STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 · AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

CENTRAL MAINE POWER COMPANY	)	MAINE WATER QUALITY PROGRAM;
GORHAM, CUMBERLAND COUNTY, MAINE	)	FEDERAL CLEAN WATER ACT
NORTH GORHAM HYDRO PROJECT	)	
L-17475-33-A-N (APPROVAL)	)	WATER QUALITY CERTIFICATION

Pursuant to the provisions of 38 M.R.S.A. Section 464 et seq., and Section 401 of the Federal Water Pollution Control Act (a.k.a. Clean Water Act), the Department of Environmental Protection has considered the application of CENTRAL MAINE POWER COMPANY (CMP) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

a. Application: The applicant proposes the continued operation of the existing North Gorham Hydro Project, located on the Presumpscot River in the Towns of Gorham, Standish and Windham, Cumberland County, Maine (See Exhibit 1).

b. Existing Project Features: The existing project consists of a dam with its associated impoundment (North Gorham Pond), penstocks, a powerhouse, and appurtenant structures (See Exhibit 2). The project was originally constructed in 1900-1901.

i. Project Dam. The North Gorham dam is located approximately 2 miles downstream of Sebago Lake on the Presumpscot River in Gorham, Maine. The dam is 970 feet long, constructed of stone masonry and concrete with a maximum height of 24 feet. The structure consists of a 600 foot non-overflow masonry wall, a 51 foot intake, a 47 foot gated section, a 256 foot spillway and a 15 foot sluice.

ii. North Gorham Pond Impoundment. The impoundment created by the dam has a surface area of 98 acres at normal full pond elevation of 221.8 feet (USGS), a maximum depth of 23 feet and extends 1.1 miles upstream to the tailrace of the Eel Weir Dam powerhouse (FERC No. 2984).

iii. Penstocks. The project facility has four 8-foot diameter steel penstocks which extend 50 feet to 70 feet downstream of the intake to the surge chambers at the powerhouse.

iv. Powerhouse. The powerhouse is located approximately 80 feet downstream of the intake in the dam and is constructed of brick on a stone masonry foundation. The superstructure measures approximately 58 feet wide by 71 feet long. The powerhouse contains two turbine-generator units with a total rated generating capacity of 2,250 kilowatts (kW) at a normal operating

head of 34.4 feet. Total hydraulic capacity is 950 cubic feet per second (cfs).

vi. Tailrace. There is a tailrace for each of the two units which discharges from the base of the surge chambers and along the sides of the powerhouse. The two discharge areas meet after passing by the remaining powerhouse structure. Normal tailwater elevation is 187.4 feet, which is essentially the headpond elevation of the downstream Dundee Project.

c. Existing Project Operation: Operation of the North Gorham Project is completely dependent upon flows released from Sebago Lake by the S.D. Warren Company at the Eel Weir Project. Using flow received from the upstream project, North Gorham is normally operated as a run-of-river (outflow equals inflow) project. The average annual river flow is approximately 657 cfs. Each of the two turbine units has a maximum hydraulic capacity of 475 cfs and a combined minimum hydraulic capacity of approximately 190 cfs. On an annual basis, flows exceed the maximum capacity approximately 14% of the time and are lower than 190 cfs less than 5% of the time. During normal flow periods, the generating units are operated to maintain the impoundment at approximately its normal full pond elevation of 221.8' (USGS).

Water released from Eel Weir passes through the trashracks at the North Gorham intake structure, travels through the four 8-foot diameter steel penstocks and enters the surge chambers in the powerhouse. The surge chambers contain waterwheels that connect to the generators, thus producing power.

d. Summary of Proposal: The applicant proposes to operate the existing project in accordance with several measures for the protection or enhancement of, or mitigation of impacts on public resources. These measures include:

- Passing a minimum flow from the project of 222 cfs (0.5 cfsm) or inflow, whichever is less;
- Providing a downstream fish bypass at the project dam;
- Developing a formal parking area and trail accessing the carry-in boat launch downstream of the project on the Windham side of the river; and
- Initiating periodic reviews of project recreational facility status and needs.

