AGENDA REPORT
July 9, 2019

US Army Corp of Engineers Permit for US 192 Project

SUBJECT:
Request the Board of County Commissioners to provide direction to staff about signing the US Army Corp of Engineers Permit for the US 192 Project.

FISCAL IMPACT:
Fiscal impacts for the different options are detailed in the summary.

DEPT/OFFICE:
Solid Waste Department

REQUESTED ACTION:
It is requested that the Board of County Commissioners provide direction to the Solid Waste Management Department about signing the US Army Corp of Engineer's ERP Permit for the US 192 Project and give other direction to the Department regarding the disposal of Class III materials in the south area of the county.

SUMMARY EXPLANATION and BACKGROUND:
The Sarno Road Landfill will reach the end of its life as estimated by the engineers by the year 2020 without a height variance and 2024 with a height variance. In order to maximize the use of the Sarno Landfill, staff has requested that the City of Melbourne grant a height variance (the City uses other terminology) from the existing 40 feet above grade to 81 feet above grade. This will align the height with the FDEP permit as well as the height allowed by the Federal Aviation Administration in the current landfill. The Item is scheduled to go to the City's Planning & Zoning Board on July 5, 2019 at 6:30 P.M. and to the City Council on July 23, 2019 at 6:30 P.M.

On April 9, 2019 the Board of County Commissioners directed the Department to hold off on signing the US Army Corp ERP Permit for the US 192 Site and to bring it back to the Board as an agenda item on the Board's July 9, 2019 meeting. There are several options that have been discussed recently as well as during the course of the project that are outlined and updated in an Executive Summary attached herein for the Boards' information and consideration.

Also, as per Board of County Commissioner direction, staff has issued a Request for Proposal for alternative technologies. After the RFP was published at the pre-proposal meeting, several vendors requested additional time to respond. As a result, the due date

for responses has been extended from June 26, 2019 to August 30, 2019.

1. Transporting Class III materials to the Central Disposal Facility at the end of Sarno Landfill's life.

This option explores the possibility of transporting the materials received at the Sarno Road Class III Landfill to the Central Disposal Facility (Class I) located near Cocoa after the Sarno Road Landfill has reached permitted capacity. The Sarno Transfer Station would have to be hardened to accept this type of waste. By the nature of Class III materials, they are more abrasive and will make the transfer station maintenance more frequent. Six tractors and eight trailers are estimated to be needed for the additional tonnage being handled by the transfer station (using existing tonnage). Some employees would be transferred to other places in the organization but the overall closure of Sarno would result in a slight decrease in operating expenditures. This scenario does not take into consideration the construction of a yard waste facility that would be needed in the south end of the county. The yard waste facility would be needed in order to process the yard waste before it is transported elsewhere. The facility would need to be approximately 17 acres in size plus a stormwater retention area is needed in addition to the 17 acres.

We recently prepared a cost projection for this option which at that time was missing the cost of a yard waste area. We now have the missing information and are estimating the cost of this option for the next twenty-years at $57.2M plus $4.2M for yard waste and an estimated $1.5M for stormwater for a total of $62.9M. When you compare this option with others you will note that this option is only for twenty years instead of twenty-five year timeline of the other options. The reason is that this option consumes 1/3 of the life of the Central Disposal Facility, so the life of the facility would be reduced to twenty years instead of the projected thirty years. Thereby we could not use the same timeline of twenty-five years. Another consideration is that the US 192 project was restarted in 2006 and judging by that project we would have to start looking for a replacement site for our Class I materials in less than four years due to the time required to acquire and fully develop landfill facilities.

This option uses expensive class I landfill airspace instead of less expensive class III airspace.

2. Develop the Northeast (68 Acres) Property Adjacent to the Sarno Road Landfill.

This option looks at maximizing the use of a property that is located to the northeast of the Sarno Facility. It is currently being used for the managing of lagoon dredging materials (muck removal from the lagoon). That contract for that use ends next year. With the end of the use for managing dredging materials, the property can be used for the disposal system needs. With a view to maximizing the use of the property, we commissioned a study from an engineering firm which is attached titled "Technical Memorandum on the Conceptual Site Development Plan of the Northeast Property Sarno Road Class III Landfill".

The conceptual plan is the development of the site and entails building a yard waste pad of about 17 acres, a landfill cell of about 16 acres, leachate tanks, a stormwater retention pond of about 10 acres and other supporting infrastructures.

In order to use this property as an extension of the Sarno Facility the following major points have to be considered:

• The City of Melbourne would have to approve the site plan and accept the changes in the Conditional Use Permit.
• A height variance would be needed to maximize the use of the property. The height affects the cost per cubic yard of airspace as stated later.
• The existing wetlands would have to be mitigated requiring an Environmental Resource Permit from the Florida Department of Environmental Protection and possibly approval from the US Army Corp of Engineers. The mitigation would occur offsite by purchasing mitigation credits.
• A construction permit from the Federal Aviation Administration will be needed since the landfill would be within 10,000 feet of the end of one of the Melbourne Airport runways.

At forty feet above ground level the landfill is expected to have a life of 4 years with a cost of $9.00 per cubic yard. At 80 feet elevation over ground level the life is expanded to 6 years with a cost of $5.50 per cubic yard. Total cost for this option is estimated at $22M. The timeline for permitting and construction is estimated at 45 months assuming there is no or little opposition in the permitting process. The process would have to start in 2020 to have the site ready for the end of life of the existing Sarno Landfill if we are able to obtain the additional height.

3. Purchase of the Florida Recyclers Landfill and expanding it to join the Sarno Road Landfill

On May 25, 2018, staff received an Investment Value Consulting Report for 45 acres currently used as a construction & demolition landfill AKA Florida Recyclers with an investment value of $8,416,000. The report (attached) was transmitted by Jack A. Kirschenbaum representing the owners of Florida Recyclers. On January 22, 2019 the Board directed staff to conduct a report (attached) on the possibility of purchasing the Melbourne Landfill AKA Florida Recyclers. This report was sent to the Board via email on March 22, 2019.

Please note that the capacity of this landfill is restricted to an elevation of 40-feet because of height restrictions from the City of Melbourne. This limitation has an impact of the potential life for this option as detailed in the report to the Board.

As part of the evaluation process staff contracted with Clayton, Roper & Marshall, Inc. to conduct an appraisal on the Florida Recyclers property. A notice to process was issued on March 6, 2019 to conduct the appraisal. The appraisal has not been able to be completed for reasons stated in the Status Report from the appraiser firm that we have attached. According to the report the appraisers are waiting on information to be provided by Florida Recyclers "sometime in mid-July". Assuming the information required to complete the appraisal is provided we would expect a final report around August 20, 2019.

This property could have some environmental impact that would have to be considered as the Board would be assuming the environmental risks, if present. Mulch is currently on a major portion of the property and would have to be removed as this material would not be of use for the Department which has a surplus of the same.

4. Continue the Development of US 192 Project by Authorizing Staff to Sign the US Army Corp of Engineers Permit.

This project was conceptually started in 1982 with the current version restarted in 2006. In 2016 it was scaled down to exclude any Class I landfill for several decades. On April 30, 2019, staff sent a History Report (attached) to the Board stating the efforts undertaken through the years on this project. A minor correction should be made to the report in that the Environmental Resource Permit from FDEP was issued for this project in April 12,2018.

Brevard County upon the signature of the US Army Corp of Engineer permit will have all the state and federal permits needed for this project with the exception of the FAA permit (which had been granted in the past and expired, needing to be resubmitted) and the Florida Department of Transportation entrance permit. These remaining permits are expected to be issued when submitted.

The County has negotiated a settlement agreement with Deseret Ranch concerning the solid waste permit that authorizes the construction of the Class III landfill. The County also has negotiated a settlement agreement concerning the issuance of the ERP that authorizes the construction of the stormwater system and the wetland impacts. With this, the County has addressed and resolved the concerns raised by Deseret Ranch. Although Deseret Ranch opposes the project, it has signed off on the terms and conditions that would allow the project to be built.

This option is estimated to cost about $66.8M which includes infrastructure that will serve the system for the next 66 years of estimated capacity for this option. Construction is estimated to occur over a two year period in several phases as follows:

Phase 1: Turning lanes, driveway construction must occur before any construction is permitted on site.

Phase 2: Site work for the protection of the existing wetlands as well as enhancements and deletion of marginal wetlands in order to make a more effective natural environment.

Phase 3: Actual construction of the internal infrastructure as well as the landfill itself.

If the Board chooses to proceed with this option, the Board can direct staff to return to the Board for approval before proceeding with
any phase.

5. Any other direction the Board chooses to provide.

Summary

	Implementation Time (In years)	Cost	Increase Life to the System	Environmental Risks
Transporting	1	$62.9M	-10	Known
Northeast	3.75	$22M	4 (at 40 feet)	Known

			6 (at 81 feet)	
Florida Recyclers	Unknown	Unknown +$13.2M Unknown + $14.4M	8 (at 40 feet) 20 (at 81 feet)	Unknown
US 192	2	$66.8M	+66	Known

ATTACHMENTS:

Description

- **Florida Recyclers of Brevard LLC - Investment Value Consulting Report**
- **Florida Recyclers of Brevard LLC - Status Report - CRM File No. 19-030**
- **JEA Report - FL Recyclers Landfill Evaluation**
- **Melbourne Landfill AKA Florida Recyclers Report to the Board**
- **US192 Future Landfill Site Project History Report to the Board**
- **S2Li BC - NE Property Development - Tech Memo**

BREVARD County
BOARD OF COUNTY COMMISSIONERS

FLORIDA'S SPACE COAST

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Telephone: (321) 637-2001
Fax: (321) 264-6972
Tammy.Rowe@brevardclerk.us

July 10, 2019

M E M O R A N D U M

TO: Euripedes Rodriguez, Solid Waste Director

RE: Item I.1., US Army Corp of Engineers Permit for US 192 Project

The Board of County Commissioners, in regular session on July 9, 2019, tabled the discussion of signing the US Army Corp of Engineers Permit for the US 192 Project to the September 17, 2019, Board meeting.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Donna Scott

for Tammy Rowe, Deputy Clerk

/kp

GRAY|ROBINSON
ATTORNEYS AT LAW

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Jack A. Kirschenbaum

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May 25, 2018

Euripides Rodriguez
Brevard County Solid
Waste Management Department
2725 Judge Fran Jamieson Way, #A118
Melbourne, FL 32940-6605

Re: Florida Recyclers

Dear Mr. Rodriguez:

Enclosed please find two copies of the Investment Value Consulting Report prepared by Shawn E. Wilson, MAI, regarding the landfill.

My clients will accept the appraised value for this property.

I look forward to speaking with you regarding this matter.

Very truly yours,

Jack A. Kirschenbaum

JAK/kf

Enclosures

Compass Real Estate Consulting, Inc.
Real Estate Consultant Litigation Valuation
120 East Pine Street • Suite 1 • Lakeland, Florida 33801

INVESTMENT VALUE CONSULTING REPORT

45 Acres of Land Owned by Florida Recyclers of Brevard, LLC

BREVARD COUNTY, FLORIDA

Prepared For

GrayRobinson
1795 West NASA Boulevard
Melbourne, Florida 32901

By

Shawn E. Wilson, MAI
State-Certified General Real Estate Appraiser RZ503

SUMMARY

PROPERTY:	45 acres of land owned by Florida Recyclers of Brevard, LLC, in Melbourne, Florida.
COUNTY:	Brevard
TAX ID:	27-36-24-00-507 27-36-24-00-508
LAND SIZE:	45 acres, more or less
IMPROVEMENTS:	Currently used as a C&D landfill and recycling center.
HIGHEST AND BEST USE:	Landfill
DATE OF VALUE:	April 10, 2017
SCOPE OF WORK:	Estimate investment value by analyzing land value plus cost to construct a new C&D landfill on the site.
DEFINITION OF VALUE:	This assignment estimates investment value. Investment value is defined as "the value of a property to a particular investor or class of investors based on the investor's specific requirements. Investment value may be different from market value because it depends on a set of investment criteria that are not necessarily typical of the market." (The Dictionary of Real Estate Appraisal, Sixth Edition, 2015, page 121)

VALUATION SUMMARY:

Investment Value
$ 8,416,000

Table of Contents

Address and Location

The subject property is located at 3351 Sarno Road in Melbourne, Florida

Property Owner Name and Address

Florida Recyclers of Brevard, LLC
3351 Sarno Road
Melbourne, Florida 32934

Legal Description

Lengthy; please see deeds in Addenda.

Property Inspection

The subject property was inspected on January 6, 2017, and April 10, 2017.

Appraisal Report Format

This is an Investment Value Consulting Report which is intended to comply with the reporting requirements set forth under Standard Rule 2-2(a) of the Uniform Standards of Professional Appraisal Practice for an Appraisal Report. As such, it presents only a summary of the data, reasoning, and analyses that were used in the appraisal process to develop the appraiser's opinion of value. Supporting documentation concerning the data, reasoning, and analyses is retained in the appraiser's file.

History of the Property (Last Five Years)

The subject property has not transferred ownership during the last five years. It has operated as a landfill and recycling center since 1998.

Instrument:	Trustee's Deed
Grantor:	Joseph J. Weisenfeld, Trustee
Grantee:	Florida Recyclers of Brevard, Inc.
Transaction Date:	3/31/98
O.R. Bk/Pg:	3826 / 3814

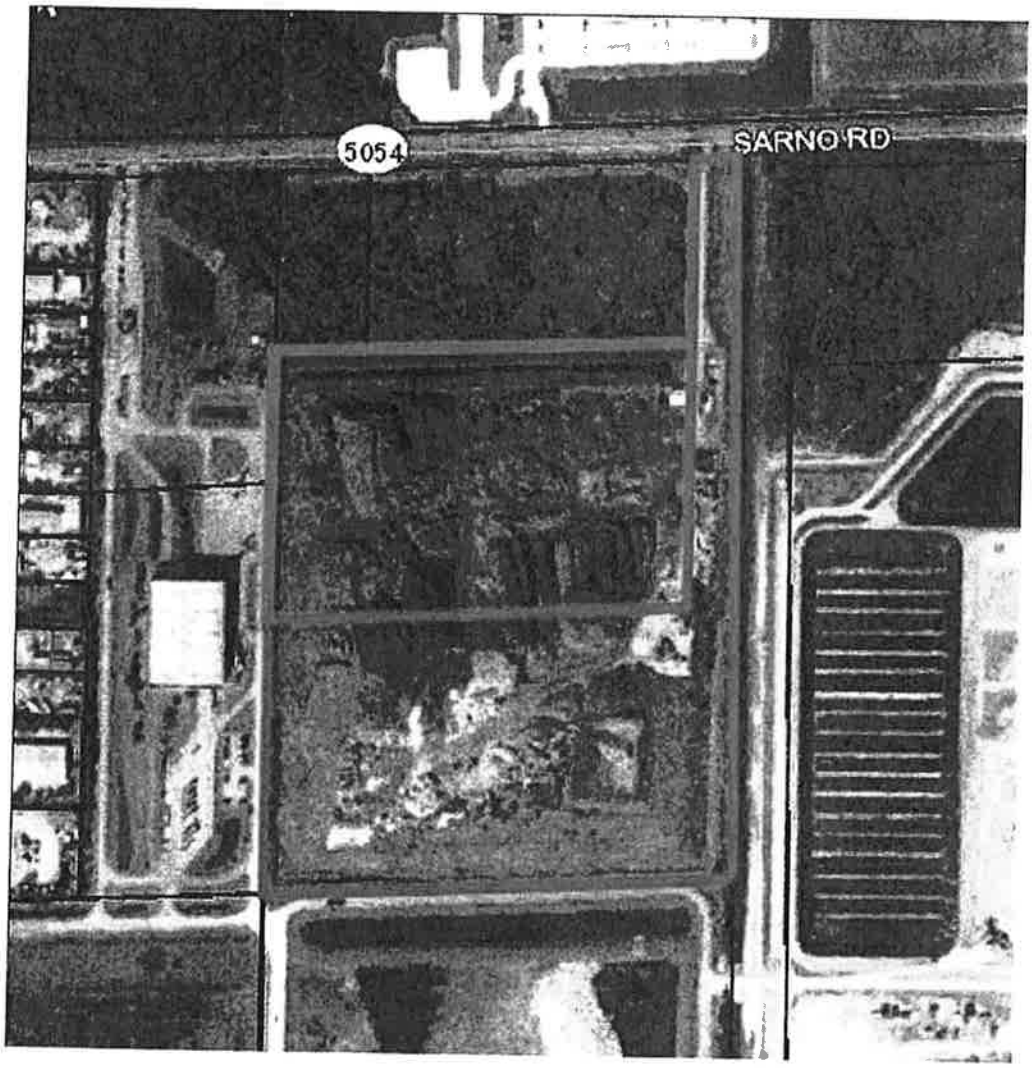
Instrument:	Trustee's Deed
Grantor:	Joseph J. Weisenfeld, Trustee
Grantee:	Florida Recyclers of Brevard, Inc.
Transaction Date:	9/30/99
O.R. Bk/Pg:	4087 / 1036

Instrument:	Corrective Trustee's Deed
Grantor:	Joseph J. Weisenfeld, Trustee
Grantee:	Florida Recyclers of Brevard, Inc.
Transaction Date:	3/13/01
O.R. Bk/Pg:	4310 / 3384

I was unable to discover, during the normal course of the appraisal process, any evidence of a current Agreement of Sale, listing, or option of the subject property.

The appraiser is informed that a portion of the property is leased to Simply Organic Lawn and Garden Center.

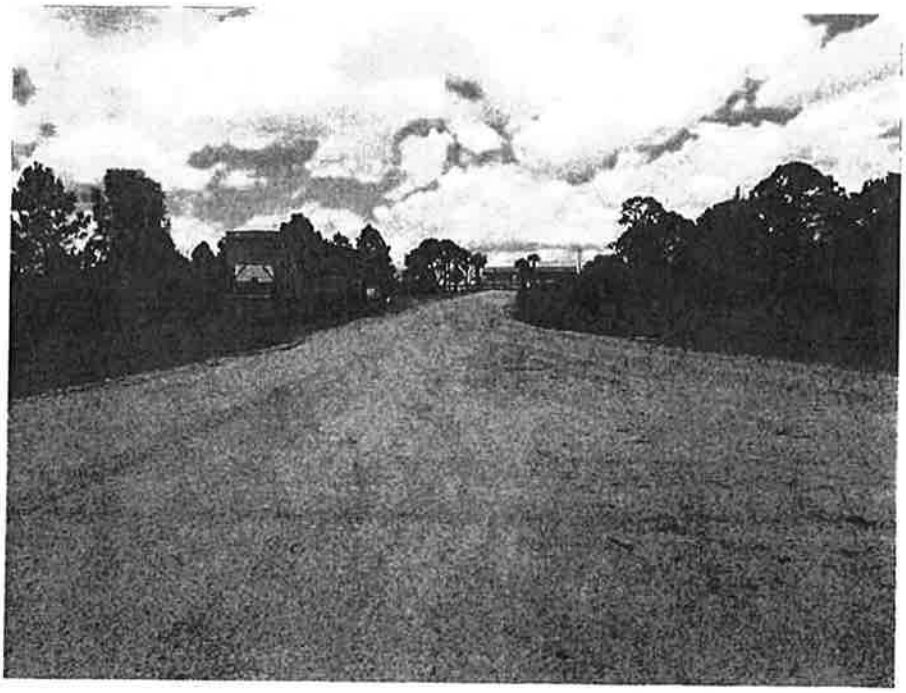
AERIAL PHOTOGRAPH



PHOTOGRAPHS

Photo 1:
Looking south at landfill scales.

Photo 2:
Looking north along driveway towards Sarno Road.



Photographs taken by Shawn Wilson, MAI, April 10, 2017.

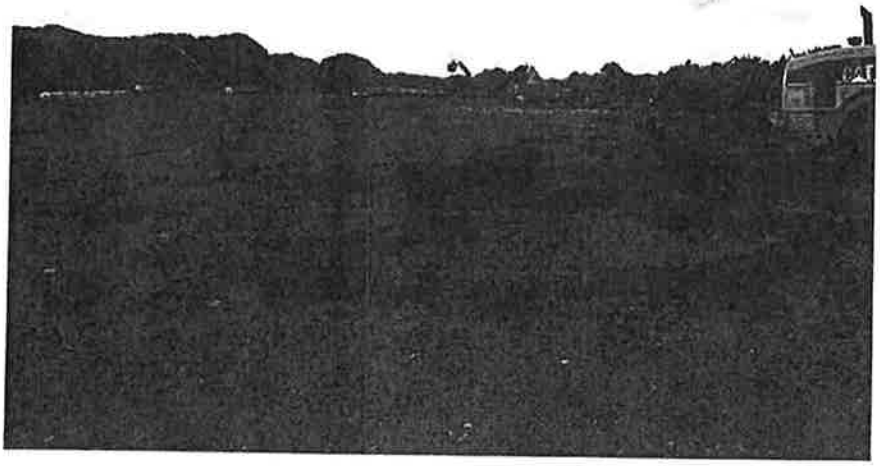


Photo 3:
Representative view of soil composting area.

Photo 4:
Looking south toward C&D area.

Photographs taken by Shawn Wilson, MAI, April 10, 2017.

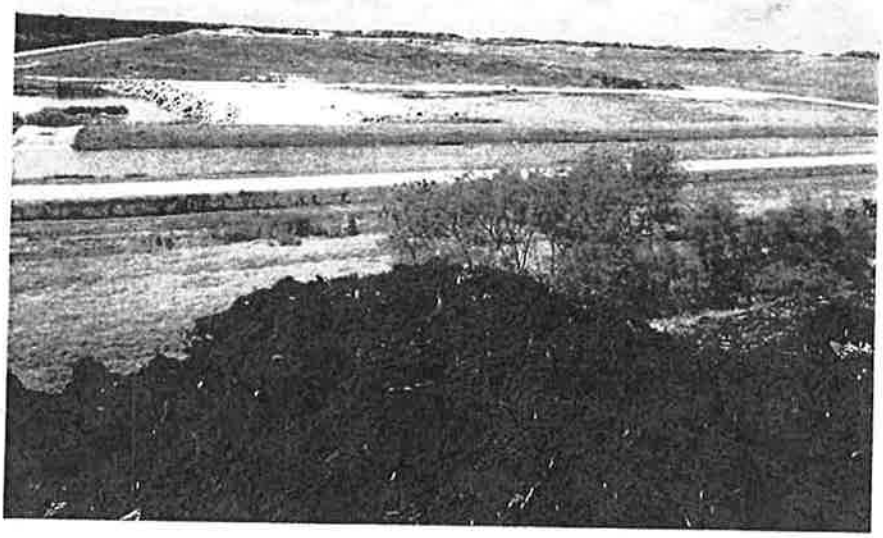


Photo 5:
Looking south toward Sarno Landfill.

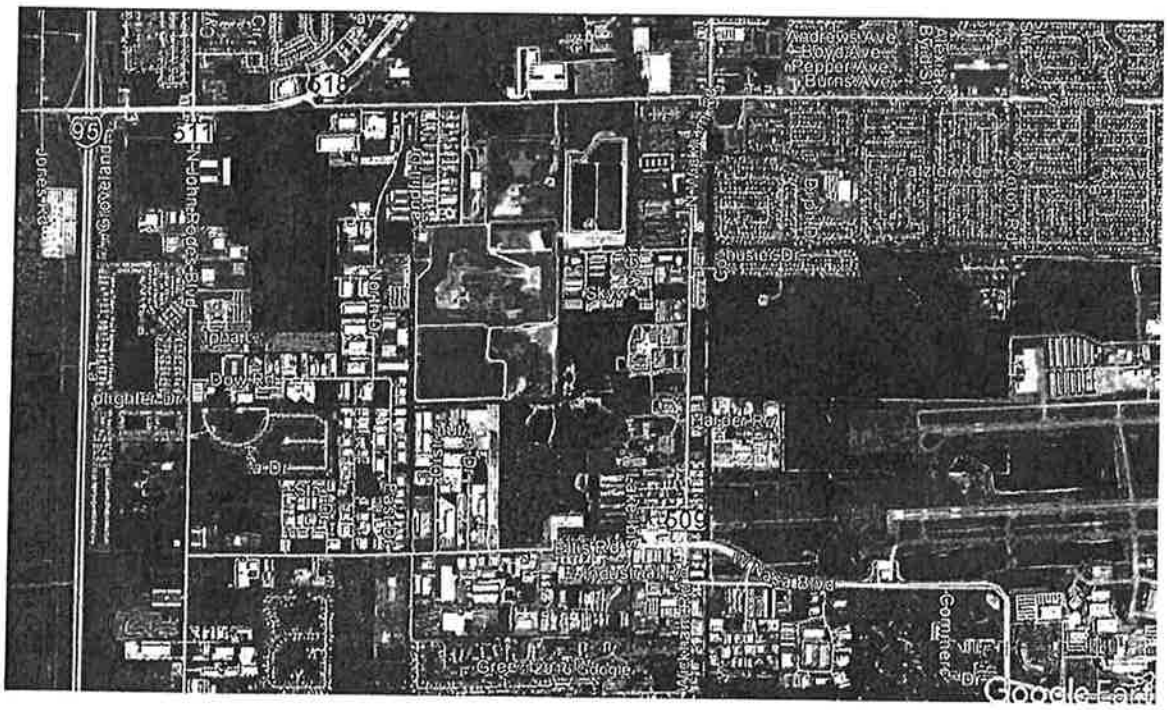
Photo 6:
Looking east toward Brevard County Dredge Material Management Area.

Photographs taken by Shawn Wilson, MAI, April 10, 2017.

Area and Neighborhood Analysis

Intended users of this appraisal report are very familiar with the subject property's location, neighborhood, market area, and the greater Melbourne area. For this reason, only a brief analysis is summarized here.

The subject property is generally located in an industrial area between Interstate 95 and the Orlando Melbourne International Airport, lying within the City of Melbourne. The subject's neighborhood includes a variety of industrial uses, including warehousing, manufacturing, and industrial office. The subject property is marked with a red star on the aerial map below.



The Sarno Landfill and Transfer Station is located immediately west and south of the subject property. The Brevard County Dredge Material Management Area (DMMA) for the Eau Gallie River and Elbow Creek Restoration Dredging Project is located immediately east of the subject property.

Solid Waste and C&D Landfills - Overview

Waste management is the collection, transport, processing, recycling or disposal and monitoring of non-hazardous waste materials. The term usually relates to materials produced by human activity and is generally undertaken to reduce their effect on health, the environment, or aesthetics. A landfill site, also known as tip, dump or rubbish dump, is a site for the disposal of waste materials by burial and is the oldest form of waste treatment. The first US landfill opened about 1937. Prior to that our

ancestors burned most of their garbage or buried it in outlying rural areas.

Modern landfills are well-engineered and managed and are located, designed, operated and monitored to ensure they comply with federal regulations. Municipal solid waste (MSW) consists of organic material, paper, plastic, glass, metals, and other refuse collected by municipal authorities. It typically does not include waste collected outside of formal municipal programs nor does it include the sewage, industrial waste, or construction and demolition waste generated by cities.

Solid waste is categorized either by material type or by product type. By material type this includes paper and paper board, yard trimmings, food scraps, plastics, metals, glass, wood, rubber, leather, textiles, and other materials. By product type this includes containers and packaging, nondurable goods (newspaper), durable goods (appliances), food scraps, and others. Although the use of landfills remains the common practice of disposal in most countries, about a quarter of the word's garbage is diverted to recycling, composting, or digestion, options that are environmentally superior to landfills and incinerators. In 2013 the US's share of recycled municipal solid waste, which was just 6.2% 50 years ago, grew to 34.4% or 1.5 pounds of garbage per person per day.

The waste industry is highly correlated with consumer spending and stems from consumer products and packaging. Thus, municipal solid waste tends to be generated in much higher quantities by wealthier nations and regions of the world. While wealthier nations produce more inorganic waste, such as plastics, paper, and aluminum, poorer and rural areas produce a higher share of organic matter. The 34 industrialized nations of the world produce about 1.6 million tons of MSW per day with the US producing 4.4 pounds per person per day or the daily equivalent of 60,000 garbage trucks.

Some interesting facts about waste management in the US include the following:

- Americans generate about 250 million tons of garbage each year in landfills
- An average American throws away around 1,200 pounds of waste each year that could be composted
- The amount of waste generated has tripled since 1960
- The average office worker uses over 500 paper cups per year
- Each year around 100.2 billion plastic bags are used by Americans
- 36% of what is thrown away in the US each year is paper or cardboard
- Aluminum can be recycled innumerable times with no loss of quality
- Each ton of paper recycled can save three cubic yards of landfill space
- About 22 billion plastic bottles are thrown out every year in landfills; shielded from sunlight they take thousands of years to decompose

In the 1970s there were 10,000 landfills in the US. Because of consolidation and more efficient use of these facilities, the number of open landfills was reduced to 1,900 by 2013 and 1,654 by 2015. In 2015 the US collected over 245.7 million tons of municipal solid waste of which over 58.4 million tons of material was recovered for recycling, and 20.6 million tons were recovered for composting. In June 2016 annual MSW collection had risen to 254 million tons but recycling increased with 87 million tons recycled or composed.

David Biderman, President of the Solid Waste Association of North America recently stated that the lack of capacity in the nation's landfills is largely overblown and he estimates that the nation overall has 62 years of capacity left. According to Mr. Biderman, seven states will run out of space in five years, one, in five to ten years, three, in 11 to 20 years, most have a significant capacity for many years, and 22 have no long-term problem at all.

Tipping fees are typically used to cover operating and maintenance costs and include personnel, equipment, fuel and anticipated capital costs such as cell expansions, cell closures, and capping. Government plays a huge role in determining rates and how the money will be spent. Often fees are used to fund local projects, solid waste management organizations, statewide waste reduction programs, or environmental efforts within the state.

In January 2016, the average tipping fee in the US was $48.27 with a substantial variation between states noted. A list of landfill tipping fees published by Clean Energy Projects, Inc. for the 50 states indicated that, besides Hawaii, the highest tipping fees were in the northeast region of the US and included Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

Information from Dun & Bradstreet dated December 5, 2016, on their waste management services industry profile for the quarter ending in September 2016 reported that the US waste management industry includes about 24,000 companies (single-location and units of multi-location companies) with combined annual revenue of about $85 billion. The profitability of individual companies depends on an efficient operation as the service is based on price. Big companies enjoy economies of scale in purchasing equipment and establishing networks of facilities. Small companies can compete by offering specialized services or serving local markets.

The US industry is concentrated with the 50 largest companies accounting for about half of the industry's revenue. The largest waste management companies in the US are Waste Management, which has 21,000 collection and transfer trucks and services more than 20 million customers in the US and Canada, and Republic Services, which serves over 2,800 communities throughout the US. One of the problems in the industry is preventing monopolization by big companies which may mean higher costs and subpar services for customers.

The collection process is the biggest part of the waste industry and accounts for about 55% of the industry's revenue. Waste treatment and disposal are responsible for 20% of the revenue which includes composting, incineration, landfill and recycling. About 15% of the annual revenue is remediation of waste which includes cleaning oil spills, cleaning contaminates on the ground, removal of asbestos and lead paint, restoration of strip-mined areas, and processing hazardous waste.

Landfill Classifications

As of December 2016, there were 333 permitted solid waste management facilities in Florida and five new facility applications. These include landfills, C&D disposal, C&D recycling, waste processing, and tire and soil treatment facilities. Landfills are classified as Class I and Class III.

Class I landfills are those which receive municipal solid wastes, or garbage. Class II landfills accept an average of fewer than 20 tons of solid waste per day. Class III landfills receive only yard trash, construction, and demolition debris, waste tires, asbestos, carpet, cardboard, paper, glass, plastic furniture other than appliances, or other materials which are not expected to produce leachate which poses a threat to public health or the environment. In addition to the Class I, II and III landfills, there are Construction & Demolition Debris facilities known as C&D facilities. Mixing of construction and demolition debris with other types of solid waste will cause a landfill to be classified as other than construction and demolition facilities.

Construction and Demolition Landfills

The landfill that is the subject of this report is classified as a construction and demolition debris (C&D) landfill. C&D landfills are reviewed and approved by the State Department of Environmental Protection through a state permitting process. It is reported that in December 2016 there were about 70 C&D facilities in Florida. According to the Florida Department of Environmental Protection, about 25% of all of the state's municipal solid waste was C&D debris. C&D material is defined as debris generated during the construction, renovation, and demolition of buildings, roads, and bridges, and is typically not included in the category of municipal solid waste. C&D materials often contain bulky, heavy materials that include concrete, wood from buildings, asphalt from roads and roofing shingles, gypsum the main component of drywall, metals, bricks, glass, plastics, salvaged building components (doors, windows, and plumbing fixtures), and trees, stumps, earth, and rock from clearing sites. Construction and demolition landfills are able by regulation to take most of the full complement of materials deposited into landfills, except for paint, carpet, tires, furniture, household garbage, biomedical waste and industrial or hazardous waste. Some soils are also prohibited as they may be contaminated. The Environmental Protection Agency estimates the overall percentage of debris in C&D materials falls within the ranges provided below.

MAKE-UP OF DEBRIS IN C&D LANDFILLS

Concrete & Mixed Rubble	40-50%	Metals	1-5%
Wood	20-30%	Bricks	1-5%
Drywall	5-15%	Plastics	1-5%
Asphalt Roofing	1-10%		

Reducing and recycling C&D materials conserves landfill space, reduces the environmental impact of producing new materials, creates jobs, and can reduce overall building project expenses through avoided purchase and disposal costs. Less waste can lead to fewer disposal facilities and reducing, reusing and recycling C&D materials offsets the need to extract and consume virgin resources. Deconstruction and selective demolition methods divert large amounts of materials from disposal and provide business opportunities to the local community. Recovered materials can be donated to qualified charities resulting in a tax benefit to the donator.

Industry Trends

There are several trends that may define the future of the waste industry. The first is achieving Zero Waste, a trend by cities and others to push recycling programs, to ban the use of specific products, and to increase waste to energy programs. Some refer to this as the four "R" approach: reducing waste at the source, then reusing, recovering, or recycling any waste that remains.

The second trend is for smaller waste removal companies to acquire or merge with other companies. The intent is for smaller companies to make a bigger impact on the industry, like their bigger competitors. If the merger or acquisition is not well planned, however, these activities can lead to increases in costs, invoice change issues, and even service interruptions.

The third trend is the development of advanced technology in trash and recycling containers. This trend will help companies decrease energy use, save money, and increase efficiency by using solar powered dumpsters. These containers can send a digital signal when they are near capacity, so over or under collecting by waste management companies does not occur. In another emerging disposal technique, semi-underground containers are used to reduce odor, reduce the growth of bacteria, and deter invasion by animals.

The fourth trend is for municipalities to take steps to eliminate or cut down food and organic waste by enforcing composting programs. According to the EPA, every year Americans generate around 14 million tons of food waste or about 107 pounds per person. Some cities now require sporting venues, restaurants at large hotels, large food manufacturers and wholesalers to recycle all food waste. It is noted by many in the industry that these programs may cause a significant amount of stress for businesses trying to comply with these new regulations.

Conclusion

As recently as forty years ago it was common practice in Florida, as in most parts of the United States, to either burn solid waste materials or use open dumps to alleviate solid waste problems. Back then, there were 500 open dumps in Florida. Today there are 333 solid waste management facilities permitted in Florida by the Florida Department of Environmental Protection. These facilities are located in every county and include at least one special waste materials construction and demolition disposal facility in every county.

Sources: Basic Information about Landfills, Environmental Protection Agency, April 2015.
"Municipal Solid Waste Trends and Changing Demographics," by Nick Chiu, Seeking Alpha, December 26, 2012.
"20 Horrifying Waste Management Statistics and Facts About Landfills," Trash Talkin', December 10, 2013.
"Think Outside the Bin," Environmental Protective Agency, June 27, 2016
"Trash by the Numbers: Startling Statistics about US Garbage," by Melissa Breyer, Business/Environmental Policy, July 1, 2016
"Four Waste Management Trends Defining the Waste Industry," by Carmine Esposito, National Waste Associates, September 10, 2015.
Solid Waste Management Facilities List, Florida Department of Environmental Protection, December 27, 2016.
Landfill Tipping Fees in USA, Green Power, Inc., January 2016.
Landfill Statistics, Environmental Protection Agency, June 27, 2016.

DESCRIPTION OF THE CONSULTING SERVICE

The subject property is currently permitted for use as a construction and demolition debris landfill (C&D). The property owners now operate a recycling and landfill operation on the property. Recycling activities include a mulch and soil composting operation, Simply Organic Lawn and Garden Center, with wholesale and retail sales activity on-site.

In addition to the on-site recycling activity, typical C&D recycling items such as concrete, metal, and plastics are also removed from the waste stream and recycled off-site. The location of the subject property is conducive for continued use as a landfill. However, the Simply Organic Lawn and Garden Center mulch and soil operation is under separate ownership and does not require a landfill permit for operation. That business could be moved to a different location if the business owners chose to do so.

As described previously, the subject property is surrounded on three sides by Brevard County Government solid waste facilities: Sarno Transfer Station, Sarno Landfill, and a Dredge Material Management Area.

The Brevard County Board of County Commissioners is charged with providing and regulating waste collection and disposal. The Brevard Code of Ordinances sets forth annual special assessments and service fees for collection, recycling, and disposal services. Because of the manner in which tipping fees for C&D waste are assessed, privately owned landfills in Brevard County cannot operate at levels of profit which are possible in counties which have a more traditional pricing model.

The subject property is the only privately owned and operated C&D landfill in Brevard County. The subject landfill is profitable, in part, because its operating income is augmented by the on-site recycling operation.

The subject property is also unique among properties in Brevard County because it is bounded on three sides by existing government-owned solid waste facilities. By sharing common boundaries with other government solid waste facilities, the subject land can afford additional utility and horizontal expansion capacity when designed in conjunction with adjoining facilities, particularly in conjunction with the adjoining Sarno Landfill improvements.

Because of these atypical locational and market characteristics, a traditional market value analysis is not utilized in this assignment. The consulting problem is addressed by examining the investment value of the subject property's potential air space if used by the Brevard County solid waste program.

Note that the market value of the landfill and business which currently operate on the site is not part of this analysis.

Zoning and Future Land Use

The subject property is located in Brevard County and is governed by the City of Melbourne Comprehensive Plan and Land Development Regulations.

Zoning: C-M1 (Neighborhood Commercial District / Light Industrial District)

Future Land Use Designation: Industrial

The Industrial Future Land Use designation is intended for "manufacturing, assembling, and distribution activities; assembling and distribution activities; warehousing and storage activities; general commercial activities; and other similar land uses." It is determined by the impact on existing and planned public services, utilities, water resources, and energy resources.

The C-M1 zoning is "intended to apply to an area adjacent to arterial and major collector streets and convenient to major residential areas. The types of uses permitted are intended to serve consumer needs. Lot sizes and other restrictions are intended to reduce conflicts with adjacent residential uses and to minimize the interruption of traffic along thoroughfares."

The zoning and Future Land Use designations provide for a variety of medium intensity uses. The subject property could be improved with one or more of the permitted uses, as a mixed-use development.

The capacity of the existing landfill operation is determined by the Florida Department of Environmental Protection (FDEP) permit and the subject property's City of Melbourne zoning. The permissible height of the landfill currently differs, being 80' for the FDEP permit, and a 40' height limit imposed by zoning. The appraiser is informed that a reasonable probability of obtaining a zoning variance for a height of 80' exists, primarily because neighboring Brevard County solid waste facility improvements are permitted to exceed 40' in height. This height differential is discussed further in the Extraordinary Assumption section of the report.

Assessed Value

Parcel ID Number	Assessed Value Land	Assessed Value Improvements	Assessed Value Total
27-36-24-00-507	$844,000	$0	$844,000
27-36-24-00-508	$600,660	$0	$600,660
Total	$1,444,660	$0	$1,444,660

Note that the tax assessment for the subject property is provided for reference purposes only. Tax assessments are based upon mass appraisal techniques and are not generally reliable for market value estimates.

Property Rights Appraised

This value estimate for the subject property is appraised as a fee simple estate. This is defined as "Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat." (The Dictionary of Real Estate Appraisal, Sixth Edition, 2015; page 90).

Public and Private Restrictions

As described previously, the subject property holds a permit for use as a C&D landfill. This permit is administered by the FDEP, and the landfill activities on the site are governed by the restrictions related to that permit. The appraiser is informed that the permit is active, with no atypical restrictions or deficiencies noted on the effective date of value.

Other than the items described previously, I did not find evidence of any public or private restrictions that would have a significant effect on the highest and best use of the subject property. I did not find any evidence of other encumbrances that would have a negative effect on the utility or market value of the land as if vacant.

Purpose and Intended Use of the Appraisal

The purpose of the appraisal is to estimate the investment value of the subject property as of the effective date of valuation. The client who has ordered this appraisal is GrayRobinson, attorneys for the property owners. The intended users are the client, property owners, and their authorized representatives. The appraiser has been informed that this appraisal consulting report will be used for a potential negotiated sale of the subject property to Brevard County Government.

Hypothetical Condition

A hypothetical condition is "that which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis."
(The Dictionary of Real Estate Appraisal, Sixth Edition, 2015, page 113)

This investment value consulting assignment is based on the assumption that the subject property is vacant and available to be improved with a C&D landfill.

The use of this hypothetical condition may affect the assignment results.

Extraordinary Assumption

Extraordinary Assumption is defined as "an assumption, directly related to a specific assignment, as of the effective date of the assignment results, which, if found to be false, could alter the appraiser's opinions or conclusions." (Uniform Standards of Professional Appraisal Practice, 2016-2017 Edition, Page 3.)

This investment value consulting assignment is based on an extraordinary assumption that a zoning variance from the City of Melbourne to permit landfill activities to a height of 80' is reasonably probable.

This assignment includes an estimate of waste volume, or air space, which has been consumed by the existing landfill operation. A topographic survey and consumption data provided by William Mott Land Surveying Inc. has been relied upon to estimate air space consumption as of the effective date of value. The investment value herein is based upon an extraordinary assumption that the consumption data provided therein is accurate.

James E. Golden, P.G. of Grove Scientific and Engineering has provided a cost model for the permitting and construction of a conceptual C&D landfill, similar to that on the subject property. His conceptual design results in a waste volume, or air space, of approximately 2,800,000 cubic yards. His detailed cost model and engineering report are included in the Addenda of this consulting report. The investment value estimate herein is based upon an extraordinary assumption that permitting of the conceptual design is reasonably probable and that the technical information and cost model within the Grove Scientific report are accurate.

The use of this extraordinary assumption may affect the assignment results.

Type and Definition of Value

This assignment estimates investment value. Investment value is defined as "the value of a property to a particular investor or class of investors based on the investor's specific requirements. Investment value may be different from market value because it depends on a set of investment criteria that are not necessarily typical of the market."
(The Dictionary of Real Estate Appraisal, Sixth Edition, 2015, page 121)

Effective Date Of Value Opinion (Date of Value)

The effective date of value is April 10, 2017, the most recent date of inspection.

DATE OF REPORT

The date of this report is June 22, 2017.

SCOPE OF WORK

This section describes the extent of the process of collecting, confirming, and reporting data.

This is an appraisal consulting service. The effective date of value is April 10, 2017.

