SGEB-4

FLORIDA COOPERATIVE EXTENSION SERVICE

SEA GRANT EXTENSION PROGRAM

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ARTIFICIAL REEFS: Permit Application Guidelines

By: Dr. Heyward Mathews

INTRODUCTION

Back in 1977, the artificial reef permitting process in Florida was still quite complicated, but a comprehensive conference on Florida reefs was held June 10-11, 1977, at which time this problem was addressed. Organized by Florida Sea Grant, every major agency, academic and private group having any interest in, or responsibility for administering artificial reefs, were involved. Following this Conference, a single inter-agency permitting process was established. This publication is written to aid those interested in obtaining the forms and following the proper procedures to secure such a permit.

Site Selection

The first, and probably most important, step in any artificial reef building project is selecting a suitable site (see Florida Sea Grant publication, MAFS-20, *Artificial Reefs: Site Selection and Evaluation*). Factors to consider include the location, the reef material to be used, local oceanographic conditions, and expected user groups. Because of these special considerations, any person or group interested in building an artificial reef is required to obtain a permit from the U.S. Army Corps of Engineers and the Florida Department of Environmental Regulation (DER). (See *Appendices C & D* for locations).

Guidelines toward expediting the permitting process include attention to the following details:

(1) **Navigation Channels and Fairways**: Artificial reefs should not be located in or adjacent to navigation channels. Reefs in these areas could create a hazard and cause conflicts between shipping interests and fishermen anchored on a reef.

(2) **Shallow Reefs**: There is actually no set minimum depth for an artificial reef, but the general rule has been to allow reefs to extend up to depths equal to shoals or reefs found in the area. For example, if a coastline has shoals that project up to within 20 feet of the surface in an area, then the artificial reef could be allowed with only a 20-foot clearance over the top. In general, the U.S. Army Corps of Engineers would prefer a minimum clearance of 55 feet over the top of artificial reefs in most Florida waters. However, the location and type of reef is the determining factor. More or less clearance may be required depending on water depth and the type of reef being constructed.

(3) **Unstable Materials**: Unfortunately, car tires and car bodies have created some problems along high energy coastlines and, the U.S. Army Corps of Engineers has stopped permitting tire reefs altogether. Also, the use of wooden vessels, or other structures containing wood, is discouraged because of eventual navigation hazards and beach littering caused by distintegration due to decomposition and storms.

(4) **Commercial Fishing Conflicts**: All U.S. Army Corps permits provide a period of not less than 21 days for interested parties to comment on a new reef site. If the site selected causes a serious conflict with commercial fishing interests, the permit could be denied or held up by lengthy public hearings. In most instances, this can be avoided by proper site selection *prior* to filing the permit application.

Biological Reports - Initial Site Survey

The U.S. Army Corps of Engineers regulations does not actually *require* but highly recommends a biological and/or bottom survey report as a part of the permit application. However, if a biological

report is not included with the application, a delay in permitting may result because governmental agencies may desire additional information before making recommendations. In most districts of Florida, the Florida Department of Environmental Regulation (DER) does not have diver-biologists available to make site studies, but the Florida Sea Grant Artificial Reef Resource Team has provided such reports upon request through the Marine Advisory Program agents. The Corps does not perform diving to obtain this information.

Two biological reports are included as *Appendix A* and *Appendix B*. *Appendix A* is a typical report for a new application, while *Appendix B* is a report for an existing artificial reef that needs rehabilitation for which the permit has expired. An existing permitted artificial reef can be renourished under the authority of a nationwide permit.

In preparing these reports, the exact location is of prime importance. If out of sight of land, the site should be fixed by two Loran C readings plotted on a current U.S. Coast & Geodetic Survey chart; and the latitude and longitude should be carefully determined and placed at the top of the Biological Report-Site Survey. A drawing showing two lines of position from fixed shore sites should be prepared for the permit application also.

The bottom survey states the type and composition of the bottom substrate, while the biological report-site survey discusses the existing marine communities on the site. If the site is a new one, no significant benthic plant or animal communities should exist on the bottom, and this should be noted. If the site is an existing reef, then a brief summary of the dominant species should be included as well as a description of its condition and, if possible, some estimate of its remaining effective life span.

