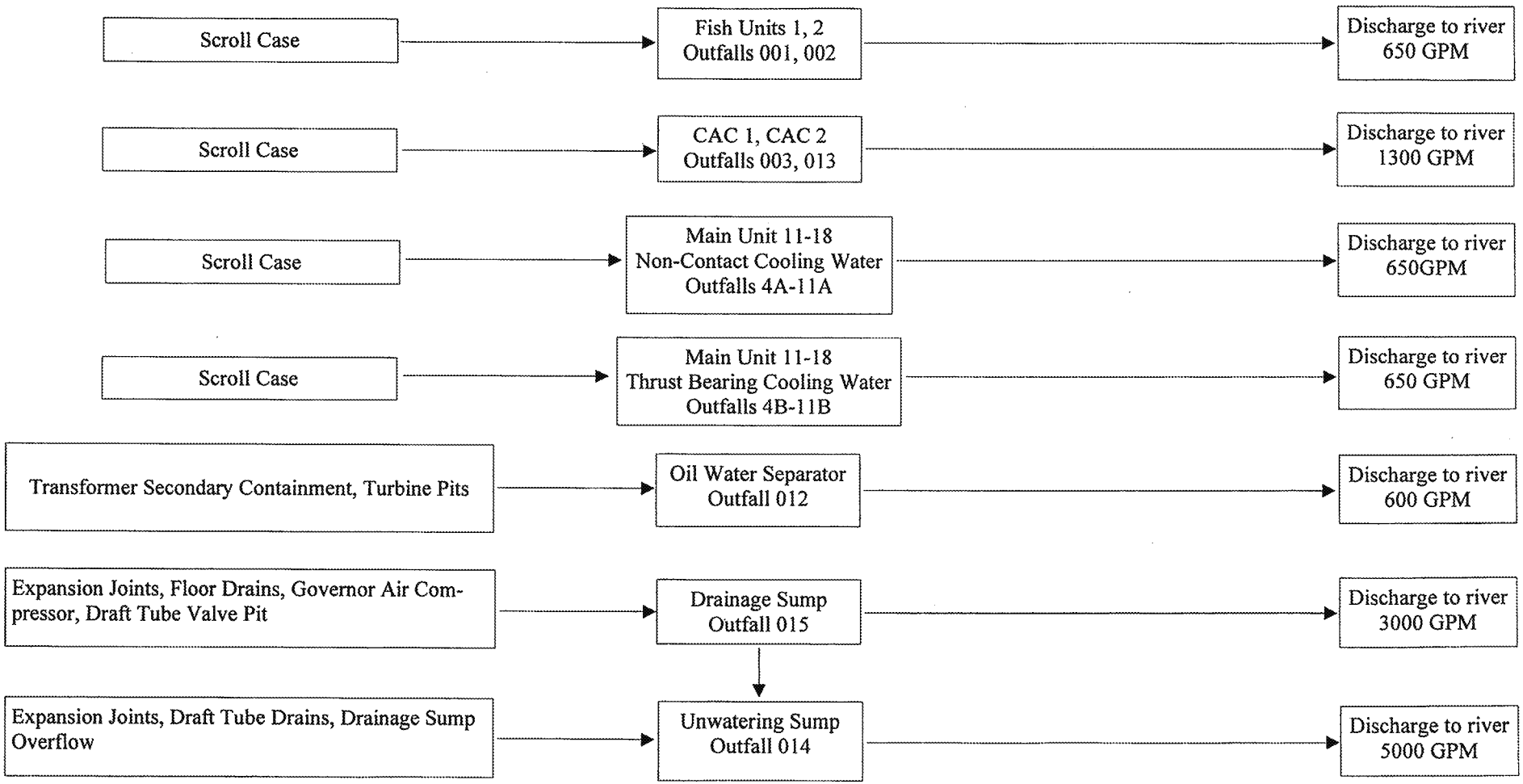
Location Map: Bonneville Project
Powerhouse 2