As described previously, a traditional market value analysis is not utilized in this assignment. The consulting problem is addressed by examining the investment value of the subject property's potential air space if used by the Brevard County solid waste program.

The scope of work for this assignment results in an estimate of the investment value of the subject property when analyzed as vacant land available to provide additional C&D landfill capacity to Brevard County Government, with an adjustment for airspace which has already been consumed on the site. Note that the market value of the landfill and business which currently operate on the site is not part of this analysis.

Information on the subject property was gathered from the Florida Department of Environmental Protection, Brevard County Property Appraiser resources, other public records, published studies, various news publications, information from the property owner, the appraiser's files, and other sources.

Market data utilized in the valuation process was gathered from public records, tax assessment records, Multiple Listing Service records, other appraisers, local Realtors and licensed real estate salespersons, and through research for comparable properties. Market data gathered includes sales and listings of land similar to the subject property.

A highest and best use analysis is part of this assignment, including consideration of all the physically possible, legally permissible, financially feasible, and maximally productive uses of the subject property. The data utilized to value the subject land as if vacant is based on this highest and best use conclusion.

The appraiser reviewed documents regarding the Florida Department of Environmental Protection's landfill permitting process and Florida Recyclers' permit history.

The scope of this consulting assignment includes providing a written report in a summary format.

Professional assistance with landfill research, valuation, and report drafting was provided by John A. Gillott, MAI, SRA, State-certified general real estate appraiser RZ212. James E. Golden, P.G. of Grove Scientific and Engineering provided a conceptual plan and cost model for the construction of a C&D landfill on the subject property.

HIGHEST AND BEST USE

Definition

Highest and Best Use is defined as "the reasonably probable and legal use that results in the highest value. The four criteria that the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum productivity." (The Dictionary of Real Estate Appraisal, Sixth Edition, 2015; page 109).

Analysis – Current Condition

Legally permissible uses for the subject property are those permitted by the property's zoning and Future Land Use (FLU) designations. A discussion of this issue is presented in this appraisal report under the heading, *Zoning and Future Land Use.* In summary, industrial uses are permitted.

Physically possible uses for the site as if vacant are governed by setback and size restrictions which are related to zoning. The property currently operates as a permitted landfill and recycling center, with appropriate site improvements to support same.

Financially feasible uses for the site include those which are legally permissible, physically possible, and would attract sufficient prospective purchasers to assure profitable development. The existing landfill is permitted and has consumed approximately 950,000 cubic yards of waste volume. It has adequate remaining capacity for continued operation over an estimated period of 23 years. FDEP requirements are in place for closure of the landfill when capacity is reached. These closure requirements are imposed regardless of whether or not maximum permissible waste volume is reached. For that reason, the most productive use of the property as improved is for the continued operation of a C&D landfill until the maximum permissible waste volume is in place, followed by closure of the landfill.

Therefore, the maximally productive use of the subject property is for continued use as a C&D landfill until the maximum permissible waste volume is in place.

Analysis – as if Vacant

Legally permissible uses for the subject property are those permitted by the property's zoning and Future Land Use (FLU) designations. A discussion of this issue is presented in this appraisal report under the heading, *Zoning and Future Land Use.* In summary, industrial uses are permitted.

Physically possible uses for the site as if vacant are governed by setback and building size restrictions which are related to zoning. The property is a permitted landfill and has an adequate land area to be improved as a C&D landfill, or with a variety of industrial building improvements.

Financially feasible uses for the site include those which are legally permissible, physically possible, and would attract sufficient prospective purchasers to assure profitable development. The subject property is located in an industrial neighborhood, just west of an airport, and proximate to Interstate 95. It is bounded on three sides by existing government-owned solid waste facilities, including the Sarno Landfill. These locational characteristics are well-suited to construction and operation of a landfill, or similar industrial uses.

The site, as if vacant, is permitted for use as a C&D landfill. Such permits are considered to have value, as they are in demand but somewhat scarce, and are generally more difficult to obtain than permits for non-landfill industrial uses.

Therefore, the maximally productive use of the subject property as if vacant is for the construction of a C&D landfill.

APPROACHES TO VALUE

The scope of work for this assignment calls for an estimate of the investment value of the subject property when analyzed as vacant land available to provide additional C&D landfill capacity to Brevard County Government. The investment value analysis includes elements of the Cost Approach, including the value of the land as if vacant and the cost to construct a conceptual new landfill on the site. The Sales Comparison Approach is used to estimate the value of the land as if vacant.

As discussed previously in this report, the manner in which tipping fees for C&D waste are assessed in Brevard County creates an economic environment where privately-owned landfills cannot operate at levels of profit which are possible in counties with a more traditional pricing model. As a result, the market value of the landfill and business which currently operate on the site is not part of this investment value analysis. For that reason, the Sales Comparison Approach and Income Approach for an improved landfill of the type which currently operates on the property was not processed.

ESTIMATE OF LAND VALUE (AS IF VACANT)

The Sales Comparison Approach is based upon the Theory of Substitution which holds that a prudent purchaser would be willing to pay no more for a particular property than the cost of acquiring an equally desirable substitute. This also implies that a willing seller would be willing to sell for no less than that value or price that would allow him to acquire a property of comparable utility and desirability.

The essence of this approach involves the researching of comparable sales, and the analysis of those sales so that they may be directly compared to the subject property to yield an appropriate range of value for the subject. Properties such as the subject are typically bought and sold based upon land area, expressed in square feet. For purposes of this analysis, the price per square foot of total land area is used as the basis for comparison.

The comparable sales selected for comparison to the subject property have several elements of similarity:

Market Conditions - The comparable sales used were transferred before the effective date of value. The sales are relatively recent in nature. Changing market conditions are considered in the analysis, but no specific adjustment is applied because insufficient sales data is available to precisely formulate such an adjustment. However, the age of each sale is considered in the correlation of a final value opinion.

Financing - All sales were cash to seller, or cash equivalent, so no financing adjustments were necessary.

Conditions of Sale - All sales were arm's-length, fair market value transactions for fee simple estates. Accordingly, no adjustments for conditions of sale were needed.

Size - Larger parcels typically sell for less on a per unit basis than smaller sites due to economies of scale and the amount of capital outlay necessary for the purchase. The comparison of each sale to the subject for this factor is considered in the reconciliation process.

Please refer to the Addenda of this appraisal report for additional information for the land sales used in comparison.

The comparable sales given primary consideration in this analysis are presented in the grid below.

	Subject	#7 Lexmar Sale	#2 Palm City Sale	#5 Dike Road Sale	#14 Digital Light Sale
Sale Price		$300,000	$1,100,000	$700,000	$430,000
Sale Date		3/24/15	7/8/16	9/25/14	10/9/15
Location Frontage	Sarno Road	1000 Clearmont Street	Robert J. Conlan Blvd NE	205 Dike Road	Digital Light Drive
Size	45 acres	4.93 acres	24.10 acres	17.28 acres	7.45 acres
Zoning / FLU	C-M1 / Industrial	L-1 / Industrial	BMU / Bayfront Mixed Use	R-3 / UD-Res INST / P-1	M-1 / Industrial
Selling Price/SF Selling Price/AC		$1.40 / SF $60,852 / AC	$1.05 / SF $45,643 / AC	$0.93 / SF $40,509 / AC	$1.33 / SF $57,718 / AC

The unit prices for the four land sales range from $0.93 to $1.40 per square foot. The total land area for the comparable sales ranges from 4.93 acres to 24.10 acres, which in all cases is smaller than the subject property's land area of approximately 45 acres.

Sale #14 - Digital Light Drive, is the sale in closest proximity to the subject property. It is located approximately 0.5 miles directly to the west. Although the locational aspects of the sale are very similar, it is only 7.33 acres in size. At $1.33 per square foot of land area, it is considered to establish an upper limit of value for the subject land when considered as vacant.

The two comparable sales which are largest in size, #5 - 205 Dike Road and #2 - Palm City Investments, have unit prices which range from $0.93 to $1.05 per square foot. These sales are more similar to the subject property in size and are given greatest weight in the analysis.

After careful consideration of the foregoing comparable land sales and with all data gathered and analyzed, the appraiser concluded that the market value of the subject land as if vacant is $1.00 per square foot.

The value of the subject land as if vacant is calculated as:

45 acres x 43,560 sf / acre x $1.00 per square foot = $1,960,200
Rounded to $1,960,000

INVESTMENT VALUE ANALYSIS

James E. Golden, P.G. of Grove Scientific and Engineering has provided a cost model for the construction of a C&D landfill on the subject property. His conceptual design results in a waste volume, or air space, of approximately 2,800,000 cubic yards (similar to that of the subject landfill). His detailed cost model and engineering report are included in the Addenda of this consulting report.

Mr. Golden's cost model is summarized below:

Development Costs	
1. Mobilization & Demobilization	$80,000.00
2. Site Work & Infrastructure	$873,755.45
3. Disposal Cell Earthwork	$1,590,375.00
4. Leachate Control System	$4,508,796.96
5. Leachate Storage Facility	$389,900.00
6. Groundwater Monitoring	$50,500.00
7. Bidding Assistance	$5,000.00
8. Surveying Layout & As-Built	$50,000.00
9. CQA & Geotechnical Testing	$227,500.00
10. Final Design, Permits, Construction Management & Certification	$450,000.00
Subtotal	$8,225,827.41
Contingency 10%	$822,582.74
Total Development Costs	$9,048,410.15
COST ESTIMATE SUMMARY	
Predevelopment Costs	$723,500.00
Development Costs	$9,048,410.15
Total	$9,771,910.15
Total, Rounded	$9,772,000.00

The estimated cost for permitting and constructing a landfill with 2,800,000 cubic yards of waste volume is $9,772,000, or $3.49 per cubic yard. This unit value has been compared to published resources and other materials in the workfile and is considered to be reasonable and well supported.

Recall that a portion of the waste volume, or air space, associated with the existing Florida Recyclers landfill has been consumed. A topographic survey and consumption data provided by William Mott Land Surveying Inc. has been relied upon to estimate air space consumption. Our analysis indicates that approximately 950,000 cubic yards had been consumed on the effective date of value. The available capacity is therefore 2,800,000 less 950,000 = 1,850,000 cubic yards. The cost of construction per cubic yard developed above is applied to the available capacity as follows:

1,850,000 x $3.49 / cu yd = $6,456,500
Rounded $6,456,000

The land value for the subject property was developed in an earlier section of the report and is estimated to be $1,960,000. This land value, combined with the cost to construct the available landfill capacity, results in the investment value estimate.

Cost to construct available capacity	$6,456,000.00
Land value	$1,960,000.00
Investment Value Estimate	$8,416,000.00

The subject land value results in an overall construction cost which is somewhat higher than usual because the subject land is smaller and closer to the path of development than sites which are typically purchased for construction of a C&D landfill. When considering investment value, the somewhat elevated land cost is considered to be offset by the economies of scale and potential for additional air space utility which is created by use of a 45-acre site surrounded on three sides by existing Brevard County solid waste facilities.

The scope of work for this assignment calls for an estimate of the investment value of the subject property when analyzed as vacant land available to provide additional C&D landfill capacity to Brevard County Government. That investment value is estimated to be:

$8,416,000

SUMMARY

The total cost for acquiring the subject land as vacant, permitting the project, and constructing a landfill with a total of 2.8 million cubic yards of waste volume on the site was estimated. These costs were then adjusted for the air rights consumed on the subject property as of the date of the appraisal.

The subject site is smaller and better-located than sites which would typically be purchased in a more rural area for construction of a C&D landfill. When considering investment value, the somewhat higher land cost is considered to be off-set by the economies of scale and potential for additional air space utility which is created by sharing boundaries with existing Brevard County solid waste facilities.

Thus, based on the extraordinary assumptions and hypothetical condition stated in this report, the investment value of the subject property, as of the effective date of the appraisal of April 10, 2017, is estimated to be:

EIGHT MILLION FOUR HUNDRED SIXTEEN THOUSAND DOLLARS
$8,416,000

CERTIFICATION

I certify that, to the best of my knowledge and belief:

- The statements of fact contained in this appraisal report, upon which the analyses, opinions, and conclusions expressed herein are based, are true and correct, and no pertinent facts affecting value are knowingly withheld. In completing my analyses and arriving at the conclusion set forth herein, certain statements were relied upon as fact. If these statements ultimately prove untrue or misleading, my conclusions may be invalidated and warrant reconsideration.

- The reported analysis, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions. The appraisal report sets forth all the limiting conditions (imposed by the terms of this assignment or by the undersigned) affecting the analyses, conclusions, and opinions in this report.

- I have no present or contemplated future interest, nor any personal interest or bias with respect to the subject matter or real estate of this appraisal report or the parties involved in this assignment.

- My engagement in this assignment was not contingent upon developing or reporting predetermined results.

- My engagement and compensation are not contingent upon developing or reporting a predetermined value of direction in value which favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

- To the best of my knowledge and belief, this certificate, the appraisal analysis, opinions, and conclusions have been developed and this appraisal report has been prepared in conformity with, and the use of this report is subject to the minimum requirements of [a] the State of Florida for Certified Appraisers, and [b] the Uniform Standards of Professional Appraisal Practice. I further certify that, to the best of my knowledge and belief, the reported analysis, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Appraisal Practice of the Appraisal Institute. As of the date of this report, I have completed the continuing education program for Designated Members of the Appraisal Institute.

- The preparation and use of this report are subject to the requirements of [a] the Appraisal Institute and [b] Florida Real Estate Appraisal Board inclusive of review by their duly authorized representatives. Other than those persons identified within the report, no one has provided significant professional assistance to the person signing this report.

- I have performed no other services, as an appraiser or in any other capacity, regarding the subject property within the three-year period immediately preceding acceptance of this assignment.

- I have personally inspected the property which is the subject of this appraisal report.

- A list of Assumptions and Limiting Conditions is shown elsewhere in this appraisal report and is made a part hereof by reference thereto and these "Assumptions and Limiting Conditions" are a part of the valuable consideration between appraiser and client for this report.

- Professional assistance with landfill research and valuation was provided by John A. Gillott, MAI, SRA, State-certified general real estate appraiser RZ212. James E. Golden, P.G. of Grove Scientific and Engineering has provided a cost model for construction of a C&D landfill on the subject property.

June 22, 2017
Date

Shawn Wilson, MAI
State-certified general real estate appraiser RZ503

ASSUMPTIONS AND LIMITING CONDITIONS

1. This is an Appraisal Report which is intended to comply with the reporting requirements set forth under Section 2-2(a) of the Uniform Standards of Professional Appraisal Practice. Supporting documentation concerning the data, reasoning, and analyses utilized in this appraisal is retained in the appraiser's file. The information contained in this report is specific to the needs of the client and for the intended use stated in this report. The appraiser is not responsible for unauthorized use of this report.

2. No responsibility is assumed for legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated in this report.

3. The property is appraised free and clear of any or all liens and encumbrances unless otherwise stated in this report.

4. Responsible ownership and competent property management are assumed unless otherwise stated in this report.

5. The information furnished by others is believed to be reliable. However, no warranty is given for its accuracy.

6. All engineering is assumed to be correct. Any plot plans and illustrative material in this report are included only to assist the reader in visualizing the property.

7. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures beyond those associated with the detrimental condition that render it more or less valuable. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.

8. It is assumed that there is full compliance with all applicable federal, state, and local environmental regulations and laws unless otherwise stated in this report.

9. It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a nonconformity has been stated, defined, and considered in this appraisal report.

10. It is assumed that all required licenses, certificates of occupancy or other legislative or administrative authority from any local, state, or national governmental or private entity or organization have been or can be obtained or renewed for any use on which the value estimates contained in this report are based.

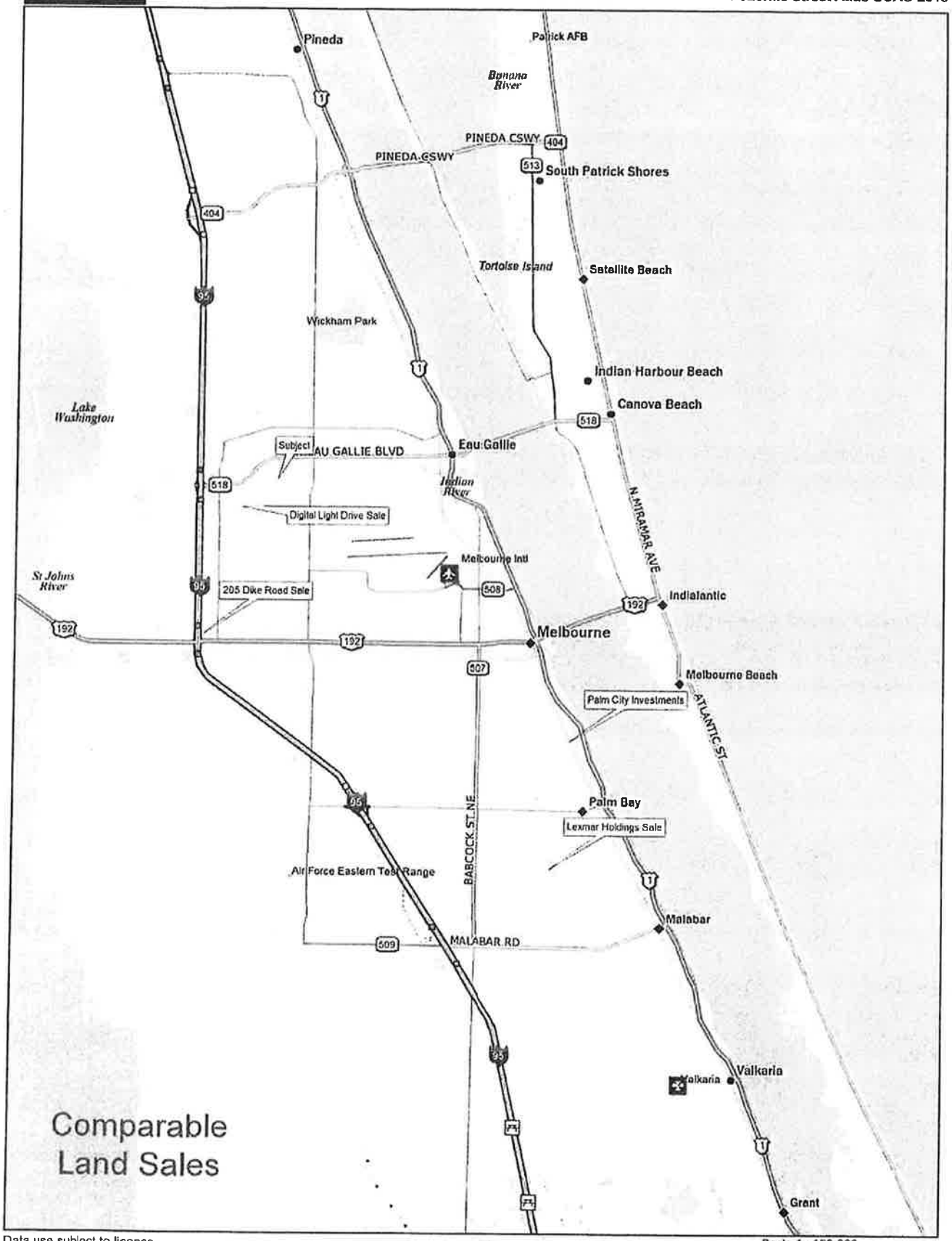
11. It is assumed that the utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless otherwise stated in this report.

12. Unless otherwise stated in this report, the subject property is appraised without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans with Disabilities Act. The presence of architectural and communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability, or utility.

13. Possession of this report, or a copy thereof, does not carry with it the right of publication. It may not be used for any purpose by any person other than the party to whom it is addressed without the written consent of the appraiser, and in any event, only with proper written qualification and only in its entirety.

14. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser, or the firm with which the appraiser is connected) shall be disseminated to the public through advertising, public relations, news sales, or other media without prior written consent and approval of the appraiser.

Addenda



TN
MN (8.8°W)

Scale 1 : 150,000
1" = 2.37 mi
Data Zoom 10-4

LAND SALES DATA SHEET

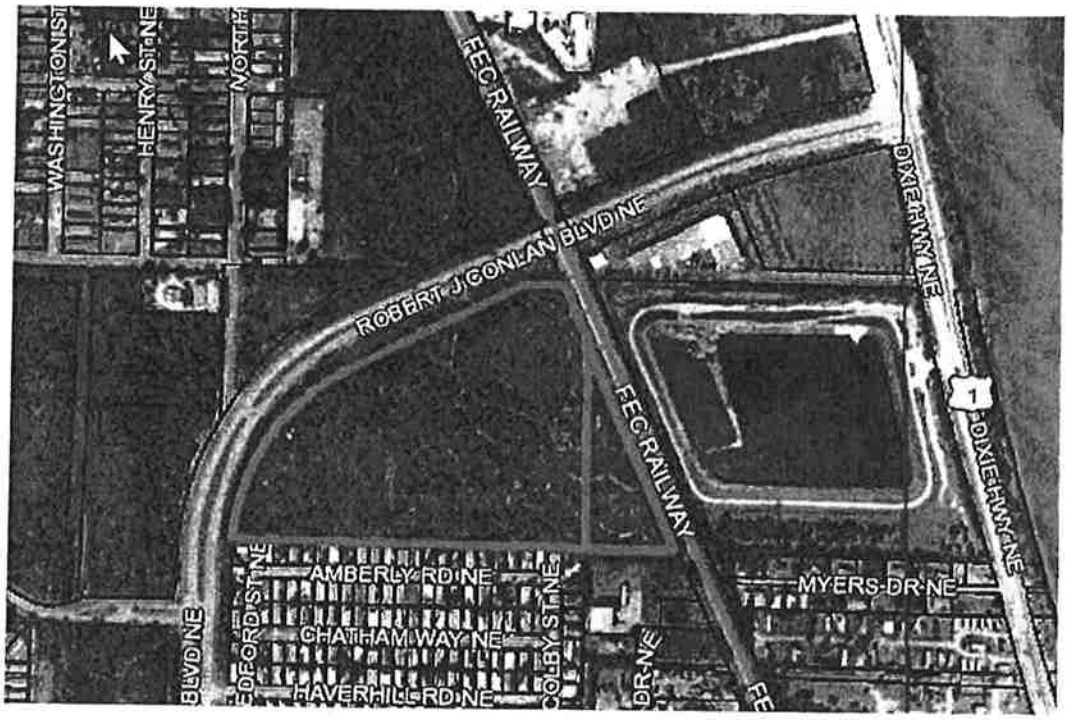
SALE NO.:	**#7 – Lexmar Holdings**
Recording Data:	Brevard County OR Book 7331 Page 2206
Grantor:	Robert A. Webb
Grantee:	Lexmar Holdings, LLC
Date of Sale:	March 24, 2015
Dimensions/area:	Land area is 4.93 acres; 214,750 square feet
Consideration:	$300,000
Price per unit:	$60,852 / per acre, $1.40 / per square foot
Type of Instrument:	Warranty Deed
Financing:	Cash to the seller
Tax ID #:	2834849
Zoning / FLU:	L-1 (Light Industrial and Warehousing) / Industrial, City of Palm Bay, Florida
Utilities:	Public water, sewer and electric are available.
Location of Sale:	The site is located at 1000 Clearmont Street, Palm Bay, Florida.
Comments:	This vacant wooded parcel is located between Palm Bay Road NE and Port Malabar Boulevard NE.

Aerial of Lexmar Holdings

LAND SALES DATA SHEET

SALE NO.:	**#2 – Palm City Investments**
Recording Data:	Brevard County OR Book 7691 Page 2825
Grantor:	Citizens Bank and Trust
Grantee:	Palm City Investments F.H., LLC
Date of Sale:	July 8, 2016
Dimensions/area:	Land area is 24.10 acres; 1,049,796 square feet
Consideration:	$1,100,000
Price per unit:	$45,643 / per acre, $1.05 / per square foot
Type of Instrument:	Special Warranty Deed
Financing:	Cash to the seller
Tax ID #:	2826096 and 2852961
Zoning / FLU:	BMU (Bayfront Mixed Use District) / Bayfront Mixed Use, City of Palm Bay, Florida
Utilities:	Public water, sewer and electric are available.
Location of Sale:	The site is located on Robert J. Conlan Boulevard NE, Palm Bay, Florida.
Comments:	The east boundary of the site abuts a railroad right-of-way. The property is somewhat below the grade of the adjoining roadway.

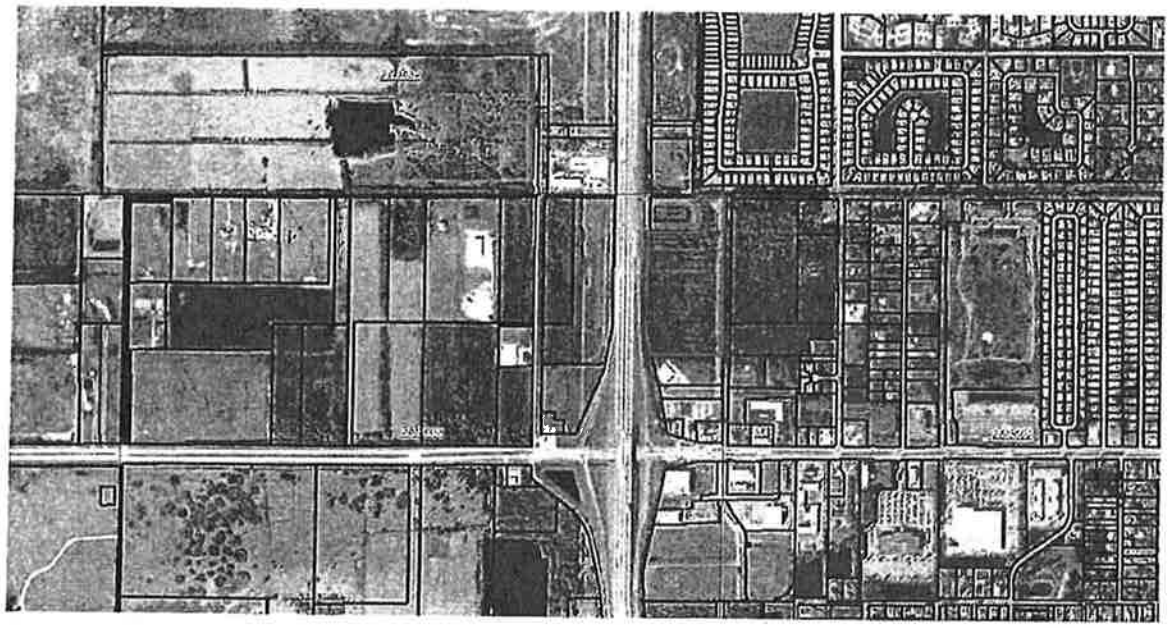
Aerial of Palm City Investments



LAND SALES DATA SHEET

SALE NO.:	**#5 – 205 Dike Road**
Recording Data:	Brevard County OR Book 7216 Page 0810
Grantor:	PNC Bank, National Association
Grantee:	Dike Ventures, LLC
Date of Sale:	September 25, 2014
Dimensions/area:	Land area is 17.28 acres; 752,717 square feet
Consideration:	$700,000
Price per unit:	$40,509 /acre, $0.93 / square foot
Type of Instrument:	Special Warranty Deed
Financing:	Cash to the seller
Tax ID #:	2801294
Zoning / FLU:	R-3 (Multiple Family) / UD-Res (Urban Density Residential) and INST (Institutional) / P-1 (Institutional), City of West Melbourne, Florida.
Utilities:	Public water, sewer and electric are available.
Location of Sale:	The site is located on 205 Dike Road, West Melbourne, Florida.
Comments:	The property is located in the northeast quadrant of I-95 and U.S. Highway 192.

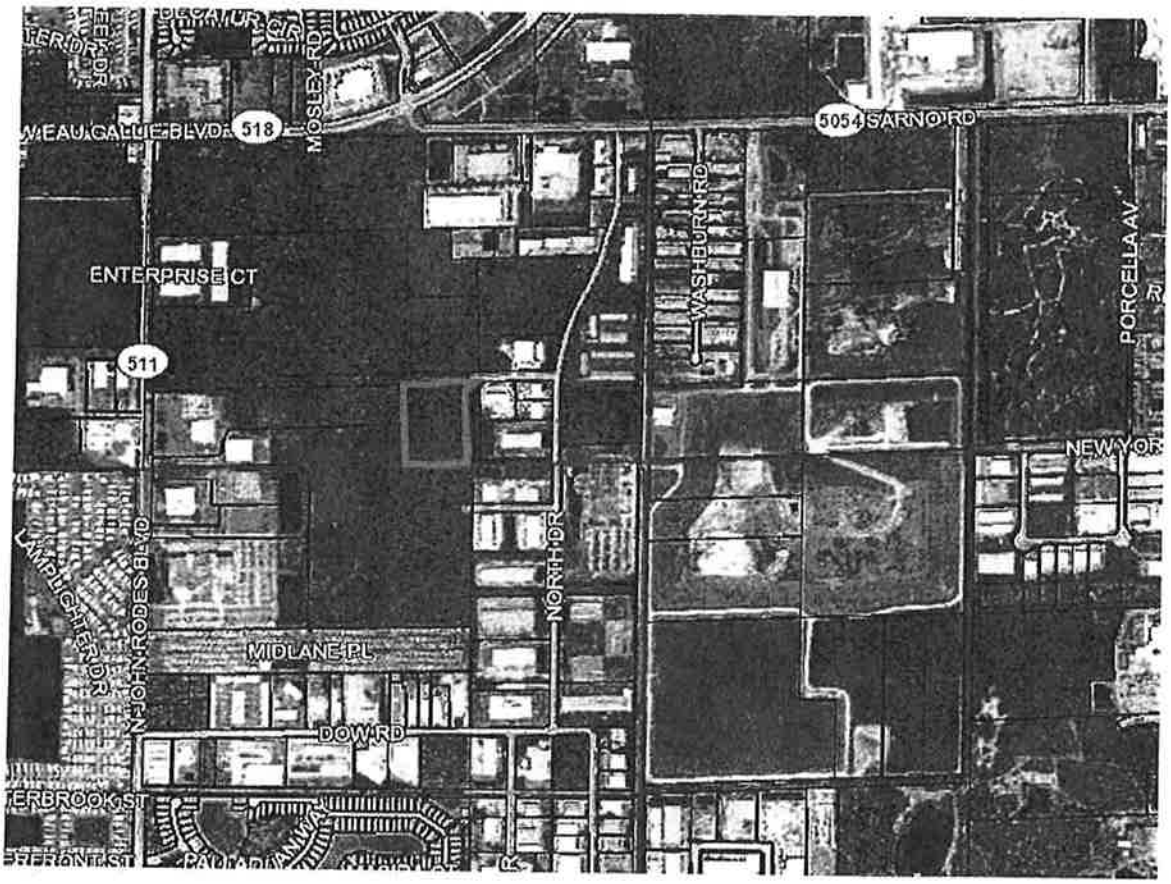
Aerial of 205 Dike Road



LAND SALES DATA SHEET

SALE NO.:	**#14 – Digital Light Drive**
Recording Data:	Brevard County OR Book 7474 Page 0527
Grantor:	Mark J. Pieloch
Grantee:	Erchonia Corporation, LLC
Date of Sale:	October 9, 2015
Dimensions/area:	Land area is 7.45 acres; 324,522 square feet
Consideration:	$430,000
Price per unit:	$57,718 / acre, $1.33 / square foot
Type of Instrument:	Special Warranty Deed
Financing:	Cash to the seller
Tax ID #:	2742853
Zoning / FLU:	M-1 (Light Industrial District) / Industrial, City of Melbourne, Florida
Utilities:	Public water, sewer and electric are available.
Location of Sale:	The site is located on Digital Light Drive, Melbourne, Florida.
Comments:	The site is located in a platted industrial park, just west of the Sarno Landfill.

Aerial of Digital Light Drive



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June 7, 2017

Jack Kirschenbaum, Shareholder
Gray Robinson
1795 West NASA Blvd.
Melbourne, Florida 32901

Subject: Development Cost Estimate For Conceptual
Construction and Demolition Debris Disposal Facility
East-Central Florida
GSE Project No. 291200

Dear Mr. Kirshenbaum:

Grove Scientific & Engineering (GSE) has completed a development cost estimate for a construction and demolition (C&D) debris disposal facility in accordance with our approved scope of work. The C&D facility is assumed to be developed in east-central Florida. Therefore, the specific land, siting, permitting, design, and operational limitations of this locale have been applied to the cost estimate. A cost model for the C&D facility was developed that reflected a typical Florida location, size, height and site life. This report first discusses the conceptual facility design, goes on to estimate the predevelopment costs, such as design and permitting, and then finishes with the estimated costs to develop the site to allow acceptance of C&D wastes.

Conceptual Site Design

The cost model used in this estimate is a 45 acre total site size, with a 35 acre disposal area footprint. Site infrastructure, such as paved entrance roadway, stormwater ditches, ponds, scale house and scale, and setbacks, make up the remaining acreage, see attached Figure 1. Minimum setbacks from the disposal footprint are assumed to be 100 feet from adjacent parcels, and 150 feet facing the front collector roadway. The C&D disposal facility is assumed to be lined with leachate controls, a stormwater control system of perimeter ditches/swales, and ponds to control the 25-year storm. C&D facilities have been required to be lined in Florida since July 2010. To provide for the required lined disposal cell base grade of a 1-2% slope to a sump at one end, and to stay above the assumed shallow water table, the disposal unit area must be filled on the upgrade top of slope of the cell, see Figure 1.

The final abovegrade design of the facility was evaluated to understand the permitting and site planning constraints. The sideslopes are assumed to be 3' horizontal : 1' vertical, with terraces and letdown pipes to prevent erosion. The height is assumed to be 80 feet above grade, with a flat top slope of 3%, see Figure 2. These basic design criteria comply with the maximum allowed C&D facility design according to the Florida Department of Environmental Protection (FDEP) Rule

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requirements, see Rule 62-701 excerpt, Attachment 1. The final cover would also be required to be impervious, like the bottom liner. This final cover would generate higher stormwater runoff than a soil covered site, thus the ditch and pond system needs to be sized accordingly. This conceptual abovegrade design results in a waste volume, or air space of approximately 2,800,000 cubic yards (CY) in-place, or at an in-place density of 1,500 lbs. per cubic yard, 2,100,000 tons of waste. At a waste input rate of 1000 cubic yards, or 250 tons per day, and a 2.5 compaction ratio, a 23 year site life would be available. Soil cover volume was not included, since C&D facilities are not required to provide waste cover, unless a temporary closure is required.

The following additional site assumptions were used for the cost model:

1. The terrain was assumed to be relatively flat.
2. Groundwater table on the site was assumed to have a seasonal high of 3 feet below grade and an average depth on 5 feet. Therefore, all disposal unit construction is to be above grade. Subsurface soils are assumed to be medium permeability sands and silts, with an intermediate aquifer at 30 feet below grade, and a clayey sand confining unit at a 75 foot depth.
3. Geology is assumed to be stable and not sinkhole prone.
4. The site is assumed to be heavily wooded with no wetlands.
5. Land use and zoning is assumed to have to be heavy industrial, with adjacent uses compatible with that use.
6. It was assumed that a 500 foot paved 2-lane access road, with a turn lane off of a collector 2-lane road would be required to access the site.
7. Soils are assumed to be stable.
8. Surrounding land uses are similar heavy industrial uses, such as landfills, recycling facilities, wastewater/sludge treatment facilities, etc. Variances have been approved by the local municipality for the surrounding land uses for setbacks and heights to 80 feet above grade.
9. Utilities , such as water, sewer, and electric are available within 500 feet of the site.
10. Land costs are not included in the cost estimate.

C&D Debris Disposal Facility Pre-Development Costs

In developing the cost estimate for this model, it was assumed that the pre-development period, from the point investigations began, to the time the construction permit is received would last three years. In our experience, this is an average time in Florida, with some contested permits lasting five or more years. Landfills, and related solid waste facilities are considered LULUs, or "locally undesirable land uses", that are always opposed by nearby land owners, environmental groups, and competitors (commonly disguised as a home owner's group). Therefore, these land uses are very difficult to get approved though the County, and/or City, Zoning and Commissioner boards because of the nuisance stigma (odors, noise, traffic, groundwater pollution, air pollution, reduced property values, etc.). Many landfill and C&D projects have failed in recent years in Florida because of opposition. In addition, in east-central Florida it is also very difficult to find 45 acres of land that is zoned heavy industrial or remote agricultural/open space land that would allow a Conditional Use permit for a C&D facility. For the cost model, we are assuming a moderate amount of difficulty to obtain local zoning/permitting approvals.

As previously described, for the cost model, we are assuming that an FDEP solid waste permit can be obtained for an 80 foot high disposal unit on the 35 acre footprint. This basically is the maximum height, at a 3:1 sideslope, that can be reached. It is also assumed that the local municipality's zoning code only allows for a 50 -foot high structure in a heavy industrial zoned land use. Therefore, to go to the 80 foot height, a variance to the code would be required. We are assuming that the surrounding heavy industrial land uses had previously received variances for heights up to 80 feet above grade, thus setting a precedent for a height variance. This is not uncommon for well buffered industrial uses.

In addition, the land that is selected must meet the landfill siting Prohibitions of the local municipal codes, and FDEP Rule 62-701.300, such as a geologically stable foundation, minimum wetlands setback, potable well setbacks, and surface water setbacks, see Attachment 1. For this cost model, we have assumed that a suitable 45 acre site can be found to develop a C&D facility. Based on GSE's experience with landfill siting, design and permitting, the following predevelopment tasks and associated estimated costs are presented in Table 1.

Table 1. East-Central Florida C&D Disposal Facility- Predevelopment Costs

1. Site Selection Study, market analysis and Phase I/II ESA	$30,000
2. Boundary and Topographic Survey	22,500
3. Conditional Use Permit application, Public hearings, Fees*	75,000
4. Lobbying and Legal Services*	50,000
5. Environmental Assessments-Wetlands, T&E.	35,000
6. Hydrogeological Investigation	100,000
7. Geotechnical Investigation	50,000
8. Landfill/Stormwater Control System Engineering Design & Plan Sets	200,000
9. FDEP Solid Waste and Stormwater Permit Applications-Operations Plan, Groundwater Monitoring Plan, Closure Plan, Closure Cost Estimate, Fees	100,000
10. Roadway and Turnlane Design and Permitting	30,000
11. Water Supply Well design and permitting	3,500
12. Scalehouse, parking, utilities design and permitting	7,500
13. Leachate lift Station design and permitting.	20,000
Total	**$723,500**

*assumes no major opposition to land use approvals. Contingency costs have been included.

Other than the engineering design, the hydrogeological and geotechnical studies are the most substantial predevelopment items, see required FDEP Solid Waste Rule scope for these studies in Attachment 1. For these studies, we assumed 13 SPT borings were completed to a depth of 50 feet to the first confining layer, and a series of 10 piezometers installed within the shallow aquifer, to a depth of 20 feet, and into the intermediate aquifer, to a depth of 45 feet, to evaluate the hydrogeology on the 35 acre disposal unit footprint. An additional 6 shallow borings to 30 feet were used to investigate stormwater pond, roadway, and scalehouse foundations. Soil laboratory testing of 25 samples for soil type characteristics, permeability, and clay content were assumed. Slope stability, foundation analysis, and slug tests were also included in the costs

estimate for these studies. A sinkhole investigation would also be included in the Geotechnical task.

Under the current FDEP Rule 62-701.730, C&D disposal units must be designed with a liner and a leachate collection system, see Attachment 1. This liner system is basically the same as those required for a class III landfill. Therefore, almost the same extensive amount of engineering design and evaluations are required to be applied to this cost model, as applied to a full class I sanitary landfill. Once the leachate is collected, it is assumed that a storage tank is designed to provide for storage capacity prior to off-site disposal or transmission to a sewer system. For the model site, we assumed the design and permitting of a secondarily contained leachate storage tank, discharging to a lift station to a sewer force main along the collector roadway, 600 feet from the facility.

We also assumed the design of typical site infrastructure improvements, such as water service, a water well to supply dust control water, 3-phase electrical service, truck scale, 500 SF office trailer/ scalehouse, customer and handicapped parking spaces, access ramps and washrooms.

Facility Construction Cost to Accept Waste

For costing purposes, it was assumed that the entire C&D disposal facility was excavated, lined, and otherwise constructed at one time, where in reality, liner construction would likely proceed in phases. Typically, each phase, or cell, is operated for about 10 years, and each phase closed as they are filled. Figure 1 depicts the conceptual C&D disposal facility model used to develop the costs to construct. Excavation and surface quantities are based on a 35 acre disposal unit size, see Figure 1.

The estimated costs to construct the 35 acre C&D facility for waste acceptance pursuant to FDEP rules are presented in attached Table 2. Unit costs are based on recent (2015) landfill construction projects in Orange County and Brevard County, Florida, FDOT 2016 average unit costs for roadway construction, and GSE's recent bidding experience on central Florida landfill projects. Specific references are listed in later sections of the report. It should be noted that the Ultimate I-4 highway project is significantly impacting regional borrow soil costs in central Florida. Because of this, soil pricing is common at $20.00-22.00 for material, delivery and placement. For this cost model, we are using a 2015 landfill closure borrow soil bid from Brevard County at $18.25/CY.

The following discussion explains the cost items related to the construction of the conceptual C&D facility itemized on attached Table 2

Items 1 & 2-Mobilization, Site Work and Infrastructure

Items 1 and 2 on Table 2 present the costs of the initial mobilization of contractor's heavy equipment and personnel to the site (typically 1% of the total project), and the basic earthwork to construct the access roadways, stormwater control system, fencing, and utilities. Assuming that the 45 acre site is wooded, clearing and grubbing would be required. Excavation is based on in-bank volume, with 15% swell and losses. The 32,000 cubic yards of excavated fill from the stormwater ponds and ditches is assumed to be used on-site for fill under the lined disposal units.

Typical waste disposal site improvements have been assumed, such as a 500 SF office trailer, or scalehouse with entrance ramps, truck scale, lighting, signage, office furniture, and office software. The office trailer cost is estimated at $15,000, the scale, foundation and installation is $70,000, and the remainder of the costs are area lighting, security and scale cameras, signage and access ramps.

A 375 foot turnlane, and a 375 foot deceleration lane are assumed to be required at the entrance from the local 2-lane collector roadway. The site access road is an 800-foot paved 2-lane road from the entrance into the truck scale, paved scalehouse parking area, and then up to the disposal cells. Pavement assumes a limerock base and a 2-inch asphalt surface. A 1200 foot long landscape berm, along the frontage with the collector street is assumed, with trees at 20 feet on center and shrubs to create a visual buffer, a common requirement of a local land use permit. Utilities, such as 3-phase electric (leachate pumps), sanitary sewer, and potable water service, are assumed to be installed approximately 600 feet to the operations area from the utilities on the frontage roadway right of way. An irrigation well is typically used to provide irrigation and dust control water. If municipal water is available, as assumed, it is common for a fire hydrant to be required by the local Fire Marshall. A 6-foot galvanized steel perimeter security fence and locking gates are required by the FDEP, and most local codes. The total estimated cost for items 1 and 2 is $953,755.45.

