

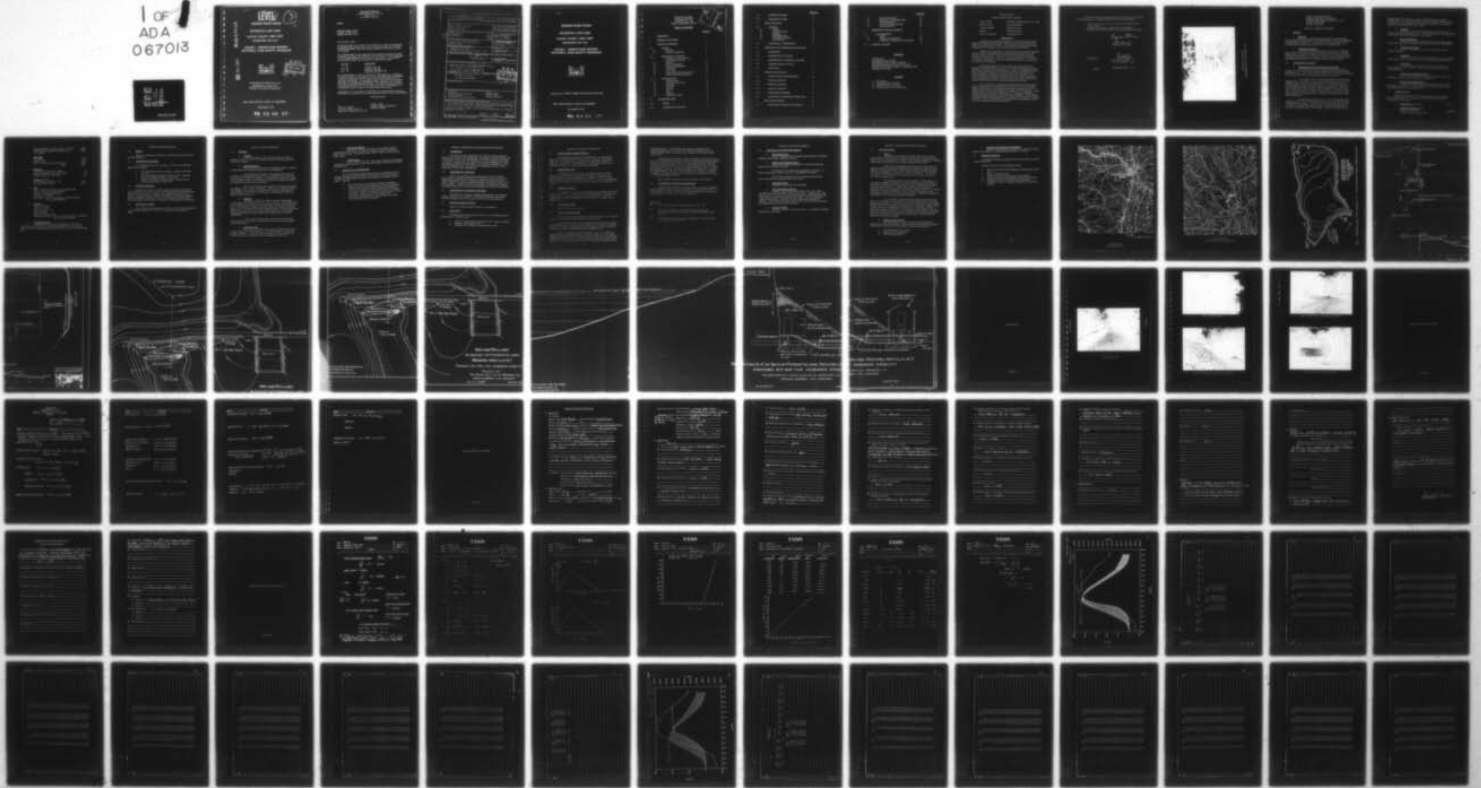
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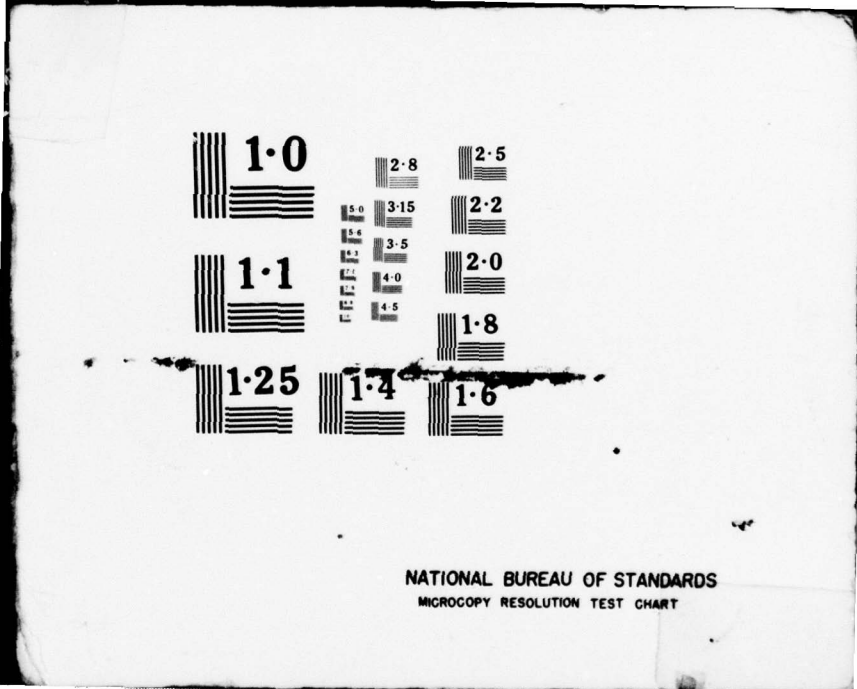
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HUDSON RIVER BASIN

MYOSOTIS LAKE DAM

ALBANY COUNTY, NEW YORK

INVENTORY NO. 670

**PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM**

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NEW YORK DISTRICT CORPS OF ENGINEERS

SEPTEMBER 1978

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DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, NEW YORK
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10007

NANEN-F

Honorable Hugh L. Carey
Governor of New York
Albany, New York 12224

Dear Governor Carey:

Reference is made to my letter of 2 October 1978 in which clarification of the guidelines used by this office in assessing dams with "seriously inadequate spillways" under the National Program of Inspection of Dams was outlined.

The following dams in your state have been assessed as having seriously inadequate spillways, with capability to pass safely only the percentage of the probable maximum flood as noted in each report. In accordance with revised criteria they are now to be assessed as unsafe:

<u>I.D. NO.</u>	<u>NAME OF DAM</u>
N.Y. 345	Pleasure Lake Dam
N.Y. 670	Myosotis Lake Dam
N.Y. 54	Tarrytown Waterworks Dam

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

Consequently, it is advisable to implement the recommendations previously furnished in the reports for the above-mentioned dams as soon as practicable.

Sincerely yours,

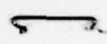
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CLARK H. BENN
Colonel, Corps of Engineers
District Engineer

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Phase I Inspection Report Hudson River Basin Myosotis Lake Dam Albany County, New York Inventory No. N.Y. 670		5. TYPE OF REPORT & PERIOD COVERED Phase I Inspection Report National Dam Safety Program
7. AUTHOR(s) 10 Eugene/O'Brien		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Tippetts-Abbett-McCarthy-Stratton 345 Park Avenue New York, New York 10021		8. CONTRACT OR GRANT NUMBER(s) DACW 51-78-C- 0024
11. CONTROLLING OFFICE NAME AND ADDRESS Department of the Army 26 Federal Plaza / New York District, CofE New York, New York 10007		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 11 Sep 78
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) 12 83p.		12. REPORT DATE 22 November 1978
16. DISTRIBUTION STATEMENT (of this Report) Inventory no. Approved for public release; Distribution unlimited.		13. NUMBER OF PAGES
17. DISTRIBUTION STATEMENT (of this Report) 6 National Dam Safety Program. Myosotis Lake Dam (NY-670), Hudson River Basin, Albany County, New York. Phase I Inspection Report,		15. SECURITY CLASS. (of this report) UNCLASSIFIED
18. SUPPLEMENTARY NOTES		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Dam Safety Albany County National Dam Safety Program Ten-Mile Creek Visual Inspection Myosotis Lake Dam Hydrology, Structural Stability		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization. Myosotis Lake Dam was judged to be unsafe-non-emergency due to a seriously inadequate spillway.		

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HUDSON RIVER BASIN
MYOSOTIS LAKE DAM
ALBANY COUNTY, NEW YORK
INVENTORY NO. 670
PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM



Prepared by: TIPPETTS-ABBETT-McCARTHY-STRATTON

NEW YORK DISTRICT CORPS OF ENGINEERS

SEPTEMBER 1978

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HUDSON RIVER BASIN
MYOSOTIS LAKE DAM
INVENTORY NO. 670
PHASE I INSPECTION REPORT

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TABLE OF CONTENTS

		<u>Page No.</u>
-	ASSESSMENT	-
-	OVERVIEW PHOTOGRAPH	-
1	PROJECT INFORMATION	1
1.1	GENERAL	1
a.	Authority	1
b.	Purpose of Inspection	1
1.2	DESCRIPTION OF PROJECT	1
a.	Description of the Dam and Appurtenant Structures	1
b.	Location	2
c.	Size Classification	2
d.	Hazard Classification	2
e.	Ownership	2
f.	Use of Dam	2
g.	Design and Construction History	2
h.	Normal Operating Procedures	2
1.3	PERTINENT DATA	2
a.	Drainage Area	2
b.	Discharge at Dam Site	2
c.	Elevation	3
d.	Reservoir	3
e.	Storage	3
f.	Dam	3
g.	Spillway	3
h.	Regulating Outlets	3
2	ENGINEERING DATA	4
2.1	DESIGN	4
2.2	CONSTRUCTION RECORDS	4

		<u>Page No.</u>
2.3	OPERATION RECORDS	4
2.4	EVALUATION OF DATA	4
3	VISUAL INSPECTION	5
3.1	FINDINGS	5
a.	General	5
b.	Embankment Dam	5
c.	Spillway	5
d.	Regulating Valve	5
e.	Downstream Channel	6
f.	Reservoir Area	6
3.2	EVALUATION OF OBSERVATIONS	6
4	OPERATIONAL AND MAINTENANCE PROCEDURES	7
4.1	PROCEDURES	7
4.2	MAINTENANCE OF THE DAM	7
4.3	MAINTENANCE OF OPERATING FACILITIES	7
4.4	WARNING SYSTEM IN EFFECT	7
4.5	EVALUATION	7
5	HYDRAULIC/HYDROLOGIC	8
5.1	DRAINAGE AREA CHARACTERISTICS	8
5.2	SPILLWAY CAPACITY	8
5.3	RESERVOIR CAPACITY	8
5.4	FLOODS OF RECORD	8
5.5	OVERTOPPING POTENTIAL	8
5.6	EVALUATION OF HYDROLOGY/HYDRAULICS	9
6	STRUCTURAL STABILITY	10
6.1	EVALUATION OF STRUCTURAL STABILITY	10

		<u>Page No.</u>
a.	Visual Observations	10
b.	Design and Construction Data	10
c.	Operating Records	10
d.	Post-Construction Changes	10
e.	Seismic Stability	10
7	ASSESSMENT/REMEDIAL MEASURES	11
7.1	DAM ASSESSMENT	11
a.	Safety	11
b.	Adequacy of Information	11
c.	Necessity for Additional Investigations	12
7.2	REMEDIAL MEASURES	12

DRAWINGS

VICINITY MAP
 TOPOGRAPHIC MAP (USGS)
 BATHYMETRIC MAP OF LAKE MYOSOTIS,
 PROPOSED RECONSTRUCTION OF SPILLWAY
 DAM AND SPILLWAY AT OUTLET OF MYOSOTIS LAKE
 SECTION A-A OF DAM

APPENDIX

- A. Photographs
- B. Engineering Data Checklist
- C. Visual Inspection Checklist
- D. Hydrologic Data and Computations

PHASE I REPORT
NATIONAL DAM SAFETY PROGRAM

Name of Dam: MYOSOTIS LAKE DAM (I.D. No. 670)
State Located: NEW YORK STATE
County Located: ALBANY COUNTY
Stream: TEN-MILE CREEK
Date of Inspection: 31 AUGUST 1978

ASSESSMENT

Examination of available documents and visual inspection of the Myosotis Lake Dam and appurtenant structures did not reveal conditions which are considered to be unsafe. Some existing inadequacies regarding maintenance and operation of the project features were observed.

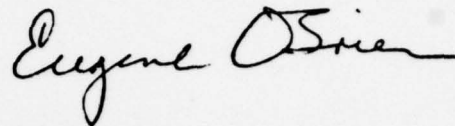
Using Corps of Engineers screening criteria, the maximum spillway capacity without overtopping the dam is equal to 26 percent of the PMF and 59 percent of the SPF. Under the PMF and SPF discharge the dam would be overtopped by 3.7 feet and 1.3 feet respectively. The spillway is, therefore, adjudged as seriously inadequate and the dam is assessed as unsafe, non-emergency.

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

It is, therefore, recommended that within three months from the date of notification to the Governor of the State of New York, the owners engage the services of a professional consultant to determine by more sophisticated methods and procedures the adequacy of the spillway. Within twelve months of the date of notification to the governor, appropriate remedial mitigating measures should have been completed. In the interim, a detailed emergency operation plan and warning system should be promptly developed. Also, during periods of unusually heavy precipitation, around-the-clock surveillance should be provided.

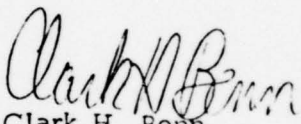
No remedial measures are required to assure the safety of the dam at the present time. Certain measures are recommended regarding:

- Repair of the spillway slab and the left side entrance wall of the spillway
- Programs for operation, maintenance and inspection
- Removal of shrubs and saplings from all locations on the dam.



Eugene O'Brien, P.E.
New York No. 29823

Approved by:



Col. Clark H. Benn
New York District Engineer

Date:

1978 November 22



OVERVIEW OF THE DAM
DOWNSTREAM SLOPE AND GATEHOUSE

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
MYOSOTIS LAKE DAM, INVENTORY NO. 670
HUDSON RIVER BASIN
ALBANY, NEW YORK

SECTION I PROJECT INFORMATION

1.1 GENERAL

a. Authority

The Phase I inspection reported herein was authorized by the DEPARTMENT OF THE ARMY, NEW YORK DISTRICT, CORPS OF ENGINEERS by letter dated 31 March 1978, in fulfillment of the requirements of the National Dam Inspection Act, Public Law 92-367, 8 August 1972.

b. Purpose of Inspection

The purpose of this inspection and report is to investigate and evaluate the existing conditions of subject dam in order to: identify deficiencies and hazardous conditions; determine if they constitute hazards to human life or property; and notify the State of New York of these results along with recommendations for remedial measures where necessary.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam and Appurtenant Structures

The Myosotis Lake Dam is composed of a 240-foot long rockfill dam and 36.7-foot long ungated spillway located between the dam and the left bank. The low level release consists of a 12-inch pipe controlled by a 12-inch gate valve in the gatehouse at the toe of the dam.

The straight part of the dam crest extends 116 feet from the spillway; then, for 118 feet, it forms a slight downstream curvature. The upstream slope of the dam is approximately 1 (V) to 2 (H) above the pool level and becomes flatter below the pool level. The width of the crest is 11.5 feet which includes a masonry parapet approximately 1.3 feet wide and 3.5 feet high. The downstream slope is formed by a vertical masonry wall, 7.5 feet of which are exposed. Dumped stone forms a 2-foot wide berm adjacent to the vertical wall; the remainder of the downstream slope below the berm is 1:1.

The spillway is formed by a 37.6-foot wide channel with a broad crest at El. 1691. The approach surface is very flat and is limited by entrance masonry walls: 5-foot and 11-foot high on the left side, and 8.5-foot and 11-foot high on the right side. The provided freeboard is 8.5 feet. The inclined part of the channel, a masonry structure with the

gunited surface over reinforcing steel, is 60 feet long and has 1(V) to 4.7(H) \pm slope. The channel ends with a horizontal concrete platform which is dotted by 4-inch \pm embedded stone for energy dissipation. The masonry side walls of the channel have 1:1.5 slope.

b. Location

The dam is located on Ten-Mile Creek, a tributary of the Catskill Creek and the Hudson River. The nearest community, Rensselaerville, is less than one-half mile downstream from the dam.

c. Size Classification

The dam is less than 40 feet high and has a storage capacity of less than 1000 acre-feet, therefore it falls under a "small" size category.

d. Hazard Classification

The dam is considered to be in the "significant" hazard potential category.

e. Ownership

Myosotis Lake Dam is owned and operated by the Edmund Niles Huyck Preserve, Inc., and forms a part of the Biological Research Station.

f. Use of Dam

The impoundment provided by the dam served previously to run sawmills. It now provides a water storage reservoir for the town of Rensselaerville.

g. Design and Construction History

The lake was impounded around 1800; however, there is no information available on either design or construction.

h. Normal Operating Procedures

Water from Myosotis Lake is released through the 12-inch low release gate valve in an amount to ensure a continuing supply to the downstream community of Rensselaerville.

1.3 PERTINENT DATA

Elevations are referred to an assumed Datum Plane used in the survey prepared by Frank R. Lanagan, and revised July, 1940; and are 170 feet above USGS Datum.

a. <u>Drainage Area</u> , sq. miles	6.57
b. <u>Discharge at Dam Site</u> , cfs	
Maximum flood at site	Unknown
Maximum regulating gate outlet	12

	Ungated spillway at maximum pool, El. 1699.5	2808
	Total discharge capacity at maximum pool, El. 1699.5	2820
c.	<u>Elevations</u>	
	Top of Dam	1699.5
	Spillway crest	1691
	Invert of 12-inch discharge pipe inlet	1680
	outlet	1666
d.	<u>Reservoir</u>	
	Length of pool at El. 1691, miles	0.7
	Length of shoreline at El. 1691, miles	1.7
	Surface area at El. 1691, acres	98.3
e.	<u>Storage</u> , acre-feet	
	Top of Spillway crest (El. 1691)	1125
	Top of Dam (El. 1699.5)	1975
f.	<u>Dam</u>	
	Type: Rockfill and rubble masonry retaining wall	
	Length: 277± feet including spillway	
	Height: 22± feet above ground	
	Top width: 11.5 feet	
	Side slopes: 1(V) to 2(H) upstream; vertical wall and 1(V) to 1(H) downstream.	
g.	<u>Spillway</u>	
	Type: Broad crest	
	Length: 36.7 feet	
	Crest elevation: 1691	
	Gates: Ungated	
	Upstream channel: None	
	Downstream channel: 200± - foot long channel in a riverbed, joins Ten-Mile Creekbed.	
h.	<u>Regulating Outlets</u>	
	A 12-inch pipe, which has no protection at the inlet, is regulated by a 12-inch gate valve at the downstream end. The invert is at El. 1680 at the upstream end of the pipe and at El. 1666 at the downstream end.	

SECTION 2 ENGINEERING DATA

2.1 DESIGN

There is no information available as to when and by whom the dam has been designed.

2.2 CONSTRUCTION RECORDS

No construction records are available. However, the following drawings are available:

1. Proposed Reconstruction of Spillway, Myosotis Lake Dam, July 1913
2. Dam and Spillway at Outlet of Myosotis Lake - Proposed Riprap for Increased Stability, August 1933
3. Section A-A of Dam at Myosotis Lake - Proposed Riprap for Increased Stability, August 1933.

2.3 OPERATION RECORDS

There does not exist any written record of operation of the gate valve at the dam, and also no records of maintenance and repair work orders. Also there does not exist an operation and maintenance manual for the project. No records of pool elevation and rainfall at the site are available. The only operational function of the dam is the change in opening of the low-level control. This function is performed by the Director of the Preserve.

2.4 EVALUATION OF DATA

The available data reviewed in conjunction with the visual inspection were considered adequate for this Phase I inspection and evaluation of safety.

SECTION 3 VISUAL INSPECTION

3.1 FINDINGS

a. General

A visual inspection of Myosotis Lake Dam was made on Thursday, August 31, 1978. The weather was rainy; the temperature was in the 70-75° range.

b. Embankment Dam

There were no visible signs of sloughing, erosion, cracking or other distress on the crest and slopes of the embankment.

