



# Board of County Commissioners US 192 Solid Waste Workshop



March 31, 2016

# Definitions

- Class I Landfill – can accept Class I materials (regular garbage) and Class III materials (mostly construction and demolition).
- Class III Landfill – Can only accept class III materials.

# Overview

- The Board of County Commissioners purchased the US 192 site in 1991 to address the need for a future solid waste management facility.
- The County needs to replace the Sarno Road Class III Landfill.
- The Florida Department of Environmental Protection has determined that the new facility can be built on the US 192 site in compliance with applicable state standards.

# Overview

- The US 192 site is an exceptionally valuable asset.
- The 3,000 acre site, combined with the existing Central Disposal Facility, can handle the County's solid waste for the next 60 years or more.
- The US 192 site can be used for a waste-to-energy facility, a recycling center, or other innovative technologies, in addition to a Class III landfill.

# Why Build a New Landfill?

- The Sarno Road Landfill (SRL) is expected to reach capacity in 2021 or 2023.
  - 2021 based on City of Melbourne height limitation.
  - 2023 based on FAA limitations and FDEP permitted height.



# Extending the Life of SRL

- Steepened the side slopes from 4:1 to 3.5:1.
- Moved the main road.
- Reconfigured the stormwater system to expand the footprint by 10-acres as a result of filling in one lake.
- Decrease in tonnage received.



## **No Further Expansions of SRL**

- The City allowed the County to expand the SRL only because the County is working on the US 192 site.
- The City has refused to approve other expansions of the Sarno Road Landfill.

## What Are We Replacing?

- The Sarno Road Class III Landfill which serves the south area of the county.
- We provide the following services at this location:

# What Are We Replacing?

- Landfilling of Class III Waste (mostly construction and demolition).



- Processing of tires (colocated with the landfill).



# What Are We Replacing?

- Processing of white goods (metals colocated with the landfill).



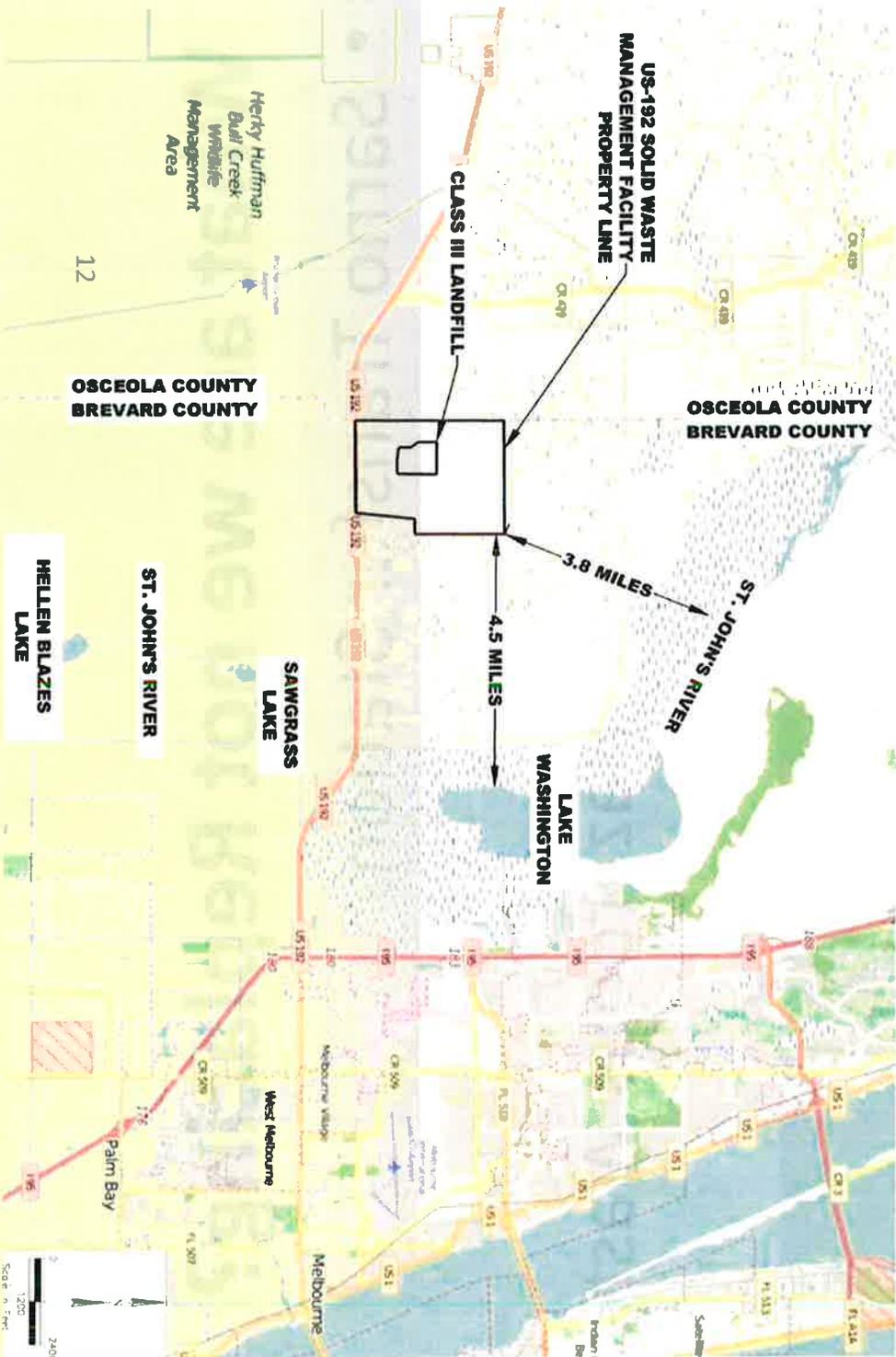
- Processing of green waste (colocated with the landfill).



## What are we not Replacing?

- Sarno Transfer Station.
- Sarno Household Hazardous Waste Facility.
- Class I Landfill - Central Disposal Facility (CDF).<sup>11</sup>

# Where is the US 192 site?



## Existing Conditions

- The west side is defined by the border with Osceola County, the south side defined by US 192.
- The surrounding property owners are Farmland Reserve and Deer Park Ranch.
- Zoning is Governmental Managed Land - High Intensity.