Item 3-Disposal Cell Earthwork

The abovegrade disposal facility design, and the shallow water table assumed for the site, requires that significant earthwork be completed prior to constructing the lining the disposal facility cells. The cost model design has two 17 acre cells sloped to leachate collection sumps, see Figure 1. This design requires raising the elevation of the upgrade end of the cell liner some 6 feet above the sump level to obtain the minimum cell center conduit slope of 1.0 %, and the side flow slopes at 2 %. It was assumed that the sump is excavated 2 feet below grade. Soil from that cut, and the stormwater cut, is used to add fill to build up the site. Even with this fill, borrow soils of an estimated 75,000 CY are required to be imported to construct the cells base. In addition, an intercell berm separates the cells, a common design to allow a partial closure of a filled cell. The total estimated cost of the earthwork to construct the 35 acres of lined C&D cells is $1,590,375. Again, the current high costs of imported fill greatly impacts this cost.

Item 4-Leachate Control System

As discussed previously, C&D disposal cells are required to be lined with leachate controls, as described in Attachment 1. A geosynthetic clay liner is required to be installed underneath all leachate collection trenches and the sumps. The 60-mil smooth liner is used on the floor of the cell, and the 60-mil textured liner is used along the sideslopes and berm surrounding the cell base. A geocomposite drainage net is used to convey the leachate along the base of the cell liner to the central conduit and onto the sump. Per the FDEP design, a 24-inch drainage/protective sand layer overlies the liner. This sand is also assumed to be imported from off-site. The pipe, pumps and gravel materials make up the central leachate conduit and sump construction in each cell. A 6-inch force main conveys leachate to the storage tank near the scalehouse, and then on to the lift station, see Figure 1. The total estimated cost of item 4, leachate control system is $4,508,796.96.

Item 5-Leachate Storage Facility

A leachate storage facility consisting of an aboveground steel tank with secondary containment was assumed for the cost model. A typical rule of thumb in Florida for leachate generation is 2500 gallons per day per open landfill acre, as an average annual rate. Therefore, if it is assumed that one cell is open, or 17.5 acres x 2500 GPD x 2 days storage, equals an estimated 87,500 gallon storage tank. Because of needed extra capacity, a 100,000 gallon storage tank was assumed. A 110 % impervious concrete containment structure is also required for a leachate tank. Leachate transfer pumps and controls would also be required. A lift station would be required to transfer the leachate to the municipal sewer force main assumed to be along the collector roadway, for disposal at the local wastewater treatment plant. This is the preferred disposal method for leachate in Florida. Leachate disposal costs have not been considered in this cost model, but can reach $0.25 per gallon. The estimated cost of this item is $389,900.

Item 6-Groundwater Monitoring

A groundwater monitoring system of wells is required for all C&D facilities in Florida, with a minimum of one upgradient well, and two downgradient wells. However, in our experience, the FDEP would require shallow aquifer and intermediate aquifer monitoring well clusters and additional downgradient well locations to provide adequate coverage. Therefore, a system of 5 well clusters, or 10 wells is assumed, as depicted on Figure 1. Prior to the facility receiving waste, the wells would require background parameter sampling, laboratory analysis and well completion reports. Installation, sampling and reporting are included in the lump sum cost estimate in Table 2. It is also assumed that one surface water sample location would require a background sample. The total estimated cost for this item is $50,500.

Item 7-Bidding Assistance

It is assumed that the landfill developer will need some technical assistance with bidding the specialty construction trades required for the leachate control and storage systems, at an estimated cost of $5,000.

Item 8-Surveying

Surveying services over the 12-month construction period are critical to accurate construction grades, liner and pipe installation and as-built reporting required for the FDEP construction certifications. This item has been estimated at cost of $50,000.

Item 9-Construction Quality Assurance

Construction Quality Assurance (CQA) is strictly regulated and must be followed for C&D facility lined disposal unit projects. FDEP Rules specify fulltime engineer's supervision and testing of all

soil and liner materials per Rule 62-701.400. The cost per acre is an average of similar GSE projects and local landfill bids. The estimated unit cost includes professionals, technicians, soil and liner laboratory tests. A final CQA report is also included. The estimated cost of soils and liner CQA services is $227,500.

Item 10-Final Permits and Construction Management and Certifications

Item 10a. includes all final construction engineering design, final State/local permitting, and construction management for items such as access roadways, turnlanes, utilities, lift station, scalehouse and scale building permits, local impact fees, irrigation well, and engineer certification reports. It is estimated that to construct the 35 acre facility, with associated support facilities, would take 12 months. The estimated cost of this item is $150,000.

Item 10b.-Finanacial Assurance is the estimated cost of a guarantee performance bond required by the FDEP in case an owner/operator abandons the facility before it is closed, see Rule excerpt 62-701.630 in Attachment 1. It is estimated that the subject cost model disposal facility would require $3,000,000 in closure and long term care costs. This amount of financial assurance would need to be provided through one of the FDEP approved instruments prior to waste acceptance. For this cost estimate, we have assumed that a bond could be obtained, and that a 10% fee payment is required for the facility owner to get coverage. Therefore, the estimated cost of the bond is $300,000, which makes the total for item 10 $450,000.

As presented in Table 2, the total estimated cost of construction of the 35 acre C&D facility is to get approval to accept C&D waste is $8,225,827.41.

Item 11-Contingency

A 10% contingency has been added to all construction items, which is a typical amount for similar projects. This contingency is available to provide funding for material and labor increases in the interim period from bidding to construction, and any unforeseen site problems, such as dewatering, impact fees and insurance. The estimated cost for this item is $822,582.74.

Therefore, the total estimated cost of the facility construction is $9,048,410.15.

Limitations and Related Cost Issues

GSE's C&D disposal facility cost model was limited to the assumptions presented, unit costs referenced, and our experience with similar projects. The construction costing of a specific location and facility design would vary. The conceptual facility design is indicative of an average east-central Florida site. GSE's sources of material and services costs included our professional experience on similar construction projects, recent contractor bids, FDOT 2015-2016 average roadway project costs, and:

1. Financial Responsibility Cost Estimates- Brevard County Solid Waste Management System, FY 2015- Neel-Schaffer, Inc.; July 2015;
2. Financial Responsibility Cost Estimates- Brevard County Solid Waste Management System, FY 2016- Neel-Schaffer, Inc.; August 2016;

3. Brevard County Central Disposal Facility Phase V Closure, August, 2015 (Approximate 28 acre Closure). Neal-Schaffer, Inc.;
4. Orange County Cell 9-12 Phase I closure bid, October 2015 (Approximate 38 acre closure) CH2MHill/ Neal-Schaffer, Inc.

Typically, C&D facilities are valued on the air space, or waste volume provided by their approved permits and designs and the current market C&D disposal rates, or tipping fees. This cost model did not consider air space or market tipping fees. To realize the value of that waste volume, a facility must be operated with the appropriate heavy equipment, such as compactors, trained operators, soil cover, and final closure cover. This cost model did not consider operational or closure costs.

Conclusions

GSE has completed a cost model for the design, permitting and construction of a 45 acre site, with a 35 acre C&D debris disposal facility. The cost model was based on typical site predevelopment siting, design and permitting costs, regulatory requirements, and site improvements and construction common to existing Florida C&D facilities. GSE's cost model concluded that the 45 acre facility would have: 1) predevelopment costs of $723,500 (Table 1.); and 2) construction costs of $9,048,410 (Table 2.) to accept C&D waste, resulting in an estimated project total of $9,771,910.

We trust that this report meets with your scope of work expectations. Please contact us with any questions.

Sincerely,

Grove Scientific and Engineering

James E. Golden, P.G.
Vice President, Sr. Project Scientist

James T. Show, P.E.
Vice President, Engineering

Attachments

cc: Shawn Wilson, Compass; John Gillott

Tables

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Table 2. East - Central Florida Construction and Demolition Debris Disposal Facility
ENGINEER'S COST ESTIMATE- Disposal Units and Infrastucture Construction

ITEM	UNITS	UNIT COST	QUANTITY	ITEM COST
1. MOBILIZATION & DEMOBILIZATION	EACH	$ 80,000.00	1	$ 80,000.00
			SUBTOTAL	**$ 80,000.00**
2. SITE WORK AND INFRASTRUCTURE				
a. CLEAR AND GRUB	Yd^2	$ 0.50	217800	**$ 108,900.00**
b. STORMWATER PONDS, DITCHES AND PIPING	Yd^3	$ 5.24	32266	**$ 169,073.84**
c. SOD POND AND DITCH SLOPES	Yd^2	$ 2.25	22666	**$ 50,998.50**
d.PERIMETER FENCING AND GATES	LF	$ 8.68	6500	**$ 56,420.00**
e. SCALEHOUSE / TRAILER, TRUCK SCALE, LIGHTING,SIGNAGE	LS	$ 100,000.00	1	**$ 100,000.00**
f. TURNLANE AND PAVED ACCESS ROAD	Yd^2	$ 47.19	5369	**$ 253,363.11**
g. LANDSCAPE BERM	LF	$ 50.00	1200	**$ 60,000.00**
h. UTILITIES-ELECTRIC,SEWER,WATER TO SITE	LF	$ 45.00	800	**$ 36,000.00**
i. IRRIGATION WELL	LS	$ 15,000.00	1	**$ 15,000.00**
j. FIRE HYDRANT AND LINE	LF	$ 30.00	800	**$ 24,000.00**
			SUBTOTAL	**$ 873,755.45**
3. DISPOSAL CELL EARTHWORK				
a. MASS GRADING (CUT/FILL)	Yd^3	$ 2.00	28,000	$ 56,000.00
b. COMPACT MASS GRADING FILL AREAS	Yd^2	$ 1.00	100,000	$ 100,000.00
c. INTERCELL BERM	Yd^3	$ 18.25	2,500	$ 45,625.00
d. FILL CELL BASE GRADE	Yd^3	$ 18.25	75,000	$ 1,368,750.00
e. PERIMETER ROAD-PLACE 6" SHELL ROCK ROAD BASE	Yd^3	$ 20.00	1,000	$ 20,000.00
			SUBTOTAL	**$ 1,590,375.00**
4. LEACHATE CONTROL SYSTEM				
a. FINE GRADE LINER SUBGRADE	Yd^2	$ 1.00	100,000	$ 100,000.00
b. GEOSYNTHETIC CLAY LINER	Ft^2	$ 0.61	11,000	$ 6,710.00
c. 60 MIL SMOOTH HDPE LINER	Ft^2	$ 0.57	1,180,000	$ 672,600.00
d. 60 MIL TEXTURED HDPE LINER.	Ft^2	$ 0.62	314,108	$ 194,746.96
e. GEOCOMPOSITE DRAINAGE NET	Ft^2	$ 0.73	1,300,000	$ 949,000.00
f. 8 OZ./YD3 NON-WOVEN GEOTEXTILE	Ft^2	$ 2.21	15,000	$ 33,150.00
g. 8" DIA. PERFORATED SDR11 HDPE PIPE	LF	$ 10.60	2,400	$ 25,440.00
h. LCS GRAVEL - FDOT 57 & 4 STONE	Yd^3	$ 18.00	9,100	$ 163,800.00
i. 24" SAND DRAINAGE LAYER	Yd^3	$ 18.25	125,000	$ 2,281,250.00
j. 48" DIAMETER SDR 32.5 HDPE SUMP	Each	$ 3,450.00	2	$ 6,900.00
k. 10 HORSEPOWER SUMP PUMP & CP	Each	$ 20,000.00	2	$ 40,000.00
k. 6" LEACHATE FORCE MAIN TO STORAGE TANK	LF	$ 22.00	1,600	$ 35,200.00
			SUBTOTAL	**$ 4,508,796.96**

Note: (1) Predevelopment permitting costs are not included, see Table 1.

ITEM	UNITS	UNIT COST	QUANTITY	ITEM COST
5. LEACHATE STORAGE FACILITY				
a. COMPACT MASS GRADING FILL AREAS	Yd^2	$ 1.00	1,200	$ 1,200.00
b. FINE GRADE CONCRETE SUBGRADE	Yd^2	$ 1.00	1,200	$ 1,200.00
c.LEACHATE TANK BASE PAD	Yd^2	$ 100.00	160	$ 16,000.00
d. CONCRETE FLOOR SLAB	Yd^2	$ 100.00	300	$ 30,000.00
e. CONCRETE TRUCK RAMP	Ft^2	$ 35.00	100	$ 3,500.00
f. CONCRETE CONTAINMENT WALLS	Yd^2	$ 35.00	1,600	$ 56,000.00
g. TYPE C INLETS	Each	$ 3,500.00	2	$ 7,000.00
h. LEACHATE STORAGE TANK (100K GAL)	LS	$ 150,000.00	1	$ 150,000.00
i. TANK CONTROLS AND LEAK DETECTION	LS	$ 20,000.00	1	$ 20,000.00
j. LEACHATE TRANSFER PUMP	LS	$ 12,000.00	1	$ 12,000.00
k. 6" FORCE MAIN TO SEWER CONNNECTION	LF	$ 30.00	600	$ 18,000.00
k. LIFT STATION TO MUNICIPAL SEWER	LS	$ 75,000.00	1	$ 75,000.00
			SUBTOTAL	**$ 389,900.00**
6. GROUNDWATER MONITORING				
a. INSTALL & INITIAL SAMPLE MONITORING WELL	Each	$ 5,000.00	10	$ 50,000.00
b. SURFACEWATER SAMPLE	Each	$ 500.00	1	$ 500.00
			SUBTOTAL	**$ 50,500.00**
7. BIDDING ASSISTANCE				
a. ONE JOB LUMP SUM	LS	$ 5,000.00	1	$ 5,000.00
			SUBTOTAL	**$ 5,000.00**
8. SURVEYING LAYOUT & AS-BUILT				
a. SUBGRADE & FINISH GRADE CERT., LCS PIPE SLOPE CERT., AS-BUILTS	LS	$ 50,000.00	1	$ 50,000.00
			SUBTOTAL	**$ 50,000.00**
9. CQA & GEOTECHNICAL TESTING				
a. SITE OBS., SAMPLE COLLECTIONS, LABORATORY TESTING, CQA REPORT,	ACRE	$ 6,500.00	35	$ 227,500.00
			SUBTOTAL	**$ 227,500.00**
10. FINAL DESIGN, PERMITS, CONST. MANAGEMENT AND CERTIFICATION (1)				
a. ONE JOB LUMP SUM	LS	150000	1	$ 150,000.00
B. FINANCIAL ASSURANCE-BOND	LS	$ 300,000.00	1	$ 300,000.00
			SUBTOTAL	**$ 450,000.00**
			ITEMS 1-10 TOTAL	**$ 8,225,827.41**
11. CONTINGENCY (10% OF ITEMS 1 - 10)	LS	$ 822,582.74	1	$ 822,582.74
			TOTAL	**$ 9,048,410.15**

Figures

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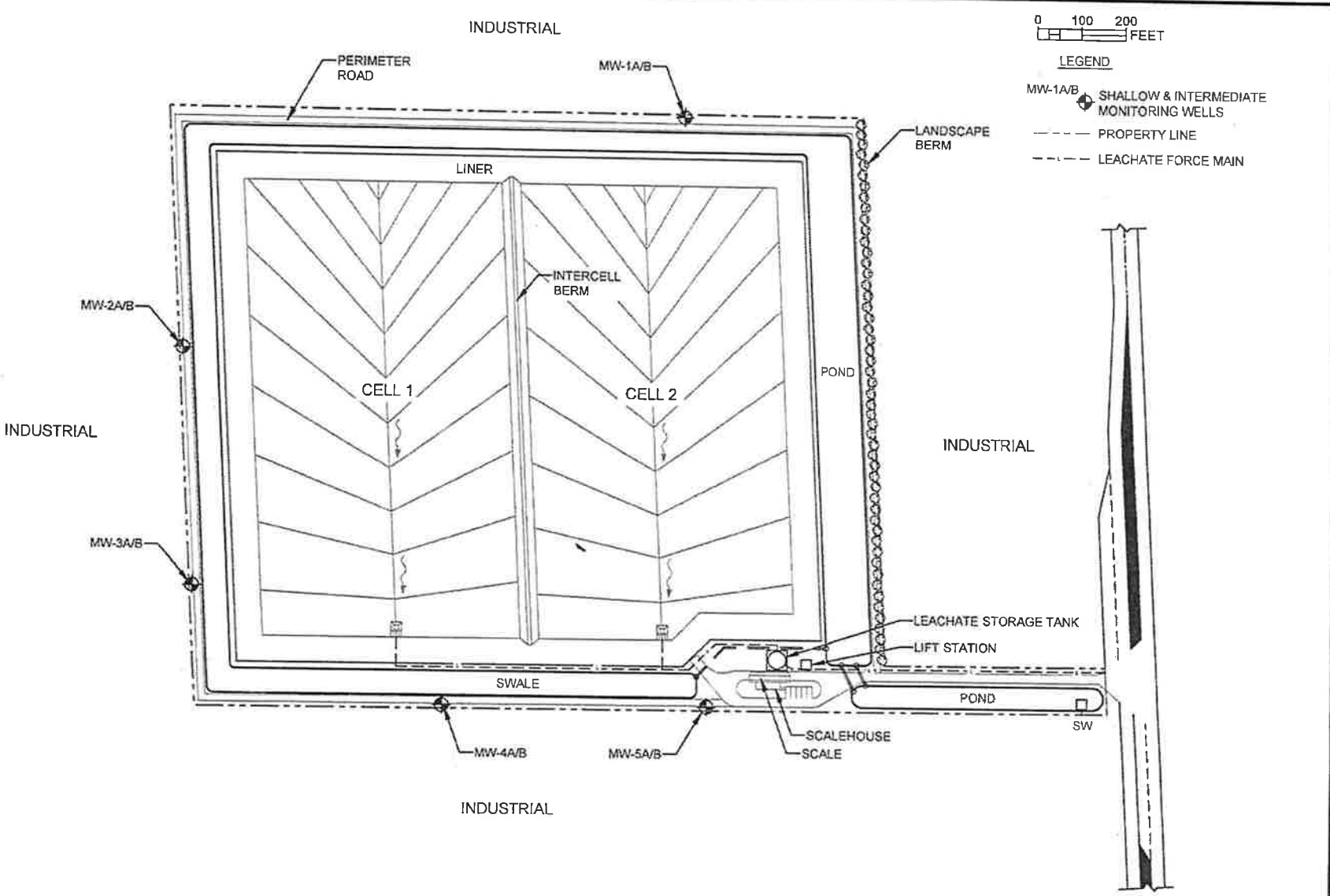

APRIL 2017

PROJECT #	FIGURE
291200	1

EAST-CENTRAL FLORIDA

SITE PLAN - CONCEPTUAL
CONSTRUCTION AND DEMOLITION,
DEBRIS DISPOSAL FACILITY

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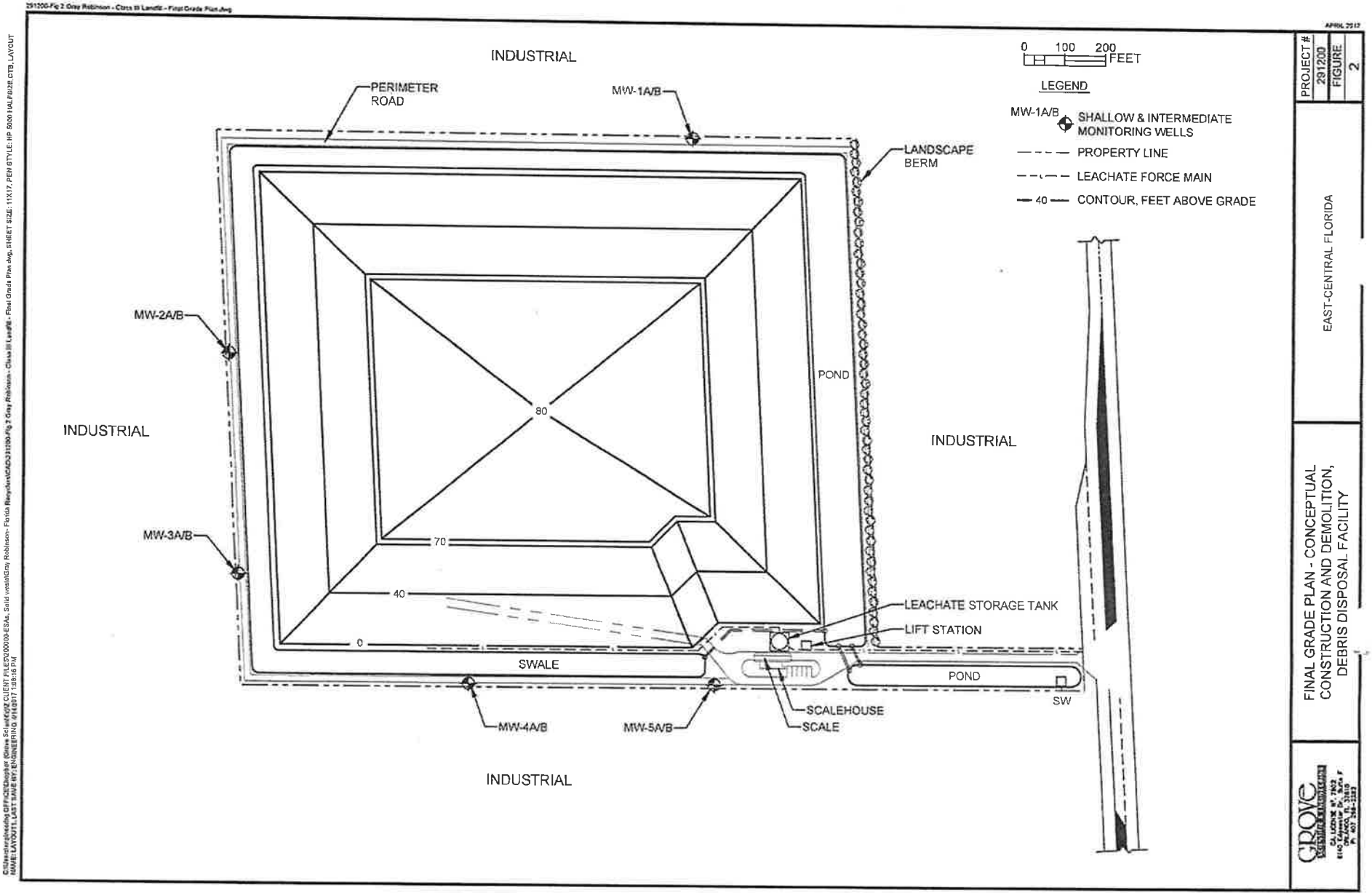

PROJECT # 291200
FIGURE 2

EAST-CENTRAL FLORIDA

FINAL GRADE PLAN - CONCEPTUAL CONSTRUCTION AND DEMOLITION, DEBRIS DISPOSAL FACILITY

GPOVE

Attachment 1

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Florida Department of Environmental Regulation- Rule 62-701 Solid Waste Management Facilities, FAC.-Excerpts

Construction and Demolition Debris Definition:

(24) "Construction and demolition debris" means discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure, including such debris from construction of structures at a site remote from the construction or demolition project site. The term includes rocks, soils, tree remains, trees, and other vegetative matter that normally results from land clearing or land development operations for a construction project; clean cardboard, paper, plastic, wood, and metal scraps from a construction project; except as provided in Section 403.707(9)(j), F.S., yard trash and unpainted, non-treated wood scraps from sources other than construction or demolition projects; scrap from manufacturing facilities that is the type of material generally used in construction projects and that would meet the definition of construction and demolition debris if it were generated as part of a construction or demolition project, including debris from the construction of manufactured homes and scrap shingles, wallboard, siding concrete, and similar materials from industrial or commercial facilities and de minimis amounts of other non-hazardous wastes that are generated at construction or demolition projects, provided such amounts are consistent with best management practices of the construction and demolition industries. Mixing of construction and demolition debris with other types of solid waste will cause it to be classified as other than construction and demolition debris

Siting Prohibitions:

(2) Siting. Unless authorized by a Department permit or site certification in effect on May 27, 2001, or unless specifically authorized by another Department rule or a Department license or site certification based upon site-specific geological, hydrogeological, design, or operational features, no person shall store or dispose of solid waste:

(a) In an area where geological formations or other subsurface features will not provide support for the solid waste;

(b) Within 500 feet of an existing or approved potable water well unless storage or disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the potable water well was in existence. This prohibition shall not apply to any renewal of an existing permit that does not involve lateral expansion, nor to any vertical expansion at a permitted facility;

(c) In a dewatered pit unless the pit is lined and permanent leachate containment and special design techniques are used to ensure the integrity of the liner;

(d) In any natural or artificial body of water including ground water and wetlands within the jurisdiction of the Department. This prohibition also applies to areas where waste may settle into ground water as a result of the maximum expected loads over the waste. This prohibition does not apply to areas of standing water that exist only after storm events, provided that the storage or disposal does not result in objectionable odors or sanitary nuisances;

(e) Within 200 feet of any natural or artificial body of water unless storage or disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the water body was in existence. This prohibition shall not apply to any renewal of an existing permit that does not involve lateral expansion, nor to any vertical expansion at a permitted facility. For purposes of this paragraph, a "body of water" includes wetlands within the jurisdiction of the Department, but does not include impoundments or conveyances which are part of an on-site, permitted stormwater management system, or bodies of water contained completely within the property boundaries of the disposal site which do not discharge from the site to surface waters. A person may store or dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards and

criteria. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste stored or disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules; and

(f) On the right of way of any public highway, road, or alley.

Permit Application:

All applications shall include the information in paragraphs (b) through (f) of this subsection, and applications to construct or laterally expand a disposal unit shall also include the information in paragraph (a) of this subsection.

(a) An engineering report, signed and sealed by a professional engineer, that includes:

1. A site plan, of a scale not greater than 200 feet to the inch, which shows the project location and identifies the proposed disposal units, total acreage of the site and of the proposed disposal units, and any other relevant features such as water bodies or wetlands on or within 200 feet of the site, and potable water wells on or within 500 feet of the site;

2. A geotechnical investigation which meets the criteria of Rule 62-701.410, F.A.C.

3. A hydrogeological investigation which meets the criteria of paragraphs 62-701.410(2)(a), (c) and (d), F.A.C.;

4. An estimate of the planned active life of the facility, the design of the disposal areas, the final design height of the facility, and the maximum height of the facility during its operation;

5. Documentation that the facility location will comply with the requirements of paragraphs 62-701.730(4)(c) and (d), F.A.C.

(b) A boundary survey, legal description, and topographic survey of the property;

(c) An operation plan which describes how the applicant will comply with subsection 62-701.730(7), F.A.C., which must include procedures for emergency preparedness and response as required in subsection 62-701.320(16), F.A.C.;

(d) A closure plan that describes how the applicant will comply with subsections 62-701.730(9) and (10), F.A.C.;

(e) The financial assurance documentation required by subsection 62-701.730(11), F.A.C.; and

(f) The CCA treated wood management plan as required in subsection 62-701.730(20), F.A.C.

(3) Certification. Certification of construction completion shall be done in accordance with paragraph 62-701.320(9)(b), F.A.C.

Hydrogeological and Geotechnical Studies:

(2) Hydrogeological investigation and site report. The hydrogeological investigation and site report required by subsection 62-701.330(3), F.A.C., shall be site specific, shall be conducted by or under the supervision of a professional geologist or professional engineer with experience in hydrogeologic investigations, and shall:

(a) Define the geology and hydrology of the disposal facility site and its relationship to the local and regional hydrogeologic patterns including:

1. Direction and rate of ground water and surface water flow, including seasonal variations;

2. Background quality of ground water and surface water;

3. Any on-site hydraulic connections between aquifers;

4. For all confining layers, semi-confining layers, and all aquifers below the site that may be affected by the disposal facility, the porosity or effective porosity, horizontal and vertical permeabilities, and the depth to and lithology of the layers and aquifers; and

5. Topography, soil types and characteristics, and surface water drainage systems of the site and surrounding the site.

(b) Include an inventory of all the public and private water wells within a one-mile radius of the site. The inventory shall include, where available:

1. The approximate elevation of the top of the well casing and the depth of each well;

2. The name of the owner, the age and usage of each well, and the estimated daily pumpage; and

3. The stratigraphic unit screened, well construction technique, and static water levels of each well.

(c) Identify and locate any existing contaminated areas on the site.

(d) Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas to demonstrate compliance with paragraph 62-701.300(2)(b), F.A.C.

(3) Geotechnical site investigation. The geotechnical site investigation required by subsection 62-701.330(3), F.A.C., shall be conducted by or under the supervision of a professional engineer with experience in geotechnical engineering. Investigations required in paragraphs (a) through (d) of this subsection may be conducted by a professional geologist. Prior to any construction on the site, the engineer shall define the engineering properties of the site that are necessary for the design, construction, and support of the disposal facility and all installations of the facility and shall:

(a) Explore and describe subsurface conditions including soil stratigraphy and ground water table conditions;

(b) Explore and address the presence of muck, previously filled areas, soft ground, and lineaments;

(c) Evaluate and address fault areas, and seismic impact zones, as described in 40 C.F.R. 258.13, hereby adopted and incorporated by reference (http://www.flrules.org/Gateway/reference.asp?No=Ref-05041), and 258.14, hereby adopted and incorporated by reference (http://www.flrules.org/Gateway/reference.asp?No=Ref-05041). To obtain these documents see subsections 62-701.210(6) and 62-701.210(7), F.A.C., respectively;

(d) Include estimates of the average and maximum high ground water table across the site;

(e) Include a foundation analysis to determine the ability of the foundation to support the expected maximum loads and stresses imposed by the disposal facility. It may include geotechnical measures necessary to modify the foundation to accommodate the imposed loads and stresses. The foundation shall be analyzed for short-term, end of construction, and long-term stability and settlement conditions. Considering the existing or proposed subgrade conditions and the disposal facility geometry, the analysis shall include but not be limited to:

1. Foundation bearing capacity;

2. Subgrade settlements, both total and differential;

3. Subgrade slope stability;

(f) Evaluate the potential for sinkholes and sinkhole activity as those terms are defined in Section 627.706(2), F.S., and unstable areas as described in 40 C.F.R. 258.15, hereby adopted and incorporated by reference (http://www.flrules.org/Gateway/reference.asp?No=Ref-05041). To obtain this document see subsection 62-

701.210(8), F.A.C. The initial site investigation phase shall include, at a minimum, an evaluation of the following for the proposed site:

1. Historical aerial photography;

2. Site topographic survey to indicate potential depressional areas;

3. Lineament features that transverse the site;

4. General information indicating the potential for sinkhole formation such as the Floridan Aquifer Vulnerability Assessment (FAVA) map at http://www.dep.state.fl.us/geology/programs/hydrogeology/FAVA, and sinkhole or subsidence occurrence maps; and,

5. Results of borings and/or geophysical work performed to describe the nature of the subsurface geology and hydrogeology for the proposed landfill site, including the potential for unstable areas as described in 40 C.F.R. 258.15; and,

(g) If the investigations required above indicate that portions of subsurface below the disposal facility show signs of past sinkhole activity, or are reasonably expected to develop sinkholes or sinkhole activity in the future, additional geotechnical investigations shall be included to further characterize the subsurface below the disposal facility for the purpose of assessing potentially unstable areas and for evaluating the effectiveness and design for any engineering measures proposed for any potentially unstable areas. The investigation shall also include an evaluation of any engineering measures needed to provide reasonable assurance that the subsurface of the site in those areas will be adequate to support the disposal facility without adversely affecting the performance of the liner or leachate collection system.

(4) Geotechnical report. The geotechnical site investigation report shall describe the site subsurface conditions and shall include, at a minimum, the methods used in the investigation, including but not limited to, all soil boring logs and laboratory results, analytical calculations, cross sections, interpretations and conclusions. The report shall also include a description of any engineering measures proposed for the site.

(5) Report verification. The site reports and supporting information, including detailed description of the methods, calculations, and interpretations used, shall be signed and sealed by the appropriate professional. The hydrogeological report shall be signed and sealed by a professional geologist or professional engineer with experience in hydrogeological investigations. The geotechnical report shall be signed and sealed by a professional engineer with experience in geotechnical engineering. Any portion of the geotechnical report conducted or prepared by a professional geologist shall be signed and sealed by the professional geologist who performed the work.

(6) C&D Facility Design requirements.

(a) Each new disposal unit, as well as each lateral expansion of an existing disposal unit, that has not received a Department permit authorizing construction or operation prior to July 1, 2010, shall be constructed with a liner and leachate collection system, unless the applicant demonstrates, based upon the types of waste received, methods for controlling the types of waste disposed of, the proximity of ground water and surface water, and the results of the hydrogeological and geotechnical investigations including any ground water monitoring analyses, the operation of the facility is not expected to result in violations of ground water standards and criteria otherwise.

(b) The liner system shall consist of at least a single 60-mil minimum average thickness HDPE geomembrane. In the sumps located inside the disposal facility footprint and in the leachate collection trenches, the geomembrane shall be placed on a GCL with a saturated hydraulic conductivity of less than or equal to 1×10^{-7} cm/sec, or on a compacted clay liner which is a minimum six inches thick with a saturated hydraulic conductivity of less than or equal to 1×10^{-7} cm/sec. The liner shall be placed on a prepared subgrade that will not damage the geomembrane liner or

the GCL. A primary leachate collection and removal system and a drainage layer shall be installed above the geomembrane liner. Except in sumps and leachate collection trenches, the system shall be designed to limit leachate head above the liner during routine facility operation after placement of initial cover to no greater than 12 inches. The liner system and leachate collection system must be constructed in accordance with the requirements of paragraphs 701.400(3)(a), (d), (e), and (f), and subsections 62-701.400(4), (7), and (8), F.A.C. Any alternative liner system shall be approved only in accordance with the provisions of Rule 62-701.310, F.A.C.

(c) Leachate shall be managed in accordance with subsection 62-701.500(8), F.A.C. Any leachate storage tanks or surface impoundments constructed or operated at the facility shall comply with the requirements of subsection 62-701.400(6), F.A.C.

(11) Financial assurance.

(a) Closure cost estimates, estimate updates and financial mechanisms shall comply with the provisions of subsections 62-701.630(1) through (4), F.A.C., except that the cost of long-term care shall be based upon a five-year period, and the costs shall be based upon compliance with this section. Landfill shall mean facility.

.630(1)(b) As a condition for the issuance of a landfill permit, or permit modification authorizing expansion, the owner or operator shall provide the Department with closure cost estimates for the permitted portions of the landfill as part of the application. Proof of financial assurance issued in favor of the Florida Department of Environmental Protection in the amount of the approved current dollar closing and long-term care cost estimates for each permitted disposal unit as determined pursuant to subsection 62-701.630(3), F.A.C., shall be provided at least 60 days prior to the planned initial receipt of waste at such unit. The owner or operator shall maintain financial assurance through the design period of the landfill and through any corrective action period.

(3) Cost estimates for closure.

(a) For the purpose of determining the amount of proof of financial assurance that is required for closure by this section, the owner or operator shall estimate the total cost of closure in current dollars for the time period in the landfill operation when the extent and manner of its operation make closing most expensive. The owner or operator shall submit the estimates, together with all necessary justification, to the Department as part of the permit application. Except as allowed in paragraph 62-701.630(3)(d), F.A.C., the costs shall be estimated and certified by a professional engineer for a third party performing the work, on a per unit basis, with the source of estimates indicated.

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching, labor, and any other costs of compliance with Rules 62-701.600-.610, F.A.C.

(c) Long-term care costs shall include land surface care; gas monitoring; leachate pumping, transportation, management and treatment; water quality monitoring, collection and analysis; and any other costs of compliance with Rule 62-701.620, F.A.C. The annual cost of long-term care shall be estimated, listed separately, and multiplied by the number of years required in the long-term care period.

.630.Proof of financial assurance under this subsection shall include surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, closure insurance (excluding independent procurement), or financial tests and corporate guarantees, showing that the owner or operator has sufficient financial resources to cover, at a minimum, the costs of complying with all state landfill closing and long-term care requirements, and, if applicable, costs for corrective action.

TOPOGRAPHIC SURVEY
Consumption Data:
As of 06/18/01 297,177 cubic yards
As of 02/06/04 486,675 cubic yards
As of 07/14/05 508,432 cubic yards
As of 04/24/07 730,938 cubic yards
As of 04/06/09 759,728 cubic yards
As of 05/06/10 775,556 cubic yards
As of 03/15/11 744,296 cubic yards
As of 05/02/12 755,607 cubic yards
As of 03/27/13 785,991 cubic yards
As of 03/14/14 806,350 cubic yards
As of 06/26/15 850,166 cubic yards
As of 11/04/16 900,466 cubic yards
GRAPHIC SCALE
WILLIAM MOTT
LAND SURVEYING INC.
3716 NORTH WICKHAM ROAD, SUITE 3
MELBOURNE, FLORIDA 32935-2338
PHONE (321) 751-4444 FAX (321) 751-4445
FLORIDA RECYCLERS OF BREVARD INC
REVISIONS
DATE
SHEET 1 OF 1
609-609

Acquiring Deeds

Prepared by and recorded copies should be sent to:
Mildred S. Crowder, Esq.
Weisenfeld & Associates, P.A.
550 Biltmore Way, Suite 1100
Coral Gables, Florida 33134

Gray, Harris

CFN 98068703 04-14-98 08:51 am
OR Book/Page: 3826 / 3814

Sandy Crawford
Clerk Of Courts, Brevard County
#Pgs: 3 #Names: 2
Trust: 2.00 Rec: 13.00 Serv 0.00
Deed: 3,320.10 Excise: 0.00
Mtg: 0.00 nt Tax: 0.00

Reserved

TRUSTEE'S DEED

THIS INDENTURE, made this 31st day of March, 1998, between JOSEPH J. WEISENFELD, TRUSTEE under an unrecorded Land Trust Agreement dated January 10, 1979, whose post office address is c/o Weisenfeld & Associates, P.A., 550 Biltmore Way, Suite 1120, Coral Gables, Florida 33134 (hereinafter referred to as "Grantor") and FLORIDA RECYCLERS OF BREVARD, INC., a Florida corporation, whose post office address is c/o Evans-Butler Realty, Inc., 1688 W. Hibiscus Avenue, Melbourne, Florida 32901 (hereinafter referred to as "Grantee").

Folio Number: 27-36-24-00-501

WITNESSETH:

That the said Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00) and other good and valuable consideration, to it in hand paid by the said Grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said Grantee, its heirs, executors, administrators, successors and assigns forever, the following described land, situate and being in the County of Brevard, State of Florida, to-wit:

See Exhibit "A" attached hereto and made a part hereof (hereinafter referred to as the "Property").

SUBJECT TO:

1. Taxes and assessments for the year 1998 and all subsequent years.

TOGETHER with all of the tenements, hereditaments, privileges and appurtenances thereunto belonging or in any way appertaining.

And the Grantor hereby covenants with the Grantee that it is lawfully seized of said land in fee simple; that it has good right and lawful authority to sell and convey said land; that it hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons claiming by, through or under Grantor.

This instrument is executed solely in the exercise of powers conferred upon Trustee by the Trust and no personal liability or obligation for performance is undertaken or assumed by Trustee. No claim may be enforced or personal judgment obtained against Trustee individually on account of any covenant or warranty of Trustee set forth herein.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name the day and year first above written.

Signed, sealed and delivered
in the presence of:

M. S. CROWDER
Print or Type Name

PATRICIA C. PEREZ
Print or Type Name

JOSEPH J. WEISENFELD, Trustee under an unrecorded Land Trust Agreement dated January 10, 1979

STATE OF FLORIDA)
COUNTY OF DADE)

The foregoing instrument was acknowledged before me this 31 day of March, 1998, by JOSEPH J. WEISENFELD, as Trustee under an unrecorded Land Trust Agreement dated January 10, 1979.

NOTARY PUBLIC, State of Florida at Large

M. S. Crowder MY COMMISSION EXPIRES MAY 3, 2000 #CC 526214 Bonded thru Troy Fain-Insurance NOTARY PUBLIC, STATE OF FLORIDA

[NOTARIAL SEAL]

Type or Stamp Name of Notary

My Commission Expires:

Personally Known X OR Produced Identification _____

Type of Identification Produced _____

\8159-\FL-RECYCLERS\DEED.TRS

CFN 98068703
OR Book/Page: 3826 / 3815

Exhibit "A"

DESCRIPTION: (BY SURVEYOR) PARCEL "C"

PART OF LANDS DESCRIBED IN OFFICIAL RECORD BOOK 2816, PAGE 0783, PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTH 1/4 CORNER OF SECTION 24, TOWNSHIP 27 SOUTH, RANGE 36 EAST, BREVARD COUNTY, FLORIDA AND RUN S 87°20'37" W ALONG THE SOUTH LINE OF SAID SECTION 24 A DISTANCE OF 53.06 FEET TO THE WEST RIGHT-OF-WAY LINE OF CRANE CREEK DRAINAGE DISTRICT CANAL L-16; THENCE N 00°01'53" E ALONG SAID WEST RIGHT-OF-WAY LINE A DISTANCE OF 600.66 FEET TO THE POINT-OF-BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE LEAVING SAID WEST RIGHT-OF-WAY LINE RUN S 87°20'37" W ALONG THE NORTH LINE OF THE SOUTH 600 FEET OF THE SOUTHWEST 1/4 OF SAID SECTION 24 A DISTANCE OF 1269.26 FEET TO THE WEST LINE OF THE EAST 1/2 HALF OF THE SOUTHWEST 1/4 OF SECTION 24; THENCE N 00°09'41" E ALONG SAID WEST LINE A DISTANCE OF 761.70 FEET; THENCE N 87°18'10" E A DISTANCE OF 1267.57 FEET TO THE SAID WEST RIGHT-OF-WAY LINE OF CRANE CREEK DRAINAGE DISTRICT CANAL L-16; THENCE S 00°01'53" W ALONG SAID WEST RIGHT-OF-WAY LINE A DISTANCE OF 762.53 FEET TO THE POINT-OF-BEGINNING.

TOGETHER WITH THE FOLLOWING:

COMMENCE AT THE SOUTH 1/4 CORNER OF SECTION 24, TOWNSHIP 27 SOUTH, RANGE 36 EAST, BREVARD COUNTY, FLORIDA AND RUN S 87°20'37" W ALONG THE SOUTH LINE OF SAID SECTION 24 A DISTANCE OF 53.06 FEET TO THE WEST RIGHT-OF-WAY LINE OF CRANE CREEK DRAINAGE DISTRICT CANAL L-16; THENCE N 00°01'53" E ALONG SAID WEST RIGHT-OF-WAY LINE A DISTANCE OF 1363.19 FEET TO THE POINT-OF-BEGINNING OF THE HEREIN DESCRIBED EASEMENT; THENCE LEAVING SAID WEST RIGHT-OF-WAY LINE RUN S 87°18'10" W A DISTANCE OF 100.11; THENCE N 00°01'53" E A DISTANCE OF 1252.40 FEET TO THE NORTH LINE OF THE SOUTHWEST 1/4 OF SAID SECTION 24 AND THE SOUTH RIGHT-OF-WAY LINE OF SARNO ROAD; THENCE N 87°18'10" E ALONG SAID NORTH LINE AND SOUTH RIGHT-OF-WAY A DISTANCE OF 100.11 FEET TO THE SAID WEST RIGHT-OF-WAY OF CRANE CREEK; THENCE S 00°01'53" W ALONG SAID WEST LINE A DISTANCE OF 1252.40 FEET TO THE POINT-OF-BEGINNING.

