#### **Cutler Cay Community Development District**

## First Supplemental Engineer's Report Infrastructure Improvements

# Prepared for Cutler Cay Community Development District Board of Supervisors Town of Cutler Bay, Miami-Dade County, Florida

Prepared by **Alvarez Engineers, Inc.** 

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#### I. Introduction.

In June of 2004 the Cutler Cay Community Development District, (the "District" or "CDD") issued Special Assessment Reveune Bonds, Series 2004 in the amount of \$13,580,000 to finance District-related public infrastructure consisting of roads, stormwater management and drainage improvements, and water and sewer systems (the "Series 2004 Project"). Such public infrastructure was described in detail in the Engineer's Report prepared by Alvarez Engineers, Inc. (the "District Engineer") dated March 22, 2004 and Amended on May 10, 2004 (the "Original Engineer's Report"). A certificate of completion of the Series 2004 Project was issued by the District Engineer on October 18, 2008. The Series 2004 Bonds were refinanced in 2014 and then again in 2021.

As of the date of this First Supplemental Engineer's Report, the CDD Board of Supervisors (the "Board") intends to issue additional bonds or take a loan to finance certain repairs and additional improvements to the existing stormwater management and drainage system. Such repairs and improvements include lake banks erosion controls, drainage repairs or capacity increase within one of the District's residential pods and additional drainage improvements District-wide for flood control, additional drainage capacity, and stormwater quality (the "2024 Project").

#### II. Purpose of this First Supplemental Engineer's Report.

This First Supplemental Engineer's Report is being prepared to describe the supplemental public improvements that make up the 2024 Project, and to give an estimate of their construction costs.

#### III. Description of the 2024 Project and Estimated Costs

The 2024 Project, consists of the following:

1. Lake Banks Erosion Control. (Exhibit 2). The banks of the main stormwater retention lake located within Tract B of the plat of Cutler Cay, as recorded in Plat Book 162, Page 23, of the Miami-Dade County public records, have exhibited erosion caused mainly by the easterly winds that produce wave action on the surface of the lake. The degree of the erosion varies, being more pronounced on the west side of the lake, and to a lesser degree, on the north, south and eastern sides.

The District retained Lanshore Enterprises, Inc., a company specializing in lake erosion control, to study the lake banks. On June 29, 2022, Landshore Enterprises produced a study titled "Erosion and Sedimentation Control Plan for Cutler Cay Community Development District Lake 1" (the "Landshore Study"). The study classified the perimeter of the lake into three priority levels depending on the degree of erosion, and so, 3,505 Linear Feet of lake bank were assigned Priority Level One; 2,104 LF were assigned Priority Level Two and 2,541 LF, Priority Level Three. For Priority Levels One and Two, Landshore recommended the installation of a cement-based erosion control mat with a textile blanket and sod on top, and recommended immediate action on Priority Level One, followed by Two at the completion of Priority Level One. For Priority Level Three, Landshore recommended monitoring only, with future installation of controls in the future, if necessary.

The District Board decided to install the recommended erosion controls of the Priority Level One area in two phases: Phase One, consisting of approximately 1,763 LF, and Phase Two consisting of approximately 1,742 LF. The District has let a contract in the amount of \$293,000 for Phase One of Priority Level One. Such contract is to be funded with District operations funds, which have already been budgeted for in the District's budget for Fiscal Year 2024. The costs for Phase Two of Priority Level One and Priority Level Two, as well as certain contingencies for Phase One of Priority Level One, are to be financed by the bonds or the loan that are the subject of this First Supplemental Engineer's Report.

The table below lists the estimated costs of the priority levels and the source of funds:

	Estimate	ed Cost*
Description	Source: Bonds or Loan	Source: CDD Operations Budget
Priority Level 1 Phase 1		\$293,000
Priority Level 1 Phase 1 Contingency	\$60,000	
Priority Level 1 Phase 2	\$400,000	
Priority Level 2	\$260,000	
Priority Level 3 Monitoring Only	\$0	
Totals	\$720,000	\$293,000

<sup>\*</sup> The estimated costs above include contingencies, permits and professional fees.

