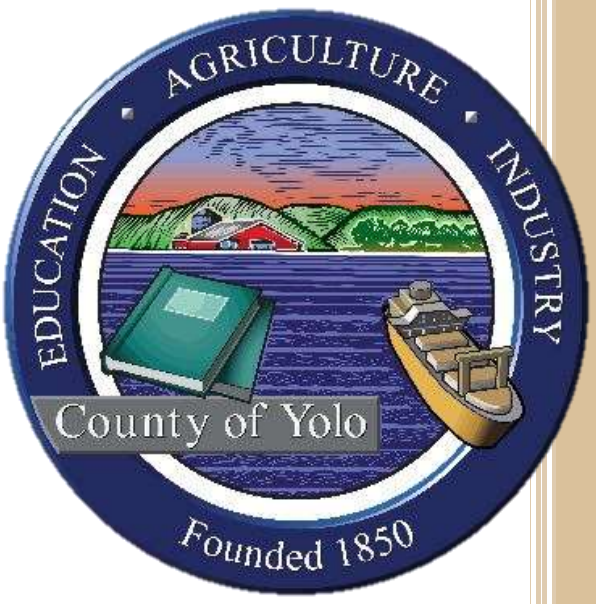
Division of Integrated Waste Management Operations Plan



Integrated Waste Management Division

Yolo County

9/24/2019

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Executive Summary

In 2007, the Division of Integrated Waste Management developed a plan to help guide the operations of the organization in an innovative, environmentally sustainable, and economically efficient manner. While many of the objectives established in that plan were achieved, the world of waste management has changed greatly in terms of technology, diversion requirements, and mandates, thus necessitating the development of a new plan.

Future Outlook

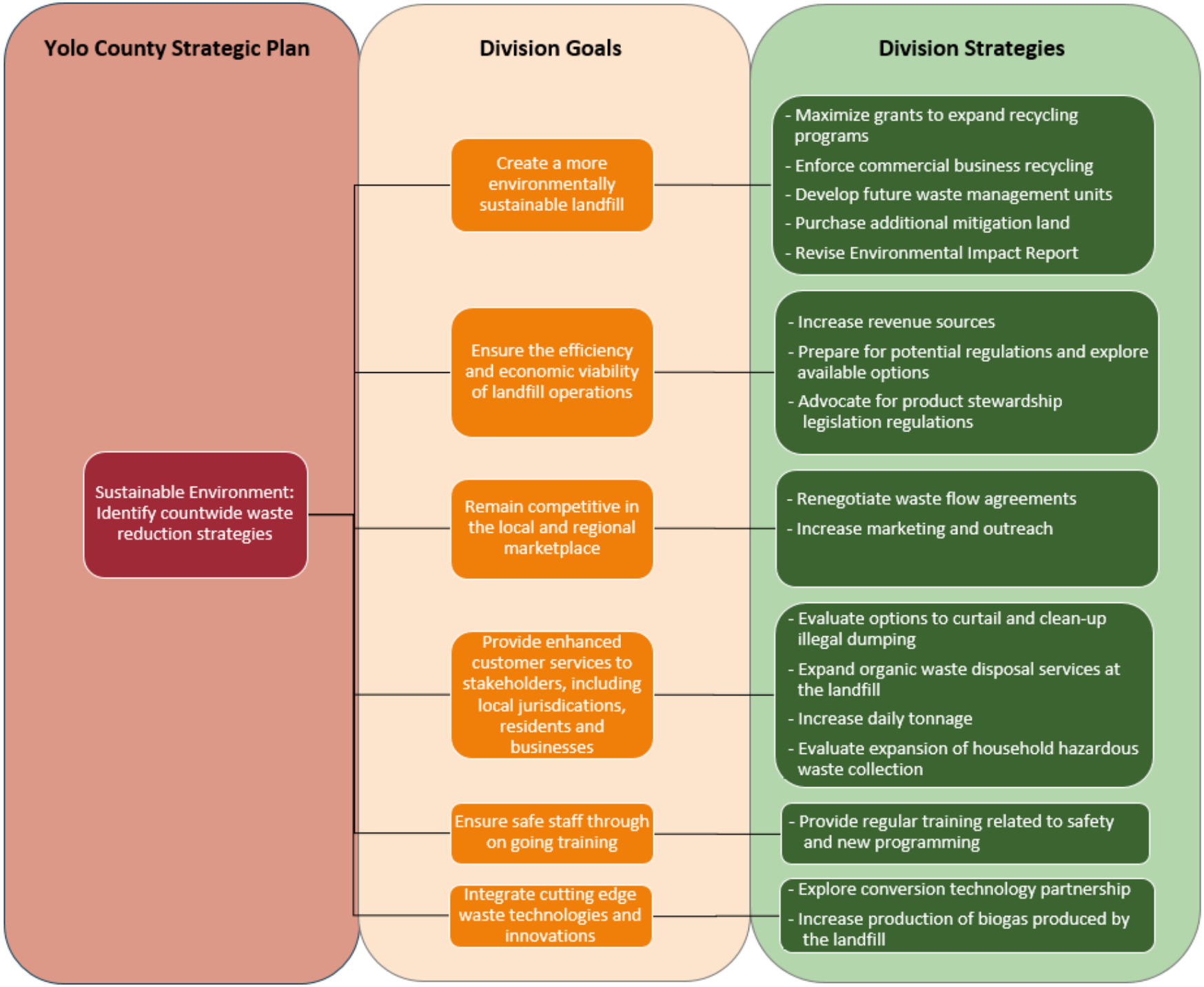
Looking out on the future of the Division, it is apparent that upcoming years will require continued growth in landfill services but with the challenge of increasing costs. With a growing population the landfill needs to be prepared for a growth in tonnage intake and in demand for services. This requires capital improvements, including an adequate amount of waste management units to meet the demand, but also continual efforts at innovation to divert waste. However, while demand increases, the costs associated with landfill services are anticipated to increase as well due to mandates, diversion requirements, increases in permitting fees, and market reductions in recycled commodities.

Despite these challenges there are also great opportunities to generate new sources of revenue and future partnerships. These opportunities would allow the County to meet these regulatory requirements and stay at the innovative front of waste management, while increasing revenues needed to accomplish these goals.

Operational Plan

The Operational Plan for the Division over the next five years is to ensure service growth while being innovative in approaches to diverting waste and increasing revenue. The summary figure below displays the goals of the division and the list of strategies to achieve each goal over the course of the planning period from 2019 through 2024. These goals all fall under the Sustainable Environment goal of Yolo County's 2016-2019 Strategic Plan and are also in alignment with county policies and state mandates.

Figure 1: Operational Plan Summary



Purpose and Methodology

Purpose

In 2007, the Division of Integrated Waste Management developed a plan to help guide the operations of the organization in an innovative, environmentally sustainable, and economically efficient manner. While many of the objectives established in that plan were achieved, the world of waste management has changed greatly in terms of technology, diversion requirements, and mandates; thus necessitating the development of a new operational plan. The purpose of this report is to forecast future challenges over the next five years and outline a new Operational Plan for the Division. Landfill staff will provide annual updates to the board on the implementation of this plan.

Methodology

To assist in developing this Operational Plan, analysis was conducted to identify factors that may affect the work of the Division over the next five years. This analysis included a review of potential growth in service demand, a financial projection of revenues and expenses, and a S.W.O.T. (Strengths, Weaknesses, Opportunities, and Threats) analysis. Through these methods of evaluation, the Operational Plan goals and strategies were developed for the Division to address these upcoming factors in an effective and efficient manner.

Organizational Background

For most people, when an item is placed in the trash, it represents the end of that item. However, for the employees in the Integrated Waste Management Division ("Division") of the Yolo County Community Services Department, this is only the beginning.

The Division is responsible for the efficient and environmentally sustainable management of waste in Yolo County. This includes the sorting, recycling and processing of solid, organic/green wastes. While a County organization, the Division is unique in that it operates as a self-supporting publicly-operated business; also known as an enterprise fund. Specifically, the Division depends on disposal and recycling fees from landfill customers to operate its two locations: the Yolo County Central Landfill (YCCL) and the Esparto Convenience Center. To be competitive with private landfills, the division needs to be able to offer its services at competitive prices, by using similar practices as private landfills to maximize revenue and minimize costs.

Mission and Vision

Mission Statement

Working together to provide excellent waste management services to the community while optimally balancing the challenges of regulatory compliance, environmental protection and cost effectiveness.

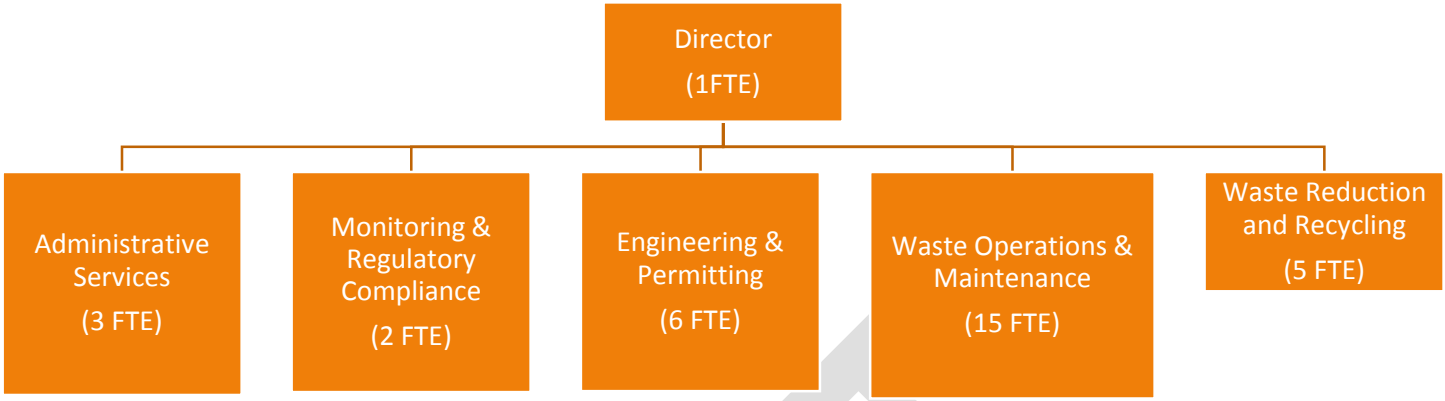
Vision Statement

The vision of the Department of Community Services is to provide timely and responsive services that support healthy, safe and sustainable communities.

