

**Date:** September 16, 2023

Special Item No. 7  
September 19, 2023

**To:** Honorable Chairman Oliver G. Gilbert, III  
and Members, Board of County Commissioners

**From:** Daniella Levine Cava  
Mayor



**Subject:** Supplemental Memorandum to the Report Related to the Development of an Integrated Solid Waste Management Plan in Miami-Dade County, dated September 6, 2023, and Transmittal of the Preliminary Solid Waste System Siting Alternatives Report prepared by Arcadis

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On March 27, 2023, the Board of County Commissioners (Board) approved Resolution No. R-240-23, sponsored by Commissioner Juan Carlos Bermudez, rescinding Resolution No. R-432-22 and directing the County Mayor or County Mayor's designee to analyze and recommend siting alternatives for a new waste-to-energy (WTE) facility, explore alternative technologies, and provide a report, including costs and potential funding sources. On September 6, 2023, the County Mayor presented to this Board a Report Related to the Development of an Integrated Solid Waste Management Plan in Miami-Dade County, A Combined Response to Directives 222097, 230509 and 230998 (Strategy Memo). The Board accepted the report and indicated that it would have further discussions at the September 19, 2023, Board meeting. On September 12, Board Chairman Oliver G. Gilbert III called for a special meeting of the Board on September 19 to "provide policy directives on these issues of great importance to our community as soon as possible." This Supplemental Memorandum is submitted to provide additional information to the Board and recommendations from the Administration to enable the Board to provide the directives called for by the Chairman.

In preparing the Integrated Solid Waste Management Plan, the Administration has worked closely with Arcadis, the professional bond engineer for the Department of Solid Waste Management (DSWM). Arcadis prepared an updated report which expanded on the report provided to the Board in July 2022, analyzed several additional sites not considered in the prior report, and evaluated various waste processing technologies. The full Preliminary Solid Waste System Siting Alternatives Report (Arcadis Report) can be accessed at the following link: <https://www.miamidade.gov/solidwaste/library/final-preliminary-future-wte-siting-report.pdf>

The Arcadis recommendations are also consistent with the recommendations set forth in the 2020 Update to the Solid Waste Master Plan. A link to that plan was provided in the Strategy Memo.

## RECOMMENDATIONS

In the Strategy Memo, I set forth eleven projects and policy initiatives for the Board to consider and provide direction to the Administration to secure adequate disposal capacity in our system and ensure that the County continues to comply with solid waste concurrency requirements. I reiterate here that the County has a unique opportunity to invest in and modernize a 40-year-old system and

turn it into a financially sustainable, environmentally responsible program that will grow with the needs of our community. To do so, my Administration strongly urges the Board to consider and approve the following action items, outlined in further detail below, at the September 19 meeting so we can move swiftly to implement the elements of the Integrated Solid Waste Management Plan.

1. **Recommendation 1 – Approve site selection:** Adopt my Administration’s recommendation to approve Airport West (as defined below) as the preferred location for the siting of a Sustainable Solid Waste Campus, to include as phase one a new mass burn Waste-to-Energy (WTE) facility with capacity to process 4,000 tons daily.
2. **Recommendation 2 – Begin pre-application process:** Authorize the Administration to immediately take all actions necessary, including air quality impact analysis and modeling, for Airport West (as defined below) as well as two other sites – the current site of the County’s Resources Recovery Facility (RRF), 6990 NW 97<sup>th</sup> Avenue, Doral, Florida, and the Medley site, located just south of NW 106 Street, between NW 107 Avenue and NW 95 Avenue, in Medley, Florida – to obtain preliminary review of all three sites and, if Airport West appears to be feasible, to obtain for Airport West final environmental approvals from all applicable agencies, including, but not limited to, the Florida Department of Environmental Protection (FDEP) and the US Environmental Protection Agency (EPA). If Airport West does not seem feasible but one or both of the other shortlisted sites does seem feasible, then the Administration will return to the Board for further instruction.
3. **Recommendation 3 – Close RRF:** Direct my Administration not to repair or reactivate the RRF and to provide a report to the Board within 90 days, without committee review, outlining the steps and actions required to decommission such facility.
4. **Recommendation 4 – Expand landfill capacity:** Approve the agenda item recommending a Professional Services Agreement to retain an engineering firm to prepare permit application documents for the vertical expansion of the North Dade Landfill, scheduled to be considered by the Board at the September 19<sup>th</sup> meeting.