Finally, the report should conclude with a statement declaring the site suitable for artificial reef construction of the type planned. However, if the diver doing the biological report finds any conditions that would restrict the use of the site, these should be stated. It is the responsibility of the biologist doing the report to consider all the above factors or face the possibility of being responsible, at least partially, if the site later proves to be unsuitable.

Joint U.S. Army Corps and Florida D.E.R. Application Form

For artificial reef permits, the *Joint Permit Application for Dredge and Fill Structures* is used. This form can be obtained at regional field offices of either the U.S. Army Corps of Engineers or the Florida Department of Environmental Regulation. A list of these offices appears as *Appendices C & D*.

Although the State of Florida has no jurisdiction beyond three nautical miles offshore along the Atlantic coast or 9½ miles (3 leagues) into the Gulf of Mexico, an application is still required and must be completed and processed. The main part of the application is relatively simple to complete; however, the drawings that must accompany the application often cause some problems and delays.

The first drawing, using a U.S. Coast and Geodetic Survey map, must show the location of the artificial reef site. Normally an 8½ x 11 inch copy of the portion of the coast involved is adequate. The map scale should include the shoreline and several fixed reference points on land (*Appendix E*), and the distance to the nearest shoreline should be included so state jurisdiction can be determined at a glance. In addition, two position lines to the site from fixed landmarks showing the bearing and the distance in nautical miles are also required. Loran C readings at the reef site center must also be included on the drawing.

A second, cross-section drawing, should show the distance from the surface to the bottom at mean low water, and the maximum height that the reef will extend up from the bottom. This same drawing should show a typical buoy chain and sinker if the site is to have a buoy. Although buoys are not required by the Army Corps, the U.S. Coast Guard may require some types of reefs to have buoys. Consequently, it is a good idea to contact the Coast Guard prior to final selection of a site to determine what buoys, if any, will be required.

In some locations a lighted buoy may be called for, and the expense and maintenance of such a buoy may exceed the budget of a small project. In this case, a site change might be in order. Generally, however, lighted buoys are only required on a site close to major shipping lanes where a reef could possibly become a hazard. In selecting a site, these areas should be avoided whenever possible.

Completed Application

Once completed, the application should be sent to the Florida Department of Environmental Regulation in your area along with the required fee. A diagram showing the locations of these offices, and the counties served, appears in *Appendix D*. The DER then sends a copy of the application to the Corps in order that the application processing can occur concurrently.

APPENDIX A

BIOLOGICAL REPORT - TAYLOR COUNTY ARTIFICIAL REEF SITE #3

Prepared by: Dr. Heyward Mathews*

Loran C. Coordinates:	14449.8	Longitude:	29° 43' 5"
(Center of site)	46152.0	Latitude:	83° 51' 3"

This artificial reef site is located approximately 18 miles off Taylor County midway between Steinhatchee and Keyton Beach in some 35 feet of water at low tide. The bottom is a firm sand substrate with limestone just under the surface.

There are no marine grasses or benthic algae on this site, nor are there any "hard bottom communities" in the actual site. However, hard bottom communities are located approximately 1/2 to 1 mile inshore from this site. Several starfish in the genus, Echinaster, and several black urchins, Arbacia punctulata, were observed along the bottom. No fish were seen during this cold water survey dive.

This firm substrate bottom will make an excellent artificial reef site for high density reef materials such as concrete culvert, steel and fiberglass hulls, and bridge rubble. However, the depth of 35 feet is not sufficient for low density materials such as car tires or truck tires. Once the reef is constructed, the fish populations should increase greatly.