Organizational Structure and Staffing

The Division is located under the Yolo County Community Services Department and holds approximately 32 full-time staff, 1 part-time staffer and a number of interns. These staff are organized into five areas: administrative services, monitoring and regulatory compliance, engineering and permitting, waste operations and maintenance, and waste reduction and recycling (See Figure 2).

Figure 2: Division Organizational Chart



Division Services

The Division is responsible for the efficient and environmentally sustainable management of waste in Yolo County. This includes the sorting, recycling and processing of solid, green and organic wastes, the provision and closure of waste facilities, and the coordination of the Waste Advisory Committee for Yolo County and its incorporated communities. To manage these various functions, the Division oversees a number of waste management programs which include:

- Waste disposal and recycling
- Environmental monitoring and regulatory compliance
- Organic waste and recycling collection
- Franchised curbside waste collection
- Construction & Demolition (C&D) Recycling Plan program
- Household Hazardous Waste (HHW) & Small Business Hazard Waste programs

Types of Waste

Municipal solid waste (MSW): everyday items that are discarded by the public

Organic: biodegradable material that comes from either a plant or an animal (ex. food, garden and lawn clippings)

Green Waste: a subset of organic material that comes from plants (ex. garden and lawn clippings).

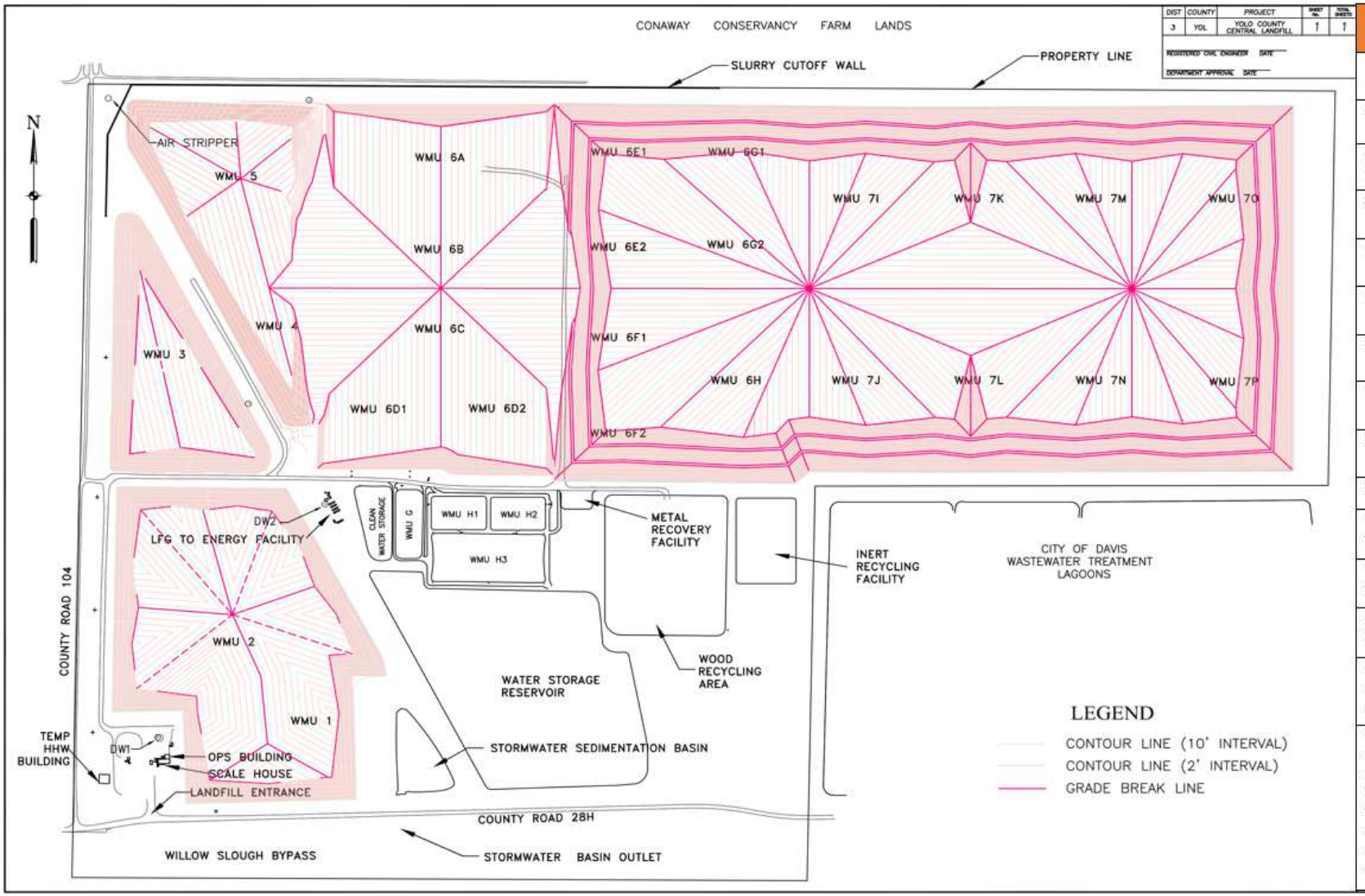
Hazardous waste: waste that is a potential or substantial threat to public health or the environment (ex. paints, motor oil, pesticides, some batteries, etc.)

Construction and Demolition (C&D) waste: waste that is generated from construction related projects (ex. wood, steel, concrete and plaster)

Inerts: waste that will not decompose (ex. sand and concrete)

Liquid waste: Wastes in a liquid form (ex. liquids used for cleaning)

Yolo County Central Landfill Map



Map Item	Sq. Ft. or Acreage
Household Hazardous Waste Building (HHW)	6,700 Sq. Ft.
Administration Building	5,600 Sq. Ft.
Old Operations Building (Ops Building)	2,300 Sq. Ft.
Scale House	700 Sq. Ft.
Reuse Building	3,900 Sq. Ft.
Entrance Facilities	7 acres
Metal Recovery Facility	0.50 Acres
Wood Facility	15.00 Acres
LFG-to-Energy Facility	0.75 Acres
Inert Recycling Facility	6 Acres
Waste Management Units 1 through 5	123.50 Acres
Waste Management Units 6 through 7	349.5 Acres
Liquid Waste Management Units G and H	17 Acres
Others (roads, water storage reservoir and pond, buffer zones, and undeveloped areas)	211.29 Acres

*Approximately 158 of the available 473 acres have received some waste, but are still awaiting fill to reach full capacity. This area includes 123 acres for WMUs 1 – 5 and 84 acres of WMU Modules 6A through 6D. Approximately 87 acres (WMUs 1, 2 and 3) have undergone final closure. There are approximately 265.5 acres available for additional development.

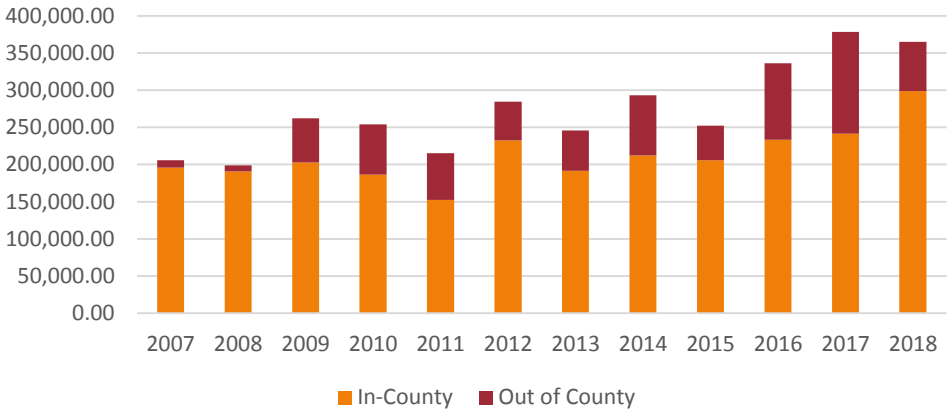
The Division operates two different waste management locations: the Esparto Convenience Center (ECC) and the Yolo County Central Landfill (YCCL). The focus of the ECC is to serve as a collections location for waste that is then transferred to the YCCL. The YCCL is the location of a number of waste management operations. The location handles the disposal of MSW as well as septic or other liquid waste. It also is the site for a large number of recycling operations. The landfill can recycle most materials (including cardboard, paper, plastics, beverage containers, metals, appliances, electronic waste, paint, batteries, used oil and fluorescent bulbs and tubes) and take household and small business hazardous waste, organic waste, and C&D waste. The methane produced from organic waste decomposition at the landfill is also collected by the Division to produce electricity and minimize fugitive greenhouse gas emissions. Following California Department of Resources Recycling and Recovery (CalRecycle) waste hierarchy, the Division recently added a thrift store at the landfill to repurpose usable items through reuse and also began offering reusable lumber through an onsite C&D facility.

The waste disposal and recycling services provided by the Division for the residents and businesses of Yolo County occur seven days a week, 359 days per year. Division staff are assisted by several public-private partnerships that perform more specialized or technical services, such as HHW collection and recycling, daily waste placement, organic material composting, C&D debris, liquid wastes, and landfill gas collection and energy production.

