

VERSION 1.0  
DECEMBER 15, 2017

2018 - 2022  
**STRATEGIC PLAN**



**ORGANIZATIONAL VISION AND INITIATIVES**

Presented by: The Executive Team  
1299 Harrisburg Pike  
Lancaster, PA 17603



## TABLE OF CONTENTS

<b>Introduction.....</b>	<b>3</b>
<b>Section 1: Purpose and Governance.....</b>	<b>3</b>
Fundamental Purpose .....	3
Governance .....	4
Organizational Vision, Mission, Core Values and Guiding Principles.....	4
<b>Section 2: Markets Served .....</b>	<b>5</b>
Service Area and Segments.....	5
Capacity and Volume Projections .....	7
<b>Section 3: Core Services Provided .....</b>	<b>8</b>
Integrated System.....	8
Workforce .....	9
Service Partners .....	9
Community Engagement and Education .....	10
<b>Section 4: Fiscal Strategy.....</b>	<b>10</b>
Tipping Fees .....	10
Renewable Energy.....	10
Revenue Diversification .....	11
Fiscal Outlook.....	11
<b>Section 5: Risk and Opportunity Management .....</b>	<b>12</b>
Forecasting Accuracy .....	12
Non-Flow Controlled Waste.....	15
Major Catastrophes .....	15
Legislative Changes .....	15
Interdependence & Opportunity with Major Partners.....	15
Management Expertise .....	16
Revenue Diversification through Innovation .....	16
<b>Section 6: Key Strategic Initiatives (2018-2022).....</b>	<b>16</b>

<b>Section 7: Long-Term Outlook .....</b>	<b>18</b>
<b>Purpose and Use Disclaimer .....</b>	<b>19</b>
<b>Exhibits .....</b>	<b>20</b>
Exhibit 1: Future Timeline .....	20
Exhibit 2: Capacity Modeling.....	21
Exhibit 3: Fiscal Outlook (2018-2022) .....	23
Exhibit 4: Guiding Principles .....	24
Exhibit 5: Vision, Mission, and Core Values.....	25

## 2018-2022 STRATEGIC PLAN

### INTRODUCTION

This Strategic Plan has been prepared by the LCSWMA Executive Team and approved by the LCSWMA Board of Directors to communicate to LCSWMA personnel the overall purpose, governance, vision, mission, core values, and guiding principles of LCSWMA and the currently anticipated strategic direction of LCSWMA for the next five years.

### SECTION 1: PURPOSE AND GOVERNANCE

#### FUNDAMENTAL PURPOSE

Providing safe, environmentally responsible and sustainable waste management is LCSWMA's fundamental purpose. LCSWMA's predecessor, the Lancaster Area Refuse Authority, was created under the Pennsylvania Municipality Authorities Act in 1954, and LCSWMA continues to exist to fulfill this essential community service. LCSWMA's incorporating municipality is the County of Lancaster, whose Commissioners have adopted Articles of Incorporation authorizing LCSWMA to improve the environment, health and economy of Lancaster and contiguous counties by means of solid waste management and other activities through December 31, 2061.

LCSWMA accomplishes its fundamental purpose by: 1.) ensuring there is sufficient capacity to manage projected waste volumes through planning, design, financing, construction and operation of the Integrated System (the "System"), and 2.) ensuring that the capacity within the System is integrated to maximize resource recovery and minimize landfill consumption. Throughout Lancaster and Dauphin counties, LCSWMA owns the following facilities, which, collectively, comprise its Integrated System for waste management and disposal:

FACILITY	DAILY CAPACITY
1. Lancaster Waste-to-Energy (the "Lancaster WTE") Facility	1,200 TPD
2. Susquehanna Resource Management Complex (the "SRMC")	800 TPD
3. Transfer Station Complex (the "TSC"), including a permanent Household Hazardous Waste (the "HHW") Facility	2,200 TPD
4. Frey Farm Landfill	3,000 TPD

Through the operation of the Integrated System, LCSWMA is deeply committed to:

- ✓ Exemplifying environmental excellence (ISO 14001) in all facets of the organization;
- ✓ Maximizing efficiencies and recovery of resources throughout the Integrated System; and
- ✓ Maintaining an innovative business model to create economic development synergies and maintain stable rates for businesses and residents.

These values have driven a 26-year commitment to waste-to-energy (WTE) technology and yielded a recycling rate in Lancaster County that is well above the national average (44% vs. 35% U.S. average). LCSWMA plays an integral role in protecting human health and the environment by fulfilling its purpose. When managed safely and sustainably, waste does not present health and safety issues for society. However, LCSWMA continually endeavors to reveal the benefits, above and beyond this basic service, that the Integrated System brings to the community. Managing waste as a resource enables LCSWMA to contribute benefits to an array of initiatives in the Lancaster and Dauphin County region that increase the livability and vibrancy of these communities.

## GOVERNANCE

LCSWMA is governed by a nine-member board of directors, who are appointed by the Commissioners of Lancaster County to fulfill 5-year alternated terms. The Board of Directors establishes the vision and strategic direction for the organization, and advises the Chief Executive Officer to ensure that the execution of responsibilities and initiatives are aligned with LCSWMA's mission and values. In relation to the strategic plan set forth herein, the Board of Directors has guided the Executive Team through the formation of the five-year plan, and, following its adoption, will participate in the annual review process to approve any modifications recommended by the Executive Team.

## ORGANIZATIONAL VISION, MISSION, CORE VALUES AND GUIDING PRINCIPLES

The Executive Team is led by a foundational set of guiding principles, which underpin the decisions and strategic initiatives made at the executive level. These principles have served LCSWMA's leadership for many years, and continue to encapsulate the key elements that must be balanced to ensure the long-term operation of the Integrated System and its adherence to LCSWMA's core values (see Exhibit 4).

However, as part of this strategic planning process, the Executive Team established a visioning committee comprised of management and staff from all facilities to examine LCSWMA's long-standing mission statement and guiding principles in relation to: a.) the organization's evolution over the last 30 years; and b.) LCSWMA's vision for the future. After much consideration, the committee put forth a recommendation to:

1. Adopt a Vision Statement that inspires stakeholders and communicates LCSWMA's aspirations in fulfilling its mission;
2. Revise LCSWMA's Mission Statement to better reflect the organization as it stands today; and
3. Adopt a set of core values that resonate with all staff and embody LCSWMA's principles to promote a strong culture.

VISION STATEMENT	<b><i>Rethinking waste for a sustainable future.</i></b>
MISSION STATEMENT	<b><i>Managing waste as a resource to protect and benefit our community.</i></b>
CORE VALUES	<b><u>Stewardship:</u></b> managing our resources to protect the environment. <b><u>Safety:</u></b> protecting the wellbeing of our employees, customers, and community. <b><u>Excellence:</u></b> delivering the highest quality in all we do. <b><u>Innovation:</u></b> rethinking our initiatives, operations, and assets to create opportunities. <b><u>Leadership:</u></b> guiding our organization, industry, and community with passion and vision. <b><u>Education:</u></b> communicating information to help society rethink waste. <b><u>Collaboration:</u></b> working together to achieve success.

From this process, a revised mission statement has been recommended for adoption by the Board of Directors as part of this strategic plan, along with a new vision statement and set of core values that are reflective of LCSWMA's workforce and service to the community.

## SECTION 2: MARKETS SERVED BY LCSWMA

### SERVICE AREA

LCSWMA's primary service areas are Lancaster and Dauphin counties. However, as a Pennsylvania Municipal Authority, LCSWMA can strategically extend its services into contiguous counties as necessary or advantageous for the larger community.

### SEGMENTS

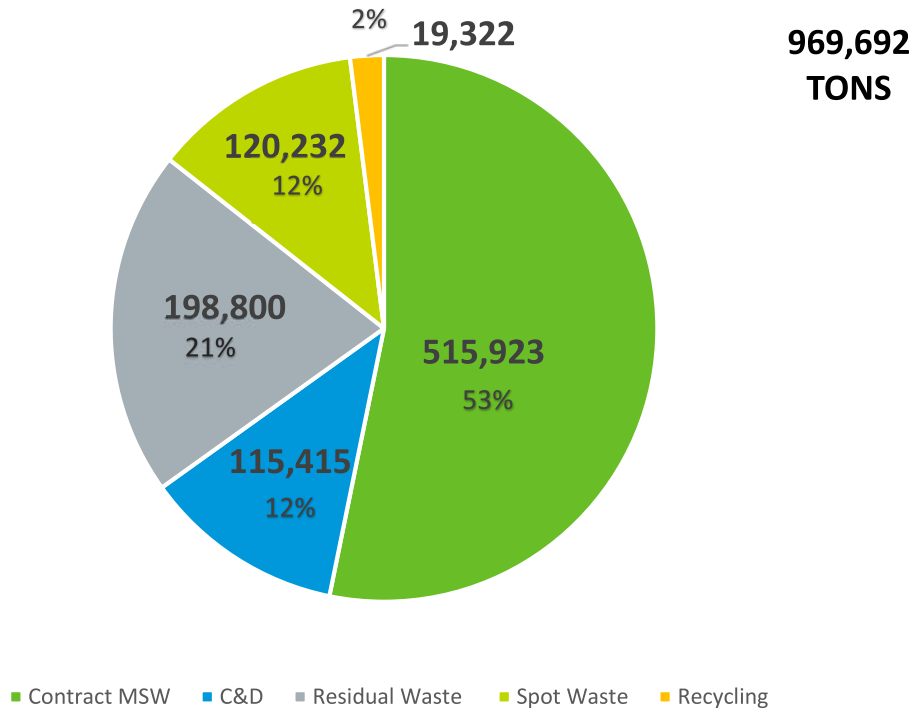
Through the transfer, disposal, and processing capacities of the Integrated System, LCSWMA serves residential, commercial, industrial, and institutional customers. There are five primary classifications for the waste managed by LCSWMA (all of which are non-hazardous):