* Florida Sea Grant Artificial Reef Resource Team

APPENDIX B

BIOLOGICAL REPORT - FERNANDINA BEACH ARTIFICIAL REEF SITE #1

Prepared by: Dr. Heyward Mathews*

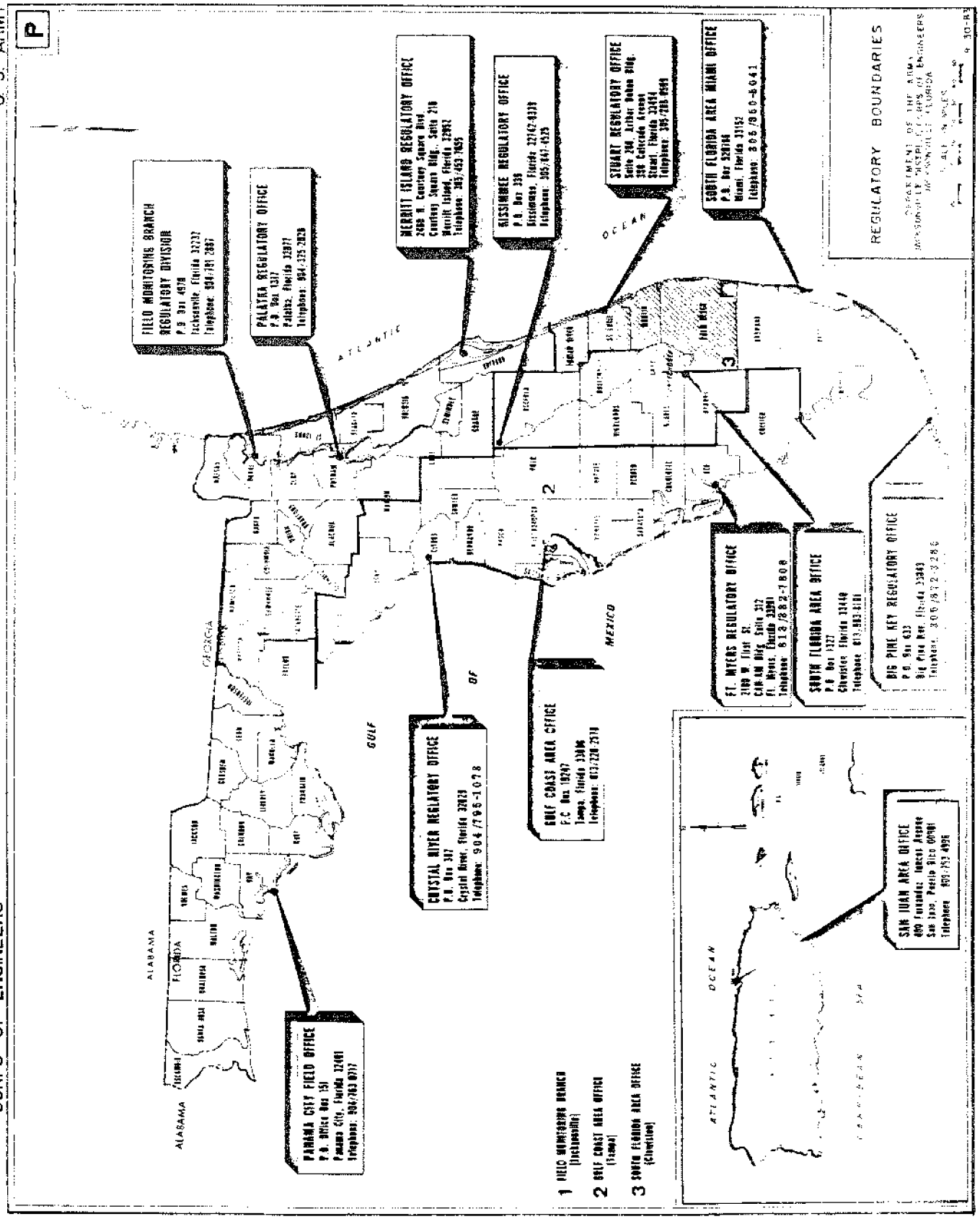
Loran C. Coordinates: (Center of site)	45314.4	Longitude:	30° 38' 0"
	61907.1	Latitude:	81° 09" 0"

This is the site of an existing artificial reef approximately 10 miles southeast of Fernandina Beach. The site is in 55 feet of water. It is a large steel hull barge that has been on the bottom for some years. The bottom is a firm sand/shell mixture with well developed ripple marks. The barge has moved into the bottom 10 to 15 inches and exposed some limestone layers underneath.

The fish population on the reef is well established with large numbers of sheephead, Archosargus probatocephalus; Black Sea Bass, Centropristis striata; Black Grouper, Mycteroperca bonaci (several up to 30 pounds); Spadefish, Chaetodipterus faber; Porgy, Calamus spp.; and large schools of Menhaden, Rough Scad and Tomtate Grunts. The metal of the barge is well-covered with fouling organisms, barnacles, algae, corals, worm tubes and numerous others.