Waste Streams

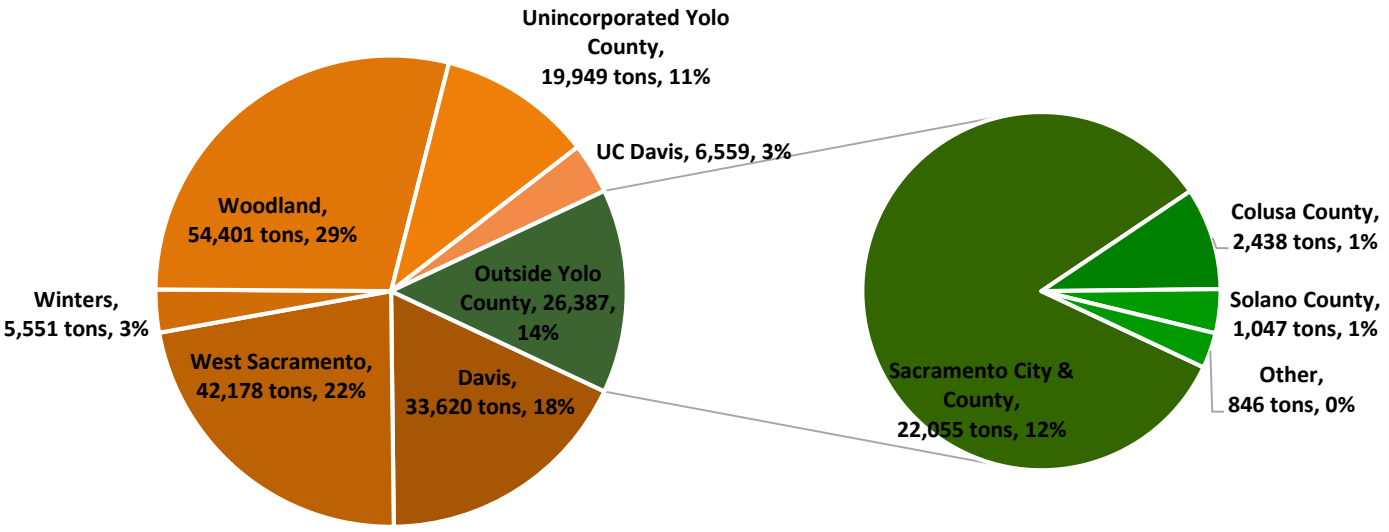
Waste streams are the path that various types of waste take on their way to disposal. In this report, the term waste stream is referring to the jurisdictions from which the YCCL receives waste. While the majority of waste taken at the YCCL comes from jurisdictions within the County, waste from jurisdictions outside of the county has grown over the past ten years (See Figure 3). The majority of the waste that is received is MSW, however, in more recent years, alternative wastes, such as C&D and organics, have greatly increased from jurisdictions both within and outside of Yolo County. The categories of waste received from out of county include residential, commercial, industrial, institutional, municipal services, and agricultural.

Figure 3: Intake Tonnage of all Waste by Source at the YCCL



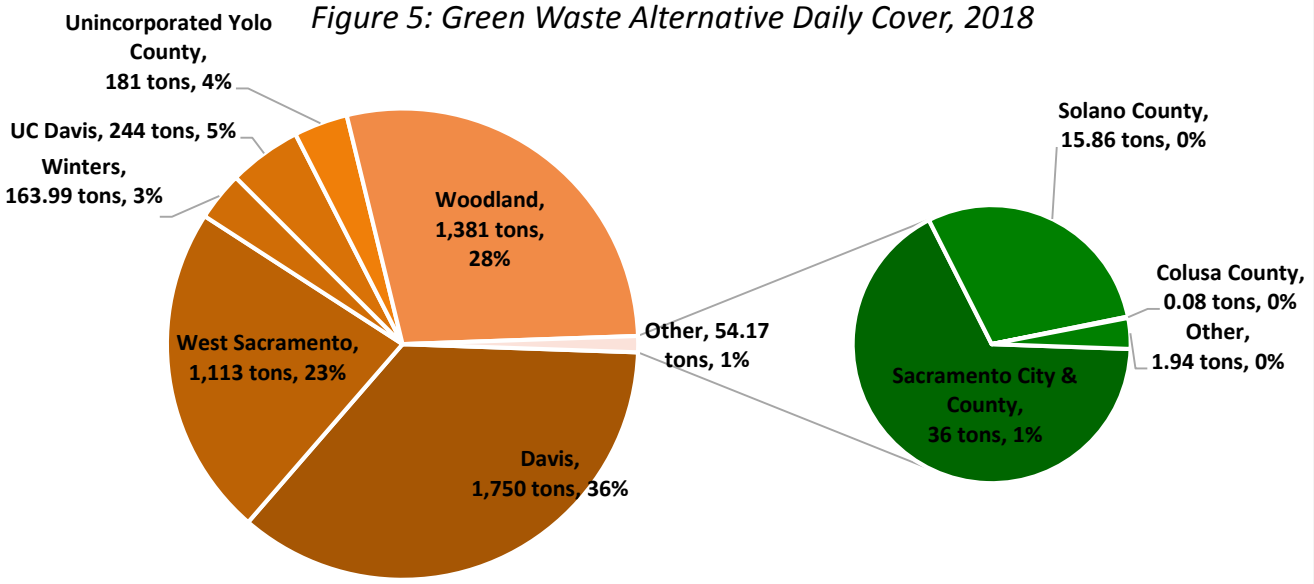
The waste stream for the County landfill is comprised of wastes received from the incorporated jurisdictions of Yolo County (Davis, Winters, West Sacramento, and Woodland), the unincorporated jurisdictions of Yolo County, and neighboring jurisdictions. The majority of waste taken at the YCCL (approximately 86%) comes from waste streams within Yolo County. The vast bulk of the out-of-county waste (14%) comes from the jurisdictions of Sacramento County followed by Colusa and Solano counties. A very small percentage of waste is received from outside these counties. The approximate percentages of the waste received from each of these jurisdictions for 2018 is provided in Figure 4.

Figure 4: Yolo County Central Landfill Waste Stream, 2018



In looking at the waste stream for green waste alone, a small amount of tonnage is received from out of county (See Figure 5). Green waste is an organic waste from plant material such as yard trimmings. In Yolo County a portion of green waste is taken to the YCCL and reused as a cover material for the surface of active solid waste landfills each day to mitigate odors, blowing litter and more. This is known as Alternative Daily Cover (ADC). The rest of the green waste is shipped to private companies in Zamora or Napa for composting. A small portion of the waste, about 1%, used for ADC comes from outside of Yolo County. The majority of this out of county green waste comes from Sacramento, followed by Solano and Colusa counties.

Figure 5: Green Waste Alternative Daily Cover, 2018



Finances

Budget: Revenues and Expenses

The Division operates as an enterprise fund, which means user fees must cover all costs of the programs and facilities, including capital improvements and eventual landfill closure and post closure costs. A detailed list of revenues and expenses for the division for the past five years is provided in Appendix A. Ultimately, the majority of the division's revenue (around 75%) comes from charges for services. These charges or fees are utilized to pay for expenses that include staffing, maintenance, equipment and special services. Any excess revenue is placed into a reserve fund and put towards capital improvements and eventual landfill closure and post

closure costs. For unrestricted revenue, a portion is placed into the Division reserve and a portion is provided to each of the jurisdications in Yolo County.

The division has worked over the last ten years to diversify it's revenue sources. Table 1 shows the gross revenue for fiscal years 2007 and 2018 by revenue type. Comparison of these two years shows the growth in income sources over ten years, particularly the charges for services, other sales and income, as well as licenses, permits and franchise fees. The tip fees at the landfill still comprise the lion's share of the division's gross annual revenue and, as a result, the majority of the division revenue (around 94%) is restricted. Both tipping fees and franchise fees are restricted revenue under California Proposition 26. Unrestricted revenues generally include lease revenues and anything the landfill produces to sell or sells reused (such as mulch, mixed recyclable, land lease for grazing and a cell tower, reuse items from the Big Blue Barn minus surplus sales, energy from power plant to SMUD, and host fees from out of county agreements.).

Table 1: Gross Revenue by Type for FY2007 and FY2018

Revenue Type	FY2007	FY2018
Licenses, Permits, & Franchises	$0	$473,951
*Interest, Rents/Concessions, & Royalties**	$1,331,959	$213,721
Federal and State Revenue	$824,151	$928,031
Other Government Agency Revenue	$25,194	$7,311
Charges for Services	$7,243,172	$14,863,681
Other Sales and Incomes	$164,922	$3,130,240
Other	$44,011	$2,631
Total	**$9,633,409**	**$19,619,566**

*In FY2007 the Division collected royalties for the methane plant and significant interest income from a long term investment which is no longer received.

Fees

The Division charges fees at the landfill to cover costs of operation. Every year these fees are evaluated based on the prior year's budget and any proposed alterations to decrease or increase the fees are brought to the County Board of Supervisors for approval. Fees are generally charged per ton, which means that most residents pay less than the listed fee since they often bring waste that weighs far below a ton.

Yolo County landfill fees have increased for the public over the years in light of new diversion requirements, costly mandates, and ever-increasing state and local permitting fees, overhead, operation and maintenance costs. In addition, changing economic conditions have dramatically reduced the value of many recycled commodities, which has also had a direct impact on rising landfill charges. For example, the fee charged for MSW at the landfill has increased intermittently from $36 per ton in 1993 to $62.50 per ton in 2019. However, it must be noted, that the cities within Yolo County and the University of California, Davis pay less than the posted rates in accordance with an established contract for landfill services that places the contracted rate for MSW at approximately $51.88 per ton. These contracts limit rate increases, with annual adjustment maximums set at 3% in accordance with the Consumer Price Index. Table 2 displays the non-contracted fees charged for MSW in Yolo County and provides a fee comparison for nearby landfills that accept public waste. Some of the nearby landfills are currently reviewing their rates, therefore they could be altering in the coming fiscal year.

Compared to other counties, Yolo County's non-contracted tipping fees appear competitive for the region. In a June 2019 regional market study, conducted on behalf of Yolo County, the landfill and transfer facility fees in 25 counties within 100 miles of the Yolo County landfill were evaluated.[1] As shown in a sampling of those fees in Table 2, the County's MSW fees appear competitive. These remain competitive even when compared to the cost for each city to transport waste to a nearby out of county landfill, as shown in Table 3 on page 16.

[1] Yolo County. "Yolo Regional Market Study: MSW Disposal Capacity." Prepared by Total Compliance Management, Inc. (August 5, 2019).