Bonneville PH2 Outfall Water Source

Line Drawing

Note: All intake sources are raw water from the Columbia River



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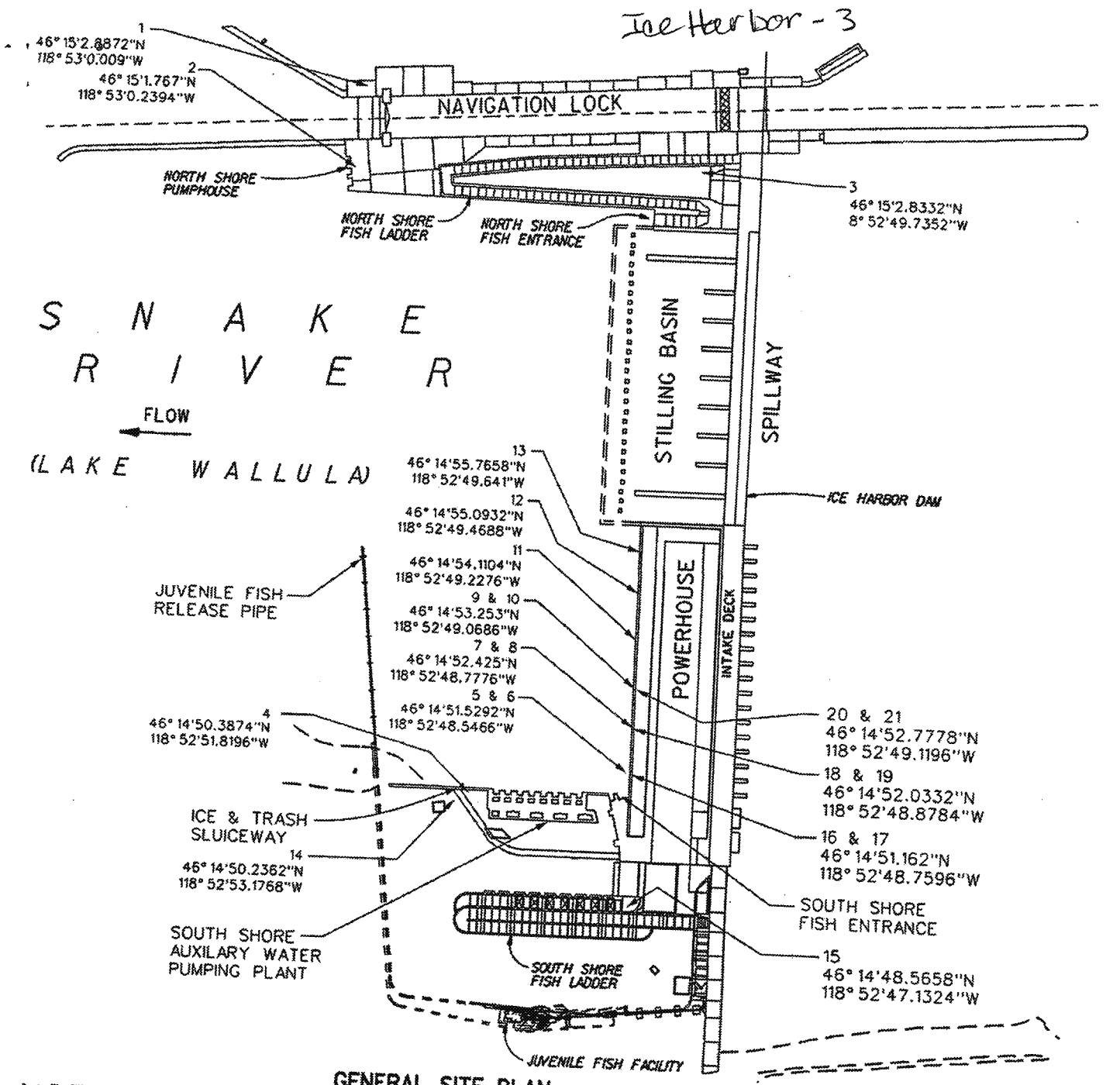