### **Recommendation 1: Site Selection for a Sustainable Solid Waste Campus**

Based on the analysis prepared by Arcadis, my Administration has recommended to the Board the selection of a County-owned property located at the intersection of Krome Avenue and US 27 containing a decommissioned airfield (Airport West) as the preferred site for a Sustainable Solid Waste Campus. Airport West is located in County Commission District 12. The Sustainable Solid Waste Campus would consist of multiple phases or components inclusive of (1) a 4,000 ton/day state-of-the-art mass burn waste-to-energy (WTE) facility and (2) other solid waste operations, such as organics processing, sorting and separation systems, wood recycling and mulching, and other facilities to support diversion, repurposing, biogas harvesting and recycling and move the County toward a zero-waste future.

The selection of the Airport West site was based on a variety of considerations discussed in detail in the Arcadis Report, including land ownership, permitting timelines, capital and operational costs, proximity to residential areas, and environmental impact. The Airport West site is a County-owned site with the second shortest permitting timeline of the potential sites. The northern portion

of this property will be the likely location of the inland port facility for which PortMiami is seeking federal infrastructure funding. The WTE facility would be located on the southwestern corner of the property (see Exhibit A hereto) placing it more than a mile from any residential development.

While the Airport West site is located within the Biscayne Bay and Southeastern Everglades Ecosystem Restoration Project (BBSEER) Study Area as part of larger Comprehensive Everglades Restoration Plan (CERP) efforts, the Department of Regulatory and Economic Resource's Division of Environmental Resources Management (DERM) has indicated that building on this site could have lesser impacts on the overall CERP project compared to several other sites, due to the location, proximity of rock mines and condition of wetlands in this area and based on modeling work done so far by the BBSEER Project Development Team. It is also the furthest site from the boundary of the Everglades Class I area.

Significant federal and state permits will need to be obtained for the construction and operation of a WTE facility and each of the three shortlisted sites will face challenges. Given the need to proceed with this project on a timely basis, the Administration believes we should preliminarily vet the three sites with the applicable regulatory agencies, as described in the Pre-Application section below, to make sure we do not waste time or money on a site that we discover is unlikely to be permitted.

For each site analyzed, the Arcadis Report includes an estimate of projected capital and operating costs, including any additional costs for utilities, ash hauling, and an additional transfer station. A summary of those findings, which also includes cost estimates for roadway improvements prepared by the Department of Transportation and Public Works (DTPW), is attached as Exhibit B. Additionally, a Table of Development Schedules is attached as Exhibit C. One such additional cost is for the construction and operation of a new transfer station, potentially at the Doral site, to accommodate the operational impacts of moving the WTE facility to a less central location. As per the Arcadis analysis, the Doral site is likely the fastest and least expensive to build and operate. But it is also the site that is most proximate to a large residential community. Additionally, the Doral site is smaller than Airport West, allowing for less space to build out all the elements of the Sustainable Solid Waste Campus, which we believe to be critical to achieving the long-term goals of zero waste and financial stability. By contrast, the Airport West Site represents potentially up to 130 acres for such campus. The proximity of the Doral site to the industrial and waste facilities in Medley could also complicate the permitting process since regulators consider cumulative emissions from nearby sources when determining air quality impacts, even from a much cleaner modern facility. For these reasons, the Administration continues to recommend the Airport West site for the Sustainable Solid Waste Campus and construction of the WTE facility in phase one.

