

**SOUTH LAKE WORTH INLET MANAGEMENT STUDY  
IMPLEMENTATION PLAN**

**CERTIFICATE OF ADOPTION**

WHEREAS the Department of Environmental Protection, in partnership with the Palm Beach County Board of County Commissioners, the Town of Manalapan, and the Town of Ocean Ridge, sponsored a study of the inlet known as South Lake Worth Inlet, under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, and

WHEREAS the Department has developed an implementation plan which contains corrective measures to mitigate the identified impacts of the inlet, and

WHEREAS the implementation plan is consistent with the Department's program objectives under Chapter 161, Florida Statutes,

The Department does hereby adopt the following implementation actions:

**1) Continue to bypass suitable sediment to the downdrift beaches.**

As a first priority, place material on the beach in areas most in need and environmentally suited. As a minimum, bypassing of material shall meet average annual placement objectives as stated in the sediment budget. The sediment budget contained in the study report is adopted as an interim measure and shall be formally validated or redefined in subsequent revisions of the plan based on a comprehensive monitoring plan by December 31 2001.

**2) Implement the sand transfer plant protocols subject to verification by the findings of the monitoring program.**

Average annual bypassing of a minimum of 60,000 cubic yards should be conducted by the sand transfer plant in order to achieve a portion of the mechanical bypassing objective and to maintain a portion of the beach restoration project. The bypassing by the sand transfer plant shall not exceed an amount necessary to maintain the shoreline in Manalapan. Multiple discharge points for the sand transfer plant should be added to optimize performance of the beach restoration project.

**3) Construct the expansion of the Interior Deposition Basin to facilitate bypassing objectives as stated above.**

**4) Implement a comprehensive beach and offshore monitoring program subject to the approval of the Department.**

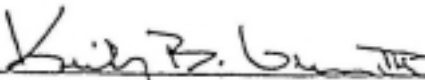
The program will be used to identify beach placement locations for future bypassing efforts and to revalidate the sediment budget.

This plan is based on the supporting data contained in the study report, South Lake Worth Inlet Management Plan, September 1998, Coastal Planning and Engineering, Inc., and comments provided by public agencies and the citizenry of Palm Beach County. Each implementation action contained in this plan is subject to further evaluation, and subsequent authorization, as part of the Department's environmental permitting and authorization process. Any action that may affect navigation associated with the inlet shall be consistent with all applicable federal requirements and subject to authorization from the U.S. Army Corps of Engineers.

It is the intent of the Department to assist in the implementation of the plan through the provision of funds granted under the Florida Beach Erosion Control Program. The Department's financial obligations shall be contingent upon sufficient legislative appropriations.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management at South Lake Worth Inlet.

APPROVED FOR ADOPTION

  
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Kirby B. Green, III, Deputy Secretary  
Department of Environmental Protection

3-5-99  
Date

**SOUTH LAKE WORTH INLET MANAGEMENT STUDY  
SUMMARY OF FINDINGS REPORT  
and  
RECOMMENDED IMPLEMENTATION PLAN**

Introduction

The Department of Environmental Protection, in partnership with the Palm Beach County Board of County Commissioners, the Town of Manalapan, and the Town of Ocean Ridge, sponsored a Study of South Lake Worth Inlet. The study, South Lake Worth Inlet Management Plan, September 1998, Coastal Planning and Engineering, Inc., was conducted under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, and to recommend corrective measures to mitigate identified impacts. Navigation improvements and other issues were also included in the study in accordance with a Settlement Agreement to resolve judicial and administrative proceedings between the above parties.

The study has been evaluated by the staff of the Bureau of Beaches and Coastal Systems as it relates to the Bureau's statutory responsibilities and program objectives. As a result of that evaluation, the Bureau has developed a recommended implementation plan to meet those responsibilities and objectives. Adoption of the plan will facilitate and streamline the coastal construction permitting process during its implementation by providing a basis for consistency determination, and enable governmental entities to seek financial assistance from the Department for the conduct of management activities authorized in the plan.

