
ENVIRONMENTAL ASSESSMENT

SEDIMENT AND DEBRIS REMOVAL

AT

FRANKLIN FALLS DAM

PEMIGEWASSET RIVER

FRANKLIN, NEW HAMPSHIRE

JULY 1983



**US Army Corps
of Engineers**

New England Division

ENVIRONMENTAL ASSESSMENT
FRANKLIN FALLS DAM
SEDIMENT AND DEBRIS REMOVAL

Prepared by:

Department of the Army
New England Division, Corps of Engineers
Waltham, Massachusetts

July 1983

FINDING OF NO SIGNIFICANT IMPACT

The Environmental Assessment for this project is attached and describes the proposed action, need for the project, alternatives to the project, affected environment and environmental consequences.

Implementation of the proposed project will not require a significant commitment of physical, natural or human resources. The impacts have been outlined in the assessment and are summarized below.

Impacts associated with dredging operations are expected to be minimal and short-term. There would be a temporary increase in turbidity during dredging operations; this condition would be limited to the work area and suspended material should settle out soon after dredging has been completed. A temporary ramp would be constructed into the reservoir so that the removal equipment can have access to the work area. Impacts associated with this project feature would not be significant. Silt screens would be placed between the log boom and the dam to control sedimentation.

Impacts associated with disposal operations would also be minor. This area has previously been disturbed when the sand and gravel material was needed for project operations. A containment dike would be constructed from material at the site to prevent the dredge material from seeping out into the surrounding areas. Once disposal is completed, the area would be regraded to blend with the existing contours and seeded.

There does not appear to be any remaining major environmental problems, conflict or disagreement in implementing the proposed work. I have determined that implementation of the proposed action will not have a significant impact on the human environment and, therefore, will not require an Environmental Impact Statement.

27 July 83
DATE



CARL B. SCIPLE
Colonel, Corps of Engineers
Division Engineer

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Introduction

Franklin Falls Dam is located in south central New Hampshire on the Pemigewasset River, the main tributary of the Merrimack River, about 2.5 miles upstream from the city of Franklin in Merrimack County, New Hampshire. Authorization for the project is from the Flood Control Act of 22 June 1936 (Public Law 738, 74th Congress) modified by the Flood Control Act of 28 June 1938 (Public Law 761, 75th Congress) as part of a flood control system for the Merrimack River Basin. The dam was completed in October 1943. The project is accessible from Interstate 93 and U.S. Route 3 which pass within two miles of the reservoir, and is in close proximity to the industrial and population centers of the state.

Reservoir land comprises approximately 3,704 acres. The project has a total storage capacity of 154,000 acre-feet equivalent to 2.9 inches of runoff from its 1,000 square mile drainage area.

Franklin Falls Dam is operated in conjunction with four other flood control reservoirs in the Merrimack River Basin, which are Hopkinton and Everett Lakes on the Contoocook and Piscataquog Rivers, Blackwater Dam on the Blackwater River and Edward MacDowell Dam on Nubanneit Brook.

The principal uses of the river in the project area are for recreational activities which include canoeing, fishing, and waterfowl hunting. Eastman Falls Dam, a hydroelectric facility in Franklin, is

located 1.5 miles downstream of the project and is responsible for maintaining a 7-foot deep permanent pool of about 3,000 acre-feet behind Franklin Falls Dam.