The crest is grass-covered. The upstream slope from the crest down to the approximate elevation of the spillway crest is covered by grown trees, bushes and saplings. The downstream slope in the central part of the dam is clear of all vegetation; toward both abutments the slope is covered by brush and some grown trees.

Due to the prevailing rainy weather on the day of inspection, the seepage, if any, was not detectable. However, Dr. Dalgleish, Executive Director of the Preserve, reported that no seepage or wet areas had been observed by him at any part of the dam or the abutments during his frequent visits to the dam.

c. Spillway

At the time of inspection water level was approximately 2.5 feet below the spillway crest, i.e., at El. 1688.5±. The sloped portion of the spillway floor has been gunited previously over the reinforcing steel mesh. At the time of inspection there were cracks and erosion in several places of it. Some cracks have been patched recently. The lower horizontal portion with embedded stones for energy dissipation was in good shape. Scouring downstream from the spillway was localized and of a limited significance.

A 5-foot high retaining wall at the left entrance shoulder of the spillway was cracked and upper layers of masonry were dislocated under soil pressure.

d. Regulating Valve

The 12-inch gate valve is housed in a gatehouse built from concrete blocks at the toe of the dam. The valve appeared to be in good operable condition. A small leak around the stem and slight corrosion of the valve body do not preclude a normal functioning of the valve.

e. Downstream Channel

Although the channel downstream of the spillway tailrace contained trees and bushes, its present condition would not impede discharges from the dam. The channel enters, after a short run, the Ten-Mile Creek valley.

f. Reservoir Area

In the vicinity of the dam, there was no evidence of sloughing, potentially unstable slopes or other unusual conditions which would adversely affect the dam.

3.2 EVALUATION OF OBSERVATIONS

Visual observations made during the course of inspection did not indicate any serious problems which would adversely affect the safety of the dam and require either immediate investigation or immediate remedial action. However:

- a. The growth of heavy unmanaged vegetation, especially trees, on slopes of the embankment should be discouraged.
- b. Cracking and erosion of gunite surfaces in the spillway slab are not considered to represent a danger to the safety of the dam. However, a permanent solution should be found to provide a stable surface for the spillway slab.
- c. The masonry retaining wall at the left entrance shoulder of the spillway should be repaired.

SECTION 4 OPERATIONAL AND MAINTENANCE PROCEDURES

4.1 PROCEDURES

The amount of water released from the lake is governed solely by the needs of the town of Rensselaerville. The release is effected through the 12-inch pipe. Since 1966, the fluctuation of the lake surface was reported to be up to 30 inches above the spillway crest during springtime rain, with the maximum observed being 36 inches, and a minimum drawdown of 10 feet below the spillway crest. The latter level corresponds to the top of the inlet of the 12-inch water release pipe.

4.2 MAINTENANCE OF THE DAM

There is no operation and maintenance manual for the project. The reservoir is frequently visited by Dr. Dalgleish; however, he does not necessarily examine the dam or other project features at the time of his visits. There is no formally established program of inspection visits by the State engineers. Repairs to the dam and spillway are made when required. No regular maintenance procedures are established for the dam and spillway.

4.3 MAINTENANCE OF OPERATING FACILITIES

The gate valve is manually operated and appeared to be operable insofar as equipment was visible. It was reported that the maintenance was done 3 times in the last 14 years, the last one several years ago.

4.4 WARNING SYSTEM IN EFFECT

There is no warning system in effect or in preparation.

4.5 EVALUATION

The maintenance of the Myosotis Lake Dam is considered less than adequate in the following areas:

- a. Control of heavy brush and saplings on the surface of the dam.
- b. Disrepair of the spillway slab.
- c. Disrepair of the spillway left side entrance wall.

SECTION 5 HYDRAULIC/HYDROLOGIC

5.1 DRAINAGE BASIN CHARACTERISTICS

Myosotis Lake is located on Ten-Mile Creek, about one-half mile west of Rensselaerville in Albany County, New York. The drainage basin, of 6.57 square miles, is rectangular in shape with a length to width ratio of about 2.5. Approximately 75% of the basin is natural and reforested woodlands, and 25% farmsteads and orchards.

5.2 SPILLWAY CAPACITY

Discharge from Myosotis Lake is possible through a 12-inch diameter low level outlet and a spillway channel 36.7 feet wide. It is estimated that the discharge capacity of the spillway is 2808 cfs when the lake level is at the top of the dam (El. 1699.5). The computed discharge of the low level outlet with the water level at spillway crest elevation is 12 cfs.

5.3 RESERVOIR CAPACITY

The capacity of Myosotis Lake (supplied by the Edmund Niles Huyck Preserve, Inc.) is 366.5 million gallons or 1125 acre-feet. The computed surcharge storage between spillway crest elevation and top of dam is 850 acre-feet, which is equivalent to about 2.4 inches of runoff over the entire basin.

5.4 FLOODS OF RECORD.

There are no records of floods.

5.5 OVERTOPPING POTENTIAL

The project discharge capacity was compared with both the Probable Maximum Flood (PMF) and the Standard Project Flood (SPF).

The Probable Maximum 6-hour rainfall for the Myosotis Lake area was determined as 22.2 inches, ¹ and based on EC 1110-2-27 was reduced 20% to 17.76 inches. The distribution of the rainfall was based on data in a publication of the World Meteorological Organization. ²

Based on the Soil Conservation Service curve number method the rainfall excess was determined as 16.49 inches. Because of the physical features of the basin, with two streams flowing into the lake, the basin was divided into two sub-basins. Triangular unit hydrographs were developed ³ for each sub-basin and subsequently used to compute their respective PMF

runoff hydrographs. The hydrograph was formed by adding the PMF runoff hydrographs from each sub-basin to the runoff resulting from the rainfall directly on the lake surface, and resulted in a flood inflow peak of 10,918 cfs.

The potential of the water overtopping the dam was investigated on the basis of the available surcharge storage and spillway discharge capacities to meet a potential emergency inflow. It was assumed that the lake level at the start of the flood inflow was at El. 1691 (spillway crest). The PMF caused the level of the lake to rise to a maximum elevation 1703.2, 3.7 feet above the top of the dam. The peak discharge was 10,598 cfs or 3.8 times the outflow capacity. The SPF, usually taken as one-half PMF, produced a maximum lake level elevation of 1700.8 and a peak discharge of 4740 cfs, 1.7 times the spillway capacity.

The low level conduit was assumed inoperable during floods.

5.6 EVALUATION OF HYDROLOGY/HYDRAULICS

Using Corps of Engineers screening criteria, the maximum spillway capacity without overtopping the dam is equal to 26 percent of the PMF and 59 percent of the SPF. Under the PMF and SPF discharge the dam would be overtopped by 3.7 feet and 1.3 feet, respectively.

1/ U.S. Weather Bureau, Technical Paper No. 40. 1961

2/ Manual for Estimation of Probable Maximum Precipitation, World Meteorological Organization, Operation Hydrology Report, No. 1973.

3/ Flood Hydrographs Analyses and Computations EM 1110-2-1405, U.S. Corps of Engineers 1959.

SECTION 6 STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observation

Visual observation did not indicate either existing or potential problems with the dam or spillway sections.

b. Design and Construction Data

There exist no design computations or other data regarding the structural stability of the dam.

On the basis of the performance experience of the dam, as well as engineering judgment, the dam is considered to be stable.

Performance experience with the maximum observed water level 3 feet above the spillway crest level is good.

c. Operating Records

Operating records were not maintained.

d. Post-Construction Changes

Minutes of the Preserve record that in 1934 "1475 loads (or yards) of stone were added to the face of the dam". Besides this, under the same year: "The twelve-inch diameter discharge pipe was extended and a new valve installed, and gatehouse constructed". In 1962 the present spillway was enlarged, eliminating an arch bridge which crossed the spillway. The increased clearance permits ice to pass through unobstructed. No subsequent ice jams have been observed.

e. Seismic Stability

The dam is located in Seismic Zone No. 1, therefore no seismic analyses are warranted.

SECTION 7 ASSESSMENT/REMEDIAL MEASURES

7.1 DAM ASSESSMENT

a. Safety

Examination of available documents and visual inspection of the Myosotis Lake Dam and appurtenant structures did not reveal conditions which are considered to be unsafe. Some existing inadequacies regarding maintenance and operation of the project features were observed.

Using Corps of Engineers screening criteria, the maximum spillway capacity without overtopping the dam is equal to 26 percent of the PMF and 59 percent of the SPF. Under the PMF and SPF discharge the dam would be overtopped by 3.7 feet and 1.3 feet, respectively. The spillway is, therefore, adjudged as seriously inadequate and the dam is assessed as unsafe, non-emergency.

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

It is, therefore, recommended that within three months from the date of notification to the Governor of the State of New York, the owners engage the services of a professional consultant to determine by more sophisticated methods and procedures the adequacy of the spillway. Within twelve months of the date of notification to the governor, appropriate remedial mitigating measures should have been completed. In the interim, a detailed emergency operation plan and warning system should be promptly developed. Also, during periods of unusually heavy precipitation, around-the-clock surveillance should be provided.

b. Adequacy of Information

The information and visual inspection were adequate for performance of this investigation. However, there is inadequate information with regard to operation and maintenance of the project as follows:

1. Record drawings of the project
2. Operation and maintenance
3. Record of inspections.

c. Necessity for Additional Investigations

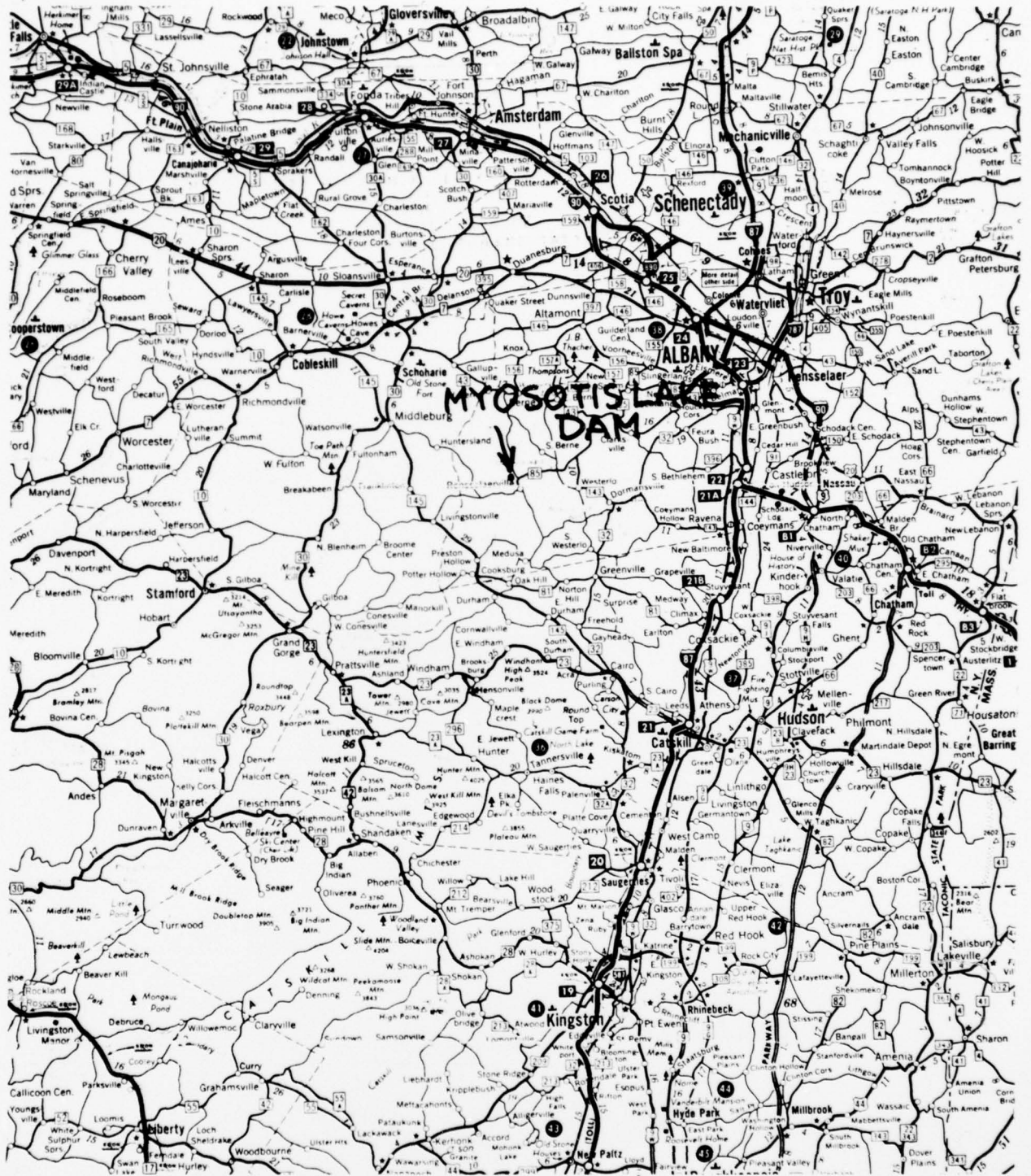
Additional investigations are required to determine the adequacy of the spillway, as recommended in Section 7.1a above.

7.2 REMEDIAL MEASURES

No remedial measures are required to assure the safety of the dam at the present time.

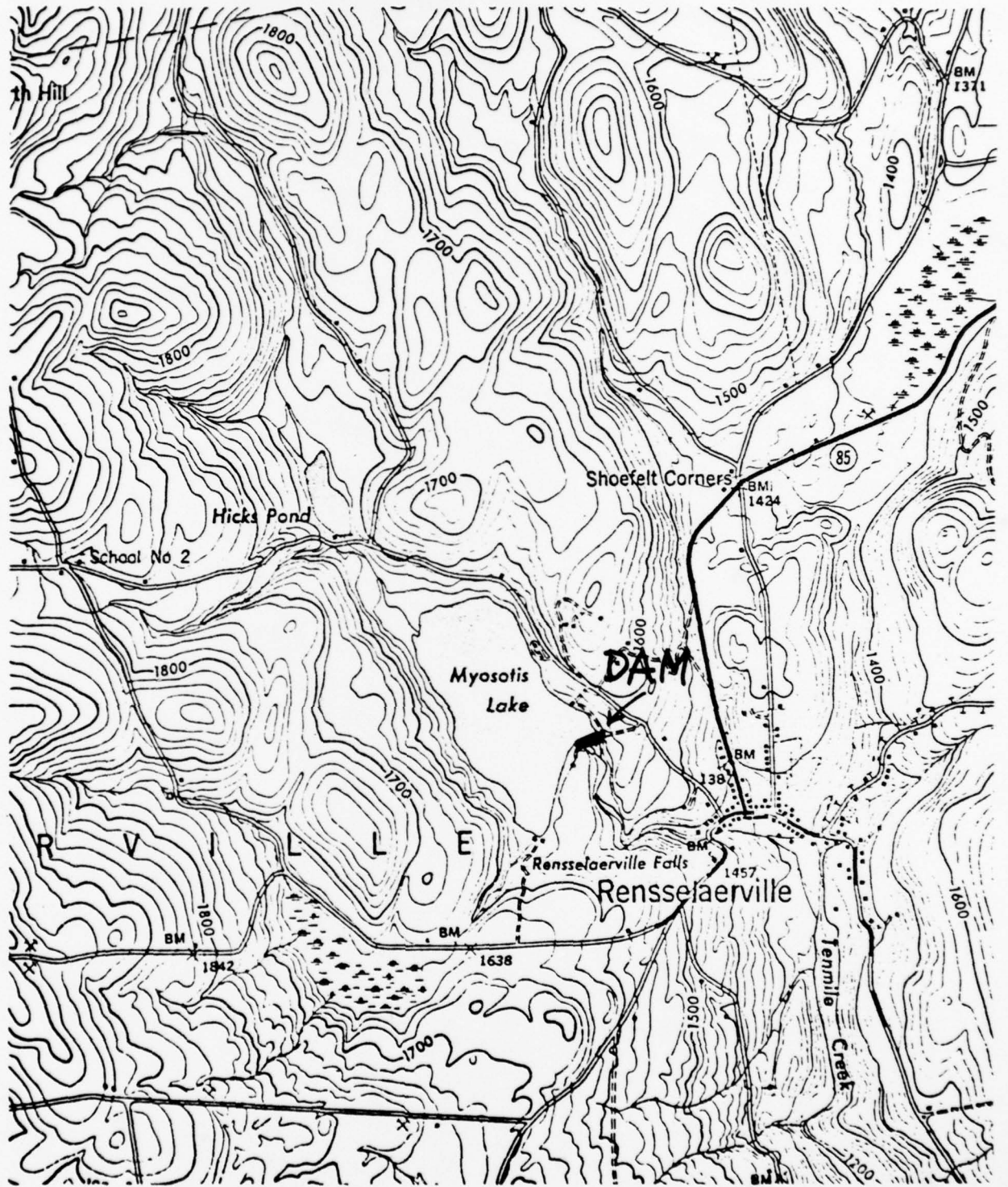
Certain measures are recommended as follow:

- a. Remove heavy shrubs and saplings from all locations on the dam.
- b. Repair the spillway slab.
- c. Repair the left side entrance wall of the spillway.
- d. Prepare operation and maintenance manual for the project.
- e. Maintain the record of operation and maintenance.
- f. Establish a program of periodic inspections of the project features.