2. JURISDICTION

The proposed continued operation of the project qualifies as an "activity...which may result in (a) discharge into the navigable water (of the United States)" under the Clean Water Act (CWA), 33 USC 1251 et seq. Section 401 of the CWA requires that any applicant for a federal

license or permit to conduct such an activity obtain a certification that the activity will comply with applicable State water quality standards.

The project has been licensed as a water power project under the Federal Power Act (Project No. 2519). The initial project license was issued on December 6, 1966 and expires on December 31, 1993. The licensee has filed an Application for New License to continue to operate the project for another 40 years. This application is currently pending before the Federal Energy Regulatory Commission.

The Department has been designated by the Governor of the State as the certifying agency for issuance of Section 401 Water Quality Certification for hydropower projects located in organized municipalities subject to the Department's regulatory jurisdiction. The project is located in whole in the Towns of Gorham, Standish, and Windham, all of which are organized municipalities subject to the Department's jurisdiction.

3. APPLICABLE WATER QUALITY STANDARDS

a. Classification: The Presumpscot River is currently classified as Class A from the outlet of Sebago Lake to its confluence with Dundee Pond. 38 M.R.S.A. Section 467(9)(A).

b. Designated Uses: Class A waters shall be of such quality that they are suitable for the designated uses of drinking water after disinfection; fishing; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation; and as habitat for fish and other aquatic life. The aquatic life and bacteria content shall be as naturally occurs. 38 M.R.S.A. Section 465(2)(A).

The habitat characteristics and aquatic life criteria of Class A are deemed to be met in an existing impoundment classified A if the impounded waters achieve the aquatic life criteria of Class C, provided that any reasonable changes are implemented that do not significantly affect existing energy generation capability and would result in improvement in the habitat and aquatic life of the impounded waters, and further provided that, where the actual quality of the impounded waters attains any more stringent habitat characteristic or aquatic life criteria than required under the assigned classification, the existing water quality must be maintained and protected. 38 M.R.S.A. Section 464(10).

c. Numeric Standards: The dissolved oxygen (DO) content of Class A waters shall be not less than 7 parts per million or 75% of saturation, whichever is higher. 38 M.R.S.A. Section 465(2)(B).

d. Narrative Standards: Discharges to Class A waters shall be permitted only if the discharged effluent will be equal to or better than the existing water quality of the receiving waters. 38 M.R.S.A. Section

465(2)(C).

e. Antidegradation: The Department may only approve water quality certification if the standards of classification of the waterbody and the requirements of the State's antidegradation policy will be met. The Department may approve water quality certification for a project affecting a waterbody in which the standards of classification are not met if the project does not cause or contribute to the failure of the waterbody to meet the standards of classification. 38 M.R.S.A. Section 464(4)(F).

4. DISSOLVED OXYGEN

a. Existing Conditions: Within the project area, there are no known major industrial or sewage effluents or other point sources of pollution. In July 1986 and 1987 the applicant conducted water quality sampling, in consultation with the Department, within the project boundaries of the Presumpscot River. The data collected show that even at relatively high temperatures and low flows, DO was above 90% saturation and 7 ppm both above and below the Project.

b. Applicant's Proposal: The applicant proposes to continue to operate the project as a run-of-river facility while providing a minimum flow release of 222 cfs or inflow, whichever is less.

c. Discussion: The available data indicates that Class A DO standards are currently being met in the waters of the Presumpscot River affected by the project. The applicant's proposals to continue to operate the project in a run-of-river mode and to provide a minimum flow release of 222 cfs or inflow, whichever is less, should be adequate to maintain compliance with Class A DO standards.

5. FISH

a. Existing Resources: The Presumpscot River supports a number of both warmwater and coldwater fish species including smallmouth bass, largemouth bass, perch, pickerel, hornpout, sucker, minnows and landlocked salmon. The salmon drop down into the project impoundment and tailwater from Sebago Lake during high flow events. Historically, the Presumpscot River supported runs of Atlantic salmon and shad. The applicant conducted surveys and determined that there are no federally listed threatened or endangered species of fish known to occur in the project area.

b. Existing Management Plans: The Maine Department of Marine Resources (DMR) states that it has no plans to restore anadromous species upstream of the Cumberland Mills Dam which is located 13 miles downstream of the project.

The Atlantic Sea-Run Salmon Commission (ASRSC) states that it has no plans to restore Atlantic salmon to the Presumpscot River.

