

INITIAL APPRAISAL REPORT FOR SAWMILL BRANCH DORCHESTER
BERDELEY AND CHARLESTON COUNTIES SOUTH CAROLINA(U)
CORPS OF ENGINEERS CHARLESTON SC CHARLESTON DISTRICT
JUN 85 F/G 13/2

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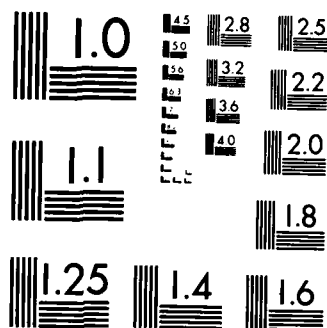
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INITIAL APPRAISAL REPORT
FOR
SAWMILL BRANCH ✓
DORCHESTER, BERKELEY, and
CHARLESTON COUNTIES, S.C.

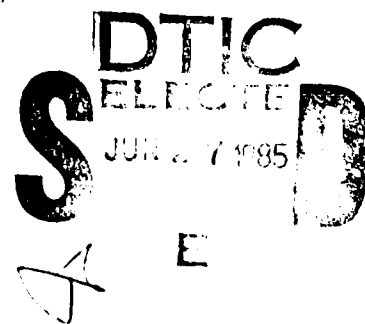


**US Army Corps
of Engineers**

Charleston District
South Atlantic Division

**Section 205
Of The
1948 Flood Control Act
As Amended**

JUNE 1985



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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. A156078	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Initial Appraisal Report, Sawmill Branch, Dorchester, Berkeley, and Charleston Counties, South Carolina		5. TYPE OF REPORT & PERIOD COVERED Initial Appraisal
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS U. S. Army Corps of Engineers Charleston District P. O. Box 919, Charleston, S. C.		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS U. S. Army Corps of Engineers Office, Chief of Engineers Washington, D. C. 20314		12. REPORT DATE May 1985
		13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS (If different from Controlling Office) U. S. Army Corps of Engineers South Atlantic Division 30 Pryor Street, S.W. Atlanta, Georgia 30303		15. SECURITY CLASS. (of this report) Unclassified
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16. DISTRIBUTION STATEMENT (of this Report) Approved for Public Release: Distribution Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Prepared in cooperation with the Berkeley, Dorchester, and Charleston County Councils, S. C. and the U. S. Fish and Wildlife Service.		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Flood Control Environmental Impact		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This initial appraisal report recommends approval of further study in the form of reconnaissance evaluations of flood problems in the Sawmill Branch Basin, Summerville, S. C.		



DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT CORPS OF ENGINEERS
P O BOX 919
CHARLESTON SC 29402-0919

REPLY TO
ATTENTION OF

SACEN-PS

May 1985

SUBJECT: Initial Appraisal Report, Sawmill Branch, Dorchester, Berkeley,
and Charleston Counties, South Carolina

Commander, South Atlantic Division
ATTN: SADPD-P

Revision For	
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AUTHORITY

1. This initial appraisal report was prepared under authority contained in section 205 of the 1948 Flood Control Act, as amended. Subject report was initiated by letter to SADPD-P dated 5 September 1984, subject: Sawmill Branch, Dorchester County, Summerville, South Carolina. The City of Summerville, South Carolina requested flood control assistance by letter dated 5 March 1984 (see Inclosure 1)



SCOPE OF WORK

2. This report was prepared using readily available data, supplemented where necessary with additional field surveys and in-house studies. The purpose of this report is to determine the magnitude of existing water resource problems and the feasibility of further Federal involvement in formulating solutions to these problems. Due to the nature of this report, information contained herewith is considered preliminary and subject to revision should detailed investigations be authorized.

PRIOR REPORTS

3. A detailed project report was prepared on Sawmill Branch in 1967 recommending channel modifications. The project was authorized by OCE on 20 June 1968 under Section 205 of the 1948 Flood Control Act, as amended, and provided for a channel of varying bottom widths ranging from 15-35 feet. The project extends from its confluence with the Ashley River upstream to the Interstate Highway 26 a distance of nine miles. The project was completed 17 April 1971.

STUDY AREA DESCRIPTION

4. Location: Sawmill Branch, a tributary of Ashley River, is located in Dorchester, Berkeley, and Charleston Counties in the South Carolina coastal plain. The stream originates in Berkeley County, flows through the southern part of Summerville, and outlets into the Ashley River. The total

length of Sawmill Branch is about 12.3 miles. The watershed area consists of 13,851 acres. Most of the town of Summerville and part of Lincolnville are within the watershed.

5. Topography. The topography of the watershed is generally flat with wide flood plains along the main stem and tributaries. The elevation ranges from less than 10 feet in the lower reach to 80 feet in the upper reach of the watershed. The swamp bordering the stream is broad and flat.

6. Climate. The climate of Summerville is temperate. Summer is warm and humid. Temperatures of 100° or higher are infrequent. Summer rainfall generally occurs in the form of thunderstorms, except for occasional tropical storms. The hurricane threat occurs in the late summer and early fall. The winter months, December through February, are mild, rarely less than 20°. The climatological station at Summerville, South Carolina, is located two miles WNW of the post office at elevation 75 m.s.l. Observations have been continuous at this location since December 1927. Prior to that time, the station was located 3/4 mile NE and 1.0 mile north of the post office. The earliest station was established July 1898. Annual rainfall averages 48.6 inches. There are no stream gaging records available for Sawmill Branch.

7. Environmental Considerations. A preliminary report from the Fish and Wildlife Service addressing wildlife habitat value of this area is contained as Inclosure 2. Although the basin is dominated by urban development and the existing habitats are highly disturbed by drainage and clearing for commercial development, appropriate strategies to preserve the remaining wetland of Sawmill Branch are recommended by the Fish and Wildlife Service. This includes areas above Interstate Highway 26, along several small tributaries and the estuarine emergent marsh located at the confluence of Sawmill Branch and the Ashley River.