# Existing Conditions

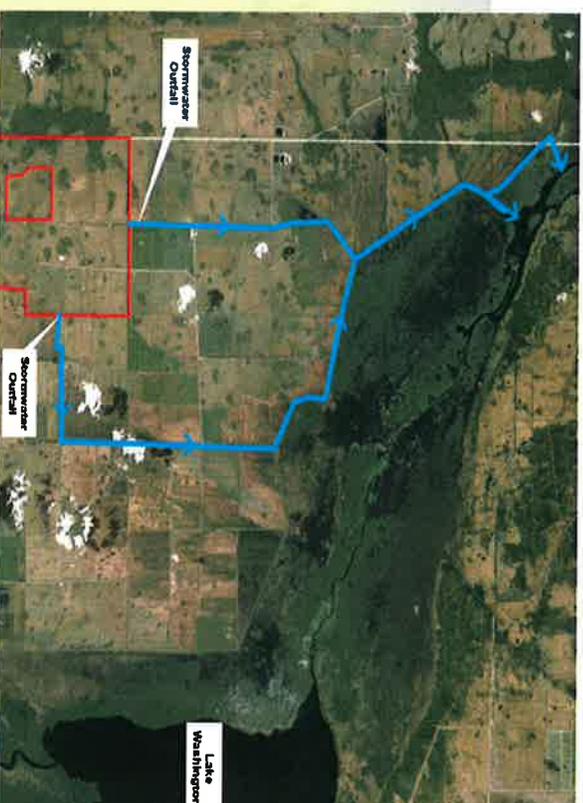
- Forested area on the west with open pastures to the east.
- Florida Gas Transmission has an easement running east and west.

The west side is defined by the border with

Existing Conditions

# Existing Conditions

- Site has numerous ditches used to flood or drain the property as needed for current agricultural operations.
- Stormwater outfall is to the north of lake Washington.



# Existing Conditions

- 21 artesian wells
- Permitted to discharge over ~ 2 billion gallons of water from the Floridan Aquifer each year.
- 287M gallons were reported as discharged in 2015.
- All but two will be plugged in Phase 1 construction.

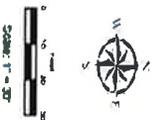


# Existing Conditions

Cattle pen area is contaminated with arsenic. This area will be cleaned up to FDEP standards.



- Legend**
- Pen (Arsenic Concentration Exceeds RSCTL)
  - Pen (Arsenic Concentration Exceeds ISCTL)
  - Pen (Arsenic Concentration Below RSCTL)
- Please Refer to Table 1 for Analytical Results



**SOIL SAMPLE LOCATION PLAN  
(ARSENIC)**

**Ardaman & Associates, Inc**  
Environmental Engineering and  
Remediation Services

**LIMITED SITE ASSESSMENT**  
SOUTH BREWARD COUNTY LANDFILL  
MELBOURNE, BREWARD COUNTY, FL

PROJECT NO. 2012-001  
DATE: 03/20/2012

# Facilities planned for Phase I

This is a 2 or 3 year construction project to be started at the latest by 2018.

- Construction of all stormwater systems.
- Creation and enhancement of wetlands on site.
- Entrance Road.
- Scales and scalehouse.

# Facilities planned for Phase I

- Cell 1 of lined Class III landfill.
- Multi-use area for green waste, metals, and tires.
- Area for temporary storage of storm debris.
- The site will NOT be used for garbage or similar wastes during Phase I.

# Distance From US 192

- The Class III Landfill will be more than 3,700 feet north of US 192—approximately 0.7 miles.



