T= Plan of Study for Cross Florida Barge Canal: Economic analysis

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PLAN OF STUDY FOR
CROSS FLORIDA BARGE CANAL - UPDATE AND
EXPANSION OF ECONOMIC ANALYSIS - 14058

1. AUTHORITY. The subject economic analysis, herein referred to as "CFBC economic analysis," was authorized in Public Law 97-257, the 1982 Supplemental Appropriations Bill, which states "Within available funds, the Corps of Engineers is directed to use $450,000 to update and expand its 1977 economic analysis of the Cross Florida Barge Canal project. None of the costs of the study should be borne by non-Federal interests."

2. SCOPE. In correspondence dated 22 February 1982 to the Chief of Engineers, the Chairman, Subcommittee on Energy and Water Development, House Committee on Appropriations, stated:

> "As you will recall, the Corps of Engineers Economic Restudy Report, issued in 1977, excluded from consideration a number of elements necessary to portray an accurate benefit-to-cost ratio. Specifically, the Corps did not consider (1) barge transportation of coal, (2) area redevelopment benefits, (3) contingency benefits, and (4) regional economic development benefits. House Report 95-379, which accompanied the FY 78 Energy and Water Development Appropriations Bill, indicated that the Committee viewed the CFBC Restudy Report as being incomplete in the absence of these four considerations. The Appropriations report goes on to state that, "witnesses acknowledged that further economic restudy in accordance with the provisions of Section 140 is an unmet requirement...."

The Subcommittee requested that "the Corps update and expand its economic analysis of the Cross Florida Barge Canal to include the four previously missing items, identified above." This plan of study describes the methodology and schedule for accomplishing the necessary economic analysis requested by Congress. The plan will be considerd by the Chief of Engineers before making a final decision to proceed with the economic analysis. It is known that the Governor of Florida and some members of the Florida congressional delegation are opposed to completion of the project, and that some members of the Florida congressional delegation are supportive of project completion. The main objective of the economic analysis would be to evaluate and present the most reasonable future scenario or scenarios, with and without the project, and present appropriate sensitivity analyses. The discussion in this plan of study is developed to include the categories of benefits outlined in the Subcommittee's report. It is considered that the transportation benefits for a project of this magnitude should be based on a current reanalysis to substantiate or delete previously claimed commodity movements, and should include potential new movements as well as coal.

3. DESCRIPTION. The Cross Florida Barge Canal was authorized by Public Law 675, 77th Congress, dated 23 July 1942. The existing project provides for a

high-level barge canal about 107 miles long extending from the St. Johns River at Palatka to deep water in the Gulf of Mexico near Yankeetown. The project depth and width are 12 feet and 150 feet, respectively. Project works include 5 navigation locks 84 feet wide by 600 feet long. Other pertinent works include 3 reservoirs with dams and spillways, one or more pumping stations, recreation facilities, 11 highways and 3 railroad crossings. The project and related works are shown on figure 1. Construction was initiated in 1964; the project was about one-third completed on 19 January 1971 when the President ordered that further construction be halted to prevent potential serious environmental damage. He directed that work in progress be terminated in an orderly manner to leave affected areas in a safe condition. Completed works include the following:

Rodman Pool Area. Rodman Dam and Spillway, Henry Holland Buckman Lock, about 7 miles of project canal from St. Johns River to Lake Ocklawaha, clearing in the pool area, State Highway No. 19 bridge and recreational facilities.

Eureka Pool Area. Eureka Spillway, Lock and Dam (except for river closure); and State Highways No. 316 and No. 40.

Inglis Pool Area. Inglis Spillway, Lock and Dam; bypass facilities for water supply to the Lower Withlacoochee River and about 18 miles of canal from Inglis Pool to deep water in the Gulf of Mexico.

Completed project works are being operated and maintained as needed to serve the public interest.

4. PROBLEMS, NEEDS, AND OPPORTUNITIES. At the time of the previous study of transportation savings, commerce in coal primarily for electric power generation could not be projected with any degree of accuracy because most electric utilities had not developed firm plans for building new coal-fired plants or for converting from petroleum products or natural gas to coal at existing plants. Today, with plants already constructed that will burn coal, there is a greater probability of defining coal needs. So there is a need to reevaluate potential coal traffic via the CFBC. Also there is a need to evaluate the other types of benefits mentioned under "SCOPE" since these were not fully evaluated in the previous study.

5. STUDY CONSTRAINTS. In order to update and expand the economic analysis, the previous benefit analysis must be reexamined, with inclusion of coal transportation benefits, regional economic development benefits, area redevelopment benefits, and contingency benefits. Consultants would accomplish most of the work on transportation and regional benefits, and redevelopment and contingency benefits would be determined by inhouse analysis. The benefit reanalysis should revalidate or delete benefits accruing from previously claimed commodity movements, and also identify those from all potential new movements including coal. Engineering analysis by Jacksonville District would be limited to redetermination of costs for various scenarios, with no

new design or environmental studies. Although outside the scope of this economic update, any significant new items which surface during this study that impact on the environmental aspects of the project will be appropriately noted. Detailed analysis will not be included at this time, but will be accomplished during final design prior to construction as appropriate.

6. PLANNING PROCESS. There are a number of specific issues to be treated as a part of the planning process which are tabulated here, and some are addressed in detail subsequently in this plan of study.

a. Contract work would involve the following:

(1) If the economic analysis proceeds, scopes of work will be prepared as a basis for advertising and awarding two contracts, one for reanalysis of transportation economics including coal, and the other for evaluation of regional economic development benefits. These are discussed in detail later.

(2) The transportation economics reanalysis would be accomplished first, since those results would be needed as inputs to the evaluation of regional economic development benefits.

(3) Each of the contracts would be scheduled for completion in 6 months, i.e., about 1 year from initiation to completion of contract work.

(4) Every effort would be made to select the most highly qualified contractors with special qualifications in the respective subjects. It is anticipated that selection would be limited to private consulting firms.

b. The Jacksonville District study team would accomplish the following:

(1) Evaluation of area redevelopment benefits and contingency benefits, as applicable.

(2) Redetermination of project construction, operation, and maintenance costs at current price levels (approximately early 1984 levels). This would be based on recent contracting experience for the various work items. No new engineering or environmental studies would be done.

(3) Annual costs would be determined at both the project interest rate, 2 7/8 percent (including sunk costs), and at the current interest rate (excluding sunk costs). Future benefits would be discounted and presented at both interest rates. Benefit-to-cost ratios would be computed and presented at both interest rates.

(4) An economic analysis report would be compiled and submitted to the Chief of Engineers.

(5) During the course of the study, there would be a regular exchange of information to allow State comment. Drafts of reports would be coordinated before completion in final form.

(6) Appropriate public announcements would be made as the study progresses to advise of progress and results of the study. However, since there is considerable public interest in the project, it may be determined later that public meetings or workshops would be appropriate before the report is completed in final form.

c. Study cost and schedule. The last inclosure to this plan of study is a bar chart showing the proposed schedule. The $450,000 estimate of cost for the economic analysis can be broken down as follows:

| Item | Cost | |
|---|---|---|
| Transportation benefits and contract monitoring | $220,000 | |
| Regional economic development benefits and contract monitoring | $ 80,000 | |
| Jacksonville District studies, including $20,000 for plan of study | $100,000 | |
| Other (coord., study mgmt, etc.) | $ 50,000 | |
| Total | $450,000 | $230,000 |

7. PRIOR STUDIES. Previous study results were summarized in three basic categories or reports, engineering, environmental, and economics. Engineering studies and field investigations were conducted in sufficient detail to develop an array of alternative plans. Detailed geologic information, designs and cost estimates were prepared for each alternative plan and presented in an engineering report. Environmental studies were prepared on the impacts of the alternative plans on fisheries, wildlife, plankton-benthos, water quality and quantity, rare and endangered species, aquatic and terrestrial vegetation, groundwater aquifer, hydrologic and nutrient budgets, and air quality. Those individual study results were summarized in an environmental impact statement. Economic investigations included transportation, socioeconomic, and recreation and fishing and wildlife studies. The results of those studies were summarized in an economics report. The results of the above studies were presented in a summary report. A complete listing of available reports follows:

a. Cross Florida Barge Canal Restudy Reports.

