

Draft Program Environmental Impact Report

Proposed Regulations for the Plastic Pollution Prevention and Packaging Producer Responsibility Act

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STATE OF CALIFORNIA

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The Draft Program EIR assesses potential environmental effects that may result from the implementation of the CalRecycle's proposed regulations on Plastic Pollution Prevention and Packaging Producer Responsibility Act (Senate Bill 54). The Draft Program EIR evaluates and describes, on a statewide, program-level basis, the potential environmental impacts associated with the implementation of the regulations, including the expected construction and operation of collection, sortation, and processing facilities, identifies those impacts that could be significant, and presents mitigation measures, which, if adopted by CalRecycle or other responsible agencies, could avoid or minimize these impacts.

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- Appendix B Air Quality and GHG Model Reports
- Appendix C Noise Model

Acronyms

AB	Assembly Bill
APCD	Air Pollution Control District
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AVAQMD	Antelope Valley Air Quality Management District
BAAQMD	Bay Area Air Quality Management District
BCAQMD	Butte County Air Quality Management District
BLM	Bureau of Land Management
BMP	Best Management Practices
BTU	British Thermal Unit
C ₂ H ₃ Cl	Vinyl Chloride
CAA	Clean Air Act
CAAQS	California Ambient Air Resources Board
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
CalGEM	California Department of Conservation, Geologic Energy Management Division
CALGreen	California Green Building Standards
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
C-APE	California Environmental Quality Act Area of potential effects
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CEC	California Energy Commission

CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	Methane
CHSC	California Health and Safety Code
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CRV	California Redemption Value
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIA	United States Energy Information Administration
EIR	Environmental Impact Report
EMFAC	Emission Factor
EPA	Environmental Protection Agency
EPR	Extended Producer Responsibility
EPS	Expanded Polystyrene
ESA	Endangered Species Act
EV	Electric Vehicle
FC	Federal candidate
FE	Federal endangered
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration

FMMP	Federal Mapping and Monitoring Program
FP	Fully protected
FPE	Federal proposed endangered
FPT	Federal proposed threatened
FRA	Federal Responsibility Area
FSOR	Final Statement of Reasons
FSZ	Farmland Security Zone
FT	Federal threatened
FTA	Federal Transit Authority
GHG	Greenhouse Gas
GIS	Geographic Information System
GWP	Global Warming Potential
H ₂ S	Hydrogen Sulfide
HCP	Habitat conservation plan
HDPE	High-density polyethylene
HFC	hydrofluorocarbons
ISOR	Initial Statement of Reasons
kWh	Kilowatt hours
L ₁₀	10th percentile level
L ₅₀	Median level
L ₉₀	90 percent exceed level
LCA	Life cycle assessment
LDPE	Low-density polyethylene
LOS	Level of service
LRA	Local Responsibility Area
MRF	Materials Recovery Facility
MRZ	Mineral Resource Zone
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSCP	Multiple species conservation program
MTCO ₂ e	Metric tons carbon dioxide equivalent
MW	Megawatt

N ₂ O	Nitrous oxide
NA	Not applicable
NAAQS	National ambient air quality standard
NAHC	Native American Heritage Commission
NCCP	Natural community conservation plan
NF ₃	Nitrogen trifluoride
NFS	No Federal Standard
NHSTA	National Highway Traffic and Safety Administration
NMFS	National Marine Fisheries Service
NO	Nitric oxide
NO ₂	Nitrogen dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NOPA	Notice of Proposed Action
NOX	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSAQMD	Northern Sierra Air Quality Management District
O ₃	Ozone
OAL	Office of Administrative Law
OEHHA	Office of Environmental Health Hazard Assessment
OIMP	Odor Impact Minimization Plan
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated biphenyl
PEIR	Program Environmental Impact Report
PET	Polyethylene terephthalate
PETE	Polyethylene terephthalate

PFAS	Per and Per-fluorinated substances
PFC	Perfluorocarbons
PM	Particulate matter
PM ₁₀	Particulate matter 10 microns or smaller
PM _{2.5}	Particulate matter 2.5 microns or smaller
PPV	Peak particle velocity
PRC	Public Resources Code
PRO	Producer Responsibility Organization
PS	Polystyrene
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RDRS	Recycling and Disposal Reporting System
REM	Responsible End Market
RFS	Renewable Fuel Standard
RMS	Root mean square
ROG	Reactive organic gas
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SC	State candidate
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SE	State endangered
SF ₆	Sulfur hexafluoride
SIP	State Implementation Plan
SJVAPCD	San Joaquine Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SMP	Soil Management Plan
SO ₂	Sulfur dioxide

SO ₄	Sulfates
SO _x	Sulfur oxides
sqft	Square feet
SRA	State Responsibility Areas
SRIA	Standardized Regulatory Impact Assessment
SSC	State species of special concern
ST	State threatened
SVOC	Semi-volatile organic compounds
SWIS	Solid Waste Information System
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TMDL	Total Maximum Daily Loads
tpd	Tons per day
tpy	Tons per year
UA	Unclassified/Attainment
UNEP	United Nations Environment Program
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VCAPCD	Ventura County Air Pollution Control District
VHFHSZ	Very High Fire Severity Zones
VMT	Vehicle Miles Traveled
VOC	Volatile organic compound
WCS	Waste Characterization Study
WDR	Waste discharge requirements
WIC	Waste Impact Calculator

YSAQMD Yolo-Solano Air Quality Management District
ZEV Zero Emission Vehicle

Executive Summary

Introduction

As required by CEQA Guidelines Section 15123, this executive summary provides a brief description of the proposed Program, areas of known controversy, and unresolved issues. The executive summary also identifies which environmental impacts associated with the proposed Program are significant, what specific mitigation measures and alternatives have been identified to reduce or avoid each significant impact, and the level of significance of the impact after mitigation. This executive summary is intended as an overview and should be used in conjunction with a thorough reading of the Draft EIR. The text of this Draft EIR, including figures, tables, and appendices serve as the basis for this executive summary.

The Department of Resources Recycling and Recovery (CalRecycle) is proposing permanent regulations to implement the Plastic Pollution Prevention and Packaging Producer Responsibility Act (Senate Bill 54, Allen, Chapter 75, Statutes of 2022) (hereinafter “SB 54” or the Act). SB 54 imposes minimum content requirements for single-use packaging and plastic food service ware, to be achieved through an extended producer responsibility (EPR) program.

The legislation shifts the plastic pollution burden from local jurisdictions and ratepayers to producers, typically the companies that create or package their products in single-use packaging and plastic food service ware (i.e., covered material). Producers must pay \$5 billion over 10 years, with \$500 million per year beginning in 2027, to:

- Address the environmental impacts of plastic pollution, and
- Aid affected environmental justice communities most impacted by the damaging effects of single-use plastic waste.

The law requires producers to ensure that by 2032:

- 100% of single-use packaging and plastic food service ware sold in the state is recyclable or eligible for being labeled “compostable”;
- 65% of single-use plastic packaging and food service ware is recycled; and
- 25% less single-use plastic packaging and food service ware is sold (i.e., source reduced).

SB 54 and its proposed Implementing Regulations (i.e., the Proposed Program) are consistent with the California Environmental Protection Agency (CalEPA) and United States Environmental Protection Agency (USEPA) waste management hierarchy, both of which prioritize source reduction as the environmentally preferred method of managing waste. Public Resources Code (PRC) Section 40051(a) directs CalRecycle and local agencies to do the following:

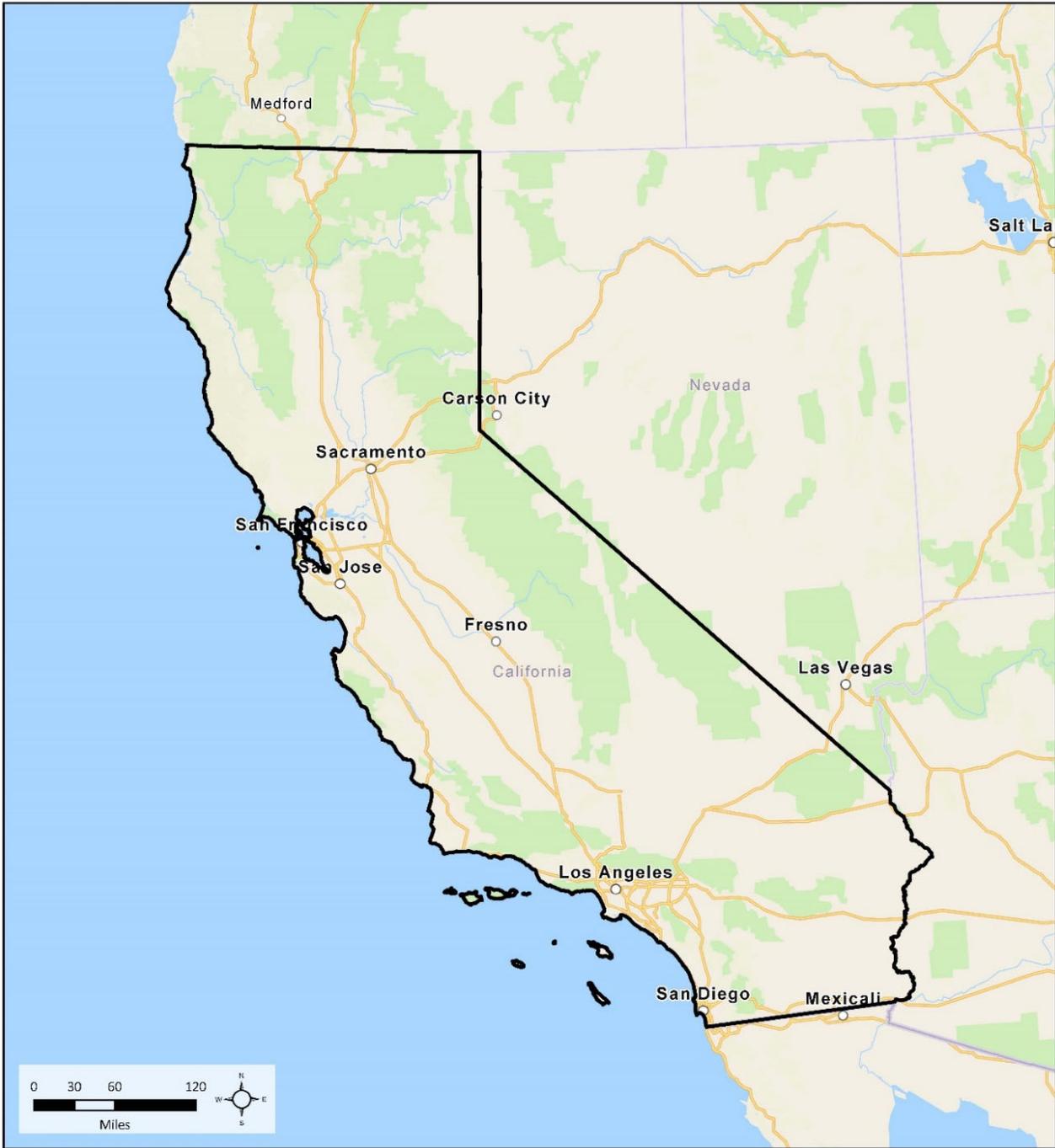
“(a) Promote the following waste management practices in order of priority: (1) Source reduction. (2) Recycling and composting. (3) Environmentally safe transformation and environmentally safe land disposal, at the discretion of the city or county.

(b) Maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste that must be disposed of by transformation and land disposal. For wastes that cannot feasibly be reduced at their source, recycled, or composted, the local agency may use environmentally safe transformation or environmentally safe land disposal, or both of those practices.”

SB 54 also requires producers to establish and join a Producer Responsibility Organization (PRO) for the purpose of developing and implementing a producer responsibility plan to comply with the Act. SB 54 also requires that local jurisdictions and recycling service providers include all covered material deemed by CalRecycle as recyclable and compostable in their collection and recycling programs, except as specified.

Program Location

Implementation of the Program would occur throughout the State of California (Figure ES-1).



Legend State of California		STATE OF CALIFORNIA	

Project: C:\Catalyst\ES\catalyst_es-3_Document\ainc\gipro_projects\waster\templates\waster_template_August_2023_useForCopy.aprx

Figure ES-1. Program Location

Program Objectives

CEQA Guidelines Section 15124(b) requires the project description to include a statement of objectives for the proposed project, including the underlying purpose of the proposed project. The underlying purpose of the Program is to meet the requirements of SB 54 to ensure that it achieves its goals of source reduction of plastic covered material, elimination of covered material that is not recyclable or compostable, and significant improvements in recycling rates for plastic covered material. The proposed regulations also serve the objective of improving the integrity of product labeling by implementing requirements, in accordance with Assembly Bill 1201 (Ting, Chapter 504, Statutes of 2021) (hereinafter “AB 1201”), for when products can lawfully be labeled “compostable.”

Key Program Objectives include the following:

1. Reducing the effects of plastic pollution and litter on human health and ecosystems
2. Reducing greenhouse gas (GHG) emissions from production of virgin plastic material and landfill disposal
3. Improving consumers’ ability to recycle and reuse packaging material and reduce burdens on local governments’ solid resources handling
4. Investing in communities disproportionately impacted by the effects of plastic pollution
5. Supporting a stable circular economy.
6. Meeting SB 54’s statutory targets for recycling rates and source reduction as follows:
 - a. All covered material to be recyclable or eligible to be labeled “compostable” by 2032.
 - b. Minimum recycling rates for plastic covered material:
 - i. 30% by 2028
 - ii. 40% by 2030
 - iii. 65% by 2032
 - c. Minimum source reduction of plastic covered material:
 - i. 10% by 2027
 - ii. 20% by 2030
 - iii. 25% by 2032
 - d. Minimum recycling rates for expanded polystyrene (EPS) food service ware:
 - i. 25% by 2025
 - ii. 30% by 2028
 - iii. 50% by 2030
 - iv. 65% by 2032

Program Overview

SB 54 provides measures to reduce the amount of plastic created and used, as well as increase recycling rates in California. The performance standards and recycling requirements are as noted above in Project Objectives (6) as well as PRC Sections 42050(c) and 42057(a), (l).

SB 54 also requires the establishment of a PRO, which is a 501(c)(3) nonprofit organization tasked with ensuring the statutory targets are met and that producers are otherwise compliant with the statute and regulations. On January 5, 2024, CalRecycle appointed Circular Action Alliance to serve as the initial PRO. The PRO must pay \$5 billion into a fund between 2027 and 2037 that would be used to mitigate the effects of plastic pollution on the environment and human health, with significant investments directed to benefit disadvantaged communities, low-income communities or rural areas.

SB 54 Implementing Regulations

The SB 54 Implementing Regulations interpret, implement, and make specific the requirements of SB 54. By interpreting, making specific, and implementing SB 54, the Implementing Regulations establish the various substantive and procedural requirements applicable to the EPR program that SB 54 requires producers of single-use packaging and plastic single-use food service ware (covered materials) to administer. The Implementing Regulations also establish how CalRecycle will exercise its oversight and enforcement responsibilities.

Consistent with SB 54, these Implementing Regulations will require producers to maintain records that demonstrate their compliance with those overall requirements and to report data related to such compliance to CalRecycle. Producers will also be required to reduce the overall amount of plastic covered materials that they create.

The Implementing Regulations will require producers to comply with their obligations under SB 54 by participating in a program operated by an organization acting on their behalf pursuant to a plan approved by CalRecycle. Alternatively, producers can create their own plan. Producers, either through such an organization or individually, will be required to prepare and submit plans addressing all requirements stated in SB 54, submit annual budgets and reports concerning their plans, and maintain records documenting their compliance with SB 54.

The Implementing Regulations will also impose compliance requirements on businesses that assert they are not “producers” of covered material because some other entity is the producer or because the packaging or plastic food service ware at issue is reusable or refillable. Such businesses may be required to support their claim that they are not the producer, such as by demonstrating that such items satisfy the criteria in the regulations to be considered not “single use” or they do not meet the definition of producer, pursuant to PRC Section 42041(w).

Consistent with SB 54, the Implementing Regulations will also implement the AB 1201 requirement that certain covered material must be certified by third parties to meet a technical standard established under PRC Sections 42355-42358.5 for compostability.

The Implementing Regulations are proposed to be added to Title 14, Division 7 of the CCR, Chapter 11.1 - Plastic Pollution Prevention and Packaging Producer Responsibility and Chapter 11.5 - Environmental

Marketing and Labeling. The full Draft Implementing Regulations are attached as Appendix A. A summary of the Implementing Regulations is provided below.

Chapter 11.1 - Plastic Pollution Prevention and Packaging Producer Responsibility

ARTICLE 1 – DEFINITIONS

Article 1 contains references to existing definitions and new definitions necessary to govern the provisions of the regulations. Important new definitions include those for “derivative material”, “food service ware”, “intermediate supply chain entity”, “product”, “recycled organic product”, and “reporting entity”.

ARTICLE 2 – COVERED MATERIALS AND COVERED MATERIAL CATEGORIES

Article 2 explains the processes for updating the existing covered material lists, if needed, and identifies materials that are excluded from the definition of covered material, including packaging used for medical products and drugs; materials that meet the definition of “reusable” or “refillable”; and long-term storage material (i.e., typically used for at least five years). It also outlines the processes by which the PRO or independent producers can apply for a particular covered material to be deemed exempt.

ARTICLE 3 – EVALUATIONS FOR COVERED MATERIAL AND COVERED MATERIAL CATEGORIES

Article 3 defines the mechanisms and standards by which a covered material and covered material category can be considered recyclable, including how CalRecycle may make a preliminary identification of new covered material categories. It also provides the methodology by which the recycling rate of covered material categories shall be calculated, including acceptable data sources, calculation based on weight (not volume or number), and how to calculate rates for a covered material with multiple components.

Article 3 defines the standards by which a covered material is considered compostable, including criteria to be considered that are designed to be associated with the recovery of desirable organic wastes collected for composting. In addition, Article 3 includes a requirement for third-party certification of compostability, and exemptions for third-party certification. It also provides the criteria that must be met by an entity to be approved as an independent third party for purposes of validating postconsumer recycled content. Additionally, it defines what constitutes disposal of a covered material. Lastly, it includes a process to evaluate technologies and determine if they produce significant amounts of hazardous waste.

ARTICLE 4 – RESPONSIBLE END MARKETS

Article 4 provides the criteria an entity must meet to be considered a responsible end market, including compliance, transparency, and achieving recycling and composting rates. It specifies which types of entities can be considered end markets for glass, metal, paper or fiber, plastic, and compostable covered materials. It also includes provisions for PRO identification, verification, and viability confirmation of end markets, including audits.

ARTICLE 5 – REQUIREMENTS FOR PRODUCERS

Article 5 stipulates that a producer must either join an approved PRO; provide an application, the contents of which are described in the article, for individual compliance to CalRecycle; or provide an

application for exemption to CalRecycle as a small producer. Each producer must register with CalRecycle on or before July 1, 2025. Entities that become producers after July 1, 2025, are required to register within 30 days of becoming a producer.

ARTICLE 6 – REQUIREMENTS FOR THE PRODUCER RESPONSIBILITY ORGANIZATION

Article 6 identifies the information that the PRO must provide CalRecycle, including instances of producer non-compliance and identification of a producer that is no longer participating in the PRO; a producer responsibility plan and subsequent updates or amendments to the plan; and annual reports and budgets. The Article also describes the fees that must be charged to producers, and how the fees are to be determined, prior to approval of the producer responsibility plan. Per the article, the PRO must keep records, delineated by each producer for metrics such as total weight of covered material sold, distributed, or imported into the state; total number of plastic components, by covered material category sold, distributed, or imported into the state; total weight of covered material, by covered material category recycled; and total number of plastic components, by covered material category recycled.

ARTICLE 7 – REQUIREMENTS FOR INDEPENDENT PRODUCERS

Article 7 requires that independent producers submit a producer responsibility plan to CalRecycle within six months following application approval and provides requirements for subsequent updates or amendments to the plan and annual reports and budgets. The Article also describes the fees that independent producers must pay and how the fees are to be determined. Per the article, independent producers must keep records similar to those required by the PRO, as described in Article 6.

ARTICLE 8 – PRODUCER RESPONSIBILITY PLAN REQUIREMENTS

Article 8 describes the requirements of a producer responsibility plan as outlined in PRC Section 42051.1 and provides further specificity to PRC Section 42051.1(b)(3) for each technology that will be utilized to achieve recycling requirements, including requirements to evaluate the efficiency of the technology in achieving recycling rates, demonstrate that the means and technologies meet the conditions specified in the definition of “recycle” or “recycling” pursuant to PRC Section 42041(aa), a list of overall inputs (including chemicals), and an account of end products (including quantities of by-products or residuals produced by the technology, along with their disposition), etc. The plan must also include education and outreach measures, a process for determining and reimbursing costs that will be incurred by local jurisdictions, recycling service providers, alternative collection systems, and others, and a dispute resolution process concerning costs incurred by local jurisdictions and recycling service providers.

The PRO plan must also describe a closure and transfer plan, fee schedule for producers, and criteria and methodology that producers must use to demonstrate that items considered reusable or refillable by the producers meet the requirements of the regulations. The Article describes the required components of the closure and transfer plan. It also provides requirements for source reduction adjustments and methods the PRO may use to account for fluctuations in economic conditions and the increase or decrease in the number of producers participating in the PRO plan for determining whether the PRO has met its source reduction obligation.

ARTICLE 9 – SOURCE REDUCTION BASELINE REPORT, ANNUAL REPORT, AND PROGRAM BUDGET

Article 9 provides the requirements for the information to be included in the PRO or independent producers source reduction baseline reporting, and annual reports.

ARTICLE 10 – REGISTRATION AND DATA REPORTING REQUIREMENTS

Article 10 establishes the procedures for electronic registration with CalRecycle for data reporting, deadlines for data reporting, and required contents of data reports.

ARTICLE 11– REQUIREMENTS, EXEMPTIONS, AND EXTENSIONS FOR LOCAL JURISDICTIONS AND RECYCLING SERVICE PROVIDERS

Article 11 outlines the requirement that local jurisdictions collect covered material and transfer covered material to intermediate supply chain entities so that those materials are available to be recycled at a responsible end market no later than the date that CalRecycle approves a PRO’s plan. In addition, Article 11 includes procedures by which a local jurisdiction or recycling service provider may apply for an exemption for a specific covered material category or categories or extension from the requirements of PRC Section 42060.5(a). Rural jurisdictions may submit an exemption if they have adopted a resolution pursuant to PRC Section 42060.5(c).

ARTICLE 12 – REQUIREMENTS FOR THE ADVISORY BOARD

Article 12 describes membership terms and appointments to the advisory board.

ARTICLE 13 – ENFORCEMENT OVERSIGHT BY THE DEPARTMENT AND ADMINISTRATIVE CIVIL PENALTIES

Article 13 describes how CalRecycle can investigate and review records to determine compliance with SB 54 and the regulations. It describes how CalRecycle may assess violations and penalties and take disciplinary actions against a PRO or independent producer. It allows CalRecycle to permit a PRO or producer to propose a corrective action plan in response to a notice of violation and describes the requirements of such a plan.

ARTICLE 14 – PUBLIC RECORDS

Article 14 stipulates that all records submitted to CalRecycle pursuant to SB 54 are subject to mandatory disclosure under the Public Records Act, but that CalRecycle shall not disclose information that constitutes a trade secret or is exempt from mandatory disclosure under the Public Records Act.

[Chapter 11.5: Environmental Marketing and Labeling](#)

ARTICLE 1 – APPROVAL OF CERTIFICATION ENTITIES

Article 1 describes the criteria that a third-party certification entity must meet for approval by CalRecycle, such as required accreditation, independence, and impartiality, including not holding a financial interest in the producers or products requiring certification. It also outlines the process by which a third-party certification entity shall request approval or renewal of approval.

Compliance with the Implementing Regulations will require that producers reduce the overall amount of plastic covered materials that they create and to ensure that plastic covered materials that are created meet recyclability or compostability requirements and are actually recycled at statutorily established rates. These regulations will require producers to comply with their obligations under the Act by

participating in a program operated by an organization acting on their behalf pursuant to a plan approved by CalRecycle. Alternatively, producers can create their own plan. Local jurisdictions, such as cities, counties, or waste districts, as well as solid waste enterprises and recycling service providers that provide solid waste handling services on behalf of a local jurisdiction, will also be affected because the Act may require them to add certain types of materials to their collection and recycling programs. The Act requires that local jurisdictions be compensated by the PRO(s) for these mandates.

Consistent with the Act, the Implementing Regulations would also implement the AB 1201 requirement that certain covered material, must be certified by third parties to meet a technical standard established under PRC Sections 42355-42358.5 for compostability.

Reasonably Foreseeable Compliance Responses

At the time of the drafting of this Draft PEIR, the most likely reasonably foreseeable compliance responses include source reduction of covered materials, transition to alternative materials, expanded reliance on refill and reuse products and associated infrastructure, and expanded and new facilities for collecting, sorting, and processing covered materials and associated recycling operations.

Environmental Review Process

As described in CEQA Guidelines Section 15168 (a) and (b), a program EIR (PEIR) is an EIR that may be prepared on a series of actions that can be characterized as one large project, and are related either:

- Geographically;
- As logical parts in the chain of contemplated actions;
- In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
- As individual activities carried out under the same authorizing statutory or regulatory authority, and having generally similar environmental effects which can be mitigated in similar ways.

As such, CalRecycle has prepared this PEIR for the Implementing Regulations for SB 54 which establishes the Plastic Pollution Prevention and Packaging Producer Responsibility Act. This PEIR has been prepared in conformance with CEQA (PRC Section 21000 et seq.) and the State CEQA Guidelines (Title 14, CCR, Section 15000 et seq.).

Purpose and Intended Use of the PEIR

This PEIR has been prepared in accordance with CEQA Guidelines Section 15168. A PEIR may be prepared on a series of actions that can be characterized as one large project and that are related to, among other things, the issuance of general criteria to govern the conduct of a continuing program or to individual activities carried out under the same authorizing statutory or regulatory authority, and having generally similar environmental effects that can be mitigated in similar ways. Preparing a PEIR allows for a more comprehensive consideration of effects than would be practical in separate EIRs on individual actions and allows for consideration of cumulative impacts that might be missed on a case-by-case basis. As noted in Section 15168(c) of the State CEQA Guidelines, later proposed activities that are consistent with the proposed regulation would be examined in light of the information in this PEIR to determine

whether an additional environmental document must be prepared. If the decision-making agency finds that, pursuant to Section 15162 of the State CEQA Guidelines, a project related to the proposed regulation is within the scope of this PEIR and no new or substantially more severe significant impacts would occur and no new mitigation measures would be required, no additional CEQA documentation would be needed. Under this circumstance, a notice of determination would be filed that indicates that this PEIR adequately covers the environmental effects of the proposed project. Under this CEQA compliance approach, the lead agency must adopt all feasible mitigation measures from this PEIR to address significant or potentially significant effects on the environment. If the lead agency on a future and related project finds that it is not entirely within the scope of the proposed regulation, additional CEQA analysis, including preparation of a project-specific mitigated negative declaration or EIR may be required.

It is important within the context of this PEIR to understand the extent of the relevant authority of CalRecycle. CalRecycle drafts and adopts regulations, and it provides technical assistance to Local Enforcement Agencies (LEAs) that enforce state solid waste law in local jurisdictions pursuant to CalRecycle certification. In very limited circumstances, where there is no local entity available or willing, CalRecycle acts as the LEA. CalRecycle also promulgates the state regulations governing the issuance of solid waste facility permits by LEAs, with the concurrence of CalRecycle, for new or expanded solid waste facilities. Unlike local entitlements issued under broad police power, state solid waste facility permits are limited to controlling the design and operation of solid waste facilities through the enforcement of state minimum standards for solid waste handling, transfer, composting, transformation and disposal in accordance with PRC Division 30 and associated regulations. The conditions that may be enforced through such permits are restricted in scope. For example, PRC Sections 43020 and 43021 prohibit the enforcement of requirements that are already under the authority of the State Water Resources Control Board or California Air Resources Board. In addition, PRC Section 43101 expands such restrictions to prohibit CalRecycle authority from overlapping with the authority of any other state agency, which further curtails the types of permit conditions that may be enforced. Under PRC Section 44012, CalRecycle and LEAs are limited to imposing operational conditions on solid waste facilities rather than pre-operational conditions, such as those that might govern facility construction. Furthermore, operational conditions must be limited to those that protect public health, safety, and the environment within the authority of CalRecycle and LEAs to enforce state minimum standards. As such, solid waste facility permit operating conditions may not extend to regulating issues such as tribal cultural resources. That said, other permitting agencies may have authority over these matters. For instance, CalRecycle does not have general land use authority to approve facilities or other structures that are developed in response to adoption of the Implementing Regulations: such authority is vested with local jurisdictions under their land use powers (such as police power) and exercised through the issuance of local entitlements such as conditional use permits. The conditions that are curtailed by law from being included in state solid waste facility permits may be more appropriately included in local entitlements. Like any proposed development project, collection, sortation, and processing facilities would be reviewed individually by local jurisdictions, in response to applications submitted by project proponents. The goal of this PEIR is to consider the types of potential environmental effects of the reasonably foreseeable compliance responses that would be anticipated to meet the requirements included in the proposed SB 54 Implementing Regulations at a program level.

Accordingly, the purpose of this document is to inform agency and governmental decision-makers and the public about the potential significant environmental effects associated with Implementing Regulations and the reasonably foreseeable methods of compliance.

As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses potential environmental impacts of a proposed project and identifies mitigation measures and alternatives to the project that could reduce or avoid adverse environmental impacts. It is not the purpose of the PEIR to recommend either approval or denial of the proposed Program. Rather the PEIR serves to provide a full disclosure of potential environmental impacts of the Program for the CalRecycle's review and consideration. See also Section 1.5.2 (CEQA Tiering and Intended Use).

Lead and Responsible Agencies

The lead agency is the public agency that has the greatest responsibility for carrying out or approving a project that may have a significant effect upon the environment (PRC Section 21067). CalRecycle is the Lead Agency for this PEIR.

The Implementing Regulations are a regulatory framework that sets performance standards and recycling requirements to be met through an EPR approach implemented by producers and by local agencies, including cities, counties, and waste districts. The PEIR may be used by CalRecycle and local agencies, including cities, counties, and waste districts, subject to the summary of the tiering process described in Section 1.5.2 (CEQA Tiering and Intended Use).

Summary of Environmental Impacts and Mitigation Measures

Environmental Impacts of the Implementing Regulations

SB 54 and the Implementing Regulations will reduce single-use plastic packaging and plastic single-use food service ware as a result of source reduction targets and reuse requirements. The minimum recycling rate requirements will ensure that remaining single use plastic use will meet the recycling requirements. This reduction will result in less material being disposed of in landfills.

