



INDIAN RIVER COUNTY
SOLID WASTE DISPOSAL DISTRICT
BOARD MEMORANDUM



Date: July 7, 2017
To: Jason E. Brown, County Administrator
From: Vincent Burke, P.E., Director of Utility Services
Prepared By: Himanshu H. Mehta, P.E., Managing Director, Solid Waste Disposal District
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Subject: Traditional Recycling Opportunities and Options

DESCRIPTIONS AND CONDITIONS:

In 2010, the State Legislature passed House Bill (HB) 7243, which established a recycling goal of 75% by December 31, 2020, along with interim goals as shown below with the comparison of the Solid Waste Disposal District (SWDD) recycling rate and the associated tonnages.

Calendar Year	Population	Tons Landfilled	Tons Combusted & Stockpiled	Tons Recycled & Renewable Energy	Total Tons	SWDD Annual Recycling Rate	State Goal
2012	139,446	130,195	24,650	90,966	245,811	37%	40%
2013	139,586	136,290	32,246	93,577	262,113	37%	40%
2014	140,955	153,759	5,669	88,594	248,022	36%	50%
2015	143,246	156,254	34,465	96,787	287,506	34%	50%
2016	146,410	162,644	36,783	220,461	419,888	53%	60%
2017	TBD	TBD	TBD	TBD	TBD	TBD	60%
2018	TBD	TBD	TBD	TBD	TBD	TBD	70%
2019	TBD	TBD	TBD	TBD	TBD	TBD	70%
2020	TBD	TBD	TBD	TBD	TBD	TBD	75%

The ambitious goal set by the Florida State Legislature is riddled with challenges, such as variations in market conditions, contamination issues with single stream recycling, relying on private commercial businesses to voluntarily report their recycling tonnages, and the overall difficulty in changing the personal habits of the general public. Despite these obstacles, the recycling rate in Indian River County (IRC) has risen from 34% in Calendar Year (CY) 2015 (ranked 24 out of 67 counties) to 53% in CY2016 (ranked 14 out of 67 counties).

SWDD has implemented or initiated several of the Phase 1 recommendations of the 2014 Solid Waste Master Plan, including converting to carted single stream recycling, hiring a recycling program coordinator, and expanding public outreach on recycling. Reaching a recycling rate greater than 50% is a huge milestone for IRC; however, we will not reach the 75% recycling goal by 2020 based on the current programs.

On September 13, 2016, the SWDD Board directed staff to report back to the Board with recycling data from January 2016 to January 2017 in order to further discuss costs and means for increasing recycling volumes. Staff requested the assistance of our consultant, Kessler Consulting, Inc., to help us look at traditional recycling opportunities and options. Kessler Consulting provided the attached Technical Memorandum,

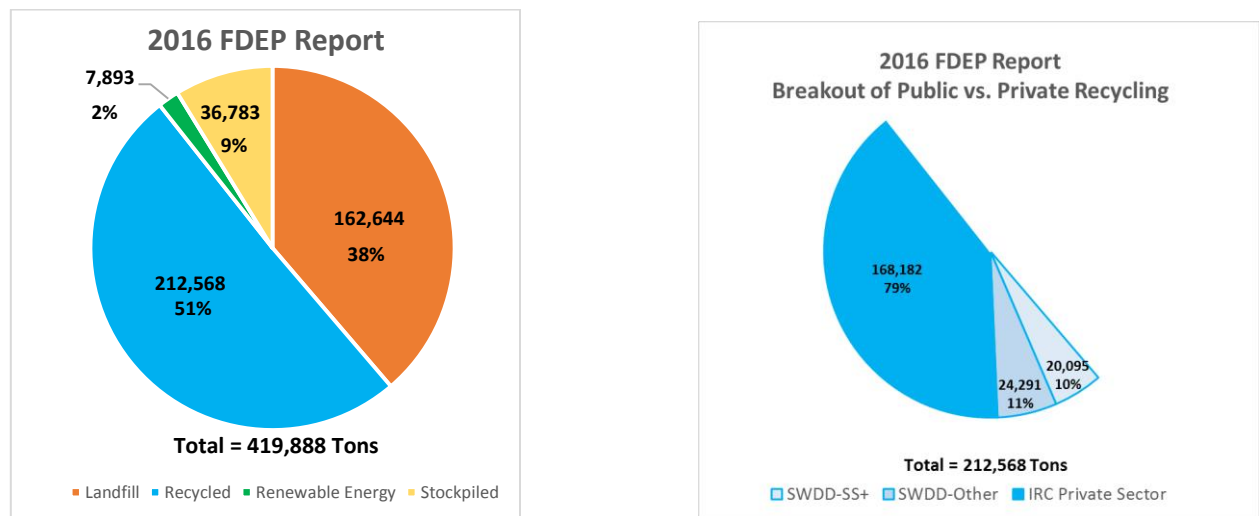
dated April 7, 2017, which provides an analysis of traditional recycling programs for various counties in Florida for CY2015 and potential opportunities for IRC to increase our recycling rate based on varying investments and involvement. Please note, Kessler Consulting's analysis was based on preliminary data submitted by staff to the Florida Department of Environmental Protection (FDEP) for CY2016, which estimated a 37% recycling rate. Subsequently, staff submitted additional recycling information to the FDEP in June 2017, which raised our rate to 53% and was published by the FDEP on July 1, 2017.