- ✓ **Municipal Solid Waste (MSW)**, categorized as refuse in the System, is comprised of waste from homes, businesses, and institutions within Lancaster and Dauphin counties. MSW accounts for the majority of the waste delivered into the System. Both Lancaster and Dauphin counties exercise Flow Control on MSW to ensure it is delivered to LCSWMA's facilities to support the long-term sustainability of the Integrated System through a steady base of tipping fees. MSW totals 53% of the annual tonnage (515K tons) and 52% of the total revenue (\$43M)<sup>1</sup> into the System.
- ✓ **Construction Demolition (C&D) Waste** consists of the debris generated during the construction, renovation and demolition of buildings, roads, and other structures. Due to the bulky and inert properties of C&D, most of this waste stream cannot be processed via WTE technology. C&D totals 12% of the annual tonnage (115K tons) and 8% of the total revenue (\$6.7M)<sup>1</sup> into the System. While Lancaster County exercises Flow Control on C&D waste within its county limits, C&D waste generated in Dauphin County is market competitive.
- ✓ **Residual Waste** is non-hazardous industrial waste that is generated by area manufacturers and industries. While residual waste is not subject to Flow Control, it comprises 21% of the annual tonnage (200K tons) and 12% of the total revenue (\$10M)<sup>1</sup> into the System. Securing residual accounts provides stable revenue at a premium price per ton compared to spot waste, while allowing the industrial and manufacturing segments of the community to benefit from the reliability and sustainability afforded by LCSWMA's Integrated System.
- ✓ **Spot Waste** is waste generated by businesses and communities outside Lancaster and Dauphin counties and is delivered to the Integrated System through arrangements with brokers and transporters. Spot waste is used to supplement MSW and residual waste deliveries into the System to maintain waste storage pit inventories and ensure consistent throughput into the WTE boilers, which is necessary to sustain efficient operation of these facilities. Spot waste comprises 12% of the annual tonnage (120K tons) and 4% of the total revenue (\$3.3M)<sup>1</sup> into the System. To this end, spot waste represents "Opportunity Capacity" for organic and/or strategic growth within the System.
- ✓ **Recycling** includes residential, commercial, and institutional sources (ex: single stream, organics, metals, electronics, etc.). Lancaster County averages 232,000 tons of recycled materials annually, which equates to a county-wide recycling rate of 44%. However, most of this material is hauled directly to local Material Recovery Facilities for processing; LCSWMA is only directly responsible for handling approximately 37,000 tons of recyclable material each year. Approximately 20,000 tons of this material is comprised of direct-deliver recyclables to our facilities (2% of annual tonnage) and 17,000 tons are metals captured from the WTE ferrous and non-ferrous recovery systems.

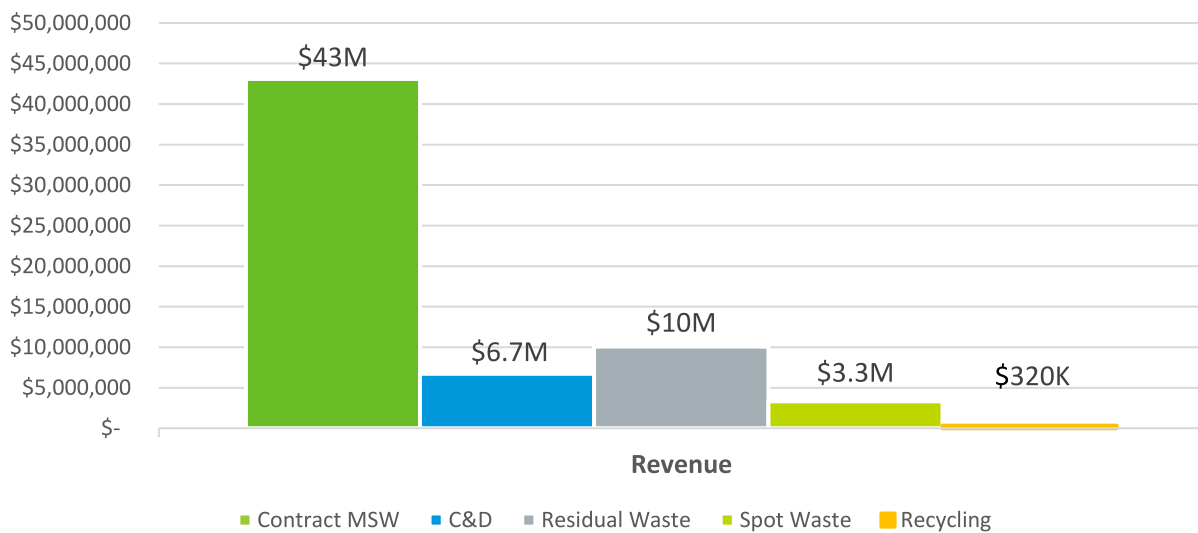
<sup>1</sup> Based on 2017 forecast

Figures 1 and 2 below illustrate the volume of material, by waste stream, delivered into the Integrated System, and the corresponding revenue for each.

**Figure 1: Volume by Waste Stream into the Integrated System  
(2017 Forecast)**



**Figure 2: Annual Revenue by Waste Stream  
(2017 Forecast)**

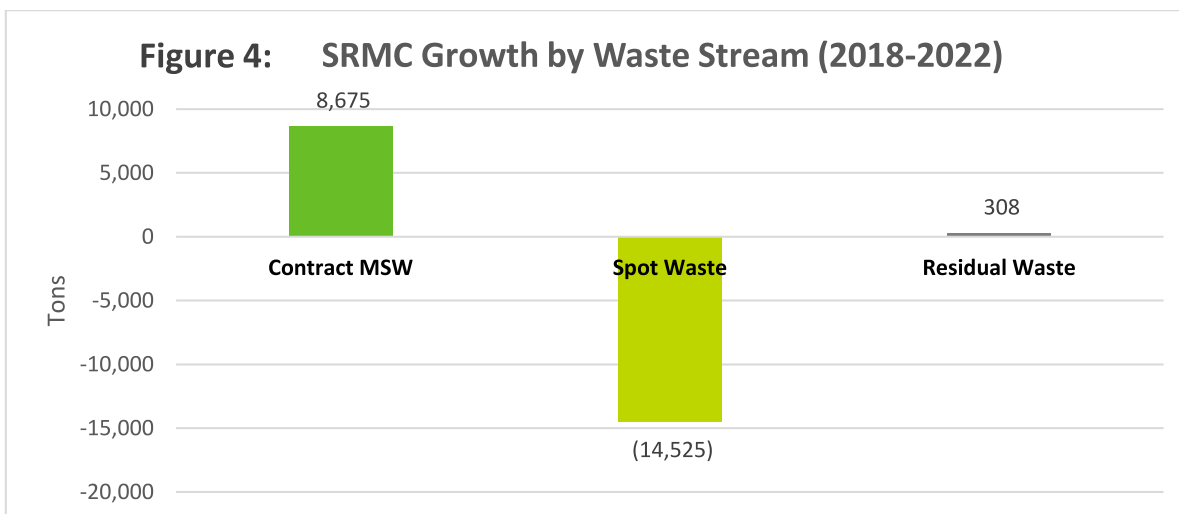
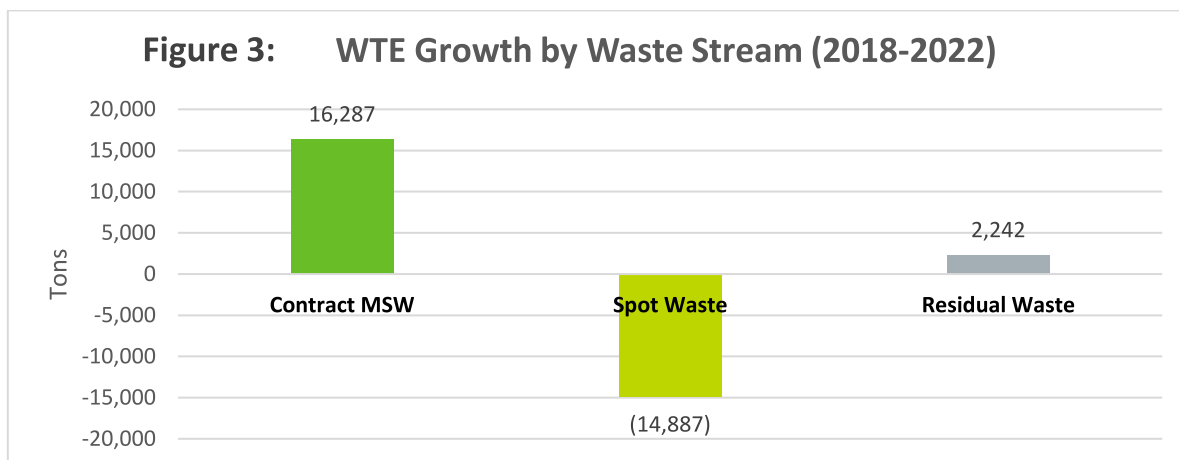


## CAPACITY AND VOLUME PROJECTIONS

### ***Combustible Waste (via Waste-to-Energy)***

LCSWMA has 700,000 tons of annual WTE capacity between the Lancaster WTE Facility and the SRMC. Through the operation of the Integrated System, utilization of this capacity is maximized to (1.) ensure efficient, steady-state operation of the two WTE plants and (2.) minimize the consumption of landfill space.