PROBLEMS UNDER CONSIDERATION

8. Flood Problems. Construction in the drainage basin has exceeded the development predicted in the previous study which was the basis for design of the existing project. Therefore, flooding of the Sawmill Branch has become more frequent in the past few years. The flood problems discussed in this report are based on information obtained from local officials; topographic mapping with ten-foot contour intervals; and a field reconnaissance by the Corps' study team. Local officials report that flooding occurs more often due to intensified urban development. This development has completely changed the hydraulic conditions of the area and placed a tremendous strain on the drainage capacity of Sawmill Branch.

9. Based on the preliminary data available at this stage of study, average annual damages from residential flooding are estimated to be \$110,000. The 100-year frequency flood will inundate the first floor of about 300 structures including 250 mobile homes.

10. No attempt has been made at this time to estimate flood damage to any other category; i.e., roads, bridges, emergency costs, etc.

HYDROLOGIC ANALYSIS

11. Existing Project Conditions. The existing project, with a bottom width varying of 15 to 35 feet, will carry a flood which has an exceedance frequency of once in five years. The City of Summerville has maintained the channel to its design capacity by keeping right-of-way maintained and the main channel free of rubble.

12. Re-evaluation of Sawmill Branch. A simple HEC-1 model was built that would generate the approximate discharges listed in the 1967 Detailed Project Report. Twenty-four hour rainfall listed in the report was adjusted according to the guidelines provided in TP-40 and distributed in an one-hour time intervals in proportion to the standard project storm. Watercourse lengths, basin slopes, basin lags, and curve numbers for all conditions, were estimated using U.S.G.S. quadrangle sheets. Pertinent data on the subbasins are listed on table 1

Table 1
Pertinent Data on Subbasins

Item	Location		
	At US 17A	Index Station 1	Mouth
Drainage Area (mi ²)	4.5	12.2	21.6
Equivalent Year Curve Number 1967	60	53	51
Equivalent Year Curve Number 1984	60	58	51
Fully Developed Year Condition 2000	65	72	72

The curve numbers selected for 1967 conditions were ones that approximately reproduce the discharge-frequency data published in the report. Curve number values for current and future conditions represent a relative increase in value due to urban development and not an actual curve number for area which would have been higher. Stage discharge curves for Index Stations 1 & 2 are shown on Figures 1 & 2, respectively, and the stage frequency curves for Index Stations 1 & 2 are shown on Figures 3 & 4 respectively.

STUDY OBJECTIVES

13. The objectives of this phase of the investigation are to determine the feasibility of further Federal involvement in addressing the flooding problems and to develop a detailed study plan. Should further study be needed, the objectives would be to formulate alternative measures to reduce flood damages and to select the best course of action to alleviate these problems.

PLANNING CONSTRAINTS

14. There are no major planning constraints known at this time.

POTENTIAL SOLUTIONS

15. Several alternative measures to meet the problems and needs of the area are possible; however, some of these measures are not practical or economical. Possible solutions may be divided into two broad categories of structural and nonstructural. Structural measures are designed to modify floods by altering the existing environment. These measures include alternatives which reduce flood elevations, divert floods, change the timing and duration of floods or restrict floods from portions of the flood plain. Non-structural measures are designed to modify flood damage susceptibility and include modifications to the cultural environment by adjustment in the pattern and mode of land use, by developmental policies and by assistance to affected individuals. Also, a combination of structural and nonstructural measures is possible.

NON-STRUCTURAL MEASURES

16. Non-structural measures do not attempt to reduce or eliminate flooding but are designed to regulate the use and development of the flood plain, thus, lessening damaging effects of large floods. Nonstructural measures consist of subdivision regulations, zoning, building codes, flood proofing, evacuation, open-space development and other measures to remove properties from the flood plain. These measures offer a potential solution to the current problems experienced on Sawmill Branch and will be further evaluated in the next study phase.

STRUCTURAL MEASURES

17. Structural measures are designed to alleviate flood problems by reducing flood stages or by moving damageable properties from the flood plain. These measures include channel modification, dams and reservoirs, and levee construction.

18. Hydraulic Analysis. To evaluate the desirability of further Federal participation, a channel which would contain the 10-year recurrence interval discharge was formulated and evaluated using available data. For this analysis a trapezoidal channel 9.4 miles long, covering the same reach as recommended in the 1967 report was designed and evaluated. The design channel has a slope of 0.001 and a roughness coefficient of 0.035, the same as was assumed for the existing channel. At Index Station #1 the design water surface has a depth of about nine feet with side slopes of 1V to 2H. The bottom width would be increased from 35 to 75 feet. At Index Station #2 the design water surface has a depth of about 8.5 feet with side slopes of 1V to 1H. The bottom width would be increased from 25 to 50 feet. No bridge improvements were assumed to be required.

PROJECT COSTS

19. The plan would involve removal of about 270,000 cubic yards of material and would require acquisition of 15 acres of land. The total first cost for

constructing the above-described plan would be approximately \$819,000. Cost estimates are based on preliminary data and will be modified as more data becomes available. Annual charges estimated at \$79,000 are based on prevailing Federal interest rate of 8-3/8% and a project life expectancy of 50 years. The \$79,000 annual charge includes \$9,000 for annual maintenance.

PROJECT BENEFITS

20. Construction of the previously-described plan would provide direct flood damage reduction benefits to the flood prone areas adjacent to Sawmill Branch. Damage reduction benefits are estimated to be \$96,000 consisting of a \$58,000 reduction for structure damage and \$38,000 for content damage.

BENEFIT-TO-COST COMPARISON

21. The following tabulation illustrates the benefit-to-cost comparison of the plan evaluated during the initial appraisal. Due to the nature of initial appraisal studies, economic data shown is considered preliminary and subject to change during detailed investigation

TABLE 2

BENEFIT - COST COMPARISON

Total Annual Flood Reduction Benefits	\$ 96,000
Annual Project Costs	79,000
Benefit-to-Cost Ratio	1.2

FEDERAL RESPONSIBILITIES

22. Project construction cost for flood control measures implemented through Section 205 of the 1948 Flood Control Act, as amended, are apportioned in accordance with traditional cost allocation procedures. In summary, the Federal government would bear the cost of project construction, excluding all costs allocated to bridge or utility modifications and to the acquisition of project-related lands. In addition, the Federal government would bear the cost of feasibility investigations and detail design documents. Under the Administration's proposed cost-sharing policy, however, the local sponsor would be required to pay 50% of the detailed design studies and a minimum of 35% of construction costs.