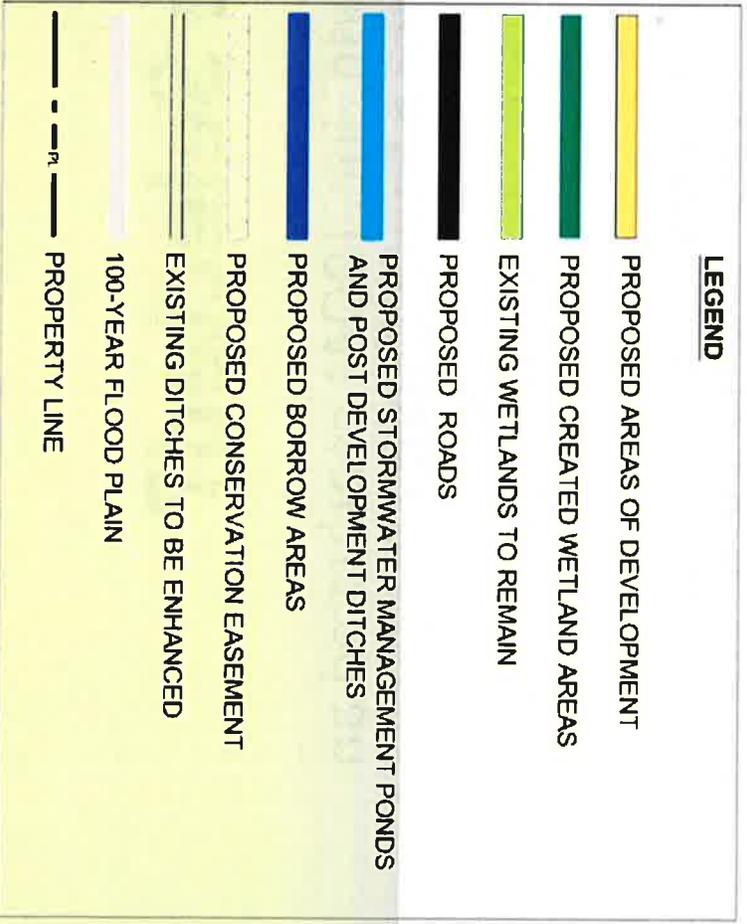
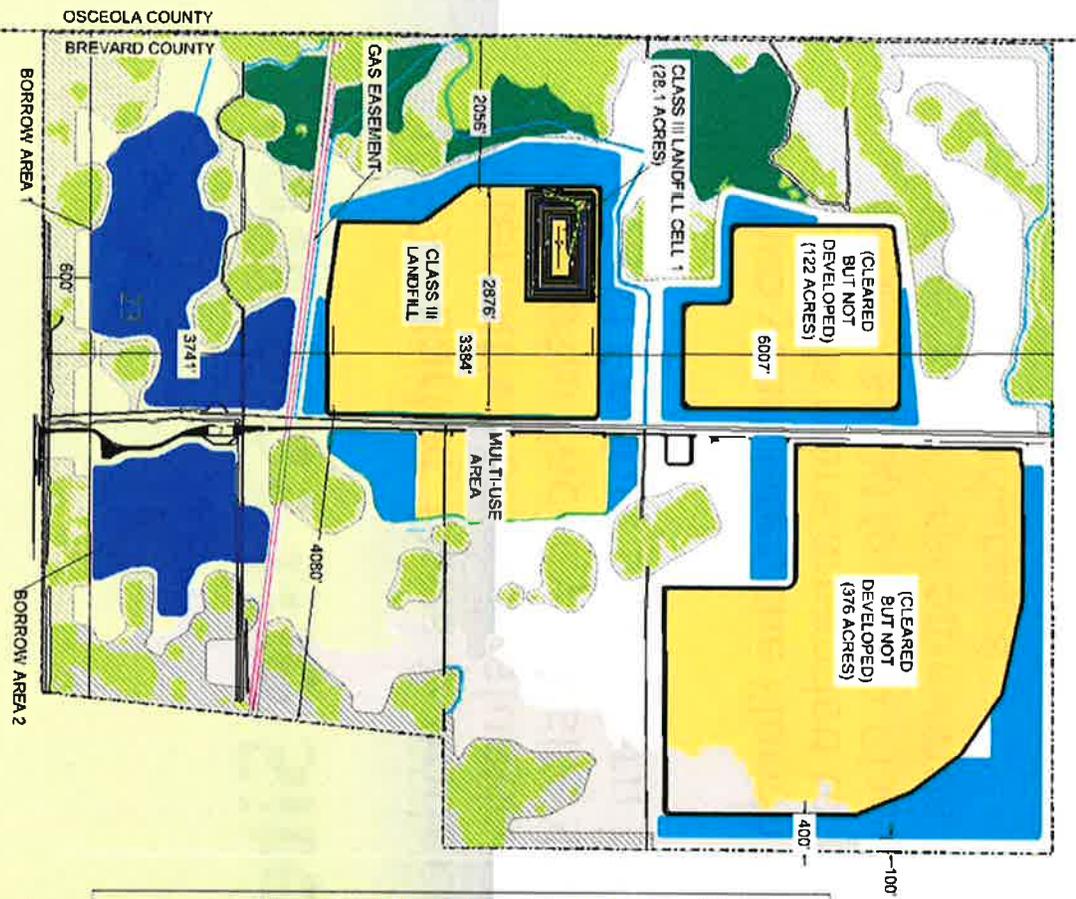
## Buffers for Phase I

- Forested areas next to US 192 will be saved.
- Additional landscaping will be placed next to US 192.
- Approximately 98% of the forested wetlands on the site will be preserved.

## Phase II

- The County will not use the site for Class I (garbage) disposal for at least 25 to 30 years.
- Future Boards can decide whether to develop the remainder of the site.
- In addition to its designed purpose, the site could be used for a recycling center, a waste-to-energy facility, or other innovative technology.

# US192 Site Master Plan Layout



## How was the Site Selected?

- 1983 - Barker, Osha & Anderson, Inc. (BOA) conducted an “Alternative Sites Evaluation for a South County Processing & Disposal Facility.” A site south of US 192 adjacent to Brevard County’s western boundary was recommended.
  - Two years later, the Florida Statutes governing solid waste landfills were amended to prohibit the construction of a landfill within 3,000 feet of a Class I surface water (used as drinking water). This recommended site was located within the prohibited distance.
  - In light of the new statutory prohibition, BOA recommended an alternative site for further evaluation. The alternate site was north of US 192 and adjacent to the Osceola County line.

## How was the Site Selected?

- 1987 - BOA completed an updated Alternative Site Evaluation considering the impact of the rule changes.
  - The conclusion was that the current US 192 Site should be the first “candidate” for a future south county solid waste facility.

## How was the Site Selected?

- 1991 - BOA and Camp, Dresser & McKee, Inc. (CDM) conducted a (second) Alternative Site Study. It was determined that the prime site for a future solid waste facility was contained approximately within the current US 192 site.
  - After the BOA/CDM study, the County initiated an eminent domain case, ultimately purchasing the US 192 site from Deseret Ranches pursuant to a settlement agreement. Shortly afterwards, the County began the engineering work to obtain the permits for a Class III landfill on the site.

## How was the Site Selected?

- January 19, 1993 – The Board directed staff to enter 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 plan to develop the US 192 site.

## How was the Site Selected?

- In 1995 there was a joint meeting between the Brevard and Osceola County Commissions. The Osceola County Commission later pursued an agreement with a private landfill in their county.
- 1995 – The Board of County Commissioners approved a Request for Proposal for “Solid Waste Disposal Services within the South Brevard Disposal Area”.
  - Alternate landfills sites, inside and outside of Brevard, were solicited.
  - Waste-to-energy was solicited.

## How was the site selected?

- May 21 through September 17, 1996 – The Board found no option that was better than US 192.
  - Waste to energy was not proposed.
  - An alternate site in Brevard was rejected.
  - Hauling to Okeechobee was rejected.

## How was the site selected?

- 1996 – Deseret claimed it had a better site that it would exchange for the US 192 site.
  - The BOCC directed Staff to work with Deseret, rather than starting again on the US 192 site.
  - Deseret subsequently failed to offer a suitable site.