Within the 700,000 tons of WTE capacity provided by the System, approximately 17% (120K tons) represents “Opportunity Capacity,” or capacity that is presently being filled with spot waste that can be diverted to manage growing MSW from Lancaster and Dauphin counties. Based on present volume projections and population growth estimates, Opportunity Capacity will serve growth in LCSWMA’s service area until 2020 at the Lancaster WTE Facility, and through 2040 at the SRMC, unless there are new community waste streams of significance introduced into the System, or persistent organic growth in contract MSW that exceeds forecasts. As such, over the term of this 5-year strategic outlook, the existing WTE capacity is more than sufficient to manage the organic growth projected. Figures 3 and 4 below depict the growth in tons (+/-) by waste stream into the Lancaster WTE Facility and the SRMC by 2022. In 2022, MSW growth from Lancaster is expected to displace approximately 5,700 tons of spot waste at SRMC.

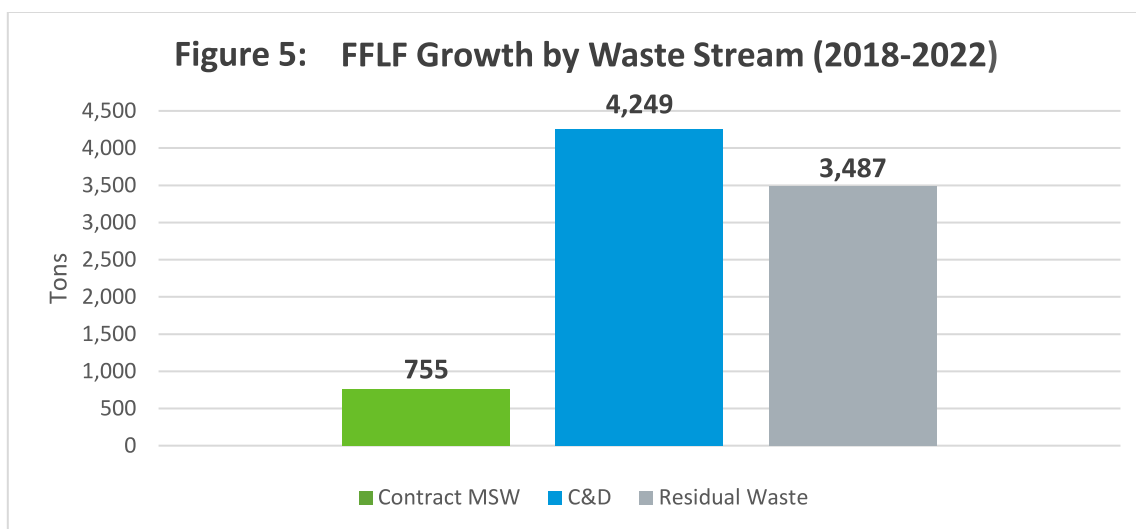




## Non-Combustible Waste

Due to LCSWMA's inherent value to preserve landfill space, capacity utilization at the landfill is not maximized each year. Instead, it is used only to manage tons that cannot be combusted through WTE, and to serve area businesses that require this critical capacity to support their supply chain processes.

The Frey Farm Landfill has been serving Lancaster County's waste management needs since it opened in 1989, and the 10 million cubic yards of capacity originally permitted has been almost fully consumed. With the approval of the Frey Farm Vertical Expansion permit, LCSWMA is adding an additional 6.4 million cubic yards of fillable space. This expansion will provide 858,000 tons of annual landfill capacity<sup>2</sup>, of which 48% (410,000 tons or 356,000 cy) will be consumed each year for disposal of waste and ash. Utilization of the newly permitted capacity will begin in 2019, and is projected to serve the needs of the Integrated System through the next 18-20 years. Additionally, the vertical expansion permit provides for an increase in the maximum tons per day allowable for receipt (from 2,000 to 3,000 TPD) to afford greater flexibility during high volume periods (i.e. outages at WTE or SRMC, event business peaks, etc.). Figure 5 shows the waste tonnage projected at the landfill over the next 5 years. These projections provide for organic waste growth, but otherwise remain consistent with LCSWMA's long-term philosophy to minimize landfill consumption to the maximum extent practical.



## SECTION 3: PROVIDING OUR CORE SERVICES

### INTEGRATED SYSTEM

The Integrated System provides the capacity necessary to meet the waste disposal needs of LCSWMA's service area, and embodies the Authority's core philosophy to maximize the recovery of value from the waste stream. Through operation of the Integrated System, LCSWMA strategically manages waste segments and volumes to recover energy and recyclable materials, while reducing the volume of non-recyclable municipal solid waste by 90% through combustion.

LCSWMA's approach begins with maximizing the quantity of materials that can be captured for recycling in Lancaster County (44% or 232,000 tons annually), thereby reducing the overall volume of waste for disposal. While recycling is implemented and managed at the local level (i.e. municipal level), LCSWMA provides critical program support, technical assistance, and education to support each municipality in driving the success of their programs. In addition to the countywide recycling programs, LCSWMA's

<sup>2</sup> 1 cubic yard = 1.15 tons at 2017 compaction/fill rates

Integrated System also recovers more than 17,000 tons of recyclable ferrous and non-ferrous metals each year from the WTE facilities (which cannot be captured in traditional curbside programs), as well as several thousand tons of electronics and other recyclable materials through the Household Hazardous Waste Facility.

Once the recyclables have been separated, LCSWMA utilizes WTE technology to process as much of the remaining waste stream as possible. The following table illustrates the total tons by waste stream (excluding recycling) and the percent processed using WTE technology vs. landfilling within the Integrated System.

WASTE STREAM	Total Tons (thousands)	% Processed with WTE	% Landfilled	TOTAL
Municipal Solid Waste	515	97%	3%	100%
Spot Waste	120	100%	0%	100%
C&D	115	20%	80%	100%
Residual Waste	199	42%	58%	100%
<b>TOTAL</b>	<b>949</b>			

## WORKFORCE

LCSWMA's workforce is the lifeblood of its successful operations. To this end, LCSWMA is committed to:

1. Employing a creative and dynamic leadership team, with vigilance toward industry trends and aptitude to implement new practices and/or technologies that are necessary to maintain the Integrated System as an industry and community leader.
2. Hiring and retaining employees who align with LCSWMA's cultural values, and supporting the growth and development of staff at all levels throughout the organization.
3. Delivering superior customer service through knowledgeable, courteous, and engaged employees.

The operational staff at LCSWMA manage close to one million tons of waste each year, while maintaining safe, efficient, and environmentally-sound facilities. To maintain LCSWMA's reputation for excellence, ongoing workforce development is a key strategic priority throughout the term of this outlook. Further, LCSWMA's leadership and management team is continually pursuing innovative endeavors to keep LCSWMA at the forefront of the waste industry, and as a driver in the economic growth and livability of the community. Ensuring that management and staff are empowered with the skills, knowledge, and resources to continually affect positive change and growth in our business model, and the community, is paramount.

## SERVICE PARTNERS

There is a critical balance between employing a capable, skilled workforce and outsourcing certain functions or expertise that are not economically or practically feasible to retain in-house. LCSWMA relies on the expertise of several key partners and industry groups to provide critical support to fulfill our mission. Furthermore, LCSWMA's ability to fulfill its mission is dependent upon the continued support and participation the county and municipal entities that it serves. LCSWMA's key service partners include:

- ✓ Lancaster and Dauphin counties, along with their respective municipalities, for ongoing waste management planning and partnership to ensure the sustainability of the Integrated System;

- ✓ Covanta, Inc. for operation of the Lancaster WTE Facility and the SRMC;
- ✓ Independent haulers, brokers and transporters that deliver waste to the Integrated System, and collect and process recyclables; and
- ✓ Outside engineering and consulting firms to provide critical project support and permitting expertise.

