DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

January 25, 1994

REPLY TO
ATTENTION OF
Planning Division
Environmental Branch

TO ADDRESSEES ON ENCLOSED LIST:

Enclosed for your review and comment is an Environmental Assessment (EA) and preliminary Finding of No Significant Impact (FONSI) on the Pilot Field Test of Gapping Levee 67 in conjunction with Modified Water Deliveries to Everglades National Park.

Please provide us any comments you may have by February 28, 1994. If no comments are received by that date, it will be assumed that you have none. All comments will be considered in deciding if the FONSI will be signed, and project construction begun.

If you know of anyone not on the mailing list who would be interested in reviewing this document, please notify them of its availability from the Corps at the letterhead address.

Sincerely,

A. J. Salem
Chief, Planning Division

Enclosure

January 19, 1994

List of Addressees

Pilot Field Test of L-67 Gap
Modified Water Deliveries to Everglades National Park

FEDERAL AGENCIES

Mr. Heinz Mueller, Chief
Environmental Policy Section
EPA, Region IV
345 Courtland St., NE
Atlanta, GA 30365-2401 (5 cys)

Mr. James W. Pulliam, Jr.
Regional Director
U.S. Fish and Wildlife Service
75 Spring St., SW
Atlanta, GA 30303-3309 (2 cys)

Mr. David J. Wesley
Field Supervisor
U.S. Fish and Wildlife Service
3100 University Blvd., South
Jacksonville, FL 32216-2732

Mr. David L. Ferrell
Field Supervisor
U.S. Fish and Wildlife Service
P.O. Box 2676
Vero Beach, FL 32961-2676

Dr. Wiley Kitchens
Group Leader
Florida Cooperative Fish and Wildlife
Research Unit
Newins-Ziegler Hall (Rm 117)
University of Florida
Gainesville FL 32611-0307 (2 cys)

Mr. Burkett Neely, Jr.
Refuge Manager
Arthur R. Marshall Loxahatchee NWR
U.S. Fish and Wildlife Service
Route 1, Box 278
Boynton Beach, FL 33437-9741

Mr. Robert M. Baker
Regional Director
National Park Service
75 Spring St., SW
Atlanta, GA 30303 (2 cys)

Mr. Richard Ring
Superintendent
Everglades National Park
P.O. Box 279
Homestead, FL 33030-0279 (4 cys)

Regional Director
National Marine Fisheries Service
Attn. Mr. Andreas Mager, Jr.
9450 Koger Blvd.
St. Petersburg, FL 33702-2496

Dr. Edwin J. Keppner
Area Supervisor
Habitat Conservation Division
National Marine Fisheries Service
3500 Delwood Beach Road
Panama City, FL 32408

Director
Southeast Fisheries Center
Attn: Dr. Joan Browder
National Marine Fisheries Service
75 Virginia Beach Dr.
Miami, FL 33149

Mr. G. Louis Ducret, Jr.
Subdistrict Chief
Water Resources Division
U.S. Geological Survey
9100 NW 36th St (Su 106)
Miami, FL 33178 (5 cys)

State Conservationist
Soil Conservation Service
U.S. Department of Agriculture
401 First Ave., SE
Gainesville, FL 32601-6816

State Director
Agricultural Stabilization and Conservation Service
U.S. Department of Agriculture
P.O. Drawer 670
Gainesville, FL 32602-0670

Southern Region Forester
U.S. Forest Service
Department of Agriculture
1720 Peachtree Rd., NW
Atlanta, GA 30309-2405

Office of the Director
Center for Environmental Health and
Injury Control/F29
U. S. Public Health Service
Department of Health and Human Services
1600 Clifton Road
Atlanta, GA 30333 (2 cys)

Regional Director
Insurance & Mitigation Division
Federal Emergency Management
Administration
1371 Peachtree St., NE
Atlanta, GA 30303-3309

Executive Director
Advisory Council on Historic
Preservation
The Old Post Office Building
1100 Pennsylvania Ave., NW #809
Washington, DC 20004-2590

Mr. Richard J. Hoogland
Gulf of Mexico Fishery Management Council
5401 W. Kennedy Blvd (Su 881)
Tampa, FL 33609

Mr. J. R. Skinner
Division Administrator
Federal Highway Adminisration
227 N. Bronough St. (Rm 2015)
Tallahassee, FL 32301

STATE AGENCIES

Mr. Tilford Creel
Executive Director
South Florida Water Management District
P.O. Box 24680
West Palm Beach, FL 33416-4680 (10 cys)

Mr. John R. Adams
Area Director, Dade Co.
South Florida Water Management District
9001 NW 58th St.
Miami, FL 33178

Mr. Scott A. Thorp
Regional Director
Homestead Field Station
South Florida Water Management District
2195 NE 8th St.
Homestead, FL 33030

Director
Florida State Clearinghouse
Office of Planning and Budgeting
Executive Office of the Governor
The Capitol
Tallahassee, FL 32399-0001 (16 cys)

Ms. Janet Llewelyn, Chief
Bureau of Wetlands Resource Management
Florida Department of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400

Mr. Herbert H. Zebuth
Southeast District
Florida Department of Environmental Regulation
1900 S. Congress Ave. (Su A)
West Palm Beach, FL 33406 (2 cys)

Col. Robert M. Brantly
Executive Director
Florida Game and Freshwater Fish Commission
620 S. Meridian St.
Tallahassee, FL 32399-1600

Mr. Stephen R. Lau
South Florida Section Leader
Florida Game and Freshwater Fish Commission
110 43rd Ave. SW
Vero Beach, FL 32968

Mr. Tom Gardner
Executive Director
Florida Department of Natural Resources
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Mr. C. L. Erwin
Environmental Office (MS-37)
Florida Department of Transportation
605 Suwannee St.
Tallahassee, FL 32399-0450

Mr. Jose Gomez
PD&E Engineer District 6
Florida Department of Transportation
1000 NW 111 Ave.
Miami, FL 33172

Dr. Jorge R. Rey
Florida Medical Entomology Laboratory
Institute of Food and Agricultural Sciences
University of Florida
P. O. Box 520
Vero Beach, FL 32962-0520

Mr. George W. Percy
State Historic Preservation Officer
Division of Historical Resources
R. A. Gray Building
500 South Bronough St.
Tallahassee, FL 32399-0250

State Attorney
11th Judicial Circuit of Florida
Attn: Dr. Francis J. Merceret
Metropolitan Justice Bldg
1351 N.W. 12th St.
Miami, FL 33125-2134

COUNTY AGENCIES

Mr. Anthony C. Clemente
Assistant County Manager
Metro-Dade County
111 NW 1st St. (29th Flr)
Miami, FL 33128-1971 (2 cys)

Dr. Douglas Yoder
Assistant Director
Department of Environmental
Resources Management
Metro-Dade County
111 NW 1st St. (13th Flr)
Miami, FL 33128-1971

Mr. Eric Myers
Department of Environmental
Resources Management
Metro-Dade County
111 NW 1st St. (13th Flr)
Miami, FL 33128-1971

Ms. Jean H. Evoy
Senior PLanner
Planning Department
Metro-Dade County
111 NW 1st St. (Su 1220)
Miami, FL 33128-1972

Honorable Larry Hawkins
County Commissioner
Metro-Dade County
111 NW 1st St. (Su 200)
Miami, FL 33128-1971

Mr. Roy A.Reynolds, Director
Water Resources Management Div,
Broward County
2401 N. Power Line Rd.
Pompano Beach, FL 33069

Mr. B. Jack Osterhol
Executive Director
South Florida Regional
Planning Council
3440 Hollywood Blvd. (Su 140)
Hollywood, FL 33021

ASSOCIATIONS

Dr. Bernard J. Yokel, President
Florida Audubon Society
460 Highway 436 (Su 200)
Casselberry, FL 32707

Mr. Alexander Sprunt
Vice President
National Audubon Society
115 Indian Mound Trail
Tavernier, FL 33070 (2 cys)

Dr. Michael J. Duever, Director
Ecosystems Research Unit
National Audubon Society
Box 1877, Route 6
Naples, FL 33964

Mr. Karsten A. Rist
Conservation Chairman
Tropical Audubon Society, Inc.
10461 SW 186 Ln.
Miami, FL 33157

Mr. Dennis J. Olle
President
Tropical Audubon Society, Inc.
5530 Sunset Dr.
Miami, FL 33143

Mr. Joseph Podgor
Friends of the Everglades
244-a Westward Dr.
Miami Springs, FL 33166

President
Audubon Society of the Everglades
1628 Boardman Ave.
West Palm Beach, FL 33407-2106 (2 cys)

Ms. Melinda Hansen, RN
Sierra Club, Miami Group
6825 Veronese
Coral Gables, FL 33146

Mr. Bruce Rohde
Sierra Club, Miami Group
15300 SW 78th Ct.
Miami, FL 33157

Ms. Theresa Woody
Sierra Club
1201 N. Federal Hwy
West Palm Beach, FL 33408

Mr. Franklin B. Adams
Cypress Chapter
Izaak Walton League of America
4272 19th Pl. SW
Naples, FL 33999

Mr. John Rains, Jr.
Izaak Walton League of America, Inc.
5314 Bay State Road
Palmetto, FL 33561-9712

Mr. Manley K. Fuller, III
President
Florida Wildlife Federation
P.O. Box 6870
Tallahassee, FL 32314-6870 (2 cys)

Dr. Paul Parks
Florida Wildlife Federation
1549 Live Oak Dr.
Tallahassee, FL 32301

National Wildlife Federation
SE Natural Resources Center
Attn: Mr. David White/Rudy Rosen
1401 Peachtree St. NE (Su 240)
Atlanta, GA 30309

Mr. James D. Webb
Regional Director
Wilderness Society
4203 Ponce de Leon Blvd.
Coral Gables, FL 33146

Mr. Freddie Fisikelli
Everglades Coordinating Council
16700 SW 68th St.
Fort Lauderdale, FL 33331

Mr. David Balman, President
Everglades Coordinating Council
3845 SW 103rd Ave. (Apt 101)
Miami, FL 33165

Environmental Defense Fund
Attn: Mr. Timothy Searchinger
257 Park Ave. South
New York, NY 10010

The Nature Conservancy
Attn: Mr. John Neuharth
3969 Loquat Ave.
Miami, FL 33133

Ms. Patty Phares, President
Dade Co. Chapter of the Florida
Native Plant Society
P.O. Box 570598
Miami, FL 33257-0598

Miccosukee Tribe of Indians
of Florida
Attn: Mr. Gene Duncan
P.O. Box 440021
Tamiami Station
Miami, FL 33144

Mr. Robert Ernst
Florida Keys Citizens Coalition
7525 Gulfstream Blvd.
Marathon, FL 33050

Mr. Arsenio Milian, President
Citizens for a Better South Florida
2657 SW 23rd St.
Miami, FL 33145

Mr. James Humble
c/o Florida Lime and Avocado
Administrative Councils
P.O. Box 188
Homestead, FL 33090-0188

Mr. Jack Campbell
c/o Florida Lime and Avocado
Administrative Councils
P.O. Box 188
Homestead, FL 33090-0188

Dr. Seymore Goldwebber
Dade County Agricultural Council
7900 SW 126th Terr.
Miami, FL 33156

Fishermen Against the Destruction
of the Environment
Attn: Mr. Thomas Cunard
7120 SW 58th St.
Miami, FL 33143

Everglades Holiday Park
Attn: Mr. Mitchell Bridges
21940 Griffin Road
Fort Lauderdale, FL 33332

Big Reel Bass Masters of
Margate, Florida
Attn: Mr. Robert Adams, Secretary
P. O. Box 636265
Margate, FL 33063-6265

Trail Glades Bass Masters
Attn: Mr. Phillip Luney, President
9040 SW 86th Street
Miami, FL 33173 (5 cys)

ACADEMIA

Dr. Ronald H. Hofstetter
Biology Department
University of Miami
Coral Gables, FL 33124

Dr. George H. Dalrymple
Biology Department
Tamiami Campus
Florida International University
Miami, FL 33199

Dr. James A. Kushlan, Chairman
Department of Biology
University of Mississippi
University, MS 38677

Dr. Steven R. Beissinger
School of Forestry and
Environmental Studies
Sage Hall
Yale University
New Haven, CN 06511-2189

Dr. Frank J. Mazzotti
Broward County Extension Office
Department of Wildlife and Range Sciences
University of Florida
3245 College Ave.
Davie, FL 33314

INDIVIDUALS

Mr. Nathaniel P. Reed
P.O. Box 375
Hobe Sound, FL 33475 (2 cys)

Dr. Durbin C. Tabb
9850 Bahama Dr.
Miami, FL 33189

Mr. Rodney Ghioto
Ghioto and Associates
P.O. Box 690758
Orlando, FL 32869-0758 (2 cys)

Harold Furman, Esq.
The Furman Group
818 Connecticut Ave. NW (Su 1020)
Washington, DC 20006

William G. Earle, Esq.
Earle and Patchen Professional Associates
1000 Brickell Ave. (Su 660)
Miami, FL 33130

William L. Earle, Esq.
Peeples, Earle, and Blank
1 Biscayne Tower (Su 3636)
2 South Biscayne Blvd.
Miami, FL 33131

Mr. Bradley G. Waller
Hydrologic Associates
14707 S. Dixie Hwy. (Su 318)
Miami, FL 33176

Mr. Samuel Poole, III
Holland and Knight
1200 Brickell Ave.
Miami, FL 33131

Mr Mark McMahon
Biological and Environmental Consulting
933 NW 100th St.
Miami, FL 33150