(1) Reports prepared by the Corps of Engineers.

(a) Summary. A summary of the information contained in the following reports is presented in this volume.

(b) Engineering. This volume presents the engineering considerations including discussion of designs, hydrology, geology, and presents estimated costs.

(c) Engineering, Appendix A (Geologic). This is an appendix to the Engineering Report which contains the plates and tables showing the geologic data. This report also has a reprint of the discussion of geologic data from the Engineering Report.

(d) Economics. This report compares costs and benefits for the project.

(e) Environmental (available in libraries). This report summarizes the environmental contractor's reports.

(f) Final Environmental Impact Statement. The Final Environmental Impact Statement summarizes the environmental impacts of the alternatives studied.

(g) Scenarios. This provides the basic information on the alternatives to this project. This document is frequently referenced in most of the reports.

(2) Reports prepared under contract.

(a) Fisheries Study. This was prepared by the Florida Game and Fresh Water Fish Commssion and considers fish populations and angler use and harvest.

(b) Benthic Macroinvertebrate and Plankton Communities of the Associated Aquatic Systems for the Proposed Cross Florida Barge Canal. This three-volume work, commonly referred to as the Plankton-Benthos Study, was prepared by Environmental Research and Technology, Inc., of Concord, Massachusetts. It provides data and analysis on plankton and benthic organisms and their relation to the aquatic environment as it exists now, or may in the future, under the alternatives considered.

(c) Wildlife Study. This five-volume report was prepared by the Florida Game and Fresh Water Fish Commission. It discusses a wide range of species from insects to large mammals and understory vegetation. It considers hunting, wildlife values, and describes faunal-to-habitat associations.

(d) Endangered, Threatened, Rare, Special Concern, Status Undetermined and Biologically Sensitive Species. This was prepared by the Florida Game and Fresh Water Fish Commission under funds provided by the Fish and Wildlife Service, U.S. Department of Interior. The report discusses the species on the Federal and State list, plus others considered significant.

(e) Eagle-Osprey Survey. This survey was prepared by the Forest Service, U.S. Department of Agriculture, concerning populations of the Southern Bald Eagle, an endangered species, and the osprey, which is listed as threatened.

(f) Aquatic Vegetation Study. This study by Joyce Environmental Consultants, Inc., of Casselberry, Florida, covers the aquatic vegetation of the project areas to include those plants considered as nuisance.

(g) Terrestrial Vegetation Study. This study, prepared by the Forest Service, U.S. Department of Agriculture, covers the terrestrial overstory vegetation considering soil types and vegetative land use.

(h) Water Quality Aspects with a Section on Waste-Assimilative Capacity. The Geological Survey, U.S. Department of Interior, prepared this report. It was a 1-year intensified effort at collection of water quality data, with a section considering the effect of possible future development in the project area. This report is also available through the U.S. Geological Survey.

(i) Aquifer Test in the Summit Reach of the Proposed Cross Florida Barge Canal near Ocala, Florida. This investigation, conducted by the Geological Survey, U.S. Department of Interior, considers the impact of construction on the Floridan Aquifer in the Summit Reach area near Ocala. This report is also available from the U.S. Geological Survey.

(j) Recreation and Related Aspects. Prepared by the Bureau of Outdoor Recreation, U.S. Department of Interior, this study considers future recreational potential of the project area.

(k) Meta Systems, Inc., of Cambridge, Massachusetts, has prepared the following reports:

1 Overall Assessment. The overall assessment ties the work of the other environmental reports listed above into one assessment. It also provides a summary of the reports listed below.

2 Hydrologic Budget. The purpose of this report was to ascertain the effect of the alternatives on the hydrologic regime of the area and to identify specific effects on water supply, discharge, and stages in the affected areas.

3 Nutrient Budget. This report develops nitrogen and phosphorus budgets for the Oklawaha and Withlacoochee Rivers as they may be affected by the project.

4 Air Quality Analysis. A survey of current air quality with projected impacts of the alternatives considered in the project area.

5 Socioeconomic Evaluation. This presents a study of demographic and economic trends for the project region and shows the probable effect of completion or noncompletion of the project.

6 Benefit Alternative Sub-Study. This study deals with alternative means of deriving project benefits.

7 List of Concerns. This is a listing of issues on the project with the contractor's response thereto.

8 Phase I Socioeconomic Findings. This is a brief writeup describing the results of the Phase I socioeconomic studies.

(l) Highest and Best-Use Study. This report by the University of Georgia discusses possible uses of the Oklawaha River Basin and Lake Rousseau considering economic and environmental values. It was funded by the EPA.

(m) An Evaluation of the Transportation Economics of the Cross Florida Barge Canal, by A. T. Kearney, Inc. The separate report volumes are available as follows:

1 Executive Summary, Volume I. This is a summary of their findings.

2 Project Report, Volume II. This volume contains more detailed information than that of Volume I, Executive Summary.

3 Analysis of Traffic Flow Data, Appendix A. This volume is mainly a computer printout of traffic flow data.

4 Rate Analysis Methodology, Appendix B. The purpose of this appendix is to describe the methodology for construction of waterway rates for movements through the Cross Florida Barge Canal.

(n) Alternatives for Restoration of the Oklawaha River Portion of the Cross Florida Barge Canal Project and for Disposition of Other Lands and Facilities Outside the Oklawaha River Area. Presents the alternatives as described in the title.

8. DETAILS OF TRANSPORTATION BENEFIT ANALYSIS. Following is a narrative description of the scope of work for this study effort which would be performed essentially by Contract. A detailed scope of work would be the first priority for the economic analysis. The scope of work would include a description of the project, and the contractor would be furnished pertinent portions of the 1977 study report, as well as appropriate Corps' regulations and policy guidelines relating to gathering, disclosing, and evaluating data. The scope of work would include:

a. A literature review of the previous benefit analysis; an industry review of commerce that would possibly move via the project; a review of forecast publications to assist in development of commerce projections; a review of electric utility projects in the area to assist in making forecasts of conversions to coal and coal consumption; and a review of Corps' regulations and policy guidelines, especially as related to benefit determinations.

b. Field traffic surveys and interviews would be conducted with companies which might have substantial interest in utilizing the project, and the contractor would determine which companies, individuals, shippers and receivers are pertinent to realizing transportation savings via the project. Origins and destinations of pertinent commodity movements would be determined from the interviews. The contractor would develop a format for the interviews and, subject to Corps' approval, use the format to record and document all data, and furnish the data to the Corps on completion of the contract. Every effort would be made to avoid excessive aggregation of data or obtaining privileged data that would limit its usefulness or hinder independent review by others.

c. Transportation rates for movements between origin and destination would be determined for each commodity under consideration, both with and without the project. All handling delays, transshipment, demurrage, towing, docking, port charges, and other items contributing to the cost between origin and destination would be included in the rate structure analysis. The analysis would identify the specific modes of transport and mode capacities between origin and destination, both with and without the project.

d. Commodity projections for 50 years would be made, considering:

(1) Tributary area and prospective demand for each commodity.

(2) Population projections.

(3) Statistical records of commodity movements through neighboring harbors and waterways.

(4) Interview responses from shippers or consuming companies.

(5) World, national, regional, and local traffic trends.

(6) Regression analysis as applicable.

(7) For coal, consider all sources of projections and modes concerning use of coal by power plants.

e. Computation and compilation of transportation savings/benefits would be based on comparison of transportation costs with and without the project, applied to the projected commerce, and appropriately discounted to determine

average annual benefits for 50 years. Significant benefits would be treated to sensitivity analysis where more than one reasonable future scenario is probable.

f. The contractor would periodically brief the Corps, and prepare and submit a brief memorandum to the Corps stating the contractor's understanding of the results of the review, and the Corps would in turn approve or comment on each memorandum.

g. The contractor's report would present the results of the transporation analysis in a comprehensive manner, as well as in a brief executive summary. The Corps would review and comment/accept the report in a timely manner. The contractor's report would then be available for public review. The report would also be an input to the next contract study on regional economic development benefits.