The source reduction targets will result in less litter and the associated environmental impacts that come from litter on land and in our rivers, lakes, and oceans. Reducing the use of single-use plastic packaging and plastic single-use food service ware means there will be less manufacturing of these items and less emissions resulting from this manufacturing, distribution, and disposal.

The reduction, reuse, and recycling of these materials will reduce virgin plastic production. As the recycling rate targets are met, less virgin material will be manufactured as it is replaced with recycled material.

As packaging material becomes consistently recyclable or compostable, and as access to recycling and composting infrastructure becomes more standardized and available statewide, there will be fewer instances of contamination in the recycling streams, resulting in greater efficiency.

The Implementing Regulations will help California shift to a circular economy as it will hold the producers, rather than local jurisdictions and ratepayers, responsible for the management of covered materials. By implementing SB 54 regulations, the state will also spur improvements in recycling and

composting infrastructure. Shifting responsibility through EPR statutes like SB 54 will benefit solid waste handling in the state by requiring producers to address the costs of such management and incentivizing the development of infrastructure, technological and design innovation, and increased usage of reusable and refillable products.

For these reasons, SB 54 and the Implementing Regulations will result in beneficial effects on environmental resources. As such, SB 54 and the Implementing Regulations are consistent with CalRecycle's regulatory powers for the purpose of protecting natural resources and the environment.

The impacts of reasonably foreseeable methods to comply with SB 54 and the Implementing Regulations are summarized in the following. No specific compliance pathway is mandated by the SB 54 or the Implementing Regulations, although compliance itself is mandated. Impacts from reasonably foreseeable means of compliance will be driven by several currently unknowable factors, including decisions by the PRO and producers regarding their compliance pathways, individual consumer decisions, and the locations of potential future facilities. The analysis of impacts, therefore, is based on best available applicable forecasts of likely means of compliance based in significant part on current conservative estimated economic impact analyses of the various means of compliance. See also Section 3.2 (Reasonably Foreseeable Methods by Which Compliance with the Proposed Measures Would be Achieved).

[Source Reduction and Refill/Reuse](#)

As described in the PEIR, the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations would cause no impacts to cultural resources, geology and soils, land use, mineral resources, population and housing, public services, recreation, tribal cultural resources, utilities and services, and wildfire. Impacts to aesthetics, agricultural and forestry resources, air quality, biological resources, energy, GHG, hazards and hazardous materials, hydrology and water quality, noise, and transportation would be beneficial or less than significant. Table ES-1 summarizes the impacts and mitigation measures for the proposed Program.

[New and Expanded Recycling Infrastructure \(Collection, Sortation, and Processing Facilities\)](#)

Construction and operation of new or expanded collection, sortation, and processing infrastructure would cause no impacts to population and housing, public services, and recreation. Construction and operation of new or expanded collection, sortation, and processing infrastructure would cause less than significant impacts to energy, GHG, land use and planning, population and housing, public services, and recreation. Construction and operation of future recycling infrastructure has the potential to cause significant and unavoidable impacts to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, noise, transportation, tribal cultural resources, and wildfire. Table ES-1 summarizes the impacts and mitigation measures for the proposed Program.

Table ES-1. Summary of Environmental Impacts and Mitigation

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Aesthetics			
a) Have a substantial adverse effect on a scenic vista?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AES-1: Construction Aesthetic Resource Protection Measures MM AES-2: Operation Aesthetic Resource Protection Measures	Potentially Significant and Unavoidable
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AES-1: Construction Aesthetic Resource Protection Measures MM AES-2: Operation Aesthetic Resource Protection Measures	Potentially Significant and Unavoidable
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AES-1: Construction Aesthetic Resource Protection Measures MM AES-2: Operation Aesthetic Resource Protection Measures	Potentially Significant and Unavoidable
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AES-3: Develop and Submit Lighting Plan	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Agricultural Resources			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AG-1: Agricultural Resource Protection	Potentially Significant and Unavoidable
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AG-1: Agricultural Resource Protection	Potentially Significant and Unavoidable
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AG-2: Forestry Resource Protection	Potentially Significant and Unavoidable
d) Result in the loss of forest land or conversion of forest land to non-forest use?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AG-2: Forestry Resource Protection	Potentially Significant and Unavoidable
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-	No Impact	None	No Impact

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
agricultural use or conversion of forest land to non-forest use?			
Air Quality			
a) Conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques MM AQ-2: Implement All Feasible On- and Off-Site Mitigation Measures to Reduce Operation-Related Air Pollutants to Below a Lead Agency-Approved Threshold of Significance	Potentially Significant and Unavoidable
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques MM AQ-2: Implement All Feasible On- and Off-Site Mitigation Measures to Reduce Operation-Related Air Pollutants to Below a Lead Agency-Approved Threshold of Significance	Potentially Significant and Unavoidable
c) Expose sensitive receptors to substantial pollutant concentrations?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts,	MM AQ-3: Conduct a Health Risk Assessment and Implement On-Site TAC-Reducing Mitigation Measures	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
	Collection, Sortation, and Processing would be)		
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM AQ-4: Prepare an Odor Impact Minimization Plan or Odor Management Plan	Potentially Significant and Unavoidable
Biological Resources			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM BIO-1: Desktop Reviews and Biological Surveys MM BIO-2: Pre-construction Nesting Bird Survey MM BIO-3: Conduct Biological Monitoring MM BIO-4: Implement a Workers Environmental Awareness Program MM NOI-1: Implement Noise-Reduction Measures during Project Construction MM NOI-2: Implement Noise-Reduction Measures during Project Operation	Potentially Significant and Unavoidable
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts,	MM BIO-1: Desktop reviews and biological surveys MM BIO-5: Sensitive Community Mitigation	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
	Collection, Sortation, and Processing would be)	MM BIO-4: Implement a Workers Environmental Awareness Program	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM BIO-1: Desktop reviews and biological surveys MM BIO-4: Implement a Workers Environmental Awareness Program	Potentially Significant and Unavoidable
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM BIO-1: Desktop Reviews and Biological Surveys MM BIO-2: Pre-construction Nesting Bird Survey MM BIO-4: Implement a Workers Environmental Awareness Program MM BIO-6: Conduct Pre-construction Bat Surveys	Potentially Significant and Unavoidable
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than Significant	None	Less than Significant
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less than Significant	None	Less than Significant

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Cultural Resources			
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM CUL-1: Conduct Inventory and Significance Evaluation of Architectural Resources MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation	Potentially Significant and Unavoidable
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM CUL-1: Conduct Inventory and Significance Evaluation of Architectural Resources MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation	Potentially Significant and Unavoidable
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Less than Significant	None	Less than Significant
Energy			
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary	Less than Significant	None	Less than Significant

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
consumption of energy resources, during project construction or operation?			
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than Significant	None	Less than Significant
Geology and Soils			
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? 	Less than Significant	None	Less than Significant
b) Result in substantial soil erosion or the loss of topsoil?	Less than Significant	None	Less than Significant
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less than Significant	None	Less than Significant
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994),	Less than Significant	None	Less than Significant

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
creating substantial direct or indirect risks to life or property?			
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Less than Significant	None	Less than Significant
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM GEO-1: Paleontological Resources Protection Measures	Potentially Significant and Unavoidable
Greenhouse Gas Emissions			
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	None	Less than Significant
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than Significant	None	Less than Significant
Hazards and Hazardous Materials			
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-1: Waste Management Plan MM HAZ-2: Worker Environmental Awareness Training	Potentially Significant and Unavoidable
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset	Potentially Significant	MM HAZ-1: Waste Management Plan	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
and accident conditions involving the release of hazardous materials into the environment?	(While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-2: Worker Environmental Awareness Training	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-1: Waste Management Plan MM HAZ-2: Worker Environmental Awareness Training	Potentially Significant and Unavoidable
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-3: Phase I/II Environmental Site Assessment MM HAZ-4: Remediation Action Plan/Soil Management Plan	Potentially Significant and Unavoidable
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-5: Airport Safety Hazard Assessment MM TR-5: Project-Specific Traffic Impact Report	Potentially Significant and Unavoidable
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM TR 1: Construction Transportation and Management Plan MM TR-2: Restrict Lane Closures and Maintain Access MM TR-4: Notify Emergency Personnel of Road Closures	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		MM TR-5: Project-Specific Traffic Impact Report	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM TR 1: Construction Transportation and Management Plan MM TR-5: Project-Specific Traffic Impact Report MM HAZ 6: Emergency Access MM HAZ 7: Construction Staging and Parking Plan	Potentially Significant and Unavoidable
Hydrology and Water Quality			
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than Significant	None	Less than Significant
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HWQ-1: Hydrology Study	Potentially Significant and Unavoidable
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HWQ-1: Hydrology Study	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?			
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Less than Significant	None	Less than Significant
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than Significant	None	Less than Significant
Land Use and Planning			
a) Physically divide an established community?	Less than Significant	None	Less than Significant
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Less than Significant	None	Less than Significant
Mineral Resources			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM MIN-1: Minimize Potential Impacts from Loss of a Known Mineral Resource	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM MIN-1: Minimize Potential Impacts from Loss of a Known Mineral Resource	Potentially Significant and Unavoidable
Noise			
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM NOI-1: Implement Noise-Reduction Measures during Project Construction MM NOI-2: Implement Noise-Reduction Measures during Project Operation	Potentially Significant and Unavoidable
b) Generation of excessive groundborne vibration or groundborne noise levels?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM NOI-1: Implement Noise-Reduction Measures during Project Construction MM NOI-2: Implement Noise-Reduction Measures during Project Operation	Potentially Significant and Unavoidable
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Less than Significant	None	Less than Significant
Population and Housing			

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact	None	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	None	No Impact
Public Services			
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection? Police protection? Schools? Parks? Other public facilities?	No Impact	None	No Impact
Recreation			
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact	None	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact	None	No Impact

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Transportation			
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM TR-1: Construction Transportation Management Plan MM TR-2: Restrict Lane Closures and Maintain Access MM TR-3: Closure Notification and Detours MM TR-4: Notify Emergency Personnel of Road Closures	Potentially Significant and Unavoidable
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	None	Potentially Significant and Unavoidable
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM TR-1: Construction Transportation Management Plan MM TR-5: Project-Specific Traffic Impact Report	Potentially Significant and Unavoidable
d) Result in inadequate emergency access?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM TR-1: Construction Transportation Management Plan MM TR-4: Notify Emergency Personnel of Road Closures MM TR-5: Project-Specific Traffic Impact Report	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Tribal Cultural Resources			
<p>a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:</p> <p>i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or</p> <p>ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.</p>	<p>Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)</p>	<p>MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources</p> <p>MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation</p>	<p>Potentially Significant and Unavoidable</p>
Utilities and Services Systems			
<p>a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?</p>	<p>Less than Significant</p>	<p>None</p>	<p>Less than Significant</p>

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Less than Significant	None	Less than Significant
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less than Significant	None	Less than Significant
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact	None	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact	None	No Impact
Wildfire			
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM TR-1: Construction Transportation and Management Plan MM TR-2: Restrict Lane Closures and Maintain Access MM TR-4: Notify Emergency Personnel of Road Closures MM TR-5: Project Specific Traffic Impact Report MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan	Potentially Significant and Unavoidable

Would the Program?	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan	Potentially Significant and Unavoidable
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan	Potentially Significant and Unavoidable
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Potentially Significant (While Source Reduction and Refill/Reuse activities would not be associated with significant impacts, Collection, Sortation, and Processing would be)	MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan	Potentially Significant and Unavoidable

Alternatives to the Proposed Program

An important aspect of the environmental review process is the identification and analysis of alternatives to the Program that would avoid or minimize the significant impacts identified for the proposed Program, are feasible, and substantially meet the Program objectives. The CEQA Guidelines (Section 15126.6(a)-(f)) require an EIR to describe a reasonable range of feasible alternatives, including a No Project/Program Alternative, and to analyze the impacts of the alternatives to allow for a comparative analysis of impacts for consideration by decision-makers.

The following alternatives are evaluated in this Draft PEIR:

- **Alternative 1: No Project Alternative.** This alternative assumes the proposed Implementing Regulations would not be adopted.
- **Alternative 2: Less Stringent Classification of Plastic Covered Materials.** This alternative would revise the proposed Implementing Regulations affecting mixed paper and plastic materials. Under this alternative, covered materials composed mostly of paper containing less than 20% plastic by weight would not be categorized as plastic covered material. These materials would be categorized as paper covered materials and would not be subject to source reduction or meeting the plastic recycling rate requirement. These materials would still need to be recyclable by the January 1, 2032 statutory deadline, but they would not be categorized as plastic.

These alternatives are addressed in more detail in Section 5 (Alternatives).

Comparison of Alternatives

Alternative 1: No Project Alternative

Under the No Project Alternative, no regulations would be adopted to implement SB 54. It is not clear that CalRecycle has the legal authority to pursue the No Project Alternative because CalRecycle is legislatively mandated to develop regulations designed to implement SB 54. However, for purposes of CEQA review, a No Project Alternative must be considered.

Under the No Project Alternative, the burden of recycling and disposing of single-use packaging and food service ware would not be shifted to producers. It is reasonably foreseeable that under the No Project Alternative there would be no new development or expansion of collection, sortation, and processing facilities throughout the State and efforts to reduce plastic pollution would remain at the local level. The elimination of construction and operation of new facilities as a reasonably foreseeable future event would avoid all of the significant impacts identified for the Program. However, all of the benefits of SB 54 would be foregone and the adverse effects of plastic pollution described in Section 1.4 (Project Objectives, Purpose, and Need) would continue in California, including steadily increasing plastic waste going to landfills and plastic pollution degrading both ecosystem and human health.

Alternative 2: Less Stringent Classification of Plastic Covered Materials

Under Alternative 2, the proposed Implementing Regulations would be revised to allow covered materials composed mostly of paper to contain less than 20% plastic by weight without being categorized as plastic covered material. These materials would be categorized as paper covered

materials and would not be subject to source reduction or meeting the plastic recycling rate requirement. These materials would still need to be recyclable by the January 1, 2032, statutory deadline, but they would not be categorized as plastic.

This alternative would result in approximately 1.8 million tons less material categorized as plastic covered material compared to the categorization under the proposed Program. Accordingly, the amount of material subject to the source reduction and recycling rate requirements would be reduced, which would lower the burden to comply and the associated cost. Consequently, a smaller volume of plastic covered material would need to be recycled, and fewer new collection, sortation, and processing facilities would need to be constructed to responsibly manage the material. While fewer overall facilities would be required, the construction of any new facilities could result in significant impacts as described for the Program, depending on the location of the facilities. Therefore, selection of this alternative would not necessarily avoid or minimize many of the significant impacts related to collection, sortation, and processing facilities identified for the Program, although the direct impacts associated with construction and operation of new and expanded collection, sortation, and processing facilities may be minimized on aggregate throughout California. In addition, Alternative 2 may result in relatively fewer overall vehicle miles travelled (VMT) and vehicle-related emissions (i.e., criteria pollutants and GHGs) as compared to the Program. It is important to note that depending on the development of future collection, sortation, and processing infrastructure, a reduced number of facilities as compared with the Program also has the potential to increase VMT and associated emissions because the array of options for management of covered materials would be limited and could increase the likelihood that material would need to travel greater distances to be managed by the smaller number of facilities. As such, because the locations of future facilities are not known, it is not clear that Alternative 2 would avoid or minimize all of the potentially significant transportation effects of the Program. While Alternative 2 is expected to reduce the likelihood of significant impacts in the aggregate throughout California, as compared to the proposed Program, it is important to note that it would also result in fewer benefits: for instance, adoption of Alternative 2 would not achieve the same reduction in GHG emissions as the proposed Program. Specifically, Alternative 2 would result in approximately 1.4 million MTCO_{2e} more GHG emissions than the Program because less plastic material would be recycled, and more virgin plastic material would continue to be produced. In addition, Alternative 2 would not decrease the volume of plastic pollution in the environment to the same extent as the Program because fewer materials would be classified as plastic covered materials subject to the source reduction requirement. As such, the benefits of the Program would occur to a lesser degree under Alternative 2.

Environmentally Superior Alternative

The State CEQA Guidelines (Section 15126.6(d)) require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. The CEQA Guidelines (Section 15126.6(e)(2)) further state, in part, that “If the environmentally superior alternative is the “No Project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives”. Based on the analysis provided in this PEIR, CalRecycle has determined that the No Project alternative is the environmentally superior alternative because it avoids the potentially significant effects of compliance with the Implementing Regulations.

As illustrated in Table ES-2, below, if avoidance of significant impacts is viewed as the compelling criterion, the environmentally superior alternative other than the No Project Alternative would be Alternative 2 because it minimizes the potential for significant impacts related to aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, noise, transportation, tribal cultural resources, and wildfire, that would occur as a result of the reasonably foreseeable means of compliance with the Implementing Regulations. The substantial benefits of the Program would not be realized under the No Project Alternative and would be realized to a lesser degree for Alternative 2. Alternative 2, the Less Stringent Classification of Plastic Covered Materials Alternative, is anticipated to lead to less construction of new or expanded facilities for sortation and recycling. As such, Alternative 2 could reduce the significant effects of the Program. Therefore, the environmentally superior alternative other than No Project is Alternative 2.

Table ES-2. Summary of Environmental Effects of Alternatives Relative to the Proposed Regulation

Environmental Topic	Reasonably Foreseeable Means of Compliance Method	Alternative 1: No Project	Alternative 2: Less Stringent Classification of Plastic Covered Materials
Aesthetics	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Agriculture and Forestry	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Air Quality	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Biological Resources	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Cultural Resources	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Energy	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less	Less
Geology and Soils	Source Reduction and Refill/Reuse:	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Greenhouse Gas Emissions	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less	Less
Hazards and Hazardous Materials	Source Reduction and Refill/Reuse	Similar ++	Similar +

Environmental Topic	Reasonably Foreseeable Means of Compliance Method	Alternative 1: No Project	Alternative 2: Less Stringent Classification of Plastic Covered Materials
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Hydrology and Water Quality	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Land Use and Planning	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less	Less
Mineral Resources	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Noise	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Population and Housing	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Similar	Similar
Public Services	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Similar	Similar
Recreation	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Similar	Similar
Transportation	Source Reduction and Refill/Reuse	Less ++	Less +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Tribal Cultural Resources	Source Reduction and Refill/Reuse	Similar	Similar

Environmental Topic	Reasonably Foreseeable Means of Compliance Method	Alternative 1: No Project	Alternative 2: Less Stringent Classification of Plastic Covered Materials
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Utilities and Services Systems	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less ++	Less +
Wildfire	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)

Notes: + = reduced environmental benefit as compared to those of the Program; ++ = environmental benefit completely foregone as compared to those of the Program.

Known Areas of Controversy and Unresolved Issues

Section 15123 of the CEQA Guidelines requires an EIR to identify areas of controversy known to the lead agency, including issues raised by agencies and the public, and issues to be resolved. Environmental topics raised during the scoping process included the following:

1. Suggestions for labeling requirements and definition of Program terms;
2. CalRecycle's authority to implement SB 54 and the regulations;
3. Concerns regarding CalRecycle's oversight of the Circular Action Alliance for implementing PRO requirements;
4. Input on Styrofoam/vinyl chloride spa covers; and
5. Information pertaining to or request to analyze impacts of the Program on environmental resources including agricultural resources (Section 3.5), air quality (Section 3.6), biological resources (Section 3.7), geology and soils (Section 3.10), GHGs (Section 3.11), and land use and planning (Section 3.14).

Each of these topics are addressed in the Draft PEIR.

Section 15123(b)(3) of the State CEQA Guidelines requires that an EIR contain a discussion of issues to be resolved. With respect to the proposed Specific Plan, the key issues to be resolved include the following:

1. Whether to certify the PEIR and approve the Implementing Regulations
2. Whether any alternatives to the proposed Program would substantially lessen any of the significant impacts and still achieve most of the project objectives; and
3. Whether the proposed Program's benefits override the potentially significant environmental impacts from reasonably foreseeable means of compliance with the Implementing Regulations.

SECTION 1 Introduction

The California Department of Resources Recycling and Recovery (CalRecycle, formerly the California Integrated Waste Management Board) is a department within the California Environmental Protection Agency (CalEPA) that is responsible for protecting California’s environment and climate for the health and prosperity of future generations through the reduction, reuse, and recycling of California resources, environmental education, disaster recovery, and the transition from a disposable to a fully circular economy. CalRecycle is preparing this draft Program Environmental Impact Report (PEIR) under the California Environmental Quality Act (CEQA) to support its decision-making process on developing, approving, and implementing regulations for the Plastic Pollution Prevention and Packaging Producer Responsibility Act (Senate Bill 54, Allen, Chapter 75, Statutes of 2022) (hereinafter “SB 54”).

CalRecycle, as lead agency, is preparing this Draft PEIR in conformance with CEQA (Public Resources Code (PRC) Section 21000 *et seq.*) and the CEQA Guidelines (Title 14, CCR, Section 15000 *et seq.*). As described in CEQA Guidelines Section 15121(a), an Environmental Impact Report (EIR) is a public disclosure document that assesses the potentially significant environmental impacts of a proposed project and identifies feasible mitigation measures and reasonable alternatives to the project that would reduce or avoid adverse environmental impacts. The proposed Program is intended to create environmental benefits associated with the implementation of SB 54, including insuring that the amount of single-use plastic foodware products and packaging in California is reduced significantly and those that are produced are actually compostable or recyclable and are recycled in a responsible manner. This is expected to reduce the negative health and environmental impacts of plastic production and use at every stage of the products’ lifecycle. While the overall benefits of the Program are expected to be significant, in some cases, as described in Section 3, potentially significant effects on the environment may occur with implementation of reasonably foreseeable compliance responses associated with the proposed Implementing Regulations. It is expected that many of those impacts would be feasibly avoided or mitigated to a less-than-significant level because project-level environmental review would be associated with those compliance responses. Nevertheless, because this project-level review is not within CalRecycle’s purview, this PEIR takes a conservative approach and discloses potentially significant and unavoidable environmental impacts.

The degree of specificity required in a CEQA document corresponds to the degree of specificity inherent in the underlying activity it evaluates. An EIR for a broad program cannot be as detailed as an EIR for a specific project (CEQA Guidelines Section 15146). For example, the assessment of a construction project would be naturally more detailed than one concerning the adoption of a local general plan because construction-related effects can be predicted with more accuracy (CEQA Guidelines Section 15146(a)). As described in CEQA Guidelines Section 15168, a PEIR is an appropriate type of EIR for the adoption and implementation of regulations. Because this analysis addresses a broad regulatory program, a general level of detail is appropriate; however, this PEIR makes a rigorous effort to evaluate significant adverse impacts and benefits of the reasonably foreseeable compliance responses that could result from adoption of the proposed Implementing Regulations, and it contains as much information about those impacts as is currently available, without being unduly speculative.

The purpose of this document is to inform agency and governmental decision-makers and the public about the potential significant environmental effects associated with the proposed Implementing Regulations. It is not the purpose of the PEIR to recommend either approval or denial of any elements of the proposed Implementing Regulations. Rather, the PEIR discloses potential significant environmental impacts of the SB 54 Implementing Regulations, as well as mitigation measures and alternatives that may reduce any potentially significant impacts, for the CalRecycle Director's review and consideration in exercising their discretionary decision-making authority related to the proposed Implementing Regulations.

1.1 About the Plastic Pollution Prevention and Packaging Producer Responsibility Act

SB 54 and its proposed Implementing Regulations are consistent with the California and United States Environmental Protection Agency (USEPA) waste management hierarchy, both of which prioritize source reduction as the environmentally preferred method of managing waste. PRC Section 40051(a) directs CalRecycle and local agencies to do the following:

“(a) Promote the following waste management practices in order of priority: (1) Source reduction. (2) Recycling and composting. (3) Environmentally safe transformation and environmentally safe land disposal, at the discretion of the city or county.

(b) Maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste that must be disposed of by transformation and land disposal. For wastes that cannot feasibly be reduced at their source, recycled, or composted, the local agency may use environmentally safe transformation or environmentally safe land disposal, or both of those practices.”

The waste hierarchy is a strategy for waste management that prioritizes waste prevention through waste reduction, reuse, and recycling. These top two components of the Waste Management Hierarchy reduce landfill disposal, resulting in decreased greenhouse gas (GHG) emissions from organic decomposition in landfills and less manufacturing of virgin plastics, and less plastic waste in the environment, improving ecosystems and human health.

The preferred strategy to reduce the amount of waste in the waste stream is to reduce the amount generated, also known as source reduction. Source reduction, especially for plastics, can be achieved in a variety of ways, including eliminating some of the plastic components, reducing the plastic to product ratio (e.g., by shifting to bulk or large-format packaging), and switching to non-plastic packaging. Another strategy for source reduction is to “reuse.” Much of the packaging currently produced is single use by design. Reuse can be accomplished by switching single-use packaging to reusable or refillable packaging.

The second component of the waste management hierarchy is recycling and composting: an effective means of diverting waste away from landfills and towards replacing new, virgin materials from plastic manufacturing. Recycling supports a circular economy, changing solid waste to solid resources that are taken back up into the product rather than disposing of materials. While recycling is key in addressing the problem of packaging waste, it has its challenges. For example, some types of plastic resins, such as polyethylene terephthalate (PET/PETE), are easily recycled; however, polystyrene (PS) resin types are

more difficult to recycle. Certain plastic forms, regardless of resin type, are difficult to recycle because of their shape or size. While low-density polyethylene (LDPE) resin is recyclable, its typical forms, like plastic bags, make recycling of LDPE difficult as the bags interfere with the operation of sorting machinery. Small plastic components, like bottle caps and rings, can also cause shutdowns when they get caught in or fall through sorting machinery, causing stoppages or unplanned repairs.

SB 54 creates an Extended Producer Responsibility (EPR) program that governs the management of single-use packaging and plastic single-use food service ware (covered material). The burden of managing that waste currently rests largely on local agencies, such as cities and counties or waste management districts, and ultimately their ratepayers. SB 54 shifts much of the burden of managing waste from local jurisdictions and ratepayers to the producers of the material. Among other requirements under the Act, SB 54 requires producers of covered material to achieve the following by January 1, 2032:

1. source reduce plastic covered material by 25%,
2. meet a 65% recycling rate goal for all plastic covered material, and
3. ensure that all covered material is recyclable or eligible for being labeled compostable.

SB 54 also requires producers to establish and join a Producer Responsibility Organization (PRO) for the purpose of developing and implementing a producer responsibility plan to comply with the Act. SB 54 prohibits a producer from selling, offering for sale, importing, or distributing covered material in the state after January 1, 2027, unless the producer is approved to participate in the producer responsibility plan of a PRO, or individually, provided they meet specific requirements demonstrating individual compliance with the Act. SB 54 imposes additional requirements on producers, including registration, recordkeeping, and auditing requirements; remittance of surcharges; and preparation of an annual report and budget. SB 54 also requires that local jurisdictions and recycling service providers include all covered material deemed by CalRecycle as recyclable and compostable in their collection and recycling programs, except as specified. Finally, SB 54 requires CalRecycle to adopt regulations to implement the statute.

1.2 From Legislation to Regulation

SB 54 was passed by the legislature and signed by Governor Newsom on June 30, 2022. SB 54 delegated authority to develop and implement regulations (known as Implementing Regulations) to CalRecycle, which must follow the Administrative Procedure Act (Government Code Sections 11340-11361) in the rulemaking process. On December 28, 2023, CalRecycle published a “preview” draft of the proposed Implementing Regulations for review by interested parties. On February 27, 2024, CalRecycle submitted the Notice of Proposed Action (NOPA), Initial Statement of Reasons (ISOR), Standardized Regulatory Impact Assessment (SRIA), Economic and Fiscal Impact Statement (Form 399), and draft regulations to the Office of Administrative Law (OAL). The OAL published the NOPA in the California Regulatory Notice Register on March 8, 2024. The comment period, originally proposed to end on April 23, was extended by about two weeks, ending on May 8, 2024, and CalRecycle revised the draft regulations based on the input. The Implementing Regulations were published for an additional 15-day public comment period on October 14, 2024, which was originally proposed to end on October 29, but was subsequently extended by six days, ending on November 4, 2024.

Once approved, the regulations will be submitted to the OAL as required by the Administrative Procedure Act which then verifies that the regulations are clear, necessary, and are authorized by statute. The final regulations will then be filed with the Secretary of State, published in the CCR, and become effective. The statutory deadline for adoption of the regulations is January 1, 2025.

CalRecycle's implementation and rulemaking process has included the following:

- Appointed the Advisory Board mandated by PRC Section 42070 to advise on implementation of SB 54 on June 30, 2023
- Held numerous regulatory and non-regulatory informal workshops and sessions pertaining to implementation of the statute throughout 2023 and 2024
- Reported to the legislature and published initial lists of covered material categories that are deemed recyclable and compostable pursuant to PRC Section 42061(c) and (d), including a report to the legislature
- Published the NOPA, ISOR, SRIA, Form 399, and draft regulations for interested party review
- Appointed the Circular Action Alliance to serve as the initial PRO on January 5, 2024.

1.3 Agency Authority

The lead agency is the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment (PRC Section 21067). CalRecycle is the Lead Agency for CEQA purposes because it is charged with developing and deciding on approval of the SB 54-proposed Implementing Regulations, as well as implementing any regulations that are ultimately adopted (see, e.g., PRC Sections 42041, 42057, 42060, 42064, 42084, 41821.5).

1.4 Program Objectives, Purpose and Need

1.4.1 Program Purpose and Need

Single-use plastic products are ubiquitous in modern-day life and their use has increased significantly: half of all plastic ever produced has been made since 2002. Less than 10% of plastic is recycled globally, leading to a huge accumulation of plastic waste, estimated at over 6 billion metric tons, in the earth's environment. In 2010 alone between 4 and 12 million tons of plastic waste ended up in the ocean (Landrigan et al. 2023).

In general, plastics do not biodegrade in the environment and pose a risk to both terrestrial and aquatic life when littered. The social, economic, and environmental costs of plastic use and pollution have been well-documented. Chemicals in plastic have been linked to adverse human health impacts at every stage of the plastic life cycle (Landrigan et al. 2023; Merkl and Charles 2022).

