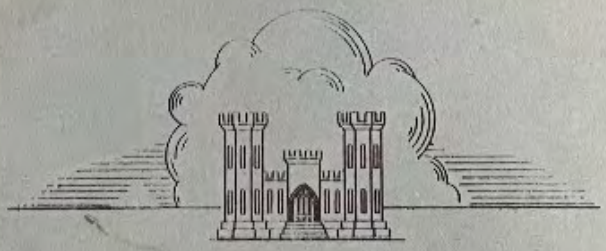
DYBERRY RESERVOIR

LACKAWAXEN RIVER, PENNSYLVANIA

MASTER PLAN



OFFICE OF THE DISTRICT ENGINEER

U. S. ARMY ENGINEER DISTRICT

CORPS OF ENGINEERS

PHILADELPHIA, PENNA.

30 January 1959

COPY

ADDRESS REPLY TO:
DISTRICT ENGINEER
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
P. O. BOX 8629
PHILADELPHIA 1, PA.

REFER TO: NAPGW

U. S. ARMY ENGINEER DISTRICT, PHILADELPHIA
CORPS OF ENGINEERS
2635 ABBOTTSFORD AVE.
PHILADELPHIA 29, PA.

2 MAR 1959

SUBJECT: Master Plan, Dyberry Reservoir, Lackawaxen River, Pa.

TO: Division Engineer
U. S. Army Engineer Division, North Atlantic
New York, N. Y.
ATTN: NADGW

1. Inclosed are six copies of the subject master plan prepared in accordance with ER 1130-2-302.

2. Three copies, serial numbers 2, 3 and 4, are for transmittal to the Chief of Engineers, and three copies, serial numbers 5, 6 and 7, are for the files of the Division Engineer.

FOR THE DISTRICT ENGINEER:

Frank A. Gerig, Jr.

1 Incl (in sext.)
1. Master Plan
Dyberry Res.

FRANK A. GERIG, JR.
Lt. Colonel, CE
Deputy District Engineer

COPY

O Hupponk
2 - B1/B

NADGW (2 Mar 59) 1st Ind
SUBJECT: Master Plan, Dyberry Reservoir, Lackawaxen River, Pa.

U. S. Army Engineer Division, North Atlantic, New York 7, New York
31 March 1959

TO: Chief of Engineers, Department of the Army, Washington 25, D.C.
ATTN: ENGWE

1. Subject master plan has been reviewed by this Division and is recommended for approval.

2. The preliminary investigations, mentioned in paragraph 8, page 3, conducted in 1947-1948 by the U. S. Department of Interior to determine the recreational and Fish and Wildlife potential of the reservoir are contained in Appendices L and M of the definite project report for Prompton and Dyberry Reservoirs.

FOR THE DIVISION ENGINEER:

A P Richmond

1 Incl
n/c exc 2 cys w/d

A. P. RICHMOND
Major, CE
Executive Officer

COPY

ENGWO (2 Mar 59) 2d Ind
SUBJECT: Master Plan, Dyberry Reservoir, Lackawaxen River, Pa.

Office, Chief of Engineers, Washington 25, D. C., 19 June 1959

TO: Division Engineer, U. S. Army Engineer Division, North Atlantic, NEW YORK, NEW YORK

The Master Plan for subject reservoir project is approved.

FOR THE CHIEF OF ENGINEERS:

Mark S. Gurnee

MARK S. GURNEE
Chief, Operations Division
Civil Works

Incl w/d

COPY

NADGW (2 Mar 59) 3rd Ind.
SUBJECT: Master Plan, Dyberry Reservoir, Lackawaxen River, Pa.

U. S. Army Engineer Division, North Atlantic, New York 7, New York
23 June 1959

TO: District Engineer, U. S. Army Engineer District, Philadelphia
Philadelphia, Pa.

Forwarded noting approval of the Master Plan.

FOR THE ACTING DIVISION ENGINEER:

A P Richmond

A. P. RICHMOND
Major, CE
Asst for Civil Works

File
[illegible]

DYBERRY RESERVOIR

LACKAWAXEN RIVER, PENNSYLVANIA

MASTER PLAN

TABLE OF CONTENTS

PLATE

DYBERRY RESERVOIR

LACKAWAXEN RIVER, PENNSYLVANIA

PERTINENT DATA

HYDROLOGIC DATA

Location

On Dyberry Creek, 2-½ miles above Honesdale, Pa.