9. DETAILS OF REGIONAL ECONOMIC DEVELOPMENT BENEFIT ANALYSIS. The study of regional development impacts of constructing the Cross Florida Barge Canal would provide estimates of the benefits of construction expenditures, reduced transportation costs, and recreation expenditures. The impact of these on industrial output, employment, and personal income would be estimated for various regions of the United States for each year during the construction period and for each decade during the 50-year project life.

Transportation projects have local impacts on the areas which receive the construction expenditures and reduced transportation costs, and indirect impact on the rest of the U.S. through production and trading interdependencies. Traffic diverted from other modes lead to employment and earnings losses in that mode and to somewhat smaller increases in barge earnings and employment. Other benefit and cost impacts will be considered as well, to include increased costs of construction and maintenance of supporting public infrastructure, roads, utilities and public services, and the net impact of the conversion of land from one use to another to support space needed for development.

Regional development impacts are directly related to expenditures and benefits. The major tasks involved in the regional development impact study are: (1) defining the relevant regions, (2) defining the necessary industry sector detail, (3) selection of the procedure by which direct and indirect regional development impacts are estimated, (4) calibrating the selected model for the regional and sector detail required, (5) preparing the input data, (6) conducting the analysis, and (7) writing the report. As with the preceding contract, a detailed scope of work would be prepared for this contract and the contractor would be furnished the results of the transportation analysis. The scope of work would include:

a. Defining the Relevant Regions. There may be some differences between an ideal regional boundary criteria for transportation versus construction or other impacts. For that reason, the following discussion will emphasize transportation cost savings, and consequently transportation

regions. Table 1 shows the incidence of transportation savings by BEA area and is based on the February 1977 Restudy Report on Final Economics and origin-destination data available in the Jacksonville District. The proposed 1982 regional development impact study should update this data base to reflect the results of the proposed update of transportation economics. Transportation benefit data offer the best sector definitions for regional development impacts due to transportation cost savings. Table 2 presents transport cost savings by SIC Code based on the 1977 data. Savings would accrue to destination regions if prices are FOB origin. The proposed traffic study could generate different movements. A logical early stage of the regional development analysis would be to update the previous analysis to determine appropriate regions and SIC categories.

b. Industry Sector Detail. The following discussion is based on identifying the minimum level of industry sector detail which may be needed. Depending on the impact model selected, analysis costs are sensitive to the industry/regional detail selected. Table 3 shows a preliminary organization of industry input-output sector detail.

c. Selection of Procedures to Estimate Regional Development Impacts. The number of regions which appears to be needed mitigate against the Industrial Location method which is best oriented to defining impacts on the waterway corridor areas. Thus, the input-output or econometric approach appears to be better suited to the analytical problem. Between these two approaches, the econometric model can provide a set of impact information and lends itself to regional detail (down to the county level) if desired. The econometric model has mathematical properties which tend to be unstable and detract from its result. Therefore, the variable coefficient input-output (I-O) approach is a considered a reasonable compromise of costs, quality of information, and disaggregation by industry sector and region.

d. Calibration of the Selected Model. Given a list of industry sector detail and transportation regions, along with direct user benefit impacts, the selected model would be calibrated to furnish the required detail.

e. Preparing the Input Data. Construction impacts are estimated from (1) the construction schedule by year and by major project elements, (2) cost estimates divided into region of purchase, and (3) industry sector vector from Department of Labor sources. A detailed project cost estimate must be provided for each likely region of purchase. This type of information is used with the Department of Labor estimate of construction cost industry sector to distribute construction expenditures to each region. This is the input to the variable coefficient input-output model. For the multi-industry multi-region econometric model, expenditures are divided into two groups, i.e., equipment purchasing and construction by region of purchase. Transport cost savings inputs are the origin-destination and savings for each movement. Impacts of recreational expenditures can also be directly estimated by the I-O procedure. Inputs are expenditures by industry sector and region.

TABLE 1

Transportation Savings by Origin & Destination BEA Area
From 1977 Restudy Report
Cross Florida Barge Canal

| Regional BEA Area | Transporationtion Savings $1,000 Origin | Destination |
|---|---|---|
| **Waterway Region** | | |
| 41 Jacksonville, FL | 230 | 1,657 |
| 44 Tampa-St. Petersburg, FL | 927 | 462 |
| Subtotal | 1,157 | 2,119 |
| **Gulf Coast** | | |
| 122 Houston, TX | 747 | -- |
| 121 Beaumont-Port Arthur, TX | 18 | 593 |
| 114 Baton Rouge, LA | -- | 3,979 |
| 113 New Orleans, LA | 130 | -- |
| 46 Pensacola-Panama City, FL | 170 | 36 |
| 47 Mobile, AL | 51 | -- |
| 49 Birmingham, AL | 5 | -- |
| Subtotal | 1,685 | 4,608 |
| **East Coast** | | |
| 39 Savannah, GA | 308 | 69 |
| 38 Macon, GA | 649 | -- |
| 35 Augusta, GA | 30 | -- |
| 33 Florence, SC | 622 | 181 |
| 24 Rocky Mount, NC | 333 | -- |
| 22 Richmond, VA | -- | 181 |
| 19 Baltimore, MD | -- | 49 |
| 18 Philadelphia, PA | -- | 560 |
| 12 New York, NY | -- | 121 |
| Subtotal | 4,939 | 1,161 |
| **Rest of U.S.** | | |
| 107 | -- | 22 |
| 87 | 74 | -- |
| 99 | 63 | -- |
| 83 | -- | 57 |
| 96 | -- | 20 |
| Unidentified | 610 | 610 |
| Subtotal | 816 | 709 |
| TOTAL | 8,597 | 8,597 |

TABLE 2

Distribution of Transport Savings by SIC Classification
Cross Florida Barge Canal

| SIC | | Transportation Savings ($000) | No. Movements |
|---|---|---|---|
| Unclassified | | 17 | 1 |
| 09 | Commercial Fishing | 95 | 2 |
| 10 | Metal Mining | 308 | 1 |
| 14 | Other Mining | 4,843 | 5 |
| 20 | Food & Kindred | 132 | 3 |
| 24 | Lumber & Wood | 65 | 1 |
| 26 | Paper & Allied | 170 | 2 |
| 28 | Chemicals | 801 | 5 |
| 32 | Clay, Glass, etc. | 748 | 4 |
| 33 | Primary Metals | 751 | 4 |
| 34 | Metal Fabrication | 667 | 3 |
| | TOTAL | 8,597 | 31 |

For construction impacts one would add:
Construction other than buildings SIC16
Construction, special trades SIC17

For recreation impacts one would add:
Wholesale and Retail Trade SIC50, 51, 55, 58, and 59
Hotels, etc., SIC70

Remaining SIC groups could be aggregated by division (agriculture, mining, manufacturing, services, government).