Statewide, product packaging and single-use food service ware made up 30% by weight and 50% by volume of the waste discarded in California in 2021. Approximately 49% of packaging and food service ware is plastic. Even though some plastics can be easily recycled, most plastics are disposed of, ending up in landfills or as pollution, which leads to persistence in the environment for decades to potentially hundreds of years. In 2021, Californians discarded over 11 million tons of packaging, including nearly 5.5

million tons of plastics. Only 6% of this plastic waste was recycled: the rest was disposed in landfills or littered. Improperly discarded packaging, including plastics, can end up in the environment. Harmful chemicals contained in the plastics can enter natural water systems, potentially causing harm to natural ecosystems and human health. The production, use, and disposal of single-use packaging and food service ware results in numerous impacts on the environment, including GHG emissions and toxic chemical releases that could result in adverse human health effects. Reuse, recycling, and source reduction of plastics reduces the amount of new plastic that is manufactured and reduces the corresponding GHG emissions associated with that manufacturing (CalRecycle 2024).

The costs and impacts of plastics are borne by all but fall disproportionately on people with the least ability to pay for adaptation (United Nations Environment Program [UNEP] 2023). Historically disadvantaged, low-income, and rural communities are disproportionately affected by climate change and other forms of pollution from plastic manufacturing. As such, measures that reduce GHG emissions will directly benefit these communities (CalRecycle 2024).

The purpose of SB 54 is to shift the burden for recycling and disposing of single-use packaging and food service ware to those entities that are most able to make design changes that could reduce end-of-life impacts (economic as well as environmental) of their products and packages (CalRecycle 2024).

California seeks to shift to a circular economy and to hold the producers, rather than local jurisdictions, ratepayers, and consumers, responsible for the management of covered materials. The shift also requires a consistent recycling system and increased access to reuse and refill packaging infrastructure.

1.4.2 Program Objectives

CEQA Guidelines Section 15124(b) requires the project description to include a statement of objectives for the proposed project, including the underlying purpose of the proposed project. The underlying purpose of the proposed regulations is to implement SB 54 to ensure that it achieves its goals: source reduction of plastic covered material, elimination of covered material that is not recyclable or compostable, and significant improvements in recycling rates for plastic covered material. The proposed regulations also serve the objective of improving the integrity of product labeling by implementing requirements, in accordance with Assembly Bill 1201 (Ting, Chapter 504, Statutes of 2021) (hereinafter “AB 1201”), for when products can lawfully be labeled “compostable.”

This underlying purpose is consistent with the more general policy goals of shifting California to a circular economy and shifting responsibility for end-of-life management of various materials onto the producers of them, thereby lessening the materials’ effects on the environment and public health and easing the burdens on local jurisdictions and consumers.

Key Program objectives include the following:

1. Reducing the effects of plastic pollution and litter on human health and ecosystems
2. Reducing GHG emissions from production of virgin plastic material and landfill disposal
3. Improving consumers’ ability to recycle and reuse packaging material and reduce burdens on local jurisdictions’ solid waste handling resources
4. Investing in communities disproportionately impacted by the effects of plastic pollution

5. Supporting a stable circular economy.
6. Meeting SB 54’s statutory targets for recycling rates and source reduction as follows:
 - a. All covered material to be recyclable or eligible to be labeled “compostable” by 2032.
 - b. Minimum recycling rates for plastic covered material:
 - i. 30% by 2028
 - ii. 40% by 2030
 - iii. 65% by 2032
 - c. Minimum source reduction of plastic covered material:
 - i. 10% by 2027
 - ii. 20% by 2030
 - iii. 25% by 2032
 - d. Minimum recycling rates for expanded polystyrene (EPS) food service ware:
 - i. 25% by 2025
 - ii. 30% by 2028
 - iii. 50% by 2030
 - iv. 65% by 2032

1.5 Overview of the CEQA Process

This section provides the basis for preparing a PEIR, anticipated future actions that will rely on the CEQA analysis in this PEIR, and a summary of the past and planned milestones in the CEQA process for the proposed regulations.

1.5.1 Level of CEQA Review

This PEIR analyzes the effects of the proposed SB 54 Implementing Regulations, and the reasonably foreseeable effects of adoption of and compliance with the regulations, to inform the public as well as the decision of the Director of CalRecycle on whether to approve the regulations. The analysis of potentially significant adverse environmental impacts of the proposed Implementing Regulations is based on the following:

1. The analysis addresses the potentially significant adverse environmental impacts resulting from adoption and implementation of the Implementing Regulations compared to existing conditions.
2. The analysis of environmental impacts and determinations of significance are based on reasonably foreseeable compliance responses to the proposed regulations.
3. The analysis addresses environmental impacts within California to the extent they are reasonably foreseeable and do not require speculation.

The level of detail of impact analysis is necessarily and appropriately general because the proposed Implementing Regulations are programmatic. Decisions by the regulated entities regarding compliance options and the precise locations of the many activities taken in response to the Implementing Regulations are unknown. Furthermore, predicting decisions by entities regarding the specific location and design of infrastructure made in response to the Implementing Regulations would be speculative at this stage, given the influence of other business and market considerations in those decisions. As a result, there is inherent uncertainty regarding the degree of mitigation that would ultimately be needed to reduce any potentially significant impacts identified in this Draft PEIR. Consequently, this Draft PEIR takes the conservative approach in its significance conclusions (i.e., tending to overstate the potential that feasible mitigation may not be implemented by the agency with authority to do so or may not be sufficient) and discloses, for CEQA compliance purposes, that potentially significant environmental impacts may be unavoidable even with feasible mitigation. It is also possible that the amount of mitigation necessary to reduce environmental impacts to a less-than-significant level may be less than disclosed in this Draft PEIR on a case-by-case basis. Specific actions undertaken to implement the Implementing Regulations would undergo project-level environmental review and compliance processes as required at the time they are proposed. It is expected that many individual development projects would be able to feasibly avoid potentially significant impacts or mitigate them to a less-than-significant level.

This Draft PEIR generally does not analyze site-specific impacts when determinations regarding changes in the location of future facilities or other infrastructure would be speculative. However, this Draft PEIR does examine regional and local issues to the degree feasible where appropriate. As a result, the impact conclusions in the resource-oriented sections of Section 3 (Environmental Setting, Impacts, and Mitigation Measures) cover broad types of impacts, considering the potential effects of the full range of reasonably foreseeable actions undertaken in response to the proposed Implementing Regulations.

As described in CEQA Guidelines Section 15168(a) a PEIR is an:

“EIR that may be prepared on a series of actions that can be characterized as one large project and are related either:

1. Geographically,
2. As logical parts in the chain of contemplated actions,
3. In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.”

The SB 54 Implementing Regulations meet each of these relationships: therefore, a PEIR is the appropriate document to carry out a CEQA review. As described in CEQA Guidelines Section 15168(b), a PEIR can achieve the following objectives:

1. Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,

2. Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,
3. Avoid duplicative reconsideration of basic policy considerations,
4. Allow the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and
5. Allow reduction in paperwork.

1.5.2 CEQA Tiering and Intended Use

The process of evaluating future Program activities and preparing the appropriate environmental documentation based on this PEIR is known as “tiering.” Tiering consists of evaluating future Program activities and determining whether they are within the scope of the PEIR and if additional environmental analysis and documentation is necessary. The PEIR may be used by CalRecycle and local agencies, including cities, counties, and waste districts, subject to the tiering process provided below.

As specified in CEQA Guidelines Section 15168(c), future activities implemented under the Program:

“must be examined in the light of the [PEIR] to determine whether an additional environmental document must be prepared.

1. If a later activity would have effects that were not examined in the [PEIR], a new initial study would need to be prepared leading to either an EIR or a negative declaration. That later analysis may tier from the [PEIR] as provided in Section 15152.
2. If the agency finds that pursuant to Section 15162, no subsequent EIR would be required, the agency can approve the activity as being within the scope of the project covered by the [PEIR], and no new environmental document would be required. Whether a later activity is within the scope of a [PEIR] is a factual question that the lead agency determines based on substantial evidence in the record. Factors that an agency may consider in making that determination include, but are not limited to, consistency of the later activity with the type of allowable land use, overall planned density and building intensity, geographic area analyzed for environmental impacts, and covered infrastructure, as described in the [PEIR].
3. An agency shall incorporate feasible mitigation measures and alternatives developed in the [PEIR] into later activities in the program.
4. Where the later activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were within the scope of the [PEIR].”

Notably, CEQA Guidelines Section 15168(c)(5) states the following:

“A [PEIR] will be most helpful in dealing with later activities if it provides a description of planned activities that would implement the program and deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed project description and analysis of the program, many later activities could be found to

be within the scope of the project described in the [PEIR], and no further environmental documents would be required.”

The Implementing Regulations are a regulatory framework that sets performance standards and recycling requirements to be met through an EPR approach implemented by producers and by local agencies, including cities, counties, and waste districts. In order to analyze the environmental effects of a regulation that establishes performance standards and treatment requirements, Section 15187 of the State CEQA Guidelines requires CalRecycle to perform an environmental analysis of the reasonably foreseeable methods by which compliance with the Implementing Regulations will be achieved.

As such, this PEIR evaluates the effects of approving the proposed Implementing Regulations, and the potentially significant environmental impacts that could result from reasonably foreseeable methods by which compliance with the Implementing Regulations would be achieved. As described in greater detail in Section 3 (Environmental Setting, Impacts, and Mitigation Measures), these impacts may be due to requirements for specified source reduction and recycling rates, or due to collection, sortation, and processing requirements for increased recycling infrastructure statewide. When specific projects are proposed to implement these regulations, Project-level CEQA environmental review and compliance processes would be required and may tier off of the analysis in this PEIR.

1.6 Public Outreach

1.6.1 Public Outreach and Input During Rulemaking

CalRecycle conducted a series of publicly noticed informational sessions, nonregulatory workshops, and informal rulemaking workshops on topics related to SB 54 in 2023 and 2024. These sessions and workshops were held in-person at CalRecycle in the Byron Sher Auditorium, Coastal Hearing Room, or Sierra Hearing Room at the CalEPA headquarters building in Sacramento, California. The public sessions and workshops were simultaneously webcast, which allowed interested parties and members of the public to either attend in person or participate virtually to provide input and feedback on topics. A notice announcing each workshop was sent out via listserv prior to the scheduled date and posted on the CalRecycle website. Workshop notices distributed via the CalRecycle listserv included discussion documents explaining the proposed regulatory concepts in detail, and presentation slides were made available following each session and workshop.

CalRecycle maintains a webpage on SB 54 that is featured on CalRecycle’s home page. The page provides a high-level overview of what the law requires and up-to-date information on SB 54, including related events, a legislative timeline, infographics, and a fact sheet. The webpage also provides links to the following:

- A page on the Advisory Board
- Circular Action Alliance’s PRO Applicant Package
- A page on the needs assessment that CalRecycle is required to perform
- Presentation slides and discussion documents for all past and upcoming public meetings and workshops
- Draft Regulatory Text

- Covered Material Categories List and Supplemental Material
- SB 54 Report to the Legislature (2023).

CalRecycle sends out information on SB 54 via multiple listservs totaling 4,100 recipients. Additionally, CalRecycle monitors and responds to a Packaging email inbox to which the public can send questions regarding SB 54.

CalRecycle's Office of Public Affairs has developed an informative video to educate interested parties and the public about the new law which it has aired at public meetings and on social media. CalRecycle's Office of Public Affairs has provided media advisories to both industry associations and news media to further draw attention to the SB 54 public workshops held in the spring and summer of 2023. All advisories are also posted to CalRecycle's website. CalRecycle also posts SB 54 related content on its multiple social media channels.

The ISOR, initially proposed Implementing Regulations, and documents relied upon were publicly noticed through the NOPA on February 27, 2024. The ISOR contained a description of the rationale for the initially proposed action. The NOPA, ISOR, documents relied upon, and initially proposed regulations were made available to the public on March 8, 2024.

CalRecycle accepted comments on the initially proposed Implementing Regulations in writing from March 8, 2024, through May 8, 2024, and at a public hearing held on April 23, 2024. CalRecycle considered all comments received and updated the initially proposed regulations in response to comments.

CalRecycle notified the public of the updated Implementing Regulations and made the accompanying documents available for public review on October 14, 2024. The notice included a detailed description of each change, the rationale for each change, and an updated economic and fiscal impact statement. CalRecycle accepted comments on the updated proposed Implementing Regulations through November 4, 2024.

1.6.2 CEQA Noticing and Public Review

1.6.2.1 Notice of Preparation

CalRecycle released a Notice of Preparation (NOP) pursuant to CEQA Guidelines Section 15082 to agencies, organizations, and the public, including on the Governor's Office of Land Use and Climate Innovation (formerly the Governor's Office of Planning and Research) State CEQA Clearinghouse (SCH # 2024070487). The NOP initiated a 45-day public comment period from July 12 to August 26, 2024, during which members of the public, agencies, municipalities and interested parties were welcome and invited to submit comments on potential effects to resources, alternatives for analysis in the Draft PEIR, and scope of the Draft PEIR.

The NOP informed the public that CalRecycle is preparing a Draft PEIR and provided a brief program description, overview of the CEQA/EIR process, information on the scoping process and the 45-day comment period, and directions on how to submit a comment. CalRecycle provided three options for interested parties to submit scoping comments:

- E-mail address was included in the public scoping notices for interested parties to submit comments: Fidan.Aghayarova@calrecycle.ca.gov.
- Web comment portal: <https://calrecycle.commentinput.com?id=x2S8WhCefZ>
- Mail to: Department of Resources Recycling and Recovery (CalRecycle) 10th Floor – Fidan Aghayarova P.O. Box 4025 Sacramento, CA 95812-4025

CalRecycle also posted the NOP on its website: <https://calrecycle.ca.gov/packaging/packaging-epr/>. A display advertisement indicating the preparation of the PEIR as well as scoping meeting times, how to submit scoping comments, and the duration of the scoping period was posted in the following newspapers: The Sacramento Bee on July 12, 2024; Los Angeles Times on July 13, 2024; The San Diego Union-Tribune and San Francisco Chronicle on July 15, 2024; The Bakersfield Californian on July 16, 2024; and San Jose Mercury News on July 17, 2024.

CalRecycle emailed a copy of the NOP to government agencies, non-governmental organizations, and other interested parties on July 12, 2024.

1.6.2.2 Scoping Meeting

As part of the scoping process, CalRecycle held a hybrid scoping meeting on July 22, 2024. The scoping meeting was held in-person at CalRecycle in the Byron Sher Auditorium at the CalEPA headquarters building in Sacramento, California. The scoping meeting was simultaneously webcast, which allowed interested parties and members of the public to either attend in person or participate virtually to provide input and feedback on the scope of the PEIR. A notice announcing the meeting was sent out via listserv prior to the scheduled date and posted on the CalRecycle website. Meeting notices distributed via the CalRecycle listserv included discussion documents explaining the proposed regulatory concepts in detail. Presentation slides and a recording of the presentation were made available on the SB 54 website. A cumulative total of 50 people attended the scoping meeting. The meeting was used to describe the role of CalRecycle in developing the PEIR for the SB 54 Implementing Regulations and the reasonably foreseeable means of compliance with the Implementing Regulations. The Program was described to a level of detail that would support comments by interested parties and agencies. The CEQA process for the PEIR was also described, including future opportunities for input. Attendees were provided with time to speak and encouraged to submit written scoping comments.

1.6.2.3 Scoping Comments

In total, 11 comments were received during the public scoping period. The types of comments provided and sections of the PEIR where they are addressed are as follows:

- General support for the Program and reducing single-use plastics (Section 1.4);
- Suggestions for labeling requirements and definition of Program terms (e.g., reusable) (SB 343, Allen Chapter 507, Statutes of 2021) prohibits use of the chasing arrows or any other indicator of recyclability on products and packaging unless certain criteria are met; definitions of relevant terms are provided in the Implementing Regulations, summarized in Section 2.2);
- CalRecycle’s authority to implement SB 54 and the regulations (Sections 1.2, 1.3, 2.1, and 2.2);

- Concerns regarding CalRecycle’s oversight of the Circular Action Alliance for implementing PRO requirements (Sections 2.1 and 2.2);
- Input on Styrofoam/vinyl chloride spa covers (outside the scope of the PEIR and SB 54); and
- Information pertaining to or request to analyze impacts of the Program on environmental resources including agricultural resources (Section 3.5), air quality (Section 3.6), biological resources (Section 3.7), geology and soils (Section 3.10), GHGs (Section 3.11), and land use and planning (Section 3.14).

1.6.2.4 AB 52 Consultation on Tribal Cultural Resources

AB 52 directs the lead agency preparing an EIR, negative declaration, or mitigated negative declaration to consult with Native American Tribes before the release of the draft CEQA document. AB 52 was adopted to provide Tribes with traditional and cultural affiliation with the geographic area of a proposed project (here, the Program area is the entire State of California) the opportunity to provide information on the presence and significance of potential tribal cultural resources early in the environmental review process. The purposes of the AB 52 consultations between the Tribes and CalRecycle included 1) collect needed information; 2) build a working relationship between CalRecycle and Tribes; and 3) avoid inadvertent discoveries (Native American Heritage Commission [NAHC] 2017). Any information shared during these consultations is regarded as privileged and confidential but is considered when conducting the resource analyses.

In compliance with AB 52, CalRecycle sent consultation notification letters via certified mail on July 12, 2024, to all Tribes identified by the NAHC in the state. Of the Tribes that were contacted, six requested formal consultation. However, two later withdrew their requests. CalRecycle proceeded with formal consultations for the remaining four Tribes, completing all by October 1, 2024. Pursuant to PRC Section 21080.3.2(b), the AB 52 process is concluded when: (1) “The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource”; or (2) “A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.” Tribal concerns from these consultations were identified and resolved prior to the release of this Draft PEIR. The Program’s direct and indirect potential effects on Tribal Cultural Resources are discussed in Section 3.21 (Tribal Cultural Resources).

1.6.2.5 Public Review of the Draft PEIR

To announce the availability of this Draft PEIR for public review and comment, CalRecycle issued a Notice of Completion (NOC) and Notice of Availability (NOA) on November 4, 2024, which initiated the 45-day public comment period. The NOC and NOA were electronically submitted to the State Clearinghouse and posted on the CalRecycle website.

CalRecycle distributed the NOA to the same stakeholders as the NOP (described above in Section 1.6.2.1 [Notice of Preparation]) as well as additional interested parties that requested addition to the notification list during scoping consistent with the requirements of PRC Section 21092 and CEQA Guidelines Section 15087. The NOA included a brief overview of the proposed Program and its location, the anticipated significant effects of the Implementing Regulations, CEQA process and Draft PEIR, where to access an electronic copy of the PEIR, as well as information on how to submit a comment, and the

period during which comments on the Draft PEIR would be received (PRC Section 21092(b); CEQA Guidelines Section 15087(c)).

In addition to posting of the NOC and NOA, a display advertisement indicating the availability of the Draft PEIR as well as public comment meeting times, how to submit public comments, and the duration of the public comment period was posted in The Sacramento Bee, Los Angeles Times, The San Diego Union-Tribune, and the San Francisco Chronicle on November 4, 2024, and The Bakersfield Californian and San Jose Mercury News on November 5, 2024.

Interested parties may submit a written comment on the Draft PEIR via the following methods:

- E-mail address: Packaging@calrecycle.ca.gov
- Web comment portal: <https://calrecycle.commentinput.com?id=x2S8WhCefZ>
- Mail to: Department of Resources Recycling and Recovery (CalRecycle) 13th Floor – Fidan Aghayarova P.O. Box 4025 Sacramento, CA 95812-4025

CalRecycle encourages comments that are substantive in nature and focus on specific technical issues, the proposed regulations, potential alternatives, analyses of potentially significant environmental effects, and mitigation measures. Comments based on these topics will have a direct impact in developing the Final PEIR. All substantive comments on the Draft PEIR received by the end of the public comment period (December 13, 2024, 45 days after NOC/NOA publication) will be directly addressed and responded to in the Final PEIR.

1.6.2.6 Publication of the Final EIR

CalRecycle will evaluate the comments received during the Draft PEIR public comment period and prepare a written response to any significant environmental issues in the Final PEIR. When the Final PEIR is complete, CalRecycle will issue public notices announcing the document's availability.

1.6.2.7 Notice of Determination

Following review of the Final PEIR, the Director of CalRecycle will decide whether to certify the PEIR as adequate for their decision-making purposes. The Director, in consideration of the PEIR, comments and testimony received, and further deliberation, may then decide to adopt, amend, or deny approval of the SB 54 Implementing Regulations. If the Director decides to approve the regulations and certify the PEIR, CalRecycle will file a Notice of Determination (NOD) with the State Clearinghouse and post the NOD on the CalRecycle website (PRC Section 21092.2). The NOD notifies the responsible/trustee agencies and the public that the Director has decided to certify and adopt the Final PEIR.

1.7 Organization of the PEIR

The following describes the organization of this PEIR:

- **Executive Summary.** This section summarizes the contents of the Draft PEIR.
- **Section 1: Introduction.** This section discusses the CEQA process, the purpose and need for the Implementing Regulations, the purpose of the PEIR, and public involvement in the CEQA process.

- **Section 2: Program Description.** This section provides a detailed description of the Implementing Regulations, including rationale for the proposed measures included in the Implementing Regulations.
- **Section 3: Environmental Setting, Impacts, and Mitigation Measures.** This section evaluates direct effects of the Implementing Regulations, then describes the reasonably foreseeable means of compliance with the Implementing Regulations, then describes the approach to environmental assessment, and then describes the environmental setting and identifies potential impacts of the Regulations and alternatives for each of the CEQA Appendix G environmental resource areas. If potentially significant adverse effects are identified, then measures to mitigate such impacts are presented.
- **Section 4: Cumulative Impacts.** This section analyzes the potential for the Implementing Regulations to have significant cumulative effects when combined with other past, present, and reasonably foreseeable future projects in each resource area’s cumulative geographic scope.
- **Section 5: Alternatives.** This section presents an overview of the alternatives development process and describes the alternatives to the Implementing Regulations that were considered.
- **Section 6: Other CEQA Concerns.** This section identifies areas of the PEIR where significant environmental effects cannot be avoided, if any. It also includes an analysis of growth inducement impacts that could occur due to the Implementing Regulations.
- **Section 7: References.** This section provides a complete list of all references used to prepare the PEIR.
- **Section 8: Report Preparers.** This section identifies authors involved in preparing the PEIR.

SECTION 2 Program Description

The Program Description draws from both the Plastic Pollution Prevention and Packaging Producer Responsibility Act, SB 54, and the proposed Implementing Regulations for SB 54. The elements of each are described in this section. For the remainder of the PEIR, the following terms are used:

- SB 54: the Plastic Pollution Prevention and Packaging Producer Responsibility Act
- Implementing Regulations: proposed to be added to Title 14, Division 7 of CCR Chapter 11.1 - Plastic Pollution Prevention and Packaging Producer Responsibility and Chapter 11.5 - Environmental Marketing and Labeling. The Implementing Regulations interpret, implement, and make specific provisions of SB 54 necessary for CalRecycle’s implementation of its provisions.
- Program: SB 54, Implementing Regulations, and reasonably foreseeable means of complying with the Implementing Regulations.

2.1 SB 54: Plastic Pollution Prevention and Packaging Producer Responsibility Act

SB 54 provides measures to reduce the amount of plastic created and used, as well as increasing recycling rates in California. The performance standards and recycling requirements are as follows:

- Requires all covered material to be recyclable or eligible to be labeled “compostable” by 2032.
- Establishes the following minimum recycling rates for plastic covered material:
 - 30% by 2028
 - 40% by 2030
 - 65% by 2032
- Source reduction of plastic covered material:
 - 10% by 2027
 - 20% by 2030
 - 25% by 2032
- Establishes the following minimum recycling rates for EPS food service ware, which if not met, would prohibit producers of EPS food service ware from selling, offering for sale, distributing, or importing in or into the state EPS food service ware:
 - 25% by 2025
 - 30% by 2028
 - 50% by 2030
 - 65% by 2032

SB 54 also requires the establishment of a statewide PRO, which will be a 501(c)(3) nonprofit organization tasked with ensuring the program objectives are met and that producers are compliant with the statute and regulations. On January 5, 2024, CalRecycle appointed Circular Action Alliance to serve as the initial PRO. The PRO must pay \$5 billion into a fund between 2027 and 2037 that would be used to mitigate the effects of plastic pollution on the environment and human health, primarily in disadvantaged communities, low-income communities or rural areas.

SB 54 does not ban any plastic product or plastic type. All plastic products and plastic types may continue to be manufactured and used in the state, but they must meet the performance standards and recycling requirements of the law.

Local jurisdictions, such as cities, counties, or waste districts, as well as solid waste enterprises and recycling service providers that provide solid waste handling services on behalf of a local jurisdiction, will also be affected because the legislation requires they include the covered material in their collection and recycling services. The goal of this requirement is to reduce the confusion consumers face regarding the recyclability of packaging and food service ware: all single-use packaging and plastic food service ware must be recyclable or eligible for being labeled “compostable”. The requirement that all single-use packaging and plastic food service ware must be recyclable or compostable is also expected to assist local jurisdictions responsible for its collection and recycling. Producers are responsible for ensuring that their covered material is compliant with the law.

CalRecycle has the following statutory duties and authority in implementing SB 54, including promulgating the proposed Implementing Regulations:

1. Develop a Statewide Needs Assessment.
2. Develop a list of covered material categories and identify covered material categories deemed recyclable or compostable.
3. Conduct material characterization studies.
4. Calculate recycling rates based on methodology.
5. Set the source reduction baseline.
6. Select the initial PRO.
7. Establish a process to register producers.
8. Establish a process to collect data from producers/PRO.
9. Review producer responsibility plans, plan amendments, annual reports, and budgets.
10. Conduct oversight, enforcement, and audits of the PRO and producers of covered material.
11. Appoint members to the SB 54 Advisory Board.
12. Develop and submit reports to the legislature.

2.2 SB 54 Implementing Regulations

The SB 54 Implementing Regulations interpret, implement, and make specific the requirements of SB 54. By interpreting, making specific, and implementing SB 54, the Implementing Regulations establish the

various substantive and procedural requirements applicable to the EPR program that SB 54 requires producers of single-use packaging and plastic single-use food service ware (covered materials) to administer. The Implementing Regulations also establish how CalRecycle will exercise its oversight and enforcement responsibilities.

Consistent with SB 54, these Implementing Regulations will require producers to maintain records that demonstrate their compliance with those overall requirements and to report data related to such compliance to CalRecycle. Producers will also be required to reduce the overall amount of plastic covered materials that they create.

These Implementing Regulations will require producers to comply with their obligations under SB 54 by participating in a program operated by an organization acting on their behalf pursuant to a plan approved by CalRecycle. Alternatively, producers can create their own plan. Producers, either through such an organization or individually, will be required to prepare and submit plans addressing all requirements stated in SB 54, submit annual budgets and reports concerning their plans, and maintain records documenting their compliance with SB 54.

These Implementing Regulations will also impose compliance requirements on businesses that assert they are not “producers” of covered material because some other entity is the producer or because the packaging or plastic food service ware at issue is reusable or refillable. Such businesses may be required to support their claim that they are not the producer, such as by demonstrating that such items satisfy the criteria in the regulations to be considered not “single use” or they do not meet the definition of producer, pursuant to PRC Section 42041(w).

Consistent with SB 54, the Implementing Regulations will also implement the AB 1201 requirement that certain covered material, must be certified by third parties to meet a technical standard established under PRC Sections 42355-42358.5 for compostability.

The Implementing Regulations are proposed to be added to Title 14, Division 7 of the CCR, Chapter 11.1 - Plastic Pollution Prevention and Packaging Producer Responsibility and Chapter 11.5 - Environmental Marketing and Labeling. The full Draft Implementing Regulations are attached as Appendix A. A summary of the Implementing Regulations is provided below.

2.2.1 Chapter 11.1 - Plastic Pollution Prevention and Packaging Producer Responsibility

ARTICLE 1 – DEFINITIONS

Article 1 contains references to existing definitions and new definitions necessary to govern the provisions of the regulations. Important new definitions include those for “derivative material”, “food service ware”, “intermediate supply chain entity”, “product”, “recycled organic product”, and “reporting entity”.

ARTICLE 2 – COVERED MATERIALS AND COVERED MATERIAL CATEGORIES

Article 2 explains the processes for updating the existing covered material lists, if needed, and identifies materials that are excluded from the definition of covered material, including packaging used for medical products and drugs; materials that meet the definition of “reusable” or “refillable”; and long-

term storage material (i.e., typically used for at least five years). It also outlines the processes by which the PRO or independent producers can apply for a particular covered material to be deemed exempt.

ARTICLE 3 – EVALUATIONS FOR COVERED MATERIAL AND COVERED MATERIAL CATEGORIES

Article 3 defines the mechanisms and standards by which a covered material and covered material category can be considered recyclable, including how CalRecycle may make a preliminary identification of new covered material categories. It also provides the methodology by which the recycling rate of covered material categories shall be calculated, including acceptable data sources, calculation based on weight (not volume or number), and how to calculate rates for a covered material with multiple components.

Article 3 defines the standards by which a covered material is considered compostable, including criteria to be considered that are designed to be associated with the recovery of desirable organic wastes collected for composting. In addition, Article 3 includes a requirement for third-party certification of compostability, and exemptions for third-party certification. It also provides the criteria that must be met by an entity to be approved as an independent third party for purposes of validating postconsumer recycled content. Additionally, it defines what constitutes disposal of a covered material. Lastly, it includes a process to evaluate technologies and determine if they produce significant amounts of hazardous waste. Technologies that are determined to produce significant amounts of hazardous waste will be excluded from being considered recycling.

ARTICLE 4 – RESPONSIBLE END MARKETS

Article 4 provides the criteria an entity must meet to be considered a responsible end market, including compliance, transparency, and achieving recycling and composting rates. It specifies which types of entities can be considered end markets for glass, metal, paper or fiber, plastic, and compostable covered materials. It also includes provisions for PRO identification, verification, and viability confirmation of end markets, including audits.

ARTICLE 5 – REQUIREMENTS FOR PRODUCERS

Article 5 stipulates that a producer must either join an approved PRO; provide an application, the contents of which are described in the article, for individual compliance to CalRecycle; or provide an application for exemption to CalRecycle as a small producer. Each producer must register with CalRecycle on or before July 1, 2025. Entities that become producers after July 1, 2025, are required to register within 30 days of becoming a producer.

ARTICLE 6 – REQUIREMENTS FOR THE PRODUCER RESPONSIBILITY ORGANIZATION

Article 6 identifies the information that the PRO must provide CalRecycle, including instances of producer non-compliance and identification of a producer that is no longer participating in the PRO; a producer responsibility plan and subsequent updates or amendments to the plan; and annual reports and budgets. The Article also describes the fees that must be charged to producers, and how the fees are to be determined, prior to approval of the producer responsibility plan. Per the article, the PRO must keep records, delineated by each producer for metrics such as total weight of covered material sold, distributed, or imported into the state; total number of plastic components, by covered material

category sold, distributed, or imported into the state; total weight of covered material, by covered material category recycled; and total number of plastic components, by covered material category recycled.