NON-FEDERAL RESPONSIBILITIES

23. Section 205 projects are local participation projects and require non-Federal participation for acquisition of project-related lands and for costs allocated to bridge and utility modifications. The following items of local cooperation would be required for implementation of a flood control project on Sawmill Branch in Summerville, South Carolina. The City of Summerville has indicated a willingness to furnish the items of local cooperation in-

cluding any cost sharing which may be required. Local project sponsors would be required to:

- a. Provide without cost to the United States all lands, easements and rights-of-way, including disposal areas as determined by the Chief of Engineers, necessary for project construction;
- b. Provide all government cost which exceed the statutory limitations of government participation;
- c. Accomplish without cost to the United States all alterations and relocation of buildings, transportation facilities, storm drains, utilities and other structures made necessary by project construction;
- d. Hold and save the United States free from damages due to construction, operations and maintenance of the project, provided damages are not due to the fault or negligence of the United States or its contractors;
- e. Maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of Army;
- f. Prescribe and enforce regulations to prevent obstructions or encroachments on the channels or other flood control works which would reduce their flood-carrying capacity or hinder maintenance and operation, and control development in the project areas to prevent unwise development; and
- g. Periodically inform affected areas that channel improvement will not provide complete flood protection.

WORK PROGRAM

24. Work items considered necessary in preparing a reconnaissance report on flood problems in Sawmill Branch are summarized below. The refined studies expected in the Detailed Project Study will also be discussed in this summary. A PB-6 which gives a breakdown of cost for the three stages of study preparation is attached as Inclosure 3.

a. Public Coordination. During the reconnaissance study, close coordination between planning elements, local governmental representatives, and local residents will be maintained. Identification of a local sponsor for the DPS and an indication of willingness and ability to contribute 50% of the cost of the DPS phase will also be accomplished in the reconnaissance phase. A late stage plan formulation meeting will be held to obtain local views on alternative plans of improvement before selection of a recommended plan and finalization of the DPS.

b. Environmental Studies. A detailed inventory of the environmental resources present along the flood plain and project impact areas will be prepared. This information will be used to determine what the impacts of various alternatives will be on the environment of the study area and to evaluate ways to enhance the environment and/or ameliorate the adverse

effects that potential alternatives could have. Finalization and report write-up will be prepared in the DPS.

A cultural resources reconnaissance will be made of the study area with primary emphasis along the immediate project impact area. This will serve to identify either known or possible archeological and historical sites within the study area. The study will be done in the Detailed Study Phase.

c. Fish and Wildlife Studies. In accordance with the agreement between the Corps of Engineers and the United States Fish and Wildlife Service, Department of the Interior (USFWS), the Fish and Wildlife Service will conduct appropriate studies to furnish the required Coordination Act Report.

d. Hydrology and Hydraulic Studies. Hydrology and hydraulic studies will be conducted in sufficient detail in the reconnaissance report to identify flood prone areas and delineate the flood plain. Flood profiles for existing conditions and for various plans of improvement will be developed for the appropriate recurrence interval events and the SPF utilizing computed flows and the HEC 2 backwater computer program. Design details for the selected plan will be completed in the Detailed Project Study at which time the H & H appendix will be finalized.

e. Economic Studies. Economic projections will be made to determine future needs of the basin area. Economic analyses will include comparison of cost and benefits of alternative plans. Engineering surveys will be conducted to determine the first-floor elevation of all structures located within the flood plain. Field interviews and questionnaires will be used to determine historical and potential flood damages. The nature and extent of flood damages will be determined for residential property, roads and bridges, business losses, and emergency costs. Real estate studies will be conducted to determine the value of damageable property. Damages will also be estimated for the future "Do Nothing" alternative.

Any reasonable alternative for correcting the flood problem will be analyzed and displayed in order to determine the most desirable plan of action. This will include both nonstructural and structural alternatives.

Economic base studies of existing and base year conditions will be completed in the reconnaissance phase as will the initial screening of an array of alternatives based on a preliminary appraisal of costs, benefits, and environmental impacts. DPS evaluations will deal with refining assessments of outputs of alternatives remaining or developed beyond the preliminary appraisal.

f. Project Management. The Project Manager will be responsible for overseeing the overall study process and coordinating the efforts of the various study disciplines.

g. Design and Cost Estimates. During the reconnaissance studies design and cost estimates for all alternative plans will be made in sufficient detail to enable the formulation of a best plan of action. In the DPS

additional design efforts and refined cost estimates will be made for the selected plan.

h. Surveys. For the reconnaissance study cross sectional surveys will be obtained at each bridge crossing, 50 feet upstream and downstream of each bridge crossing, and every 400 feet between bridges.

i. Foundation and Material Investigations. Jet probings would be obtained at specified intervals to determine type of material to be excavated. These investigations will be done during the DPS stage.

j. Real Estate Studies. Real estate studies will be made by Savannah District. The reconnaissance study will require estimates of the value of the structures in the flood prone area. Refined lands costs will be needed in the DPS stage.

k. Project Formulation. Plan formulation in the reconnaissance study will include working with study team members to formulate a reasonable array of viable alternatives and evaluating the impact of these alternatives. In the DPS stage, this array will be refined and possibly added to in order to develop the best plan possible to meet Federal and local objectives.

l. Preparation of Report. The reconnaissance report will be in sufficient detail to lead the reader to an understanding of the various alternatives screened and to show justification for the recommended detailed studies. The DPS report will cover the complete decision process and will contain necessary appendixes to explain in detail the results of the various elements.