Table 2: Regional MSW Landfill Tip Fee Comparison

Landfill Name (Each amount is based on Per Ton)	**Municipal Solid Waste (cost per ton)**
Yolo County Central Landfill (Yolo)	$ 62.50
Kiefer Landfill (Sacramento)	$ 30.00*
Portrero Hills Landfill (Solano)	$ 80.00
Keller Canyon Landfill (Contra Costa)	$ 26.00
Clover Flat Resource Recovery Park (Napa)	$79.98
Central Disposal Site (Sonoma)	$122.00
Neal Road Recycling and Waste Facility (Butte)	$42.11
Zanker Landfill (Santa Clara)	$ 115.79

*Kiefer Landfill is expected to raise its rates by December 2019

Similarly, when it comes to organic food and green waste fees the Yolo County landfill is slightly above the average. Another regional marketing study, conducted on behalf of Yolo County in February 2019, evaluated the fees of 27 organics processing facilities across 25 counties within 100 miles of the Yolo County Central Landfill. Of those surveyed the average tip fee was $55.67 per ton for green waste and $60.38 per ton for food waste.[2] The Yolo County landfill currently charges $56 for organic/green waste and $64 for food waste per ton. However, the Yolo County Central Landfill has comprehensive organics treatment facilities for food waste, which the other facilities surveyed did not. Regulatory requirements have increased green waste fees considerably since 2015 and fees are anticipated to continue to rise alongside additional regulations.

Fee Variations

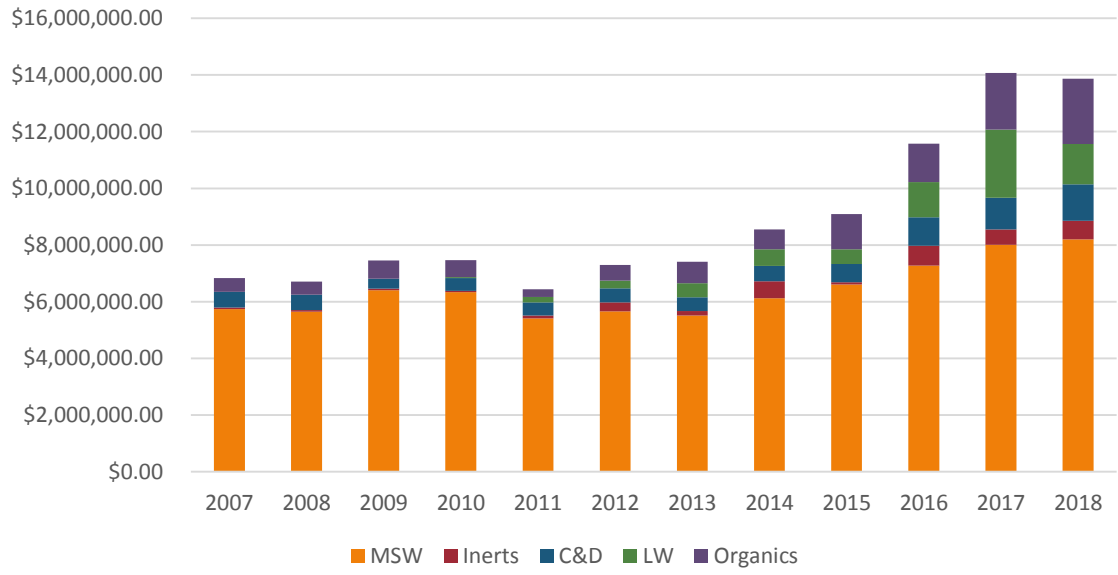
There are several reasons for the variations in fees between the Yolo County landfill and other regional landfills. Fees can reflect many factors, such as demographics, population distribution, regional waste flow patterns, economic factors, and other factors that influence how much a landfill charges in a region.[3] Additionally, one of the reasons the non-contracted fees in Yolo

[2] Yolo County. "Yolo Regional Market Study: Composting Capacity." Prepared by Total Compliance Management, Inc. (February 28, 2019).
[3] CalRecycle: California Department of Resources Recycling and Recovery. "State of Disposal in California Updated 2016." (February, 2016). p. 106.

County may be higher than other landfills, is that the Division does not charge fees for some of its services. Recycling programs such as HHW, mattress recycling, electronic (e-waste), and home generated medical waste are all free to residents. Some landfills do not provide similar programming as the Yolo County landfill or may charge fees for those services. Therefore, it makes comparison of certain fees difficult when not considering all aspects of landfill services provided.

Another reason the non-contracted fees in Yolo County may be higher than some other landfills, are the lower fee rates paid by various agencies under their current contracts with the County landfill. As previously mentioned, the landfill has contracts with each of our local jurisdictions, UC Davis, and other haulers, which secure waste flow to the landfill to help fund ongoing liabilities. However, the rates for these contracts at approximately $51.88 per ton, are lower than the regular posted fees, previously shown in Table 2. Revenue from these contracts account for approximately 40% of all revenues received from waste disposal. The terms on these contracts ends in 2027 to 2029. Therefore, increases in regulatory requirements and future construction projects, may necessitate an evaluation of these rates. In addition, the long-term financial stability of the landfill may also require out-of-county waste flow agreements.

Figure 6: YCCL Tip Fee Revenue Trends by Material



Despite increases in fees over the years, revenue increases for the Division have mostly occurred through growth in alternative waste materials. As shown in Figure 6, over the past ten years revenue growth from collected fees has occurred significantly, not just through MSW, but through materials such as liquid waste, organics, C&D, and inerts. Therefore, even though fees have increased over the years, the revenue for the Division has increased more significantly through fees for alternative waste disposal rather than through MSW.

Fee Studies

Due to the lower fee rates at some near-by landfills, two studies were conducted to analyze the cost of diverting waste from Yolo County to another landfill. First, the previously mentioned regional market analysis evaluated the potential cost of waste diversion for each of the four cities in Yolo County. After taking into account cost, location, capacity and current use, the study identified the Yolo County Central Landfill as the lowest cost option for the cities of Davis, Woodland, and Winters; while Kiefer landfill was identified as the lowest cost option for the City of West Sacramento (See Table 3). [4] This analysis was based on posted fees at the time of the study and could be affected by rate increases which are anticipated for Kiefer in December of 2019.

Table 3: Cost Comparison for MSW Disposal Per Ton

Landfill	Davis	Woodland	West Sacramento	Winters
Yolo County Landfill	$60.01	$63.76	$62.82	$67.51
Kiefer Landfill (Sacramento)	$65.31	$69.69	$55	$68.28

*Transportation costs per ton estimated at $150

Secondly, the County conducted an analysis of the potential cost to divert all waste from the Yolo County landfill to an alternative landfill, specifically Kiefer in Sacramento. This assumes waste being transferred on behalf of all four cities and the unincorporated area of Yolo County. Although, it should be noted that the cities could always individually consider waste transfer separate from the County. When considering waste diversion for all jurisdictions, direct hauling could be utilized to ship the waste out of county using regular waste trucks. However, a more

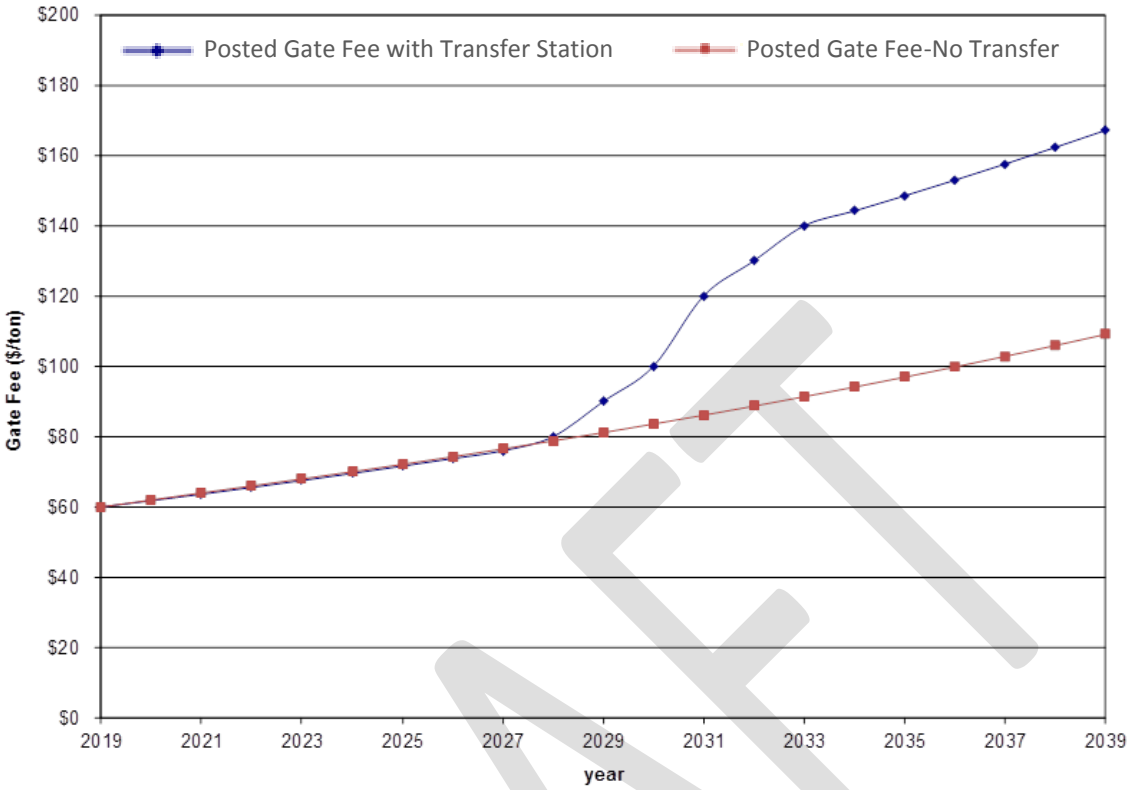
[4] Yolo County. "Yolo Regional Market Study: MSW Disposal Capacity." Prepared by Total Compliance Management, Inc. (July 24, 2019).

cost effective option long term is to utilize larger trucks. This option would reduce the number of vehicle trips, but would require the construction of a new waste transfer facility for loading waste onto the larger trucks. The estimated capital cost for such a facility, if all four cities were to participate, is between $10 million to $20 million at an annual operations cost of $3 to $4 million. However, in order to continue uninterrupted waste operation, the next two landfill modules would need to be constructed prior to conducting an environmental review, permitting, and construction of a new transfer facility. This would place the opening of the transfer facility in 2028.

