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2018 ANNUAL REPORT





BUILDING RESPONSES TO INDUSTRY-TRANSFORMING LEGISLATIVE MANDATES AFFECTING ORGANIC WASTE MANAGEMENT CHARACTERIZED 2018 FOR OCWR.

We pivoted from promoting recycling to practicing it, with a dual focus on the County as a jurisdiction and a regional leader for the cities.

Through this annual report, we invite you to review our progress and see where the waste industry is headed.

CONTENTS TABLE OF

- Director’s Message.....3
- Organization.....5
- Continuing Progress.....8
- Driving Change14
- Changing Landscape.....18
- Growing Together.....21
- Awards.....26
- Year In Review27
- 10-Year Financial Forecast.....33



DIRECTOR'S MESSAGE

DIRECTOR'S MESSAGE

“Our industry has continually changed and evolved; the changes we’re seeing now are unprecedented and transformational.”



Like any highly regulated industry, ours has continually changed and evolved due to regulatory and legislative mandates. The changes we’re seeing now are unprecedented and transformational – for cities, businesses and haulers alike.

Our preparation in 2017 set us up to launch the department’s transition in 2018—from simply promoting recycling to practicing it. Our teams established pilot compost projects at all three landfills. These pilots serve as test labs, and we’re gathering data to help make informed decisions as we explore our development of full-scale composting operations. This endeavor was new for the team, and I’m so proud of what they accomplished.

The industry is pointing toward a resource recovery facility model, and composting is a critical first step. I’m confident that the County is on track to develop facilities that will contribute to the absent local infrastructure required to meet state mandates.

2018 was also about world-class landfill operations. Major capital projects created waste disposal fill areas that now provide approximately 16 years of additional capacity.

We transitioned to new IT systems that enhance our ability to track compliance and project management data. We also created a Neighbor Support Portal to address questions, comments and concerns from the public regarding our landfills. We completed planning for a new generation of educational outreach focused on recycling contamination and organic waste diversion, and we launched a collaborative safety culture initiative.

It has also been a rewarding year for me personally. In addition to witnessing the many accomplishments achieved by our team, I continued my journey as a public servant and found countless reasons to be a proud County of Orange employee.

I hope you’ll review our 2018 Annual Report to learn more about our work to help Orange County respond to waste management and recycling changes. Thank you and enjoy.

Tom Koutroulis

DIRECTOR, OC WASTE & RECYCLING



ORGANIZATION

OCWR OVERSEES THE SOLID WASTE DISPOSAL NEEDS OF THE THIRD MOST-POPULOUS COUNTY IN CALIFORNIA, serving the County's 34 cities and unincorporated areas. Our three-site landfill system employs compliance-plus operational practices and is nationally recognized for excellence and innovation.

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OC Waste & Recycling provides waste management services, protects the environment, and promotes recycling in order to ensure a safe and healthy community for current and future generations.



OC BOARD OF SUPERVISORS



The Orange County Board of Supervisors oversees the management of County government and many special districts. The Board develops public policy to implement and, as necessary, refine the local application of state law. The five supervisors are elected to four-year terms by the voters of their respective districts.



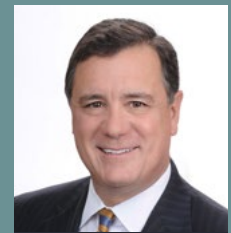
LISA BARTLETT
CHAIRWOMAN
Fifth District



MICHELLE STEEL
VICE CHAIR
Second District



ANDREW DO
First District



DON WAGNER
Third District



DOUG CHAFFEE
Fourth District

WASTE MANAGEMENT COMMISSION

Donald R. Froelich
Chairman, Fifth District

Cheryl Brothers*
Vice Chair, First District

COMMISSIONERS

First District
Juan Villegas

Second District
Joe J. Carchio
Rob Johnson*

Third District
Beth Haney
Mike Alvarez*

Fourth District
Christine Marick*

Fifth District
Cynthia Conners*
Joe Soto

MEMBER AT LARGE

David J. Shawver*

EX OFFICIO

Bret M. Plumlee*

DIRECTOR, OC WASTE & RECYCLING

Thomas D. Koutroulis

*City Selection Committee appointee

The OC Waste Management Commission advises the Board of Supervisors on matters relating to the County's solid waste disposal system and serves as the designated Local Task Force.



PROGRESS CONTINUING

OCWR's core business of landfilling continues with excellence in all areas. We processed 563,813 fee booth transactions system-wide, and disposed of more than five million tons of waste during 307 days of operation in 2018.



CAPITAL IMPROVEMENTS



CAPITAL IMPROVEMENT PROJECTS required construction of massive landfill infrastructure, including fill area and storm water management.



At Olinda Alpha Landfill in Brea, crews spent nearly eight months building a new **2.4-acre basin**, called Basin C. Not only is it the largest basin at the site, it can hold rainwater from multiple storms and allows sediment to settle faster so it can be transferred to water trucks more quickly.

At Frank R. Bowerman Landfill, crews completed Phase VIII B-2. The project moved more than five million cubic yards of dirt, laid five-and-a-half miles of pipe, and installed more than 26 acres of liner. When at capacity, Phase VIII B-2 will hold more than 11 million tons of trash and will generate approximately **\$500 million in revenue**.

OCWR broke ground on Phase D at Prima Deshecha Landfill in May 2018. Phase D extends the capacity of Zone 1 by 7.5 million tons and **increases its lifespan by 13.7 years** at the current fill rate. Crews are on track to complete Phase D in the spring of 2019, with full operation in the summer of 2019.

80,464
TOTAL
OPERATIONAL
HOURS
OF HEAVY
EQUIPMENT





TECHNOLOGY INFRASTRUCTURE

Landfills are highly engineered, highly regulated components of the California solid waste disposal system. They are not dumps. They require hundreds of regulatory inspections at various frequencies, and tracking the regulatory processes is a complex workflow. In an effort to improve efficiency, OCWR partnered with the County's IT department to develop the **Compliance Alert & Reporting System (CARS)**. This automated solution ensures that regulatory compliance tasks are all performed and submitted in a timely manner.

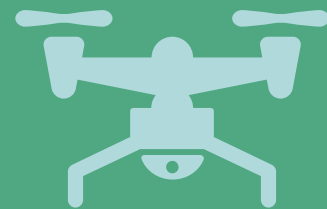
We also launched the **Master Capital Expenditure Plan (MCEP)** to provide digital project reports on the schedule, budget and airspace capacity related to landfill development. The program is integrated with our Disposal Reporting System and can perform "what-if" scenarios on tonnage and airspace utilization.



EVOLVING TECHNOLOGIES

NEW CAT SIMULATORS

CAT heavy equipment simulators arrived at OCWR Landfills in 2018 as a safety training method, allowing operators to train under any weather conditions and site situations. With six 42" screens and a motion system designed to mimic vibrations and movements, the simulators offer realistic training experience without the risk of equipment damage or physical harm to staff.



DRONE PILOTS TAKE THE SKIES

In 2018, select OCWR staff at all three sites completed their Remote Pilot Airman Certification, enabling them to perform critical monitoring and surveying. Drones perform volume and airspace calculations, and capture real-time aerial photographs and topographies. This helps keep the landfill's engineering design on track. In potentially hazardous areas, such as pop-outs or areas damaged by extreme weather conditions, drones safely perform reconnaissance without endangering human life.



S O I L MANAGEMENT PLAN



2018
COMPLETED IN

Soil is critical for landfill operations, and a shortage of onsite soil would impact the department's budget as well as operations.

OCWR's Strategic Plan includes an initiative to develop a comprehensive approach to soil management, which our staff completed in 2018. Using complex calculations, the Landfill Soil Management Plan identifies the available onsite soil at each landfill and how much will be needed throughout the life of the landfill, and provides policy and operational recommendations to address each site's needs.

EXTENDED CAPACITY AT PRIMA DESHECHA



Over the past 10 years, the **Prima Deshecha Landfill** received less than half of its permitted waste. To capitalize on the remaining capacity, OCWR submitted an application to revise its Solid Waste Facility Permit that would extend the closure dates of both Zone 1 and Zone 4.

As part of the application process, OCWR held two community meetings for residents living near the Prima Deshecha Landfill. Our goal was simple: educate and inform residents about the closure date revisions, answer questions and explain changes in the waste industry and how these affect the landfills.

Through a Cooperative Agreement, OCWR worked with the City of San Juan Capistrano to extend the landfill closure dates from 2019 to 2050 for Zone 1, and from 2067 to 2102 for the future Zone 4.

WHAT AFFECTS THE LIFESPAN OF A LANDFILL?



Less tonnage than projected in the initial Environmental Impact Report.



More efficient landfill disposal techniques (technology, better compaction, synthetic tarps versus processed green material).



Legislation that drives recycling and diversion behavior.



Increased organic waste recycling.



S INITIATIVES F E T Y

We launched a new initiative designed to enhance the OCWR safety culture through teamwork and ownership to ensure an effective and sustainable safety system for our people.

It also includes pursuit of Safety and Health Achievement Recognition Program (SHARP) status. This is a rigorous process offered by OSHA, the U.S. Occupational Safety and Health Administration. Attaining this standing means OCWR will have surpassed the basic safety standards and rules, and moves into a zone where our safety culture guides and permeates operations. We are well on our way to achieving SHARP certification in 2019, and continue to improve upon other safety systems based on our Injury and Illness Prevention Program and emergency response protocol.

“We need to pay attention to the safety of our customers 100 percent of the time.”

- JOSE VALERIO
FEE STATION ATTENDANT SUPERVISOR, PRIMA





DRIVING CHANGE

THREE MAJOR PIECES OF LEGISLATION CONTINUE TO GUIDE THE WASTE INDUSTRY IN CALIFORNIA.

These regulations kept us busy in 2018 as we planned and prepared for the impacts of AB 1594, SB 1383 and AB 1826.



NEW LEGISLATION

Beginning in January 2020, three key pieces of legislation will have significant impacts on cities, haulers and our own landfill operations. Together we are working on solutions to divert Processed Green Material (PGM) that will no longer count as diversion when used as Alternative Daily Cover (ADC) and other organic material that is currently being disposed of in the landfill.

