LMS/S07225

FY 2022
LM Site Sustainability Plan

December 2021

U.S. DEPARTMENT OF ENERGY | Legacy Management

Department of Energy
Washington, DC 20585

MEMORANDUM FOR OFFICE OF ASSET MANAGEMENT (MA-50),
SUSTAINABILITY PERFORMANCE DIVISION (MA-53)

FROM: PETER O'KONSKI
DEPUTY DIRECTOR
OFFICE OF LEGACY MANAGEMENT

Peter J. O'Konski
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SUBJECT: Concurrence of *Fiscal Year 2022 Site Sustainability Plan* for Department of Energy Office of Legacy Management (2021)

The Office of Legacy Management (LM) submitted the *Fiscal Year 2022 Site Sustainability Plan* (SSP) via the DOE Sustainability Performance Divisions Dashboard in accordance with the *Fiscal Year 2022 Site Sustainability Plan Guidance*.

This memorandum serves as the concurrence of that plan.

Please contact Tracy Ribeiro at (303) 410-4817, or Tracy.Ribeiro@lm.doe.gov, if you have any questions.

Attachment

cc w/attachment via email:
Tracy Ribeiro, DOE-LM
DOE Read File
File: E/20/2647 F/20/755

FY 2022 LM Site Sustainability Plan
Document History

Date	Description of Changes
December 2021	Updated to include fiscal year 2021 performance and fiscal year 2022 planned activities.
December 2020	Updated to include fiscal year 2020 performance and fiscal year 2021 planned activities.
December 2019	Updated to include fiscal year 2019 performance and fiscal year 2020 planned activities.
December 2018	Updated to include fiscal year 2018 performance and fiscal year 2019 planned activities.
December 2017	Updated to include fiscal year 2017 performance and fiscal year 2018 planned activities.

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Contents

Tables

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Abbreviations

AFFECT	Assisting Federal Facilities with Energy Conservation Technologies
AFV	alternative fuel vehicle
CAS	condition assessment survey
C&D	construction and demolition material and debris
CIA	Confidentiality, Integrity and Availability
COOP	Continuity of Operations
DCOI	Data Center Optimization Initiative
DOE	U.S. Department of Energy
E85	ethanol fuel blend
ECM	efficiency and conservation measure
EISA	Energy Independence and Security Act of 2007
EM	Emergency Management
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
EPEAT	Electronic Product Environmental Assessment Tool
EV	electric vehicle
EVSE	electric vehicle supply equipment
FAST	Federal Automotive Statistical Tool
FEMP	Federal Energy Management Program
ft^2	square feet
FY	fiscal year
GHG	greenhouse gas
GP	Guiding Principles
GSA	U.S. General Services Administration
GSF	gross square feet
HPSB	High Performance and Sustainable Buildings
IC	Interpretive Center
ILA	industrial, landscaping, and agricultural
ISO	International Organization for Standardization
IT	Information Technology
kW	kilowatts
LBNL	Lawrence Berkeley National Laboratory

LEED	Leadership in Energy and Environmental Design
LM	Office of Legacy Management
LMBC	LM Business Center
LMFSC	LM Field Support Center
LMOC	LM Operations Center
LMS	Legacy Management Support
MOA	memorandum of agreement
MOU	memorandum of understanding
NIST	National Institute of Standards and Technology
PAE	Project or Activity Evaluation
PMO	Program Management Office
PUE	power utilization effectiveness
REC	renewable energy credit
RTC	Riverview Technology Corporation
SF6	sulfur hexafluoride
SOARS	System Operation and Analysis at Remote Sites
SOW	statement of work
TRN	Technical Resilience Navigator
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
VARP	Vulnerability Assessment and Resilience Plan
WUI	water use intensity
YOY	year over year

Executive Summary

The Site Sustainability Plan narrative not only fulfills the requirements of DOE Order 436.1, *Departmental Sustainability*, it also summarizes the LM accomplishments during the reporting period as well as plans to further site sustainability and enhance climate mitigation efforts.

During the reporting period LM completed one major initiative towards sustainability and began planning for two more. LM completed the construction of the new Interpretive Center at the Weldon Spring, Missouri, Site. LM staff took occupancy of the building in May 2021. LM expects that the new facility will be more efficient and will decrease the site's energy and water usage. LM also initiated two more large projects that would further LM's ability to reach sustainability goals. The LM Fleet team, along with the Asset Management, Facility Management, and Engineering teams, began planning for the installation of several electric vehicle service equipment stations at three to five of the LM occupied facilities. LM facilities staff also began planning the design of a new administration building to be located at the LM Field Support Center at Grand Junction, Colorado.

By the start of fiscal year (FY) 2030, LM is projected to assume responsibility for 27 additional legacy sites. Two Uranium Mill Tailings Radiation Control Act Title II sites—the Durita, Colorado, Disposal Site and the Split Rock, Wyoming, Disposal Site—are expected to transition to LM in FY 2022. As LM receives more sites and additional scope, it will increase workers, workspace, vehicles, travel, fuel, purchases of personal property, and waste generation. Conditions of sites at transfer could vary greatly, making it difficult to predict their impact on meeting the sustainability goals and targets stated in this LM Site Sustainability Plan. Potential future activities include management of the Manhattan Project National Historical Park at the East Tennessee Technology Park. Other potential activities include taking responsibility for managing historic records that might be relocated from Germantown, Maryland, to the LM Business Center in Morgantown, West Virginia. LM is reviewing a long-term telework policy and committing to reducing leased office space by 60%. These changes would reduce the number of onsite staff considerably, which would likely reduce LM's utility use and commuter fuel use. LM will monitor the impacts to meeting sustainability goals and targets as new sites are added and scope increases, and LM will adjust its Environmental Management System accordingly.

LM continued operations in accordance with various federal, state, tribal, and local orders regarding the COVID pandemic through FY 2021. Offices were opened to allow up to a 25% capacity, but most personnel remained in a telework role.

The Legacy Management Support contract was fully transitioned to a new contractor midway through FY 2021. Many processes, procedures, personnel, and software were changed as a result, which impacted the way sustainability data is collected, reviewed, stored, and received. Sustainability team members were able to adjust to these challenges to meet this year's reporting deadlines. However, some of the current processes are not efficient, and LM will seek to improve this throughout the upcoming year.

LM succeeded at meeting or exceeding nine of the sustainability goals, including reducing nonhazardous solid waste sent to landfills, increasing the number of owned buildings that are

compliant with the Guiding Principles for Sustainable Buildings, and reaching renewable energy goals, as described in the Executive Summary "Goal Summary Table" (Table ES-1).

Summary Table of Goals/Targets

LM's reporting consists of both the FY 2021 performance data entry in the DOE Sustainability Dashboard, hereafter referred to as the Dashboard, and this FY 2022 Site Sustainability Plan (see Table ES-1).

Table ES-1. Goal Summary Table

Prior DOE Goal	Current FY Efforts	Planned Efforts	Overall Risk of Nonattainment
Energy Management			
Reduce energy use intensity (Btu per GSF) in goal-subject buildings.	LM did not meet this goal. The calculated number is skewed due to mid-year changes in building use and transition at the Weldon Spring, MO, Site.	LM will continue to pursue projects that will further reduce its energy intensity, including replacing current grid electricity with renewable sources and purchasing bundled electricity where it is cost-effective.	Medium
EISA Section 432 continuous (4-year cycle) energy and water evaluations.	LM met this goal for the energy and water evaluations. Scheduled energy evaluations were performed at the Monticello, UT, Disposal and Processing Site and the Shiprock, NM, Disposal Site. One scheduled water evaluation was performed at the Grand Junction Disposal Site, CO.	Continue the 4-year cycle of conducting energy and water evaluations on appropriate buildings.	Low
Meter individual buildings for electricity, natural gas, steam, and water, where cost-effective and appropriate.	LM met this goal. All required buildings are metered.	Continue to meet metering requirements. Ensure that buildings entering LM portfolio are metered appropriately. Investigate adding metering where cost-effective.	Low
Water Management			
Reduce potable WUI (gallons per gross square foot).	LM did not meet this goal. LM increased its potable WUI.	LM will ensure current practices to reduce potable WUI are maintained and will work toward reducing potable WUI.	Low
Reduce nonpotable freshwater consumption (gallons) for industrial, landscaping, and agricultural.	LM did not meet this goal. Nonpotable water usage was status quo for FY 2021, and there was no change from FY 2020.	Strive to reduce ILA water usage as compared to FY 2021. LM will continue to utilize and evaluate measures to reduce ILA water usage in FY 2022.	Low

Table ES-1. Goal Summary Table (continued)

Prior DOE Goal	Current FY Efforts	Planned Efforts	Overall Risk of Nonattainment
Waste Management			
Reduce nonhazardous solid waste sent to treatment and disposal facilities.	In FY 2021, LM met this reduction goal.	LM will continue to promote waste minimization at LM sites and on LM projects, and will reduce, recycle, and compost waste to divert the waste from landfills.	Medium
Reduce construction and demolition material and debris sent to treatment and disposal facilities.	In FY 2021, LM met this reduction goal.	LM will continue to promote waste minimization at LM sites and on LM projects, and will reduce, recycle, and compost waste to divert the waste from landfills.	Medium
Fleet Management			
Reduce petroleum consumption.	LM carpooled, teleworked and utilized teleconferences when available.	LM will encourage use of E85 vehicles and electric vehicles in the GSA fleet, maximize trip consolidation within Covid limitations, and video conferencing to help reduce conventional fuel use. Lack of alternative fuel and electrical infrastructure negatively impacts this goal.	High
Increase alternative fuel consumption.	LM utilized the alternative fuel center locator and GSA app to fuel E85 vehicles when available and eligible.	LM will encourage use of E85 vehicles, trip consolidation, and video conferencing to help reduce conventional fuel use. Lack of alternative fuel infrastructure negatively impacts this goal.	High
Acquire alternative fuel and electric vehicles.	LM evaluated AFVs when mission scope allowed. Electric vehicles were evaluated as well as installation of electric vehicle service equipment and infrastructure.	Based upon its current mission, LM will continue to evaluate acquiring AFVs for light-duty usage. Lack of alternative fueling infrastructure will negatively impact the goal going forward. If infrastructure is available and nearby, LM will reassess purchasing AFVs.	Medium
Clean & Renewable Energy			
Increase consumption of clean and renewable electric energy.	LM met this goal.	Investigate electric utility renewable energy efforts at all sites.	Low
Increase consumption of clean and renewable non-electric thermal energy.	LM did not install any new clean and renewable non-electric thermal energy systems.	Investigate installing solar hot water heaters where cost-effective.	Medium

Table ES-1. Goal Summary Table (continued)

Prior DOE Goal	Current FY Efforts	Planned Efforts	Overall Risk of Nonattainment
Sustainable Buildings			
Increase the number of owned buildings that are compliant with the GPs for Sustainable Buildings.	LM has successfully met the sustainable building's goal; 100% of LM's buildings comply with the GPs. LM added one new building to its portfolio when the new Weldon Spring Interpretive Center was completed in spring 2021.	At the LM Field Support Center at Grand Junction, Colorado, the Administration Building Design and Construction Project is expected to be completed in late 2024 and to comply with energy efficiency standards and the GPs. LM will continue assessing buildings > 5,000 GSF for their potential to achieve the GPs.	Low
Acquisition & Procurement			
Promote sustainable acquisition and procurement to the maximum extent practicable, ensuring all sustainability clauses are included as appropriate.	All applicable solicitations issued and resultant contracts included the appropriate provisions and clauses.	All applicable solicitations issued and resultant contracts will include the appropriate provisions and clauses.	Low
Efficiency & Conservation Measure Investments			
Implement life-cycle cost-effective efficiency and conservation measures with appropriated funds and/or performance contracts.	LM continued to pursue ECMs in FY 2021.	LM will continue to pursue ECMs in FY 2022.	Low
Electronic Stewardship			
Electronics stewardship from acquisition, operations, to end of life.	LM achieved this goal in FY 2021. LM demonstrated electronic stewardship by having the goal of managing 100% of its end-of-life electronics using environmentally sound disposition options.	LM will continue to execute established plans and procedures to manage end-of-life electronics using approved environmentally sound methods.	Low
Increase energy and water efficiency in high-performance computing and data centers.	Not applicable. LM does not manage high-performance computing and data centers.	Not applicable. LM does not manage high-performance computing and data centers.	N/A
Adaptation & Resilience			
Implement climate adaptation and resilience measures.	LM met this goal by continuing to support the agreement with LBNL to complete an assessment of LM sites and their susceptibility to climate change impacts.	Continue to support LBNL and conduct vulnerability assessments in order to draft the Vulnerability Assessment and Resilience Plan for LM focusing on primary offices, interpretive/visitor centers, and active remediation sites.	Low

Table ES-1. Goal Summary Table (continued)

Prior DOE Goal	Current FY Efforts	Planned Efforts	Overall Risk of Nonattainment
Multiple Categories			
Reduce Scope 1 & 2 GHG emissions.	Scope 1 & 2 GHG emission data is not currently available, so performance toward meeting this goal cannot be assessed. It is possible this goal was met for FY 2021 because of the reductions in the types of Scope 1 that occurred due to LM's response to the COVID pandemic.	Continue to execute established plans and procedures to reduce the various sources of Scope 1 & 2 GHG emissions.	Medium
Reduce Scope 3 GHG emissions.	Federal travel data is not currently available, so performance cannot be assessed. It is possible that this goal was met for FY 2021 because of the reductions in the types of Scope 3 travel that occurred due to LM's response to the COVID pandemic.	Continue to execute established plans and procedures to reduce the various sources of Scope 3 GHG emissions.	Medium

Abbreviations:
AFV = alternative fuel vehicle
Btu = British thermal units
E85 = ethanol fuel blend
ECM = efficiency and conservation measure
EISA = Energy Independence and Security Act
GHG = greenhouse gas
GP = Guiding Principles
GSA = U.S. General Services Administration
GSF = gross square feet
ILA = industrial, landscaping, and agricultural
LBNL = Lawrence Berkeley National Laboratory
WUI = water use intensity

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Introduction

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) is responsible for managing a broad and diverse portfolio of land and assets. LM currently protects human health and the environment at 101 sites in 29 states and the territory of Puerto Rico. In addition to providing long-term surveillance and maintenance at 101 legacy sites, LM manages programs such as the Defense-Related Uranium Mines Program, the Uranium Leasing Program, and the Applied Studies and Technologies Program. LM executes its mission and programmatic activities from 10 occupied facilities in nine states. LM is committed to enhancing sustainable environmental performance as identified in the LM *2020–2025 Strategic Plan* (DOE/LM-1488) and has the following overarching goals:

1. Protect human health and the environment
2. Preserve, protect, and share records and information
3. Safeguard former contractor workers' retirement benefits
4. Sustainably manage and optimize the use of land and assets
5. Sustain management excellence
6. Engage the public, governments, and interested parties

Underlying these overarching goals are LM's triple-bottom-line activities that focus on:

- **Social responsibility:** LM focuses on the safety of staff, the public, and the environment with communication playing an important part.
- **Economic prosperity:** LM promotes business excellence by being fiscally responsible and using best business practices.
- **Environmental stewardship:** LM consults with regulatory agencies and other stakeholders regarding its compliance with environmental laws, regulations, and agreements; its support of environmental justice; and its general consideration of the environmental impacts of all work being performed.

Note

LM operates its Environmental Management System jointly with the Legacy Management Support (LMS) contractor, and both place a priority on sustainability while executing the LM mission and achieving the LM goals. In this document, a reference to "LM" represents both LM and the LMS contractor (LM's strategic partner) unless specifically noted otherwise.

1.0 Energy Management

Energy management covers the U.S. Department of Energy (DOE) Office of Legacy Management (LM) approach and vision for addressing energy use and intensity, Energy Independence and Security Act (EISA) Section 432 benchmarking, facility metering, and nonfleet fuel use.