2. **Drainage Repairs Phase II.** Localized flooding has been identified in the residential pod and at the development entrance as shown in the work areas of Exhibit 3. The proposed repairs or improvements are identified in the plans prepared by the District Engineer titled "Cutler Cay CDD Proposed Drainage Repairs Phase II" dated January 10, 2023.

The table below lists the estimated costs of the Phase II Drainage Repairs:

Description	Estimated Cost*	
	Source: Bond or Loan	Source: CDD Operations Budget
Drainage Repairs Phase 2	\$150,000	

<sup>\*</sup> The estimated costs above include contingencies, permits and professional fees.

3. Stormwater Quality. Due to age or break, many of the exisiting stormwater baffles that control the separation of oils and sediments before the surface water enters the groundwater table need to be replaced and/or engineer an alternative method for accomplishing the same effect. The oil/sediment separators may be installed in any of the District-owned tracts of land shown in Exhibit 4. The table below lists the estimated costs of the Stormwater Quality project.

Description	Estimated Cost*	
	Source: Bond or Loan	Source: CDD Operations Budget
Drainage Oil/Sediment Separators or Alternative Method	\$120,000	

<sup>\*</sup> The estimated costs above include contingencies, permits and professional fees.

4. Additional Drainage Improvements District-wide: The District has experienced complaints of periodic localized flooding due to several causes including the accummulation of silts and organic soils in the roadway swales over time, landscaping occupation of the roadway swales, alteration of the original grading due to driveways or other causes, consolidation of soils, reduced capacity of exfiltration trenches, etc. The localized flooding occurrences in the District may be reduced by designing and installing one of several types of improvements

including but not limited to additional exfiltration trenches, drainage wells, pump systems, underground exfiltration structures, valley gutters, etc. The improvements may be constructed District-wide as necessary in the District-owned tracts of land shown in Exhibit 4. The table below lists the suggested budget amount for additional drainage improvements District-wide.

Description	Estimated Cost	
	Source: Bond or Loan	Source: CDD Operations Budget
Additional Drainage Improvements District-wide	\$400,000	

<sup>\*</sup> The estimated costs above include contingencies, permits and professional fees.

#### IV. Summary of Estimated Costs for the 2024 Project and Sources of Funds.

The estimated costs and funding sources of the public improvements encompassing the 2024 Project are summarized in the table below.

Description	Estimated Cost*	
	Source: Bonds or Loan	Source: CDD Operations Budget
Lake Banks Erosion Controls	\$720,000	\$293,000
Drainage Repairs Phase II	\$150,000	
Stormwater Quality	\$120,000	
Additional Drainage Improvements District-wide	\$400,000	
Totals	\$1,390,000	\$293,000

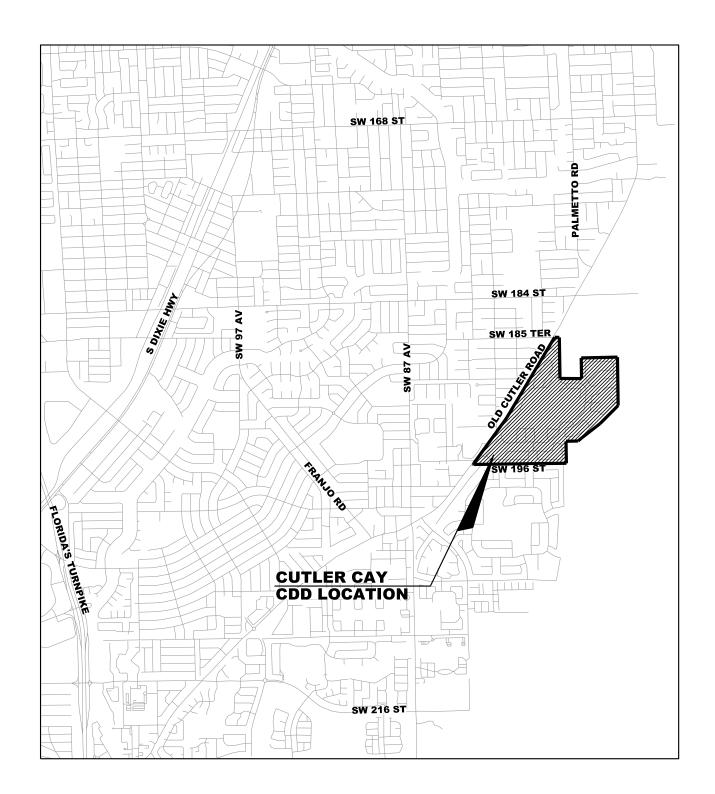
<sup>\*</sup> The estimated costs above include contingencies, permits and professional fees.