We educated schools, multi-family complexes and businesses that will be required to have organic recycling programs under the new requirements of AB 1826. We diligently researched alternatives to PGM since we will no longer be using it as ADC in January 2020. Lastly, we continued to prepare for the impact of SB 1383. We launched composting pilot programs, trained staff and began preparing for the future of waste management, which focuses on organics diversion and edible food recovery.



SB 1383

METHANE EMISSIONS REDUCTION

SB 1383 uses methane emissions reduction as the driving force for organic waste diversion and edible food recovery. The two-part bill seeks to reduce organic waste by 75 percent and recover 20 percent of disposed edible food for human consumption by 2025.

AB 1826

MANDATORY COMMERCIAL ORGANICS RECYCLING

AB 1826 launched on January 1, 2016. It calls for mandatory commercial organics recycling. Through incremental implementation, this bill and others seek to reduce statewide disposal of organic waste by 50 percent by January 1, 2020.

AB 1594

WASTE MANAGEMENT

AB 1594 redefines PGM used for ADC as material for disposal rather than diversion. Orange County is one of the largest users of PGM as ADC at our landfills in California, and is thus developing local infrastructure to process this material so that the region may continue to receive diversion credit for this material.



THE NEW WORLD OF RECYCLING

Residents and businesses are generating and disposing of more material every year.

The turbulence that characterized the 2018 recycling export markets shows no signs of stabilizing. The shift in overseas disposal of recovered materials began in 2013 when China implemented the **Green Fence** customs crackdown to enforce import regulations. The **National Sword** movement followed. It brought inspections and assessments of recovered material quality, imposed strict contamination limits and banned illegal imports of recovered materials into China. The result is a dramatic slowing of shipments of recovered materials to China and Southeast Asian countries and an increase in stockpiling and landfilling recyclables in the United States.

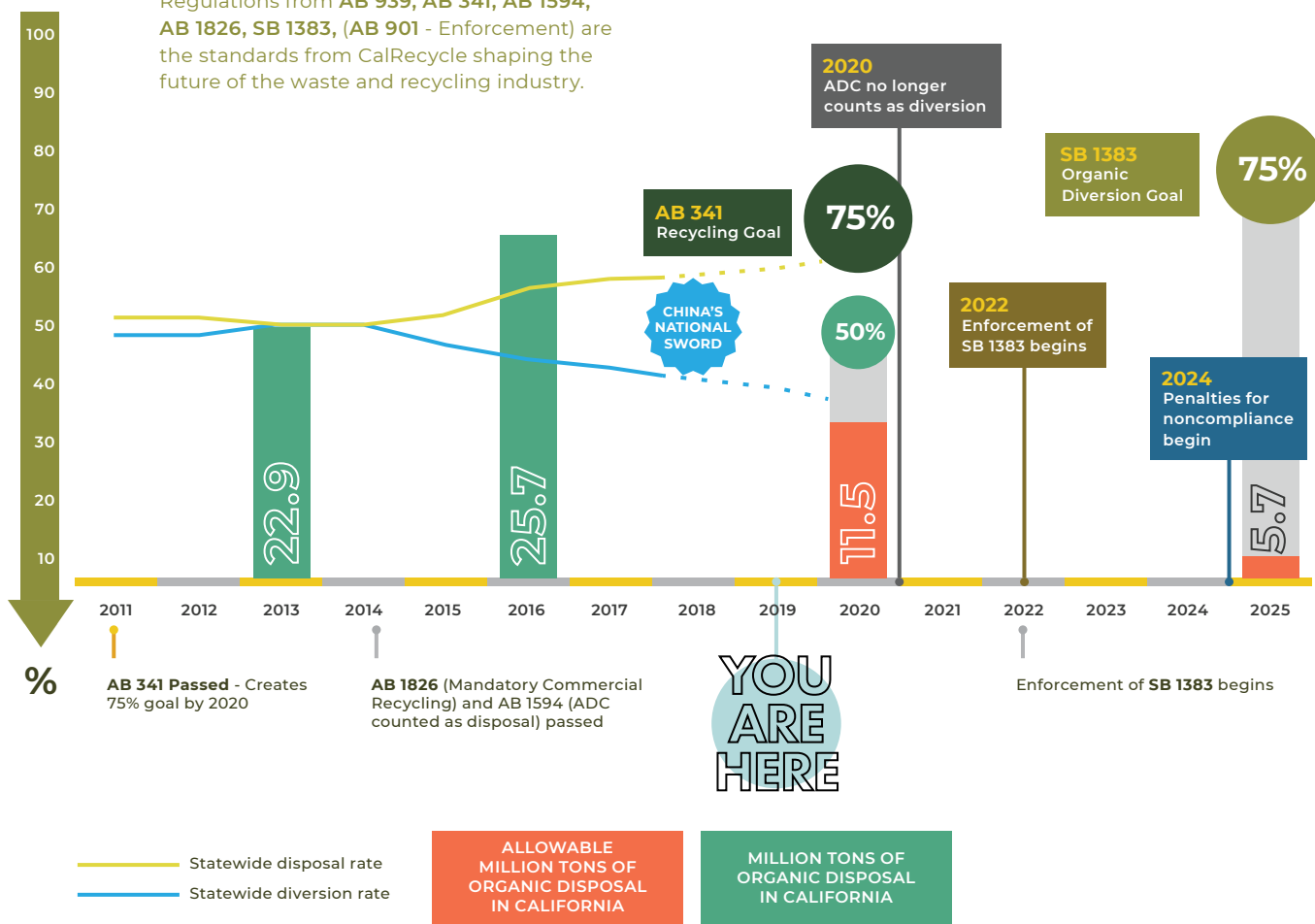
In March, China announced Blue Sky 2018. Aimed at enforcing import restrictions and eliminating scrap imports, it continues the transformation launched by Green Fence and National Sword. Recycling rates continue to decline in California and the United States. With the instability of international markets for recyclable materials, California's exported recyclables have decreased by almost two million tons, or about 11 percent, in the last three years. California's recycling rate in 2017 was 42 percent, which is a continuation of the recycling rate decline since the peak of 50 percent in 2014.

The state's waste management system is facing major challenges. Residents and businesses are generating and disposing of more material every year; 2017 marked the fifth consecutive year of disposal rate increases. International markets are no longer a viable strategy for recycling. The current lack of infrastructure for domestic manufacturing of recycled materials is limited and crucial to California meeting its 75 percent statewide recycling goal.

BUILDING A REGIONAL APPROACH

SB 1383 surpasses AB 939 as California's next aggressive and industry-changing legislation.

Regulations from **AB 939, AB 341, AB 1594, AB 1826, SB 1383, (AB 901 - Enforcement)** are the standards from CalRecycle shaping the future of the waste and recycling industry.



YOU ARE HERE

WASTE CHARACTERIZATION STUDY

In 2018 CalRecycle launched a statewide waste characterization study to better understand the types and amounts of materials disposed in and diverted from California's waste stream. Because California's waste management system has changed significantly in recent years (and will continue to evolve), CalRecycle adjusted its methodology to be facility-based, rather than conducted at sources of waste generation. OCWR's Frank R. Bowerman and Olinda Alpha Landfills were recruited to be sampling sites and participated in the study. By providing up-to-date information to CalRecycle, OCWR will help CalRecycle determine where changes are needed and help guide strategies to reach new recycling and diversion goals in 2020 and beyond.



CHANGING



California leads the nation in environmental legislation based on initiatives designed to protect people and natural resources.

LANDSCAPE

Our goal is to contribute to the local infrastructure and build composting operations at all the OC landfills.

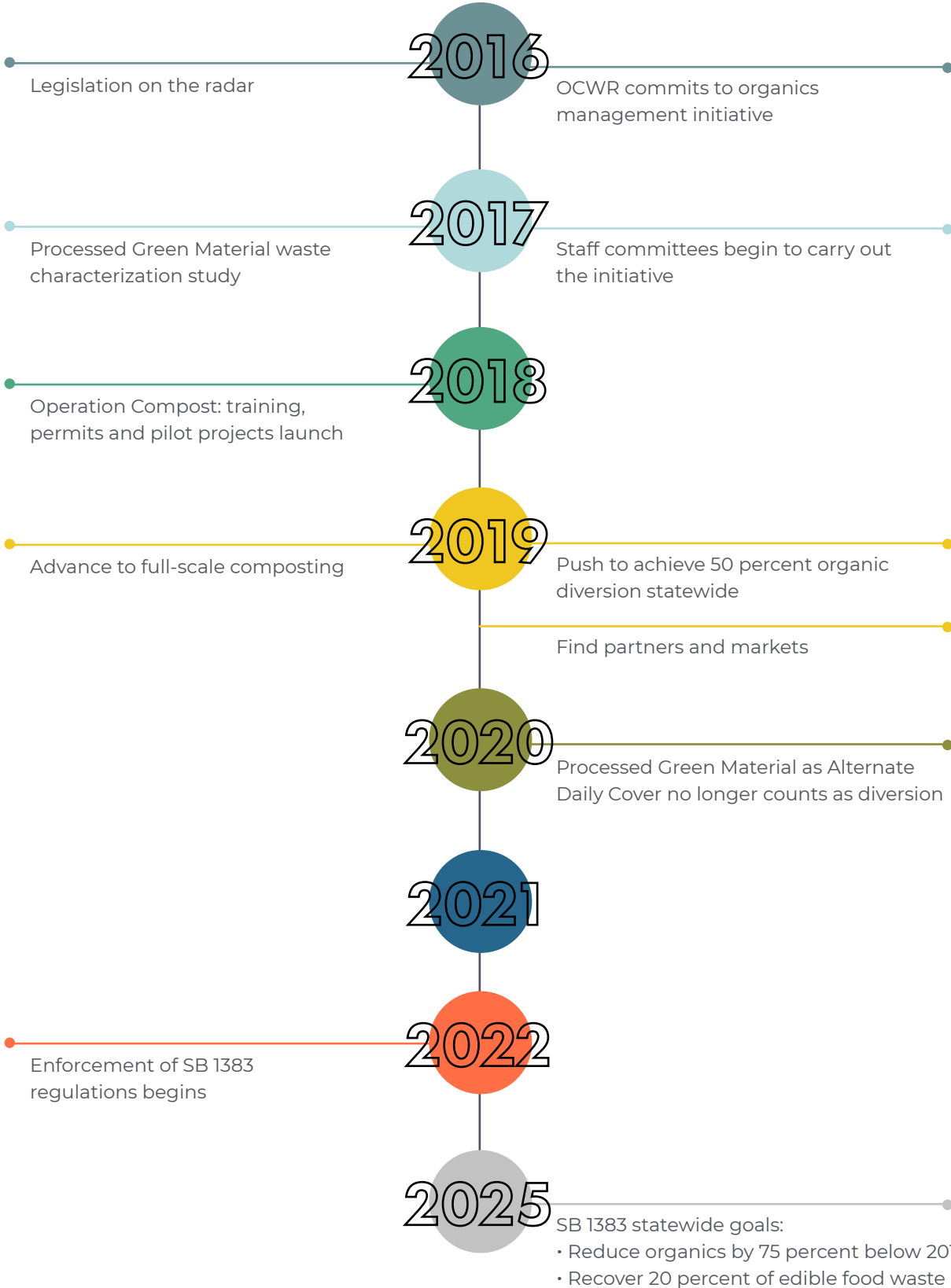
Recycling is among these initiatives and the newest legislation expands recycling to the diversion of organic waste.