Mr. Roy Crabtree
Florida Keys Fishing Guides Association
P.O. Box 936
Islamorada FL 33036

Mr. Landon Thomas
18990 SW 152nd St.
Miami, FL 33196

Mr. Jeff Kantor
421 Meadowlark Dr.
Sarasota, FL 34236

Ms. Melinda Green
Law Offices of Mr. Hellman
1100 Ponce de Leon Blvd
Coral Gables, FL 33134

Ms. Marian Emerik
19951 SW 136th St.
Miami, FL 33187

Sidney Maddock, Esq.
Law Offices of Coe and Broberg
223 Peruvian Ave.
Palm Beach, FL 33480

Mr. Walter Brides
7906 NW 75th Ave.
Tamarac, FL 33321

Mr. Ralph Johnson
17346 NW 62nd Ct.
Miami, FL 33015

Mr. Paul J. Denning
Realty Specialist
Big Cypress National Preserve
P.O. Box 1515
Naples, FL 33939

Mr. Eugene E. Smith
Farm Credit Service of S. Fla.
P.O. Dwr 1609
Homestead, FL 33030

Jonathan Turk, Esq.
4014 Chase Ave.
Miami Beach, FL 33140

Haydee Ulifig Martinez
6120 SW 72nd Ave.
S. Miami, FL 33143

Yoli Reden
P.O. Box 970733
Miami, FL 33197

Mr. Michael S. Jones
17903 SW 87th Place
Miami, FL 33157

Ms. Deborah Liggett
Everglades National Park
P.O. Box 279
Homestead, FL 33030-0279

Mr. Lewis Hall, III
150 SE 2nd Ave. (Su 1400)
Miami, FL 33131

Mrs. Ellen Sherk-Perez
30901 SW 136th St.
Miami, FL 33196

Mr. Rudy Jimenez
2104 W. 62nd St.
Hialeah, FL 33016

Mr. A. J. Fontova
118 Westshore Blvd (Su 131)
Tampa, FL 33609

Mr. Rafael Lopez, Jr.
7951 SW 35th Ter.
Miami, FL 33155

Mr. Chris Hyland
722 N. Tazewell St.
Arlington, VA 22203

Mr. Paul Larsen
Larsen and Associates
One Biscayne Tower (Su 3650)
Miami, FL 33131

Mr. William Glockmann
Rieder Realty
9990 SW 77th Ave.
Miami, FL 33156

Mr. Raul Moya
12300 SW 199th Ave.
Miami, FL 33196

Mr. Luis Rivera
21718 SW 164th St.
Miami, FL 33187

Ms. Isabel Morales
13195 SW 209 Ave.
Miami, FL 33196

Mr. Manuel R. Gonzalez-Duarte
15150 SW 202 Ave.
Miami, FL 33196

Mr. Robert Sweeting
14020 SW 217 Ave.
Miami, FL 33196

Mr. Michael Temples
20425 SW 152 St.
Miami, FL 33196

Mark Silverio, Esq.
44 W. Flagler St. (Su 2450)
Miami, FL 33130

Mr. Wayne Wiese
16451 SW 205th Ave.
Miami, FL 33187

Mr. Steven Langley
EAS Engineering
55 Almeria Ave.
Coral Gables, FL 33134

Ms. Cami Driver
Environmental Services, Inc.
8711 Perimeter Park Rd. (Su 11)
Jacksonville, FL 32216

Ecology and Environment, Inc.
Attn: Mr. James Stone
1415 East Sunrise Blvd.
Ft. Lauderdale, FL 33304

Ms. Bonnie Bensch
15301 SW 208th Ave.
Miami, FL 33187

Ms. Helga Surti
8410 NW 53rd Ter. (Rm 225)
Miami, FL 33166

Media

Fort Lauderdale Sun-Sentinel
Attn: Mr. Robert McClure
Attn: Mr. Steve Waters
3333 S. Congress Ave.
Delray Beach, FL 33445

Miami Herald
Attn: Mr. Marty Klinkenberg
1 Herald Plaza
Miami, FL 33132-1693

Palm Beach Post
Attn: Mr Eliot Kleinberg
2751 South Dixie Hwy
West Palm Beach, FL 33405

Florida Sportsman Magazine
Attn: Mr. Biff Lampton
5901 SW 74th St.
Miami, FL 33143

January 24, 1994

Environmental Assessment

Pilot Field Test
Gapping Levee 67 in Conjunction With Modified Water Deliveries to Everglades National Park

Summary. During coordination of the Environmental Impact Statement (EIS) and General Design Memorandum (GDM) on Modified Water Deliveries to Everglades National Park (ENP), the South Florida Water Management District (SFWMD) requested that the Corps consider a non-structural alternative way of hydrologically reconnecting Water Conservation Area (WCA)-3A and WCA-3B from that recommended in the GDM. It was agreed to consider the request during detailed engineering design of the overall project. The requested alternative entails deleting from the approved GDM plan the following (Figures 1 and 2):

1. Three structures (S-345's) that are designed to discharge water from WCA-3A into the "pocket" between Levee 67A (L-67A) and L-67C.

2. Three structures (S-349's) that are designed to control flow down the L-67A Canal.

3. All discharge canals, containment levees, and interceptor levees associated with the above structures.

These features would be replaced in function by gaps in L-67A and L-67C constructed at natural ground elevation to allow unobstructed water flow down gradient, and earthen plugs constructed in the adjacent canals to impede water movement in the canal and induce greater flow through the gaps. This plan was evaluated during preparation of the GDM and deferred because available data and modeling capability indicated that it would not satisfy the project objectives. However, due to the hydrologic characteristics of this specific problem, even small errors in modeling assumptions could significantly alter the resulting conclusions. It has been determined, therefore, that a pilot field test would be needed to gather hydrologic data on gap-flow for use in model development. Data collected during the two or three years of the pilot test would be utilized to calibrate a two-dimensional hydrologic model for use in determining if the gap plan would satisfy the project objectives, and then to assist in the design of a full scale plan, if the decision was to proceed.

This Environmental Assessment (EA) provides information for evaluating whether conducting the pilot field test would have a significant effect on the quality of the human environment under the meaning of Section 102 of the National Environmental Policy Act (NEPA), thereby requiring an EIS. At the culmination of the pilot field test and after the hydrologic model is developed, a full-scale plan would be designed and evaluated in an appropriate NEPA document. If it is shown to be engineeringly feasible to achieve project purposes by substituting a gap plan for the authorized structural features, and shown to be environmentally acceptable, the authorized plan would be so modified. Otherwise the GDM plan would be constructed as authorized.

1.00 PURPOSE OF AND NEED FOR ACTION

1.01 Authorization. Under the authorities of the Supplemental Appropriations Act of 1984 and the Everglades National Park Protection and Expansion Act of 1989, the U. S. Army Corps of Engineers, Jacksonville District (Corps) prepared a GDM on Modified Water Deliveries to Everglades National Park. The Final EIS on this project was filed in July 1992. The project is currently in the Advanced Engineering and Design phase prior to going to construction. These existing authorities allow a reevaluation of the approved GDM plan, as described in Section 2.00 below, to better meet project objectives and/or to make it more cost-effective.

1.02 Purpose of the Action. The purpose of the L-67 Pilot Field Test is to determine whether there is a less costly and less environmentally intrusive alternative to the authorized GDM plan that would satisfy the project objectives.

1.03 Need for Action. The SFWMD, the local sponsor, asked the Corps to evaluate the dismantling of some of the structural features of the Central and Southern Florida (C&SF) Project in WCA 3, instead of building new structures, in order to better achieve the goal of Everglades ecosystem restoration through creation of natural hydrologic conditions.

2.00 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.01 Background. The objective of the Modified Water Deliveries to Everglades National Park project is to restore the ecological conditions within the Park as closely as possible to those that existed in the early 1930s when the Park was authorized. It has been recognized that hydrologic restoration is the key to ecological restoration because water is the controlling environmental variable in ecosystem function in the Everglades. It is also recognized that restoration of those portions of the Everglades ecosystem lying in the WCAs immediately upstream from the Park are critical because they are a functionally inseparable part of the ecosystem sustaining the Park. It is further believed that the compartmentalization of the Everglades by the C&SF project features has contributed to the ecological decline over the past 30 years by replacing natural water flows with managed discharges of water through structures and canals based on protocols developed from incomplete knowledge of ecosystem linkages. Consequently, it is desirable to reduce the structural complexity of the C&SF project wherever possible and return to water flows that are governed more by natural events and physical features. However, it is not possible to attain a completely natural hydrology in the Everglades because of constraints imposed by the flood control and water supply purposes incorporated into the C&SF project when it was authorized. An accurate hydrologic model is a necessary tool for evaluating the effects of water management plans on these often competing project purposes.

Proposed Action.

2.01 General. The proposed action is to construct a gap in the L-67 levees to allow water to flow between WCA 3A and WCA 3B in order to obtain hydrologic data for calibration of an accurate hydrologic model to simulate a full scale gap plan. The details of this Pilot Field Test of a Levee Gap are presented in the following paragraphs and shown in Figures 3A, 3B, and 3C.

2.02 L-67A Gap Construction. A 1000-foot long section of the levee would be removed down to the natural marsh elevation of 7.0 feet NGVD at the location of the S-345 structure that was authorized in the GDM on Modified Water Deliveries to ENP, approximately 11 miles north of U. S. Highway 41. The 100-foot wide strip of wetlands berm between the levee and the L-67A Canal in front of the gap would be left undisturbed at its existing elevation of 8.0 feet NGVD. An estimated 15,000 cu yds of levee material would be removed by front-end loaders and bulldozers and used for two purposes. Some of the material (7800 cu yds) would be used to plug the canal immediately downstream of the gap. The remaining 7200 cu yds would be (1) used to build construction vehicle turn-arounds and construction staging areas on and adjacent to the levee and (2) to create a stockpile on the levee

and wetlands berm adjacent to the canal at each end of the gap to an elevation of 23 feet NGVD, including 4500 cu yds of levee material removed from L-67C and 10,600 cu yds from either the surplus on L-29 or from along the L-31N Canal for purposes discussed below.

2.03 L-67A Canal Plug. A 100-foot long plug would be created in the canal to retard the flow of water, thereby increasing the hydraulic head adjacent to the gap and promoting flow through the gap. The plug would be constructed with a small-boat navigation channel down the middle. The channel would have a bottom width of 24 feet and a bottom elevation of 4.0 feet NGVD, providing a navigation depth of 3 feet under most conditions.

2.04 L-67C Gap Construction. A 1000-foot long section of the L-67C levee would be removed down to the natural marsh elevation of 7.0 feet NGVD at a location directly east of the L-67A gap. An estimated 4500 cu yds of levee material would be removed by front-end loaders and bulldozers and truck-hauled to the L-67A stockpile area. The L-67C Canal would not be plugged.

2.05 Emergency Gap Closure Provision. A line of 8-foot high steel posts on 12-foot spacing would be installed in the ground across the L-67A gap for use in the event the gap must quickly be closed. Standard cyclone fencing sufficient to extend the full length of the gap would be placed in storage for emergency installation on the posts. Pre-cut reinforced polyethylene material would also be fabricated and made available to cover the fencing to hold back water flow under a half-foot of head. Once the fabric was in place, an earthen dike at elevation 13 feet NGVD would be constructed behind it with 7000 cu yds of fill from the stockpile areas at each end of the gap. It is estimated that the fencing screen barrier could be installed in two to three days and the closure dike could be constructed in about two weeks. There is no emergency closure procedure for L-67C.

2.06 Protocol for Emergency Gap Closure. A decision to abandon the test and restore the levee would be made under the following criteria:

a. **Excessive Water Levels in WCA 3B.** Water levels in WCA 3B that exceed the design flood stage could cause an unsafe condition due to a potential for levee overtopping during a major storm and/or excessive seepage through L-30 and L-29. Water levels in WCA 3B would be monitored at gage 71. If the stage rose to 8.5 feet NGVD (the SPF stage), S-151 discharges would be discontinued in accordance with the current operating criteria for the ongoing Shark River Slough Rain-Driven Delivery Test. If the stage increased to 8.6 feet NGVD, earth-moving equipment would be mobilized to the gap sites; if the rise continued to 8.7 feet NGVD, the L-67A gap would be closed.

b. **Environmental Conditions.** An L-67 Pilot Field Test Advisory Committee made up of the following agencies would be established to monitor conditions related to the test: SFWMD, ENP, FDEP, USFWS, FGFWFC, Dade County DERM, and the Miccosukee Tribe. The Committee would periodically review water quality and water level data, information on vegetation and soils, and other conditions. If any member identified a problem, the committee would convene to discuss the problem and a desirable course of action. The Corps would make the final decision on discontinuing the test.

2.07 L-29 Culverts. Two 72" gated culverts would be installed through L-29 at the location of existing Structure G-68 (L-29-1) near Coopertown on the Tamiami Trail (U. S. Highway 41). This would double the discharge capacity out of WCA 3B into the Tamiami Canal, bringing it to a total of 567 CFS with one foot of head across the structure (Figure 7).

2.08 Hydrologic Monitoring. The hydrologic monitoring program would include obtaining continuous upstream and downstream water stage measurements at both gaps and flow rate measurements through each gap. The USGS would be contracted to perform all monitoring during the test period.