CONCLUSIONS

25. The flood problems identified and potential alternatives to these problems are within the scope of the Section 205 program. The estimated cost of completing a detailed investigation of the flood prone area is \$60,000 for the reconnaissance report and \$170,000 for the Detailed Project Study. It will take six to eight months to complete the reconnaissance work.

RECOMMENDATIONS

26. Based upon information presented in this report, it is recommended that further study of flood problems in Sawmill Branch be authorized. Estimated study cost for completion of a reconnaissance report is \$60,000. It is recommended that funds in this amount be programmed for Charleston District at the start of FY 86 in order that the subject study may be pursued. Costs for preparation of this reconnaissance report were approximately \$7,500.

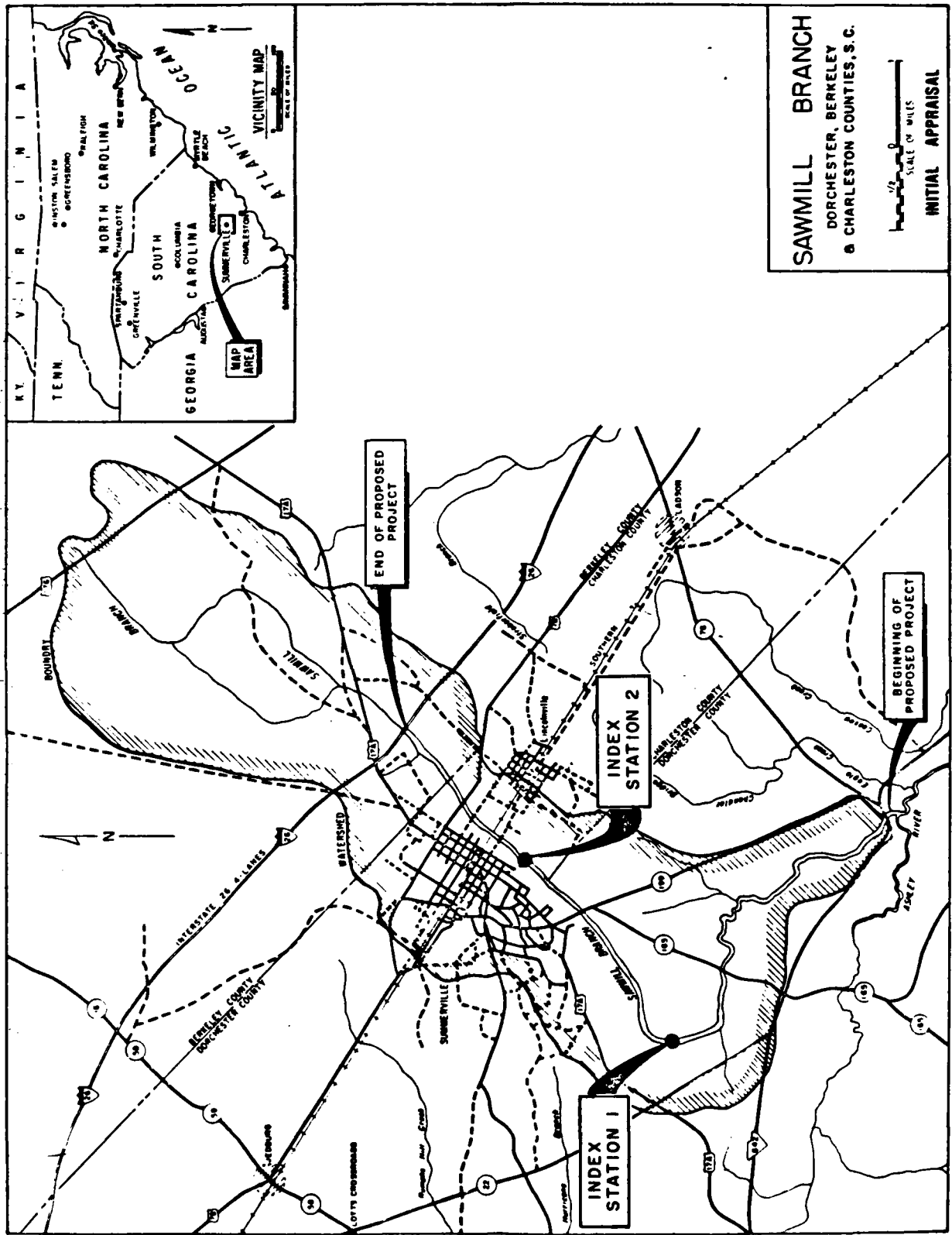
Request for reimbursement of these funds will be made by separate correspondence after final approval of this report.


F. L. SMITH, JR.
LTC, Corps of Engineers
Commanding

3 Incl
as

CORPS OF ENGINEERS

U S ARMY



BERLIN G. MYERS, MAYOR

Town of Summerville

ALDERMEN

TOM M. FINUCAN
SAMUEL L. KRAMER
BETH McINTOSH
STANLEY B. TUCKER
JOHN H. WEBER
DONALD R. WILSON



JOHN F. WILBANKS
TOWN ADMINISTRATOR

CORPORATION COUNSEL
WALTER M. BAILEY, JR.

TOWN ENGINEER
GERALD E. BLACKWELL

CHIEF OF FIRE DEPARTMENT
RICHARD G. WARING, III

DIRECTOR OF PLANNING
CHARLES L. CUZZELL

CHIEF OF POLICE
JAMES M. FARMER

TEL (803) 871-6000

104 Civic Center
Summerville, South Carolina 29483

March 5, 1984

Arthur P. Crouse, Jr.
Department of the Army
Charleston District, Corps of Engineers
Planning & Reports Branch
P. O. Box 919
Charleston, South Carolina 29402

Dear Mr. Crouse:

The Town of Summerville is formally requesting a flood control study of the Sawmill Branch Canal under Section 205 of the 1948 Flood Control Act. The Summerville area is the fastest growing area in the state and experienced over a 130% increase in population from 1970 to 1980. That rate of growth has continued and in fact increased over the past two years with the major portion of this growth occurring within the watershed area of the Sawmill Branch Canal.