1.1 Energy Usage and Intensity

1.1.1 Energy Usage and Intensity Performance Status

The LM energy intensity performance for fiscal year (FY) 2021 was affected by the old Interpretive Center (IC) at the Weldon Spring, Missouri, Site becoming unoccupied and the new Weldon Spring IC entering LM's inventory midyear. In accordance with the DOE 2006 document *Guidelines Establishing Criteria for Excluded Buildings,* the gross square feet and energy use for both buildings are excluded from energy intensity performance as energy use was skewed significantly. This results in a large increase in energy intensity, primarily based on reduction of gross square feet.

Note

LM leases about 166,518 square feet (ft^2) of building space and owns only about 83,000 ft^2 of building space. Leased and other excluded buildings are not included in the energy intensity calculation. This means that the 24,625 ft^2 of goal subject buildings is only about 10% of LM's total building space.

Most of the excluded energy use is from the Fernald Preserve, Ohio, Site extraction wells. In accordance with the *Guidelines Establishing Criteria for Exclusion Buildings,* the energy use from those wells is excluded as "Separately-metered energy-intensive loads that are driven by mission and operational requirements, not necessarily buildings, and not influenced by conventional building energy conservation measures." The extraction wells are required by the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for the site. The wells were upgraded with variable frequency drives, and individual metering was installed on the 30 and 40 horsepower well motors in 2014.

LM plans to add several DOE-owned buildings in the coming years. A construction contract was awarded in FY 2021 to begin the first phase of upgrades to Building 7 at the LM Field Support Center (LMFSC) at Grand Junction, Colorado. Building 7 is currently unoccupied and in standby. In addition, planning and design began in FY 2021 for a proposed new administration building that would replace many of the LM-leased buildings at the LMFSC.

During FY 2021, Legacy Management Support (LMS) contractor staff explored DOE's 50001 Ready program. That program is based on ISO 50001, which is the energy management standard from the International Organization for Standardization (ISO). Activities included attending the seven training sessions starting in FY 2020, completing a gap analysis comparing 50001 Ready requirements and the current LM/LMS Environmental Management System, and preparing a management presentation to be finalized and delivered in FY 2022. If implemented, this program is expected to build on an already strong energy efficient culture.

1.1.2 Energy Usage and Intensity Plans and Projected Performance

With the addition of the 24,500 ft^2 new Weldon Spring IC and the removal of the old Weldon Spring IC from the goal subject square footage next year, along with respective changes in energy use, the FY 2022 energy intensity is expected to decrease from FY 2021. Energy use will continue to be affected by increased teleworking due to COVID protocols. The risk of nonattainment of this goal is medium due to mission changes. LM will continue to explore ways to reduce energy usage in existing buildings and will purchase bundled green electricity when available and practical.

LM will perform the following planned activities to identify energy savings in FY 2022 and beyond:

- Review condition assessments to assess deferred maintenance and repair activities that were identified. Look for opportunities to increase energy efficiency while improving asset condition.
- Prepare the annual LM site energy comparison report, which provides historical energy information for LM buildings and facilities to help LMS site leads make informed decisions on energy-related projects.
- Assess energy savings resulting from the installation of efficiency and conservation measures (ECMs), including:
  - The new Weldon Spring IC.
  - Renovation of the Weldon Spring electrical distribution system.
  - Shutdown of the cold storage room at the LM Business Center (LMBC) at Morgantown, West Virginia.
- Present the 50001 Ready program to management and begin implementation as directed by management.
- Continue planning for a new LM-owned campus at the LMFSC, which would relocate office space from older, less energy-efficient leased buildings.
- Work with the Information Technology group and the Environmental Management System Sustainable Buildings Team to develop a pilot demonstration of an energy dashboard to communicate LM energy use performance and goals to LM.
- Work with other groups to identify energy savings for planned ECMs, including:
  - Renovation of the LMFSC Building 7.
  - Design of the proposed LMFSC administration building.
- Coordinate with other groups to install electric vehicle service equipment, otherwise known as charging units, to support electrification of LM's U.S. General Services Administration fleet of vehicles.

The expected impact of these planned activities is a culture change from implementing an energy dashboard and 50001 Ready, increased awareness of energy management, and identification of activities that could reduce energy usage and associated Scope 1, 2, and 3 greenhouse gas (GHG) emissions if implemented. Included in Attachment 1 are projected performance graphs for electricity usage. The graphs demonstrate LM's projected performance over the next 5 years.

1.2 EISA Section 432 Benchmarking and Evaluations

1.2.1 EISA Section 432 Benchmarking and Evaluations Performance Status

The quadrennial EISA Section 432 energy evaluations were performed for the Monticello, Utah, Disposal and Processing Sites as required and for the Shiprock, New Mexico, Disposal Site as a best management practice. No major issues were found.

A quadrennial EISA Section 432 water evaluation was performed for the Grand Junction, Colorado, Disposal Site. No major issues were found.

1.2.2 EISA Section 432 Benchmarking and Evaluations Plans and Projected Performance

LM will continue to conduct EISA energy and water evaluations at its sites on a rotating basis, as shown in Table 1. The expected impact of these planned activities will be to ensure that 100% of LM sites are evaluated every 4 years to meet the EISA Section 432 requirements. In addition, evaluations provide energy information to LM site personnel so they can make informed decisions on implementing possible energy conservation measures. The risk of nonattainment of this goal is low. Future EISA evaluations are not expected to be delayed by the COVID pandemic. Desktop evaluations will be performed.

Planned actions and their measurable goals and milestones for FY 2022 and beyond include the following:

- Conduct remote EISA evaluations using the System Operation and Analysis at Remote Sites (SOARS) system or by using personnel on the site, when possible
- Continue to perform measurement and verification activities when possible on conservation measures during EISA Section 432 evaluations

Table 1. Planned EISA Section 432 Evaluations

Planned EISA Section 432 Evaluations		
Year[a]	**Energy Evaluations**	**Water Evaluations**
2022	LMBC at Morgantown, WV Tuba City, AZ, Disposal Site LM Operations Center at Westminster, CO	Tuba City, AZ, Disposal Site (P)
2023	Mound, OH, Site Pinellas County, FL, Site	Weldon Spring, MO, Site (P)
2024	Fernald Preserve, OH, Site Weldon Spring, MO, Site	Fernald Preserve, OH, Site (P/ILA) Monticello, UT, Disposal and Processing Sites (P)
2025	Monticello, UT, Disposal and Processing Sites Shiprock, NM, Disposal Site	Grand Junction, CO, Disposal/Processing Site (P)

Note:
[a] EISA cycle year runs from June to May. Current 4-year cycle is 2020 to 2023.

Abbreviations:
ILA = industrial, landscaping, and agricultural (nonpotable) water site
P = potable water site

1.3 Facility Metering

1.3.1 Facility Metering Performance Status

Federal metering guidance requires that buildings over 5000 ft^2 be metered. LM has 10 buildings over 5000 ft^2, all of which are metered for electricity.

Water meters are installed at LM sites where meters have proven to be a cost-effective method for ensuring accurate water usage reporting and detecting leaks. Meter readings are documented monthly by site personnel and tracked in a spreadsheet accessible to all responsible team members.

1.3.2 Facility Metering Plans and Projected Performance

LM will continue metering buildings where it is cost-effective. LM will perform the following planned activities in FY 2022 and beyond:

- On a periodic basis, evaluate local utility companies' implementation of U.S. Environmental Protection Agency's Green Button initiative
- Add metering to buildings where it is cost-effective
- Review forthcoming revised DOE metering guidance and perform a gap analysis against the current LM metering plan
- Investigate the cost of installing additional metering on buildings and for processes that would be advantageous for the 50001 Ready program

Measurable goals and milestones for FY 2022 include the following:

- Evaluate metering needs for new equipment, sites, and buildings in the LM portfolio
- Work with appropriate parties to install separate electric metering in the LM data centers at the LMBC and the LMFSC
- Work with appropriate parties to install a SOARS-connected electric meter in the new IC at Weldon Spring after the 1-year mechanical systems warranty period expires
- Provide annual electricity usage and trending information to LMS site and facility leads so they can see utility performance and make changes, if cost-effective, to improve efficiency

The expected impact of these planned actions is to identify methods for potential implementation to reduce energy and water usage at LM facilities. The risk of nonattainment of metering goals is low.

1.4 Nonfleet Vehicles and Equipment

1.4.1 Nonfleet Vehicles and Equipment Performance Status

Nonfleet vehicles and equipment fuel use decreased 21% in FY 2021 compared to FY 2020. This category is very dependent on the amount of field work scheduled during the year and is highly variable.

1.4.2 Nonfleet Vehicles and Equipment Plans and Projected Performance

LM will continue evaluating reductions in nonfleet vehicles and equipment fuel usage at its sites. The expected impact of these planned activities will be to reduce fuel usage and associated Scope 1 GHG emissions. The overall risk of nonattainment of this goal is medium, due to mission variability. The Scope 1 and 2 GHG emissions goal is to reduce emissions.

Measurable goals and milestones associated with nonfleet vehicles and equipment for FY 2022 include the following:

- Monitor the nonfleet vehicle and equipment fuel usage
- Encourage use of energy-efficient generators and equipment
- Continue separate tracking of diesel, gasoline, and propane used for nonfleet vehicles and equipment
- Investigate use of electric vehicles instead of gasoline-powered vehicles for all-terrain vehicles, carts, and so on

2.0 Water Management

Water usage and management for the U.S. Department of Energy (DOE) Office of Legacy Management (LM) focuses on potable and industrial, landscaping, and agricultural (ILA) water consumption at LM sites and facilities with an ongoing commitment to improve water efficiency as expressed by calculating water use intensity (WUI).

2.1 Water Usage and Management Performance Status

LM increased its potable water usage by 80.5% in fiscal year (FY) 2021 compared to FY 2020. The increases in potable water usage can be attributed to the following:

- Increased site activities compared to FY 2020 as state COVID restrictions were lessened and postponed site work and projects commenced.
- The addition of the new Weldon Spring Interpretive Center (IC) at the Weldon Spring, Missouri, Site required water usage for the building, for landscaping, and for charging the fire-suppression system, which contributed to the 192.5% increase in water usage from FY 2020 to FY 2021. The IC landscaping will continue to be seasonally irrigated, while the charging of the fire-suppression system was a one-time event.
- It is estimated that 16,000 gallons of potable water leaked during the Weldon Spring site water-line replacement project in late January 2021.
- 180,175 gallons of potable water was used for dust-suppression and moisture conditioning activities during the residual radioactive material receive and place project at the Grand Junction, Colorado, Disposal Site. Water usage is variable for this project, which occurs every few years.

See Table 2 for LM's year-over-year (YOY) water usage performance. During the reporting period, field work continued to be limited to mission-critical activities only, and maximum telework policies remained in effect.

Table 2. LM Combined-Sites Water Usage Since 2007

Fiscal Year	GSF[a]	Water Usage (gallons)		Potable-Water WUI (gallons/GSF)	Potable-Water WUI Percent Change	ILA (Nonpotable) Usage Percent Change (gallons)
		Potable Water (% YOY Change)	Nonpotable Fresh Water ILA (% YOY Change)			
2007	10,992	1,497,098	N/A	136.20	N/A—Baseline year	N/A
2008	11,712	1,070,768	N/A	91.42	32.9% reduction	N/A
2009	22,512	549,462	N/A	24.41	82.1% reduction	N/A
2010	22,464	80,358	503,336	3.58	97.3% reduction	N/A—Baseline year
2011	69,157	1,112,688	456,093	16.09	88.2% reduction	9.4% reduction
2012	69,157	392,791	459,729	5.68	95.8% reduction	8.7% reduction
2013	38,422	904,953	397,082	23.55	82.7% reduction	21.1% reduction
2014	38,422	381,952	458,530	9.94	92.7% reduction	8.9% reduction
2015	38,422	416,838	20,869	10.85	92.0% reduction	95.9% reduction
2016	40,616	313,227	5500	7.71	94.3% reduction	98.9% reduction
2017	40,616	373,293	2000	9.19	93.3% reduction	99.6% reduction
2018[a]	40,616	670,317 (+80.0%)	0 (-100%)	16.5	87.8% reduction	**100.0% reduction**
2019	39,944	617,715 (-7.8%)	5,500 (+5,500%)	15.5	88.6% reduction	**94.3% reduction**
2020	57,068	206,286 (-66.6%)	2,400 (-56.4%)	3.61	97.3% reduction	**99.5% reduction**
2021	66,014[b]	372,298 (+80.5%)	1,160 (-52.0%)	5.64	96.0% reduction	**99.7% reduction**
2021 combined-sites potable-water WUI = (372,298 ÷ 66,014) = 5.64						
2021 combined-sites percent potable-water WUI Reduction: **= [(2007 WUI – 2021 WUI) ÷ 2007 WUI] × 100%** **= [(136.20 – 5.64) ÷ 136.20] × 100%** **= 96.0% reduction**						
2021 combined-sites percent ILA reduction: **= [(2010 ILA – 2021 ILA) ÷ 2010 ILA] × 100%** **= [(503,336 – 1,106) ÷ 503,336] × 100%** **= 99.8% reduction**						

Notes:

[a] In 2018, reporting guidance changed where potable/nonpotable water (ILA) % YOY change will be reported. Gray portion of table values were compared to baseline year 2007.

[b] LM opened the new Weldon Spring Interpretive Center on May 3, 2021, increasing the FY 2021 GSF by 24,620 square feet. Since this building was occupied for only 42% of the FY 2021 time period, only 10,340 (instead of 24,620) square feet is used in the GSF calculation. Additionally, the Weldon Spring site office trailer was disconnected from water service on July 26, 2021, which decreased the FY 2021 GSF by 2,880 square feet. Since this building was occupied for 83% of the FY 2021 time period, only 2,390 (instead of 2,880) square feet is used in the GSF calculation.

Abbreviations:

GSF = gross square feet

N/A = not applicable

As a best management practice, LM routinely reviews (1) stormwater controls and (2) ways it can reduce, reuse, and recycle potable and ILA water. Improved practices from these reviews are incorporated in project-planning tools such as *Project or Activity Evaluation (PAE)* forms (LMS 1005) and statements of work (SOWs).

The joint LM/Legacy Management Support (LMS) Environmental Management System (EMS) Water Conservation Team reviewed SOWs and PAE forms and looked for opportunities to conserve water during projects.

LM maintains and follows a water management plan found in Section 2.3, "EMS Water Conservation Team," in the LM/LMS *EMS Sustainability Teams Manual* (LM-Manual-3-20.3-1.0, LMS/POL/S11374).

LM has not calculated water balances because it has not been cost-effective to do so (i.e., LM has only minimal water usage and mission-related water usage).

Water meters, which have been installed at all Goal Metric sites, have proven to be a cost-effective method of ensuring accurate water usage reporting and leak detection. Meter readings are recorded monthly by site personnel and tracked in a spreadsheet accessible to all responsible team members.

The gross square feet (GSF) reported in the DOE Sustainability Dashboard comprehensive scorecard is accounting for both the old Weldon Spring IC and the new Weldon Spring IC for the entire year. This creates a difference in the way potable WUI is calculated by LM. LM adjusted the GSF to reflect actual percent occupancy in FY 2021 for each building. Table 3 shows a comparison of WUI calculations using LM water usage per GSF compared to the calculated water usage per GSF data (i.e., energy-based data) presented in the DOE Sustainability Dashboard comprehensive scorecard.