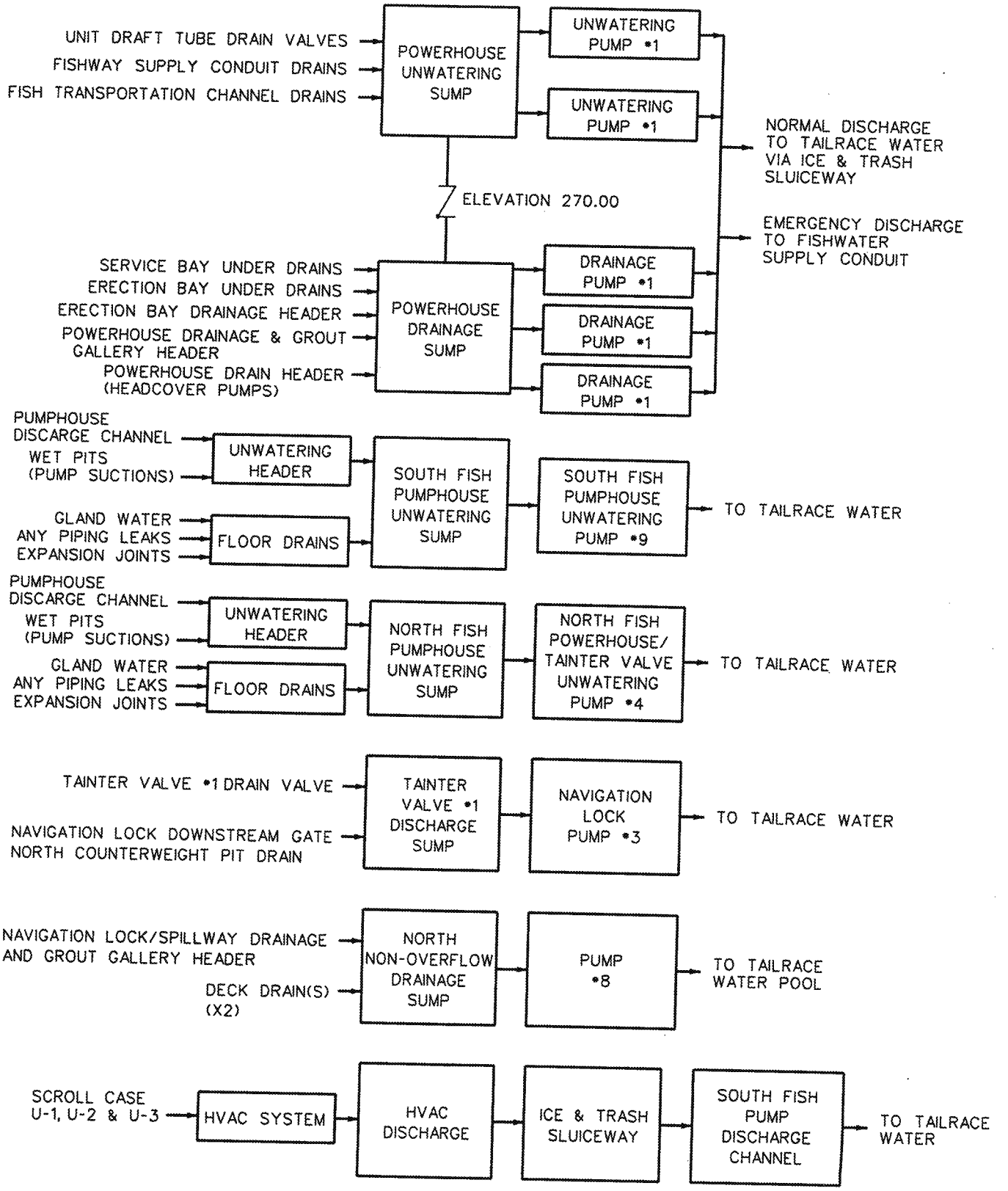
GENERAL SITE PLAN

NOTES:

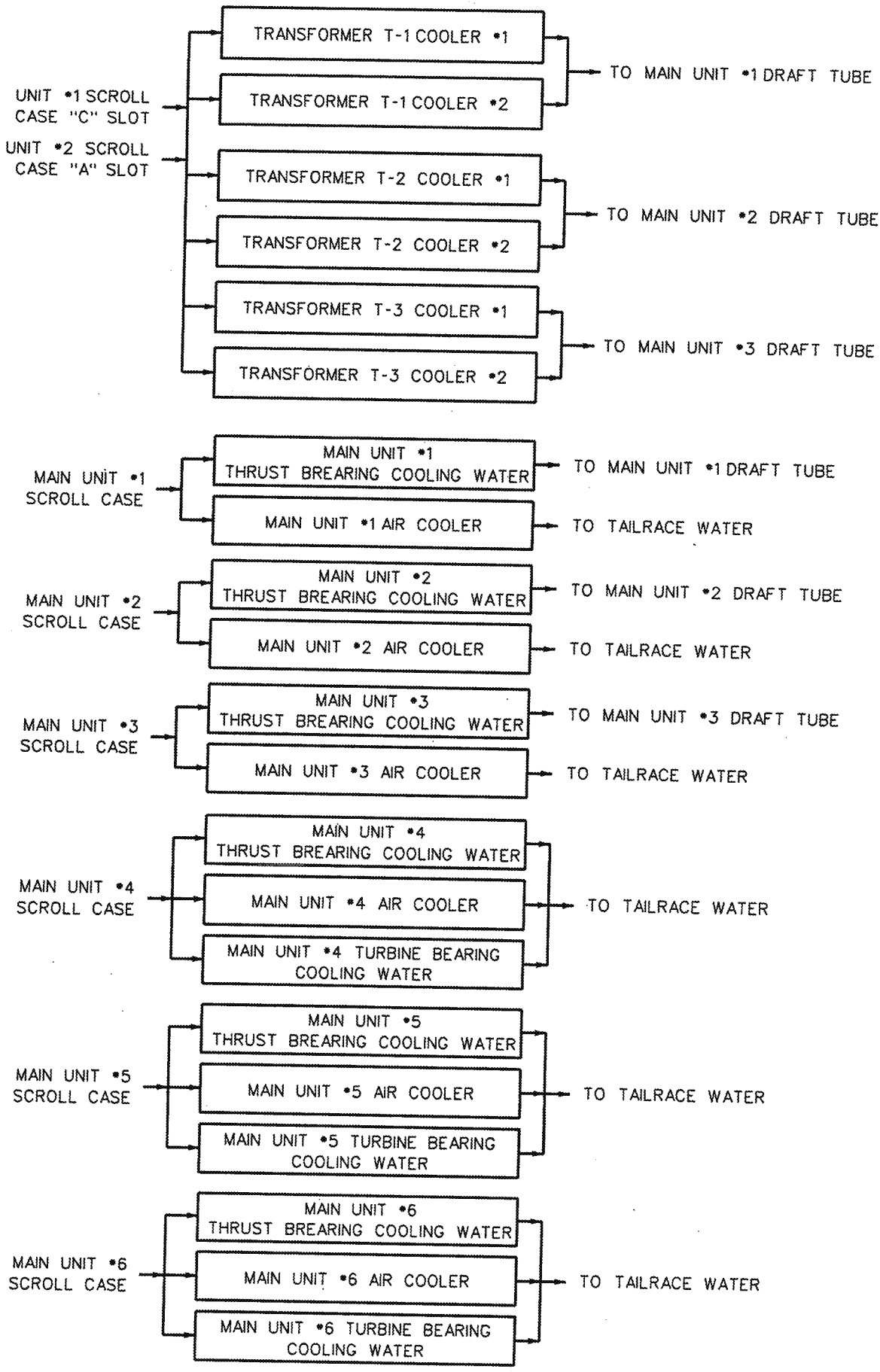
1. NAVIGATION LOCK PUMP 3: TAINTER VALVE #1 DRAINAGE SUMP DISCHARGE.
2. NAVIGATION LOCK PUMP4: NORTH FISH PUMPHOUSE UNWATERING SUMP DISCHARGE.
3. NAVIGATION LOCK PUMP 8: NORTH NON-OVERFLOW DRAINAGE SUMP DISCHARGE.
4. PUMP 9: SOUTH FISH PUMPHOUSE UNWATERING SUMP DISCHARGE.
5. MAIN UNIT 1 AIR COOLER-NON CONTACT COOLING WATER.
6. MAIN UNIT 1 THRUST BEARING-NON CONTACT COOLING WATER.
7. MAIN UNIT 2 AIR COOLER-NON CONTACT COOLING WATER.
8. MAIN UNIT 2 THRUST BEARING-NON CONTACT COOLING WATER.
9. MAIN UNIT 3 AIR COOLER-NON CONTACT COOLING WATER.
10. MAIN UNIT 3 THRUST BEARING-NON COOLING WATER.
11. MAIN UNIT 4-NON CONTACT COOLING WATER.
12. MAIN UNIT 5-NON CONTACT COOLING WATER.
13. MAIN UNIT 6-NON CONTACT COOLING WATER.
14. DRAINAGE AND UNWATER SUMP PUMPS DISCHARGE.
15. HVAC DISCHARGE.
16. TRANSFORMER COOLER 1-1.
17. TRANSFORMER COOLER 1-2.
18. TRANSFORMER COOLER 2-1.
19. TRANSFORMER COOLER 2-2.
20. TRANSFORMER COOLER 3-1.
21. TRANSFORMER COOLER 3-2.