In the past, the Maine Department of Inland Fisheries and Wildlife (DIF&W) has managed the project waters primarily for resident warmwater species. The DIF&W does have coldwater fisheries management objectives for the upper reach of the Presumpscot that are identified in a plan entitled, "Presumpscot River, Eel Weir By-pass Reach, Strategic Plan for Fisheries Management" (Plan) (Pierce, August 1985). The objectives of the plan are to: maximize the potential habitat for landlocked salmon; provide for controlled downstream passage facilities at the Eel Weir Dam; maintain existing public access and enhanced safe parking; allowance of an annual harvest of between 150 and 250 salmon; and provide angling diversity via limited brook trout stocking. In conjunction with the goals of the plan, DIF&W requested during consultation that the applicant develop functional design and operational plans for downstream passage for salmon and trout dropping down from Sebago Lake and North Gorham Pond into Dundee Pond. The DIF&W has been awaiting the establishment of a minimum flow in the Eel Weir by-pass reach which would be adequate to maximize the potential habitat units for landlocked salmon and allow for the implementation of its Plan.

On January 7, 1992, the Federal Energy Regulatory Commission issued an order which established a minimum flow in the by-pass channel of the Eel Weir Hydro Project. The DIF&W reports that it has now implemented its fisheries management plan for the Upper Presumpscot River and began stocking landlocked salmon in North Gorham Pond and brook trout in the Eel Weir by-pass during the spring of 1992.

c. Applicant's Proposals:

i. Water Levels. The applicant proposes to continue operating the Project in a run-of-river mode in order to maintain the impoundment level within one foot of its normal full pond elevation of 221.8 feet.

ii. Minimum Flows. The applicant proposes to pass a minimum flow of 222 cfs or inflow, whichever is less, from the Project under normal operating conditions.

iii. Fish Passage. The applicant proposes to provide a downstream fish bypass at the project dam by modifying the existing trash sluice (See Exhibit 2) predicated on three conditions: clarification or extension of DIF&W's Presumpscot River Management Plan goals relative to North Gorham project waters; issuance by FERC of a minimum flow order for the Eel Weir Project; and full implementation by DIFW of its fish management plan, including stocking in the Presumpscot River between the Eel Weir and North Gorham Dams.

d. Discussion: The applicant's proposals to provide a minimum flow of 222 cfs or inflow, to maintain full pond elevation during normal operations, and to provide downstream fish passage by modifying the existing trash sluice have been accepted by ASRSC, DIF&W, and DMR.

These proposals appear to be adequate to achieve and maintain suitable use of the waters affected by the project as habitat for fish.

The applicant has expressed concern that the DIF&W Plan sets specific management goals only for the by-pass reach and does not specifically address the waters of the North Gorham project. The DIF&W comments that there have historically been salmon in the by-pass and in North Gorham Pond as a direct result of salmon dropping down from Sebago Lake at the Eel Weir Dam. For the past two years, the DIF&W has been stocking North Gorham pond to enhance that fishery. DIF&W intends to amend the Plan to incorporate Dundee Pond (below the North Gorham Project) and North Gorham Pond as waters to be managed.

6. OTHER AQUATIC LIFE

a. Existing Resources: The project impoundment and surrounding shoreline support limited populations of wildlife species including: beaver, mink, river otter and muskrat. The applicant has conducted surveys and determined that there are no rare or unusual invertebrate or vertebrate species in the project area.

b. Applicant's Proposals: The applicant proposes to continue operating the Project in a run-of-river mode to maintain the impoundment level within one foot of its normal full pond elevation of 221.8 feet, and to pass a minimum flow of 222 cfs or inflow, whichever is less, from the Project under normal operating conditions.

c. Discussion: The applicant's proposals to maintain impoundment levels within one foot of its normal full pond elevation of 221.8 feet and to provide a minimum flow release of 222 cfs or inflow have been accepted by the DEP's Bureau of Water Quality Control as being adequate to achieve and maintain suitable use of the waters affected by the project as habitat for aquatic life other than fish.

