

Department of Public Works

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Mission

Foster collaborative and innovative solutions that deliver value to our stakeholders by managing discarded materials to conserve natural resources and promote a healthy, vibrant and sustainable community.

Overview

The Department of Public Works (DPW) is an enterprise fund providing solid waste management services and education programs to Kent and surrounding counties. Established by the Board of Commissioners and overseen by the Board of Public Works, the Department has two divisions: Administration and Solid Waste Operations. The Solid Waste division has four primary functions: Recycling and Resource Recovery, Waste to Energy, Landfill and Transfer Station, and Closed Landfill Remediation and Environmental Compliance. DPW Administration provides support to the Solid Waste Division through accounting, communications, and reporting.



Kent County Waste to Energy Facility

Significant Accomplishments

- Completed the Master Planning process to develop a 250-acre Sustainable Business Park to attract public/private investment in infrastructure necessary to implement sustainable materials management strategies for Kent County. (Innovation)
- Completed property acquisitions and site planning at the Recycling & Education Center campus to relocate Administrative offices and provide a SafeHome Service Center for SafeChem - household hazardous waste, small business waste, electronics recycling and community reuse programs. (Community Impact)
- Installed interactive exhibit space at the Education Center to engage visitors and conducted 257 tours for 8,376 adults and youth (a 17% and 13% increase from 2017, respectively) at the Recycling & Education Center and South Kent Landfill; and Waste-to-Energy Facility with an additional 48

Strategic Goals

- Achieve a 20% landfill reduction for Kent County discards by 2020 and a 90% reduction by 2030 through continued implementation of the 20 x '20 and 90 x '30 sustainable materials management master plan and sustainable business park. (Stable Revenues, Efficient Use of Resources, Proactive and Innovative Government, High Quality of Life)
- Develop strategic partnerships to attract investment in sustainable materials management collection and processing infrastructure. (Efficient Use of Resources, Proactive and Innovative Government, High Quality of Life)
- Pilot a prescription drug donation and reuse program in collaboration with the Health Department and local health organizations. (Proactive and Innovative Government, High Quality of Life)
- Increase Waste to Energy processing capacity by 50% through development of expansion, preprocessing and/or source separation recommendations. (Efficient Use of Resources, Proactive and Innovative Government)
- Launch a pilot multifamily residential recycling program with waste haulers and property managers to establish route density to sustain private sector waste hauler service to these properties. (Efficient Use of Resources, Proactive and Innovative Government, High Quality of Life)
- Increase residential recycling participation to 75% by 2023 through the utilization of demographic studies and model recycling ordinances to promote residential recycling and waste diversion solutions to meet growing city and township needs. (Citizen Participation, High Quality of Life)
- Implement Sustainable Business Park business and infrastructure development plans in a strategic partnership with The Right Place in support of market development and private/public investment in sustainable materials management infrastructure. (Proactive and Innovative Government, High Quality of Life)
- Meet the State's new standards for testing, filtering and treatment of landfill leachate impacted by PFAS. (High Quality of Life)

Significant Accomplishments Continued

presentations, a 41% increase over 2017. (Community Impact)

- Achieved Clean Corporate Citizen designation for the 13th consecutive year while producing 20.2 MW of renewable electrical generation at the Waste-to-Energy and South Kent Landfill Gas-to-Energy facilities, producing electricity for 15,000 homes equivalent. (Innovation)
- Distributed 1,472 sharps containers in 2018, a 21.5% increase from 2017, to expand use of the SafeSharps program in collaboration with the Health Department to ensure safe, confidential and environmentally sound disposal of medical sharps from residential use. (Community Impact)
- As one of two facilities state-wide, provided special waste destruction including secure, witnessed destruction of illicit drugs, evidence, confidential documents, medical records and prescription and over-the-counter medications; 239,740 pounds of material were destroyed, received from over 80 local, State and Federal government and law enforcement agencies. (Collaboration)
- Improved Recycling and Education Center tip floor availability from 92% in 2017 to 100% in 2018, with process line availability of 98.6% through significant investment in process line upgrades and refurbishment. (Innovation)
- In collaboration with the Sheriff Department, completed implementation of the Recycling Center work release program to provide supervised, paid employment for up to 19 inmates daily. (Collaboration)
- Implemented a North Kent Landfill PFAS action plan for suspected impact to groundwater by implementing monitoring programs, residential well testing, water filtration system installation and public water supply connection for 41 residents and businesses. (Community Impact).