At the September 6, 2023, Board meeting, Commissioner Raquel Regalado asked that the Administration and Arcadis look at three additional sites for locating the WTE facility. One is located at the intersection of SW 8<sup>th</sup> Street and Krome Avenue, by the Everglades Correctional Institution. That site had been rejected preliminarily by Arcadis due to its location adjacent to the Everglades Class I area, and within the West Wellfield Protection Area. Permitting would be extremely difficult, if obtainable at all. The second site is privately owned property located at the intersection of SW 236<sup>th</sup> Street and 97<sup>th</sup> Avenue, practically adjacent to the South Dade landfill,

less than 0.5 miles from residential development and proximate to both Homestead Air Reserve Base and Biscayne National Park. For these reasons, Arcadis did not shortlist the site, and the Administration agrees with this decision as well. The third site is privately owned property (multiple owners) located at the intersection of NW 186<sup>th</sup> Street and 137<sup>th</sup> Avenue. This site is literally adjacent to the Airport West site. Arcadis had also reviewed this site in its preliminary review. Due to high land acquisition costs and the relatively small size of the parcel (49 acres), Arcadis did not shortlist this site either. The Administration has reviewed these sites and consulted with Arcadis staff. We agree with Arcadis' decision in all three instances and continue to recommend Airport West while shortlisting Doral and Medley as alternative sites.

### ***Funding Considerations***

Recognizing that moving the WTE facility from its existing location will involve additional expense, my Administration is exploring mechanisms for offsetting these costs. We are aggressively pursuing all available federal grant funding and tax credits available under the Inflation Reduction Act (IRA), as well as any funding available through the State of Florida, including funds from the Municipal Solid Waste-to-Energy Program adopted by the legislature last year. We are also actively working with our insurance provider to maximize the insurance proceeds from the fire at the RRF. The Board taking timely action today will improve our likelihood of success in meeting applicable deadlines under these programs.

An additional potential funding source for the project could be the creation of a tax increment financing (TIF) district around the existing RRF site in Doral. It would be expected that closure of this industrial site would result in increased property values in the surrounding neighborhoods, plus possibly serve as an impetus for additional development in the area. A TIF could capture any increase in tax revenues for a period of time, which would be directed exclusively to the operations of DSWM, helping create a more financially sustainable system for all residents.

In consideration of the impacts to our residents, the benefits of a robust Sustainable Solid Waste Campus, and the unique federal and state funding opportunities the County currently has for modernization of its solid waste system, I strongly urge the Board to adopt my recommendation to designate Airport West as the preferred site for a Sustainable Solid Waste Campus and shortlist the Doral and Medley sites.

### **Recommendation 2: Pre-Application to Permit a Sustainable Solid Waste Campus**

Although the Administration is recommending the Airport West site as the preferred location for the Sustainable Solid Waste Campus, we must consider that no site is guaranteed to obtain the necessary permits from the U.S. Environmental Protection Agency (EPA) or Florida Department of Environmental Protection (FDEP). As such, I recommend that the Airport West site, plus the existing Doral site and the Medley site, be submitted for a pre-application process with the EPA and FDEP for a 4,000 ton/day mass burn facility. This preliminary review of all three sites could save significant time and money if it enables the County ultimately to only move forward on a site that is the most likely to be permitted. If the Airport West site passes a preliminary review by FDEP, it will remain the preferred site for the Sustainable Solid Waste Campus and the only site that is ultimately submitted for a full permit application. If the Airport West site is determined not

to be feasible based upon preliminary environmental reviews, the Administration will return to the Board for further direction.

A pre-application meeting is essential to the permitting process. The FDEP highly recommends that an applicant schedule a pre-application meeting with the FDEP well in advance of applying in order to discuss the project and expectations. This pre-application meeting is not intended to be simply an overview of an already finalized application; it should be held early enough to potentially shape the content of the application. As part of the pre-application meeting, the applicant should discuss the planned environmental impacts of the project. This ensures that any potential problems or unintended oversights in the technical analysis are resolved early in the process and ensures that all requirements are met in the initial application.

One of the pre-application requirements includes conducting air modeling to provide the regulatory agencies with information about potential site-specific environmental impacts of building a WTE facility. Air modeling on all three sites will allow DSWM to gain insight into any future permitting issues (e.g., airport flight path concerns, Class 1 impacts and emission/stack height, other Title V point sources nearby) and avoid the risk of having to start over if one site fails in the permitting process. This approach may have some upfront cost for professional consulting services but will save on time and potential future costs of withdrawing and restarting the application process. We would also retain the services of an industrial hygienist to conduct a health assessment of the modeling results, which would be important when engaging with the community. We have received a preliminary estimate that the modeling for the three sites will take four to six months, at a cost of \$500,000. Air modeling is a major component of the permit package, and modeling done for the preliminary review will be used for the final application.

