

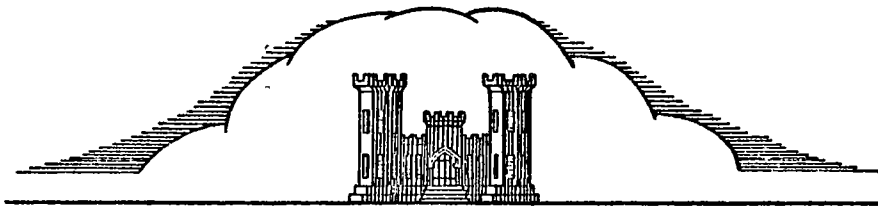
SUSQUEHANNA RIVER BASIN

# EAST SIDNEY RESERVOIR

OULEOUT CREEK, NEW YORK

DESIGN MEMORANDUM NO. I

## MASTER PLAN



U. S. ARMY ENGINEER DISTRICT, BALTIMORE

CORPS OF ENGINEERS

BALTIMORE 3, MARYLAND

DECEMBER 1961

ADDRESS REPLY TO  
THE DISTRICT ENGINEER

U. S. ARMY ENGINEER DISTRICT, BALTIMORE  
CORPS OF ENGINEERS  
P O Box 1715  
Baltimore 3, Maryland

REFER TO FILE NO

NABEN-R

8 December 1961

SUBJECT: East Sidney Reservoir, New York, Design Memorandum No. 1,  
Master Plan

THRU: Division Engineer  
U. S. Army Engineer Division, North Atlantic  
ATTN: NADEN-R  
New York, N. Y.

TO: Chief of Engineers  
ATTN: ENG CW-O  
Department of the Army  
Washington, D. C.

1. Inclosed for review and approval, in accordance with EM 1130-2-320, paragraph 9.b., are six copies of the Master Plan for East Sidney Reservoir, New York.

2. As provided by EM 405-2-835, paragraph 7.b., the Master Plan has been reviewed by the Real Estate Division of the District, and recommendations of that Division have been incorporated in the plan.

FOR THE DISTRICT ENGINEER:

1 Incl  
as (sext)

*E. F. Smith major CE*  
*for* ORIN A. FAYLE  
Lt. Col., Corps of Engineers  
Deputy District Engineer

NADEN-R(8 Dec 61)

1st Ind

SUBJECT: East Sidney Reservoir, New York, Design Memorandum No. 1,  
Master Plan

U.S. Army Engineer Division, North Atlantic, New York, New York  
12 July 1962

TO: Chief of Engineers, Department of the Army, Washington, D.C.  
ATTN: ENG CW-O


1. The subject master plan has been reviewed by this office and is recommended for approval subject to District furnishing revised pages for the comments in the following paragraphs.

2. Paragraph 31 should be revised to indicate that fee ownership of land below the spillway design flood (elevation 1222.5) plus a freeboard allowance will be retained and land lying above this freeboard allowance and upstream from the seasonal pool and not required for other purposes will be available for disposal and that gravel may be sold from the 35-acre parcel of tract 97 if such action is indicated. (See EM 405-2-150, paragraph 7, and OCE(ENG CW-PD) 3rd Indorsement on NAWRM letter of 12 June 1961, Subject: East Sidney Dam and Reservoir, New York-Recommendation for Excessing of Land").

3. As a basis for OCE action with respect to the Secretary of the Army approval, a recommendation should be added to paragraph 32 worded somewhat as follows: "Since the rules and regulations governing the public use of reservoir areas (Title 36, Chapter III, Code of Federal Regulations) are compatible with the general management policy and planned development for flood control, it is recommended that these rules and regulations be prescribed for this project and published in the Federal Register." (See EM 1130-2-302, paragraph 18a).

FOR THE DIVISION ENGINEER:

1 Incl  
2 cys w/d

  
PAUL H. JAENICHEN  
Chief, Engineering Division

ENG CW-OM (8 Dec 61)

2d Ind

SUBJECT: East Sidney Reservoir, New York, Design Memorandum No. 1,  
Master Plan

Office, Chief of Engineers, Washington 25, D. C., 10 October 1962

TO: Division Engineer, U. S. Army Engineer Division, North Atlantic  
New York, New York

1. The Master Plan is approved subject to the comments of the Division Engineer as contained in the preceding 1st Indorsement, except as noted below and to the following additional comments:

2. Reference Par. 26a. The use of power boats on certain days is not believed a desirable type of regulation. However, a regulation to restrict boating to non-power boat use is desirable at some projects.

3. Reference Par. 27. For pools the size of subject project all lands should be designated Priority 1 lands, with other uses, such as grazing, as an interim use.

4. Reference Par. 31, and Par. 2 of the preceding 1st Ind. Concur in the statement contained in Par. 2 subject to compliance with instructions contained in ENG CW-OM Multiple Letter, 24 August 1962, subject: "Acquisition of Supplemental Reservoir Lands."

5. Reference Par. 3 of the preceding 1st Indorsement. Upon receipt of your further recommendations regarding use of power boats, the Rules and Regulations will be recommended to the Secretary of the Army to cover East Sidney Reservoir.

FOR THE CHIEF OF ENGINEERS:



MARK S. GURNEE  
Chief, Operations Division  
Civil Works

1 Incl w/d

NADEN-R(8 Dec 61)

3d Ind

SUBJECT: East Sidney Reservoir, New York, Design Memorandum No. 1,  
Master Plan

U.S. Army Engineer Division, North Atlantic, New York, New York  
15 October 1962

TO: District Engineer, U.S. Army Engineer District, Baltimore  
Baltimore, Md. ATTN: NABEN-R

Forwarded noting OCE approval subject to the comments in the  
1st and 2nd Indorsements.

FOR THE DIVISION ENGINEER:

  
PAUL H. JAENICHEN  
Chief, Engineering Division

NABEN-R (8 Dec 61) 4th Ind  
SUBJECT: East Sidney Reservoir, New York, Design Memorandum No. 1,  
Master Plan

U. S. Army Engineer District, Baltimore, Baltimore, Md., 22 January 1963

TO: Division Engineer, U. S. Army Engineer Division, North Atlantic,  
ATTN: NADEN-R

1. References in the following subparagraphs pertain to NADEN-R comments in the 1st indorsement to the basic letter.

a. Paragraph 2. Paragraph 31 and subparagraph 32.e have been revised in accordance with the suggestions in this paragraph.

b. Paragraph 3. The recommendation as worded in this paragraph has been added to paragraph 32 of the subject Design Memorandum.

2. References in the following subparagraphs pertain to ENGCW-OM comments in the 2nd indorsement to the basic letter.

a. Paragraph 2. The use of power boats will be permitted, subject to the regulations contained in the Federal Code, title 36, part 311; and subparagraph 26.a of the design memorandum has been revised accordingly.

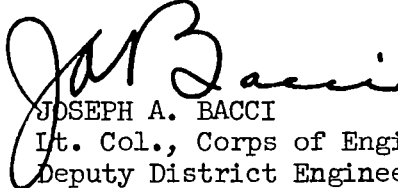
b. Paragraph 3. Paragraph 27 of the subject Design Memorandum has been revised in accordance with the suggestion in this paragraph.

c. Paragraph 4. See subparagraph 1.a of this indorsement. The reference to ENGCW-OM Multiple Letter dated 24 August 1962 is noted.

d. Paragraph 5. See subparagraph 2.a of this indorsement.

FOR THE DISTRICT ENGINEER:

1 Incl  
2. Revisions (sext)

  
JOSEPH A. BACCI  
Lt. Col., Corps of Engineers  
Deputy District Engineer

SUSQUEHANNA RIVER BASIN  
EAST SIDNEY RESERVOIR  
OULEOUT CREEK, NEW YORK

DESIGN MEMORANDUM NO. 1

MASTER PLAN

U. S. ARMY ENGINEER DISTRICT, BALTIMORE

CORPS OF ENGINEERS  
BALTIMORE 3, MARYLAND

DECEMBER 1961

U. S. ARMY ENGINEER DISTRICT, BALTIMORE

BALTIMORE 3, MARYLAND

SUSQUEHANNA RIVER BASIN

E A S T   S I D N E Y   R E S E R V O I R

OULEOUT CREEK, NEW YORK

DESIGN MEMORANDUM NO. 1

MASTER PLAN

Related Reports

<u>Title</u>	<u>Date of Publication</u>	<u>Approved by OCE</u>
Definite Project, Upper Susquehanna	May 1939	Oct. 1939
Hydrologic Design	Jan. 1944	Mar. 1944
Design Analysis (dam), revised	June 1945	-
Design Analysis (equipment)	Mar. 1947	-
Maintenance Manual	Nov. 1950	-
Regulation Manual	June 1951	Feb. 1952
Master Plan	Dec. 1961	Oct. 1962

Revisions		
Date	New Pages or Drawings	Date Approved: By C. of E.
Jan 63	Pp. 11 thru 13	





*Frontispiece -- EAST SIDNEY RESERVOIR AT ELEVATION 1,150. VIEW UPSTREAM FROM LEFT ABUTMENT OF DAM.*

SUSQUEHANNA RIVER BASIN  
E A S T   S I D N E Y   R E S E R V O I R

OULEOUT CREEK, NEW YORK

DESIGN MEMORANDUM NO. 1

MASTER PLAN

1961

C O N T E N T S

<u>Paragraph</u>	<u>Heading</u>	<u>Page</u>
	Frontispiece . . . . .	b
	<u>A. GENERAL INFORMATION</u>	
1.	Project authorization . . . . .	1
2.	Project purpose . . . . .	1
3.	History . . . . .	1
4.	Scope . . . . .	1
	<u>B. GENERAL CHARACTERISTICS OF PROJECT AREA</u>	
5.	Location . . . . .	1
6.	Topography . . . . .	2
7.	Engineering features . . . . .	2
8.	Description of reservoir area . . . . .	4
9.	Accessibility . . . . .	4
10.	Population of surrounding area (1960 census) . .	4
11.	Existing public recreation facilities . . . . .	5
	<u>C. RECREATIONAL USE OF RESERVOIR</u>	
12.	Past and present land usage . . . . .	6
13.	Use of storage . . . . .	6
14.	Present recreational use . . . . .	7
15.	Availability of lands for recreation . . . . .	7
16.	Feasibility of seasonal recreation pool . . . . .	7
17.	Hydrologic studies . . . . .	7
18.	Winter pool . . . . .	8
19.	Gate operations . . . . .	9
20.	Reservoir clearing . . . . .	9