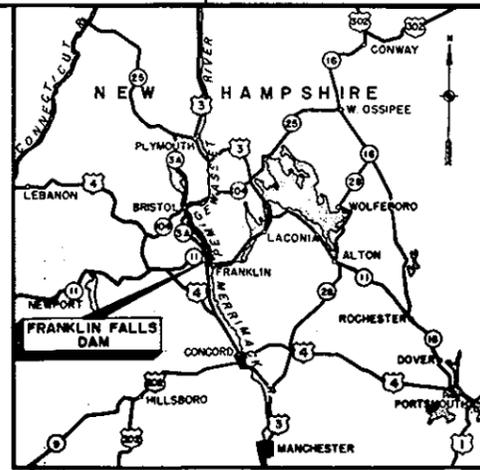
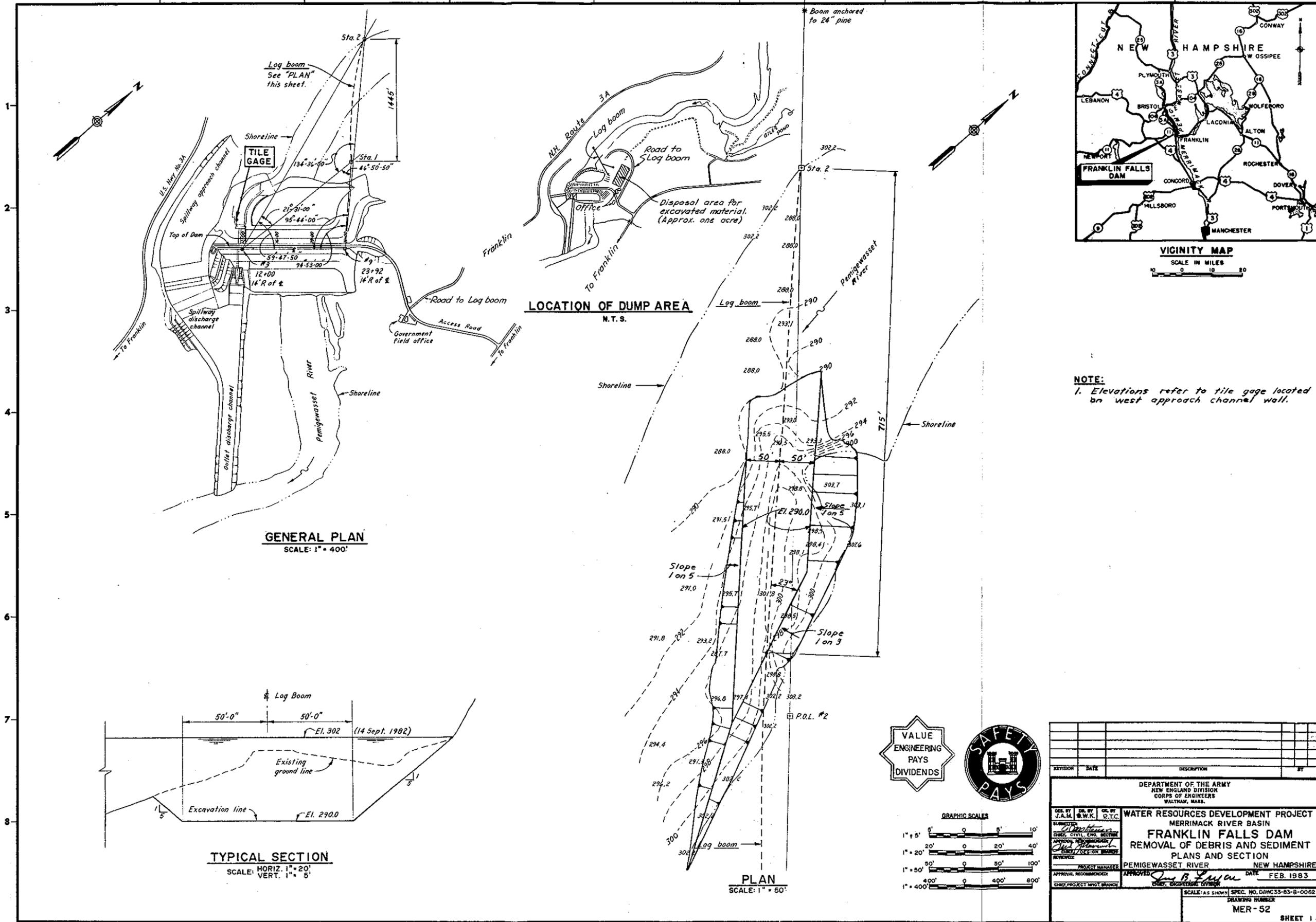
1.00 Project Description

The proposed job consists of the removal of accumulated debris and sediment from the log boom area of the permanent pool at Franklin Falls Dam, Franklin, New Hampshire.

The material to be removed is believed to consist of trees, stumps, limbs, silt, and other debris which was stopped by the log boom and subsequently sank. The estimated amount of material to be removed is approximately 14,000 c.y. The limits of the dredging will be 50 feet on each side of the log boom, within the normal banks of the river. Material will be removed to elevation 290.0 with a 1 on 5 side slope to meet existing elevations (Figure 1). The material will be disposed of at an upland site located on project lands approximately one-half mile east of the log boom, and adjacent to the access road leading to the log boom. (Figures 1 and 2.)