2.09 Water Quality Monitoring. The SFWMD would supplement its water quality data collection station network in WCA 3A & B to add the following three stations for this project: one in the L-67A Canal upstream of the gap, one in the "pocket" downstream of the L-67A gap, and one downstream of the L-67C gap. The following parameters would be analyzed on a monthly and event basis: temperature, specific conductance, dissolved oxygen, pH, turbidity, TDS, total and ortho phosphorous, nitrate, nitrite, total nitrogen, and chlorides.

2.10 Biological Monitoring. At the request of DEP, a sampling program would be established consisting of 1 square meter quadrates and replicates located within the project scope as shown in Figure 8. Sampling would consist of a survey of plant species and their relative abundance within the quadrates, including color photographs taken from enough locations to represent the entire sampling site. One survey would be made before gap construction, one within 60 days after construction, then yearly until the field test is completed. The photographs would be taken from the same angle each time to give consistent views of the sampling site.

2.11 Vegetation Nutrient Response Monitoring. Monitoring of the potential vegetative response to exposure to water from WCA 3A moving through the levee gap will be conducted at the locations shown in Figure 2. Since the vegetation growth-limiting water quality constituent in the Everglades is phosphorous, water

alkaline phosphatase levels will be used as the principal indicator of phosphorous enrichment that could lead to unnatural vegetative changes. Complementary measurements of total soil and water phosphorous will also be carried out. Direct monitoring of the vegetative community is not being proposed as a means of detecting project-related change because it could not differentiate between a vegetative response to the expected hydroperiod change from one due to water quality change. However, the absence of any significant change in water phosphatase would definitively indicate that there was no water quality effect on the vegetative community.

No Action Alternative

2.12 No action means that a pilot field test of the Gap Plan alternative to the L-67 structural features authorized in the GDM on Modified Water Deliveries to Everglades National Park would not be conducted.

2.12 Analysis of Gap Plan. Under the No-Action alternative, an accurate hydrologic model of the Gap Plan could not be developed, and therefore, the plan could not be adequately analyzed and compared with the authorized plan. Consequently, the Gap Plan would be abandoned.

3.00 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

3.01 Benefits. Indirect environmental benefits of conducting the Pilot Field Test would accrue if it led to a favorable analysis of a Full Gap Plan to replace the authorized L-67 structural features. This would entail the avoidance of loss of 81 acres of vegetated Everglades wetlands that would be dredged or filled in constructing the Authorized Plan. There would be no direct environmental benefits of conducting the Pilot Field Test because it would not significantly alter the hydrologic regime in WCA 3.

3.02 Wetlands Loss. Construction of the Pilot Field Test would result in the loss of a total of about 1.5 acres of disturbed wetlands on the berm between the L-67A levee and canal at each end of the gap. These would be filled with excavated levee material to build construction truck turnarounds off the side of the levee-top road, for construction of staging areas adjacent to the levee, and to create stockpile areas of fill material for emergency gap closure. The "berm" is a 100-foot wide area that was raised approximately one foot above natural marsh elevation by deposition of muck during the original construction of the canal in the 1960s. It was subsequently recolonized by wetland plant species, particularly cattail. In addition, about 0.7 acres of unvegetated wetlands (L-67A Canal bottom) would be filled to create an earthen canal plug. There would be no wetlands loss at the L-67C site.

3.03 Hydrologic Effects. An existing regional hydrologic model, the South Florida Water Management Model, has been utilized to preliminarily estimate the potential effects of the Pilot Field Test on the hydrology of WCA 3. This modeling indicates that water levels in the southern portion of WCA 3A, represented by gage 3-28, would not differ significantly from water levels under the GDM authorized plan (Figure 4). Similarly, in WCA 3B as represented by gage 3-29, no significant differences were found (Figure 5). A discharge exceedance curve for flow through the gap is provided as Figure 6. Median flow would be about 6000 acre-feet per month (100 cfs).

3.04 Potential Flooding. With ungated flow through the L-67A gap, there is a potential for excessively high stages to occur in WCA 3B under extreme storm events. Maximum flow through the gap with the tailwater stage at 8.5 feet NGVD [Standard Project Flood (SPF) conditions, a rare event expected to occur only once in 250 years] is estimated at 680 cfs with a two-foot head differential across the gap (Table 1). This exceeds the discharge capacity of structure L-29-1 by about 100 cfs, indicating that water levels would rise in WCA 3B unless the gap was closed. Under these conditions, the emergency gap closure procedure would be implemented and no adverse effects would result. No closure of the L-67C gap is needed, since it would convey water only from

the relatively small area of the pocket when the L-67A gap is closed.

3.05 Water Quality. Water quality monitoring by the SFWMD at S-151 in the Miami Canal at the crossing of the L-67A Canal about 10 miles north of the proposed gap location has shown elevated levels of macronutrients, particularly phosphorous, which is the limiting nutrient in the Everglades system. Water quality improves with distance south in the L-67A Canal, and it is believed that it would not be a problem at the gap location. This would be monitored as described previously, and could be a basis for gap closure if conditions warranted. The Florida Department of Environmental Protection issued the project Water Quality Certification Number 132387116 on December 30, 1993. A Clean Water Act Section 404(b)(1) evaluation is included as Appendix A.

3.06 Endangered Species Act. The following species listed under the Act as threatened (T) or endangered (E) are likely to occur in WCA 3: snail kite (E), eastern indigo snake (T), arctic peregrine falcon (E), and wood stork (E). No significant effects are expected on any of these species because of the very minor nature of the hydrologic changes that would result from the project. The USFWS is preparing a concurrence with this determination.

3.07 Cultural Resources. Since all construction activities would be confined to existing areas of disturbance, no impacts on unidentified properties eligible for listing in the National Register of Historic Places would occur.

3.08 Coastal Zone. By issuance of a Water Quality Certification, the State has determined that the project would be consistent with the Florida Coastal Zone Management Program.

3.09 Floodplain. The project is in accord with the goals of Executive Order 11988, Floodplain Management (May 24, 1977), to restore and preserve the natural and beneficial values of the base (100 year) floodplain within which the project lies.

3.10 Canal Navigation. The entire length of the L-67A Canal is used extensively by small recreational boaters to get access to fishing areas. The small boat channel designed into the canal plug would allow this use to continue with insignificant impediment.

3.11 Water Supply. The L-67A Canal can be used to move water to the ENP-South Dade Conveyance system for water supply purposes. The partial plug would reduce the conveyance capacity of the canal. Under most conditions, water supply conveyances could be made adequately through the Miami Canal (C-302) into the L-30 Canal, and then through the L-31N Canal to the South Dade County service area. If for some reason additional capacity was needed, the plug would be modified or removed. If during the test period fill material needed to be removed from the canal for this purpose, it would be disposed of on the staging area that would be built during gap construction.

4.00 PUBLIC COORDINATION

4.01 Scoping. By a Scoping letter of May 21, 1993, comments were solicited from Federal, state, and local agencies and the general public on the issues to be addressed in the environmental analysis of the project.

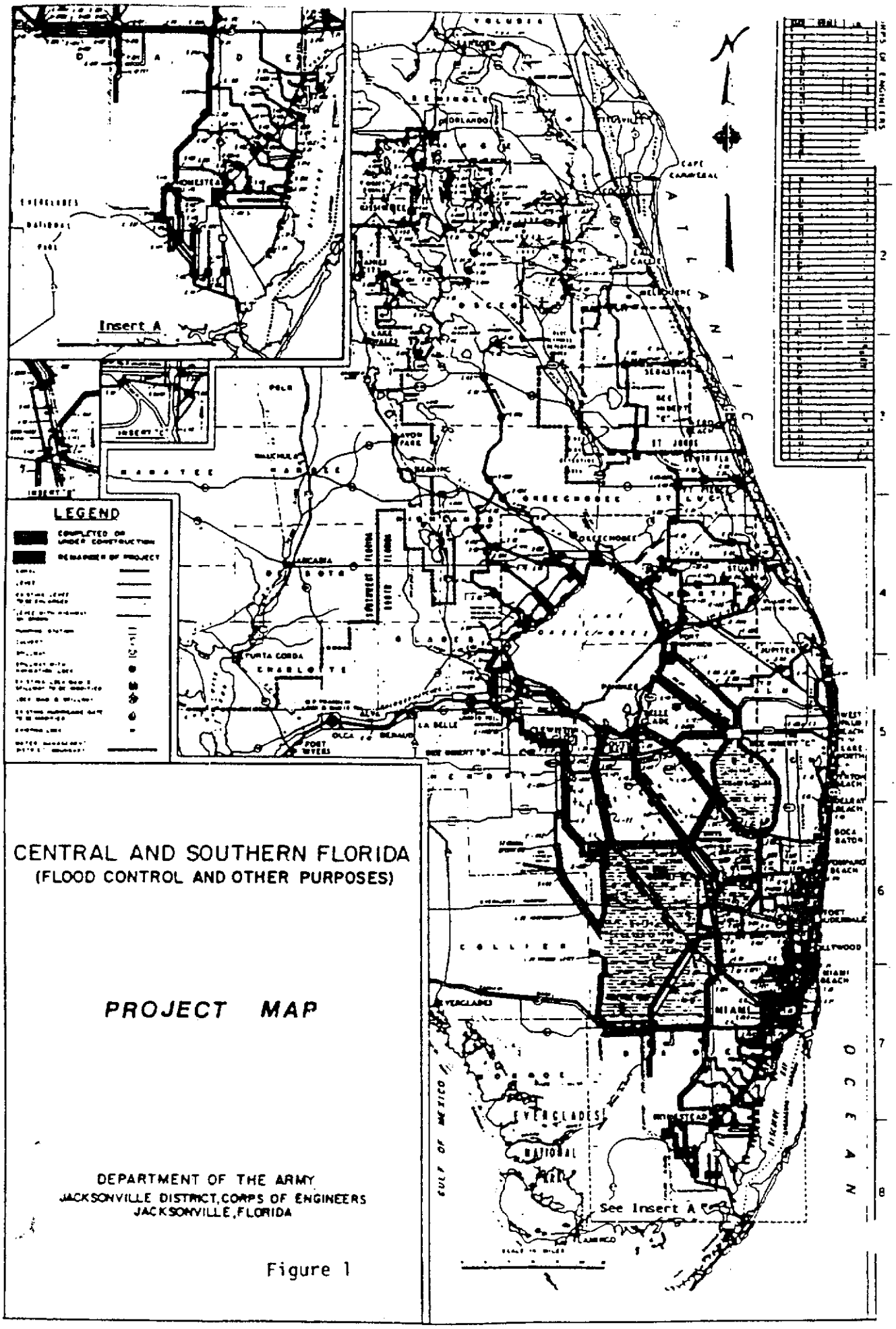
4.02 Public Comments. Letters of comment on Scoping were received from the agencies and individuals listed below. These letters are reproduced in EA Appendix B, along with responses by the Corps.

National Marine Fisheries Service/NOAA	June 3, 1993
Metro-Dade County Dept. Environ. Res. Mgmt	June 15, 1993
Broward County Office of Environ. Services	June 15, 1993
National Audubon Society	June 18, 1993
Ghioto & Associates	June 20, 1993
Florida Dept. of Environ. Protection	July 7, 1993
Florida State Clearinghouse	July 9, 1993
South Florida Water Management District	September 30, 1993

Table 1.

MODIFIED WATER DELIVERIES
LEVEE 67A & 67C WITH 1000 FT BREACH
FLOWRATE, CFS
"n" = 0.37 CHANNEL & OVERBANKS
"n" = 0.035 BREACH
EN-HH
29 JUNE 1993

TW EL WCA # 3B	HW EL (WCA # 3A), FT- NGVD																
FT-NGVD	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
7.0	0	40	80	150	220	320	480	680	920	1200	1500	1840	2200	2620	3080	3600	4100
7.5	-	0	80	150	220	320	480	680	920	1200	1500	1840	2200	2620	3080	3600	4100
8.0	-	-	0	90	200	320	480	680	920	1200	1500	1840	2200	2620	3080	3600	4100
8.5	-	-	-	0	150	300	480	680	920	1200	1500	1840	2200	2620	3080	3600	4100
9.0	-	-	-	-	0	260	450	660	900	1170	1470	1820	2200	2620	3080	3600	4100
9.5	-	-	-	-	-	0	370	610	860	1130	1440	1800	2200	2620	3080	3600	4100
10.0	-	-	-	-	-	-	0	480	790	1080	1400	1760	2160	2600	3080	3600	4100
10.5	-	-	-	-	-	-	-	0	630	980	1230	1710	2100	2520	2980	3500	402[illegible]
11.0	-	-	-	-	-	-	-	-	0	760	1180	1640	2000	2480	2920	3460	4000
11.5	-	-	-	-	-	-	-	-	-	0	910	1400	1880	2340	2840	3400	3980
12.0	-	-	-	-	-	-	-	-	-	-	0	1080	1660	2180	2740	3300	3860
12.5	-	-	-	-	-	-	-	-	-	-	-	0	1200	1900	2500	3100	3700
13.0	-	-	-	-	-	-	-	-	-	-	-	-	0	1420	2180	2840	3500
13.5	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1660	2460	3200
14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1840	2720
14.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2000
15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0



CENTRAL AND SOUTHERN FLORIDA
(FLOOD CONTROL AND OTHER PURPOSES)