Prepared by and recorded copies should be sent to:
Mildred S. Crowder, Esq.
Weisenfeld & Associates, P.A.
550 Biltmore Way, Suite 1100
Coral Gables, Florida 33134

SANDY CRAWFORD
CLERK OF CIR. CT.
BREVARD CO. FLA

1999 OCT 27 P 2:06

FILED IN OFFICIAL RECORDS
VIERA BRANCH

Reserved

CFN:99215850 11-04-99 08:26 am
OR Book/Page: 4087 / 1036

TRUSTEE'S DEED

THIS INDENTURE, made this 30th day of September, 1999, between JOSEPH J. WEISENFELD, TRUSTEE under an unrecorded Land Trust Agreement dated January 10, 1979, whose post office address is c/o Weisenfeld & Associates, P.A., 550 Biltmore Way, Suite 1120, Coral Gables, Florida 33134 (hereinafter referred to as "Grantor") and FLORIDA RECYCLERS OF BREVARD, INC., a Florida corporation, whose post office address is c/o Evans-Butler Realty, Inc., 1688 W. Hibiscus Avenue, Melbourne, Florida 32901 (hereinafter referred to as "Grantee").

Sandy Crawford
Clerk Of Courts, Brevard County
#Pgs: 3 #Names: 2
Trust: 2.00 Rec: 13.00 Serv: 0.00
Deed: 1,036.70 Excise: 0.00
Mtg: 0.00 Int Tax: 0.00

Folio Number: 27-36-24-00-501

WITNESSETH:

That the said Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00) and other good and valuable consideration, to it in hand paid by the said Grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said Grantee, its heirs, executors, administrators, successors and assigns forever, the following described land, situate and being in the County of Brevard, State of Florida, to-wit:

See Exhibit "A" attached hereto and made a part hereof (hereinafter referred to as the "Property").

SUBJECT TO:

1. Taxes and assessments for the year 1999 and all subsequent years.

TOGETHER with all of the tenements, hereditaments, privileges and appurtenances thereunto belonging or in any way appertaining.

And the Grantor hereby covenants with the Grantee that it is lawfully seized of said land in fee simple; that it has good right and lawful authority to sell and convey said land; that it hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons claiming by, through or under Grantor.

This instrument is executed solely in the exercise of powers conferred upon Trustee by the Trust and no personal liability or obligation for performance is undertaken or assumed by Trustee. No claim may be enforced or personal judgment obtained against Trustee individually on account of any covenant or warranty of Trustee set forth herein.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name the day and year first above written.

Signed, sealed and delivered
in the presence of:

Patricia G. Parsons
Print or Type Name

JOSEPH J. WEISENFELD, Trustee under
an unrecorded Land Trust Agreement
dated January 10, 1979

[CONTINUED ON NEXT PAGE]

[CONTINUATION OF TRUSTEE'S DEED FROM JOSEPH J. WEISENFELD, TRUSTEE UNDER AN UNRECORDED LAND TRUST AGREEMENT DATED JANUARY 10, 1979 TO FLORIDA RECYCLERS OF BREVARD]

Lourdes M. Marrero

Lourdes M. Marrero
Print or Type Name

[As To Signature of Joseph J. Weisenfeld, Trustee]

STATE OF FLORIDA)
COUNTY OF MIAMI-DADE)

The foregoing instrument was acknowledged before me this 30th day of September, 1999, by JOSEPH J. WEISENFELD, as Trustee under an unrecorded Land Trust Agreement dated January 10, 1979.

[NOTARIAL SEAL] OFFICIAL NOTARY SEAL PATRICIA G PERERA COMMISSION NUMBER CC598804 COMMISSION EXPIRES NOV. 20,2000

NOTARY PUBLIC

Personally Known ✓ OR Produced Identification _____

Type of Identification Produced _____

\8159-\FL-RECYCLERS\2ND-CLOS\DEED.TRS

CFN:99215850
OR Book/Page: 4087 / 1037

EXHIBIT "A"

PARCEL B

DESCRIPTION: (BY SURVEYOR)

PART OF LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 2816, PAGE 0783, PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTH 1/4 CORNER OF SECTION 24, TOWNSHIP 27 SOUTH, RANGE 36 EAST, BREVARD COUNTY, FLORIDA AND RUN S 87°20'37"W ALONG THE SOUTH LINE OF SAID SECTION 24 A DISTANCE OF 53.06 FEET TO THE WEST RIGHT-OF-WAY LINE OF CRANE CREEK DRAINAGE DISTRICT CANAL L-16; THENCE N 00°01'53"E ALONG SAID WEST RIGHT-OF-WAY LINE A DISTANCE OF 1363.19 FEET; THENCE S 87°18'10"W A DISTANCE OF 100.11 FEET TO THE POINT-OF-BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE CONTINUE S 87°18'10"W A DISTANCE OF 1167.46 FEET TO THE WEST LINE OF THE EAST ½ OF THE SOUTHWEST 1/4 OF SAID SECTION 24; THENCE N 00°09'41"E ALONG SAID WEST LINE A DISTANCE OF 625.92 FEET; THENCE N 87°18'10"E A DISTANCE OF 1166.04 FEET; THENCE S 00°01'53"W A DISTANCE OF 625.85 FEET TO THE POINT-OF-BEGINNING. CONTAINING 16.74 ACRES OF LAND MORE OR LESS.

V e

PREPARED BY AND RETURN TO:
ROBERT W. WATTWOOD, ESQ.
O'BRIEN, RIEMENSCHNEIDER & KANCILIA, P.A.
1686 W. Hibiscus Blvd.
Melbourne, FL 32901

CFN:2001056802 03-28-2001 08:41 am
OR Book/Page: 4310 / 3384

CORRECTIVE TRUSTEE'S DEED

THIS INDENTURE, made this 13th day of March, 2001, between **JOSEPH J. WEISENFELD, TRUSTEE under an unrecorded Land Trust Agreement dated January 10, 1979,** whose post office address is c/o Weisenfeld & Associates, P.A., 550 Biltmore Way, Suite 1120, Coral Gables, Florida 33134 (hereinafter referred to as ***"Grantor"***), and **FLORIDA RECYCLERS OF BREVARD, INC., a Florida corporation,** whose mailing address is c/o Evans-Butler Realty, Inc., 1688 W. Hibiscus Avenue, Melbourne, Florida 32901 (hereinafter referred to as ***"Grantee"***).

Folio Number: 27-36-24-00-501

WITNESSETH:

That the said Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00), and other good and valuable considerations, to it in hand paid by the said Grantee, the receipt whereof is hereby acknowledged, has granted, bargained, and sold, to the said Grantee, its heirs, executors, administrators, successors and assigns forever, the following described land, situate and being in the County of Brevard, State of Florida, to-wit:

See Exhibit "A" attached hereto and made a part hereof (hereinafter referred to as the "Property").

SUBJECT TO:

1. Taxes and assessments for the year 1998 and all subsequent years.

TOGETHER with all of the tenements, hereditaments, privileges and appurtenances thereunto belonging or in *any way appertaining.*

AND the Grantor hereby covenants with said Grantee that it is lawfully seized of said land in fee simple; that it has good right and lawful authority to sell and convey said land; that it hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons claiming by, through or under Grantor.

This instrument is executed solely in the exercise of powers conferred upon Trustee by the Trust and no personal liability or obligation for performance is undertaken or assumed by Trustee. No claim may be enforced or personal judgment obtained against Trustee individually on account or any covenant or warranty of Trustee set forth herein.

This Corrective Trustees Deed is being executed, delivered and recorded for the purpose of correcting the legal description of the second parcel referenced on Exhibit "A" attached hereto.

Scott Ellis
Clerk Of Courts, Brevard County
#Pgs: 3 #Names: 2
Trust: 2.00 Rec: 13.00 Serv: 0.00
Deed: 0.70 Excise: 0.00
Mtg: 0.00 Int Tax: 0.00

o:\drive\flrecycl\corr trust deed – 9/18/00

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name the day and year first above written.

Signed, sealed and delivered in the presence of:

Witness
Print Name: PATRICIA G. PERERA

Melbis Arila
Witness
Print Name: Melbis Arila

JOSEPH J. WEISENFELD, Trustee under an unrecorded Land Trust Agreement dated January 10, 1979.

STATE OF FLORIDA
COUNTY OF DADE

The foregoing instrument was acknowledged before me this 13th day of March, 2000, by JOSEPH J. WEISENFELD, as Trustee under an unrecorded Land Trust Agreement dated January 10, 1979, ☒ who is/are personally known to me, or ☐ who has/ have produced _____ as identification.

NOTARY PUBLIC STATE OF FLORIDA
OFFICIAL NOTARY SEAL
PATRICIA G PERERA
COMMISSION NUMBER
CC976928
MY COMMISSION EXPIRES
NOV. 20,2004

Notary Public
Print Name:
My commission expires:

CFN:2001056802
OR Book/Page: 4310 / 3385

o:\drive\flrecycl\corr trust deed – 9/18/00

Exhibit "A"

CFN:2001056802
OR Book/Page: 4310 / 3386

DESCRIPTION: (BY SURVEYOR) PARCEL "C"

PART OF LANDS DESCRIBED IN OFFICIAL RECORD BOOK 2816, PAGE 0783, PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTH 1/4 CORNER OF SECTION 24, TOWNSHIP 27 SOUTH, RANGE 36 EAST, BREVARD COUNTY, FLORIDA AND RUN S 87°20'37" W ALONG THE SOUTH LINE OF SAID SECTION 24 A DISTANCE OF 53.06 FEET TO THE WEST RIGHT-OF-WAY LINE OF CRANE CREEK DRAINAGE DISTRICT CANAL L-16; THENCE N 00°01'53" E ALONG SAID WEST RIGHT-OF-WAY LINE A DISTANCE OF 600.66 FEET TO THE POINT-OF-BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE LEAVING SAID WEST RIGHT-OF-WAY LINE RUN S 87°20'37" W ALONG THE NORTH LINE OF THE SOUTH 600 FEET OF THE SOUTHWEST 1/4 OF SAID SECTION 24 A DISTANCE OF 1269.26 FEET TO THE WEST LINE OF THE EAST 1/2 HALF OF THE SOUTHWEST 1/4 OF SECTION 24; THENCE N 00°09'41" E ALONG SAID WEST LINE A DISTANCE OF 761.70 FEET; THENCE N 87°18'10" E A DISTANCE OF 1267.57 FEET TO THE SAID WEST RIGHT-OF-WAY LINE OF CRANE CREEK DRAINAGE DISTRICT CANAL L-16; THENCE S 00°01'53" W ALONG SAID WEST RIGHT-OF-WAY LINE A DISTANCE OF 762.53 FEET TO THE POINT-OF-BEGINNING.

TOGETHER WITH THE FOLLOWING:

COMMENCE AT THE SOUTH 1/4 CORNER OF SECTION 24, TOWNSHIP 27 SOUTH, RANGE 36 EAST, BREVARD COUNTY, FLORIDA AND RUN S 87°20'37" W ALONG THE SOUTH LINE OF SAID SECTION 24 A DISTANCE OF 53.06 FEET TO THE WEST RIGHT-OF-WAY LINE OF CRANE CREEK DRAINAGE DISTRICT CANAL L-16; THENCE N 00°01'53" E ALONG SAID WEST RIGHT-OF-WAY LINE A DISTANCE OF 1363.19 FEET TO THE POINT-OF-BEGINNING OF THE HEREIN DESCRIBED PARCEL; THENCE LEAVING SAID WEST RIGHT-OF-WAY LINE RUN S 87°18'10" W A DISTANCE OF 100.11; THENCE N 00°01'53" E A DISTANCE OF 1252.40 FEET TO THE NORTH LINE OF THE SOUTHWEST 1/4 OF SAID SECTION 24 AND THE SOUTH RIGHT-OF-WAY LINE OF SARNO ROAD; THENCE N 87°18'10" E ALONG SAID NORTH LINE AND SOUTH RIGHT-OF-WAY A DISTANCE OF 100.11 FEET TO THE SAID WEST RIGHT-OF-WAY OF CRANE CREEK; THENCE S 00°01'53" W ALONG SAID WEST LINE A DISTANCE OF 1252.40 FEET TO THE POINT-OF-BEGINNING.

Compass Real Estate Consulting, Inc.

120 East Pine Street • Suite 1 • Lakeland, Florida 33801

Shawn Wilson, MAI

CURRICULUM VITAE

LICENSURE AND CERTIFICATION

Florida State Certified General Real Estate Appraiser RZ503 (1990 to Present)
Guam Certified Non-Resident General Real Estate Appraiser CA-16-047 (2012 to Present)
Tennessee State Certified General Real Estate Appraiser 5165 (2014 to Present)

PROFESSIONAL AFFILIATIONS

Chair, The Appraisal Foundation Appraisal Practices Board (July 2016 to Present)
Member of The Appraisal Foundation Appraisal Practices Board (July 2014 to Present)
MAI Member of the Appraisal Institute (1993 to present)
- National Board of Directors of the Appraisal Institute (2011 to 2014)
- Region X Third Regional Director (2009, 2010)
- Region X Representative (2001, 2002, 2007, 2008)
- West Coast Fl. Chapter, Member Board of Directors (1998, 1999, 2000)
- West Coast Fl. Chapter Government Relations Committee Chairperson (1996)

Association of Eminent Domain Professionals
- Executive Board 1992 through 1998, 2002, 2003; Vice-President 2004; President 2005

International Right of Way Association - Member
Florida Department of Environmental Protection - Approved Appraiser List

EXPERT TESTIMONY

Has been qualified and presented testimony as an expert witness in the Circuit Courts of Orange, Sarasota, Manatee, Polk, DeSoto, Pasco, Lee, Volusia, Seminole, Hillsborough, Charlotte, Clay, and Marion Counties in the state of Florida, and in U.S. Bankruptcy Courts (Tampa and Jacksonville). Has been qualified and presented testimony as an expert witness for the Value Adjustment Board, Sarasota County, Florida, and for binding arbitration. Has provided consultation services in numerous settlement conferences and court-ordered mediation sessions. Served as Special Magistrate for the Manatee, Sarasota, Highlands, Charlotte, Hillsborough, and Polk County Valuation Adjustment Boards.

GEOGRAPHIC EXPERIENCE

Has provided real estate appraisal services in the following Florida counties:

Alachua	Brevard	Broward	Charlotte
Citrus	Clay	DeSoto	Duval
Glades	Hardee	Hendry	Hernando
Highlands	Hillsborough	Indian River	Lake
Lee	Manatee	Marion	Martin
Nassau	Okeechobee	Orange	Osceola
Palm Beach	Pasco	Pinellas	Polk
Sarasota	Seminole	St. Lucie	Volusia

Has appraised properties in Tennessee and Guam.

PARTIAL LIST OF PROPERTY TYPES APPRAISED

Vacant urban land including commercial, multi-family, industrial, office park, planned development, residential.
Vacant rural land including agricultural, residential, planned development, and mixed use.
Improved properties including residential, commercial, industrial, multi-family, shopping centers, planned developments, restaurants, professional office buildings, medical office complexes, service stations, convenience stores, parking garage, senior Healthcare Facilities, branch banking facilities, ranches, citrus groves and waterfront residential property.
Special use properties including utility systems, plant nurseries, retention ponds, railroad rights-of-way, billboards, dairy, sod farm, citrus nurseries, golf course, blueberry farms.
Partial interests including leasehold/leased fee, utility easements, drainage easements, construction easements, and land leases.

PARTIAL LIST OF VALUATION ISSUE EXPERIENCE

Diminution in value claims related to:

Environmental contamination	Bert Harris claims	Title defects	Contractual disputes
NIMBY issues	Construction defects	Sinkholes	Leasing disputes

Eminent Domain takings resulting in:

Loss of, or change in, access	Curable damages (cost to cure analysis)
Business damages	Loss of parking
Incurable damages	Changes in Highest and Best Use
Partial taking of improvements	Total taking of improvements
Changes in drainage patterns	Change in site circulation

Inverse condemnation	Maps of Reservation
Changes in grade and/or elevation	Spoil banks and spoil easements
Jurisdictional wetlands	Electrical transmission facilities
Drainage canals and drainage easements	Special governmental districts (i.e. hospital)
Elevated passenger expressways	Airport noise and avigation/aviation easements
Electrical substations	Spray effluent fields
Development entry features and signage	Class I and III landfills
Mangroves and wetland vegetation	Prescriptive easements
Developments of Regional Impact	Pipeline easements
Wastewater treatment facilities	Muck and unstable soils
Probability of Rezoning	Severance damages

APPRAISAL EXPERIENCE

Owner, COMPASS REAL ESTATE CONSULTING, INC., 5/96 to present
Self-Employed Fee Appraiser, 7/92 to present
Affiliated with Sewell, Valentich, Tillis & Associates, 7/92 to 9/94
Appraiser and Project Manager, Kluza & Associates, 7/87 to 7/92

CLAYTON ROPER MARSHALL
www.crmre.com

Clayton, Roper & Marshall, Inc., a Florida Corporation
1982 - 2019
37
Years of Service

CRAIG H. CLAYTON, MAI
State-Certified General Appraiser RZ 118

PAUL M. ROPER, MAI, SRPA, SRA
State-Certified General Appraiser RZ 141

STEVEN L. MARSHALL, MAI, SRA, AI-GRS
State-Certified General Appraiser RZ 155

June 11, 2019

Mr. Euripides Rodriguez, Director
Brevard County Solid Waste Management Department
2725 Judge Fran Jamieson Way
Building A, Suite 118
Viera, Florida 32940

Re: Status Report on Appraisal - 3351 Sarno Road, Melbourne; Florida Recyclers of Brevard, LLC

Dear Mr. Rodriguez:

This letter is provided to update you and the Brevard County Board of County Commissioners on the status of our appraisal of the above referenced property, owned by Florida Recyclers of Brevard, LLC. I received the NTP on March 6, 2019. I regret to inform you that as of the writing of this letter, we are unable to complete the appraisal report in a manner that would be consistent with acceptable appraisal procedures and practices. The reason for our inability to complete the assignment relates to the property owners and their representatives failing to provide us with their financial records relating to the facility's operations. We have made multiple requests for the required information and have received promising replies, but no results. Our primary contact point has been Mr. James Golden, Vice President of Grove Scientific & Engineering. While Mr. Golden has been cordial and has promptly replied to our requests, he has not been able to compile the requested financial data. The appraisal of a unique asset, such as the subject landfill operation, requires careful consideration of the income generated by and the expenditures made to generate said income. Without the subject financials, our analysis would be incomplete.

To date we have been able to inspect the subject site and review public records regarding anticipated closure costs (we still need the most current closure cost estimate from property owner). We have reviewed past and current permit records, reviewed the Brevard County provided Site Assessment Report, and reviewed the property owner provided Investment Value Report. Additionally, we have searched for comparable sales, researched comparable tipping/dumping fees, prepared a discounted cash flow model for analyzing the subject financial data, and have begun writing some of the descriptive portions of our report. While there is still considerable work to be done on this project, substantial progress has been made.

A summary of our efforts to obtain the subject financial records is as follows:

1. On March 20, 2019, Dan Jones forwarded our request for the following information to the owner's representative, Jack Kirschenbaum, Esq.

   - Profit and loss statements for last 5 years or so. At a minimum, we need the historical operating cost data for the last few years.
   - Production and receipt records. We would like to know what is being received, i.e. yard waste, construction debris, and the tipping schedule for each classification.
   - Current and historical tipping schedules for approximately the last 5 years.
   - Copies of permits and environmental assessment reports that are currently applicable.

Mr. Euripides Rodriguez, Director
Brevard County Solid Waste Management Department

2. After some back and forth regarding available dates, we were able to schedule an inspection and meeting with the owner representatives to occur on May 2nd. During our inspection we met with the owner's representatives and again requested production of the historical operating records. This request was met with some objection, but we left the property with the understanding that the owner's confidentiality concerns had been or can be abated. We thought the owners understood our need for the financial records and we expected to receive the requested information "soon".

3. On May 10th my partner, Craig Clayton, MAI, and I had a lengthy telephone conference with James Golden to once again stress our need for their financial records. During this call it was expressed by Mr. Golden that his client thought we should use the Cost Approach to value the property as the owners still had concerns that financial information provided to us would become public record. We explained that we would keep their information confidential to the best of our ability. Additionally, we agreed to send another letter requesting said financial records and stating our intent to keep their information confidential.

4. On May 14th Mr. Golden provided a link to the FDEP records for the subject site.

5. On May 17th we sent a letter to Mr. Golden via email. The body of our letter read as follows:

> *Mr. Clayton and I enjoyed talking with you at length about C&D Landfill operational details last week. However, as discussed, we find that the "Cost Approach", as suggested by your client, will not work well for us in its entirety. It is our belief that a prospective buyer for this C&D Landfill site is going to look very carefully at sources of income, quantities and expenses. Therefore, to prepare the most credible appraisal of this property, we are requesting copies of the owner's past three (preferably five) years of operating P&L statements, or at least a complete breakdown of the sources and amounts of revenues. However, with only the sources and amounts of revenues, we will also need related quantities and types of materials handled, processed and sold, the average tonnage (if not already provided) and revenues from Tipping fees, revenue contracts with any other revenue sources.*
>
> *Please advise your client that their information will remain confidential. Clayton, Roper & Marshall will not disclose confidential information except as may be authorized by due process of law or by a duly authorized peer review committee of the Appraisal Institute (the committee cannot disclose anything either). We will take reasonable steps to safeguard access to the confidential information.*
>
> *The protection of confidential information is something we take great care in while performing our duties to ensure the public's trust in our work. This is covered in the Uniform Standards of Appraisal Practice and the Ethics Rule...*

6. After not receiving a reply for about a week, we sent a follow-up email to Mr. Golden on May 24th. Mr. Golden replied with the following statement on May 24th:

> *Paul,*
>
> *We discussed your request on the call, and the owners are preparing 2 years of income and expenses for the landfill and recycling operations to get to you in the next 2-3 weeks. Jim*

Mr. Euripides Rodriguez, Director
Brevard County Solid Waste Management Department

7. On June 3rd Mr. Golden forwarded a batch of FDEP reports for our review. This was the same information provided via link on May 14th. The requested income and expense data was not provided.

8. On June 10th we spoke with Mr. Golden again to request the required financial records and express the need for their prompt delivery. Mr. Golden again expressed their confidentiality concerns but said he would attempt to get the records. Later that same day, Mr. Golden called and said that the owners will send financial information sometime in mid-July and that is where we are today.

As you can see, we have made multiple attempts to get the information requested. Considering our first request for production was made on March 20th, the owners have had almost three (3) months to produce. While there is a possibility that the owners will become cooperative and produce the requested information, we cannot move forward with a credible appraisal based on the limited information available to us at this time.

Respectfully submitted,

CLAYTON, ROPER & MARSHALL

Paul M. Roper, MAI, SRA
State-Certified General Real Estate Appraiser
License Number: RZ 141

PMR/sas

cc: Dan Jones
John Denninghoff

JonesEdmunds

MELBOURNE LANDFILL AND RECYCLING CENTER (AKA FLORIDA RECYCLERS OF BREVARD, LLC) LANDFILL EVALUATION

Brevard County Solid Waste Management Department | June 2018

MELBOURNE LANDFILL AND RECYCLING CENTER

(AKA FLORIDA RECYCLERS OF BREVARD, LLC)

WACS ID 18444

LANDFILL EVALUATION

TASK ORDER 17-01

Prepared for:

Brevard County

Solid Waste Management Department

2275 Judge Fran Jamieson Way, Bldg. A Suite 118

Viera, Florida 32940

Prepared by:

Jones Edmunds & Associates, Inc.

730 NE Waldo Road

Gainesville, Florida 32641

Certificate of Engineering Authorization #1841

Jones Edmunds Project No.: 08705-048-01

June 2018

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EXECUTIVE SUMMARY

The Brevard County Solid Waste Management Department (SWMD) contracted with Jones Edmunds to evaluate the regulatory, economic, and environmental liability of the privately owned and operated Melbourne Landfill and Recycling Center (aka Florida Recyclers of Brevard, LLC). This private facility is adjacent to the County's Sarno Road Class III Landfill and the Sarno Road Transfer Station as shown in Figure 1, Overall Area Plan. The site is permitted by the Florida Department of Environmental Protection (FDEP) as a Construction & Demolition (C&D) debris recycling and disposal and yard trash processing facility.

The goals of this preliminary engineering evaluation are to review the existing design and regulatory conditions of the Florida Recyclers facility and to identify the risks and benefits related to operation of the facility and any further expansion. Jones Edmunds reviewed and evaluated the following:

- Solid Waste Permitting History
- Overall Facility Operations
- Financial Assurance Documentation
- FDEP Environmental Resource Permit (ERP) History
- Permitted Stormwater Management System
- Historical Water Quality and Gas Monitoring Data
- Current Volume and Lifespan Analysis of the Facility
- Valley Fill Expansion Option

This evaluation is based on publically available data and information, and Jones Edmunds used the FDEP Oculus Database and FDEP Water Permitting Portal to obtain historical documentation. This evaluation does not consider permitting documentation that may be maintained by the St. Johns River Water Management District (SJRWMD) for the facility. Jones Edmunds also reviewed the City of Melbourne Conditional Use Permit (CUP) granted for the Sarno Road Class III Landfill and the 2017 aerial topographic survey performed by Pickett and Associates provided by the County. Jones Edmunds understands that the Florida Recyclers facility is also regulated by a City of Melbourne CUP, but a copy of the permit was not available at the time of this review.

The Florida Recyclers of Brevard, LLC is recorded as the owner of two parcels of property[1], approximately 45 acres total, with about 36 acres permitted as disposal area. The facility started operations in 1998 as an unlined C&D debris disposal facility. In 1999, the facility converted to a Class III landfill; and in 2014, the facility filed a permit application requesting classification as a C&D debris and recycling facility. FDEP granted the facility a 10-year operation permit as a C&D facility, but required the site continue to monitor groundwater, surface water, and landfill gas in accordance with Class III landfill guidelines. The 2014 change in designation from a Class III landfill to a C&D debris disposal facility resulted in the facility being required to stop using an escrow account for financial assurance and to pursue to an alternate method. In March 2017 FDEP issued the facility a

[1] Parcel Nos. 27-36-24-00-507 (25.05 acres) and 27-36-24-00-508 (19.7 acres).

Consent Order for failure to provide proof of an alternate financial assurance mechanism (i.e. a trust fund). According to a verbal discussion with FDEP, the site has an approved Trust Fund in place.

The sequence of ERPs for this facility on FDEP databases is incomplete, particularly with regard to property ownership and easements. A complete timeline of the site's stormwater permitting history could not be developed. The February 2000 ERP application included a proposed wetland mitigation plan for parcels purchased for the expansion of the landfill to its current footprint. **Jones Edmunds found documentation confirming the completion of the wetland mitigation activities in August 2001.**

Jones Edmunds compared the 2017 inflated costs against the closure and long-term-care cost estimates for the 2017 Sarno Road Class III Landfill costs, on a cost-per-acre basis. **In our opinion, the cost per acre for closure is low, based on our experience with recent significant increases in construction costs.** In addition, the closure cost estimate is based on a clay-soil final closure system.

The operation permit states that the facility accepts on average 200 tons per day. Based on Solid Waste Quantity Reports submitted over the last 4 years, the site has landfilled approximately 105 tons per day. The facility's primary incoming waste stream is new construction debris and vegetative waste.

Several down-gradient groundwater monitoring wells and shallow surficial wells appear impacted by the facility. The sources of the elevated groundwater monitoring parameters may be attributed to the type of materials processed at the facility and modest management of sediment and erosion control at the site. **There is no evidence of landfill gas migration at the site.**

Our estimate of the remaining lifespan of the 34-acre landfill using Florida Recyclers current landfilling rates is approximately 35 years to its permitted buildout elevation of 104 feet. However, the facility appears to be limited by a City ordinance restricting the buildout elevation to 40 feet above natural grade. Based on this limitation, **the estimated lifespan to a buildout elevation 64 feet is 14 years**.

To obtain additional airspace, Jones Edmunds explored the option of constructing a valley fill expansion to merge the facility with the Sarno Road Class III Landfill. The proposed expansion area would require a 60-mil minimum high-density polyethylene (HDPE) bottom liner and geosynthetic clay liner (GCL) system and a primary leachate collection and removal system. The estimated construction cost of this additional capacity is approximately $300,000 per acre – refer to Section 9, Supplemental Information, for cost information. Assuming Sarno's current landfilling rates, the County could expect to gain approximately 4 to 9 years of additional disposal capacity from the valley fill option. The valley fill airspace, plus remaining capacity at the Florida Recyclers facility, could provide about 8 to 20 years of additional capacity at the Sarno current landfilling rate.

In general, the stormwater system appears to be adequate for the permitted design of the existing facility. The as-built construction should be confirmed. If permitted design conditions change (e.g., valley fill design), the stormwater system and groundwater monitoring network will need to be modified.

Based on our review, the facility appears to be operating in a manner consistent with its permit and applicable regulatory guidelines. Based on our evaluation, the following items were identified and should be given further consideration:

- Jones Edmunds could not confirm that the stormwater system is constructed as designed and permitted.
- The obstacles that the County may face in obtaining a height variance as described in the City of Melbourne CUP for the Sarno Road Landfill are unclear. It would be prudent to review a copy of Florida Recyclers facility's CUP to determine whether a height variance is possible and whether any restrictions have been placed on the facility with regard to dates of closure, or additional operational conditions.
- In Jones Edmunds' experience, unlined disposal facilities exhibit higher environmental risk. The environmental liability of this facility is unclear.
- Evidence of groundwater contamination exists at this facility. The source and long-term risk posed by this evidence may require further evaluation.
- If the County were to pursue the valley fill expansion option, the cost benefit results of constructing the expansion area (including requirements for a bottom liner, leachate collection system, stormwater redesign) compared to the additional capacity obtained for Class III waste disposal may be unfavorable if limited by City restrictions.
- The property could be valuable if the County wanted to pursue the continued operation of the facility as primarily a recycling and yard waste processing center.

1 INTRODUCTION

The Brevard County Solid Waste Management Department (SWMD) contracted with Jones Edmunds to evaluate the regulatory, economic, and environmental status of the privately owned and operated Melbourne Landfill and Recycling Center (aka Florida Recyclers of Brevard, LLC). This privately owned facility is at 3351 Sarno Road, Melbourne, Florida, adjacent to the County's Sarno Road Class III Landfill and the Sarno Road Transfer Station as shown in Figure 1, Overall Area Plan, and Figure 2, Site Plan. The site is permitted by the Florida Department of Environmental Protection (FDEP) as a Construction & Demolition (C&D) debris recycling and disposal and yard trash processing facility.

Considering its proximity to the Sarno Road Class III Landfill and Transfer Station, SWMD is performing due diligence with this preliminary evaluation of the facility to determine the risks and benefits related to operating the facility and any future expansions.

The goals of the evaluation were to review the existing design and regulatory conditions of the Florida Recyclers facility and to identify potential benefits and items of concern or risks to the County related to its continued operation and potential expansion and incorporation into the Sarno Road Class III Landfill. Jones Edmunds reviewed and evaluated the following:

- The permitting history and general operations data.
- The financial assurance documentation.
- The last 5 years of groundwater and landfill gas monitoring data.
- The stormwater management system and permit history.
- The volume and lifespan analyses for the existing site and for possible expansion/merger with the Sarno Road Class III Landfill.

This evaluation did not include a site visit, field investigations, or an evaluation of costs to operate the facility. This evaluation is not intended to provide a real estate value of the property. Jones Edmunds' evaluation was based on publicly available data and information. The information in this report presents our general findings and recommendations.

2 BACKGROUND

Florida Recyclers of Brevard, LLC is recorded as the owner of two parcels of property[2] that make up the facility for a total area of approximately 45 acres, with about 36 acres permitted as disposal area. The facility started operations in 1998.

Jones Edmunds reviewed publicly available information from FDEP's Oculus (Electronic Document Management System) database. In accordance with our review of these documents, the permitting and regulatory history of the site is as follows:

- **1998**: 20-acre unlined C&D debris disposal facility permitted.
- **1999**: Landfill expansion to 36 acres (unlined) and site converted to Class III Landfill.

[2] Parcel Nos. 27-36-24-00-507 (25.05 acres) and 27-36-24-00-508 (19.7 acres).

- **1999**: Site applied for a Materials Recovery Facility permit (FDEP Permit No. SO 05-0133456-005 MRF).
- **2005**: Permit renewed (FDEP Permit No. SO 05-0133456-006 Class III and -007 MRF).
- **2010**: Permit renewed (FDEP Permit No. SO 05-0133456-008 Class III and -009 MRF).
- **2014**: Intermediate permit modification and renewal application (FDEP Permit No. SO 05-0133456-010); permit modification requested to go back to a C&D debris and recycling facility; 10-year permit issued (expires June 1, 2024).
- **May 2015**: Order granting Variance issued by FDEP to allow for continued use of escrow account while seeking an alternative financial assurance mechanism for closure. Variance allowed for 12 months to secure an alternative financial mechanism.
- **August 2015**: Gas monitoring and reporting requirements were revised by FDEP to meet rule requirements.
- **June 2016**: Request by Owner to extend the Order granting Variance denied.
- **March 2017**: Consent Order OGC File No.: 16-1272 issued.
- **April 2017**: Permit modified to incorporate relevant actions from the Consent Order.

Florida Recyclers currently operates the facility under a 10-year operation permit for a C&D debris disposal landfill and recycling facility. At the time of application, Florida Recyclers paid one installment of the permit renewal fee; the 2nd installment payment of $2,500 is due by May 31, 2019.

The site's stormwater is managed is accordance with FDEP ERP No. 05-10333455-002-EI.

In addition to its permitted disposal/recycling/yard processing operations, the facility also operates the Simply Organic Lawn and Garden Center at the site. According to their website[3] they are a full-service lawn and garden center that provides organic mulches, soils, and fertilizers that are processed and sold on site.

3 SOLID WASTE OPERATIONS

The Florida Recyclers of Brevard, LLC disposal facility was initially designed and permitted as an unlined C&D debris disposal facility in 1998. Upon conversion to a Class III landfill in 1999, FDEP required that the facility perform water quality and landfill gas monitoring in accordance with Class III landfill requirements in effect at that time. In 1999, bottom liners and leachate collection systems were not required for Class III landfills. The requirements have since changed and these are now required for new or expanded Class III landfills.

In accordance with Rule 62-701, FAC, Class III and C&D debris is defined as follows:

> *62-701.200(14) "Class III waste" means yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department, that are not expected to produce leachate that poses a threat to public health or the environment.*

[3] www.simplyorganiclawnandgardencenter.com

62-701.200(24) "Construction and demolition debris" means discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure, including such debris from construction of structures at a site remote from the construction or demolition project site.

In 2014, the permittee requested to convert back to a C&D debris disposal facility because the site did not receive Class III waste and the incoming waste stream was primarily from new construction sites and vegetative waste. The solid waste operation permit was modified, but FDEP continued to require the permittee to monitor groundwater, surface water, and landfill gas per Class III landfill guidelines (as described in Section 6.0). FDEP also required that the facility's closure design be in accordance with Class III closure requirements (closure with a barrier layer, 24-inches of protective cover soil, and vegetation). The Operating Permit expires on June 1, 2024.

According to the permit drawings, the approximate natural grade on the site is at elevation 25 feet NGVD 29. The bottom of waste is at approximately elevation 24.4 feet. The setback requirements of 100 feet from the property boundary for Class III landfills was reduced to 50 feet because of the adjacent Sarno Road Class III Landfill and Sarno Road Transfer Station. The majority of the waste appears to be landfilled on the south portion of the site, and there are piles of mulched material placed on the north half of the site. Based on the current recycling and processing operations at the site, it is unclear if the entire permitted footprint area has landfilled waste.

Waste is monitored and recorded at the facility scale house. The site's 2014 Operation Plan states that recyclable materials from construction waste and vegetative waste are recycled and that non-recyclable construction debris is landfilled. The site does not currently accept CCA pressure-treated wood for disposal. However, CCA-treated wood was likely accepted for disposal in the past before FDEP's prohibition regarding disposal of this waste in unlined landfills. The 2014 Operation Plan noted that "any CCA pressure-treated wood (telephone poles) currently stored on site will be removed within 6 months from permit issuance." The facility is also authorized to process yard trash. Residential yard waste is processed into landscaping mulch and topsoil.

The facility has 10 groundwater monitoring wells and one surface water sampling point; monitoring and sampling are performed semi-annually. The facility also monitors landfill gas migration quarterly at the perimeter landfill gas probes and within structures on the property.

The Operating Permit states the facility accepts on average 200 tons per day. Based on our review of tonnage data over the last 4 years, the site has accepted on average of about 105 tons per day.

4 FINANCIAL ASSURANCE AND CONSENT ORDER REVIEW

The permittee previously maintained an escrow account for the closure financial assurance of the site. FDEP rules originally allowed this for private- and government-owned facilities. However, due to rule changes and changes in the facility's designation from a C&D facility to Class III to C&D, an escrow account is no longer a viable option for privately owned C&D facilities.

In 2014, FDEP approved the Florida Recyclers of Brevard's intermediate permit modification and renewal application that requested the designation of the facility be changed from a Class III landfill to a C&D debris disposal facility. This change meant that their escrow account no longer met the requirements of Chapter 403.707(9)(c), FAC, which states that escrow accounts may not be used as a mechanism to provide financial assurance for closure of a C&D facility. The facility Operating Permit (issued July 28, 2014) required that Florida Recyclers replace the escrow account with an alternative, acceptable financial assurance mechanism. In accordance with our review, the following legal actions were initiated between Florida Recyclers and FDEP:

- **Application for Variance, October 20, 2014**: Florida Recyclers requested a 2-year variance for continued use of the funded escrow account to prevent economic hardship while searching for an alternate mechanism.
- **Variance Request Granted, May 22, 2015:** FDEP approved Florida Recyclers application for variance (OGC File No. 14-0657) for a period of 12 months (expiration date – May 22, 2016).
- **FDEP Notice Letter, September 16, 2015**: FDEP determined that the 2014 escrow account balance was underfunded by approximately $5,000 and requested that a deposit be made to adequately fund the closure account within 30 days.
- **FDEP Warning Letter, June 10, 2016**: FDEP issued a letter stating that Florida Recyclers failed to meet the May 22, 2016 deadline for providing an alternate financial mechanism and was in violation of Rules 62-701.730 and 62-701.630, FAC.
- **Variance Extension Request Denied, June 17, 2016**: FDEP denied Florida Recyclers' request to extend the time allotment granted by the 2015 variance up to 24 months. FDEP deemed a new application for variance would be required to request additional time.
- **Consent Order Issued, March 29, 2017**: FDEP issued Consent Order (OGC No. 16-1272) against Florida Recyclers for failing to provide an alternate financial assurance mechanism. The solid waste permit was then modified to include relevant actions of the Consent Order into the permit.

The issued Consent Order required the facility to initiate a Trust Fund as proof of financial assurance and to make annual payments of $100,000 (plus any and all applicable trustee fees and expenses) to the Fund by January 5 beginning in 2018. Among other conditions, the facility is required to submit an updated Closure and Long-Term-Care Cost Estimate every 5 years in accordance with the applicable conditions of Rule 62-701.630, FAC. The cost estimate is due in 2019. Based on a verbal conversation with FDEP a Trust Fund has been established as an alternate funding mechanism.

The most recently submitted closure cost estimate from Florida Recyclers was approved by FDEP in April 2017 – estimated $2.62 million for closure of 35.31 acres, and estimated

$382,000 over 5 years for long-term care of 44.72 acres. Jones Edmunds compared the facility's 2017 inflated costs against the closure and long-term-care cost estimates for the Sarno Road Landfill most recently submitted in 2017, on a cost-per-acre basis. Table 1 provides the comparison figures.

Table 1 Closure and Long-Term Care Cost Estimate Comparison

	Closure Cost Estimate ($/acre)	Annual Long-Term-Care Cost ($/acre)
Florida Recyclers Facility (2017)	$74,100	$1,700
Sarno Road Class III Landfill (2017)	$188,000	$2,000

The permitted closure design plan for the facility provides two final cover system options, which are the installation of a geosynthetic clay liner cap or a 36-inch soil closure (18 inches of clay and 18 inches of soil). The closure cost estimate accounts for a clay-soil cover but not a geosynthetic clay liner closure cap. **Based on our experience and with recent significant increases in construction costs, it is our opinion that the cost per acre for closure is insufficient. Therefore, it is probable that the Trust Fund is underfunded.**

5 STORMWATER PERMITTING REVIEW

Jones Edmunds reviewed the facility's stormwater management system and permits, as found on the Florida Water Permitting Portal (http://flwaterpermits.com/). In general, the information provided on the website appears incomplete, particularly with regard to property ownership and easements. Jones Edmunds did not contact FDEP to clarify the questions that arose during our review. The focus of our review was on the stormwater system; the stormwater system design appears adequate for the final landfill design.

5.1 STORMWATER PERMIT DOCUMENT REVIEW

The facility site name is the "Florida Recyclers of Brevard." However, the Florida Water Permitting Portal shows it as the "Sarno Road Industrial Complex" and that website links to the FDEP Nexus portal, which lists the Environmental Resource Permit (ERP) documents related to the expansion and modification of the landfill as listed in Table 2.

Table 2 ERP History for the Sarno Road Industrial Complex

Permit Number	Facility Name	Date	Expiration Date	Description
0133455-001SI	Florida Recyclers of Brevard, Inc.	12/11/1997		Permit for Cell 1.
0133455-002EI	Florida Recyclers of Brevard, Inc.	02/08/2000	01/07/2005	Permit for Cell 1 expansion and a wet detention pond.
0133455-004EI	Florida Recyclers of Brevard/Sarno Road Industrial Complex	08/21/2007	08/20/2012	Permit Application for Sarno Industrial Subdivision on parcel north of the landfill.

The 0133455-001SI permit was for the original site and stormwater system, as shown in Figure 3 (Parcel 27-36-24-00-507). Jones Edmunds reviewed the design drawings and calculations submitted in the application package. The original design for the 25.05-acre parcel was for the front entrance and a 20-acre landfill (Cell 1) as shown in Figure 3. Stormwater treatment was provided by a "retention" area on the west, south, and east sides of the cell. The drawings refer to a retention pond, but the calculations refer to a wet detention pond. Typically, retention ponds are dry and rely on percolation to recover the treatment volume. Wet detention ponds are typically excavated 8 to 12 feet into the groundwater table to create a permanent pool of water. The wet detention pond at this facility has a mean depth of 2.82 feet; significantly less than the typical depth. Wet detention ponds have an engineered control structure to "detain" the treatment volume and slowly release it over time.

The 0133455-002EI permit allowed the landfill to expand to the current footprint and included the construction of a perimeter wet detention pond (labeled as a "retention" pond on the design drawings). The plans provided with the ERP application show new wet detention ponds on the north, northwest, east, and south sides of the landfill, and the grading indicates the "retention" pond on the southwest side remained unchanged. Figure 4 shows the ERP application design drawing for the full buildout georeferenced to an aerial.

Jones Edmunds evaluated the stormwater system described in the 0133455-002EI permit as the current condition for the landfill. We reviewed and compared the following:

- The design drawings and calculations submitted in the application package for 0133455-002EI.
- The wetland delineation and mitigation described in the application package for 0133455-002EI.
- The current aerial and the current digital elevation model (DEM) from LIDAR for Brevard County.
- The FEMA special flood hazard areas as provided online through the FEMA Map Service Center.