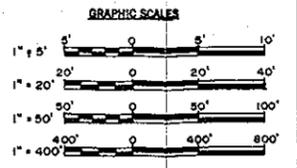
In order to reach the outer limits of the job, a ramp must be constructed into the pool to accommodate the removal equipment. Fill material to construct this road will be obtained from the dredge material disposal area. Sections of the ramp will be removed as the contract proceeds to facilitate the anticipated progression of work.

A containment dike will be constructed at the disposal area from material present at the site. After all material is in place, the disposal area will be graded to blend with the existing ground



VICINITY MAP
SCALE IN MILES
0 10 20

NOTE:
1. Elevations refer to tile gage located on west approach channel wall.



REVISION	DATE	DESCRIPTION	BY

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

WATER RESOURCES DEVELOPMENT PROJECT
MERRIMACK RIVER BASIN
FRANKLIN FALLS DAM
REMOVAL OF DEBRIS AND SEDIMENT
PLANS AND SECTION
PEMIGEWASSET RIVER
NEW HAMPSHIRE

APPROVED: *[Signature]* DATE: FEB. 1983
CHIEF, ENGINEERING DIVISION

SCALE: AS SHOWN SPEC. NO. DAMC33-83-B-0062
DRAWING NUMBER: MER-52
SHEET 1

FIGURE 1

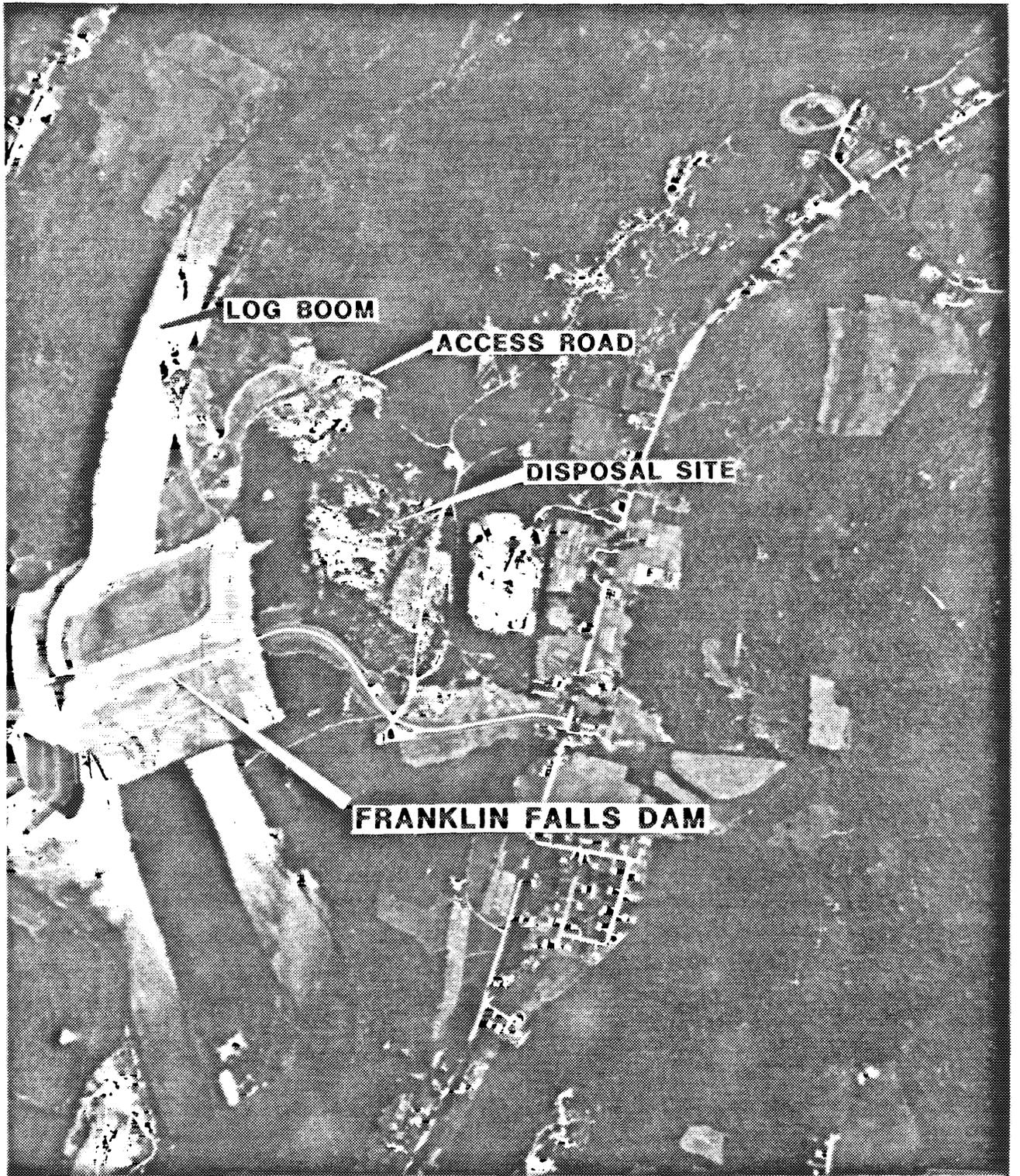


FIGURE 2

contours. Upon completion of work, the haul roads to the log boom and disposal area will be regraded. The disposal area will be covered with topsoil and seeded.

2.00 Purpose and Need for the Project

The purpose of the proposed project is to remove the accumulated debris from the log boom area of the permanent pool at Franklin Falls Dam so that the flood storage potential of the reservoir is not restricted. Over the years, debris consisting of trees, stumps, limbs and silt has accumulated in the log boom area to the extent that the storage capacity of the reservoir for flood control purposes could be affected. The debris is also a safety hazard and is detrimental to the fishery resources of the river. It is anticipated that sediment and debris removal in this area would not have to be done for another 20 to 30 years.

3.00 Alternatives

Alternatives to the proposed action include a no action plan and disposal alternatives.

3.01 No Action

With this alternative, debris would not be removed. Trees, stumps, limbs and other debris would continue to accumulate by the log boom. This would create continued problems for reservoir operations and safety concerns. The excess of debris in the Pemigewasset is a constant problem and will continue to be so in the future. Although dredging would not stop the annual debris problem, and the log boom area would continue to cause extensive "jams" of flotsam, a no action plan would only worsen the present situation and increase the hazards and restrictions to boaters and fishermen, and continue to restrict maintenance activities at the log boom.