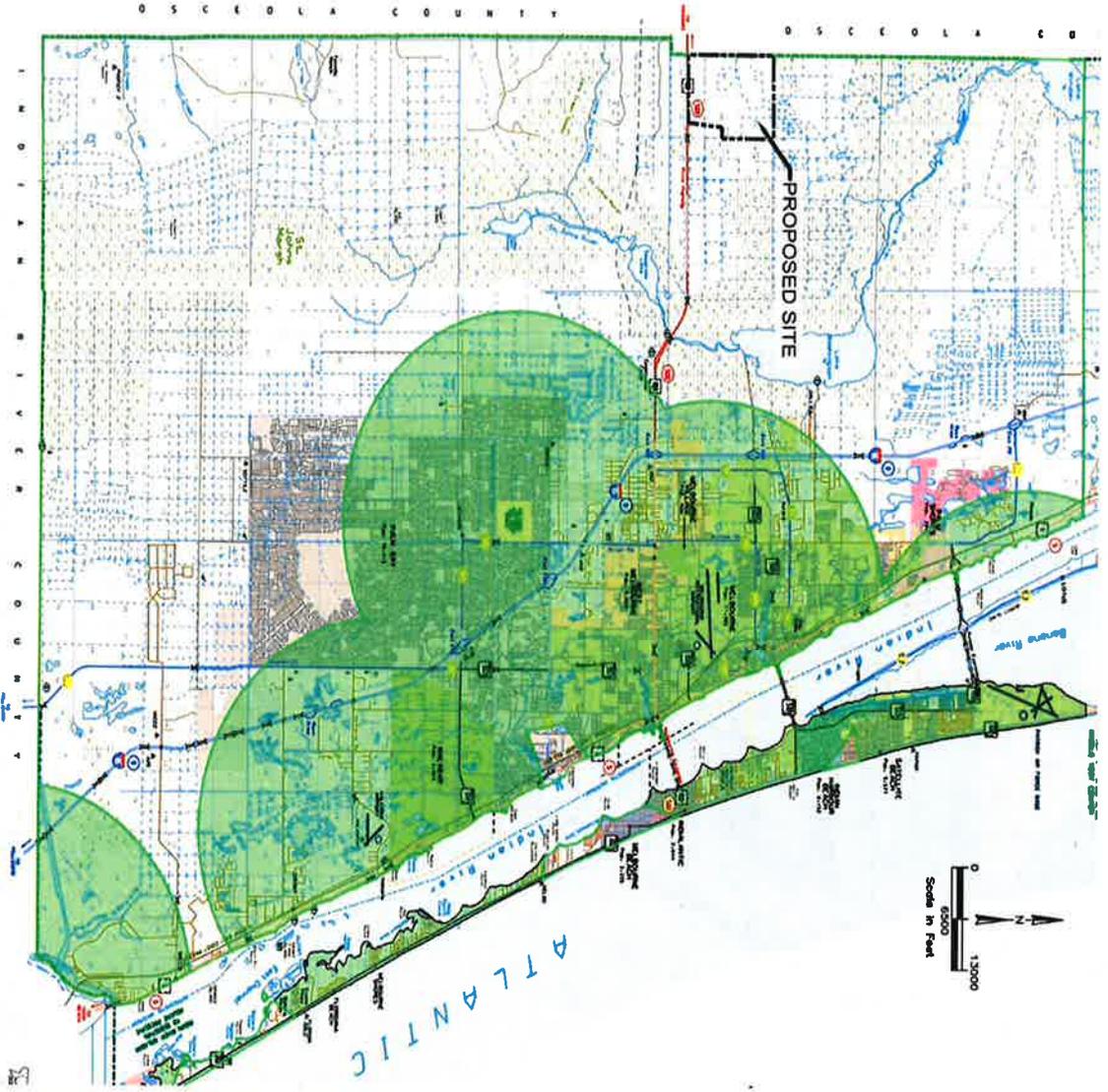
## How was the site selected?

- 2005-2006 Workshops – The County’s consultants estimated that over 20 years it would cost approximately \$100 million more to haul the County’s waste to Osceola County than using the US 192 Site.
- The BOCC instructed Staff to start the permitting process for the US 192 Site.

## How was the site selected?

- 2009 – Cardno-Entrix conducted an (third) Alternative Site Analysis and concluded that the US 192 site is best.
- 2012 – The Department issued a Request for Proposals for new solid waste technologies.