The design was for a 36-acre landfill cell (44.46-acre site), surrounded by interconnected wet detention ponds, with a direct discharge to the L-16 Canal. The curve number for the landfill cell is 80, which is equivalent to a grass field in good condition. This curve number is within the typical range for a landfill that will be closed with a soil and grass cover. The wet detention pond was designed to provide:

- 3.54 acre-feet (ac-ft) of water quality treatment volume.
- 4.08 ac-ft or permanent pool volume.
- A control structure with a 5-inch circular bleed-down orifice at elevation 22.50 feet National Geodetic Vertical Datum (ft NGVD) (the seasonal high water table [SHWT]), and a 4.5-foot rectangular weir with an invert of 23.26 ft NGVD.
- A pond bottom elevation at 17.0 ft NGVD.
- A mean pond depth of 2.82 feet.

Based on our review of the aerial, the stormwater system appears roughly the same size as designed. The design is adequate for a final cover of grass in good condition, with 8 to 12 inches of permeable soil. The as-built documentation was completed by Timothy C. Jelus, PE, of Jelus Engineering, Inc., and was submitted to FDEP on August 24, 2001.

The permit application for ERP 0133455-002EI also included a discussion of wetland mitigation. Figures 3 and 4 show the Cell 1 expansion with the wetland that was impacted by the construction of the Cell. FDEP issued a letter to William Kerr, of BKI, Inc., dated June 25, 2001, which stated that the preservation acquisition mitigation requirements for permit 133455-002 had been satisfied; and that the conditions of the permit modification 133455-003 had been fulfilled. The letter goes on to provide authorization for the escrow agent to release the security funds. Jones Emdunds was able to locate the permit modification conditions file 133455-003. **This documentation confirms satisfactory completion of the mitigation requirement for the facility.**

Jones Edmunds also compared the current aerial and Brevard County light detection and ranging (LiDAR) data to the permitted design drawings, see Figure 5. The LiDAR data is displayed as a range of colors with each color corresponding to a specific elevation. If the landfill was constructed according to the plans, the colors would align with the contours. The facility's current operation is primarily recycling and yard waste processing. The side slopes are not uniform or at the design elevation. It is very important to note that an ERP is based on the design of the final grades of the closed landfill. Therefore, noting that the current landfill grades are not the same as the ERP does not indicate that the landfill operation is violating their permit. Rather, it indicates that work needs to be done to achieve the final grade that was permitted in the ERP. **In general, the stormwater system has the same top-of-bank footprint as depicted in the permitted design drawing. The actual depth of the system compared to the permitted design cannot be determined without survey.**

The landfill site is not within a flood hazard area. Figure 6 shows the Federal Emergency Management Agency (FEMA)-approved Flood Insurance Rate Map for the area. The area shaded in brown indicates the special flood hazard area. The landfill is outside of the designated flood hazard area.

In 2007, Florida Recyclers applied to FDEP to modify their permit, 0133455-004EI, to construct the "Sarno Road Industrial Complex" on the parcel to the north of the landfill (see Figure 7). The permit application discussed expanding the landfill's stormwater treatment ponds to provide treatment for the proposed development and mitigating the impact to a wetland on the parcel. FDEP did not issue the permit. In 2010, the west side of the parcel to the north of the facility, which includes wetlands, was deeded to the City of Melbourne; and in 2012, the east side of the parcel to the north of the facility was sold to Liberty Investments of Brevard, LLC.

5.2 ERP General Observations

In general, the stormwater system appears adequate for the design. If the permitted design conditions were to change (such as using steeper slopes or a more impervious cover such as a geomembrane), the stormwater management system would need to be modified and re-permitted.

The ERP application and drawings did not include a detailed sediment and erosion control plan. Although the site is primarily operating as a recycling and yard waste processing facility, sediment control is generally recommended. Jones Edmunds expects that the stormwater system will have accumulated sediment from the landfill operations and will need some excavation to restore the design elevations.

6 WATER QUALITY AND LANDFILL GAS MONITORING DATA REVIEW

6.1 BACKGROUND

The groundwater monitoring network at the Florida Recyclers facility consists of 10 groundwater compliance wells installed in the surficial aquifer, one surface water monitoring point, and 10 landfill gas monitoring probes. The water quality monitoring and reporting are subject to the Class III landfill requirements, Rule 62-701.510, FAC. Groundwater and surface water quality monitoring is conducted semi-annually; samples are analyzed for field and laboratory parameters as defined in Appendix 3 of the current solid waste operations permit.

Based on a technical report dated May 2015, prepared by Universal Engineering Sciences for Florida Recyclers, there is a containment wall (running north south) adjacent to the drainage canal between the facility access road and the scale house as a means of keeping potential contaminates within the landfill. The report states that the wall is constructed of relatively impermeable clay and approximately 2 feet wide by 4 feet deep. The report did not provide the length of the wall. However, in 2010 FDEP questioned the existence of the wall since no as-builts or evidence of a sealed slurry wall/confining layer was provided. FDEP stated even if the purported "clay layer" were a "confining clay" it would not be much good as the well screenings crossed it; therefore, whatever is in their ground water or surface water pond could seep into the L-16 canal.

A technical report was due in August 2017. We are unable to locate that report on the FDEP Oculus site.

6.2 GROUNDWATER MONITORING NETWORK

The compliance groundwater monitoring wells are along the perimeter of the landfill and are identified as MW-2, MW-4R, MW-5R, MW-6R, MW-7, MW-8, MW-9R, MW-10, MW-11, and MW-12. The total well depths range from 14.8 to 16.6 feet below land surface with 10-foot screen intervals. Wells MW-9R, MW-10, and MW-11 are up-gradient. Groundwater flow at the site is generally south to southeast although flow appears to vary over time.

6.2.1 GROUNDWATER MONITORING WELLS

Jones Edmunds reviewed the last 5-years' groundwater monitoring data for the facility. We also reviewed the background groundwater monitoring well MW-16S at the adjacent Sarno Road Class III Landfill (WACS ID 16255), and used that data as the control for comparison. The Sarno Class III Landfill well MW-16 is also installed in the shallow surficial aquifer with a total well depth of 15.5 feet below land surface with a 10-foot screen interval.

The groundwater monitoring results for the past 5 years for all wells at the facility were statistically compared to the past 5 years of data for the Sarno Class III Landfill background well MW-16S using calculated control ranges. Any parameters with a result reported above the laboratory detection limit at the facility were included in the comparison. For the parameters included, any result reported as below the laboratory detection limit was replaced with half the detection limit for statistical calculation purposes. An average 5-year concentration for each selected parameter was calculated for MW-16S along with an outer control limit (the average plus three times the standard deviation). The 5-year average result for each well and selected parameters at the facility were compared to the associated outer control limit for MW-16S. Summary tables are included in Attachment A. The tables summarize results reported above groundwater protection standards for the past 5 years at the Florida Recyclers and Sarno Road Class III Landfill background well MW-16S. The following results were noted:

- Melbourne Landfill wells MW-2, MW-4R, MW-5R, and MW-6R have multiple indicator and metals parameters with results that are statistically different than those reported for background well MW-16S.
- Sodium in wells MW-7 through MW-12 is statistically higher than that reported in MW-16S; however, the concentrations are relatively low level (by a factor of 10) compared to MW-2, MW-4R, MW-5R, and MW-6R.
- Although Chromium results are for wells MW-2 and MW-7 through MW-12 appear to be outside the control range, this is an artifact of the calculation. Chromium was actually below the laboratory detection limit for the entire report period in these wells. However, the detection limit for the Melbourne wells was 4.5 micrograms per liter (µg/L) and the detection limit for MW-16S was 2.5 µg/L, resulting in a false positive bias for samples with a high number of non-detects. Results for Zinc have the same false positive bias.
- The only volatile organic carbons (VOCs) reported above detection limits for the facility during the past 5 years were a single report of low-level 1,2-Dibromo-3-Chloropropane in MW-10 plus random low-level Acetone and Chloromethane in multiple wells. Acetone and Chloromethane are common laboratory cross-contaminants.
- Sulfate and Aluminum are not sampled at the Sarno Class III landfill, and results for the facility wells are compared to groundwater standards only.

In addition to the control range comparison, historical linear-regression trend analysis graphs were also prepared. The following trends were noted:

- Increasing Conductivity, Total Dissolved Solids (TDS), Ammonia-Nitrogen, Chloride, and Sodium in MW-2, MW-4R, MW-5R, and MW-6R.
- Decreasing Chloride, Sulfate, and Sodium in MW-8, MW-10, and MW-11. Sulfate is also decreasing in MW-7 and MW-9. Decreasing Total Dissolved Solids in MW-8, MW-9, MW-10, and MW-11.
- Increasing Arsenic in MW-2, MW-4R, and MW-5R.
- Increasing Barium in MW-2, MW-4R, MW-5R, and MW-6R.
- Decreasing Iron in MW-2, MW-4R, MW-6R, MW-8, MW-11, and MW-12. Increasing Iron in MW-5R.
- Increasing Nickel in MW-5R.

- Increasing Vanadium in MW-2, MW-4R, and MW-5R. Decreasing Vanadium in MW-8, MW-9, MW-10MW-11, and MW-12.
- Decreasing Zinc in MW-10 and MW-11.

6.2.2 Surface Water Data Review

A review of surface water results at the Melbourne Landfill (sampling site SW-1) indicate elevated Conductivity, Ammonia, Chemical Oxygen Demand (COD), Total Phosphorus, Sulfate, Total Dissolved Solids, Total Hardness, Total Kjeldahl Nitrogen, Total Organic Carbon, Antimony, Arsenic, Chromium, Copper, and Iron. Sources for these parameters may be attributed to the type of materials being landfilled and/or processed at the facility such as:

- Drywall/Sheetrock: Calcium Sulfate (Gypsum) – Conductivity, Total Dissolved Solids, Total Hardness, Sulfate.
- CCA-Treated Lumber: Arsenic, Chromium, Copper.
- Yard Waste/Mulch: Ammonia, COD, Total Phosphorus, Total Kjeldahl Nitrogen, Total Organic Carbon.

6.2.3 Gas Monitoring Probes

Gas monitoring at the Florida Recyclers facility is conducted quarterly per the requirements of the July 28, 2014 site permit and the Monitoring Plan Implementation Schedule of Chapter 62-160, FAC. Eleven gas monitoring probes (GMPs) are installed along the perimeter of the landfill. The probes are sampled quarterly to determine if excessive methane gas concentrations exist within the soils outside of the landfill. In addition, ambient air is sampled within building structures adjacent to the landfill (i.e., scale house office, etc.) for the presence of methane.

The most recent gas sampling event was conducted in February 2018 by Universal Engineering Sciences, Inc. Based on the First Quarter 2018 Quarterly Gas Monitoring Event report, dated February 23, 2018, no methane gas was detected to have concentrations greater than the detection limit of the sampling instrument. The detection limit of the gas sampling instrument is 1 percent.

The lower explosive limit (LEL) for methane gas is 5 percent or 50,000 parts per million (ppm). The FDEP Solid Waste Department and Rule 62-701, FAC, guidelines for a combustible gas exceedance is 25 percent of the LEL, or 12,500 ppm. Since December 2015, all quarterly gas monitoring results are reported as % LEL methane, and no gas exceedances were measured.

From August 2004 to September 2015, the quarterly monitoring results were measured and reported as ppm methane units, and in all cases no monitoring point samples exceeded 12,500 ppm methane.

6.2.4 Monitoring Data General Observations

The facility's shallow surficial wells MW-2, MW-4R, MW-5R, and MW-6R have elevated levels of Conductivity, Chloride, Sodium, Sulfate, TDS, and Barium compared to background well MW-16S at the Sarno Landfill. TDS was consistently above the Safe Drinking Water Standard (SDWS) of 500 milligrams per liter (mg/L) in all four down-gradient Melbourne

wells, and Ammonia-Nitrogen, Chloride, and Sodium were repeatedly reported above their respective groundwater protection standards during the past 5 years. In addition, Conductivity, TDS, Ammonia-Nitrogen, Chloride, Sodium, and Barium are all increasing in wells MW-2, MW-4R, MW-5R, and MW-6R. Increasing Arsenic was also reported in MW-2, MW-4R, and MW-5R, and reported concentrations have repeatedly been greater than the Primary Drinking Water Standard (PDWS) of 10 µg/L.

Groundwater in the down-gradient wells appears to be impacted by the landfill. The source is likely the type of materials being landfilled and/or processed at the Melbourne facility including yard waste, mulch, compost materials, and construction debris such as drywall and CCA-treated lumber. A review of surface water results at the Melbourne Landfill indicate elevated levels of Conductivity, Ammonia-Nitrogen, COD, Total Phosphorus, Sulfate, TDS, Total Hardness, Total Kjeldahl Nitrogen, Total Organic Carbon, Antimony, Arsenic, Chromium, Copper, and Iron. These parameters are also consistent with erosional run-off from materials in the landfill.

Groundwater impacts, in a pattern similar to that noted for the Florida Recyclers' facility, were noted in the two Sarno Class III Landfill shallow-surficial wells, MW-24S and MW-25S, just down-gradient of the Florida Recyclers' property boundary.

7 VOLUME AND LIFESPAN ANALYSES

As part of this preliminary engineering evaluation, Jones Edmunds performed volume and lifespan analyses for the existing site and for the possible expansion/merger with the Sarno Road Class III Landfill. The following sections discuss the City of Melbourne buildout constraints, volume analyses, and a possible option of merging the two facilities and designing a valley fill.

7.1 BACKGROUND

On November 12, 2009, the City of Melbourne approved Brevard County's application for a CUP (CU-2009-06) and City Ordinance (Ordinance No. 2009-41) for a 9.5-acre expansion of the Sarno Road Class III Landfill up to a height of 40 feet above grade. The Florida Recyclers facility also has a similar CUP; however, Jones Edmunds was not able to obtain a copy of the document.

If the County were to acquire the Florida Recyclers facility and expand the Sarno Landfill footprint, the County would be required to submit a CUP application with a revised site plan to the City Engineering Department and Planning and Economic Development Department in accordance with City Ordinance No. 2009-41, Condition 2.a. Since City land development regulations limit the height of any structure or material or debris pile to less than 40 feet, the County will also have to make a request for a variance to exceed the height restriction.

According to the Ordinance, the County is expected to close the Sarno Road Class III Landfill by December 31, 2020, unless the County applies for and receives approval of a new proposed closure date by the City. The results of Sarno's 2017 capacity analysis submitted to FDEP indicates that landfill closure is expected by September 2024. This lifespan estimate included the approximately 9.5-acre footprint of the Pond A expansion area and a final landfill elevation of 104 ft NGVD.

7.2 VOLUME ANALYSIS

7.2.1 FLORIDA RECYCLERS MELBOURNE LANDFILL

The Florida Recyclers facility is permitted to a buildout elevation of 104 ft NGVD; however, the site's CUP from the City of Melbourne limits the full buildout to a maximum of 40 feet above grade or about an elevation 64 ft NGVD. Jones Edmunds performed two remaining volume analyses for the Florida Recyclers facility: one assuming full buildout to elevation 104 feet and one to elevation 64 feet based on the CUP. The volumes were calculated using AutoCAD Civil 3D 2016 software and based on the following:

- Topographic survey dated March 17, 2017, performed by Pickett & Associates Inc.
- Permitted Final Closure (up to 104 feet elevation), Melbourne Landfill and Recycling Center top-of-waste surface (final cover surface lowered 3 feet to account for final cover), dated March 2014.
- Conceptual Final Closure (up to 64 feet elevation), Melbourne Landfill and Recycling Center top-of waste surface (final cover surface lowered 3 feet to account for final cover).

Florida Recyclers performs recycling and yard waste processing operations within the footprint of the facility. Several areas identified as mulch or recycling material stockpiles are not representative of permanent waste disposal and were removed from the survey data. Currently, landfilling operations are isolated to the south edge of the facility; the current Operation Permit states that on average the facility accepts about 200 tons per day or 830 cubic yards per year (CY/yr) (assuming 500 pounds per cubic yard [lb/CY] waste density).

The estimate of the remaining life of the facility, summarized in Table 3. Given the information available, Jones Edmunds performed the lifespan calculation using an average of the annual volumetric disposal rate, in CY/yr, over the last 4 years.

As of March 17, 2017, Jones Edmunds estimates that approximately 970,000 cubic yards (CY) of waste is in-place at the facility. We assumed that this waste is primarily new construction debris or vegetative waste. In March 2013, a topographic survey report[4] determined that approximately 786,000 CY of waste was in-place. From 2013 to 2017, approximately 185,000 CY of design capacity was consumed, which equates to about 46,300 CY/yr over 4 years.

[4] Prepared by William Mott Land Surveying.

Table 3 Florida Recyclers Facility – Estimate of Remaining Life Based on Current Landfill Rates

Buildout Elevations	Total Design Capacity (CY)	Estimated Used Capacity (CY)	Estimated Remaining Capacity (CY)	Annual Waste Rate: (CY/yr)	Lifespan (yr)
Annual Waste Rate: FL Recyclers					
104 feet Permitted	2,600,000 (1)	970,000	1,618,000 (3)	46,300	35
64 feet CUP Restriction	1,620,000 (2)	970,000	650,000	46,300	14
Annual Waste Rate: Sarno Landfill					
104 feet Permitted	2,600,000 (1)	970,000	1,618,000 (3)	150,000	11
64 feet CUP Restriction	1,620,000 (2)	970,000	650,000	150,000	4.3

Notes:

1. Total design capacity to permitted buildout elevation of 104 feet NGVD from March 1999 FDEP Permit application.
2. Estimated remaining volume from CAD.
3. Estimate of remaining capacity as of March 2017.

7.2.2 Expansion Option

The Sarno Road Class III Landfill and the Florida Recyclers facility limits-of-waste boundaries are approximately 300 feet apart. If the County were to acquire the facility from Florida Recyclers of Brevard, Inc., there is a potential to merge the footprint of the two facilities by filling the airspace between the two disposal areas, i.e., valley fill. By pursuing the option of valley fill construction, an approximate 6.6 acres of additional disposal area footprint is gained or up to 1,330,000 CY of capacity (assuming 104-foot final buildout elevation).

Valley fill designs are not unusual, but they do present several challenges during the design and construction phases. Assuming the expanded area would be permitted as a Class III disposal facility, the following regulations would apply:

- Rules 62-701.400(3)(g) and 62-701.430(1)(c), FAC – a bottom liner system (60-mil minimum HDPE bottom liner and GCL) and a primary leachate collection and removal system would be required.
- Rule 62-701.340(3)(c), FAC – limits of waste shall be set back 100 feet from the property boundary, measured from the toe of the proposed final cover slope to the landfill property boundary.

Jones Edmunds performed a volume analysis of the conceptual valley fill design, using two conceptual closure surfaces with buildout elevations of 104 feet and 64 feet. These two surfaces were created to represent design closure grades required to blend the final closure surfaces listed below over the valley fill area:

1. Permitted Final Closure (up to elevation 104 feet) Florida Recyclers facility top-of-waste surface (final cover surface lowered 3 feet to account for final cover), dated March 2014.

2. Permitted Final Closure (up to elevation 104 feet) Sarno Road Class III Landfill top-of-waste surface (final cover surface lowered 3 feet to account for final cover), dated August 2016.

Table 4 shows the total conceptual design capacity and life span of the valley fill based on an airspace consumption rate matching the Sarno Road Class III Landfill (about 150,000 CY/yr). Table 4 also shows the total life span of the valley fill airspace plus the remaining capacity of the facility at the Sarno Road Class III Landfill consumption rate.

Table 4 Valley Fill Construction Option – Volume and Lifespan Analysis

Buildout Elevations	Conceptual Design Capacity (CY)	Annual Waste Rate (CY/yr)	Lifespan (yr)
Valley Fill Lifespan			
104 feet Permitted	1,330,000	150,000	9
64 feet CUP Restriction	537,000	150,000	4
Valley Fill plus Florida Recyclers Facility			
104 feet Permitted	2,950,000	150,000	20
64 feet CUP Restriction	1,200,000	150,000	8

If the County were to pursue this expansion option, the regulatory and design requirements need to be further evaluated to determine the feasibility and cost benefit of a valley fill expansion. The estimated construction cost of this additional capacity is approximately $300,000 per acre – refer to Section 9, Supplemental Information, for cost estimates.

8 GENERAL OBSERVATIONS AND RECOMMENDATIONS

8.1 SUMMARY

Based on our review and evaluation of publicly available information, it appears that this facility is operating in a manner consistent with their permit and following regulatory guidelines. General findings related to the data review are as follows:

- Facility Operation:
  - The site operates primarily as a C&D recycling and yard waste processing facility. Disposed waste is primarily recycling residual from these operations (i.e., new construction material, vegetative waste).
  - Approximately 40 percent of the permitted volume has been consumed since 1999. The in-place waste density is unknown.
- Financial Assurance Review:
  - The site was issued a Consent Order (OGC File No. 16-1272) requiring the permittee to establish a Trust Fund as an alternative mechanism for financial assurance. It appears this was completed by the Owner.
  - Based on the approved closure cost estimate submitted to FDEP in 2017, the Trust Fund is likely underfunded when compared to recent higher closure costs at similar facilities.

- Stormwater System Evaluation:
  - In general, the stormwater system appears to be adequately designed for the permitted design of the existing facility.
  - If permitted design conditions change, such as steeper slopes or a more impervious cover (i.e., geomembrane) is permitted, the stormwater system will need to be modified.
  - The ERP application and drawings did not include a detailed sediment and erosion control plan. Jones Edmunds expects that the stormwater system will have accumulated sediment result from landfilling operations and will require excavation to restore design elevations.
- Stormwater Permitting Review:
  - The sequence of ERPs publicly available on FDEP databases for this facility is incomplete.
  - A complete timeline of the site's stormwater permitting history could not be developed based on the documents available on FDEP's Oculus website.
  - Wetland Mitigation:
    - The February 2000 ERP application discussed wetland mitigation and included a proposed mitigation plan for the expansion area. Jones Edmunds found documentation of acceptance of a final mitigation plan and documentation of satisfactory completion of the mitigation requirement.
- Groundwater and Gas Monitoring Network Evaluation:
  - The existing groundwater monitoring and landfill gas monitoring system at the facility meets regualtions and is monitored semi-annually following Class III landfill monitoring regulations.
- Environmental Monitoring Data Review:
  - Several down-gradient groundwater monitoring wells and shallow surficial wells appear to be impacted by the facility. The sources of the elevated groundwater monitoring parameters may be attributed to the type of materials processed at the facility and poor management of active face areas.
  - The facility has no evidence of groundwater assessment plans in effect.
  - Gas migration is not evident at the facility. No combustible gas exceedances have been measured outside of the limits of waste on the property boundary since August 2004. Data before August 2004 was not reviewed.
- Volume Analysis and Lifespan Evaluation:
  - Florida Recyclers facility:
  - The remaining lifespan of the 34-acre landfill for the volume of waste currently landfilled at the Florida Recyclers facility ranges from 14 years at a buildout to elevation 64 feet to 35 years at the permitted buildout elevation of 104 feet.

- The remaining lifespan of the 34-acre landfill based on the volume of waste currently landfilled at the Sarno Road Landfill ranges from 4 years at a buildout elevation of 64 feet to 11 years at the permitted buildout elevation of 104 feet.

- Valley Fill Option:

  - The estimated lifespan of the conceptual 6.6-acre valley fill option based on the volume of waste currently landfilled at the Sarno Road Landfill ranges from 4 years at a buildout elevation of 64 feet to 9 years at a buildout to the permitted elevation of 104 feet.
  - The estimated lifespan of the valley fill option plus the remaining capacity of the Florida Recyclers facility based on the volume of waste currently landfilled at the Sarno Road Landfill ranges from 8 years at a buildout to elevation 64 feet to 20 years at a buildout to the permitted elevation of 104 feet

- Landfill Expansion Construction Requirements:

  - Assuming the expansion area would be a permitted Class III disposal facility in accordance with Chapter 62-701.400(3)(g), FAC, a bottom liner system (60-mil minimum HDPE bottom liner and GCL) and a primary leachate collection and removal system are required.

- Major Construction Permit Modification:

  - The expansion project would require a major redesign and permit modification. The expansion challenges will be the design and construction of the liner and leachate collection system over the existing unlined landfills and likely significant stormwater modifications.
  - If a height variance is not granted by the City, the new expansion area would be limited to an approximately 64-foot buildout elevation and limited lifespan.

Major concerns related to the data review are as follows:

- In Jones Edmunds' experience, unlined disposal facilities exhibit higher environmental risk. The environmental liability of this facility is unclear.
- There is evidence of groundwater contamination at this facility. The source and long-term risk posed by this evidence of contamination may require further evaluation.
- It is unclear what obstacles the County may face in obtaining a height variance as described in the City of Melbourne CUP for the Sarno Road Landfill. The City's 40-foot height limitation could reduce the permitted landfill capacity by approximately 40 percent.
- If the County were to pursue the valley fill expansion option, the cost benefit results of constructing the expansion area compared to the additional capacity obtained for Class III waste disposal may be unfavorable.

8.2 RECOMMENDATIONS

- Since we could not locate final as-built drawings of the stormwater system in the FDEP files, Jones Edmunds recommends that the as-built certification be requested or a detailed survey be performed to determine adequacy of system.

- Jones Edmunds recommends that Brevard County request documentation of adequacy of the Trust Fund for closure costs.
- Jones Edmunds recommends that Brevard County obtain the City Ordinance granted for the Florida Recyclers facility and confirm with the City of Melbourne the current procedures in place for obtaining a height variance.

9 SUPPLEMENTAL INFORMATION

The following supplemental information provides additional cost information to supplement Section 7.2.2 regarding liner development costs associated with the capacities presented in Table 4. Table 5 presents approximate development costs based on an estimated $300,000 per acre for lining the valley and unfilled portions of the Florida Recyclers landfill. This table also provides the relative development cost for the additional capacity in terms of cost per cubic yard of disposal capacity.

The Valley Fill Lifespan calculations assume that both the Sarno Class III and Florida Recyclers cells have been filled to capacity, and the area to be lined, associated cost, and cost per disposal capacity are presented for build-out elevations of 64 feet NGVD and 104 feet NGVD. The 64-foot option requires 13 acres to be lined at an estimated cost of $3.9 million with relatively high development cost of $7.30 per cubic yard; whereas, the 104-foot option more than doubles capacity and requires 20 acres to be lined at an estimated cost of $6.0 million and development cost of $4.51 per cubic yard.

Alternatively, Class III waste may be placed over the entire Florida Recyclers landfill if a liner is first placed over the existing waste. The existing 34-acre landfill has about 970,000 cubic yards of solid waste in place and a remaining 650,000 cubic yards up to a height of 64 feet NGVD and 1.6 million cubic yards up to 104 feet NGVD. We estimated the construction cost to be $300,000 per acre. Lining the Valley Fill and over the entire Florida Recyclers facility requires 44 acres and a cost of $13.2 million for build-out to 64 feet NGVD and a cost of $11.00 per cubic yard. The 104-foot build-out requires 48 acres of liner at a cost of $14.4 million and a development cost of $4.88 per cubic yard.

Table 5 Estimated Construction Costs

Buildout Elevations	Conceptual Design Capacity (CY)	Liner acreage (AC)	Development Cost ($)	Cost per CY ($/CY)
Valley Fill Lifespan				
64 feet CUP Restriction	537,000	13	$3.9M	$7.30
104 feet Permitted	1,330,000	20	$6.0M	$4.51
Valley Fill plus Florida Recyclers Facility				
64 feet CUP Restriction	1,200,000	44	$13.2M	$11.00
104 feet Permitted	2,950,000	48	$14.4M	$4.88

Figures

FIGURE 1
OVERALL AREA PLAN
BREVARD COUNTY, FLORIDA

JonesEdmunds

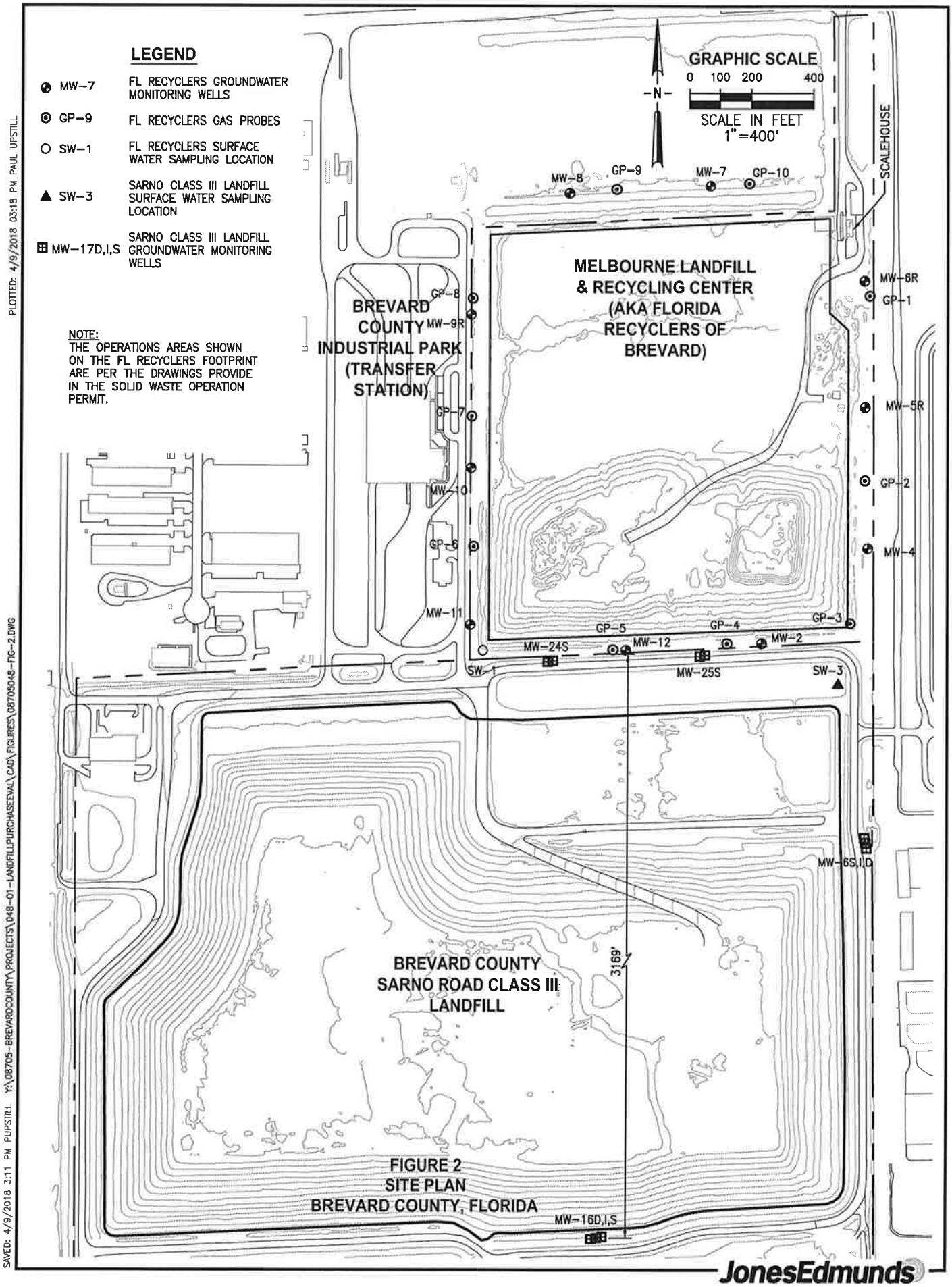


FIGURE 2
SITE PLAN
BREVARD COUNTY, FLORIDA

JonesEdmunds

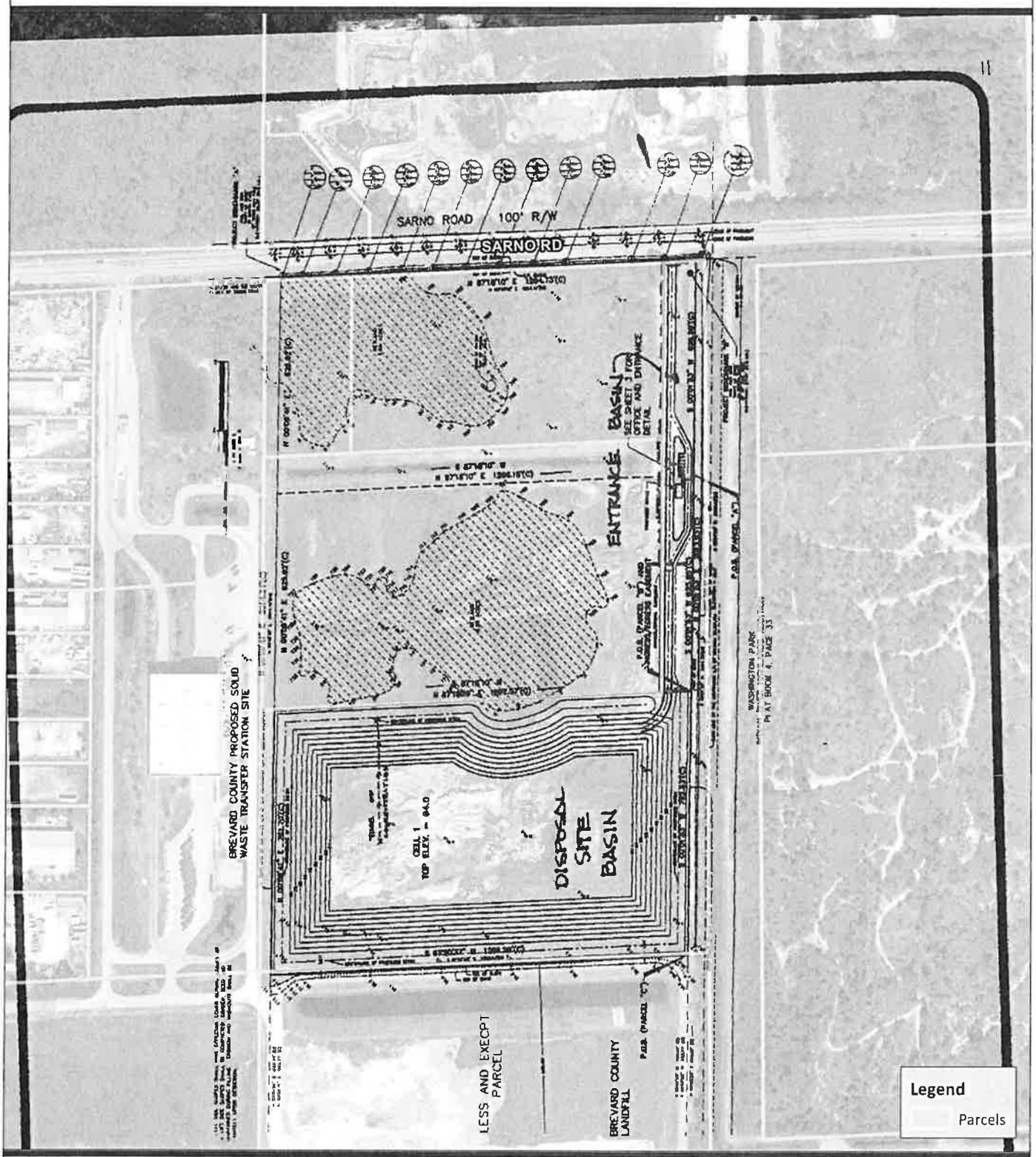
PLOTTED: 4/9/2018 03:18 PM PAUL UPSTILL

SAVED: 4/9/2018 3:11 PM PUPSTILL Y:\08705-BREVARDCOUNTY\PROJECTS\048-01-LANDFILLPURCHASEEVAL\CAD\FIGURES\08705048-FIG-2.DWG

Figure 3

ERP 133455-001 Project Plan

Florida Recylers of Brevard



For Informational Purposes Only Q:\08705_Brevard\048-01_Landfill_Purchase_Evaluation\mxd\Final\Fig3_133455-001_ProjectPlan.mxd SNyquist 4/9/2018

Figure 4

ERP 133455-002 Project Plan

Florida Recylers of Brevard

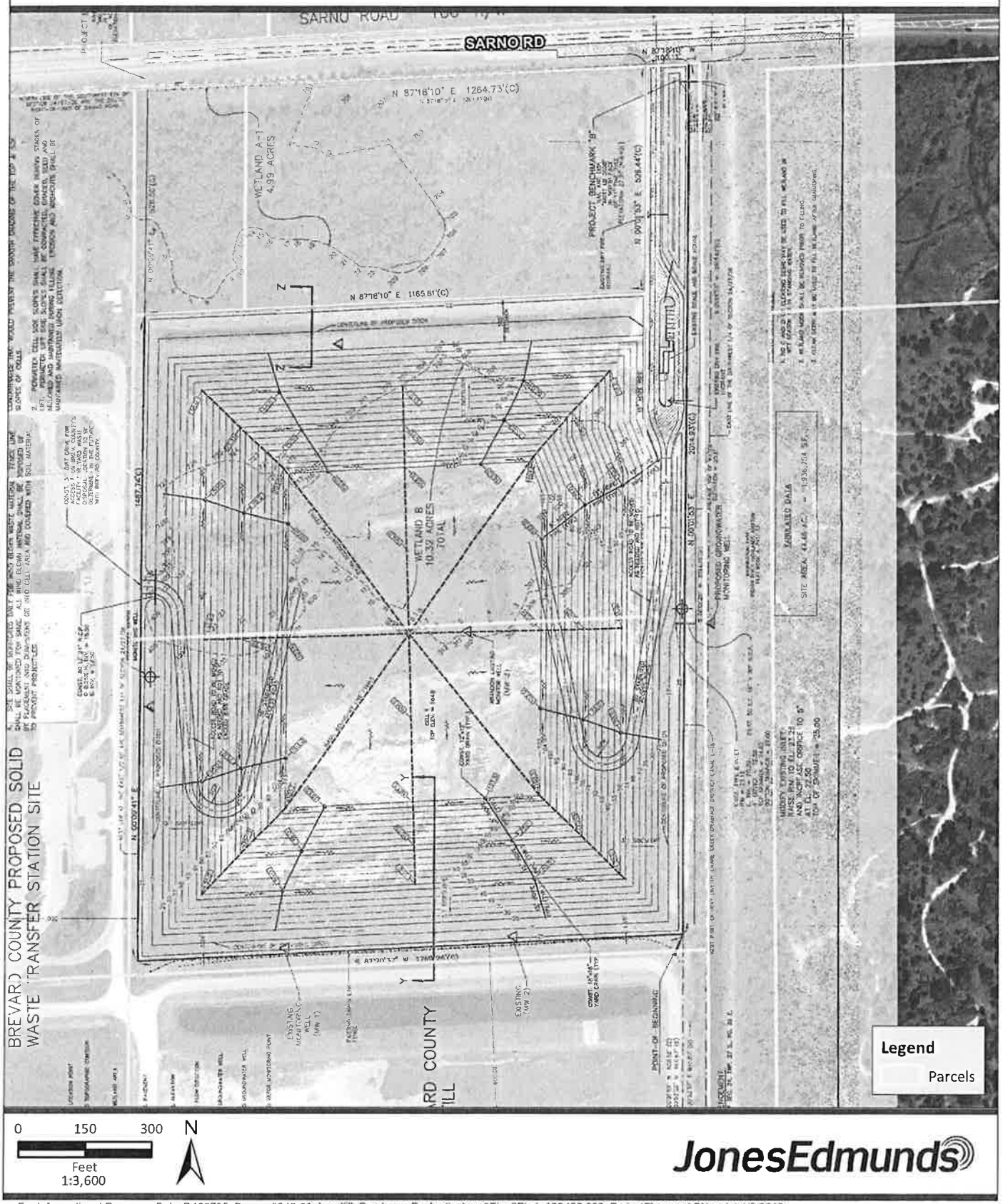


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Figure 5

ERP Design Contours Compared to LIDAR Elevation

Florida Recylers of Brevard

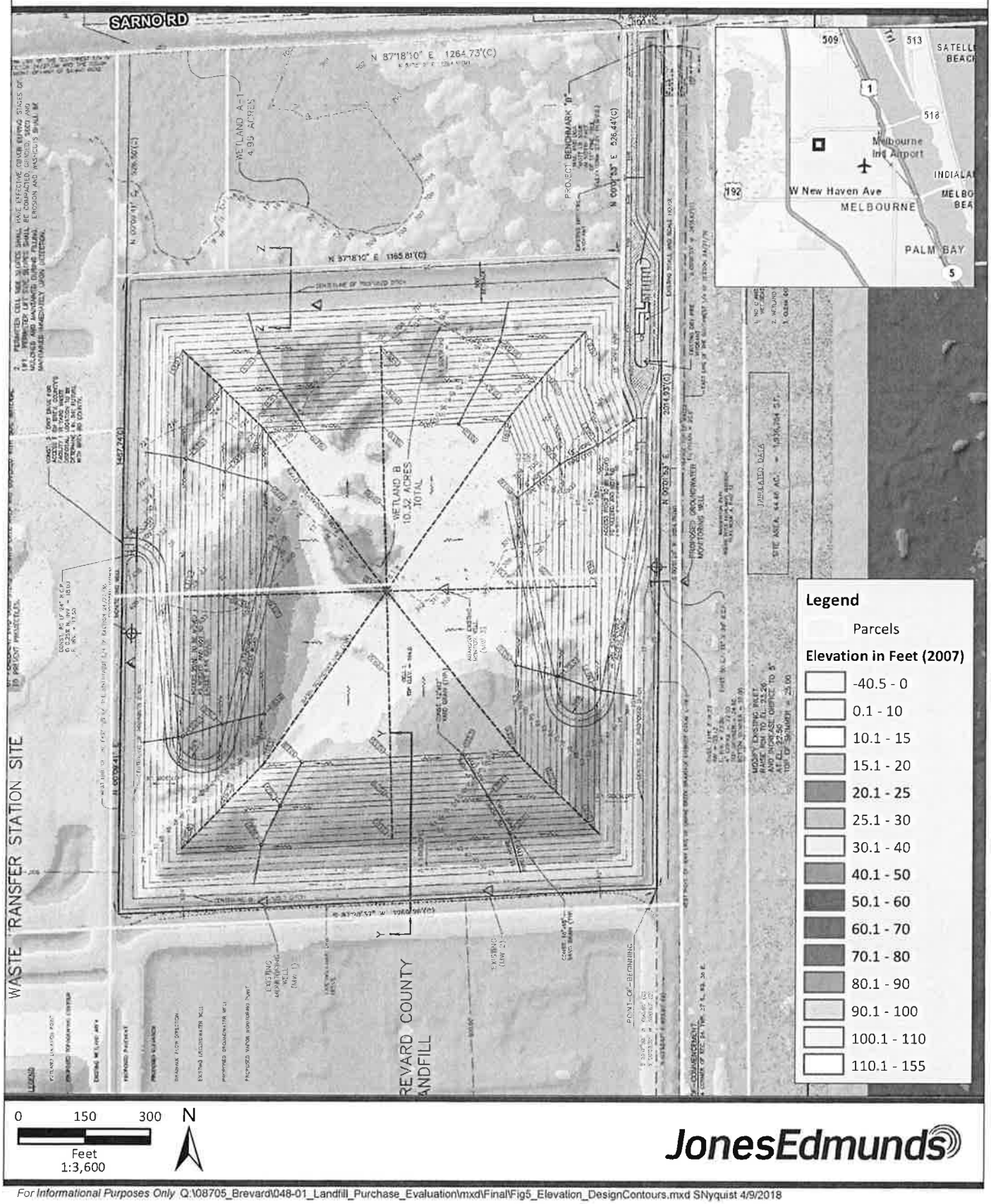

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Figure 6

Flood Hazard Map

Florida Recylers of Brevard

For Informational Purposes Only Q:\08705_Brevard\048-01_Landfill_Purchase_Evaluation\mxd\Final\Fig6_FloodHazard.mxd SNyquist 4/9/2018