Attached are four maps indicating the location of existing and proposed development that affects the flood control capabilities of the existing canal. This intensified urban development with its more efficient drainage systems has completely changed the hydraulic conditions of the area and put a tremendous strain on the drainage capacity of the entire drainage system of the Town of Summerville.

In anticipation of this continuing development throughout the entire watershed area and our understanding that the original design for the canal was for a five (5) year frequency flood, it is critical that the canal be widened and improved to provide an adequate level of flood protection.

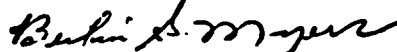
Sheet 2
Charleston District
Corps of Engineers
Planning & Reports Branch
March 5, 1984

Since this project would benefit areas beyond the corporate limits of Summerville including a portion of Berkeley County, I would propose that the new project be sponsored by Dorchester County and Berkeley County.

The Town, with assistance from Dorchester County is willing to increase its maintenance efforts on the existing project so that further investigation for a new project can be initiated.

Thank you for your consideration and continued cooperation.

Sincerely,


Berlin G. Myers,
Mayor

BGM/bas

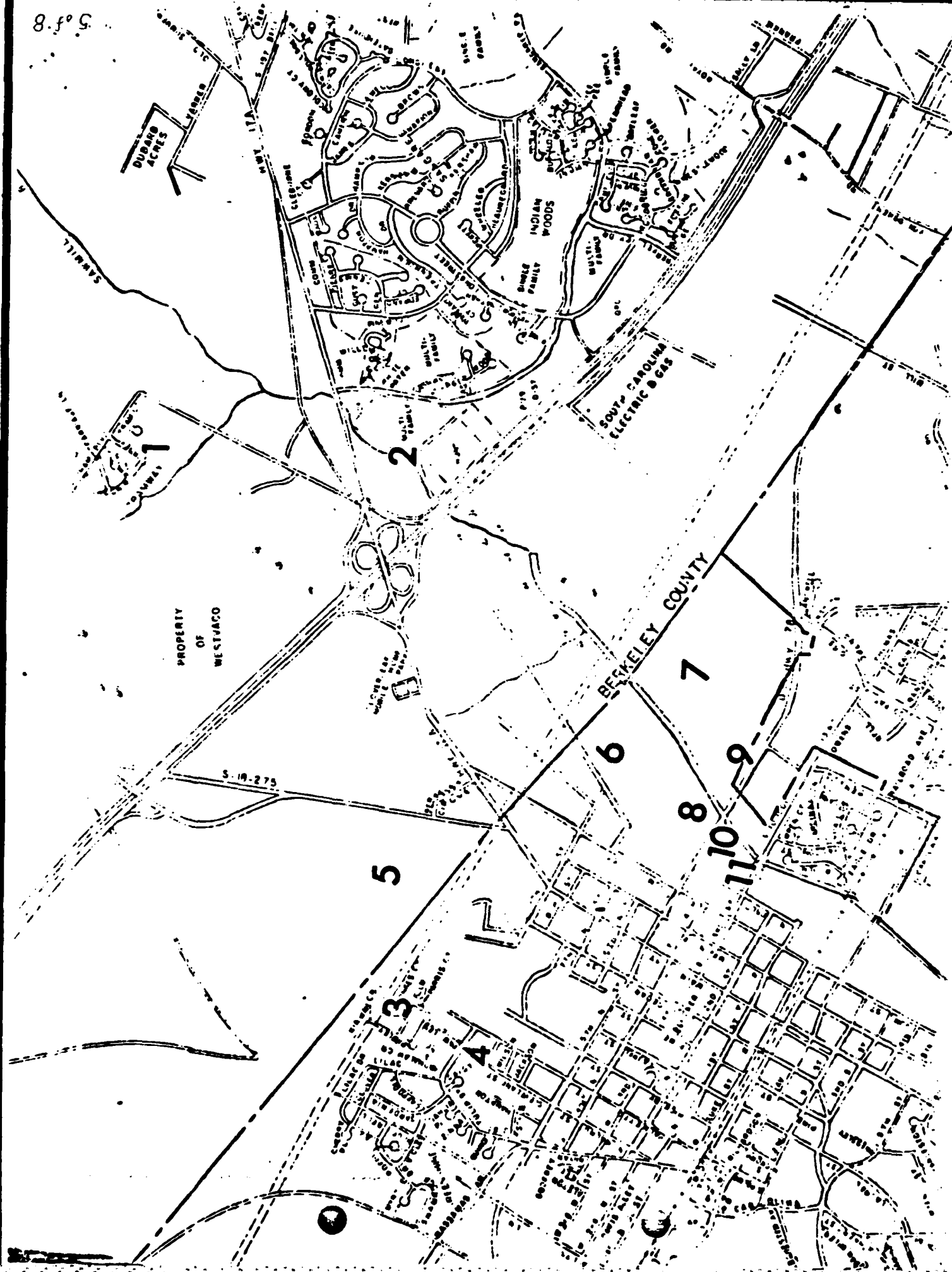
DEVELOPMENT PROJECTS IMPACTING THE SAWMILL BRANCH CANAL

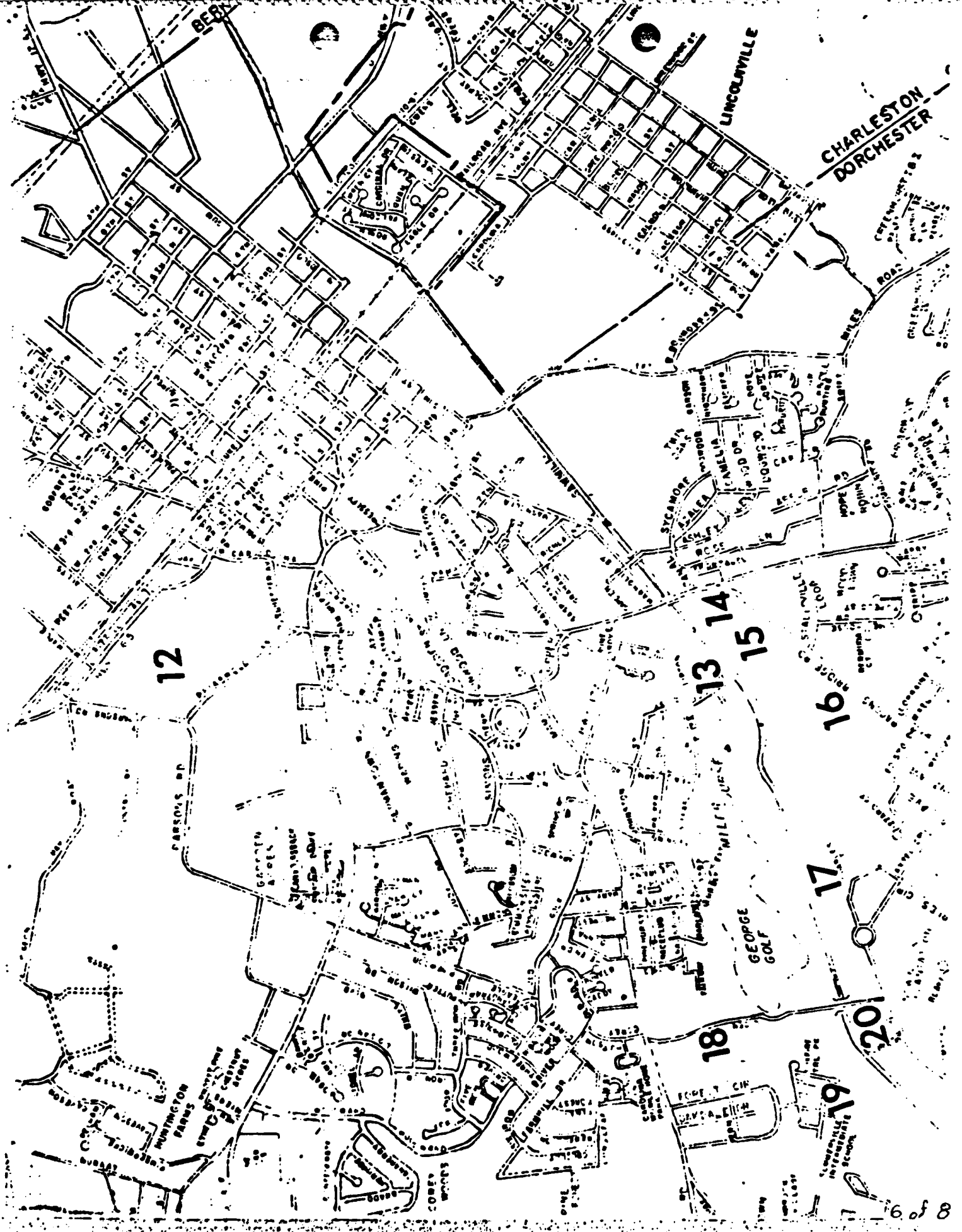
- 1- Tramway Subdivision
- 2- Commercial Development and a Portion of Sangaree Subdivision
- 3- Palmetto Park Subdivision (100 homes)
- 4- Rogers Cove - Apartment Complex (55 Units)
- 5- 200 Acres of Undeveloped Land - Inquiries have been made regarding development
- 6- 300-400 Acres of Undeveloped Land - Planning is under way for development
- 7- 200 Acres of Undeveloped Land - Planning is under way for development