CONTENTS (Cont'd)

<u>Paragraph</u>	<u>Heading</u>	<u>Page</u>
21.	Roads . . . . .	9
22.	Local cooperation . . . . .	10
23.	Village of Franklin . . . . .	10
24.	Federal agencies . . . . .	10
25.	Attendance . . . . .	10
26.	Plan of administration . . . . .	10
27.	Priority . . . . .	11
28.	Costs . . . . .	11
29.	Conclusions . . . . .	11
	<u>D. OTHER RESERVOIR LAND USE</u>	
30.	Outlease program . . . . .	12
31.	Land disposal . . . . .	12
	<u>E. RECOMMENDATIONS</u>	
32.	Approval of Master Plan . . . . .	12
33.	Change in reservoir regulation plan . . . . .	13
34.	Low-flow control . . . . .	13
35.	Construction design memorandum . . . . .	13

# CONTENTS (Cont'd)

## TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Pertinent data . . . . .	2-4
2	Urban areas within fifty miles of reservoir .	5
3	Public recreation areas within fifty miles of reservoir . . . . .	6
4	Pool area and capacity . . . . .	8

## PLATES

<u>No.</u>	<u>Title</u>
1	Map -- Related facilities and highway system
2A, 2B, 2C, 2D	Real estate maps
3	Map -- Additional fee acquisition required
4	Map -- Proposed recreational facilities

## APPENDICES

<u>Designation</u>	<u>Title</u>	<u>Pages</u>
A	Cost estimate	A-1
B	Hydrologic and economic data	B-1 thru B-4

SUSQUEHANNA RIVER BASIN

E A S T   S I D N E Y   R E S E R V O I R

OULEOUT CREEK, NEW YORK

DESIGN MEMORANDUM NO. 1

MASTER PLAN

1961

A. GENERAL INFORMATION

1. Project authorization. The East Sidney Reservoir project is a part of the general plan for the control of floods in the upper Susquehanna River basin, authorized by the Flood Control Act of 22 June 1936. The project was included in the Definite Project for Flood Protection, Upper Susquehanna River Basin, approved by the Chief of Engineers on 13 October 1939.

2. Project purpose. East Sidney Reservoir is a unit of a comprehensive system of dams and reservoirs designed to provide flood protection along the main streams in the upper Susquehanna River basin. The reservoir provides immediate flood protection for the valley downstream from the dam and assists in controlling floods on the Susquehanna River.

3. History. Construction of East Sidney Dam commenced in April 1947, and the project was operationally completed in June 1950.

4. Scope. The purposes of this Master Plan are to:

(a) present a sound, coordinated plan for the administration and development of the reservoir for all desirable uses so far as such uses are consistent with the operation and maintenance of the project for its primary purpose;

(b) present data on the type of development which will return maximum sustained public benefits;

(c) assure coordination with interested Federal, State, and local agencies; and

(d) furnish design data on those facilities to be constructed at Federal expense.

B. GENERAL CHARACTERISTICS OF PROJECT AREA

5. Location. East Sidney Reservoir is located on Ouleout Creek in Delaware County, New York, about 5 miles above the confluence of the creek

with the Susquehanna River near the village of Unadilla, Otsego County, New York. The location of this reservoir is shown on plate 1.

6. Topography. The general topography of the area is rolling, with relatively deep valleys having moderately steep side slopes. The reservoir area is composed of inactive farm and pasture land with scattered wooded and brushed areas. The timber cover is generally sparse and confined mainly to the upper valley slopes.

7. Engineering features.

a. The dam at crest is 2,010 feet long. It is 130 feet high above streambed and 146 feet above firm rock. The dam consists of a concrete gravity type section with compacted earth dike sections at the abutments. The right bank dike section is 1,140 feet long, the left bank dike section is 120 feet long, and the concrete gravity type section is 750 feet long and contains the spillway, located in the center, and the outlet works. The outlet works consists of 5 rectangular conduits each 3.5 feet by 5.83 feet by 105 feet long. Flow through the conduits is regulated by 5 sluice gates, 3 feet 6 inches by 5 feet 10 inches.

b. The reservoir, at spillway crest, has a flood-water storage capacity of 33,500 acre-feet and will form a lake having a surface area of 1,100 acres and a main valley length of about 5.5 miles. The drainage area controlled by East Sidney Dam is approximately 102 square miles which is 93 percent of the Ouleout Creek drainage area.

c. Engineering data pertaining to the dam and reservoir are given in table 1.

TABLE 1

PERTINENT DATA

LOCATION OF DAM

Stream	Ouleout Creek
Distance above confluence of Ouleout Creek & Susquehanna R.	5 miles

DRAINAGE AREA

Ouleout Creek	109 sq. miles
Controlled by reservoir	102 sq. miles

ELEVATIONS

Top of dam	1,228.5
Spillway design flood	1,222.5
Spillway crest	1,203.0
Five-year flood	1,185

TABLE 1 (Cont'd)

ELEVATIONS

Upper limit of clearing	1,151
Proposed summer pool	1,150
Future winter pool	1,140
Top of conduit at entrance	1,120.8
Invert of conduit at entrance (dead storage pool)	1,115.0

RESERVOIR

Length at elev. 1,150 (summer pool)	2.5 miles
Length at elev. 1,203 (spillway crest)	5.5 miles
Shoreline at elev. 1,150 (summer pool)	6 miles

Storage:	Acre-feet	
	Net	Cumulative
Dead storage (elev. 1,115)	50	50
Future winter pool (elev. 1,140)	1,650	1,700
Summer pool (elev. 1,150)	1,650	3,350
Flood control (elev. 1,203)	30,200	33,550
Spillway surcharge (elev. 1,222.5)	24,800	58,350
Surface area, dead storage		10 acres
Surface area, future winter pool		130 acres
Surface area, summer pool		210 acres
Surface area at spillway crest		1,100 acres
Flowage easements		863 acres
Lands acquired in fee		402 acres

DAM

Type	--	Rolled earth with concrete gravity central portion including spillway overflow section
Length at crest		
Right bank earth section		1,140 feet
Central concrete gravity section, including spillway		750 feet
Left bank earth section		120 feet
	Total	2,010 feet
Top width		
Earth section		25 feet
Concrete section		12 feet
Maximum height		
Above streambed		130 feet
Above firm rock		146 feet

TABLE 1 (Cont'd)

SPILLWAY

Type	Ogee overflow
Height of crest above streambed	104.5 feet
Crest length	240 feet

OUTLET WORKS

Type	5 conduits through overflow section, gate-controlled.
Size and shape of each conduit	3.5 feet x 5.83 feet, rectangular
Length of each conduit	105 feet
Number and size of gates	five 3'6" x 5'10"

8. Description of reservoir area. Fee acquisition for the project was limited to lands necessary for construction and maintenance of the dam, the permanent pool, and for borrow areas. Approximately 1,265 acres, 402 acres of which were acquired in fee, make up the present reservoir area. The original fee acquisition totaled 490 acres; 88 acres thereof were subsequently declared excess and sold to other interests. (Plates 2A, 2B, 2C, and 2D show present fee holdings).

9. Accessibility. New York State Highway 7B running between Unadilla and Oneonta skirts the reservoir area and joins Highway 7 at these locations. Highway 7 runs between Binghamton and Schenectady and extends on to Troy and the Vermont border. New York State Highway 28 provides access from northern New York and from Kingston to the south-east. Access from the New York State Thruway is provided by State Highways 7 and 28 at Schenectady and Herkimer, respectively.

10. Population of surrounding area (1960 census). The area around the reservoir is sparsely populated, Delaware County having a density of but 29.4 persons per square mile. Adjoining counties have densities as follows: Otsego, 50.7; Chenango, 47.0; Broome, 298.2; Sullivan, 45.3. Urban communities in the area are relatively small and scattered. The major population centers within a 50-mile radius of the reservoir are given in table 2.



TABLE 2

URBAN AREAS WITHIN FIFTY MILES OF RESERVOIR  
(Population of 2,000 or greater)

<u>Community</u>	<u>Population (1960 Census)</u>	<u>Airline mileage from reservoir</u>
Oneonta	13,310	11
Sidney	5,142	11
Walton	3,827	11
Delhi	2,294	14
Norwich	9,150	22
Cooperstown	2,514	29
Susquehanna, Pa.	2,571	35
Binghamton Metropolitan Area	158,141	41
Cobleskill	3,467	44
Liberty	4,635	44
Ilion	10,115	48
Mohawk	3,516	48
Frankfort	3,871	49
Herkimer	9,368	49
Fort Plain	2,786	50
Canajoharie	2,675	50
Montrose, Pa.	2,327	50

11. Existing public recreation facilities. The recreation needs of the area are served by the State-operated facilities shown in table 3.

TABLE 3

PUBLIC RECREATION AREAS WITHIN FIFTY MILES OF RESERVOIR

	Airline mileage from reservoir	Acres	<u>Facilities available</u>						
			Camping	Picnicking	Swimming	Boating	Fishing	Hunting	Hiking
Gilbert Lake State Park	17	1,569	x	x	x	x	x		x
Chenango Valley State Park	35	926	x	x	x	x	x		x
State Forest Preserves									
Catskill Park--Beaverskill	30	-	x	x	x		x		
Catskill Park--Woodland Valley	48	-	x	x			x		x

C. RECREATIONAL USE OF RESERVOIR

12. Past and present land usage. Since completion of the dam and reservoir in June 1950, a program of outleasing of project lands for agriculture and grazing purposes has been instituted. At present, 166 acres are under lease to 1 lessee at an annual rental of \$200. This lease is for a term of five years. Hunting and fishing have been permitted throughout the reservoir area. No organized recreational activities have been carried on.