#### V. Engineer's Certification.

It is our opinion that the proposed improvements constituting the 2024 Project and their estimated costs are fair and reasonable, and that the property within the District will receive a special benefit equal to or greater than the cost of such improvements. We believe that the improvements can be permitted, constructed and installed at the costs described in this report.

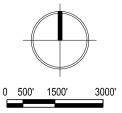
I hereby certify that the foregoing is a true and correct copy of the First Supplemental Engineer's Report for the Culter Cay Community Development District.

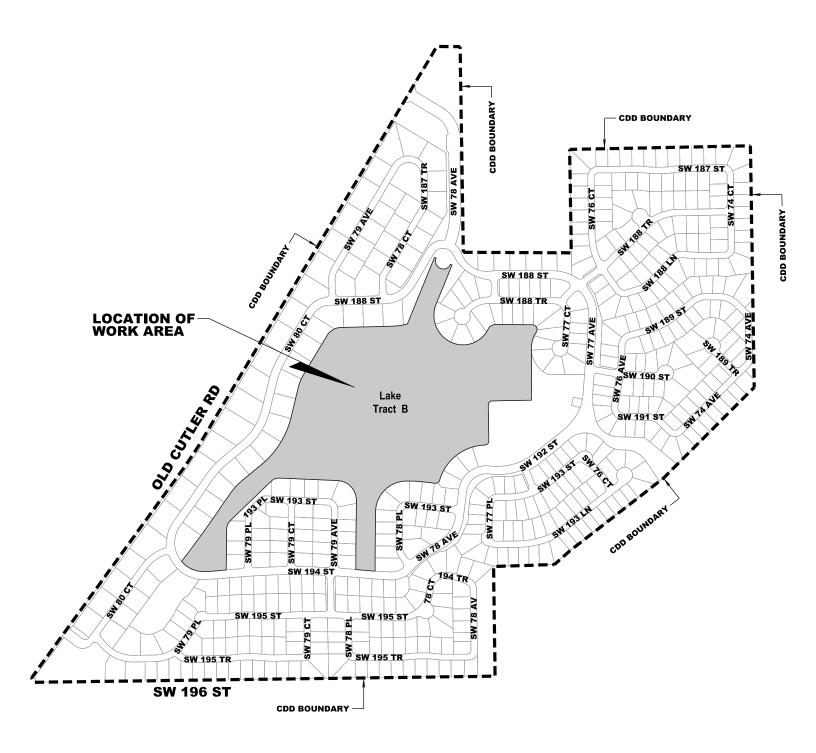
Juan R. Alvarez, PE Florida Registration No. 38522 Alvarez Engineers, Inc.