Orange County is a primary target of this legislation (AB 1594 and SB 1383) because haulers bring more processed green waste to OC's landfills than any county in the state. Prior to the legislation, OCWR could accept it for free, and the generating cities received diversion credit. That credit goes away in 2020.

Given OCWR's role as the regional leader, **our goal is to build composting operations at all the OC landfills.** In 2018, OCWR launched composting pilot projects at all three landfill sites. The year was a time of research, discovery and training—all toward development of commercial-scale composting programs to help the County and cities to meet the new organics diversion mandates in 2020.



OCWR'S TIMELINE FOR IMPLEMENTATION OF ORGANICS MANAGEMENT TO HELP ORANGE COUNTY JURISDICTIONS MEET STATEWIDE GOALS AS MANDATED BY SB 1383.





LANDFILL GAS TO RENEWABLE NATURAL GAS



OCWR continues to develop infrastructure to transition our landfills into resource recovery facilities. Central to this effort is transforming landfill gas to renewable energy. In 2018, The Gas Technology Institute, through a California Energy Commission grant, began onsite installation of an innovative landfill gas-to-biomethane pilot project at one of our closed landfills, Coyote Canyon. OCWR also entered into an option agreement with FuelCell Energy, Inc. to develop a new renewable energy project at the same site.

Further south, OCWR began preparing for the Prima Deshecha Landfill gas-to-electricity plant shutdown in 2022 by initiating a renewable technologies master plan to optimize energy redevelopment.

DOWNLOAD RENEWABLE ENERGY FACT SHEET →





WE LIVE IN A TIME WHERE INFORMATION IS PLENTIFUL, AND WE ARE SATURATED WITH TRADITIONAL AND DIGITAL MEDIA.

It can be challenging to know what information is accurate and when to pay attention. In 2018, we provided engaging, meaningful and lifelong learning through innovative community outreach programs.



GROWING TOGETHER



COMMUNITY ENGAGEMENT

One example of successful community outreach was OCWR's inaugural Earth Day Open House held at our Prima Deshecha site and co-hosted by Fifth District Supervisor, Lisa Bartlett. The first-time event drew **more than 350 guests**, and offered landfill tours and **more than 20 information and activity booths**, which included a landfill heavy equipment display, a guide to proper disposal of household hazardous waste and a make-your-own composting bin station. Former Anaheim Ducks player Bryan Allen was on hand to sign autographs and talk about the team's commitment to environmental stewardship.



2,400

PEOPLE REACHED BY OUR SPEAKERS BUREAU

through educational presentations to educational, municipal and community organizations.

400,000

VISITORS AT THE DISCOVERY CUBE ORANGE COUNTY ECOCHALLENGE EXHIBIT IN 2018

Discovery Cube also brought classroom programs to more than 3,000 5th- and 6th-grade students across Orange County community organizations.



434

HOURS INVESTED BY OCWR AMBASSADORS IN 18 COMMUNITY EDUCATION AND OUTREACH PROGRAMS

LANDFILL TOUR PROGRAM PROVIDED

106

TOURS TO 1,400+ RESIDENTS



We continued our robust education marketing program.

We continued our robust education marketing program through partnerships with the Anaheim Ducks and Los Angeles Angels, which includes OC Waste & Recycling inserts in Kids Club Kits and 5K races, player signings at OCWR events, interior and exterior signage, radio and social media promotion.

OCWR's social media presence received a makeover in 2018, and now uses multiple platforms and dynamic graphics and video to spread educational and informative messaging on waste and recycling. 2018 marked the first time OCWR used social media exclusively to promote National Drive-Thru Day, which included live videos from OCWR staff on the innovative services offered by our Household Hazardous Waste Collection Centers.



WASTE REDUCTION AND RECYCLING

In 2018, six organizations in Orange County received funding from the Regional Recycling and Waste Reduction Grant program, which is funded by the AB 939 Self-Haul Surcharge. The grant finances programs to support compliance with state-mandated organic waste diversion goals.

2018 grant recipients and their programs:

CITY OF ANAHEIM: Commercial food recovery and organics program.

INSIDE THE OUTDOORS: Composting and food recovery educational outreach program.

DISCOVERY CUBE: Organics recycling and composting educational outreach program.

CITY OF IRVINE: Commercial food recovery and organics collection program.

KATELLA HIGH SCHOOL: School recycling and composting program.

COSTA MESA SANITARY DISTRICT: Residential organics recycling program.

WASTE NOT OC COALITION: Helping resolve food insecurity by recovering edible food.

These unique and innovative programs reflect OCWR's commitment to promoting creativity and forward-thinking in how we reduce waste in our landfills, especially compostable waste.



GOOD NEIGHBOR



OCWR employs a Good Neighbor approach in responding to residents in communities adjacent to the landfills. This includes compliance-plus, meaning the sites go above and beyond the minimum standards established by regulators. For example, we researched the possibility of moving operations between two active fill areas to account for weather and wind patterns in order to have the least impact on our neighbors.

We also launched a mobile-friendly tool, the Neighbor Support Portal. It enables residents to contact over a dozen key management and site staff members at any of our locations, and receive a response almost immediately. And we integrated our Speakers Bureau program into the system, streamlining the response time and making it easier to track.





AWARDS

OCWR earned four awards highlighting outstanding programs and projects recognizing innovations, world-class operations, teamwork, creativity, partnerships and collaboration. This year brought OCWR to an impressive 40 awards since the agency began tracking its accomplishments.



**YORBA PARK REVITALIZATION:
MAXIMIZING PUBLIC HEALTH, SAFETY
AND ENJOYMENT**
Parks and Recreation Category



**COMPLIANCE ALERT & REPORTING
SYSTEM (CARS)**
Risk & Emergency Management Category
(in partnership with OCIT)



**GOLD AWARD LANDFILL MANAGEMENT
EXCELLENCE**
Prima Deshecha Landfill



**OUTSTANDING WASTE
PREVENTION AWARD**
Regional Waste Reduction
Grant program



2018 YEAR IN REVIEW





JAN

ORGANICS INITIATIVE

activity gets underway as committee members visit Miramar Greenery facility to observe composting operations.



REMOTE PILOT AIRMAN CERTIFICATION

Select OCWR staff complete Remote Pilot Airman Certification and implement a first-of-its-kind drone program at the landfills.

FEB

BOARD OF SUPERVISORS

approves release of waste diversion grants.



FAUX TREE CELL PHONE TOWERS

OCWR builds a view shed and installs a permanent faux tree cell phone tower to enhance site aesthetics for neighbors of Coyote Canyon Landfill.



MAR



OCWR launches composting demonstration projects at all three landfill sites – feedstock arrives, operations and compliance protocols in place, process begins.

OCWR STAFF ATTEND TRAINING COURSE

OCWR staff attend the US Composting Council's Compost Operations Training Course in Davis, CA. for instruction on the art and science of commercial-scale compost production.

APR

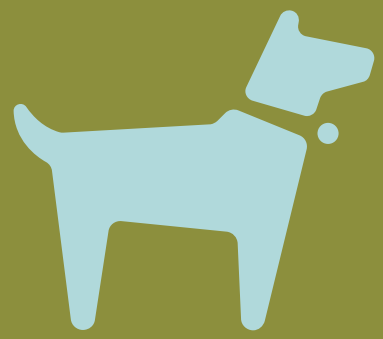
350+

More than 350 community members attend the inaugural Earth Day Open House and Environmental Fair.



YORBA DOG PARK

OCWR joins grand reopening of Yorba Dog Park, following a multi-year effort to renovate and upgrade the long-since closed landfill site.





MAY

PRIMA DESHECHA LANDFILL

breaks ground on Phase D excavation and liner project, which extends the capacity of Zone 1 by 13.2 million cubic yards.



OCWR RECEIVES TWO HONORS FROM NACO for the Yorba Park Revitalization and for the Compliance Alert & Reporting System (CARS) in partnership with OCIT.

KTLA CHANNEL 5 NEWS produces and airs a segment about OCWR's bird abatement program, showcasing OC Landfills' environmental stewardship and protection measures.



JUN

ORANGE COUNTY LANDFILLS: TALKING TRASH

OC Grand Jury releases report that offered five findings, two recommendations and a commendation.

[READ REPORT](#) →



JUL

CONSTRUCTION CREWS UNCOVER FOUR to SEVEN MILLION-YEAR-OLD WHALE FOSSIL

while excavating Phase D at Prima Deshecha Landfill.

BASIN C

Olinda Alpha Landfill starts construction of Basin C, which is approximately 2.4 acres and holds 9.8 million gallons of water.

AUG

OCWR PRODUCES THE FIRST BATCHES OF COMPOST

from its compost demonstration projects. OCWR moves forward to develop conceptual plans for commercial-scale organic processing facilities at each of the landfill sites to provide regional solutions to divert organics.