13. Use of storage. To date the reservoir has been used for flood control storage only. About 1952 a plan for storage of about one inch of runoff for low-flow control was considered in connection with a general plan for low-flow control on the North Branch. This would have required storage to a maximum stage of 1,159, nine feet higher than now recommended for the seasonal recreational pool. The matter was presented to OCE in connection with review of a draft of the North Branch survey report, and a decision was made that such use was possible under existing authority. The plan was never put into effect, and there has been no recent request for its adoption. While the adoption of the plan for a recreation pool would detract from the practicability of releases for low-flow control, future studies might develop the need for some releases from the pool under exceptional conditions of natural low flow. The possibility of such a requirement should not be overlooked. Particularly during September and October, after the principal recreational season in the area, releases could be made in accordance with a future low-flow control plan without adverse results to recreational interests.

14. Present recreational use.

a. Hunting and fishing. There is considerable use of the reservoir by local sportsmen for small game hunting and fishing. There is also fishing in the stream downstream from the dam, and even during periods of impoundment one gate is kept partially open (0.6 foot minimum opening) to support fish life in the creek.

b. Overlook. An overlook with space for 10 or 12 cars is provided on the left bank in the vicinity of the dam.

15. Availability of lands for recreation. When the project was acquired it was the intent of the Government to operate the reservoir for flood control purposes only. Consequently, flowage easements were acquired for the greater part of the project and, as previously stated, fee acquisition was limited. To flood the land for a recreation pool will require fee ownership. Lands presently owned in fee are not sufficient for a recreational pool nor for development of access roads, parking areas, beach areas or other recreational facilities. An additional fee acquisition of a minimum of 250 acres will be required to provide a recreational pool to elevation 1,150, to permit the development of recreational facilities and to protect against undesirable encroachments. Of the above mentioned 250 acres, flowage easements are now held on all except about 16 acres. The required additional fee acquisition is shown on plate 3.

16. Feasibility of seasonal recreation pool. Maintaining a recreation pool at elevation 1,150 during the period from 15 May to 15 September will have little effect on the reservoir's use for flood control since such use is at a minimum during the recreation season and the proposed pool (equivalent to 0.62 inch of runoff) will occupy only 10 percent of the storage capacity.

17. Hydrologic studies.

a. Under the present plan of regulation, three of the five gates are normally kept closed, and the other two are closed as required to prevent flood damage. During the recreation season (15 May to 15 September) in the period of 12 years since the gates became operable in November 1949, they have been operated only once for flood storage, on 29 July 1961, and the maximum storage used was equal to 0.47 inch of runoff. Maximum annual stages have all occurred during the months of November through April, inclusive. The greatest of these occurred in April 1960, when storage reached a maximum of 4.66 inches. Other than the localized July 1961 storm which produced a rapid rise in the reservoir with a computed peak inflow of 7,700 c.f.s. and a peak reservoir stage of 1,146, the only known recreation season flood at the site is the July 1935 flood, which produced the greatest known peak flow at the site. It is estimated that this flood would have caused peak storage of 4.2 inches under the present plan of regulation and 4.6 inches with the proposed recreation pool. Downstream flood reductions would have been equal under both plans.

b. The proposed pool will increase peak storage used during floods by an amount somewhat less than the 0.62 inch in the recreation pool, since about one-third to two-thirds of this amount is generally impounded before gates are closed under the present plan of regulation. The increase in total storage would therefore be about 0.2 to 0.4 inch if there were no change in downstream flow affecting the timing of gate operations. However, under the proposed operation, gates would be adjusted to make outflow equal to inflow during the early part of any rise, and this outflow would exceed the outflow under the present plan. The result would be slightly faster rises at downstream points, and slightly earlier closing of gates. The increased storage from this cause is estimated to approximate 0.1 inch, making a total increase of 0.3 to 0.5 inch of storage resulting from the recreation pool.

c. A pool at elevation 1,150 will provide a surface area of 210 acres, will be 2.5 miles in length, and will have a shoreline of 6 miles.

d. Additional hydrologic data and an economic analysis of the recreational development are presented in appendix B.

18. Winter pool. It is planned to maintain the recreation pool only during the period from 15 May to 15 September. If demand for a pool through the remainder of the year should develop, it is believed that a pool with half the summer capacity, or to elevation 1,140, would be adequate. Its effect on flood storage capacity would be insignificant. Such a pool will not be established unless requested by a responsible local agency for fish propagation or other use in the public interest. Statistics on the proposed pools are given in table 4.

TABLE 4

POOL AREA AND CAPACITY

<u>Elevation, ft., m.s.l.</u>	<u>Storage, acre ft.</u>	<u>Percent of total capacity</u>	<u>Inches of runoff used</u>	<u>Surface area, acres</u>	<u>Remarks</u>
1,203	33,550	100	6.15	1,100	Spillway crest
1,150	3,350	10	0.62	210	Seasonal recreation pool
1,140	1,700	5.1	0.31	130	Future permanent (winter) pool

19. Gate operation.

a. No structural changes are necessary in order to establish and maintain the proposed summer and future winter pools. Limited operational tests made during 1960 indicate that satisfactory control of the pool level can be maintained through operation of the existing service gates. The Commonwealth of Pennsylvania maintains a conservation pool at George B. Stevenson Dam, where regulation is accomplished by use of the main gates - two 8- by 16-foot slide gates. Pool fluctuations usually amount to less than one foot. Forty weekly readings reported to this office during the past year (excluding periods of flood control storage) show an average conservation pool elevation of 920.2 as compared to the adopted level of 920.0. Only four of these 40 readings exceeded 921.5 and only four were less than 919.0. The dam tender reports that during periods of fairly constant runoff, gate settings are changed every second day, while during periods of rapid fluctuations in stream flow, it may be necessary to adjust gate settings two or three times during a 24-hour period.

b. The proposed future permanent (winter) pool at elevation 1,140 would provide 19 feet of water over the top of the gate openings. This amount of submergence is more than adequate to prevent the gates freezing in position.

20. Reservoir clearing.

a. Clearing of the reservoir will be in accordance with policies established in EM 415-2-301. The upper limit of clearing will be elevation 1,151, which will permit one foot of fluctuation in the summer recreation pool above its nominal elevation, 1,150. It is believed that the occasional flood above elevation 1,151 will not result in killing the remaining timber. The only additional clearing will be in areas required for roads, parking lots, or other operational purposes. Approximately 140 acres of the reservoir on both banks were cleared of all timber in 1949. Hence no large timber should be encountered in this area, but stumps may require removal.

b. Where the ground surface is below elevation 1,135 (5 feet below surface of future permanent pool), no stumps will be permitted to extend above elevation 1,135. Where the ground surface is between 1,135 and 1,151, no stumps will be permitted to extend above ground surface. The beach area will be grubbed to remove all vegetation.

c. Submerged shoal areas above elevation 1,135 will be marked by buoys or other means for the safety of the boating public.

21. Roads. Access and circulation roads will have a 20-foot pavement with 4-foot shoulders. Maximum grades will be in accordance with

appendix A to EM 1130-2-312, and the roads and parking area will be designed in accordance with the standard plans for recreation facilities referred to therein.

22. Local cooperation.

a. State of New York. The Conservation Department of the State of New York informed the Baltimore District that State agencies are not desirous of developing East Sidney Reservoir for recreation or game management. The department indicated that due to its limited area the reservoir is not suitable for development as a State park, but recommended its development by local agencies.

b. Local participation. Many local government officials, civic and fraternal organizations, and individuals have stated that additional recreational facilities are desired for the area. The town of Sidney, in which most of the proposed recreational pool would be located and in which all of the proposed recreational facilities, such as picnic areas, bathing beach, and boat dock, would be located, informally agreed, at a meeting held in the village of Sidney on 19 October 1961, to sponsor the recreational development of the reservoir. The town of Sidney would provide the facilities listed as non-Federal on page A-1 of appendix A, would maintain and operate the recreational area, and would hold and save the United States free from damages which might result from use of the recreational facilities.

23. Village of Franklin. The village of Franklin, located 4 miles upstream from the dam, has requested permission to develop approximately 22 acres of the reservoir as a village park. This area lies immediately downstream from the village. It is remote from the proposed recreational pool and will not interfere with any future recreational development. Development of the area will be limited to picnicking and playground facilities. A Boy Scout day camp area is proposed on the right bank. See plate 2D for location of this area.

24. Federal agencies. No other Federal agency has indicated interest in the development of East Sidney Reservoir. Since the New York Conservation Department has declined to participate in the proposed plan, the U. S. Fish and Wildlife Service has not been asked to cooperate in formation of a General Plan for fish and wildlife management.

25. Attendance. It is estimated that an annual attendance of at least 15,000 can be expected to visit this reservoir upon completion. Recreational facilities should be provided ultimately to care for a design load of 375 visitors at any one time.

26. Plan of administration.

a. Agreements and licensing. After approval of this memorandum and receipt of formal assurances from the town of Sidney covering the items given in subparagraph 22.b. above, a license will be issued granting

use of the pool for boating, fishing, and swimming and use of selected land areas for beach and picnic areas. The use of power boats will be \*permitted. The license will require the sponsoring agency to assume all costs of operation and maintenance and to hold the Federal Government free of claims for damages resulting from the recreational use. Regulations for public use of the reservoir will be compatible with those contained in the Federal Code, title 36, part 311.

b. Personnel. All personnel for operations, maintenance, and policing of the recreational area will be furnished by the sponsoring agency. No increase in Federal personnel is anticipated as a result of adopting the plans recommended in this Master Plan. Some additional work will be involved as the plan will require frequent adjustment of the gate opening and there will be more visitors requesting information in the operating area, but it is believed that these duties can be handled by the present staff.