PROJECT MAP

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

Figure 1

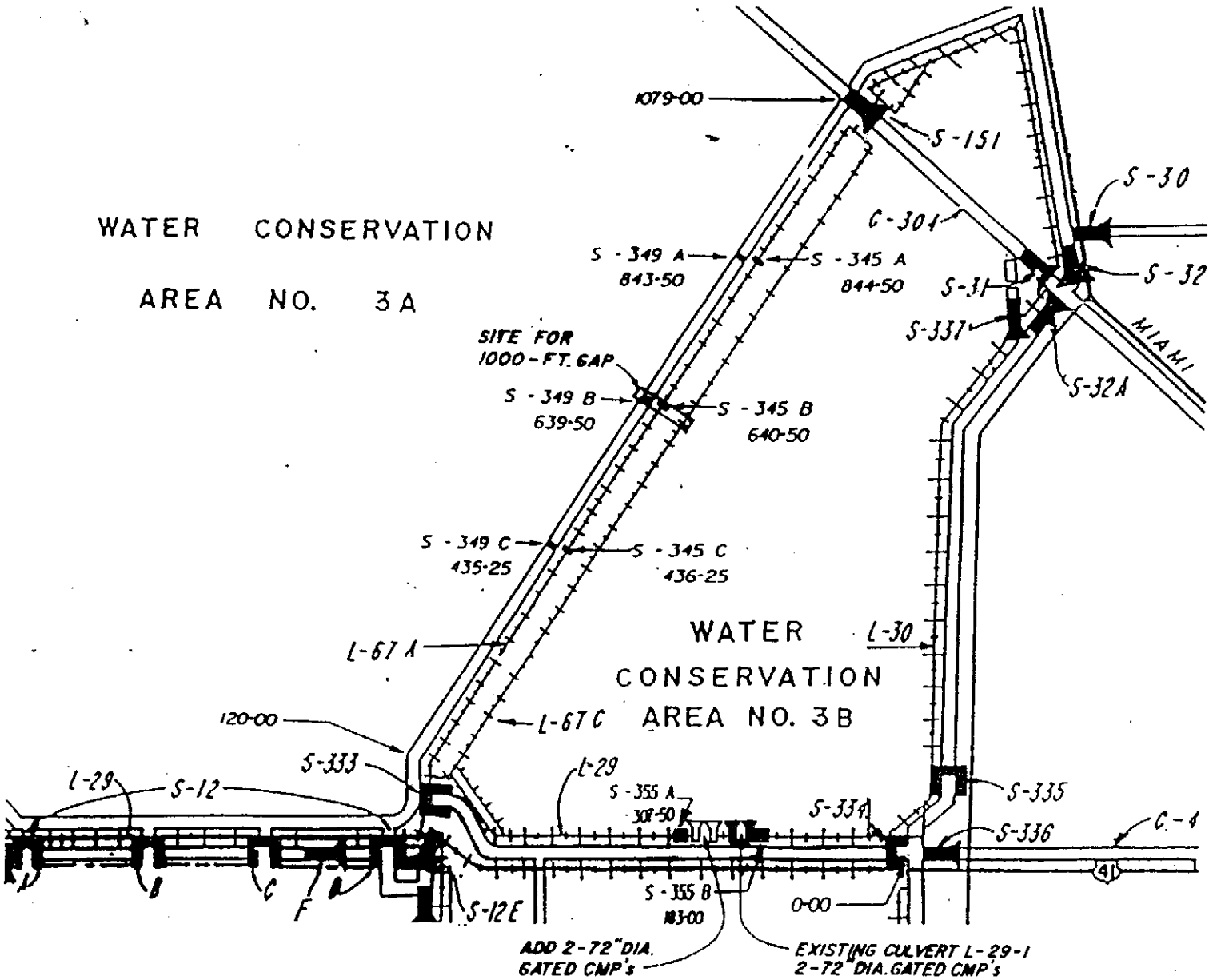

WATER CONSERVATION
AREA NO. 3A
WATER CONSERVATION
AREA NO. 3B
1079-00
S-151
S-30
C-304
S-32
S-31
S-337
S-32A
MIAMI
S-349 A
843-50
S-345 A
844-50
SITE FOR
1000-FT. GAP
S-349 B
639-50
S-345 B
640-50
S-349 C
435-25
S-345 C
436-25
L-67 A
L-67 C
L-30
120-00
S-333
L-29
S-12
S-355 A
308-50
S-334
S-335
S-336
C-4
41
C
F
S-12E
S-355 B
103-00
0-00
ADD 2-72" DIA.
GATED CMP's
EXISTING CULVERT L-29-1
2-72" DIA. GATED CMP's

Figure 2.

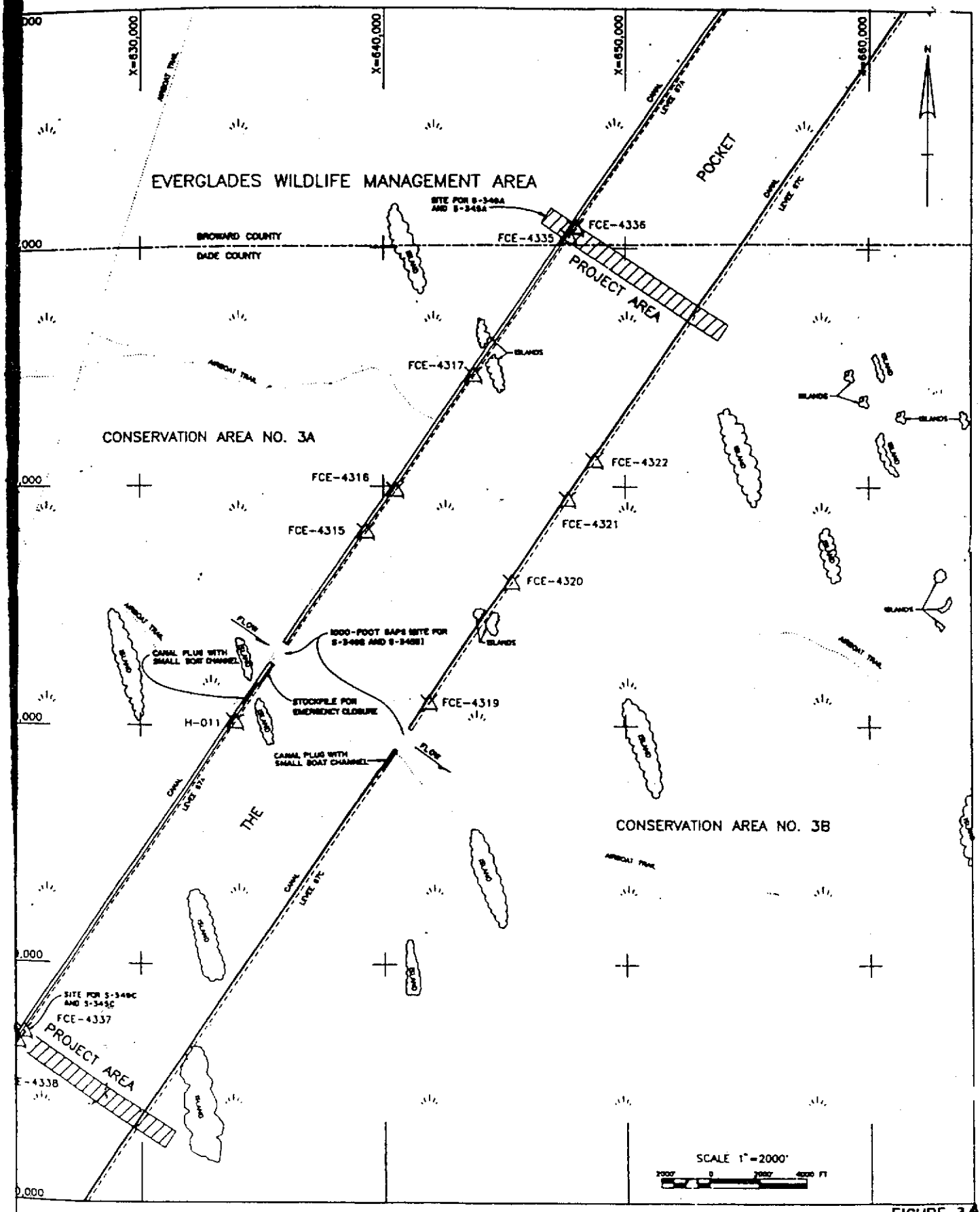
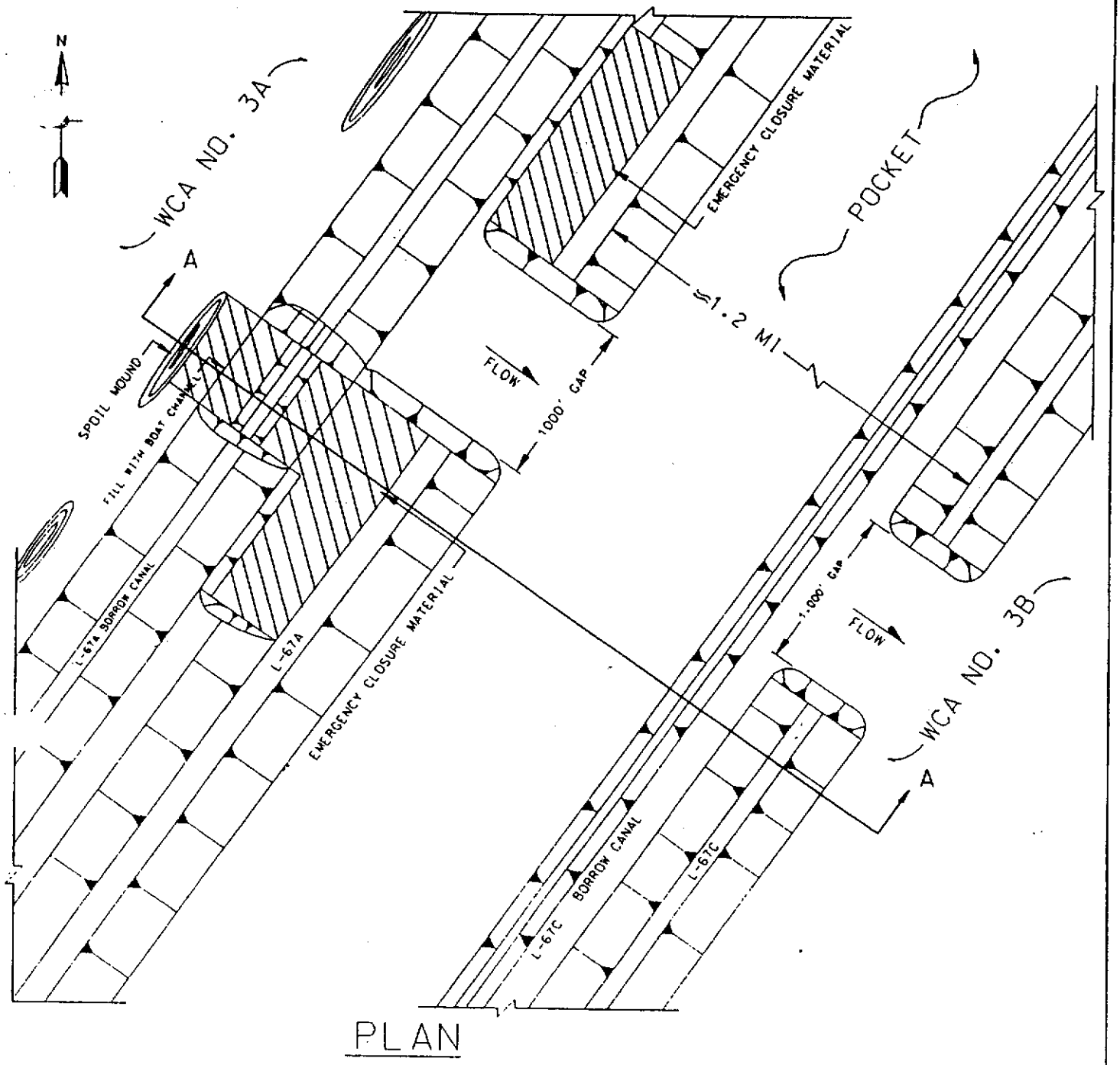
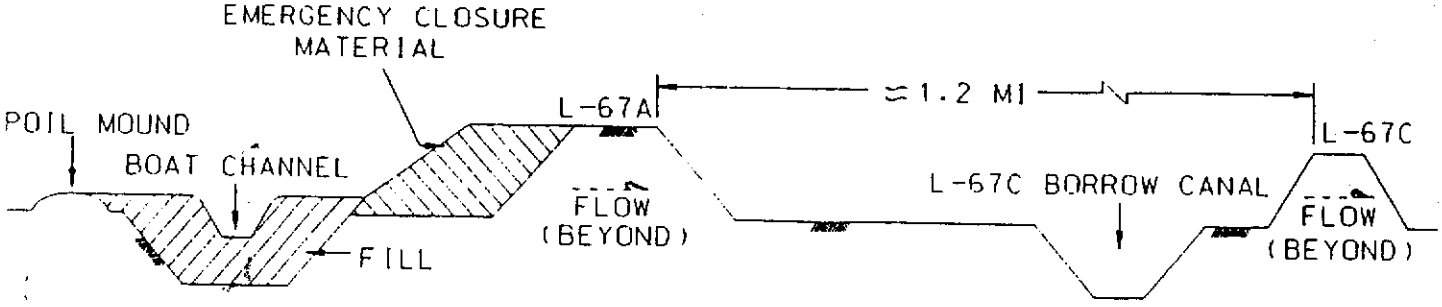