I strongly recommend that the Board adopt my Administration's recommendation to immediately commence a pre-application process for each of the three sites, including the air quality impact analysis and modeling for each site.

### **Recommendation 3: Closure of the Resources Recovery Facility (RRF)**

One of the options my Administration has considered to extend the County's disposal capacity is to partially reactivate the RRF, which has been inoperable since the February 12, 2023, fire that severely damaged the facility. That partial reopening of the facility would involve refurbishing the facility to operate at 40% of its prior capacity for trash only (not garbage). In the Strategy Memo, I recommended against reopening the RRF due to the significant construction and operational costs and the time it would take to get the site permitted for partial operation. Since my initial recommendation to the Board, Covanta has submitted a revised proposal for the renovation and operation of the RRF. DSWM and its bond engineer Arcadis have analyzed this revised proposal in detail. Unfortunately, Covanta's renovation budget remains at over \$90 million, and the proposed \$112 per-ton disposal fee still exceeds the current average cost of \$82 per ton for waste disposal in County and other private landfills and only addresses yard waste. My Administration continues to recommend against reopening the RRF.

Covanta has argued that the County entered into a 5<sup>th</sup> Amendment to their agreement in the Fall of 2022 pursuant to which the County was prepared to spend approximately \$150 million to extend the life of the facility for ten years. It is important to note that under the 5<sup>th</sup> Amendment, the RRF would have operated at 100% capacity for a full ten years. There was no need to go through re-permitting. However, because of the fire, we now would need to go through re-permitting for the facility (which could take up to two years) and the facility will operate only at 40% capacity. This would cost upwards of \$90 million, funds that we would then not be able to put towards the new facility. I recommend the Board authorize and delegate authority to my Administration to take all necessary steps to wind down operations and to permanently close the existing RRF.

### ***Transfer Station***

It was noted earlier that locating the Sustainable Solid Waste Campus at Airport West would require a new transfer station to accommodate disposal system users given the longer drive to this site in the northwest corner of the County. Unlike our existing transfer stations, some of which are now over 40 years old, new transfer stations incorporate features to mitigate concerns of nearby communities. These features can include the following elements:

Line of Site – Visually pleasing perimeter wall design along with vegetation will provide a buffer. Building design can incorporate architectural features to integrate to the surrounding community.

Odors – The enclosed transfer building operation activities with staging, receiving area, and loading areas can include a negative pressure vacuum system with activated carbon filtration to control potential odors. An odor control system at the building perimeter with neutralizers will mitigate fugitive odors.

Noise – The perimeter walls surrounding the transfer station building along with quick door systems at ingress and egress to the building will mitigate noise concerns. All loading and offloading activities are performed within the enclosed building.

Traffic Control – Within the transfer station property, features such as sufficient queuing lanes for inbound vehicles, quick scales system to minimize waiting time, and the offloading areas inside the building will accommodate multiple lanes for off load.

These systems combined will also mitigate off-site dust concerns. As such, as we examine where such a transfer station could be located (e.g., the existing RRF site in Doral), we should keep in mind the very different and lessened impact with these modern transfer stations.

### **Recommendation 4: North Dade Landfill Expansion**

As stated in the Strategy Memo, seeking a permit from FDEP to vertically expand the North Dade Landfill (NDL) is a critical component of maintaining adequate disposal capacity in our solid waste system and ensuring compliance with our CDMP. The NDL generates significant revenues for DSWM and allowing it to reach capacity would result not only in the loss of hundreds of millions in revenue but substantial landfill closure costs. The Administration will work expand security and illegal dumping enforcement around the landfill. The Administration has proffered an

agenda item to enter into a Professional Services Agreement with an engineering firm that will conduct the necessary studies to submit a vertical expansion permit application to FDEP. That item was heard and forwarded to the Board with a unanimous recommendation at the September 11, 2023 meeting of the Chairman's Policy Council and Intergovernmental Affairs Committee and will be coming to the full Board for consideration at the September 19 meeting. I strongly urge the Board to approve this item so DSWM can expeditiously begin the process of seeking the landfill capacity expansion.