- 8- 120 Acres of Undeveloped Land - Inquiries have been made regarding development
- 9- 10 Acres to be used for an apartment complex
- 10- Heritage Square Shopping Center
- 11- Apartment Complex Under Construction
- 12- 125 Acres of Undeveloped Land - Plans are approved for development of the entire tract with single family and multi-family residential and limited commercial areas
- 13- Expansion of existing residential areas
- 14- Summerville Plaza - Commercial Development
- 15- Plans are being developed for a multi-family complex
- 16- Plans are underway for the construction of a mobile home park
- 17- 145 Acres of Undeveloped Land - master land use plan has been developed for this area by the owner
- 18- Multi-family residential development
- 19- Expansion of an existing mobile home park
- 20- Development of patio homes and an apartment complex
- 21- Apartment complex of 240 units
- 22- Elderly housing development
- 23- Summerville High School & Intermediate High School

DEVELOPMENT PROJECTS IMPACTING THE SAWMILL BRANCH CANAL
(Sheet 2)

- 24- Flowertown Elementary and Newington Elementary Schools
- 25- Expansion of Newington Plantation Subdivision
- 26- Proposals are being considered for two mobile home parks
- 27- Expansion of Crestwood Subdivision
- 28- Development of an apartment complex and plans are being made
for a commercial development
- 29- Development of Evergreen and Millbrook Subdivisions
- 30- Expansion of Creekside Mobile Home Park
- 31- Irongate Subdivision
- 32- Brandymill Subdivision
- 33- Several multi-family residential complexes
- 34- A variety of commercial development including three major
shopping centers
- 35- Ashborough East Subdivision

This entire area along the eastern side of the Sawmill Branch Canal is scheduled for development over the next several years.