Table 3. WUI Comparison of LM Calculated Gross Square Feet and DOE Sustainability Dashboard Comprehensive Score Card Gross Square Feet

Fiscal Year	GSF (LM water usage only)	GSF (Dashboard Comprehensive Scorecard)	Potable Water Usage (gallons)	Potable-Water WUI (gallons/GSF)		Potable-Water WUI Percent Change	
				Using LM Water GSF	Using Dashboard GSF	Calculated Using LM Water GSF	Using Comprehensive Scorecard Data
2007	10,992	69,790	1,497,098	136.2	21.4	N/A—Baseline year	N/A—Baseline year
2020	57,068	59,902	206,286	3.6	3.4		
2021	**66,014**	**81,522**	**372,298**	**5.64**	**4.6**	**57.0% increase over 2020, 96.0% reduction from baseline year of 2007**	**35.3% increase over 2020, 78.5% reduction from baseline year of 2007***

Note:
* Data taken from DOE sustainability dashboard comprehensive scorecard.

Abbreviation:
N/A = not applicable

Major water-consuming end-uses at LM sites include use of sinks, toilets, drinking fountains, decontamination, and dust suppression activities, and a pond that supports the Fernald Preserve, Ohio, Site ground source heat exchange system.

LM utilized the following activities to minimize the use of potable water:

- Used industrial nonpotable water at the Mound, Ohio, Site for flushing toilets.
- Used low-flow toilets and remote-sensor hand-washing sinks when possible.
- At the new Weldon Spring IC, low-flow toilets and remote-sensor hand-washing sinks were installed, and the new IC irrigation system uses rain gauge data so it will not irrigate if it has recently rained. The landscaped plants in the area are all native and most are drought resistant.

2.2 Water Usage and Management Plans and Projected Performance

LM will continue to track and monitor potable and ILA nonpotable water usage for FY 2022 and beyond to identify opportunities to reuse, recycle, and reduce potable and ILA water consumption.

LM expects minimal impact from planned FY 2022 activities; therefore, overall risk of nonattainment of this goal is low. Future construction of DOE-owned buildings (e.g., a new building at the LM Field Support Center [LMFSC] at Grand Junction, Colorado) and moving occupants from DOE-leased to DOE-owned facilities might increase overall water usage once the buildings are occupiable. Currently water usage at the LMFSC is not reportable, but if occupants move to DOE-owned facilities the usage will be reportable. The amount of water used by occupants of LM-owned buildings during the FY 2022 is expected to be lower than usual due to the ongoing COVID pandemic. An increase in teleworking and the resultant decrease in LM facility-use directly impacts the amount of water used at LM sites. Included in Attachment 1 are projected performance graphs for potable water usage and nonpotable water usage. The graphs demonstrate LM's projected performance over the next 5 years.

Measurable goals and milestones associated with water management for FY 2022 include the following:

- Continue to utilize and evaluate measures to reduce potable WUI in FY 2022, but recognize that continued COVID pandemic-related work and site inspection restrictions might impact achieving this goal. So far as possible, LM will strive to reduce potable WUI by 0.5% as compared to FY 2021.
- Strive to reduce ILA water usage as compared to FY 2021. LM will continue to utilize and evaluate measures to reduce ILA water usage in FY 2022, but LM recognizes that continued COVID pandemic-related work restrictions could impact achieving this goal.
- Maintain, update as needed, and follow the water management plan described in Section 2.3, "EMS Water Conservation Team," in the LM/LMS *EMS Sustainability Teams Manual*.
- Ensure early involvement in the project planning process, utilizing tools such as PAE forms and SOWs to identify opportunities to reduce potable water usage and to identify or establish stormwater management requirements, as applicable.
- Continue to evaluate newly acquired LM sites for Water Conservation Goal Metrics site applicability.

- Develop site-specific water balance charts prior to August 2023 as required by the *Fiscal Year 2022 Site Sustainability Plan Guidance* (U.S. Department of Energy Sustainability Performance Division, 2021).
- Ensure involvement with the continued development of the *Weldon Spring Master Plan,* which will address the possibility of future improvements to the new IC landscaping and parking lot. This could affect outdoor potable water usage and stormwater runoff.
- Continue to evaluate requirements for site metering of water usage in accordance with Section 1002 of the Energy Act of 2020.
- Evaluate and compare year-to-year potable water usage between the Weldon Spring old IC and the Weldon Spring new IC to be reported in future Site Sustainability Plans. The water usage comparison will be used to determine if incorporated water conservation measures at the new IC are contributing to reducing water consumption.
- Continue to evaluate cost-effective dust suppression and soil moisture conditioning/blending options to support on-going water conservation efforts with site project activities.
- Ensure daily visual inspections are conducted during water pipeline replacement projects to proactively address leaks in a timely manner.

3.0 Waste Management

Waste management for the U.S. Department of Energy (DOE) Office of Legacy Management (LM) focuses on source reduction, municipal solid waste and waste diversion, and wastewater treatment.

3.1 Municipal Solid Waste and Waste Diversion

3.1.1 Municipal Solid Waste and Waste Diversion Performance Status

In fiscal year (FY) 2021, LM continued to remain committed to minimizing the generation of nonhazardous solid waste and diverting waste from landfills through sound environmental practices. In FY 2021, LM used only offsite solid waste management facilities and did not use waste-to-energy systems or send any waste for treatment.

No major initiatives or changes to missions or net changes to facilities occurred in FY 2021 that contributed in significant ways to LM's waste management performance. In FY 2021:

Nonhazardous Solid Waste (excluding construction and demolition material and debris [C&D])

- LM met the DOE annual performance goal of reducing the amount of this waste sent to treatment and disposal facilities. LM sent 45.3 metric tons of this waste to treatment and disposal facilities in FY 2021, compared to 51.2 metric tons in FY 2020.
- LM did not meet its annual performance goal of diverting a minimum of 50% of this waste from landfills. LM diverted 48.2% of this waste in FY 2021 through recycling and composting.

Nonhazardous Solid C&D Waste

- LM met the DOE annual performance goal of reducing the amount of this waste sent to treatment and disposal facilities. LM sent 0.24 metric tons of this waste to treatment and disposal facilities in FY 2021, compared to 2.7 metric tons in FY 2020.
- LM met its annual performance goal of diverting at least 50% of this waste from landfills. LM diverted 99.0% of this waste in FY 2021 through reuse, recycling, and composting. This high diversion number success was achieved, in part, through environmentally sound project planning at the LM Business Center at Morgantown, West Virginia, which led to the recycling of both a generator and its associated aboveground fuel storage tank.

As a best practice, LM's pollution prevention, waste reduction, minimization, and recycling efforts continued to include:

- Having pollution prevention included in both the *LM Environmental Policy* (PO 436.1C) and the Legacy Management Support (LMS) contractor's *Safety and Environmental Policy* (LMS/POL/S14226).
- Promoting waste reduction and diversion strategies with project and program teams during the early stages of project planning.
- Presenting related messages to employees through various forms at least once a year.
- Collecting and tracking waste data.
- Having recycling receptacles in individual offices or common areas at staffed facilities.

LM's response to the COVID pandemic continued from FY 2020 through FY 2021, and included most staff working remotely and the suspension of visitors to LM visitor centers. These actions atypically reduced the amount of nonhazardous solid waste, excluding C&D, generated from LM facilities and visitor centers during FY 2021.

In FY 2021, LM performed a reassessment of how metrics were gathered on nonhazardous solid waste, excluding C&D, at its larger facilities to ensure consistency and accuracy of reported data.

Historically, LM's performance for C&D has been highly variable because the amount and type of waste generated, and the associated ability to divert the specific waste from landfills, varied by project. These atypical, nonroutine projects can make it difficult to predict future waste generation quantities.

LM continued to use acceptable nontoxic or less-toxic alternative chemicals and to minimize the acquisition of hazardous chemicals and materials by continuing to incorporate sustainable purchasing requirements and resources into the purchasing and procurement system in FY 2021. LM also continued to apply environmentally preferred management practices such as using biological, cultural, mechanical, and chemical methods (e.g., using less toxic and species-targeted herbicides) to control weed infestations at its sites, when needed.

Compostable material at staffed sites continued to represent only a very small percentage of LM's overall waste stream. Composting opportunities remained limited in FY 2021 because LM had an absence of cafeteria services and limited landscaping responsibilities. LM started a multi-year, phased-approach initiative in FY 2020 to revisit LM's organic waste material

composting practices and opportunities. That initiative was paused in FY 2021 as opportunities were limited by LM's teleworking status in response to the COVID pandemic. That initiative will recommence once facility staff transition to new, post-COVID-pandemic practices.

3.1.2 Municipal Solid Waste and Waste Diversion Plans and Projected Performance

LM's waste management practices in FY 2022 will remain largely unchanged from FY 2021.

Overall risk of nonattainment of the waste reduction goal for nonhazardous solid waste, excluding C&D, is medium due to LM's COVID pandemic response in FY 2021, which resulted in reduced solid waste generation, caused by both reduced facilities presence and the suspension of visitors to LM's visitor and interpretive centers. If more staff and visitors return to LM sites in FY 2022, even on a part-time basis, the volume of solid waste generated will increase, which could make it difficult to achieve the waste reduction goal for nonhazardous solid waste, excluding C&D.

In the long term, LM's continued growth in scope and number of sites will increase staffing, which will increase solid waste volumes to some extent. An increase in the number of visitors to different LM sites visitor centers is also expected, which will also contribute to a small increase in solid waste volumes. Planned building construction is anticipated in out years to help accommodate the growing staff. These construction projects could increase C&D. Changes to waste generation at new unstaffed sites should not be significant. Reuse and recycling opportunities are expected to remain mostly unchanged at staffed sites.

LM will remain committed to minimizing waste and reducing pollution. In addition, LM will perform the following planned activities:

- Continue to maintain federal and contractor policies for pollution prevention
- Continue to consider ways to reduce, reuse, and recycle materials beginning in early project planning, and continue to use project-planning tools (e.g., *Project or Activity Evaluation (PAE)* forms [LM 1005], statements of work) to facilitate waste minimization, sustainable purchasing (including use of recycled-content material), and waste diversion from landfills
- Continue to use the *Guidance for Implementing Construction Debris and Solid Waste Diversion Strategies* (LMS/PLN/S12185), which provides project managers and LM site managers with specific source-reduction, recycling, and waste-reduction measures to consider in planning and implementing projects and in operating their sites
- Continue to assess planned new purchases, waste streams, and chemical inventories for pollution prevention and waste minimization opportunities
- Continue to increase the use of acceptable nontoxic or less-toxic alternative chemicals and to minimize acquisition of hazardous chemicals and materials through sustainable purchasing
- Continue to purchase only the appropriate quantities of products needed to perform the work
- Evaluate nonhazardous waste recycling stations to determine whether changes are needed to increase participation and offset increases in population at staffed sites and facilities
- Share complex wide pollution prevention messages

- Utilize integrated pest management and landscape management practices, such as biological, cultural, mechanical, and chemical methods to control weed infestations, to reduce adding herbicide pollutants to the environment
- Initiate composting-related actions as identified in the *Plan for Assessing and Managing Compostable Material at U.S. Department of Energy Office of Legacy Management Office Sites* (LMS/S31433)

The expected impacts of these planned activities on future fiscal years are the continued source reduction, pollution prevention, waste minimization, and waste diversion from landfills. Included in Attachment 1 are projected performance graphs for municipal solid waste and construction and demolition waste. The graphs demonstrate LM's projected performance over the next 5 years.

Measurable goals and milestones associated with waste management for FY 2022 and beyond include the following:

- Continue to (1) maintain spreadsheet inventories of recycled and reused materials, chemicals, universal wastes, and solid, hazardous, and radioactive wastes, and (2) update the inventories at least two times per year
- Continue to reduce the annual amount of (1) nonhazardous solid waste (excluding C&D) and (2) C&D sent to disposal facilities
- Employ reuse, recycling, and composting to annually divert at least 50% of (1) nonhazardous solid waste, excluding C&D; and (2) C&D from disposal in a landfill
- Update the *Plan for Assessing and Managing Compostable Material at U.S. Department of Energy Office of Legacy Management Office Sites* and complete tasks planned for FY 2022

3.2 Wastewater Treatment

3.2.1 Wastewater Treatment Performance Status

LM continued to use both onsite and offsite wastewater treatment facilities in FY 2021. No major initiatives or changes to missions occurred in FY 2021 that contributed in significant ways to LM's wastewater management performance. A facility change occurred in FY 2021 at the Weldon Spring, Missouri, Site (construction of a new replacement administrative building), but because wastewater treatment associated greenhouse gas (GHG) emission levels are largely associated with the number of users, this facility change did not significantly affect LM's wastewater treatment GHG emissions.

Wastewater treatment was only one of many categories that contribute to Scope 1 and 2 and Scope 3 GHG emissions. LM did not have a specific quantifiable performance goal associated with wastewater treatment. LM's wastewater treatment practices are discussed in the "Plans and Projected Performance" section below.

LM's FY 2021 response to the COVID pandemic included the continuation of staff working remotely and a suspension of visitors to LM visitor and interpretive centers to protect workers and the public from the virus. This resulted in an overall, atypical reduction in the amount of wastewater that required treatment. Thus, LM generated less GHG from wastewater treatment facility sources in FY 2021 than normal.

3.2.2 Wastewater Treatment Plans and Projected Performance

LM will continue to use both onsite and offsite wastewater treatment facilities in FY 2022. LM's wastewater management processes and practices are not expected to change in FY 2022 compared to FY 2021. However, when more LM staff return to LM facilities and visitors resume coming to LM's visitor centers following the COVID pandemic, there will be a corresponding increase in LM's wastewater volumes. This will correspond to an increase in associated Scope 1 and 2 and Scope 3 wastewater treatment GHG emissions.

Beyond the GHG emission changes related to LM's COVID pandemic response, it is expected that the continued increase in LM's scope and number of sites will increase staffing, which will increase the wastewater volume needing treatment. However, this increase should not be significant.

LM will continue to minimize wastewater to the extent possible and will perform the following planned activities:

- Continue to increase the use of acceptable nontoxic or less-toxic alternative chemicals, such as cleaning products, and minimize acquisition of hazardous chemicals and materials through sustainable purchasing
- Continue to implement water conservation practices where appropriate, such as encouraging employees to not excessively run tap water while washing dishes, to help reduce the volume of wastewater generated

The expected impact of these planned activities on future fiscal years is continued source reduction, pollution prevention, and wastewater minimization.

Measurable goals and milestones associated with wastewater management for FY 2022 and beyond include the following:

- Continue to implement sustainable acquisition practices to procure more nontoxic or less-toxic alternative chemicals that could be introduced into the wastewater through projects or building activities or services
- Continue to implement potable water conservation practices to reduce the quantity of generated wastewater

4.0 Fleet Management

Fleet management for the U.S. Department of Energy (DOE) Office of Legacy Management (LM) focuses on topics such as fleet vehicle inventory and fuel use and mileage.

4.1 Fleet Vehicle Inventory

4.1.1 Fleet Vehicle Inventory Performance Status

In fiscal year (FY) 2021, to meet the needs of additional work scope on several projects, the LM procured two additional vehicles through Flex Fleet Rental, a U.S. General Services Administration (GSA)-approved truck/car rental company for short-term rentals. In accordance

with Title 41 *Code of Federal Regulations* Section 102-34.35 (41 CFR 102-34.35), these two vehicles are Federal Automotive Statistical Tool (FAST)-reportable for FY 2021.

As a best management practice, LM initiated planning for installation of electric vehicle service equipment (EVSE) and completed a fleet evaluation to forecast future needs.

4.1.2 Fleet Vehicle Inventory Plans and Projected Performance

Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, including Section 205, "Federal Clean Electricity and Vehicle Procurement Strategy," was signed in January 2021. The Executive Order calls for greater procurement of electric vehicles (EVs) and EVSE, which could have a dramatic effect on LM vehicle inventory and fuel usage. The Executive Order aims to achieve an all-electric federal government fleet by 2035.