## **COMMUNITY ENGAGEMENT AND EDUCATION**

LCSWMA's core service area of Lancaster and Dauphin counties includes more than 810,000 residents and thousands of businesses. Community engagement and education is a fundamental strategic initiative for LCSWMA that focuses on three key areas:

1. Education and awareness on best waste management practices to assist the residential, commercial, and institutional sectors with recycling and responsible waste disposal;
2. Education and awareness about LCSWMA's Integrated System, initiatives, and community impact efforts to foster brand recognition in the community and aid in the successful advancement of the Authority's strategic vision and associated activities; and
3. Investment of financial and professional resources in strategic community projects that are aligned with LCSWMA's philosophy and yield environmental, fiscal, and social benefits for the community.

## **SECTION 4: FISCAL STRATEGY**

Although LCSWMA is a municipal authority charged with ensuring waste disposal capacity for Lancaster and Dauphin counties, there are no tax dollars leveraged to support the Integrated System. Categorized as an "Enterprise Fund," LCSWMA manages a user-fee based system to fund its operational costs, capital expenditures and critical reserve funds. LCSWMA's reserve funds provide financial stability for long-term planning, as well as unplanned operational, technological and regulatory risks. LCSWMA distinguishes itself by supplementing its user-fee based system with high value projects and partnerships that generate additional revenue streams. Supplementing user-fees with alternative revenue streams stabilizes competitive rates, while LCSWMA's users and community stakeholders benefit from its best in class service and environmental excellence.

### **TIPPING FEES**

Tipping fees comprise 77% of the revenue<sup>3</sup> into the System and therefore, are the primary means through which LCSWMA funds its operating expenses, equipment, capital upgrades, and debt service. LCSWMA has a 20-year track record of stable tipping fees, which has been supported by steady volumes derived from the exercise of Flow Control over contract MSW. Keeping Lancaster and Dauphin County MSW within the confines of LCSWMA's Integrated System, enables the Authority to provide first-class service at the best possible value to its customers, and ensures operational and capital investment costs are scaled across a robust tonnage base.

### **RENEWABLE ENERGY**

Renewable energy sales constitute 19% of LCSWMA's annual revenue, and represents the primary means through which LCSWMA has diversified its revenue base to support the Integrated System. Due to the volatility of the energy markets, LCSWMA pursues a combination of long-term power purchase agreements and short to mid-term hedge contracts to reduce risk and provide revenue consistency with electric sales. Energy products, such as Renewable Energy Credits (RECs) and capacity, which are associated with the electric produced by the Lancaster WTE Facility and the SRMC, are also sold under

<sup>3</sup> Based on 2017 forecast

short, medium, and long-term contracts to create a layered portfolio that maximizes revenue, while reducing pricing exposure.

## REVENUE DIVERSIFICATION

Revenue diversification is a fundamental principle within LCSWMA's fiscal strategy. LCSWMA's executive leadership values the financial benefits of a diverse revenue base that can provide stability through severe economic and market pricing trends, changes in technologies or regulations, or an interruption event within the Authority's infrastructure. Likewise, LCSWMA's users and stakeholders benefit from the stability of the Integrated System and the superior services, infrastructure, and environmental stewardship it sustains. To continue these benefits, the Executive Team actively pursues opportunities to leverage LCSWMA's assets and maximize value into the System.

As a municipal authority, LCSWMA has restrictions on how its reserve funds can be invested, which generally limit yield expectations. Therefore, when higher yield opportunities are identified to strategically invest in projects that advance LCSWMA's mission and improve the community, the Executive Team vigorously evaluates such opportunities and acts when appropriate. Maintaining the flexibility to pursue high value revenue diversification endeavors necessitates a focused effort by LCSWMA's Executive Team, in conjunction with fiscal capability (i.e. adequate reserve funds).

LCSWMA has been very successful in partnering with businesses and local government organizations to introduce renewable and clean energy technologies, including: wind energy, landfill gas-to-energy, solar energy, and compressed natural gas fueling infrastructure. Most recently, LCSWMA's Executive Team has driven the following revenue diversification initiatives:

1. Integration of Perdue AgriBusiness's 1,750 ton per day soybean processing facility with the Lancaster WTE Facility to achieve more than \$78 million dollars in revenue over the next 20 years. Through this partnership, LCSWMA will sell 15-20% of the steam generated at the Lancaster WTE Facility to Perdue at an equivalent price of \$80 MWh. Further, this partnership will enable Perdue to operate their soybean extraction facility without combusting fossil fuel or extracting water from the Susquehanna River, thereby materializing significant environmental benefits for the region.
2. Siting and constructing a metal recovery facility with Inashco North America that will extract an additional 6,500 tons of ferrous and non-ferrous metals from the ash residue generated at the Lancaster WTE Facility and SRMC before it is used as daily cover at the landfill. This project will yield approximately \$900K annually, or an 8% annualized rate of return on a \$11.2M capital investment.
3. Developing formal innovation objectives in conjunction with management accountabilities to ensure innovation remains a defining characteristic of LCSWMA's business model. Through the establishment of an Innovation Committee, the Executive Team has set an annual goal of identifying and vetting 3-5 initiatives per year to continue the momentum for impactful diversification, while providing staff with professional growth opportunities.

## FISCAL OUTLOOK

LCSWMA's 5-year fiscal outlook is presented in Exhibit 3 (pg. 23). There are several key takeaways, which include:

- ✓ The fiscal outlook for 2018-2022 projects steady tipping revenues with moderate growth (+\$4.3M or 6.8%), which is consistent with regional demographics and local economic outlooks. Volume growth will displace lower value spot waste and steadily improve the System's average revenue per ton. Organic growth in MSW and C&D is projected to remain consistent with a 0.6 ton per capita growth rate over the term of the outlook.

- ✓ Energy revenues are largely stable through 2022 due to contract sales with the PA Department of General Services (DGS) for the electricity generated at the SRMC and a steady-state assumption for wholesale grid prices and steam sales to Perdue AgriBusiness from the Lancaster WTE Facility. Revenue from the sale of capacity and Renewable Energy Credits is expected to decline modestly due to supply outpacing demand.
- ✓ Beginning in 2019, capital expenditures are expected to level off following a two-year period of significant investment in the Frey Farm Landfill Vertical Expansion project and WTE facilities. However, capital expenditures will remain above “normal” due to a proactive upgrade schedule at the SRMC and the Lancaster WTE Facility. This upgrade schedule was developed in conjunction with Covanta to maintain efficient operations at these facilities over the next 15 years.
- ✓ Operating and administrative expenses are expected to increase 1.5% year-over-year due to a combination of factors, including Covanta Service Agreement terms, commodity and service pricing, and rising personnel costs<sup>4</sup>.

## RESERVE BALANCE

LCSWMA utilizes a multi-faceted approach to analyze and plan for adequate reserve funds to ensure its service commitment to the community is not compromised. Using a matrix of variables, the long-term operating and capital needs of the Integrated System are weighed against forecasted revenue and strategic initiatives to discern adequate reserve funds over a rolling 15-year period. Utilizing a weighted average approach based on risk and probability for each variable, LCSWMA can adjust its reserve targets and strategy as necessary based on changing circumstances.

Reserve Fund Variables Matrix	
Debt Service	Post-Employment Obligations
Operating Expenses	Regulatory Exposure and Litigation
Alternative Waste/Ash Disposal	Environmental Technology
Unplanned Infrastructure Requirements	Strategic Opportunity
Covanta Services Recovery	Macro-Economic Trends

Over the term of this 5-year outlook, LCSWMA projects \$33.9M in reserve balance growth, with a \$70 million reserve balance target in 2022.

## SECTION 5: RISK AND OPPORTUNITY MANAGEMENT

### FORECASTING ACCURACY

Waste management is a highly regulated and capital-intensive business that requires significant lead time for the permitting and approvals necessary to complete capacity expansions or new additions within the System. Using internal modeling that spans over a 20+ year term, LCSWMA projects far in advance how much capacity will be needed to serve the residents and businesses within its service area. Capacity modeling is adjusted on a semi-annual basis to ensure it is reflective of fluid waste volume trends, and to provide insight into changing dynamics that could affect LCSWMA’s capacity availability (short-term and long-term).

<sup>4</sup> Based on indices such as Lancaster Chamber Wage Survey, Society for HR Management, and Willis Towers

## POPULATION AND WASTE GROWTH

Over the last two years, LCSWMA has seen 5% growth in MSW for Lancaster and Dauphin County deliveries. If this trend were to sustain, the Opportunity Capacity at the Lancaster WTE Facility would be utilized by 2019 and by 2029 at the SRMC. Furthermore, there has been 7% growth in C&D over the same two-year period, which, if sustained, could accelerate consumption of the vertical expansion capacity by as much as two years.

Growth indicators, such as population and gross domestic product (GDP), are used to analyze and extrapolate trends to predict future waste volumes. Based on historic and current population data<sup>5</sup>, LCSWMA has seen an average population growth of 3% over a five-year term in Lancaster County (0.6% per year) and just under 2% growth (0.4% per year) in Dauphin County over the same period.

While current indicators have been used to establish the baseline for this 5-year outlook, these trends will be revisited and adjusted annually to discern if changes to the volume and revenue assumptions are warranted.