3.02 Disposal Alternatives

Two types of disposal alternatives could be considered for the proposed project; either upland disposal on project lands (on-site) or upland disposal off of project lands. (off-site)

3.02.1 Upland Disposal - On-site

Two areas would be available for disposal of the dredged material on project lands. One site is located directly adjacent to the river and access area to the log boom. The material would have to be stockpiled at this site as there is no room for regrading it around the area. Because the material would be placed right by the river, it would most likely wash back into the river during high flows. For these reasons, this disposal site was not considered to be practical.

The other upland disposal site on project lands is located approximately one-half mile east of the log boom, and adjacent to the road leading to the log boom (Figures 1 and 2). The site has been previously disturbed or used in project operations at the dam facility, and contains primarily sand and gravel deposits and some young birch trees and shrubs, bordered by a large stand of pine trees. This area would be able to accommodate the 14,000 cubic yards of material. It is also adjacent to the access road which would provide easy access for trucks carrying the material from the river. The access road would be able to accommodate large vehicles. There are no other areas on project lands in such close vicinity to the work area with available access and which also could accommodate the material. The disposal area would need a containment dike, constructed from material at the site. Impacts associated with disposal operations would be minimal and temporary. The containment dike would protect the pine grove adjacent to the site. Once disposal is

completed, the area would be regraded to blend with the existing ground contours and then seeded. This site was considered to be the most feasible and has been selected as the disposal area for the dredged material.

3.02.2 Upland Disposal - Off-site

The town sanitary landfill, located approximately four miles from the dam, was considered for off-site disposal of the dredged material. With this alternative, the material would have to be staged for dewatering, then trucked through the center of Franklin. This would increase project costs because of the additional time that would be required. Also, the landfill has nearly reached its capacity and may be closed sometime in the future. Therefore, this disposal alternative was not considered feasible.