ECOCHALLENGE

Los Angeles Angels player Keynan Middleton takes the EcoChallenge at the updated exhibit at the Discovery Cube OC with fans and community members.

DINE AT THE DUMP raises nearly \$5,000 for the County's United Way campaign.

CREWS COMPLETE PHASE VIII B-2 AT THE FRANK R. BOWERMAN LANDFILL

When at capacity, Phase VIII B-2 will hold more than 11 million tons of trash and will generate approximately \$500 million of revenue.



SEPT

OCT

LANDFILL HEAVY EQUIPMENT SIMULATORS

arrive at Frank R. Bowerman Landfill to train operators under any weather conditions and provide realistic training experience.



NOV

ANAHEIM DUCKS PARTNER WITH OCWR

to promote recycling throughout OC and celebrate America Recycles Day at the Honda Center.



PRIMA DESHECHA LANDFILL EXTENDS CLOSURE DATES

San Juan Capistrano and OCWR enter into a new, updated cooperative agreement that extends the Prima Deshecha Landfill closure dates and continues to provide valuable services to the community.

DEC



PASSING CRITICAL LEA INSPECTIONS

Hard work by staff and world-class mitigation efforts contribute to all three sites passing critical LEA inspections, despite multiple days of heavy rains and extremely high winds.

DONALD R. FROELICH elected chair and **CHERYL BROTHERS** elected vice chair of Waste Management Commission.



FORECAST

10-YEAR

FINANCIAL



\$162,253,000

OPERATING REVENUES

\$126,036,000

OPERATING EXPENSES

2018

10-YEAR

FORECAST

FINANCIAL

ST



OC WASTE & RECYCLING

Ten-Year Financial Forecast

HIGHLIGHTS OF TEN-YEAR FINANCIAL FORECAST

OC Waste & Recycling is responsible for the administration and management of Orange County's solid waste disposal system. The Department is organized as an enterprise fund and is primarily supported by revenues from disposal fees that are charged to customers. OC Waste & Recycling receives no tax revenues or County General Fund contributions to support its operations.

OC Waste & Recycling is exploring new technologies and alternatives in waste management and converting landfill gas into beneficial sources of energy in response to a future focused on minimizing waste, increasing recycling, and utilizing renewable energies. Although landfilling continues to be an essential public service, the Department recognizes the need to broaden its waste management services to provide a valuable and reliable resource to the residents and businesses in the County of Orange for future generations.

The 10-Year Financial Forecast included in this Annual Report is for FY 2018/19 through FY 2027/28. The projected tonnage reflects the recent trend of increasing tonnage due to higher population, economic growth, and the decline in the recycling. The tonnage forecast also includes anticipated impacts from increasing recycling diversion goals, legislation in greenhouse gas reduction, organics recycling legislation, and the assumption that the Olinda Alpha Landfill in Brea will close by December 31, 2021.

Forecasted system revenues reflect the increasing trend in tonnage and current royalties from renewable energy and rent collected from the use of OC Waste & Recycling's properties. Net importation revenue sharing to the County is expected in the range of \$8 million a year, and the same amount going to Orange County cities. However, with the assumption that the Olinda Alpha Landfill will close in December 2021, net importation revenue sharing is expected to end in FY 2021/22, prior to June 30, 2025 (the expiration date of Amendment I to the Waste Disposal Agreements), because In-County disposal is anticipated to exhaust the permitted capacity of the County's two remaining active landfills at that time. (Table B. Forecasted System Revenues).

Forecasted system expenses include significant capital project costs related to the future development of the landfill system, equipment and infrastructure for organic composting facilities, and estimated costs for research and development of other alternatives for waste management and renewable energies (Table C. Forecasted System Expenses). Expenses are projected to be higher than revenues in the years with large capital projects (CHART 2). OC Waste & Recycling will strategically utilize reserves, maximize operational efficiencies, monitor expenditures, and capitalize on renewable energy opportunities to decrease the shortfall.

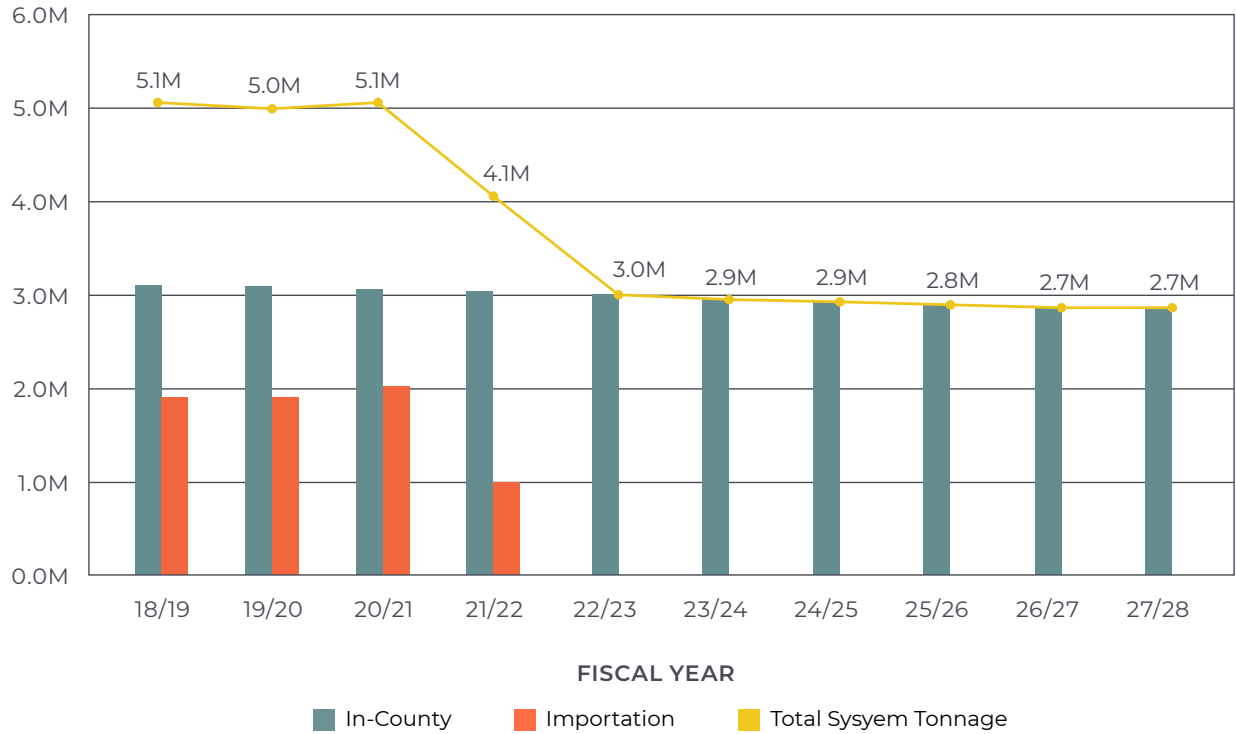
The schedule following CHART 1 and CHART 2 provides a two-year summary of audited financial data for fiscal years ending June 30, 2018 and 2017, respectively. In addition, detailed schedules for tonnage, revenues, expenses, cash balances and accrued closure and postclosure liabilities for the 10-year forecast period are presented in Exhibits A through G.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

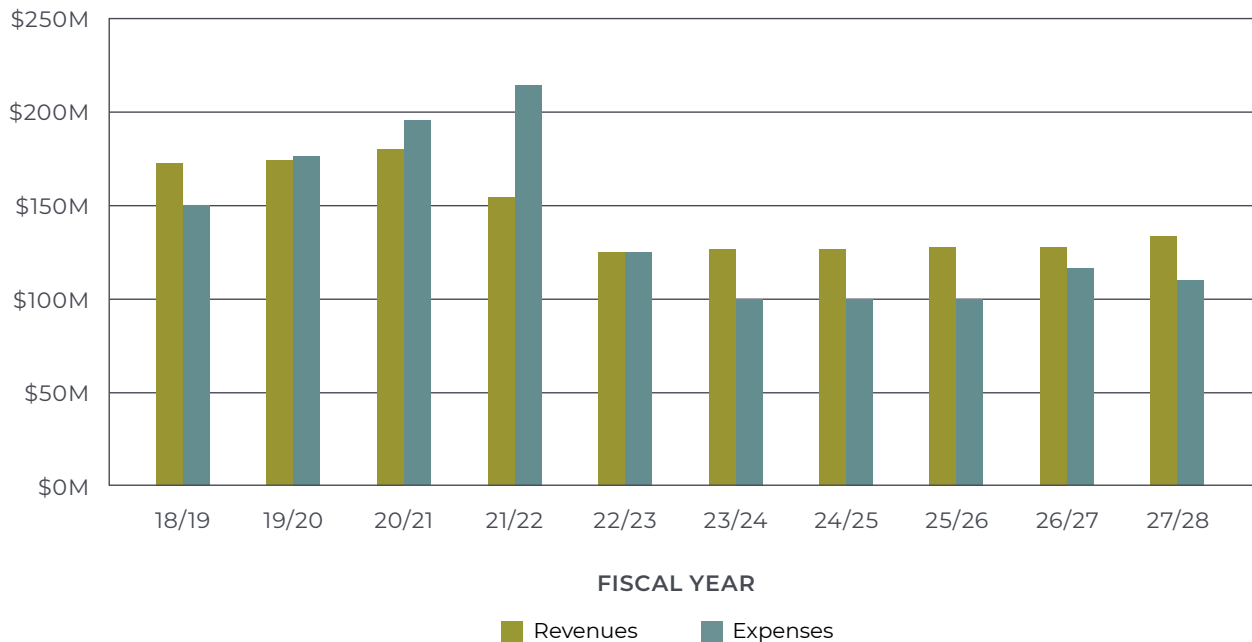
SYSTEM TONNAGE

CHART 1



SYSTEM FINANCIAL PROJECTIONS - FUNDS 273, 295 AND 299

CHART 2



OC WASTE & RECYCLING

Ten-Year Financial Forecast

TONNAGE & AUDITED FINANCIAL DATA FOR FISCAL YEARS ENDING JUNE 30, 2018 & 2017

DISPOSABLE WASTE TONNAGE ^[1]