A financial analysis of the Kiefer transfer option is displayed in Figure 7. The analysis takes into account cost reductions as a result of not constructing future landfill modules, but is moderated by the cost of building a new transfer facility. The analysis also includes reductions in closure and post-closure costs from transferring waste out of the County. Considering that the normal waste disposal fee at Kiefer or another site nearby could be negotiated, the analysis utilized a lower fee than what is currently charged by out of County landfills. Additionally, this analysis assumes the current disposal for Kiefer landfill and does not take into account the potential tipping fee increase.

Ultimately, the financial analysis estimates a large increase in the waste disposal fee compared to current operations once the waste transfer begins. The total cost of transportation and disposal at an out of county landfill is approximated in this analysis at $58 per ton. However, a long-term rate would need to be negotiated in order to have control over rate increases. This fee is greater than the amount currently charged to the cities and other agencies contracted to dispose waste at the Yolo County landfill. Since the current fees charged at the landfill go towards expenses for all of the services provided at the landfill, the waste disposal fees would have to be increased to cover the cost of transportation and the continued operation of the other Yolo County landfill services such as general recycling, HHW, C&D recycling, and waste unit closures.

Figure 7: Estimated Yolo County landfill MSW Fees if Waste is Transferred Out of County



While the transfer of waste out of county provides some benefits in terms of less regional waste disposal, potential environmental effects also must be taken into account. Since the waste would have to be transferred out of county by trucks, an increase in greenhouse gas emissions would be anticipated. With the estimated fee and emissions increases, the option of transferring waste to an alternative landfill has some considerable challenges. For this reason the Division recommends continued disposal of waste at the Yolo County Central Landfill.

Reserves

As a self-supporting publicly-operated business, the Division holds an enterprise fund, known as the Sanitation Enterprise Fund. This fund is utilized for all operating expenses including payroll costs, landfill closure and post-closure, and future capital improvement projects. At the time of this report, the fund held an operating cash balance of $9.23 million. The Division accumulated the majority of these funds to cover the cost of some of the capital projects for fiscal year 2019-20. A list of future capital projects is provided in Table 5 (pg. 22). In addition, the Division also holds an additional $2.17 million in a capital improvement cash account.

2007 Operations Plan

In 2007 the Board approved a Business Plan for the division which listed 11 strategies to be completed. All of these strategies were approved by the Board of Supervisors and are now completed. The status for each one of those strategies is provided in Table 4.

These actions have resulted in increased operating efficiencies by reducing expenses and increasing revenue. This reduces increases in landfill fees, in addition to increasing the local jurisdictions' waste diversion, thus extending the landfill's operational life.

Table 4: Status on 2007 Business Plan Strategies

Strategies	Status
Expand the site capacity and obtain permits allowing future waste cells to be operated as bioreactor waste cells, which will extend the useful life of the landfill by 50 years	Completed
Purchase adjacent land for use as a borrow site to meet current & future soil needs	Completed
Negotiate MSW disposal agreements with each of the local cities, and the University of California's Davis campus. Most of the contracts to extend through 2029.	Completed
Franchise the curbside waste, organics, and recycling collection for residents and businesses in the unincorporated county	Completed; currently under negotiations
Negotiate contracts with waste haulers to bring in additional waste materials, mostly garbage and liquid waste, from outside the county	Completed and on-going
Construct and operate the septic and liquid waste disposal facility, including negotiating contracts with liquid waste haulers to bring liquid waste from inside and outside the county	Completed; on-going to increase volumes
Establish the C&D Debris facility at the landfill	Completed
Expand household and small business hazardous waste services (To two days per week rather than two days per month. Quadruple services for business hazardous waste and senior and disabled home pickup services, serving up to 20 customers per week)	Completed
Begin the pharmaceutical kiosk collection program at locations across the county	Completed
Expand the reuse program from only hazardous household products to a variety of items with the Big Blue Barn thrift store	Completed
Add or expand other recycling/diversion programs (mattress, ag, plastics, carpet, food waste)	Completed

Future Outlook

In order to strategize operations for the next five years, the Division explored data and potential factors on the horizon in an effort to anticipate the opportunities and challenges ahead. That exploration is provided below with usage data, fiscal outlook, and a S.W.O.T. (Strengths, Weaknesses, Opportunities and Threats) analysis.

Usage

As population growth occurs, the need for waste disposal and waste diversion methods will only increase. According to projections by the California Department of Finance, the population in Yolo County is estimated to increase from 224,555 individuals in 2019 to 239,992 individuals by 2024 (an increase of 6.87%).[5] The implication of this growth for the Division is a growth in waste disposal.

Over the next five years, the Division will continue to implement and improve waste diversion programming which will affect tonnage. Due to new regulations from SB 1383 and AB 1826 it is likely that recyclable wastes, such as organic waste, will increase and subsequently decrease some of the tonnage intake for other wastes like MSW. To prepare for this growth, the Division will need to continue investment and expansion of waste diversion programming while also providing adequate waste management units to meet demand.

Fiscal

The Division generally operates with excess revenue, which is placed into reserve for capital improvement projects and a portion of unrestricted funds provided to jurisdictions in Yolo County. In order to evaluate the fiscal health of the Division in the coming years, a five-year fiscal forecast was prepared as displayed in Table 5, to determine estimated revenues and expenses. This forecast includes debt service payments for $19,000,000 in debt issuance to assist in covering needed capital improvement costs; with $14,000,000 anticipated to be acquired in October 2019 and an additional $5,000,000 acquired in 2023. It also includes projected fee rates. In order to raise additional revenue to fund the debt service and attain the positive net operating revenues displayed in the forecast, the Division plans to grow its liquid and organic waste programs rather than raise fees.

[5] Department of Finance (May 2019). “Department of Finance Population Projections”. Demographic Research Unit.

Table 5: Yolo County Central Landfill
Projected Net Revenues and Debt Service Coverage FY2019-FY2024

	Projected				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Revenues					
Charges for Services					
Landfill-Commercial	$14,629,415	$14,893,644	$15,518,867	$15,809,379	$16,107,147
Sanitation Services	$2,050,897	$2,191,979	$2,322,394	$2,462,086	$2,611,769
Methane Gas Revenue	$1,065,954	$1,097,933	$1,130,871	$1,130,871	$1,199,74
Franchise Fees	$226,916	$233,723	$240,735	$240,735	$255,395
Other Charges for Services	$183,218	$185,818	$188,371	$188,371	$193,490
Concessions and Leases	-	-	-	-	-
Noncapital grants and contributions	$174,195	$179,421	$184,803	$190,347	$196,058
Interest Revenue	$283,607	$290,313	$302,627	$310,055	$317,775
Other Revenue	$365,588	$381,451	$375,350	$391,111	$407,428
Total Revenues	$18,979,790	$19,454,282	$20,264,018	$20,766,678	$21,288,803
Operation and Maintenance Cost					
Salaries and Employee Benefits	$3,070,677	$3,162,797	$3,257,681	$3,355,411	$3,456,073
Services and Supplies	$11,694,937	$12,686,029	$13,071,440	$13,504,891	$13,798,888
Other Operating	$327,320	$341,865	$335,186	$349,585	$364,497
Closure and Post Closure Costs	-	$13,811	$313,829	$331,678	$350,314
Total Operating Expense	$15,092,934	$16,204,502	$16,978,136	$17,541,565	$17,969,772
Total Net Operating Revenues	$3,886,855	$3,249,780	$3,285,883	$3,225,113	$3,319,030
Debt Service	$339,500	$801,750	$806,250	$804,875	$807,625
Debt Service Coverage	1145%	405%	408%	401%	411%
Projected Fees					
Contracted Waste Disposal Fees (Cities)[1]	*$51.88 per ton*	*$53.44 per ton*	*$55.04 per ton*	*$56.69 per ton*	*$58.39 per ton*
In-County Non-Contracted Organic Waste Disposal Fee[2]	*$64 per ton*	*$66 per ton*	*$68 per ton*	*$70 per ton*	*$72 per ton*

[1] The contracted disposal fees shown assume that all cities will continue to use the Yolo County Central Landfill for disposal of waste and organic waste. New regulatory changes from state or federal agencies could result in future rate increases from what is displayed in the table.
[2] The new organic waste rates will be the same for mixed green waste/food waste and green waste only.

Despite the anticipated need for additional revenue, fee increases are limited, since such increases could make the County landfill less competitive. Additionally, the County's current agreements with the cities for waste disposal restricts the amount fees can be increased. As previously mentioned, the rates are gradually adjusted each year based on the consumer price index (CPI). Therefore, the fees cannot be increased more than 3% of the CPI, unless a new regulatory mandate is established or an amendment to the contract is made. Currently, the contract terms do not expire until 2027 to 2029.

Furthermore, the fiscal forecast would remain the same for the next five years even if transfer of waste to a landfill outside of the County were to occur for all jurisdictions. As discussed in the financial analysis of waste transfer options on pg. 16, Yolo County was the lowest cost option for all but one jurisdiction. If waste transfer for all jurisdictions were to occur to another landfill, a transfer station, rather than direct hauling, would be the most cost effective option and would not be complete until 2028. For that reason, the estimates in the five-year fiscal forecast would remain the same under current operations or waste transfer off-site. However, the forecast could be altered if additional regulatory costs are imposed upon the County or if one or more of the cities decided to terminate their contract with the Division and begin hauling waste out of County.

In addition to the costs displayed in the fiscal forecast, there are many capital improvement projects slated to occur over the next five years. As shown in Table 6, the capital improvement projects are anticipated to cost approximately $39,200,000. These projects include establishing new landfill modules, developing organics diversion, improving the liquid waste pond, a land mitigation purchase, and the closure of completed landfill cells as required by regulations. If the County moved towards transferring waste out of county, such as to Kiefer Landfill, all of these capital projects would still need to occur to accommodate operations until the building of a transfer station in 2028.