Ice Harbor-1

OUTFALL WATER SOURCE FLOW CHART



Ice Harbor-2


UNIT #1 SCROLL CASE "C" SLOT
UNIT #2 SCROLL CASE "A" SLOT
TRANSFORMER T-1 COOLER #1
TRANSFORMER T-1 COOLER #2
TO MAIN UNIT #1 DRAFT TUBE
TRANSFORMER T-2 COOLER #1
TRANSFORMER T-2 COOLER #2
TO MAIN UNIT #2 DRAFT TUBE
TRANSFORMER T-3 COOLER #1
TRANSFORMER T-3 COOLER #2
TO MAIN UNIT #3 DRAFT TUBE
MAIN UNIT #1 SCROLL CASE
MAIN UNIT #1 THRUST BREARING COOLING WATER
TO MAIN UNIT #1 DRAFT TUBE
MAIN UNIT #1 AIR COOLER
TO TAILRACE WATER
MAIN UNIT #2 SCROLL CASE
MAIN UNIT #2 THRUST BREARING COOLING WATER
TO MAIN UNIT #2 DRAFT TUBE
MAIN UNIT #2 AIR COOLER
TO TAILRACE WATER
MAIN UNIT #3 SCROLL CASE
MAIN UNIT #3 THRUST BREARING COOLING WATER
TO MAIN UNIT #3 DRAFT TUBE
MAIN UNIT #3 AIR COOLER
TO TAILRACE WATER
MAIN UNIT #4 SCROLL CASE
MAIN UNIT #4 THRUST BREARING COOLING WATER
MAIN UNIT #4 AIR COOLER
MAIN UNIT #4 TURBINE BEARING COOLING WATER
TO TAILRACE WATER
MAIN UNIT #5 SCROLL CASE
MAIN UNIT #5 THRUST BREARING COOLING WATER
MAIN UNIT #5 AIR COOLER
MAIN UNIT #5 TURBINE BEARING COOLING WATER
TO TAILRACE WATER
MAIN UNIT #6 SCROLL CASE
MAIN UNIT #6 THRUST BREARING COOLING WATER
MAIN UNIT #6 AIR COOLER
MAIN UNIT #6 TURBINE BEARING COOLING WATER
TO TAILRACE WATER

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Please print or type in the unshaded areas only.	EPA ID Number (copy from Item 1 of Form 1)	Form Approved. OMB No. 2040-0086. Approval expires 5-31-92.