### ***Private Landfill Capacity***

In order to maintain adequate system capacity as the County pursues landfill expansions and while the various components of the Sustainable Solid Waste Campus come online, DSWM will rely on its agreements with Waste Management (WM) and Waste Connections (WC) for private landfill disposal. These contracts help the County extend the life of its own landfills, meet concurrency requirements, and ensure the financial health of the system. DSWM has been working over the last several months with WM and WC to negotiate additional private landfill capacity. To date, DSWM has secured a letter agreement with WC for an additional 300,000 tons subject to their contract being re-negotiated by March 2024. Additionally, DSWM worked with WM and secured a letter agreement to expand the County's disposal capacity by one million tons, subject to renegotiation of their contract within the next six to nine months. Once negotiations are completed, these contracts will be presented to the Board for approval at an upcoming Board meeting in 2024.

### ***Development of a Zero Waste Master Plan***

As mentioned in the Strategy Memo, my Administration is committed to building a more environmentally sustainable and resilient waste system. The Office of Resilience (OOR) is currently procuring a consultant to develop a Zero Waste Master Plan. The Zero Waste Master Plan will outline best practices being employed in other communities to reduce waste, increase recycling rates, and divert organics, including yard waste and food waste away from landfills while considering our unique capacity requirements and local and state laws and regulations. The recommendations around zero waste technologies and practices in this Master Plan will be incorporated into the Sustainable Solid Waste campus.

### ***Conclusion***

While we recognize that these are significant decisions for our community involving major financial commitment, there are several important reasons why we urge the Board to proceed on an expedited basis:

1. **Insurance funds:** The availability of as much as \$200 million in insurance proceeds from the RRF fire depends on commencing construction *within two years* from the date of the fire. While our insurance broker has indicated that extensions of deadlines can be given, the insurer would need to see significant progress towards commencement of construction. A request for extension would not be entertained without clear progress having been made.
2. **Available tax credits:** Under the federal Inflation Reduction Act, new WTE facilities could be eligible for tax credits for up to 30-40% of the project costs, provided that construction commences before January 1, 2025. Regulations under the IRA have not yet been promulgated.

3. **Concurrency requirements:** Moving quickly will reassure our residents and the business community that the County will comply with the solid waste disposal concurrency requirements in our CDMP in the medium and long term.
4. **Timely applications:** It is to the County's advantage to submit our permit applications to the federal and state regulatory agencies before any other public or private entities submit similar applications. We want to be first in the queue and not subject to constraints created by pending applications.
5. **Diverting waste from landfills:** The sooner we start, the sooner we can open a modern mass burn WTE facility and develop an integrated waste system that diverts approximately 50% or more of our waste away from landfills, which is critical to ensuring we can continue to meet our disposal needs in the long term.
6. **Costs of delay:** Construction costs only increase over time. The sooner we contract for construction, the sooner we can lock in our construction costs.

My Administration looks forward to moving this process forward swiftly in collaboration with the Board, and working together toward a more environmentally responsible, financially sustainable solid waste system for the future.

In accordance with Ordinance No. 14-65, this report will be placed on the September 19, 2023, Board meeting agenda. If additional information is needed, please contact Jimmy Morales, Chief Operations Officer, at [jimmy.morales2@miamidade.gov](mailto:jimmy.morales2@miamidade.gov).

- c: Geri Bonzon-Keenan, County Attorney  
Gerald Sanchez, First Assistant County Attorney  
Jess McCarty, Executive Assistant County Attorney  
Office of the Mayor Senior Staff  
Olga Espinosa-Anderson, Interim Director, DSWM  
Jennifer Moon, Chief, Office of Policy and Budgetary Affairs  
Yinka Majekodunmi, Commission Auditor  
Basia Pruna, Director, Clerk of the Board  
Eugene Love, Agenda Coordinator