7. FISHING AND RECREATION IN AND ON THE WATER

a. Existing Facilities and Use: General recreation use at the Project presently consists of swimming, boating, and fishing (from shore and from boats). The project area receives minimal use compared to the major recreational attraction in the area, Sebago Lake, which is two miles upstream. Sebago Lake has recreational facilities which include: Sebago Lake State Park, eight public boat launch sites, commercial campgrounds, day use picnic areas, and a variety of other commercial businesses associated with recreation.

b. Existing Management Plans: In 1989, the applicant developed a Comprehensive Recreational Facilities Plan which was designed to meet current and anticipated public recreational needs at CMP-owned hydro projects. The plan analyzes recreational needs on a local and regional basis.

c. Applicant's Proposals: Utilizing recommendations made by the Recreational Facilities Plan, the applicant proposes the following measures:

- Relocate and improve the existing informal parking area and trail serving the carry-in boat access site on the east side of the river downstream of the tailrace (See Exhibit 1);
- Lease a parcel of land on the shore of the impoundment to the Town of Gorham for recreational management (See Exhibit 1);
- Develop and install a public informational signage program; and
- Periodically assess recreational needs at the project site in consultation with the appropriate State agencies.

d. Discussion: The Maine Department of Inland Fisheries and Wildlife has commented on the need to provide improved access to the project impoundment to allow public utilization of the fishery resources currently available and the enhanced resources likely to be available in the near future.

The applicant's proposals to maintain and improve existing recreational facilities and to periodically assess future recreational needs appear to be adequate to achieve and maintain suitable use of waters affected by the project for fishing and recreation in and on the water.

8. HYDROELECTRIC POWER GENERATION

a. Existing Energy Generation: The project generates an average of 11,147,823 kilowatt-hours (kWH) of electricity annually. This is equivalent to the energy that would be produced by burning 18,579 barrels of oil or 5165 tons of coal each year. Project power is fed to a substation for use by the applicant's residential, commercial, and industrial customers.

b. Existing Energy Policies/Plans: The State of Maine has adopted an Energy Resources Plan (Office of Energy Resources, October 1987) designed to "promote the present and future economic well-being of Maine residents and businesses by ensuring the availability of reliable energy at the lowest possible cost." Specifically, the Plan calls for the State to:

- Encourage cost-effective energy conservation measures in the public sectors and least cost planning in the electric and gas industries;
- Promote the environmentally-sound development and use of cost-effective indigenous and renewable energy resources;
- Pursue strategies designed to reduce the cost of all imported

energy and to increase the availability of natural gas in the state; and

- Encourage the diversification of energy investments in Maine.

With respect to hydroelectric power, the Plan recommends that the development of hydropower be encouraged in a manner consistent with the Maine Rivers Act and that the upgrading of existing hydroelectric dams be examined during relicensing.

c. Applicant's Proposal: The applicant has determined that turbine and generator efficiencies are relatively good and that the project is reasonably developed and operated, and therefore is not proposing any fundamental changes or redevelopment.

The applicant is proposing to enhance the project's natural resources by constructing and operating a downstream fish passage facility at the project dam. The passage of flows through any future downstream fish passage will reduce generation flows by approximately 2% and generation by 3.5% annually.

d. Discussion: As proposed, the North Gorham Hydro Project will continue to provide cost-effective indigenous and renewable electricity.

BASED on the above Findings of Fact, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The continued operation of the project will result in the affected surface waters being suitable for all Class A designated uses provided that:

   i. the project is operated as run-of-river (outflow equals inflow) while providing a minimum flow of 222 cubic feet per second (cfs) or inflow, whichever is less;

   ii. the impoundment level is maintained within one foot of its full pond elevation of 221.8 feet;

   iii. downstream fish passage is provided, and

   iv. existing recreational management is continued and periodic assessments of status and need are conducted.

2. The continued operation of the project will result in Class A numeric standards for dissolved oxygen being met in the affected waters provided that the facility is operated as run-of-river (outflow equals inflow) while providing a minimum flow of 222 cubic feet per second (cfs) or inflow, whichever is less.

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3. The continued operation of the project will result in Class A narrative standards for aquatic life being met in the affected waters provided that the facility is operated as run-of-river (outflow equals inflow) while providing a minimum flow of 222 cubic feet per second (cfs) or inflow, whichever is less.

4. The continued operation of the project will comply with the State's antidegradation policy provided that the project is modified and operated in accordance with the conclusions reached above.