Table 6: Capital Improvement Projects Over the Next 5 Years

Project Name	Project Description	Design & Construction	Project Cost	Funding	
				Sanitation Enterprise Fund	Debt Issuance
Landfill Module 6F	Design and construction of next landfill module (20 acres)	Design summer of 2018; construction summer 2019	$10,000,000	$2,000,000	$8,000,000
Landfill Closure Unit 4 & 5	Design and construction of closure of landfill cells 4 & 5 (35 acres)	Design summer of 2018; Construction summer of 2019 & 2020	$5,200,000	N/A: Funded by Closure funds	N/A: Funded by Closure funds
Landfill Surface Impoundment Flood Levee Improvement	Design and Construction of a levee around G pond for flood protection	Design summer of 2019; Construction spring of 2020	$2,700,000	$700,000	$2,000,000
In-Vessel Digester	Design and construction of In-Vessel Digester for treatment of organic Waste	Design spring of 2019; Construction summer of 2020	$4,006,000	$3,006,000	$1,000,000
Land Purchase	Land purchase for mitigation of existing soil borrow site (200 acres)	Start looking for land to purchase summer of 2019; Purchase land summer of 2020	$4,794,000	$3,794,000	$1,000,000
Groundwater Control Below Old Landfill Cells	Design and install groundwater control under closed landfill units 1 & 2	Design summer of 2020; Construction summer of 2021	$4,000,000	$2,000,000	$2,000,000
Landfill Module 6E	Design and construction of next landfill module (20 acres)	Design summer of 2021; construction summer 2022	$12,700,000	$7,700,000	$5,000,000
Road Improvement	Design and construct paved access roads around landfill site	Design paved access roads around landfill in 2023 and construct road in 2024	$1,000,000	$1,000,000	$0
		TOTAL COST	**$39,200,000**	**$20,200,000**	**$19,000,000**

The reserve funds of the Division are not sufficient to cover the estimated $39,200,000 in capital improvement costs over the next five years. At the time of this report, the Sanitation Enterprise Fund holds an operating cash balance of $9.23 million and the landfill's capital improvement cash account holds a balance of $2.17 million. In order to address the shortfall in capital improvement project funding, the Division has been working with the Yolo County Department of Financial Services and outside consultants to prepare appropriate documentation for government bond financing with an estimated need of $19,000,000 with

$14,000,000 planned to be acquired in October 2019 and an additional $5,000,000 or more in 2023.

SWOT Analysis

A S.W.O.T. analysis was conducted to identify factors that may affect the work of the Division over the next five years. The analysis breaks down into four categories: Strengths, Weaknesses, Opportunities, and Threats. The analysis is summarized in Figure 12.

Figure 12: S.W.O.T. Analysis

Strengths:

Recognized as a leader in solid waste management: One of the Division's key strengths is its recognition as a leader in solid waste management. The Division has taken a leadership role in developing better means of managing solid waste which has been recognized by state, federal and local regulatory agencies as well as by the industry in general. An example of this is the

Division's development of a 12-acre bioreactor landfill which utilizes leachate to increase methane production, increase production of renewable fuel, and degrade solid organic waste more rapidly than traditional means.

Use of innovative technologies: The Division explores and utilizes innovative technologies to help improve waste management. The bioreactor landfill project was the result of over two-decades of research and development of landfill bioreactor technologies conducted by the Division to better manage organic waste. However, the expansion of this technology at the landfill continues. Most recently the division applied this technology to the development of an anaerobic composter which treats organic and green waste so that reusable biogas and compost is produced. In addition, the division has developed a cost-effective in-vessel digester project for food waste which is currently under final construction. This new technology will be used for treatment of food waste that requires de-packaging and processing. Both of these projects are scheduled for construction and operation from fall of 2019 through spring of 2020.

Variety of recycling programs: The Division offers a great variety of recycling programs. In additional to general waste and organic recycling collection, the Division offers recycling programs for unique items such as mattresses and box springs, electronic waste, C&D, and home generated medical waste (such as syringes and medicines). Many of these recycling programs are offered to residents for free. Ultimately, having a wide variety of recycling programs allows the Division to better increase waste diversion for the community.

Weaknesses:

Maintaining self-sufficiency amongst increasing overhead, operation and maintenance costs:
The costs of doing business at the landfill and in the industry have increased over the years for overhead, operation and maintenance costs. As a self-sustaining business, the Division largely covers it costs through fees for service. Any revenue is split with a portion set aside for necessary capital projects and a portion provided to the cities and county. Currently the revenues raised are not sufficient to meet all of the upcoming capital improvement needs.

The Division must therefore look for ways of generating more revenue. Fees charged have to remain competitive with private competitors to ensure success which limits fee increases as a revenue solution. As previously discussed the non-contracted fees at the landfill appear

competitive with other landfills in California and contract fee increases are restricted. Therefore, the Division must continuously seek ways to identify alternative sources of revenue outside of increasing fees in order to mitigate rising costs in waste management. An example is the Divisions current efforts to begin importing soil from the Cache Creek settling basin to reduce the cost of soil for both operations and construction. Similarly, staff are exploring the potential to increase the production and sale of biogas produced at the landfill, the production of other high value fertilizers from compost and liquid waste, and the production of renewable electricity from solar energy.

Illegal dumping: The Division is often faced with the challenge of illegal dumping. Illegal dumping occurs when individuals dispose of waste in an improper manner rather than through an approved method (such as at the landfill). This activity is often done to avoid paying fees for waste disposal. However, it also commonly occurs when individuals arrive at the dump after hours and are unable to unload their vehicles onsite.

Illegal dumping creates an environmental threat and a public eyesore but it also creates a logistical clean-up and cost burden. In Yolo County, the Division picks up dumped trash in certain locations, such as around the YCCL and Esparto Convenience Center, with assistance of the Probation Department through a contract. The Division also utilizes contractors to pick up hazardous waste on the road side and pays for the pick-up and disposal.

Elsewhere in the county alternative methods are utilized. The Yolo County Community Services Department is often tasked with picking up illegal dumping waste on the sides of the roads in the unincorporated areas and bringing it to the landfill. If the trash is dumped within a private property boundary, then the Department must have the permission of the property owner to collect the material, which can delay clean-up. The disposal fees for these items are paid for by the Division. Additionally, if the trash is large or located in a difficult to reach area, the Department may need to utilize specialty equipment. In FY18-19, 229 tons of waste from road side illegal dumping was brought to the landfill. These costs are borne by the landfill through franchise fees to reimburse the Roads Department for collection ($36,681) and disposal of waste ($10,717) for a total cost of $47,398. Another clean-up method utilized includes the "Good Neighbor" program where the Division offers free disposal and a coupon for anyone that

picks up waste along the road and brings it to the landfill. In FY2018-19, 11 tons of waste that was illegally dumped was brought to the landfill under the "Good Neighbor" program. The cost of disposal of waste ($660) and the coupon given to the public as a reward ($633) in total cost was $1,293.

Mitigating illegal dumping ultimately requires a collaborative approach that includes outreach regarding waste services (including an emphasis on the hours of operation), identification and prosecution of violations, and a cost-effective process for cleanup. The Division plans to explore options and potential partnerships to assist in illegal dumping mitigation.

Opportunities:

Emerging markets for new revenue sources: There is an ever growing market for energy products and diverted materials that can assist in bringing additional revenue sources to the Division. The Division currently produces biogas from waste and electricity generated from solar power. This can be sold to entities as fuel for generating electricity, like is currently done with the Sacramento Municipal Utility District. The YCCL is looking at opportunities to expand electricity production for sale through potential projects such as the use of floating solar panels or gasification of wood biomass.

The growth in organic waste collection and C&D also provides an opportunity for the Division to increase contracted services for diverted materials. There are markets for products made from diverted organic waste, particularly in the agricultural industry, such as fertilizer and compost. Current agreements between the landfill and other local jurisdictions and entities, like UC Davis and the Yocha Dehe Wintun Nation, only include waste disposal. The Division could explore the ability to expand these agreements. Additionally, contracts could be established with entities outside the County to import organic waste including liquid, food, and green waste to the YCCL. The Division is also exploring a potential partnership with UC Davis to research technologies for ways to use organic waste to increase biodegradable products. Such agreements and explorations in innovation could expand the organics program allowing for greater production of biogas and related products.

Partnership potential: There are two potential partnership opportunities for the Division that could assist in increasing waste diversion and meeting mandate requirements. First is the

Division's interest in partnering with a conversion technology firm. The chosen firm could build a facility at the landfill to convert waste, which cannot be diverted or recycled economically through other programs, into useful energy and/or fuel (such as ethanol and biogas). This could be a good option for diverting some of the landfill's currently disposed materials and creating additional revenue opportunities for the Division. However, conversion technology is considered disposal under the CalRecycle diversion hierarchy, so it would not count towards the County's diversion targets at this time. Collaboration with other agencies and programs would be key to ensure a successful conversion technology partnership; such as with universities (as an independent testing site), regulatory agencies, air quality management districts, SMUD, Valley Clean Energy Alliance and the County's Climate Action Plan.

The second partnership opportunity, is the potential to work with other divisions in the Community Services Department to share a code enforcement officer. Under regulations for implementation of AB1826 and AB341, the Division will be required to enforce mandatory commercial recycling and commercial organics recycling. The Community Services Department has hired two code enforcement officers to address a variety of code enforcement efforts related to review of items such as cannabis and buildings, in accordance with the County Strategy plan. As the Division does not anticipate needing a full-time officer, there is an opportunity to work within the overall Department to share use of a code enforcement officer for the Division.

Threats:

Future mandates and regulatory requirements: Changing or new regulations from the Federal or State government regarding diversion targets and the proper handling of waste is a constant threat to the Division. These changes can result in costly alterations in business operations as well as new programming. One of these mandates is Senate Bill 1383 which set statewide 2030 emission reduction targets for certain pollutants and set a number of directives for diversion of organic materials. Additionally, Assembly Bill 1826 requires businesses to recycle their organic waste and for local jurisdictions to implement an organic waste recycling program to assist in organic waste diversion.