Drainage areas, sq. mi.

Dyberry Creek at dam site	65
Dyberry Creek at mouth	71

Non-damaging channel capacities, c f s (computed)

Dyberry Creek below dam site	2,500

Maximum flood of record

	19-23 May 1942		18 Aug 55
Date of occurrence			
Peak discharge, c f s	Natural	Regulated	
Dyberry Creek at Dyberry dam site	16,500	2,020	11,400

DESIGN DATA

Elevations, feet above mean sea level

Top of dam	1,082.0
Max. pool level during spillway design flood	1,076.5
Spillway Crest	1,053.0
Max. pool level during reservoir design flood	1,053.0
Recreation Pool	-
River Bed	970

Reservoir areas, acres

Recreation pool	-
At max. level during reservoir design flood	655
At spillway crest	655
At max. level during spillway design flood	860

Dam

Type - Earth fill and rock-fill. Upstream portion earth with 10 ft. layer of dumped rock protection

Length, feet		1,280
Maximum height above river bed, feet		112
Freeboard, feet		5.5
Cross-section		
Crown width, feet		30
Upstream slope	1:2½;	1:3
Downstream slope	1:2;	1:2½
Approx. gross volume of dam, cu. yds.		1,300,000

Spillway	
Type - Channel and stilling basin cut into rock, concrete weir in channel.	
Length of crest, feet	164
Maximum surcharge, feet	23.5
Stilling basin	None
Outlet Works	
Type - Ungated intake, concrete-lined rock tunnel, stilling basin.	
Elevation, crest of weir	-
Elevation, floor of intake structure	974
Elevation, tunnel invert, upstream end	974
Elevation, tunnel invert, downstream end	970.0
Diameter of tunnel, feet	8.0
Length of tunnel, feet	560
Stilling basin	
Floor elevation	964.0
Length, feet (106' overall)	52.0
Bottom width, feet	25.0
Total estimated cost	$4,000,000
Estimated annual cost of maintenance and operation	$11,000

MASTER PLAN

DYBERRY RESERVOIR

LACKAWAXEN RIVER, PENNSYLVANIA

1. INTRODUCTION. Dyberry Reservoir is a unit of the Lackawaxen River flood control project, authorized by Public Law 858, 80th Congress, 2nd Session, approved 30 June 1948, in accordance with recommendations contained in House Document 113, 80th Congress, 1st Session.

2. The Lackawaxen River drains 588 square miles of the Appalachian Plateau in northeastern Pennsylvania. It rises in northwestern Wayne County and flows southeast for 23 miles to Honesdale, where it is joined by Dyberry Creek, thence 10 miles southeast past White Mills to Hawley and eastward 16 miles to join the Delaware River. Although the watershed contains numerous small lakes, it is generally characterized by steeply sloping hills and narrow stream valleys. Above Dyberry Creek the river drains 93 square miles. Prompton and Seelyville are located in that area about 1 and 3 miles, respectively, above Honesdale. Dyberry Creek drains 71 square miles in the northeastern part of the watershed. The hamlets of Dyberry and Tanners Falls are located on the creek 4 and 7 miles, respectively, above the mouth. Middle Creek drains an area of 84 square miles in the mid-western part of the Lackawaxen watershed, entering the river at Hawley. The only other sizable tributary is Wallenpaupack Creek, which drains 227 square miles and enters the river at the lower limits of Hawley. Flows of this creek are substantially regulated by a reservoir near its mouth at which a public utility develops hydroelectric power. There is a privately owned low dam at Seelyville, three small dams in poor condition at Honesdale below Dyberry Creek which formerly served industries, and a minor dam at Hawley. Numerous bridges cross the Lackawaxen River and its tributaries.

3. SYNOPSIS. The Lackawaxen River flood control project is being constructed for the single purpose of alleviating flood damages by reducing the severity and frequency of floods in the Lackawaxen River valley below the dams. Major features of the project are Dyberry Dam on Dyberry Creek, 2½ miles upstream from the junction of the creek with Lackawaxen River, and Prompton Dam on Lackawaxen River at Prompton, Pa. There will be no permanent pool or dead storage maintained in Dyberry Reservoir, the subject of the master plan presented herein. The Federal Government has acquired title to the land necessary for construction of the dam and spillway, and is in the process of acquiring perpetual flowage easements on reservoir lands which will be inundated during floods. Lands upon which easements are acquired will remain under the control of private owners, and the Federal Government cannot designate the use of the land.