X=630,000
X=640,000
X=650,000
X=660,000
EVERGLADES WILDLIFE MANAGEMENT AREA
POCKET
BROWARD COUNTY
DADE COUNTY
FCE-4336
FCE-4335
PROJECT AREA
FCE-4317
ISLANDS
CONSERVATION AREA NO. 3A
FCE-4322
FCE-4316
FCE-4321
FCE-4315
FCE-4320
FLOW
CANAL PLUG WITH SMALL BOAT CHANNEL
STOCKPILE FOR EMERGENCY CLOSURE
FCE-4319
H-011
CANAL PLUG WITH SMALL BOAT CHANNEL
THE
CONSERVATION AREA NO. 3B
FCE-4337
PROJECT AREA
SCALE 1"=2000'

FIGURE 3A



PLAN



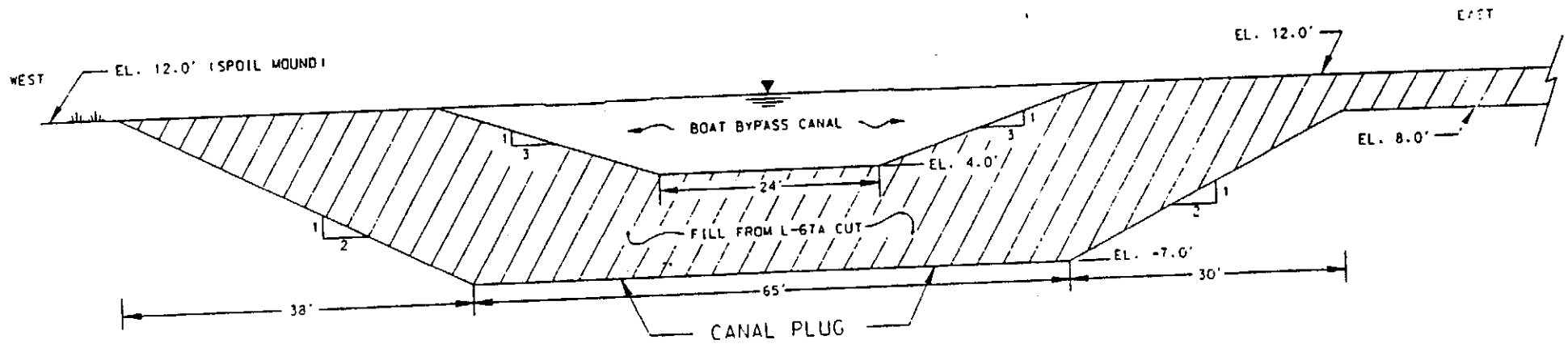
CROSS SECTION A-A

OT TO SCALE

Figure 3B

MODIFIED WATER DELIVERIES TO EVERGLADES NATIONAL PARK

PILOT TEST
1000-FOOT GAPS



TYPICAL CROSS SECTION

L-67A BORROW CANAL WITH
FILL AND SMALL BOAT CHANNEL

Pilot Test

Figure

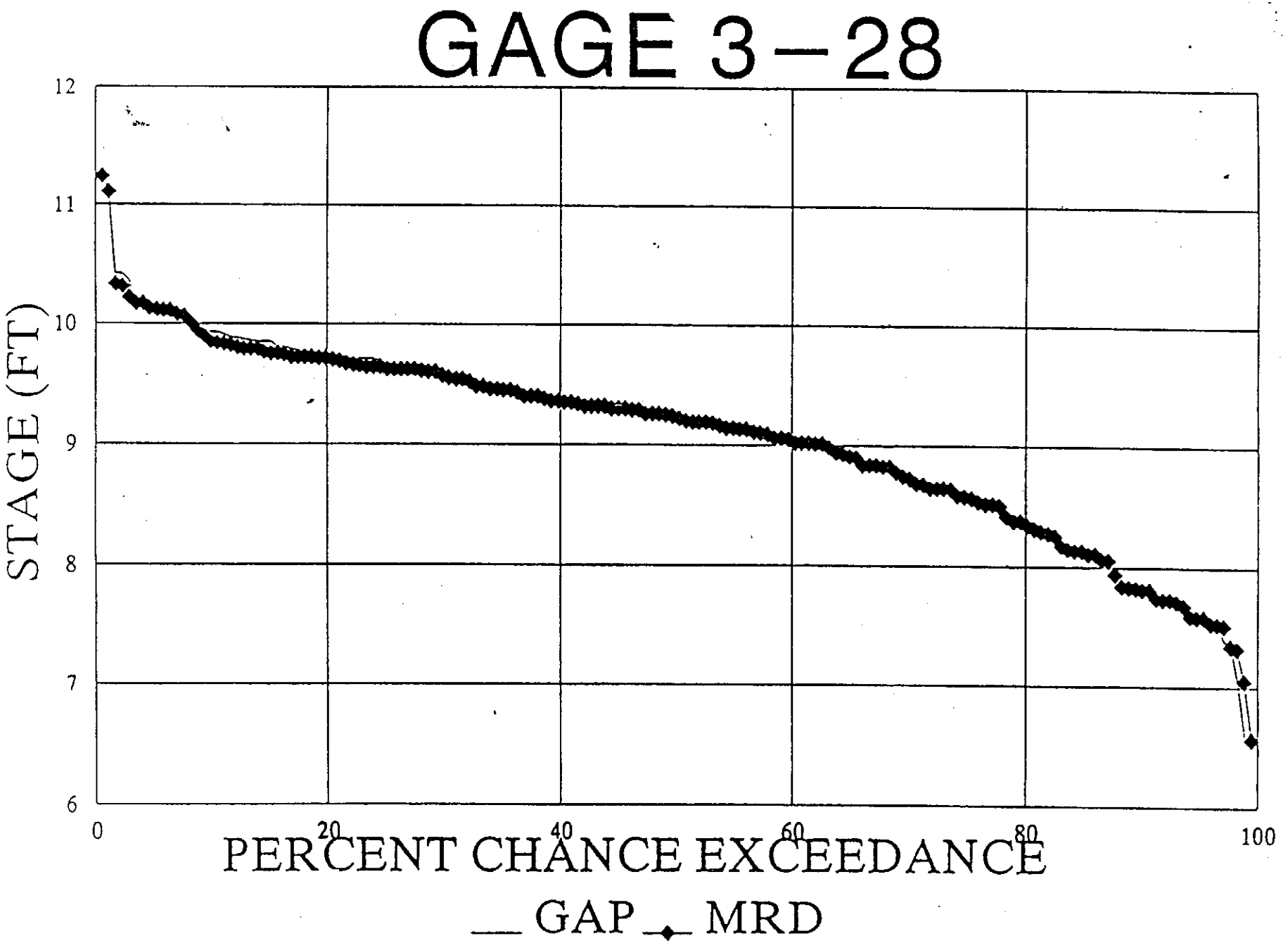

GAGE 3-28
STAGE (FT)
12
11
10
9
8
7
6
0
20
40
60
80
100
PERCENT CHANCE EXCEEDANCE
GAP
MRD

FIGURE 4

GDM PLAN VS PILOT TEST

GAGE 3-29

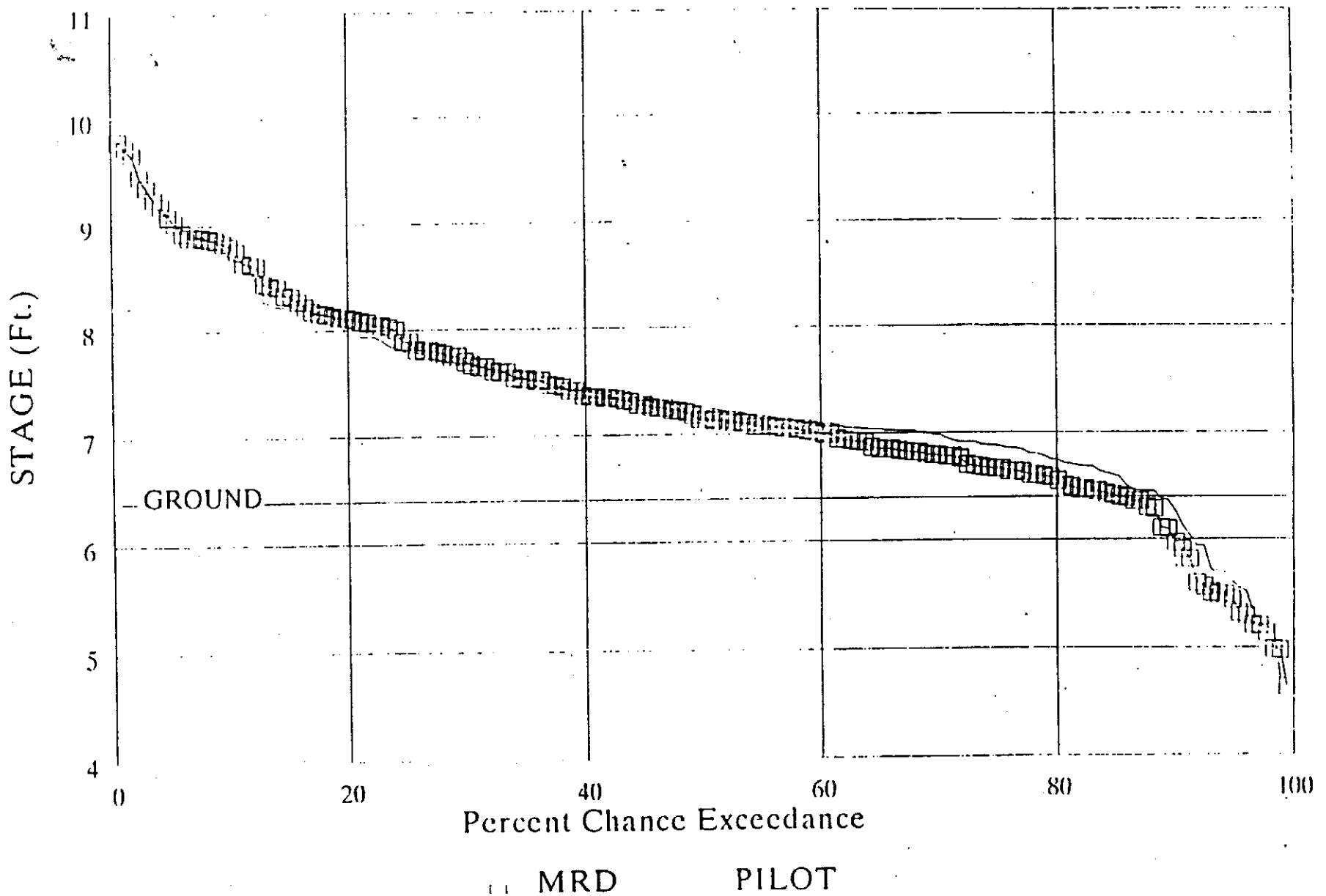


FIGURE 5

FLOW THROUGH

L-67A & C GAPS

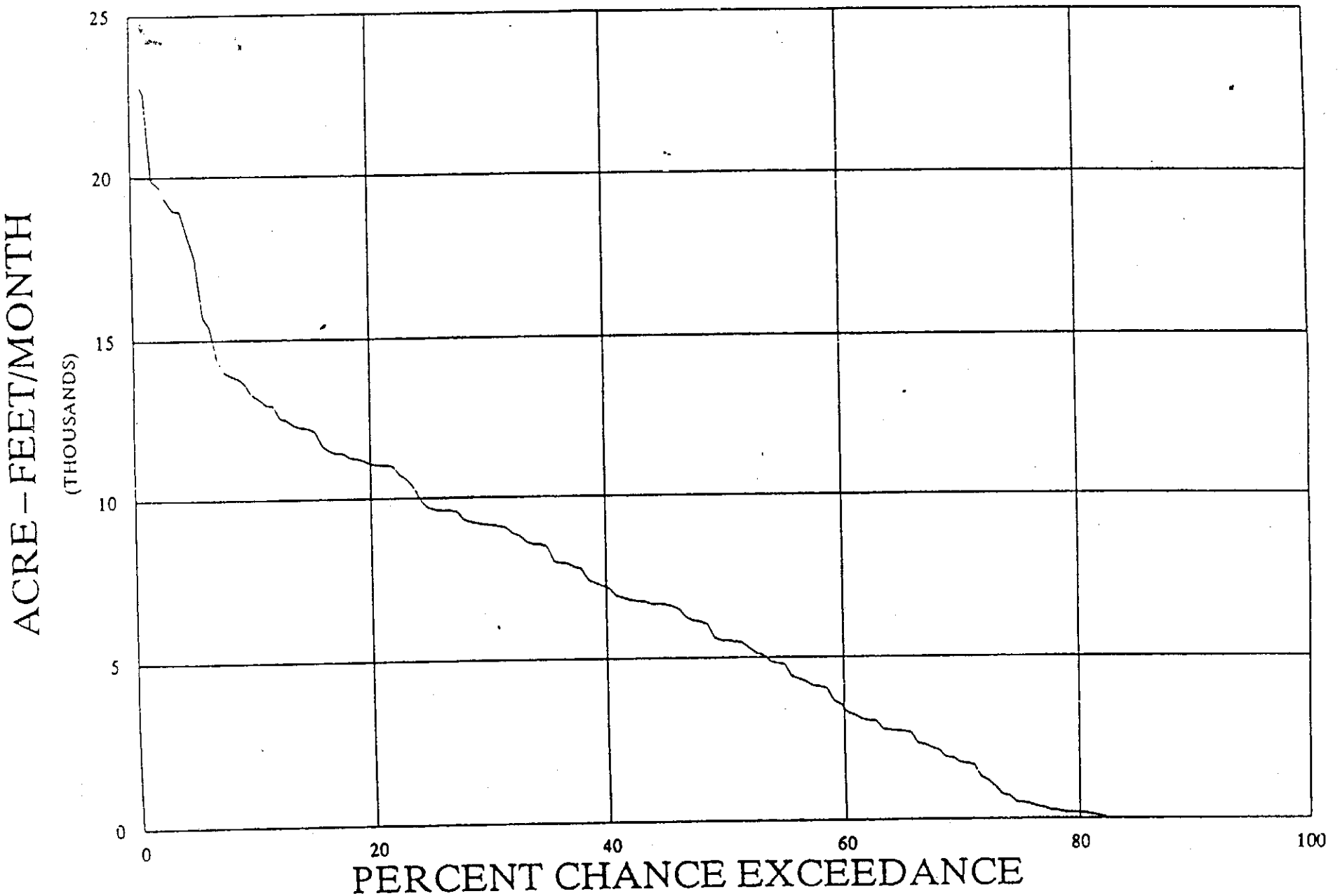


FIGURE 6

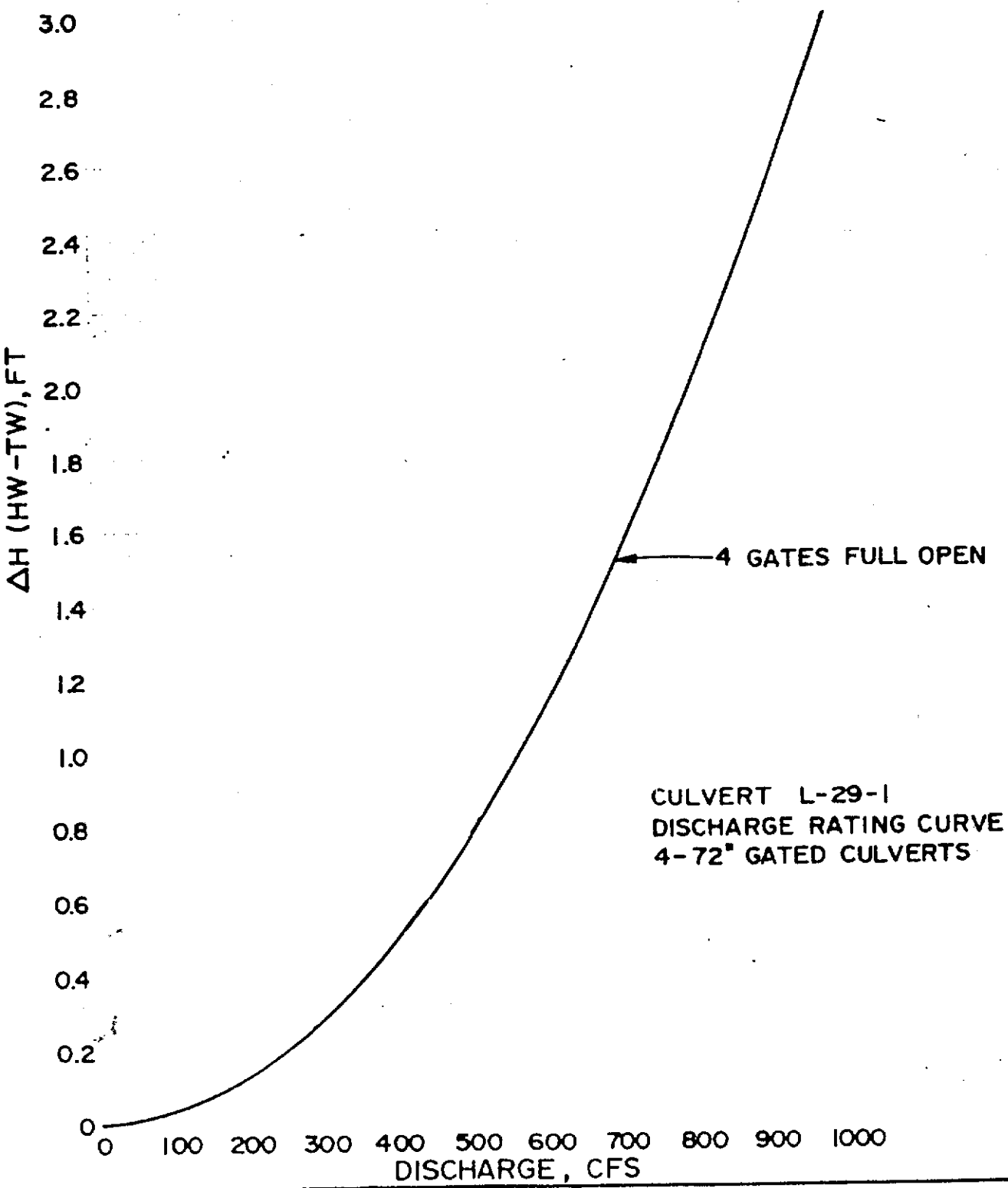
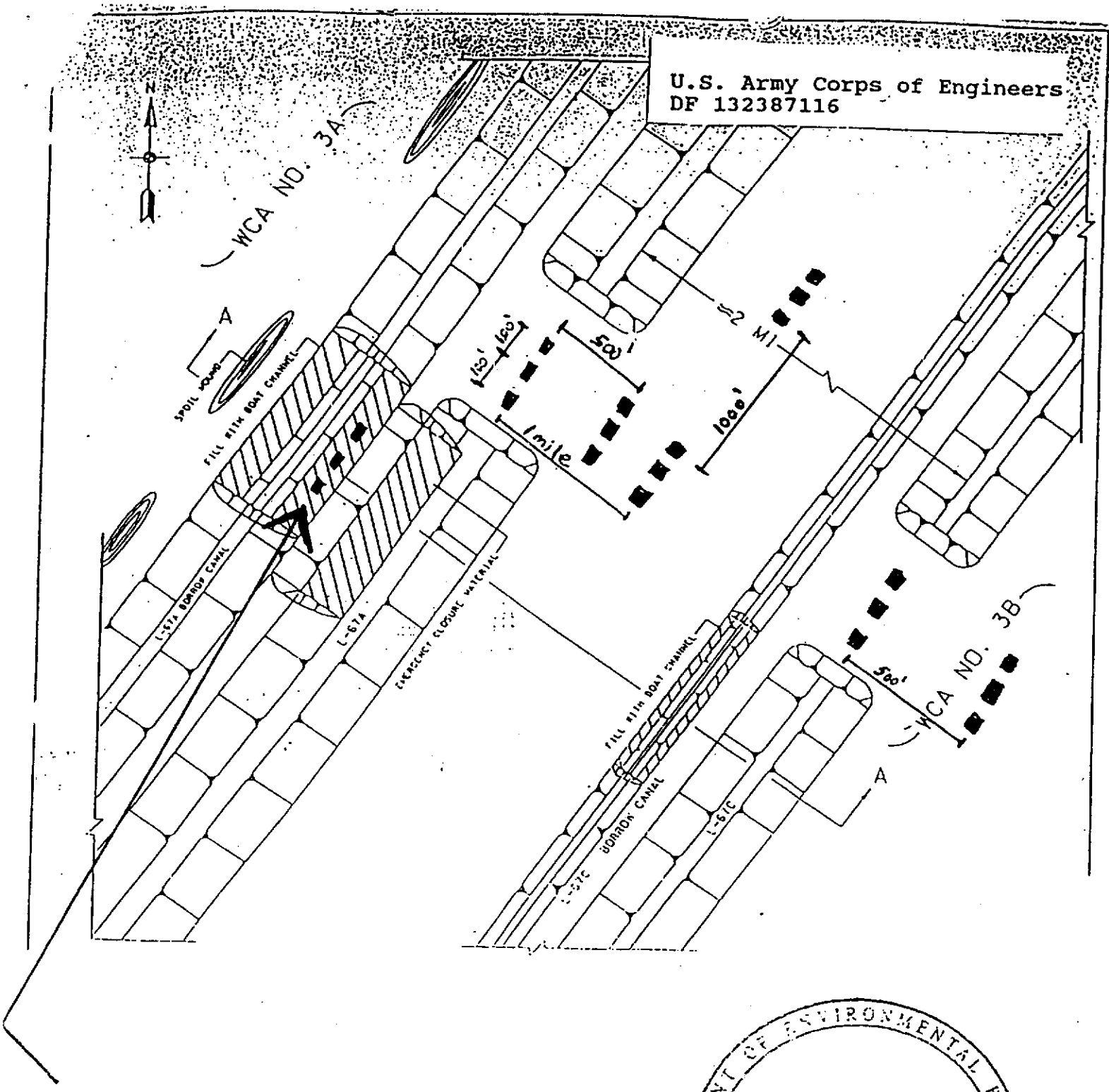

3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
ΔH (HW-TW), FT
4 GATES FULL OPEN
CULVERT L-29-1
DISCHARGE RATING CURVE
4-72" GATED CULVERTS
0
100
200
300
400
500
600
700
800
900
1000
DISCHARGE, CFS

FIGURE 7



Quadrates to be located in the middle of the plug, 5 ft. from the top of the channel slope.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Proj USACOE
DF 132387116
Date 12-20-93
By
STATE OF FLORIDA

■ ■ ■ = One-meter-square quadrates with replicates located 100 ft. lateral.

Figure 8.

EA APPENDIX A

CLEAN WATER ACT SECTION 404(b)(1) EVALUATION

January 18, 1994

SECTION 404(b)(1) EVALUATION REPORT
PILOT FIELD TEST OF GAP PLAN
GDM on MODIFIED WATER DELIVERIES TO ENP

I. Project description.

a. Location. The discharge of fill material will occur in Water Conservation Area 3 (WCA 3), Dade County, Florida.

b. General Description. In WCA 3, a 1000-foot long gap will be constructed through L-67A and L-67C to allow movement of water from WCA 3A to WCA 3B. Associated with this would be construction of truck turnarounds and staging areas and a stockpile area for storage of fill material for emergency gap closure. A 100-foot long partial plug will be constructed in the L-67A canal. Two additional culverts would be installed at existing structure L-29-1 in WCA 3B adjacent to the Tamiami Canal.

c. Authority and Purpose. The GDM was authorized for the purpose of considering redistribution of water to the Park in order to improve ecological conditions.

d. General Description of Dredged or Fill Material.

(1) General Characteristics of Material. The fill is previously dredged material that will be taken from existing levees in situ, consisting of varying proportions of marl, peat, and oolite rock.

(2) Quantity of Material. 15,000 cu yds from L-67A, 10,600 cu yds from the L-31N or L-29 area, and 4500 cu yds from L-67C.

(3) Source of Material. The fill material will be obtained in situ from existing levees.