To meet these new directives the Division will need to take a number of actions. While the Division offers some organics diversion options, it will need to expand upon this programming

and potentially on organic collection services as well. The Division will also need to develop a policy to enforce mandatory commercial recycling and commercial organics recycling in accordance with the law requirements. This will include the enforcement of that policy through a code enforcement officer.

Additional regulations may result from the Regional Water Quality Control Board (RWQCB). First, the RWQCB is currently conducting a statewide review of polyfluoroakly substances in leachate and groundwater in waste disposal facilities. This review may lead to further regulation and monitoring costs and may require special disposal of waste materials that contain such items. Currently, the Division disposes leachate at the City of Davis waste water treatment plant through a five-year contract. These regulation increases could affect the cost of that contract in future years. Therefore, staff are investigating other means of leachate treatment and disposal. Secondly, RWQCB has issued an order for the YCCL to develop a plan of action for groundwater control under Waste Management Units 1 through 3. These units were constructed in the 1970s and 1980s and are no longer adequate to meet regulatory requirements during certain wet seasons. An engineering design is to be completed this fall to evaluate the most feasible options and may result in additional capital project and operation costs for the landfill to meet RWQBC requirements (estimated at a $4 million capital cost and a $40,000 annual operation cost).

Reduced value of recycling material: The value of recyclables has dropped significantly over the past year, due largely to China's National Sword policy. In California, about a third of collected recyclable material collected is exported for processing and manufacturing with the majority of exports going to China. On January 1, 2018 China's National Sword policy took effect which established stricter contamination limits and import bans on certain recyclable materials. This has resulted in a backup of materials in California waste and recycling facilities and declining markets for recyclables.

Future Outlook Conclusion

Based on the SWOT Analysis, the upcoming years for the Division will require continued growth in landfill services but with the challenge of increasing costs. With a growing population the landfill needs to be prepared for a growth in the tonnage intake and demand for services. This

requires an adequate amount of waste management units to meet the demand, including capital improvement costs, but also continual efforts at innovation to divert waste. However, while demand increases the costs associated with landfill services are anticipated to increase as well due to diversion requirements and emerging mandates. As a result, the focus of the Division for the next five years is to ensure service growth while being innovative in approaches to diverting waste and increasing revenue.

5 Year Operational Plan

Based on the future outlook, the next five years will require continued growth in landfill services due to increasing population and mandates on diversion requirements, but with the challenge of increasing costs. Therefore, the focus of the Division for the next five years, as displayed in the subsequent goals and strategies, is to ensure service growth while being innovative in approaches to diverting waste and increasing revenue.

County and State Directives

There are many goals and policies at the County and state level that affect and guide the activities of the Division. These include items such as environmental goals, mandated waste diversion targets, county development plans, and more. As a result, the operational plan has been designed to remain consistent with the directives from the following:

- State Mandates
- Yolo County Strategic Plan
- 2030 Countywide General Plan
- Capital Improvement Plan including landfill projects
- County Integrated Waste Management Plan
- Yolo County Climate Action Plan

Division Goals and Strategies

The following framework includes the Division's operational plan goals and the strategies to achieve each of those goals over the next ten years. Potential resources needed to achieve each strategy are also provided.

Division Goal: Create a more environmentally sustainable landfill

Strategy: *Maximize grants to expand recycling programs*

Maximize grants use where appropriate, or beneficial, for the many different materials included in the recycling programs at the landfill. These grants would allow the landfill to expand the PaintCare, mattress, and electronic waste programs to further comply with the future 75% diversion requirements. The amount of these grants is dependent on the materials collected in the recycling programs, which carriers year to year.

Resource Needs: No external resource need. Staff at the Community Services Department will be utilized to explore and write grants.

Strategy: Enforce commercial business recycling

As required by regulations for implementation of AB1826 and AB341, the Division would modify the existing Yolo County Solid Waste Ordinance No. 1378 to enforce mandatory commercial recycling and commercial organics recycling. This would include implementation of proactive coordinated code enforcement as described in the County's Strategic Plan. This enforcement will assist in increasing waste diversion. A potential opportunity is to share a code enforcement officer with other divisions to meet requirements, without the need to fund a full-time position.

Resource Needs: Part-time use of a code enforcement officer. Potential to share one of the two new code enforcement officer positions in the Community Services Department.

Strategy: Develop future waste management units

Develop future waste management units in the most economical and environmentally sustainable way possible. Additional units will help to ensure adequate resources for intake at the landfill for future years but result in capital improvement costs.

If waste were transferred out of county to another landfill, the number of future waste management units could be reduced helping to decrease the capital costs. However, there would be new costs associated with constructing a transfer station and some waste management units would still need to be built to continue operations until the transfer station was in place. As shown in the financial analysis on pg. 16, any operational cost reductions from transferring the waste would result in fee increases to cover transportation costs and continued operational costs for other landfill services. Additionally, reduction in landfill gas from the received waste would result in reduction in electric power generation for the methane to electricity generation plant on-site. For that reason, the Division recommends continued disposal of waste onsite thus requiring the development of future waste management units.

In preparation a consultant worked with County staff to evaluate options for building a

unit with our elevated groundwater. The options were evaluated and costs determined to control and treat the groundwater. The most economical option is to raise the bottom elevation of future landfill cells and eliminate additional groundwater control and treatment. A potential source of soil to raise the bottom elevation of future landfill cells is the Cache Creek Settling Basin. This option, among other waste disposal and waste transformation alternatives, will be evaluated as plan implementation moves ahead.

Resource Needs: Reserve funds of the Division would be utilized for this capital project. However, the reserves are not adequate, and alternative funding is needed such as a government bond. The Division is currently working with the Department of Financial Services and outside consultants to prepare appropriate documentation for government bond financing.

Strategy: Purchase additional mitigation land

Buy additional land near the landfill to meet the Division's agricultural land use and Swainson's hawk foraging habitat mitigation. This mitigation is for a site utilized by the landfill for soil borrowing and also helps to create buffers that improve aesthetics and minimize hindrances to landfill operations from encroaching incompatible land uses. In addition, staff is working on an alternative soil borrowing option, by receiving soil from the Cache Creek Basin. This would result in less acres being excavated in the future, thus reducing long term mitigation costs.

Resource Needs: Land would be purchased using existing Sanitation Enterprise funds.

Strategy: Revise Environmental Impact Report

The Environmental Impact Report (EIR) for the YCCL is due for an update. Since the Division is looking to increase overall tonnage and add additional projects, the EIR will need to be revised. It is estimated that this will take a couple of years to complete.

Resource Needs: The Division will utilize staff and consultants to assist with revising the report.

Division Goal: Ensure the efficiency and economic viability of landfill operations.

Strategy: Increase revenue sources

Expand current waste agreements to include additional materials (organic and solid waste) and negotiate additional revenue agreements, or cost saving measures. These could include production and sale of additional products and solar power for onsite needs. Furthermore, the Division will look for new venues and public-private partnerships to generate revenue and diversify waste options; in addition to partnerships that deploy innovative technologies in waste management and processing. One such example is the potential to partner on the use of landfill gas and biogas produced by the landfill and anaerobic digesters, with energy companies, such as Valley Clean Energy Alliance. Through these methods the Division can diversify and increase its revenue sources.

Resource Needs: Public/private partnerships with interested parties.

Strategy: Prepare for potential regulations and explore available options

As previously described, the Division is faced with potential increases in regulations from the RWQCB on leachate and groundwater. These regulations could result in higher disposal costs of leachate and are already requiring the development of an action plan for groundwater control under Waste Management Units 1 through 3. In preparation, staff are currently investigating other means of leachate treatment and disposal. Additionally, an engineering design is to be completed this fall regarding the ground water action plan and may result in additional capital project and operational costs for the landfill.

Resource Needs: Additional funds may be needed for any capital project and or operational costs identified by the engineering design.

Strategy: Advocate for product stewardship legislation regulations

The division will work with agencies (such as the Consumer Product Safety Commission), non-profits, and state and federal legislators to support product stewardship legislation regulations. Product stewardship seeks to place greater responsibility for the disposal needs of products on producers and suppliers rather than on the public sector. Legislation and regulations for manufacturer take-back programs or contractor-provided funding for expanded waste collection services could greatly assist in the disposal needs for expensive

and hard to handle materials such as electronic waste, batteries, sharps (needles) and medications, in each of our local jurisdictions. In the meantime, staff also plans to tackle one hard to dispose item at a time with the next type being sharp containers and items containing mercury.

Resource Needs: The Division plans to utilize staff to work with affiliated agencies and the County's Manager of Governmental Relations to examine advocacy potential.

Division Goal: Remain competitive in the local and regional marketplace

Strategy: Renegotiate waste flow agreements

Renegotiate waste flow agreements between the landfill and other local jurisdictions and entities such as the University of California, Davis and the Yocha Dehe Wintun Nation. Current agreements with these entities only include waste disposal but could be expanded to include other waste diversion programs. New agreements could include a guarantee from stakeholders to use the Division's organics and C&D recycling facilities for a reduced price or other incentives, such as reduced-price compost, if they agree to long-term contracts. This would assist the division in increasing waste diversion and increasing economic stability. Additionally, staff plans to work on negotiating new contracts with companies for their recycling and waste disposal needs.

Resource Needs: The Division plans to utilize internal staff to conduct these negotiations.

Strategy: Increase marketing and outreach

Focus on advertising the landfill's services and develop new markets for compost, organic waste to fertilizer, and other agricultural products that could be produced from diverted organic waste. In short, create the image of being the county's "One-Stop Shop" for anything waste and recycling related. This will assist in promoting waste diversion opportunities while also opening up opportunities for increased revenue generation.

Resource Needs: The marketing and outreach would be overseen by Division staff and may require funding to implement.