FORM 2E NPDES

EPA Facilities Which Do Not Discharge Process Wastewater

I. RECEIVING WATERS

For this outfall, list the latitude and longitude, and name of the receiving water(s).

Outfall Number *(list)*	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
005	46.0	14.0	51.0	118.0	52.0	48.0	SNAKE RIVER

II. DISCHARGE DATE *(If a new discharger, the date you expect to begin discharging)*

12/01/1961

III. TYPE OF WASTE

A. Check the box(es) indicating the general type(s) of wastes discharged.

☐ Sanitary Wastes ☐ Restaurant or Cafeteria Wastes ☑ Noncontact Cooling Water ☐ Other Nonprocess Wastewater *(Identify)*

B. If any cooling water additives are used, list them here. Briefly describe their composition if this information is available.

N/A

IV. EFFLUENT CHARACTERISTICS

A. **Existing Sources** — Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority *(see instructions)*.

B. **New Dischargers** — Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values *(see instructions)*.

Pollutant or Parameter	(1) Maximum Daily Value *(include units)*		(2) Average Daily Value *(last year)* *(include units)*		(3)	(or)	(4)
	Mass	Concentration	Mass	Concentration	Number of Measurements Taken *(last year)*		Source of Estimate *(if new discharger)*
Biochemical Oxygen Demand (BOD)	0.0 lbs/day	<2 mg/L	0.0 lbs/day	<2 mg/L	1.00		
Total Suspended Solids (TSS)	49.0 lbs/day	3.4 mg/L	49.0 lbs/day	3.4 mg/L	1.00		
Fecal Coliform *(if believed present or if sanitary waste is discharged)*	NA	NA	NA	NA	0.00		
Total Residual Chlorine *(if chlorine is used)*	0.0 lbs/day	<0.05 mg/L	0.0 lbs/day	<0.05 mg/L	1.00		
Oil and Grease	0.0 lbs/day	<1 mg/L	0.0 lbs/day	<1 mg/L	1.00		
*Chemical oxygen demand (COD)	0.0 lbs/day	<10 mg/L	0.0 lbs/day	<10 mg/L	1.00		
*Total organic carbon (TOC)	30.3 lbs/day	2.1 mg/L	30.3 lbs/day	2.1 mg/L	1.00		
Ammonia *(as N)*	0.69 lbs/day	0.048 mg/L	0.69 lbs/day	0.048 mg/L	1.00		
Discharge Flow	Value 1200 GPM		1.728 MGD		0.00		
pH *(give range)*	Value 7.00-8.00				1.00		
Temperature *(Winter)*	°C		°C		0.00		
Temperature *(Summer)*	24.20 °C		°C		1.00		

*If noncontact cooling water is discharged

Ice Harbor - B

V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal? ☑ Yes ☐ No

If yes, briefly describe the frequency of flow and duration.

Outfall 005, Main Unit #1 Air Cooler Non-Contact Cooling Water: This discharge is intermittent because the cooling water is secured while the main unit is shut down.

- Average Flow is approximately 1,200 gpm when the unit is operating for a maximum daily flow of 1,728,000 gallons per day.

VI. TREATMENT SYSTEM *(Describe briefly any treatment system(s) used or to be used)*

N/A

VII. OTHER INFORMATION *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.

Outfalls 005, 007, and 009 are substantially identical discharges of non-contact cooling water from each main unit.

VIII. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title	B. Phone No. *(area code & no.)*
LTC Timothy R. Vail District Commander	(509) 527-7700
C. Signature	D. Date Signed