This report contains a brief history of South Lake Worth Inlet, a summary of the inlet study findings, relative to adjacent beaches, and a consistency determination. The report also contains the recommended implementation plan.

Brief History of South Lake Worth Inlet

Located in Palm Beach County, South Lake Worth Inlet is an improved tidal inlet connecting Lake Worth to the Atlantic Ocean (see Figure 1). Originally an artificial inlet dredged through the beach in 1927 to improve water quality in Lake Worth, the inlet has been used heavily by local residents for boat access to the Atlantic Ocean. Efforts to stabilize the inlet, bypass sand to the south adjacent shoreline and improve navigation have included the construction of jetties in 1936 and their extension in 1967, the first sand transfer plant constructed in 1937 and replaced in 1948 and 1967, and the construction of an interior sediment basin. The inlet channel and associated structures are maintained by Palm Beach County. Sand dredged from the interior sediment basin or transferred by the sand bypassing plant has been disposed of on the downdrift beaches located south of the inlet. In 1998 a beach restoration project was constructed at Ocean Ridge which mitigated the past impacts caused by the inlet.

Based on an analysis of the physical processes affecting the inlet and adjacent shoreline since the jetties were improved, the inlet's affect on the Atlantic beaches extends approximately 5,000 feet north and and at least 5,000 feet south of the inlet. Historical shoreline data indicates erosion trends up to 2.5 miles south of the inlet may be attributed to the inlet. The Manalapan shoreline within the area of inlet influence has been stable to accretional, A sediment budget (see Figure 2) developed as part of the study estimates the need to mechanically bypass 88,000 cubic yards of sand annually to offset the impacts of the inlet.

### Study Summary

To accomplish the plan objectives, the study evaluated ten potential management alternatives in terms of environmental impacts, permitting constraints, fiscal concerns, and potential achievability. The study recommends a combination of alternatives involving beach restoration and erosion control, mechanical sand bypassing in accordance with a specific protocol and the establishment of a monitoring program. The study recommendations include matters not specifically for the purposes of facilitating sand bypassing, but required by the Settlement Agreement to address other matters of concern to the parties. The primary recommendations consist of the following:

- 1) Low Profile Groin in Manalapan
- 2) Manalapan Erosion Control Project
- 3) Interior Deposition Basin  
Interior Shoals
- 5) Ocean Ridge Shore Protection Project
- 6) New Sand Transfer Plant Protocol and Manalapan Beach Markers
- 7) Rock Ledge Removal
- 8) Navigation Aids
- 9) Extend Sand Bypassing Plant Discharges
- 10) Monitoring Plan

### Consistency Determination and Comments

Each of the ten (10) recommendations has been evaluated for consistency with program objectives under Chapter 161, Florida Statutes. The consistency determination is based solely upon the recommendations as presented in the study report. A determination does not preclude further study of other potential management alternatives. Comments regarding each recommendation are as follows.

- 1) The construction of the Low Profile Groin is not consistent, because it would not facilitate the bypassing of sand. However, in accordance with the Settlement Agreement, the Department staff will process an application for permit for construction of the groin expeditiously and agrees to allow Manalapan to construct the groin provided that it is consistent with section 161 and part IV of chapter 373, Florida Statutes.