THEREFORE, the Department GRANTS certification that there is a reasonable assurance that the continued operation of the North Gorham Hydro Project, as described above, will not violate applicable water quality standards, SUBJECT TO THE FOLLOWING CONDITIONS:

1. MINIMUM FLOWS

As modified by order 2/26/96.

* A. Except as temporarily modified by approved maintenance activities, or operating emergencies beyond the applicant's control as defined below, an instantaneous minimum flow release of 222 cubic feet per second (cfs) or inflow, whichever is less, shall be maintained from the project at all times. (or upon mutual agreement between the applicant and the Department)

B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities.

C. The applicant shall, in accordance with the schedule established in a new FERC license for the project, submit plans for providing and monitoring the minimum flow required in Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

2. WATER LEVELS

* A. Except as temporarily modified by approved maintenance activities or by inflows to the project area or by operating emergencies beyond the applicant's control, as defined below, water levels in the North Gorham impoundment shall be maintained within one foot of normal surface elevation of 221.8 feet USGS datum (crest of spillway), or upon mutual agreement between the Applicant and the Dept.

* B. Operating emergencies beyond the applicant's control include, but may not be limited to, equipment failure or other temporary abnormal operating condition, generating unit operation or interruption under power supply emergencies, and orders from local, state, or federal law enforcement or public safety authorities. or flashboard failure

* CONDITIONS 1(A), 2(A), 2(B) MODIFIED by L-17475-33-D-M, FEB 26, 1996

C. The applicant shall, in accordance with the schedule established in a new FERC license for the project, submit plans for providing and monitoring the water levels in the North Gorham impoundment as required in Part A of this condition. These plans shall be reviewed by and must receive approval of the DEP Bureau of Land Quality Control.

3. FISH PASSAGE FACILITIES

A. Downstream fish passage facilities shall be installed and operational at the North Gorham Dam within two years following the issuance of a new FERC license for the project, provided that within this period the Department of Inland Fisheries and Wildlife amends it existing Presumpscot River Management Plan to include the waters of the North Gorham Project.

B. The applicant shall, in accordance with the schedule established in a new FERC license for the project, submit functional design drawings, a construction schedule, and operating and maintenance plans for the downstream fish passage facility required by Part A of this condition, prepared in consultation with state and federal fisheries agencies. These submittals shall be reviewed by and must receive approval of state and federal fisheries agencies, FERC, and the DEP Bureau of Land Quality Control prior to facilities construction.

4. RECREATIONAL FACILITIES

A. Public recreational access facilities shall be provided in the project area as described in the applicant's Water Quality Certification Application.

B. The applicant shall, in accordance with the schedule established in a new FERC license for the project, submit a schedule for providing recreational facilities as required by Part A of this condition. This schedule shall be reviewed by the Department of Conservation and must receive approval of the DEP Bureau of Land Quality Control.

5. LIMITS OF APPROVAL

This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. All variances from the plans and proposals contained in said documents are subject to the review and approval of the Board or Department prior to implementation.

6. COMPLIANCE WITH ALL APPLICABLE LAWS

The applicant shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements and orders required for the operation of the project.

7. Effective Date
This water certification shall be effective on the date of issuance of a new hydropower project license by the Federal Energy ...

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Regulatory Commission (FERC) and shall expire with the expiration of this FERC license.

DONE AND DATED AT AUGUSTA, MAINE, THIS 24th DAY OF September, 1992

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____
Dean C. Marriott, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application 11/08/91.
Date application accepted for processing 12/30/91.