4.00 Existing Conditions

Franklin Falls Reservoir is located within a narrow section of the Pemigewasset River Valley characterized by steep sided hills and gently sloped bottom lands. The river meanders along the valley floor with a slope of about six feet per mile during normal flow conditions. Portions of the gentler slopes and flat lands have been cleared for agriculture. The remainder of the area is heavily wooded.

There are approximately 2,512 acres of woodland and more than 800 acres of open and pasture land within the project. Forest cover is predominantly softwood consisting of white pine, red pine, hemlock and some red spruce. Hardwoods include sugar, red and silver maple, elm, aspen and alder. Franklin Falls does not contain large amounts of wetlands because of the water fluctuations.

Project lands provide big-game habitat primarily for whitetail deer, but moose and black bear occasionally pass through the area. Fur-bearing species in the vicinity include beaver, mink, otter, fisher, muskrat, raccoon, and red and gray fox. Hunting pressure in the reservoir ranges from moderate to heavy for deer, pheasant, waterfowl and furbearers. Pheasants are stocked in varying numbers by the New Hampshire Fish and Game Department, and trapping is allowed by permit only. Permits are administered by the New Hampshire Fish and Game Department. The river is utilized by migrating ducks and geese during the spring and fall. Some

wood duck, mallard, black duck and hooded merganser breed in the area, although the project does not contain quality waterfowl habitat because of the lack of ponds and marshes. Also, nests are frequently inundated as a result of water fluctuations.

The reservoir has large and smallmouth bass, pickerel and other warm water species. Tributary streams that flow through the reservoir provide trout habitat and are stocked with yearling rainbow, brook, and brown trout. Water level fluctuations limit the amount of aquatic weed beds in the reservoir, but snags and rocks provide cover for many species. Local fishing use is moderate. Brook and brown trout are the only fall spawners in the reservoir.

The water quality of the Pemigewasset River is designated primarily as Class B. According to New Hampshire Water Quality Standards, Class B waters shall have no objectionable physical characteristics, shall be near saturation for dissolved oxygen (not less than 75 percent) and contain not more than 240 coliform bacteria per 100 ml. There shall be no disposal of sewage or waste into Class B waters without adequate treatment. Any stream temperature increase associated with waste discharge shall not impair any usage specifically assigned to Class B waters.

The New Hampshire Department of Resources and Economic Development holds a 25 year lease for management of recreation, fish, wildlife, and forestry resources on about 3,470 acres of land (95% of the

project acreage) upstream of the dam. Since issuance of the lease on 15 July 1960, that agency has made an extensive survey of the woodlands, mapped and typed the area, instituted improved silvicultural practices and carried on a elective timber harvesting program. Some existing roads have been improved and new roads constructed. Approximately 841 acres of land are available for lease for pasture and hay production.

There are no developed recreational facilities available at the project.

Physical and chemical sediment analyses were performed on a sample taken from the log boom area in June 1983. Only one site was sampled as the large amount of debris around the log boom prevented the sampler from reaching any sediment at most places. Two tubes were taken at the site, one was analyzed for physical and chemical parameters, the other only for chemical parameters. Results are shown in Table 1.

There are no rare, threatened or endangered species that would be affected by the proposed project. Two species of fish, the Atlantic salmon (Salmo salar) and the Atlantic sturgeon (Acipenser oxyrinchus), are considered endangered in the United States. The Atlantic salmon has been reintroduced to the Merrimack and Connecticut river systems. Experiments have recently been conducted in tracking salmon that were released in upstream tributaries, which were tracked downstream to the Pemigewasset. One fish migrated over the Ayers Island Dam into the

Franklin Falls Reservoir. The Atlantic sturgeon was once common in the Merrimack and Connecticut Rivers, however pollution and obstructions have most likely eradicated it from New Hampshire.