e. Description of the Proposed Discharge Site(s).

(1) Location. The fill will be located in WCA No. 3.

(2) Size. 63,450 sq ft on the L-67A berm; 28,462 sq ft in the L-67A canal.

(3) Type of Site. The discharge sites are freshwater wetlands.

(4) Type(s) of Habitat. The L-67A berm site consists of disturbed wet prairies dominated by cattail. The L-67A Canal site is a manmade open-water canal.

(5) Timing and Duration of Discharge. During March and April, 1994.

f. Description of Disposal Method. A combination of bulldozers and front-end loaders would be used to handle the fill material.

II. Factual Determinations.

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The existing substrate of the berm is at an elevation of 8 feet NGVD; the canal bottom is at elevation -7 feet NGVD.

(2) Sediment Type. The levee material is predominantly marl and is essentially identical to the substrate at the fill area or adjacent to canals.

(3) Dredged/fill Material Movement. The material will not move once in place.

(4) Physical Effects on Benthos. Benthos in the L-67A Canal will be eliminated by the fill.

(5) Other Effects. None

(6) Actions Taken to Minimize Impacts. Fill is part of environmental restoration. Project dimensions are the minimum required to achieve restoration objectives. Levee slopes will be stabilized with mulch and/or grass seeding to control erosion and sedimentation.

b. Water Circulation, Fluctuation, and Salinity Determinations.

(1) Water. Objective is to evaluate restoration of natural hydrology.

(2) Current Patterns and Circulation. Not applicable.

(3) Normal Water Level Fluctuations. Objective is to evaluate restoration of natural hydrology.

(4) Salinity Gradients. Not applicable

(5) Actions That Will be Taken to Minimize Impacts. Fill is part of an evaluation of environmental restoration. Project dimensions are the minimum required to achieve evaluation objectives. Levee slopes will be stabilized with mulch and/or grass seeding to control erosion and sedimentation.

c. Suspended Particulate/Turbidity Determinations.

(1) Expected Changes in Suspended Particulates and Turbidity Levels in the Vicinity of the Disposal Site. Not applicable.

(2) Effects on Chemical and Physical Properties of the Water Column. Not applicable.

(a) Light Penetration. Not applicable.

(b) Dissolved Oxygen. Not applicable.

(c) Toxic Metals and Organics. Not applicable.

(d) Pathogens. Not applicable.

(e) Aesthetics. Not applicable.

(3) Effects on Biota.

(a) Primary Production and Photosynthesis. All primary production in the berm will be lost and replaced with primary production from a sawgrass community that will become established on the levee site when it is removed, resulting in a net gain in photosynthesis.

(b) Suspension/Filter Feeders. All such biota will be lost in the canal fill area.

(c) Sight Feeders. Those that are highly motile such as fish and reptiles would relocate to avoid the fill. Other, slow moving forms would be buried by the fill in the canal.