	6/30/2018	6/30/2017
In-County	3,168,700	3,049,955
Importation	1,811,084	1,759,885
Total System Tonnage	4,979,784	4,809,840

STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN FUND NET POSITION FOR THE YEARS ENDED JUNE 30, 2018 & 2017 ^[2]

	6/30/2018	6/30/2017
Total Revenues	\$ 168,105,374	\$ 153,800,468
Total Expenses	\$ 136,793,455	\$ 131,430,537
Change in Net Position	\$ 31,311,919	\$ 26,615,670

CASH BALANCES ^[3]

	6/30/2018	6/30/2017
Enterprise/Operating Fund	\$ 158,709,074	\$ 179,601,305
Capital Project Fund	\$ 45,255,617	\$ 16,922,983
Corrective Action Escrow Fund	\$ 8,256,097	\$ 8,256,097
Environmental Reserve Fund	\$ 58,797,673	\$ 58,599,196
Deferred Payment Security Deposits Fund	\$ 689,894	\$ 646,548
Habitat Mitigation Escrow Funds	\$ 983,289	\$ 983,289

ACCRUED CLOSURE AND POSTCLOSURE ^[3]

	6/30/2018	6/30/2017
Landfill Closure Liabilities	\$ 65,768,354	\$ 60,398,582
Landfill Postclosure Liabilities	\$ 100,217,293	\$ 98,082,004
Escrow Funds (Closure) Cash Balance	\$ 89,834,695	\$ 89,122,820
Landfill Postclosure Cash Balance	\$ 128,932,206	\$ 132,325,080

[1] Source: Disposal Reporting System (DRS) Monthly Tonnage Reports.

[2] Source: OC Waste & Recycling 2018 Audited Financial Statements and Trial Balance.
(Varinek, Trine, Day & Co., LLP - VTD Certified Public Accountants)

Source: OC Waste & Recycling 2017 Audited Financial Statements and Trial Balance.
(Macias Gini & O'Connell LLP - MGO Certified Public Accountants)

[3] Source: 2nd Close Figures obtained from County financial system reports.

2nd Close Figures include adjustments and reclassifications to the General Ledger subsequent to the official June 30 year-end close.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

A. FORECASTED SYSTEM TONNAGE

DESCRIPTION	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Frank R. Bowerman Landfill	1,583,721	1,579,000	1,560,782	2,083,313	2,582,298
Olinda Alpha Landfill	1,154,464	1,146,000	1,112,230	554,711 ^[1]	0
Prima Deshecha Landfill	423,343	420,000	414,947	406,375	397,774
Total In-County Tonnage	3,161,528	3,145,000	3,087,959	3,044,398	2,980,072
Frank R. Bowerman Landfill	883,009	880,000	881,017	439,921	0
Olinda Alpha Landfill	902,008	900,000	1,015,034	519,774	0
Prima Deshecha Landfill	127,925	120,000	120,138	59,989	0
Total Imported Tonnage	1,912,942	1,900,000	2,016,189	1,019,684	0
Total System Tonnage^[3]	5,074,470	5,045,000	5,104,148	4,064,082 ^[2]	2,980,072
DESCRIPTION	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Frank R. Bowerman Landfill	2,526,376	2,469,979	2,413,658	2,356,846	2,371,023
Olinda Alpha Landfill	0	0	0	0	0
Prima Deshecha Landfill	389,143	380,438	371,744	362,976	365,165
Total In-County Tonnage	2,915,519	2,850,417	2,785,402	2,719,822	2,736,188
Frank R. Bowerman Landfill	0	0	0	0	0
Olinda Alpha Landfill	0	0	0	0	0
Prima Deshecha Landfill	0	0	0	0	0
Total Imported Tonnage	0	0	0	0	0
Total System Tonnage^[3]	2,915,519	2,850,417	2,785,402	2,719,822	2,736,188

[1] Olinda Alpha Landfill is currently scheduled to close in December 2021. In-County tonnage to Olinda is projected to be diverted to Frank R. Bowerman Landfill after its closure.

[2] Due to daily capacity limits at Frank R. Bowerman Landfill and Prima Deshecha Landfill, importation tonnage will end if Olinda Alpha Landfill closes in December 2021.

[3] System tonnage projection for the forecasted period is higher than the projection in the 2017 Annual Report due to the recent trend of higher tonnage at the landfills and higher population/economic growth.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

B. FORECASTED SYSTEM REVENUES

DESCRIPTION	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Fund 299 Enterprise /					
Operating - Total Revenues	\$ 116,781,000	\$ 119,259,000	\$ 121,014,000	\$ 121,957,000	\$ 123,810,000
Fund 273 Capital Project /					
Operating - Total Revenues ^[1]	\$ 500,000	\$ 400,000	\$ 123,000	\$ 599,000	\$ 829,000
Fund 295 Importation Revenue					
Sharing - Total Revenues	\$ 52,846,000	\$ 52,585,000	\$ 56,916,000	\$ 29,447,000 ^[2]	\$ -
Total Projected Revenues	\$ 170,127,000	\$ 172,127,000	\$ 178,053,000	\$ 152,003,000	\$ 124,639,000

DESCRIPTION	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fund 299 Enterprise /					
Operating - Total Revenues	\$ 125,617,000	\$ 125,428,000	\$ 126,444,000	\$ 127,535,000	\$ 131,710,000
Fund 273 Capital Project /					
Operating - Total Revenues ^[1]	\$ 225,000	\$ 69,000	\$ 108,000	\$ 6,000	\$ 153,000
Fund 295 Importation Revenue					
Sharing - Total Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
Total Projected Revenues	\$ 125,842,000	\$ 125,497,000	\$ 126,552,000	\$ 127,541,000	\$ 131,863,000

[1] Interest earnings is the only revenue generated by Fund 273.

[2] Due to daily capacity limits at Frank R. Bowerman Landfill and Prima Deshecha Landfill, importation tonnage will end if Olinda Alpha Landfill closes in December 2021.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

C. FORECASTED SYSTEM EXPENSES

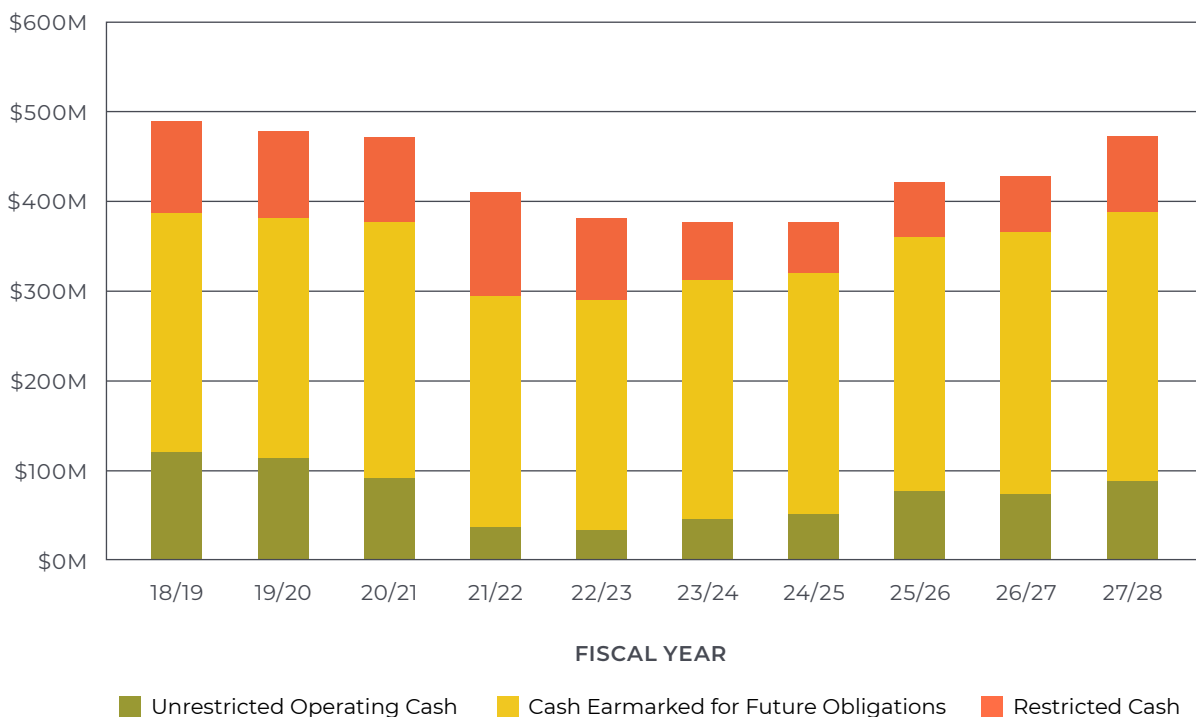
SYSTEM EXPENSES BY FUND	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Fund 299 Enterprise / Operating	\$ 112,243,000	\$ 129,114,000	\$ 116,904,000	\$ 133,662,000	\$ 113,332,000
Fund 273 Capital Project / Operating	\$ 14,987,000	\$ 24,050,000	\$ 54,382,000	\$ 72,281,000	\$ 11,704,000
Fund 295 Importation Revenue Sharing	\$ 21,682,000	\$ 22,795,000	\$ 22,948,000	\$ 11,817,000	\$ - ^[1]
Total System Expenses	\$ 148,912,000	\$ 175,959,000	\$ 194,234,000	\$ 217,760,000	\$ 125,036,000

SYSTEM EXPENSES BY FUND	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fund 299 Enterprise / Operating	\$ 98,419,000	\$ 98,414,000	\$ 98,977,000	\$ 104,421,000	\$ 103,985,000
Fund 273 Capital Project / Operating	\$ 904,000	\$ 2,104,000	\$ 829,000	\$ 17,004,000	\$ 10,004,000
Fund 295 Importation Revenue Sharing	\$ -	\$ -	\$ -	\$ -	\$ -
Total System Expenses	\$ 99,323,000	\$ 100,518,000	\$ 99,806,000	\$ 121,425,000	\$ 113,989,000

[1] Due to daily capacity limits at Frank R. Bowerman Landfill and Prima Deshecha Landfill, importation tonnage will end if Olinda Alpha Landfill closes in December 2021.