ANALYSIS:

IRC RECYCLING RATE AND OTHER FLORIDA COUNTIES

The overall recycling rate in IRC is calculated by combining the recycling efforts from the public sector that is processed through county means, and the privately-owned commercial sector that reports their recycling efforts directly to the FDEP.

FIGURE 1
2016 IRC SOLID WASTE MANAGEMENT REPORT



The majority of the increase in the recycling rate was due to the recycling efforts in the private sector where private entities such as Publix, Wal-Mart, Target, Mr. Scrap, etc., directly send their recyclables out of IRC for processing. The total recycling tonnages reported to FDEP in CY2016 in the private sector was 168,182 tons compared to 62,332 tons in CY2015. Overall, for CY2016, 21% was recycled by the county and 79% was recycled by the private sector.

When the combined recycling efforts by public and private entities in IRC from January 2016 through December 2016 are compared to the total amount disposed in our landfill, the resulting overall recycling rate for 2016 is 51%. We also received 2% in Renewable Energy Credits for the electrical production by the Indian River BioEnergy Center. The other 47% is composed of stockpiled clean concrete and yard waste as well as material disposed in the landfill. Specifically, we stockpiled clean concrete (10,878 tons) and yard waste (25,905 tons) that was delivered to the landfill in 2016.

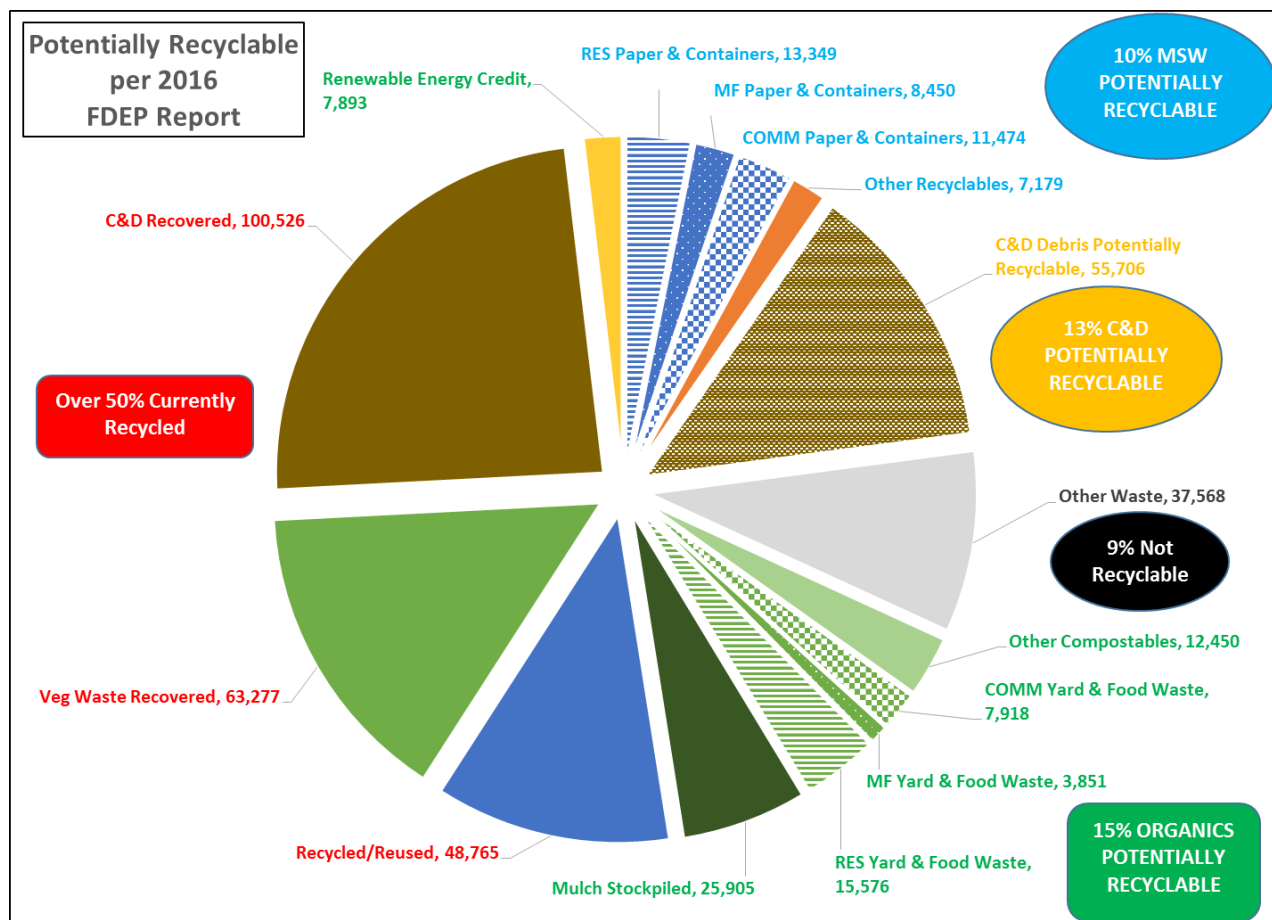
In general, the total recycling rate reported by each county is a combination of their traditional recycling rate plus their rate from renewable energy credits. In 2016, only 4 out of 67 counties in Florida had a traditional recycling rate exceeding 60% and only 13 counties had an overall recycling rate exceeding 60%. Eight (8) of these 13 counties have waste-to-energy facilities, four (4) received recycling credits for landfill gas recovery