From the preceding data and discussion, the following regional configuration is indicated:

1. Project Region
   - Two BEA regions
   - Could separate waterway corridor counties, this giving two regions

2. Gulf Coast
   - BEA regions in Texas, Louisiana, Alabama, and Florida

3. East Coast
   - BEA regions in Georgia, North & South Carolina, Virginia, Maryland

TABLE 3

Tentative Industry Input-Output Sector Classification
Cross Florida Barge Canal

| Industry No. | Title | BEA Code | SIC Code |
|---|---|---|---|
| 1 | Agricultural Products | 1,2 | 01-07 |
| 2 | Forestry and Fishery | 3,4 | 08-09 |
| 3 | Food and Kindred Products | 14,15 | 20-21 |
| 4 | Textile Mill Products | 16,17,18 | 22 |
| 5 | Miscellaneous Fabricated Textile Products | 19 | 11-13 |
| 6 | Lumber and Wood Products | 20,21 | 24 |
| 7 | Furniture and Fixtures | 22,23 | 25 |
| 8 | Paper and Allied Products | 24-25 | 26 |
| 9 | Printing and Publishing | 26 | 27 |
| 10 | Chemicals and Allied Products | 27-30 | 28 |
| 11 | Petroleum and Allied Products | 31 | 29 |
| 12 | Plastic and Rubber Products | 32 | 30 |
| 13 | Leather and Leather Products | 33-34 | 31 |
| 14 | Stone, Clay, and Glass Products | 35-36 | 32 |
| 15 | Primary Metals | 37-38 | 33 |
| 16 | Fabricated Metal Products | 39-42 | 34 |
| 17 | Machinery Except Electrical | 43,52 | 35 |
| 18 | Electrical Equipment | 53-58 | 36 |
| 19 | Motor Vehicle and Transportation Equipment | 59-61 | 37 except 3761 & 3795 |

TABLE 3 (Continued)

| Industry No. | Title | BEA Code | SIC Code |
|---|---|---|---|
| 20 | Miscellaneous Manufactures | 62-64,13,16,17 22,23,26,33-34 | 38,39,22,25 31,pt34,pt37 |
| 21 | Bituminous Coal Mining | 7 | 11,12 |
| 22 | Crude Petroleum and Natural Gas | 8 | 13 |
| 23 | Other Mining Except Petroleum Gas and Coal | 5,6,9-10 | 10,14 |
| 24 | Contract Construction | 11,12 | 15-17 |
| 25 | Transportation and Warehousing | 65 | 40-47 |
| 26 | Wholesale and Retail Trade | 69 | 50-57,59 |
| 27 | Finance, Insurance, Real Estate | 70-71 | 60-67 |
| 28 | Communication, Radio and TV | 66,67 | 48 |
| 29 | Electric Gas and Sanitary Service | 68 | 49 |
| 30 | Hotel and Other Services | 72-77 | 70-89,58 |
| 31 | Government Enterprise | 78,79 | 91-97 |

f. Conducting the Analysis. Given a calibrated model and input data, the analysis stage is straightforward. The analysis stage should be organized to provide a high level of interaction in order to judge the relevancy of the estimates and the quality of the information generated from intermediate steps during the analysis.

The major decision points for the analysis are likely to be:

(1) Analysis Outline. An outline should be one of the early outputs of the study effort. This would help focus the analysis and communicate priorities.

(2) Definition of Regions and Sector Detail. The data made available at this point should be based on updated transport savings and any other significant adjustments in other benefit categories.

(3) Specification of Model Output Categories and Years for Which Estimates are Required. The specifications should be presented in a short report stating the way that the selected model will be configured and the categories of estimates which will be provided. An outline of the final report may also be appropriate. Personal income and employment for each year of the construction period and for each decade during project life, and average annual equivalent values (for income) should be included as a part of the data made available at this point.

(4) Review of Input Data Supplied by Corps. At this point, a short written report would be prepared documenting any problems with input data, and how the problems are to be overcome.

(5) Preliminary Report of Results of Model. A short report would be prepared and a check point meeting held to review model results, to determine whether sensitivity runs are desirable, and to evaluate problems with model specification and input data.

(6) A final report would be prepared, a review conference held, and briefings scheduled.

10. AREA REDEVELOPMENT BENEFITS. These are also known as National Economic Development (NED) Employment Benefits. Unemployment or underemployment benefits are a special category of benefits and are a component of the NED account. This component is conceptually an adjustment to the cost of a project, because there is no economic cost associated with the use of an otherwise unemployed resource, or full utilization of an otherwise underemployed resource. Due to the measurement problems, benefits are limited to payments to unemployed and underemployed labor resources directly employed in the construction and installation of a project. Areas eligible to be classified as areas of substantial and persistent unemployment are designated each year by the Water Resource Council. The CFBC project has no designated eligible areas at this time.

11. CONTINGENCY BENEFITS. These would account for small-volume commerce which would not be specifically evaluated for transportation savings. It is anticipated this would be a nominal percentage of evaluated transportation savings. A rationale for the appropriate percentage would be developed and presented in the report.

12. FLOOD CONTROL, RECREATION, AND FISH AND WILDLIFE BENEFITS. Flood control benefits presented in the previous reports would be reviewed and updated as appropriate. Basic information on recreation needs and resources developed by the Bureau of Outdoor Recreation in the previous reports would be reviewed and updated as appropriate. Fishing and hunting benefits in the previous reports would be reviewed and updated as appropriate.

13. ENGINEERING STUDIES. These would be limited and consist only of a redetermination of project costs for construction, operation, and maintenance. Also the average annual costs would be reevaluated at the authorized and current interest rates (2 7/8 percent and the FY 84 rate, respectively). There were a number of alternative plans evaluated in the 1977 study, including noncompletion plans. For the purpose of this economic study, it is proposed to reevaluate two plans: the authorized plan and the selected completion plan.

14. FINAL REPORT. The final report would be compiled to include the results of the benefit evaluations and the reevaluated project costs, benefit-cost ratios at appropriate interest rates, and appropriate recommendations. Section 140 of the 1476 Water Resources Development Act provides for evaluation of regional economic development benefits, and their use would be in accordance with guidelines or directives by the Assistant Secretary of the Army at that time. The report would be submitted to Congress to satisfy the outstanding study authority.

15. COORDINATION. There is considerable public interest in the project, both pro and con, and coordination of the study progress and results would be undertaken. By letter dated 1 October 1982 to the Chief of Engineers, the Governor of Florida expressed opposition to the project and requested the Chief of Engineers to discourage further attempts to fund a barge canal feasibility study. On 28 October 1982, the Chief of Engineers replied in part that $20,000 had been approved for a plan of study. Copies of these letters are inclosed. At a State interagency meeting in December 1982, the District Engineer indicated willingness to receive State recommendations prior to proceeding with the study, and by letter of 4 January 1983 the Office of the Governor submitted a list of issues of concern and recommendations concerning the study. This letter and the Jacksonville District response dated February 1983 are inclosed. It is proposed that there would be a regular exchange of information between the District and designated State officials. Under this process, review would be continuous and State and other officials would work with the Corps of Engineers' study team as needed. Drafts of reports would be coordinated before completion in final form. Comments would be considered and used as much as possible under constraints of study funds, schedules, and Corps of Engineers' policies and regulations.

16. CONCLUSION. The economic analysis would entail two major contract works, one for reevaluation of transportation benefits and then one for regional economic development benefits. The Corps of Engineers would reevaluate project costs for construction, operation, and maintenance of the project, as well as average annual costs. Area redevelopment and contingency benefits would also be developed as applicable. Other benefits such as recreation that were previously evaluated would be reviewed and updated as appropriate. During the course of these efforts, there would be coordination with State officials.

The final report which would present the study results and benefit-cost ratios, would be submitted to Congress in response to the 1982 study authority. It is anticipated that the final report would be completed about 14 months after initiation of the first contract.