This is an excellent existing artificial reef site and will support almost any type of reef materials; however, the depth is too shallow for car tires to remain stable without great amounts of ballast.

* Florida Sea Grant Artificial Reef Resource Team.


U.S. ARMY
CORPS OF ENGINEERS
REGULATORY BOUNDARIES
FIELD MONITORING BRANCH
REGULATORY DIVISION
P.O. Box 4970
Jacksonville, Florida 32232
Telephone: 904/791-2867
PALATKA REGULATORY OFFICE
P.O. Box 1327
Palatka, Florida 32077
Telephone: 904/325-2829
MERRITT ISLAND REGULATORY OFFICE
2486 N. Courtney Square Blvd.
Courtney Square Bldg., Suite 218
Merritt Island, Florida 32953
Telephone: 305/453-7825
KISSIMMEE REGULATORY OFFICE
P.O. Box 338
Kissimmee, Florida 32742-0338
Telephone: 305/847-5925
STUART REGULATORY OFFICE
Suite 284, Arthur Godfrey Bldg.
350 Colorado Avenue
Stuart, Florida 33494
Telephone: 305/286-6949
SOUTH FLORIDA AREA MIAMI OFFICE
P.O. Box 526104
Miami, Florida 33152
Telephone: 305/860-4041
FT. MYERS REGULATORY OFFICE
2160 W. First St.
CAN AM Bldg. Suite 212
Ft. Myers, Florida 33901
Telephone: 813/332-7800
SOUTH FLORIDA AREA OFFICE
P.O. Box 1227
Clewiston, Florida 33440
Telephone: 813/983-8101
BIG PINE KEY REGULATORY OFFICE
P.O. Box 633
Big Pine Key, Florida 33043
Telephone: 305/872-3286
PANAMA CITY FIELD OFFICE
P.O. Office Box 151
Panama City, Florida 32401
Telephone: 904/763-0717
CRYSTAL RIVER REGULATORY OFFICE
P.O. Box 367
Crystal River, Florida 32629
Telephone: 904/795-1078
GULF COAST AREA OFFICE
P.C. Box 19247
Tampa, Florida 33686
Telephone: 813/228-2191
SAN JUAN AREA OFFICE
400 Fernandez Juncos Avenue
San Juan, Puerto Rico 00901
Telephone: 809/753-4505
1 FIELD MONITORING BRANCH (Jacksonville)
2 GULF COAST AREA OFFICE (Tampa)
3 SOUTH FLORIDA AREA OFFICE (Clewiston)
ATLANTIC OCEAN
GULF OF MEXICO
ALABAMA
GEORGIA
FLORIDA