Date filed with Board of Environmental Protection

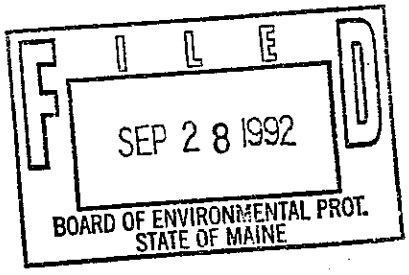

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Exhibit 1

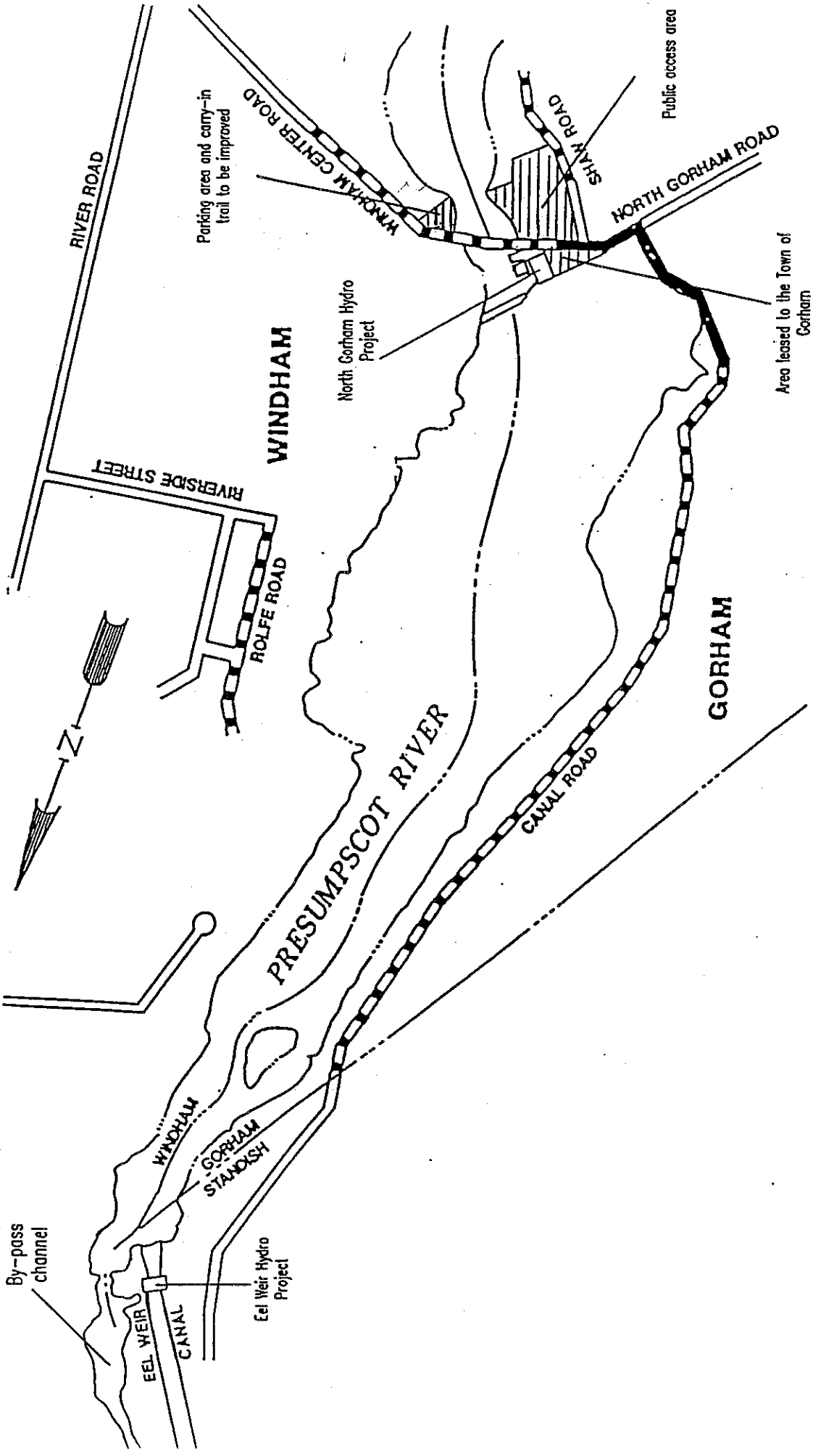
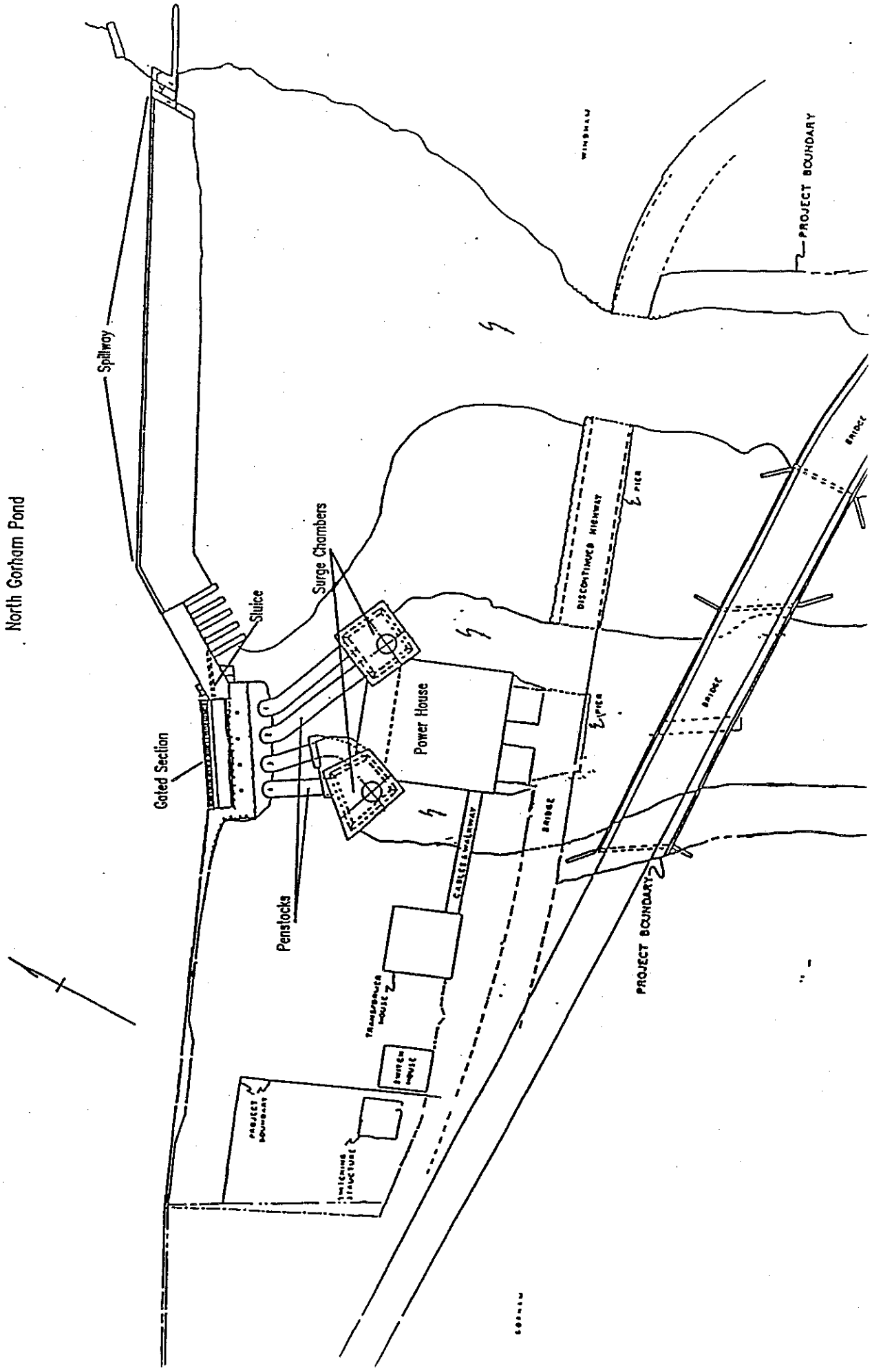

RIVER ROAD
Parking area and carry-in trail to be improved
WINDHAM CENTER ROAD
SHAW ROAD
Public access area
NORTH GORHAM ROAD
North Gorham Hydro Project
Area leased to the Town of Gorham
WINDHAM
RIVERSIDE STREET
ROLFE ROAD
N
PRESUMPSCOT RIVER
GORHAM
CANAL ROAD
WINDHAM
GORHAM
STANDISH
By-pass channel
EEL WEIR
CANAL
Eel Weir Hydro Project

Exhibit 2


North Gorham Pond
Spillway
Sluice
Surge Chambers
Gated Section
Penstocks
Power House
PROJECT BOUNDARY
PROJECT BOUNDARY
DISCONTINUED HIGHWAY
BRIDGE
BRIDGE
BRIDGE
CABLEWAY
TRANSFORMER HOUSE
SWITCH HOUSE
SWITCHING STRUCTURE