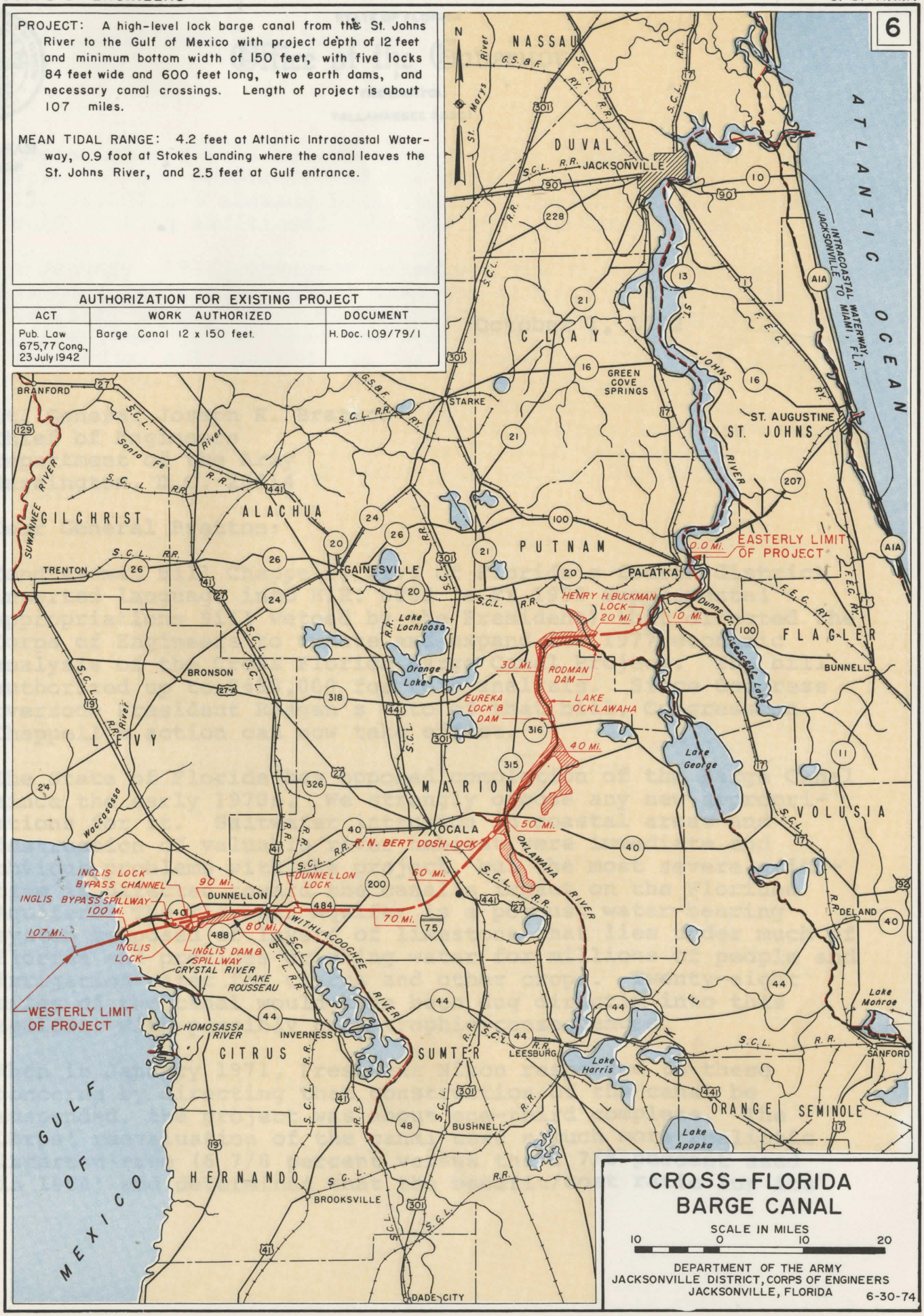
Inclosures
- Project Map
- Pertinent Correspondence
- Schedule

6

PROJECT: A high-level lock barge canal from the St. Johns River to the Gulf of Mexico with project depth of 12 feet and minimum bottom width of 150 feet, with five locks 84 feet wide and 600 feet long, two earth dams, and necessary canal crossings. Length of project is about 107 miles.

MEAN TIDAL RANGE: 4.2 feet at Atlantic Intracoastal Waterway, 0.9 foot at Stokes Landing where the canal leaves the St. Johns River, and 2.5 feet at Gulf entrance.

| AUTHORIZATION FOR EXISTING PROJECT | | |
|---|---|---|
| ACT | WORK AUTHORIZED | DOCUMENT |
| Pub. Law 675,77 Cong., 23 July 1942 | Barge Canal 12 x 150 feet. | H. Doc. 109/79/1 |




# CROSS-FLORIDA BARGE CANAL

SCALE IN MILES
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DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA 6-30-74

STATE OF FLORIDA

Office of the Governor

THE CAPITOL

TALLAHASSEE 32301

BOB GRAHAM
GOVERNOR

October 1, 1982

Lt. General Joseph K. Bratton
Chief of Engineers
Department of the Army
Washington, D.C. 20314

Dear General Bratton:

Congressman Bill Chappell, Jr., of Florida's fourth district inserted language into H.R. 6863 (a FY 1982 Supplemental Appropriations Bill vetoed by the President) that directed the Corps of Engineers to update and expand its 1977 economic analysis of the Cross Florida Barge Canal Project. The bill authorized up to $450,000 for this analysis. Since Congress overrode President Reagan's veto of that bill, Congressman Chappell's action can now take effect.

The State of Florida has opposed completion of the Barge Canal since the early 1970s. We strongly oppose any new appropriations for it. Saltwater intrusion in coastal areas and destruction of valuable river habitat were immediate and obvious problems with the project, but the most severe criticism is directed toward the canal's impact on the Floridan Aquifer. The Floridan Aquifer is a porous, water-bearing system composed of layers of limestone that lies under much of Florida and provides drinking water for millions of people and irrigation water for citrus and other crops. Twenty-eight miles of the canal would have been dug directly into this aquifer, with possibly catastrophic consequences.

When in January 1971, President Nixon responded to these concerns by directing that construction of the canal be suspended, the project was about one-third complete. The Corps' reevaluation of the canal used a much more realistic interest rate (6 7/8 percent versus the 2 7/8 percent used in 1964) and determined that the benefit/cost ratio for its

completion was well below unity (0.58). Interestingly, the ratio for non-completion of the project was 1.05, even though $73,000,000 had already been spent. Completing the project would cost an additional $474,000,000 (in 1982 dollars).

In January, 1977, Governor Askew and the Florida Cabinet passed a resolution asking that the project be deauthorized. The Chief of the Corps of Engineers responded by recommending to President Carter that the project be terminated. A deauthorization bill passed the U.S. Senate in 1978, but failed to reach the House floor. The bill was supported by 11 of Florida's 13 Congressmen, but opposition by Congressmen Chappell and Bennett (of Florida's Third District) kept the bill off the floor. In 1979, the Florida Legislature voted in support of the 1977 Governor and Cabinet Resolution for deauthorization.

Florida's objections to the project continue. Our environmental concerns have strengthened, and the canal's economic feasibility is as dubious as ever. Some canal proponents recently have claimed that transportation of coal through the canal for electrical power production could result in a favorable benefit/cost ratio. The University of Florida's Bureau of Economic and Business Research has refuted this claim. The analysis also rejected several other claims by canal proponents, including increased recreational benefits, generation of hydropower, greater energy efficiency and significant increases in employment. In short, no new information has surfaced to justify any expenditure of public funds on a new feasibility study for the Barge Canal.

Florida annually requests funding from Congress for a unified program of public works projects. To be included in the program, a project must be favorably reviewed by State and Federal agencies and must be judged to be in the best interests of the citizens of Florida. The proposed feasibility study was not submitted for consideration in Florida's FY 1983 Public Works Program (submitted to Congress last March) or its FY 1984 Preliminary Public Works Program (to be submitted to O.M.B. in October), although a Barge Canal Feasibility Study probably would not have been favorably reviewed for either year. It clearly is not in the best interests of Florida's citizens.

This seems a particularly poor time to spend funds on a feasibility study with so little merit. That $450,000 could

be much more productively divided among several promising public works studies in Florida, such as the Suwannee River and Kissimmee River Studies.

Very recently, I learned that the Corps is transferring funding from Washington to its Jacksonville District Office to begin the Barge Canal Study. Furthermore, Jacksonville has told us that the study will be initiated as soon as the funding arrives.

We would be very disappointed if the Corps began this study over objections from me, the Florida Legislature, and the local sponsor for the Barge Canal (the Canal Authority of Florida, composed of Florida's Governor and Cabinet). As the Corps' own Policy Digest explains,

> "If gubernatorial opposition to projects in (the preconstruction planning) stage occurs, the Corps generally will phase out and suspend planning as long as the governor remains opposed (p. 3-4)."

We have always closely coordinated Florida's needs with the mission and authority of the Corps. Initiating a Barge Canal Study could seriously disrupt that relationship.

Thank you for your consideration of my comments. We would greatly appreciate anything you could do to discourage further attempts to fund a Barge Canal Feasibility Study.