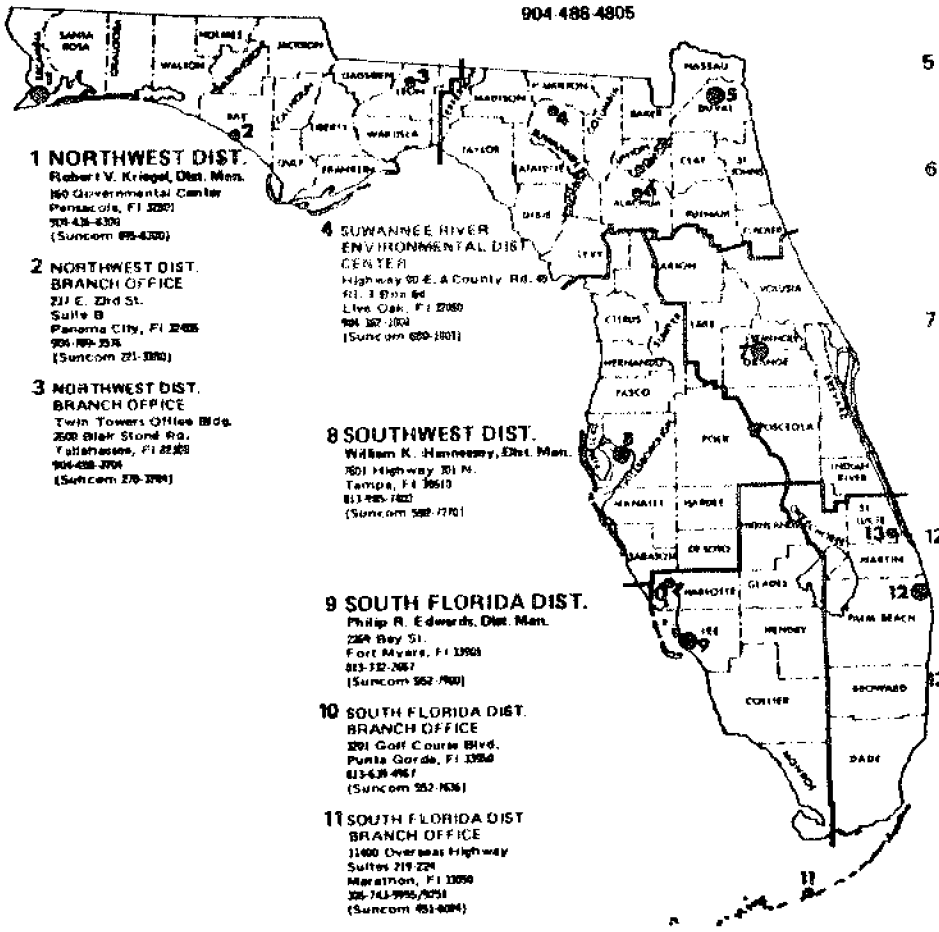
APPENDIX D

DISTRICT & BRANCH OFFICES

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

904-488-4805



1 NORTHWEST DIST.
Robert V. Kriegel, Dist. Mgr.
160 Governmental Center
Pensacola, Fl 32501
904-436-8300
(Suncom 695-8300)

2 NORTHWEST DIST. BRANCH OFFICE
227 E. 23rd St.
Suite B
Panama City, Fl 32405
904-769-3576
(Suncom 291-3576)

3 NORTHWEST DIST. BRANCH OFFICE
Twin Towers Office Bldg.
2600 Blair Stone Rd.
Tallahassee, Fl 32301
904-488-3704
(Suncom 278-3704)

4 SUWANNEE RIVER ENVIRONMENTAL DIST CENTER
Highway 90 E. & County Rd. 49
Rt. 3 Box 64
Live Oak, Fl 32060
904-362-1001
(Suncom 690-1001)

5 NORTHEAST DIST.
G. Doug Dutton, Dist. Mgr.
3426 Bills Rd
Jacksonville, Fl 32207
904-396-8959
(Suncom 870-5295)

6 NORTHEAST DIST. BRANCH OFFICE
[illegible]
Gainesville, Fl 32601
904-377-[illegible]
(Suncom 670-6150)

7 ST. JOHNS RIVER DIST.
Alex Sankovich, Dist. Mgr.
1319 Maguire Blvd., Suite 232
Orlando, Fl 32803
305-894-7555
(Suncom 323-7311)

8 SOUTHWEST DIST.
William K. Hennessy, Dist. Mgr.
7601 Highway 301 N.
Tampa, Fl 33610
813-985-7481
(Suncom 562-7701)

9 SOUTH FLORIDA DIST.
Philip R. Edwards, Dist. Mgr.
2269 Bay St.
Fort Myers, Fl 33901
813-332-2687
(Suncom 852-7801)

10 SOUTH FLORIDA DIST. BRANCH OFFICE
3301 Golf Course Blvd.
Punta Gorda, Fl 33950
813-639-4967
(Suncom 852-7636)

11 SOUTH FLORIDA DIST BRANCH OFFICE
11400 Overseas Highway
Suites 219-224
Marathon, Fl 33050
305-743-5955/5251
(Suncom 451-6004)