\* 27. Priority. All reservoir lands are designated for priority 1 use as defined in EM 1130-2-302 and EM 405-2-835. Other uses, such as \*agriculture and grazing, are designated as interim uses.

28. Costs. A preliminary cost estimate, with various items allotted between the Federal Government and local interests is given in appendix A. The items shown as non-Federal costs may not be forthcoming at one time, but it is believed local interests can provide the most essential features the first year and complete the program within three years. It is anticipated that fees charged for various services will defray a major portion of the operating expenses.

29. Conclusions. The development of East Sidney Reservoir for recreation will consist primarily of the following:

- a) Provision of a seasonal recreational pool to elevation 1,150.
- b) Bathing beach and dressing room facilities.
- c) Access roads and parking areas.
- d) Picnic areas.
- e) Boat launching and docking facilities.
- f) Separate park area near village of Franklin.
- g) Future winter pool when demand develops.

#### D. OTHER RESERVOIR LAND USE

30. Outlease program. Where consistent with the recreational development of the reservoir, any land not required for other uses will be made available for outleasing for agricultural crop production or grazing purposes. The proposed recreation plan will require modification or cancellation of the one existing lease. Little additional land, if any, will be made available for leasing as a result of the fee acquisition recommended herein because it is planned to acquire only those areas required for the proposed summer pool or for recreational areas!

31. Land disposal. The lands of this reservoir acquired in fee consist of isolated parcels, varying in area from as little as 0.06 acre to 130 acres, surrounded by lands on which flowage rights only have been \*obtained. (See plates 2A, 2B, 2C, and 2D.) Fee ownership of land below the spillway design flood (elevation 1,222.5) plus a freeboard allowance of 7.5 feet will be retained. Land lying above this freeboard allowance and upstream from the seasonal pool and not required for either purposes will be available for disposal. In the past, local officials have indicated an interest in sand and gravel deposits that are located on tract 97. This area is largely bare ground and has no immediate value for recreation. The sale of sand or gravel from this area would not preclude possible future development, and such deposits will be made \*available for local needs.

#### E. RECOMMENDATIONS

32. Approval of Master Plan. It is recommended that this Master Plan, embracing the following proposals and plans be approved. The Master Plan provides:

a. Summer pool and recreation area. That as soon as a responsible local agency agrees to cooperate in such development, a seasonal recreation pool (15 May to 15 September) be provided at elevation 1,150 with cost participation by the Government as shown in appendix A.

b. Winter pool. That, when the need develops, a permanent pool be established to elevation 1,140.

c. Village park. That the village of Franklin be granted a license for the development, operation, and maintenance of a village park.

d. Outlease program. That lands not set aside for recreational development be offered for outlease, the leases so granted to allow the access and management activities necessary under the game management program.



\* e. Land disposal. That lands owned in fee above the freeboard  
\*elevation (1,230) and not required for recreational or other project purposes be made available for disposal.

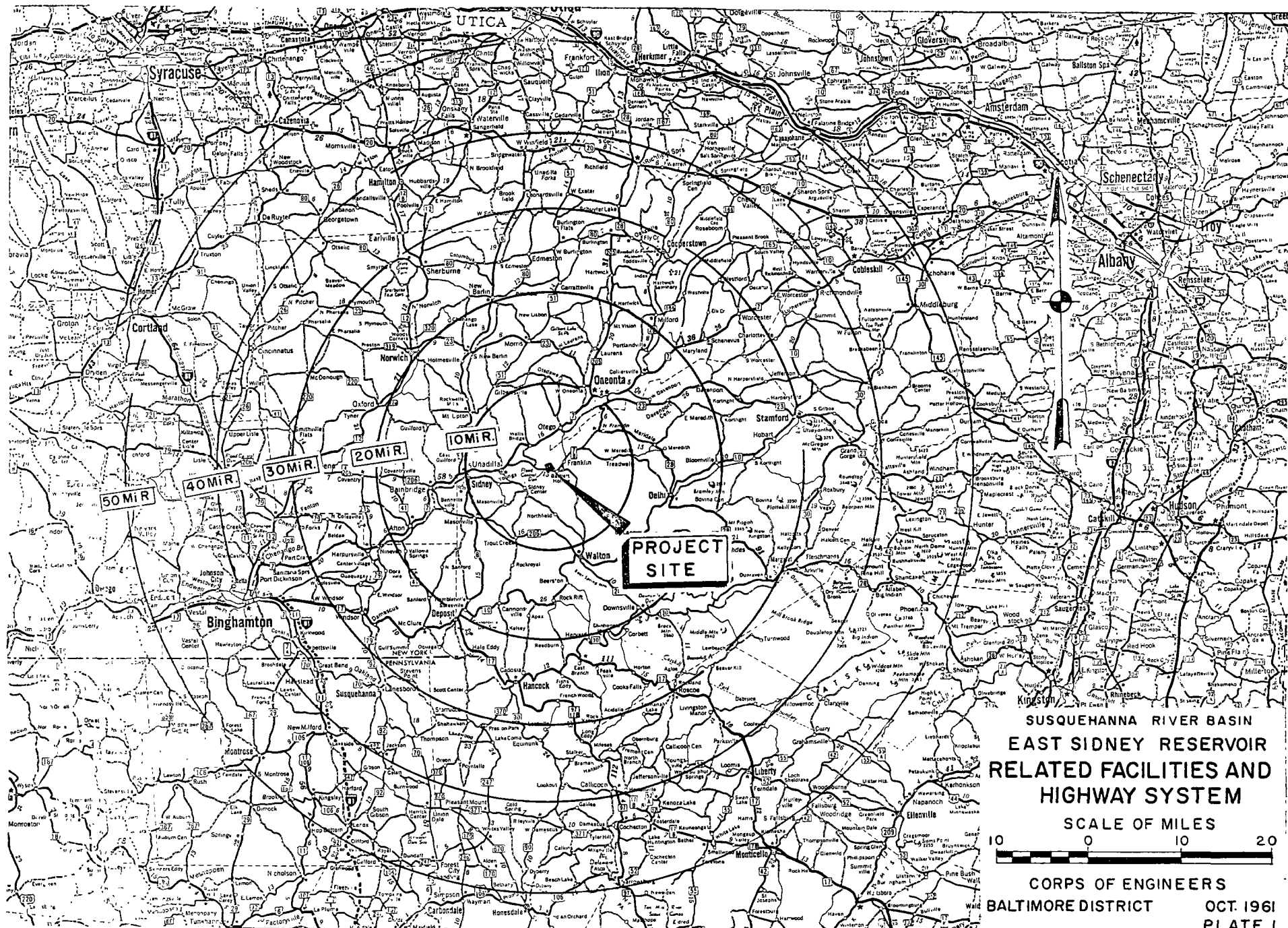
\* f. Federal Register. Since the rules and regulations governing the public use of reservoir areas (Title 36, Chapter III, Code of Federal Regulations) are compatible with the general management policy and planned development for flood control, it is recommended that these rules and regulations be prescribed for this project and published in the Federal  
\*Register.

33. Change in reservoir regulation plan. It is recommended that approval be given for a change in the regulation plan as required by ER 1110-2-240, paragraph 5, to provide for the recreation and conservation pools recommended by this Master Plan.

34. Low-flow control. It is recommended that in establishing a recreational pool, any agreements pertaining thereto retain for the Government the right to make releases for low flow regulation or other purposes, if and when required.

35. Construction design memorandum. Since most of the planned recreational facilities will be provided by the cooperating agencies and since this memorandum includes information on reservoir clearing and roads - the two principal items of Federal expense - it is recommended that the requirement of EM 1130-2-302, paragraph 9.c. (7) for a separate construction design memorandum be waived.