ARTICLE 7 – REQUIREMENTS FOR INDEPENDENT PRODUCERS

Article 7 requires that independent producers submit a producer responsibility plan to CalRecycle within six months following application approval and provides requirements for subsequent updates or amendments to the plan and annual reports and budgets. The Article also describes the fees that independent producers must pay and how the fees are to be determined. Per the article, independent producers must keep records similar to those required by the PRO, as described in Article 6.

ARTICLE 8 – PRODUCER RESPONSIBILITY PLAN REQUIREMENTS

Article 8 describes the requirements of a producer responsibility plan as outlined in PRC Section 42051.1 and provides further specificity to PRC Section 42051.1(b)(3) for each technology that will be utilized to achieve recycling requirements, including requirements to evaluate the efficiency of the technology in achieving recycling rates, demonstrate that the means and technologies meet the conditions specified in the definition of “recycle” or “recycling” pursuant to PRC Section 42041(aa), a list of overall inputs (including chemicals), and an account of end products (including quantities of by-products or residuals produced by the technology, along with their disposition), etc. The plan must also include education and outreach measures, a process for determining and reimbursing costs that will be incurred by local jurisdictions, recycling service providers, alternative collection systems, and others, and a dispute resolution process concerning costs incurred by local jurisdictions and recycling service providers.

The PRO plan must also describe a closure and transfer plan, fee schedule for producers, and criteria and methodology that producers must use to demonstrate that items considered reusable or refillable by the producers meet the requirements of the regulations. The Article describes the required components of the closure and transfer plan. It also provides requirements for source reduction adjustments and methods the PRO may use to account for fluctuations in economic conditions and the increase or decrease in the number of producers participating in the PRO plan for determining whether the PRO has met its source reduction obligation.

ARTICLE 9 – SOURCE REDUCTION BASELINE REPORT, ANNUAL REPORT, AND PROGRAM BUDGET

Article 9 provides the requirements for the information to be included in the PRO or independent producers source reduction baseline reporting, and annual reports.

ARTICLE 10 – REGISTRATION AND DATA REPORTING REQUIREMENTS

Article 10 establishes the procedures for electronic registration with CalRecycle for data reporting, deadlines for data reporting, and required contents of data reports.

ARTICLE 11– REQUIREMENTS, EXEMPTIONS, AND EXTENSIONS FOR LOCAL JURISDICTIONS AND RECYCLING SERVICE PROVIDERS

Article 11 outlines the requirement that local jurisdictions collect covered material and transfer covered material to intermediate supply chain entities so that those materials are available to be recycled at a

responsible end market no later than the date that CalRecycle approves a PRO's plan. In addition, Article 11 includes procedures by which a local jurisdiction or recycling service provider may apply for an exemption for a specific covered material category or categories or extension from the requirements of PRC Section 42060.5(a). Rural jurisdictions may submit an exemption if they have adopted a resolution pursuant to PRC Section 42060.5(c).

ARTICLE 12 – REQUIREMENTS FOR THE ADVISORY BOARD

Article 12 describes membership terms and appointments to the advisory board.

ARTICLE 13 – ENFORCEMENT OVERSIGHT BY THE DEPARTMENT AND ADMINISTRATIVE CIVIL PENALTIES

Article 13 describes how CalRecycle can investigate and review records to determine compliance with SB 54 and the regulations. It describes how CalRecycle may assess violations and penalties and take disciplinary actions against a PRO or independent producer. It allows CalRecycle to permit a PRO or producer to propose a corrective action plan in response to a notice of violation and describes the requirements of such a plan.

ARTICLE 14 – PUBLIC RECORDS

Article 14 stipulates that all records submitted to CalRecycle pursuant to SB 54 are subject to mandatory disclosure under the Public Records Act, but that CalRecycle shall not disclose information that constitutes a trade secret or is exempt from mandatory disclosure under the Public Records Act.

2.2.2 Chapter 11.5: Environmental Marketing and Labeling

ARTICLE 1 – APPROVAL OF CERTIFICATION ENTITIES

Article 1 describes the criteria that a third-party certification entity must meet for approval by CalRecycle, such as required accreditation, independence, and impartiality, including not holding a financial interest in the producers or products requiring certification. It also outlines the process by which a third-party certification entity shall request approval or renewal of approval.

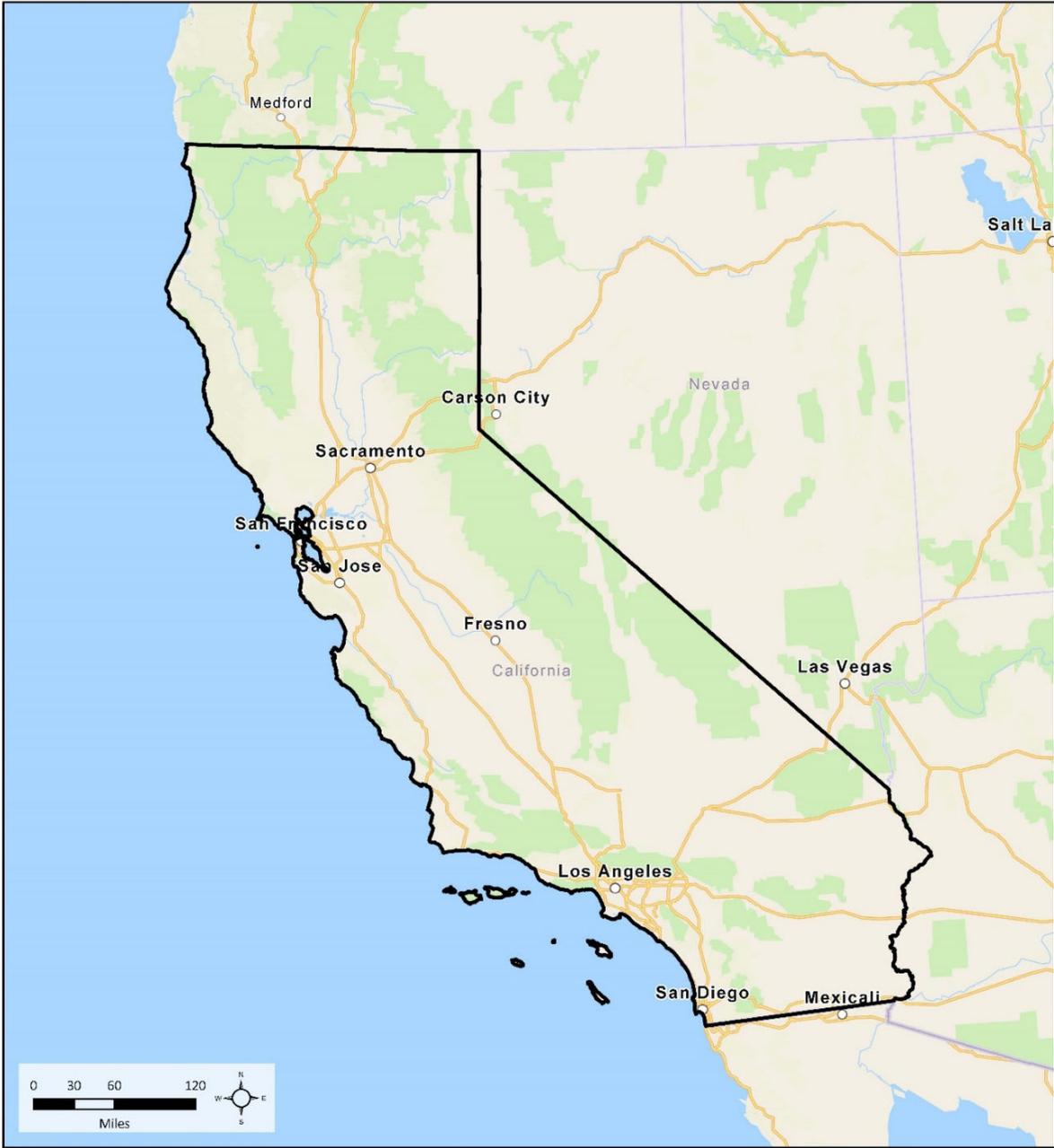
2.3 Reasonably Foreseeable Compliance Responses

At the time of the drafting of this Draft PEIR, the most likely reasonably foreseeable compliance responses include source reduction of covered materials; transition to alternative materials; expanded reliance on refill and reuse products and associated infrastructure; and expanded and new facilities for collecting, sorting, and processing covered materials and associated operations. These foreseeable compliance responses are discussed in detail in Section 3.2 (Reasonably Foreseeable Methods by Which Compliance with the Proposed Measures Would be Achieved).

2.4 Program Location

Implementation of the Program would occur throughout the State of California (Figure 2.4-1). The general location of existing landfills, local agencies that collect covered materials curbside or otherwise, and material recovery facilities are known within California; however, decisions by future project proponents regarding the choice of compliance options and the precise location of new or modified

facilities related to implementation of the proposed Implementing Regulations, including out of the state or the country, cannot be known at this time. Furthermore, due to local planning, political (i.e., the willingness of jurisdictions to address local opposition to the siting of new or expanded facilities), and economic influences, attempting to predict future project approvals about the specific location and design of future collection, sortation, and processing facilities and operations undertaken in response to the Implementing Regulations would be speculative and infeasible at this stage. The analysis of project-specific implementation actions would be subject to future, project-specific analysis.



Legend State of California		STATE OF CALIFORNIA	

Project: L:\Catalyst\GIS\catalyst_gis\Documents\ia-cg\ia_projects\wader\templates\wader_template_Augus_2003_bef000sp.aprx

Figure 2.4-1. Program Location

SECTION 3 Environmental Setting, Impacts, and Mitigation Measures

The Implementing Regulations are a regulatory framework that sets performance standards and recycling requirements to be met through an EPR approach implemented by producers and by local agencies. The environmental impacts of the Implementing Regulations are analyzed in Section 3.1. The performance standards and recycling requirements have limited impacts, primarily beneficial. The remainder of Section 3 analyzes the direct and indirect effects that result from the reasonably foreseeable methods by which compliance with the Implementing Regulations would be achieved. Section 3.2 describes the physical changes to the environment that could result from the foreseeable compliance measures. Section 3.3 describes the methods of analysis of these measures. The remainder of Section 3 the analysis organized by environmental resource category.

3.1 Environmental Impacts of the Implementing Regulations

SB 54 and the Implementing Regulations will reduce single-use plastic packaging and plastic single-use food service ware as a result of source reduction targets and reuse requirements. The minimum recycling rate requirements will ensure that remaining single use plastic use will meet the recycling requirements. This reduction will result in less material being disposed of in landfills.

The source reduction targets will result in less litter and the associated environmental impacts that come from litter on land and in our rivers, lakes, and oceans. Reducing the use of single-use plastic packaging and plastic single-use food service ware means there will be less manufacturing of these items and less emissions resulting from this manufacturing, distribution, and disposal.

The reduction, reuse, and recycling of these materials will reduce virgin plastic production. As the recycling rate targets are met, less virgin material will be manufactured as it is replaced with recycled material.

As packaging material becomes consistently recyclable or compostable, and as access to recycling and composting infrastructure becomes more standardized and available statewide, there will be fewer instances of contamination in the recycling streams, resulting in greater efficiency. By giving effect to the certification requirement of AB 1201, the proposed SB 54 Implementing Regulations will reduce consumer confusion regarding whether products are compostable. Similarly, the SB 343 requirements for truth in labeling for recyclable materials will ensure that consumers are not misled about what can actually be recycled. Consumers will be able to make more informed purchasing choices and better understand what materials are appropriate to discard with materials collected for recycling and composting. In turn, this will enhance the technical and economic viability of recycling and composting programs statewide.

The Implementing Regulations will help California shift to a circular economy as it will hold the producers, rather than local jurisdictions, ratepayers, and consumers, responsible for the management of covered materials. By implementing SB 54 regulations, the state will also spur improvements in recycling and composting infrastructure. Shifting responsibility through EPR statutes like SB 54 will

benefit solid waste handling in the state by requiring producers to address the costs of such management and incentivizing the development of infrastructure, technological and design innovation, and increased usage of reusable and refillable products.

To meet the goals mandated by statute, the PRO and independent producers will need to source-reduce approximately 1.38 million tons of plastic covered material. The PRO is required to pay \$500 million into the California Plastic Pollution Mitigation Fund, to help mitigate disproportional impacts on communities from plastic pollution and climate change every year beginning on July 1, 2027, and ending on January 1, 2037 to support meeting the Program Purpose and Need.

With respect to direct environmental impacts of the Implementing Regulations, by minimizing single-use plastics, SB 54 helps decrease the amount of plastic waste that can enter waterways. This reduces the risk of harmful pollutants (e.g., microplastics) leaching into water bodies and harming aquatic ecosystems and impacting drinking water quality and human health. Further, reducing single-use plastics leads to less litter on beaches, rivers, and lakes, improving the visual appeal of natural areas. Cleaner water bodies contribute to more inviting recreational spaces for activities such as swimming, fishing, and boating, encouraging community use and enjoyment. By promoting alternatives to single-use plastics, SB 54 helps maintain the natural beauty of California's landscapes, which is vital for tourism and local economies. For these reasons, the impacts of SB 54 and the Implementing Regulations would result in beneficial effects on environmental resources such as aesthetics and water quality. As such, SB 54 and the Implementing Regulations are consistent with CalRecycle's regulatory powers for the purpose of protecting natural resources and the environment.

The remainder of Section 3 analyzes the impacts of reasonably foreseeable methods to comply with SB 54 and the Implementing Regulations. Impacts will be driven by several currently unknowable factors, including decisions by the PRO and producers regarding their compliance pathways, individual consumer decisions, and the locations of potential future facilities. No specific compliance pathway is mandated by the SB 54 Implementing Regulations, although compliance itself is mandated. As such, for the purposes of this analysis, the means of compliance described in Section 3.2 are subsequently analyzed in the remainder of Section 3.

3.2 Reasonably Foreseeable Methods by Which Compliance with the Proposed Measures Would be Achieved

The proposed Implementing Regulations are a regulatory framework that sets performance standards and recycling requirements to be met through an EPR approach implemented by producers and by local agencies. Section 3.1 (Direct Environmental Impacts of the Implementing Regulations) provides a description of the impacts of SB 54 and the Implementing Regulations. Compliance SB 54 and the Implementing Regulations will be achieved by several factors, including decisions by the PRO and producers regarding their compliance pathways, as well as individual consumer decisions that are not regulated by SB 54 or the Implementing Regulations.

The reasonably foreseeable methods to comply with SB 54 and the Implementing Regulations are described in this section as the physical changes to the environment that could result from reasonably foreseeable means of compliance. These physical changes are not required by SB 54 and the Implementing Regulations, but they are reasonably foreseeable methods by which compliance would be

attained. In order to analyze the environmental effects of a regulation that establishes performance standards and treatment requirements, Section 15187 of the State CEQA guidelines requires an analysis of the reasonably foreseeable methods by which compliance with the Implementing Regulations would be achieved:

“At the time of the adoption of a rule or regulation requiring the installation of pollution control equipment, establishing a performance standard, or establishing a treatment requirement, the California Air Resources Board, Department of Toxic Substances Control, Integrated Waste Management Board, State Water Resources Control Board, all regional water quality control boards, and all air pollution control districts and air quality management districts, as defined in Section 39025 of the Health and Safety Code, must perform an environmental analysis of the reasonably foreseeable methods by which compliance with that rule or regulation will be achieved.”

Section 15187(c) also states that an EIR satisfies this requirement, if it includes the following considerations:

1. An analysis of reasonably foreseeable environmental impacts of the methods of compliance;
2. An analysis of reasonably foreseeable feasible mitigation measures relating to those impacts; and
3. An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation, which would avoid or eliminate the identified impacts.

Accordingly, this PEIR evaluates the reasonably foreseeable methods by which compliance with the SB 54 Implementing Regulations will be achieved. As described below, the reasonably foreseeable methods of compliance with SB 54 and Implementing Regulations analyzed in this PEIR include source reduction, transition to alternative materials, increased compostability and recyclability, increased reliance on refill/reuse methods, and development of infrastructure to support that increased composting and recycling such as expanded and additional collection, sortation, and responsible-end-market processing facilities.

The analysis of source reduction and refill/reuse requirements focuses on the likely range of replacement materials for these plastic types and addresses these effects at the Project level to support decision-making on whether to approve the regulations.

In addition, there are reasonably foreseeable methods by which compliance with SB 54 regulations would be met by recycling plastic materials and the end-of-life management of alternative materials. These methods, which occur after plastic materials or alternative materials are used, are related to collection, sorting, and responsible-end-market recycling, and because the locations of where these effects may occur are not known, the environmental impacts are not fully predictable at this stage. These means of compliance will be determined by decisions made by the PRO and producers regarding their compliance pathways, as well as local agency and individual consumer decisions. The development of collection, sortation, and processing infrastructure is analyzed at the program level in this PEIR. Because the specific locations are speculative, the impact analysis considers the types and intensity of environmental impacts associated with each class of facility on a program level but cannot consider the effects on the existing environment for individual facilities until specific locations are selected in the

future. CEQA does not require CalRecycle to engage in speculation; to the extent feasible, where specific data is not available, CalRecycle utilizes numeric ranges, bounding-level analyses (i.e., evaluating a range maximum potential impacts), and/or averages as authorized by PRC Section 21159. At the time of a future proposal of a project at a specific location, subsequent CEQA review would be required to extend the analysis of impacts provided in this PEIR, to the effect of a specific project on the local environmental setting.

The basis and findings of the reasonably foreseeable methods by which compliance with the Implementing Regulations will be achieved are described in the following sections, divided into Source Reduction and Refill/Reuse methods and Collection, Sortation, and Processing Infrastructure.

The PRO, producers, and independent producers have a number of potential options and pathways to achieve compliance with the source reduction, recycling, and compostability goals of SB 54, including, but not limited to, investing in recycling and composting infrastructure, switching to recyclable or compostable packaging options, coordinating with local agencies to ensure collection programs are sufficient to collect recyclable or compostable material to meet recycling rate targets, and improvements to collection, sorting, decontamination, remanufacturing, and other infrastructure necessary to achieve recycling rates. Through the source reduction, refill/reuse requirements, and minimum recycling rate requirements that reduce the amount of plastic use, and development of collection, sortation, and processing infrastructure that encourage recycling and reuse, SB 54 supports the creation of a circular economy of products made to be reused and recycled, instead of single use products made to be discarded, landfilled, or littered. Figure 3.2-1 illustrates the several components that support a circular, reuse economy.



Figure 3.2-1. Stages of a Circular Economy (CalRecycle 2024a)

To estimate the direct costs and impacts of meeting source reduction, reuse and refill, recyclability, and recycling rate requirements, CalRecycle developed the Direct Impacts Model (DIM) to project generation rates for materials in the disposal and recovery streams at various periods of times throughout the implementation of SB 54.

To support development of the DIM, CalRecycle assumed that to meet source reduction and recycling rate requirements, producers will replace a portion of their existing packaging with packaging from other covered material categories such as paper, metal, glass, and compostables. To meet the statutory plastic recycling rate, as compared to the baseline, producers must switch their packaging to materials that are recyclable. For the purposes of this CEQA analysis, the baseline condition is based on estimates of covered material generated based on the *2021 Disposal Facility-Based Waste Characterization Study (WCS)* developed by CalRecycle (2024b) and 2021 Recycling and Disposal Reporting System data in CalRecycle’s material reporting database. Based on this analysis and data, this PEIR assumes the following breakdown of covered material generated annually as the 2021 baseline condition: 5.5 million tons of plastic covered material, 201.4 billion plastic components, and 117.4 billion plastic packages.

3.2.1 Source Reduction and Refill/Reuse: Reasonably Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved

Those methods that reduce or reuse plastic types will lead to a likely range of replacement materials for existing plastic packaging and foodware. With implementation of SB 54, it is anticipated that use of alternative reusable, compostable, and recyclable materials would increase throughout the State. CalRecycle estimates that compliance with the Implementing Regulations would eliminate 1.38 million tons of plastic through source reduction over the 10-year period from 2021 through 2031, with an estimated 2.9 million tons of plastic covered material diverted from disposal each year (CalRecycle 2024c).

It is reasonably foreseeable that the increased recycling rates for plastic food service ware and packaging would first result in the elimination of certain plastics that are difficult to recycle or contain toxic compounds. These include plastic packaging items, components, and materials where consumption could be avoided through elimination, reuse, or replacement. These items do not commonly enter the recycling and composting systems due to format, composition, or size, or are detrimental to recycling or composting. It is reasonably foreseeable that the performance standards and recycling levels will lead to the phase out of those plastics that are not readily recycled, are toxic, or do not have a market for uptake.

3.2.1.1 Source Reduction

By January 1, 2032, SB 54 mandates that plastic covered material be source reduced by at least 25% by weight and 25% by the number of plastic components sold, offered for sale, or distributed in the state in calendar year 2023. SB 54 requires that a minimum of 10% of the source reduction requirement must be met by either switching to reusable or refillable packaging or food service ware or through elimination of a plastic component. The remainder shall be achieved through other source reduction options, which include concentration, right-sizing, lightweighting, shifting to bulk or large format packaging, or from shifting plastic covered material to non-plastic covered material. SB 54 also sets interim targets for 2027 and 2030 to be achieved for source reduction (Table 3.2-1).

Table 3.2-1. Statutory Source Reduction and Reuse or Refill Rates

Implementation Date	Minimum Reuse or Refill Rate	Other Source Reduction Options	Total Minimum Source Reduction Rate
January 1, 2027	2%	8%	10%
January 1, 2030	4%	16%	20%
January 1, 2032	10%	15%	25%

Source: CalRecycle 2024c

For the purposes of this PEIR, the source reduction requirement was calculated by applying the percent reduction rate to the total weight of plastic covered material in the 2021¹ baseline case in the DIM. The 10% reuse or refill requirement equates to a source reduction of 0.55 million tons of plastic as compared to the 2021 baseline, and the remaining 15% source reduction requirement equates to 0.83 million tons or 17.6 billion plastic packages. For the purpose of analysis in the DIM, CalRecycle assumes this material would switch from plastic covered material to non-plastic covered material. Further, plastic components are estimated to represent 9.8% of the total weight of packages (CalRecycle 2024c). This ratio is applied to the baseline data in the DIM to calculate the weight of plastic components generated in 2021, which is then divided by the average weight of a plastic component. A 25% source reduction of the number of plastic components equates to 50.4 billion components, or 0.28 million tons (CalRecycle 2024c). Table 3.2-2 provides a summary of the established baseline data and the estimated amount of material reduced to meet each source reduction goal.

Table 3.2-2. Plastic Covered Material Source Reduction Summary

Category	2021 Baseline (Total)	15% Source Reduction by Weight	10% Reuse or Refill by Weight	25% Source Reduction (Number of Plastic Components)
Plastic Covered Material (tons)	5.5 million	0.83 million	0.55 million	0.28 million
Plastic Components (count)	201.4 billion	N/A	N/A	50.4 billion
Plastic Packages (count)	117.4 billion	17.6 billion	11.7 billion	N/A

Source: CalRecycle 2024c

3.2.1.2 Refill/Reuse Infrastructure

SB 54 requires that a minimum of 10% of the source reduction requirement be met by either switching to a reusable or refillable product or through elimination of a plastic component. The impacts associated with the transition to reusable and refillable alternatives will differ depending on the type of systems implemented and their respective infrastructure. There are various options available to meet reuse and refill requirements, including establishing or expanding systems for not only primary packaging (i.e., the first layer of protection for a product in direct contact with the product) and food service ware, but also secondary (i.e., the outer layer of packaging that surrounds primary packaging to group individual units of a product together) or tertiary packaging (i.e., packaging that protects and groups multiple products together for storage, distribution, and transportation).

¹ The 2021 baseline was calculated to facilitate the analysis in this PEIR and is expected to be reasonably representative of the regulatory baseline. It is a reasonable basis upon which to evaluate the potentially significant direct and indirect effects of the implementing regulations and is the most recent data set currently available. Data sets for 2022 and 2023 are still in the process of being received and analyzed, therefore, the actual regulatory baseline for 2023 cannot be calculated until this is completed, which could be a year or more from publication of the PEIR.

Increased access to reuse and refill infrastructure will allow more consumers to make the switch from single-use materials to reusable materials. Packaging and single-use food service ware reused or refilled by the producer are those that are either returned from home or at a drop-off point, sorted, cleaned, repaired if necessary, and refilled at the manufacturer's production line, and redistributed to retail stores. Packaging and single-use food service ware reused or refilled by the consumer are those that the consumer retains, and the producer provides the refill infrastructure for the consumer to access themselves. While secondary and tertiary packaging may be included in California's reuse and refill marketplace, many of these packaging types have already been created to be reusable (Mahmoudi and Parviziomran 2020). Further, CalRecycle assumes the material converted to reuse and refill systems will include reusable plastic, glass, metal, and compostable packaging.

The estimate of refill/reuse infrastructure requirements is based on consumer-level primary packaging data and the industry sectors most likely to experience significant expansion as a result of SB 54 (CalRecycle 2024c). For reuse and refill infrastructure development, three scenarios are considered (fragmented effort, collaborative approach, and system change), each of which includes different scaling for packaging system efficiencies, return rates, and the number of times packaging is returned (reusable packaging use cycles). This PEIR looks at these three scenarios since they represent likely scenarios and provide a basis upon which to evaluate the potential impacts of this method of compliance. The fragmented effort scenario in which producers independently collect, transport, sanitize, and return packaging to shelves or consumers without sharing infrastructure with other producers, is the least efficient and most costly system. It is also the most likely system to be utilized during the early development period (CalRecycle 2024c). The collaborative approach scenario in which producers collaborate to share reuse and refill infrastructure assumes a shared and expandable reuse system and is slightly more efficient compared to the fragmented effort scenario. This scenario represents the start of the evolution of the system to a more cooperative and cohesive system that is likely to represent the middle of the development period. The system change scenario utilizes a fully scaled and standardized effort (e.g., a highly standardized and pooled system with few package designs per application versus a differentiated system where each brand has its own package design) and is the most efficient scenario modeled in the study. This is the fully developed scenario that is expected at full Program maturity. In the SRIA, CalRecycle assumes the fragmented effort scenario to be the primary reuse system from 2024 through 2026, shifting to the collaborative approach scenario for 2027 through 2029, and then shifting to the system change scenario for 2030 through 2031 (CalRecycle 2024c).

In CalRecycle's evaluation of refill/reuse in the DIM (CalRecycle 2024c), the statutorily mandated source reduction rates of 10% (including assumptions related to transition to reuse or refill options) were multiplied by the baseline to calculate the weight and number of plastic packages needing to be converted to a reusable or refillable system, equating to 553,000 tons or 11.7 billion plastic packages. The estimated 11.7 billion plastic packages were distributed across the four industry sectors using the distribution of packages estimated in the SRIA. Table 3.2-3 summarizes the distribution of packages across each packaging industry sector. It is assumed that the 11.7 billion single-use packages are equivalent to 11.7 billion single-use cycles.

Table 3.2-3. Anticipated Conversion of Packages from Single-Use to Reusable

Packaging Industry Sector	Number of Single-Use Packages to be Converted to Reusable (in Millions)
Non-Exempt Beverages	3,770
Personal Care	3,299
Fresh Food	3,770
Food Cupboard	904
TOTAL	11,743

Source: CalRecycle 2024c

3.2.2 Collection, Sortation, and Processing: Reasonably Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved

SB 54 requires California to fundamentally change its approach to managing the production and disposal of plastic packaging. It is designed to address plastic pollution through source reduction and by requiring producers of covered material to verify that their products are recycled. As such, CalRecycle projects a shift to more recyclable materials. The Implementing Regulations require local jurisdictions to include in their collection and recycling programs all covered material contained on the covered material category lists published by CalRecycle. Compliance with the Implementing Regulations will require coordination between the PRO, Independent Producers, and local agencies to provide education and outreach; process and transport of covered materials; perform reporting; mitigate contamination; improve collection, sorting, decontamination, and remanufacturing; expand curbside collection programs; and develop other infrastructure necessary or appropriate to achieve recycling rate target goals. Both curbside and non-curbside collection programs may be varied based on population density, distance to a viable responsible end market, and other relevant factors.

As part of the development of the SRIA for the Implementing Regulations for the Plastic Pollution Prevention and Packaging Producer Responsibility Act, CalRecycle conducted an in-depth analysis of the infrastructure requirements to meet the 65% plastic recycling rate target by 2032. In estimating the infrastructure needs, CalRecycle considered additional covered material which will also see increased tonnages in the recycling and disposal streams due to the Implementing Regulations. Specifically, CalRecycle estimates that 0.70 million tons per year (tpy) of paper, metal, glass, and organic/compostable covered materials must also be accommodated into existing infrastructure (CalRecycle 2024c). As materials are diverted from landfilling and littering, expanded infrastructure for collection, sortation, and processing of recyclables and refillable/reusable products will be needed to accommodate approximately eight times the current capacity for plastic covered material and approximately two times the total capacity for all covered materials in the existing systems due to the Implementing Regulations (CalRecycle 2024c). As described and calculated in detail in each of the subsections below, the types of future facilities that are anticipated to be constructed by 2032 include roughly 1,181 PRO depots, 16 large MRFs, 6 medium MRFs, and 8 small MRFs, and roughly 133 processing facilities for the recycling of glass, paper, plastic, and metal. Further, existing composting

facilities are expected to expand to accommodate the estimated statewide increase of 80,000 tpy of compostable organic covered materials. A summary of recycling rate targets and the amount of difficult-to-recycle plastic material anticipated to switch to recyclable material types is presented in Table 3.2-4.

Table 3.2-4. Summary of Recycling Rate Targets and Material Switching

Implementation Date	Plastic Covered Material Recycling Rate	Plastic Covered Material Switched (tpy) (Running Total)	Plastic Covered Material Packages Switched (Count) (Running Total)
January 1, 2028	30%	1.1 million	22.5 billion
January 1, 2030	40%	1.5 million	32.5 billion
January 1, 2032	65%	2.7 million	57.4 billion

Source: CalRecycle 2024c

3.2.2.1 Collection

The estimate of collection requirements accounts for disposal and recovery data from the *2021 Disposal Facility-Based Waste Characterization Study* developed by CalRecycle (2024b) and 2021 Recycling and Disposal Reporting System (RDRS) database (CalRecycle 2024c), as well as population increases, anticipated increases in recovery tonnage and decreases in disposal tonnages due to the Implementing Regulations. These values were applied to estimate collection infrastructure needed in the recycling and disposal streams for SB 54 implementation.