Scale of Miles
 0 5 10 15 20
 ONE INCH EQUALS ABOUT 11.2 MILES

VICINITY MAP
 MYOSOTIS LAKE DAM



TOPOGRAPHIC MAP
MYOSOTIS LAKE DAM AND RESERVOIR

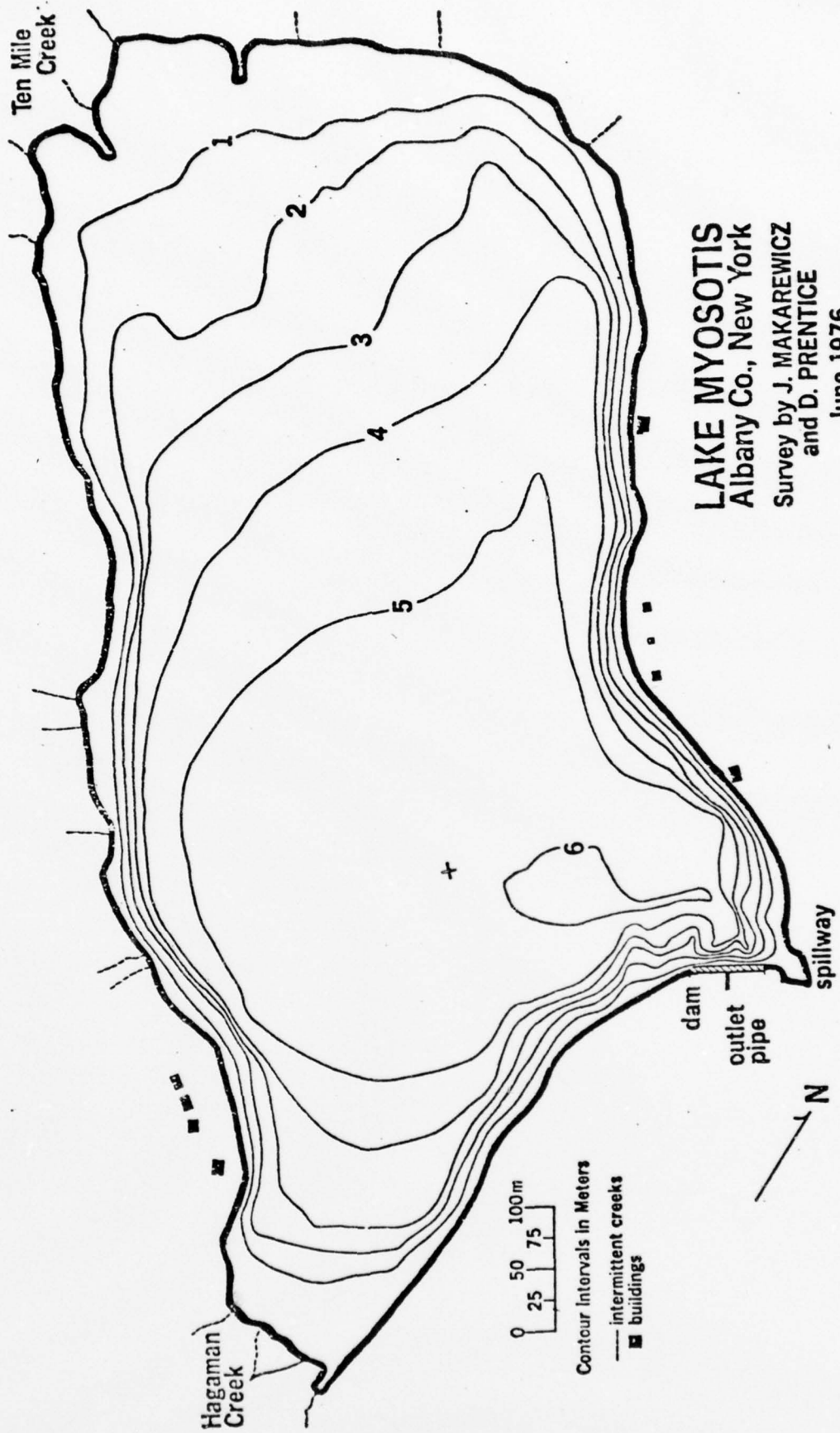
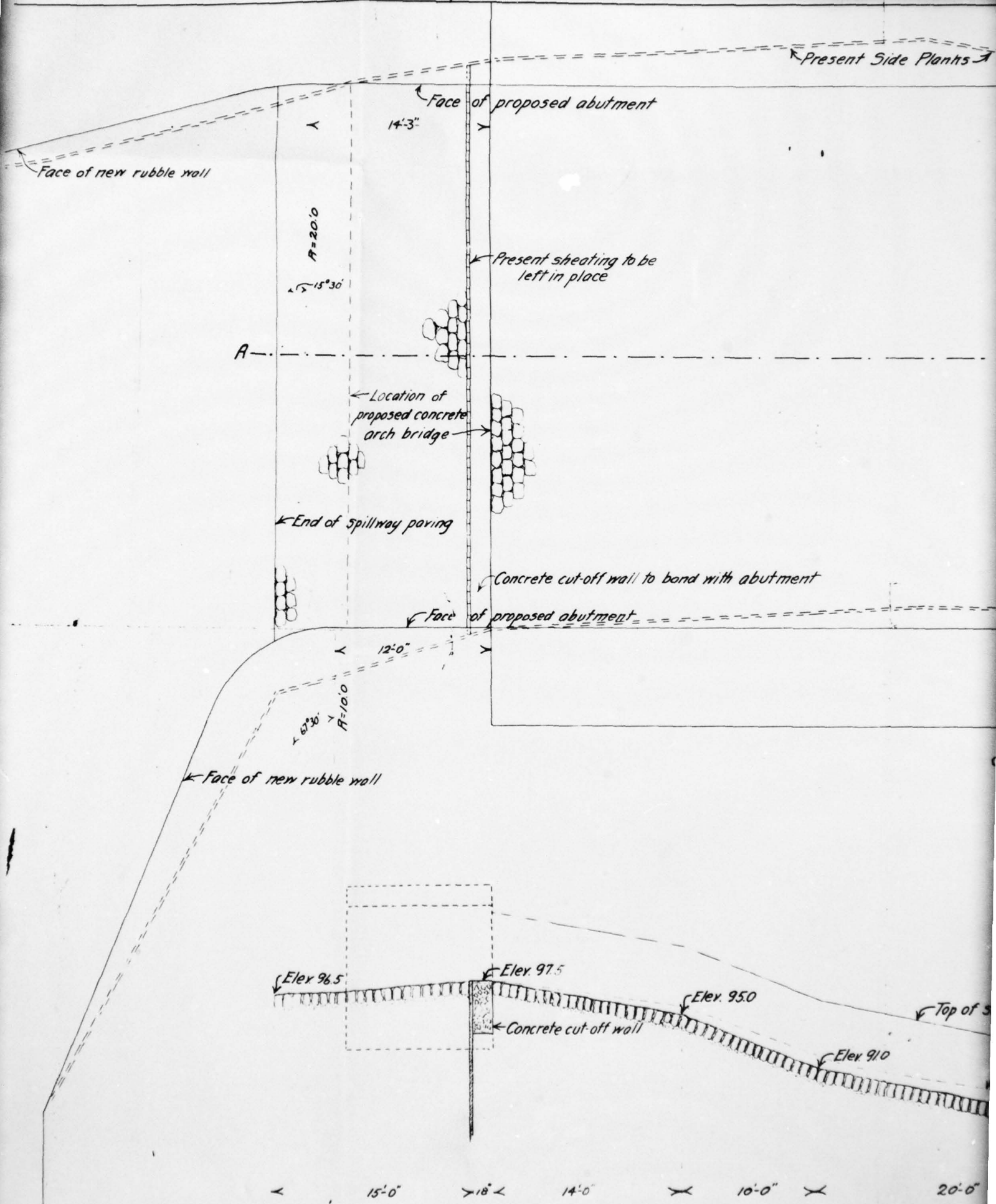
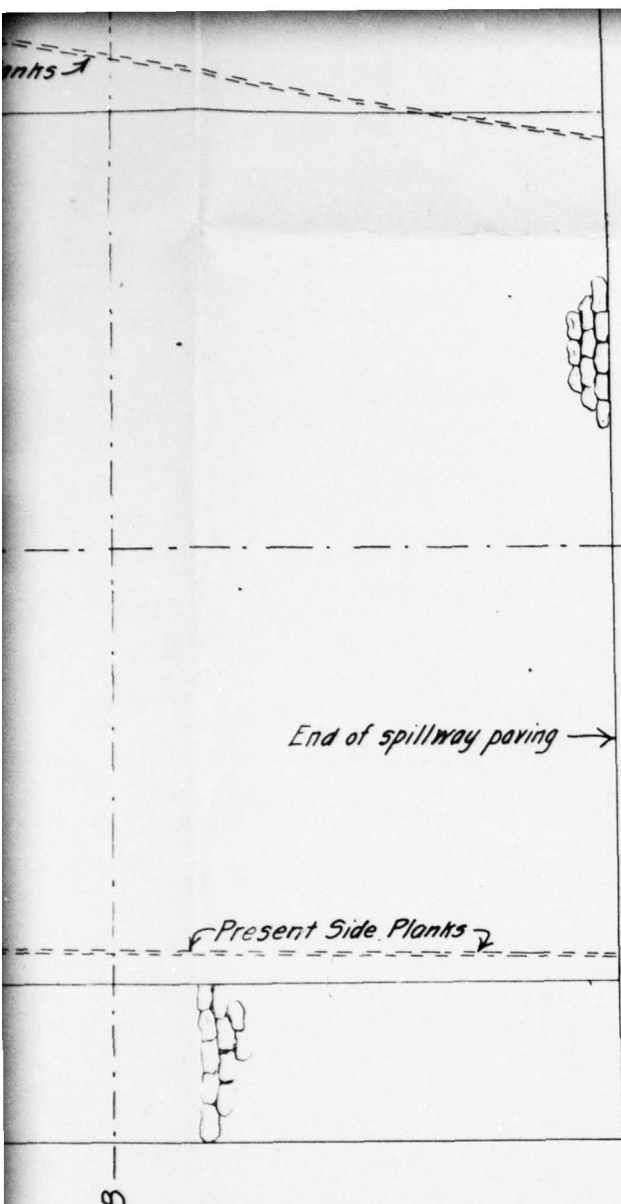


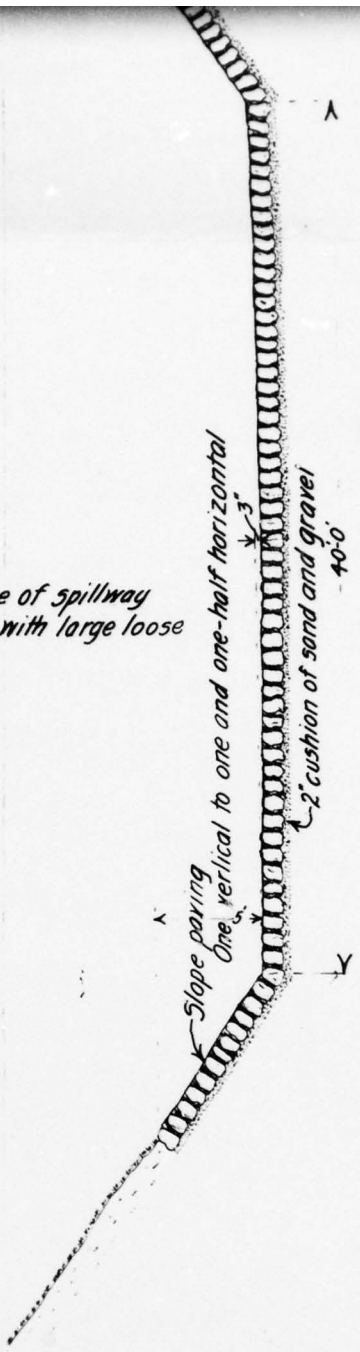
Fig. 1 Bathymetric map of Lake Myosotis, N.Y. Cross indicates seasonal sampling station.



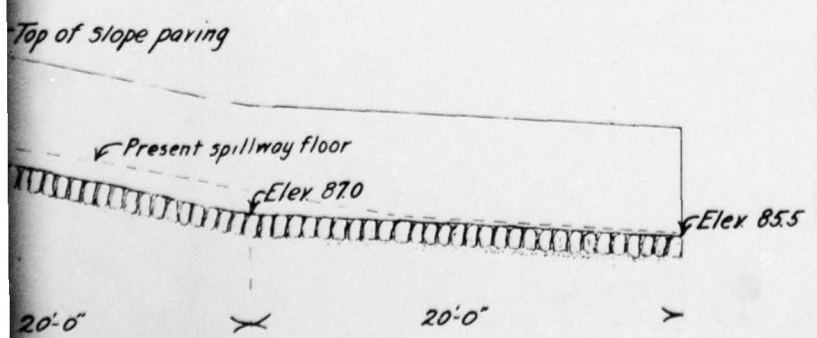
Section AB



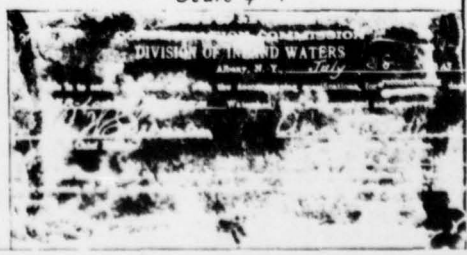
B
 Space at toe of spillway
 to be filled with large loose
 stones



Section BC

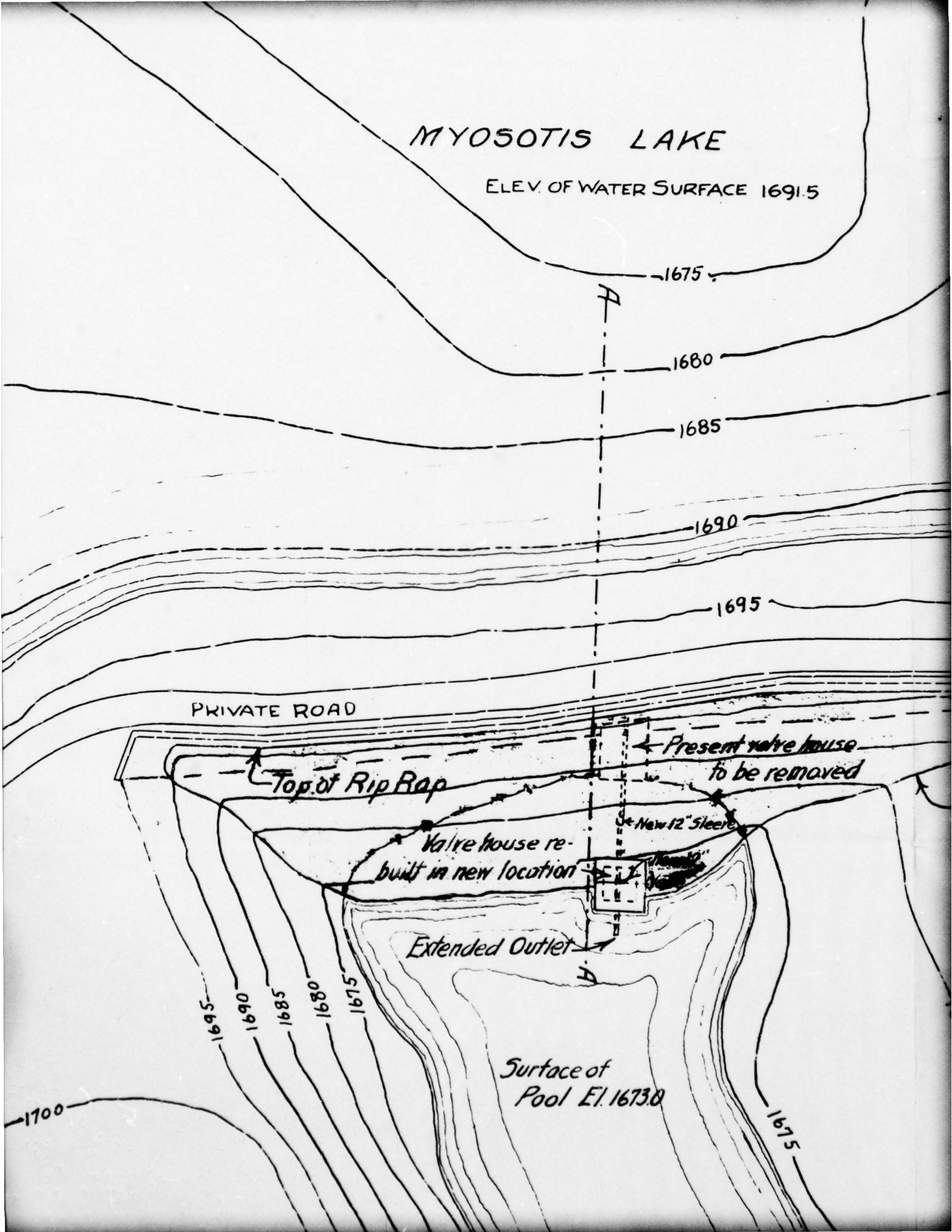


Proposed Reconstruction of Spillway
 Myosotis Lake Dam, Rensselaerville, N.Y.
 Scale 1/4" = 1'