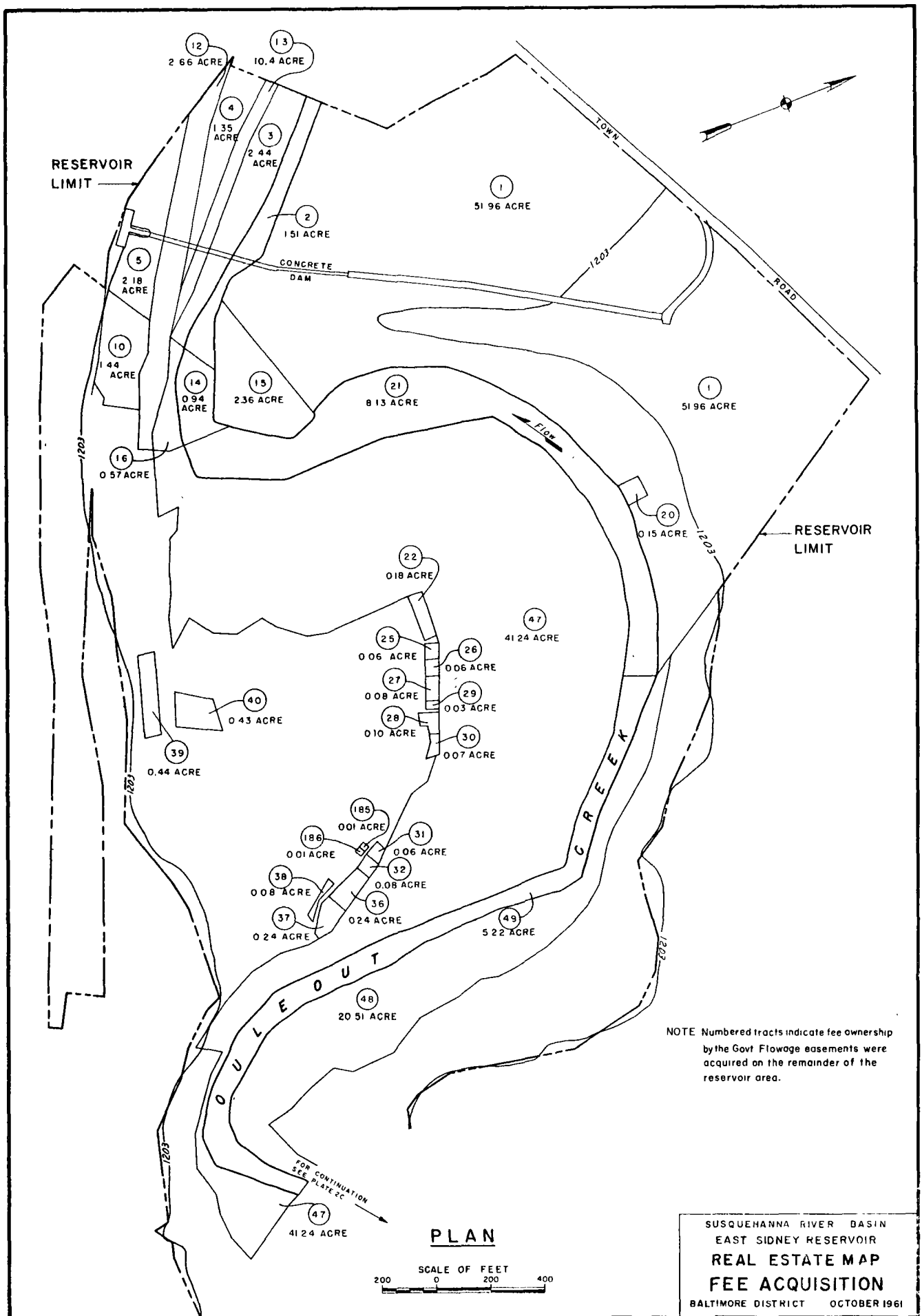


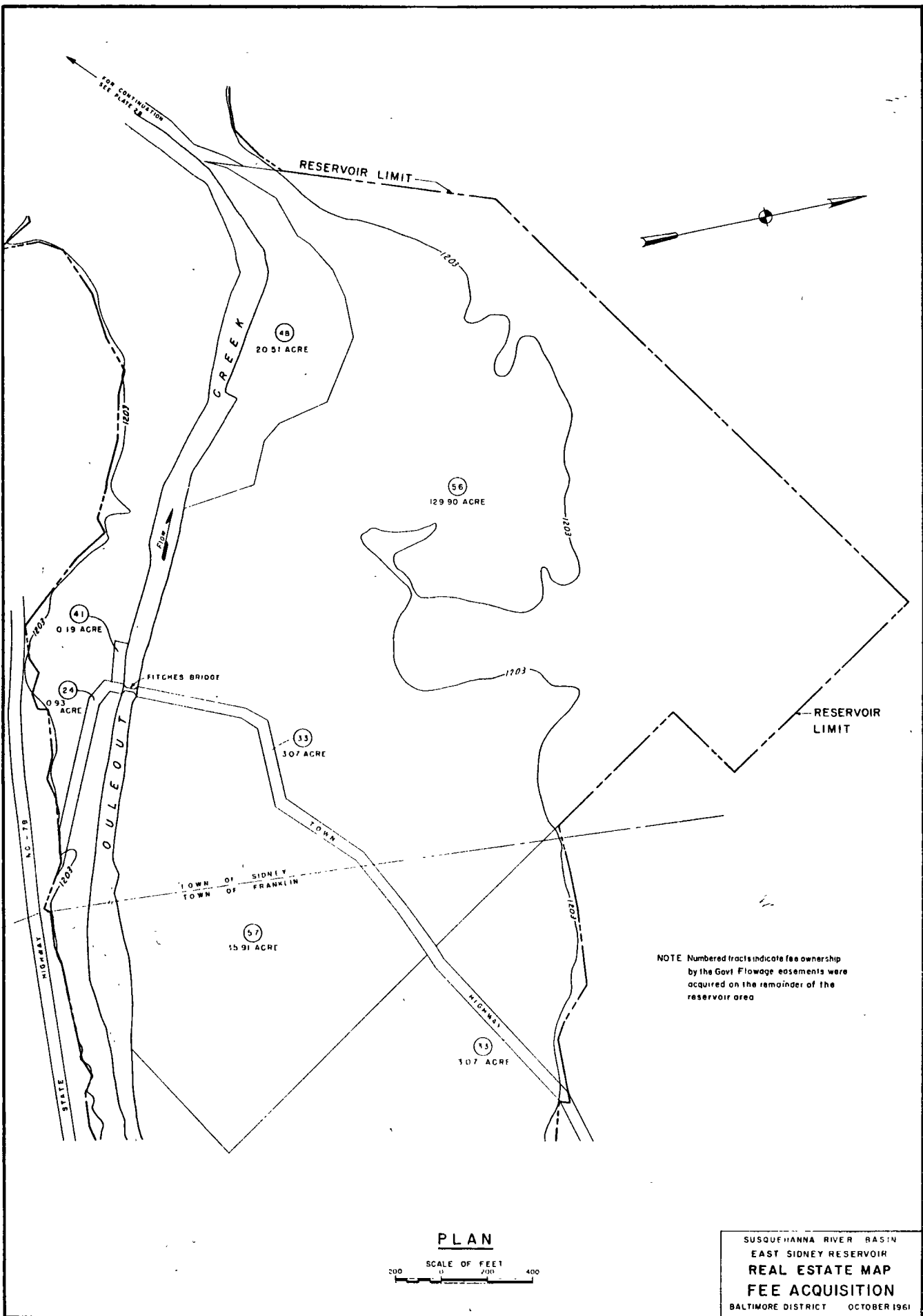


**SUSQUEHANNA RIVER BASIN  
EAST SIDNEY RESERVOIR  
RELATED FACILITIES AND  
HIGHWAY SYSTEM**



**CORPS OF ENGINEERS  
BALTIMORE DISTRICT  
OCT. 1961  
PLATE 1**



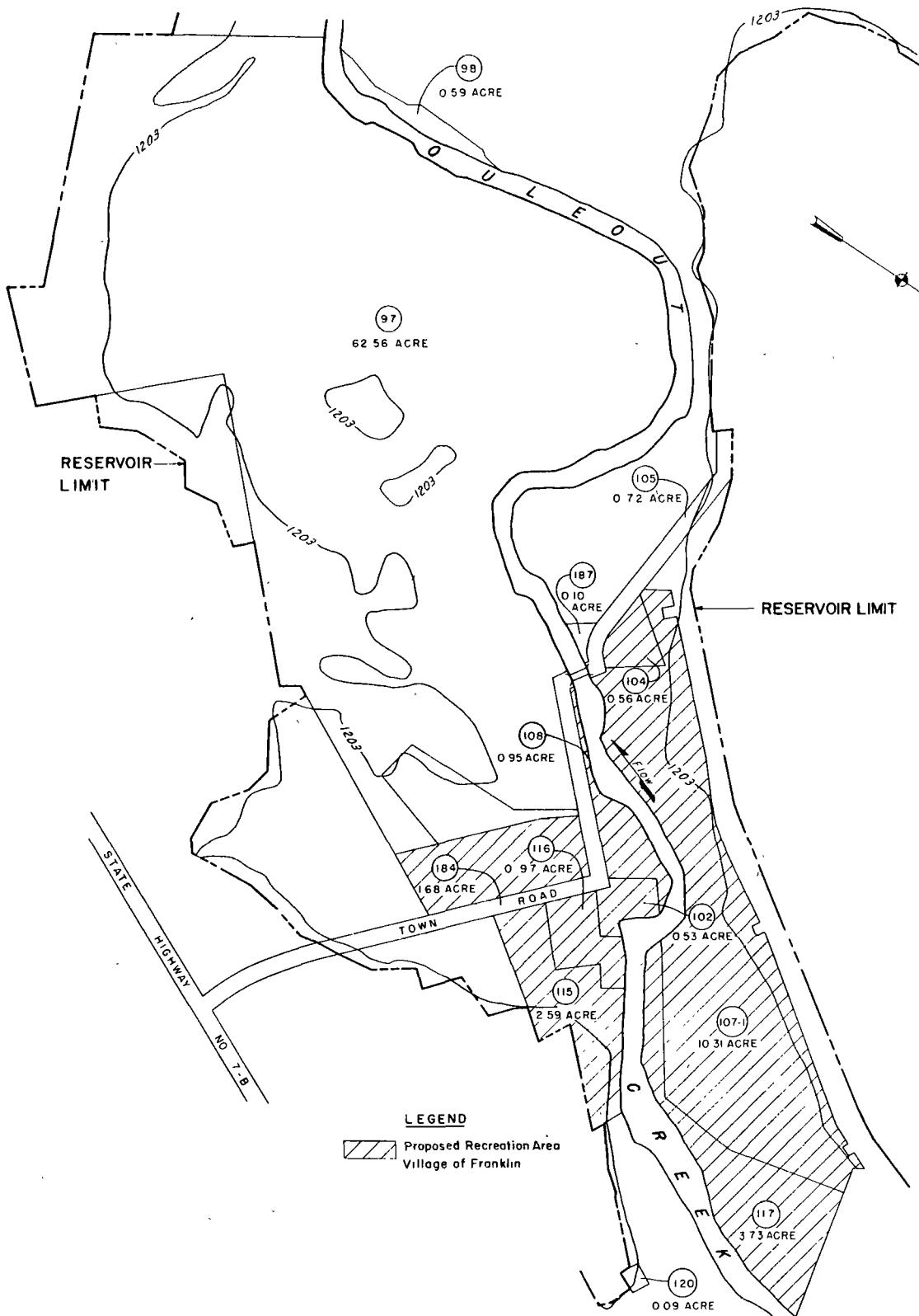


PLAN

SCALE OF FEET  
0 100 200 400

NOTE: Numbered tracts indicate fee ownership by the Govt. Flowage easements were acquired on the remainder of the reservoir area