# EXHIBIT A



MDC009



# EXHIBIT B

	Doral RRF Site	Medley Site	Airport West Site
<b>Capital Costs</b>			
Estimated Land Cost	\$0	\$112,848,865	\$0
Estimated Utility Extension - Water & Sewer	\$0	\$246,581	\$4,554,268
Estimated Utility Extension - Natural Gas	\$0	\$1,100,000	\$4,850,000
Estimated Utility Extension - Electric	\$0	\$1,900,000	\$5,600,000
Additional Transfer Station Estimated Capital Costs	\$0	\$0	\$48,000,000
TOTAL Estimated Capital Cost (Per Arcadis Report)	\$1,488,886,000	\$1,611,346,137	\$1,582,443,592
Estimated Roadway Improvements (Not included in Arcadis Report)	\$0	\$6,650,000.00	\$3,650,000
<b>Annual Operating Costs</b>			
Potable Water	\$0	\$2,293,333	\$2,293,333
Natural Gas			
Ash Hauling	\$513,491	\$513,491	\$759,966
New Transfer Station O&M	\$0	\$0	\$18,000,000
Net Total Operating Cost	\$15,106,663	\$17,913,487	\$36,159,962
<b>Per Ton Disposal Cost</b>			
	\$42/ton	\$43.73	\$53/ton

Medley Site per MDPA 2023 Market Value +10%, other two sites owned by County (rent would need to be paid to MDAD for Airport West site)

New station and additional fleet vehicles

For Site A2, almost \$38M estimated for site development and environmental permitting/mitigation costs.

Doral no anticipated roadway infrastructure is required; Medley, Site roadway improvements to be negotiated with the City of Medley site will require roadway access improvement along NW 106 St. from NW 107 Ave to NW 95 Ave roadway improvement include roadway, lighting and drainage and potential Utility relocation; Airport West, improve entrance thru US 27 (Okeechobee Rd), 2,000 lf of frontage improvement consist of new road, drainage, lighting, markings and permits (environmental impacts have not been included)

For Medley and Site A2, \$1.72 per ton of waste processed, assumes no Industrial Supply Wells (purchasing all water) and 1,333,333 tons processed annually for 4,000 tpd WTE Mass Burn

Assumed paid by WTE operator, but estimated at 703,000 ccf annual usage. Estimate cost Existing RRF Ash Monofill assumed to be out of capacity by the time the new WTE begins operation. Assumed 120,000 tons per year of ash, hauled to and disposed at Medley Landfill.

Site A2 transfer station costs based on actual DSWM costs

This does not include annual debt service or capital costs.

# EXHIBIT C

Table A. Summary of Schedule Tasks with Estimated Durations

Task	Estimated Duration of Activity		
	Existing RRF Site	Medley Site	Airport West Site
<b>Total Project Duration</b>	<b>7 years 9 months</b>	<b>9 years 9 months</b>	<b>9 years 3 months</b>
Estimated Commercial Operation ( <b>Assuming Project Start Date of Jan. 1, 2024</b> )	October 2030	October 2032	April 2032
<b>Siting/Planning *</b>	<b>1 year 6 months</b>	<b>2 years 6 months</b>	<b>2 years</b>
Siting Analysis and Land Acquisition	N/A	1 year 6 months	1 year
<b>Financing *</b>	<b>1 year 6 months</b>		
<b>Permitting *</b>	<b>3 years 6 months</b>	<b>3 years 9 months</b>	<b>3 years 9 months</b>
Army Corps of Engineers Dredge and Fill Permit	1 year	N/A	1 year 6 months
Environmental Resource Permit	1 year	1 year 3 months	1 year 6 months
PSD Air Construction Permit	2 years	2 years 3 months	2 years
PPSA Process Activities	2 years 6 months	2 years 9 months	2 years 6 months
<b>Procurement *</b>	<b>2 - 3 years</b>		
Design Criteria Development	6 months – 1 year		
RFQ / RFP Process	1 year 6 months - 2 years		
<b>Design and Construction</b>	<b>4 years</b>	<b>4 years 9 months</b>	<b>4 years 9 months</b>
Design	3 years		
Procurement of Major Equipment	3 years		
Preliminary Site and Utilities Work	9 months	1 year 3 months	1 year 6 months
Construction	2 years 6 months		
Start-up and Commissioning	6 months		
Acceptance Testing to Commercial Operations	2 months		
Final Inspection and Contract Closeout	6 months		
<b>Demolition of RRF</b>	<b>1 year – 1 year 6 months</b>		

\*These tasks occur concurrently.