MYOSOTIS LAKE

ELEV. OF WATER SURFACE 1691.5



1675

1680

1685

1690

1695

PRIVATE ROAD

Top of Rip Rap

Present valve house to be removed

Valve house re-built in new location

New 12" Sleeve

Extended Outlet

Surface of Pool El. 1673.0

1695

1690

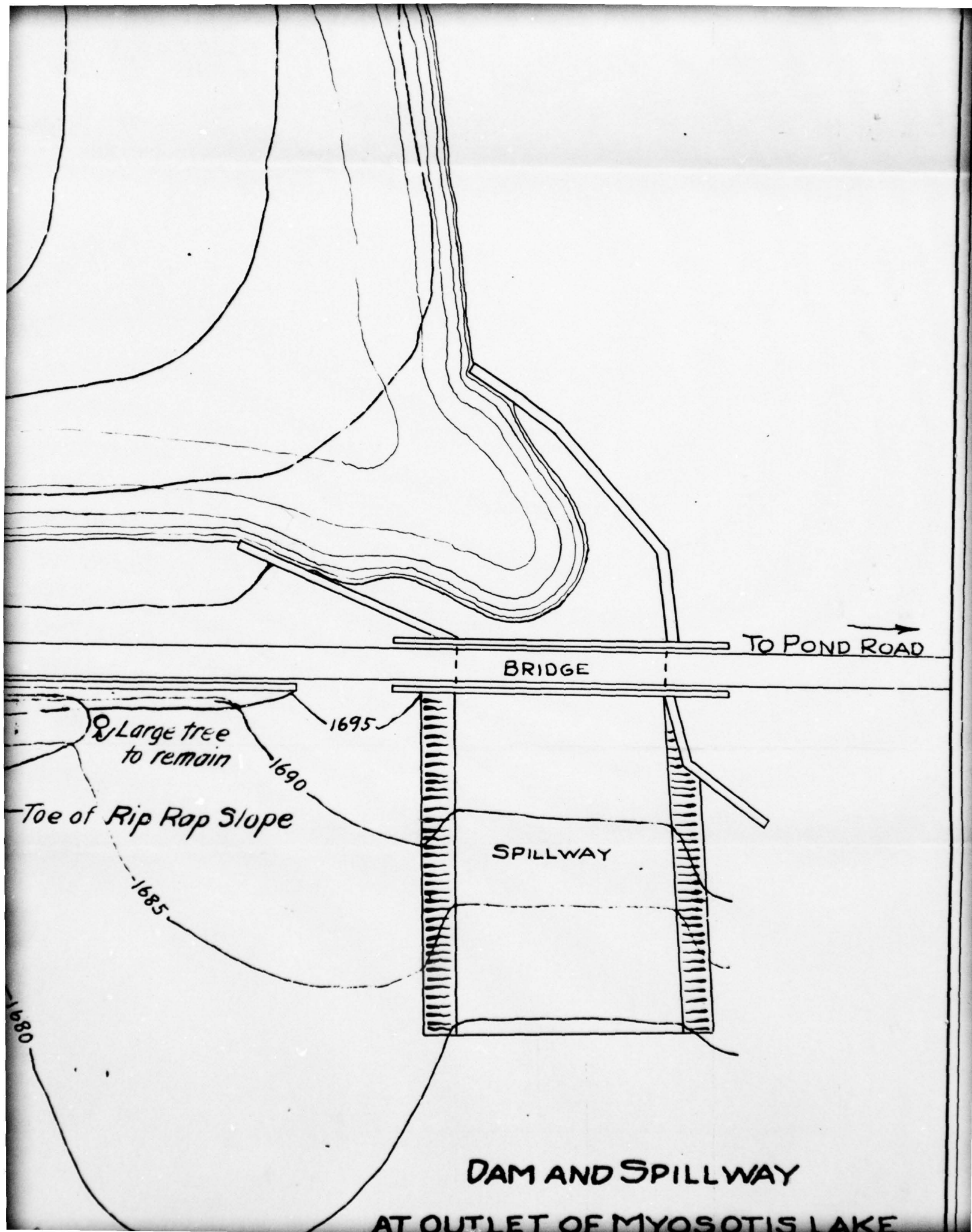
1685

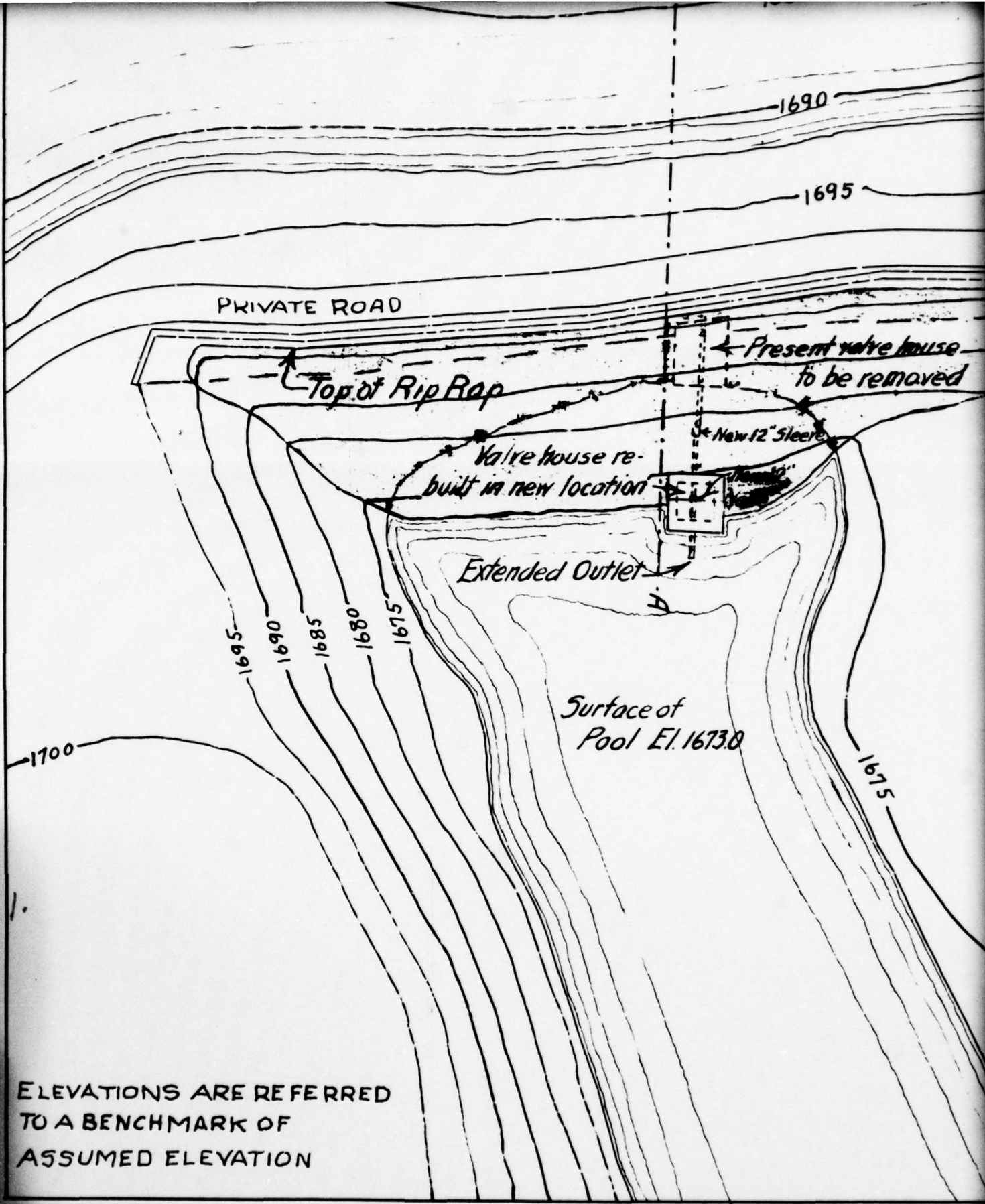
1680

1675

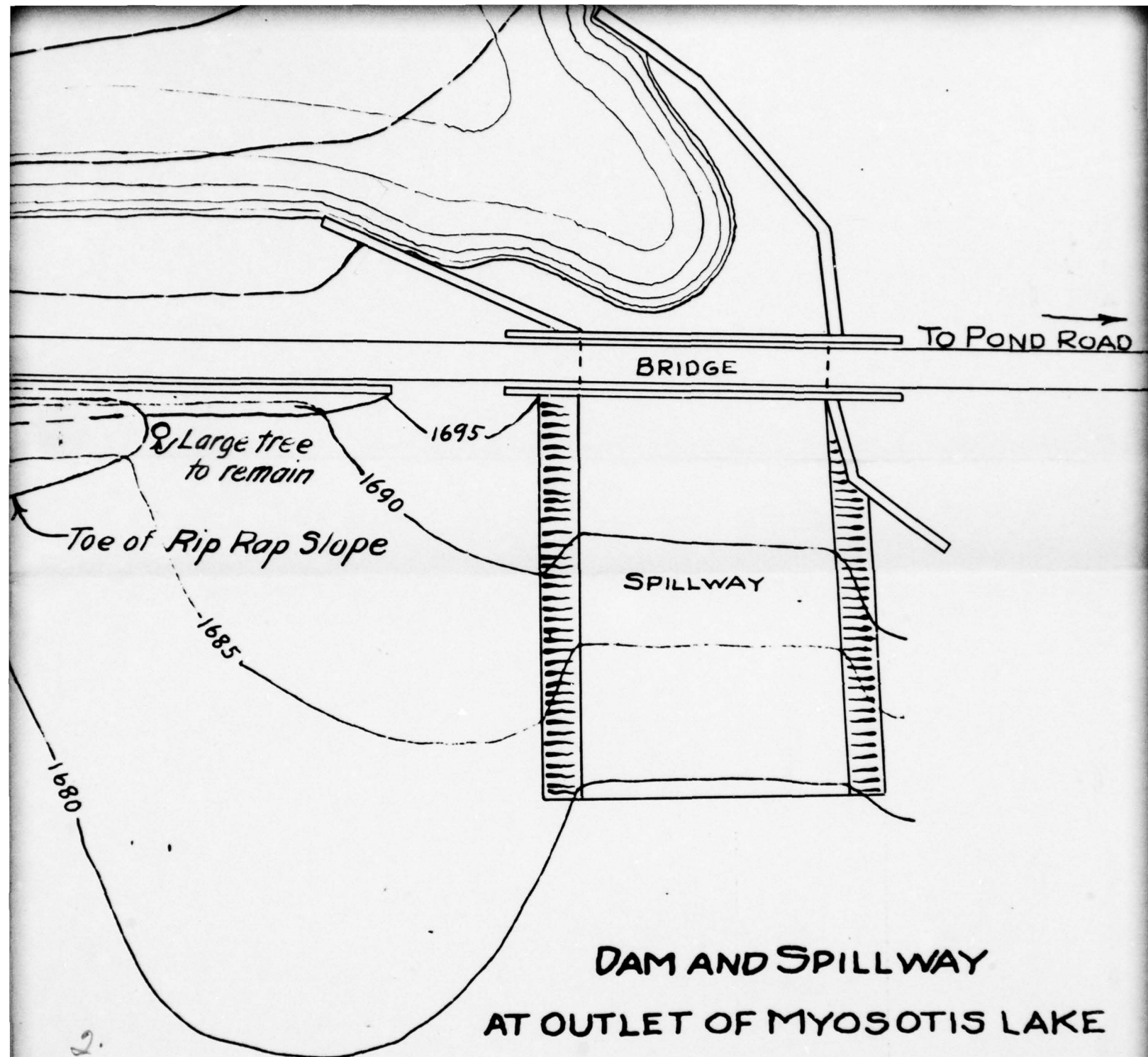
1700

1675





ELEVATIONS ARE REFERRED
TO A BENCHMARK OF
ASSUMED ELEVATION



**DAM AND SPILLWAY
AT OUTLET OF MYOSOTIS LAKE
RENSSELAERVILLE, N.Y.**

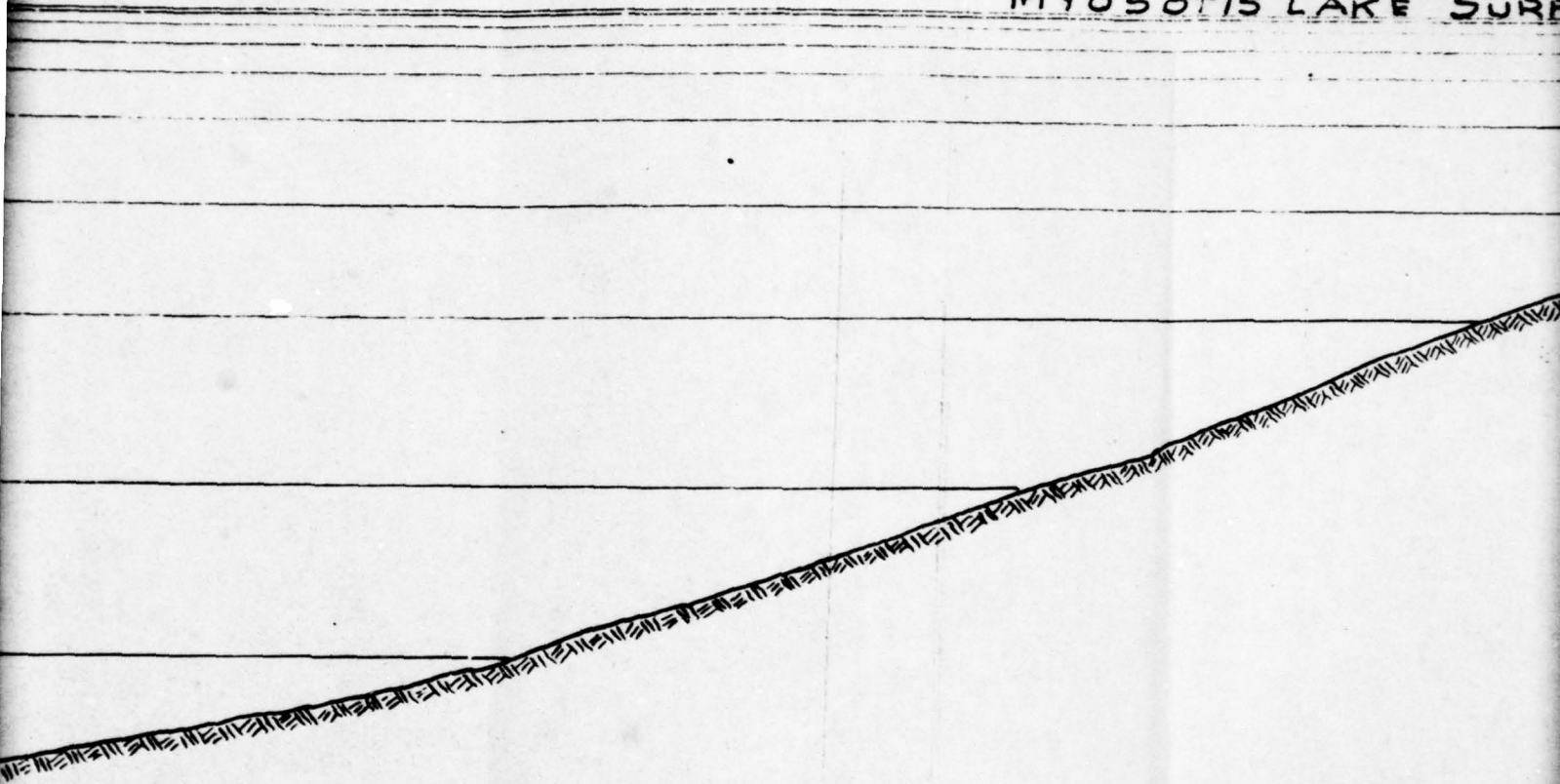
PROPOSED RIP RAP FOR INCREASED STABILITY

*PREPARED FOR
THE EDMUND NILES HUYCK PRESERVE, INC.
FRANK R. LANAGAN, CIVIL ENGINEER*

SCALE 1"=20'ET

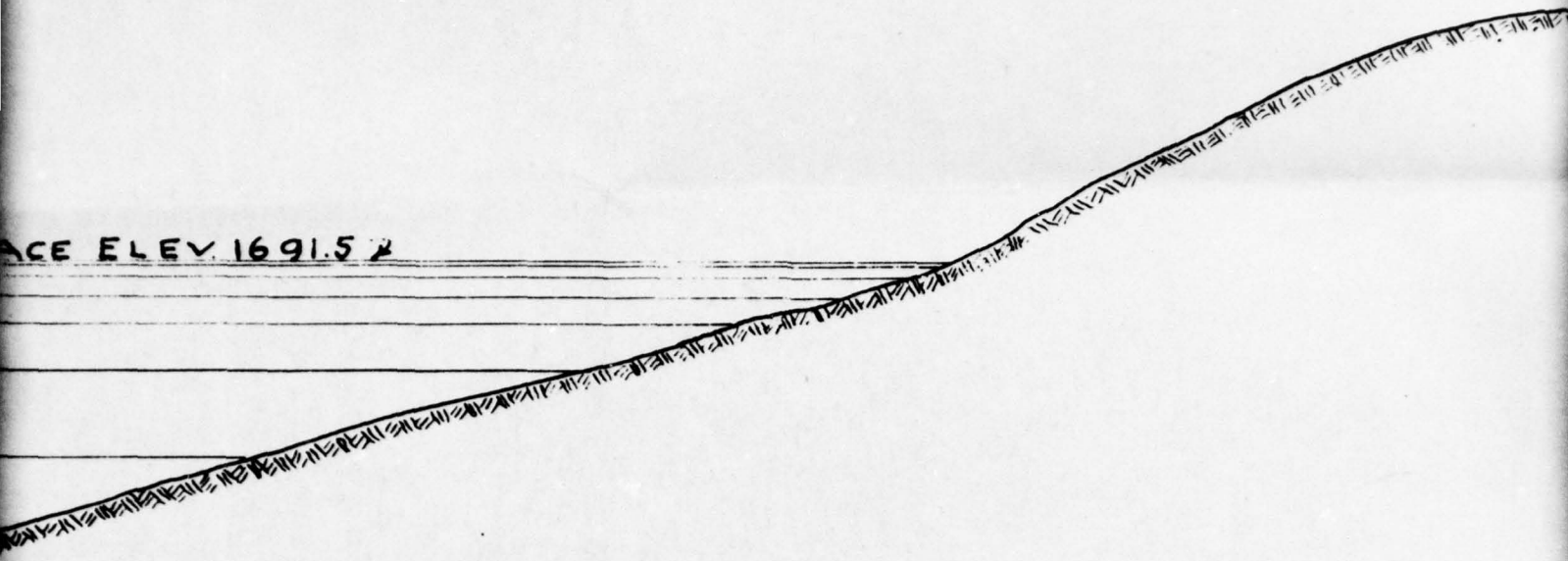
AUGUST 1933

MYOSOTIS LAKE SURF



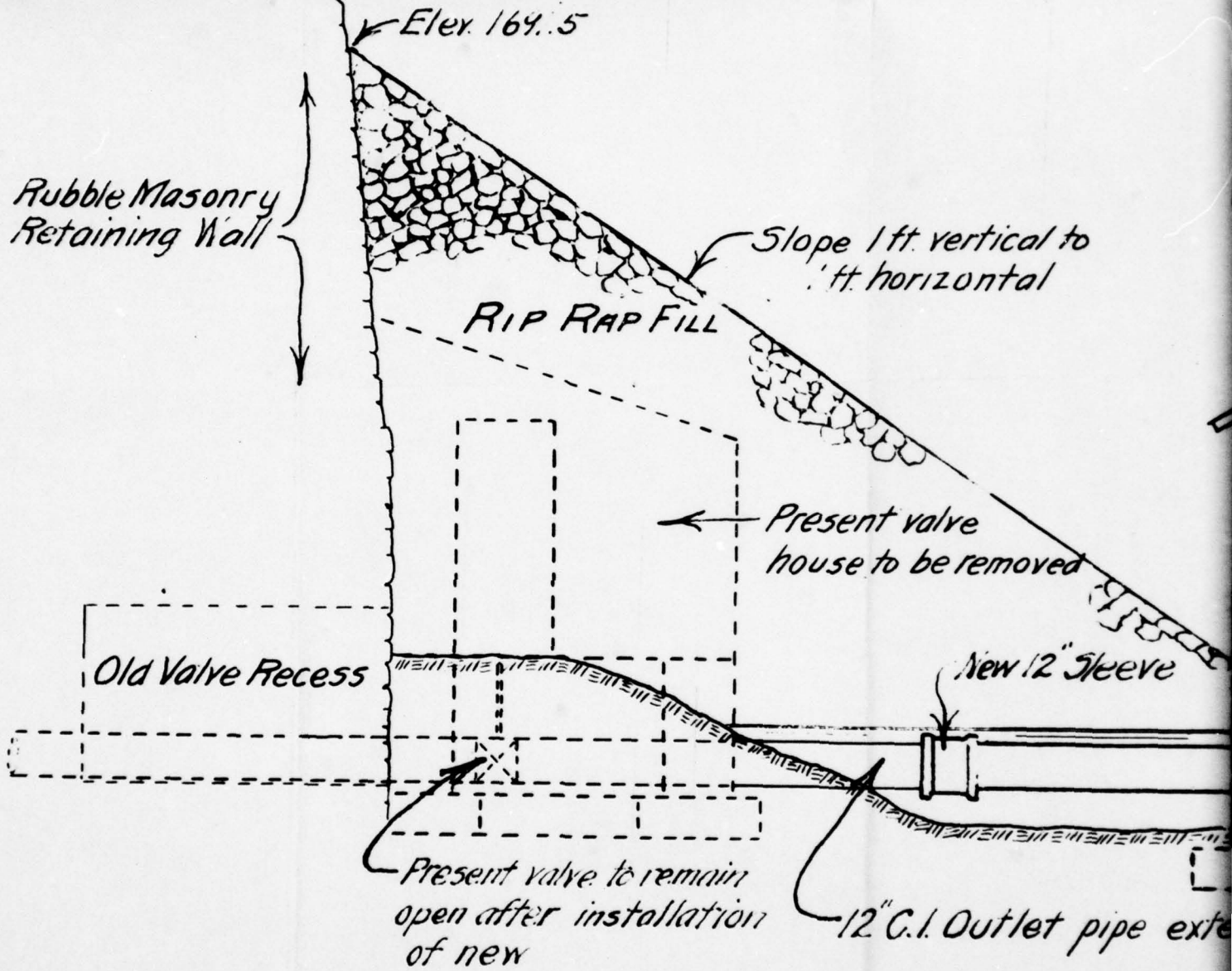
ELEVATIONS ARE REFERRED
TO A BENCHMARK OF
ASSUMED ELEVATION.

FACE ELEV 1691.5 2



SE

Private Road

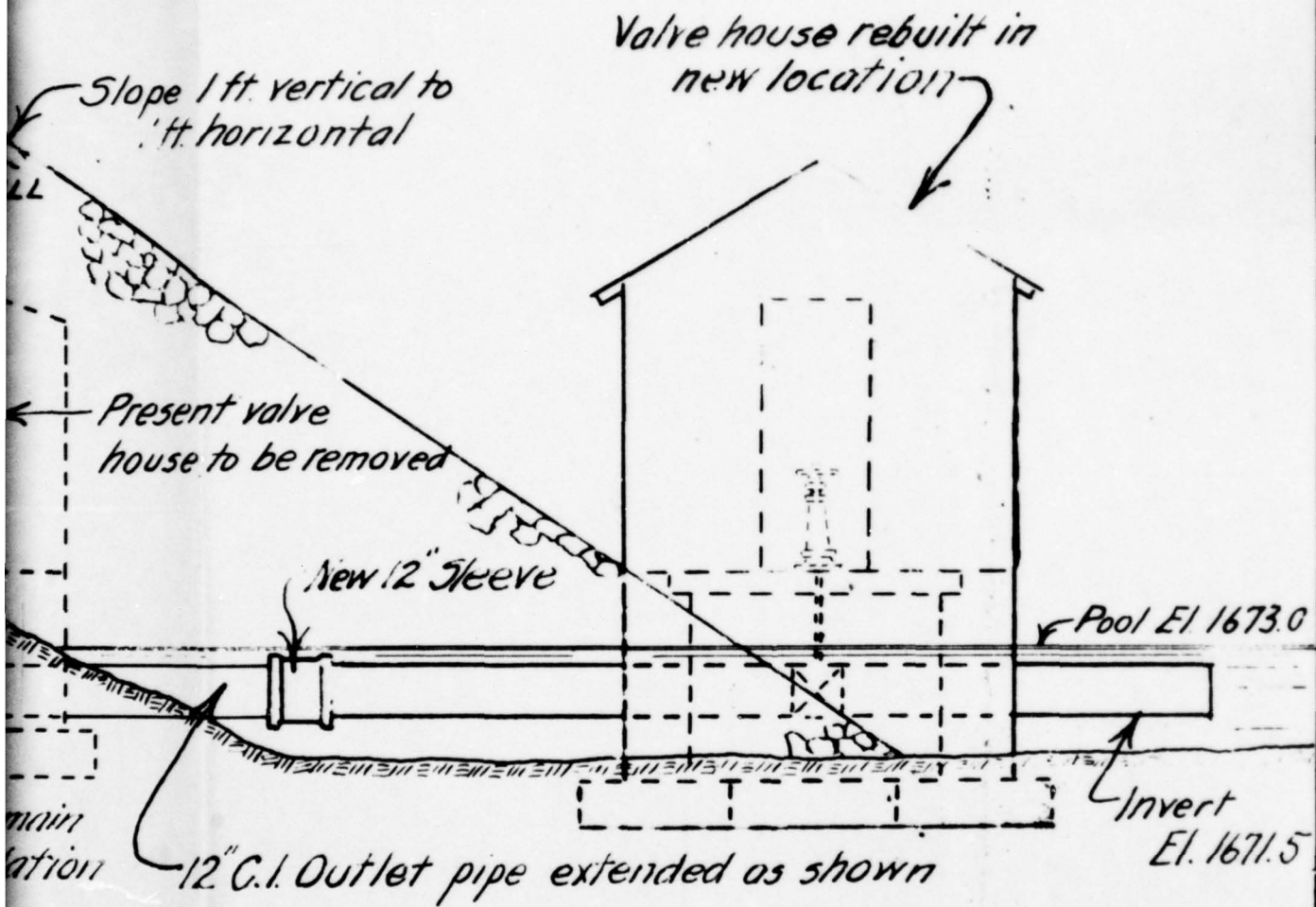


SECTION "A-A" OF DAM AT MYOSOTIS LAKE, RENSSELAER COUNTY, N.Y.
PROPOSED RIP RAP FOR INCREASED STABILITY

PREPARED FOR THE EDMUND NILES HUYCK PRESERVE, INC.
FRANK R. LANAGAN, CIVIL ENGINEER

SCALE 1" = 4 FT.