Overall, there is a medium risk of nonattainment of this goal, due to LM's mission. However, LM strives to meet or exceed the fleet vehicle inventory goal to the extent allowed by the mission through ongoing monitoring and reporting with the following planned activities:

- Maintain an inventory of vehicles suitable to the mission needs.
- Monitor the monthly fuel consumption and vehicle mileage data and take appropriate action to meet sustainability goals whenever possible.
- Continue to gather telematics data from GeoTab and Verizon Network Fleet and analyze that data on GSA and Archibus/Enterprise Asset Management platforms. LM will use the outcomes to right-size the fleet by reducing the number of oversized or underutilized vehicles and replacing them with EVs as needed. This will improve vehicle usage results.

4.2 Fuel Usage and Mileage

4.2.1 Fuel Usage and Mileage Performance Status

The total vehicle mileage for FY 2020 was 473,944 miles. The total mileage for FY 2021 through August was 529,876 miles. Dramatically fewer miles were driven in FY 2020 due to the COVID pandemic, when LM field work was limited to only mission critical work. Typical field work recommenced in FY 2021. As a result, LM exceeded its DOE standard mileage utilization by 27% in FY 2021, compared to a 2% exceedance in FY 2020. By comparison, in FY 2019 LM exceeded the DOE standard mileage utilization by 39%.

LM did not reduce fuel usage in FY 2021. LM fuel usage through August 2021 was 36,664 gallons of total fuel. Compared to 30,974 gallons of fuel used during FY 2020, LM increased fuel usage by 18.4% in FY 2021.

As a best management practice, alternative fuel vehicles (AFVs) are not purchased or leased by LM if there is no alternative fuel infrastructure within a 5-mile radius or 15 minutes of travel time from the garaging location. LM policy requires low greenhouse gas–emitting vehicles when they are available and do not negatively impact the mission. If they are unavailable, and if 85% ethanol fuel blend (E85) is available, LM will acquire E85 AFVs. LM will continue to try to acquire alternative fuel capable light-duty vehicles when appropriate for the mission and when the alternative fuels are readily available.

4.2.2 Fuel Usage and Mileage Plans and Projected Performance

Planned activities and their associated expected impacts are described in detail in the *LM/LMS Fleet Management Manual* (LM-Manual-3-13-1.0, LMS/POL/S24625).

There is a high risk on not attaining the fuel-use goal of both reducing petroleum consumption and increasing alternative fuel use goal is a high risk due to LM's mission. The anticipated increase in LM's scope and number of LM sites will likely affect LM's ability to accomplish the fleet management category goals. As more sites transition into postclosure and LM stewardship, LM expects to receive 27 additional sites for long-term care by FY 2030, according to the *Site Management Guide* (Guide-3-20.0-1.0). LM will continue to have difficulty meeting the desired reduction in fuel usage as additional sites are added and more miles are driven. Adding EVs should help to offset the increased fuel usage.

LM strives to meet or exceed the fuel usage goal to the extent allowed by the LM mission through ongoing monitoring and reporting, including the following planned activities:

- Educate drivers about the proper use of E85 fuel and how to use the Mobile Alternative Fuel Station Locator and GSAFleet2Go applications to locate E85 fueling stations. An article about vehicle sustainability and fuel usage will be published in *E2SH&Q Outlook* newsletter in FY 2020.
- Encourage staff to perform required daily motor vehicle inspections to identify unsafe conditions or defects that might negatively impact vehicle fuel usage.
- Use telematics data to track alternative fuel usage and to promote an anti-idling policy that saves fuel.
- Work with project teams utilizing telematics data to determine best travel routes and eliminate non-essential stops to reduce mileage.
- Monitor DOE's Energy Efficiency and Renewable Energy website to identify any changes to E85 fuel infrastructure and availability near LM vehicle garaging locations.
- Identify the most fuel-efficient vehicle for a given task by considering miles driven, fuel used, vehicle's intended use, and types of road traveled.
- Utilize carpooling, video conferencing, and telework; combine field activities; and coordinate field work to reduce the number of trips as the mission allows.
- Replace outdated Verizon telematics devices with GeoTab telematics devices in FY 2022.

Measurable goals and milestones associated with fleet management for FY 2022 and beyond include the following:

- Record and track vehicle-related data and produce monthly and quarterly summary reports that include information about AFV and EV acquisitions, mileage, utilization, fuel use, and fuel cost
- Report fuel usage in quarterly *Performance Assurance Measures* reports to increase personnel awareness of fuel usage goals and progress
- Report data into FAST, which forecasts a projected 3-year vehicle acquisition plan that can include AFV and EV acquisitions for light-duty vehicles

5.0 Clean and Renewable Energy

Renewable energy covers the U.S. Department of Energy Office of Legacy Management's (LM's) approach and vision for addressing renewable energy resources. Renewable energy management focuses on onsite renewable generation systems and purchased clean and renewable energy.

5.1 Clean and Renewable Energy Performance Status

LM has 136 operating photovoltaic solar panel systems, ranging from 10 watts to 285 kilowatts (kW), on federal and tribal land. The photovoltaic solar systems generated 734 megawatt-hours of energy in fiscal year (FY) 2021. Most are standalone systems, but the larger systems are connected to the grid. Many of the smaller systems power pumps and monitoring devices at sites that have little or no available grid electricity. An estimated 584 MWh of energy was placed onto the grid at the Tuba City, Arizona, Site because the processing system that the solar system was designed for has been shut down. Since all LM sites combined are considered one site for the purpose of calculating renewable energy, this excess renewable energy benefits LM as a whole.

LM has no thermal clean energy systems. Natural gas usage at LM-owned sites is limited to the Converted Advanced Wastewater Treatment facility at the Fernald Preserve, Ohio, Site; the new Interpretive Center at the Weldon Spring, Missouri, Site; and Building 7 at the LM Field Support Center at Grand Junction, Colorado.

5.2 Clean and Renewable Energy Plans and Projected Performance

LM will continue investigating ways to increase renewable energy, with the expected impact to be a continued, albeit sporadic, increase in renewable energy use at its facilities. LM currently has no plans to install thermal clean energy at LM sites. However, a goal this year is to investigate the possibility of installing solar hot water heaters if they are forecast to be life-cycle cost-effective. Overall risk of nonattainment of this goal is medium, due to technical and mission related constraints. Included in Attachment 1 are projected performance graphs for onsite renewables usage. The graphs demonstrate LM's projected performance over the next 5 years.

Measurable goals and milestones associated with renewable energy for FY 2021 include the following:

- Continue to research installation of additional renewable energy sources at LM sites, including solar hot water heaters, based on renewable energy feasibility studies and where it can be cost-effective
- Review the number of renewable energy credits (RECs) purchased from the Defense Logistics Agency and make needed adjustments to meet any clean energy or renewable energy goals
- Continue to purchase national RECs to meet renewable energy goals and offset greenhouse gas emissions from electricity use as needed
- Monitor renewable energy goal performance at buildings using electricity enter the LM portfolio, and take steps to ensure that the goals continue to be met

6.0 Sustainable Buildings

This section focuses on the U.S. Department of Energy (DOE) Office of Legacy Management (LM) approach and vision for addressing green building initiatives, such as the High Performance Sustainable Buildings (HPSB) Guiding Principles (GPs), as well as building inventory changes.

6.1 Guiding Principles

6.1.1 Guiding Principles Performance Status

LM has successfully met the sustainable buildings goal; 100% of LM's buildings currently comply with the 2016 GPs using either building count or gross square feet (GSF). Both of the LM-owned buildings that are greater than 5000 GSF qualify as sustainable buildings. The Fernald Preserve, Ohio, Site Visitors Center received Leadership in Energy and Environmental Design (LEED) Platinum certification in 2008. The new Weldon Spring, Missouri, Site Interpretive Center met the GPs in 2021. Occupancy took place in spring 2021.

The old Weldon Spring Interpretive Center is on standby and is awaiting disposition. This building is unoccupied. There is no water, and the heating and cooling systems have been turned to appropriate setback temperatures to conserve energy and costs.

Several of LM's existing owned and leased buildings met commissioning, benchmarking, and indoor environmental quality requirements as part of the HPSB GPs between fiscal year (FY) 2008 and FY 2014. Actions related to these requirements are ongoing, and their importance was evident when the COVID pandemic struck in the middle of FY 2020. Personnel at these facilities continued to follow engineering controls (including installing personal air purifiers); installed UV-C lighting in the HVAC systems at the LM Operations Center in Westminster, Colorado, and at the Fernald, Preserve, Ohio Visitor Center; flushed potable water lines; and adjusted cubicle layouts and office circulation to ensure the staff's health and safety as they returned to the facilities.

6.1.2 Guiding Principles Plans and Projected Performance

LM will continue assessing and prioritizing buildings > 5000 GSF for their potential to meet the GPs identified in *Guiding Principles for Sustainable Federal Buildings and Associated Instructions* (Council on Environmental Quality, December 2020). Overall risk of nonattainment of this goal is low. The expected impact of LM's planned GPs building assessments is identification of actions that lead to successful compliance with GPs. Facilities will continue to adapt mechanical systems to improve air quality, install UV-C lights at the LM Business Center at Morgantown, West Virginia, flush potable water lines, and adjust cubicle layouts and office circulation to ensure the staff's health and safety from the COVID pandemic as they return to the facilities. In addition, LM will begin considering sustainable improvements that offer the greatest cost efficiency gains at all buildings, instead of at only those buildings that have matched the prior GSF threshold.

The HPSB GPs and related assessment processes have been incorporated into the following:

- LM/Legacy Management Support (LMS) *EMS Sustainability Teams Manual* (LM-Manual-3-20.3-1.0, LMS/POL/S11374)
- *Real Property Management* (LM-Manual-3-13-3.0, LMS/POL/S04335)
- *Facility Management Plan* (LMS/POL/S05299)
- *LM Office Space Siting Plan Update for Fiscal Year 2019* (LMS/S18950)

Measurable goals and milestones associated with GPs for existing buildings for FY 2022 and beyond include the following:

- Assess all LM-owned buildings greater than 5000 GSF for the GPs. The other LM-owned buildings have not been assessed against the GPs due to size, use, occupancy, or exclusions. Buildings not excluded are evaluated as covered buildings under Section 432 of the Energy Independence and Security Act, and energy saving-strategies will be implemented if cost-effective.
- Continue to track utility usage and gather electronic and lighting inventory for the LM Operations Center (LMOC) at Westminster, Colorado, in ENERGY STAR Portfolio Manager and support an application for an ENERGY STAR Tenant Space recognition.
- Continue pursuing development of a working pilot demonstration of an internal energy dashboard to communicate and monitor progress against sustainability goals.
- Investigate climate resilience training and tools to support Guiding Principal 6: Assess and Consider Building Resilience, such as:
  - Providing assistance for the Weldon Spring Master Plan Project. In FY 2022, the old Weldon Spring Interpretive Center will be demolished, and the U.S. Army Corps of Engineers (USACE) will assist LM in updating the conceptual design for Master Plan projects to be executed in the FY 2023–2026 timeframe. Sustainable design features are being considered for the Master Plan proposed projects, including an outdoor classroom with a multi-use pavilion and an outdoor seating area, and sustainable landscaping.
  - Other site improvements to address obsolete utilities, overflow parking, an expanded road, stormwater grading and drainage, and underused buildings.
  - Potential solar panel electricity and electric vehicles service equipment.

6.2 New Building Design

6.2.1 New Building Design Performance Status

The new Weldon Spring Interpretive Center was completed and met the GPs in spring 2021. Design and construction for this project was completed through USACE. The project included constructing a new 24,500 GSF mixed-use facility consisting of an interpretive center with exhibit hall, classrooms, and auditorium for public use; administrative offices; meeting rooms; laboratory; locker rooms and showers; maintenance garage; and document storage area for LM staff. Beneficial occupancy and transfer of the building from USACE occurred on April 30, 2021, and occupancy took place shortly after.

Planning for energy and water improvements in Building 7 at the LM Field Support Center (LMFSC) at Grand Junction, Colorado, was ongoing through FY 2021.

6.2.2 New Building Design Plans and Projected Performance

LM is the sole tenant in six leased buildings at the Riverview Technology Corporation (RTC) campus at LMFSC at Grand Junction. Most of these buildings provide office space for site personnel. LM has plans for two projects on the DOE-owned 8-acre parcel adjacent to the RTC campus to relocate site personnel from the leased facilities to DOE-owned facilities: the Building 7 Annex Temporary Space Project and the LMFSC Administration Building Design and Construction Project.

- The Building 7 Annex Temporary Space Project includes partial renovations of the 18,900 GSF building. The project is expected to be awarded to a design/build contractor in late 2021, with partial construction to be completed by April 2022. The plan includes:
  - Correcting or updating older and improperly functioning building systems.
  - Bringing life safety items up to current codes.
  - Creating specialized areas to relocate the Environmental Sciences Laboratory and to support the Environmental Monitoring Operations and shipping/receiving/storage warehouse for asset management.
- The LMFSC Administration Building Design and Construction Project includes the design and construction of a new LM-owned administration building on the DOE-owned 8-acre parcel. The project will consist of two separate phases: an infrastructure project with anticipated award in spring 2022 and completion in early 2024, and the administrative building construction completion in late 2024. Plans include:
  - Infrastructure improvements at the LMFSC, including installation of all separate utilities (water, electrical, fiber, natural gas, sewer), to support the upcoming construction of the new administration building. These utilities are currently shared through the Lessor of the adjacent property and buildings, which LM is currently leasing. For a safer approach to the new building, rerouting the existing road and upgrading the crossing at the railroad tracks at the north crossing are also under consideration.
  - Design and construction of a new three-story, 36,000 GSF building built to LEED Gold standards, as well as meeting the HPSB GPs. This would allow LM to vacate several of the leased buildings and consolidate the majority of the office space onsite into the new administration building and the existing Building 7 (mentioned above).

The overall risk of nonattainment of this goal is low. The expected impact of LM's planned new building design is successful compliance with energy efficiency standards and the GPs. Included in Attachment 1 are projected performance graphs for sustainable buildings count. The graphs demonstrate LM's projected performance over the next 5 years.

Measurable goals and milestones associated with new building design in FY 2022 include the following:

- Continue to track utility usage and gather electronic and lighting inventory for the LMOC at Westminster in ENERGY STAR Portfolio Manager. This space will go through the ENERGY STAR Tenant Space Recognition application process in FY 2022.
- Continue to provide sustainability support to projects by including language and requirements to meet energy efficiency standards in project plans, using space optimization

practices, and incorporating resilient design and management elements into the design of new LM buildings.

- Continue to apply sustainability practices to the maximum extent practicable in new leases for facilities greater than 10,000 rentable square feet leased directly by LM or leased by the LMS contractor if reimbursed by LM.
- Continue to apply resiliency best practices into building design and management elements of new or newly retrofitted buildings.

7.0 Acquisition and Procurement

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) acquisition and procurement team focuses on (1) using sustainable acquisition strategies for service and construction contracts and (2) procuring environmentally sustainable products in accordance with U.S. Department of Energy Acquisition Regulation requirements and other applicable DOE and federal procurement policies.

7.1 Acquisition and Procurement Performance Status

In fiscal year (FY) 2021, 100% of new contract actions, under new and existing contracts, included requirements that the products and services:

- Be energy efficient (i.e., be ENERGY STAR certified and/or comply with Federal Energy Management Program [FEMP] guidelines, as appropriate).
- Be water efficient (i.e., be certified as water efficient under the U.S. Environmental Protection Agency [EPA] WaterSense Program, as appropriate).
- Be BioPreferred and biobased (as defined by the U.S. Department of Agriculture [USDA] BioPreferred Program), environmentally preferable (including Electronic Product Environmental Assessment Tool [EPEAT]–registered products), non-ozone-depleting, and nontoxic or less toxic.
- Contain recycled content, including paper containing 30% postconsumer fiber.