or other renewable energy credits, and only one (1) – Sumter County – achieved a 63% overall rate by traditional methods only. In looking at just traditional recycling rates (no energy credits), in CY2016, 18 counties had rates exceeding 50%, and only 4 of those counties exceeded 60%. The traditional recycling efforts focus on four areas: Construction and Demolition (C&D) Debris, Organics Recycling, Commercial Recycling, and Multi-Family Recycling.

OPPORTUNITIES & OPTIONS FOR IRC

Using the 2016 data submitted to the FDEP, it is estimated that 38% of the waste in CY2016 consisted of materials that are recyclable but were stockpiled or disposed (“potentially recyclable”) (see Figure 2). Of that 38%, approximately 15% was composed of organics and 13% was composed of C&D debris that could not be captured or recycled under the existing recycling programs. The remaining 10% was recyclable and in the future could be pursued with a rigorous recycling campaign aimed at residential and commercial businesses; however, no recycling program, no matter how rigorous, would recover all of these materials. What is actually recycled will depend on the participation and cooperation of the public and local businesses.

**FIGURE 2
POTENTIALLY RECYCLABLE**



In order to encourage more participation in the existing programs and pursue the recyclable C&D and organics that are currently being stockpiled or disposed, the SWDD Board needs to consider the following programs:

Construction and Demolition Debris (C&D):

- The large increase in IRC's recycling rate from CY2015 to CY2016 can be credited to the addition of recycling data from three large C&D debris companies in the private sector that was not previously being reported. For CY2016, they represent 87% or 97,217 out of 111,690 tons of C&D recovered in IRC.
- In contrast, SWDD disposed 100% of incoming C&D (44,802 tons) into the landfill in CY2016. SWDD also received 14,187 tons of clean concrete in CY2016, out of which 77% (10,878 tons) was stockpiled and not counted towards our recycling rate. The remaining 23% (3,309 tons) of clean concrete was recycled for landfill road base material, which is utilized in and on the active landfill site to facilitate various traffic patterns.
- The disposed/stockpiled material represents an opportunity by the county to directly increase our recycling rate and save valuable landfill space. Other counties such as Charlotte, Sarasota, Alachua, and Lee have successful C&D debris recycling programs. However, these counties have tipping rates in the range of \$40 to \$50 per ton compared to our \$31.80 per ton, and have processing costs that range from \$25 to \$35 per ton.
- SWDD is currently going through a permit renewal for the C&D landfill and has received a draft permit from the FDEP that includes the operations of a C&D Debris Recycling facility. The permit allows for the mining of our existing C&D landfill as well as approval for concrete crushing.

Option 1: A procurement process is needed to determine the interest from private vendors, costs to build/operate/maintain a processing system and the recycling rate that could be achieved. Site improvements, permit modifications and tipping fee adjustments may be needed as the result of this process.

Out of the 13% of the C&D debris that is potentially recyclable, it is estimated that an additional 2% (concrete crushing only) to 7% (C&D Debris Recycling facility) can be practically recycled from this effort.

Organics:

- In 2016, nearly 26,000 tons of ground vegetative waste was stockpiled for use as daily cover, which was not considered recyclable by the FDEP. This is now resolved per the new contract with Mr. Mulch in 2017. We are no longer stockpiling large quantities of cover material; instead, it is on an as-needed basis with the majority of the material being shipped off-site for recycling. This has increased our costs; however, it will provide an additional 7% of recycling credits for CY2017.
- In 2016, it is estimated that 27,000 tons of yard waste and post-consumer food waste was disposed in the landfill as part of the mixed residential and commercial waste streams.