The Implementing Regulations require local jurisdictions to collect all covered material categories in their collection and recycling programs. Recycling stream collection would increase while disposal stream collection would decrease. Collection methods are assumed to include:

- Commingled collected on-route/curbside and at collection depots;
- Glass collected on-the-side (on-route/curbside);
- PRO Depot – producer-funded depots collecting several materials; and
- On-the-Side (i.e., curbside totes) and PRO Depots – collected on-the-side and/or through producer-funded depots collecting several materials.

Commingled and on-the-side collection (i.e., curbside collection either in comingled recycled material “blue bins” or material-specific totes on the side) are assumed to be collected via existing curbside collection programs as further discussed in Section 3.20 (Transportation). Additional infrastructure is not expected under these scenarios since trucks are already coming to pick up the bins and the change would be the quantity of material in each bin. However, for areas not served by curbside recycling, additional PRO Depots may be required. The types of PRO Depots are categorized as follows:



- Co-Collection at Existing Recycling Depot
 - Expanded recycling areas at transfer stations, solid waste collector sites, and other permitted solid waste facilities that already accept drop-off recycling



- Return-to-Retail
 - Containers for individual materials or accepted mixed rigid plastics added inside retail stores to collected PRO depot materials
 - Collect an average of two covered materials



- Single-Material Drop-Box
 - Drop-box containers for individual materials or accepted mixed rigid plastics added in parking lots at retail stores, community organization, or other frequently visited sites
 - Collect one covered material



- New Multi-Material Depots
 - Stand-alone or strip-mall “stores” dedicated to accepting the full range of PRO materials
 - Collect all covered materials

The collection infrastructure needs are estimated for five California regions: Bay Area, Coastal, Mountain, Southern, and Valley. Figure 3.2-2 shows the regional breakdown of California. These boundaries were informed by the current data of existing infrastructure utilized for the *2021 Disposal Facility-Based Waste Characterization Study (WCS)* developed by CalRecycle (2024b).



Figure 3.2-2. Regional Map of California

PRO Depot counts in each region were estimated with consideration for:

- Depot density requirements
- Number of return-to-retail and single material depots that do not collect all covered materials.

Table 3.2-5 summarizes how CalRecycle estimated the number of PRO Depots that would be established in response to the Implementing Regulations. As summarized in Table 3.2-5, it is assumed that every county has at least one PRO Depot. In addition, the estimate of PRO Depots at buildout in 2031 assumes a medium density network of PRO Depots relative to population density. Specifically, the estimate of PRO Depots assumes the installation of one additional PRO Depot in each county for every 60,000 people in Metropolitan Statistical Areas (MSA) (e.g., areas that have at least one urbanized area of 50,000 or more population, plus adjacent area that has a high degree of social and economic integration with the core as measured by commuting ties), or one depot for every 40,000 people for all other areas. Further, every city with a population over 15,000 in an MSA or 7,500 people in all other areas is assumed to install at least one PRO Depot (this depot also counts toward meeting the county minimum), plus one additional PRO Depot for every 75,000 people in cities within an MSA or one additional PRO Depot for every 35,000 people in all other cities.

Table 3.2-5. Estimated Total Number of PRO Depots at Buildout (2031)

Formula	Medium Density
Every county has at least 1 PRO Depot...	1
...plus one additional PRO Depot for every X people, rounded up	X=65,000 (MSA) X=40,000 (others)
Every city with a population over M has at least 1 PRO Depot (this depot also counts toward meeting the county standard)...	M=15,000 (MSA) M=7,500 (others)
...plus one additional PRO Depot for every Y people, rounded up	Y=75,000 (MSA) Y=35,000 (others)
Number of Sites	
Bay Area	236
Coastal	73
Mountain	30
Southern	627
Valley	215

Table 3.2-6 summarizes assumptions for site requirements for PRO Depots based on data developed for Oregon’s Department of Environmental Quality for Oregon’s Plastic Pollution and Recycling Modernization Act (Oregon Department of Environmental Quality et. al. 2023).

Table 3.2-6. Summary PRO Depot Size and Space Type

PRO Depot Type	Size (square feet)	Space Type	Container Notes
Co-collection at Existing Depots	1,200	Industrial	4 cubic-yard dumpster
Return-to-Retail	100	Retail	Set of five 20 cubic-foot containers
Single-material Dropbox	200	Retail	User-friendly 4 cubic-yard dumpster
Multi-material Depot	1,200	Retail	4 cubic-yard dumpster

Source: Oregon Department of Environmental Quality et. al. 2023

3.2.2.2 Sortation

Expanded sortation infrastructure will be needed to sort and recover the increased tonnages of covered material due to implementation of the proposed regulations. CalRecycle assumes materials recovery facilities (MRF) to be the primary infrastructure utilized to recover plastic, paper, glass, and metal materials and composting facilities to be the primary infrastructure utilized to recover compostable and organic materials (CalRecycle 2024c).

Estimates for the future expansion of infrastructure is provided in the SRIA, which relies on the report “MRF Feasibility Study” conducted by the Iowa Metro Waste Authority (HDR 2018) and by an assessment conducted by Resource Recycling, which quantifies annual throughput averages by 300 MRFs in the U.S. (Powell 2018). The study indicated the distribution of MRFs by throughput capacities. CalRecycle determined large, medium, and small MRF facility size and throughputs based on these findings as summarized in Table 3.2-7. Specifically, large facilities are assumed to have an average throughput of 160,000 tpy, medium facilities are assumed to have an average throughput of 72,000 tpy, and small facilities are assumed to have an average throughput of 20,000 tpy (CalRecycle 2024c).

Table 3.2-7. Assumed MRF Size and Throughput

MRF Size	Annual Throughput (tpy)	Daily Throughput (tpd)	Facility Size (sqft)
Small	20,000	55	40,000
Medium	72,000	197	54,000
Large	160,000	438	119,000

Source: CalRecycle 2024c

sqft = square feet; tpd = tons per day; tpy = tons per year

CalRecycle used a per capita estimation to determine 2031 infrastructure capacity needs across the five California regions illustrated in Figure 3.2-2 above. Population estimates developed by the California Department of Finance Demographic Research Unit (2022a) were applied to these regions to create a better understanding of covered material generation at the regional scale. The estimated capacity that would be required each year based on the recycling rate targets of 30% by 2028, 40% by 2030, and 65% by 2032 is summarized in Table 3.2-8.

Table 3.2-8. Regional MRF Capacity Needs by Year with Respect to Recycling Rate Requirement Targets

Region	2024 (tpy)	2025 (tpy)	2026 (tpy)	2027 (tpy)	30% Recycle Rates		40% Recycle Rates		65% Recycle Rates	TOTAL (tpy)
					2028 (tpy)	2029 (tpy)	2030 (tpy)	2031 (tpy)	2032 (tpy)	
Bay Area	46,018	46,018	46,018	46,018	30,679	30,679	184,073	184,073	184,073	613,577
Coastal	11,204	11,204	11,204	11,204	7,469	7,469	44,814	44,814	44,814	149,380
Mountain	3,372	3,372	3,372	3,372	2,248	2,248	13,489	13,489	13,489	44,964
Southern	131,895	131,895	131,895	131,895	87,930	87,930	527,582	527,582	527,582	1,758,605
Valley	46,719	46,719	46,719	46,719	31,146	31,146	186,878	186,878	186,878	622,926

Source: CalRecycle 2024c

These estimations were used to determine the number of new large, medium, and small MRFs and the scale of expansion per each region. The construction of large facilities is assumed to be the most cost-

effective pathway and is prioritized in its contribution to meeting each region’s sortation infrastructure needs. Remainder tonnages for new construction are distributed across medium and small facilities. Accordingly, the SRIA provides an estimate that by 2032, new construction of 16 large, 6 medium, and 8 small MRFs and a 37,452 tpy expansion of existing facilities are expected to come online to recover the additional plastic, paper, metal, and glass covered material in the 2031 estimation of 3.2 million tpy. Table 3.2-9 summarizes the regional distribution and accommodation of expansion and capacity needs through various MRFs.

Table 3.2-9. Estimated Number of MRFs to be Constructed and Expanded by 2032

Region	2032 Capacity Needs (tpy)	Number of Large Facilities (160,000 tpy)	Number of Medium Facilities (72,000 tpy)	Number of Small Facilities (20,000 tpy)	Expansion of Existing Facilities Needs (tpy)
Bay Area	613,577	3	1	3	1,577
Coastal	149,380	0	2	0	5,380
Mountain	44,964	0	0	2	4,964
Southern	1,758,605	10	2	0	14,605
Valley	622,926	3	1	3	10,926
TOTAL	3,189,452	16	6	8	37,452

Source: CalRecycle 2024c

For a conservative analysis, large facilities are assumed to be built in the first five years, with medium and small facilities assumed to be constructed in subsequent years.

Similarly, compostable and organic covered material generation across implementation years was distributed across the five regions. A single composting facility is assumed to be 25 acres with an average throughput of 100,000 tpy (CalRecycle 2024c). To accommodate the statewide 80,000 tpy of compostable organic covered materials determined by the capacity needs assessment performed by CalRecycle (2024c), existing composting facilities are expected to expand. Table 3.2-10 summarizes the regional capacity needs of composting facilities in response to implementation of the proposed regulations.

Table 3.2-10. Estimated Capacity Needs for Compostable Infrastructure

Region	2032 Capacity Needs (tpy)
Bay Area	15,093
Coastal	3,895
Mountain	912
Southern	42,743
Valley	17,538
TOTAL	80,180

Source: CalRecycle 2024c

3.2.2.3 Processing

As processed commodities leave the MRF, they enter a system of additional processing and manufacturing into new products. At the processing facility, the recyclables are sorted, cleaned of contaminants, and prepared for transport to a milling facility or directly to a manufacturing facility. Some commodities may require more processing for additional sorting and decontamination. For example, glass and plastic are often sent to glass beneficiation plants and plastics reclaimers, respectively, where they are processed into mill-ready forms. Dedicated plastic recycling facilities leverage specialized equipment like granulators and extruders to transform post-consumer plastic waste into pellets or flakes for use in manufacturing new products. Similarly, paper recycling facilities employ pulping machines and de-inking processes to break down and clean recovered paper fibers, readying them for reuse in paper production. Metal recycling facilities utilize shredders, magnets, and eddy current separators to process scrap metal, separating ferrous and non-ferrous metals for smelting and refining into raw materials for manufacturing. After all necessary processing is completed, recyclables are made into new products at recycling plants or other facilities, such as paper mills or bottle manufacturing facilities.

With implementation of the proposed Implementing Regulations, increased infrastructure may be needed to process sorted plastic, paper, metal, and glass covered material into new feedstocks. The conversion system of materials includes, but is not limited to, the following mechanical processes: transportation, cleaning, shredding, melting, crushing, and remolding. SB 54 requires that material be sent to a Responsible End Market (REM) in order to be considered recycled. This means that recycling and recovery of materials or the disposal of contaminants must be conducted in a way that benefits the environment and minimizes risks to public health and worker health and safety. Furthermore, AB 1857 (Garcia, Chapter 342, Statutes of 2022) (herein after “AB 1857”) went into effect on January 1, 2024. AB 1857 repealed statutory authorization for waste diversion credits required under California’s Waste Management Act of 1989 for “transformation”, which includes incineration, pyrolysis, distillation, or biological conversion of material other than composting. “Transformation” does not include composting, gasification, or biomass conversion.

Table 3.2-11 summarizes the anticipated increase in material that will need to be processed.

Table 3.2-11. Anticipated Increase in Materials to be Processed

Material Type	2032 Anticipated Increase (tpy)
Plastic	2,565,542
Paper	93,236
Metal	93,252
Glass	437,422

Source: CalRecycle 2024c

The recycling infrastructure in California is large and complex: recyclable materials often travel through multiple facilities once they are collected and sorted. Facilities may specialize in one type of recyclable material, such as a plastic reclaimer, or they may diversify. With specific exceptions for recycling programs that are tied to financial payments, there is no mandatory reporting requirement for recycling facilities. Instead, facilities are asked to voluntarily report annual throughput and capacity for various materials to CalRecycle. As a result, it is extremely challenging to gauge the number of recycling facilities in California, their current throughput, their actual capacity, or their ability to accommodate a growing in-state recycling market. The most recent available data for recycling processing facilities compiled by CalRecycle is presented in their 2016 *State of Recycling in California* report (CalRecycle 2016). Table 3.2-12 shows a summary of recycling and processing facilities relevant to the Implementing Regulations and estimated required additional capacity based on the anticipated increase in materials to be processed presented in Table 3.2-11 above.

Table 3.2-12. Recycling Processing Facility Assumptions

Processing Facility Type	Statewide Active Facilities ¹	Total Capacity (tpy) ¹	Current Throughput (tpy) ¹	Available Capacity (tpy) ¹	Estimated Required Additional Capacity ² (tpy)	Estimated Required Additional Processing Facilities by 2032 ³
Beneficiation (Glass)	9	1,290,000	1,040,000	250,000	187,422	1
Paper Stock Processing	65	7,020,000	4,830,000	2,190,000	0	0
Plastic Reclaimers	98	331,000	297,000	34,000	1,702,594	78
Plastic Shredding and Grinding	87	158,000	145,000	13,000	815,948	37
Scrap Metal Processing	144	155,000	80,000	75,000	18,252	17

Notes:

¹ Source: CalRecycle 2016

² Estimated required capacity based on anticipated increase in materials to be processed (see Table 3.2-11 above) minus the available capacity (e.g., anticipated increase in glass material to be processed by 2032 is 437,422 tpy – 250,000 tpy available capacity = 187,422 tpy required additional capacity). Note that export of recyclable materials for processing elsewhere is not factored for a conservative analysis. For Plastic Reclaimers and Plastic Shredding and Grinding, the anticipated increase in plastics was distributed based on the

relative ratio of the Current Throughput (i.e., 68% of anticipated tpy of plastics is assumed to be sent to Plastic Reclaimers while 32% is assumed to be sent to Plastic Shredding and Grinding).

³ An average capacity of 236,800 tpy is assumed for beneficiation plants based on an average of the reported capacity of California secondary glass processing plants (CalRecycle 2024c). An industry average capacity of 22,000 tpy is assumed for mechanical plastic plants (Leardini 2022). The average capacity for scrap metal processing facilities is estimated by dividing the total capacity for Scrap Metal Processing by the number of active facilities to arrive at an average facility capacity (Average Facility Capacity = 155,000 tpy/144 Active Facilities = 1,077 tpy). An estimate of the total number of facilities is then calculated by dividing the estimated required additional capacity by the average facility capacity (Estimated Required Additional Processing Facilities = Estimated Required Additional Capacity/Average Facility Capacity).

3.2.2.4 Transportation

The change in transportation requirements that would occur as a result of the Implementing Regulations considers consumer transport to PRO Depot Collection sites in private vehicles, first transport after collection (e.g., truck trips from collection sites to MRFs), and transfer for additional processing or residue disposal. Specifically, transportation requirements will shift for the different collection streams, including comingled, source-separated materials, garbage, PRO Depots, transfer to MRF, and sorted materials to processors or disposal. The types and locations of collection points offered by PRO Depots, MRFs, or processing facilities is not currently known. Estimates rely on data developed by CalRecycle in the SRIA (CalRecycle 2024c) and for Oregon's Department of Environmental Quality for Oregon's Plastic Pollution and Recycling Modernization Act (Oregon Department of Environmental Quality et. al. 2023). Table 3.2-13 summarizes assumptions for trips generated at PRO Depots, while Table 3.2-14 summarizes assumptions made for trip generation rates associated with MRFs and composting facilities. Finally, Table 3.2-15 summarizes trips associated with processing facilities that may be required to process the increase in covered materials that results from compliance with the Implementing Regulations.

Table 3.2-13. Regional PRO Depot Trip Generation Analysis

Region	Facility Size Assumption	Collection Assumptions Incoming Material (tpd) ¹	Trips per Day Incoming Material (Self-Haul Trips) ³	Collection Assumptions Outgoing Material (tpd)	Typical Truck Capacity for Facility Type Outgoing Material (tons) ²	Trucks per Day Outgoing Material ⁴	Truck Trips per Day ⁵	Employees ⁶	Employee Trips Per Day ⁷	Total Regional Trips per Day
Bay Area	Varies	2,418	80,136	2,418	16	151	302	236	472	80,910
Coastal	Varies	590	19,263	590	16	37	74	73	146	19,483
Mountain	Varies	176	6,090	176	16	11	22	30	60	6,172
Southern	Varies	6,928	230,260	6,928	16	433	866	627	1,254	232,380
Valley	Varies	2,463	78,874	2,463	16	154	308	215	430	158,594
Average PRO Depot ⁸	675 sq. ft.	9.3	308	9.3	16	1	2	1	2	312

Notes:

- ¹ The assumption of tons per day of incoming material is based on annual regional recovery rates for recycling presented in the SRIA Direct Impact Model for each region (CalRecycle 2024c) and calculated based on an assumption that PRO Depots would be operational 260 days per year.
- ² A 16-ton transfer vehicle is assumed for PRO Depots as those materials are bulkier and therefore, less dense (e.g., cans, bottles, paper, reusables).
- ³ The number of self-haul trips to all PRO Depots regionally is estimated based on the assumption of 2.88 persons per household (California Department of Finance, Demographic Research Unit 2022b) and assuming that each participating household is 90% efficient. The number of households for each region was calculated by dividing the projected population for 2031 by 2.88. To meet the 65% recycling rate, a participation rate of 58.5% is assumed (i.e., assuming a participation rate of 90%, a minimum of 58.5% of households would need to participate in order to reach a capture rate of 65% of covered materials at PRO Depots). The number of trips to a PRO Depot per year assumed to be 13.4 trips per year per household based on an average of data collected for Oregon Department of Environmental Quality (Oregon Department of Environmental Quality et. al. 2023). Daily regional trips were calculated based on an assumption that PRO Depots would be operational 260 days per year.
- ⁴ The number of trucks per day is estimated based on the estimate recovery rates presented in the SRIA Direct Impact Model for each region (CalRecycle 2024c), divided by 16 tons per truck load.
- ⁵ The number of truck trips is calculated by multiplying the number of trucks by 2.
- ⁶ The number of employees for PRO Depots is calculated based on an average of one employee per PRO Depot (note that return-to-retail PRO Depots may not require additional employees, while larger multi-material PRO Depots may require up to 2 employees [Oregon Department of Environmental Quality et. al. 2023]).
- ⁷ The number of employee trips is calculated by multiplying the number of employees by 2.
- ⁸ Average PRO Depot daily incoming/outgoing material calculated by taking the average of the incoming material for each region divided by the estimated number of PRO Depot sites. The Average PRO Depot Self-Haul trips is calculated by taking the average of the number of self-haul trips for each region divided by the estimated number of PRO Depot sites.

Table 3.2-14. Sorting Facility Trip Generation Analysis

Facility Type	Facility Size Assumption	Process Assumptions Incoming Material (tpd)	Typical Truck Capacity for Facility Type Incoming Material (tons) ¹	Process Assumptions Outgoing Material (tpd) ²	Typical Truck Capacity for Facility Type Outgoing Material (tons) ³	Trucks per Day Incoming Material / Outgoing Material	Truck Trips per Day ⁴	Employees ^{5,6}	Employee Trips Per day	Total Trips per Day per Facility
MRF - Small	40,000 sq. ft.	55	7	55	16	8/4	24	5	10	34
MRF - Medium	54,000 sq. ft.	197	7	197	16	29/13	84	8	16	100
MRF - Large	119,000 sq. ft.	438	7	438	16	63/28	182	15	30	212
Composting Facilities	25 acres	273	7	137	18	39/8	94	28	56	150

Notes:

¹ An industry average of 7 tons per collection truck is assumed.

² Outgoing material may be less than incoming due to material reduction during processing. This analysis assumes a 50% reduction for composting facilities.

³ A 16-ton transfer vehicle is assumed for MRFs as those materials are bulkier and therefore, less dense (e.g., cans, bottles, paper, reusables).

⁴ Calculated by adding daily incoming and outgoing trucks and multiplying by 2.

⁵ The number of employees for compost facilities is calculated based an industry average of 2.8 jobs per 10,000 tpy composted for large sites (Institute for Local Self Reliance 2013).

⁶ The number of employees for MRFs is calculated based on industry averages based on daily throughput (Powell 2018).

Table 3.2-15. Processing Facility Trip Generation Analysis

Processing Facility Type	Facility Annual Capacity Assumption (tpy) ¹	Process Assumptions Incoming Material (tpd) ¹	Typical Truck Capacity for Facility Type Incoming Material (tons) ²	Process Assumptions Outgoing Material (tpd) ³	Typical Truck Capacity for Facility Type Outgoing Material (tons) ⁴	Trucks per Day Incoming Material ² / Outgoing Material	Truck Trips per Day ⁵	Employees ⁶	Employee Trips Per day	Total Trips per Day per Facility
Beneficiation (Glass)	236,000	625	NA	625	18	0 / 35	70	24	48	118
Plastic Reclaimers	22,000	75	NA	75	16	0 / 5	10	12	24	34
Plastic Shredding and Grinding	22,000	75	NA	75	16	0 / 5	10	12	24	34
Scrap Metal Processing	1,077	3.6	NA	3.6	16	0 / 1	2	6	12	14

Notes:

- ¹ An average capacity of 236,800 tpy is assumed for beneficiation plants based on an average of the reported capacity of California secondary glass processing plants (CalRecycle 2024c) with the daily throughput as a result of the Implementing Regulations assumed to be 187,422 tpy (i.e., 625 tpd calculated based on an assumption that the beneficiation plant would be operational 300 days per year). An industry average capacity of 22,000 tpy is assumed for mechanical plastic plants (Leardini 2022) with daily throughput calculated based on an assumption that plastic plants would operate 300 days per year (i.e., 22,000 tpy/300 days/year = 74 tpd). The average capacity for scrap metal processing facilities is estimated by dividing the total capacity for Scrap Metal Processing by the number of active facilities to arrive at an average facility capacity (Average Facility Capacity = 155,000 tpy/144 Active Facilities = 1,077 tpy) with daily throughput calculated based on an assumption that scrap metal plants would operate 300 days per year (i.e., 1,077 tpy/300 days/year = 3.6 tpd).
- ² NA = Not Applicable as incoming material to processing facilities is considered as “Outgoing Material” from Sorting Facilities and are not included here to avoid double-counting.
- ³ Outgoing material is assumed to be the same as incoming.
- ⁴ A 16-ton transfer vehicle is assumed for plastic and scrap metal materials as those materials are bulkier and therefore, less dense (e.g., plastic bottles, aluminum cans, etc.).
- ⁵ Calculated by adding daily incoming and outgoing trucks and multiplying by 2.
- ⁶ The number of employees for processing facilities assumes highly-mechanized future facilities with lower staffing requirements. Two shifts per day are assumed.
- ⁷ The number of employees for MRFs is calculated based on industry averages based on daily throughput (Powell 2018).

3.3 Approach to Environmental Analysis

The CEQA Guidelines Section 15151 addresses the adequacy of analysis of an EIR:

“An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.”

Section 15204 of the CEQA Guidelines continues:

“The adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR.”

The approach to environmental analysis in this PEIR complies with this guidance. Each environmental resource section first describes the environmental setting, or baseline condition, to establish the existing conditions that may be affected by implementation of the proposed regulations for reasonably foreseeable means of compliance with the Implementing Regulations. The effects of compliance with the Implementing Regulations are addressed in Section 3.1 (Environmental Impacts of the Implementing Regulations). The CEQA Guidelines Section 15125 specifies that the environmental setting focuses on those aspects that may be affected by the project, so that the description of the setting is sufficient to support the impact analysis. The baseline environmental setting is that which existed at the time the NOP was published.

The regulatory framework relevant to each environmental resource category is described to establish the regulatory protections in place for each resource category. Significance criteria are identified for each environmental resource category. The significance criteria serve as benchmarks for determining if components of the Implementing Regulations or an alternative would result in a significant effect when evaluated against the environmental baseline conditions. Significance criteria may be numerical, such as water quality objectives or noise ordinance limits, or narrative thresholds.

The impacts of the Implementing Regulations are defined as direct or indirect physical changes to the environmental setting that are attributable to the Implementing Regulations. Adoption of the Implementing Regulations is not expected to result in any direct or indirect impacts, in and of itself. The direct and indirect impacts that are anticipated are those that would result from the methods by which compliance with the Implementing Regulations are achieved (PRC Sections 21159 and 21159.4; CEQA Guidelines Sections 15187 and 15188). The effects of the Implementing Regulations themselves are addressed in Section 3.1 (Environmental Impacts of the Implementing Regulations). The reasonably foreseeable actions are described in Section 3.2

(Reasonably Foreseeable Methods by Which Compliance with the Proposed Measures Would be Achieved). Direct and indirect impacts are analyzed and presented beginning with Section 3.4 of this PEIR.

Generally, the source reduction and recycling elements are identified and analyzed separately as their anticipated impacts differ. Where their impacts are similar—such as when source reduction causes a transition to alternative materials and the need for associated recycling infrastructure—the two are analyzed together. Reasonably foreseeable methods of compliance that include collection, sorting, and processing are likely to require the expansion of existing facilities and the construction of new facilities. The ground-disturbing activity and physical changes to the environment for operation and construction of new or modified facilities may result in potentially significant direct and indirect impacts. Source reduction is less likely to result in such impacts, although it can if the means of compliance is to shift to non-plastic packaging, rather than eliminating or reducing the amount or size of plastic components.

The direct and indirect impacts of the reasonably foreseeable methods of compliance are determined relative to the significance criteria, taking into account that these methods of compliance would still be required to comply with the existing regulatory framework. Some resources areas lend themselves to scientific and/or mathematical analysis, and significance thresholds are then based on quantitative analysis. For some resources areas, significance thresholds adopted by CalRecycle are based on standards established by regulatory agencies. For other resources areas that are more qualitative or are entirely dependent on the immediate setting, a discrete, quantitative threshold is not generally feasible, and the qualitative “substantial adverse change in physical conditions” is applied as the significance criterion. These significance criteria adopted by CalRecycle for this PEIR are based on the CEQA Guidelines Appendix G Checklist and the subject matter expert opinion of CalRecycle staff and its consultants with expertise in each environmental resource analysis. This is consistent with current general practice to utilize the Appendix G checklist to tailor the questions to satisfy the individual needs of the Program analysis (Association of Environmental Professionals 2024).

For those impacts that are determined to be potentially significant, feasible mitigation measures to avoid or minimize potential impacts are described. An analysis is then conducted to determine the level of significance with incorporation of the described mitigation measures. A significant effect on the environment means “... a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project ...” (CEQA Guidelines Section 15382). Mitigation measures are applied for impacts that are significant after compliance with the regulatory framework (CEQA Guidelines Section 15126). This PEIR considers four levels of significance for potential effects, as follows:

- **No Impact.** Would not have any measurable environmental impact on the environment.
- **Less Than Significant Impact.** May have the potential for adversely affecting the environment, although these impacts would be below levels or thresholds that CalRecycle or other responsible agencies consider to be significant.
- **Less Than Significant Impact with Mitigation.** May have the potential to generate adverse impacts that will have a significant impact on the environment. However, the adverse impact may be reduced to levels that are less than significant with the implementation of mitigation measures.
- **Significant and Unavoidable Impact.** May result in adverse impacts that are above levels or thresholds that CalRecycle or other responsible agencies consider to be significant and cannot be reduced to levels that are less than significant even with the implementation of mitigation measures.

The potential environmental impacts of the source reduction and refill/reuse requirements and collection, sortation, and processing infrastructure are evaluated separately from one another because the nature and impact mechanisms of these means of compliance are inherently different. For example, the source reduction measures do not involve ground-disturbing activities or construction, whereas development of collection, sortation, and processing infrastructure would require such activities. In addition, for development of collection, sortation, and processing infrastructure, the specific locations for new or expanded facilities are not known. Accordingly, environmental impacts for collection, sortation, and processing infrastructure are determined by identifying the number, type, and size of collection, sortation, and processing facilities that are reasonably foreseeable outcomes of compliance with the Implementing Regulations. New, independent quantitative analysis was conducted for the collection, sortation, and processing infrastructure elements to ensure that current impact models, significance thresholds, and mitigation measures are applied in this PEIR. Next, the impact mechanisms of construction and operation are analyzed for their associated impacts: for example, expected noise levels or expected air emissions, or other physical changes due to the collection, sortation, and processing infrastructure elements developed in response to the Implementing Regulations that have the potential to impact the environment in each environmental resource category. Finally, the impact analysis determines regulatory compliance measures and, if necessary, mitigation measures that would reduce the impact to less than significant with respect to the corresponding significance thresholds.

It is important within the context of this PEIR to understand the extent of the relevant authority of CalRecycle. CalRecycle drafts and adopts regulations, and it provides technical assistance to Local Enforcement Agencies (LEAs) that enforce state solid waste law in local jurisdictions pursuant to CalRecycle certification. In very limited circumstances, where there is no local entity available or willing, CalRecycle acts as the LEA. CalRecycle also promulgates the state regulations governing the issuance of solid waste facility permits by LEAs, with the concurrence of CalRecycle, for new or expanded solid waste facilities. Unlike local entitlements issued under broad police power, state solid waste facility permits are limited to controlling the design and operation of solid waste facilities through the enforcement of state minimum standards for solid waste handling, transfer, composting, transformation and disposal in accordance with PRC Division 30 and associated regulations. The conditions that may be enforced through such permits are restricted in scope. For example, PRC Sections 43020 and 43021 prohibit the enforcement of requirements that are already under the authority of the State Water Resources Control Board (SWRCB) or California Air Resources Board (CARB). In addition, PRC Section 43101 expands such restrictions to prohibit CalRecycle authority from overlapping with the authority of any other state agency, which further curtails the types of permit conditions that may be enforced. Under PRC Section 44012, CalRecycle and LEAs are limited to imposing operational conditions on solid waste facilities rather than pre-operational conditions, such as those that might govern facility construction. Furthermore, operational conditions must be limited to those that protect public health, safety, and the environment within the authority of CalRecycle and LEAs to enforce state minimum standards. As such, solid waste facility permit operating conditions may not extend to regulating issues such as tribal cultural resources. That said, other permitting agencies may have authority over these matters. For instance, CalRecycle does not have general land use authority to approve facilities or other structures that are developed in response to adoption of the Implementing Regulations: such authority is vested with local jurisdictions under their land use powers (such as police power) and exercised through the issuance of local entitlements such as conditional use permits. The conditions that are curtailed by law from being included in state solid waste facility permits may be more appropriately included in local entitlements. Like any proposed development project, collection, sortation, and processing facilities would be reviewed individually by local jurisdictions, in response to applications submitted by project proponents. If and when such permits are issued, they would be subject to project-level review,

which may tier from this PEIR. The goal of this PEIR is to consider the types of potential environmental effects of the reasonably foreseeable compliance responses that would be anticipated to meet the requirements included in the proposed SB 54 Implementing Regulations at a program level.