(4). Actions Taken to Minimize Impacts. Area for construction activities and emergency stockpiles utilized the existing levee to the maximum extent possible to minimize the need for wetland fill.

d. Contaminant Determinations. There will be no contamination from the fill material since it is all of in situ origin.

e. Effects on Aquatic Ecosystem and Organism Determinations. The aquatic ecosystem in canals will be replaced with wetland conditions in which wetland ecosystems will become established. Fill areas adjacent to the levee will constitute dry land habitats, replacing wetland habitats.

(1) Plankton. Canal fill will eliminate all plankton.

(2) Benthos. Canal fill will bury all benthos.

(3) Nekton. Canal fill will eliminate all nekton.

(4) Aquatic Foodweb. Open water community will be replaced by marsh community.

(5) Special Aquatic Sites.

(a) Sanctuaries and Refuges. Evaluation of plan of environmental restoration of Everglades National Park.

(b) Wetlands. Restoration.

(c) Mud Flats. Not applicable

(d) Vegetated Shallows. Restoration.

(e) Coral Reefs. Not applicable

(f) Riffle and Pool Complexes. Not applicable.

(6) Threatened and Endangered Species. The proposed fill will have no adverse effects on any listed species.

(7) Other Wildlife. None.

(8) Actions Taken to Minimize Impacts. Fill is part of the evaluation of environmental restoration. Project dimensions are the minimum required to achieve objectives. Levee slopes will be stabilized with mulch and/or grass seeding to control erosion and sedimentation.

f. Proposed Disposal Site Determinations.

(1) Mixing Zone Determination. Not applicable.

(2) Determination of Compliance with Applicable Water Quality Standards. The discharge of fill materials will not violate or exceed State water quality standards for the Class III waters of WCA 3. Water Quality Certification has been granted.

(3) Potential Effects on Human Use Characteristics.

(a) Municipal and Private Water Supplies. No sources of municipal or private water are located in or near the project area; thus, the placement of fill materials will not have an impact on these resources.

(b) Recreational and Commercial Fisheries. There would be no adverse effect on recreational fisheries. There is no commercial fishing in the area.

(c) Water-Related Recreation. The earthen plug placed in the L-67A Canal will have a very minor effect on the existing conveniences associated with recreational fishing in the canal: the boats will have to slow down when navigating through the plug. Fishing opportunities in the L-67C Canal will be unchanged.

(d) Aesthetics. There will be no significant decline in aesthetic values during construction because of the very limited scope of the work. The structure in the L-29 levee will be slightly enlarged.

(e) Parks, National and Historic Monuments, National Wilderness Areas, Research Sites, and Similar Preserves. Not applicable.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. The proposed discharge of fill materials will allow an evaluation of improvement in the hydrology of the remainder of the aquatic ecosystem.

h. Determination of Secondary Effects on the Aquatic Ecosystem. The fill in WCA 3 will allow an evaluation of an improvement in the ecological functioning of the aquatic ecosystems.

III. Findings of Compliance or Non-Compliance with the Restrictions on Discharge.

a. No significant adaptations of the guidelines were made relative to this evaluation.

b. No practicable alternative exists which meets the study objectives that does not involve discharge of fill into waters of the United States. Without fill in wetlands adjacent to the levee, construction of the gap and emergency closure provisions could not accomplished.

c. The discharge of fill materials will not cause or contribute to, after consideration of disposal site dilution and dispersion, violations of any applicable State water quality standards for Class III waters.

d. The discharge operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

e. The placement of fill material will not jeopardize the continued existence of any species listed as threatened or endangered, or result in the likelihood of destruction or adverse modification of any Critical Habitat as specified by the Endangered Species Act of 1973, as amended.

f. The placement of fill materials will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreational and commercial fishing, plankton, fish, and shellfish, wildlife, and special aquatic sites. The life stages of aquatic species and other wildlife will not be adversely affected. Significant adverse effects on aquatic ecosystem diversity; productivity and stability; and recreational, aesthetic, and economic values will not occur.

g. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

h. On the basis of the guidelines, the proposed disposal sites for the discharge of dredged or fill material is specified as complying with the requirements of these guidelines.

EA APPENDIX B

PUBLIC SCOPING COMMENTS AND RESPONSES

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9450 Koger Boulevard
St. Petersburg, Florida 33702

June 3, 1993

Mr. A. J. Salem
Chief, Planning Division
Department of the Army, Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Salem:

The National Marine Fisheries Service (NMFS) has reviewed your request dated May 21, 1993 for comments on the Corps' plan to initiate a field test of an alternative for hydrologically interconnecting Water Conservation Area 3A and 3B in conjunction with the Modified Water Deliveries to Everglades National Park.

We have no comments to make at this time, but request that we be kept informed as the project develops. If you have any questions, please contact Mr. Mark Thompson of our Panama City Branch Office at 904/234-5061.

Sincerely,

Edwin J. Kappler

for Andreas Mager, Jr.
Assistant Regional Director
Habitat Conservation Division

cc:
F/SE02

B-2

Responses to DERM Letter Dated June 15, 1993

1. With certain limited exceptions, the Federal Government has not waived its sovereignty and, therefore, is exempt from local and state regulation. This exemption is narrowly construed; the law must be quite specific in requiring the Federal Government to apply for the state or local permit. One such law is the Federal Clean Water Act, which requires that the Federal Government obtain state water quality certification for certain activities. This Act does not waive the Federal Government's exemption from local regulation. We know of no other specific Federal law that would apply to this situation and waive the Corps exemption from local regulation. Therefore, the Corps would not apply for a Dade County Class IV permit. The Corps would, however, construct and monitor the Test in a manner consistent with Dade County's requirements to the extent possible within existing policies, authorities, and funding availability.

2. Modeling results are summarized in paragraph 3.03 and Figures 4-6. Since this is only a pilot test (not an experiment) to gather hydrologic data for model development and it would result in very minor hydrologic changes in WCA 3, no biological effects are expected.

3. The Pilot Field Test would have no effect on implementation of the remaining components of the authorized GDM plan.

METROPOLITAN DADE COUNTY, FLORIDA

METRODADE

DERM

ENVIRONMENTAL RESOURCES MANAGEMENT
33 S.W. 2nd AVENUE
MIAMI, FLORIDA 33130-1540
(305) 372-6758

June 15, 1993

Mr. A.J. Salem, Chief
Planning Division
U.S. Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Experimental Program to Hydrologically Interconnect Water Conservation Area 3A and 3B

Dear Mr. Salem:

The Dade County Department of Environmental Resources Management is pleased to have the opportunity to respond to the notice dated May 21, 1993 on the proposed experimental program to hydrologically interconnect Water Conservation Areas (WCA) 3A and 3B. We support the efforts of the Corps of Engineers to restore the timing and historical volumes of water delivered to WCA 3B and Northeast Shark River Slough and the Corps dedication towards pursuing the implementation of cost efficient strategies.

(1) Pleased be advised that the proposed project will require a Dade County Class IV Permit. I would strongly encourage you to include going through this administrative process in your project time table. Once a complete standard form application is received, the project will be placed on the earliest agendas of the Environment and Land Use Committee and a meeting of the Board of County Commissioners.

(2) The public notice indicates that some modeling has already been performed which predicts the potential impacts associated with the implementation of the proposed experiment. Any subsequent documentation for this project (EA & FONSI) should include a detailed discussion of the result of this modeling and how it will affect the biological resources of the area.

(3) Additionally, the Corps should provide a description of how the experiment will affect the implementation of the remaining components (backfilling of the L-67E canal, the flood mitigation proposal for the 8.5 square mile residential area, etc..) of the GDM for Modified Water Deliveries to Everglades National Park.

We look forward to working with you in the upcoming months. Thank you for the opportunity to comment on this matter. If you have any questions you may contact me or Frank Bernardino at (305)372-6754.

Sincerely,

John W. Renfrow, P.E.
Director

CC Katherine Fanning

5-1

BROWARD COUNTY

Public Works Department
Office of Environmental Services
2555 West Copans Road
Pompano Beach, Fl 33069
(305) 831-0705 • FAX (305) 831-0708

June 15, 1993

Mr. A. J. Salem, Chief
Planning Division
Department of the Army
Jacksonville District Corps of Engineers
P. O. Box 4970
Jacksonville, FL 32232-0019

RE: Scoping Comments, Interconnect of WCA-3A and WCA-3B
Your Memorandum of May 21, 1993

Dear Mr. Salem:

Your memorandum stating the intent to utilize degrading of levees L-67A and L-67C rather than construction of the proposed S-345A and S-345B has been reviewed. In my opinion, this action does not create sufficient concern on the part of this Division to warrant a request for a supplement to the Environmental Impact Statement that was prepared for the GDM.

Very truly yours,

Roy A. Reynolds, P.E., Director
Water Resources Management Division

RAR/bp
0693.RAR

Responses to the National Audubon Society Letter of June 18, 1993

1. One of the goals of the total Modified Water Deliveries to ENP is to restore natural water flows through WCA 3B. However, since the Pilot Field Test is not a functional part of the Everglades restoration effort, water flows through WCA 3B would not be monitored other than for gap calibration purposes. The purpose of the Test is to enable collection of hydrologic data that can be used to verify that the design of the overall project fully meets the hydrologic restoration goals.

D-6

National Audubon Society

666 Pennsylvania Avenue, SE
Washington, DC 20003
(202) 547-9009
(202) 547-9022 fax

18 June 1993

A. J. Salem
Chief, Planning Division
Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

RE: Field Test of de-grading a section of Levee (L) -67A & C

Dear Mr. Salem:

We feel that the proposed field test is an important step in the right direction. The L-67 canal is a rapid conduit for water from the Everglades Agricultural Area to the northern boundary of Everglades National Park (ENP). This conduit aggravates problems in the timing and distribution of flows into Shark Slough by rapidly moving water through the Water Conservation Areas (WCAs) and taking the water farther west than historically it went. Re-establishing sheet flow across the WCAs is critical to the restoration of the WCAs and correcting the problem in timing of flows into ENP. Blockage of the canal over a substantial portion of its length should help to slow the flow of water to the downstream end of the L-67 by re-establishing sheet flow through the marsh. This will further improve the timing of flows across the WCAs and into ENP. Redirecting water into WCA 3B will also improve the distribution of flows. Modeling suggests that 70% of the flows should pass through WCA 3B and into Northeast Shark Slough and 30% should continue to go through the S-12s. You need to carefully monitor water flows to determine if sufficient water to achieve our restoration goal is passing through WCA 3B. (1)

Our concerns with the project are that it be evaluated in the context of full system restoration. This is one large system and it is essential that we develop a system-wide integrated restoration plan. We need to consider the effects of the changes in Lake Okeechobee regulation and the building of the marsh treatment areas for Everglades Agricultural Area water on the possible success of this effort. The Natural System Model that Everglades National Park and South Florida Water Management District have developed shows that the area east of WCA 3B historically provided substantial amounts of water to Shark Slough. This model also suggests that on average about 200,000 acre-feet less water currently flows through the WCAs and into the Park. In a full restoration plan makeup of both these sets of water need to be considered. The actual amount of water needed for restoration will vary with rainfall and a full restoration plan needs to account for this variability. We are also concerned about the problem of seepage to the east under the levees. You need to monitor

Printed on recycled paper

Responses to the NAS Letter of June 18, 1993 (cont.)

2. Because of the expected minor hydrologic effect of the Pilot Field Test, no monitoring as suggested would be undertaken. The hydrologic model that would be developed with the aid of the field data gathered during the Pilot Field Test would be used to assess hydrologic effects of a large scale gap plan and provide information to evaluate its contribution to the overall restoration effort.

3. The small boat navigation channel would have no effect on the ability to gather hydrologic data on gap flow. Upstream and downstream water level data would be collected at the plug. With this data, flow through the boat channel could be estimated and used to evaluate the impact of plugging the canal. As presently designed, the plug would not block all flows down the L-67A Canal, even without the small-boat channel. Flows in the canal may be important for protecting snail kite habitat, providing water supply to South Dade County and the Park, and providing sufficient water levels for the Miccosukee Indian Tribe to maintain airboat access to WCA 3A.

4. See response 2, above.

(2) seepage rates and model this process. Additional water will need to be attained to make up for this loss. We strongly recommend that canal stages in the L-30 and L-33 canals be raised in association with this test to help prevent excessive seepage.

(3) We are concerned about the plan to leave a "shallow small-boat navigation channel running down the middle" of the filled in section of the L-67a canal. This navigational channel could continue to draw water southwest that should be flowing through the marshes and into WCA 3B. We wonder how you plan to evaluate the effects of this canal on the overall test and whether this canal may prevent water from flowing into WCA 3B at times in the annual cycle.

We agree that modeling of water flows in this area is complex and difficult. We commend the Corps for proposing to develop a more comprehensive model for this area. We would like to be kept informed of progress in this modeling effort.

(4) We support the proposed test but remain concerned that proper hydrologic and biologic monitoring be done in association with it. At this stage we do not feel that an environmental impact statement needs to be done for this test. The goal of this effort is to achieve biological restoration of the Everglades System. Restoring natural hydrology is the best mechanism of reaching this goal. We cannot emphasize enough the need for evaluating the biological responses to this test. This biological information should be extremely useful in modifying the restoration plan to achieve the ultimate goal. Monitoring the response of Alligators, wading birds, snail kites, fish and vegetation to these changes is absolutely essential. Please keep us informed on the progress of this field test and provide us with any reports that result from it. Any additional information that you can provide that would help us understands this test would be greatly appreciated.