## ENERGY AND COMMODITY MARKETS

LCSWMA's business is modestly impacted by energy and commodity market forces, in that roughly 13% of its annual revenue (\$11M) is market-based in these areas. Primarily, these revenue streams are comprised of:

- ✓ Wholesale electric output from the Lancaster WTE Facility (\$5M<sup>6</sup> annually), and to a much lesser extent, the electric generation from the SRMC that is not sold under the long-term power purchase agreement with the PA Department of General Services (\$220K<sup>6</sup> annually).
- ✓ Electric market products, such as Renewable Energy Credits (RECs) and capacity, which represent \$3.6M<sup>6</sup> into the System annually.
- ✓ Recycling markets, including ferrous and non-ferrous metals recovered from the Lancaster WTE Facility and the SRMC in-line recovery systems (\$1M<sup>6</sup> annually), single stream recyclables (\$320K<sup>6</sup> annually) and the forthcoming business arrangement with Inashco North America (\$900K annually).
- ✓ Additionally, \$3M<sup>6</sup> (5%) of LCSWMA's operating expenses are market-based, which impacts the annual operating budget. Significant fluctuations in diesel and natural gas prices, for instance, are felt throughout the System, and therefore, are actively monitored and managed by staff.

To reduce risk and maximize opportunity for market-based revenue, LCSWMA employs the following key strategies:

1. Pursuit of long-term business agreements for stable revenue into the System;
2. Layered portfolios (both in term and price) for energy and products to endure market fluctuations, create upside, and reduce risk; and
3. Active market trending and analytics to keep abreast of fluid market conditions and inform key contracting and hedge decisions.

## ASSUMPTIONS ABOUT CAPACITY (HOW LONG, COST, ETC.)

### **Lancaster WTE Facility:**

- ✓ Under LCSWMA's current model, spot waste is projected to be phased out by MSW growth in 2020.
- ✓ \$9.4M in capital investment is forecasted over the next 5 years, with an additional \$5.4M through 2032 based on the capital upgrade schedule defined by Covanta, LCSWMA, and HDR Engineering.

Controlling capital costs and ensuring operational returns on the capital investments made over this period will be a significant priority for the Executive Team and management.

**SRMC:**

- ✓ If MSW grows at the projected rates, and LCSWMA does not secure any new community waste partnerships, spot waste deliveries are forecasted to continue at the SRMC through 2040. One of the strategic priorities over the next five years is to pursue a stable community partner (strategic partnership) to fill a portion of the Opportunity Capacity at the SRMC until organic waste growth displaces this need.
- ✓ C&D waste deliveries at the SRMC have grown rapidly since LCSWMA's new Transfer/Maintenance/Admin (TMA) building opened in 2015. From 2015 to 2016, C&D deliveries increased 86% (9K tons), followed by a 25% increase (5K tons) from 2016 to 2017. While growth is not anticipated to sustain at this rate through 2022, this increase has certainly elevated the baseline for this outlook, and will be actively monitored.
- ✓ Additionally, LCSWMA is forecasting \$6M in capital investment at the SRMC over next 5 years, with an additional \$8.1M through 2032 based on the capital upgrade schedule defined by Covanta, LCSWMA, and HDR Engineering. Controlling capital costs and ensuring operational returns on the capital investments made over this period will be a significant priority for the Executive Team and management.

**Transfer Station Complex:**

- ✓ At its current permit of 2,200 tons per day, the capacity of the Transfer Station is projected to be sufficient to serve growth in deliveries over the planning period.
- ✓ The Household Hazardous Waste (HHW) Facility is adequately serving the needs of the community (approx. 70K visits per yr.), and is expected to be sufficient over the term of this outlook.

**Landfill:**

- ✓ With the Vertical Expansion<sup>7</sup> (+6.4M cy), the Frey Farm Landfill will serve the community's waste disposal needs through 2037, and increase the permissible maximum daily volume (from 2,000 to 3,000 TPD) to enable greater flexibility for managing waste during peak periods (ex. outages at WTE or SRMC, significant event business, seasonal peaks, etc.). Factors that would have the greatest impact on accelerating consumption of the vertical expansion capacity include:
  1. Major operational upsets at the Lancaster WTE Facility or the SRMC that necessitate a sustained period of waste transfer to the landfill;
  2. A significant decrease in operational reliability of the Lancaster WTE Facility or the SRMC that would reduce the throughput capability at one or both facilities;
  3. Significant growth in C&D;
  4. Residual waste or MSW growth above the levels provided for by the available Opportunity Capacity at the SRMC and Lancaster WTE Facility; or
  5. A major area catastrophe that generates an abnormal amount of debris.

**Recycling:**

- ✓ Recyclable material represents 44% of the waste stream, and it is assumed that this is the saturation point barring any significant shifts or developments in regulations, market demand, or technologies during this 5-year outlook. Changes to recycling volumes, whether positive or negative, can have a

<sup>7</sup> LCSWMA's landfill expansion permit has been appealed. A repeal of this permit would have a negative impact on the system and significantly change the assumptions, outlook, and priorities presented in this Strategic Plan.



significant impact on tonnage projections throughout the Integrated System, since this represents such a significant portion of the waste stream.

### **NON-FLOW CONTROLLED WASTE**

Residual waste and Dauphin County C&D are market competitive, representing 217,000 tons and \$11.5M<sup>8</sup> in revenue into the System annually. As such, ensuring LCSWMA continues to capture and maintain its market share of these customers is a priority. There are several strategies employed to retain and grow LCSWMA's non-Flow Controlled waste streams:

- ✓ Ensuring competitive disposal rates;
- ✓ Developing attractive residual waste contract options and incentives;
- ✓ Maintaining customer satisfaction via welcoming, reliable, and time-efficient disposal facilities;
- ✓ Providing assured destruction.

### **MAJOR CATASTROPHES**

There are a multitude of events that could interrupt LCSWMA's System and substantially impact fiscal, operational, or environmental performance. These include events such as:

- ✓ Natural disasters;
- ✓ Turbine or other major operational failures at the WTE facilities;
- ✓ A substantial pit fire at the WTE facilities; or
- ✓ Transmission line failure at the WTE facilities.

Having a keen awareness of the major catastrophes that can occur, and ensuring LCSWMA's leadership and staff are responsive and dynamic to manage such situations, is vital. From a strategic perspective, LCSWMA institutes safety and training protocol with staff, and maintains adequate insurance coverage and reserve funds to provide for lost revenue and continuity of services.

### **LEGISLATIVE CHANGES**

The Executive Team and management staff are charged with actively monitoring legislative affairs, as LCSWMA is impacted by air, waste, water, energy, transportation, and climate change regulations. Policy changes can have a positive or negative effect on System revenues and operations. As such, LCSWMA works to mitigate risk and capitalize on opportunity by:

- ✓ Staying abreast of changes in law (Federal, State, and local); and
- ✓ Maintaining a diversified and dynamic business model that can take advantage of new opportunities and mitigate negative impacts.

### **INTERDEPENDENCE & OPPORTUNITY WITH MAJOR PARTNERS**

To the extent that LCSWMA is closely tied to the communities, institutions, and business partners that generate, process, or derive a tertiary benefit from the waste managed by the Integrated System, there will always be risk and opportunity presented when change affects one of LCSWMA's primary partners. In order to reduce risk and maximize opportunities in this area, LCSWMA endeavors to:

- ✓ Establish well-defined and protective business arrangements to guard against unnecessary risk; and
- ✓ Ensure a proactive, involved, and communicative leadership team that will identify and capitalize on new opportunities afforded by changing circumstances or evolving technologies.

<sup>8</sup> Based on 2017 forecast



## CULTIVATION AND RETENTION OF MANAGEMENT EXPERTISE

LCSWMA's drives proactively to cultivate and retain management expertise, as well as hire and retain the most qualified individuals who can respond dynamically to changes in the Authority's business (opportunistic or reactive due to unforeseen circumstances). Knowledge retention and transfer is a key component of LCSWMA's strategic efforts with workforce development. Documentation of key historic events and active mentoring have been a priority of the leadership team over the last year, and will continue throughout the term of this outlook. Similarly, there is also a focused effort on culture to ensure LCSWMA maintains an inviting and stimulating culture that can attract and retain the type of talent necessary to drive the organization's progressive goals.

## REVENUE DIVERSIFICATION THROUGH INNOVATION

While LCSWMA has a monopolistic base business (i.e. flow-controlled MSW and C&D), this business is not guaranteed to sustain at present volumes if legislation were to change, or patterns of human consumption or population growth were to shift significantly. As such, risk mitigation through innovation and revenue diversification are important components of LCSWMA's strategy. Initiatives in this area include:

- ✓ Continual efforts to minimize the cost per ton handled/processed in the Integrated System, while maximizing the value of the waste received to fill Opportunity Capacity (pursuit of higher dollar waste streams). LCSWMA strives to optimally balance competitive, stable rates with operational expenses and necessary capital upgrades.
- ✓ Hauler agreements to incentivize hauler compliance with Flow Control mandates.
- ✓ Pursuit of new business ventures (ex. Inashco, Perdue, etc.) that provide a strong return on investment and advance LCSWMA's vision and mission.