- 2) The construction of a Manalapan Beach Restoration project is not consistent in that the proposed project area is outside the area of inlet influence as determined by the study.
- 3) Expansion of the interior deposition basin would facilitate the bypassing of sand, and therefore, is consistent.
- 4) Dredging of the interior flood shoals and disposal of beach-compatible sand on the downdrift ocean shoreline is consistent to the extent that the activity would not result in impacts to the Lake Worth ecosystem.
- 5) The initial construction of the Ocean Ridge Beach Restoration is consistent in that it meets program objectives to mitigate for the adverse impacts of inlets. Since mitigation for this area was achieved through the 1998 beach restoration project, future nourishment activities are eligible only to the extent that they meet the annual bypassing requirements.
- 6) The Sand Transfer Plant Protocol, including the Manalapan Beach Markers, is consistent but subject to verification by the findings of the monitoring program. The operation of the sand transfer plant is consistent in that it facilitates the bypassing of sand. For the protocol to be consistent the operation of the plant must mitigate for the adverse impacts of the inlet to the full extent of its capability in this regard. The monitoring program will refine the estimate of the sediment budget and confirm that there is a minimum loss of sand in the ebb and flood shoals.
- 7) The removal of the rock ledge is not consistent since construction is for navigation purposes and not for the purpose of facilitating the bypassing of sand. The removal of the rock ledge has the potential to negatively impact adjacent beaches and will require additional study during design to demonstrate consistency with section 161.041, Florida Statutes.
- 8) The installation of navigational aids is not consistent since construction is for navigation purposes and not for the purpose of facilitating the bypassing of sand. The department has no objection to the installation of navigational aids.
- 9) Extension of the discharge pipe from the sand transfer plant is consistent since it will facilitate the bypassing of sand. The monitoring program of the beach restoration project will determine the optimum locations for the point of discharge.
- 10) Monitoring of the beach and inlet is consistent provided that those beaches are located within the area of inlet influence.

#### Recommended Implementation Plan

The Bureau recommends the following implementation plan be adopted to meet the requirements of Chapter 161, Florida Statutes:

- 1) Continue mechanical bypassing of sand to the downdrift beaches. Sand should be placed within the limits of the beach restoration project in areas of greatest need as determined by the monitoring program meeting an average annual placement objective of 88,000 cubic yards as determined by the sediment budget. The mechanical bypassing objective should be achieved through a combination of operation of the sand transfer plant, maintenance dredging of inlet channel, interior deposition basin, and intracoastal waterway; and renourishment of the beach restoration project using sand from an offshore borrow area. The sediment budget contained in the study report is adopted as an interim measure and shall be formally validated or redefined in subsequent revisions of the plan based on a comprehensive monitoring plan by December 31, 2003.
- 2) Implement the sand transfer plant protocols subject to verification by the findings of the monitoring program. Average annual bypassing of a minimum of 60,000 cubic yards should be conducted by the sand transfer plant in order to achieve the mechanical bypassing objective and to maintain a portion of the beach restoration project. The bypassing by the sand transfer plant shall not exceed an amount necessary to maintain the shoreline in Manalapan. Multiple discharge points for the sand transfer plant should be added to optimize performance of the beach restoration project.
- 3) Construct the expansion of the Interior Deposition Basin to facilitate bypassing objectives as stated above.
- 4) Implement a comprehensive beach and offshore monitoring program subject to the approval of the Department. The program will be used to identify beach placement locations for future bypassing efforts and to revalidate the sediment budget.

This plan is based on the supporting data contained in the study report, South Lake Worth Inlet Management Plan, September 1998, Coastal Planning and Engineering, Inc., and comments provided by public agencies and the citizenry of Palm Beach County. Each implementation action contained in this plan is subject to further evaluation, and subsequent authorization or denial, as part of the Department's environmental permitting and authorization process. Any action that may affect navigation associated with the inlet shall be consistent with all applicable federal requirements and subject to authorization from the U.S. Army Corps of Engineers.

The implementation activities identified above shall be eligible for state financial participation subject to Department approval and an appropriation from the Florida Legislature. The level of state funding shall be determined based upon the activity being conducted and Department policy. The Department may choose not to participate financially if the proposed method for implementation is not cost effective or fails to meet the intent of Section 161.142, Florida Statutes.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management at South Lake Worth Inlet.