Figure 7

ERP 133455-004 Project Plan - Not Permitted

Florida Recylers of Brevard

Attachment A

Groundwater Tables

Summary Table
of Groundwater Data
5-Year Average

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	CONDUCTIVITY (FIELD)	pH (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE NITROGEN	SULFATE	TOTAL DISSOLVED SOLIDS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER
STANDARD LIMITS		(1) uS/cm	6.5-8.5 S.U.** S.U.	2.8 mg/L*** mg/L	250 mg/L** mg/L	10 mg/L* mg/L	250 mg/L** mg/L	500 mg/L** mg/L	200 µg/L** µg/L	6 µg/L* µg/L	10 µg/L* µg/L	2000 µg/L* µg/L	4 µg/L* µg/L	5 µg/L* µg/L	100 µg/L* µg/L	140µg/L*** µg/L	1000 µg/L** µg/L
Sarno Shallow Surficial Background Well																	
MW-16S	5 YR AVERAGE	675.3	6.49	0.30	7.0	2.3	34.6	431.2	Not Sampled	0.36	2.38	36.25	0.29	0.29	1.25	2.38	1.44
	std dev	87.7	0.19	0.25	2.6	2.62	9.5	39.3		0.19	0.40	6.55	0.11	0.11	0.50	0.19	0.53
	3x std dev	263	0.56	0.76	6.9	7.86	28.4	118		0.57	1.19	19.7	0.33	0.33	0.00	1.19	1.70
	upper range	938	7.05	1.06	12.9	10.17	63.0	549		0.93	3.56	55.9	0.62	0.62	1.25	3.56	3.19
Melbourne Surficial Compliance Wells																	
MW-2	5 YR AVERAGE	1370	7.03	2.29	150.0	0.069	62.1	865	42.2	0.76	6.51	71.94	0.53	0.51	2.25	1.05	1.10
MW-4R	5 YR AVERAGE	1788	6.97	5.77	198.0	0.041	120.5	1240	196.6	0.82	8.07	147.54	0.53	0.51	4.03	1.05	1.10
MW-5R	5 YR AVERAGE	2427	6.74	12.15	443.6	0.188	75.9	1838	37.8	0.76	6.39	130.16	0.54	0.51	4.80	1.24	1.10
MW-6R	5 YR AVERAGE	1891	6.77	8.53	208.7	0.202	69.77	1316	44.6	0.76	3.05	138.38	0.52	0.51	4.05	1.20	4.58
MW-7	5 YR AVERAGE	713	6.88	0.08	15.6	0.029	4.30	327	340.6	0.76	6.31	21.45	0.52	0.51	2.28	1.05	1.10
MW-8	5 YR AVERAGE	647	6.71	0.17	19.4	0.029	3.49	298	223.9	0.76	3.05	12.50	0.47	0.51	2.25	1.05	1.10
MW-9R	5 YR AVERAGE	771	7.11	0.34	37.4	0.029	38.16	452	116.4	0.76	3.05	34.07	0.52	0.51	2.25	1.05	7.69
MW-10	5 YR AVERAGE	633	7.00	1.08	29.5	0.026	21.13	457	59.1	0.76	3.05	41.49	0.47	0.51	2.25	1.05	1.86
MW-11	5 YR AVERAGE	744	7.27	0.39	21.0	0.026	55.14	461	331.9	0.76	3.05	24.82	0.47	0.51	2.25	1.05	1.45
MW-12	5 YR AVERAGE	854	7.07	1.76	44.0	0.031	26.22	511	133.4	0.76	3.37	30.74	0.52	0.51	2.25	1.05	8.41

LEGEND
Yellow = Outside 3 Std Deviations of Background Average
Bolded = Outside Applicable Groundwater Standard

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	IRON	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
STANDARD UNITS		300 µg/L** µg/L	15 µg/L* µg/L	2 µg/L* µg/L	100 µg/L* µg/L	50 µg/L* µg/L	100 µg/L** µg/L	160 mg/L* mg/L	2 µg/L* µg/L	49 µg/L*** µg/L	5000 µg/L** µg/L
Sarno Shallow Surficial Background Well											
MW-18S	**5 YR AVERAGE**	**436.69**	**2.32**	**0.05**	**1.83**	**4.35**	**1.25**	**6.83**	**0.28**	**10.71**	**4.75**
	std dev	**722**	**0.59**	**0.00**	**1.19**	**1.86**	**0.00**	**4.53**	**0.08**	**3.86**	**0.78**
	2x std dev	2167	1.74	0.00	3.58	5.64	0.00	13.59	0.24	11.59	2.37
	upper range	2603	4.07	0.05	5.18	9.99	1.25	22.53	0.51	22.30	7.12
Melbourne Surficial Compliance Wells											
MW-2	**5 YR AVERAGE**	**493.9**	**0.80**	**0.0224**	**2.84**	**3.25**	**0.15**	**80.8**	**0.29**	**7.26**	**8.0**
MW-4R	**5 YR AVERAGE**	**680.8**	**0.80**	**0.0168**	**3.42**	**3.25**	**0.15**	**114.3**	**0.29**	**8.10**	**8.0**
MW-5R	**5 YR AVERAGE**	**6270**	**0.80**	**0.0162**	**5.08**	**3.25**	**0.15**	**185.8**	**0.29**	**7.80**	**8.0**
MW-6R	**5 YR AVERAGE**	**582.4**	**0.80**	**0.0115**	**3.06**	**3.25**	**0.15**	**89.8**	**0.29**	**5.77**	**8.0**
MW-7	**5 YR AVERAGE**	**4453**	**0.80**	**0.0115**	**1.60**	**3.25**	**0.15**	**13.9**	**0.29**	**5.46**	**8.0**
MW-8	**5 YR AVERAGE**	**2497**	**0.80**	**0.0115**	**1.60**	**3.25**	**0.15**	**17.0**	**0.29**	**2.86**	**11.38**
MW-9R	**5 YR AVERAGE**	**5995**	**0.80**	**0.0115**	**1.60**	**3.25**	**0.15**	**22.5**	**0.29**	**2.48**	**8.0**
MW-10	**5 YR AVERAGE**	**12792**	**0.80**	**0.0115**	**1.60**	**3.25**	**0.15**	**25.8**	**0.29**	**1.75**	**24.21**
MW-11	**5 YR AVERAGE**	**2225**	**0.80**	**0.0115**	**1.60**	**3.25**	**0.15**	**18.1**	**0.29**	**1.72**	**63.47**
MW-12	**5 YR AVERAGE**	**1150**	**0.80**	**0.0133**	**1.88**	**3.25**	**0.15**	**24.7**	**0.29**	**3.20**	**10.44**

LEGEND
Yellow = Outside 3 Std Deviations of Background Average
Boxed = Outside Applicable Groundwater Standard

Table of Groundwater Data
5 Years Compiled

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	CONDUCTIVITY (FIELD)	pH (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE NITROGEN	SULFATE	TOTAL DISSOLVED SOLIDS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	IRON
STANDARD		(1)	6.5-8.5 S.U.**	2.8 mg/L***	250 mg/L**	10 mg/L*	250 mg/L**	500 mg/L**	200 µg/L**	6 µg/L*	10 µg/L*	2000 µg/L*	4 µg/L*	5 µg/L*	100 µg/L*	140µg/L***	1000 µg/L**	300 µg/L**
UNITS		uS/cm	S.U.	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Sarno Shallow Surficial Background Well																		
MW-16S	6/4/2013	647	6.21	0.083	9.8	7.9	32.3	435		0.25	2.5	40.4	0.25	0.25	1.25	2.5	1.25	80.8
MW-16S	11/25/2013	479	6.26	0.01	5.6	5.9	26.5	329		0.25	2.5	33.5	0.25	0.25	1.25	2.5	1.25	234
MW-16S	6/11/2014	748	6.79	0.18	9.2	0.9	45	472		0.25	2.5	45.3	0.25	0.25	1.25	2.5	1.25	454
MW-16S	12/11/2014	627	6.27	0.24	7.8	0.32	<	437		0.54	2.5	27.8	0.25	0.25	1.25	2.5	1.25	117
MW-16S	5/18/2015	720	6.64	0.29	8.4	1	<	422		0.25	2.5	40.1	0.25	0.25	1.25	2.5	1.25	308
MW-16S	12/9/2015	663	6.32	0.17	5.4	3.4	<	443		0.25	2.5	39.6	0.25	0.25	1.25	2.5	1.25	146
MW-16S	5/19/2016	767	6.67	0.45	5.4	1.3	<	478		0.25	2.5	42.8	0.25	0.25	1.25	2.5	1.25	230
MW-16S	12/2/2016	685	6.65	0.26	5.1	1.2	<	433		0.76	2.5	35.2	0.25	0.25	1.25	2.5	1.25	82.3
MW-16S	6/14/2017	769	6.43	0.92	4.8	0.0125	<	435		0.56	2.5	32.8	0.25	0.25	1.25	2.5	1.25	2450
MW-16S	12/18/2017	654	6.47	0.37	5.5	1.2	<	436		0.25	1.25	35	0.60	0.5	1.25	1.25	3.1	44.8
AVERAGE		**675.3**	**6.49**	**0.30**	**7.0**	**2.3**	**34.4**	**431.2**	**Not Sampled**	**0.36**	**2.39**	**36.25**	**0.29**	**0.29**	**1.25**	**2.39**	**1.44**	**436.69**
	std dev	87.7	0.19	0.25	2.0	2.82	9.5	30.3		0.19	0.40	6.55	0.11	0.11	0.00	0.40	0.59	772
	3 x std dev	263	0.56	0.76	5.9	7.85	28.4	118		0.57	1.19	19.7	0.33	0.33	0.00	1.19	1.76	2167
	upper range	938	7.05	1.06	12.9	10.17	63.0	548		0.93	3.58	55.9	0.62	0.62	1.25	3.58	3.19	2603
Melbourne Compliance Wells - Shallow Surficial																		
MW-2	5/17/2013	1900	6.99	4.7	300	0.026	35	1200	34	0.55	3.05	89.9	0.47	0.55	2.25	1.05	1.1	81.1
MW-2	10/9/2013	1587	6.7	2.7	190	0.026	89	990	34	0.55	3.05	90.3	1.04	0.55	2.25	1.05	1.1	867
MW-2	4/9/2014	1053	6.69	3.3	160	0.026	7.4	710	34	0.55	3.05	47.5	0.47	0.55	2.25	1.05	1.1	1200
MW-2	10/8/2014	1480	6.4	0.71	180	0.13	52	1100	34	0.55	12	76.1	0.47	0.55	2.25	1.05	1.1	354
MW-2	4/23/2015	970	7.31	2.7	100	0.026	26	600	34	0.55	6.79	30.8	0.47	0.55	2.25	1.05	1.1	1230
MW-2	10/13/2015	1246	7.14	0.4	140	0.026	88	880	34	0.55	3.05	105	0.47	0.55	2.25	1.05	1.1	241
MW-2	4/18/2016	1016	7.65	3.3	100	0.026	7.4	540	72.3	0.55	3.05	53.3	0.47	0.45	2.25	1.05	1.1	115
MW-2	10/13/2016	1085	7.0	1.4	110	0.46	220	1100	77.6	1.25	16.4	104	0.47	0.45	2.25	1.05	1.1	118
MW-2	4/19/2017	1110	7.55	2.6	90	0.026	21	630	34	1.25	3.05	49.9	0.47	0.45	2.25	1.05	1.1	108
MW-2	10/18/2017	1324	6.84	1.3	120	0.12	78	910	34	1.25	12	72.8	0.47	0.45	2.25	1.05	1.1	585
AVERAGE		**1370**	**7.03**	**2.29**	**150.0**	**0.099**	**62.1**	**865**	**42.3**	**0.76**	**6.56**	**71.94**	**0.53**	**0.51**	**2.25**	**1.05**	**1.1**	**493.9**
MW-4R	5/17/2013	2800	6.8	6.4	450	0.026	2.7	1800	34	0.55	3.05	153	0.47	0.55	5.12	1.05	1.1	473
MW-4R	10/10/2013	1472	6.96	1.1	120	0.026	120	970	34	0.55	3.05	99.4	1.08	0.55	2.25	1.05	1.1	517
MW-4R	4/9/2014	1582	6.73	5.2	120	0.026	210	1100	34	0.55	3.05	107	0.47	0.55	2.25	1.05	1.1	325
MW-4R	10/9/2014	1319	6.86	1.6	120	0.18	130	860	259	0.55	7.42	133	0.47	0.55	2.25	1.05	1.1	276
MW-4R	4/23/2015	2142	7.21	14	230	0.026	230	1500	364	0.55	11.3	155	0.47	0.55	5.12	1.05	1.1	1300
MW-4R	10/13/2015	1642	7.27	4.7	200	0.026	140	1300	225	1.18	18	165	0.47	0.55	2.25	1.05	1.1	1200
MW-4R	4/19/2016	1437	6.95	10	200	0.026	150	1300	348	0.55	9.26	180	0.47	0.45	6.41	1.05	1.1	849
MW-4R	10/13/2016	1024	7.0	0.92	99	0.026	100	770	189	1.25	6.27	117	0.47	0.45	2.25	1.05	1.1	343
MW-4R	4/19/2017	2789	7.39	13	320	0.026	82	1700	147	1.25	8.72	226	0.47	0.45	10.1	1.05	1.1	554
MW-4R	10/18/2017	1589	6.77	8.82	160	0.026	120	1100	87.9	1.25	10.6	130	0.47	0.45	2.25	1.05	1.1	722
AVERAGE		**1796**	**6.97**	**5.77**	**198.9**	**0.041**	**129.5**	**1240**	**198.6**	**0.82**	**8.87**	**147.54**	**0.53**	**0.51**	**4.03**	**1.05**	**1.10**	**693.8**

LEGEND
Yellow = Outside 3 Std Deviations of Background Average
Boxed = Outside Applicable Groundwater Standard

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	CONDUCTIVITY (FIELD)	pH (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE NITROGEN	SULFATE	TOTAL DISSOLVED SOLIDS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	IRON
STANDARD UNITS		(1) uS/cm	6.5-8.5 S.U.** S.U.	2.8 mg/L*** mg/L	250 mg/L** mg/L	10 mg/L* mg/L	250 mg/L** mg/L	500 mg/L** mg/L	200 µg/L** µg/L	6 µg/L* µg/L	10 µg/L* µg/L	2000 µg/L* µg/L	4 µg/L* µg/L	5 µg/L* µg/L	100 µg/L* µg/L	140µg/L** µg/L	1000 µg/L** ug/L	300 µg/L** µg/L
MW-5R	5/17/2013	2940	6.75	12	490	0.026	0.7	2000	34	0.55	3.05	133	0.47	0.55	2.25	1.05	1.1	2120
MW-5R	10/10/2013	3037	6.42	15	490	0.11	21	1900	34	0.55	3.05	150	1.14	0.55	5.91	1.05	1.1	4680
MW-5R	4/9/2014	2929	6.09	12	570	0.026	4.4	2200	71.5	0.55	3.05	166	0.47	0.55	5.1	1.05	1.1	9330
MW-5R	10/9/2014	1586	6.76	1.2	160	0.62	190	1100	34	0.55	6.71	58.9	0.47	0.55	2.25	1.05	1.1	361
MW-5R	4/23/2015	2867	6.57	12	530	0.026	37	2000	34	0.55	3.05	162	0.47	0.55	5.58	1.05	1.1	11000
MW-5R	10/13/2015	2507	6.81	9.5	530	0.13	61	2000	34	0.55	3.05	140	0.47	0.55	5.79	1.05	1.1	8890
MW-5R	4/19/2016	1757	6.6	39	730	0.026	1.2	2500	34	0.55	3.05	187	0.47	0.45	8.74	2.96	1.1	14300
MW-5R	10/13/2016	1077	7.00	1.5	55	0.44	270	1100	34	1.25	11.5	68.3	0.47	0.45	2.25	1.05	1.1	2040
MW-5R	4/19/2017	3982	7.27	37	690	0.026	4.7	2400	34	1.25	3.05	167	0.47	0.45	8.79	1.05	1.1	7600
MW-5R	10/16/2017	1584	7.13	2.3	160	0.53	160	1100	34	1.25	24.3	69.4	0.47	0.45	2.25	1.05	1.1	882
AVERAGE		**2427**	**6.74**	**13.15**	**443.4**	**0.196**	**75.0**	**1830**	**37.8**	**0.76**	**6.39**	**130.18**	**0.54**	**0.51**	**4.69**	**1.24**	**1.10**	**6270**
MW-6R	5/17/2013	1710	6.97	4.9	150	0.026	85	1100	34	0.55	3.05	107	0.956	0.55	2.25	1.05	37.5	556
MW-6R	10/10/2013	1815	6.58	7.1	150	0.026	57	1200	34	0.55	3.05	146	0.47	0.55	2.25	1.05	1.1	522
MW-6R	4/9/2014	2350	6.25	11	250	0.026	20	1700	79.5	0.55	3.05	164	0.47	0.55	4.55	1.05	1.1	574
MW-6R	10/9/2014	906	6.6	0.62	42	0.1	48	590	34	0.55	3.05	94.8	0.47	0.55	2.25	1.05	1.1	186
MW-6R	4/23/2015	3158	6.69	16	370	0.026	0.635	1800	34	0.55	3.05	147	0.47	0.55	6.72	1.05	1.1	1300
MW-6R	10/14/2015	1300	6.74	2.4	140	0.076	77	1000	34	0.55	3.05	133	0.47	0.55	2.25	1.05	1.1	491
MW-6R	4/19/2016	1079	6.79	21	490	0.36	0.65	2300	34	0.55	3.05	188	0.47	0.45	8.85	2.4	1.1	1140
MW-6R	10/13/2016	1491	6.92	0.38	53	0.66	240	840	34	1.25	3.05	134	0.47	0.45	2.25	1.05	1.1	114
MW-6R	4/19/2017	3076	7.41	21	360	0.026	20	1800	34	1.25	3.05	162	0.47	0.45	7	1.05	1.1	869
MW-6R	10/16/2017	1123	6.7	0.00365	62	0.69	150	750	94.9	1.25	3.05	108	0.47	0.45	2.25	2.24	2.21	132
AVERAGE		**1881**	**6.77**	**8.53**	**206.7**	**0.202**	**98.77**	**1318**	**44.6**	**0.76**	**3.05**	**138.36**	**0.52**	**0.51**	**4.05**	**1.30**	**4.85**	**582.4**
MW-7	5/16/2013	775	6.89	0.098	26	0.026	2	540	268	0.55	14.3	10	0.47	0.55	2.25	1.05	1.1	11100
MW-7	10/9/2013	450	6.62	0.013	5.3	0.026	4.7	310	132	0.55	3.05	24.4	0.982	0.55	2.25	1.05	1.1	1730
MW-7	4/8/2014	389	6.51	0.00365	8.7	0.026	5.4	260	218	0.55	3.05	26.6	0.47	0.55	2.25	1.05	1.1	1160
MW-7	10/8/2014	313	6.4	0.057	2.6	0.026	0.47	200	87.9	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	481
MW-7	4/22/2015	494	6.73	0.13	13	0.026	3	310	1500	0.55	13.6	10	0.47	0.55	2.25	1.05	1.1	11100
MW-7	10/14/2015	295	6.69	0.00365	4.7	0.026	1.3	240	147	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	721
MW-7	4/18/2016	978	7.2	0.062	11	0.026	4.3	330	321	0.55	3.05	45.6	0.47	0.45	2.25	1.05	1.1	6550
MW-7	10/12/2016	303	6.72	0.012	5.1	0.026	0.39	240	153	1.25	3.05	20.7	0.47	0.45	2.25	1.05	1.1	1110
MW-7	4/18/2017	2800	8.43	0.37	69	0.052	21	550	91.9	1.25	12.8	30.6	0.47	0.45	2.25	1.05	1.1	9690
MW-7	10/17/2017	326	6.58	0.00365	11	0.026	0.48	270	91.1	1.25	3.05	26.5	0.47	0.45	2.25	1.05	1.1	488
AVERAGE		**713**	**6.66**	**0.06**	**15.8**	**0.029**	**4.30**	**337**	**340.6**	**0.75**	**6.21**	**21.45**	**0.52**	**0.51**	**2.25**	**1.05**	**1.10**	**4453**
MW-8	5/16/2013	762	7.11	0.38	54	0.026	17	490	77	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	5120
MW-8	10/9/2013	330	6.41	0.028	7.9	0.026	4.6	270	141	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	436
MW-8	4/9/2014	532	6.68	0.14	34	0.026	6.4	380	111	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	639
MW-8	10/8/2014	156	5.72	0.034	1.5	0.026	0.87	130	349	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	571
MW-8	4/22/2015	609	7.01	0.32	12	0.026	1.1	470	252	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	6230
MW-8	10/14/2015	153	6.15	0.14	6.5	0.026	1	160	404	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	374
MW-8	4/18/2016	1004	7.17	0.26	21	0.026	2.6	310	184	0.55	3.05	25	0.47	0.45	2.25	1.05	1.1	3640
MW-8	10/12/2016	189	6.3	0.01	5.1	0.026	0.8	210	364	1.25	3.05	10	0.47	0.45	2.25	1.05	1.1	1500
MW-8	4/18/2017	2558	8.51	0.43	29	0.052	0.09	360	88.4	1.25	3.05	10	0.47	0.45	2.25	1.05	1.1	3390
MW-8	10/17/2017	181	5.99	0.00365	12	0.026	0.42	180	242	1.25	3.05	10	0.47	0.45	2.25	1.05	1.1	474
AVERAGE		**647**	**6.71**	**0.17**	**18.4**	**0.029**	**3.69**	**298**	**223.9**	**0.75**	**3.05**	**12.50**	**0.47**	**0.51**	**2.25**	**1.05**	**1.10**	**2447**

LEGEND
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PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	CONDUCTIVITY (FIELD)	pH (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE NITROGEN	SULFATE	TOTAL DISSOLVED SOLIDS	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	IRON
STANDARD UNITS		(1) uS/cm	6.5-8.5 S.U.**	2.8 mg/L*** mg/L	250 mg/L** mg/L	10 mg/L* mg/L	250 mg/L** mg/L	500 mg/L** mg/L	200 µg/L** µg/L	6 µg/L* µg/L	10 µg/L* µg/L	2000 µg/L* µg/L	4 µg/L* µg/L	5 µg/L* µg/L	100 µg/L* µg/L	840 µg/L*** µg/L	1000 µg/L** µg/L	300 µg/L** µg/L
MW-9R	5/16/2013	874	6.98	0.26	57	0.026	66	520	34	0.55	3.05	35.0	0.47	0.55	2.25	1.05	61	9950
MW-9R	10/9/2013	624	6.78	0.36	26	0.026	31	420	34	0.55	3.05	30.4	0.984	0.55	2.25	1.05	1.1	7170
MW-9R	4/9/2014	633	6.58	0.33	30	0.026	29	420	34	0.55	3.05	32.3	0.47	0.55	2.25	1.05	1.1	4570
MW-9R	10/8/2014	648	6.52	0.045	30	0.026	31	410	34	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	3220
MW-9R	4/22/2015	803	7.07	0.37	52	0.026	46	480	227	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	2040
MW-9R	10/13/2015	621	7.23	0.48	32	0.026	36	440	110	0.55	3.05	38.5	0.47	0.55	2.25	1.05	1.1	6830
MW-9R	4/18/2016	1400	7.35	0.58	21	0.026	26	370	498	0.55	3.05	57	0.47	0.45	2.25	1.05	1.1	9260
MW-9R	10/12/2016	570	7.05	0.42	23	0.026	22	390	115	1.25	3.05	42.5	0.47	0.45	2.25	1.05	1.1	5330
MW-9R	4/18/2017	749	8.51	0.5	34	0.052	49	460	34	1.25	3.05	39.9	0.47	0.45	2.25	1.05	1.1	7260
MW-9R	10/17/2017	783	7.06	0.04	61	0.026	33	560	34	1.25	3.05	44.8	0.47	0.45	2.25	1.05	1.1	4320
AVERAGE		**771**	**7.11**	**0.34**	**37.4**	**0.029**	**30.10**	**452**	**115.4**	**0.76**	**3.05**	**34.07**	**0.52**	**0.51**	**2.25**	**1.05**	**7.69**	**5995**
MW-10	5/16/2013	843	6.91	1.3	54	0.026	7.1	470	34	0.55	3.05	31.7	0.47	0.55	2.25	1.05	5.55	13300
MW-10	10/9/2013	825	6.69	1.4	34	0.026	24	490	34	0.55	3.05	43.9	0.47	0.55	2.25	1.05	1.1	14200
MW-10	4/9/2014	734	6.46	1.2	20	0.026	18	450	34	0.55	3.05	41	0.47	0.55	2.25	1.05	1.1	15100
MW-10	10/8/2014	866	6.36	0.87	43	0.026	53	520	34	0.55	3.05	33.7	0.47	0.55	2.25	1.05	1.1	8640
MW-10	4/22/2015	817	6.93	1.3	18	0.026	7.6	440	34	0.55	3.05	28	0.47	0.55	2.25	1.05	1.1	15800
MW-10	10/13/2015	819	7.06	0.66	36	0.026	57	560	89	0.55	3.05	46.9	0.47	0.55	2.25	1.05	1.1	8280
MW-10	4/18/2016	1471	7.23	1.2	27	0.026	2.1	490	146	0.55	3.05	61.2	0.47	0.45	2.25	1.05	1.1	19450
MW-10	10/12/2016	665	6.96	0.75	30	0.026	26	450	79.3	1.25	3.25	46.7	0.47	0.45	2.25	1.05	1.1	11200
MW-10	4/18/2017	647	8.44	1.6	12	0.026	1.5	350	34	1.25	3.05	39.1	0.47	0.45	2.25	1.05	1.1	17500
MW-10	10/17/2017	618	7.05	0.55	17	0.026	15	430	72.4	1.25	3.05	42.7	0.47	0.45	2.25	1.05	1.1	5430
AVERAGE		**833**	**7.00**	**1.06**	**29.5**	**0.026**	**21.13**	**457**	**59.1**	**0.76**	**3.05**	**41.48**	**0.47**	**0.51**	**2.25**	**1.05**	**1.65**	**12792**
MW-11	5/17/2013	441	7.03	0.18	16	0.026	3.1	290	170	0.55	3.05	10	0.47	0.55	2.25	1.05	4.56	3720
MW-11	10/9/2013	680	6.9	0.21	47	0.026	44	450	243	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	1490
MW-11	4/9/2014	560	6.68	0.38	27	0.026	27	380	204	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	2610
MW-11	10/8/2014	939	6.7	0.039	16	0.026	91	600	225	0.55	3.05	29.2	0.47	0.55	2.25	1.05	1.1	793
MW-11	4/22/2015	643	7.31	0.66	14	0.026	37	390	127	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	4270
MW-11	10/13/2015	975	7.41	0.1	27	0.026	160	710	681	0.55	3.05	47.1	0.47	0.55	2.25	1.05	1.1	1310
MW-11	4/18/2016	1083	7.59	0.73	10	0.026	22	220	639	0.55	3.05	33.1	0.47	0.45	2.25	1.05	1.1	2670
MW-11	10/12/2016	842	7.25	0.00365	25	0.026	130	640	644	1.25	3.05	49.4	0.47	0.45	2.25	1.05	1.1	503
MW-11	4/18/2017	577	8.62	0.68	6.8	0.026	7.3	290	109	1.25	3.05	10	0.47	0.45	2.25	1.05	1.1	2040
MW-11	10/17/2017	697	7.23	0.055	21	0.026	30	530	70.7	1.25	3.05	39.4	0.47	0.45	2.25	1.05	1.1	1630
AVERAGE		**744**	**7.27**	**0.30**	**21.0**	**0.026**	**55.14**	**461**	**331.9**	**0.76**	**3.05**	**24.82**	**0.47**	**0.51**	**2.25**	**1.05**	**1.65**	**2226**
MW-12	5/17/2013	1270	6.71	3.2	240	0.026	43	1300	105	0.55	3.05	89.7	0.47	0.55	2.25	1.05	44.2	5250
MW-12	10/9/2013	412	6.88	0.00365	5.6	0.026	14	300	136	0.55	3.05	10	0.992	0.55	2.25	1.05	1.1	243
MW-12	4/9/2014	443	6.64	0.00365	10	0.026	18	310	106	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	311
MW-12	10/8/2014	480	6.25	0.16	2.3	0.026	5.4	380	124	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	927
MW-12	4/22/2015	346	7.21	0.00365	4.7	0.08	11	250	109	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	941
MW-12	10/13/2015	410	7.19	0.013	1.4	0.026	7.9	310	129	0.55	3.05	10	0.47	0.55	2.25	1.05	1.1	220
MW-12	4/18/2016	1246	7.39	0.54	36	0.026	28	480	303	0.55	3.05	44.9	0.47	0.45	2.25	1.05	1.1	1920
MW-12	10/12/2016	409	6.96	0.00365	4.7	0.026	6.9	320	125	1.25	3.05	21.8	0.47	0.45	2.25	1.05	1.1	158
MW-12	4/18/2017	916	8.55	14	120	0.026	110	950	103	1.25	3.05	62	0.47	0.45	2.25	1.05	1.1	943
MW-12	10/17/2017	600	6.89	0.00365	15	0.026	8	470	91.5	1.25	3.05	39	0.47	0.45	2.25	1.05	1.1	535
AVERAGE		**654**	**7.07**	**1.79**	**44.0**	**0.031**	**25.22**	**511**	**133.4**	**0.76**	**3.37**	**30.74**	**0.52**	**0.51**	**2.25**	**1.05**	**5.41**	**1150**

LEGEND
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PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
STANDARD UNITS		15 µg/L* µg/L	2 µg/L* µg/L	100 µg/L* µg/L	50 µg/L* µg/L	100 µg/L** ug/L	160 mg/L* mg/L	2 µg/L* µg/L	49 µg/L*** ug/L	5000 µg/L** µg/L
Sarno Shallow Surficial Background Well										
MW-16S	5/4/2013	2.5	0.05	1.25	3.75	1.25	13.3	0.25	8	5
MW-16S	11/25/2013	2.5	0.05	1.25	3.75	1.25	6.9	0.25	13.2	5
MW-16S	5/11/2014	2.5	0.05	1.25	3.75	1.25	17.5	0.25	9.2	5
MW-16S	12/11/2014	2.5	0.05	1.25	3.75	1.25	14.3	0.25	11.5	5
MW-16S	6/18/2015	2.5	0.05	1.25	3.75	1.25	9.1	0.25	10.6	5
MW-16S	12/9/2015	2.5	0.05	1.25	3.75	1.25	6.8	0.25	14.8	5
MW-16S	5/19/2016	2.5	0.05	1.25	3.75	1.25	6.8	0.25	8.6	5
MW-16S	12/2/2016	2.5	0.05	1.25	3.75	1.25	4.8	0.25	15.6	5
MW-16S	5/14/2017	2.5	0.05	1.25	3.75	1.25	5.5	0.50	2.5	5
MW-16S	12/18/2017	0.65	0.05	5	9.7	1.25	4.3	0.25	13	2.5
AVERAGE		**2.32**	**0.05**	**1.83**	**4.35**	**1.25**	**8.93**	**0.29**	**10.71**	**4.75**
	std dev	0.59	0.00	1.19	1.88	0.00	4.53	0.08	3.86	0.79
	3x std dev	1.76	0.00	3.56	5.64	0.00	13.60	0.24	11.59	2.37
	upper range	4.07	0.05	5.18	9.99	1.25	22.53	0.51	22.30	7.12
Melbourne Compliance Wells - Shallow Su										
MW-2	5/17/2013	0.8	0.0115	1.6	3.25	0.145	147	0.29	3.45	8
MW-2	10/9/2013	0.8	0.0115	1.6	3.25	0.145	124	0.29	10.3	8
MW-2	4/9/2014	0.8	0.0115	1.6	3.25	0.145	91.1	0.29	7.24	8
MW-2	10/8/2014	0.8	0.0492	4.03	3.25	0.145	59.6	0.29	6.62	8
MW-2	4/23/2015	0.8	0.0115	1.6	3.25	0.145	64.4	0.29	5.51	8
MW-2	10/13/2015	0.8	0.0115	3.54	3.25	0.145	66.6	0.29	15.3	8
MW-2	4/18/2016	0.8	0.0115	1.6	3.25	0.145	64.8	0.29	6.66	8
MW-2	10/13/2016	0.8	0.0561	4.13	3.25	0.145	65.8	0.29	5.49	8
MW-2	4/19/2017	0.8	0.0115	1.6	3.25	0.145	63.3	0.29	3.34	8
MW-2	10/18/2017	0.8	0.0278	5.1	3.25	0.145	62.3	0.29	8.67	8
AVERAGE		**0.80**	**0.0224**	**2.64**	**3.25**	**0.15**	**80.9**	**0.29**	**7.24**	**8.0**
MW-4R	5/17/2013	0.8	0.0115	1.6	3.25	0.145	223	0.29	7.05	8
MW-4R	10/10/2013	0.8	0.0115	1.6	3.25	0.145	77.6	0.29	10.1	8
MW-4R	4/9/2014	0.8	0.0115	1.6	3.25	0.145	83	0.29	8.21	8
MW-4R	10/9/2014	0.8	0.0548	1.6	3.25	0.145	51.9	0.29	6.15	8
MW-4R	4/23/2015	0.8	0.0115	4.03	3.25	0.145	130	0.29	8.56	8
MW-4R	10/13/2015	0.8	0.0115	5.95	3.25	0.145	96.2	0.29	9.5	8
MW-4R	4/19/2016	0.8	0.0115	4.17	3.25	0.145	145	0.29	8.97	8
MW-4R	10/13/2016	0.8	0.0115	1.6	3.25	0.145	52	0.29	3.54	8
MW-4R	4/18/2017	0.8	0.0115	5.89	3.25	0.145	210	0.29	10.4	8
MW-4R	10/18/2017	0.8	0.0115	8.12	3.25	0.145	74.5	0.29	7.54	8
AVERAGE		**0.80**	**0.0152**	**3.42**	**3.25**	**0.15**	**114.3**	**0.29**	**8.10**	**8.0**

LEGEND
Yellow = Outside 3 Std Deviations of Background Average
Boxed = Outside Applicable Groundwater Standard

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
STANDARD		15 µg/L*	2 µg/L*	100 µg/L*	60 µg/L*	100 µg/L**	160 mg/L*	2 µg/L*	49 µg/L***	5000 µg/L**
UNITS		ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	µg/L
MW-5R	5/17/2013	0.6	0.0115	3.4	3.25	0.145	185	0.29	6.89	8
MW-5R	10/10/2013	0.8	0.0115	1.6	3.25	0.145	189	0.29	9.69	8
MW-5R	4/9/2014	0.8	0.0115	4.68	3.25	0.145	210	0.29	8.08	8
MW-5R	10/9/2014	0.8	0.0458	5.38	3.25	0.145	63.1	0.29	3.64	8
MW-5R	4/23/2015	0.8	0.0115	4.09	3.25	0.145	183	0.29	6.97	8
MW-5R	10/13/2015	0.8	0.0115	5.37	3.25	0.145	175	0.29	7.89	8
MW-5R	4/19/2016	0.8	0.0115	4.43	3.25	0.145	255	0.29	13.2	8
MW-5R	10/13/2016	0.8	0.0246	6.39	3.25	0.145	60.8	0.29	1	8
MW-5R	4/18/2017	0.8	0.0115	5.79	3.25	0.145	265	0.29	13.1	8
MW-5R	10/16/2017	0.8	0.0115	9.28	3.25	0.145	73.2	0.29	7.56	8
AVERAGE		**0.80**	**0.0162**	**5.06**	**3.25**	**0.15**	**145.8**	**0.29**	**7.80**	**8.0**
MW-6R	5/17/2013	0.8	0.0115	1.6	3.25	0.145	74.1	0.29	5.2	8
MW-6R	10/10/2013	0.8	0.0115	1.6	3.25	0.145	65.8	0.29	6.94	8
MW-6R	4/9/2014	0.8	0.0115	5.43	3.25	0.145	133	0.29	8	8
MW-6R	10/9/2014	0.8	0.0115	1.6	3.25	0.145	28.6	0.29	2.2	8
MW-6R	4/23/2015	0.8	0.0115	4.19	3.25	0.145	152	0.29	7.57	8
MW-6R	10/14/2015	0.8	0.0115	3.88	3.25	0.145	64.8	0.29	6.61	8
MW-6R	4/19/2016	0.8	0.0115	5.3	3.25	0.145	195	0.29	9.8	8
MW-6R	10/13/2016	0.8	0.0115	5.78	3.25	0.145	54.2	0.29	1	8
MW-6R	4/18/2017	0.8	0.0115	5.2	3.25	0.145	168	0.29	9.34	8
MW-6R	10/16/2017	0.8	0.0115	5.02	3.25	0.145	42.7	0.29	1	8
AVERAGE		**0.80**	**0.0115**	**3.96**	**3.25**	**0.15**	**89.8**	**0.29**	**5.77**	**8.0**
MW-7	5/16/2013	0.8	0.0115	1.6	3.25	0.145	36.1	0.29	11.3	8
MW-7	10/9/2013	0.8	0.0115	1.6	3.25	0.145	7.25	0.29	5.27	8
MW-7	4/8/2014	0.8	0.0115	1.6	3.25	0.145	8.53	0.29	5.67	8
MW-7	10/8/2014	0.8	0.0115	1.6	3.25	0.145	3.07	0.29	1	8
MW-7	4/22/2015	0.8	0.0115	1.6	3.25	0.145	13.4	0.29	19.6	8
MW-7	10/14/2015	0.8	0.0115	1.6	3.25	0.145	4.6	0.29	1	8
MW-7	4/18/2016	0.8	0.0115	1.6	3.25	0.145	15.6	0.29	6.94	8
MW-7	10/12/2016	0.8	0.0115	1.6	3.25	0.145	4.86	0.29	1	8
MW-7	4/18/2017	0.8	0.0115	1.6	3.25	0.145	36.6	0.29	1	8
MW-7	10/17/2017	0.8	0.0115	1.6	3.25	0.145	8.92	0.29	1	8
AVERAGE		**0.80**	**0.0115**	**1.60**	**3.25**	**0.15**	**13.9**	**0.29**	**5.48**	**8.0**
MW-8	5/16/2013	0.8	0.0115	1.6	3.25	0.145	39.4	0.29	2.87	8
MW-8	10/8/2013	0.8	0.0115	1.6	3.25	0.145	7.05	0.29	3.52	8
MW-8	4/9/2014	0.8	0.0115	1.6	3.25	0.145	32.3	0.29	2.33	8
MW-8	10/8/2014	0.8	0.0115	1.6	3.25	0.145	2.46	0.29	1	8
MW-8	4/22/2015	0.8	0.0115	1.6	3.25	0.145	23	0.29	10.8	8
MW-8	10/14/2015	0.8	0.0115	1.6	3.25	0.145	5.13	0.29	1	8
MW-8	4/18/2016	0.8	0.0115	1.6	3.25	0.145	18.7	0.29	2.91	8
MW-8	10/12/2016	0.8	0.0115	1.6	3.25	0.145	4.94	0.29	1	20.2
MW-8	4/18/2017	0.8	0.0115	1.6	3.25	0.145	30.6	0.29	2.18	8
MW-8	10/17/2017	0.8	0.0115	1.6	3.25	0.145	5.26	0.29	1	29.8
AVERAGE		**0.80**	**0.0115**	**1.60**	**3.25**	**0.15**	**17.0**	**0.29**	**2.84**	**11.30**

LEGEND
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PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
MELBOURNE LANDFILL AND RECYCLING CENTER COMPARED TO SHALLOW SURFICIAL BACKGROUND AT SARNO LANDFILL
MAY 2013 THROUGH OCTOBER 2017

PARAMETER	SAMPLING DATE	LEAD	MERCURY	NICKEL	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
STANDARD UNITS		15 µg/L* µg/L	2 µg/L* µg/L	100 µg/L* µg/L	50 µg/L* µg/L	100 µg/L** µg/L	160 mg/L* mg/L	2 µg/L* µg/L	49 µg/L*** µg/L	5000 µg/L** µg/L
MW-9R	5/16/2013	0.8	0.0115	1.6	3.25	0.145	25.8	0.29	2.22	8
MW-9R	10/8/2013	0.8	0.0115	1.6	3.25	0.145	19.5	0.29	4.66	8
MW-9R	4/9/2014	0.8	0.0115	1.6	3.25	0.145	18.2	0.29	2.57	8
MW-9R	10/8/2014	0.8	0.0115	1.6	3.25	0.145	18	0.29	2.04	8
MW-9R	4/22/2015	0.8	0.0115	1.6	3.25	0.145	21.8	0.29	2.3	8
MW-9R	10/13/2015	0.8	0.0115	1.6	3.25	0.145	20	0.29	2.08	8
MW-9R	4/18/2016	0.8	0.0115	1.6	3.25	0.145	17.4	0.29	4.79	8
MW-9R	10/12/2016	0.8	0.0115	1.6	3.25	0.145	19.4	0.29	1	8
MW-9R	4/18/2017	0.8	0.0115	1.6	3.25	0.145	20	0.29	1	8
MW-9R	10/17/2017	0.8	0.0115	1.6	3.25	0.145	35.2	0.29	2.12	8
AVERAGE		0.80	0.0115	1.60	3.25	0.15	22.5	0.29	2.48	8.0
MW-10	5/16/2013	0.8	0.0115	1.6	3.25	0.145	27.2	0.29	2.64	8
MW-10	10/8/2013	0.8	0.0115	1.6	3.25	0.145	29.2	0.29	3.5	24
MW-10	4/9/2014	0.8	0.0115	1.6	3.25	0.145	28.2	0.29	1	21.4
MW-10	10/8/2014	0.8	0.0115	1.6	3.25	0.145	32.2	0.29	1	27.6
MW-10	4/22/2015	0.8	0.0115	1.6	3.25	0.145	26.6	0.29	1	46.7
MW-10	10/13/2015	0.8	0.0115	1.6	3.25	0.145	35.7	0.29	1	17.5
MW-10	4/18/2016	0.8	0.0115	1.6	3.25	0.145	21.2	0.29	2.82	26.2
MW-10	10/12/2016	0.8	0.0115	1.6	3.25	0.145	25.3	0.29	1	16.9
MW-10	4/18/2017	0.8	0.0115	1.6	3.25	0.145	17.8	0.29	1	8
MW-10	10/17/2017	0.8	0.0115	1.6	3.25	0.145	14.4	0.29	2.57	42.8
AVERAGE		0.80	0.0115	1.60	3.25	0.15	25.8	0.29	1.75	24.31
MW-11	5/17/2013	0.8	0.0115	1.6	3.25	0.145	10.9	0.29	1	8
MW-11	10/9/2013	0.8	0.0115	1.6	3.25	0.145	29	0.29	3.44	45.3
MW-11	4/9/2014	0.8	0.0115	1.6	3.25	0.145	18.4	0.29	1	41.3
MW-11	10/8/2014	0.8	0.0115	1.6	3.25	0.145	19.7	0.29	1	158
MW-11	4/22/2015	0.8	0.0115	1.6	3.25	0.145	15.9	0.29	1	68.2
MW-11	10/13/2015	0.8	0.0115	1.6	3.25	0.145	25	0.29	2.28	87.6
MW-11	4/18/2016	0.8	0.0115	1.6	3.25	0.145	12.1	0.29	3.22	42.9
MW-11	10/12/2016	0.8	0.0115	1.6	3.25	0.145	19.4	0.29	1	131
MW-11	4/18/2017	0.8	0.0115	1.6	3.25	0.145	9.39	0.29	1	8
MW-11	10/17/2017	0.8	0.0115	1.6	3.25	0.145	18	0.29	2.25	53.2
AVERAGE		0.80	0.0115	1.60	3.25	0.15	18.1	0.29	1.77	63.47
MW-12	5/17/2013	0.8	0.0115	1.6	3.25	0.145	98	0.29	4.4	8
MW-12	10/8/2013	0.8	0.0115	1.6	3.25	0.145	6.09	0.29	3.82	8
MW-12	4/9/2014	0.8	0.0115	1.6	3.25	0.145	8.52	0.29	2.23	8
MW-12	10/8/2014	0.8	0.0295	1.6	3.25	0.145	3.8	0.29	2.58	22.2
MW-12	4/23/2015	0.8	0.0115	1.6	3.25	0.145	2.83	0.29	2.32	8
MW-12	10/13/2015	0.8	0.0115	1.6	3.25	0.145	2.51	0.29	1	8
MW-12	4/18/2016	0.8	0.0115	1.6	3.25	0.145	23	0.29	6.69	8
MW-12	10/12/2016	0.8	0.0115	1.6	3.25	0.145	3.37	0.29	1	39.1
MW-12	4/18/2017	0.8	0.0115	4.37	3.25	0.145	66.2	0.29	6.57	26.3
MW-12	10/17/2017	0.8	0.0115	1.6	3.25	0.145	12	0.29	1	58.8
AVERAGE		0.80	0.0133	1.88	3.25	0.15	24.7	0.29	3.29	19.44