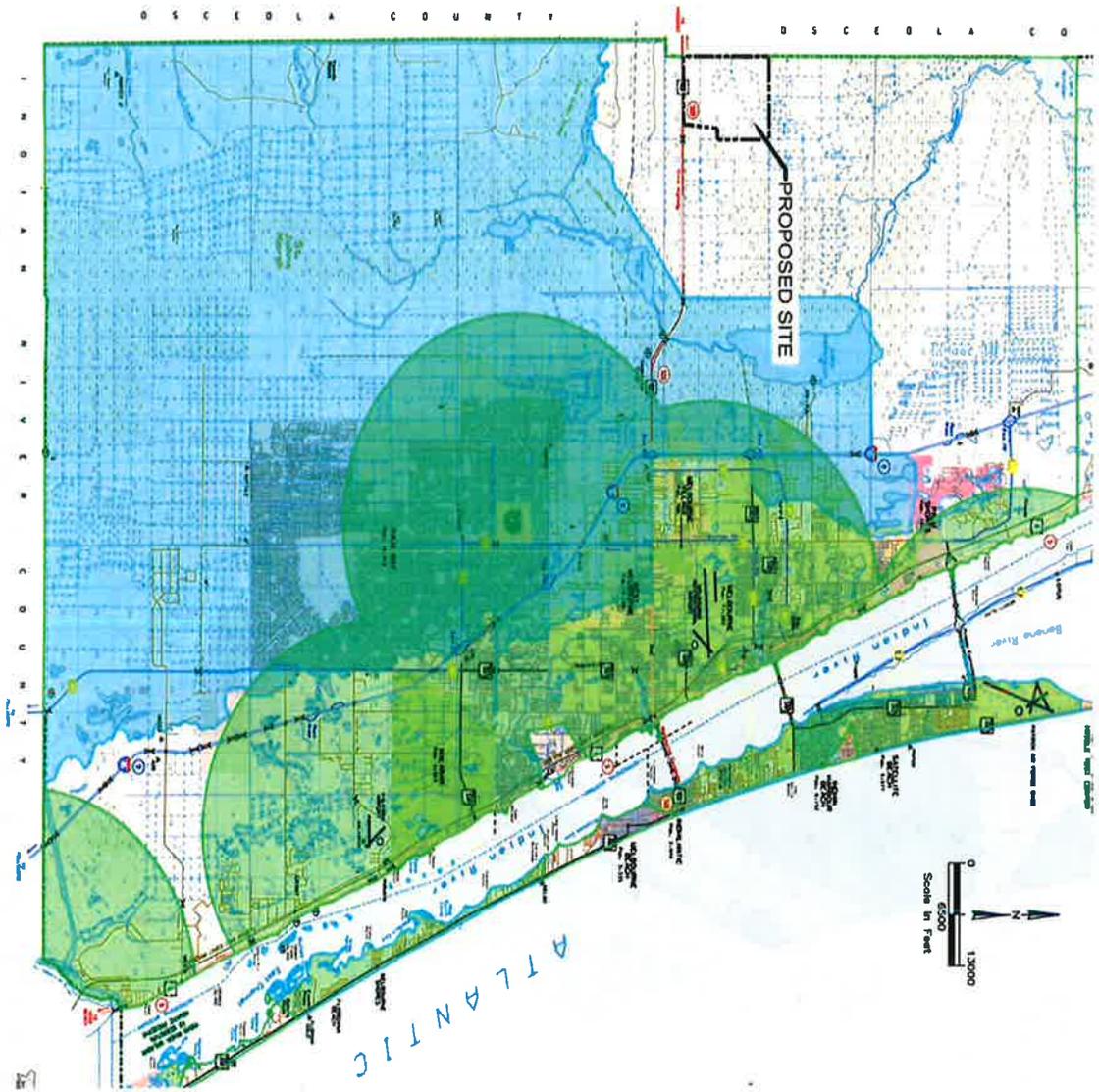
# Selection Criteria Result



UNSUITABLE AREAS

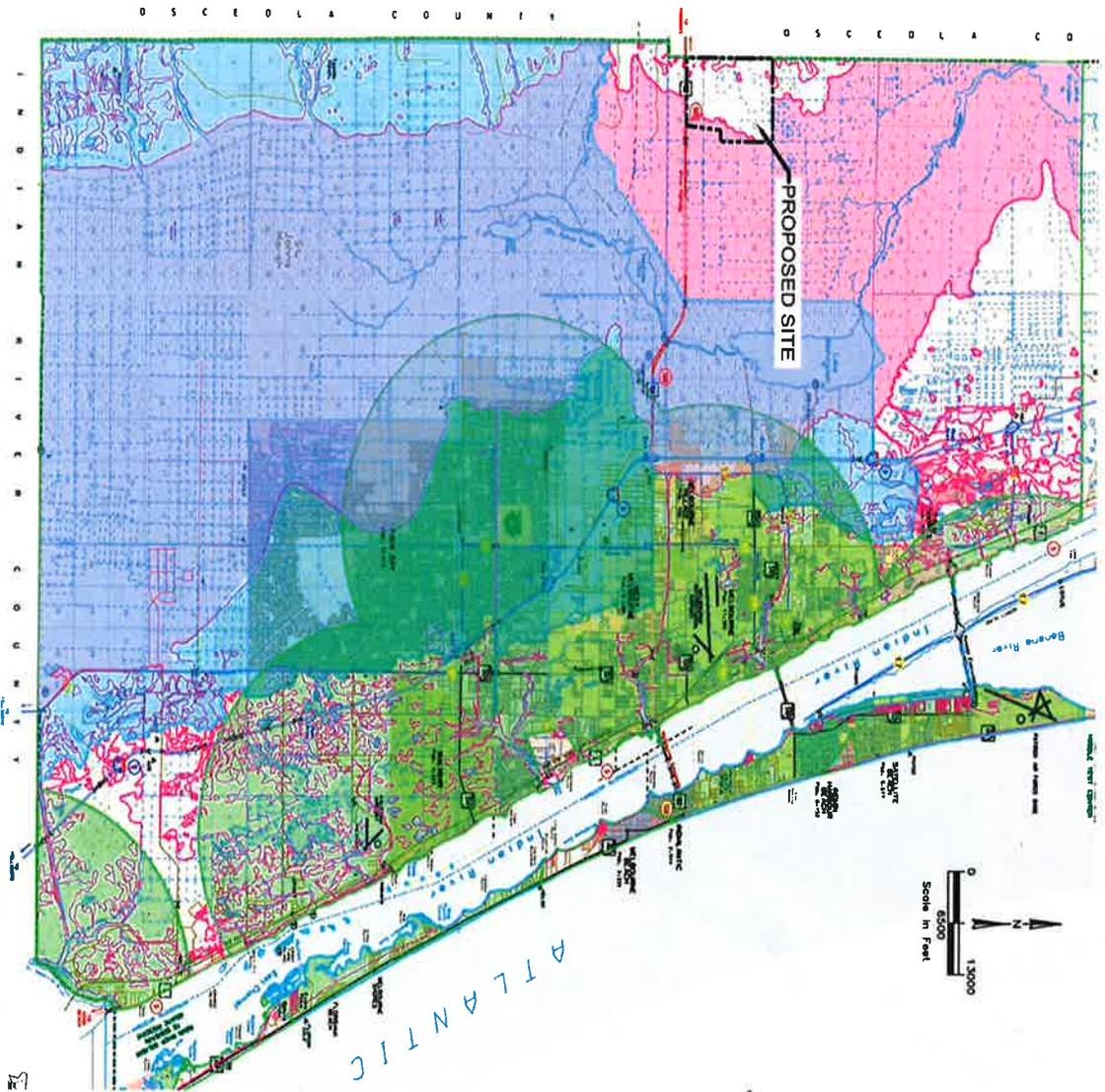
PROXIMITY TO AIRPORTS

# Selection Criteria Result



- UNSUITABLE AREAS**
- PROXIMITY TO AIRPORTS
  - PROXIMITY TO CLASS 1 SURFACE WATERS

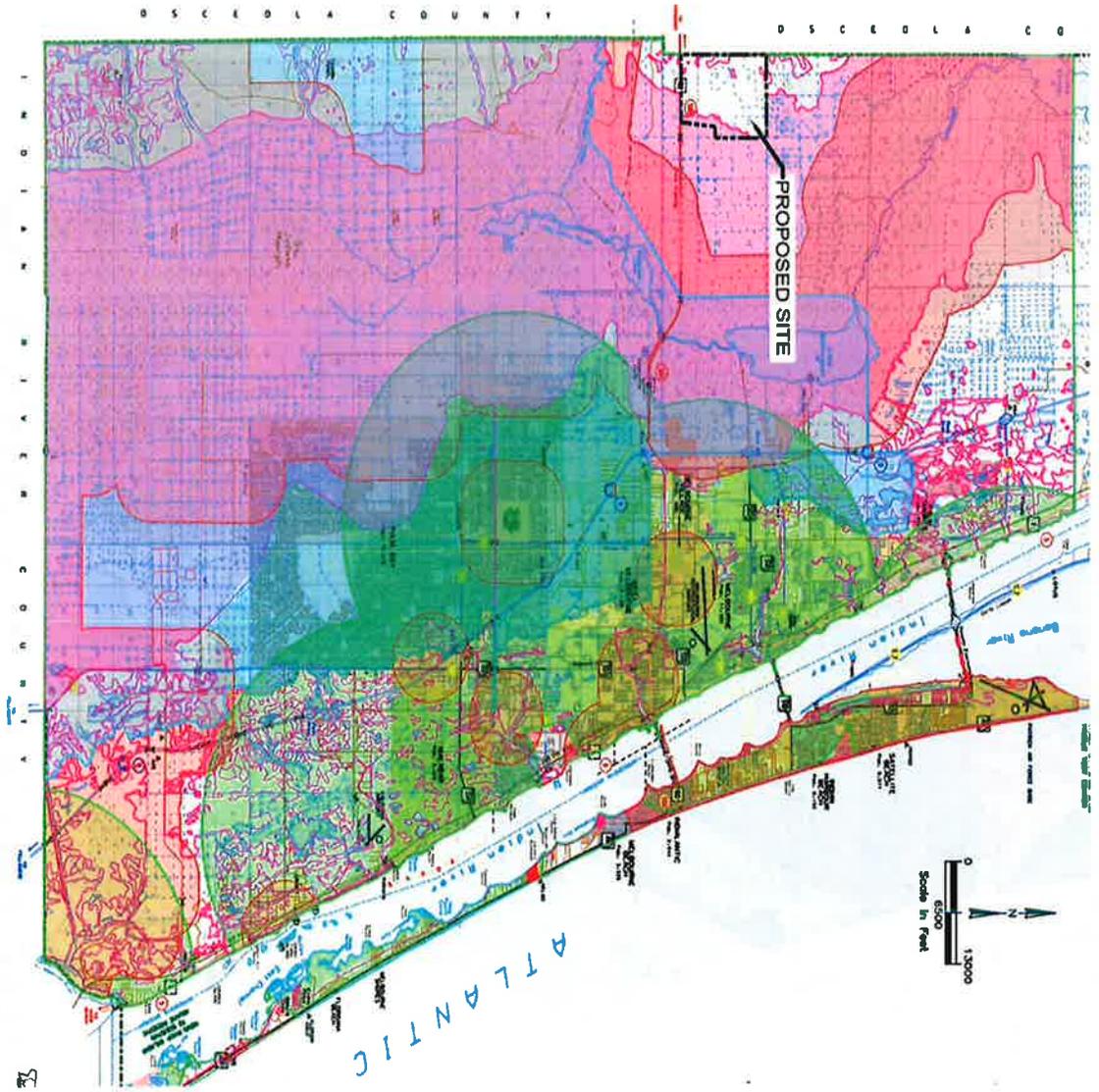
# Selection Criteria Result



## UNSUITABLE AREAS

-  PROXIMITY TO AIRPORTS
-  PROXIMITY TO CLASS 1 SURFACE WATERS
-  LOCATED IN THE 100-YEAR FLOODPLAIN