Note that not all general protection measures and mitigation measures would apply to all collection, sortation, and processing facility projects. The applicability of the general protection measures and mitigation measures would depend on the individual facility, project location, and the potentially significant impacts of a proposed project. Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the applicable authorizing regulatory agency that would be responsible for ensuring compliance and implementation of applicable regulatory and mitigation measures. These would all be the subject of project-level review under CEQA.

The basis for the description of the direct and indirect impacts of the Implementing Regulations, and the findings of the analyses, are supported by substantial evidence as defined in the CEQA Guidelines Section 15384:

“(a) ‘Substantial evidence’ as used in these guidelines means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency. Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence. (b) Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.”

In addition, because of its statewide extent and the possible number of local and regional responsible agencies, this PEIR does not summarize potentially applicable local government plans, policies, and ordinances. Types of local regulations relevant to the Program include general plans, city and county codes, and other local ordinances. Before conducting Program activities in a specific area, the project proponent would review all local plans, policies, and ordinances and conduct Program activities in adherence with all applicable local regulations as part of any project-level review under CEQA.

3.4 Aesthetics

This section describes the existing aesthetics and visual characteristics of California; identifies applicable federal and state regulations; and analyzes the potential impacts of the Program on aesthetics in the state. The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.4-1 summarizes impacts on aesthetics that could result from implementation of the Program

Table 3.4-1. Summary of Aesthetics Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Have a substantial adverse effect on a scenic vista?	Less than Significant	Potentially Significant and Unavoidable	MM AES-1: Construction Aesthetic Resource Protection Measures MM AES-2: Operation Aesthetic Resource Protection Measures
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less than Significant	Potentially Significant and Unavoidable	MM AES-1: Construction Aesthetic Resource Protection Measures MM AES-2: Operation Aesthetic Resource Protection Measures
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less than Significant	Potentially Significant and Unavoidable	MM AES-1: Construction Aesthetic Resource Protection Measures MM AES-2: Operation Aesthetic Resource Protection Measures
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact	Potentially Significant and Unavoidable	MM AES-3: Develop and Submit Lighting Plan

3.4.1 Existing Conditions

California encompasses diverse landscapes and ecosystems, from Pacific Ocean beaches to Sierra Nevada glaciers to Giant Sequoia and redwood forests to arid desert. Scenic resources throughout California include lakes and rivers, open spaces, mountains and ridgelines, valleys, forested views, ocean views, and notable/historic buildings to name a few. This discussion focuses on two general aspects of visual resources: scenic views (generally panoramic, but sometimes more limited views, either of a notable feature or sweeping

landscape) and visual character (defining features of a place, such as trees and other flora, water and other geologic features, and cultural features).

Approximately 52% of the land in California is publicly owned, with the rest privately owned (Treers 2020). Some of the private lands are also under the jurisdiction of local and regional agencies and conservation groups as park, open space, and recreation areas. The visual character and quality of lands managed as parks and open space varies widely throughout California. In general, undeveloped and pristine landscapes, including public parks and open space, offer high quality visual character while the visual character and quality in developed areas defined by transportation corridors, transmission lines, and/or buildings tend to be low to moderate.

3.4.1.1 Scenic Vistas and Highways

For purposes of determining significance under CEQA in this PEIR, a “scenic vista” is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Scenic views are the visual environment experienced beyond an observer’s immediate surroundings and are often available along trails and roads. Because of the geographically expansive nature of the landscape, views are available to a variety of public viewer groups, including motorists, trail users, and recreationists, all with varying degrees of viewer sensitivity from low (e.g., commuting motorists) to high (e.g., recreationists).

The California Department of Transportation (Caltrans) Scenic Highway Program identifies 70 officially designated scenic highways and 154 eligible for designation throughout the state (Figure 3.4-1) (Caltrans 2019). There are many more scenic views apart from those visible from a State Scenic Highway, including scenic vistas, which are often a trail user’s designation. Refer to Section 3.19 (Recreation) for further information on recreation areas in California.

3.4.1.2 Dark Sky Areas

With respect to light and glare, for the purposes of this analysis, light refers to unnatural night-time lighting, and glare refers to unnatural light or reflected natural light that can be annoying or distracting to humans and wildlife. Lighting and glare levels tend to be much lower in undeveloped areas, particularly as these areas occur further from developed areas. Lighting and glare are also lower near most trails and forested areas. Urban areas contain varied light sources, such as streetlights, car head lights, and in more urbanized areas, sky glow (an area-wide illumination of night sky from human-made light sources). The International Dark Sky Association lists five sites in California as dark sky viewing areas: Death Valley National Park, Joshua Tree National Park, Anza-Borrego Desert State Park, Borrego Springs, and Julian (International Dark Sky Association 2024).



<p>Legend</p> <ul style="list-style-type: none"> — Eligible — Federal Byway — County Route — Officially Designated 	<p>REGIONAL LOCATION CALIFORNIA</p>	<p>STATE OF CALIFORNIA SCENIC HIGHWAYS AND FEDERALLY RECOGNIZED SCENIC BYWAYS</p> <p>Catalyst ENVIRONMENTAL SOLUTIONS</p> <p>CalRecycle - SB 54 CEQA</p>
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Figure 3.4-1. State Scenic Highways

3.4.1.3 California National Wild and Scenic Rivers

California contains approximately 189,454 miles of river, of which 2,072.7 miles are designated as wild & scenic (National Wild and Scenic Rivers System 2024). The following 26 rivers are designated as National Wild and Scenic Rivers, possessing extraordinary scenic, recreation, fishery, or wildlife values:

- Amargosa River
- American River (Lower)
- American River (North Fork)
- Bautista Creek
- Big Sur River
- Black Butte River
- Cottonwood Creek
- Deep Creek
- Eel River
- Feather River
- Fuller Mill Creek
- Kern River
- Kings River
- Klamath River
- Merced River
- Owens River Headwaters
- Palm Canyon Creek
- Piru Creek
- San Jacinto River (North Fork)
- Sespe Creek
- Sisquoc River
- Surprise Canyon Creek
- Smith River
- Trinity River
- Tuolumne River
- Whitewater River

3.4.2 Regulatory Framework

3.4.2.1 Federal

3.4.2.1.1 Wild & Scenic Rivers Act

The Wild and Scenic Rivers Act of 1968 aims to preserve certain rivers that contain outstanding natural, cultural, and recreational values. These areas are designated by Congress and/or the Secretary of the Interior with the intent to protect scenic rivers that cross political (state) boundaries and safeguard the special character of the area for future generations to enjoy. The designated river areas are primarily overseen by the National Park Service, the Bureau of Land Management (BLM), the United States Fish and Wildlife Service (USFWS), and the United States Service (USFS). These areas typically allow only a limited amount of development to preserve the scenic quality and value of the designated river segment.

3.4.2.1.2 National Scenic Byways Program

The National Scenic Byways Program is part of the United States Department of Transportation (USDOT), Federal Highway Administration (FHWA). The program was established under the Intermodal Surface Transportation Efficiency Act of 1991 and was reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National

Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities.

3.4.2.2 State

3.4.2.2.1 California State Scenic Highway Program

Created by the Legislature in 1963, the California Scenic Highway Program preserves and protects areas of natural scenic beauty of state highways and adjacent corridors. A highway may be designated as scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers' enjoyment of the view (Caltrans 2024). For a highway to be officially designated as a scenic resource, the local city or county must adopt a scenic corridor protection program and apply to Caltrans for official designation (Caltrans 2024). Without official designation and the attendant scenic corridor protection program, development and other activities can degrade scenic value despite the highway's "eligible" designation. Thus, the fact that a highway was at one time deemed eligible for the scenic highway designation does not mean that it retains its original scenic value.

3.4.2.2.2 California Wild and Scenic Rivers Act

The California Wild and Scenic Rivers Act (PRC Section 5093.50 et seq.) was passed to preserve California's designated rivers possessing extraordinary scenic, recreation, fishery, or wildlife values. This act was patterned after the 1968 National Wild and Scenic Rivers Act, and both share similar criteria and definitions regarding the protection of rivers, the process used to designate rivers, and in the prohibition of new water impoundments on designated rivers. Unlike the national act, the California Wild and Scenic Rivers Act provides protection only up to the first line of permanent vegetation and does not require a management plan for designated rivers. The California Legislature is responsible for classifying or reclassifying rivers by statute, though the Secretary of the California Natural Resources Agency may recommend classifications. State-designated rivers may be added to the federal system upon the request of the state governor and the approval of the Secretary of the Interior. Adding State-designated rivers to the federal system under this act does not require approval of the Legislature or Congress. State-designated rivers added to the federal system are managed by the state.

3.4.2.2.3 California Coastal Act

The California Coastal Act (PRC Section 30000 et seq.) of 1976 includes specific policies that address issues such as shoreline public access and recreation, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, water quality, transportation, development design, and public works. A "Coastal zone" is defined by the act (PRC Section 30103) as follows:

"Coastal zone" means that land and water area of the State of California from the Oregon border to the border of the Republic of Mexico, specified on the maps identified and set forth in Section 17 of Chapter 1330 of the Statutes of 1976, extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission,

established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.”

Development within the coastal zone would require a coastal permit from the California Coastal Commission or from the local jurisdiction if the activity is within a local coastal program (as defined in PRC Section 30106).

“Development” is defined by the act (PRC Section 30106) as follows:

“Development means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z’berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511).”

“Scenic and visual qualities” are considered under the act (PRC Section 30251) as follows:

“The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.”

3.4.3 Impacts Assessment

3.4.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the program would result in significant impacts related to aesthetics if the Program would:

- a) Have a substantial adverse effect on a scenic vista.
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible

vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.4.3.2 Proposed Program

3.4.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program have a substantial adverse effect on a scenic vista?

Impact Criterion b) Would the Program substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Impact Criterion c) In Nonurbanized areas, would the Program substantially degrade the existing visual character or quality of public views of the site and its surroundings? If in an urbanized area, would the Program conflict with applicable zoning and other regulations governing scenic quality?

Impacts related to compliance with the source reduction and refill/reuse requirements of the Implementing Regulations are primarily related to a transition to alternative materials, and the potential for a change in truck trips associated with the collection and transport of recyclables, organic materials, and municipal solid waste to the respective processing facilities and return logistics for reuse or take-back programs. The source reduction and refill/reuse requirements would not involve any construction or new development and therefore, compliance with these requirements would have no potential for adverse effects to scenic vistas, scenic resources, or scenic highways or the quality of public views. However, source reduction and refill/reuse requirements are anticipated to result in a reduction of litter and plastic waste throughout the state. In particular, litter at beaches, recreation areas, and along highways diminishes the scenic quality of these valuable resources in California, and a reduction in litter and trash would result in beneficial impacts to California's scenic vistas, resources and highways. Reduced litter would also improve the quality of public views in non-urban areas throughout the state, resulting in beneficial impacts. Improved scenic quality due to reduced litter would also support, not conflict with, zoning and similar regulations of urban areas. It is not feasible to quantify the volume of waste that would be eliminated, as actual impacts would be dependent on changes in consumer and public behavior, and implementation would only affect the volume of plastic waste, not waste overall. Therefore, although aesthetic impacts from source reduction would be beneficial, due to the uncertainty in changes in consumer and public behavior, for the purposes of this PEIR, they are considered **less than significant**.

Impact Criterion d) Would the Program create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Implementation of the source reduction and refill/reuse requirements of the Implementing Regulations are primarily related to a transition to alternative materials, and the potential for a change in truck trips associated with the collection and transport of recyclables, organic materials, and municipal solid waste to the respective processing facilities and return logistics for reuse or take-back programs. The source reduction and refill/reuse requirements would not involve any construction or new development and therefore, compliance with these requirements would have no potential for creating a new source of light or glare. Therefore, **no impacts** would occur.

3.4.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program have a substantial adverse effect on a scenic vista?

Impact Criterion b) Would the Program substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Impact Criterion c) In Nonurbanized areas, would the Program substantially degrade the existing visual character or quality of public views of the site and its surroundings? If in an urbanized area, would the Program conflict with applicable zoning and other regulations governing scenic quality?

CONSTRUCTION

Construction and operation of new collection, sortation, and processing facilities is a reasonably foreseeable outcome of the Implementing Regulations. The types of future facilities that are anticipated to be constructed by 2032 include roughly 1,181 PRO depots, 16 large MRFs, 6 medium MRFs, and 8 small MRFs, and roughly 133 processing facilities for the recycling of glass, paper, plastic, and metal. Existing composting facilities are expected to expand to accommodate the estimated statewide increase of 80,000 tpy of compostable organic covered materials. These facilities could be located anywhere in the state, although, for the purposes of analysis, this PEIR assumes that they would be sited in either areas zoned for such facilities or where these facilities would be a permitted use. Construction activities could require the presence of heavy-duty equipment, vegetation removal, and grading. Although there is uncertainty regarding the location of these facilities, construction of future collection, sortation, and processing infrastructure could introduce or increase the presence of visible artificial elements in areas of scenic importance, such as areas visible from State scenic highways. These activities could result in varying degrees of temporary degradation of public views. Implementation of **MM AES-1** would entail coordination with local agencies and implementing best management practices (BMPs) to minimize short-term adverse impacts to aesthetics during construction activity.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM AES-1** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts during construction could be ***significant and unavoidable***.

OPERATION

Long-term effects on aesthetics could occur from operation of new or modified facilities constructed in response to the Implementing Regulations. New facilities that are located in agricultural or other areas not previously developed for such uses could degrade public views from a scenic vista, degrade the visual character or quality of public views of the site, or disrupt views from a State scenic highway. The long-term operational impacts on scenic vistas, visual character, or quality of public views or on scenic resources in a State scenic highway associated with operation of facilities in response to the Implementing Regulations would be potentially significant. Implementation of **MM AES-2** would avoid and/or reduce potential visual impacts of newly construction facilities by either re-siting the location to an area outside of a scenic viewshed or designing the facility to be as minimally intrusive visually as possible.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM AES-2** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts during construction could be **significant and unavoidable**.

Impact Criterion d) Would the Program create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

CONSTRUCTION AND OPERATION

Construction of new facilities could result in a new source of light if construction activities occur during nighttime hours and required on-site lighting, or if additional night lighting were required for site security during the construction period. The addition of light sources would be particularly noticeable in rural areas where ambient light levels are low. New sources of nighttime lighting could be more noticeable to residents outside of communities in rural areas because there is less existing light pollution in those areas and therefore lower levels of nighttime ambient light. However, depending on location, nighttime lighting could result in adverse impacts to residents in urban areas as well.

Glare could potentially occur during construction of new or expanded collection, sortation or processing facilities if reflective construction materials were positioned in highly visible locations where the reflection of sunlight could occur. However, any glare would be temporary and short term, given the movement of construction equipment and materials within the construction area, and the effect on surrounding areas would be anticipated to be negligible. In addition, surfaces that are large enough and flat enough to generate substantial glare are typically not an element of construction activities.

Project operations at new or expanded facilities may require the use of permanent outdoor lighting during low-light conditions or security lighting at night. Additionally, depending on the types of materials used, facility operation may introduce substantial sources of glare from structures such as metal-sided buildings and water tanks. This may be a source of concern in light-sensitive areas (such as areas near observatories, residences, or roads or in rural locations). Implementation of **MM AES-3** would reduce potential impacts through the use of down-shielded lighting, installation of motion sensors or timers on lights to minimize nighttime lighting, and development of a lighting and glare analysis and plan to minimize site-specific impacts.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM AES-3** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts during construction could be **significant and unavoidable**.

MITIGATION MEASURE(S)

MM AES-1: Construction Aesthetic Resource Protection Measures. Proponents of new facilities shall coordinate with state or local land use agencies to seek entitlements for development. As part of the review process, the following measures can and should be required by agencies with project approval authority to avoid and/or minimize impacts to designation scenic resources:

- Project proponents shall implement all feasible mitigation identified during the site-specific environmental review to reduce or substantially lessen the potentially significant aesthetic impacts of the project. Actions may include equipment storage siting during construction within a property, daily clean-up of the construction site, and temporary fencing to prevent views of construction areas.
- To the extent feasible, the sites selected for use as construction staging and laydown areas shall be areas that are already disturbed or are in locations of low visual sensitivity. Where feasible, construction staging and laydown areas for equipment, personal vehicles, and material storage shall be sited to take advantage of natural screening opportunities provided by existing structures, topography, and vegetation. Temporary visual screens shall be used where helpful if existing landscape features would not screen views of the areas.
- All construction and maintenance areas shall be kept clean and tidy, areas where construction materials and equipment are stored shall be screened from view or be located in areas generally not visible to the public, and disturbed soil shall be revegetated, where feasible.
- To the greatest extent feasible, facilities shall be sited in locations where alteration of the visual setting of important scenic landscape features, areas in a setting for observation from State scenic highways, national or state historic sites, public trails, and cultural resources is avoided.

MM AES-2: Operation Aesthetic Resources Protection Measures. The following mitigation measures can and should be required by agencies with project approval authority to avoid or minimize impacts on aesthetic resources:

- All feasible mitigation identified during the site-specific environmental review to reduce or substantially lessen the potentially significant scenic or aesthetic impacts of the project would be implemented. Actions may include facility or equipment siting within a property, visual screening by vegetation, fencing or walls to prevent views of operating areas, exterior paint colors that blend with landscapes, and lowest feasible height of visible equipment and structures.
- The color and finish of the surfaces of all project structures and buildings visible to the public shall minimize visual intrusion and contrast by blending with the landscape. The project proponent shall submit a surface treatment plan to the lead agency for review and approval.
- All operation and maintenance areas shall be kept clean and tidy, areas where construction materials and equipment are stored shall be screened from view or located in areas generally not visible to the public, and disturbed soil shall be revegetated, where feasible.

MM AES-3: Develop and Submit Lighting Plan. Agencies with project approval authority can and should require development of a lighting plan consistent with the lighting code and policies of the municipality in which the project is located. The lighting plan shall be submitted to the municipality for review to ensure the project does not introduce a significant new source of light and glare. Lighting Plan shall include such measures as:

- Use only what fixtures are needed, and the warmest color temperature possible to provide safety and egress.
- Use down-lighting or shielding to direct light only to the area necessary and minimize light and glare off-site
- Do not over-light or make lights unnecessarily bright.
- Provide fixtures and controls capable of dimming or shutting off lighting when occupancy loads are low (example: dimmable driver and occupancy sensor).
- Color rendering should be at least 80 CRI.
- Avoid light bollards where possible.
- Use as few fixtures as possible. Fixtures should be low-level lighting. Avoid tall poles where possible.
- Provide fixtures and controls capable of shutting off lighting on a timer or motion sensor, to limit the duration of lighting to the absolute minimum period possible.

3.5 Agriculture and Forestry Resources

This section describes the existing agriculture and forestry systems in California; identifies applicable federal and state regulations; and analyzes the potential impacts of the Program on agricultural and forestry resources in the state. Table 3.5-1 summarizes impacts on agriculture and forestry that could result from implementation of the Program.

Table 3.5-1. Summary of Agriculture and Forestry Resources Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation and Processing	Mitigation Measure(s)
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact	Potentially Significant and Unavoidable	MM AG-1: Agricultural Resource Protection
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact	Potentially Significant and Unavoidable	MM AG-1: Agricultural Resource Protection
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	Less than Significant	Potentially Significant and Unavoidable	MM AG-2: Forestry Resource Protection
d) Result in the loss of forest land or conversion of forest land to non-forest use?	Less than Significant	Potentially Significant and Unavoidable	MM AG-2: Forestry Resource Protection
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No Impact	No Impact	None

3.5.1 Existing Conditions

3.5.1.1 Agricultural Resources

California is the largest agricultural producer in the U.S., accounting for 10.4% (\$55.9 billion) of crop cash farm receipts in the country. The state accounts for 36% of organic sales in the U.S. California is also the largest exporter of agricultural crops in the U.S., accounting for roughly 12.8% of total U.S. agricultural exports (\$23.6 billion) (California Department of Food and Agriculture [CDFA] 2024).

Over 400 different commodities are produced in California including fruits, vegetables, nuts, dairy products, livestock, timber, and nursery commodities. California is the nation’s sole producer of many agricultural products, supplying at 99% or more of the country’s almonds, artichokes, celery, garlic, grapes/raisins, kiwifruit, honeydew melons, nectarines, olives, clingstone peaches, pistachios, plums, dried plums, and walnuts (CDFA 2024).

The top five producing commodities of California for 2022, the most recent year for which data are available, include dairy products (\$10.40 billion), grapes (\$5.54 billion), miscellaneous crops (including nursery/greenhouse crops, Christmas trees, seed crops, and miscellaneous field, vegetable, berry, tree fruit, and nut crops (\$5.53 billion), cattle/calves (\$3.63 billion), and almonds (\$3.52 billion). The top five producing counties in 2022 were Tulare, Fresno, Kern, Monterey, and Merced (Table 3.5-2; CDFA 2024).

Table 3.5-2. California’s Top Ten Agriculture Counties, 2022

Rank	County	Value (\$1,000)	Leading Commodities
1	Tulare	8,612,450	Milk, Oranges (All), Grapes (All), Cattle
2	Fresno	8,089,863	Grapes (All), Almonds, Pistachios, Milk
3	Kern	7,699,953	Grapes (All), Oranges (All), Almonds, Milk
4	Monterey	4,639,893	Lettuce (All), Strawberries, Broccoli, Cauliflower
5	Merced	4,585,893	Milk, Almonds, Chickens, Cattle
6	Stanislaus	3,629,777	Milk, Almonds, Horticulture (All), Cattle
7	San Joaquin	3,275,614	Milk, Almonds, Grapes (All), Cherries
8	Imperial	2,611,103	Cattle, Lettuce (All), Alfalfa (All), Livestock (Misc)
9	Kings	2,594,574	Milk, Pistachios, Tomatoes (Processing), Cotton (Lint)
10	Ventura	2,087,291	Strawberries, Avocados, Horticulture (All), Lemons

Source: CDFA 2024

Farmland makes up approximately 8% of the state. Approximately 24 million acres of land in California are devoted to farming and ranching, with an average farm size of 351 acres (CDFA 2024).

The California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (FMMP) creates maps and compiles statistical data to analyze land use impacts on the state's agricultural resources. The FMMP classifies agricultural land based on various physical and chemical soil characteristics and climatic conditions, which together determine the land's suitability for crop production. Table 3.5-3 presents a detailed breakdown of the FMMP classifications and the statewide acreage for each category. Figure 3.5-1 illustrates a map highlighting the four types of important farmland in California.

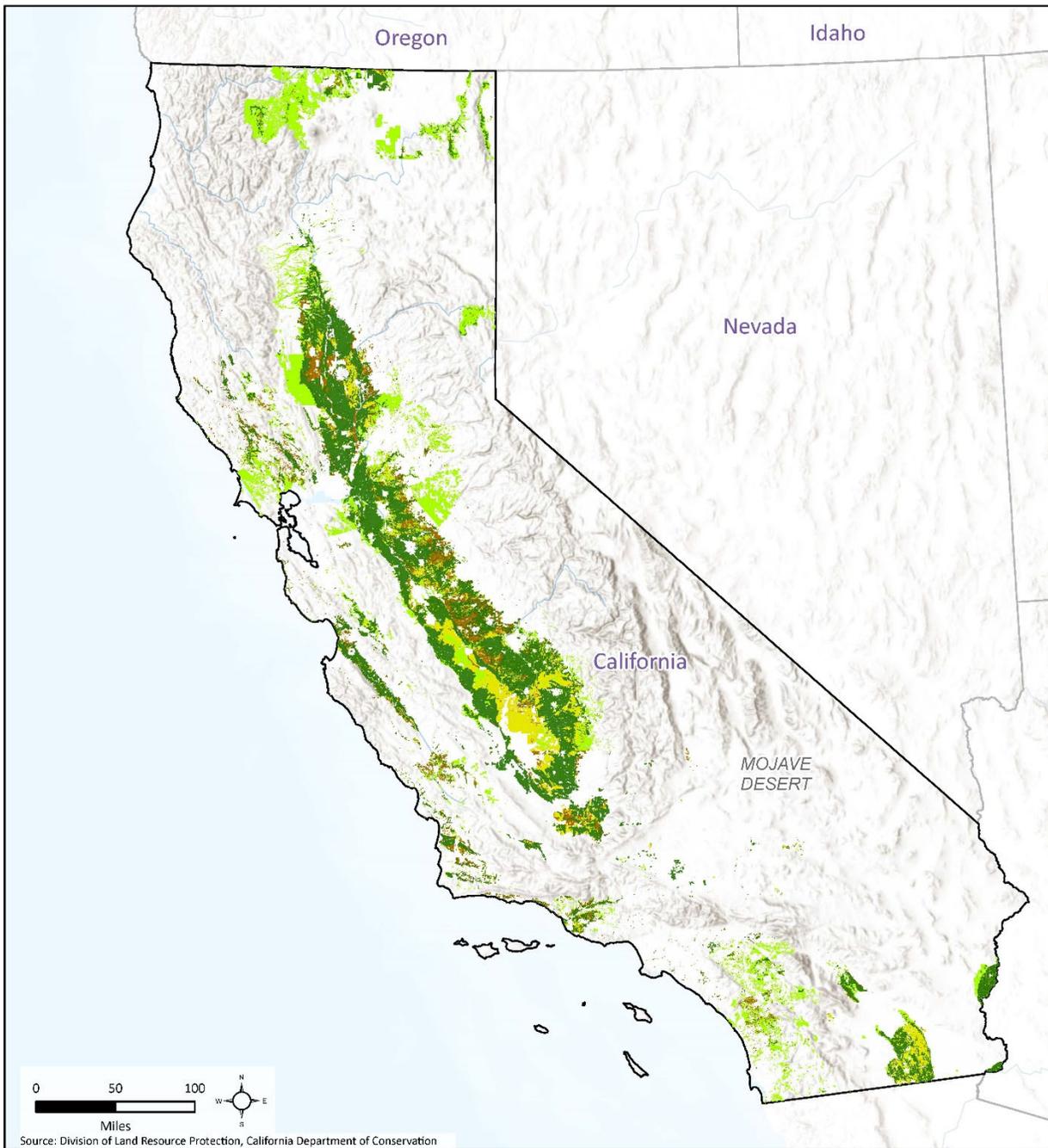
Of California’s 58 counties, 52 have adopted the Williamson Act program (described in Section 3.5.2.2.2 below), with the exceptions being Del Norte, San Francisco, Inyo, Los Angeles, and Yuba counties. The Imperial County Board of Supervisors voted in 2010 to not renew all Williamson Act contracts. Based on the final reporting period of 2021-2022, approximately 15.3 million acres were enrolled under the Williamson Act statewide and approximately half of these acres are located in San Joaquin Valley, the Bay and Central Coast, and the

Sacramento Valley (Figure 3.5-2; CDOC 2024). The Farmland Security Zone program (see Section 3.5.2 [Regulatory Framework]) has been adopted by 25 counties, although not all of the counties have executed contracts. Twenty-one counties reported a total of 863,530 acres of land under Farmland Security Zone contract, which constituted approximately 6% of the statewide Williamson Act enrollment.

Table 3.5-3. Important Farmland Acreages in California, through 2018

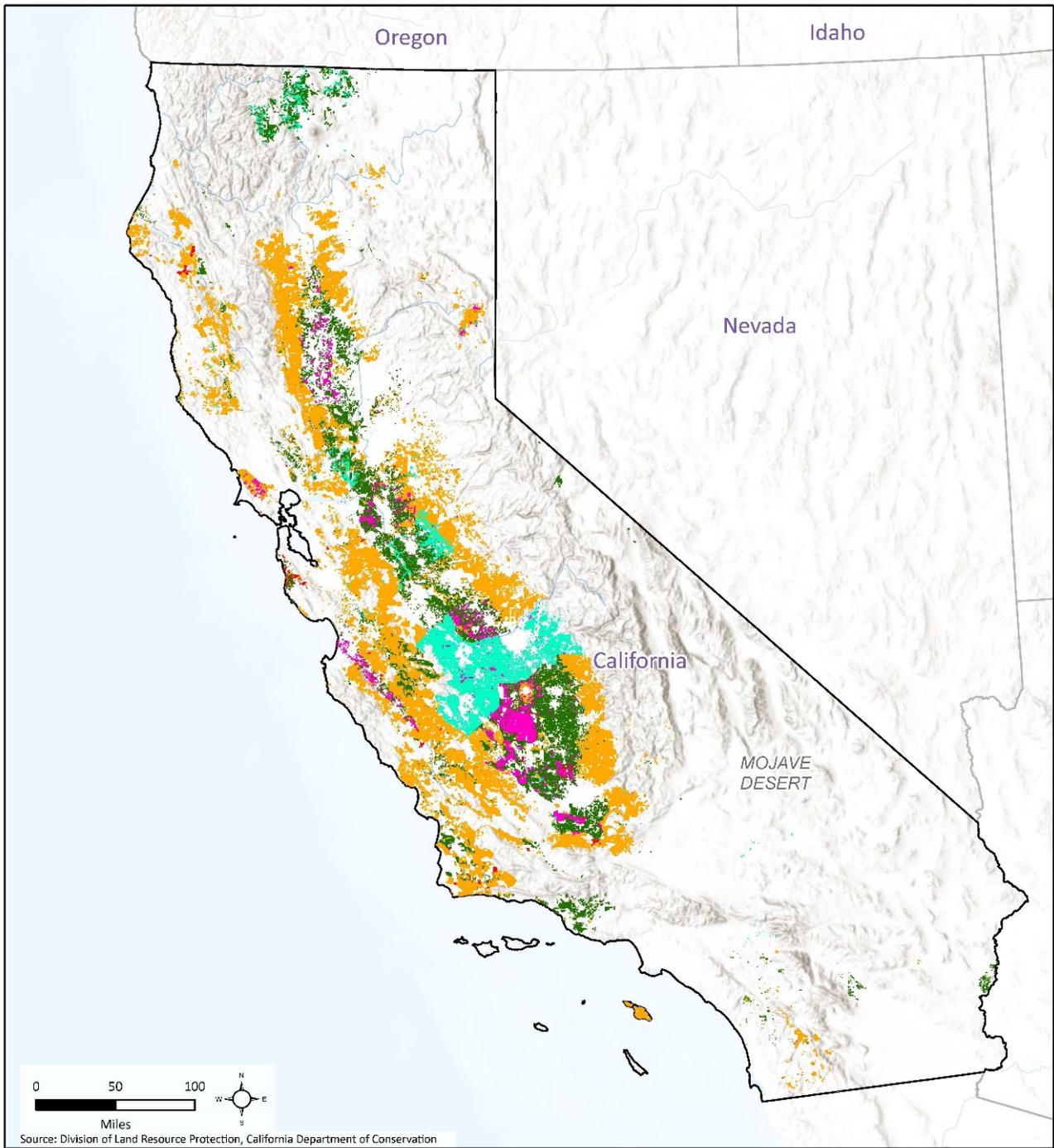
California Farmland Categories	Acres	Definitions
Prime Farmland	4,993,077	Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
Farmland of Statewide Importance	2,514,475	Farmland is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
Unique Farmland	1,417,639	Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
Farmland of Local Importance	3,213,302	Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Source: CDOC 2004, 2022a



<p>Legend</p> <p>Important Farmland Categories</p> <ul style="list-style-type: none"> Prime Farmland Farmland of Statewide Importance Unique Farmland Farmland of Local Importance 	<p>REGIONAL LOCATION CALIFORNIA</p>	<p>IMPORTANT FARMLAND IN CALIFORNIA</p> <p>Catalyst ENVIRONMENTAL SOLUTIONS</p>	<p>CalRecycle - SB 54 CEQA</p>
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Figure 3.5-1. Important Farmland in California



Project: D:\CS\catalyst_gis\Documents\rcg\proj\calrecycle\SB 54\54.aprx

Figure 3.5-2. Williamson Act Contract Lands

3.5.1.2 Forestry Resources

“Forestland” is defined in PRC Section 12220(g) as:

“Land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.”