AUG 1964



TISLAKE, RENSSELAERVILLE, N.Y.

R INCREASED STABILITY

MILES HUYCK PRESERVE, INC.

GAN, CIVIL ENGINEER

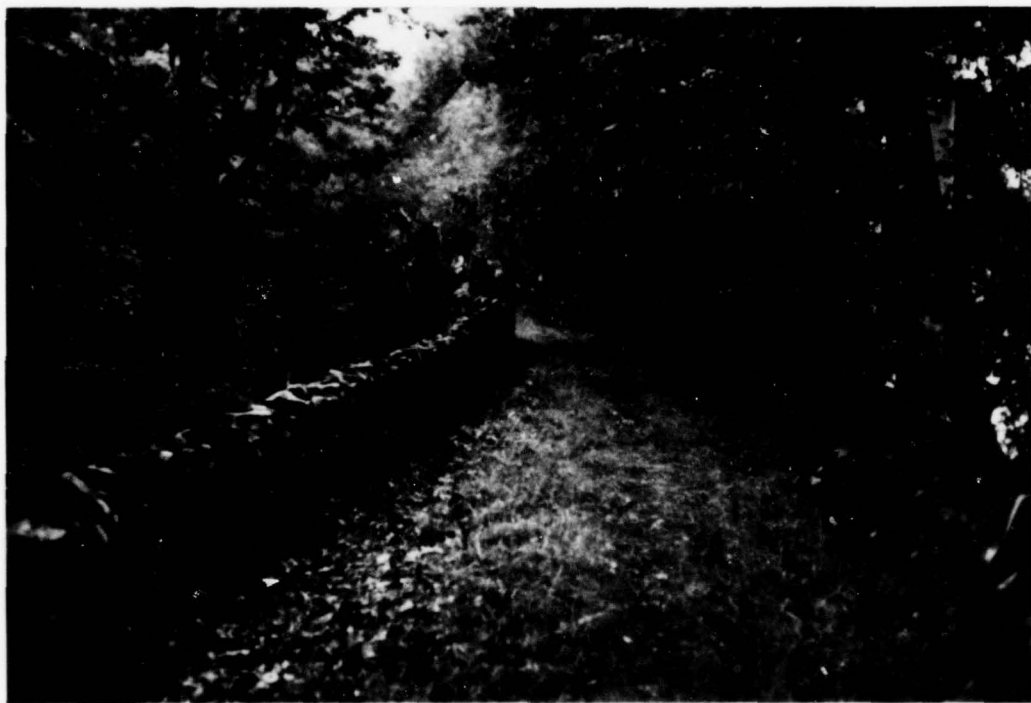
AUGUST, 1933.



PHOTOGRAPHS

APPENDIX A

DOWNSTREAM



UPSTREAM

CREST OF THE DAM



DAM, UPSTREAM SLOPE



DAM, DOWNSTREAM SLOPE AND GATEHOUSE



SPILLWAY ENTRANCE, LOOKING DOWNSTREAM



SPILLWAY EXIT, LOOKING UPSTREAM

ENGINEERING DATA CHECKLIST

APPENDIX B

CHECKLIST
ENGINEERING DATA
DESIGN, CONSTRUCTION, OPERATION
PHASE I

NAME OF DAM MYOSOTIS LAKE
ID # 670

ITEM	REMARKS
AS-BUILT DRAWINGS	None available. Drawings available include "Proposed Reconstruction of Spillway", 1913, and "Proposed Rip Rap for Increased Stability", 1933
REGIONAL VICINITY MAP	WSGS
CONSTRUCTION HISTORY	Myosotis Lake was impounded about 1800.
TYPICAL SECTIONS OF DAM	Shown on the above drawings
OUTLETS-PLAN	None available
-DETAILS	None available
-CONSTRAINTS	None available
-DISCHARGE RATINGS	None available
RAINFALL/RESERVOIR RECORDS	None available

ITEM	REMARKS
DESIGN REPORTS	<i>None available</i>
GEOLOGY REPORTS	<i>None available</i>
DESIGN COMPUTATIONS	<i>None available</i>
HYDROLOGY & HYDRAULICS	<i>None available</i>
DAM STABILITY	<i>None available</i>
SEEPAGE STUDIES	<i>None available</i>
MATERIALS INVESTIGATIONS	<i>None available</i>
BORING RECORDS	<i>None available</i>
LABORATORY	<i>None available</i>
FIELD	<i>None available</i>
POST-CONSTRUCTION SURVEYS OF DAM	<i>Not available</i>
BORROW SOURCES	<i>No data available</i>

ITEM

REMARKS

MONITORING SYSTEMS *Not available*

MODIFICATIONS *In 1962 spillway was enlarged*

HIGH POOL RECORDS *None available*

POST CONSTRUCTION ENGINEERING } *In 1934 stone was dumped on face
STUDIES AND REPORTS } of dam; discharge pipe was extended,
None available } and a gatehouse was built; a new
valve was installed*

PRIOR ACCIDENTS OR FAILURE OF DAM *None reported*

DESCRIPTION

REPORTS

MAINTENANCE *No formal program or schedule available*

OPERATION *Little operation to provide water for P's users*

RECORDS *None available*

ITEM

REMARKS

SPILLWAY PLAN

See list of drawings

SECTIONS

DETAILS

OPERATING EQUIPMENT

No data available

PLANS & DETAILS

VISUAL INSPECTION CHECKLIST

APPENDIX C

VISUAL INSPECTION CHECKLIST

1. Basic Data

a. General

Name of Dam Lake Myosotis Hazard Category significant

County Albany ID# _____

Stream Name Ten-mile Creek Tributary of Catskill Cree and the Hudson River

Location Albany County Nearest Town (P.O.) Rensselaerville

Longitude 74°08'45" Latitude 42°31'0" Other Directions _____

0.5mi NNW of Rensselaerville

Date of Insp 30 Aug 1978 Weather Rainy Temperature 70-75°

b. Inspection Personnel Anthony Dolcimasio, Geotechnical Eng, Anatol Lange, Structural Eng, both with TAMS

c. Persons Contacted Robert C. Dalgleish, Ph.D., Executive Director of the Edmund Niles Huyck Preserve, Inc.

d. History: Date Constructed Lake Myosotis impounded ca. 1800
Present Owner The Edmund Niles Huyck Preserve, Inc.
Designed by Not known
Constructed by Not known
Recent History Spillway enlarged in 1962

2. Technical Data

Type of Dam stone Drainage Area _____ Acres

Height 22 ft Length 240 ft

Upstream Slope 1(V) : 2(H) Downstream Slope Vertical (7.1 ft), then 1(V) : 1(H)

Crest Width 11.5 ft Freeboard at Spillway Crest 8.5 ft

Low Level Control: (Type and Size) 12 inch gate valve
Valve Condition Operable; Minor leak at flanges

~~Emergency~~ Spillway Type (Material) Ungated, Masonry Width 36.7 ft
Side Slopes Vertical
Height (Crest to Top) 8.5 ft

Only one service
spillway, no emerg.
spillway

Exit Slope 1 (V) : 4.6 (H)

Exit Length 78.2 ft

Ponded Surface Area 98.3 Acres

Capacity (Normal Level) 1124 Acre Feet

Capacity Emergency Spillway Level — Acre Feet

3. Embankment

240 ft

a. Crest 11.5 ft wide, incl. 1.3 ft parapet; El. 1699.5

(1) Vertical Alignment Uniform

(2) Horizontal Alignment 116 ft straight; 118 ft slightly
curved downstream;

(3) Longitudinal Surface Cracks None visible

(4) Transverse Surface Cracks None visible

(5) General Condition of Surface Grassed surface in
good conditions

(6) Miscellaneous Earth layer on top of rock,
thickness unknown

b. Upstream Slope 1(V): 2(H)

(1) Undesirable Growth or Debris Grown trees, bushes and saplings

(2) Sloughing, Subsidence, or Depressions None observed

(3) Slope Protection Damp stones averaging 18 inches (9 inches min to 2 ft max.)

(a) Condition of Riprap Good

(b) Durability of Individual Stones Good

(c) Adequacy of Slope Protection Against Waves and Runoff Apparently good, no damage visible

(d) Gradation of Slope Protection - Localized Areas of Fine Material None

(4) Surface Cracks _____

c. Downstream Slope _____

(1) Undesirable Growth or Debris Central part - clear of vegetation; left and right parts covered by saplings and bushes.

(2) Sloughing, Subsidence, or Depressions; Abnormal Bulges or Non-Uniformity

None observed

(3) Surface Cracks on Face of Slope None observed

(4) Surface Cracks or Evidence of Heaving at Embankment Toe

None observed

(5) Wet or Saturated Areas or Other Evidence of Seepage on Face of Slope; Evidence of "Piping" or "Boils"

Not detectable in rainy weather. However, according to Dr. Dagle'sh, who provides frequent observations, no seepage has been evident on downstream face of the dam

(6) Fill Contact with Outlet Structure

Good

(7) Condition of Grass Slope Protection Not applicable

d. Abutments

(1) Erosion of Contact of Embankment with Abutment from Surface Water Runoff, Upstream or Downstream

None visible

(2) Springs or Indications of Seepage Along Contact of Embankment with the Abutments

None observed by Dr. Dagle'sh

(3) Springs or Indications of Seepage in Areas a Short Distance
Downstream of Embankment - Abutment Tie-in

None observed by Dr. Dalgleish

e. Area Downstream of Embankment, Including Tailrace Channel

This area includes Ten-mile Creek valley

(1) Localized Subsidence, Depressions, Sinkholes, Etc. _____

None visible

(2) Evidence of "Piping" or "Boils" _____

None observed by Dr. Dalgleish

(3) Unusual Presence of Lush Growth, such as Swamp Grass, etc. _____

None

(4) Unusual Muddy Water in Downstream Channel _____

None

(5) Sloughing or Erosion _____

None visible

(6) Surface Cracks or Evidence of Heaving Beyond Embankment, Toe _____

None visible

(7) Stability of Tailrace Channel Sideslopes _____

Natural slopes of the creek with trees and
brush, no erosion visible

(8) Condition of Tailrace Channel Riprap _____

(9) Adequacy of Slope Protection Against Waves, Currents and Surface
Runoff

(10) Miscellaneous _____

f. Drainage System Unknown

(1) Condition of Relief Wells, Drains and Appurtenances _____

No relief wells or drains

(2) Unusual Increase or Decrease in Discharge from Relief Wells

Not applicable

4. Instrumentation

(1) Monumentation/Surveys None

(2) Observation Wells None

(3) Weirs None

(4) Piezometers None

(Other) _____

5. Reservoir

Inspected in the field and from bathymetric map, surveyed by J. Makarewicz and D. Prentice in 1976

a. Slopes

1(V) : 10(H) at the dam and lateral sides;

1(V) : 100(H) at the U/S part of the reservoir

b. Sedimentation _____

6. Spillways

Only one spillway, which is service spillway

a. Principal Spillway: Inlet Condition _____
Pipe Condition _____

General Remarks (include information such as recently repaired, potential for debris accumulation, special items of note, etc.)

Spillway was enlarged in 1962, which allowed ice to pass through unobstructed

b. Emergency Spillway: General Condition _____

Tree Growth _____

Erosion _____

Other Observations _____

7. Structural (if required) See Attached Appendix

See attached Appendix for structural comments

8. Downstream Channel

D/s channel is Ten-mile Creek valley

a. Condition (obstructions, debris, etc.)

No major debris which would be considered unusual.

b. Slopes

c. Approximate No. Homes and Population

Unoccupied saw mill building (historical), Highway bridge on N.Y. Rt 85; 1 residential house

d. General

Arnold Lange
TEAM CAPTAIN

STRUCTURAL INSPECTION CHECKLIST

PHASE I DAM INSPECTION

1. Concrete Surfaces Masonry of vertical exposed d/s face of dam is in good condition. Masonry spillway slab was provided with re-steel bars and gunited facing, which has been washed away in several places.

2. Structural Cracking None visible

3. Movement - Horizontal and Vertical Alignment None visible

4. Junctions with Abutments or Embankments _____

5. Drains - Foundation, Joint, Face _____

6. Water Passages, Conduits, Sluices _____

7. Seepage or Leakage _____

8. Monolith Joints - Construction Joints _____

9. Foundation _____

10. Abutments Masonry 5-ft high approach wall on the left side of the spillway has cracks, slight dislocation under soil pressure

11. Control Gates _____

12. Approach and Outlet Channels _____

13. Stilling Basin _____

14. Intake Structure _____

15. Settlement No differential settlement visible at structures.

16. Stability

a. Overturning calculations not required for Phase I

b. Sliding _____

c. Seismic _____

17. Instrumentation No instrumentation.

a. Alignment _____

b. Uplift _____

c. Seismic _____

18. Miscellaneous _____

HYDROLOGIC DATA AND COMPUTATIONS

APPENDIX D

TAMS

Job No. 1987-16

Sheet 1 of _____

Project MYOSOTIS LAKE DAM

Date 9/20/78

Subject DRAINAGE AREAS

By WR

1" = 2000'

Ch'k. by _____

TOTAL DRAINAGE BASIN AREA $\frac{0.101}{.143480 \text{ MI}^2} = \frac{x}{\text{MI}^2}$

9.23
 $\frac{4.61}{4.62} \quad 4.615 = \underline{6.57 \text{ MI}^2}$

LARGE DRAINAGE AREA

6.80
 $\frac{3.39}{3.41} \quad 3.40 = \underline{4.82 \text{ MI}^2}$

$\frac{2000}{5280} = 0.379$

SMALL DRAINAGE AREA

2.27
 $\frac{1.13}{1.14} \quad 1.135 = \underline{1.60 \text{ MI}^2}$

(CONTOUR 1521)*

MYOSOTIS LAKE AREA

$\frac{0.99}{.143480} = \frac{x}{\text{MI}^2}$

2.05
 $\frac{1.02}{1.03} \quad 1.025 = \underline{0.15 \text{ MI}^2}$

LAKE LENGTH OF DAM

$1.4'' = 0.531 \text{ MI.}$

SMALL AREA STREAM LENGTH

$7.05'' = \underline{2.67 \text{ MI.}}$

1540' CONTOUR AREA AROUND LAKE

2.73
 $\frac{1.37}{1.36} \quad 1.365 = \underline{0.20 \text{ MI}^2}$

LARGE AREA STREAM LENGTH

$10.5'' = \underline{3.780 \text{ MI.}}$

ΔH BETWEEN LAKE @ HIGH PTS.

LAKE - 1521'

LARGE AREA 2160' ΔH = 639'

SMALL AREA 2146' ΔH = 625'

* Based on USGS Datum, which is 170 ft below an arbitrary Datum Plane, used in the survey prepared by Frank R. Lanagan, and revised July, 1940.

TAMS

Job No. 1487-16

Project INSPECTION MYOSOTIS LAKE

Subject Unit hydrograph computations (Snyder)

Sheet 2 of

Date Oct 6, 78

By D.L.C.

Ch'k. by

(1.)

$$L_{ca} = 1.33 \text{ miles}$$

$$L = 3.98 \text{ miles}$$

$$A = 4.82 \text{ sq. mi.}$$

$$t_p = C_t (L L_{ca})^{0.3} = 3.3 \text{ hours}$$

$$t_r = t_p / 5.5 = 0.6 \text{ hours}$$

$$q_p = 640 C_p / t_p = 121.2 \text{ csm.}$$

$$Q = 121.2 \times 4.82 = 584 \text{ cfs.}$$

Assume $C_t = 2$.

$$640 C_p = 400.$$

(2.)

$$L_{ca} = 1.14 \text{ miles}$$

$$L = 2.67 \text{ miles}$$

$$A = 1.6 \text{ sq. mi.}$$

$$t_p = C_t (L L_{ca})^{0.3} = 2.8 \text{ hours}$$

$$t_r = t_p / 5.5 = 0.5 \text{ hours}$$

$$q_p = 640 C_p / t_p = 142.9 \text{ csm.}$$

$$Q = 142.9 \times 1.6 = 229 \text{ cfs.}$$

TAMS

Job No. 1487-16

Project Myosotis LAKE

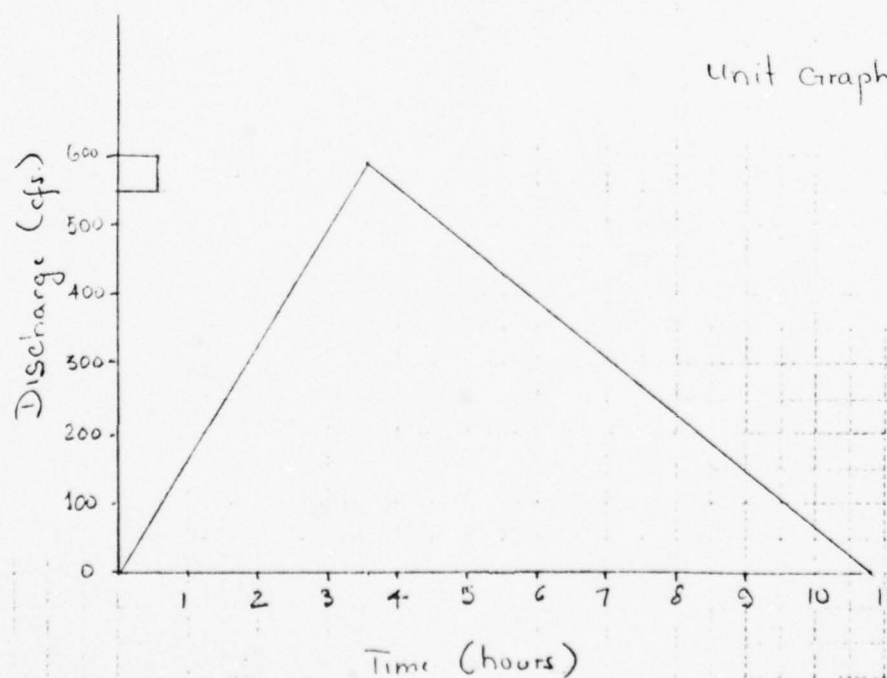
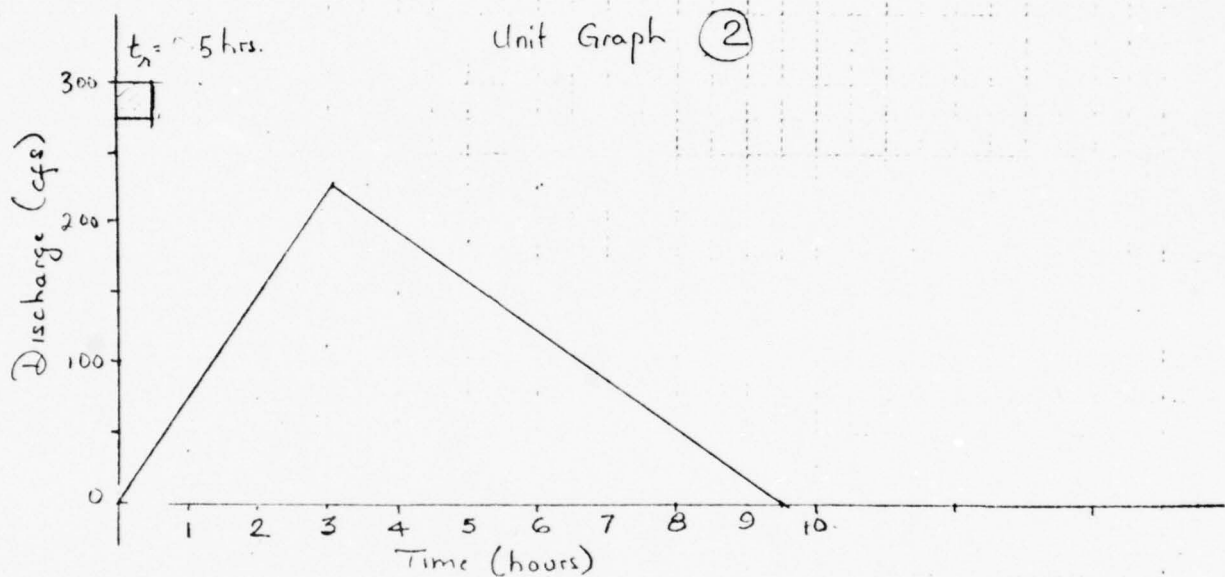
Subject _____