LM's acquisition and procurement data is currently being tracked manually in Microsoft Excel workbooks by the sustainable acquisition team lead. LM does not utilize Federal Procurement Data System or System for Award Management to track biobased product purchases or sustainable acquisition contracts. Under the previous Legacy Management Support (LMS) contract the team lead was able to get a quarterly data download from the accounting department via the contractor software. The team lead worked with Information Technology to determine a more efficient and accurate way to collect this data.

LM does not do any subcontracting therefore there are no contracts to include DEAR or FAR clauses in. As a best management practice, LMS contractor flows these requirements down to their subcontractors.

In FY 2021, there were no major initiatives or changes to missions or facilities that impact goal performance.

7.2 Acquisition and Procurement Plans and Projected Performance

Overall risk of nonattainment of this goal is low as LM has sufficient management systems and policies in place. LM will continue to promote sustainable acquisition and procurement to the maximum extent practicable. The expected impact of the planned activities is to meet or exceed the DOE goals. LM will perform the following planned activities:

- Promote sustainable acquisitions and procurement to the maximum extent practical and ensure that 95% of new contract actions, under both new and existing contracts, contain language requiring the supply or use of environmentally preferable or sustainable products and services
- Use the bimonthly team meetings of the acquisition group to emphasize the federal requirements to acquire designated products (ENERGY STAR, FEMP, WaterSense, BioPreferred Program, EPEAT, etc.) in all procurement actions as applicable
- Attend the DOE bimonthly sustainable acquisition teleconferences/webinars to stay abreast of what other DOE programs and DOE contractors are doing to purchase sustainable products and services

Measurable goals and milestones associated with sustainable acquisition and procurement for FY 2022 and beyond include the following:

- Include the required language to ensure that products and services will be green or sustainable in the LMS contractor's procurement terms and conditions for all commodities and services
- Ensure that 95% of EPA and USDA–listed products and services purchased, excluding all purchases made with credit cards, are environmentally preferable or sustainable as subject to certain qualifications
- Track compliance with the goal of purchasing 95% sustainable products and services (including tracking for the quarterly *Performance Assurance Measures* reports, LM's annual Environmental Management System report, and in the DOE Sustainability Dashboard)
- Require that purchases of noncompliant energy-efficient products have written preapproval from a subject matter expert
- Continue working with information technology to determine a more efficient and accurate way to collect this data

8.0 Efficiency and Conservation Measure Investments

The Efficiency and Conservation Measure Investments category focuses on U.S. Department of Energy (DOE) Office of Legacy Management (LM) implementation of identified efficiency and conservation measures (ECMs) through appropriations and direct obligations, performance contracts, and LM's sustainability-related training and education for employees.

8.1 Efficiency and Conservation Measures

8.1.1 Efficiency and Conservation Measures Performance Status

LM continued to pursue ECMs in fiscal year (FY) 2021. No ECMs in FY 2021 met the criteria for reinvestment. LM provided all approved fiscal year appropriations, direct obligations, and indirect obligations funding for ECMs, including facility surveys/evaluations in the DOE Sustainability Dashboard. Appropriations and direct obligations are summarized in Table 4 below.

Table 4. LM's Projected Appropriations and Direct Obligations

LM Appropriations and Direct Obligations for FY 2021–FY 2023					
Fiscal Year	Obligations for Facility Energy and Water Efficiency Improvements, Including Surveys and Audits (dollars)	Estimated Annual Energy Savings Anticipated from Obligations		Estimated Annual Water Savings Anticipated from Obligations	
		Energy Cost Savings (dollars)	Energy Savings (million Btu)	Water Cost Savings (dollars)	Water Savings (gallons)
Actual FY 2021	1,216,560	9,513	422	0	0
Projected FY 2022	3,368,000	0	0	0	0
Projected FY 2023	29,018,000	0	0	0	0

Abbreviation:
Btu = British thermal units

The following ECMs were implemented in FY 2021 using direct obligations funding:

- Shutdown of the cold storage unit at the LM Business Center (LMBC) at Morgantown, West Virginia
- Replaced the old emergency generator at the LMBC with a new, smaller, more energy- and fuel-efficient generator
- Finalized an electrical upgrade at the Weldon Spring, Missouri, Site
- Completed construction of the new more energy and water efficient Weldon Spring Site Interpretive Center
- Subcontracted a design/build contract with a subcontractor to construct a new more energy and water efficient building at the LM Field Support Center (LMFSC) at Grand Junction, Colorado

LM identified the following new ECMs:

- Construct a new administration building at the LMFSC. This will include new water saving toilets and faucets, a new electrical panel, and building-specific water and energy meters.
- Begin updates and renovations on Building 7 at the LMFSC.
- Install electric vehicle service equipment (EVSE) at staffed LM facilities.

8.1.2 Efficiency and Conservation Measures Plans and Projected Performance

Overall risk of nonattainment of this goal is low as LM will continue to pursue identification of ECMs. The expected impact of these activities on future fiscal years is continued reductions in energy use, water usage, and greenhouse gas (GHG) emissions.

Measurable goals and milestones associated with ECMs for FY 2022 and beyond include the following:

- Prioritize and implement identified ECMs.
- Reduce the number of deferred maintenance tasks identified for energy-consuming buildings and facilities annually, as funding allows.
- Complete condition assessment surveys (CASs) for all DOE-owned and DOE-leased buildings and trailers, and for Other Structure and Facilities (also known as OSFs), on a 5-year schedule, as required by DOE Order 430.1C Chg 2, *Real Property Asset Management*. Energy Independence and Security Act evaluations and collection of climate resilience information will be performed in conjunction with CASs when possible.
- Continue to reinvest cost savings realized from ECMs, where applicable.
- Install all life-cycle cost-effective ECMs in owned buildings by October 1, 2022.

8.2 Performance Contracts

8.2.1 Performance Contracts Performance Status

During FY 2021, LM projects did not meet the monetary requirements for a performance contract. Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) funding opportunity information was presented to Legacy Management Support (LMS) site leads, but no projects were identified.

LM began conversations with Xcel Energy to partner with them to optimize installation of EVSEs at the LMFSC at Grand Junction and at the LM Operations Center (LMOC) at Westminster, Colorado.

As a best management practice, several LM staff members took performance contracting courses offered by the Federal Energy Management Program. In addition, to better understand the utility contractor's role in the performance contracting process, several staff members met with a utility provider. A utility provider representative met with staff members at LMFSC to help identify additional energy saving methods and discuss ways to combine projects to receive funding.

8.2.2 Performance Contracts Plans and Projected Performance

LM will evaluate projects for use of an Energy Savings Performance Contract or other alternative funding mechanism during the planning process. In addition, LM will perform the following planned activities:

- Determine the cost-effectiveness of projects and consider the implementation of new technologies for demonstration purposes, the facilitation of technology and information

transfer, and the accomplishment of deferred maintenance tasks. This includes studying and applying cost-effective, new technologies that enhance protectiveness.

- Continue to refine the scope and estimated implementation costs for projects, evaluate funding sources for financial and technical rigor, and seek appropriate funding sources over the next 5 years for those life-cycle cost-effective projects.
- Continue to inform and educate LMS site and facility leads on performance contracting and AFFECT funding opportunities.
- Evaluate entering a utility energy service contract with Xcel Energy for electric vehicle (EV) charging stations at the LMFSC and the LMOC.

Despite the implementation of these actions, overall risk of nonattainment is high. LM does not expect to contribute to DOE obtaining the performance contract goal, mainly because of the nature of LM sites and activities.

Measurable goals and milestones associated with performance contracts for FY 2022 and beyond include the following:

- Evaluate expanding the usage of new technologies (such as remote sensing, telemetry, and unmanned aircraft system–based sensors with instruments) to improve site monitoring efforts while reducing costs, natural resource use, and business travel–related GHG emissions
- Pursue additional training on estimating costs, scheduling, and preparing return on investments and simple paybacks
- Continue to examine reinvestment potential to use realized cost savings from ECMs

8.3 Training and Education

8.3.1 Training and Education Performance Status

The LMS contractor migrated all of their training courses to the Learning Nucleus.

Environmental Management System (EMS) sustainability team members and Environmental Compliance staff worked with the EMS Training Team to update or issue the following EMS-related courses:

- EC113, National Environmental Policy Act General Awareness (06/2021)
- EC115, Environmental Management System Orientation (not complete, but started in FY 2021)
- EC116, Natural Resource Management at LM Sites
- EC300, Environmental Management System Management Review
- EC401, Waste Management Training
- ECACSWaterOJT, Construction Activity Stormwater Inspection (12/2020)
- ECIAWaterOJT, Annual Comprehensive Stormwater Evaluation (12/2020)
- ECIAWaterOJT, Industrial Activity Stormwater Inspection (12/2020)

- E-COMM, Environmentally Related External Communication (07/2021)
- ECRADWasteOJT, Monthly Radiological Waste Inspection

As best management practices, LM:

- Developed and published sustainability awareness articles in the internal quarterly newsletter *E2SH&Q Outlook*.
- Prepared EMS-related topics and actions to increase awareness during monthly safety meetings.
- Tracked training completions and notified managers when an individual's training was overdue.

8.3.2 Training and Education Plans and Projected Performance

LM plans to continue to require staff to take sustainability and core competency training. In addition, LM will perform the following planned activities:

- Maintain the certified energy manager's certification
- Identify an additional person to take energy manager training
- Provide onsite training for environmental compliance and select field staff to maintain U.S. Department of Transportation hazardous waste shipper certification

The expected impact of these planned activities is increased awareness of sustainability practices and increased LM staff knowledge.

9.0 Travel and Commute

Travel and commute focuses on all business-related travel as well as employee commuting and how those effect the U.S. Department of Energy Office of Legacy Management (LM) commitment to decrease greenhouse gas (GHG) emissions. Business ground travel, as included in this category, was limited to personal vehicle use for business travel, vehicle rentals, leased vehicles, taxi use, and mass transit business travel. Commute travel addressed staff's travel from their personal residences to and from LM's offices for work.

9.1 Travel and Commute Performance Status

This category addresses LM's ground and air business-related travel and employee commuting, which contributed to LM's Scope 3 greenhouse gas (GHG) emissions. Business ground travel included personal vehicle use for business travel, vehicle rentals, leased vehicles, taxi use, and mass transit business travel. It did not include U.S. General Services Administration fleet vehicle use. Commuter travel addressed staff's travel from their personal residences to and from LM's facilities for work. There was no specific quantifiable performance goal to report on specifically for travel and commuter emissions, which are but two of many contributors to LM's overall Scope 3 GHG total emissions. Nonetheless, LM's overall goal was to have a year over year reduction in overall Scope 3 GHG emissions.

No major initiatives or changes to missions occurred in fiscal year (FY) 2021 that contributed in significant ways to LM's travel and commuter performance. Because of the nationwide distribution of LM's staffed and unstaffed sites, travel remained a necessary component of LM's day-to-day activities and was required to achieve LM's mission in FY 2021. Additionally, LM continued to add sites nationwide, which increased work activities and staffing. Despite the integral nature of travel to LM's mission, LM remained committed to reducing Scope 3 GHG emissions due to traveling and commuting in FY 2021. LM best practices are described in Section 9.2.

LM's response to the COVID pandemic during FY 2021 resulted in a significant curtailment of air, commuter, and ground travel to help ensure protection of staff and the public. For instance, LM staff did not travel by air throughout the first half of FY 2021, and commuter travel was generally limited throughout the year to a maximum of 25% of staff working at facility locations.

Neither LM's business ground travel nor air travel data was available at the time of this document's publication; only Legacy Management Support (LMS) contractor data was addressed for these types of travel in this FY 2021 reporting effort. Because of the partial data, neither LM's FY 2021 Scope 3 GHG emissions nor LM's performance towards achieving the annual Scope 3 GHG emissions reduction goal were determined. However, given that significant decreases occurred to air, ground, and commuter travel throughout an extended portion of FY 2021 due to LM's response to the COVID pandemic, it is possible that LM achieved the reduction goal in FY 2021 as compared to FY 2020.

As prompted by the *Fiscal Year 2022 Site Sustainability Plan Guidance* (U.S. Department of Energy Sustainability Performance Division, 2021), the following provides additional information pertaining to LM's business (ground and air) and commuter travel during normal, non-COVID-response conditions:

- LM used teleconferencing services and virtual-presence software to conduct meetings and training, as appropriate or available
- LM personnel shared business rental cars or used mass transit while attending out-of-town meetings and events, where feasible
- LM used flexible work schedules and teleworking, which helped reduce LM commuter travel
- Federal employees at the LM Operations Center at Westminster, Colorado, were eligible to receive reduced prices on public bus passes as part of a transit subsidy program
- The LM Business Center at Morgantown, West Virginia, and the Fernald Preserve, Ohio, Site had preferred parking for electric vehicles and hybrids
- LM's mission required long-distance driving as well as the use of four-wheel-drive vehicles to access remote areas
- LM periodically conducts a logic-driven commuter survey of all LM and LMS staff to obtain commuter data:
    - This survey data is used to estimate LM and LMS commuter travel and adjusted to reflect the current staffing numbers as needed.
    - The survey results were also adjusted this year to account for increased telework that occurred throughout FY 2021 due to the COVID pandemic, which significantly decreased the average number of commuting days.

9.2 Travel and Commute Plans and Projected Performance

Travel is an integral part of performing LM's mission, and LM remains committed to reducing GHG emissions associated with business traveling and commuting in FY 2022 and beyond. Consideration of ways to limit and mitigate potential employee and public exposure to the COVID pandemic will continue to factor into all travel-related decisions during the pandemic. LM's COVID pandemic response will potentially change in FY 2022 and could allow for increased travel and commuting as workers increase previously deferred business travel and as commuters increase their work at LM facilities in either part-time or full-time capacities.

LM will perform the following planned activities as allowed by LM's COVID pandemic response:

- Evaluate and implement methods to eliminate or consolidate and reduce business ground and air travel.
- Follow best management practices to reduce travel by combining different functional activities into one trip; consolidating work at adjacent or en-route remote sites into one trip; carpooling to the extent possible for business travel; and using videoconferences, teleconferences, and instant messaging in place of in-person meetings. LM's response to the COVID pandemic will negatively impact LM's ability to carpool, to pair up in cars, and to consolidate work and combine site trips.
- Allow flexible workweeks to reduce commuting time (e.g., four 10-hour days), and work to increase telecommuting options through mutual alternative work agreements designed to reduce commuting days.
- Allow for remote work and work-from-home as options, as appropriate. LM's response to the COVID pandemic will greatly impact work-from-home options as employees have been encouraged to work-from-home during FY 2021 and allowable staffing was limited to a maximum of 25% of full capacity. It is likely that workers will increase their work from LM facilities to either full-time or part-time capacities in FY 2022.
- Pursue installation of additional renewable energy System Operation and Analysis at Remote Sites (SOARS) systems where cost-effective, and maintain operation of the existing system, to help reduce associated data-gathering travel.
- Share business rental cars or use mass transit while attending out-of-town meetings and events. LM's response to the COVID pandemic has negatively impact LM's ability to pair up in cars and take public transit. This will likely change in FY 2022, or whenever there is a lifting of pandemic-related travel restrictions.
- Use webinars to enhance job skills and use other seminars and training sessions provided by federal and state agencies and educational institutions, in place of traveling to in-person trainings. Broader availability of webinar-style training by training groups during the COVID pandemic should make this easier to achieve.
- Encourage employees to carpool and to use public transportation to the extent possible during their commutes to work. LM's response to the COVID pandemic has negatively impacted LM's ability to carpool, pair up in cars, and take public transit. This will likely change in FY 2022, or whenever there is a lifting of pandemic-related travel restrictions.
- Continue evaluating the feasibility of installing electric vehicle charging stations for staff and public use at several LM locations.