CHARLESTON
DORCHESTER

LINCOLNVILLE

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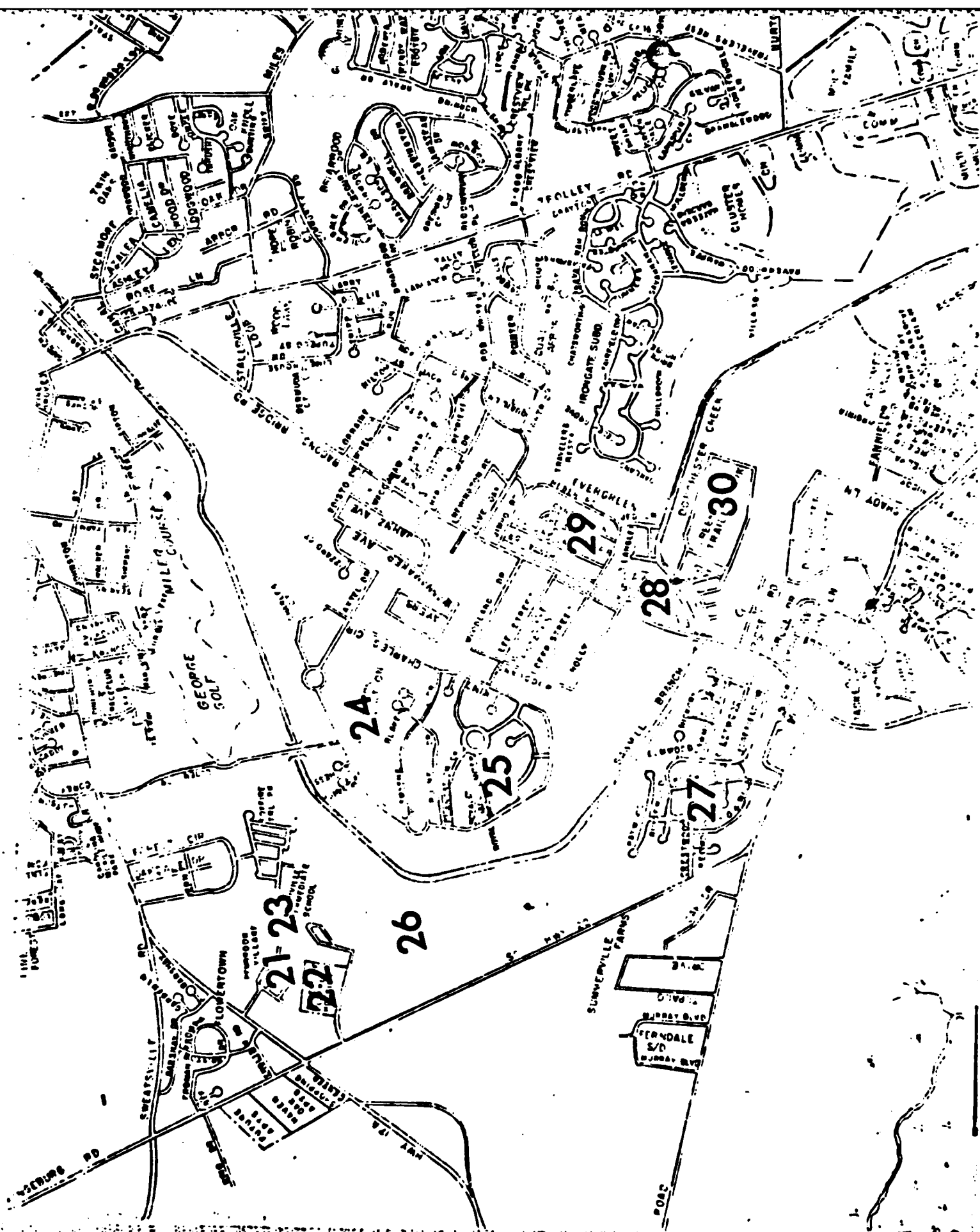
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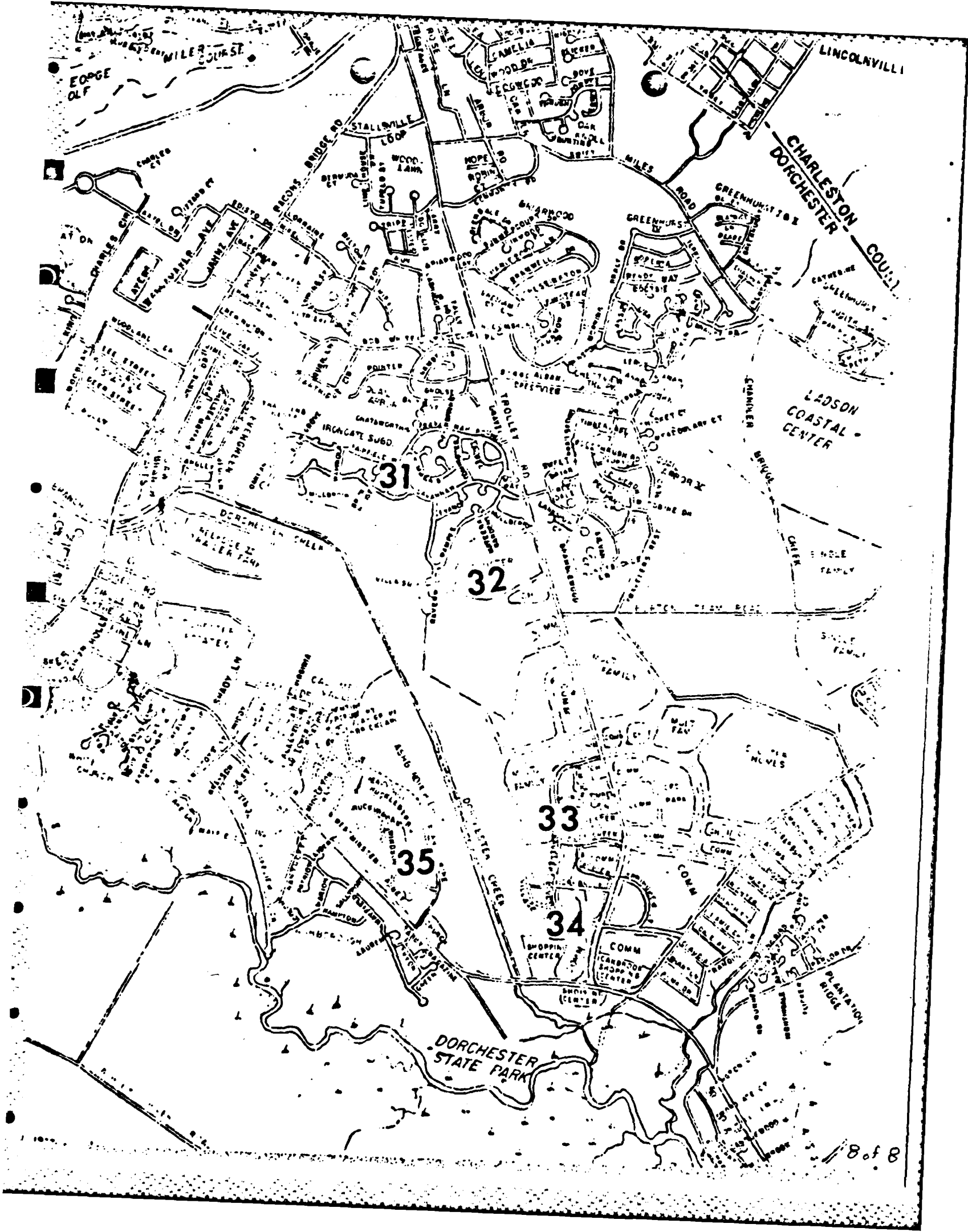
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GEORGE
PARK