Division Goal: Provide enhanced customer services to stakeholders, including local jurisdictions, residents and businesses

Strategy: Evaluate options to curtail and clean-up illegal dumping

Mitigation and clean-up of illegal dumping ultimately requires a collaborative approach. This includes outreach regarding waste services (including an emphasis on the hours of operation), identification and prosecution of violations, and a cost-effective process for cleanup with a method for easy public reporting and granting of permission for illegal dumping clean-up. The Division plans to explore options and potential partnerships to assist in illegal dumping mitigation.

Resource Needs: Depending on the options identified there may be a funding need, particularly for staff. If so, grant opportunities may be explored.

Strategy: Expand organic waste disposal services at the landfill

Add onsite composting and digestion options for organic waste. Currently, organic waste is processed at the landfill and then hauled to an off-site compost facility. Division staff has obtained permits and completed the design for onsite anaerobic composting (for mixed food waste and green waste) and in-vessel digestion facilities (for solid and liquid food wastes) which are currently under construction and planned to be finished by fall of 2019. In addition, the Division plans to permit and contract with Northern Recycling for construction and operation of a new state-of-the art composting facility at the landfill (for yard waste and food waste) by 2022. Thus, the landfill will offer three options for diverting organics, including yard waste, food waste (including packaged material), and mixed yard/food waste to assist all local jurisdictions to reach AB 1826 compliance.

Resource Needs: Public/private partnership with Northern Recycling to design, construct, and operate a new composting facility at Yolo County Central Landfill.

Strategy: Increase daily tonnage

The Division will revise its Solid Waste Facility Permit to allow additional tonnage to be accepted. This will help to accommodate the expanded services of the landfill in processing various types of waste material but also prepares for future demand due to population growth.

Resource Needs: The Division will utilize staff and consultants to assist with the

Environmental Impact Report and the revision of the permits.

Strategy: Evaluate options of household hazardous waste collection

Evaluate the expansion of household hazardous waste collection operations to more than two days a week. This could provide a benefit to all customers if population growth results in a higher demand for the facility. Currently, customers are turned away due to the service only being available on a Friday or Saturday for specific items.

Resource Needs: N/A

Division Goal: Ensure safe staff through ongoing training

Provide regular training related to safety and new programming

Ensuring staff safety in operations is always a priority. The Division seeks to provide monthly opportunities for training. This would include any necessary training for new programs or equipment to occur over the upcoming years.

Resource Needs: The Division will utilize internal and external training courses to keep staff updated on the required industry safety standards.

Division Goal: Integrate cutting edge waste technologies and innovations

Strategy: Explore conversion technology partnership

Maximize operational efficiencies and gain access to more advanced technologies by exploring the option of a partnership and land lease with a conversion technology firm. This firm would build a facility at the landfill to convert waste, which cannot be diverted or recycled economically through other programs, into useful energy and/or fuel (such as ethanol and biogas). This is a good option for diverting some of the landfill's currently disposed materials and creating additional revenue opportunities for the Division. However, conversion technology is considered disposal under the CalRecycle diversion hierarchy, so it would not count towards the County's diversion targets at this time. Additional regulatory or legislative reform must occur before energy or fuel production from waste can help the County and other local jurisdictions reach diversion goals. Collaboration with other agencies and programs would also be key to ensure a successful conversion technology partnership; such as SMUD, Valley Clean Energy Alliance and the County's Climate Action Plan.

Resource Needs: N/A

Strategy: *Increase production of biogas produced by the landfill.*

The purchase of the methane plant in January 2017 allows the County control over regulatory compliance of natural gas emissions and to potentially choose the best option for the use of the biogas in the future. The biogas is currently used to generate electricity and sold to SMUD under an agreement through 2026. Other options that can be explored include selling electricity to additional entities, such as the Valley Clean Energy Alliance, or to treat and inject biogas into either SMUD or PG&E gas pipelines that run adjacent to or through the landfill, respectively. To offset project use of electricity, staff are investigating the installation of solar photovoltaic. This will help the County in controlling the typical annual increase in electricity cost (3% to 4%) by PG&E.

Resource Needs: Outside consultants will be needed to evaluate some of these options, particularly for the feasibility of the solar project. This cost has been included in the Division budget. The Division has already begun a partnership with the UC Davis Environmental and Civil Engineering department to evaluate pipe-line injection potential.

Implementation

The goals and strategies outlined in this plan are to guide the Integrated Waste Management Division for the next five years. Some of the strategies have received approval from the County Board of Supervisors and are underway or have been implemented, such as purchasing the biogas power plant. However, upon adoption of the full Operational Plan by the Board of Supervisors, detailed action plans will be created to further expand upon each of the identified strategies for implementation by staff.

Implementation Needs

The goals and strategies outlined in this Operational Plan do require funding, which the Division plans to cover. The majority of revenues the Division receives are restricted with a small amount of unrestricted revenue. Under current operations a portion of the unrestricted revenue is put into Division reserves and a portion allocated to jurisdictions in the County. The desire of the Division is to have all unrestricted revenue used within the Division to fund the strategies outlined in this plan as well as planned state mandates. Additional funding sources may be sought pending new capital improvement projects including purchase of additional land for mitigation, leachate treatment system, and new landfill cell construction. Staff have been researching the borrowing potential to fund these projects. As stated in one of the strategies, staff will also be working on increasing potential revenue sources, particularly unrestricted revenue. These could include any of the options below:

Additional Potential Revenue Sources

- Produce Bio-Gas directly sold to SMUD or PG&E (either)
- Adding clients/jurisdictions
- Lease of land for solar power
- Solar energy production
- Organic waste to agricultural products
- Other energy to fuel waste projects (Sierra Energy)

Reporting and Timeline

Staff will provide an annual update to the Board of Supervisors on the progress made toward the completion of this plan. A timeline has been established for the implementation of the Operational Plan strategies (see Appendix B) over the planning period through 2024.

In addition, a more detailed timeline is provided below for the initial projects the division plans to achieve through 2020. This timeline is as follows:

October 2019 – Anaerobic Composter operation.

December 2019/January 2020 – Complete construction of In-Vessel digester for food waste.

December 2019 – In partnership with Northern Recycling, Inc. negotiate and sign an agreement with Sacramento County, City of Sacramento, and City of Folsom to secure 73,000 tons of organic waste for Yolo County**.**

December 2019 – Negotiate and sign a long-term agreement with Northern Recycling, Inc. to fund, construct, and operate a modern composting and demolition and inert facility at the Yolo County Central Landfill**.**

January 1, 2020 – Implement SB 1383, per AB 32 regulations; the state will have regulations in place to meet the state mandated reductions in 2022.

December 2020- Advertise operation contract for organic waste projects and award agreement.

January 2021 – Negotiate long-term agreement organic waste flow agreements with justifications.

January 2020- January 2022- Revise landfill EIR and the solid waste permit for the facility to increase daily tonnage limits.

Summer 2020-2022 – Northern Recycling, Inc. will complete construction of the new composting facility and begin operation by December of 2022.

Conclusion

Over the last ten years, the Division of Integrated Waste Management strived to achieve the objectives set forth in the 2007 Business Plan while dealing with emerging changes in diversion, new state mandates, and a recession. This new Operational Plan realigns the Division with the emerging priorities from both the county and state. By proactively planning for the future, the Division will continue to provide the public, both in and out of Yolo County, with quality waste management services that are innovative, environmentally sustainable, and economically efficient.

Appendix A: Revenue and Expenses (Actuals) FY2014 through FY2018

	2018	2017	2016	2015	2014
Revenues					
Licenses, Permits and Franchises	$473,951.18	$464,985.40	$364,168.07	$357,180.52	$145,543.60
Investments, Rents/Concessions, and Royalties	$213,720.63	$205,142.94	$192,339.29	$163,420.07	$208,128.57
State Revenue	$928,030.66	$571,532.15	$134,922.04	$196,766.42	$114,210.65
Other Government Agencies	$7,311.00	$0.00	$104,606.58	$3,371.00	$26,039.00
Charges for Services: Sanitation, Landfill, Other	$14,863,681.00	$14,731,839.60	$11,712,229.69	$9,721,596.35	$9,421,832.31
Other Sales and Incomes	$3,130,240.78	$211,901.65	$139,868.94	$107,660.04	$210,301.20
Other Financing Sources	$2,631.00	$14,840.00	$14,472.18	$1,600.00	$1,760.30
TOTAL REVENUE	**$19,619,566.25**	**$16,200,241.74**	**$12,662,606.79**	**$10,551,594.40**	**$10,127,815.63**
Expenses					
Salaries and Employee Benefits	$3,186,156.32	$2,808,298.96	$2,483,242.82	$2,666,740.88	$2,608,313.88
Services and Supplies	$9,780,908.44	$8,150,343.71	$5,781,553.47	$5,522,075.80	$4,796,275.75
Other Charges (capital lease payments, taxes and assessments, Other)	$1,331,894.20	$2,110,210.58	$4,575,130.16	$1,448,390.16	$1,553,980.63
Capital Assets-Land	$0.00	$0.00	$201,169.99	$0.00	$322.84
Capital Assets-Structures and Improvements	$511,818.55	$1,242,140.91	$0.00	$0.00	$0.00
Capital Assets-Equipment	$649,515.69	$132,579.04	$35,108.56	$0.00	$21,203.75
Operating Transfers Out	$12,350.77	$0.00	$0.00	$0.00	$506.43
TOTAL EXPENSE	**$15,472,643.97**	**$14,443,573.20**	**$13,076,205.00**	**$9,637,206.84**	**$8,980,603.28**
BALANCE	**$4,146,922.28**	**$1,756,668.54**	**-$413,598.21**	**$914,387.56**	**$1,147,212.35**

NOTE: Excess revenue is saved for future capital improvements projects and landfill closure and post closure costs. Unrestricted franchise fees are used for oversight of franchise agreement and lien process and offset the costs of: the Esparto Transfer facility operations; regulatory compliance and maintenance of closed landfills; the tire amnesty program; waste pickup and disposal for illegally dumped solid and hazardous waste along rural roadside; rural outreach and education on organic waste and composting; community specific recycling and household hazardous waste events and outreach; and the repair and maintenance of roads at and near the landfill.

Appendix B: Implementation Timeline for Operational Strateg