Table 1
Sediment Test Results
Franklin Falls
June 1983

<u>Depth (ft.)</u> <u>Soil Descrip.</u>	<u>Tube 1</u>	<u>Tube 2</u>
	0.0-2.0	0.0-0.5
	brown silty sand with traces of organics	brown silty sand with traces of organics
Medium Grain Size	0.0850	-
% Fines	40	-
Liquid Limit	73	-
Plastic Limit	47	-
Plastic Index	26	-
Specific Gravity	2.53	-
% Solids	56.2	-
% Vol. Solids-EPA	4.9	-
% Vol. Solids-NED	3.8	-
Oil & Grease (ppm)	413	1440
Mercury (ppm)	0.08	0.06
Lead (ppm)	50	50
Zinc (ppm)	221	112
Arsenic (ppm)	2.0	1.1
Cadmium (ppm)	4	4
Chromium (ppm)	20	20
Copper (ppm)	12	13
Nickel (ppm)	80	80
% Carbon (Total)	1.38	6.43
% Hydrogen	0.22	0.98
% Nitrogen	0.1	0.42

5.00 Environmental Consequences

Impacts associated with dredging operations are expected to be minimal and short-term. Dredging would be accomplished using a drag line, then placing the material into trucks and hauled to the disposal site. A temporary ramp would be constructed into the reservoir so that the removal equipment can have access to the work area. Sections of the ramp would be removed as the work is accomplished. The ramp would be constructed from material obtained from the disposal area. This area is used to provide access to the log boom for maintenance purposes. The small shrubs and grasses growing along the river in this area may be impacted by the presence of construction equipment, but as the area is small this impact would be minor, and the shoreline should become revegetated within one to two years after the work is finished.

There would be a temporary increase in turbidity during dredging operations. This condition would be limited to the work area and suspended material should settle out soon after dredging has been completed. Silt screens would be placed between the log boom and the dam to prevent suspended material and other matter which may be released during dredging, such as limbs, leaves, etc. from going through the gates at the dam, and also to protect downstream hydropower facilities. Although the accumulated debris provides some habitat for fish, it is in excess and is not quality habitat that can provide cover and food. It also poses as a hazard to boaters and fishermen who utilize the area.

However, some snags should be left in the area so that fish habitat is not entirely removed.

Impacts associated with disposal operations would also be minor. The disposal site contains sand and gravel material with a few young birch and pine trees, and grasses and shrubs. This area has previously been disturbed when material of this kind was needed for project operations. The edge of the site opposite from the access road is bordered by a large stand of pine trees. The dredged material would be brought in by truck, deposited, then bulldozed through the site. A containment dike would be constructed from material at the site to prevent the dredge material from seeping out into the surrounding areas. Once disposal is completed, the area would be regraded to blend with the existing ground contours and seeded. The access road from the log boom area to the disposal area would also be regraded after the work is completed.

Impacts on wildlife resources during disposal operations would be temporary. The disposal area itself contains minimal food and cover habitat that could be impacted. Several small white birch trees would need to be removed. The pine trees along the side probably provide edge habitat for deer and some small mammals. Noise from construction equipment would keep any wildlife away from the area during disposal, but would soon return once work is completed. As the area has been disturbed in the past and the road is frequently used for access down to the reservoir and log

boom, wildlife in the area should be accustomed to disturbances and would not be adversely affected by the work.

No Federally listed rare, threatened or endangered species would be affected by the proposed work.

Although fishermen are discouraged from coming close to the log boom for safety reasons, the surrounding area is used frequently by local residents who fish from boats or from the shoreline. However, as the work would be accomplished in a short period of time and the immediate work area is small, there would be only minor short-term impacts associated with recreational activities.

Material from the reservoir consists of silty-sand with traces of organics, while the material at the disposal site is mostly sand and gravel. These materials would be mixed by regrading activities, and the organic material should provide a good substrate for seeding. Combined with some topsoil, there should be no problems in successful seeding.

Chemical sediment analyses showed low concentrations of constituents in the sediments. (Table 1). There was a slightly higher concentration of oil and grease in Tube 2, probably as a result of boats and equipment used in the area during maintenance operations on the log boom. This is still, however, a low concentration and should not be of concern. There should be no degradation of water quality conditions during dredging.

6.00 Coordination

The proposed project has been discussed by oral or written communications with the following interests:

New Hampshire Fish and Game Department

New Hampshire State Wetlands Board

New Hampshire Water Supply and Pollution Control Commission

Mr. John Lynch, Park Ranger, Franklin Falls Dam

U.S. Environmental Protection Agency

Section 404(b)(1) Evaluation
for
Sediment and Debris Removal
at

Franklin Falls Dam
Pemigewasset River
Franklin, New Hampshire

SECTION 404(b)(1) FACTUAL DETERMINATION
AND FINDING OF COMPLIANCE
FOR
SEDIMENT AND DEBRIS REMOVAL
FRANKLIN FALLS DAM
FRANKLIN, NEW HAMPSHIRE

1. References

- a. Section 404(b) of Public Law 92-500, as amended, Clean Water Act.
- b. 40 CFR Part 230 Subparts B,C,D,E,F,G and H dated 24 December 1980.
- c. EC 1105-2-104 Appendix C, dated 30 September 1980.