California’s forestland comprises almost 33 million acres, almost one-third of the state (United States Department of Agriculture [USDA] 2024). Federal agencies own and manage 19 million acres (57%); private landowners and Native American Tribes own 9 million acres (27%); industrial timber companies own 5 million acres (14%); and state and local agencies own approximately 990,000 acres (3%) (University of California Agriculture and Natural Resources 2024).

“Timberland” is defined in PRC Section 4526 as:

“Land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the California Board of Forestry and Fire Protection on a district basis after consultation with the district committees and others.”

There are over 16.6 million acres of timberland in California (California Department of Forestry and Fire Protection [CAL FIRE] 2018). Of this total, over 55% is federal (9.22 million acres), 43.7% is private (7.26 million acres), and 0.8% is state and local timberland (141,057 acres). About 80% of productive forestland in the state is timberland that is available for timber production: only 20% is in reserved status (CAL FIRE 2018).

“Timberland Production Zone” is defined in California Government Code Section 51104(g) as:

“An area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to the general plans of cities and counties, “timberland preserve zone” means “timberland production zone.”

Approximately 5.3 million acres of timberland in the state are located in designated Timberland Production Zones (CAL FIRE 2018).

The total value of timber production in 2022, based on counties that report timber in their crop report was \$200 million. The top five timber-producing counties in the state in 2022 were Humboldt, Mendocino, Siskiyou, Plumas, and Shasta (Table 3.5-4; CDFA 2024).

Table 3.5-4. California’s Leading Timber Counties, 2022

Timber Value Rank	County	Timber Volume (Million Board Feet)	Total Agricultural Value (Including Board Feet, \$1,000)	Timber Value (\$1,000)	Timber % of Total Agricultural Value Within County
1	Humboldt	234,392	272,775	99,267	36.4
2	Mendocino	83,183	167,228	33,807	20.2
3	Siskiyou	144,021	376,178	26,906	7.2
4	Plumas	384,288	51,097	24,003	47.0
5	Shasta	68,416	108,313	14,000	12.9

Source: CDFA 2024

3.5.2 Regulatory Framework

Federal and state laws, regulations, plans, and/or guidelines related to agriculture and forestry resources that are applicable to the Program are summarized below.

3.5.2.1 Federal

3.5.2.1.1 Farmland Protection Policy Act

Congress passed the Farmland Protection Policy Act in 1981 in response to a substantial decrease in the amount of open farmland (7 United States Code [U.S.C.] 4201 et seq.). Under the Farmland Protection Policy Act, the Secretary of Agriculture established criteria for use by federal agencies to consider effects on farmland. As stipulated by the Farmland Protection Policy Act, federal agencies are to: (1) use the criteria to identify and account for the adverse effects of their programs on the preservation of farmland; (2) consider alternative actions, as appropriate, that could lessen adverse effects; and (3) ensure that their programs, to the extent practicable, are compatible with state, units of local government, and private programs and policies to protect farmland (7 U.S.C. 658.1). Compliance with these federal requirements would be relevant only if a federal agency permit or approval, such as a Clean Water Act (CWA) Section 404 permit, were needed to implement a project.

3.5.2.2 State

3.5.2.2.1 Farmland Mapping and Monitoring Program

The CDOC established the FMMP in 1982 to provide consistent and impartial data on agricultural land use throughout California. The CDOC collects data every two years, and now maps agricultural and urban land use for nearly 98% of the state's privately held land (CDOC 2022a).

The FMMP has developed categorical definitions of Important Farmland that incorporate the land’s suitability for agricultural production based on data on the location of agricultural land, land use changes from agriculture to urban development, and soil quality. Land that is identified as Important Farmland is mapped as one of the following four categories Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance according to the definitions provided in Table 3.5-2 (CDOC 2004).

3.5.2.2.2 California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, better known as the Williamson Act, is California's primary program to protect agricultural land. The Williamson Act discourages premature and unnecessary conversion of agricultural land to urban uses. Local governments and landowners enter into voluntary contracts to restrict enrolled lands to agricultural and open space uses, typically for 10- or 20-year rolling terms, in exchange for property tax reductions. The state implements the Williamson Act when a city or county creates an agricultural preserve. The purpose of an agriculture preserve is the long-term conservation of agricultural and open space lands: the lands are restricted to agricultural, open space, or recreational uses in exchange for reduced property tax assessments. The Williamson Act supports California's conservation, food security, and orderly growth goals while helping farmers and ranchers to stay in production.

Since 1998, another option within the Williamson Act Program is the creation of Farmland Security Zones (FSZs), which are areas created within an agricultural preserve by a board of supervisors that offer private landowners a greater property tax reduction than the regular assessment within the Williamson Act. Farmland Security Zones are also known as Super Williamson Act contracts. Land restricted by a FSZ contract is valued for property assessment purposes at 65% of its Williamson Act valuation, or 65% of its Proposition 13 valuation, whichever is lower (CDOC 2024). Cities and special districts that provide non-agricultural services are generally prohibited from annexing land enrolled under an FSZ contract; school districts are additionally prohibited from taking FSZ lands for school facilities (CDOC 2024). The 2022 implementation of SB 574 removed the requirement for CDOC to submit biennial reports on implementation of the Williamson Act; the bill makes changes to modernize the reporting system and strengthen local government partners; the department intends to continue posting biennial enrollment information. Senate Bill 574 has simplified Williamson Act reporting, and now requires participating cities and counties to report Williamson Act enrollment in the form of Geographic Information System (GIS) files (CDOC 2022b).

3.5.2.2.3 Z'berg-Nejedly Forest Practice Act of 1973

Logging on private land in California is regulated by the 1973 Z'berg-Nejedly Forest Practice Act. This Act established the Forest Practice Rules to regulate logging on private land in the state, and the Board of Forestry to oversee implementation of the Forest Practice Rules. The Forest Practice Act is intended to achieve "maximum sustained production of high-quality timber products...while giving consideration to values relating to recreation, watershed, wildlife, range and forage, fisheries, regional economic vitality, employment and aesthetic enjoyment" (PRC Section 4513(b)). The regulations created by the Forest Practice Act define factors such as the size and location of harvest areas, include measures to prevent unreasonable damage to residual trees, and address the protection of riparian areas, water courses and lakes, wildlife, and habitat areas.

CAL FIRE works under the direction of the Board of Forestry and is the lead government agency responsible for approving logging plans and enforcing the Forest Practice Rules. To log on private land, a Registered Professional Forester must prepare a Timber Harvest Plan, which outlines the proposed logging operations and submit this to the state. Timber Harvest Plans are required to evaluate all potential direct and cumulative impacts of the logging plan and to implement any feasible measures that would reduce this impact to a less-than-significant level. These plans are certified as the "functional equivalent" of an EIR to comply with CEQA.

3.5.2.2.4 California Timberland Productivity Act

The California Timberland Productivity Act of 1982 (Government Code Sections 51100 et seq.) imposes mandatory restrictions on parcels zoned for timberland production to help preserve timber resources. Similar to the Williamson Act, landowners pay lower property taxes to keep their land in timber production. Contracts involving Timber Production Zones are on 10-year cycles. Compatible uses in timberland production zones include management for watershed; management for habitat or hunting and fishing; access roads and staging areas for timber harvesting; gas, electric, water, or communication transmission facilities; grazing; or a residence or other structure necessary for timber management (Government Code Section 51104(h)).

3.5.2.2.5 Z'berg-Warren-Keene-Collier Forest Taxation Reform Act

The Z'berg-Warren-Keene-Collier Forest Taxation Reform Act (Government Code Sections 51110-51119.5), enacted in 1976, requires counties to zone land used for growing and harvesting timber as Timberland Production Zones, with zoning established to preserve and protect timberland from conversion to other uses and avoid land use conflicts.

3.5.3 Impact Assessment

3.5.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would have a significant impact on agriculture and forestry if it would:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- b) Conflict with existing zoning for agricultural use or a Williamson Act contract.
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
- d) Result in the loss of forest land or conversion of forest land to non-forest use.
- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

3.5.3.2 Proposed Program

3.5.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Impact Criterion b) Would the Program conflict with existing zoning for agricultural use or a Williamson Act contract?

The reasonably foreseeable compliance with these standards would not result in any construction or ground-disturbing activity that would alter any land use or zoning within the state, including important farmland. Therefore, the source reduction and refill/reuse requirements would have **no impact** with respect to agriculture resources Impact Criteria (a) and (b).

Impact Criterion c) Would the Program conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Impact Criterion d) Would the Program result in the loss of forest land or conversion of forest land to non-forest use?

The Implementing Regulations require that by 2032, plastic covered material must be source reduced by at least 25% by weight and 25% by number of plastic components sold, offered for sale, or distributed in the state with 10% of the source reduction to be met either by switching to reusable or refillable options or through elimination of a plastic component. The covered materials source reduction requirements would likely increase the demand for timber as paper products require wood as a raw material. There is currently one active pulp mill located within California (Sloan Foundation Industry Center 2024). As such, there is currently no significant wood pulp production in California. However, future trends in response to the Implementing Regulations could lead to an increased demand on wood pulp and expanded logging activities, which could put pressure on forest land (as defined in PRC Section 12220(g)) and timberland (as per PRC Section 4526) to meet the higher demand for raw materials. The regulations created by the Forest Practice Act include measures to protect California's timberlands and achieve maximum sustained production. The regulations authorized by this law define the size and location of harvest areas, as well as required environmental protection measures. Compliance with the existing regulations would ensure that a transition to paper products would not lead to conflicts with existing zoning or result in the loss in forest land. In addition, as investments are made in recycling infrastructure (e.g., advancements in sorting technology and processing capabilities) and advancements in recycling technology will continue to enhance the efficiency and contribute to higher recycling rates of paper products throughout California. The growing trend toward using recycled paper content in new packaging and food service ware serves to close the loop in the recycling process and reduce the need for virgin materials. The American Forest & Paper Association reports that in 2022, the cardboard recycling rate was 93% with a paper recycling rate of 68% (American Forest & Paper Association 2023). In 2021, the American Forest & Paper Association released the Design Guidance for Recyclability tool, which is a data-driven resource to aid packaging designers and brands in the design and manufacture of packaging to meet recyclability goals which will further enhance recyclability of paper products in California (American Forest & Paper Association 2022). As such, the reasonably foreseeable source reduction and refill/reuse compliance measures with the Implementing Regulations would not alter any land use or zoning and would not result in the loss or conversion of forest land. Therefore, impacts would be **less than significant** with respect to agriculture and forestry resources Impact Criteria (c) and (d).

Impact Criterion e) Would the Program involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Reasonably foreseeable compliance measures with the source reduction and refill/reuse requirements of the Implementing Regulations would not result in any ground-disturbing activity or changes in existing land use, or

conversion of land use types. Therefore, the source reduction and refill/reuse measures would have **no impact** with respect to agriculture and forestry resources Impact Criterion (e).

3.5.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Impact Criterion b) Would the Program conflict with existing zoning for agricultural use, or a Williamson Act contract?

CONSTRUCTION AND OPERATION

Reasonably foreseeable compliance measures could result in the construction and operation of new collection, sortation, and processing facilities. At this time, the specific location(s) of these facilities have not been identified. As summarized in Table 3.5-1, more than 12 million acres of land in the state are categorized as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. As shown in Figure 3.5-1, most of this farmland is located in the Sacramento and San Joaquin Valleys. Many landfills and other solid waste-handling facilities are located outside of urban areas and could be located in industrial areas or areas that contain agricultural uses and farmland. The reasonably foreseeable compliance responses that could result from Implementing Regulations could involve the development of new or expanded collection, sortation, and processing facilities. Construction activities associated with new or expanded facilities built in response to the Implementing Regulation could also include developing temporary facilities, such as staging areas, access roads, or work areas that could be located on farmland or lands zoned for agricultural use, or lands under a Williamson Act contract. Construction activities could also include installation of temporary site fencing and signage; soil and vegetation removal; excavation and grading activities; and dust abatement in staging areas, on access roads, and on construction sites. Some of these areas may be returned to agricultural uses after completion of construction; however, temporary conversion(s) of farmland or conflicts with agricultural zoning or Williamson Act contracts could be substantial depending on the amount of land used for construction and the duration of construction activities. Additionally, unless topsoil is restored to preconstruction conditions and the affected area is replanted to the extent feasible, these construction activities could also result in a substantial long-term or permanent conversion of farmland or conflicts with agricultural zoning or Williamson Act lands.

The presence of new or expanded collection, sortation, and processing facilities in agricultural areas could permanently convert farmland to nonagricultural use, conflict with agricultural zoning, and conflict with Williamson Act contracts. The location of new or expanded facilities could preclude the future use of the site of those facilities for agricultural uses. These facilities would vary in size and, thus, would have varying degrees of impact on the conversion of farmland to nonagricultural use. The extent of the impacts would depend on site-specific details, including the facility design features, including size, as well as presence of agricultural zoning, important farmland and/or Williamson Act contract status. Accordingly, construction and operation of new or modified collection, sortation, and processing facilities could result in significant temporary, long-term, or permanent conversion of farmland and conflicts with Williamson Act contracts and agricultural zoning. Implementation of **MM AG-1** would require mitigation measures to minimize impacts on agricultural resources such as avoiding important farmland when siting future facilities, or mitigating loss to farmland at a 1:1 ratio.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts to agricultural and forestry resources. Mitigation measures to reduce potential impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential impacts, implementation of **MM AG-1** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, farmland impacts are considered potentially **significant and unavoidable**.

Impact Criterion c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Impact Criterion d) Would the Program result in the loss of forest land or conversion of forest land to non-forest use?

CONSTRUCTION AND OPERATION

At this time, the specific location(s) of collection, sortation, and processing facilities have not been identified. As discussed in Section 3.5.1.2, California's forestland comprises almost 33 million acres, 16.6 million acres of timberland, with approximately 5.3 million acres of timberland in the state located in designated Timberland Production Zones. Areas of the state containing the most forest and timberland resources and Timber Production Zones are generally located outside of urban areas in the foothills, Coast Ranges, Sierra Nevada, and northern portion of the state with the top five timber producing counties including Plumas, Humboldt, Siskiyou, Mendocino, and Shasta. The reasonably foreseeable response to the Implementing Regulations would most likely result in the development of new facilities or modification of existing facilities in urbanized areas and near end-use markets. Further, conversion of timberland is relatively rare, in part due to tax and zoning policy established under the Forest Taxation Reform Act of 1976 (CAL FIRE 2018). However, it is possible that new or modified facilities could be located in areas of the state containing forest and timberland resources. If a facility is sited in a currently forested area where such a facility would be a permitted use, the construction and operation of new or modified facilities on forest or timberland would permanently convert the land to a non-forest or non-timberland use. The extent of the impacts would depend on site-specific details, including the facility design features, including size, as well as presence of forest or timberland. Implementation of **MM AG-2** would minimize impacts to forest land by either avoiding forest land or timberland when siting future facilities, or mitigating loss to forest or timberland at a 1:1 ratio.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts to agricultural and forestry resources. Mitigation measures to reduce potential impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential impacts, implementation of **MM AG-2** can and should be required by agencies

with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, forest and timberland impacts are considered potentially **significant and unavoidable**.

Impact Criterion e) Would the Program involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

CONSTRUCTION AND OPERATION

The collection, sortation, and processing facilities would not introduce additional changes beyond those already analyzed that could affect farmland or forest land use or conversion. Consequently, the construction and operation of these facilities would have **no impact** on agriculture and forestry resources, as per Impact Criterion (e).

MITIGATION MEASURE(S)

MM AG-1: Agricultural Resource Protection. Mitigation measures can and should be required by agencies with project approval authority to avoid or minimize impacts on agricultural resources. Examples of mitigation measures include the following:

- Collection, sortation, and processing facilities shall avoid Important Farmland to the extent possible.
- If facilities are constructed on Important Farmland, the facility shall be designed to minimize, to the greatest extent feasible, the loss of the highest value farmland.
- If facilities are constructed on Important Farmland, impacts to the farmland shall be mitigated at a 1:1 ratio with soil and farming conditions equivalent or superior to the state-designated farmland that would be converted, and this farmland shall be set aside in perpetuity. Alternatively, funds may be provided to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements, to be earmarked for the purchase of permanent, irreversible agricultural easements at a 1:1 ratio of the converted farmland.

MM AG-2: Forest Resource Protection. Mitigation measures can and should be required by agencies with project approval authority to avoid or minimize impacts on forestry resources. Examples of mitigation measures include the following:

- Collection, sortation, and processing facilities shall not be located on forest land or timberland to the extent possible.
- If facilities are constructed on forest or timberland, project proponents shall prioritize sites with lower value, in terms of direct products, such as wood, but also as part of the watershed ecosystem, when selecting a project site.
- If facilities are constructed on forest or timberland, impacts to the forest or timberland should be mitigated at a 1:1 ratio with forest or timber conditions equivalent or superior to the designated forest or timberland that would be converted, and this forest or timberland shall be set aside in perpetuity. Alternatively, funds may be provided to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of forest or timber easements, to be earmarked for the purchase of permanent, irreversible forest or timberland easements at a 1:1 ratio of the converted land.

3.6 Air Quality

This section describes existing air quality conditions throughout California; identifies federal and state regulations applicable to the types of emissions-generating activities that could occur due to the Program; and presents an analysis of potential air quality impacts associated with implementation of the Program. The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.6-1 summarizes the air quality impacts that could result from implementation of the Program.

Table 3.6-1. Summary of Air Quality Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant	Potentially Significant and Unavoidable	MM AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques MM AQ-2: Implement All Feasible On- and Off-Site Mitigation Measures to Reduce Operation-Related Air Pollutants to Below a Lead Agency–Approved Threshold of Significance
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Less than Significant	Potentially Significant and Unavoidable	MM AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques MM AQ-2: Implement All Feasible On- and Off-Site Mitigation Measures to Reduce Operation-Related Air Pollutants to Below a Lead Agency–Approved Threshold of Significance
c) Expose sensitive receptors to substantial pollutant concentrations?	Less than Significant	Potentially Significant and Unavoidable	MM AQ-3: Conduct a Health Risk Assessment and Implement On-Site TAC-Reducing Mitigation Measures
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant	Potentially Significant and Unavoidable	MM AQ-4: Prepare an Odor Impact Minimization Plan or Odor Management Plan

3.6.1 Existing Conditions

3.6.1.1 Effects of Air Pollution

Ambient air pollution is a major public health concern and is linked to respiratory illness and an increase in mortality rates. The CARB estimates that particulate pollution alone causes an estimated 8,600 premature deaths in California annually (CARB 2024a).

Air pollution also damages materials such as plastics, rubber, paint, and metals. Damage includes erosion and discoloration of paint, cracking of rubber, corrosion of metals and electrical components, soiling and decay of building stone and concrete, fading, a reduction of tensile strengths of fabrics, and soiling and crumbling of nonmetallic building materials. High smog concentrations significantly shorten the lifespan of materials, which increases maintenance and replacement costs.

3.6.1.1.1 Criteria Air Pollutants

A criteria air pollutant is any air pollutant for which ambient air quality standards (criteria) have been set by the USEPA (National Ambient Air Quality Standards [NAAQS]) or CARB (California Ambient Air Quality Standards [CAAQS]). The presence of these pollutants in ambient air is generally due to numerous diverse and widespread sources of emissions, and air quality standards have been established for these pollutants to protect public health. Criteria pollutants include ozone (O₃), fine particulate matter (PM_{2.5}), respirable particulate matter (PM₁₀), carbon monoxide (CO), nitrogen dioxide (NO₂), lead (Pb), sulfur dioxide (SO₂), visibility-reducing particles, sulfates, and hydrogen sulfide (H₂S). Table 3.6-2 presents the federal and state air quality standards for criteria pollutants. The sections below provide additional details about each of these criteria pollutants.

Table 3.6-2. Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS ppm	CAAQS µg/m ³	NAAQS ppm	NAAQS µg/m ³
Ozone (O ₃)	1-hour	0.09	177	--	--
	8-hour	0.07	137	0.070	137
Nitrogen Dioxide (NO ₂)	1-hour	0.18	339	0.100	188
	Annual	0.03	56	0.053	100
Sulfur Dioxide (SO ₂)	1-hour	0.25	655	0.075	196
	3-hour	--	--	0.5	1,300
	24-hour	0.04	105	0.14 (for certain areas)	365
	Annual	--	--	0.03 (for certain areas)	80
Carbon Monoxide (CO)	1-hour	20	23 (mg/m ³)	35	40 (mg/m ³)
	8-hour	9	10 (mg/m ³)	9	10 (mg/m ³)

Pollutant	Averaging Time	CAAQS ppm	CAAQS $\mu\text{g}/\text{m}^3$	NAAQS ppm	NAAQS $\mu\text{g}/\text{m}^3$
Particulates (as PM_{10})	24-hour	--	50	--	150
	Annual	--	20	--	--
Particulates (as $\text{PM}_{2.5}$)	24-hour	--	--	--	35
	Annual	--	12	--	9
Lead (Pb)	30-day	--	1.5	--	--
	Calendar average	--	--	--	1.5 (for certain areas)
	3-month (rolling average) ¹	--	--	--	1.5
Sulfates (as SO_4)	24-hour	--	25	--	--
Hydrogen Sulfide (H_2S)	1-hour	0.03	42	--	--
Vinyl Chloride ($\text{C}_2\text{H}_3\text{Cl}$)	24-hour	0.01	26	--	--

Source: CARB 2016 and USEPA 2024

Notes:

¹ A rolling average is a calculation to analyze data points by creating series of averages of different subsets of the full data set. ppm = part(s) per million; $\mu\text{g}/\text{m}^3$ = microgram(s) per cubic meter

Ozone

O_3 is formed in the atmosphere by a series of complex chemical reactions and transformations in the presence of sunlight. Oxides of nitrogen (NO_x) and reactive organic gases (ROGs) are the principal constituents in these reactions. O_3 is a pungent, colorless, toxic gas and is a primary component of smog.

O_3 is known as a secondary pollutant because it is formed in the atmosphere through a complex series of chemical reactions, rather than emitted directly into the air. The major sources of NO_x in California are motor vehicles and other combustion processes. The major sources of ROGs in California are motor vehicles and the evaporation of chemical solvents and fuels.

O_3 is a strong irritating gas that can chemically burn and cause narrowing of airways, forcing the lungs and heart to work harder to provide oxygen to the body. People most likely to be affected by O_3 include the elderly, the young, athletes, and those who suffer from respiratory diseases such as asthma, emphysema, and chronic bronchitis.

PM_{10}

PM_{10} , a component of fugitive dust, consists of particulate matter (PM; fine dusts and aerosols) that is ten microns or smaller in aerodynamic diameter. For reference, ten microns is about one-seventh the width of a human hair. When inhaled, particles larger than 10 microns are generally caught in the nose and throat and do

not enter the lungs. PM₁₀ gets into the large upper branches of the lungs just below the throat, where they are caught and removed (by coughing, spitting, or swallowing). Fugitive dust becomes airborne because of wind action and human activities. Fugitive dust particles are mainly soil minerals, but can also be sea salt, pollen, spores, and tire particles, among other things. About half of fugitive dust particles (by weight) are larger than 10 microns and settle quickly. Fugitive dust particles 10 microns or smaller (i.e., PM₁₀) can remain airborne for weeks.

The primary sources of PM₁₀ include dust, paved and unpaved roads, diesel exhaust, acidic aerosols, construction and demolition operations, soil and wind erosion, aggregate mining and processing operations, sanitary landfill operations, agricultural operations, residential wood combustion, and smoke. The amount of fugitive dust created by such activities is dependent largely on the type of soil, type of operation taking place, size of the area, degree of soil disturbance, soil moisture content, and wind speed. Secondary sources of PM₁₀ include tailpipe emissions and industrial sources. These sources have different constituents and therefore, varying effects on health. Airborne particles absorb and adsorb toxic substances and can be inhaled and lodge in the lungs. Once in the lungs, the toxic substances can be absorbed into the bloodstream and carried throughout the body. PM₁₀ concentrations tend to be lower during the winter months because meteorology greatly affects PM₁₀ concentrations. During rainfall events, concentrations are relatively low, and on windy days, PM₁₀ levels can be high. Photochemical aerosols, formed by chemical reactions with manmade emissions, may also influence PM₁₀ concentrations.

Unpaved roadways are also a large source of fugitive dust. Other sources of fugitive dust include demolition activities, unpaved roadway shoulders, vacant lots, material stockpiles, abrasive blasting operations, agricultural tilling operations, and off-road vehicle use.

Elevated ambient particulate levels are associated with premature death, an increased number of asthma attacks, reduced lung function, aggravation of bronchitis, respiratory disease, and cancer. When fugitive dust particles are inhaled, they can travel easily to the deep parts of the lungs and may remain there, causing respiratory illness, lung damage, and even premature death in sensitive people. Fugitive dust may also be a nuisance to those living and working nearby. Dust blown across roadways can lead to traffic accidents by reducing visibility. Fugitive dust can soil and damage materials and property, such as fabrics, vehicles, and buildings. Particulates deposited on agricultural crops can lower crop quality and yield. Additionally, fugitive dust can lead to the spread of San Joaquin Valley Fever, a potential health hazard caused by a fungus that lives in certain soil types throughout California.

PM_{2.5}

PM_{2.5} is a mixture of PM (fine dusts and aerosols) that is 2.5 microns or smaller in aerodynamic diameter. For reference, 2.5 micrometers is approximately 1/30th the size of a human hair, so small that several thousand of these particles could fit on the period at the end of this sentence. PM_{2.5} can travel into the deepest portions of the lungs where gas exchange occurs between the air and the bloodstream. These particles are very dangerous because the deepest portions of the lungs have no efficient mechanisms for removing them. If these particles are soluble in water, they pass directly into the bloodstream within minutes. If they are not soluble in water, they are retained deep in the lungs and can remain there permanently.

PM_{2.5} particles are emitted from activities such as industrial and residential combustion processes, wood burning, and from diesel and gasoline-powered vehicles. They are also formed in the atmosphere from gases

such as SO₂, NO_x, ammonia, and volatile organic compounds that are emitted from combustion activities, and then become particles as a result of chemical transformations in the air (secondary particles).

Exposure to PM_{2.5} increases the risks of long-term disease, including chronic respiratory disease, cancer, and increased and premature death. Other effects include increased respiratory stress and disease, decreased lung function, alterations in lung tissue and structure, and alterations in respiratory tract defense mechanisms.

Carbon Monoxide

CO is a common colorless, odorless, highly toxic gas. It is produced by natural and anthropogenic combustion processes. The major source of CO in urban areas is incomplete combustion of carbon containing fuels (primarily gasoline, diesel fuel, and natural gas). However, it also results from combustion processes, including forest fires and agricultural burning. Over 80 percent of the CO emitted in urban areas is contributed by motor vehicles. Ambient CO concentrations are generally higher in the winter, usually on cold, clear days and nights with little or no wind. Low wind speeds inhibit horizontal dispersion, and surface inversions inhibit vertical mixing. Traffic-congested intersections have the potential to result in localized high levels of CO. These localized areas of elevated CO concentrations are termed CO "hotspots". CO hotspots are defined as locations where ambient CO concentrations exceed the CAAQS (20 parts per million (ppm), 1-hour; 9 ppm, 8-hour).

When inhaled, CO does not directly harm the lungs; rather, it combines chemically with hemoglobin, the oxygen-transporting component of blood and diminishes the ability of blood to carry oxygen to the brain, heart, and other vital organs. Red blood cells have 220 times the attraction for CO than for oxygen. This affinity interferes with movement of oxygen to the body's tissues. Effects from CO exposure include headaches, nausea, and death. High levels of CO in a concentrated area can result in asphyxiation.

Nitrogen Dioxide

NO₂ is formed in the atmosphere primarily by the rapid reaction of the colorless gas nitric oxide (NO) with atmospheric oxygen. It is a reddish-brown gas with an odor similar to that of bleach. NO₂ participates in the photochemical reactions that result in O₃. The greatest source of NO, and subsequently NO₂, is the high-temperature combustion of fossil fuels such as in motor vehicle engines and power plant boilers. NO₂ and NO are referred to collectively as NO_x.

NO₂ can irritate and damage the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections such as influenza. Negative health effects are apparent after exposure to NO₂ levels as low as 0.11 ppm for a few minutes. This level of exposure may elicit or alter sensory responses. Higher concentrations (0.45 - 1.5 ppm) may cause impaired pulmonary function, increased incidence of acute respiratory disease, and difficult breathing for both bronchitis sufferers and healthy persons.

Lead

Lead is a bluish-gray metal that occurs naturally in small quantities. Lead and lead compounds in the atmosphere often come from fuel combustion sources, such as the burning of solid waste, coal, and oils. Historically, the largest source of lead in the atmosphere resulted from the combustion of leaded gasoline in motor vehicles. However, with the phase-out of leaded gasoline, concentrations of lead in the air have substantially decreased. Industrial sources of atmospheric lead include steel and iron factories, lead smelting and refining, and battery manufacturing. Atmospheric lead may also result from lead in entrained dust and dirt contaminated with lead.