SUSQUEHANNA RIVER BASIN  
EAST SIDNEY RESERVOIR  
REAL ESTATE MAP  
FEE ACQUISITION  
BALTIMORE DISTRICT OCTOBER 1961



# PLAN

SCALE OF FEET  
200 0 200 400

SUSQUEHANNA RIVER BASIN  
EAST SIDNEY RESERVOIR  
REAL ESTATE MAP  
FEE ACQUISITION  
BALTIMORE DISTRICT OCTOBER 1961



SUSQUEHANNA RIVER BASIN  
E A S T   S I D N E Y   R E S E R V O I R  
NEW YORK

DESIGN MEMORANDUM NO. 1  
MASTER PLAN

APPENDIX A  
COST ESTIMATE



# EAST SIDNEY RESERVOIR

## MASTER PLAN

### APPENDIX A

#### COST ESTIMATE

(Based on October 1961 prices. ENR construction cost index 854.48, 1913 = 100)

<u>Item</u>	<u>Federal</u>	<u>Non-Federal</u>
Real estate, 250 acres	\$7,000	
Clearing to elevation 1,151	20,000	
Clearing roads & parking areas	1,000	
Beach area		16,000
Dressing stockade with pit latrines		7,000
Water supply	1,000	
Parking area	8,000	
Picnic facilities		2,700
Access roads	10,000	
Launching ramp		2,300
Boat dock	<u>          </u>	<u>12,000</u>
Total	\$47,000	\$40,000

#### Summary of Federal Costs

Cost account 14 -- Recreation facilities	\$43,000
Cost account 30 -- Engineering & design	2,000
Cost account 31 -- Supervision & administration	<u>2,000</u>
Total Federal cost	\$47,000



SUSQUEHANNA RIVER BASIN  
E A S T   S I D N E Y   R E S E R V O I R  
NEW YORK

DESIGN MEMORANDUM NO. 1  
MASTER PLAN

APPENDIX B  
HYDROLOGIC AND ECONOMIC DATA

U. S. ARMY ENGINEER DIVISION, NORTH ATLANTIC  
CORPS OF ENGINEERS  
90 CHURCH STREET  
NEW YORK 7, NEW YORK

ADDRESS REPLY TO:  
DIVISION ENGINEER  
U. S. ARMY ENGINEER DIVISION  
NORTH ATLANTIC  
NEW YORK 7, NEW YORK

REFER TO FILE NO

NADEN-R

28 August 1961

SUBJECT: East Sidney Reservoir - Recreation Pool

TO: District Engineer  
U. S. Army Engineer District, Baltimore  
Baltimore, Maryland

1. Inclosed teletype from OCE is forwarded for appropriate action.

2. In your analysis of the effect of the recreation pool on flood control, it is requested that particular attention be paid to the practicable measurability of differences in stages and damages derived by conventional methods.

FOR THE DIVISION ENGINEER:

  
PAUL H. JAENICHEN  
Chief, Engineering Division

1 Incl  
1. Cy TT  
ENGOW-P 295  
dtd 8/25/61

NABEN-R (28 Aug 61) 1st Ind  
SUBJECT: East Sidney Reservoir - Recreation Pool

U. S. Army Engineer District, Baltimore, Baltimore, Md., 19 October 1961

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

1. The March 1936 flood is considered the project design flood for East Sidney Reservoir. It is the greatest flood of record at most locations along the Susquehanna River and would have used 5.22 inches of the 6.15 inches of available storage in the reservoir under the present plan of operation. A flood about 15 percent larger than the 1936 flood would just fill the reservoir, and floods up to about 35 percent larger than 1936 would not cause spillway flow early enough to contribute to peak flow at any point on the Susquehanna.

2. It is not planned to maintain the proposed recreation pool to elevation 1,150 during the winter and spring seasons which include the 1936 flood and a high percentage of floods on Ouleout Creek and the Susquehanna River. If, however, there were a recurrence of the 1936 flood with the recreation pool at elevation 1,150, the flood would not fill the reservoir. With a 15 percent larger flood, the recreation pool would cause spillway flow too late to add to peaks on the Susquehanna. With a flood about 35 percent larger than 1936, the recreation pool would cause spillway flow to begin early enough to add slightly to peak flow at Unadilla and possibly at other locations down to Conklin. Floods of this magnitude have an estimated exceedence interval of 1,000 years.

3. The standard project flood (SPF) for East Sidney has a peak inflow of 41,000 c.f.s. Under the present plan of regulation it would fill the reservoir and produce a peak outflow of 4,200 c.f.s. over the spillway. A recreation pool at elevation 1,150 would cause spillway flow to begin sooner and reach a peak of 6,400 c.f.s. The maximum difference between the two outflow hydrographs is about 4,000 c.f.s. The nearest downstream point for which an SPF has been developed is Vestal, 81 miles downstream from East Sidney Dam. The SPF peak at Vestal occurs too early to be affected by spillway flow from East Sidney, even when advanced by the recreation pool.

4. Rough estimates of the SPF at gages at Unadilla, Bainbridge, and Conklin under present conditions have been made by assuming that it exceeds the 1936 flood by the same percentage as at Vestal. These floods have an estimated exceedence interval of about 10,000 years. While it is possible for the recreation pool to increase peaks by 4,000 c.f.s., it is highly improbable that this maximum effect would apply at each location. Accordingly, it was assumed that each peak was increased by 3,000 c.f.s., resulting in a stage increase on the order of 0.5 foot. The resulting floods, tabulated

NABEN-R (28 Aug 61)

1st Ind

19 October 1961

SUBJECT: East Sidney Reservoir - Recreation Pool

on inclosure 2, are 6 to 8 feet higher than the maximum floods of record. The increment of flood damage, or reduction of flood control benefits, caused by the 0.5-foot increment of stage is estimated to be about \$500,000. The average annual reduction of flood control benefits is estimated to be on the order of \$500.

5. The estimated average annual recreation benefits are \$24,000. There will also be some benefit from supplementing low flows during the drawdown period, but this benefit has not been evaluated. In addition to increasing total project benefits, it is believed that extensive use of the proposed recreation pool will help to reduce the present, widespread opposition to other authorized reservoirs in this District, particularly in the central New York area.

6. A Master Plan including a recreation pool at elevation 1,150 is being prepared and will be submitted in the near future.

7. In the 4th indorsement (21 July 1961) to letter of 22 June 1961, cited in inclosure 1, it was stated that the gates had never been operated for flood control during the recreation season and that the maximum storage ever reached during the recreation season was equal to 0.17 inch of runoff. During a very severe thunderstorm on 29 July 1961 the gates were closed as a precautionary measure until more information on the extent of the storm could be obtained. The operation proved to be unnecessary as the storm covered a very small area, and stages on the Susquehanna did not approach flood stage. Maximum storage used was equal to 0.47 inch of runoff.

FOR THE DISTRICT ENGINEER:

- 2 Incl
- 1. n/c
- Added 1 Incl
- 2. Table (trip)



ORIN A. FAYTE

Lt. Colonel, Corps of Engineers  
Deputy District Engineer

CR/DE TOR 06201 AUG

NNNNAUC044

CTB176

RR RBEGUC

DE RUEPDA 11H

ZNR

R 242235Z - 27 AUG 61

FM COMENGRS WASHDC

TO NORLANT DIVENGR NYK

DA GRNC

BT

UNCLASS DIVENGR NORLANT

UNCLASS ENGOW-P 295

REFERENCE ENGOW-OW LETTER OF JUL 01, SUBJ, "ESTABLISHMENT RECREATION POOL, EAST SITUATY RESERVOIR, NEW YORK", AND SUBSEQUENT ENDORSEMENTS THERETO. THUNDERSTORMS AND HURRICANES ARE MORE PREVALENT DURING THE SEASON WHEN IT IS PROPOSED THAT A RECREATION POOL BE MAINTAINED THAN AT ANY OTHER TIME OF THE YEAR. IN VIEW OF THE FACT THAT EITHER TYPE STORM COULD PRODUCE MORE INTENSE RAINFALL ON THIS SMALL DRAINAGE AREA THAN HAS BEEN EXPERIENCED IN THE RELATIVELY SHORT PERIOD OF RECORD, IT IS REQUESTED THAT THE FOLLOWING BE FURNISHED: (A) ESTIMATED INCREASE (DUE TO RECREATION POOL) IN

~~CTM 001 12 61~~

~~PAGE TWO THREE~~

FLOOD STAGES ON OULEOUT CREEK AND NORTH BRANCH SUSQUEHANNA RIVER FOR THE PROJECT DESIGN FLOOD AND FOR LARGER FLOODS UP TO THE STANDARD PROJECT FLOOD; (B) ESTIMATED INCREASE IN FLOOD DAMAGES FOR CORRESPONDING FLOODS; (C) ESTIMATED EXCEEDENCE PERIOD FOR THESE FLOODS; (D) ESTIMATED DECREASE IN AVERAGE ANNUAL FLOOD CONTROL BENEFITS; AND, (E) ESTIMATED AVERAGE ANNUAL MONETARY BENEFITS FOR RECREATION WITH PROPOSED POOL. ABOVE INFORMATION SHOULD BE BASED ON READILY AVAILABLE DATA AND BEST JUDGMENT.