DEPARTMENT: PUBLIC WORKS

Department Mission Statement:

Foster collaborative and innovative solutions that deliver value to our stakeholders by managing discarded materials to conserve natural resources and promote a healthy, vibrant and sustainable community.

Service Area: Recycling and Education Center (REC) and SafeHomes Programs

Service Area Mission Statement:

Provide Kent County residents and waste hauling businesses processing and outlets for recovered recyclable materials and household hazardous waste.

Goals

- Accept increased curbside recycling volumes at the REC and process 40,000 tons.
- Expand participation in the SafeHomes Programs and REC tours through consistent and focused education and advertising outreach to potential participants.
- Maintain 95% processing availability at the REC.
- Educate about the importance of recycling to reach 2020/9030 goals.

Objectives

- Process and sell at 90% of incoming recycle tonnage - REC
- Increase the number of residents served by 10% - SafeHomes Programs
- Increase the pounds of Household Hazardous Waste material by 5% - SafeHomes Programs
- Increase on-site tour participation by 10% and introduce virtual tour experience.

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Outcomes				
Percent of tons sold/tons processed (REC)	77.30%	90.00%/ 74.09%	90.00%/ 77.06%	90.00%
Percent increase in number of households served (SafeHomes Programs)	16.11%	10.00%/ 10.43%	10.00%/ 9.15%	10.00%
Percent increase in the pounds of Household Hazardous Waste material collected (SafeHomes Programs)	-37.07%	5.00%/ 70.67%	5.00%/ 5.04%	5.00%
Tip Floor Availability (REC)	NA	98.00%/ 92.00%	98.00%/ 100.00%	98.00%
Process Availability (REC)	NA	95.00%/ 90.00%	95.00%/ 98.60%	95.00%

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Efficiencies				
Net cost per ton processed (REC)	115.24	86.70/ 98.10	65.83/ 102.28	73.52
Cost per pound collected (SafeHomes Programs) (less than goal is good)	1.31	2.14/ 1.08	1.16/ 1.11	1.14
Cost per pound disposed (SafeHomes Programs) (less than goal is good)	0.98	0.81/ 0.44	0.38/ 0.35	0.31

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Outputs				
Tons processed (REC)	34,821	45,000/ 32,132	45,000/ 33,133	45,000
Tons marketed (REC)	26,916	34,000/ 23,807	34,000/ 25,533	34,000
Tons landfilled (REC)	6,832	6,750/ 6,753	6,750/ 6,963	6,750
Number of households served/year (SafeHomes Programs)	4,563	5,019/ 5,039	5,543/ 5,500	6,050
Pounds of material collected (SafeHomes Programs)	152,842	160,484/ 260,856	266,073/ 274,000	279,480

Service Area: South Kent Landfill (SKL) & North Kent Transfer Station (NKT)

Service Area Mission Statement:

Provide municipal solid waste landfill, ash monofill disposal and solid waste transfer services to serve primarily Kent County residents and businesses.

Goals

- Operate disposal and transfer facilities in compliance with license and permits.
- Ensure availability of long-term disposal services for Kent County residents with stable and competitive rates.
- Final facility planning complete to provide more recycling opportunities and accommodate increased traffic at the North Kent Transfer Station.
- Construction of Cell 40 and appurtenances at South Kent Landfill.
- Increase outreach to raise awareness of landfill volumes to reduce, reuse, recycle to reach 2020/9030 goal.