WILMINGTON
PARK







United States Department of the Interior

FISH AND WILDLIFE SERVICE

P.O. BOX 12559

217 FORT JOHNSON ROAD

CHARLESTON, SOUTH CAROLINA 29412

April 3, 1985

Lt. Colonel F. Lee Smith, Jr.
District Engineer
Charleston District
U.S. Army Corps of Engineers
P.O. Box 919
Charleston, S.C. 29402

Re: Sawmill Branch Initial Appraisal Study, Dorchester County, S.C.

Dear Colonel Smith:

The following comments are provided to assist you in developing your Initial Appraisal Report on the proposed Sawmill Branch Flood Control Study.

On January 16, 1985, Prescott Brownell of this office met onsite with Jim Woody of your Environmental Resources staff to conduct a brief survey of fish and wildlife habitats in the Sawmill Branch floodplain.

The upper basin of Sawmill Branch is located to the northeast of the town of Summerville. The branch flows approximately 7 miles through Summerville to its confluence with the Ashley River near old Ft. Dorchester. The majority of Sawmill Branch was channelized several years ago from I-26 down to the approximate limit of tidal influence near the Ashley River.

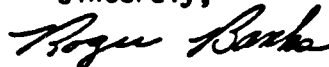
Presently, the basin is dominated by urban development and the existing habitats are highly disturbed by drainage, and clearing for commercial development. However, remnants of the original swamp forest communities are present above interstate HWY 26 and along several small tributaries. In addition, estuarine emergent marsh is present in Sawmill Branch near its confluence with the Ashley River. These areas should be more thoroughly investigated to assist in developing appropriate strategies to preserve remaining wetlands of Sawmill Branch.

Inclosure 2
1 of 2

Based on our initial assessment of the scope of the project and existing fish and wildlife habitat resources involved, we will need approximately \$2,600 to complete our FWCA studies on this project.

We would like to meet with your study team in the near future to develop a detailed scope of work and funding level for the Recon and DPS study phase. Thank you for the opportunity to provide comments on the Sawmill Branch project.

Sincerely,



Roger L. Banks
Field Supervisor

STUDY COST ESTIMATE (PB-6) (\$000)		APPROPRIATION TITLE: General Investigations				NAME OF STUDY		Sawmill Branch	
CATEGORY		CLASS				SUBCLASS		Dorchester, Berkeley, and Charleston Counties, S. C.	
CLASS		SUBACCOUNT				PREVIOUS FEDERAL COST ESTIMATE AND DATE APPROVED		REMARKS	
NUMBER	TITLE	Initial Appraisal	Recon. Report	Detailed Project Study	TOTAL				
a	b	c	d	e	f	g	h		
1	.00 Costs through 30 Sep 78								
2	.01 Public Involvement	0.5	3.0	8.0	11.5				
3	.02 Institutional Studies								
4	.03 Social Studies								
5	.04 Cultural Resource Studies								
6	.05 Environmental Studies "Except Fish and Wildlife"	1.0	1.0	0.5	0.5				
7	.06 Fish and Wildlife Studies		1.0	2.6	3.6				
8	.061 (In House)								
9	.062 (Fish & Wildlife Services Contract)		(1.0)	(2.6)	(3.6)				
10	.07 Economic Studies	1.5	14.5	48.5	64.5				
11	.08 Surveying and Mapping		2.0	10.0	12.0				
12	.09 Hydrology and Hydraulics Investigations	1.5	19.0	40.0	60.5				
13	.10 Foundations and Materials Investigations		1.0	5.0	6.0				
14	.11 Design and Cost Estimates	0.5	1.5	4.0	6.0				

DATE PREPARED 7 May 1985
 DIVISION SOUTH ATLANTIC
 DISTRICT CHARLESTON

REGION SOUTH ATLANTIC - GULF
 BASIN Ashley

STUDY COST ESTIMATE (PB-6) (8000) For use of this form, see ER 11-2-220		APPROPRIATION TITLE: General Investigations				NAME OF STUDY		REMARKS
		CATEGORY				Sawmill Branch		
		CLASS				Dorchester, Berkeley, and Charleston Counties, S.C.		
		SUBCLASS				SUBCLASS		
LINE NO.	SUBACCOUNT	NUMBER	TITLE	CURRENT FEDERAL COST ESTIMATE				PREVIOUS FEDERAL COST ESTIMATE AND DATE APPROVED ()
				Initial Appraisal	Recon. Report	Detailed Project Study	TOTAL	
		a	b	c	d	e	f	g
1		.12	Real Estate Studies			6.0	6.0	
2		.13	Study Management	0.5	5.0	12.0	17.5	
3		.14	Plan Formulation	0.5	1.0	2.0	3.5	
4		.15	Report Preparation	1.5	5.0	14.0	20.5	
5		.20	Other Studies		3.0	8.4	11.4	
6			(Stream Regulation Studies)					
7		.31	Supervision and Administration		3.0	6.0	9.0	
8								
9			TOTAL					
10								
11			1 / Includes contingencies	7.5	60.0	170.0	237.5	
12								
13								
14								
DATE PREPARED		DIVISION		DISTRICT		REGION		Page 2 of 2
7 May 1985		SOUTH ATLANTIC		CHARLESTON		SOUTH ATLANTIC - GULF		
						BASIN Ashley		

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