BT

25/00312 RUEPDA

*back 1*

INC/2

EFFECT OF RECREATION POOL AT EAST SIDNEY RESERVOIR

	Design Flood (1936) (60-year exceedence interval)					Standard Project Flood (10,000-year exceedence interval)			
	Susquehanna River				:	Susquehanna River			
	<u>Ouleout Cr.</u>	<u>Unadilla</u>	<u>Bainbridge</u>	<u>Conklin</u>	:	<u>Ouleout Cr.</u>	<u>Unadilla</u>	<u>Bainbridge</u>	<u>Conklin</u>
<u>Max. discharge, in c.f.s.:</u>									
Present conditions	1,900	26,900	36,000	58,300		4,200	54,000	72,000	116,000
With recreation pool	1,900	26,900	36,000	58,300		6,400	57,000	75,000	119,000
<u>Max. stage, in feet:</u>									
Present conditions	4.3	14.7	21.5	19.65		5.8	22	29	28
With recreation pool	4.3	14.7	21.5	19.65		6.6	22.5	29.5	28.5
Change in stage, in feet	0	0	0	0		0.8	0.5	0.5	0.5

B-5



NADEN-R (28 Aug 61)

2nd Ind

SUBJECT: East Sidney Reservoir - Recreation Pool

U. S. Army Engineer Division, North Atlantic, New York 7, N. Y.,

OCT 27 1961

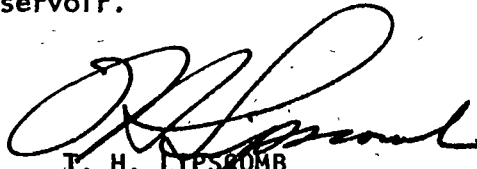
TO: Chief of Engineers, Department of the Army, Washington 25, D. C.

ATTN: ENG CW-P

1. Information requested in your teletype 24 August 1961 is furnished in 1st indorsement.
2. It is believed that information previously furnished together with that given in this correspondence essentially meets the requirements of EM 1165-2-303.
3. The data furnished indicates that the effect of the proposed recreation pool would be within practicable measurable limits only in the area immediately below the dam and then only for an extremely rare occurrence.
4. Approval is recommended for establishment of the recreation pool proposed at East Sidney Reservoir.

2 Incls

Trip cy incl 2 w/d

  
T. H. LIPSCOMB  
Brigadier General, USA  
Division Engineer


ENG CW-OM (28 Aug 61 Baltimore) 3d Ind  
SUBJECT: East Sidney Reservoir - Recreation Pool

Office, Chief of Engineers, Washington 25, D. C., 12 December 1961

TO: Division Engineer, U. S. Army Engineer Division, North Atlantic  
New York, New York

1. The establishment of a recreation pool at East Sidney Reservoir is approved as recommended in the preceding 2d Indorsement.
2. Operation to maintain a seasonal pool should not be initiated until revisions to the Reservoir Regulation Manual, East Sidney, covering the seasonal pool have been approved.
3. A Master Plan should be submitted to this office for review and approval.

FOR THE CHIEF OF ENGINEERS:

  
WILLIAM F. CASSIDY  
Major General, USA  
Director of Civil Works

2 Incls w/d

NADEN-R (28 Aug 61) 4th Ind.  
SUBJECT: East Sidney Reservoir - Recreation Pool

U. S. Army Engineer Division, North Atlantic, New York 7, N. Y.,  
18 December 1961

TO: District Engineer, U. S. Army Engineer District, Baltimore  
Baltimore, Md. ATTN: NABEN-R

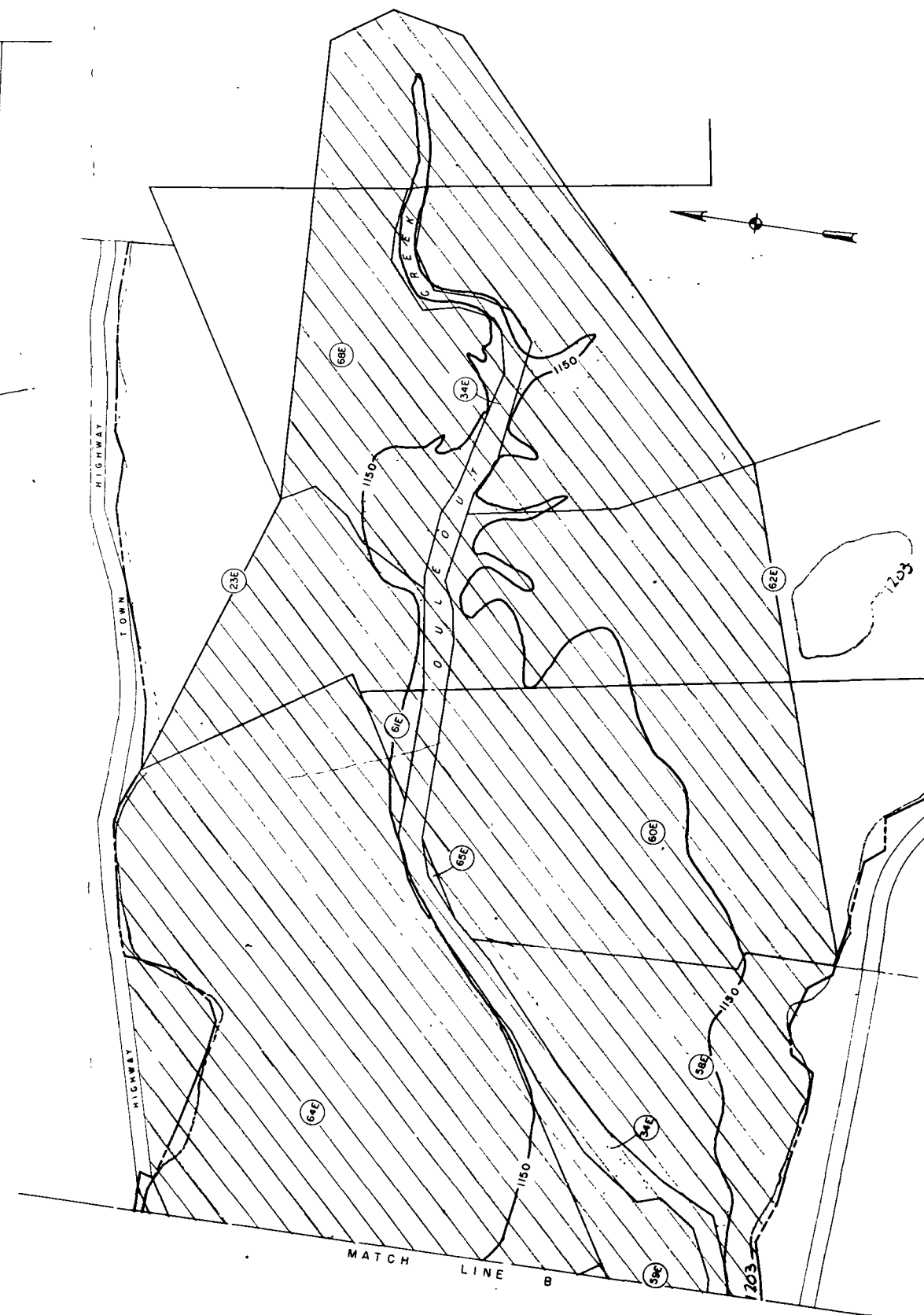
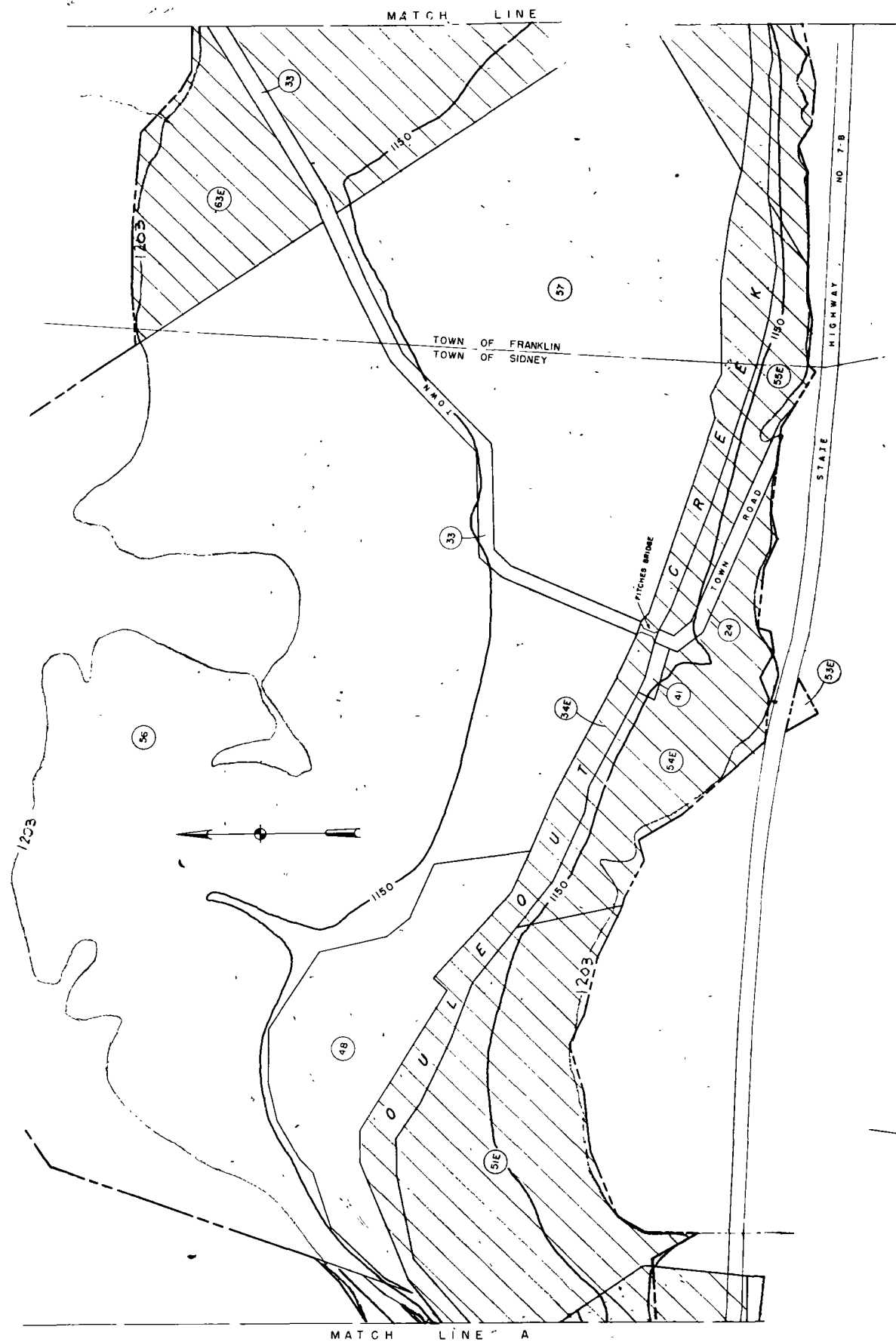
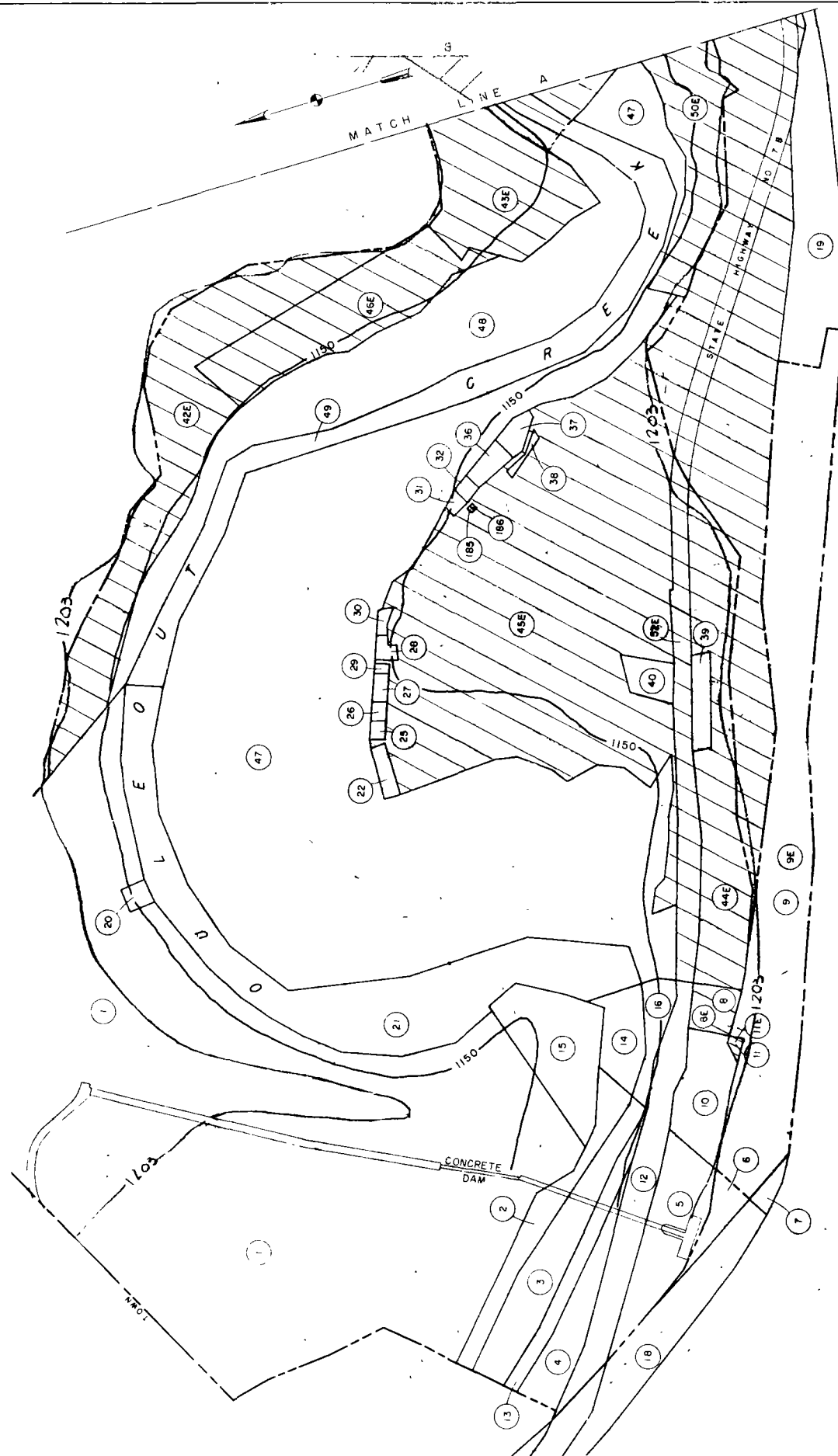
- ☐ Approved.
- ☐ For review and comment.
- ☐ For necessary action.
- ☒ For your information and ~~guidance~~ necessary action.
- ☐ For the information requested.
- ☐ Request reply not later than \_\_\_\_\_.
- ☐ For information on which to base a reply.
- ☐ For compliance.
- ☐ Direct reply is authorized, copy to this office.
- ☐