4. DESCRIPTION. Dyberry Reservoir, shown on plate 1, will have a total capacity of 24,500 acre-feet to the spillway crest and will control a drainage area of 65 square miles in the Dyberry Creek basin. The dam will have a maximum height of 112 feet and will consist of an upstream section constructed of earth fill with a protective rock blanket and a downstream section of rock fill. The spillway will consist of a rock cut, 160 feet wide, in the east abutment, and will have a low concrete weir at its crest. The outlet works will consist of an intake structure, tunnel, and stilling basin located in the east abutment between the dam and the spillway. The reservoir, at spillway crest level (elevation 1053.0), will be about 4 miles long and will cover an area of 655 acres. There will be no permanent or dead storage maintained in Dyberry Reservoir.

5. RECREATIONAL RESOURCES OF THE AREA. The Lackawaxen River valley is located in the popular Pocono Mountains resort area. Private and commercial facilities for summer and winter recreational use are available in abundance in the locality. Day use recreational facilities for fishing, boating, swimming and picnicking will be provided at Prompton Reservoir on Lackawaxen River and at Bear Creek Reservoir on Lehigh River, both within fifty miles of Dyberry Reservoir. In addition, public recreational facilities are provided at Owego, Tobyhanna, Pecks Pond, Thornhurst, Snow Hill, Promised Land, Gouldsboro Lake, and George W. Childs Recreational Areas, all within a 35-mile radius of Dyberry Reservoir. Recreational facilities of the locality are shown on plate 2.

6. PRESENT USE OF RESERVOIR LANDS. The fertile soils of the flood plains within the reservoir area are used extensively for dairying and general farming. Most of the farm buildings and the highways serving them are located on the flood plain. Top soil on the hillsides is shallow, and glacial deposits are close to the surface and contain numerous large boulders. These lands, which comprise about half of the total area below elevation of the spillway crest, are largely covered with second growth timber and are used as pastures, wood lots and game preserves. The unincorporated villages of Dyberry and Tanners Falls, with populations of between 50 and 100 persons each, lie entirely within Dyberry Reservoir.

7. PROPOSED DEVELOPMENT. No development for the collateral use of the project land and water areas is proposed. The land acquired in fee consists of ten parcels, totalling approximately 195 acres, which will be occupied by the structure. Land that will be inundated in time of floods will remain under the control of private owners. Perpetual flowage easements are being acquired on all lands in the reservoir area below elevation 1058.0, which is 5 feet above spillway crest level. Included are approximately 631 acres in 62 parcels in the reservoir area, and approximately 14 acres in 8 parcels for a road relocation. The latter easements will be assigned to the Commonwealth of Pennsylvania upon completion of construction. The land which has

been acquired in fee and the areas for which easements are being obtained are shown on plate 1. The topography of the area above the flood elevation does not lend itself to the development of day use recreational activities. It is considered that limited organized camping could be provided in a State owned game preserve which is located in the upper reaches of the valley above the town of Tanners Falls. Any program to develop this activity would be a function of appropriate state agencies.

8. COOPERATION WITH GOVERNMENT AND PUBLIC INTERESTS. Close liaison with responsible Federal and State agencies has been maintained throughout the planning stages of the project in order to ascertain the potential collateral uses of the project land and waters, and to determine responsibility for development of the necessary facilities. Preliminary investigations were conducted in 1947 - 1948 by the U. S. Department of the Interior to determine the recreational and Fish and Wildlife potential of the reservoir. The reports on these investigations recommended that the development and management of all available forms of recreation be vested in State or local agencies, through licensing of the public lands. The responsible State agencies have subsequently indicated that they do not plan to develop any facilities at Dyberry Reservoir.

9. CONCLUSIONS AND RECOMMENDATIONS. It is concluded that there are no significant Government owned land or water areas in Dyberry Reservoir which are suitable for development for collateral uses at this time. It is not anticipated that justification for any such development will manifest itself in the foreseeable future. It is therefore recommended that no program for the collateral use of project lands and waters be undertaken at this time.