CUTLER CAY CDD LOCATION MAP

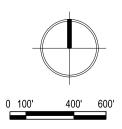


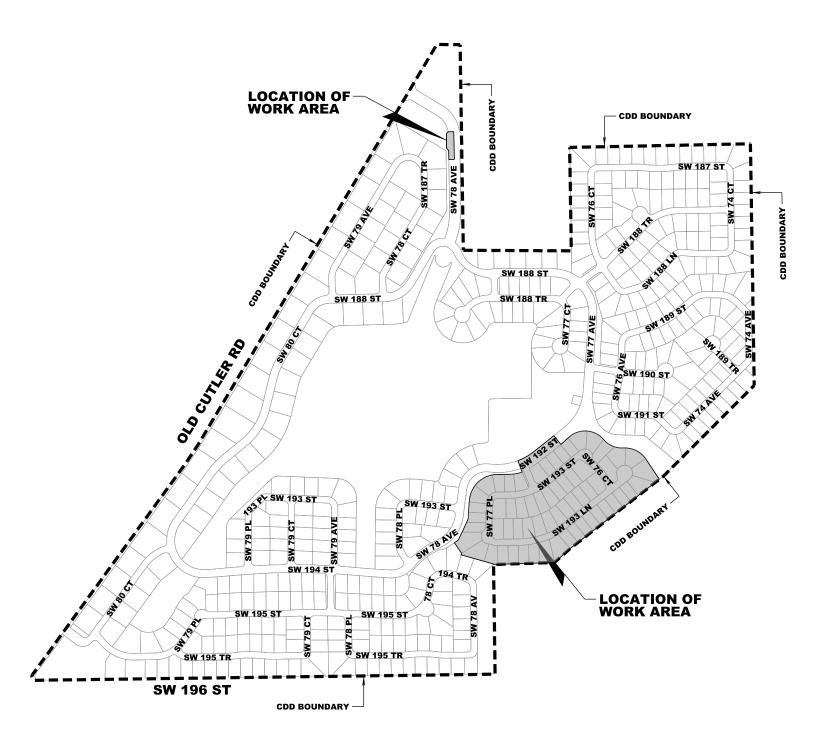




**CUTLER CAY CDD** 

PROPOSED LAKE BANKS EROSION CONTROL

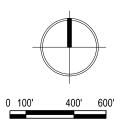


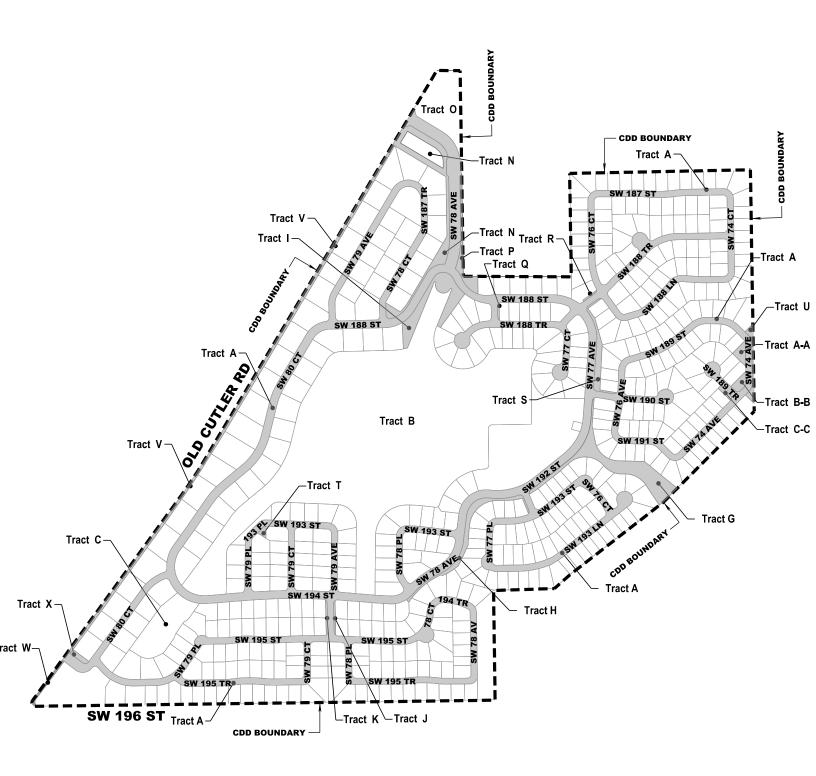




**CUTLER CAY CDD** 

PROPOSED DRAINAGE REPAIRS PHASE II





### **ALVAREZ ENGINEERS, INC.**

**CUTLER CAY CDD** 

PROPOSED AREAS OF ADDITIONAL DRAINAGE IMPROVEMENTS