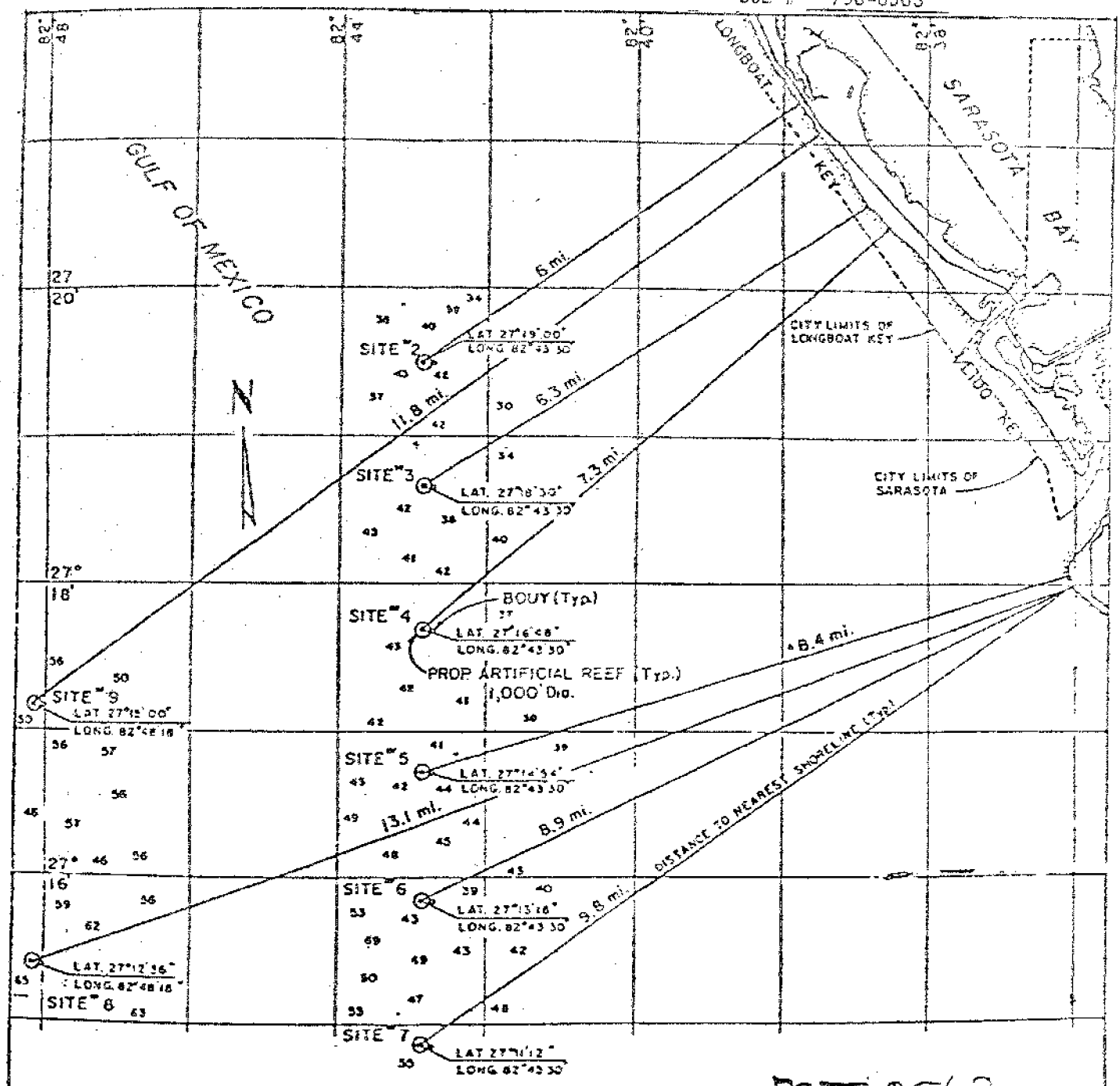
12 SOUTHEAST FLORIDA DIST.
Roy Duke, Dist. Mgr.
3301 Gun Club Rd.
P.O. Box 3858
W. Palm Beach, Fl 33402
305-689-5800
(Suncom 451-5005)

13 SOUTHEAST FLORIDA DIST. BRANCH OFFICE
2745 S.E. Morningside Blvd.
Port St. Lucie, Fl 33452
305-878-3990/335-4330
(Suncom 451-4053)

EFFECTIVE JULY 1, 1983

APPENDIX E

DER #
COE # 79J-0563



79J-0563

LOCATION MAP

SCALE IN MILES

PROPOSED ARTIFICIAL REEFS

IN: GULF OF MEXICO

AT: SARASOTA

COUNTY OF SARASOTA STATE OF FLORIDA

APPLICATION BY: SARASOTA COUNTY

SHEET 1 OF 2 DATE 20 MAR 1979

Note: Loran C coordinates should be shown either at each site or in an information block somewhere on the drawing.

ACKNOWLEDGEMENTS

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