LM's Scope 3 GHGs emissions during the COVID pandemic response have been atypically reduced because of the corresponding reduction in air and ground travel, including commuter travel. The ability to achieve the Scope 3 GHG emission reduction in FY 2022 and beyond will be dependent on the duration of the ongoing response to the COVID pandemic. The risk of nonattainment of this goal is medium. It will likely be difficult to further reduce travel in FY 2022 as compared to the atypically decreased travel in FY 2021, making it difficult to achieve the reduction goal.

Measurable goals and milestones associated with traveling and commuting in FY 2022 and beyond include the following:

- Continue to track all travel sources and update datasheets at least once per year
- Prepare and conduct a new LM/LMS commuter survey in FY 2022 after a new work practice norm has been established (post-COVID-pandemic response) to obtain updated staff commuter information
- Continue efforts to reduce overall travel-related GHG emissions

10.0 Fugitives and Refrigerants

This category addresses fugitive emissions and refrigerants used at U.S. Department of Energy Office Legacy Management (LM) sites and LM efforts to minimize associated Scope 1 greenhouse gas (GHG) emissions.

10.1 Fugitives and Refrigerants Performance Status

There is no specific quantifiable performance goal to report on for fugitive gases and refrigerant emissions, which are only two of many contributors to LM's overall Scope 1 GHG total emissions. LM's overall goal is to annually reduce Scope 1 GHG emissions.

No major initiatives or changes to missions occurred in fiscal year (FY) 2021 that contributed in significant ways to LM's fugitive or refrigerant gases GHG emission performance. However, construction of a new replacement administrative building was completed at the Weldon Spring, Missouri, Site that resulted in a net increase in the quantity and types of refrigerant gases included in LM's refrigerant equipment inventory (e.g., air conditioning units, cooled drinking fountain unit, refrigerators). The replacement equipment that was added at the Weldon Spring site was newer and more energy efficient than the previous equipment.

The use of fugitive gases and refrigerants were a relatively small part of LM's overall operations and represented a small fraction of overall anthropogenic carbon-dioxide-equivalent emissions for the organization. Although the amount of fugitive gases in LM's inventory decreased during FY 2021 from FY 2020 (through use of stored supplies) and the amount of refrigerants increased in FY 2021 from FY 2020, the combined GHG emissions from these two sources remained at less than 1.0 metric ton of carbon dioxide equivalent in FY 2021. LM's fugitives and refrigerant management practices are generally identified in the "Plans and Projected Performance" section below.

LM did not use or maintain sulfur hexafluoride (SF6) in its inventory in FY 2021.

10.2 Fugitives and Refrigerants Plans and Projected Performance

LM's FY 2022 fugitives and refrigerant management practices will remain mostly unchanged from FY 2021 and LM will not use or maintain SF6 in its future inventory.

Any change to LM's COVID pandemic response in FY 2022, including the part-time or full-time return of additional staff to LM facilities from their remote work locations, is expected to have only a minimal impact on fugitive or refrigerant gas emissions because associated fugitive gas consuming activities (e.g., sampling) continued to occur throughout the pandemic response, and the refrigerant equipment (e.g., refrigerators, cold water drinking fountains, and air conditioning units) remained mostly unchanged throughout the pandemic response.

LM will continue to be committed to reducing GHG emissions associated with fugitives and refrigerants, and plans to conduct the following activities:

- Continue to track fugitive gas and refrigerant uses and inventories via internal tracking documents
- Continue to look for improvement opportunities and, when possible, acquire less toxic alternative chemicals or choose alternative equipment not containing fugitive gases or refrigerants
- Continue to inspect chemical containers, gas cylinders, and refrigerant equipment in accordance with manufacturer's guidelines and as necessary to prevent spills and leaks
- Remove unneeded gases or equipment from inventory and dispose of it in an environmentally compliant manner

The expected impact of these planned activities is the continued maintenance of, or a very slight reduction in, fugitive gases and refrigerants emissions in future fiscal years.

Measurable goals and milestones associated with management of fugitive gases and refrigerants for FY 2022 and beyond include the following:

- Continue to maintain spreadsheet inventories of fugitive and refrigerant gases and update the inventories at least once per year
- Evaluate the capability of the new chemical inventory software, "MSDSonline," to determine if it can track fugitive gas use over a reporting period and if it would provide appropriate data for sustainability reporting

11.0 Electronics Stewardships and Data Centers

This section covers the U.S. Department of Energy (DOE) Office of Legacy Management's (LM's) approach and vision for addressing electronic stewardship. Electronic stewardship focuses on topics such as electronics operations, end-of-life electronics, data center strategies, and electronics acquisition.

11.1 Electronics Operations

11.1.1 Electronics Operations Performance Status

LM met this goal in fiscal year (FY) 2021 by enabling power management in 100% of eligible equipment. LM utilized the following best management practices to reduce power usage:

- LM used a network group policy to administer power management on all desktop and laptop systems. The policy was extended to digital displays and printers and cannot be altered by users.
- Systems running mission-critical processes requiring exemption from the standard power management configuration were documented as exceptions and controlled by a separate group policy.
- LM enabled automatic duplex printing on all desktops and laptop systems.

11.1.2 Electronics Operations Plans and Projected Performance

LM will continue enabling power management capabilities on eligible equipment to ensure attainment of meeting electronic stewardship goals. The expected impact will be to continue to achieve goals related to electronics operations. LM expects to achieve this goal; therefore, overall risk of nonattainment is low.

Measurable goals and milestones associated with electronics operations for FY 2022 and beyond include the following:

- Continue phasing out physical hardware servers and replacing them with more electronically efficient virtual-machine technology whenever possible. A variety of benefits are realized, including a smaller footprint, reduced cooling and overall power requirements, and scaling back on the pervasiveness of electronic components in operation.
- Pursue efficient use of desktop, laptop, and notebook systems, merging use where possible to reduce the number of devices in operation. Minimize the number of systems existing in general office space, including the number of duplicate desktop, laptop, or notebook computer systems.
- Enable automatic duplexing capabilities by default on eligible equipment to ensure attainment of electronic stewardship goals.
- Phase out locally attached, personal-use printers. This goal is made easier by the secure printing option now available on all network-managed multifunction devices at all locations. The growing use of shared network devices will contribute to the ongoing reduction of paper, printing supplies, and power usage.

11.2 Electronics End-of-Life

11.2.1 Electronics End-of-Life Performance Status

LM remained committed to using environmentally sound disposition options (reuse or recycling) to manage end-of-life electronics during FY 2021. No major initiatives or changes to missions or facilities occurred in FY 2021 that contributed in significant ways to LM's used electronics

disposition practices, which are discussed in the "Plans and Projected Performance" section below.

In FY 2021, LM managed 100% of its end-of-life electronics through environmentally sound disposition options, thereby achieving the annual performance goal of 100%.

In FY 2021, electronics played a significant role in LM staff's ability to work remotely in response to the COVID pandemic. LM continued to achieve its annual electronic end-of-life performance goal despite the new challenges presented by the COVID pandemic.

11.2.2 Electronics End-of-Life Plans and Projected Performance

LM remains committed to implementing environmentally sound disposition options for used electronics in FY 2022, and LM's electronics end-of-life management practices will remain mostly unchanged from those used in FY 2021. The overall risk of nonattainment of this goal is low. LM anticipates that it will be able to achieve the annual performance goal for used electronics again in FY 2022 and in future years.

As the number of staff returning to work at LM facilities increases following LM's heightened response to the COVID pandemic, there will be a corresponding increase in the amount of used electronics being brought back to the sites for disposal. All used electronics will be managed in an environmentally sound manner and it should not be an issue to achieve the annual performance goal again in FY 2022.

Procedures identified in the *Personal Property Manual* (LM-Manual-3-13-2.0, LMS/POL/S24628) require that all personal property excess actions involve Personal Property personnel. All used electronics that can be reused within LM will be transferred for use within the LM complex. If the used electronics cannot be reused within LM, Information Technology (IT) personnel will coordinate with Personal Property personnel to provide pictures of used electronics for posting to the GSAXcess website. This website is a means to dispose of excess used electronics through interagency transfers under the U.S. General Services Administration (GSA) Exchange/Sale authority. If selling used electronics is not an appropriate option, the electronics will be donated through appropriate avenues established to facilitate reuse, such as GSA's Computers for Learning Program and eligible state and nonprofit organizations. Recycling is the next disposition option if sale and other reuse options are not viable. All LM used electronics designated for recycling will be collected and recycled through federal operations or private certified recyclers. Disposal of used electronics as waste occurs only if reuse and recycling are not feasible. In addition, LM will perform the following planned activities:

- Continue to track and manage electronics end-of-life data. LM's IT, Personal Property, and Waste Minimization and Pollution Prevention sustainability teams will continue to develop and refine the process for tracking and disposing of used electronic equipment.
- Monitor appropriate electronics reuse and recycling opportunities, and choose reuse over recycling when possible.
- Ensure that data contained on any reused, recycled, or disposed of equipment is properly sanitized using LM established procedures.
- Continue to instruct and reinforce with all staff that used electronics shall be reused and recycled following establish processes, not disposed as waste.

- Ensure that used electronics accumulated for recycling are managed in accordance with applicable requirements and that best management practices are applied.
- Ensure that electronics recyclers are legitimate, are certified, and employ legal and environmentally sound disposition practices prior to sending electronics for recycling.
- Ensure that the equipment in the end-of-life electronics inventory is disposed of promptly to minimize the accumulation of excessive quantities of used electronics at LM sites.

The expected impact of these planned activities on future fiscal years is that LM will be able to continue to appropriately manage all used electronics through reuse and recycling.

Measurable goals and milestones associated with electronics end-of-life management for FY 2022 and beyond include the following:

- Track and manage all LM electronics reuse data
- Track and manage all LM electronics recycling data
- Dispose of 100% of used electronics in an environmentally sound manner through eligible reuse and recycling

11.3 Data Center Strategies

11.3.1 Data Center Strategies Performance Status

LM committed to install separate metering in both of its data centers (one at the LM Business Center [LMBC] at Morgantown, West Virginia, and the other at the LM Field Support Center [LMFSC] at Grand Junction, Colorado) to achieve the power utilization effectiveness (PUE) target of 1.4.

As a best management practice, LM monitors data center server utilization statistics to look for opportunities for combining server functions.

11.3.2 Data Centers Plans and Projected Performance

LM will continue to effectively utilize power associated with new or existing data centers to ensure attainment of the PUE target. The expected impact of LM's effective power use is continued compliance with the PUE target.

Measurable goals and milestones associated with data centers for FY 2022 and beyond include the following:

- Optimize the configuration of LM's data centers by monitoring data center power consumption in accordance with federal Data Center Optimization Initiative (DCOI) standards and through LM's ongoing server virtualization effort
- Observe and follow all guidance and metrics as determined by DCOI standards
- Install software to measure server utilization effectiveness
- Install separate metering at both of its data centers at the LMBC and at the LMFSC

11.4 Electronics Acquisition

11.4.1 Electronics Acquisition Performance Status

LM was awarded the Electronic Product Environmental Assessment Tool (EPEAT) Green Purchaser award for the sixth consecutive year. The EPEAT program provides a method for evaluating the impact electronic equipment has on the environment. Devices are ranked as gold, silver, and bronze, with gold for devices that cause the least amount of damage to the environment. Nearly 100% of LM's eligible electronic equipment acquired in FY 2021 is ranked EPEAT Gold.

11.4.2 Electronics Acquisition Plans and Projected Performance

LM plans to continue procuring EPEAT-registered products at current compliance levels in accordance with DOE requirements. The expected impact will be to continue to achieve goals related to electronics acquisition. The overall risk of nonattainment of this goal is low.

Measurable goals and milestones associated with electronics acquisition for FY 2022 and beyond include the following:

- Manage purchases of electronic products in an environmentally responsible manner
- Require that purchases of noncompliant products have written approval from a subject matter expert
- Work closely with facilities to ensure that improvements to Building 7 at the LMFSC are designed with energy efficiency in mind and best practices using latest data center requirements
- Work closely with facilities to ensure that the new administration building at the LMFSC is designed with energy efficiency in mind, using best practices, and using latest data center requirements

12.0 Adaptation and Resilience

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) implemented policies and plans to better adapt to changing conditions, to respond to emergencies, and to withstand or recover from disruption. Adaptation and resilience efforts help manage risks to LM assets, infrastructure, operations, personnel, and mission execution.

12.1 Adaptation and Resilience Performance Status

The LM/Legacy Management Support (LMS) Environmental Management System (EMS) Resilience team, in conjunction with supporting teams from Emergency Management (EM), LMS Program Management Office (PMO), LMS Asset Management, and LMS Facility Management, completed the following in fiscal year (FY) 2021:

Assets/Infrastructure

- Replaced the emergency generator at the LM Business Center in Morgantown, West Virginia, with a smaller and more efficient generator.
- Opened the new Interpretive Center at the Weldon Spring, Missouri, Site with several resilience and sustainability features, including:
  - Entrances are protected by roof overhangs or canopies that provide relief from the sun and rain.
  - Most of the building's glazing and windows are covered by roof overhangs, canopies, or rolling shades to reduce indoor air temperature and heat gain.
  - The finishes for the walls, floors, and ceilings are antimicrobial to resist mold and mildew.
  - The building envelope consists of 1-inch thick tinted insulated glazing and insulated metal panels to reduce energy usage and provide protection from mold and mildew, pests, and so on.
  - Clerestory windows in the exhibit hall and open office areas reduce the need for lighting (and provide light in the event of a power outage) during daylight hours.

Operations

- The EM Watch Office and Duty Officer program was declared operational. This program includes implementation of a Duty Officer program to ensure availability 24 hours per day, 7 days a week, 365 days a year to answer and respond to emergency incidents.
- LM and the LMS contractor continued taking extra precautions and increased monitoring to deter thefts and vandalism while onsite staff numbers were decreased because of COVID pandemic restrictions.
- The *Site Security Plan* (LMS/POL/S11558) was reviewed in FY 2021 with no major updates.
- An annual review of the site security assessments for all occupied locations in the LM complex was conducted. While no specific new hazards were identified during the assessments, LMS security continued to be proactive in security at sites as new information arose.
- New instructions for worker emergency response and protective actions were issued to add emergency response information for the Occupant Emergency Plans for occupied sites.
- Continued to coordinate emergency response with offsite support agencies, and continued to develop memorandums of understanding (MOUs), memorandums of agreement (MOAs), mutual aid agreements, and letters of agreement to ensure local support during an emergency.

Personnel

- Attended the Federal Energy Management Program (FEMP) Energy Exchange Conference (virtual) in 2021 and attended sessions on Resilience that touched upon the Technical Resilience Navigator (TRN) and presented case studies of agencies that used it.
- LM continued to support the agreement with Lawrence Berkeley National Laboratory (LBNL) to complete an assessment of LM sites and their susceptibility to climate change impacts.

Mission Execution

- LM continued to pursue the resilience objectives identified in the LM *2020–2025 Strategic Plan* (DOE/LM-1477); LM policies, plans, and procedures; the LM *FY 2017–FY 2021 High Performing Organization Plan* (June 2017); and DOE orders, Executive Orders, and other directives.
- LMS Cybersecurity used the Confidentiality, Integrity, and Availability (CIA) triad model in its cybersecurity program and incorporated the CIA model into LM policies, procedures, and National Institute of Standards and Technology (NIST) 800-53 control testing. During a recent risk assessment for NIST Control CP-4, "Contingency Plan Testing," the hypothetical LM scenario involved a flooding event.
- LMS security provided a position paper to LM regarding the infrastructure upgrades needed to support a classified program. The paper was delivered to LM leadership and it is being reviewed to determine whether a classified program is feasible within LM but outside of the DOE Headquarters building, where all classified information relative to LM is currently held.

The COVID pandemic affected LM and LMS contractor site operations on many different levels. Mission-critical field activities were performed on a limited basis, LM and LMS presence in facilities was reduced significantly, and most staff continued maximum telework.