2. Proposed Plan

The proposed job consists of the removal of accumulated debris and sediment from the log boom area of the permanent pool at Franklin Falls Dam, Franklin, New Hampshire.

The material to be removed is believed to consist of trees, stumps, limbs, silt, and other debris which was stopped by the log boom and subsequently sank. The estimated amount of material to be removed is approximately 14,000 c.y. The limits of the dredging will be 50 feet on each side of the log boom, within the normal banks of the river. Material will be removed to elevation 290.0 with a 1 on 5 side slope to meet existing elevations (Figure 1). The material will be disposed of at an upland site located on project lands approximately one-half mile east of the log boom, and adjacent to the access road leading to the log boom. (Figures 1 and 2).

In order to reach the outer limits of the job, a ramp must be constructed into the pool to accommodate the removal equipment. Fill material to construct this road will be obtained from the dredge material disposal area. Sections of the ramp will be removed as the contract proceeds to facilitate the anticipated progression of work.

A containment dike will be constructed at the disposal area from material present at the site. After all material is in place, the disposal area will be graded to blend with the existing ground contours. Upon completion of work the haul roads to the log boom and disposal area will be regraded. The disposal area will be seeded.

3. Project Authority and Present Status

Authorization for the project is from the Hood Control Act of 22 June 1936 (Public Law 738, 74th Congress) modified by the Flood Control Act of 28 June 1938 (Public Law 761, 75th Congress) as part of

a flood control system for the Merrimack River Basin. The dam was completed in October 1943.

Upon completion of construction plans and specifications, the work will be opened for bidding, bids will be submitted, and a contract awarded. Construction is scheduled for September 1983.

4. Environmental Concerns

The construction of a temporary ramp for access to the site is the only feature that requires consideration under the 404(b)(1) Guidelines. Sand and gravel from the disposal area would be used for construction. This fill would be temporary; sections of the ramp will be removed as the contract proceeds to facilitate the anticipated progression of work. Impacts associated with the proposed discharge would be minor and short-term. This area is used to provide access to the log boom for maintenance purposes, so the shoreline has been recently disturbed. Shoreline vegetation is minimal in this area. These small shrubs and grasses may be impacted by the presence of construction equipment, but as the area is small this impact would be minor, and revegetation should begin soon after the work is finished. The proposed discharge would have no significant long-term impacts on the aquatic environment. A temporary increase in turbidity during dredging would be limited to the work area and suspended material should settle out soon after dredging has been completed. There are no populations of burrowing or attached invertebrate organisms at the construction site that could be affected. Water circulation, current patterns, and normal water fluctuation would not be altered by the proposed discharge.

5. Restriction on Discharge (Section 230.10)

(a) There is no practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem and be capable of achieving the basic purpose of the proposed project. A "No Action" alternative is not by definition practicable since this would contribute to the continued hazardous condition at the site and restrictions on flood storage capabilities.

(b) The discharge activity would meet applicable State water quality standards; would not violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act; would not jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended; and would not violate any requirement imposed to protect any marine sanctuary designated under Title III of the Marine Protection Research and Sanctuaries Act of 1972.

(c) The discharge activity would not cause or contribute to significant degradation of waters of the United States.

(d) Appropriate and practicable steps would be taken to minimize any potential adverse impacts of the discharge in the aquatic ecosystem. Silt screens would be placed between the log boom and the dam to prevent suspended material and other matter which may be released during dredging, such as limbs, leaves, etc. from going through the gates at the dam, and also to protect downstream hydropower facilities.

6. Findings of Compliance (Section 230.12)

(a) Upon review of these guidelines (Subparts C through G) the proposed disposal site for the discharge of fill material has been specified as complying with the requirements of these guidelines.

(b) A factual determination required by Section 230.11 with respect to disposal of fill material and potential environmental impacts resulting from such disposal is presented on page 5. Concomitant reading of or adequate familiarity with Section 404(b) Guidelines will insure understanding of results presented in the factual determination.