## SECTION 6: KEY STRATEGIC INITIATIVES

Based on the risks and opportunities outlined above, the Executive Team has identified several key strategic initiatives to serve as the foundation for cascading goals over the term of this five-year outlook. The table below presents these key initiatives, by category, along with the measurements for each. Progress on the initiatives will be benchmarked<sup>9</sup> each year during the annual plan review, and new initiatives will be added or realigned as necessary.

STRATEGIC PRIORITIES	INITIATIVES	MEASUREMENT
Waste Disposal Capacity	<ol style="list-style-type: none"><li>1. Invest in Critical Capacity<ol style="list-style-type: none"><li>a. Frey Farm Vertical Expansion (construction)</li><li>b. Manage the capital upgrade schedules for WTE and SRMC</li></ol></li><li>2. Plan for Long-term Capacity</li></ol>	<ol style="list-style-type: none"><li>a. Begin utilization of new FFVE capacity in 2019</li><li>b. Completion of \$15.4 M in critical capital upgrades through 2022</li><li>2. Development of a long-term financial needs plan</li></ol>

<sup>9</sup> Benchmarks/Milestones will be updated annually by the Executive Team as part of the strategic plan review process

<b>Fiscal Strength, Diversification, and Innovation</b>	<ol style="list-style-type: none"> <li>1. Strategically Utilize Opportunity Capacity</li> <li>2. Diversify Waste and Energy Contract Portfolios</li> <li>3. Advance Innovation</li> </ol>	<ol style="list-style-type: none"> <li>1. Rate per ton; balance sheet strength</li> <li>2. Blended portfolio (short, medium and long-term contracts) with layered pricing; balance sheet strength; ratings; new lines of business</li> <li>3. Complete innovation process (ideas → vetting → charter) across the 3 focus areas annually</li> </ol>
<b>Environmental Excellence and Sustainability</b>	<ol style="list-style-type: none"> <li>1. Maintain Environmental Excellence</li> <li>2. Benchmark and Model Sustainability Goals</li> <li>3. Foster Land Stewardship</li> </ol>	<ol style="list-style-type: none"> <li>1. ISO 14001 and regulatory compliance</li> <li>2. Carbon footprint; advanced technologies</li> <li>3. Acres enhanced</li> </ol>
<b>Leadership Cultivation, Workforce Development and Culture Enhancements</b>	<ol style="list-style-type: none"> <li>1. Advance Workforce Development</li> <li>2. Ensure Progressive Safety and Wellness Programs</li> <li>3. Foster Culture and Employee Engagement</li> </ol>	<ol style="list-style-type: none"> <li>1. Cross-functional experiences offered/completed; education/certifications obtained; outreach impressions</li> <li>2. Accident and incident ratio; employee wellness participation and outcomes</li> <li>3. Turnover rates; surveys; employee referrals. Performance management trainings; performance ratings; culture surveys; exit interviews</li> </ol>
<b>Business Continuity, System Efficiencies, and Technological Advancements</b>	<ol style="list-style-type: none"> <li>1. Manage Risk: prevention / contingency planning, governance, insurance, and litigation</li> <li>2. Optimize Internal Data Collection, Analytic and Reporting Systems</li> <li>3. Leverage Technology to Improve System Efficiencies and Manage Variable Costs (continuous)</li> </ol>	<ol style="list-style-type: none"> <li>1. Minimal unplanned expenses; disposal system availability; insurance ratings; credit ratings; necessity of Contingency Reserve funds</li> <li>2. Dashboarding as a culture tool</li> <li>3. Improved metrics (payload, transfer, labor, boiler availability, etc.); automation; operating expenses</li> </ol>
<b>Brand Cultivation and</b>	<ol style="list-style-type: none"> <li>1. Engage Key Stakeholders and Provide Public Education</li> </ol>	<ol style="list-style-type: none"> <li>1. In-person reach through events, workshops, meetings and tours</li> </ol>

<b>Community Engagement</b>	<ol style="list-style-type: none"> <li>Enhance Community Outreach</li> <li>Invest Strategically in Local Initiatives</li> </ol>	<ol style="list-style-type: none"> <li>Traditional and online marketing</li> <li>Community impact through financial and in-kind investments</li> </ol>
<b>Legislative Advocacy and Industry Contributions</b>	<ol style="list-style-type: none"> <li>Proactively Engage in Critical Legislative Issues (industry focused)</li> <li>Maintain a “Best in Class” Industry Benchmark</li> </ol>	<ol style="list-style-type: none"> <li>Membership/participation in relevant industry coalitions and associations related to LCSWMA interests</li> <li>Receipt of recognition and awards for the Integrated System, facilities, projects, and initiatives</li> </ol>

## SECTION 7: LONG-TERM OUTLOOK

While the core of this outlook is focused on the five-year period from 2018-2022, the Executive Team is continually engaged in planning efforts that extend well beyond a five-year horizon due to the capital-intensive nature of waste capacity upgrades and additions, as well as the long-lead time requirements for permitting and approvals.

Beyond this five-year planning period, the capacity assets that comprise the Integrated System have expected retirement benchmarks, which are outlined below (and depicted in Exhibit 1):

CAPACITY ASSET	ANTICIPATED RETIREMENT / DECOMMISSIONING
Frey Farm Vertical Expansion Capacity	2037
Lancaster WTE Facility	2041
SRMC	2043

One of the key strategic initiatives noted in Section 6 is to develop a plan to pay for the large capital investments that will be necessitated by these asset retirements, which are slated to begin in 2037. Should Lancaster County continue to value its long-held philosophy for sustainable waste management through an Integrated System model, significant capital will be required to build the next generation of infrastructure. Presently, new WTE facility construction is averaging \$614 per annual ton of installed capacity<sup>10</sup>, which would equate to more than \$430M in capital investment to replace the 700,000 tons of existing annual WTE capacity utilized in LCSWMA’s Integrated System (no growth capacity). Similarly, LCSWMA’s recent landfill capacity expansion is roughly \$8.75 per cubic yard (design, permitting, and build only)<sup>11</sup> or \$56 million for 6.4M cubic yards of capacity. Accordingly, determining LCSWMA’s financing strategy to pay for WTE and landfill capacity beyond 2037, and developing a plan to achieve the targeted capital goals, will be a top initiative during the term of this outlook.

<sup>10</sup> Estimate based on West Palm Beach (3,000 tpd facility at \$672M)

<sup>11</sup> \$/cy does not include new land acquisition, legal fees, closure, etc.

## USE AND PURPOSES OF THIS PLAN AND DISCLAIMER

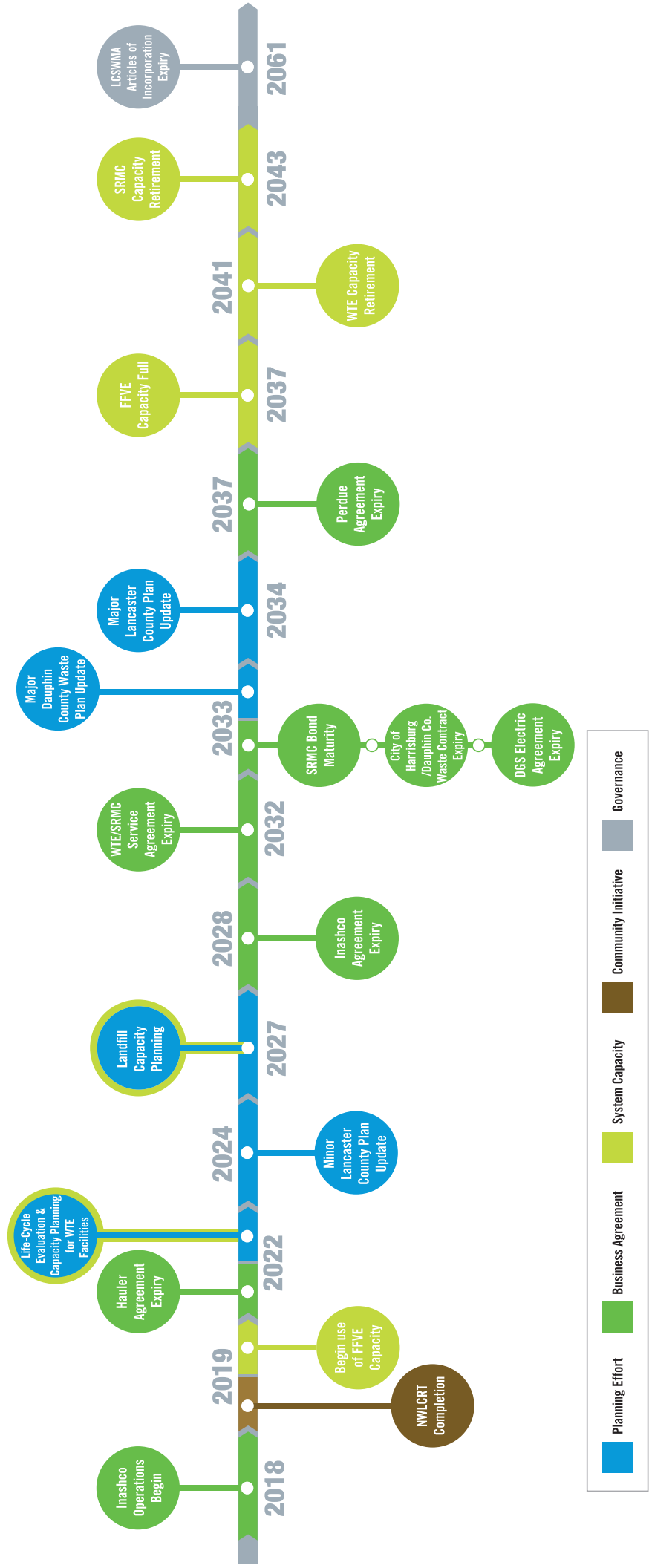
As noted at the beginning of this Strategic Plan, this Plan has been prepared to communicate to LCSWMA personnel the anticipated strategic direction of LCSWMA for the next five years. **THIS STRATEGIC PLAN SHOULD NOT BE USED BY ANY PERSON AS A BASIS FOR AN INVESTMENT DECISION.** This Plan has been internally prepared and has not been audited or reviewed by any external experts or professionals.