Sheet 3 of _____

Date Oct 6, 78

By _____

Ch'k. by _____



TAMS

Job No. 1487-16

Sheet 4 of

Project MYOSOTIS LAKE

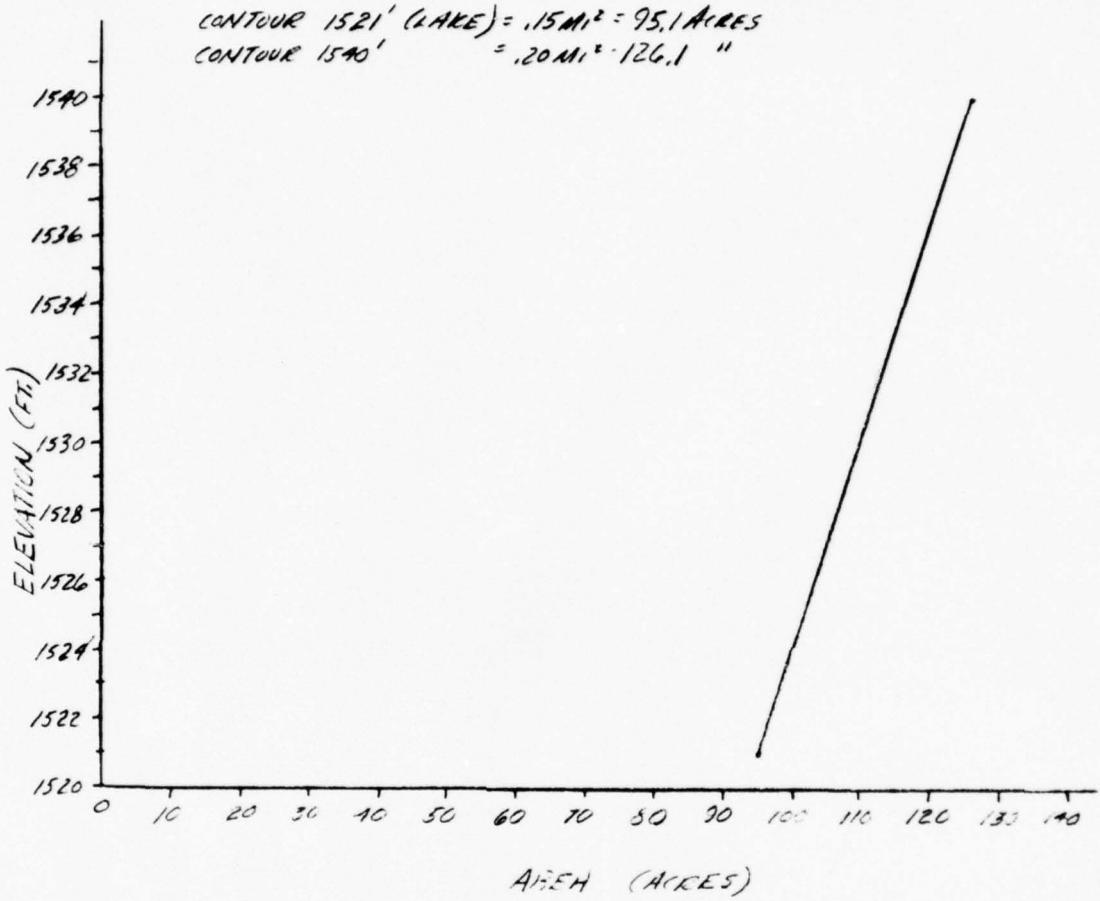
Date 9/21/78

Subject ELEVATION VS. SURFACE AREA

By WR

640 ACRES / MI²

Ch'k. by



TAMS

Job No. 1487-16

Sheet 5 of _____

Project MYDSOTIS LAKE

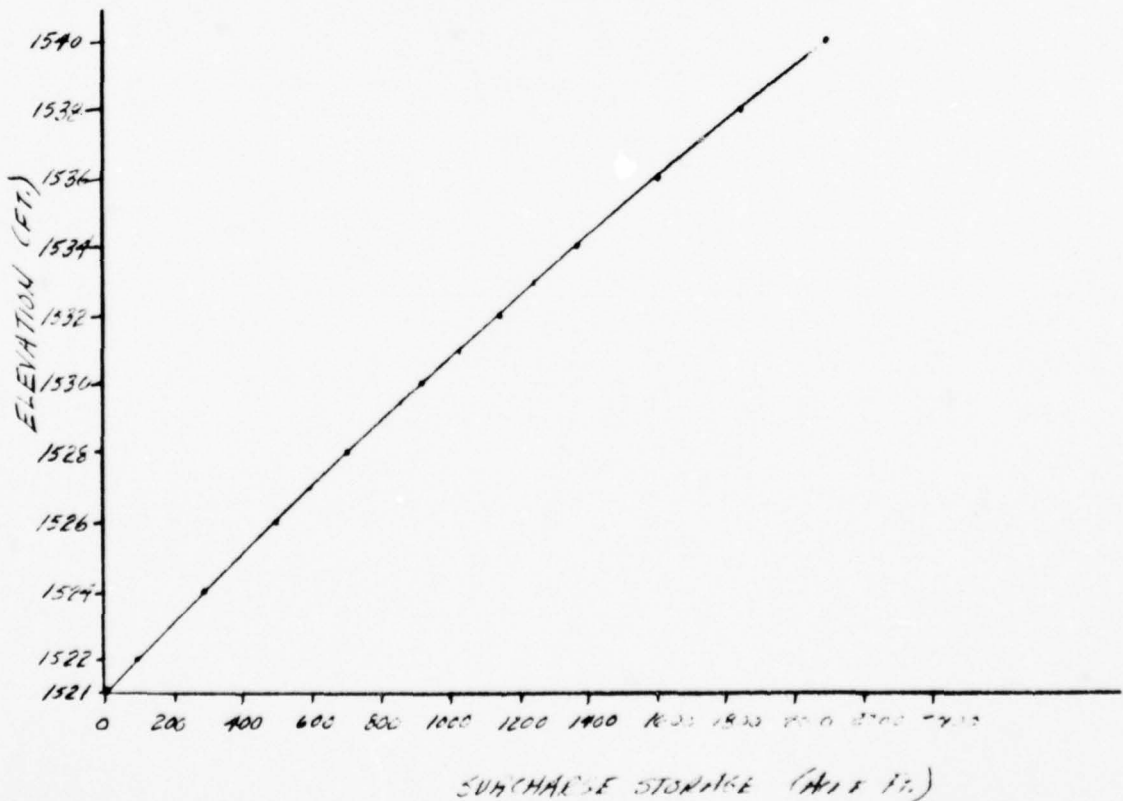
Date 9/21/78

Subject ELEVATION VS. SURCHARGE STORAGE

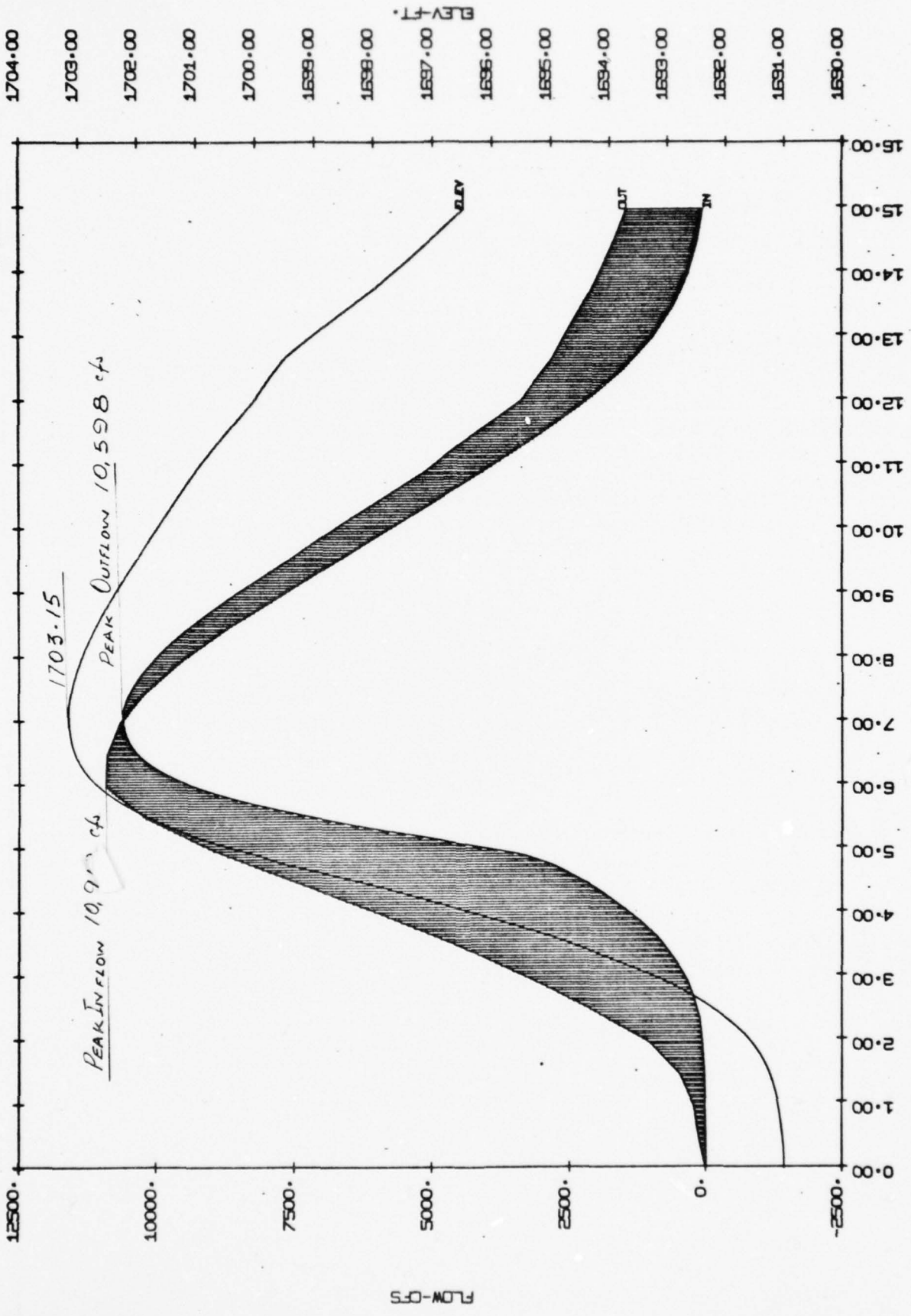
By WR

Ch'k. by _____

(FT.) <u>ELEVATION</u>	(ACRES) <u>AREA</u>	(ACRES) <u>MEAN AREA</u>	(ACRE-FT.) <u>VAL</u>	(ACRE-FT.) <u>TOTAL VOL</u>
1521	95.1	95.95	95.95	
1522	96.8	98.40	196.80	95.95
1524	100.0	101.60	203.20	292.75
1526	103.2	104.85	209.70	495.95
1528	106.5	108.25	216.50	705.65
1530	110.0	111.55	223.10	922.15
1532	113.1	114.75	229.50	1145.25
1534	116.4	117.95	235.90	1374.75
1536	119.5	121.15	242.30	1610.65
1538	122.8	124.45	248.90	1852.95
1540	126.1			2101.85



Myotis LITTLE
PMF



MYOSOTIS LAKE DAM
JOB 1487-16
DAM INSPECTION
FULL PMF

INPUT PARAMETERS

STARTING ELEV. (FT.)	TIME INTERVAL (HOURS)	STARTING TIME (HOURS)	ENDING TIME (HOURS)	PRINT INTERVAL (HOURS)	GATE OPTION	PLOT OPTION	STORAGE COEF.	OUTFLOW COEF.	INFLOW COEF.	TIME COEF.	BREAK TIME
1691.00	0.04	0.00	15.00	1	NO	YES	1.000	1.000	1.000	1.000	0.000

RESERVOIR ELEV. (FT.)	RESERVOIR STORAGE (ACFT)	RESERVOIR OUTFLOW (CFS)
1691.00	0.0000	0.00
1692.00	96.0000	117.00
1693.00	198.0000	321.00
1694.00	292.0000	559.00
1695.00	399.0000	907.00
1696.00	496.0000	1267.00
1697.00	599.0001	1665.00
1698.00	705.0001	2099.00
1699.50	850.0001	2808.00
1700.00	922.0001	3355.00
1701.00	1030.0002	5120.00
1702.00	1145.0002	7221.00
1703.00	1250.0002	10150.00

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
0.00	0.00		0.0000	1691.00
0.04	11.09	0.02	0.0192	1691.00
0.08	22.19	0.09	0.0768	1691.00
0.13	33.29	0.20	0.1725	1691.00
0.17	44.38	0.36	0.3064	1691.00
0.21	55.48	0.56	0.4731	1691.00
0.25	66.58	0.80	0.6876	1691.00
0.29	77.68	1.10	0.9347	1691.00
0.34	88.77	1.43	1.2162	1691.01
0.38	99.87	1.81	1.5409	1691.01
0.42	110.97	2.23	1.9199	1691.02
0.46	122.07	2.70	2.2957	1691.02
0.50	132.85	3.21	2.7279	1691.02
0.55	140.70	3.75	3.1906	1691.03
0.59	146.55	4.33	3.6786	1691.03
0.63	156.40	4.93	4.1918	1691.04
0.67	164.24	5.56	4.7300	1691.04
0.71	172.09	6.23	5.2933	1691.05
0.76	179.94	6.92	5.8814	1691.06
0.80	187.78	7.64	6.4844	1691.06
0.84	195.63	8.39	7.1320	1691.07
0.88	203.48	9.17	7.7841	1691.08
0.92	211.32	9.98	8.4508	1691.08
0.97	219.17	10.81	9.1919	1691.09
1.01	229.70	11.69	9.9318	1691.10
1.05	231.63	12.62	10.7250	1691.11
1.09	273.57	13.64	11.5910	1691.12
1.13	295.50	14.74	12.5293	1691.13
1.18	317.44	15.93	13.5399	1691.14
1.22	339.37	17.21	14.6223	1691.15
1.26	361.30	18.56	15.7762	1691.16
1.30	383.24	20.01	17.0015	1691.17
1.34	405.17	21.53	18.2977	1691.19
1.39	427.10	23.14	19.6646	1691.20
1.43	449.04	24.83	21.1019	1691.21
1.47	470.97	26.61	22.6093	1691.23
1.51	500.01	28.48	24.1986	1691.25
1.55	546.91	30.50	25.9133	1691.27
1.60	593.61	32.70	27.7828	1691.28
1.64	640.41	35.08	29.8069	1691.31
1.68	687.21	37.64	31.9948	1691.33
1.72	734.02	40.39	34.3160	1691.35
1.76	780.82	43.31	36.7698	1691.38
1.81	827.62	46.41	39.4755	1691.41
1.85	874.42	49.69	42.2227	1691.43
1.89	921.22	53.13	45.1606	1691.47
1.93	968.03	56.79	48.2486	1691.50
1.97	1014.83	60.60	51.4862	1691.53
2.02	1077.35	64.62	54.9700	1691.57

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
2.06	1165.45	68.93	58.5606	1691.61
2.10	1253.54	73.58	62.5116	1691.65
2.14	1341.64	78.57	66.7515	1691.69
2.18	1429.73	83.90	71.2794	1691.74
2.23	1517.83	89.56	76.0939	1691.79
2.27	1605.92	95.57	81.1940	1691.84
2.31	1694.02	101.91	86.5784	1691.90
2.35	1782.11	108.58	92.2461	1691.96
2.39	1870.21	117.47	98.1947	1692.02
2.44	1958.30	130.14	104.4094	1692.08
2.48	2046.40	143.35	110.8850	1692.14
2.52	2134.52	157.10	117.6280	1692.21
2.56	2222.57	171.43	124.6540	1692.28
2.60	2310.61	186.35	131.9703	1692.35
2.65	2400.06	201.85	139.5744	1692.42
2.69	2532.30	217.94	147.4655	1692.50
2.73	2630.55	234.61	155.6404	1692.58
2.77	2728.79	251.86	164.0573	1692.66
2.81	2827.04	268.68	172.8365	1692.75
2.86	2925.28	288.06	181.8483	1692.84
2.90	3023.53	307.01	191.1414	1692.93
2.94	3121.77	326.71	200.7059	1693.02
2.98	3220.02	346.70	210.5227	1693.13
3.02	3322.81	368.40	220.5900	1693.24
3.07	3429.02	414.85	230.9190	1693.35
3.11	3535.23	445.05	241.5133	1693.46
3.15	3641.43	476.01	252.3700	1693.57
3.19	3747.64	507.70	263.4846	1693.69
3.23	3853.85	540.13	274.8606	1693.81
3.28	3960.06	573.26	286.4895	1693.94
3.32	4066.26	607.93	298.3700	1694.05
3.36	4172.47	643.96	310.4058	1694.17
3.40	4278.68	680.72	322.8639	1694.29
3.44	4384.89	718.19	335.6718	1694.40
3.49	4491.09	756.37	348.8371	1694.52
3.53	4606.44	795.29	361.4151	1694.64
3.57	4726.36	835.02	374.7909	1694.77
3.61	4846.27	875.57	388.4256	1694.90
3.65	4966.19	919.40	402.3430	1695.03
3.70	5086.11	971.97	416.5084	1695.18
3.74	5206.03	1025.39	430.9020	1695.32
3.78	5325.95	1079.67	445.5270	1695.47
3.82	5445.87	1134.79	460.3784	1695.63
3.86	5565.79	1190.74	475.4532	1695.78
3.91	5685.70	1247.51	490.7487	1695.94
3.95	5805.62	1306.64	506.2601	1696.09
3.99	5925.54	1367.38	521.9790	1696.25
4.03	6051.70	1428.95	537.9124	1696.40
4.07	6179.81	1491.39	554.0720	1696.56
4.12	6307.53	1554.71	570.4590	1696.72