D. FORECASTED CASH BALANCES

CASH BALANCES



OC WASTE & RECYCLING

Ten-Year Financial Forecast

D. FORECASTED CASH BALANCES (CONTINUED)

ENDING CASH BALANCES	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Fund 299 - OCWR Operating Fund	\$ 114.7M	\$ 120.2M	\$ 89.0M	\$ 27.7M	\$ 23.2M
Fund 273 - Capital Project Fund	\$ 21.4M	\$ 13.7M	\$ 5.6M	\$ 5.6M	\$ 5.6M
TOTAL UNRESTRICTED OPERATING CASH	\$ 136.2M	\$ 133.9M	\$ 94.6M ^[1]	\$ 33.3M ^[1]	\$ 28.9M ^[1]
Fund 299 - Operating Cash Earmarked for Future Use	\$ 55.1M	\$ 61.9M	\$ 67.8M	\$ 47.8M	\$ 40.8M
Fund 275 - Environmental Reserves Fund	\$ 59.8M	\$ 51.2M	\$ 80.0M ^[2]	\$ 80.0M	\$ 80.0M
Fund 279 - Postclosure Maintenance Fund	\$ 128.5M	\$ 124.4M	\$ 120.0M	\$ 135.9M	\$ 136.1M
TOTAL CASH EARMARKED FOR FUTURE OBLIGATIONS	\$ 243.4M	\$ 237.5M	\$ 267.8M	\$ 263.7M	\$ 256.9M
Fund 276 - Deferred Payment Security Deposits	\$ 0.7M	\$ 0.7M	\$ 0.7M	\$ 0.7M	\$ 0.7M
Fund 274 - Corrective Action Escrow Fund	\$ 8.5M	\$ 8.6M	\$ 8.8M	\$ 9.0M	\$ 9.1M
Fund 288 - FRB Landfill Wetland Creation and Agua Chinon Wash Riparian Restoration and Enhancement Mitigation Sites Escrow Fund	\$ 1.0M	\$ 1.0M	\$ 0.9M	\$ 0.9M	\$ 0.9M
Fund 272 - Prima Deshecha Landfill and the La Pata Avenue Gap Closure Escrow Fund	\$ 0.1M	\$ 0.1M	\$ - ^[3]	\$ -	\$ -
Fund 286 - Olinda Alpha Closure Escrow Fund	\$ 40.0M	\$ 40.8M	\$ 41.5M	\$ 43.8M	\$ 21.7M ^[4]
Fund 284 - Frank R. Bowerman Closure Escrow Fund	\$ 30.1M	\$ 30.7M	\$ 31.2M	\$ 31.8M	\$ 32.4M
Fund 287 - Prima Deshecha Closure Escrow Fund	\$ 21.1M	\$ 21.6M	\$ 21.9M	\$ 22.3M	\$ 22.7M
TOTAL RESTRICTED CASH	\$ 101.4M	\$ 103.4M	\$ 105.1M	\$ 108.4M	\$ 87.5M
TOTAL FISCAL YEAR END CASH BALANCE	\$ 481.0M	\$ 474.8M	\$ 467.5M	\$ 405.4M	\$ 373.3M

[1] Cash balance decreases in years with large capital projects.

[2] Cash balance increases in FY 2020/21 due to reimbursements from Fund 279.

[3] Per the agreement with the California Department of Fish and Game for habitat mitigation, requirement is estimated to end in FY 2019/20.

[4] Olinda Alpha Landfill is scheduled to close in December 2021 and enter into its closure period in 2022. Escrow monies will be used for the final closure costs.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

D. FORECASTED CASH BALANCES (CONTINUED)

ENDING CASH BALANCES	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fund 299 - OCWR Operating Fund	\$ 42.3M	\$ 51.6M	\$ 73.5M	\$ 74.0M	\$ 87.6M
Fund 273 - Capital Project Fund	\$ 5.6M	\$ 5.6M	\$ 5.6M	\$ 5.6M	\$ 5.6M
TOTAL UNRESTRICTED OPERATING CASH	\$ 47.9M	\$ 57.2M	\$ 79.2M	\$ 79.6M	\$ 93.2M
Fund 299 - Operating Cash Earmarked for Future Use	\$ 44.1M	\$ 54.1M	\$ 64.0M	\$ 73.8M	\$ 92.0M
Fund 275 - Environmental Reserves Fund	\$ 80.0M	\$ 80.0M	\$ 80.0M	\$ 80.0M	\$ 80.0M
Fund 279 - Postclosure Maintenance Fund	\$ 136.2M	\$ 134.7M	\$ 132.9M	\$ 131.1M	\$ 129.1M
TOTAL CASH EARMARKED FOR FUTURE OBLIGATIONS	\$ 260.4M	\$ 268.7M	\$ 276.9M	\$ 284.8M	\$ 301.1M
Fund 276 - Deferred Payment Security Deposits	\$ 0.7M	\$ 0.7M	\$ 0.7M	\$ 0.7M	\$ 0.7M
Fund 274 - Corrective Action Escrow Fund	\$ 9.3M	\$ 9.5M	\$ 9.6M	\$ 9.8M	\$ 10.0M
Fund 288 - FRB Landfill Wetland Creation and Agua Chinon Wash Riparian Restoration and Enhancement Mitigation Sites Escrow Fund	\$ 0.9M	\$ 0.9M	\$ 0.9M	\$ ^[5]	\$ -
Fund 272 - Prima Deshecha Landfill and the La Pata Avenue Gap Closure Escrow Fund	\$ -	\$ -	\$ -	\$ -	\$ -
Fund 286 - Olinda Alpha Closure Escrow Fund	\$ ^[4]	\$ -	\$ -	\$ -	\$ -
Fund 284 - Frank R. Bowerman Closure Escrow Fund	\$ 33.0M	\$ 33.6M	\$ 34.2M	\$ 34.8M	\$ 35.4M
Fund 287 - Prima Deshecha Closure Escrow Fund	\$ 23.2M	\$ 23.6M	\$ 24.0M	\$ 24.8M	\$ 25.8M
TOTAL RESTRICTED CASH	\$ 67.0M	\$ 68.2M	\$ 69.4M	\$ 70.1M	\$ 71.9M
TOTAL FISCAL YEAR END CASH BALANCE	\$ 375.3M	\$ 394.1M	\$ 425.4M	\$ 434.5M	\$ 466.2M

[4] Olinda Alpha Landfill is scheduled to close in December 2021 and enter into its closure period in 2022. Escrow monies will be used for the final closure costs.

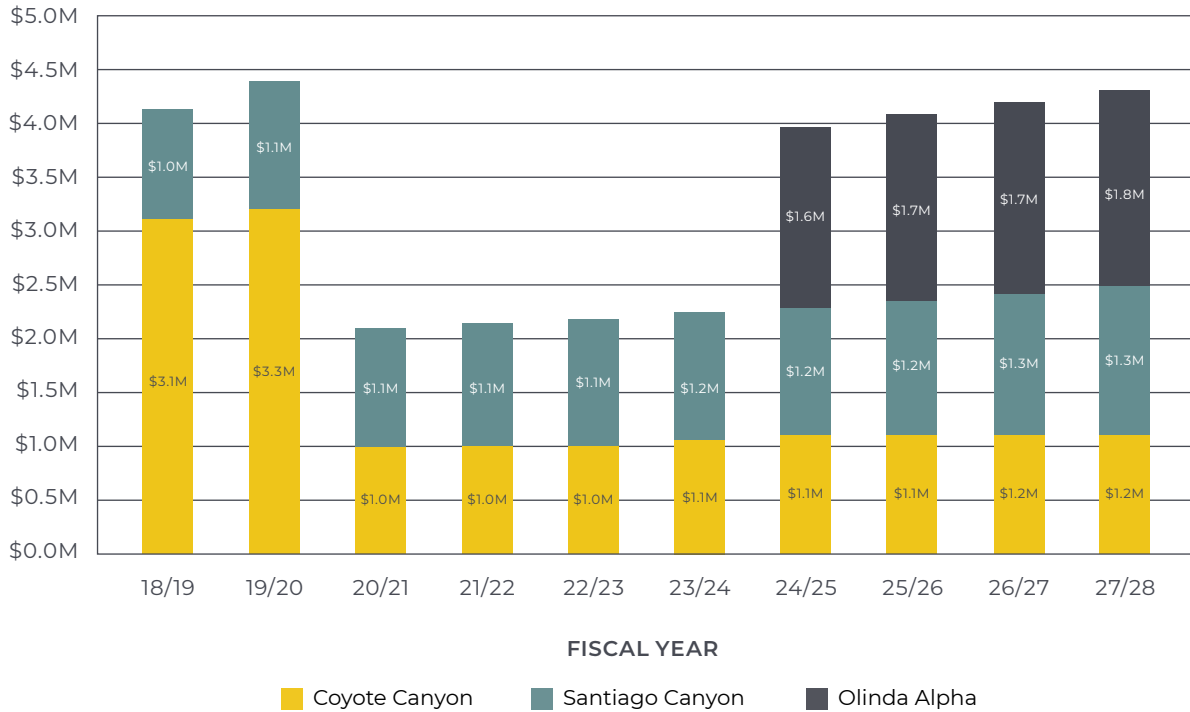
[5] Per the agreement with the California Department of Fish and Game for habitat mitigation, requirement is estimated to end in FY 2025/26.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

E. LANDFILL POSTCLOSURE MAINTENANCE FUND

ANNUAL POSTCLOSURE MAINTENANCE EXPENDITURES



- 1) FY 18/19 and FY 19/20 include expenditures for the replacement cost for the Coyote Canyon landfill gas system.
- 2) Olinda Alpha Landfill is estimated to enter into its 30-year postclosure maintenance period in FY 24/25, upon completion of the final cover.