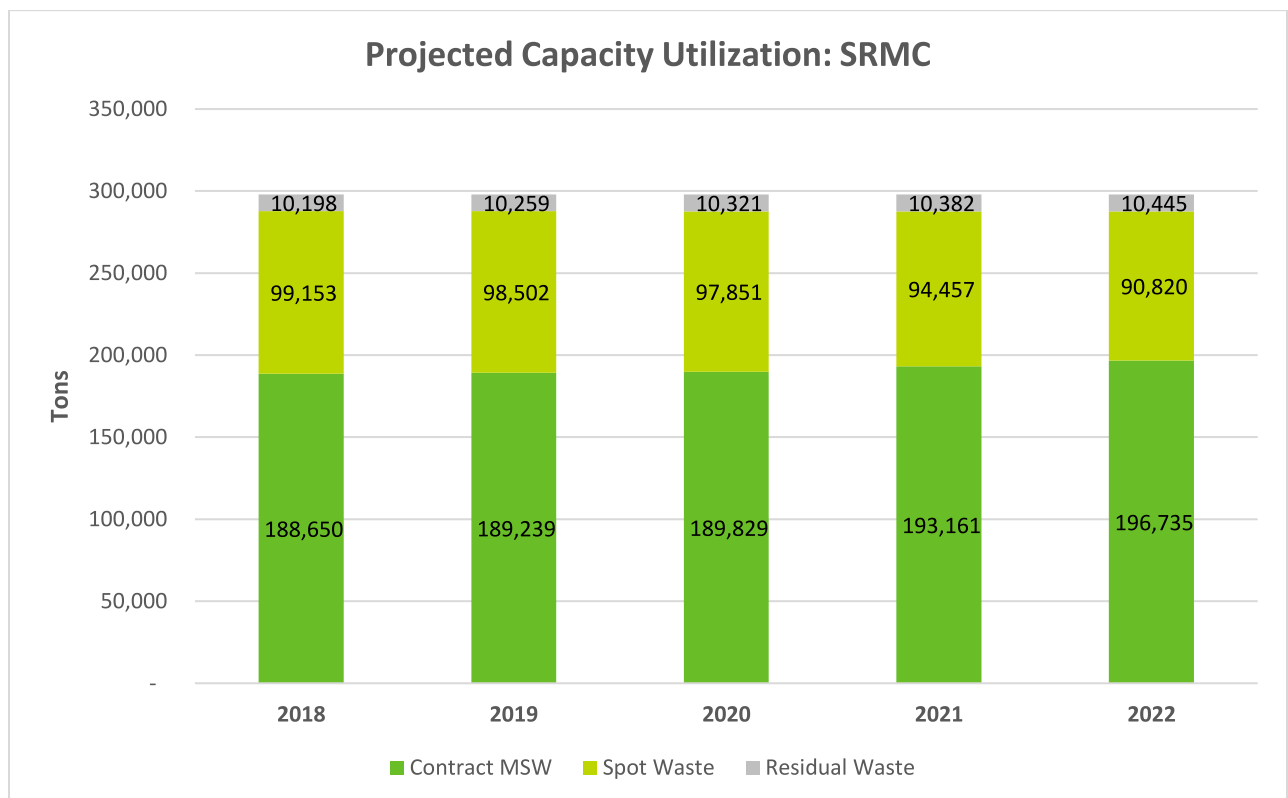
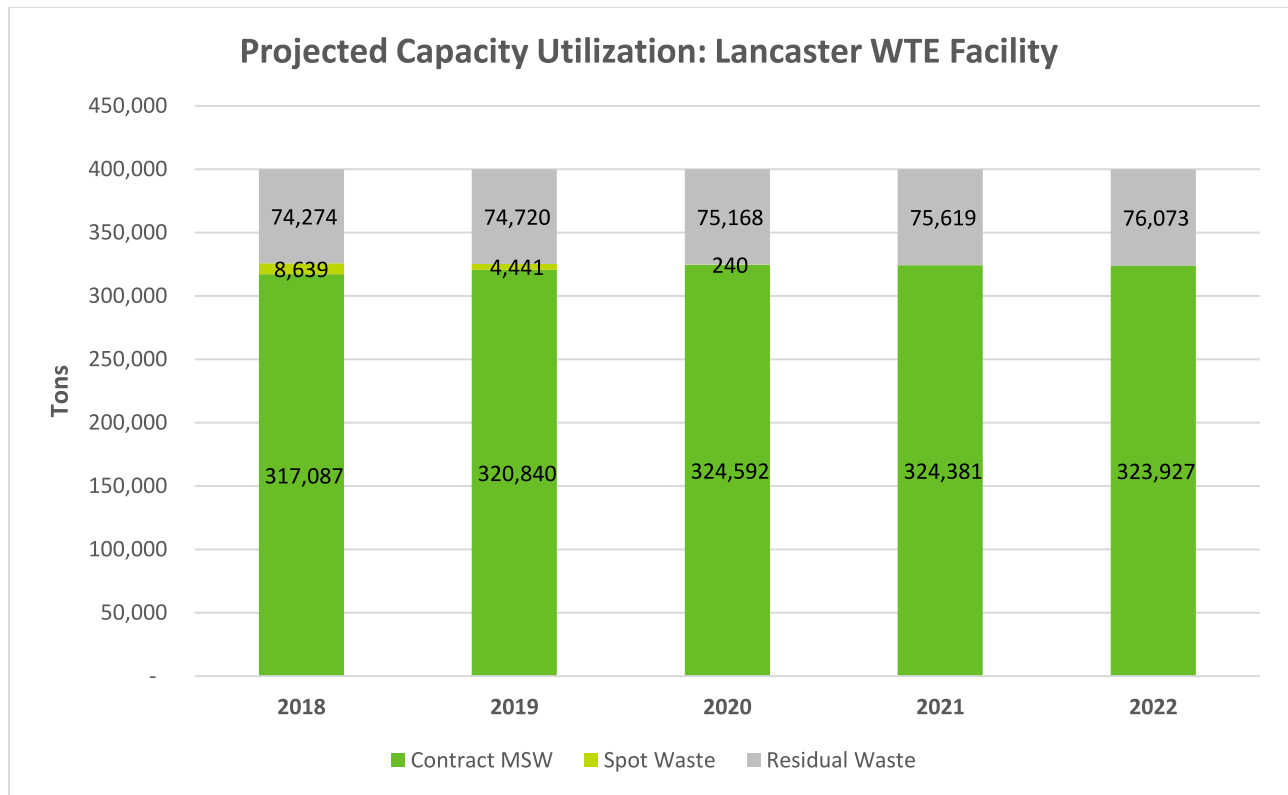
The financial and other information in this Plan is not intended to be, and shall not be used, as a forecast or projection of future performance. This Plan contains certain “forward looking statements” and should be understood **NOT** to relate strictly to historical or current facts, but rather, LCSWMA’s management’s current expectations, assumptions, and intent with respect to LCSWMA’s business and performance, which are affected by the economy and other future conditions and events. This Plan is susceptible to uncertainty, changes in circumstances, and the intent of LCSWMA.