With kind regards,

Sincerely,

Governor

cc: Honorable Lawton Chiles
Colonel Alfred Devereaux

DAEN-CWP-E

28 OCT 1982

Honorable Bob Graham
Governor of Florida
The Capitol
Tallahassee, Florida 32301

Dear Governor Graham:

Thank you for your letter of October 1, 1982, concerning the Cross-Florida Barge Canal Project. You have made it clear that the State of Florida's position opposing the project remains unchanged.

The language you cited in the Policy Digest of the U.S. Army Corps of Engineers is indeed our general policy. However, in instances such as this, we give due weight to any specific instructions the Appropriations Committees may desire to express in their reports on appropriations bills. Thus, we have responded to the language contained in the report of the House Appropriations Committee on the 1982 Supplemental Appropriations, which directs an update of the economic analysis of the project, by approving the use of $20,000 for preparation of a proposed plan of study by the Jacksonville District. After review of the proposed plan of study by my staff and the staff of the Assistant Secretary of the Army (Civil Works), a decision regarding the use of additional available funds will be made.

Sincerely,

J. K. BRATTON
Lieutenant General, USA
Chief of Engineers

STATE OF FLORIDA

# Office of the Governor

THE CAPITOL

TALLAHASSEE 32301

BOB GRAHAM
GOVERNOR

January 4, 1983

Colonel Alfred B. Devereaux, Jr.
Commander and District Engineer
Jacksonville District
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232

Dear Colonel Devereaux:

The U.S. Army Corps of Engineers has been authorized by Congress to proceed with an Economic Restudy of the Cross Florida Barge Canal project. In 1976 the State of Florida requested that the Cross Florida Barge Canal be deauthorized, and that various alternatives for restoring, preserving, or abandoning all or parts of the existing canal should proceed. The State has not altered its position and is strongly opposed to this Economic Restudy effort. However, we appreciate the Corps willingness to receive State recommendations prior to proceeding with the Economic Restudy which is to commence in January.

As a result of a State interagency meeting, this Office prepared written issues of concern relating to this project. The purpose of this letter is to forward these issues as State recommendations concerning the development of the Restudy Plan. Issues which we suggest require your examination are broadly classified on the attached pages as: i) organizational, procedural and accountability issues, ii) economic issues, and iii) environmental cost issues.

Thank you for giving us the opportunity to guide your initial planning restudy efforts. We request that you keep us informed as you proceed with this Economic Restudy.

Sincerely,

John T. Herndon

John T. Herndon, Director
Office of Planning and Budgeting

JTH/mkq

Enclosure

cc: Lieutenant Governor Wayne Mixson
Ms. Victoria Tschinkel
Mr. Paul Pappas
Dr. Elton Gissendanner
Colonel Robert M. Brantley

STATE COMMENTS ON THE CROSS FLORIDA BARGE CANAL ECONOMIC RESTUDY

(ORGANIZATIONAL-PROCEDURAL-ACCOUNTABILITY)

| ISSUE | RECOMMENDATION |
|---|---|
| Data Sources and Methodology | 1. The final EIS of February 1977 did not go through the normal hearing process as required by NEPA. Therefore we believe that before the economic restudy proceeds or is concluded this document should be publicly examined. This is necessary because data from the Final EIS may be used as a source for economic restudy rational. |
| | 2. As a general note, the Corps should cite the sources of data or figures whenever they are obtained from other sources. |
| | 3. The State would like access to the background data used to calculate benefits. |
| | 4. The restudy report should avoid excessive aggregation of data, unspecified streams of benefits and costs, and unstated productive lives of different project components. All data collection and analysis techniques used in the restudy should be clearly presented and thoroughly documented; and the documented methodology should be of sufficient detail to enable the State to replicate the Corps' calculations. |
| State Participation & Oversight | 1. Public and agency participation should extend considerably beyond normal procedures. An interagency oversite committee should be established to review work as it progresses. Review should not be limited to reading completed reports. |
| | 2. Comments should be actively solicited by the Corps early in the restudy analysis and continued throughout the study. Criticism received should be thoroughly and deliberately responded to in subsequent revision of the restudy report. |
| Economic & Non-Economic Variables | 1. The report should contain a section which integrates qualitative and quantitative tradeoffs from the project. A discussion which |

| ISSUE | RECOMMENDATION |
|---|---|
| Economic & Non-Economic Variables (cont.) | describes the total effects of the project, both quantifiable and non-quantifiable should be included. |
| | 2. The benefit-cost analysis should be consistent with both the "Principles and Standards for Planning Water Resources" and sound economic principles. |
| | 3. The study should contain a distributional analysis which identifies by geographical area, those who pay the economic costs and those who receive the economic benefits of the project. |
| | 4. For each specific benefit claimed for a construction alternative, there should be a corresponding examination of the costs incurred in producing that benefit. |
| | 5. Benefits claimed for a construction alternative should be net benefits only. Only public benefits over and above those experienced under existing conditions should be counted. |
| | 6. Utilization of a model for analyzing various economic and non-economic variables should be developed. This would afford reviewers greater flexibility in analyzing alternative benefit-cost considerations. |

(ECONOMIC)

| ISSUE | RECOMMENDATION |
|---|---|
| Transportation Costs & Alternative Movement System Impacts | 1. The benefit-cost analysis should emphasize reductions in total transportation costs. In addition, as there is currently an attempt by government to tax or charge users of certain government provided services, hypothetical revenues from tolls should be estimated that would return the construction and maintenance costs of the canal. |
| | 2. The completion of the CFBC may divert traffic from other existing waterways, ports, railroads, pipelines and highways. The negative impact on these systems should be measured and net benefits determined. |

| ISSUE | RECOMMENDATION |
|---|---|
| Transportation Costs & Alternative Movement System Impacts (cont.) | 3. Examine the additional transporting cost resulting from the project's ability to accommodate only limited sized barges. |
| | 4. The likely "future" that will be used as a basis of comparison should include an evaluation of the effects of the Canal on the construction of a coal slurry pipeline.<br><br>Similarly, the use of coal by power plants should be based on DER and Public Service Commission projections. Potential users of current and planned transportation modes should also be considered. |
| | 5. The completion of the Intracoastal Waterway from Carrabelle to Anclote should be assumed <u>not</u> to happen. |
| | 6. Net transportation savings to the public resulting from reduced transportation costs should consider producer profit margin, likelihood of technological change, probability of shipment or levels of shipment, competition impacts on producers and shippers, and other factors. |
| Interest Rates & Sunk Costs | 1. Although the previously authorized project discount rate must be used, the effects of using the current official authorized discount rate as well as rates comparable to private market rates should be calculated. |
| | 2. A methodological inconsistency was previously introduced by the Corps when it eliminated past expenditures (sunk costs) from the ratio but retained the benefits which were derived from those expenditures. If the practical objective is a realistic analysis of whether or not the investment of additional public funds is warranted, then a current rate of discount should be used and sunk costs and benefits could be ignored. Otherwise, if a previously authorized rate of discount is used then sunk costs and benefits may be included if appropriate. |

| ISSUE | RECOMMENDATION |
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| Construction & Operational Costs | 1. Rather than adjusting or escalating the previously determined costs, a new current determination of the cost for the project should be calculated. Operation and maintenance costs for labor, materials, and equipment should be included. |
| | 2. Historically, initial cost estimates are exceeded before the completion of a public works project. Therefore, a value for cost overruns should be included in determining cost of the project. |
| | 3. Actual market value of land, materials, labor, equipment, engineering and other construction requirements must be calculated. |
| | 4. Examine additional pumping facilities and costs needed to operate the canal during periodic shortages of water. |
| | 5. Costs should be based on realistic or feasible construction and operational plans. For example: the COE in a "planning decision" raised the canal bottom to elevation 31 feet in the Summit reach. This saved COE $15 million dollars in construction costs. But the groundwater level in some parts of the Summit reach has fallen so that a 12 foot deep navigation channel is no longer viable. Therefore, barges would be sitting on the bottom of the canal. |
| | 6. Use realistic cost for continuous aquatic plant control. |
| | 7. The costs of meeting contemporary environmental regulations should be included in the benefit-cost calculations. |
| Legal & Regulatory Costs | 1. Examine the potential legal and litigation costs that will result from any attempt to complete this project. |
| | 2. State the costs of obtaining permits concerning water quality, air quality, dredge and fill, water consumption, waste disposal and surface water management and of State review of impacts on historical and cultural resources. |