Objectives

- Process 100% of incoming waste and diverting more waste while staying within budget and MDEQ guidelines.
- Increase tour participation by 10% and develop virtual tour experience.

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Outcomes				
Process 100% of incoming waste	100.00%	100.00%/ 100.00%	100.00%/ 100.00%	100.00%
Compaction Ratio (tons/CM)-SKL	82.00%	80.00%/ 88.00%	80.00%/ 99.00%	80.00%

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Efficiencies				
Cost per ton for processing - SKL	18.95	20.00/ 11.86	30.00/ 13.52	20.00
Cost per ton for processing - NKTS	21.33	30.00/ 18.55	24.00/ 18.87	30.00

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Outputs				
Tons of solid waste processed-SKL	312,256	275,000/ 347,464	250,000/ 347,121	250,000
Tons ash residue landfilled-SKL	41,847	42,500/ 42,735	42,500/ 42,975	42,500
Tons of solid waste processed-NKTS	92,397	84,000/ 101,680	90,000/ 101,346	90,000

Service Area: Waste To Energy Facility (WTE)

Service Area Mission Statement:

Provide environmentally effective, reliable and secure solid waste disposal and transfer services to residents and businesses in the six cities as part of the County solid waste management plan.

Goals

- Accept all solid waste delivered and process solid waste for disposal, energy recovery or transfer in a cost effective and environmentally responsible manner
- Maintain the WTE Facility Clean Corporate Citizen certification
- Evaluate methods to increase processing capacity i.e., third combustion train, front-end processing, furnace water injection.
- Improve community education and outreach to make coordinated and positive connection with residents, visitors and guest.
- Increase outreach to raise awareness of WTE.

Objectives

- Achieve contractual electrical production requirement of at least 103,000 MWH annually.
- Intercept and transfer unacceptable waste in incoming loads through Supplemental Transfer.
- Identify high HHV waste which should be recycled and look for alternative methods to move it away from WTE.
- Achieve facility water use ratio of 0.3, or lower, of billing units per ton of waste processed.
- Achieve facility sewer use ratio of 0.25, or lower, of billing units per ton of waste processed.
- Achieve in house electric consumption ratio of 20%, or lower, of MWH of electricity sold.
- Maintain a HHV below 5600 BTU's.
- Increase tour participation by 10% and develop virtual tour experience.

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Outcomes				
Electricity sold (MWH) WTE	100,944	103,000/ 99,570	103,000/ 102,288	103,000
Tons of waste rejected	6,291	5,000/ 5,778	5,000/ 6,521	5,000
HHV of waste (measurement to be lower than goal)	5,478	5,600/ 5,487	5,600/ 5,591	5,600

Water billing units consumed per ton of waste processed	0.32	0.30/ 0.30	0.30/ 0.27	0.30
Sewer billing units consumed per ton of waste processed	0.28	0.25/ 0.29	0.25/ 0.33	0.25
In house electrical consumption ratio to MWH of electricity sold	19.56%	20.00%/ 20.04%	20.00%/ 20.00%	20.00%

Indicators	2016 Actual	2017 Expected/ Actual	2018 Expected/ Actual	2019 Expected/ Actual
Outputs				
Water billing units consumed	53,772	40,000/ 49,812	50,000/ 50,812	50,000
Sewer billing units consumed	48,650	50,000/ 51,793	50,000/ 62,072	50,000
Tons Received	258,991	250,000/ 262,788	260,000/ 270,065	260,000
Tons of solid waste processed	182,470	185,000/ 185,209	185,000/ 185,413	185,000
Tons transferred	69,467	65,000/ 72,250	70,000/ 77,089	70,000
Mwh of electricity consumed	19,744	20,000/ 19,950	20,000/ 20,452	20,000
Long Tons of ferrous metal recovered	3,617	3,000/ 2,750	3,000/ 2,758	3,000
Ferrous metal as % of tons processed	1.98%	1.62%/ 1.48%	1.62%/ 1.49%	1.62%