FOR THE DIVISION ENGINEER:

  
PAUL H. JAENICHEN  
Chief, Engineering Division

NAD FL 0-199 (15-9) Edition of 1 Apr 57 may be used until exhausted.  
1 Jun 58

GPO 953725

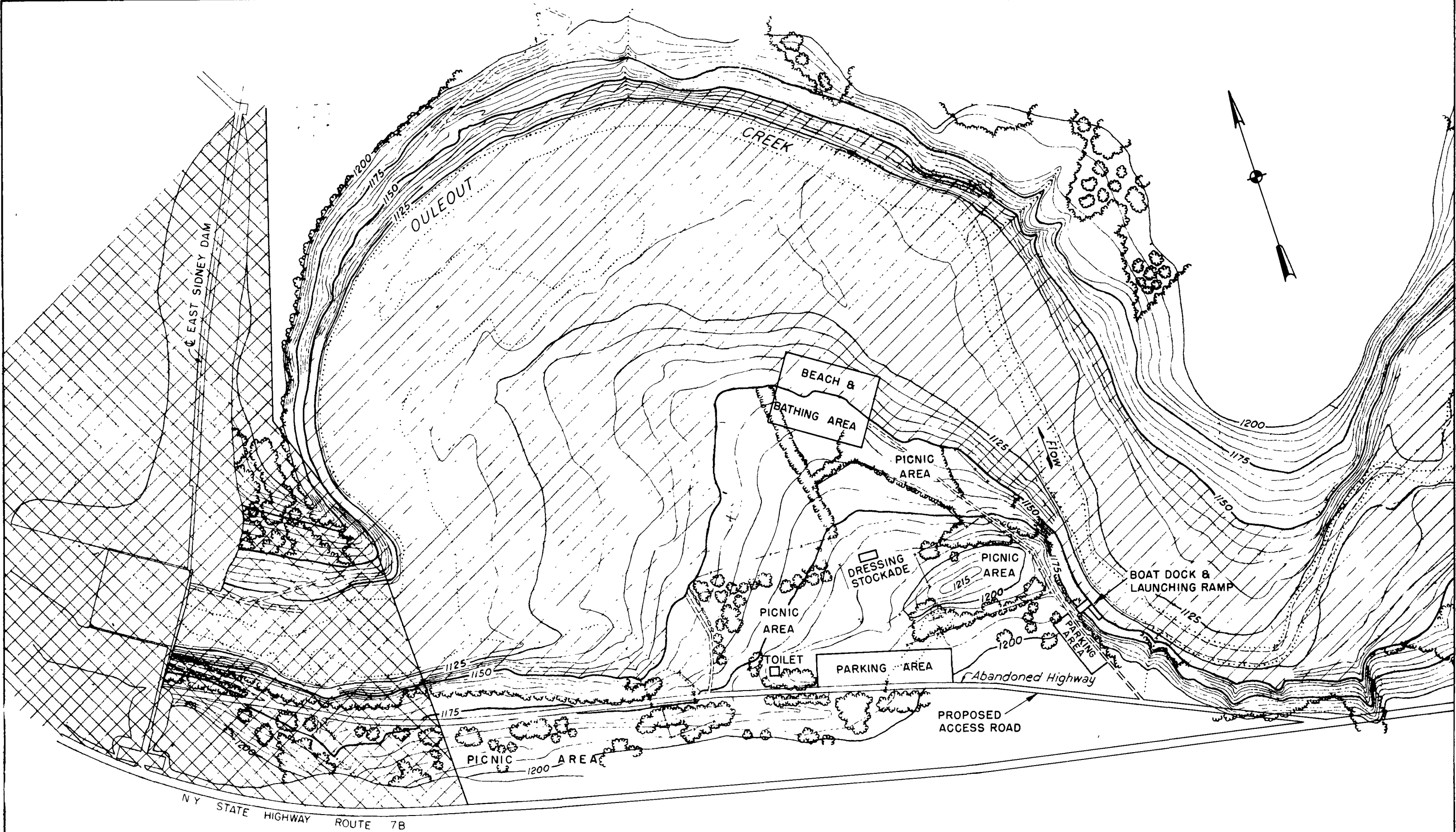


LEGEND  
 Hatched box: AREA REQUIRED



EAST SIDNEY RESERVOIR  
 ADDITIONAL FEE ACQUISITION REQUIRED  
 FOR SEASONAL RECREATION POOL AND  
 RECREATION FACILITIES.

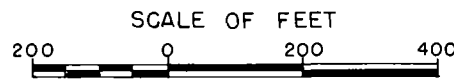
BALTIMORE DISTRICT

OCT 1961



**LEGEND**

	RETAINED FOR OPERATION AND MAINTENANCE OF DAM
	PROPOSED SEASONAL RECREATION POOL



EAST SIDNEY RESERVOIR  
**PROPOSED RECREATIONAL FACILITIES**  
BALTIMORE DISTRICT      OCT. 1961