7. Conclusions

(a) An ecological evaluation has been made following guidance in 40 CFR 230, Subparts B through G. Subpart H was reviewed to determine applicability to the proposed project.

(b) Appropriate measures have been identified and incorporated in the proposed plan to minimize adverse impacts on the aquatic environment as a result of the discharge.

(c) Consideration has been given to the need for the proposed activity, the availability of alternate sites and methods of disposal that are less damaging to the environment, and such water quality standards as are appropriate and applicable by law.

(d) Placement of fill for an access ramp to the log boom would be required. Impacts on the aquatic environment would be minimal and localized, and evident only during construction activities. The discharge material consists of sand and gravel which would come from a clean source. The placement of fill material would not alter or interfere with water fluctuations or currents.

Statement

The proposed site for placement of fill from the shoreline to the log boom in the Pemigewasset River in Franklin, New Hampshire has been specified through the application of Section 404(b) Guidelines.

The project files and Federal regulations were reviewed to properly evaluate the objectives of Section 404(b) of Public Law 92-500, as amended. A public notice with respect to the 404 Evaluation will be issued accompanying this document. Based on information presented in this Section 404(b) Evaluation, I find that the project will not result in unacceptable impacts to the environment.

27 July '83

DATE



CARL B. SCIPLE

Colonel, Corps of Engineers
Commanding

FACTUAL DETERMINATION

230.11 (a) Physical Substrate Determination

The proposed discharge site would not undergo any significant change in the characteristics of the substrate due to the proposed project.

Fill material would be composed of sand and gravel material, and would have a large, coarse grain size. This fill material would be compatible with the sandy sediments found at the construction site. All fill material would be obtained from a clean source and would be free of undesirable contaminants. Construction of the access ramp would be designed to insure that all fill material remains at the site to avoid erosion, slumping or other movement of the discharged material to the surrounding environment.

Discharge of the clean fill would not significantly change the existing substrate elevation and bottom contours. Bottom-dwelling or attached invertebrate forms would not be affected.

The proposed project would not involve dredge or fill activities in any wetlands.

The contractor would have the responsibility of disposing of any excavated fill material from the site of the structure at an appropriate upland site.

(b) Water circulation, fluctuation, and salinity determination

Current patterns, normal water fluctuations and salinity gradients would not be altered by the proposed discharge. Discharge of fill would not alter water circulation in the project area. Construction of the temporary ramp would not interfere with water circulation or current patterns.

(c) Suspended particulate/turbidity determination

Discharge activities would temporarily increase turbidity levels in the immediate area of construction. Any increase would be minimal and short-term. Turbidity levels would be minimized to the extent practicable. The placement of clean fill material would not violate such water quality standards as are appropriate and applicable by law. Suspended particular loads would not be affected.

(d) Contaminant determination

All fill material would be obtained from a clean source. It would be free of undesirable contaminants that could adversely impact the aquatic environment.

(e) Aquatic ecosystem and organism determination

Discharge of clean fill would not significantly disrupt the chemical, physical or biological integrity of the aquatic ecosystem. The food chain

would not be significantly disrupted in such a manner as to alter or decrease diversity of plant or animal species.

Discharge of clean fill material would not degrade substrate, water quality and hydrological parameters as determined through application of Sections 230.11 (a) and (b).

Analysis of the biological community is considered unnecessary because erosion at the construction site due to water level fluctuations has resulted in a lack of established populations of organisms. Placement of clean material would not result in degradation of water quality or release of undesirable contaminants into the surrounding environment.

(f) Proposed Disposal Site Determination

Dispersion would be minimal. Silt traps will be utilized to minimize temporary and localized sedimentation and mixing could occur when the ramp is removed.

(g) Determination of cumulative effects on the aquatic ecosystem

There would be no long-term cumulative effects on the aquatic ecosystem. Once the proposed project is completed, there should not be any continued discharges over a long period of time. Any discharges that could occur would be during any routine maintenance procedures on the log boom.

(h) Determination of secondary effects on the aquatic ecosystem

There would be no secondary effects on the aquatic ecosystem. The aquatic environment would not change from existing conditions after the access ramp is built. There would be no bioaccumulation of contaminants because of the clean nature of the fill material.