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (E.T.)
4.16	6436.04	1618.89	587.0673	1696.88
4.20	6564.15	1685.04	603.8966	1697.04
4.24	6692.27	1754.80	620.9332	1697.20
4.28	6820.38	1825.37	638.1710	1697.36
4.33	6948.49	1896.76	655.6071	1697.53
4.37	7076.61	1968.95	673.2387	1697.70
4.41	7204.72	2041.93	691.0631	1697.86
4.45	7332.83	2118.92	709.0755	1698.04
4.49	7460.95	2207.75	727.2410	1698.23
4.54	7589.05	2297.20	745.5260	1698.41
4.58	7707.78	2387.25	763.9512	1698.60
4.62	7833.91	2477.86	782.4838	1698.80
4.66	7959.04	2569.05	801.1318	1698.99
4.70	8082.17	2660.76	819.8931	1699.18
4.75	8205.30	2753.06	838.7659	1699.38
4.79	8330.43	2846.77	857.7362	1699.55
4.83	8454.56	3110.38	876.6636	1699.68
4.87	8578.69	3153.88	895.5277	1699.81
4.91	8702.82	3296.68	914.3240	1699.94
4.96	8826.95	3534.21	932.9660	1700.10
5.00	8951.04	3829.51	951.0355	1700.26
5.04	9053.97	4114.81	968.4932	1700.43
5.08	9157.83	4390.09	985.3371	1700.58
5.12	9260.69	4655.85	1001.5691	1700.73
5.17	9363.55	4912.63	1017.3114	1700.88
5.21	9466.41	5174.29	1032.4965	1701.02
5.25	9569.27	5490.10	1047.0133	1701.14
5.29	9672.14	5790.43	1060.8281	1701.26
5.33	9775.00	6076.41	1073.9775	1701.38
5.38	9877.86	6349.07	1086.5148	1701.48
5.42	9980.72	6609.38	1098.4846	1701.59
5.46	10083.58	6858.24	1109.9277	1701.69
5.50	10184.51	7084.42	1120.8766	1701.79
5.54	10246.42	7323.20	1131.3073	1701.88
5.59	10305.32	7538.00	1141.1838	1701.96
5.63	10370.22	7756.40	1150.5346	1702.05
5.67	10432.12	7971.74	1159.3356	1702.13
5.71	10491.03	8174.58	1167.6282	1702.21
5.75	10553.93	8365.94	1175.4477	1702.29
5.80	10617.83	8546.77	1182.8483	1702.36
5.84	10679.73	8717.91	1189.8332	1702.42
5.88	10741.64	8880.16	1196.4646	1702.49
5.92	10803.54	9034.23	1202.7619	1702.55
5.96	10865.44	9180.81	1208.7536	1702.61
6.01	10919.21	9320.11	1214.4465	1702.66
6.05	10915.92	9450.14	1219.7607	1702.71
6.09	10913.63	9569.38	1224.6345	1702.75
6.13	10911.35	9678.74	1229.1040	1702.80
6.17	10909.06	9779.00	1233.2019	1702.84
6.22	10906.77	9870.91	1236.9584	1702.87

TIME (HRS)	INFLOW (CCFS)	OUTFLOW (CCFS)	STORAGE (ACFT)	ELEVATION (FT.)
6.26	10904.49	9555.15	1240.4016	1702.90
6.30	10902.20	10032.35	1243.5565	1702.93
6.34	10899.91	10103.07	1246.4475	1702.96
6.36	10897.62	10167.85	1249.0952	1702.99
6.43	10895.33	10227.17	1251.5197	1703.01
6.47	10893.05	10281.48	1253.7392	1703.03
6.51	10886.55	10331.00	1255.7634	1703.05
6.55	10866.50	10375.41	1257.5786	1703.07
6.59	10846.47	10414.58	1259.1794	1703.09
6.64	10826.43	10448.93	1260.5832	1703.10
6.68	10806.39	10478.64	1261.8059	1703.11
6.72	10786.35	10504.69	1262.8625	1703.12
6.76	10766.31	10526.81	1263.7663	1703.13
6.80	10746.27	10545.49	1264.5297	1703.14
6.85	10726.23	10561.02	1265.1645	1703.15
6.89	10706.19	10573.65	1265.6809	1703.14
6.93	10686.15	10583.62	1266.0886	1703.13
6.97	10666.11	10591.15	1266.3962	1703.15
7.01	10639.19	10596.16	1266.6008	1703.15
7.06	10593.48	10598.00	1266.6742	1703.15
7.10	10557.77	10596.38	1266.6101	1703.15
7.14	10517.07	10591.58	1266.4138	1703.15
7.18	10476.36	10583.85	1266.0979	1703.15
7.22	10435.65	10573.44	1265.6723	1703.14
7.27	10394.94	10560.56	1265.1459	1703.14
7.31	10354.23	10545.42	1264.5271	1703.13
7.35	10313.52	10528.19	1263.8230	1703.13
7.39	10272.81	10509.05	1263.0407	1703.12
7.43	10232.10	10488.16	1262.1867	1703.11
7.48	10191.39	10465.65	1261.2668	1703.10
7.52	10146.05	10441.39	1260.2753	1703.09
7.56	10097.93	10414.89	1259.1921	1703.08
7.60	10051.62	10385.97	1258.0100	1703.07
7.64	9975.40	10354.82	1256.7370	1703.06
7.69	9919.18	10321.64	1255.3903	1703.05
7.73	9862.97	10286.58	1253.9480	1703.03
7.77	9806.75	10249.80	1252.4445	1703.02
7.81	9750.53	10211.43	1250.8764	1703.00
7.85	9694.32	10171.62	1249.2490	1702.99
7.90	9638.10	10130.47	1247.5671	1702.97
7.94	9581.88	10088.08	1245.8349	1702.96
7.98	9525.67	10044.58	1244.0565	1702.94
8.02	9462.76	9999.77	1242.2253	1702.92
8.06	9393.75	9953.23	1240.3232	1702.90
8.11	9324.73	9904.87	1238.3464	1702.88
8.15	9255.72	9854.82	1236.3010	1702.86
8.19	9186.71	9803.23	1234.1523	1702.84
8.23	9117.69	9750.22	1232.0258	1702.82
8.27	9048.68	9695.91	1229.9059	1702.80
8.32	8979.67	9640.40	1227.5371	1702.78

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
8.36	8910.66	9563.79	1225.2233	1702.76
8.40	8841.64	9526.17	1222.8684	1702.74
8.44	8772.63	9467.63	1220.4755	1702.71
8.48	8703.62	9408.23	1218.0478	1702.69
8.53	8627.59	9347.76	1215.5764	1702.67
8.57	8547.23	9285.85	1213.0461	1702.64
8.61	8466.87	9222.44	1210.4543	1702.62
8.65	8386.51	9157.65	1207.8061	1702.59
8.69	8306.15	9091.59	1205.1062	1702.57
8.74	8225.79	9024.36	1202.3589	1702.54
8.78	8145.42	8956.07	1199.5673	1702.51
8.82	8065.06	8886.79	1196.7353	1702.49
8.86	7984.70	8816.61	1193.8674	1702.46
8.90	7904.34	8745.61	1190.9653	1702.43
8.95	7823.98	8673.84	1188.0319	1702.40
8.99	7743.62	8601.37	1185.0703	1702.38
9.03	7663.26	8528.26	1182.0817	1702.35
9.07	7582.75	8454.55	1179.0690	1702.32
9.11	7502.31	8380.29	1176.0339	1702.29
9.16	7421.56	8305.52	1172.9782	1702.26
9.20	7341.41	8230.30	1169.9035	1702.23
9.24	7260.97	8154.64	1166.8115	1702.20
9.28	7180.52	8078.60	1163.7036	1702.17
9.32	7100.07	8002.21	1160.5813	1702.14
9.37	7019.63	7925.48	1157.4453	1702.11
9.41	6939.18	7848.45	1154.2966	1702.08
9.45	6858.73	7771.13	1151.1367	1702.05
9.49	6778.29	7693.57	1147.9665	1702.02
9.53	6697.57	7616.34	1144.7863	1701.99
9.58	6617.46	7546.64	1141.5810	1701.97
9.62	6537.06	7476.15	1138.3400	1701.94
9.66	6456.65	7404.95	1135.0659	1701.91
9.70	6376.24	7333.07	1131.7609	1701.88
9.74	6295.83	7260.57	1128.4274	1701.85
9.79	6215.42	7187.50	1125.0676	1701.82
9.83	6135.02	7113.90	1121.6831	1701.79
9.87	6054.61	7039.80	1118.2758	1701.76
9.91	5974.20	6965.24	1114.8476	1701.73
9.95	5893.79	6890.26	1111.3999	1701.70
10.00	5813.79	6814.88	1107.9338	1701.67
10.04	5733.54	6738.16	1104.4519	1701.64
10.08	5653.76	6663.14	1100.9543	1701.61
10.12	5573.98	6586.84	1097.4482	1701.58
10.16	5494.20	6510.29	1093.9284	1701.55
10.21	5414.41	6433.51	1090.3979	1701.52
10.25	5334.63	6356.52	1086.8574	1701.49
10.29	5254.85	6279.31	1083.3073	1701.46
10.33	5175.07	6201.92	1079.7457	1701.43
10.37	5095.29	6124.35	1076.1821	1701.40
10.42	5015.50	6046.62	1072.6081	1701.37

MOORE & BUNN'S FORMS INC. P.O. BOX 11111 IN. TX 75211

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
10.46	4935.72	5968.75	1069.0273	1701.33
10.50	4855.94	5890.74	1065.4601	1701.30
10.54	4777.66	5812.65	1061.8496	1701.27
10.58	4699.28	5734.55	1058.2583	1701.24
10.63	4621.10	5656.43	1054.6665	1701.21
10.67	4542.92	5578.31	1051.0742	1701.18
10.71	4464.54	5500.17	1047.4812	1701.15
10.75	4386.26	5422.02	1043.8876	1701.12
10.79	4307.98	5343.86	1040.2939	1701.09
10.84	4229.70	5265.69	1036.6997	1701.05
10.88	4151.42	5187.52	1033.1049	1701.02
10.92	4073.14	5111.96	1029.5085	1700.99
10.96	3994.86	5032.51	1025.8708	1700.96
11.00	3916.49	4952.07	1022.1751	1700.92
11.05	3841.91	4870.67	1018.4155	1700.89
11.09	3766.92	4800.56	1014.6149	1700.85
11.13	3691.94	4730.74	1010.7709	1700.82
11.17	3616.96	4742.25	1006.8859	1700.78
11.21	3541.98	4676.12	1002.9621	1700.74
11.26	3467.00	4613.40	999.0017	1700.71
11.30	3392.01	4548.11	995.0065	1700.67
11.34	3317.03	4482.29	990.9787	1700.63
11.38	3242.05	4415.95	989.9200	1700.60
11.42	3167.07	4349.15	982.8341	1700.56
11.47	3092.08	4281.89	978.7156	1700.52
11.51	3018.36	4214.24	974.5772	1700.48
11.55	2950.00	4146.41	970.4263	1700.44
11.59	2881.84	4078.54	966.2738	1700.41
11.63	2813.28	4010.65	962.1195	1700.37
11.68	2744.92	3942.73	957.9636	1700.33
11.72	2676.56	3874.79	953.8062	1700.29
11.76	2608.21	3806.82	949.6474	1700.25
11.80	2539.65	3738.84	945.4874	1700.21
11.84	2471.49	3670.83	941.3260	1700.17
11.89	2403.13	3602.81	937.1635	1700.14
11.93	2334.77	3534.76	932.9998	1700.10
11.97	2266.41	3466.70	928.8352	1700.06
12.01	2203.78	3398.69	924.6740	1700.02
12.05	2142.00	3343.79	920.5231	1699.98
12.10	2083.21	3311.75	916.3073	1699.96
12.14	2024.43	3275.01	911.9980	1699.93
12.18	1965.45	3245.59	907.5944	1699.90
12.22	1906.66	3211.51	903.1140	1699.86
12.26	1848.08	3176.79	898.5439	1699.83
12.31	1789.30	3141.45	893.8913	1699.80
12.35	1730.51	3105.49	889.1585	1699.77
12.39	1671.73	3068.94	884.3475	1699.73
12.43	1612.94	3031.81	879.4603	1699.70
12.47	1554.16	2994.12	874.4990	1699.67
12.52	1503.21	2955.94	869.4736	1699.63

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
12.56	1434.15	2517.45	864.4078	1699.60
12.60	1403.09	2378.77	850.3160	1699.54
12.64	1362.03	2239.69	834.1989	1699.52
12.68	1313.97	2103.36	819.0557	1699.49
12.73	1267.91	2000.96	803.8571	1699.43
12.77	1223.85	1922.19	788.5875	1699.38
12.81	1177.79	1866.08	773.2460	1699.32
12.85	1133.73	1829.64	757.8399	1699.27
12.89	1085.67	1802.66	742.3641	1699.21
12.94	1039.61	1784.77	726.8290	1699.15
12.98	993.55	1775.35	711.2147	1699.09
13.02	951.73	1772.67	695.5339	1699.04
13.06	913.80	1775.84	679.7932	1698.98
13.10	879.26	1784.93	664.0000	1698.92
13.15	847.93	1799.94	648.2594	1698.86
13.19	819.80	1820.86	632.5768	1698.80
13.23	794.97	1847.70	616.9476	1698.74
13.27	773.14	1880.45	601.3669	1698.68
13.31	754.20	1919.13	585.8301	1698.62
13.36	738.27	1963.74	570.3423	1698.56
13.40	725.34	2014.26	554.9090	1698.50
13.44	715.41	2070.71	539.5359	1698.44
13.48	708.48	2133.09	524.2266	1698.38
13.52	704.55	2201.45	508.9868	1698.32
13.57	702.84	2275.78	493.8210	1698.26
13.61	703.29	2356.07	478.7257	1698.20
13.65	705.83	2442.30	463.7050	1698.14
13.69	710.47	2534.45	448.7549	1698.08
13.73	717.20	2632.52	433.8710	1698.02
13.78	726.01	2736.51	419.0500	1697.96
13.82	736.89	2846.42	404.2877	1697.90
13.86	749.84	2962.25	389.5894	1697.84
13.90	764.85	3084.00	374.9500	1697.78
13.94	781.91	3211.66	360.3669	1697.72
13.99	800.12	3345.22	345.8359	1697.66
14.03	819.47	3484.69	331.3632	1697.60
14.07	839.94	3629.07	316.9449	1697.54
14.11	861.51	3778.36	302.5859	1697.48
14.15	884.17	3932.56	288.2832	1697.42
14.20	907.91	4091.66	274.0323	1697.36
14.24	932.71	4255.66	259.8399	1697.30
14.28	958.56	4424.56	245.7010	1697.24
14.32	985.45	4598.36	231.6132	1697.18
14.36	1013.37	4777.06	217.5810	1697.12
14.41	1042.32	4960.66	203.6000	1697.06
14.45	1072.29	5149.16	189.6769	1697.00
14.49	1103.28	5342.56	175.8169	1696.94
14.53	1135.28	5540.86	162.0166	1696.88
14.57	1168.28	5744.16	148.2732	1696.82
14.62	1202.27	5952.46	134.5923	1696.76

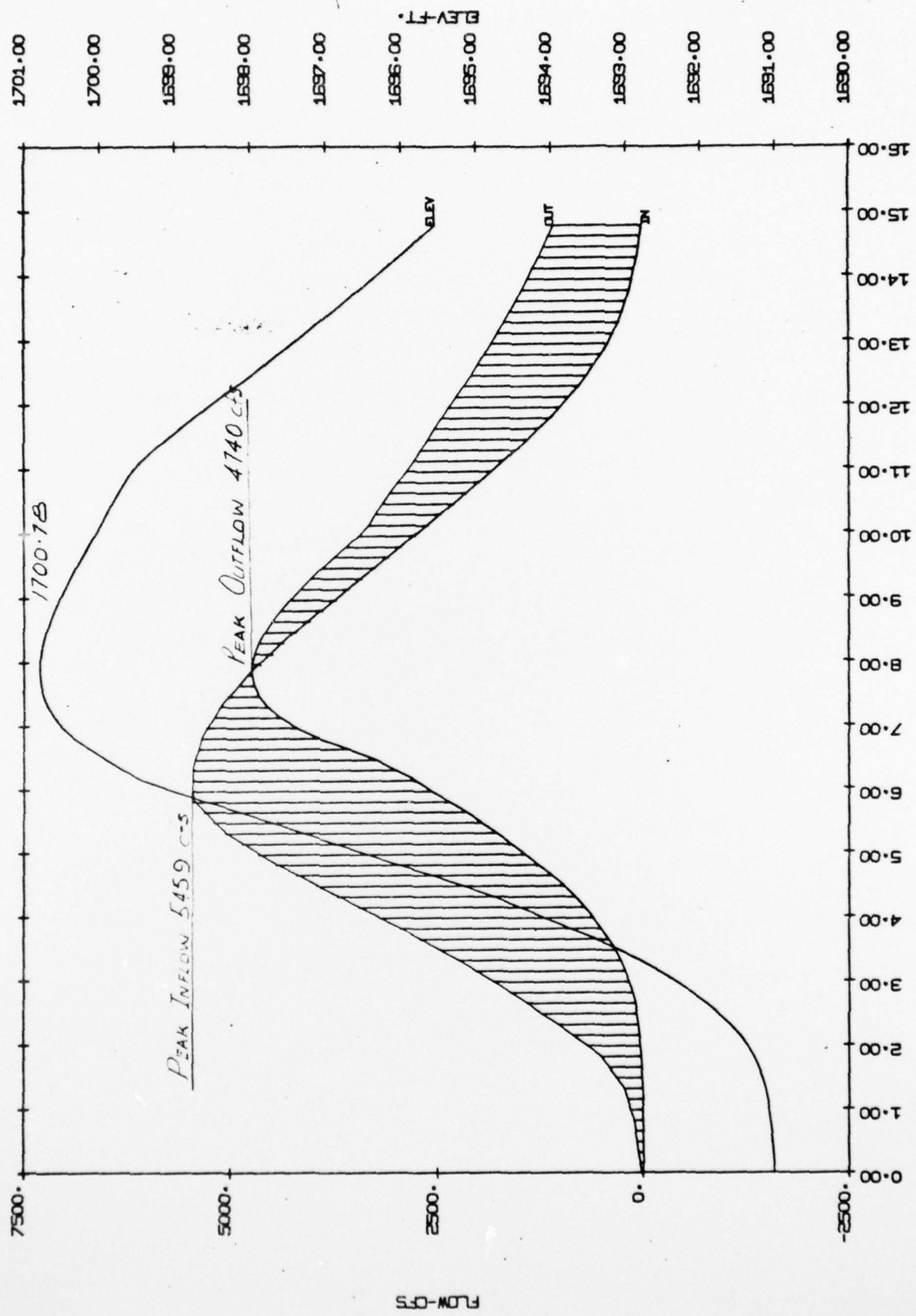
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TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
14.66	116.86	1612.36	585.3793	1696.86
14.70	108.44	1592.38	580.2084	1696.81
14.74	100.03	1572.56	575.0775	1696.76
14.78	91.61	1552.88	569.9858	1696.71
14.83	83.20	1533.36	564.9329	1696.66
14.87	74.78	1513.93	559.9184	1696.62
14.91	66.37	1494.75	554.9416	1696.57
14.95	57.95	1475.66	550.0021	1696.52
14.99	49.53	1456.72	545.0994	1696.47

MAX. VALUES
MIN. VALUES

10918.21 10598.00 1703.15
0.00 0.00 1691.00

MYSDOT'S LANE JIALF P. N.Y.