LEGEND
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Summary Table of Surface Water Data Over 5 Years

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
SARNO ROAD CLASS III LANDFILL
JUNE 2013 THROUGH DECEMBER 2017

PARAMETER		CONDUCTIVITY (FIELD)	AMMONIA NITROGEN	UN-IONIZED AMMONIA	BIOCHEMICAL OXYGEN DEMAND	CHEMICAL OXYGEN DEMAND	CHLORIDE	NITRATE NITROGEN	TOTAL PHOS-PHORUS as P	SULFATE	TOTAL DISSOLVED SOLIDS
CLASS III (FRESH) SURFACE WATER STANDARD		<50 % Increase or <1275 max	NA	0.02 mg/L	NA	NA	NA	NA	NA	NA	NA
GROUNDWATER STANDARD		(1)	2.8 mg/L***	(1)	(1)	(1)	(1)	10 mg/L*	(1)	250 mg/L**	500 mg/L**
UNITS		uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sarno Surface Waters											
SW-1 / SW-1R	5 YR AVERAGE	942	0.43	0.03	7.3	133	NS	0.027	0.037	40.6	598
	std dev	83	0.54	0.03	1.9	17	NS	0.015	0.020	3.6	78
	3 x std dev	250	1.61	0.09	5.8	51	NS	0.044	0.061	10.7	234
	upper range	1192	2.04	0.12	13.1	185	NS	0.071	0.097	51.3	832
Melbourne Surface Water											
SW-1	5 YR AVERAGE	1586	6.47	0.26	18.4	323	174	0.030	0.79	125	1150
Sarno Surface Waters											
SW-2	5 YR AVERAGE	1041	3.24	0.04	5.0	105	NS	0.048	0.117	30	721
SW-3	5 YR AVERAGE	1036	0.67	0.05	8.1	153	NS	0.048	0.072	66	688
SW-4 / SW-4R	5 YR AVERAGE	845	0.78	0.01	4.5	47	NS	0.047	0.096	29	546
SW-7	5 YR AVERAGE	1118	2.40	0.03	NS	NS	NS	NS	NS	NS	NS

LEGEND
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
*** = Chapter 62-777 Groundwater Cleanup Target Levels (GCTL)

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
SARNO ROAD CLASS III LANDFILL
JUNE 2013 THROUGH DECEMBER 2017

PARAMETER		TOTAL HARDNESS	TOTAL KJELDAHL NITROGEN	TOTAL ORGANIC CARBON	TOTAL SUSPENDED SOLIDS	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CHROMIUM	COPPER
CLASS III (FRESH) SURFACE WATER STANDARD		NA	NA	NA	NA	4300 µg/L	50 µg/L	NA	0.13 µg/L	CALC	CALC
GROUNDWATER STANDARD		(1)	(1)	(1)	(1)	6 µg/L*	10 µg/L*	2000 µg/L*	4 µg/L*	100 µg/L*	1000 µg/L**
UNITS		mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Sarno Surface Waters											
SW-1 / SW-1R	**5 YR AVERAGE**	**200**	**4.89**	**32.1**	**30.1**	**0.59**	**3.1**	**51.1**	**0.028**	**1.25**	**0.47**
	std dev	**19**	**0.53**	**6.0**	**5.9**	**0.25**	**1.3**	**9.1**	**0.008**	**0.00**	**0.00**
	3 x std dev	**57**	**1.60**	**18.0**	**17.8**	**0.76**	**3.8**	**27.4**	**0.024**	**0.00**	**0.00**
	upper range	**257**	**6.49**	**50.1**	**47.9**	**1.35**	**6.9**	**78.5**	**0.051**	**1.25**	**0.47**
Melbourne Surface Water											
SW-1	**5 YR AVERAGE**	**451**	**15.1**	**79**	**14.4**	**3.39**	**18.4**	**68.8**	**0.047**	**4.40**	**2.23**
Sarno Surface Waters											
SW-2	**5 YR AVERAGE**	**374**	**4.7**	**30**	**34.4**	**0.33**	**3.2**	**51.9**	**0.040**	**1.88**	**0.47**
SW-3	**5 YR AVERAGE**	**276**	**4.2**	**42**	**22.0**	**0.28**	**3.3**	**41.4**	**0.035**	**1.77**	**0.47**
SW-4 / SW-4R	**5 YR AVERAGE**	**299**	**1.3**	**13**	**47.2**	**0.29**	**2.5**	**58.0**	**0.055**	**1.61**	**2.09**
SW-7	**5 YR AVERAGE**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**

LEGEND
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
*** = Chapter 62-777 Groundwater Cleanup Target Levels (GCTL)

Wednesday, March 21, 2018

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
SARNO ROAD CLASS III LANDFILL
JUNE 2013 THROUGH DECEMBER 2017

PARAMETER		IRON	LEAD	MERCURY	SELENIUM	SILVER	THALLIUM	VANADIUM	ZINC
CLASS III (FRESH) SURFACE WATER STANDARD		1000 µg/L	CALC	0.012 µg/L	5 µg/L	0.07 µg/L	6.3 µg/L	NA	CALC
GROUNDWATER STANDARD		300 µg/L**	15 µg/L*	2 µg/L*	50 µg/L*	100 µg/L**	2 µg/L*	49 µg/L***	5000 µg/L**
UNITS		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Sarno Surface Waters									
SW-1 / SW-1R	**5 YR AVERAGE**	**72**	**2.88**	**0.0047**	**0.796**	**0.0250**	**0.250**	**3.15**	**5.62**
	std dev	**48**	**1.20**	**0.0012**	**0.372**	**0.0000**	**0.000**	**1.37**	**1.96**
	3 x std dev	**143**	**3.60**	**0.0036**	**1.117**	**0.0000**	**0.000**	**4.12**	**5.88**
	upper range	**215**	**6.48**	**0.0083**	**1.913**	**0.0250**	**0.250**	**7.27**	**11.50**
Melbourne Surface Water									
SW-1	**5 YR AVERAGE**	**430**	**0.205**	**0.0101**	**0.325**	**0.0145**	**0.029**	**1.93**	**8.34**
Sarno Surface Waters									
SW-2	**5 YR AVERAGE**	**2001**	**2.83**	**0.0027**	**0.250**	**0.0250**	**0.250**	**2.84**	**20.70**
SW-3	**5 YR AVERAGE**	**328**	**3.05**	**0.0036**	**0.433**	**0.0305**	**0.250**	**3.80**	**5.76**
SW-4 / SW-4R	**5 YR AVERAGE**	**2073**	**4.14**	**0.0037**	**0.285**	**0.0250**	**0.250**	**5.80**	**15.15**
SW-7	**5 YR AVERAGE**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**

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Brevard COUNTY

BOARD OF COUNTY COMMISSIONERS

Solid Waste Management Department
2725 Judge Fran Jamieson Way
Building A, Room 118
Viera, Florida 32940

Inter-Office Memo

Date: March 23, 2019

To: Board of County Commissioners

Through: Frank Abbate, County Manager

Through: John Denninghoff, Assistant County Manager
Development & Environmental Services Group

From: Euripides Rodriguez, C.I.A., Director

Subject: Melbourne Landfill A.K.A. Florida Recyclers

On January 22, 2019, the Board of County Commissioners directed staff to conduct a report on the possibility of purchasing the Melbourne Landfill also known as Florida Recyclers.

In considering this opportunity, staff wants to highlight for the Board's information that on March 4, 2019, the Board's consultant, Neel Shaffer, Inc. updated its analysis concerning the remaining life expectancy of the Sarno landfill. Their updated analysis indicated that without an increase in capacity the remaining life expectancy of the Sarno Landfill is thirteen months. Considerations outside of the potential purchase of the Florida Recyclers property will be discussed in detail in a second report the Solid Waste Department is currently drafting that will be submitted to the Board with the next few weeks relating to other potential opportunities on how the potential closure of the Sarno Facility can be addressed if the life of the Sarno facility cannot be extended.

Background Information

The Florida Recyclers property consists of two parcels located on Sarno Road in the City of Melbourne. It is partially surrounded by Brevard County properties. There are two properties to the north belonging to the City of Melbourne and Liberty Investments of Brevard, LLC. A portion of the Florida Recyclers land provides a driveway (flag lot) to Sarno Road. Brevard County properties are located to the west, south and east. The Sarno Road Transfer Station is located to the west, the Sarno Road Landfill is located to the south and to the east there is a county parcel that is being used temporarily as a dredge material management area.

Florida Recyclers permitted a 20-acre unlined Construction and Demolition (C&D) debris landfill in 1998. The landfill was expanded to 36-acres and the site was converted to a Class III landfill in 1999. In 2014 Florida Recyclers submitted a permit modification to return the landfill back to a C&D landfill and a 10 year permit was issued. The rules regarding C&D landfills are different than Class III landfills. One of these differences is the Financial Assurance, or what we refer to as landfill closure escrows. Escrows are not allowed for C&D landfills and Florida Recyclers had some difficulties finding another mechanism for the closure requirement. In 2017 a consent order was issued by the Florida Department of Environmental Protection (FDEP). This issue was resolved in May 2017 with a stipulation that the facility must be closed as if it were a Class III facility. The requirements for closures between both types of facilities make closure under Class III rules more expensive in comparison to closure of a C&D facility. Using the Sarno Road Landfill and the Central Disposal Facility partial closure costs as reference, Jones Edmunds and Associates are of the opinion that the trust fund in which closure money for Florida Recyclers is deposited "is likely underfunded".

In order to fully understand the differences in the type of landfills being discussed we have included the definitions of the types of materials received by the landfills. FDEP has defined Class III waste as yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by FDEP, that are not expected to produce leachate that poses a threat to public health or the environment. Construction and Demolition materials are discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure, including such debris from construction of structures at a site remote from the construction or demolition project site. The term includes rocks, soils, tree remains, trees, and other vegetative matter that normally results from land clearing or land development operations for a construction project; clean cardboard, paper, plastic, wood, and metal scraps from a construction project. In other words C&D materials are those that you can expect to be generated from construction activities. Note that mixing C&D materials with other classification will cause it to be classified as other than C&D.

The regulations regarding construction of both types of landfill have reached the point that there is practically no difference between them. With the requirement that the Florida Recyclers C&D landfill be closed as a Class III the differences are further reduced. On the other hand, use of the Florida Recyclers facility as a Class III landfill will have its challenges. The waste that the Sarno Road Landfill receives is class III material while the Florida Recyclers Landfill receives only C&D material. The Class III materials include C&D as well as other inert materials such as patio furniture. This means that a liner would have to be placed over the existing Florida Recyclers Landfill to use it as a Class III landfill. The liner would be a continuation of the liner that the valley would require. A leachate collection system also would have to be built over the entire Florida Recyclers landfill as well as the valley if the valley is to be used/filled with waste in order to collect the leachate for processing.

The valley mentioned through this report refers to the space that lies between the Florida Recyclers southern footprint of the landfill and the Sarno Road Landfill northern footprint. If the county were to own both properties then this land or airspace could be converted for use as a landfill thus extending the life of the Sarno Landfill.

Last year Florida Recyclers gave the county an "Investment Value Report" prepared by Shawn E. Wilson, MAI regarding their landfill. Investment value is defined by the Dictionary of Real Estate Appraisal, Sixth Edition, 2015, page 121 as "the value of the property to a particular investor or class of investors based on the investor's specific requirements. Investment value may be different from market value because it depends on a set on (*sic*) investment criteria that are not necessarily typical of the market." The Investment value set by this report is $8,416,000. As a note on page 12 of the report, Ms. Wilson states "Note that the market value of the landfill and business which currently operate on the site is not part of this analysis."

Staff recently requested an independent appraisal with the firm of Clayton, Roper & Marshall, Inc. for the Florida Recyclers property. The appraiser has requested additional information from Florida Recyclers as well as an onsite visit. This request has been forwarded to their attorneys. When the appraisal is complete we will update this report.

The Solid Waste Department contracted with Jones Edmonds & Associates, Inc. to review and evaluate the following:

- Solid Waste Permitting History
- Overall Facility Operations
- Financial Assurance Documentation
- FDEP Environmental Resource Permit (ERP) History
- Permitted Stormwater Management System
- Historical Water Quality and Gas Monitoring Data
- Current Volume and Lifespan Analysis of the Facility
- Valley Fill Expansion Option

Jones Edmond concluded that the facility appears to be operating in a manner consistent with its permit and applicable regulatory guidelines. There are several considerations that are incorporated into an observations section below.

The height that a landfill can be built to is referred to as airspace available for use by the landfill. Airspace is a principal factor in the values and determination of the life expectancy of a landfill. Both the recent vertical expansion area of the Sarno Road Landfill and the Florida Recyclers landfill have a City of Melbourne limitation of forty feet above ground level while having a 104 foot permitted height through the Florida Department of Environmental Protection. In order to go higher than 40 feet a height variance is need from the City. Staff has met with the City of Melbourne staff to initiate the process of seeking a height variance for the Sarno Road Landfill expansion area. The variance request is expected to go before the City of Melbourne council this summer. Staff had initially requested a height variance from the City when we went through the local permitting process for the Sarno Road Landfill expansion project. The variance request was denied at that time with the observation that we could come back to the Council when the landfill was closer to needing the height variance to provide additional airspace. That time has arrived as referenced below.

Observations:

With this background information we will proceed with observations relating to the potential purchase of this facility.

1. The life expectancy of the Sarno Road Landfill is April 2020 as permitted by the City of Melbourne and October 2024 if we are able to secure a height variance from the City of Melbourne. Acquiring this property would give us additional life expectancy for this facility (see number 2).
2. Depending on several factors, to some extent, the acquisition of this site would extend the life of the Sarno Road Landfill by:
    a. 4.3 years – Without using the valley and without a height variance from the City of Melbourne.
    b. 11 years – Without using the valley and with a height variance from the City of Melbourne.
    c. 8 years – Using the valley and without the height variance from the City of Melbourne.
    d. 20 years – Using the valley and with the height variance from the City of Melbourne.
3. There would be no disruption to the users of the Sarno Road Landfill as this would just be an extension of the same.
4. Landfills sometimes suffer from underground migration of gasses that are produced from the onsite activities. While various challenges can exist with the new additional space, gas migration does not appear to be evident on the Florida Recyclers Landfill.
5. The timeline for providing an alternative site for Class 3 disposal material would be mitigated.
6. The purchase of this property without a height variance from the City of Melbourne would provide an additional 8 years of capacity. This capacity would come at a cost of $11.00[1] a cubic yard, for a single composite liner. This compares unfavorably with the cost of building cell 1, which is a double composite liner, at the Central Disposal Facility of $5.01[2] a cubic yard (the cost per cubic yard decreases as other cells are built as the landfill can be built higher and the valleys in between the cells are filled).
7. Assuming the County is granted a height variance, the cost to use Florida Recyclers property would decrease to $4.88 per cubic yard (see footnote 1).
8. The cost mentioned above does not include the cost of a leachate collection and pre-treatment system, acquiring the "new" property, stormwater ponds or ditches, existing land, or any other construction cost not strictly related to the building of the liner. These costs would have to be added. (As a side note for clarification, the Central Disposal Facility also did not include the cost of a leachate tank as one is already in place.)
9. The existing Trust Fund for closures is likely underfunded in comparison to our most recent closure projects. This shortfall would have to be accounted as an additional expense for the valuation of the Florida Recyclers property to determine if a purchase is advisable.
10. Using the valley as a landfill will eliminate one stormwater pond and necessitate the creation of a substitute pond to the east, plus the existing ditches would have to be regraded to convey the stormwater to the new pond. It would also eliminate the Florida Recyclers Landfill stormwater ditch to the south of the property which is part of their stormwater retention system. The current stormwater retention system for the Sarno Road Landfill cost approximately $1M to create.

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[1] Cost presented are from a Jones Edmonds report from June 2018
[2] Actual 2016 cost from the construction of cell 1 at the Central Disposal Facility

11. Ground water contamination appears to have some impact possibly related to the type of activities in the Florida Recyclers Landfill.
12. The environmental impact of the Florida Recyclers Landfill is not clear and the purchase of this facility would mean assuming the environmental risks the current owners have.
13. After consuming the airspace (from the various options in item 2) the county would be required to transport the class III , tires and metal materials from the southern part of the county to the Central Disposal Facility at an increase operating cost. This would entail additional personnel for driving the trucks, additional trucks, additional trailers (because of the type of material the trailers would have to be more sturdy) and hardening of the transfer station to accept more abrasive materials. This approach does not take into consideration the need for a yard waste facility as transporting vegetative materials without mulching is extremely expensive.
14. Depending on various factors listed above, acquisition of the Florida Recyclers site would extend the Sarno Road Landfill life expediency from 4 to potentially 20 years if favorable outcomes referenced above occur.
15. In comparison, to the US192 site has a projected life of 66 years.

Finally, to assure due diligence in evaluating this potential purchase opportunity, staff recommends a thorough independent environmental site assessment be conducted on the Florida Recyclers Landfill to ascertain the groundwater condition before proceeding with the possible purchase of this property. Findings for the Florida Recyclers property could impact the cost associated with acquiring and placing this property into service for the county.

While we have provided cost estimates and ranges of cost, these need to be updated under a more careful study and engineer estimates. This refinement will allow a more informed decision to be made.

Summary

Staff recommends the following items occur for a thorough evaluation of the potential purchase of the Florida Recyclers Landfill.

1. The market value appraisal underway be completed.
2. Height variance application efforts should be completed.
3. An Environmental Site Assessment should be completed.
4. Update this report with consideration of the results of items 1-3.
5. A through engineering study about the potential integration of the Florida Recyclers property into the Sarno Road Landfill system should be undertaken to compare costs of available alternatives.

Solid Waste Management Department
2725 Judge Fran Jamieson Way
Building A, Room 118
Viera, Florida 32940

BOARD OF COUNTY COMMISSIONERS

Inter-Office Memo

DATE: April 4, 2019

TO: Board of County Commissioners

THROUGH Frank B. Abbate, County Manager

THROUGH: John P. Denninghoff, Assistant County Manager
Development and Environmental Services Group

FROM: Euripides Rodriguez, Department Director, CIA
Solid Waste Management Department

SUBJECT: US 192 Future Landfill Site Project History Report

This project conceptually started in 1982 with a report which stated that while the existing solid waste disposal system was in mechanically good shape, an expensive program of rehabilitation, repair, replacement (RRR), and expansion would soon be needed to maintain the level of service. The option to identify and consider a south county waste facility was undertaken as such a facility would have postponed or eliminated some of the above referenced RRR projects. Early on in the process of evaluation, one plan of action that was pursued was to build a class I landfill. This plan however, evolved over the years as the project for a new facility has been postponed.

The Brevard County Solid Waste System has two different types of landfills, a Class I landfill located near the City of Cocoa and a Class III landfill located in the City of Melbourne. A Class I landfill is permitted to receive regular garbage (municipal solid waste or MSW) and Class III waste. A Class III landfill can only accept waste such as yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Florida Department of Environmental Protection (FDEP), that are not expected to produce leachate that poses a threat to public health or the environment.

Landfills have a limited life which is calculated in a manner that takes into consideration various factors. Landfill life is measured in terms of the cubic yards of volume remaining to the build out of the landfill to the FDEP approved design, and then converted to years of life. This calculation takes into consideration the estimated population projections and can be influenced by the state of the economy and any natural disasters that can use the remaining capacity at rates different than projected. These calculations are updated every year as part of the Financial Responsibility Closure and Long-Term Care Cost Estimates provided to FDEP. The estimated permitted life is less than one year for the Class I (Slurry Wall) landfill, five years for Cell 1 of the South Landfill at the Central Disposal Facility and either one year (without City of

Melbourne height variance) or four years (with height variance) for the Class III facility as of the report dated August 2018. The Class I facility has an expansion area that is estimated to add thirty more years of disposal capacity.

Sarno Road Landfill (Class III) is limited by FDEP permit and the FAA to a buildout height of 104 feet. The City of Melbourne currently limits the height of the Sarno Landfill to 40 feet in the northern expansion area. These limits restrict the life expectancy of the landfill. To avoid added costs associated with transporting waste to the Class I landfill or out of county, one option would be for the County to have a replacement Class III site built at least one year prior to the closure of the existing Sarno site. In order to stay within this timeline our staff met with the City of Melbourne staff on February 21, 2019 to inform them of our intension and to discuss the proper procedure to follow. After obtaining all the required engineering documentation staff will submit the request this month, City staff will present the variance request to the Council the following month. It is important to emphasize that it is not only the landfill that will run out of space, but the yard waste, tires and metal goods that are currently handled on the top of the landfill will no longer have the area necessary to process without the City height variance being granted. The area needed to process these materials is currently on the top of the landfill; these materials have to be moved continuously in order to finish the filling sequence. This has created an operational problem since the area to move the materials are constantly being diminished in size and containment berms have to be constructed with every move.

Alternative Site Studies

Throughout the years, several alternative site studies and various types of other studies have been undertaken regarding the US 192 Site, as well as studies for disposal alternatives for the South Brevard Service Area. As part of the current permitting requirement, the Department commissioned an updated alternative site study.

The types of constraints listed below were considered in the alternatives analysis undertaken and the current analysis. They have been grouped into several major categories, based on regulatory and other requirements:

1. FDEP Rules 62-701.300 and 62-701.320, F.A.C., collectively provide that a landfill may not be placed within the following areas:

    - Within 500 feet of an existing or approved potable water well or within 1,000 feet of a potable water well serving a community water supply system.
    - Within 200 feet of contiguous wetlands or contiguous surface waters, other than those constructed for the project.
    - Within 3,000 feet of a Class I surface water.
    - Within an area subject to frequent or periodic flooding.
    - Within a sinkhole-prone area.
    - Within any area open to public view from any major thoroughfare without proper screening.

2. Brevard County Land Use Requirements.

3. Neighborhood Community Acceptability Requirements: As a practical matter, a new landfill must be located in an area where its impacts on local residents are minimized. The following requirements were utilized to ensure that the practicable alternatives would have minimal impacts on neighboring areas:

    - Landfill site should be in an area with a population density of ten or fewer persons per square mile.
    - Landfill site restricted to areas where surrounding land uses and planned uses are compatible.
    - Within any area open to public view from any major thoroughfare without proper screening.

4. Economic Practicability Requirements. A landfill must be located where its use is economical and practicable. Several requirements were imposed to assure that the site would be viable:

    - The primary haul route must be a highway built to handle commercial truck traffic (trucks weighing 80,000 lbs.), and the landfill footprint must be within a reasonable distance from that highway. The primary haul route must be able to handle heavy truck traffic. Further, the haul route must be reasonably accessible to the landfill footprint. By minimizing the amount of new roadway that needs to be built to reach the landfill, the County can minimize the environmental impacts associated with the construction of an access road. Accordingly, the footprint of the landfill was restricted to being within three miles of major highways.
    - The site should minimize, to the extent feasible, the distance from the population to be served and the solid waste transfer stations in Brevard County. This criterion is intended to minimize fossil fuel use, wear and tear on roadways, the cost of hauling solid waste, air pollution from vehicles, and the number of homes and businesses that the trucks must pass.

5. Environmental Practicability Criteria.

    - Adequate uplands (i.e., at least 600 contiguous acres in a simple configuration) must exist outside of the FEMA 100-year floodplain.
    - The footprint of the landfill (600 contiguous acres) must be outside of the 100-year flood zone (FEMA Zone AE).
    - Undisturbed uplands should be avoided.
    - Critical listed species' habitats should be avoided.
    - Areas within or immediately adjacent to county and state-owned conservation lands were eliminated. The specific requirement was that the landfill footprint be at least one mile from conservation lands.
    - Construction of the landfill should not impact a significant historical or archeological site.
    - The site should be more than five miles from any airport. Under FDEP Rule 62-701.320(13), F.A.C., an applicant must notify the FAA and the Florida Department of Transportation if a proposed solid waste management facility will be located within five miles of the end of an airport runway. Consistent with FAA Advisory Circular

150/5200-33, the FAA opposes the construction of Class I landfills within five miles of the end of an airport runway.

- Areas draining to Class I surface water. Class I surface waters are those used for public water supply. Areas within 3,000 feet of Class I surface waters were excluded from consideration.
- Site should be more than two miles from the coastline. This criterion was used to protect the economic and environmental values of coastal areas. It also protects the landfill against potential hurricane storm surges and extreme high winds.
- To further protect the environment, the site was required to have at least 1,000 contiguous acres (minimum 600 acres for the landfill footprint and support facilities). This acreage is minimal both in comparison to other landfills and in terms of Brevard County's preferences. The 1991 Alternatives Analysis was based on a minimum of 1,500 and maximum of 3,000-acre preference of upland habitat (e.g., pasture) where the landfill and supporting services could be developed without directly affecting valuable native uplands. A relatively large site provides a variety of environmental and practical benefits; such as, large on-site buffers, the ability to avoid wetlands and productive upland habitat, and the flexibility to create wetland mitigation areas on the site. Additional evaluations were conducted in 2009 and 2017. With each evaluation, the number of potential sites was reduced. In 1991, four sites were identified that meet all criteria; in 2009 only two sites were identified and one was already approved for a large residential development; in 2017 the same two sites were identified, with the US192 Site being the only County-owned undeveloped site.

The 2017 Alternatives Analysis, performed by Cardno, as part of the permitting process, concluded that the "U.S. 192 Property satisfied all of the screening criteria identified in the 1991 and 2009 Alternatives Analyses, including the FDEP criteria in Chapter 62-701, F.A.C., the Brevard County Land Use Requirements, the Social Acceptability Requirements, the Economic and Practicability Requirements, and the Environmental Criteria. In 2017, the U.S. 192 Property continues to meet those requirements, while all of the other potential sites continue to have one or more fatal flaws…No other site in Brevard County could be reasonably obtained, utilized, expanded or managed to fulfill the basic project purpose while having less adverse impact on wetland ecosystems."

Historical Summary:

The main events in the last twenty-five years regarding a future landfill site are listed below:

- November 30, 1983 - Barker, Osha & Anderson, Inc. (BOA) conducted an "Alternative Sites Evaluation of a South County Processing & Disposal Facility" that had, as a first selection, a site south of US 192 adjacent to the west line of Brevard County. Two years after that, the statute that administers the solid waste facilities was amended to prohibit the construction of a landfill within 3,000 feet of a class I surface water. This site was located within the prohibited distance and had to be eliminated from consideration.

- September 15, 1986 - In view of that prohibition, the study dated November 30, 1983 was updated to consider the new requirement and changed the selection to a site north of US 192 adjacent to the Osceola County line. This site (the current US 192 Site) was recommended by BOA for further evaluation.
- April 14, 1987 - BOA completed an updated Alternative Site Evaluation taking into consideration the impact of the rule changes. The conclusion of this study was that the current US 192 Site was the first "candidate" for a future south county solid waste facility.
- 1988 – The Solid Waste Management Department applied for a permit to build a Class III landfill at the US 192 Site. The Florida Department of Environmental Protection gave "Notice of Intent to Issue" (the permit); but, Brevard County withdrew the application. One reason was that Brevard County did not own the site at that time.
- June 1991 - BOA and Camp, Dresser & McKee, Inc. (CDM) conducted a (second) Alternative Site Study. After the publication of this study, the County started proceedings for the purchase of the US 192 Site. The property was purchased by a stipulated settlement with the owner, under threat of condemnation. Shortly after that, the engineering work started on permitting the site as a Class III landfill.
- January 5, 1993 – A Budget Change Request was sent to the Board to transfer monies from operating to capital to continue to pay for engineering services on the US 192 Project. After much discussion and a motion to stop the work for 90 days, a decision was made to table the item for two weeks.
- January 19, 1993 - The Budget Change Request was approved and discussion followed regarding entering into conversations with Deseret and Osceola County to establish a joint facility west of the current facility, with the understanding that if nothing was resolved, the County would go back to the original site. This motion was approved.
- January 18, 1995 - There was a joint meeting with the Osceola County Commission to discuss a regional approach to solid waste disposal; but, to the best of my knowledge, no decision was ever made on this idea. Sometime later Osceola County decided to approve the development of a private landfill to take care of their solid waste needs.
- January 9, 1996 – The Board of County Commissioners approved initiating a Request for Proposal regarding "Solid Waste Disposal Services within the South Brevard Disposal Area".
- May 21, 1996 through September 17, 1996 – The Board did not select any of the proposals submitted.
- October 8, 1996 – The Board directed the Solid Waste Management Department to work with Deseret on identifying a site suitable for exchange with the US 192 Site and for Deseret personnel to enter into conversations with Osceola County if a suitable site was identified. No suitable site was selected.
- 2005- 2006 – During various workshops, the Board received a presentation by the engineering firm of S2Li demonstrating a difference of $100 million in a twenty-year period between developing the US 192 Site and shipping the waste to a facility located in Osceola County. The Board gave instruction to the Solid Waste Management Department to pursue the least costly option. As such, the development of the US 192 Site as a solid waste facility was pursued. The US 192 site was determined to be the lowest cost option at a savings of $100,000,000 in comparison with taking the Class III waste to the JED landfill located in Osceola County.

- 2009 – As part of the permitting efforts, Entrix conducted an alternative Site Analysis and concluded that the best site for a solid waste facility in the south end of the county would be the US 192 Site.
- 2009 – Solid waste construction and operation permit and Environmental Resource Permit (ERP) applications for the US 192 Site submitted to FDEP.
- 2011 – The solid waste construction and operation permit for Cell 1 of the Class III landfill on the US 192 site was issued by the FDEP.
- 2014 – Biological Opinion issued by the US Fish and Wildlife Service which did not find any nesting Caracara and advised some restriction during construction to protect indigo snakes and caracaras if encountered during these activities.
- January 15, 2016 – FDEP issues Notice of Intent to Issue Environmental Resource Permit (ERP). However, the permit issuance is pending issuance of the Army Corps of Engineers ERP.
- March 3, 2016 – The Board conducted a Landfill and Budget Workshop. No motion was made in regards to the development of US 192.
- November 21, 2016 – FDEP renews the solid waste construction and operation permit for Cell 1 of the Class III landfill on the US192 Site.
- February 7, 2017 – A settlement Agreement is signed between Farmland Reserve, Inc. (DBA Deseret Ranches of Florida), Deer Park Ranch, Ltd. and Brevard County regarding Deseret and Deer Park's petition for an Administrative Hearing in which they challenged the Florida Department of Environmental Protection' decision to issue a Construction Permit and a Conceptual Permit to Brevard County. The following are relevant points in the agreement:
    1. The Florida Department of Environmental Protection issued a revised Construction Permit based on the agreement.
    2. The County committed to not seek a Class I landfill on the US 192 site before 2036 unless the Central Disposal Facility used the airspace. There are notifications that are required if this happens.
    3. The County committed to build a fence separating an area to the north of the property and continue to lease it to Deseret.
- In exchange for these and other commitments in the agreement, Deseret and Deer Park each agreed to not oppose the issuance of any permit regarding a construction of a Class III facility on the site.
- August 2017 – As part of the permitting process, Cardno, Inc. conducted an Alternative Analysis to reconsider potential alternative landfill sites. The analysis concluded that the US 192 Site is the only practicable alternative.
- August 22, 2018 – Final response to Request for Information submitted to the Army Corps of Engineers.
- March 15, 2019 – The Army Corps of Engineers issued a draft permit for US 192 and staff has 30 days in which to request changes in the draft permit. The draft has been reviewed by Staff and the consultants and no objections to the permit are deemed to be needed. The Army Corps permit next step is for staff to sign or execute the permit. No time constraints are associated with the signing by staff of the permit.
- Ongoing – Assuming the County executes the Army Corps permit, the next steps are to apply for a Florida Department of Transportation permit for the entrance, local permits and the FAA permit. These permits are not expected to be especially difficult to obtain and may require about six months. Once these permits are obtained the County could start site construction which is expected to take two years for the Class III landfill

Cost Incurred

In October 24, 1991 the county acquired the current US 192 site under the threat of condemnation at a cost of $8,250,000 for the 2,980.38 acres. The following is a summary of the cost associated with the acquisition and the first attempt for permitting the site, along with the permitting efforts that have been undertaken.

Acquisition	$ 8,250,000.00
Defendant Attorney Fees	1,080,098.00
County Attorney Fees	717,608.51
Initial Acquisition Cost	$10,047,706.51
Initial Permitting Process	1,404,707.02
Current Permitting Process	12,727,545.73
Total Cost Incurred	$24,179,959.26

Recent Developments

During the 2006 workshops with the Board of County Commissioners, the engineering consultants (S2L, Inc.) presented a report (see attached) titled: "Master Planning and Feasibility of the US 192 Site" dated February 3, 2006, which demonstrated a cost deferential between developing the US 192 Site and sending the waste to the JED Landfill in Osceola was $100,000,000 for a 25 year period of time (in favor of developing the US 192 Site).

On this basis, the Board at that time authorized the Solid Waste Management Department to seek the permits needed to develop the US 192 site. In 2009 a solid waste permit was applied for and the three requests for additional information have been received and responses were submitted. The solid waste permit was received From FDEP in 2011 and renewed in 2016. In addition, the FDEP has issued an initial Intent to Issue an ERP. The permit is contingent upon issuance of an ERP by the Army Corps of Engineers, which has issued a draft to the permit as of March 15, 2019.

Alternatives

Throughout the years the County has looked at various alternatives to the use of US192. The Central Disposal Facility was expanded and an expansion area was created to the south of the slurry wall landfill to serve the future needs for class I disposal. This area commenced receiving materials in cell 1and with additional cells to be built in the future will serve as the main depository for municipal solid waste for an expected thirty years. The Sarno Road Transfer Station was replaced in 2004 to provide a collection point to deliver the municipal solid waste to the Central Disposal Facility. These additions to the system will take care of class 1 needs for several decades.

The Sarno Road Landfill, which serves as the depository for class III materials in the south area of the county, was redesigned and expanded. The road serving the landfill was moved to an area that allows improved use of the airspace. The terraces were eliminated and the

slopes were steepened to provide more airspace without affecting the footprint of the landfill. With the south class III airspace not sufficient to meet the timeline needed for the US 192 project, the stormwater system was redesigned. A stormwater lake to the north was greatly reduced in size by expanding the capacity of the lake in the south and redirecting the flow of stormwater to take advantage of the increase capacity. This allowed the landfill to expand its footprint to the north by ten acres. This area is limited to a height of 40 feet by the City of Melbourne. Staff received the draft application from our engineers on April 2, 2019 and will be applying for height variance and life extension from the City of Melbourne on April, 2019. The request for the variance is expected to be presented to the City of Melbourne Council during May. This height variance will give us about four more years of capacity.

In 2005 the Board reviewed a report examining the possibility of sending the materials to the JED Landfill in Osceola County and building a disposal site on the US192 property. This comparison was updated in 2016 and there was a difference between both options of approximately $27,000,000 over a 25 year period with the US 192 being the less expensive option. This differential could be greater today because of the increase tonnage being received at the Sarno Road Landfill.

Also during 2016 Staff examined the option of the department hauling the class III materials to the Central Disposal Facility. At that time it was concluded the landfill at the Central Disposal Facility would lose about thirty percent of its life based on the tonnages being received at that time. A yard waste facility for the south end of the county would have to be constructed as well as a citizen drop-off center to keep the residents from having to use the transfer station to drop off their waste. This is a safety measure to avoided mixing commercial traffic with residential traffic. The transfer station would need to be 'hardened" in order to receive a type of waste that is more abrasive then municipal solid waste. Transporting class III material would entail expanding our transportation fleet by at least six employees (depending on the waste stream), adding six over the road tractors ($800,000) and an equivalent number of trailers with two additional spares ($460,000). Other capital expenditures such as hardening the transfer station, building a yard waste area and a citizen drop off center would have to take into account the estimated tonnage, land available to be able to estimate the construction cost.

It is important to note that landfill life expectancy forecasts have been extremely inaccurate over time due to many variables that must be estimated in that process. Some of these variables are the economy, construction activity, and the number of and the severity of hurricanes. Thus, even when these estimates come from experienced consultants they often prove to be significantly "off", either high or low.

Staff has also presented to the Board via a Report the possibility of expanding Sarno through the purchase of the Florida Recyclers Landfill located to the north of our landfill. The report contains the details known up to this point regarding that alternative.

Additionally, the Board directed staff to develop a Request for Proposals regarding new technology that may help in the Sarno situation. We have contracted with an engineering firm that is preparing a draft request. This was received by staff on March 30, 2019 and will be reviewed in the next week. After proper review, including Board review of the draft RFP, staff will proceed to advertise for this technology.

In conclusion, the current status is that staff has obtained a construction permit from FDEP for class III landfill, the Environmental Resource Permit was submitted to FDEP and issuance is pending the USACOE's similar permit. The draft of this permit was received on March 15, 2019 and was reviewed by our engineers as well as our staff. The USACOE regulation allows us 30 days in which to submit changes to the draft, which staff does not have any changes, and there is no definite time in which staff has to sign the permit accepting the same unless the Board provides an alternative direction.

To ascertain the Board's interest in further discussion on the items discussed herein, the County Manager will be seeking Board direction during his report at the April 9th Board meeting on whether the Board would like an agenda item or Board workshop scheduled on this report.

Technical Memorandum
on the
Conceptual Site Development Plan
for the
Northeast Property
Sarno Road Class III Landfill

Solid Waste Management Department
Brevard County, Florida

Prepared for:

Board of County Commissioners
Solid Waste Management Department
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Phone: 321-633-2042 Fax: 321-633-2038

Prepared by:

S2L, INCORPORATED
529 Versailles Drive, Suite 103
Maitland, Florida 32751
Phone: 407-475-9163 Fax: 407-475-9169

June 27, 2019

Section 1 – Introduction

The Brevard County ("County") Solid Waste Management Department ("Department") is charged with meeting the existing and future solid waste disposal needs of Brevard County. For this reason, the County operates the Sarno Road Landfill, which includes a Class III landfill that is used for the disposal of Class III waste and the management of special waste materials (e.g., yard waste, waste tires, scrap metals, white goods, etc.). Currently, the Landfill has limited remaining permitted capacity.

Additional capacity at this location may become available in two ways:

1. The County could expand the Landfill vertically by adding more waste material over previously filled areas. This approach would require the approval of the City of Melbourne. This approach is not addressed within this memorandum.

2. The County could build a new landfill on approximately 68 acres of land that is located northeast of the Sarno Road Landfill (the "Northeast Property" or "Site"). The City of Melbourne's approval will also be required for the use of the Site.

The County requested S2L, Incorporated ("Engineer or S2Li") to assist the County in preparing a conceptual development plan for utilization of the Site. The County asked S2Li to identify the areas in the conceptual plan that would be used for Class III waste disposal, stormwater basins, leachate storage facilities, yard waste management, and other special waste management facilities. The County also asked S2Li to consider the operational issues and regulatory requirements that would apply to the Site, including the setbacks imposed by the Florida Department of Environmental Protection ("FDEP") and the City of Melbourne.

As the Engineer, S2Li completed the following tasks for the preparation of this memorandum:

- A preliminary plan for the entire 68-acre Site was prepared. The preliminary plan displayed the required facilities on the Site and it identified the approximate size of each facility, including the lined Class III waste disposal area, stormwater basins, leachate storage facilities, and yard waste management storage/ processing areas, in addition to the other special waste management facilities currently present within the existing Sarno Road Landfill.
- The preliminary plan was submitted to the County's Solid Waste Management Department for review and comment, prior to proceeding with the preparation of more detailed plans and estimates.

After receipt of County's comments, S2Li:

- Prepared a diagram that depicts the above-ground contours of the landfill cell, based on a final buildout that is 40 feet above grade (64 feet NGVD).
- Prepared a diagram that depicts the above-ground contours of the landfill cell, based on an alternate plan in which the final buildout is 80-feet above grade (104 feet NGVD).
- Prepared a general vicinity map showing an aerial view of the surrounding properties, zoning, ownership, and current site use.
- Estimated the amount of available landfill airspace and the anticipated life of the landfill, based on the two different height scenarios and certain assumptions that are provided in this memorandum. The calculations of landfill life were based on the County's latest projections concerning the amount of Class III waste it receives, as presented in the 2018 financial assurance report the County submitted to the FDEP.

- Prepared a list of required and potentially required permits, approvals, and development issues that the County will need to address (i.e., FDEP, Federal Aviation Authority ("FAA"), Florida Department of Transportation ("FDOT"), and City of Melbourne).
- Calculated the unit cost of landfill airspace, measured on a dollar per cubic yard basis, for the two different landfill height scenarios.
- Prepared a conceptual cost estimate for permitting, design, and site development.
- Prepared this technical memorandum which describes the results of the services listed above.