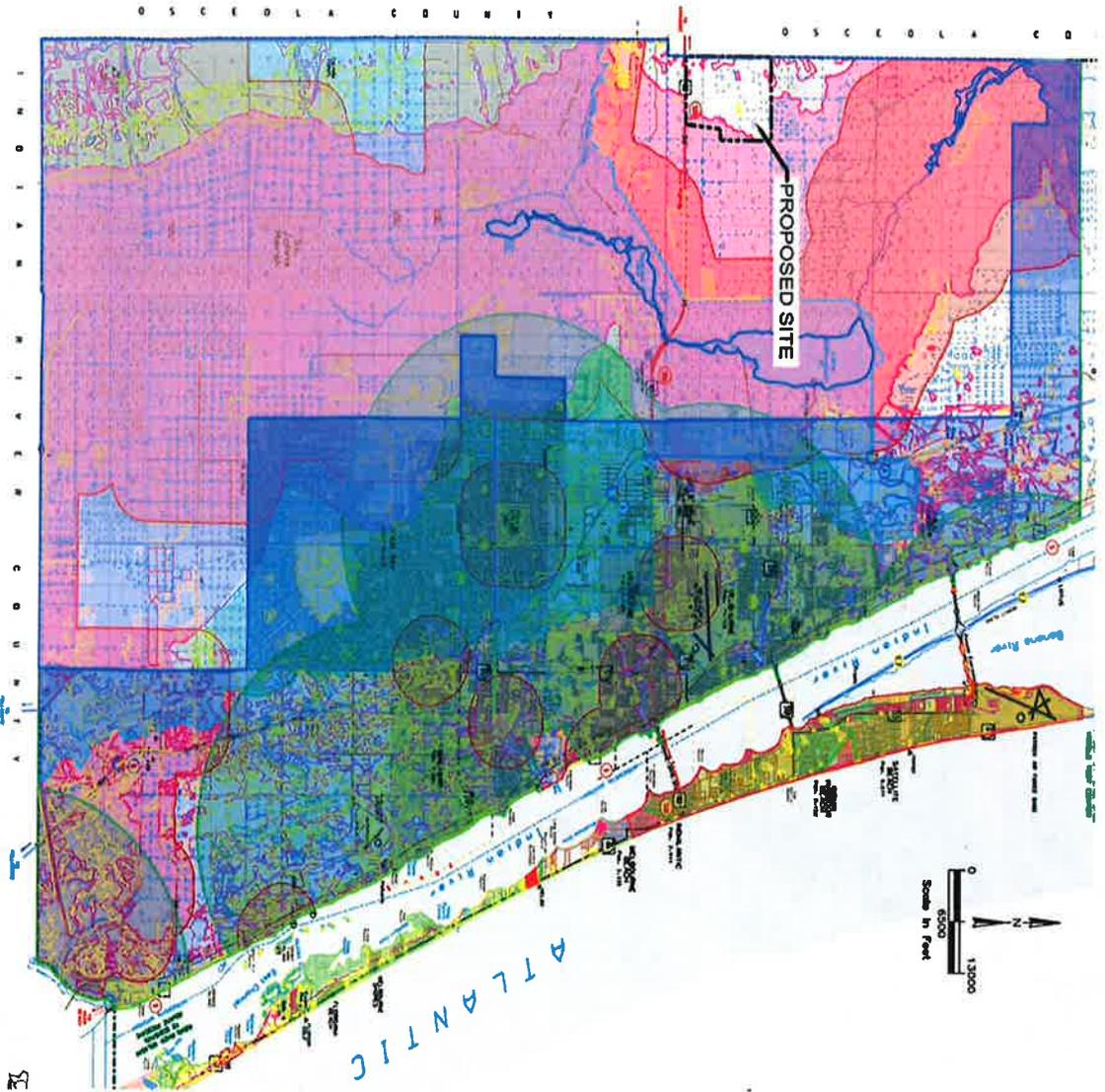
# Selection Criteria Result



## UNSUITABLE AREAS

-  PROXIMITY TO AIRPORTS
-  PROXIMITY TO CLASS 1 SURFACE WATERS
-  LOCATED IN THE 100-YEAR FLOODPLAIN
-  CONSERVATION AREAS
-  OVER 3 MILES FROM MAJOR HIGHWAY

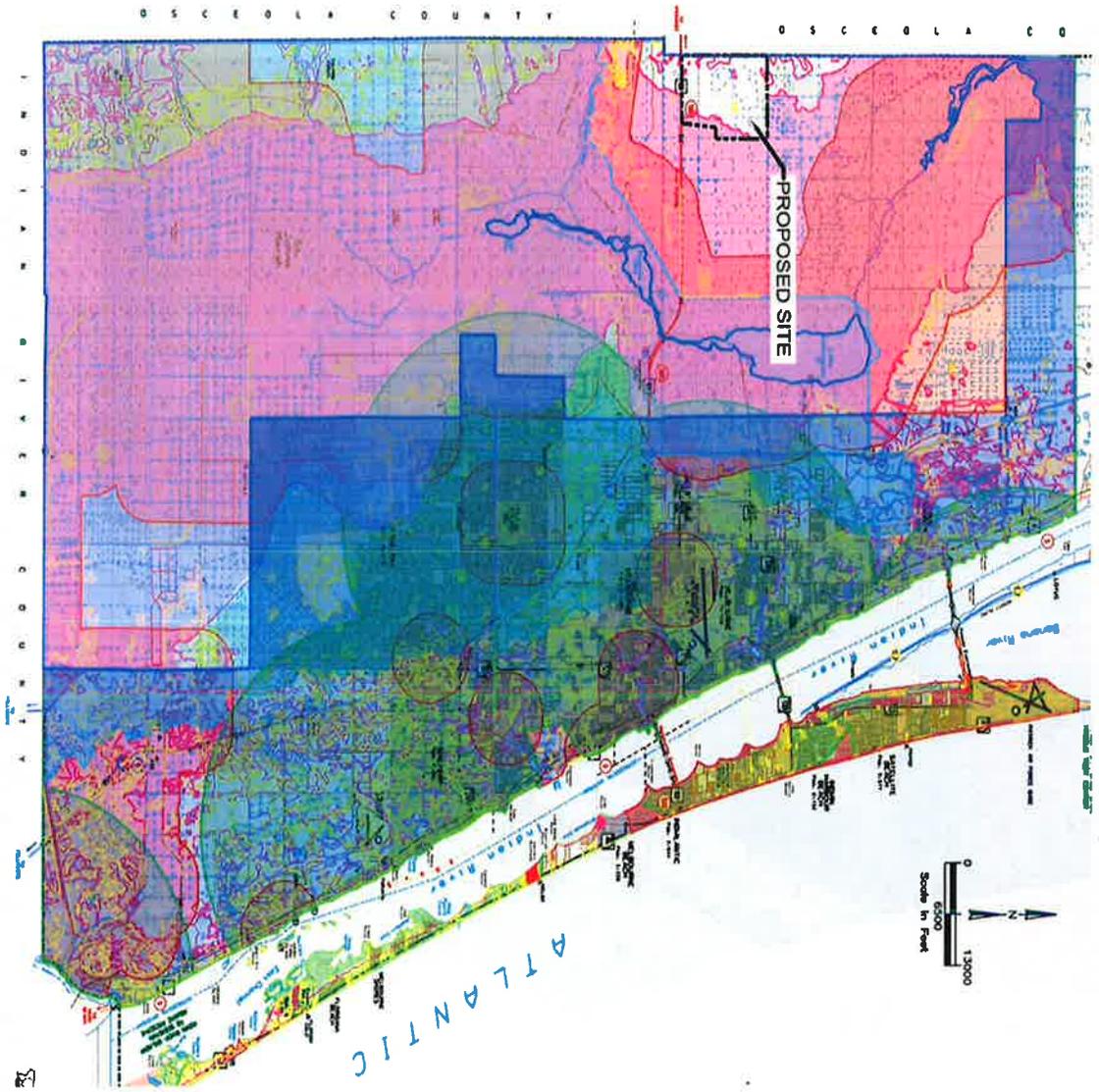
# Selection Criteria Result



## UNSUITABLE AREAS

- PROXIMITY TO AIRPORTS
- PROXIMITY TO CLASS 1 SURFACE WATERS
- LOCATED IN THE 100-YEAR FLOODPLAIN
- CONSERVATION AREAS
- OVER 3 MILES FROM MAJOR HIGHWAY
- POPULATION CENTERS
- NATURAL LANDS

# Selection Criteria Result



**UNSUITABLE AREAS**

	PROXIMITY TO AIRPORTS
	PROXIMITY TO CLASS 1 SURFACE WATERS
	LOCATED IN THE 100-YEAR FLOODPLAIN
	CONSERVATION AREAS
	OVER 3 MILES FROM MAJOR HIGHWAY
	POPULATION CENTERS
	NATURAL LANDS
	VERA DRI

## **What work has been done?**

- The County already has completed extensive studies of the site.
- The FDEP has completed its review of the County's applications.