TIME-HRS

FLOW-CS

ELEV-FT

MYOSOTIS LAKE DAM
JOB 1487-1C
DAM INSPECTION

HALF PMF

INPUT PARAMETERS

STARTING ELEV. (FT.)	TIME INTERVAL (HOURS)	STARTING TIME (HOURS)	ENDING TIME (HOURS)	PRINT INTERVAL	GATE OPTION	PLOT OPTION	STORAGE COEF.	OUTFLOW COEF.	INFLOW COEF.	TIME COEF.	BREAK TIME
1691.00	0.04	0.00	15.00	1	NO	YES	1.000	1.000	0.500	1.000	0.000

RESERVOIR ELEV. (FT.)	RESERVOIR STORAGE (ACFT)	RESERVOIR OUTFLOW (CFS)
1691.00	0.0000	0.00
1692.00	96.0000	113.00
1693.00	198.0000	321.00
1694.00	292.0000	589.00
1695.00	399.0000	907.00
1696.00	496.0000	1267.00
1697.00	599.0001	1665.00
1698.00	705.0001	2099.00
1699.00	850.0001	2808.00
1700.00	922.0001	3355.00
1701.00	1030.0002	5120.00
1702.00	1145.0002	7621.00
1703.00	1250.0002	10190.00

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
0.00	0.00	0.01	0.0000	1691.00
0.04	5.54	0.04	0.0096	1691.00
0.08	11.09	0.10	0.0384	1691.00
0.13	16.64	0.16	0.0862	1691.00
0.17	22.19	0.18	0.1532	1691.00
0.21	27.74	0.28	0.2390	1691.00
0.25	33.29	0.40	0.3438	1691.00
0.29	38.84	0.55	0.4673	1691.00
0.34	44.38	0.71	0.6096	1691.00
0.38	49.93	0.90	0.7704	1691.00
0.42	55.43	1.11	0.9489	1691.01
0.46	61.03	1.35	1.1476	1691.01
0.50	66.42	1.60	1.3659	1691.01
0.55	70.35	1.87	1.5953	1691.01
0.59	74.27	2.16	1.8393	1691.01
0.63	78.20	2.46	2.0959	1691.02
0.67	82.12	2.78	2.3650	1691.02
0.71	86.04	3.11	2.6466	1691.02
0.76	89.97	3.46	2.9407	1691.03
0.80	93.89	3.82	3.2472	1691.03
0.84	97.81	4.19	3.5660	1691.03
0.88	101.74	4.58	3.8970	1691.04
0.92	105.66	4.99	4.2404	1691.04
0.97	109.58	5.40	4.5959	1691.04
1.01	114.45	5.84	4.9659	1691.05
1.05	125.81	6.31	5.3625	1691.05
1.09	136.78	6.82	5.7955	1691.06
1.13	147.75	7.37	6.2646	1691.06
1.18	154.72	7.96	6.7699	1691.07
1.22	169.68	8.60	7.3111	1691.07
1.26	180.65	9.28	7.8881	1691.08
1.30	191.62	10.00	8.5007	1691.08
1.34	202.58	10.76	9.1488	1691.09
1.39	213.55	11.57	9.8323	1691.10
1.43	224.52	12.41	10.5509	1691.11
1.47	235.48	13.30	11.3046	1691.11
1.51	250.00	14.24	12.0994	1691.12
1.55	273.40	15.25	12.9466	1691.13
1.60	296.40	16.35	13.8414	1691.14
1.64	320.20	17.54	14.9034	1691.15
1.68	343.60	18.82	15.9924	1691.16
1.72	367.01	20.19	17.1580	1691.17
1.76	390.41	21.65	18.3999	1691.19
1.81	413.81	23.20	19.7177	1691.20
1.85	437.21	24.84	21.1113	1691.21
1.89	460.61	26.57	22.5903	1691.23
1.93	484.01	28.39	24.1243	1691.25
1.97	507.41	30.30	25.7451	1691.26
2.02	535.67	32.31	27.4503	1691.28

TIME (HRS.)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
2.06	582.72	34.46	29.2903	1691.30
2.10	626.77	36.79	31.2558	1691.32
2.14	670.82	39.28	33.3757	1691.34
2.18	714.86	41.95	35.6397	1691.37
2.23	758.91	44.78	38.0469	1691.29
2.27	802.96	47.78	40.5970	1691.42
2.31	847.01	50.95	43.2892	1691.45
2.35	891.05	54.29	46.1230	1691.48
2.39	935.10	57.79	49.0979	1691.51
2.44	979.15	61.45	52.2131	1691.54
2.48	1023.20	65.29	55.4683	1691.57
2.52	1067.26	69.29	58.8670	1691.61
2.56	1111.31	73.47	62.4173	1691.65
2.60	1155.36	77.83	66.1234	1691.68
2.65	1217.03	82.37	69.9845	1691.72
2.69	1266.15	87.10	74.0000	1691.77
2.73	1315.27	92.01	78.1693	1691.81
2.77	1364.39	97.09	82.4917	1691.85
2.81	1413.52	102.36	86.9667	1691.90
2.86	1462.64	107.81	91.5936	1691.95
2.90	1511.76	113.75	96.3716	1692.00
2.94	1560.88	123.79	101.2920	1692.05
2.98	1610.01	134.10	106.3476	1692.10
3.02	1659.14	144.69	111.5414	1692.15
3.07	1714.51	155.57	116.8793	1692.20
3.11	1767.91	166.76	122.3632	1692.25
3.15	1820.71	178.23	127.9821	1692.31
3.19	1873.82	190.01	133.7649	1692.37
3.23	1926.92	202.07	139.6808	1692.42
3.28	1980.03	214.42	145.7385	1692.48
3.32	2033.13	227.06	151.9373	1692.54
3.36	2086.23	239.99	158.2760	1692.61
3.40	2139.34	253.20	164.7538	1692.67
3.44	2192.44	266.69	171.3692	1692.73
3.49	2245.54	280.46	178.1219	1692.80
3.53	2298.64	294.52	185.0194	1692.87
3.57	2351.74	308.90	192.0496	1692.94
3.61	2404.84	324.64	199.2283	1693.01
3.65	2457.94	345.60	206.6299	1693.09
3.70	2511.04	366.94	214.1162	1693.17
3.74	2564.14	388.67	221.7359	1693.25
3.78	2617.24	410.77	229.4877	1693.33
3.82	2670.34	433.24	237.3703	1693.41
3.86	2723.44	456.06	245.3722	1693.50
3.91	2776.54	479.29	253.5824	1693.59
3.95	2829.64	502.86	261.7826	1693.67
3.99	2882.74	526.79	270.1824	1693.76
4.03	2935.84	551.09	278.7051	1693.85
4.07	2988.94	575.78	287.3634	1693.95
4.12	3042.04	601.35	296.1574	1694.03

MINOR BUSINESS FORMS INC. NO. F. NITE. IN USA 777

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
4.16	3218.02	627.88	305.0827	1694.12
4.20	3282.07	654.79	314.1376	1694.20
4.24	3266.13	682.08	323.3208	1694.29
4.28	3410.19	709.75	332.6309	1694.37
4.33	3474.24	727.79	342.0667	1694.46
4.37	3536.30	766.20	351.6269	1694.55
4.41	3602.36	794.98	361.3102	1694.64
4.45	3666.41	824.12	371.1152	1694.73
4.49	3730.47	853.62	381.0409	1694.83
4.54	3792.82	882.47	391.0830	1694.92
4.58	3854.69	915.29	401.2358	1695.02
4.62	3916.95	953.32	411.4809	1695.12
4.66	3979.02	991.65	421.8089	1695.23
4.70	4041.08	1030.28	432.2188	1695.34
4.75	4103.15	1069.22	442.7094	1695.45
4.79	4165.21	1108.45	453.2799	1695.55
4.83	4227.28	1147.97	463.9290	1695.66
4.87	4289.34	1187.76	474.6560	1695.78
4.91	4351.41	1227.88	485.4597	1695.89
4.96	4413.47	1268.31	496.3391	1696.00
5.00	4475.54	1310.62	507.2903	1696.10
5.04	4527.48	1353.13	518.2922	1696.21
5.08	4579.91	1395.77	529.3256	1696.32
5.12	4630.24	1438.52	540.3894	1696.43
5.17	4681.77	1481.39	551.4830	1696.53
5.21	4733.20	1524.27	562.6062	1696.64
5.25	4784.63	1567.46	573.7585	1696.75
5.29	4836.07	1610.66	584.9386	1696.86
5.33	4887.50	1653.98	596.1491	1696.97
5.38	4938.93	1699.32	607.3840	1697.07
5.42	4990.36	1745.40	618.6379	1697.18
5.46	5041.79	1791.55	629.9102	1697.29
5.50	5092.25	1837.77	641.1992	1697.39
5.54	5142.21	1883.92	652.4691	1697.50
5.59	5194.16	1929.84	663.6666	1697.61
5.63	5163.11	1975.56	674.8525	1697.71
5.67	5216.06	2021.07	685.9676	1697.82
5.71	5267.01	2066.37	697.0325	1697.92
5.75	5277.96	2113.89	708.0466	1698.03
5.80	5308.91	2167.40	718.9808	1698.14
5.84	5339.86	2220.53	729.8554	1698.25
5.88	5370.82	2273.29	740.6447	1698.36
5.92	5401.77	2325.67	751.3590	1698.47
5.96	5432.72	2377.70	761.9991	1698.58
6.01	5459.10	2429.34	772.5594	1698.69
6.05	5487.96	2480.32	782.9852	1698.80
6.09	5456.81	2530.42	793.2315	1698.91
6.13	5455.67	2579.61	803.2015	1699.01
6.17	5454.53	2628.05	813.1981	1699.11
6.22	5453.26	2675.60	822.9241	1699.21

MOORE BUSINESS FORMS, INC. HQ. P. FILED IN USA 227

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
6.26	5452.24	2722.34	832.4826	1699.31
6.30	5451.10	2768.27	841.8763	1699.41
6.34	5449.95	2816.40	851.1063	1699.50
6.38	5448.81	2864.92	860.1261	1699.57
6.43	5447.66	2913.64	868.9072	1699.63
6.47	5446.52	3016.58	877.4558	1699.69
6.51	5445.27	3079.78	885.7744	1699.74
6.55	5443.25	3141.16	893.8537	1699.80
6.59	5422.23	3200.68	901.6856	1699.85
6.64	5413.21	3258.40	909.2851	1699.91
6.68	5403.19	3314.35	916.6496	1699.98
6.72	5393.17	3368.07	923.7791	1700.01
6.76	5383.15	3494.59	930.5418	1700.07
6.80	5373.13	3598.46	936.8978	1700.13
6.85	5363.11	3696.05	942.8693	1700.19
6.89	5353.09	3787.71	948.4777	1700.24
6.93	5343.07	3873.76	953.7431	1700.29
6.97	5333.05	3954.51	958.6843	1700.33
7.01	5318.59	4030.16	963.2133	1700.38
7.06	5299.24	4100.71	967.6301	1700.42
7.10	5278.88	4166.24	971.6401	1700.45
7.14	5258.53	4221.04	975.2603	1700.49
7.18	5238.18	4283.26	978.8066	1700.52
7.22	5217.82	4343.45	981.9942	1700.55
7.27	5197.47	4403.55	984.9373	1700.58
7.31	5177.11	4462.85	987.6495	1700.60
7.35	5156.76	4466.63	990.1474	1700.63
7.39	5136.40	4506.02	992.4310	1700.65
7.43	5116.05	4540.22	994.5238	1700.67
7.48	5095.69	4574.41	996.4324	1700.68
7.52	5072.02	4599.67	998.1616	1700.70
7.56	5048.51	4624.94	999.7020	1700.71
7.60	5035.81	4647.27	1001.0743	1700.73
7.64	4997.70	4666.82	1002.2705	1700.74
7.69	4959.59	4683.74	1003.1057	1700.75
7.73	4931.46	4698.18	1004.1890	1700.76
7.77	4903.37	4710.27	1004.5288	1700.76
7.81	4875.26	4720.14	1005.5329	1700.77
7.85	4847.16	4727.92	1006.0089	1700.77
7.90	4819.05	4733.72	1006.3637	1700.78
7.94	4791.94	4737.65	1006.6042	1700.78
7.98	4762.83	4739.81	1006.7265	1700.78
8.02	4731.38	4740.21	1006.7411	1700.78
8.06	4696.87	4738.77	1006.6720	1700.78
8.11	4662.36	4735.51	1006.4732	1700.78
8.15	4627.86	4730.52	1006.1652	1700.77
8.19	4593.35	4723.91	1005.7635	1700.77
8.23	4558.84	4715.76	1005.2647	1700.77
8.27	4524.34	4706.15	1004.6770	1700.76
8.32	4489.83	4695.17	1004.0052	1700.75

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
8.36	4455.33	4662.89	1003.2540	1700.75
8.40	4670.82	4669.39	1002.4278	1700.74
8.44	4886.31	4654.73	1001.5307	1700.73
8.48	4951.81	4636.98	1000.5667	1700.72
8.53	4913.79	4622.09	999.5335	1700.71
8.57	4273.61	4603.98	998.4254	1700.70
8.61	4233.43	4584.66	997.2427	1700.69
8.65	4193.25	4564.18	995.9897	1700.68
8.69	4153.07	4542.81	994.6701	1700.67
8.74	4112.89	4520.02	993.2878	1700.66
8.78	4072.71	4496.46	991.8461	1700.64
8.82	4032.53	4471.98	990.3483	1700.63
8.86	3992.35	4446.64	988.7976	1700.61
8.90	3952.17	4420.82	987.1927	1700.60
8.95	3911.99	4393.54	985.5485	1700.58
8.99	3871.81	4265.88	983.8587	1700.57
9.03	3831.60	4227.52	982.1206	1700.55
9.07	3791.37	4208.51	980.3454	1700.54
9.11	3751.15	4278.88	978.5324	1700.52
9.16	3710.93	4248.67	976.6837	1700.50
9.20	3670.70	4217.90	974.8012	1700.49
9.24	3630.48	4186.62	972.8868	1700.47
9.28	3590.26	4154.84	970.9422	1700.45
9.32	3550.03	4122.59	968.9692	1700.43
9.37	3509.81	4089.91	966.9692	1700.41
9.41	3469.59	4056.81	964.9433	1700.39
9.45	3429.36	4023.31	962.8944	1700.37
9.49	3389.14	3989.45	960.8222	1700.35
9.53	3348.93	3955.23	958.7296	1700.34
9.58	3308.73	3920.69	956.6148	1700.32
9.62	3268.53	3885.83	954.4819	1700.30
9.66	3228.32	3850.68	952.3302	1700.28
9.70	3188.12	3815.25	950.1659	1700.26
9.74	3147.91	3779.56	947.9788	1700.24
9.79	3107.71	3743.61	945.7795	1700.22
9.83	3067.51	3707.43	943.5657	1700.19
9.87	3027.30	3671.03	941.3385	1700.17
9.91	2987.10	3634.43	939.0983	1700.15
9.95	2946.89	3597.62	936.8460	1700.13
10.00	2906.69	3560.62	934.5823	1700.11
10.04	2866.47	3523.46	932.3083	1700.09
10.08	2826.28	3486.14	930.0250	1700.07
10.12	2786.09	3448.69	927.7330	1700.05
10.16	2745.91	3411.09	925.4277	1700.03
10.21	2705.70	3373.37	923.1247	1700.01
10.25	2665.51	3335.90	920.8023	1699.99
10.29	2625.42	3297.72	918.4093	1699.97
10.33	2585.33	3259.97	915.9418	1699.95
10.37	2545.24	3222.64	913.4021	1699.94
10.42	2505.15	3185.84	910.7917	1699.92

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
10.46	2467.86	3249.49	908.1126	1699.90
10.50	2427.97	3228.83	905.3687	1699.88
10.54	2488.83	3207.28	902.5567	1699.86
10.58	2369.69	3185.47	899.6859	1699.84
10.63	2310.55	3163.21	896.7556	1699.82
10.67	2271.41	3140.51	893.7675	1699.80
10.71	2232.27	3117.38	890.7231	1699.78
10.75	2193.13	3093.83	887.6239	1699.76
10.79	2153.99	3165.88	884.4711	1699.74
10.84	2114.85	3145.53	881.2664	1699.71
10.88	2075.71	3120.80	878.0111	1699.69
10.92	2036.57	2995.49	874.7064	1699.67
10.96	1997.43	2970.22	871.3516	1699.64
11.00	1958.29	2944.40	867.9543	1699.62
11.05	1920.95	2918.25	864.5124	1699.60
11.09	1883.46	2891.81	861.0317	1699.57
11.13	1845.97	2865.07	857.5131	1699.55
11.17	1808.48	2838.06	853.9577	1699.52
11.21	1770.99	2810.78	850.3664	1699.50
11.26	1733.50	2791.99	846.7259	1699.46
11.30	1696.00	2773.66	843.0183	1699.42
11.34	1658.51	2755.40	839.2440	1699.38
11.38	1621.02	2736.63	835.4041	1699.34
11.42	1583.53	2717.54	831.4998	1699.30
11.47	1546.04	2698.14	827.5323	1699.26
11.51	1508.16	2678.44	823.5035	1699.22
11.55	1470.00	2658.47	819.4202	1699.18
11.59	1440.82	2638.27	815.2882	1699.14
11.63	1409.64	2617.83	811.1083	1699.09
11.68	1378.46	2597.16	806.8904	1699.05
11.72	1331.28	2576.26	802.6064	1699.00
11.76	1284.10	2555.13	798.2587	1698.95
11.80	1264.92	2533.79	793.9221	1698.91
11.84	1235.74	2512.24	789.5133	1698.87
11.89	1201.56	2490.47	785.0610	1698.82
11.93	1167.38	2468.49	780.5640	1698.78
11.97	1133.20	2446.30	776.0290	1698.73
12.01	1100.39	2423.93	771.4531	1698.68
12.05	1071.00	2401.41	766.8471	1698.63
12.10	1041.60	2378.77	762.2175	1698.59
12.14	1012.21	2356.02	757.5616	1698.54
12.18	982.62	2333.15	752.8899	1698.49
12.22	953.43	2310.18	748.1606	1698.44
12.26	924.04	2287.10	743.4703	1698.39
12.31	894.65	2263.91	738.7282	1698.34
12.35	865.25	2240.62	733.9649	1698.29
12.39	835.86	2217.23	729.1806	1698.25
12.43	806.47	2193.73	724.3756	1698.20
12.47	777.08	2171.14	719.5502	1698.15
12.52	750.10	2146.47	714.7092	1698.10

MOORE BUSINESS FORMS, INC. HO. PRINTED IN U.S.A. 227

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
12.56	727.07	2122.78	709.4635	1698.05
12.60	704.04	2099.09	705.0201	1698.00
12.64	681.01	2079.23	700.1723	1697.95
12.68	657.98	2059.34	695.2136	1697.90
12.73	634.95	2039.40	690.4440	1697.86
12.77	611.92	2019.42	685.5638	1697.81
12.81	588.89	1999.39	680.6730	1697.77
12.85	565.86	1979.33	675.7718	1697.72
12.89	542.83	1959.22	670.8607	1697.67
12.94	519.80	1939.07	665.9393	1697.63
12.98	496.77	1918.88	661.0080	1697.58
13.02	473.74	1898.67	656.0723	1697.53
13.06	450.71	1878.49	651.1436	1697.49
13.10	427.68	1858.26	646.2227	1697.44
13.15	404.65	1838.02	641.3244	1697.39
13.19	381.62	1817.76	636.4335	1697.35
13.23	358.59	1797.49	631.5550	1697.30
13.27	335.56	1777.23	626.6866	1697.26
13.31	312.53	1756.98	621.8339	1697.21
13.36	289.50	1736.74	616.9912	1697.16
13.40	266.47	1716.50	612.1599	1697.12
13.44	243.44	1696.27	607.3400	1697.07
13.48	220.41	1676.04	602.5314	1697.03
13.52	197.38	1655.82	597.7392	1696.98
13.57	174.35	1635.61	592.9699	1696.94
13.61	151.32	1615.41	588.2264	1696.89
13.65	128.29	1595.22	583.5081	1696.84
13.69	105.26	1575.04	578.8149	1696.80
13.73	82.23	1554.87	574.1463	1696.75
13.78	59.20	1534.71	569.5021	1696.71
13.82	36.17	1514.56	564.8820	1696.66
13.86	13.14	1494.42	560.2856	1696.62
13.90	0.11	1474.29	555.7125	1696.57
13.94		1454.17	551.1624	1696.53
13.99		1434.06	546.6352	1696.49
14.03		1413.96	542.1350	1696.44
14.07		1393.87	537.6622	1696.40
14.11		1373.79	533.2166	1696.36
14.15		1353.72	528.7999	1696.31
14.20		1333.66	524.4275	1696.27
14.24		1313.61	520.1040	1696.23
14.28		1293.57	515.8238	1696.19
14.32		1273.54	511.5917	1696.15
14.36		1253.52	507.4021	1696.11
14.41		1233.51	503.1647	1696.06
14.45		1213.51	498.9969	1696.02
14.49		1193.52	494.8043	1695.98
14.53		1173.54	490.6826	1695.94
14.57		1153.57	486.6378	1695.90
14.62		1133.62	482.6704	1695.86

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
14.66	58.43	1202.72	478.6801	1695.82
14.70	54.22	1188.04	474.7264	1695.78
14.74	50.01	1173.50	470.8088	1695.74
14.78	45.80	1159.09	466.9268	1695.70
14.83	41.60	1144.82	463.0800	1695.66
14.87	37.39	1130.67	459.2679	1695.62
14.91	33.18	1116.65	455.4901	1695.58
14.95	28.97	1102.75	451.7461	1695.54
14.99	24.76	1088.98	448.0355	1695.50

MAX. VALUES 5459.10 4740.21 1700.78
 MIN. VALUES 0.00 0.00 1691.00