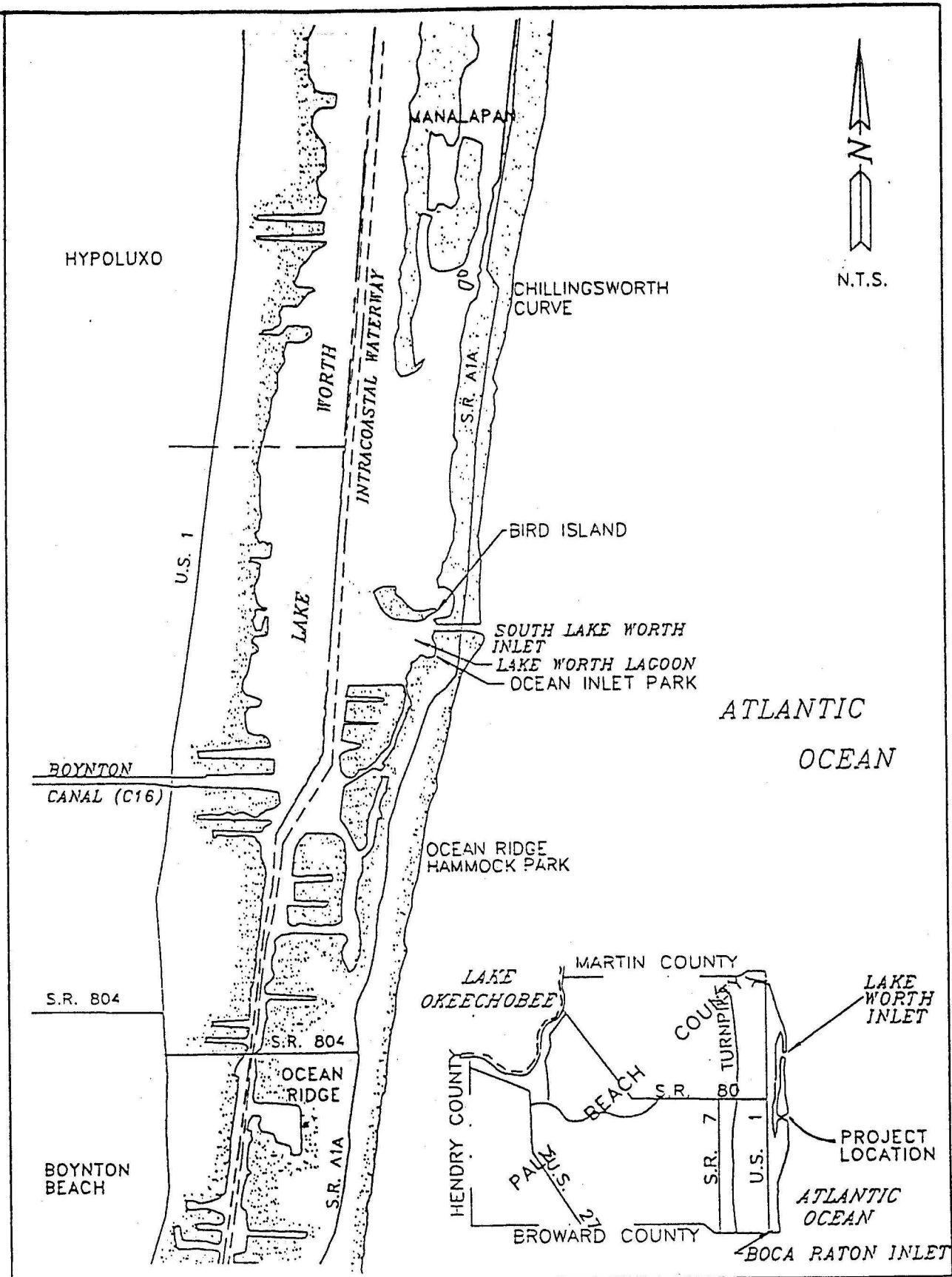


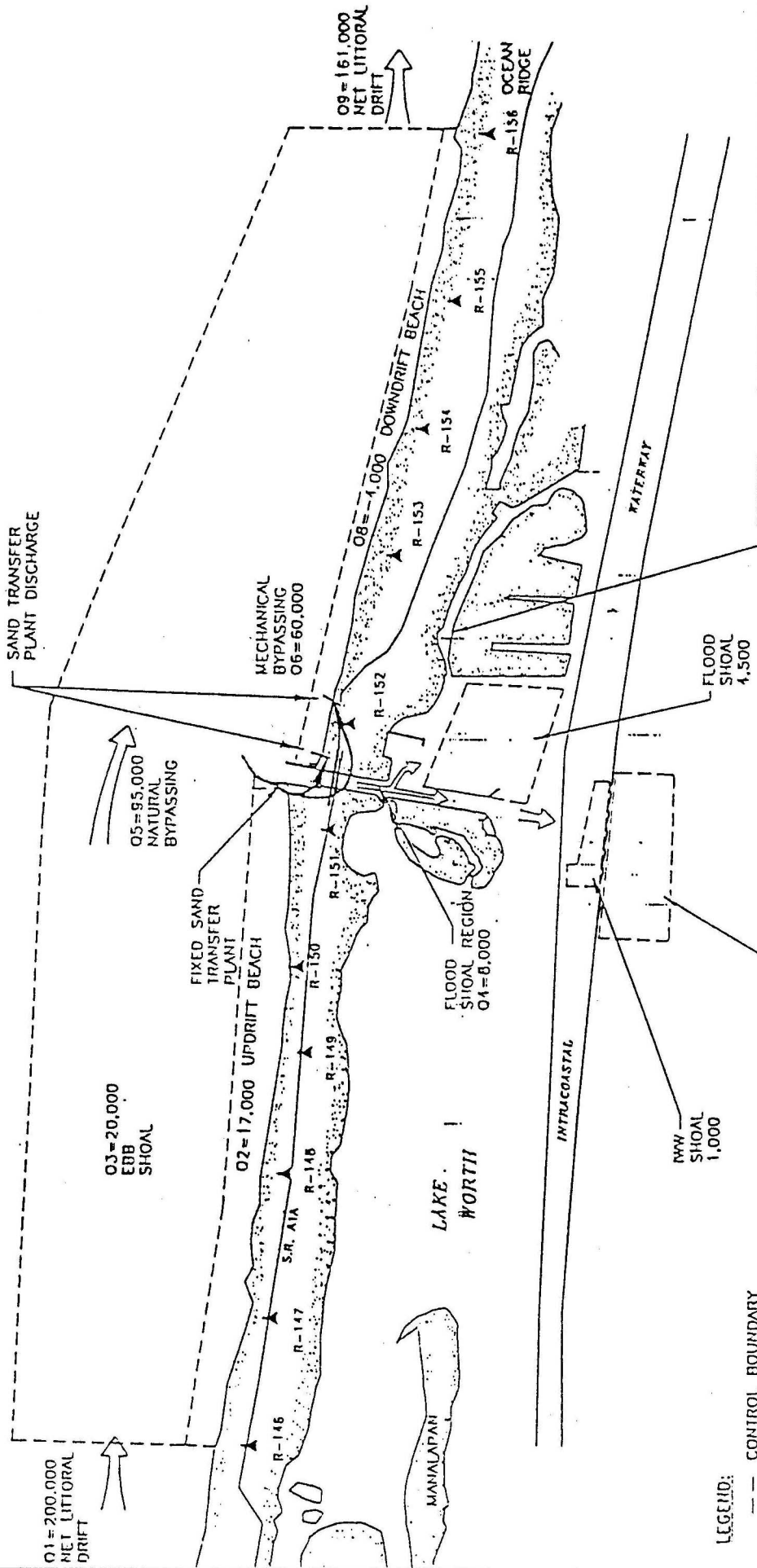
FIGURE 1

SOUTH LAKE WORTH  
INLET LOCATION MAP

ATLANTIC OCEAN



1" = 800'



LEGEND:

- CONTROL BOUNDARY
- ⇨ LITTORAL DRIFT
- DREDGED OR MECHANICALLY BYPASSED QUANTITIES

INTERIOR MAINTENANCE DREDGING O7=2,000

FLOOD SHOAL 1,500

IWW SHOAL 1,000

WEST OF IWW 2,500

**FIGURE 33**  
**SEDIMENT BUDGET**  
**SOUTH LAKE WORTH INLET**  
 COASTAL PLANNING & ENGINEERING, INC.  
 2481 NW BOCA RATON BLVD.  
 BOCA RATON, FL 33431

NOTE: ALL QUANTITIES IN CUBIC YARDS/YEAR