- EM staff planned and facilitated the COVID-19 Integrated Project Team weekly meetings. These interdisciplinary calls were scheduled to coordinate planning and implementation actions. These included identification of resources (e.g., vehicles, cleaning supplies, personal protective equipment) and the development of job safety analyses to include COVID pandemic social distancing controls. Topics such as the accountability tool used for in-person visits to sites, the DOE requirement to attest to vaccination status, and travel requests were discussed in addition to the health status of employees, the issues facing the teams, and the list of actions that require urgent attention.
- Occupied facility locations had MicroShield disinfection barrier applied for germ prevention.
- Facilities had outside air and/or ultraviolet light upgrades installed onto their mechanical units.

12.2 Adaptation and Resilience Plans and Projected Performance

LM is applying a variety of strategies as an organization to maintain compliance with requirements and to enhance the resilience of assets, infrastructure, operations, personnel, and mission execution. The expected impacts of these strategies in future fiscal years include better integration and cross-functional coordination of planned activities to improve efficiency and resilience throughout LM. The overall risk of nonattainment of this goal is low. The EMS

Resilience team will continue working with the supporting teams, the LMS PMO, LMS EM, LMS Asset Management Support, and LMS Facility Management.

Specific measurable goals and milestones for FY 2022 and beyond include:

Assets/Infrastructure

- Install electric vehicle (EV) service equipment for future level 2 EV cars at the main facility locations.
- Ensure new construction projects are in line with High Performance Sustainable Buildings Guiding Principles and Leadership in Energy and Environmental Design principles.
- Address issues found during Energy Independence and Security Act Section 432 energy and water evaluations on required buildings.

Operations

- The EM program upgrade will continue to ensure the LM program can successfully respond to changing conditions, emergencies, and disruptions in service. The recommended items described below are resource- and budget-dependent.
  - Establish an Emergency Operations Center, either virtually or using a current LM facility location, as a central location for coordinating response to an operational emergency.
  - Coordinate emergency response with offsite support agencies, and develop MOUs, MOAs, mutual aid agreements, and letters of agreement to ensure local support during an emergency.
  - Increase Emergency Operations System capability. Planning will include the technologies required to allow continued Continuity of Operations (COOP) support and 24x7 availability.
  - Develop an appendix to the DOE LM Continuity of Operations Plan to address COOP planning and response at LM field level occupied sites and facilities.
  - Populate LM Aware with site-specific notification information, including offsite agency notifications, and emergency response organization member notifications. LM Aware is an electronic system that is used to provide emergency notifications and support personnel accountability.
  - Update the drill and exercise program for emergency incident preparation and accountability and perform drills when personnel return to facilities.
- Update the Site Security Plan.
- Continue to investigate use of the FEMP TRN tool in FY 2022 to manage risks associated with disruptions in energy and water services, and LM will evaluate climate-related threats in accordance with Guiding Principles VI, "Assess and Consider Building Resilience," during Guiding Principles assessments.
- Categorize and rank LM's Uranium Mill Tailings Radiation Control Act sites with conventional covers based on their vulnerability to changes in engineering properties, associated risks to human health and the environment, and suitability for future management as evapotranspiration covers. This will be done by the Applied Studies and Technology organization.

Personnel

- Continue to pursue resilience training.

Mission Execution

- Conduct vulnerability assessments and develop resilience plans.
  - Continue to coordinate with and support LBNL to complete an assessment of LM sites and their susceptibility to climate change impacts This activity is scheduled to be completed in September 2022.
  - Use the DOE Vulnerability Assessment and Resilience Planning Guidance steps in conjunction with the LBNL assessment to draft the Vulnerability Assessment and Resilience Plan (VARP) for LM by August 15, 2022, for LM to review and approve for submission to DOE by September 30, 2022. Using a graded approach, the main focus of the assessments will be on major facilities including primary offices, interpretive/visitor centers, and active remediation sites (pumping, open disposal cells, etc.). LM will first develop a charter with a proposed schedule for its VARP.
- Continue to pursue implementation of the resilience objectives identified in the following:
  - The LM 2020–2025 Strategic Plan
  - LM policies, plans, and procedures
  - The LM *FY 2021–FY 2025 High Performing Organization Plan*
  - The DOE 2021 Climate Adaptation and Resilience Plan (August 2021)
  - Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*
  - DOE orders, Executive Orders, and other directives
- Cybersecurity will continue to use the CIA triad model in the LM cybersecurity program and incorporate the CIA model into LM policies, procedures, and NIST 800-53 control testing. Climate resilience is a component of Availability and will be incorporated into risk assessments and overall risk management.

To address ongoing COVID pandemic restrictions with limited operations, the following activities are planned for the upcoming year to assist LM in recovery and returning to full operations:

- Review and evaluate technical position papers that have been published as guides to recovery
- Evaluate new technologies for application at LM sites
- Maintain quarterly accountability drills to ensure worker response during teleworking conditions

Attachment 1

Projection Charts

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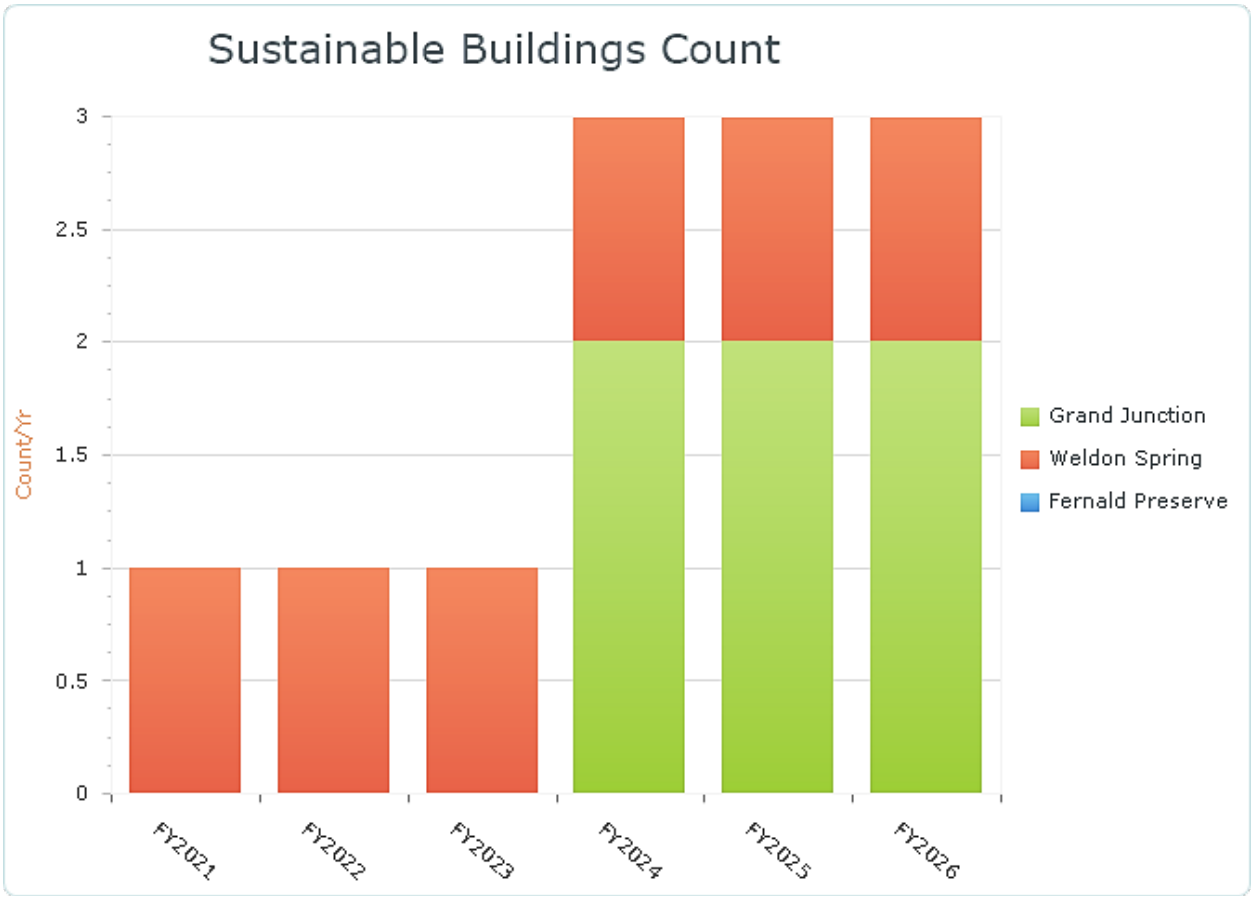
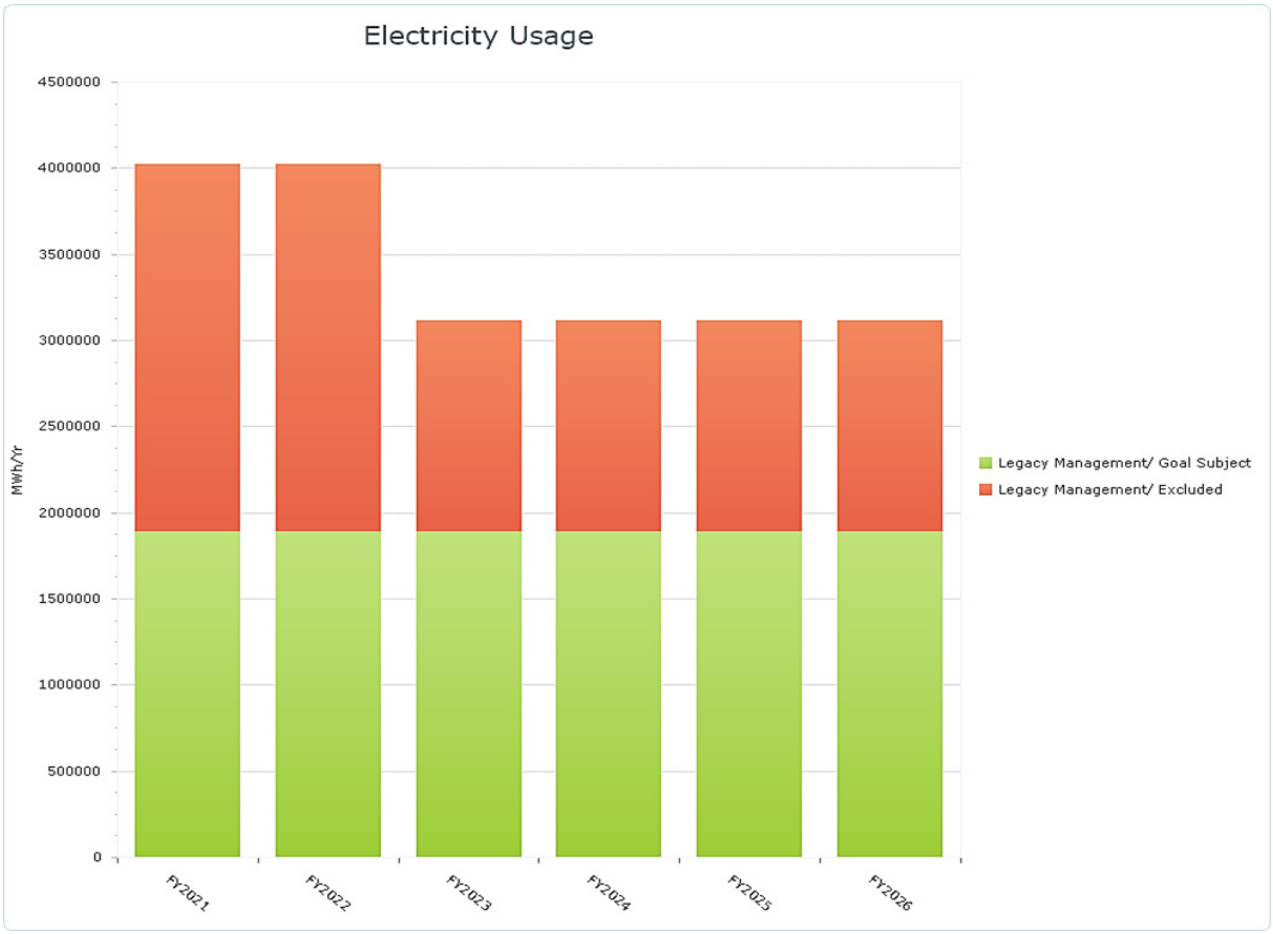
Projected Performance Data

The following graphs were created using the DOE Sustainability Dashboard to demonstrate LM's projected performance over the next five years in sustainable buildings count, electricity usage, potable and nonpotable water usage, municipal solid waste and construction and demolition waste.