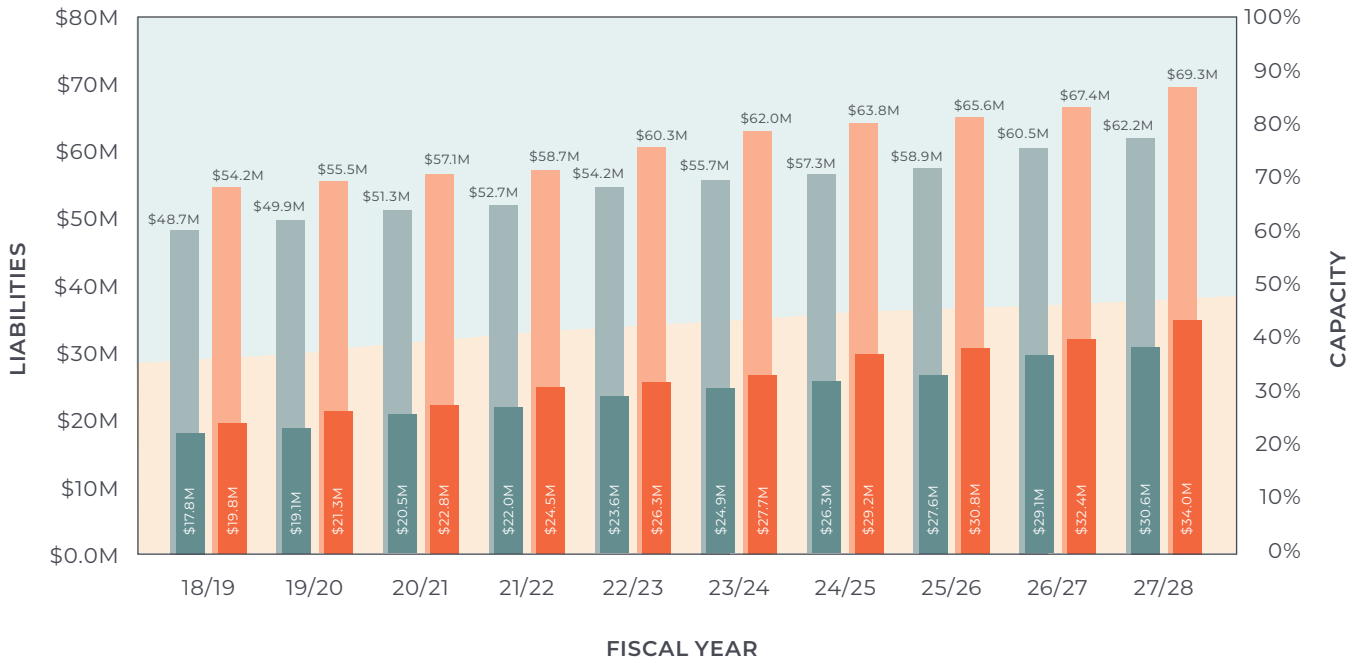
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Ten-Year Financial Forecast

F. LANDFILL CLOSURE AND POSTCLOSURE LIABILITIES

FRANK R. BOWERMAN LANDFILL CLOSURE AND POSTCLOSURE LIABILITIES

Maximum Permitted Capacity (Airspace) = 266 Million Cubic Yards



Bar Chart = Liabilities

- Estimated Total Closure Cost
- Accrued Closure Liability
- Estimated 30-Year Postclosure Cost
- Accrued Postclosure Liability

Area Chart = Capacity

- Remaining Airspace Available
- % of Airspace Filled

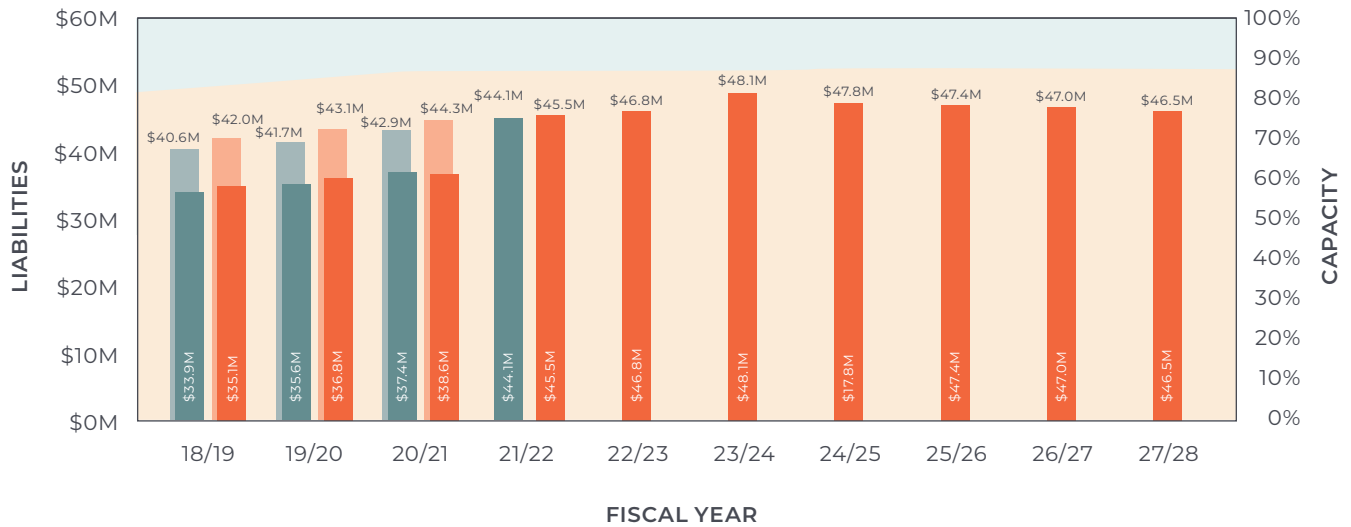
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Ten-Year Financial Forecast

F. LANDFILL CLOSURE AND POSTCLOSURE LIABILITIES (CONTINUED)

OLINDA ALPHA LANDFILL CLOSURE AND POSTCLOSURE LIABILITIES

Maximum Permitted Capacity = 148.8 MCY (Million Cubic Yards)



Bar Chart = Liabilities

- Estimated Total Closure Cost
- Accrued Closure Liability
- Estimated 30-Year Postclosure Cost
- Accrued Postclosure Liability

Area Chart = Capacity

- Remaining Airspace Available
- % of Airspace Filled

Olinda Alpha Landfill is scheduled to close in December 2021 and enter into its closure period in FY 2022/23. Closure Escrow monies for Olinda Alpha Landfill will be used for the final cover and the GASB 18 closure liability is no longer required.

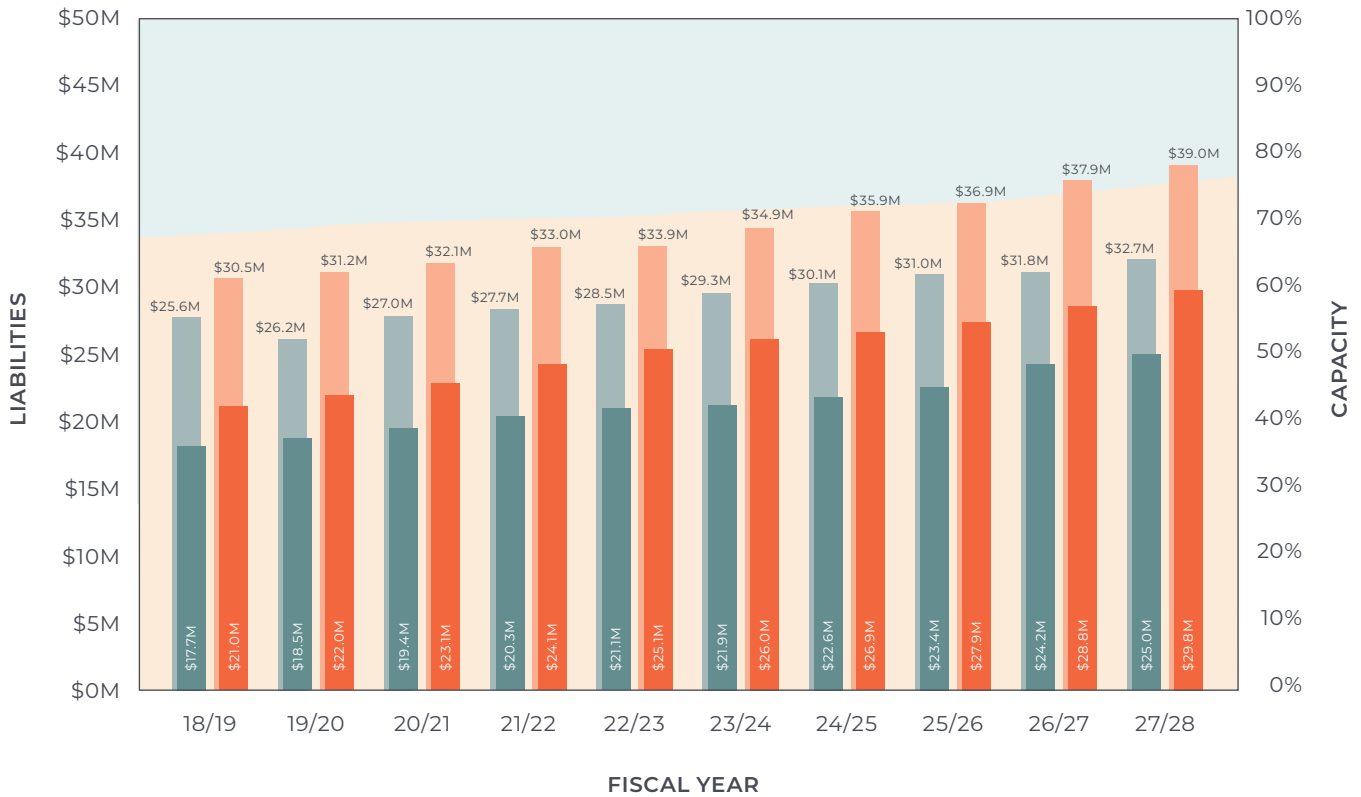
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Ten-Year Financial Forecast

F. LANDFILL CLOSURE AND POSTCLOSURE LIABILITIES (CONTINUED)

PRIMA DESHECHA LANDFILL - ZONE 1 CLOSURE AND POSTCLOSURE LIABILITIES

Maximum Permitted Capacity = 53.1 MCY (Million Cubic Yards)



Bar Chart = Liabilities

- Estimated Total Closure Cost
- Accrued Closure Liability
- Estimated 30-Year Postclosure Cost
- Accrued Postclosure Liability