Sincerely,

G. Thomas Bancroft

G. Thomas Bancroft, Ph.D.
Senior Scientist

Tom

Thomas D. Martin
Executive Director

Responses to Ghioto & Associates Letter Dated June 20, 1993

1. The gap can be closed under emergency conditions of high water by deploying the fence barrier to reduce flow, followed by construction of the earthen dike behind (see EA paragraph 2.05). The criteria for gap closure to protect the integrity of the C&SF Project features is described in paragraph 2.06.

2. The total discharge capacity of the enlarged G-68 (L-29-1) culvert structure is shown in Figure 7 of the EA.

3. The C&SF Project would continue to be operated as it is currently. Regulatory releases from the L-29-1 culverts would be delivered to NESRS. It is noted that the Pilot Field Test would produce water stages in WCA 3B that would be similar to those produced by the Modified Rain-Driven (MRD) Plan authorized in the GDM on Modified Water Deliveries to ENP. The capacity of the culverts was based on model simulations that provide hydroperiods similar to those shown by the MRD Plan. Therefore, there would be no need to modify the current operation of the C&SF Project.

4. The L-29-1 culverts would be used in two ways: (1) to regulate discharges into NESRS, and (2) to deliver water supply to ENP contingent upon conditions in the L-29 Borrow Canal. These culverts would close in accordance with the same criteria that calls for closing the gates at S-333. For water supply purposes, the L-29-1 culverts would be used in conjunction with S-333 and would be used as a first priority for water deliveries to ENP. S-333 would be used to supplement required flows to ENP not met by the L-29-1 culverts. S-334 would continue to be operated to provide water supply to the Park and South Dade County under drought conditions.

5. See response 3, above. Standard Project Flood routings between WCA 3A and 3B with the gap open were conducted to determine levee requirements and geotechnical differential head conditions. Results of these studies did not identify potential levee instability problems.

R-x

GHIOTO & ASSOCIATES
Water Resources and Civil Engineering

Rodney D. Ghioto, P.E.
Owner

June 20, 1993

Mr. A. J. Salem, P.E.
Chief Planning Division
P.O. Box 4970
400 W. Bay Street
Jacksonville, Florida 32232

Subject: Field Test – Interconnection
WCA-3A and 3B

Dear Mr. Salem:

I am writing this letter on behalf of the Florida Lime and Avocado Committees to inform you and your staff of our concerns related to the subject proposed test.

(1) Degradation of L-67A and L-67C will not be irreversible when water levels are high in the conservation areas. Therefore, the Corps should be sure that there is no possibility of structural jeopardy for other WCA facilities. Your scoping letter provided no details of how large the (2) improvement to G-68 will be or how it will be utilized. Nor did it provide any details on how the (3) rest of the system would be used to offset regulatory release conditions for the WCA's. These are extremely important to us because of the possibility of having to make regulatory releases through G-68 to relieve conditions in WCA-3B.

(4) Under no circumstances will the committees support an action that will place additional flow into NESRS or into L-31N either via seepage or emergency releases via S-334. These factors need to be analyzed in detail before implementing the project. Therefore, it is requested that the Corps (5) perform some "worst case" modeling of these facilities to determine whether they will in fact trigger a need for emergency releases from WCA-3B and whether seepage to L-31N will be increased from the southeast corner of the conservation area. If either of these conditions occurs, it is our opinion that the human environment (agriculture) in the L-31N and C-111 basins will be adversely impacted by the proposal and an EIS would be required.

In closing we would appreciate a more detailed explanation of how G-68 is to be changed and how you plan to change system operations with this proposal. We would like to study these aspects prior to your development of an EA or EIS for the action.

Very Truly Yours,

Rodney D. Ghioto
GHIOTO & ASSOCIATES

cc: Shirley Manchester
James Humble

P.O. Box 690758 • Orlando, Florida 32869-0758 • Phone (407)368-5896 • FAX (407)368-6670
7848 Municipal Drive • Orlando, Florida 32819

LAWTON CHILES
GOVERNOR

STATE OF FLORIDA

Office of the Governor

THE CAPITOL
TALLAHASSEE, FLORIDA 32399-0001

July 9, 1993

Mr. A. J. Salem, Chief
Planning Division
Department of the Army
Jacksonville District Corps of
Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

RE: Initiate a Field Test Later This Year of an Alternative for Hydrologically Interconnecting Water Conservation Area (WCA) 3A and 3B

SAI: FL9212241915CR1

Dear Mr. Salem:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 83-150, the Coastal Zone Management Act Reauthorization Amendments of 1990 and the National Environmental Policy Act, has coordinated a review of the above referenced project.

Pursuant to Presidential Executive Order 12372, the project will be in accord with State plans, programs, procedures and objectives when consideration is given to and action taken on the enclosed comments and requirements of our reviewing agencies.

Please refer to the enclosed comments provided by the Department of Environmental Protection (DEP) regarding suggested modifications regarding construction.

Based on the comments from our reviewing agencies, funding for the proposed action is consistent with the Florida Coastal Management Program (FCMP) advanced notification stage. Subsequent environmental documents will be reviewed to determine continued consistency with the FCMP as provided for in 15 CFR 930.95. These documents should provide thorough information regarding the location and extent of wetlands dredging and filling, borrow sources, dredging or filling associated with bridge construction and stormwater management. Continued concurrence with this project will be based, in part, on adequate resolution of issues identified during earlier reviews. Any environmental assessments prepared for this project should be submitted to the Florida State Clearinghouse for interagency review.

This letter reflects your compliance with Presidential Executive Order 12372.

Sincerely,

Janice L. Alcott, Director
State Clearinghouse

JLA/gm

Enclosure

cc: Department of Environmental Protection

Responses to Florida DEP Letter Dated July 7, 1993

1. The hydrologic model that would be developed from data gathered during the Pilot Field Test would allow an analysis of the need for the referenced structural components of the original authorized plan, and the associated destruction of wetlands, etc.

2. The L-67A plug has been reduced in length from 1000 feet to 100 feet to minimize wetlands impact and construction costs. The reduced length is too short to build in a meander.

3. The Pilot Field Test is not an experiment to evaluate a gap plan, so there is no criterion for "sufficient" water flow.

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Marjory Stoneman Douglas
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia H. Wetherell
Secretary

7 July 1993

Janice L. Alcott
Director, State Clearinghouse
Office of Planning and Budgeting
Executive Office of the Governor
The Capitol
Tallahassee, Florida 32399-0001

RE: COE/Field Test for Interconnecting Water Conservation Areas (WCAs) 3A and 3B
SAI: FL9212241915CR1

Dear Ms. Alcott,

The U.S. Corps of Engineers has requested the Department's comments on a field test for hydrologically interconnecting WCAs 3A and 3B. Herb Zebuth of our Southeast District office has provided the following response:

The Department supports the proposed field test. Interconnecting Water Conservation Areas (WCAs) 3A and 3B should result in significant environmental improvements over the present hydrological design for this system. As originally designed, the construction of control structures in the L-67A Canal, and the new canals needed to bypass those structures, would have resulted in the unnecessary destruction of wetlands, impacts to water quality resulting from construction activities and increased interference with marsh sheet flow. (1)

Some additional modifications should be considered before construction begins. A meandering or S-shaped design for the shallow small-boat navigational channel through the plug should be considered. Such a design may increase the efficiency of moving water through the levee gaps by slowing water movement down the channel. Boat traffic would also be slowed. Since the channel will be narrow, a no wake zone should be established for the area to help prevent erosion. In a narrow channel, slower speeds increase safety. A meandering channel could assist in these areas as well. (2)

If field testing determines that insufficient water is being diverted through the gaps, the plan should be modified before being totally rejected. Consideration (3)

Printed on recycled paper.

Responses to Florida DEP Letter Dated July 7, 1993 (cont.)

4. This is beyond the scope of the Pilot Field Test. This issue was addressed in the EIS for Modified Water Deliveries to ENP. However, if the results of the Test indicate that degrading portions of L-67A and C is a feasible plan, then the issue of recreational boating impacts of filling the canals should be revisited.

5. See EA paragraphs 2.09 - 2.11.

should be given to increasing the lengths of canal filling and levee removal to provide a greater hydraulic opening. Another possibility would be the placement of a structure at the junction of the Miami Canal and L-67C Canal to allow water to be moved down the L-67C instead of the L-67A Canal. A block in the L-67C Canal would then be much more efficient. This option may require modification to S-151.

Since approval of the EIS for Modified Water Deliveries to Everglades National Park, discussions have occurred regarding possible long range plans to re-establish sheet flow by filling the canals through the WCAs. Complete filling of portions of the L-67A Canal was originally rejected based upon impacts to boat traffic. This impact would only occur if that traffic needed to travel the entire length of the canal. Most boating traffic is probably fishing-related. Fishing access could still occur from both north and south of the filled area and a considerable length of canal would still be available for fishing. Have any studies been done to determine the percentage of boat traffic originating at one end of the canal and terminating at the other? This option should be reconsidered before the modified plan is rejected and the weir and bypass channel are constructed. (4)

Water quality remains an important consideration for any plan to divert canal water into the marsh. Water quality monitoring must occur especially during periods of canal flow. Flow data must also include information regarding quality variation during the entire hydrograph. Data collected during periods of non-flow should be reported separately. Any monitoring plan should also document any changes to the naturally occurring plant community. Important information regarding marsh sensitivity to increased nutrient levels could be obtained during this project. (5)

The Department has no objections to proceeding with the proposed field test. The project is consistent with the Department's authorities in the Florida Coastal Management Program. We request the Corps' consideration of the above recommendations as it proceeds with planning and design of the modifications. In addition, if an Environmental Assessment is prepared for this project, we request that our concerns be fully addressed in the document and that it be made available for our review.

Responses to SFWMD Letter Dated September 30, 1993

1. The gap is not intended to test the alternative, but to allow collection of hydrologic data on gap flow. The hydrologic model developed with the help of the data would be used to evaluate additional and/or larger gaps.

2. For the purposes of the Pilot Field Test, the L-67C gap is simply to provide an outlet from the pocket for water flowing through the L-67A gap so a tailwater differential is maintained across the L-67A gap to enable flow measurement. Because the area is extremely flat, no clear flow path could be identified without more detailed topographical information. Therefore, it would not be possible to locate an L-67C gap site that would be "downstream" of the L-67A gap. The gaps were located at the sites of the authorized S-345 structure and discharge canal through the levees so that wetlands disturbance would be minimized if the structures are ultimately constructed. There is no objective to use the Pilot Field Test gaps to begin restoration of flows through WCA 3B.

3. A submerged plug would be hydrologically less effective in blocking canal flow without providing a significant reduction of disruption to recreational use.

South Florida Water Management District

3301 Gun Club Road • P.O. Box 24680 • West Palm Beach, FL 33416-4680 • (407) 686-8800 • FL WATS 1-800-432-2045

CON 13-04 RF: 93439

September 30, 1993

Richard E. Bonner, P.E.
Deputy District Engineer for Project Management
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. ~~Bonner~~: Richard

Subject: **Modified Water Deliveries to Everglades National Park**

This is in response to your August 25, 1993 letter concerning the proposed L-67 pilot test to be conducted as part of the subject project. The South Florida Water Management District (District) supports conducting a field test to evaluate degrading L-67 A and C as an alternative to the S-345 and S-349 structures. Our comments on the pilot test are provided below.

1 Our greatest concern is that one 1000 foot gap in each levee may not be enough to fully evaluate this alternative. The effectiveness of one gap in each levee should be evaluated early in the test so that additional gaps can be constructed if needed.

2 A second concern is the proposed location of the gap in the second levee (L-67C). The proposed pilot test says that the levee gap will be located at the site where the proposed S-345B discharge channel intersects the levee. This assumes that the flow from the gap in L-67A will flow directly to the proposed gap in L-67C without the benefit of the discharge channel. It is likely that much of this flow will remain in "the pocket" between L-67A and L-67C. The gap in L-67C should be located based on expected water flow, if known, or after a test is conducted once the gap in L-67A has been completed.

3 Lastly, the pilot test proposes to plug the L-67 A and C borrow canals and provide small recreational boat channels through the plugs. Were submerged plugs considered? They may accomplish the same objectives without as much disruption to recreational use.

We appreciate the Corps commitment to evaluate a less structural alternative to the recommended plan. If you have any questions concerning our comments, please contact Mr. Jim Sturgis at (407) 687-6288.

Sincerely,

Tilford C. Creel
Executive Director

TCC/js

Governing Board
Valerie Boyd, Chairman
Frank Williamson Jr., Vice Chairman
Anne Betancourt
William Hammond
Betsy Kraus
Allan Milledge
Eugene K. Pettis
Nathaniel P. Reed
Leah G. Schad
Tilford C. Creel, Executive Director
Thomas K. MacVicar, Deputy Executive Director

PRELIMINARY

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) of the considered action. Based on analysis presented in the EA, reflecting pertinent information obtained from cooperating Federal and State agencies having jurisdiction by law and/or special expertise, and from the interested public, I conclude that the considered action will have no significant impact on the quality of the human environment.

Reasons for this conclusion are, in summary:

a. Impacts to wetlands have been minimized by appropriate fill alignment, and no important fish and wildlife habitat will be adversely affected.

b. There will be no adverse impacts to species listed under the Endangered Species Act.

c. Impacts to archaeological and other cultural resources have been avoided.

d. State water quality standards will be met.

e. The action is readily reversible.

In consideration of the information summarized, I find that the proposed action will have no significant impact on the quality of the human environment under the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969, as amended, and therefore, an Environmental Impact Statement is not required.

_____
date

TERRENCE C. SALT
Colonel, Corps of Engineers
Commanding