Section 2 – Background

In January 2000, Florida Recyclers of Brevard, Inc. ("FRBI"), obtained a Conditional Use Permit ("CUP") and Approved Site Plan from the City of Melbourne under Ordinance No. 2000-16 for the expansion of FRBI's facility to the east into the "Gleason Property." In May 2000, the Board of County Commissioners of Brevard County ("Board") purchased the Gleason Property for $7,250,000. The County planned to develop the property into a solid waste landfill and mulching/recycling area as an expansion of its facilities at the Sarno Road Landfill. The Gleason Property (referred to herein as the Northeast Property or the Site) is contiguous to the northeast corner of the Sarno Road Landfill. The 68± acre property is split into three designated parcels: Parcel A is approximately 15± acres in size; Parcel B is approximately 28± acres in size; and Parcel C is approximately 25± acres in size. Parcel A is the northernmost parcel on the Site. Parcel B is on the western side of the Site. Parcel C is on the eastern side of the Site. Under the City's CUP, Parcel B (28+ acres) is the only area where a landfill and/or recycling facility can be located. The City's CUP does not allow any such development in Parcel A or Parcel C.

With the assistance and approval of Brevard County, in 2018 the St. Johns River Water Management District ("SJRWMD") obtained a CUP and Approved Site Plan from the City of Melbourne under Ordinance No. 2018-62 to temporarily allow the use of Parcels B and C, and the southeast portion of the Sarno Road Landfill, as a "temporary landfill." This temporary landfill was used to dewater sediment dredged from the Eau Gallie River and Elbow Creek as part of the Eau Gallie River Restoration Dredging Project. The City's CUP for this project requires the SJRWMD to restore the property back to its original condition before there is any further development on the Site.

Figure 1 in Attachment 1 is an aerial photograph of the Site and the surrounding areas. Figure 1 shows the adjacent properties, the zoning, the future land uses around the Site, and related information. Figure 1 shows that the property to the west of the Site is used for solid waste management activities. However, there are commercial developments to the north and south of the Site. There are residential apartments and condominiums along most of the eastern side of the Site.

Section 3 – Conceptual Site Development Plan

Figure 2 in Attachment 1 is a Conceptual Site Development Plan for the entire Site. This plan is based on the assumption that the County needs to use all of the available land on the Site to address the County's need for additional disposal capacity for Class III waste, plus areas for the management of yard waste and other special wastes. The limits of Parcels A, B, and C are shown on this plan. Development of the property with solid waste management facilities will require compliance with certain local and state requirements, including setback restrictions from the property lines and conditions that impact the sizing and locations of the facilities.

Below is a list of the development approaches and assumptions used in preparing the Conceptual Site Plan:

- The entire Site is utilized. This approach assumes the County will fill approximately 10 acres of onsite wetlands. The plan includes required state and local setbacks and the other considerations listed below.

- The Class III Landfill will be lined, as required by FDEP Rule 62-701.400(3)(g), Florida Administrative Code ("F.A.C.").
- The conceptual layout of the Site includes the following:
  - A Class III landfill cell;
  - The yard waste and special waste management facility will be no greater than 17 acres in size, thus maximizing the space available for the Class III landfill;
  - Leachate storage tanks/pretreatment facilities with tanker truck parking;
  - 30-foot-wide paved access and perimeter roads;
  - Stormwater ditches and basin;
  - Site access will include the existing L16 Canal crossover from the Sarno Road Landfill; and
  - Site access for leachate tanker trucks will be provided by a new access road entrance into Sarno Road. The location of the new access road will be adjacent to the existing entrance to commercial development north of Sarno Road. The new access road may also be temporarily utilized for trucks hauling storm debris during an emergency event.
- Existing Wetland = 10.04 acres $\pm$.
- Stormwater management system is sized at 25% of the developed area or approximately 10.5 acres.
- Existing site elevation: 24 feet NGVD.
- High groundwater elevation: 23 feet NGVD.
- Setbacks from the Property Line:
  - North Property Line: 200 feet along Sarno Road frontage, as directed by the County.
  - West Property Line: The landfill cell is set back 100 feet (measured from the toe of the proposed final cover slope), as required by FDEP Rule 62-701.340(3)(c), F.A.C. Access road and stormwater ditches to be developed inside the setback areas.
  - East Property Line: Road and stormwater ditches will be developed west of an existing 100-foot-wide vegetative buffer on the eastern side of the Site. This buffer is presently being enforced by a City CUP (No. 2018-62) for existing activities. The existing vegetative buffer will be maintained between the Site and the existing apartments, condominiums, and commercial properties located immediately east of the Site.
  - South Property Line: The existing road and tree line will be maintained. Since the operation of a yard waste management facility generates noise and dust, a minimum 100-foot setback is provided between the yard waste area and the property line adjacent to existing commercial properties south of the Site. In Rule 62-701.803, F.A.C. which applies to yard trash facilities, subsection (2)(a) states that various rule requirements do not apply to yard trash, including a 100-foot setback requirement, so long as the site prohibitions are not violated. In Rule 62-709.300, F.A.C. which applies to organics processing and recycling facilities, subsection (7) has the same prohibitions of Rule 62-701.300, F.A.C., as well as the siting restriction of subsection 62-701.320(13), F.A.C. Nonetheless, S2Li believes it is prudent to use a 100-foot buffer to separate the facility from off-site development and to ensure the County does not violate the prohibition for setbacks from potable wells.
- In this memorandum, the Yard Waste Management Facility means a facility for managing special wastes, including the storage, staging, processing, and/or recycling of yard waste, selected components of construction and demolition debris ("C&D"), waste tires, white goods (i.e., large discarded appliances), scrap metal, dimensional lumber, emergency storm debris, etc.
- Off-site wetland credits will be purchased and used at a 2.5 to 1 ratio to mitigate the filling of approximately 10 acres of on-site wetlands or, in the alternative, the County will use any acceptable wetland credits that the County already owns but has not used.

Given these design considerations and assumptions, the Class III landfill will have a 15.9-acre footprint. The landfill cell has been located north of the yard waste and special waste management facility to allow for a potential expansion to the west if the County decides to purchase the adjacent private property. The existing stormwater

management system serving the Sarno Road Landfill makes it impractical to effectively develop additional landfill airspace by connecting the existing Sarno Road Landfill to the southern side of the Site. The location of an existing stormwater basin on the Sarno Road Landfill property reduces the length of the contiguous connection with the Northeast Property, leaving a small area to connect to existing the Sarno Road Landfill filled area to a landfill cell located on the southern end of the Northeast Property.

This Conceptual Site Development Plan is not in accordance with the existing CUP and Site Plans that the City of Melbourne has approved for the Site. If the County chooses to proceed with this conceptual layout, the County will need to submit a new Site Plan and CUP application to the City for approval. In addition, if the County wants to consider future expansion of the Site facilities to the west, the stormwater flow within the existing L16 canal will need to be rerouted around the Site.

As discussed previously, the City of Melbourne, under CUP Ordinance No. 2018-62, has allowed for the temporary use of Parcels B and C within the Site and the southern portion of the Sarno Road Landfill as a "temporary landfill" to dewater sediment dredged from the Eau Gallie River and Elbow Creek as part of the Eau Gallie River Restoration Dredging Project. This CUP requires the SJRWMD to restore the property back to its original state prior to any further development. If the County chooses to proceed with this Site Development Plan, then the County should attempt to retain (a) the new L16 Canal crossover from the Sarno Road Landfill property, (b) the existing road along the southern side of the Site, and (c) the existing buffer vegetation on the Site.

Section 4 – Regulatory Requirements for the Site Development Plan

Development of the Site cannot begin until all required permits and approvals are received for the proposed plan of development. A discussion of the required permitting is presented below. This discussion is based upon the limited information available at this time.

- Site Plan Approval and CUP - City of Melbourne: Given the changes that are proposed to the approved Site Plans and CUPs, S2Li believes a new Site Plan Approval application will need to be submitted to the City's Engineering Department and the City's Planning and Zoning Department. Additional approvals must be obtained from the City's Planning and Zoning Board, the local planning agency, and the City Council. The County should assume that the changes to the approved plans and CUPs will be deemed to be "substantial changes." The Site Plan approval process will address the development of the Site, including the solid waste disposal operations, the management of yard waste and other special wastes, wetland mitigation, site access, traffic, stormwater management, setbacks, leachate management, and potential leachate pretreatment systems.

- Wetland Mitigation: The plan to fill the existing wetlands onsite and provide off-site mitigation will require an Environmental Resource Permit ("ERP") from the FDEP. It also is likely to require the approval of the U.S. Army Corps of Engineers ("USACOE"). Filling the wetlands on the Site will maximize the area that is available for development by the County. However, both the FDEP and the USACOE will require the County to demonstrate that it has avoided wetland impacts to the greatest extent feasible. The USACOE also will require the County to demonstrate that there are no feasible or practicable alternatives with fewer impacts to aquatic resources.

- Stormwater: An ERP will be required from FDEP for the stormwater management system at the site. The USACOE also may review the stormwater management system, depending upon its impacts on wetlands.

- Solid Waste and Yard Waste/Special Waste Management: Chapter 62-701, F.A.C., identifies certain criteria and minimum design requirements for the permitting, construction, operation, closure, and post-closure of a Class III Landfill and special waste management facility. A modification of the FDEP solid waste permit for the Sarno Road Landfill will be needed before the County can construct the proposed facilities on the Northeast Property. The FDEP will require the two properties to be contiguous in order to include both under a single permit. Therefore, the County will need to redefine the landfill boundary survey that ties the Northeast Property into the existing Sarno Road Landfill property in order to establish the actual setback locations for submission to the appropriate regulatory agencies.

- Site Access via Sarno Road Entrance: A new entrance into the Site for the leachate tanker trucks via Sarno Road will require a permit from the FDOT. This permit will need to address the impact to traffic on Sarno Road and within the Sarno Road right-of-way, including possible new turning lanes and intersection improvements due to the traffic entering Sarno Road to the north and across this location. This entrance location occurs where Sarno Road changes from four lanes into two lanes. A traffic signal warrant study may be required.

- Height, Location, and Aircraft Approach/Departure Notice: The landfill cell on the Conceptual Site Development Plan is within 10,000 feet of the end of one of the City of Melbourne International Airport's runways. Consequently, the landfill cell will require a construction permit from the FAA. The FAA will evaluate any potential issues related to aircraft approach and takeoff due to the landfill height and location. Since the proposed Class III landfill will be located near the airport runway, the County will need to notify the FAA, the FDOT, and the FDEP pursuant to FDEP Rule 62-701.320, (13), F.A.C. The FAA will need to determine whether the proposed landfill will attract birds and thus pose a threat to the safe operation of the airport.

Section 5 – Potential Landfill Airspace Calculations

Landfill airspace can be defined as the volume of space on a landfill site that is permitted for the disposal of solid waste. This space is initially occupied by air, which will eventually be displaced by the disposed waste and cover materials — hence the term "landfill airspace". The size and width of the Site have bearing on the configuration and sizing of a landfill cell and other needed facilities. The geometry of the landfill cell (e.g., the landfill's width, length, height, and sideslope angles) affects the amount of landfill airspace that is available for waste disposal.

5.1 – Assumptions for Calculating Potential Airspace

Below is a list of the approaches and assumptions that were used to calculate the potential landfill airspace for a Class III landfill built on the Site:

- Size of landfill footprint: 15.9± acres (882 feet x 789 feet).
- Maximum landfill height allowed by the City of Melbourne is 40 feet above existing grade (elevation 64 feet NGVD) unless higher elevation is approved by a CUP.
- If the City grants a suitable CUP, the maximum landfill height allowed under the FAA Melbourne International Airport height restrictions is 80 feet above existing grade (elevation 104 NGVD).
- Sideslope of landfill: 3.5:1 (horizontal distance to vertical distance).
- Sideslope of landfill: No built-in drainage terraces during filling operations; construct external drainage terraces upon closure to maximize landfill airspace.
- Minimum width of the crown of landfill: 100 feet wide for vehicle tipping space and spreading/compacting equipment operations.

- Minimum slope of the crown of the landfill: 4% for settlement and to prevent ponding of stormwater runoff.
- Airspace volume calculations do not include the 3-foot-thick closure liner system.
- Due to the design thickness and slope of the bottom liner system, it is assumed that the top of the bottom liner system (i.e., the bottom elevation of the waste placement area) averages 25-feet NGVD.
- Airspace volume calculated using Autodesk CADD Civil 3d.

5.2 – Landfill Height Scenarios

In performing the airspace calculations, two potential height scenarios were evaluated. Scenario 1 assumes the landfill closure height at 40 feet above the surrounding grade (elevation 64 feet NGVD). The 40-foot closure height is the maximum allowable height for a structure in the City of Melbourne unless a higher elevation is approved by a CUP. This landfill height, the corresponding contour lines, and other assumptions used to determine the volume of landfill airspace in Scenario 1 are shown in Figure 3 in Attachment 1. Scenario 2 assumes the closure height of the landfill is the elevation that is allowed by the FAA. The Site is within 10,000 feet of the end of one of the City of Melbourne International Airport's runways (See Figure 1); therefore, the landfill cell will require a construction permit from the FAA. The existing Sarno Road Landfill may be filled up to a final elevation that is 104 feet NGVD. For the Site, 104 feet NGVD is approximately the same as 80 feet above grade. This landfill height, the corresponding contour lines, and other assumptions used to determine the volume of landfill airspace in Scenario 2 are shown in Figure 4 in Attachment 1.

5.3 – Potential Landfill Airspace

The potential landfill airspace for each scenario is presented below. These calculations are based upon the Conceptual Site Plan and the assumptions described above. The layouts in Figures 3 and 4 are generally representative of what the County would seek to permit and build. The landfill airspace (disposal capacity) that will actually be approved may vary from these projections, depending upon the details of the County's final design and the conditions imposed on the project by the City and the various regulatory agencies.

Calculated Potential Landfill Airspace for each height scenario is as follows:

- Scenario 1 – Landfill 40 feet Above Grade (Elevation 64 feet NGVD): 530,400 cubic yards (CY)
- Scenario 2 – Landfill 80 feet Above Grade (Elevation 104 feet NGVD): 872,700 CY

As noted previously, landfill airspace values do not include the space for the 3-foot thick landfill closure final cover. Consequently, the calculated valve is likely to be slightly greater than the actual value that will be achieved in the field.

5.4 – Potential Landfill Airspace Cost (dollars per cubic yard [$/CY])

The landfill airspace cost is calculated by taking the liner/leachate collection system cost per acre and dividing it by the potential landfill airspace value to determine a cost that is expressed in dollars per cubic yard. In order to equally compare airspace cost values, Brevard County has requested that a liner/leachate collection system cost of $300,000 per acre be used in this analysis because this value was used in another study conducted on an adjacent parcel of private property. The estimated landfill airspace cost for the two scenarios is provided below in Table 1.

Table 1: Estimated Airspace Cost ($/CY)			
Landfill Height Scenario	*Landfill Cell Cost ($)*	*Potential Landfill Airspace (CY)*	*Airspace Cost per CY ($/CY)*
Scenario 1 – 40 feet (64 feet NGVD)	$4,770,000	530,400	$9
Scenario 2 – 80 Feet (104 feet NGVD)	$4,770,000	872,700	$5.50

1. Cell Construction Cost = $300,000 per acre x 15.9 acres = $4,770,000.
2. Airspace Cost Calculation = $4,770,000 / CY of Potential Landfill Airspace.

5.5 – Years of Potential Disposal Use

Based on information from the County's "Financial Responsibility Closure & Long-term Care Cost Estimates – FY 2018" report prepared by Neel-Schaffer, it is estimated that the remaining permitted disposal capacity in the Sarno Road Landfill will be exhausted in 2024. That report also provided projected annual landfill airspace utilization estimates. Using those estimates, and assuming the landfill cell in the Northeast Property (Site) will begin disposal operations in 2025, the number of years of disposal use is presented below in Tables 2 and 3 for the two landfill height scenarios. The proposed landfill cell on the Site can provide the County with up to six years of disposal capacity, assuming the cell can be built up to 80 feet above grade (104 feet NGVD).

Table 2: Years of Potential Disposal Use – Scenario 1 Landfill Height 40 feet (64 feet NGVD)				
Operation Year	*Total Annual Volume Utilized (CY)*	*Cumulative Volume Utilized (CY)*	*Remaining Airspace Capacity (CY)*	*Years of Capacity (Yrs.)*
2024	150,403	-	**530,400**	-
2025	151,903	151,903	378,497	1
2026	153,403	305,306	225,094	2
2027	154,903	460,209	70,191	3
2028	156,403	616,612	(86,212)	→ 3.9

Table 3: Years of Potential Disposal Use – Scenario 2 Landfill Height 80 feet (104 feet NGVD)				
Operation Year	*Total Annual Volume Utilized (CY)*	*Cumulative Volume Utilized (CY)*	*Remaining Airspace Capacity (CY)*	*Years of Capacity (Yrs.)*
2024	150,403	-	**872,700**	-
2025	151,903	151,903	720,797	1
2026	153,403	305,306	567,394	2
2027	154,903	460,209	412,491	3
2028	156,403	616,612	256,088	4
2029	157,903	774,515	98,185	5
2030	159,403	933,918	(61,218)	→ 5.9

Section 6 – Implementation Schedule

An anticipated schedule for the implementation of permitting, design, and construction, including agency review and approval for the development of the Site, is provided below:

- Preliminary Design for Permitting: 3 months.
- City of Melbourne Permitting and CUP Approval: 12 months.
- ERP Permitting with FDEP for Wetland Impacts/Mitigation/Environmental Studies: 12 months, concurrent with City permitting.
- FAA Construction Permit: 3 months, concurrent with ERP Permitting with FDEP for Wetland Impacts/Mitigation/Environmental Studies.
- FDEP Solid Waste Permitting: 9 months, concurrent with ERP Permitting with FDEP for Wetland Impacts/Mitigation/Environmental Studies.
- ERP Permitting with FDEP for Stormwater Management System: 15 months concurrent with ERP Permitting for Wetland Impacts/Mitigation/Environmental Studies.
- Wetland Impacts/Mitigation/Environmental Studies with USACOE: 6 months following the issuance of FDEP ERP for Wetland Impacts/Mitigation/Environmental Studies.
- FDOT Permitting: 6 months, concurrent with FDEP Wetland Impacts/Mitigation/ Environmental Studies and Permitting.
- Construction Phase Documents and Bidding: 6 months.
- Construction and Certification: 9 months.

Total Permitting, Design, and Construction Period: 51 months

With a 51-month implementation schedule for permitting, design, and construction, the County must (a) initiate permitting by year 2020 for the new facilities to be certified and ready to accept Class III solid waste prior to Sarno Road Landfill reaching capacity in 2024 or (b) obtain approval from the City of Melbourne for a vertical expansion of the Sarno Road Landfill that will increase the airspace of the Sarno Road Landfill and thus extend its life. It must be emphasized that the proposed schedule is based on the assumption that the County will not face any opposition to its proposed plan of development that will cause delays. This may be an optimistic assumption because the proposed Class III landfill and other activities will be moving closer to the apartments, condominiums, and commercial developments located along the eastern side of the Site.

Section 7 – Estimated Costs for Site Implementation and Development

Attachment 2 provides a conceptual estimate for the design, permitting, and construction phase costs for the Site Development of the Class III landfill cell, yard waste and special waste management facilities, stormwater management, access, and perimeter roads, and leachate pre-treatment and storage. The estimate does not include any operating, equipment, closure and post-closure costs for the facility. The estimated costs in Attachment 2 are based on non-permitted concept plans and are not based on field investigations, field data, approved permit plans, or construction drawings. The costs that are presented in Attachment 2 are based on current FDEP rules and regulations and are expressed in 2019 dollars. The cost of developing the Site is estimated to be approximately $22,100,000, as shown in Attachment 2.

Section 8 – Conclusions and Recommendations

Conclusions

- Due to Site development constraints, including the need to provide a stormwater management system, access, and a yard waste and special waste management facility, the Class III landfill will be limited to approximately 16 acres.

- The Conceptual Site Development Plan described in this memorandum is not in compliance with the City of Melbourne's existing CUP for the Site. Consequently, the County will need to obtain the City's approval of "substantial changes" to the CUP or an entirely new CUP. The City staff, the City Zoning Board, and the City Council will need to approve the proposed facilities locations, configurations, and operations.

- To maximize the useable acreage on the Site, the Conceptual Site Development Plan assumes the County will fill approximately 10 acres of wetlands. To mitigate these impacts, the County will need to purchase wetland credits at an approved wetland bank or use credits that are already owned by the County.

- If the landfill cell is limited to a height of 40 feet above grade, the landfill airspace cost will be approximately $9/CY. If the landfill cell is built to an elevation of 80 feet above grade, the airspace cost will be approximately $5.50/CY.

- The landfill cell can provide the County with up to 6 years of disposal capacity if the cell is built 80 feet above existing grade.

- The existing stormwater management system serving the Sarno Road Landfill makes it impractical to effectively develop additional landfill airspace by joining the existing Sarno Road Landfill property to a new landfill cell developed within the Site.

- If the County wants to consider future expansions to the west, stormwater flow within the L16 canal will need to be rerouted around the Site.

- The Site development cost is expected to be approximately $22,100,000 in 2019 dollars.

- A number of new local, state, and federal permits and modifications of the existing Sarno Road Operations Permit will be required to implement the site development plan described in this report.

- Permitting, design and construction for implementation of the Site Development Plan are expected to take up to 51 months from the time such activities are initiated, assuming the County does not encounter any major delays as a result of its dealings with the City, the various regulatory agencies, or the surrounding residences/businesses.

Recommendations

- Before proceeding with permitting and design, the County should meet with the City of Melbourne staff to discuss the proposed changes to the City's existing CUPs and approved Site Plans.

- Conduct updated wetland and on-site habitat studies to evaluate the potential impact and cost of wetland mitigation and, if warranted, possible species relocation.

- Meet with the FDEP and USACOE to discuss the proposed wetland impacts, potential mitigation, and the schedule for obtaining their approvals.

- If the County chooses to proceed with this Site Development Plan, the County should attempt to retain the new L16 Canal crossover from the Sarno Road Landfill property, the existing road along the southern side of the property and prevent the replanting of site vegetation.

* * * * * *

ATTACHMENT 1

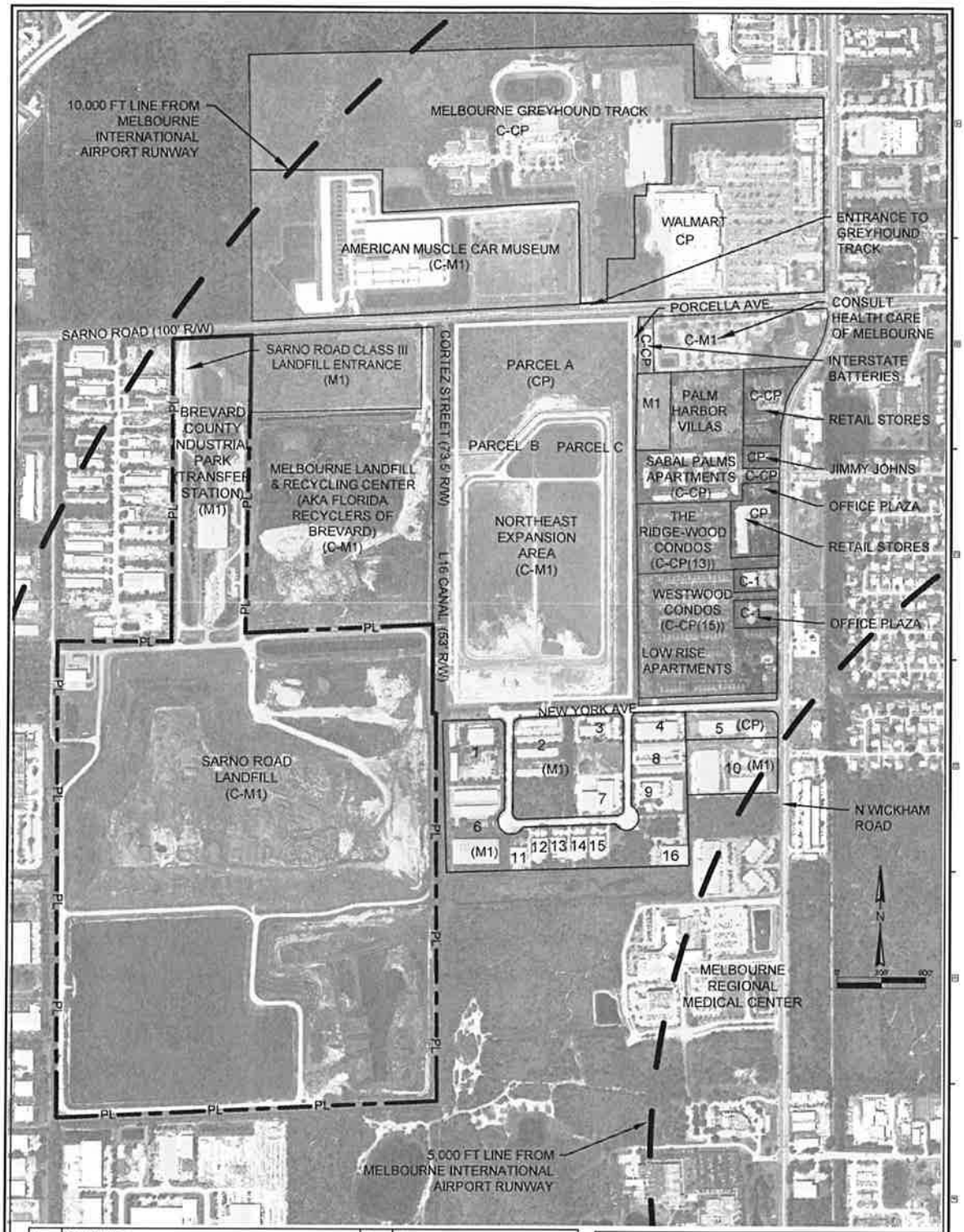
FIGURES

Figure 1 – Vicinity Map

Figure 2 – Conceptual Site Development Plan

Figure 3 – Scenario 1 - Landfill 40 feet Above Grade (64-ft EL NGVD)

Figure 4 – Scenario 2 - Landfill 80 feet Above Grade (104-ft EL NGVD)



1	PAUL DAVIS RESTORATION OF THE SPACE COAST	9	EXTREME ALL STARS
2	COMMERICAL CONDOS	10	COMMERICAL CONDOS
3	JELLY BEAN JUCTION DAYCARE	11	TTI INC.
4	PODS	12	SYSTEM INDUSTRIES ELECTRONICS
5	FLORIDA DEPARMENT OF REVENUE CHILD SUPPORT PROGRAM	13	MGI USA, INC.
6	BIG BOY TOY STORAGE	14	EMC CONSTRUCTORS
7	LAY-Z-BOY Warehouse	15	C & N CONSTRUCTION SERVICES
8	COMMERICAL CONDOS	16	ADVANCED RECREATIONAL CONCEPTS

AERIAL PHOTOGRAPH OBTAINED FROM FDOT APLUS DATABASE. FLIGHT DATE: MARCH - APRIL 2018

FUTURE LAND USE LEGEND

- COMMERCIAL (GENERAL OR HEAVY)
- RESIDENTIAL
- INDUSTRIAL
- MIXED LAND USE

FIGURE NO. 1

S2Li
531 Versailles Drive, Suite 202
Maitland, Florida 32751
(407) 475-9163 FAX 475-9168
Certification of Authorization # 7931

VICINITY MAP SHOWING NEARBY OCCUPANTS, ZONING, AND FUTURE LAND USE
SARNO ROAD LANDFILL - NORTHEAST PROPERTY
BREVARD COUNTY, FL

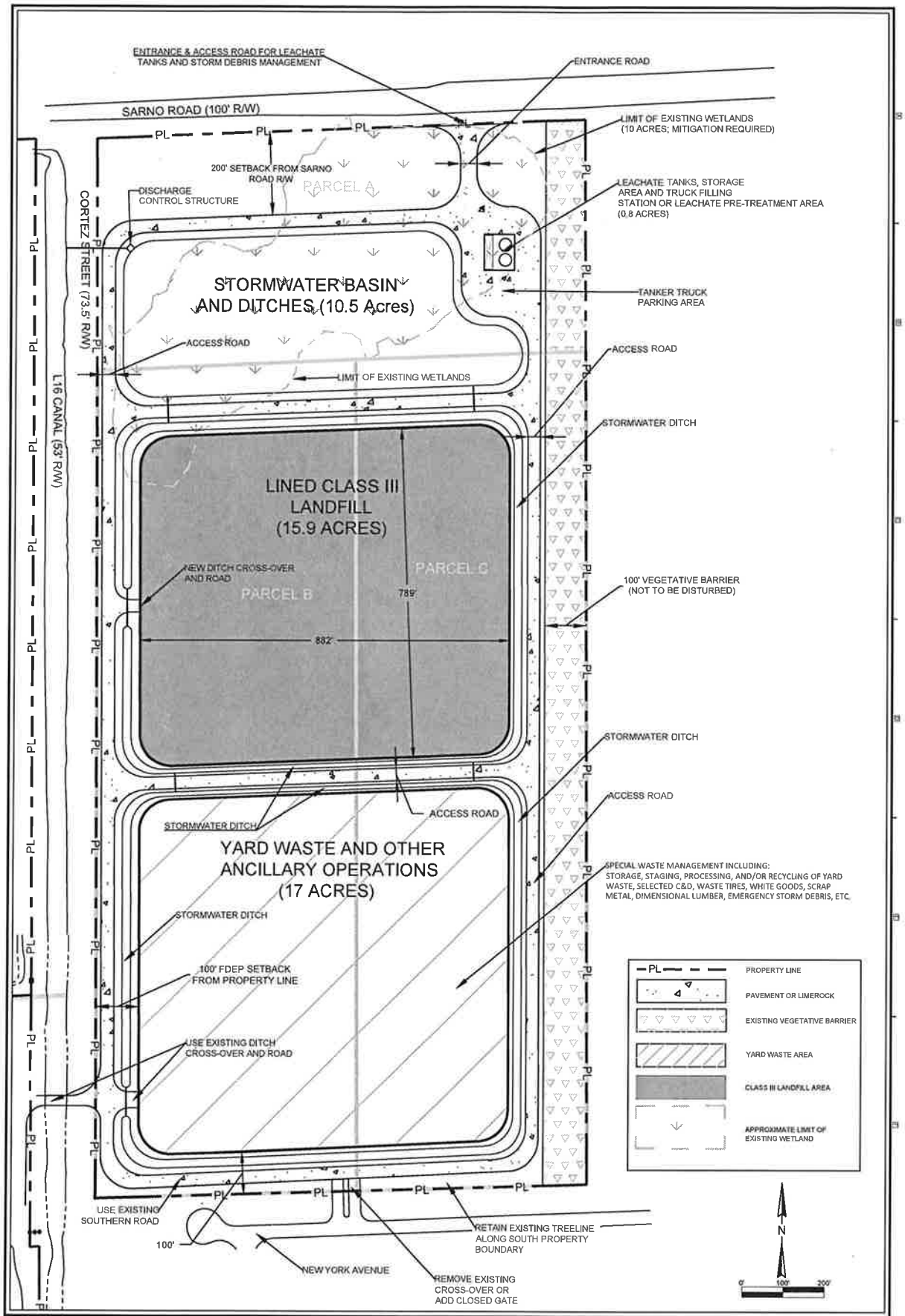


FIGURE NO.
2

S2Li
531 Versailles Drive, Suite 202
Maitland, Florida 32751
(407) 475-9163 FAX 475-9169
Certificate of Authorization #7831

CONCEPTUAL SITE PLAN
LINED CLASS III LANDFILL & YARD WASTE FACILITY
SARNO ROAD LANDFILL NE PROPERTY - BREVARD COUNTY, FL

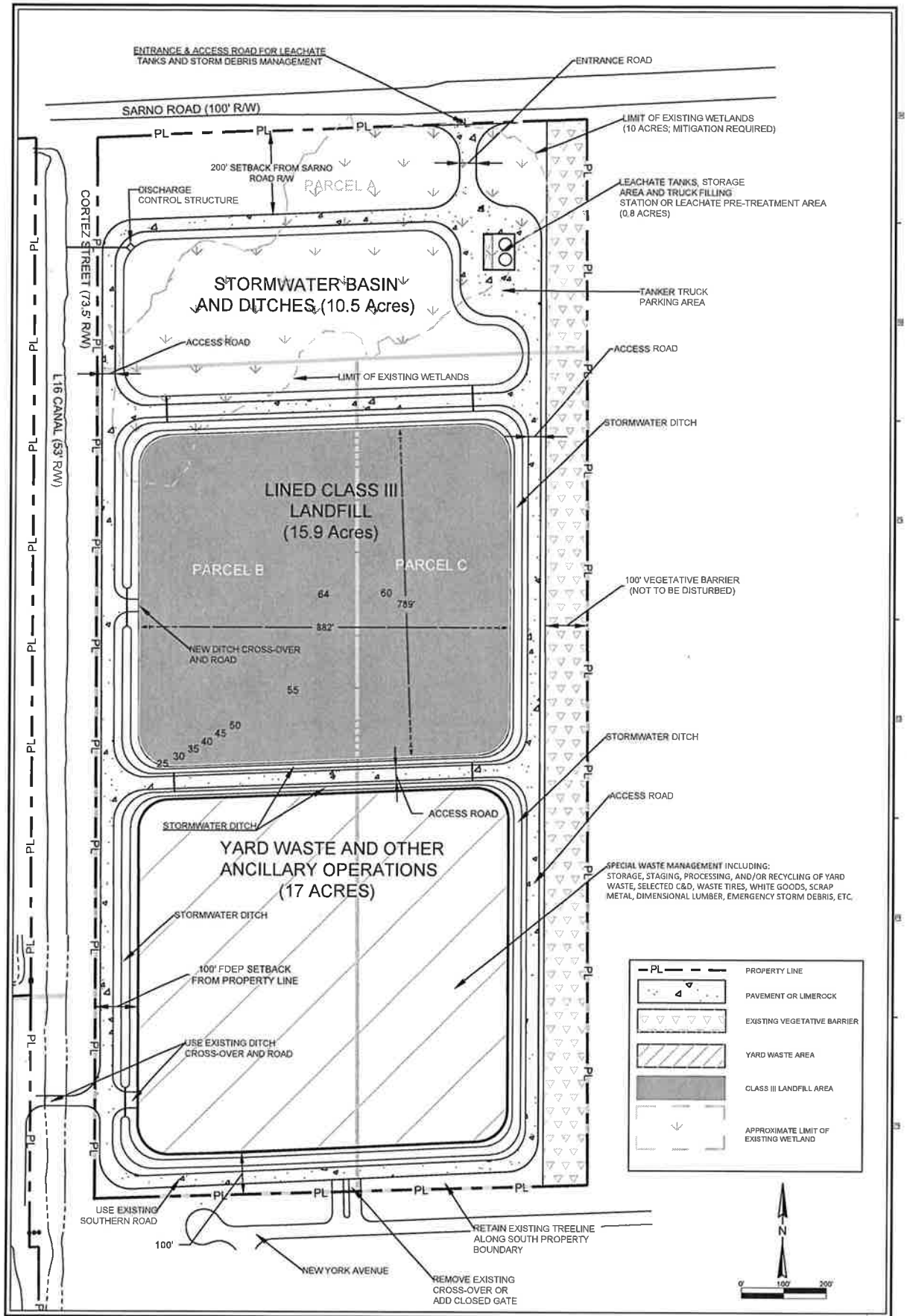


FIGURE NO.
3

S2Li
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Maitland, Florida 32751
(407) 475-9163 FAX 475-9169
Certification of Authorization # 7831

SCENARIO 1 - LANDFILL 40' ABOVE GRADE (64' NGVD)
CONCEPTUAL SITE PLAN
LINED CLASS III LANDFILL & YARD WASTE FACILITY
SARNO ROAD LANDFILL NE PROPERTY - BREVARD COUNTY, FL

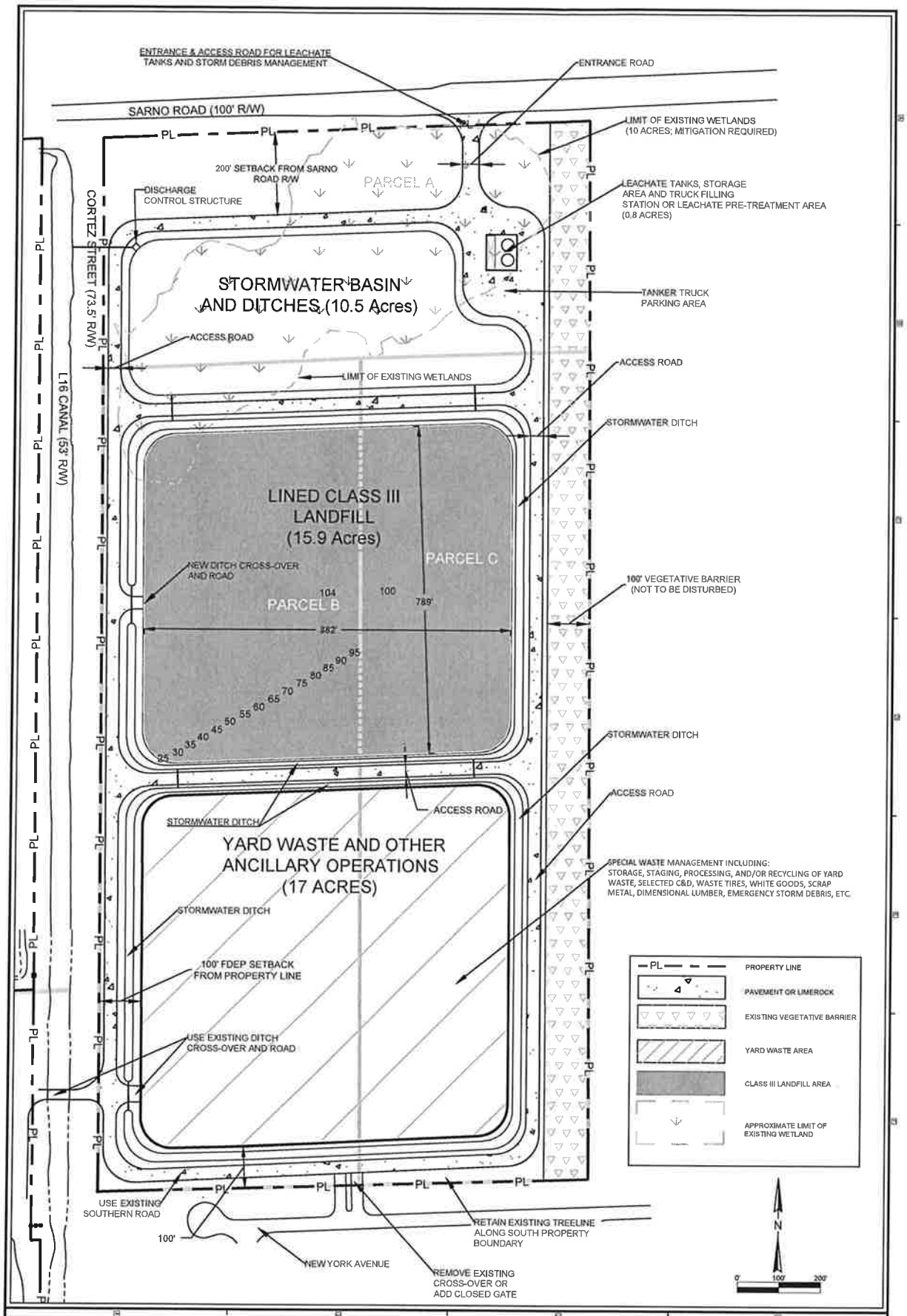

FIGURE NO.
4

S2Li
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Maitland, Florida 32751
(407) 475-8163 FAX 475-8169
Certification of Authorization # 7631

SCENARIO 2 - LANDFILL 80' ABOVE GRADE (104' NGVD)
CONCEPTUAL SITE PLAN
LINED CLASS III LANDFILL & YARD WASTE FACILITY
SARNO ROAD LANDFILL NE PROPERTY - BREVARD COUNTY, FL

ATTACHMENT 2

Preliminary Site Development Cost Estimate

Attachment 2: Preliminary Site Development Cost Estimate				
Item	Quantity	Unit	Unit Price	Total
A. Perimeter Road and Pavement				
1.Soil Subbase	29,696	CY	$30	$890,880
2.Clear and Grubbing	2,447	CY	$7.50	$18,353
3.Limerock (9")	37,010	SY	$20	$740,191
4. Asphalt (3")	6,107	TN	$106	$647,297
Subtotal of Perimeter Road and Pavement				**$2,296,700**
B. Stormwater Basin and Ditches				
1.Pipe Culverts, Round 30"	518	LF	$95	$49,210
2.Mitered End Section, Round 30"	13	EA	$3,300	$42,900
3.Sodding	31,219	SY	$3	$93,657
4.Stormwater Excavation & Grading	147,791	CY	$7.50	$1,108,433
5. Embankment Fill	28,642	CY	$30	$859,260
6.Control Structure	1	EA	$15,000	$15,000
Subtotal of Stormwater Basin and Ditches				**$2,168,500**
C. Yard Waste & Special Waste Management Area				
1.Soil Subbase	54,884	CY	$30	$1,646,520
2.Waste Tire Containment Berm	2,143	CY	$30	$64,283
3.Limerock (12")	82,280	SY	$30	$2,468,400
Subtotal of Yard Waste & Multi-use Area				**$4,179,200**
D. Leachate Tanks or Pretreatment and Associated Piping	2	EA	$600,000	$1,200,000
E. Wetland Removal and Soil Replacement	10,503	CY	$37.50	$393,863
F. Signage	1	LS	$1,000	$1,000
G. Fencing and Gates	7,430	LF	$20	$148,600
H. Liner Construction	15.8	AC	$306,000	$4,834,800
I. Monitoring Well Cluster Locations (3 Wells per Cluster)	7	EA	$8,000	$56,000
J. Landscaping and Irrigation (Site Frontage Improvements)	1	LS	$50,000	$50,000
J. Perimeter Gas Probes	22	EA	$500	$11,000
Subtotal of Site Development Cost (A through J)				**$15,340,000**
K. Miscellaneous Construction Costs				
1. Bonds, Insurance & Administration (3% of Site Development Cost)				$460,200
2. Mobilization & Demobilization (5% of Site Development Cost)				$767,000
Subtotal of Miscellaneous Construction Costs				**$1,227,200**
Subtotal of Site Construction Cost				**$16,567,200**
L. Wetlands				
1. Wetland/Ecol. Studies & Off-Site Mitigation	25	Credits	$40,000	$1,000,000
Subtotal of Wetland Costs				**$1,000,000**
M. Engineering Services				
1. Permitting & Design - City of Melbourne	1	LS	$30,000	$30,000
2. Permitting & Design - Geotechnical/Solid Waste/ERP	1	LS	$300,000	$300,000
3. Permitting - FAA	1	LS	$5,000	$5,000
4. Permitting & Design - FDOT	1	LS	$75,000	$75,000
5. Bidding and Construction Documents				$150,000
6. Liner CQA & Soil Testing				$200,000
7. Site Construction Phase RPR Observation and Certification Services				$125,000
Subtotal of Engineering Services				**$885,000**
Subtotal of Site Construction Cost, Wetlands, and Engineering Services				**$18,452,000**
Contingency (20% of Site Development, Permitting, and Construction Costs)				**$3,690,000**
Total (A through M)				**$22,142,000**