| ISSUE | | RECOMMENDATION |
|---|---|---|
| Legal & Regulatory Costs (cont.) | 3. | Examine the insurance costs of protecting Florida taxpayers against losses from personal damage suits arising from the operation of the canal. |
| | 4. | Fully analyze the costs associated with cleaning up or mitigating either major one-time or incremental pollution of the Floridian acquifer. |
| Recreational Development Costs | 1. | State social costs of alternative recreational opportunities foregone. State costs of the construction, maintenance and access to recreational facilities. State expenditures for maintaining recreational quality of canal route, e.g., aquatic weed control. |
| Net Benefits vs. Costs | 1. | The economic feasibility of the CFBC project should be determined on the relationship of the total project costs to revenues received. |
| | 2. | State net public energy savings from transportation cost reductions for shipment of coal and other fuels. Consider the location of fuel suppliers, location and fuel type of generating plants to be supplied by canal traffic, long-term commitments for fuel supply, and the availability of energy resources. |
| | 3. | State the opportunities created for recreational activity over and above existing opportunities. Consider competition from other canal users, the "highest and best" recreational use of the canal area and the possible degradation of recreational resources. |
| | 4. | Define income and employment effects of economic growth stemming from the construction and operation of the canal. These should be impacts beyond those projected without canal competition. These benefits should be net benefits. |
| | 5. | Examine expenditures for roads, sewage disposal, drinking water, solid waste disposal, schools, utilities and basic public services (health, safety, welfare) necessitated by the influx of canal construction workers and their families, permanent canal workers and their families, and other population attracted to the area by the canal and the indirect job growth it produces. |

| ISSUE | RECOMMENDATION |
|---|---|
| Net Benefits vs. Costs | 6. Include an analysis of the economic value of fish and wildlife resources including habitats impacted by both the immediate and secondary development effects of this project. In addition, the cost of providing adequate mitigation to offset the loss of these resources should also be fully analyzed. |

(ENVIRONMENT)

| ISSUE | RECOMMENDATION |
|---|---|
| Environmental Damage | 1. Environmental damage costs were not addressed in the 1977 economic study. Economic analysis in this field has sufficiently advanced since then and should be included in the restudy. Economic analysis concerning environmental damage costs should at least include:<br>a) water quality<br>b) water quantity<br>c) land disturbance<br>d) freshwater, plant and wildlife habitat |
| Water Quality | 1. Analyze preventative and recovery costs resulting from pollution to the waterway which may include:<br>a) runoff from land activities and waterway users, for oil, grease, sewage, chemicals, and litter;<br>b) surface and ground water pollution from construction and operation activities; analyze water quality degradation effect on the economic development potential of the canal region. |
| | 2. Analyze the adverse effect of discharge from the canal which would be inevitable by virtue of the porosity of the limestone which exists in the canal area. At the very least, the kinds of studies which should be undertaken would be as follows:<br>a) A comprehensive analysis of the geo-hydrological matrix of the area through which the canal would pass; |

| ISSUE | RECOMMENDATION |
|---|---|
| Water Quality (cont.) | b) A realistic cost estimate of the kinds of work which would be necessary in order to create a sealed system appropriate for the passage of barge traffic; |
| | c) An analysis of the environmental impacts of the kinds of construction work which would be necessary to create such a canal. |
| | 2. Examine the impacts of salt water intrusion at the west end of the Canal. |
| Water Quantity | 1. Analyze the implications of preempting the surface and ground water resources of the canal area's land activities (drinking, agriculture, wildlife, industry) for construction and operational needs. |
| Land Disturbance | 1. Measure long-range impact and cost due to the increased turbidity and interference with fish spawning caused by maintenance dredging. |
| | 2. State net increase in flood control capabilities over present, natural conditions considering effects of structural flood control approach on water supply and quality. |
| Freshwater Plant and Wildlife Habitat | 1. Define disturbance or elimination of habitat areas for endangered or threatened species. |
| | 2. State aesthetic, recreational and scientific costs of the loss of plant and animal life with special attention to endangered or threatened species and the commercial value of destroyed timber. Also, measure the aesthetic, recreational and scientific costs of the loss of plant and animal habitat with special attention to habitat for threatened and endangered species and the uniqueness of the Oklawaha River Basin. |
| | 3. Examine the cost and effects on sport and commercial fisheries in the St. Johns River from the damming of the Oklawaha River. |

SAJPD-N

16 February 1983

Mr. John T. Herndon, Director
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32301

Dear Mr. Herndon:

This is in reply to your letter of 4 January 1933 concerning State recommendations for the economic restudy of the Cross Florida Barge Canal.

Your recommendations have been reviewed and where appropriate they have been incorporated in the study plan. Inclosed is a tabulation of the Corps' considerations of your recommendations. The plan of action for the economic restudy is now being prepared, and your entire list of issues and recommendations will be included in that document. The plan of action will be submitted to the Assistant Secretary of the Army for a determination regarding the use of additional funds for the restudy.

I stand prepared to coordinate fully with your office as the study progresses, subject to funds, schedule and Federal policy and regulations.

Sincerely,

1 Incl (2 cys)
As stated

ALFRED B. DEVEREAUX, JR.
Colonel, Corps of Engineers
District Engineer

SAJPD-N February 1983

CROSS FLORIDA BARGE CANAL, PLAN OF ACTION FOR ECONOMIC RESTUDY

RESPONSES TO 4 JANUARY 1983 STATE COMMENTS (ISSUES & RECOMMENDATIONS)

| ISSUE | RESPONSE TO RECOMMENDATION |
|---|---|
| Data Sources and Methodology | 1. The National Environmental Policy Act (NEPA) does not specify a hearing process. Guidelines for Federal Agencies Under the National Environmental Policy Act (issued by the Council on Environmental Quality on 1 August 1973), in effect in 1977, did not require nor recommend a hearing process for final EIS. Required action was to send copies of the final EIS to all federal, state, and local agencies and private organizations that made substantive comments on the draft statement and to individuals who requested a copy. This was done, and additional copies were sent to 12 major libraries in Florida. An interagency coordinating group including Florida agencies assisted in planning and studies and a series of public meetings fully aired the process and final document. The final EIS was noticed in the Federal Register on 10 March 1978.<br><br>2. Concur.<br><br>3. Concur.<br><br>4. Concur to the extent practical. Every effort will be made to avoid things mentioned in first sentence. |