Option 1: We need a systematic and concentrated educational campaign to educate residents about not putting yard waste into their garbage. There is a potential to recover an additional 1-2% of recycling credits with this option.

Option 2: An alternative aggressive option is to consider universal collection of yard waste within the urban service area. However, this may only be cost-effective to our residents with universal collection of residential waste. Therefore, this stand-alone option for universal collection of yard waste is not recommended at this time.

- In 2016, it is estimated that 12,000 tons of other potentially compostable materials, such as non-recyclable paper and clean wood waste, were disposed in the landfill. In 2016, the county disposed of 8,000 tons of dewatered sludge into the landfill.

Option 3: Initiate a procurement process for a public or private compost facility. The procurement process is to see what interest there is by the private sector to establish a public facility on the landfill property or a private facility on their own property. In addition, we would have a proposed tipping fee to compare to our existing rate to evaluate the financial impact to our residents. Once a facility is established then a pilot for commercial food waste collection can be explored, followed by a residential food waste collection program in the future. Currently, the majority of residential and commercial yard waste is covered through the non-ad valorem assessment with large size materials being charged at a rate of \$22 per ton. Kessler Consulting estimates that a tipping fee of \$25-\$40 per ton would be required for a private compost operation. Staff recently visited the NuTerra composting facility in Fellsmere and were informed that they expect to charge a tipping fee of \$37.50 per ton. There is a potential to recover an additional 1-2% of recycling credits with this option.

Out of the 15% of organics that are potentially recyclable, it is estimated that an additional 7% will be recovered through the contract with Mr. Mulch and another 2-4% can be practically recycled from educational efforts and/or composting.

Commercial and Multi-Family Recycling:

- Based on information from our local haulers, it is estimated that 16% of the commercial businesses (approximately 659 out of 4,250 businesses) in IRC voluntarily subscribe for recycling services.
- In 2016, an estimated 11,000 tons of commercially generated and 22,000 tons of residentially generated recyclable paper and containers were landfilled.

Option 1: Provide leniency for existing commercial/multi-family complexes that do not have an enclosed structure for recycling.

Option 2: Establish a building code amendment requiring all new commercial and multi-family complexes to have an enclosed structure for recycling.

Option 3: Establish a Technical Assistance Program to maximize voluntary efforts.

Option 4: Consider a mandatory recycling ordinance. Due to the open market condition stipulated by the Florida Legislature, commercial businesses can still choose their own provider but they would be required to recycle.

Lee and Sarasota counties have a mandatory commercial recycling program that has greater than 90% compliance resulting in higher recycling rates. These counties have over half a dozen full and part time staff members dedicated to helping businesses set up a recycling program and ensuring compliance.

Out of the 10% of Commercial and Multi-Family materials that are potentially recyclable, it is estimated that an additional 2% to 5% can be practically recycled from this effort.

Realistically, achieving the 75% goal by the year 2020 is not possible; however, we are now at over 50% of the recycling goal with about 38% of the material going into our landfill that is potentially recyclable. The various options outlined will require additional costs by the county along with an intensive and consistent education effort to increase our overall recycling rate for CY2016 from the 53% to 65%. The pursuit of incrementally higher overall recycling rates will require substantial investments (i.e., waste-to-energy) as the results of the Request for Information process indicated and presented to the SWDD Board on September 13, 2016. The time frame to achieve these rates will depend on a variety of factors including constituent participation and the programmatic policies typically set by the Board. Staff and KCI will provide a detailed presentation of the above to obtain further direction from the SWDD Board.

FUNDING:

Kessler Consulting was directed by staff to utilize funding that was available in the approved Work Order No. 1 and No. 2 to complete the additional work for this effort. Funding for these services came from the Other Professional Services account in the SWDD Landfill Fund account, which is funded from SWDD assessments and user fees.

Description	Account Number	Amount
Other Professional Services	41121734-033190	\$584.72

RECOMMENDATION:

Staff will discuss the above options to obtain further direction at the upcoming Board meeting. At this time, staff recommends that the SWDD Board approve the following:

1. Authorize staff to issue a Request for Proposal (RFP) to obtain bids for implementation of concrete and C&D recycling at the landfill. A procurement process will help us evaluate private sector interest, their costs and their recovery rates to adequately determine both the financial impact as well as the impact to the overall recycling rate. C&D recycling has the potential to increase the county's overall recycling rate by an estimated 7%.

ATTACHMENT(s):

- 1) Technical Memorandum – Kessler Consulting, Inc.