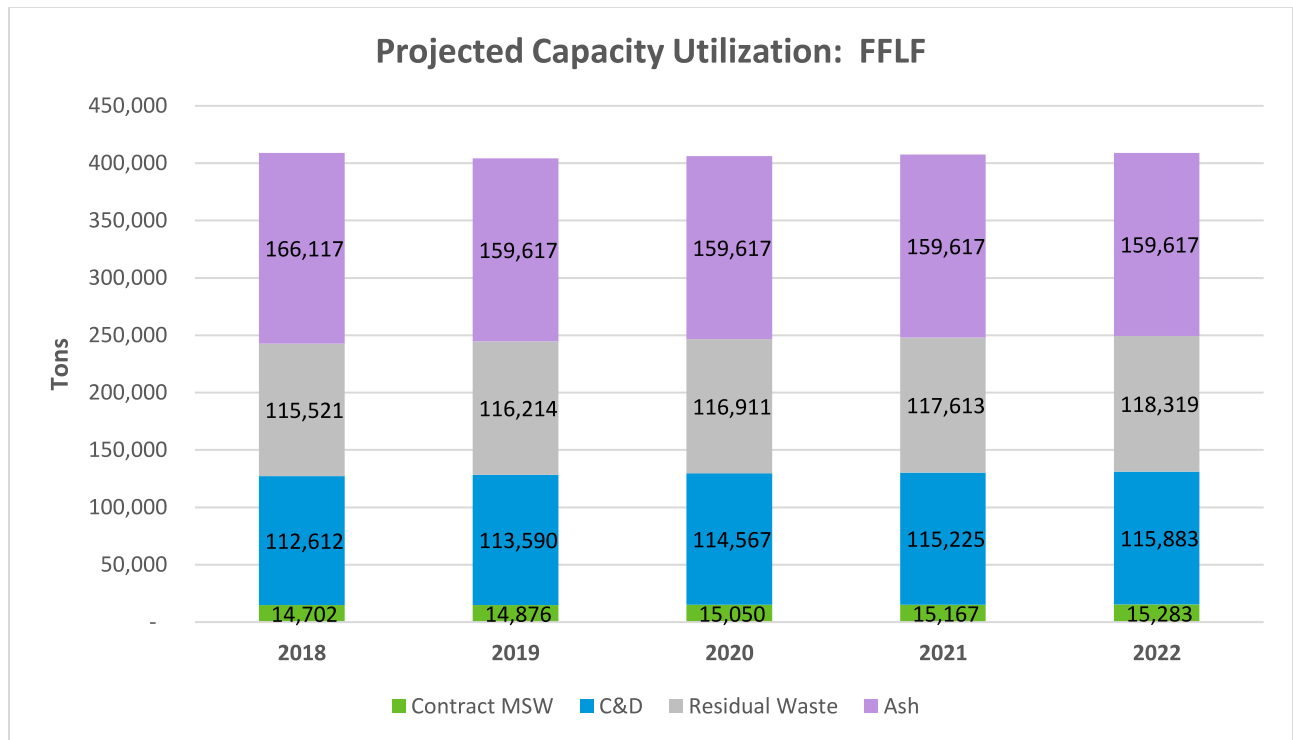
LCSWMA’s actual results and actions will likely vary, either marginally or materially, from those expressed or implied in this Strategic Plan. This Plan does not necessarily identify all the risks and factors which may cause actual results to differ materially from those in this Strategic Plan, which include government regulation, economic, strategic, political, and social conditions.



LCSWMA FUTURE TIMELINE: 2018-2061







	CONSOLIDATED					
	\$ = 000's					
	2018 Budget	2019	2020	2021	2022	Total 5 Year
<b>Tonnage</b>	<b>943,397</b>	<b>946,415</b>	<b>949,449</b>	<b>952,497</b>	<b>955,561</b>	<b>4,747,319</b>
Tip Revenue	\$ 63,582	\$ 63,602	\$ 66,478	\$ 67,206	\$ 67,903	\$ 328,771
Energy Revenue- WTE	\$ 10,543	\$ 10,277	\$ 9,994	\$ 10,067	\$ 10,056	\$ 50,937
Energy Revenue- SRMC	\$ 6,265	\$ 6,209	\$ 6,248	\$ 6,489	\$ 6,416	\$ 31,627
Other Revenue	\$ 3,187	\$ 5,223	\$ 5,343	\$ 5,452	\$ 5,282	\$ 24,487
<b>Total Operating Revenue</b>	<b>\$ 83,577</b>	<b>\$ 85,311</b>	<b>\$ 88,063</b>	<b>\$ 89,214</b>	<b>\$ 89,657</b>	<b>\$ 435,822</b>
Non Operating Revenue	\$ 1,416	\$ 1,850	\$ 2,169	\$ 2,482	\$ 2,858	\$ 10,775
<b>Total Revenue</b>	<b>\$ 84,993</b>	<b>\$ 87,161</b>	<b>\$ 90,232</b>	<b>\$ 91,696</b>	<b>\$ 92,515</b>	<b>\$ 446,597</b>
Site Operating Expenses	\$ 48,806	\$ 49,604	\$ 50,507	\$ 51,228	\$ 52,119	\$ 252,264
Administration	\$ 12,992	\$ 12,391	\$ 12,531	\$ 12,756	\$ 13,039	\$ 63,709
<b>Total Expenses</b>	<b>\$ 61,798</b>	<b>\$ 61,995</b>	<b>\$ 63,038</b>	<b>\$ 63,984</b>	<b>\$ 65,158</b>	<b>\$ 315,973</b>
<b>Net Operating Income</b>	<b>\$ 23,195</b>	<b>\$ 25,166</b>	<b>\$ 27,194</b>	<b>\$ 27,712</b>	<b>\$ 27,357</b>	<b>\$ 130,624</b>
Debt Service	\$ 9,256	\$ 9,255	\$ 9,258	\$ 9,256	\$ 9,257	\$ 46,282
<b>Net Surplus</b>	<b>\$ 13,939</b>	<b>\$ 15,911</b>	<b>\$ 17,936</b>	<b>\$ 18,456</b>	<b>\$ 18,100</b>	<b>\$ 84,342</b>
CAPEX	\$ 18,337	\$ 8,216	\$ 7,927	\$ 6,743	\$ 9,181	\$ 50,404
Reserve Balance - Beg of Year	\$ 36,141	\$ 31,743	\$ 39,439	\$ 49,446	\$ 61,160	\$ 36,141
Reserve Balance - End of Year	\$ 31,743	\$ 39,439	\$ 49,446	\$ 61,160	\$ 70,080	\$ 70,080





## GUIDING PRINCIPLES

- **SUSTAINABLE SYSTEMS** – Establish sustainable systems which provide the optimum balance between conservation of resources and disposal of wastes, current costs and long-term liabilities, governmental interests and market forces, stability and flexibility, and innovation and reliability.
- **SYSTEM EFFICIENCY** – Minimize the volume and toxicity of wastes; maximize the recovery of resources and reuse and recycling of valuable materials; minimize energy consumption; and maximize energy recovery.
- **BUSINESS PRACTICES & MANAGEMENT** – Apply sound scientific reasoning and prudent and ethical business practices in the development and management of all programs and facilities; and ensure the equitable distribution of operational impacts, benefits and costs in accordance with local community values and sound public policy.
- **TECHNOLOGY UTILIZATION** – Utilize the best available demonstrated technologies to assure compliance with all legal requirements; and transcend legal requirements as necessary and appropriate to prevent emissions to the environment in harmful quantities or concentrations.
- **ENVIRONMENTAL STEWARDSHIP** – Accept responsibility for environmental harm resulting from operating and closed Authority facilities; resolve to remedy appropriately environmental or personal damages; and report environmental information to the public in a prompt and accurate manner.
- **HUMAN CAPITAL** – Employ qualified, capable and effective employees and advisors and the appropriate education, training, discipline and compensation to maintain highest standards of performance.
- **FINANCIAL STABILITY** – Maintain fiscal integrity and minimize public financial risk; incorporate life cycle costs into current fee structures; utilize private enterprise in the delivery of services to the extent appropriate; and strive to minimize all costs without sacrificing quality of service.
- **PUBLIC EDUCATION** – Share information and perspective in the interest of public education to promote the development of rational public policy; and solicit advice and foster participation from all sectors of the community.

## LCSWMA PHILOSOPHY



### VISION

#### *Rethinking Waste for a Sustainable Future.*

The first word of LCSWMA's tagline (RETHINK) conveys our commitment to discovering and implementing new ways of using waste as a resource to create a sustainable future. LCSWMA also envisions a future where society uses waste in ways that improve the livability of our community.

### MISSION

#### *Managing Waste as a Resource to Protect and Benefit Our Community.*

The second word of LCSWMA's tagline (RECOVER) conveys our commitment to creating value from waste, in order to benefit our community. Of equal importance, LCSWMA manages the waste while protecting the safety, health, and welfare of the people we serve and the surrounding environment.

### CORE VALUES

#### *Safety, Stewardship, Excellence, Innovation, Leadership, Education, Collaboration*

The third word of LCSWMA's tagline (RENEW) speaks to our value system, whereby the strong roots of the organization represent the foundation of our vision and mission, to create new opportunities from society's waste.

- **Stewardship** – managing our resources to protect the environment.
- **Safety** – protecting the wellbeing of our employees, customers, and community.
- **Excellence** – delivering the highest quality in all we do.
- **Innovation** – rethinking our initiatives, operations, and assets to create opportunities.
- **Leadership** – guiding our organization, industry, and community with passion and vision.
- **Education** – communicating information to help society rethink waste.
- **Collaboration** – working together to achieve success.



• VISION •

## Rethinking Waste for a Sustainable Future.