Area Chart = Capacity

- Remaining Airspace Available
- % of Airspace Filled

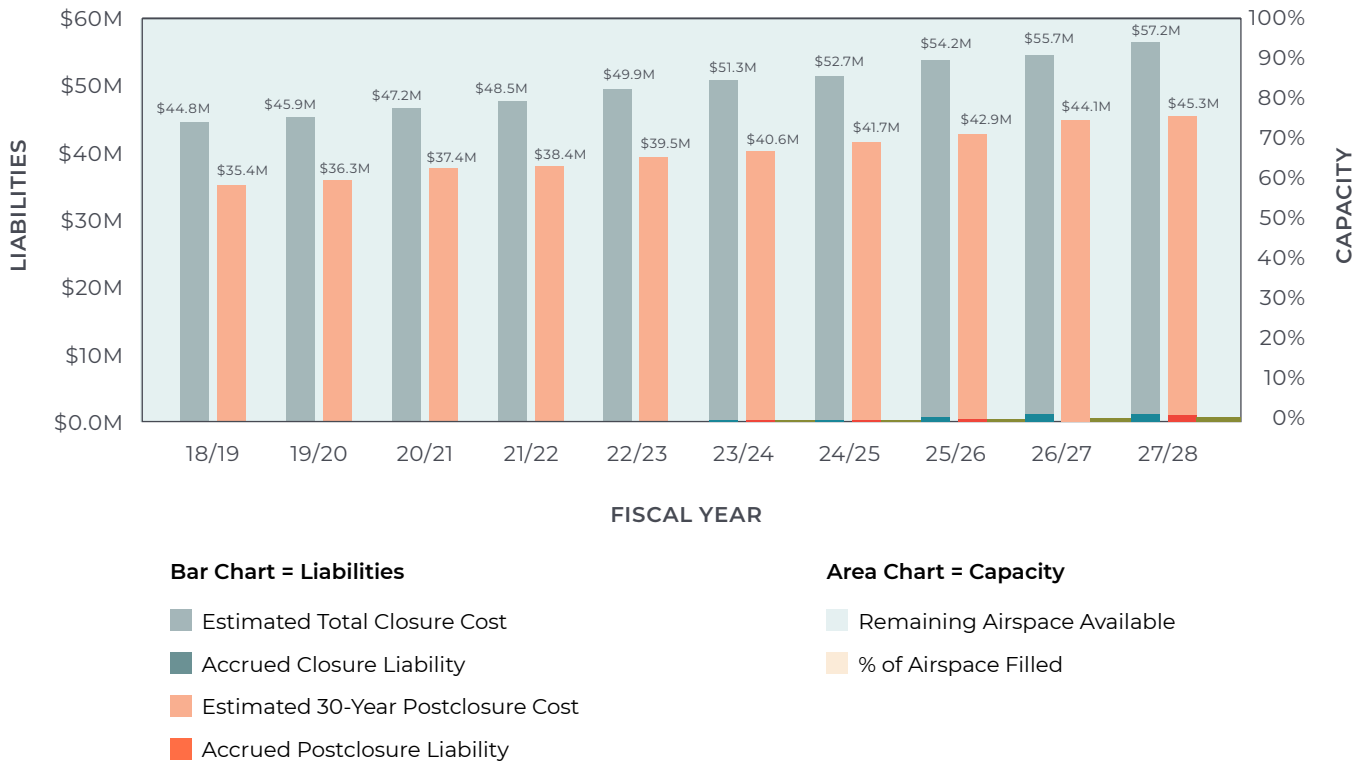
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Ten-Year Financial Forecast

F. LANDFILL CLOSURE AND POSTCLOSURE LIABILITIES (CONTINUED)

PRIMA DESHECHA LANDFILL - ZONE 4 CLOSURE AND POSTCLOSURE LIABILITIES

Maximum Permitted Capacity = 118.5 MCY (Million Cubic Yards)



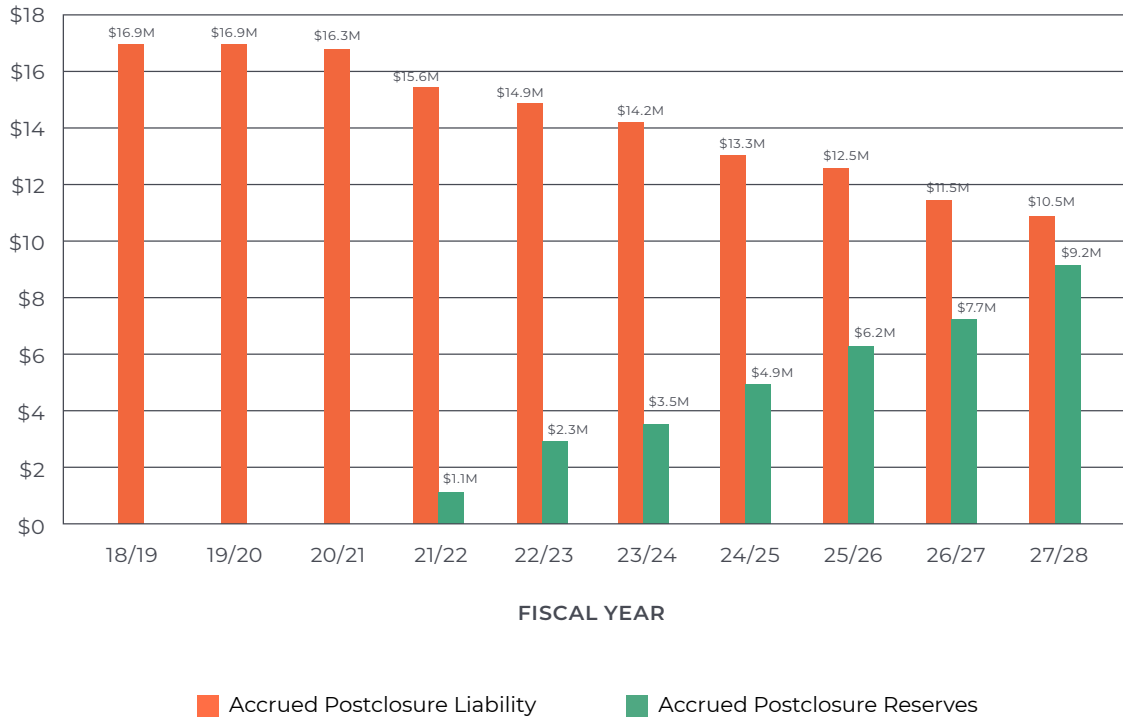
Prima Deshecha Landfill Zone 4 is estimated to start accepting waste in FY 2023/24. Accrued liabilities are required when waste is accepted.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

G. CLOSED LANDFILL POSTCLOSURE LIABILITIES & RESERVES

SANTIAGO CANYON POSTCLOSURE LIABILITY AND RESERVES



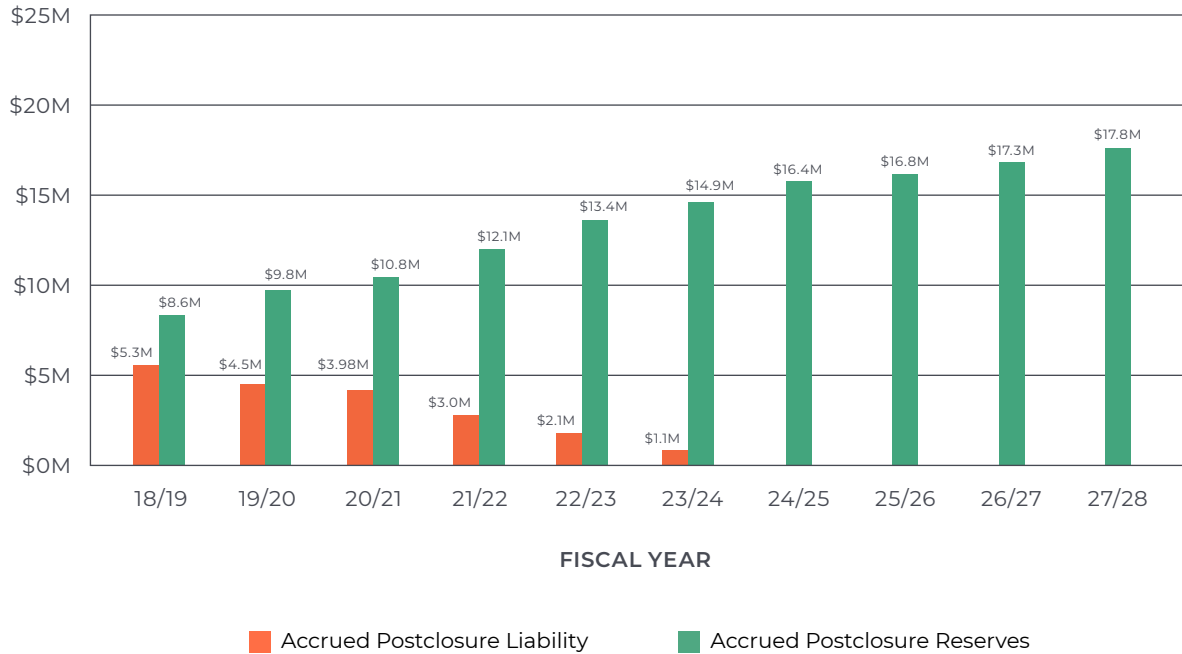
As the GASB 18 postclosure maintenance liability requirement reaches a remaining balance of 15-years of the approved annual postclosure cost estimate, OCWR will begin setting aside reserves to ensure adequate funds are available for annual postclosure maintenance costs in perpetuity. Santiago Canyon reaches its 15th year of postclosure in FY 21/22.

OC WASTE & RECYCLING

Ten-Year Financial Forecast

G. CLOSED LANDFILL POSTCLOSURE LIABILITIES & RESERVES (CONTINUED)

COYOTE CANYON POSTCLOSURE LIABILITY AND RESERVES



When the GASB 18 postclosure maintenance liability requirement reached a remaining balance of 15 years of the approved annual postclosure cost estimate, OCWR began setting aside reserves to ensure adequate funds are available for annual postclosure maintenance costs in perpetuity.



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