## **Wildlife Surveys / Reports**

- 2005 to 2013 – Annual listed species surveys on site.
- 2010 – Wildlife Management Plan.
- 2014 – Biological Assessment for US 192 Solid Waste Management Facility.
- 2014 – Biological Opinion issued by US Fish and Wildlife Service.

# Hydrologic Investigations

- 1993 – 2007 – Hydrologic data collection.
- 2007 – Preliminary Hydrologic Survey.
- 2009 - Phase I Environmental Assessment US 192 Site.
- 2011 – Pesticide Evaluation of Sediments US 192 Site.
- 2012 – Limited Site Assessment Cattle Pen Area.

# Wetlands Studies / Reports

- April 6, 2010 – Formal Determination of Landward Extent of Wetlands and other Surface Waters of the State.
- October 2014 – Baseline Wetland Monitoring Report.
- 2014 – Wetlands Hydrologic Modeling to Support Wetland Mitigation Design.
- 2016 – Conservation Tract Adaptive Management Plan.

## Where are We?

- Obtained Solid Waste Construction and Operation Permit.
  - Administrative Hearing led to settlement with Deseret Ranch.
- FDEP gave Notice of Intent to Issue the Environmental Resource Permits for wetland impacts and stormwater discharges.

## Where are we?

- FDEP concluded the County's application complies with FDEP rules and standards.
- The facility is not expected to cause violations of water quality standards.
- Application for US Army Corps of Engineers wetlands permit was submitted.

## Where are we?

- USACOE consulted with US Fish and Wildlife Service about potential impacts on wildlife.
- US Fish and Wildlife Service issued its Biological Opinion and approved the wildlife conservation and mitigation plan.
- County purchased 134 wetlands mitigation bank credits as part of the mitigation for the project.

## Where are we?

- USACOE can issue its wetlands permit after FDEP issues its Environmental Resource Permits.
- Farmland Reserve, Deer Park, and Audubon have indicated their intention to file petitions for an administrative hearing to challenge the

ERPs <sup>46</sup>

# Project Investment

- Acquisition Costs: \$10,047,706
- During the 1990's we spent \$1,404,707
- Since 2005 we have spent an additional \$12,314,067
- Total: \$23,314,067

# Environmental Benefits

- Onsite preservation, creation and enhancement of wetlands for a net benefit to the environment.
- Establishment of a State Conservation Easement over 877 acres onsite to protect wetlands and uplands.
- Development of an Adaptive Management Plan to maintain wetlands, remove nuisance species, and optimize wildlife habitat onsite.
- Plugging 19 artesian wells for a significant decrease in the amount of water discharged from the Floridian Aquifer.
- Cleanup of arsenic contaminated soils.

# Alternatives

- Option 1  
Continue the development of US 192.
- Option 2  
Direct haul to CDF by our customers. CDF will decrease its life by about 30%.
  - Option 2a - Direct haul by customers of all materials.
  - Option 2b - Direct haul by customers of just Class III materials. This will require County to build yard waste facility.

# Alternatives

- Option 3

## County hauls to CDF.

- CDF will lose +/- 30% of its life.
- Need to build yard waste facility.
- Need to build citizens drop off center.
- Need to harden the Sarno Transfer Station.

# Alternatives

- Option 4

Waste is hauled out of county.

- Need to build yard waste facility.
- Need to build citizens drop off center.
- Need to harden the Sarno Transfer Station.

# Alternatives

- Options 2a, 2b, 3 and 4.
  - Eliminates risk of litigation and permitting.
  - County could sell the US 192 site and recover some or all of its past expenses that would be used in the construction of needed facilities.
- Option 4
  - Increased cost for transportation and disposal.
  - Loss of control over County costs and technologies.
  - Long term capacity is likely to be less than US 192.

# Alternatives

- Option 4
  - Increased cost over 25 years for Class III waste is estimated to be approximately \$26,900,000. This is subject to no additional increases in tonnage or drastic fuel increases.
  - Cost increase over 20 years after the Central Disposal Facility's Landfill closes is estimated to be approximately \$84,400,000.

# Alternatives

- Option 5

## Waste-to-Energy

- WTE is not suitable for most Class III waste (e.g., concrete, wallboard) because it is not readily combustible.
- WTE is significantly more expensive than a landfill.
- A WTE facility needs a landfill for the disposal of ash and materials that cannot be burned.

# Alternatives

- Option 6

## Other Public Facilities

- Hauling to other counties will be more expensive than hauling to the J.E.D. landfill in Osceola County.
- Loss of control over Brevard's costs and technology.
- Uncertain disposal capacity.

# Financial Comparison

## Option 1 vs. Option 4

- Premises used:
  - Looked at a 25 year period starting in 2022.
  - No consideration was given to Class I waste as CDF would still be available during this period of time.
  - Out-of-County Disposal Fee (used in analysis) started at \$18.00 per ton.

# Hauling Distances from County Facilities to JED Landfill



# Present Worth Value Comparison (25 years)

<i>Option</i>	<i>Present Costs (\$)</i>
Option 1 – US 192 Development	\$ 66,871,000
Option 4 – Haul Out to J.E.D. Facility	\$93,838,000
Option 1 more feasible	\$26,967,000

## Why the difference between the 2006 and 2016 Models?

- Tonnage decrease.
  - 2006 - 395,815 Tons.
  - 2016 - 116,000 Tons.
- J.E.D. gate fee.
  - 2006 - \$23.05.
  - 2016 - \$18.00.
- Inflation and Discount Rate.
  - 2006 – 3% and 7%.
  - 2016 – 2.25% and 4%.

# Staff Recommendation

- Staff believes the development of US 192 site is the lowest cost alternative (Option 1).
  - The US 192 site can provide disposal capacity for 60 years.
  - It can be used for recycling and innovative technologies in the future.
  - It can be developed in an environmentally sound manner.
  - The JED Landfill will increase costs by \$27 million over 25 years after Sarno Road Landfill closes and \$84 million over 20 years after CDF's landfill closes.