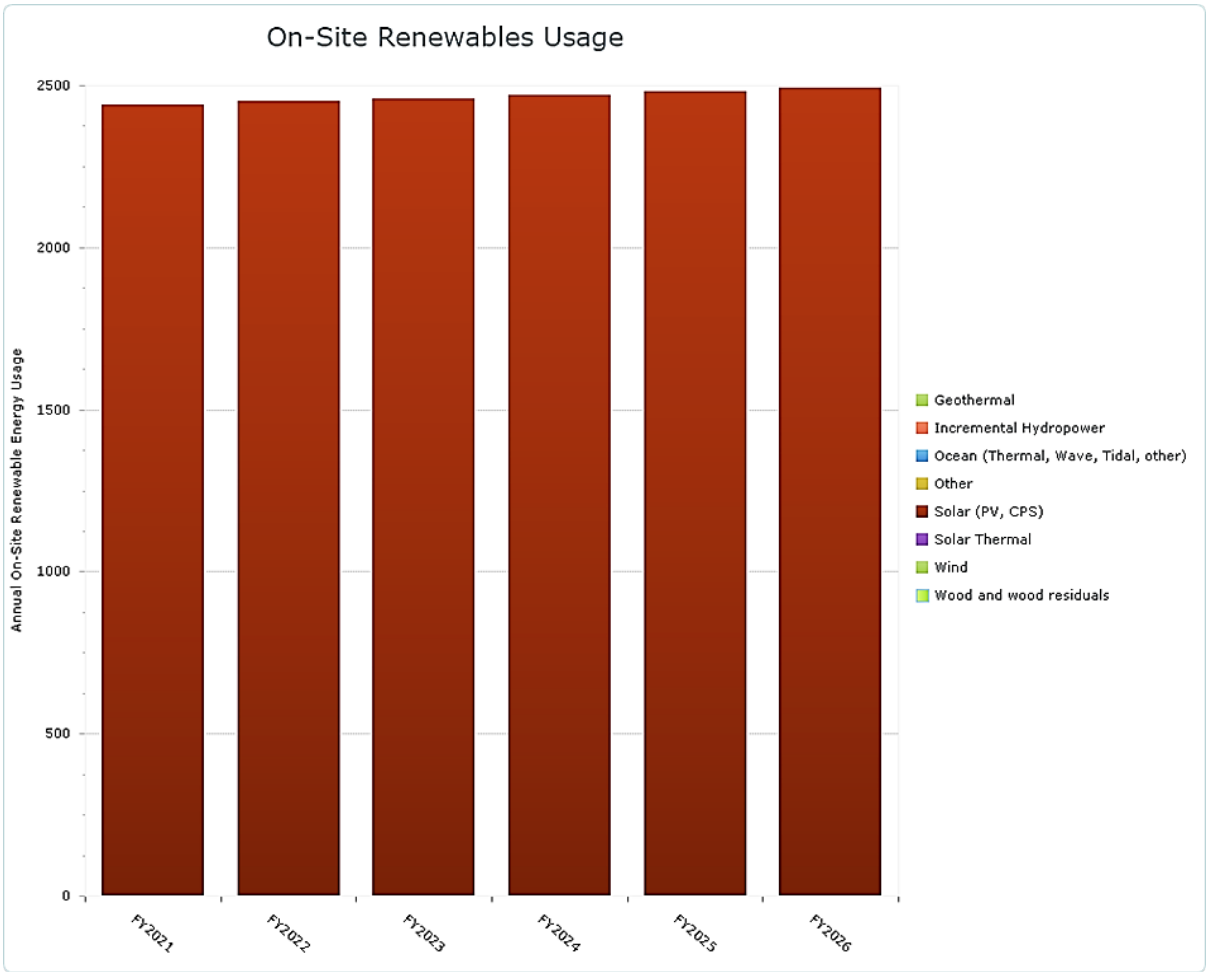
Sustainable Buildings Projections



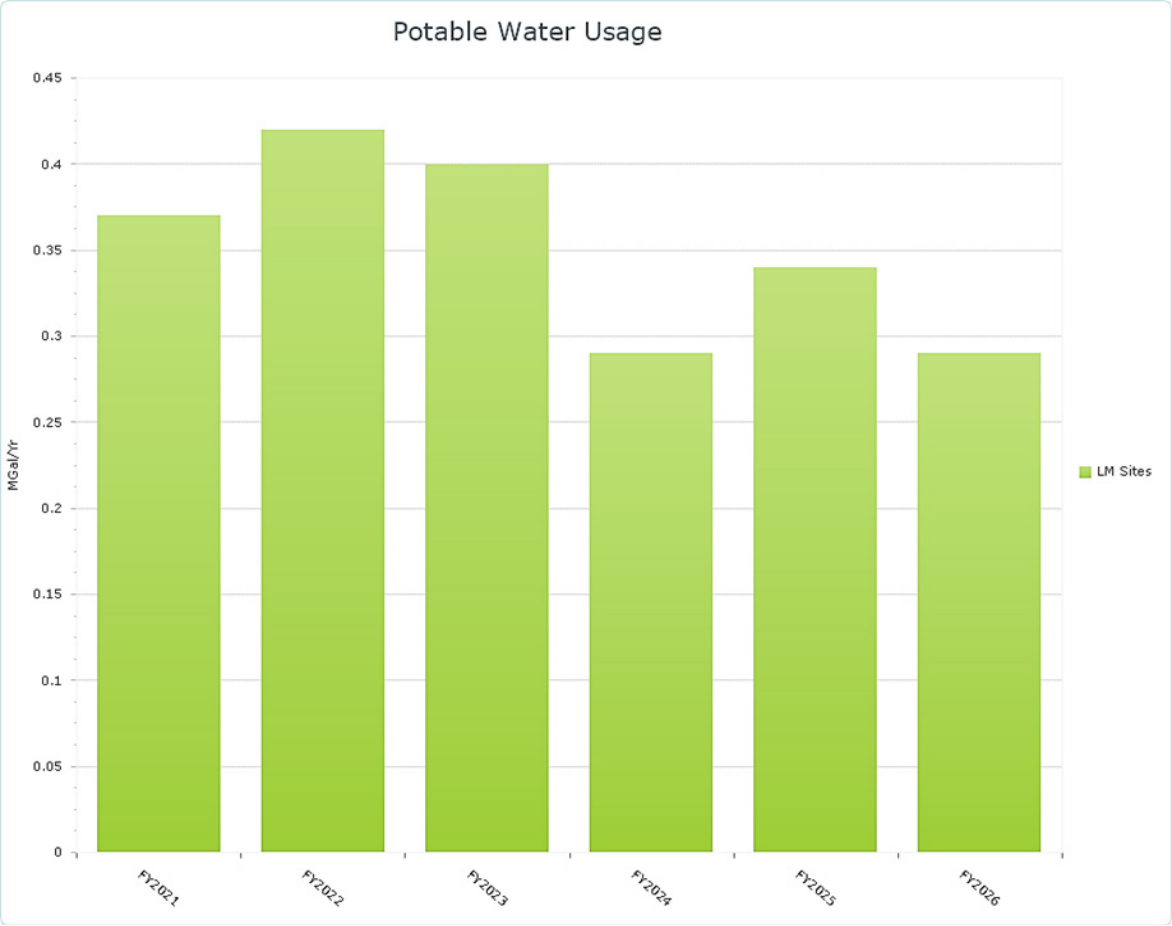
Electricity Projections



Onsite Renewables Projections

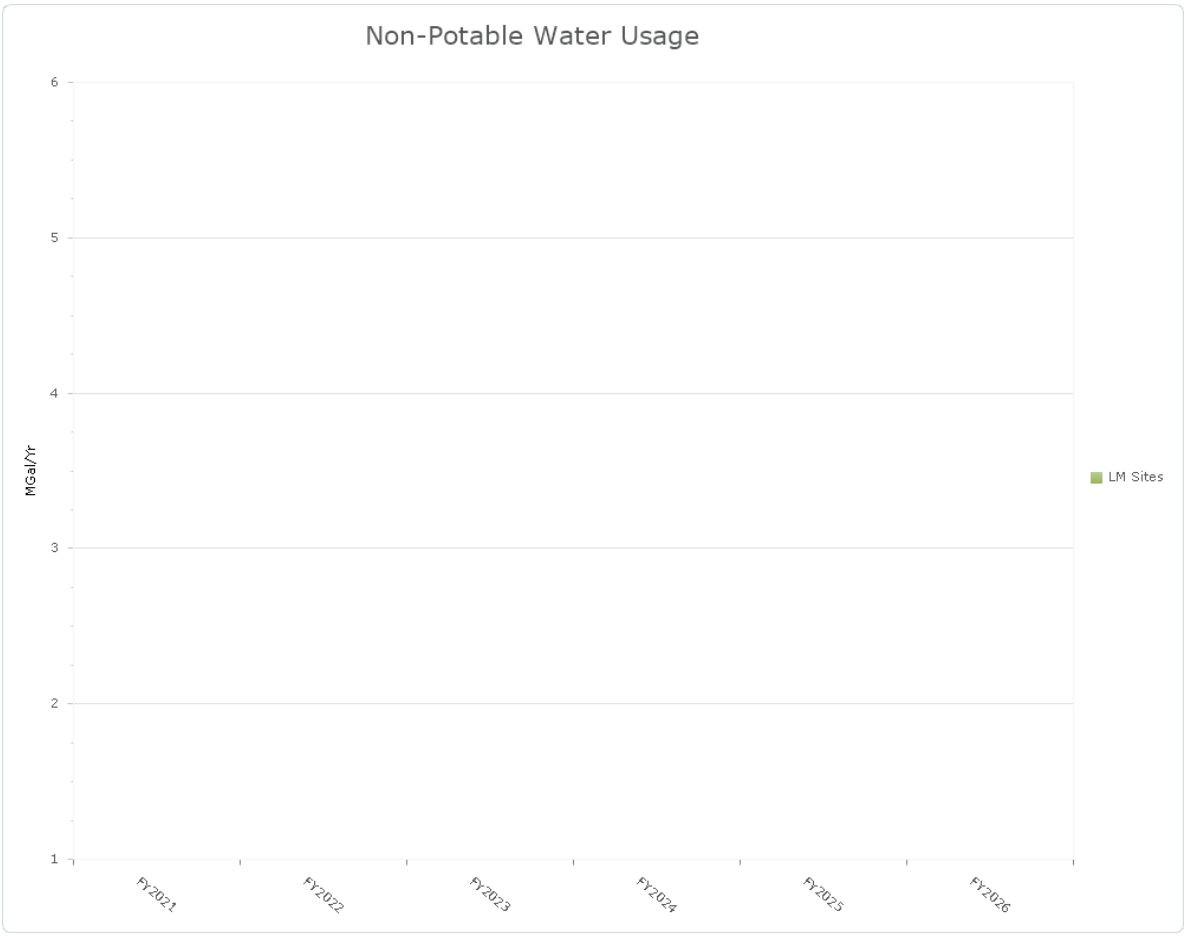


Potable Water Projections

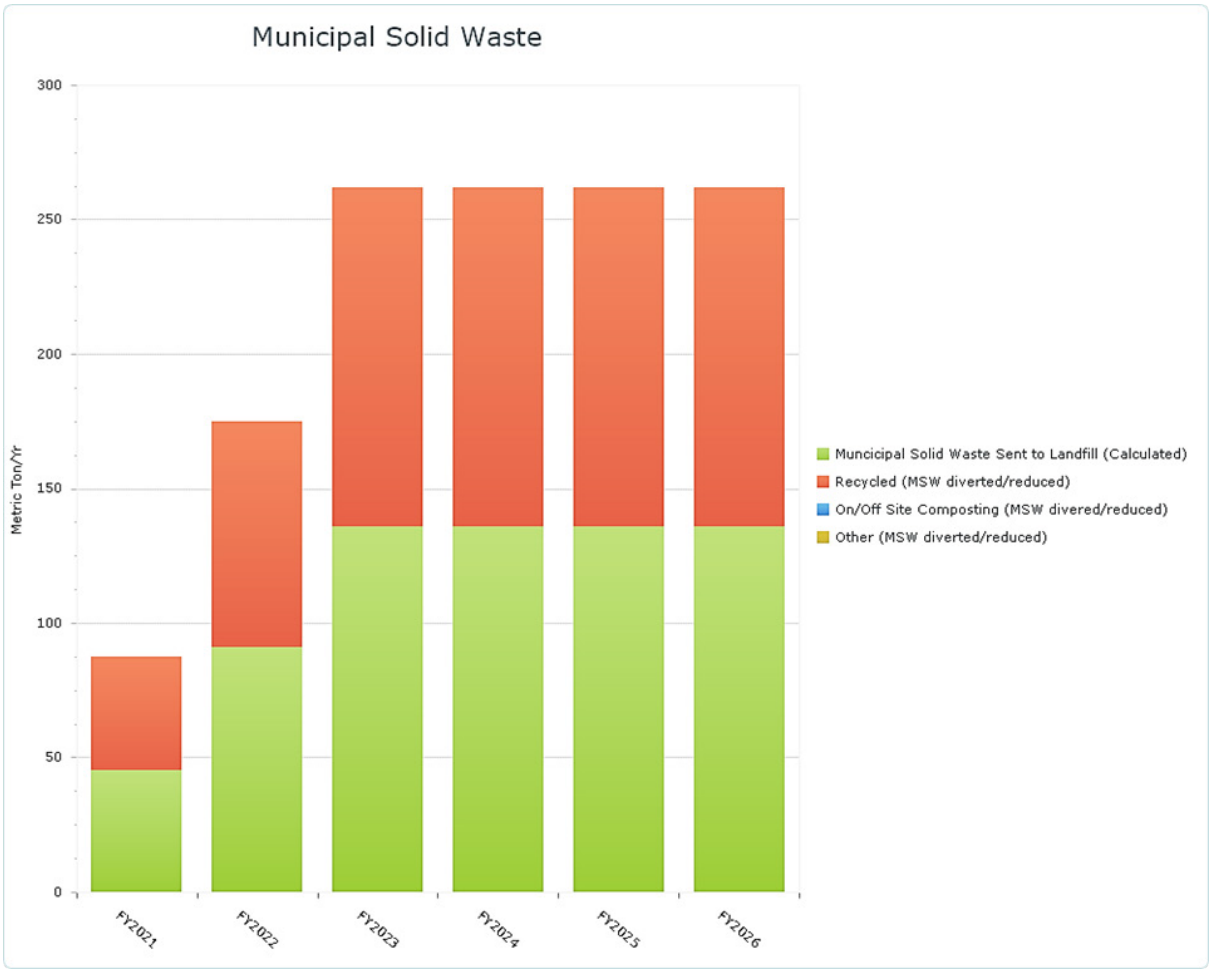


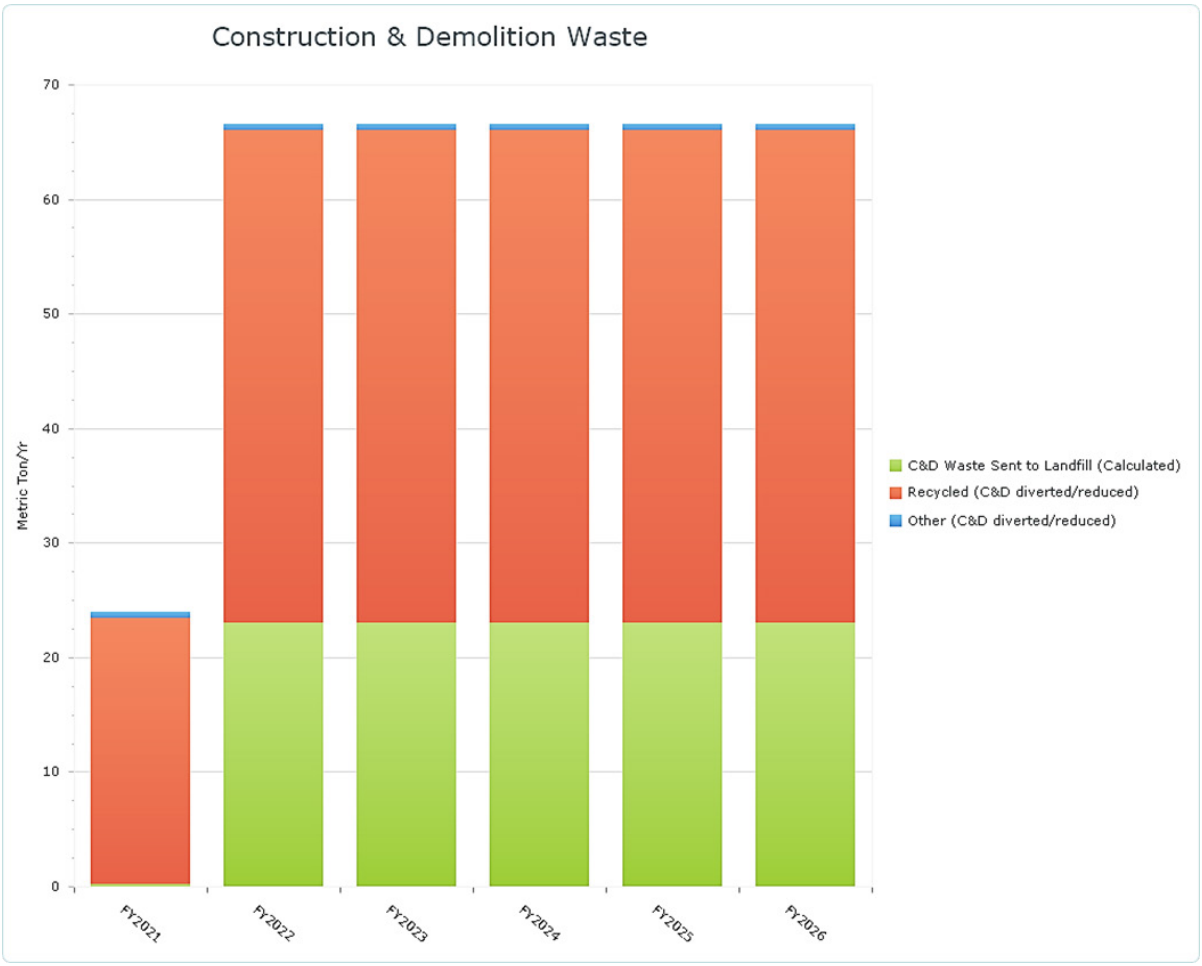
Nonpotable Water Projections

Note: Nonpotable water usage is calculated in millions of gallons per year in the DOE Sustainability Dashboard. The amount of nonpotable water used by LM is far less than 1 million gallons; therefore, it appears that there is zero nonpotable water used by LM, which is inaccurate.



Waste Projections




Construction & Demolition Waste
Metric Ton/Yr
70
60
50
40
30
20
10
0
FY2021
FY2022
FY2023
FY2024
FY2025
FY2026
C&D Waste Sent to Landfill (Calculated)
Recycled (C&D diverted/reduced)
Other (C&D diverted/reduced)

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