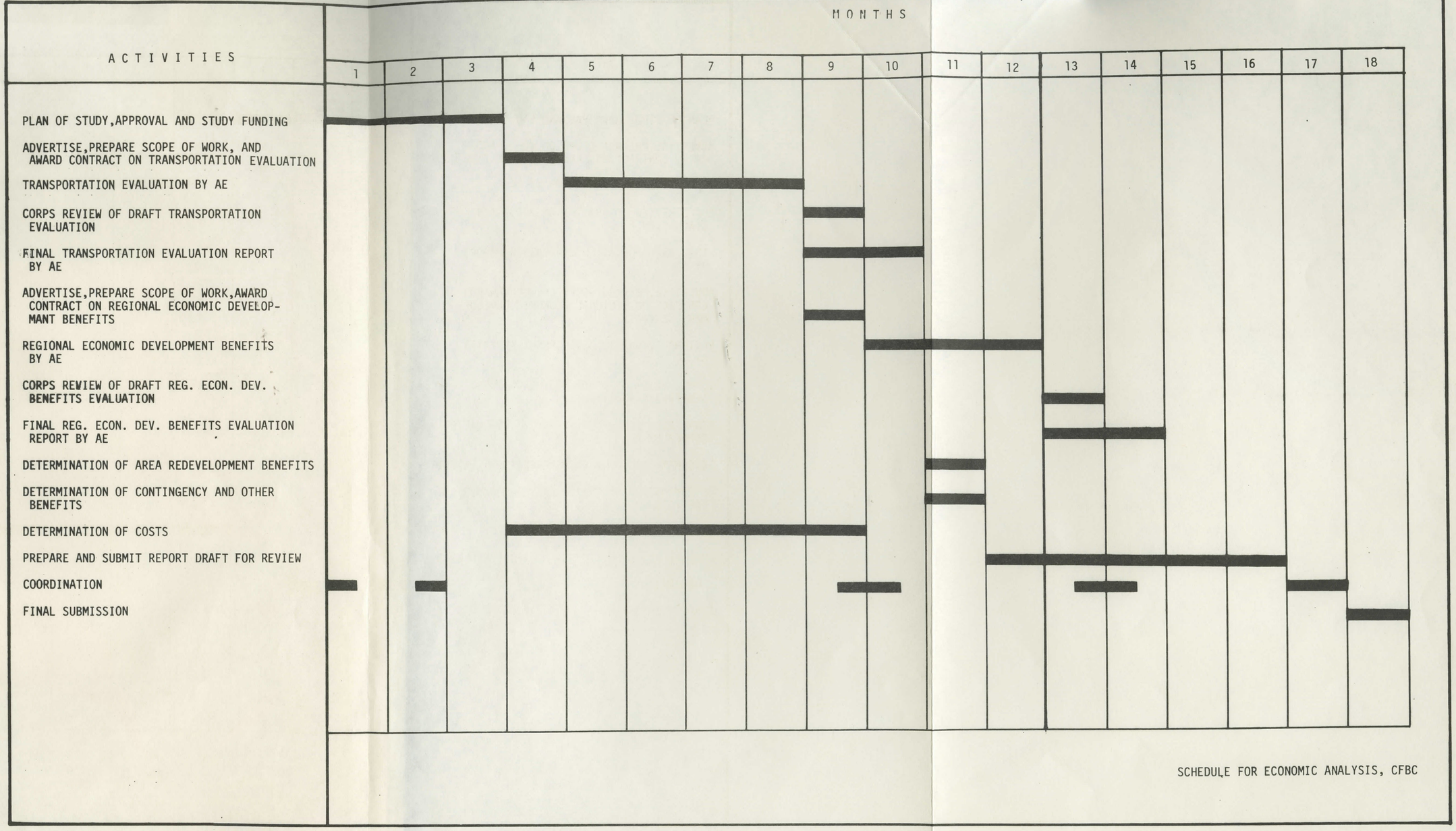
| ISSUE | RESPONSE TO RECOMMENDATION |
|---|---|
| State Participation and Oversight | 1. Do not feel that a formal interagency oversight committee would be appropriate but a regular exchange of information between the district and designated State officials will take place as suggested in your basic letter. Under this process, review will be continuous and State officials will be able to provide advice to the Corps' study team as needed. Drafts of reports will be coordinated before completion in final form.<br><br>2. Concur in first sentence and early solicitation of views has been done. As to second sentence, advice will be considered and used as much as possible under constraints of study funds, schedule and Corps' rules. |
| Economic and Non-Economic Variables | 1. Concur.<br><br>2. Concur, except that Principles and Standards may be replaced by Principles and Guidelines.<br><br>3. Do not concur. The economic costs would be paid and the economic benefits would accrue to the National account.<br><br>4. This recommendation is not clear. No new design alternatives will be considered in this study, but relevant benefits and costs will be included for all alternative plans studied previously.<br><br>5. Concur, but definition of "net" is not as presented in the following item 2 by the State.<br><br>6. Concur as relates to economic variables. Sensitivity analysis to be done as applicable. |

| ISSUE | RESPONSE TO RECOMMENDATION |
| --- | --- |
| Transportation Costs and Alternative Movement System Impacts | 1. Concur in first sentence. There are many possible alternatives but will address items in second sentence.<br><br>2. Do not concur. The apparent loss of traffic by existing carriers from diversion of traffic to a waterway is not applied as a reduction of benefit. The Corps considers there is an overall economic gain to the nation when transportation is made available to the public at lower cost, and benefits to overland carriers from feeder and transfer traffic developing from improved access and use of the waterway will in the long run offset losses by overland carriers. Rate reduction by competing carriers would be a benefit to the public, but the Corps does not include such rate reductions as benefits because they are unpredictable and may be offset if carriers correspondingly increase rates on commodities not suited to water movement or in areas not subject to competition by water transport.<br><br>3. Do not concur. The project is designed to accommodate standard barges.<br><br>4. Concur -- the first part is a likely scenario, and will be addressed. For second part, all sources of projections and modes will be considered.<br><br>5. Concur.<br><br>6. Do not concur in this approach. |

| ISSUE | RESPONSE TO RECOMMENDATION |
|---|---|
| Interest Rates & Sunk Costs | 1. Previous and current Federal interest rates will be used. |
| | 2. Do not concur as to inconsistency but will address the subject of this recommendation. |
| Construction and Operational Costs | 1. Concur. |
| | 2. Do not concur. |
| | 3. Will address properly. |
| | 4. Do not concur; maximum number of pumps already in plan. |
| | 5. Will consider any new information submitted by the State on ground water elevations. |
| | 6. Concur. |
| | 7. Realistic costs will be included. |
| Legal and Regulatory Costs | 1. Assuming that a fully prepared, analyzed, and thoroughly discussed EIS has been presented to Congress along with the various restudies, including the present one, Congress can make its decision to proceed further with the Canal and to appropriate funds therefor. No successful legal action or litigation costs as a result of an attempt to complete this project are anticipated. It is not possible to anticipate what opponents of the project might say or do, or whether a judge might issue some sort of injunctive relief against a Government contractor once the work is commenced. Therefore it is assumed that the environmental studies have been properly completed and that no such additional costs for legal purposes will be incurred. |

| ISSUE | RESPONSE TO RECOMMENDATION |
|---|---|
| Legal and Regulatory Costs (continued) | 2. If an EIS meeting the test of 404(r) is before Congress at the time it authorizes further work and provides the funding therefor, then State permits would not be required for the completion of the work. The cost of this process will be included in the study effort.<br><br>3. The Government does not pay insurance costs of any sort and alleged "damage suits" arising from the operation of the Canal cannot be considered in this analysis since whether or not any suits arise would be highly speculative.<br><br>4. Cost for cleanup equipment, materials, crew and training will be included in maintenance and operation cost estimates. |
| Recreational Development Costs | 1. In regard to the first sentence, if visitation is induced away from existing sites, recreational opportunities foregone may be included in the benefit computation. Will address second and third sentences. |
| Net Benefits vs. Costs | 1. Concur, subject to changing "revenues received" to "benefits."<br><br>2. Concur.<br><br>3. Concur in first sentence only.<br><br>4. Concur, to be evaluated in analysis of regional economic development benefits.<br><br>5. Will be addressed as in 4 above.<br><br>6. Mitigation costs will be addressed. Impacts of alternative project plans were fully discussed in the EIS. |

| ISSUE | RESPONSE TO RECOMMENDATION |
|---|---|
| Water Quality | 1.a. Part of normal cost of doing business and does not represent a canal-related cost. |
| | 1.b. Surface and ground water contamination is not expected to occur. |
| | 2.a. Already done in previous reports on the project. |
| | 2.b. Design scope of a sealed canal system developed in previous reports will be updated to current costs. |
| | 2.c. Already covered in previous reports. |
| | 2.(3?) Already covered in previous reports. |
| Water Quantity | 1. Already done in FEIS. |
| Land Distrubance | 1. Will address if significant. in operations phase of project. |
| | 2. Fully evaluated in previous reports on the project. |
| Freshwater Plant and Wildlife Habitat | 1. Already done. |
| | 2. Already done. |
| | 3. Already done. |




SCHEDULE FOR ECONOMIC ANALYSIS, CFBC