Acute health effects of lead include gastrointestinal distress (such as colic), brain and kidney damage, and even death. Lead also has numerous chronic health effects, including anemia, central nervous system damage, reproductive dysfunction, as well as effects on blood pressure, kidney function, and vitamin D metabolism. The USEPA's Office of Air Quality Planning and Standards ranks lead as a "high concern" pollutant based on its severe chronic toxicity.

Sulfur Dioxide

SO₂ is a colorless gas with a sharp, irritating odor. It can react in the atmosphere to produce sulfuric acid and sulfates, which contribute to acid deposition and atmospheric visibility reduction. It also contributes to the formation of PM₁₀. Most of the SO₂ emitted into the atmosphere is from the burning of sulfur-containing fossil fuels by mobile sources, such as marine vessels and farm equipment, and stationary fuel combustion.

SO₂ irritates the mucous membranes of the eyes and nose, and may also affect the mouth, trachea, and lungs, causing sore throat, coughing, and breathing difficulties.

3.6.1.1.2 Toxic Air Contaminants

Toxic air contaminants (TACs), also referred to as hazardous air pollutants, are air pollutants (excluding O₃, CO, SO₂, and NO₂) that may reasonably be anticipated to cause cancer, developmental effects, reproductive dysfunction, neurological disorders, heritable gene mutations, or other serious or irreversible acute or chronic health effects in humans. TACs are regulated under different federal and state regulatory processes than O₃ and the other criteria air pollutants. Health effects of TACs may occur at extremely low levels, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. There are generally four types of TACs: 1) organic chemicals such as benzene, dioxins, toluene, and perchloroethylene; 2) inorganic chemicals such as chlorine and arsenic; 3) fibers such as asbestos; and 4) metals such as mercury, cadmium, chromium, and nickel. Currently, more than 900 substances are regulated TACs under federal, state, and local regulations.

TACs are produced by a variety of sources, including industrial facilities such as refineries, chemical plants, chrome plating operations, and surface coating operations; commercial facilities such as dry cleaners and gasoline stations; motor vehicles, especially diesel-powered vehicles; and consumer products. TACs can be released as a result of normal industrial operations, as well as from accidental releases during process upset conditions.

Health effects from TACs vary with the type of pollutant, the concentration of the pollutant, the duration of exposure, and the exposure pathway. TACs usually get into the body through inhalation, though they can also be ingested or absorbed through the skin. Adverse effects on people are either acute or chronic. Acute effects result from short-term, high levels of airborne toxic substances. These effects may include nausea, skin irritation, cardiopulmonary distress, and even death. Chronic effects result from long-term, low-level exposure to airborne toxic substances. Effects can range from relatively minor to life-threatening. Less serious chronic effects include skin rashes, dry skin, coughing throat irritation, and headaches. More serious chronic effects include lung, liver, and kidney damage; nervous system damage; miscarriages; genetic and birth defects; and cancer. Many TACs can have both carcinogenic and non-carcinogenic health effects.

3.6.1.1.3 Odors

Odors are substances in the air that pose a nuisance to nearby land uses such as residences, schools, daycare centers, and hospitals. Odors are typically not a health concern but can interfere with the use and enjoyment of nearby property. Odors may be generated by a wide variety of sources. Objectionable odors created by a facility or operation may cause a nuisance or annoyance to adjacent populations.

3.6.1.1.4 Sensitive Receptors

Certain population groups are considered more sensitive to air pollutants than others: children, elderly, and acutely ill and chronically ill persons, especially those with cardiorespiratory diseases such as asthma and bronchitis. Sensitive land uses indicate locations where such individuals are typically found, namely schools, daycare centers, hospitals, convalescent homes, residences of sensitive persons, and parks with active recreational uses.

Persons engaged in strenuous work or physical exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses such as parks are also considered sensitive due to the greater exposure to ambient air quality conditions, and because the presence of pollution detracts from the recreational experience.

3.6.1.2 Statewide Summary

Program activities may occur in any of California's 15 air basins. The ambient concentrations of air pollutants within these basins are determined by the concentration of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions within California are determined by such natural factors as topography, meteorology, and climate as well as the concentration of emissions released by existing air pollutant sources. Air pollution can also move freely within and between air basins; therefore, air pollution generated in one basin may degrade the air quality within an adjacent basin. Table 3.6-3 shows the attainment status for each criteria pollutant with respect to the CAAQS and the NAAQS in each county in the state.

Table 3.6-3. Attainment Designations for Criteria Pollutants by County, Statewide

County	O ₃ CAAQS	O ₃ NAAQS	CO CAAQS	CO NAAQS	NO ₂ CAAQS	NO ₂ NAAQS	SO ₂ CAAQS	SO ₂ NAAQS	PM ₁₀ CAAQS	PM ₁₀ NAAQS	PM _{2.5} CAAQS	PM _{2.5} NAAQS	Lead CAAQS	Lead NAAQS	Sulfates CAAQS	Sulfates NAAQS	H ₂ S CAAQS	H ₂ S NAAQS	Visibility Reducing Particles CAAQS	Visibility Reducing Particles NAAQS
Alameda	N-T	N	A	UA	A	UA	A	UA	N	UA	N	N	A	UA	A	NFS	U	NFS	U	NFS
Alpine	U	UA	U	UA	A	UA	A	UA	N	UA	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Amador	N-T	N	U	UA	A	UA	A	UA	U	UA	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Butte	N-T	N	A	UA	A	UA	A	UA	N	UA	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Calaveras	N-T	N	U	UA	A	UA	A	UA	N	UA	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Colusa	A	UA	U	UA	A	UA	A	UA	N	UA	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Contra Costa	N-T	N	A	UA	A	UA	A	UA	N	UA	N	N	A	UA	A	NFS	U	NFS	U	NFS
Del Norte	A	UA	U	UA	A	UA	A	UA	A	UA	A	UA	A	UA	A	NFS	U	NFS	U	NFS
El Dorado ¹	N-T/N	N/UA	U/A	UA	A	UA	A	UA	N	UA	A/U	N/UA	A	UA	A	NFS	U	NFS	U	NFS
Fresno	N	N	A	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
Glenn	A	UA	U	UA	A	UA	A	UA	N	UA	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Humboldt	A	UA	A	UA	A	UA	A	UA	N	UA	A	UA	A	UA	A	NFS	A	NFS	U	NFS
Imperial ²	N	N	A	UA	A	UA	A	UA	N	A	A	N/UA	A	UA	A	NFS	U	NFS	U	NFS
Inyo ³	N	UA	A	UA	A	UA	A	UA	N	A/N/UA	A	UA	A	UA	A	NFS	A	NFS	U	NFS
Kern ⁴	N	N/UA	A/U	UA	A	UA	A	UA	N	A/N/UA	A/N	N/UA	A	UA	A	NFS	U	NFS	U	NFS
Kings	N	N	U	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
Lake	A	UA	A	UA	A	UA	A	UA	A	UA	A	UA	A	UA	A	NFS	A	NFS	A	NFS
Lassen	A	UA	U	UA	A	UA	A	UA	U	UA	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Los Angeles ⁵	N	N	A	UA	A	UA	A	UA	N	A/UA	N/A	N/UA	A	N	A	NFS	U	NFS	U	NFS
Madera	N	N	U	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
Marin	N-T	N	A	UA	A	UA	A	UA	N	UA	N	N	A	UA	A	NFS	U	NFS	U	NFS
Mariposa ⁶	N	N	U	UA	A	UA	A	UA	U/A	UA	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Mendocino	A	UA	A	UA	A	UA	A	UA	A	UA	A	UA	A	UA	A	NFS	U	NFS	U	NFS

County	O ₃ CAAQS	O ₃ NAAQS	CO CAAQS	CO NAAQS	NO ₂ CAAQS	NO ₂ NAAQS	SO ₂ CAAQS	SO ₂ NAAQS	PM ₁₀ CAAQS	PM ₁₀ NAAQS	PM _{2.5} CAAQS	PM _{2.5} NAAQS	Lead CAAQS	Lead NAAQS	Sulfates CAAQS	Sulfates NAAQS	H ₂ S CAAQS	H ₂ S NAAQS	Visibility Reducing Particles CAAQS	Visibility Reducing Particles NAAQS
Merced	N	N	U	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
Modoc	A	UA	U	UA	A	UA	A	UA	U	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Mono ⁷	N	UA	A	UA	A	UA	A	UA	N	N/UA	A	UA	A	UA	A	NFS	A	NFS	U	NFS
Monterey	A	UA	A	UA	A	UA	A	UA	N	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Napa	N-T	N	A	UA	A	UA	A	UA	N	U	N	N	A	UA	A	NFS	U	NFS	U	NFS
Nevada	N	N	U	UA	A	UA	A	UA	N	U	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Orange	N	N	A	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
Placer ⁸	N-T	N/UA	A/U	UA	A	UA	A	UA	N	U	A/U	UA	A	UA	A	NFS	U	NFS	U	NFS
Plumas ⁹	U	UA	A	UA	A	UA	A	UA	N	U	N/U	N/UA	A	UA	A	NFS	U	NFS	U	NFS
Riverside ¹⁰	N	N/UA	A/U	UA	A	UA	A	UA	N	A/N/U	A/N	N/UA	A	UA	A	NFS	U/N	NFS	U	NFS
Sacramento	N	N	A	UA	A	UA	A	UA	N	A	A	N	A	UA	A	NFS	U	NFS	U	NFS
San Benito	A	UA	U	UA	A	UA	A	UA	N	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
San Bernardino ¹¹	N	N/UA	A	UA	A	UA	A	UA	N	N/A	A/N	N/UA	A	UA	A	NFS	N/U	NFS	U	NFS
San Diego	N	N	A	UA	A	UA	A	UA	N	U	N	UA	A	UA	A	NFS	U	NFS	U	NFS
San Francisco	N-T	N	A	UA	A	UA	A	UA	N	U	N	N	A	UA	A	NFS	U	NFS	U	NFS
San Joaquin	N	N	A	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
San Luis Obispo ¹²	N	N/UA	A	UA	A	UA	A	UA	N	U	A	UA	A	UA	A	NFS	A	NFS	U	NFS
San Mateo	N-T	N	A	UA	A	UA	A	UA	N	U	N	N	A	UA	A	NFS	U	NFS	U	NFS
Santa Barbara	N-T	UA	A	UA	A	UA	A	UA	N	UA	A	UA	A	UA	A	NFS	A	NFS	U	NFS
Santa Clara	N-T	N	A	UA	A	UA	A	UA	N	U	N	N	A	UA	A	NFS	U	NFS	U	NFS
Santa Cruz	A	UA	U	UA	A	UA	A	UA	N	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Shasta	N	UA	U	UA	A	UA	A	UA	A	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Sierra	U	UA	U	UA	A	UA	A	UA	N	U	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Siskiyou	A	UA	U	UA	A	UA	A	UA	A	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS

County	O ₃ CAAQS	O ₃ NAAQS	CO CAAQS	CO NAAQS	NO ₂ CAAQS	NO ₂ NAAQS	SO ₂ CAAQS	SO ₂ NAAQS	PM ₁₀ CAAQS	PM ₁₀ NAAQS	PM _{2.5} CAAQS	PM _{2.5} NAAQS	Lead CAAQS	Lead NAAQS	Sulfates CAAQS	Sulfates NAAQS	H ₂ S CAAQS	H ₂ S NAAQS	Visibility Reducing Particles CAAQS	Visibility Reducing Particles NAAQS
Solano	N-T	N	A	UA	A	UA	A	UA	N	U	N	N	A	UA	A	NFS	U	NFS	U	NFS
Sonoma ¹³	A/N-T	N/UA	A/U	UA	A	UA	A	UA	A/N	U	A/N	N/UA	A	UA	A	NFS	U	NFS	U	NFS
Stanislaus	N	N	A	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
Sutter	N-T	UA	A	UA	A	UA	A	UA	N	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Tehama ¹⁴	N	UA	U	UA	A	UA	A	UA	N	U	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Trinity	A	UA	U	UA	A	UA	A	UA	A	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Tulare	N	N	A	UA	A	UA	A	UA	N	A	N	N	A	UA	A	NFS	U	NFS	U	NFS
Tuolumne	N-T	N	A	UA	A	UA	A	UA	U	U	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Ventura	N	N	A	UA	A	UA	A	UA	N	U	A	UA	A	UA	A	NFS	U	NFS	U	NFS
Yolo	N-T	N	A	UA	A	UA	A	UA	N	U	U	UA	A	UA	A	NFS	U	NFS	U	NFS
Yuba	N-T	UA	U	UA	A	UA	A	UA	N	U	N	UA	A	UA	A	NFS	U	NFS	U	NFS

Source: CARB 2024b

Notes: A=Attainment, N=Nonattainment, N-T=Nonattainment/Transitional, U=Unclassified (CAAQS), UA=Unclassified/Attainment (NAAQS), NFS=No Federal Standard

¹ The eastern portion of El Dorado County (Lake Tahoe Air Basin) is in nonattainment/transitional for the CAAQS for O₃ and unclassified/attainment for the NAAQS for ozone; however, the western portion (Mountain Counties Air Basin) is in nonattainment for both the CAAQS and NAAQS for O₃. In addition, the Sacramento Metro Area of El Dorado County is in nonattainment for the NAAQS for PM_{2.5}, however the remainder of the county is in attainment for the NAAQS for PM_{2.5}, while the eastern portion within the Lake Tahoe Basin is unclassified for the CAAQS for PM_{2.5} and CO with the remainder of the county in attainment for the CAAQS for PM_{2.5} and CO.

² A portion of southern-central Imperial County is designated as nonattainment for the NAAQS for PM_{2.5} while the remainder is designated unclassified/attainment.

³ Owen's Valley in Inyo County is designated as nonattainment for the PM₁₀ NAAQS, the Coso Junction portion of Inyo County is in attainment for the PM₁₀ NAAQS, and the remainder of Inyo County is designated unclassified/attainment.

⁴ The eastern portion of Kern County (Mojave Air Basin) is in attainment for the CAAQS for PM_{2.5}; however, the western portion (San Joaquin Valley Air Basin) is in nonattainment for both the CAAQS and NAAQS. The Mojave Air Basin portion is classified as nonattainment and unclassified for the PM₁₀ NAAQS while the Indian Wells Valley portion is in attainment, and the San Joaquin Valley Air Basin is in attainment for the PM₁₀ NAAQS. The eastern portion is unclassified for the CO CAAQS, while the San Joaquin Valley Air Basin Portion is in attainment. The northeastern portion of the county is unclassified/attainment for the NAAQS for O₃ while the rest of the county is in nonattainment.

⁵ The northern portion of Los Angeles County (Mojave Air Basin) is attainment and unclassified/attainment for the PM_{2.5} CAAQS and NAAQS, respectively; however, the southern portion (South Coast Air Basin) is in nonattainment for both the CAAQS and NAAQS.

⁶ The Yosemite National Park portion of Mariposa County is in nonattainment for the PM₁₀ CAAQS while the remainder of the county is unclassified.

⁷ The Mono Basin portion of Mono County is in nonattainment for the PM₁₀ NAAQS while the remainder of the county is unclassified.

⁸ The eastern portion of Placer County (Lake Tahoe Air Basin) is unclassified for the NAAQS for O₃ while the remainder of the county is in nonattainment for the O₃ NAAQS. The eastern portion is designated nonattainment/transitional for the NAAQS for O₃; however, the western portion (Sacramento Valley Air Basin and Mountain Counties Air Basin) is in nonattainment for the O₃

CAAQS. The far western portion (Sacramento Valley Air Basin) and far eastern portion (Lake Tahoe Air Basin) is in attainment the PM_{2.5} CAAQS, and the middle portion (Mountain Counties Air Basin) is designated unclassified for the PM_{2.5} CAAQS. The far western portion (Sacramento Valley Air Basin) is also in nonattainment for the PM_{2.5} NAAQS.

⁹ The Portola Valley portion of Plumas County is in nonattainment for the PM_{2.5} CAAQS and NAAQS while the remainder of the county is unclassified for the CAAQS and unclassified/attainment for the NAAQS.

¹⁰ The western portion of Riverside County (South Coast Air Basin) is in nonattainment for the PM_{2.5} and H₂S CAAQS and NAAQS and the O₃ NAAQS, the middle portion of Riverside County (Salton Sea Air Basin) is designated as attainment for the PM_{2.5} CAAQS and nonattainment for the O₃ NAAQS, and the eastern portion (Mojave Desert Air Basin) is designated as attainment for the PM_{2.5} CAAQS and the O₃ NAAQS.

¹¹ The northeastern portion of San Bernardino is designated as attainment for PM_{2.5} for the CAAQS and unclassified/attainment for the NAAQS and the South Coast Air Basin portion is in nonattainment for the PM_{2.5} CAAQS. The southwest portion in the South Coast Air Basin designated as is in attainment for the PM₁₀ NAAQS but nonattainment for the PM₁₀ CAAQS. The Searles Valley portion of San Bernardino County is in nonattainment for the H₂S CAAQS. The Antelope Valley and Western Mojave Desert portion is in nonattainment for the O₃ NAAQS while the remainder of the county is unclassified/attainment.

¹² The western portion of San Luis Obispo County is unclassified/attainment for the O₃ NAAQS.

¹³ The northwest portion of Sonoma County (North Coast Air Basin) is in attainment for the CAAQS for O₃ and unclassified/attainment NAAQS for O₃, while the southeast portion (San Francisco Bay Air Basin) is designated nonattainment/transitional for the CAAQS for O₃ and nonattainment for the O₃ NAAQS. The North Coast Air Basin portion is attainment for the CAAQS for PM_{2.5} and unclassified/attainment for the NAAQS for PM_{2.5}, while the San Francisco Bay Air Basin portion is designated nonattainment for both the CAAQS and NAAQS. The North Coast Air Basin portion is attainment for the CAAQS for PM₁₀, while the San Francisco Bay Air Basin portion is designated nonattainment for the CAAQS. The North Coast Air Basin portion is unclassified for the CAAQS for CO, while the San Francisco Bay Air Basin portion is designated as in attainment for the CAAQS for CO.

¹⁴ The Tuscan Buttes area of Tehama County is in nonattainment for the O₃ NAAQS.

3.6.2 Regulatory Framework

Air quality within each air basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs.

3.6.2.1 Federal

3.6.2.1.1 Clean Air Act

The federal Clean Air Act, passed by Congress in 1970 and last amended in 1990, gives the federal government the authority to establish air quality standards. The USEPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O₃ protection measures, and enforcement provisions. NAAQS are established for criteria pollutants under the Clean Air Act and consist of O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. The federal standards are summarized in Table 3.6-2 above. The Clean Air Act requires the USEPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames. The federal Clean Air Act Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution.

Criteria air pollutant concentrations are measured at monitoring stations throughout the state. The data collected at these locations inform the “attainment” or “non-attainment” designation of counties and air basins (see Table 3.6-3 for designation status for each county). Program activities could potentially occur within any air basin in the state and, as such, there would be a high degree of variation in how the emissions from individual treatments would affect the ambient concentrations of criteria air pollutants within a given air basin.

In addition to the criteria pollutants, the air toxics provisions of the federal Clean Air Act require the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with federal Clean Air Act Section 112, the USEPA establishes National Emission Standards for Hazardous Air Pollutants. The list of hazardous air pollutants or air toxics includes specific compounds that are known or suspected to cause cancer or other serious health effects.

3.6.2.2 State

3.6.2.2.1 California Clean Air Act

In addition to being subject to the requirements of the federal Clean Air Act, air quality in California is also governed by more stringent regulations under the California Clean Air Act. CARB is responsible for administering the California Clean Air Act and establishing the CAAQS. The California Clean Air Act, as

amended in 1992, requires all air districts in the state to achieve and maintain the CAAQS, which are generally more stringent than the federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The state standards are summarized in Table 3.6-2 above.

The California Clean Air Act requires CARB to designate areas within California as either in “attainment” or “non-attainment” for each criteria pollutant based on whether the CAAQS have been achieved (see Table 3.6-3 for designation status for each county). Under the California Clean Air Act, areas are designated as in “non-attainment” for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as in “non-attainment”.

The California Clean Air Act requires that all air districts in the state work towards achieving and maintaining the CAAQS by the earliest practical date. The act specifies that air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources. It also provides districts with the authority to regulate indirect sources.

3.6.2.2.2 Off-Road Engine Standards

Off-road diesel vehicles, which include construction equipment, are regulated by CARB for both in-use (existing) and new engines. Four sets of standards are implemented by CARB for new off-road diesel engines, known as Tiers. Federal Tier 1 standards for off-road diesel engines were adopted as part of the California requirements for 1995. Federal Tier 2 and Tier 3 standards were adopted in 2000 and selectively apply to the full range of diesel off-road engine power categories. Both Tier 2 and 3 standards include durability requirements to ensure compliance with the standards throughout the useful life of the engine (40 Code of Federal Regulations [CFR] Sections 89.112, 13; CCR Section 2423). The Tier 4 standards require that PM and NO_x emissions be further reduced by approximately 90%. Such emission reductions can be achieved through the use of advanced control technologies –including advanced exhaust gas after treatment similar to those required by the 2007–2010 standards for highway diesel engines.

3.6.2.2.3 Portable Equipment Registration Program

The statewide Portable Equipment Registration Program (Title 13 of CCR Section 2450) establishes a uniform program to regulate portable engines and portable engine-driven equipment units. Once registered, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts. Owners or operators of portable engines and certain types of equipment can register their units under the Portable Equipment Registration Program to operate their equipment anywhere in the state.

3.6.2.2.4 Assembly Bill 2588

AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act, requires air pollution control and air quality management districts to prioritize facilities to determine which facilities must perform a health risk assessment. These facilities, for purposes of risk assessment, are ranked into high, intermediate, and low priority categories. Each district is responsible for establishing the prioritization

score threshold at which facilities are required to prepare a health risk assessment. In establishing priorities, the districts are to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that the district determines may indicate that the facility may pose a significant risk.

In order to assist the districts with this requirement, the California Air Pollution Control Officers Association (CAPCOA) Toxics Committee, in cooperation with the Office of Environmental Health Hazard Assessment (OEHHA) and CARB, developed the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990, most recently updated in 2016). The guidelines provide districts with suggested procedures for prioritizing facilities; however, districts may develop and use prioritization methods which differ from the state guidelines.

3.6.2.2.5 Air Toxics Control Measures

The Airborne Toxic Control Measure is set forth in Title 13, CCR Section 2485, and requires, among other things, that drivers of diesel-fueled commercial motor vehicles with gross vehicle weight ratings greater than 10,000 pounds, not idle the vehicle's primary diesel engine longer than 5 minutes at any location. Additional amendments to these measures include regulations to reduce diesel particulate matter (DPM) and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California (Title 13, CCR Section 2449). Such vehicles are used in construction, mining, and industrial operations. CARB approved amendments to the off-road regulation as part of the 2022 State Strategy for the SIP to achieve additional NO_x and PM reductions and enhance enforceability of the regulation. This regulation supplements existing tiered emission standards for off-road diesel engines in California.

3.6.2.2.6 Odor Control Measures

Title 14 of CCR Section 17863.4 requires that an operator of an odor source prepare an Odor Impact Minimization Plan (OIMP) to prevent odors from occurring and to plan in advance the appropriate mitigation measures required to reduce odor impacts. An OIMP also contains the site's complaint investigation procedures, notification to the LEA, and emergency procedures for the cease and desist of any operations that cause odor impacts (14 CCR Section 17863.4). An OIMP is required for all compostable materials handling operations and facilities, with the exception of agricultural operations that predate the establishment of urban uses under the "Right to Farm Act" (California Civil Code Section 3482.6). Title 14, CCR Section 17896.30 provides the Odor Management Best Practice Feasibility Report requirements. Title 14, CCR Section 17331 requires removal of refuse (except for inert materials) at solid waste handling and disposal facilities within 7 days to prevent the creation of nuisances such as odors.

3.6.2.3 Local

3.6.2.3.1 California Air Districts

There are 35 air districts across California, all of which regulate emissions of air pollutants within their jurisdictions (Figure 3.6-1). Air districts attain and maintain air quality conditions in their respective jurisdictions through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy

implemented by air districts includes the preparation of plans for the attainment of CAAQS and NAAQS, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. Air districts also inspect stationary sources of air pollution and respond to citizen complaints, monitor ambient air quality and meteorological conditions, and implement programs and regulations required by the Clean Air Act and Amendments, and the California Clean Air Act.

Most of the air districts recommend mass emission thresholds for determining whether the emissions of criteria air pollutants and precursors for a given project would be significant under CEQA and result in, or contribute to, an increase in the ambient concentrations of criteria pollutants to levels that exceed the NAAQS and/or CAAQS. A summary of the mass emission thresholds for project construction and/or operation recommended by air districts is provided in Table 3.6-4.



<p>Legend</p> <p>California Air Resources Board - Air Districts</p>	<p>REGIONAL LOCATION CALIFORNIA</p>	<p>CALIFORNIA AIR POLLUTION CONTROL AND AIR QUALITY MANAGEMENT DISTRICTS</p> <p>Catalyst ENVIRONMENTAL SOLUTIONS</p> <p>CalRecycle - SB 54 CEQA</p>
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Figure 3.6-1. California Air Pollution Control and Air Quality Management Districts

Table 3.6-4. Air District Mass Emissions Thresholds for Criteria Air Pollutants for Project Construction and/or Operation

Air District	Construction/ Operation	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
Amador County APCD	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
Antelope Valley APCD ¹ (North Los Angeles County)	Construction/ Operation	137 lb/day or 25 tpy	137 lb/day or 25 tpy	82 lb/day or 15 tpy	65 lb/day or 12 tpy	137 lb/day or 25 tpy	548 lb/day or 100 tpy
Bay Area AQMD (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Southern Sonoma, and Southwest Solano County)	Construction	54 lb/day	54 lb/day	82 lb/day (exhaust); BMPs for fugitive dust	54 lb/day (exhaust); BMPs for fugitive dust	No threshold	No threshold
	Operation	54 lb/day or 10 tpy	54 lb/day or 10 tpy	82 lb/day (exhaust) or 15 tpy; No threshold for fugitive dust	54 lb/day (exhaust) or 10 tpy; No threshold for fugitive dust	No threshold	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)
Butte County AQMD	Construction	137 lb/day or 4.5 tpy	137 lb/day or 4.5 tpy	80 lb/day	80 lb/day	No threshold	No threshold
	Operation	25 lb/day	25 lb/day	80 lb/day	No threshold	No threshold	No threshold
Calaveras County APCD	Construction	150 lb/day	150 lb/day	150 lb/day	No threshold	No threshold	No threshold
	Operation	150 lb/day	150 lb/day	150 lb/day	No threshold	No threshold	No threshold
Colusa County APCD	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold

Air District	Construction/ Operation	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
Eastern Kern APCD	Construction	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
	Operation	No threshold	137 lb/day	No threshold	No threshold	No threshold	No threshold
El Dorado County AQMD ¹	Construction/ Operation	82 lb/day	82 lb/day	No threshold	No threshold	No threshold	No threshold
Feather River AQMD (Sutter and Yuba County)	Construction	25 lb/day multiplied by project length; not to exceed 4.5 tpy	25 lb/day multiplied by project length; not to exceed 4.5 tpy	80 lb/day	No threshold	No threshold	No threshold
	Operation	25 lb/day	25 lb/day	80 lb/day	No threshold	No threshold	No threshold
Glenn County APCD	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
Great Basin Unified APCD (Inyo, Mono, and Alpine County)	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
Imperial County APCD	Construction	Implement mitigation	Implement mitigation	Implement mitigation	Implement mitigation	Implement mitigation	Implement mitigation
	Operation	137 lb/day	137 lb/day	150 lb/day	550 lb/day	150 lb/day	550 lb/day
Lake County AQMD ²	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
Lassen County APCD	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold

Air District	Construction/ Operation	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
Mariposa County APCD ¹	Construction/ Operation	100 tpy	100 tpy	100 tpy	100 tpy	100 tpy	100 tpy
Mendocino County AQMD	Construction	54 lb/day	54 lb/day	82 lb/day (exhaust); BMPs for fugitive dust	54 lb/day (exhaust) BMPs for fugitive dust	No threshold	No threshold
	Operation	180 lb/day or 40 tpy	42 lb/day or 40 tpy	82 lb/day or 15 tpy	54 lb/day or 10 tpy	No threshold	125 tpy
Modoc County APCD	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
Mojave Desert AQMD ¹ (North Eastern San Bernardino and Eastern Riverside County)	Construction/ Operation	137 lb/day or 25 tpy	137 lb/day or 25 tpy	82 lb/day or 15 tpy	65 lb/day or 12 tpy	137 lb/day or 25 tpy	548 lb/day or 100 tpy
Monterey Bay Air Resources District (Santa Cruz, Monterey, and San Benito County)	Construction	No threshold	No threshold	82 lb/day	No thresholds	No threshold	No threshold
	Operation	137 lb/day	137 lb/day	82 lb/day	No thresholds	150 lb/day	550 lb/day
North Coast Unified AQMD (Del Norte, Humboldt, and Trinity County)	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold

Air District	Construction/ Operation	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
Northern Sierra AQMD ¹ (Nevada, Sierra, and Plumas County)	Construction/ Operation	Level A <24 lb/day; Level B 24-136 lb/day; Level C >136 lb/day	Level A <24 lb/day; Level B 24-136 lb/day; Level C >136 lb/day	Level A <79 lb/day; Level B 79-136 lb/day; Level C >136 lb/day	No threshold	No threshold	No threshold
Northern Sonoma County APCD	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
Placer County APCD	Construction	82 lb/day	82 lb/day	82 lb/day	No threshold	No threshold	No threshold
	Operation	55 lb/day	55 lb/day	82 lb/day	No threshold	No threshold	No threshold
Sacramento Metropolitan AQMD	Construction	No threshold	85 lb/day	80 lb/day or 14.6 tpy (following application of all feasible BMPs)	82 lb/day or 15 tpy (following application of all feasible BMPs)	Concentrations below CAAQS for SO _x	Concentrations below CAAQS for CO
	Operation	65 lb/day	65 lb/day	80 lb/day or 14.6 tpy (following application of all feasible BMPs)	82 lb/day or 15 tpy (following application of all feasible BMPs)	Concentrations below CAAQS for SO _x	Concentrations below CAAQS for CO
San Diego County APCD ¹	Construction/ Operation	75 lb/day or 13.7 tpy	25 lb/hour, 250 lb/day, or 40 tpy	100 lb/day or 15 tpy	55 lb/day or 10 tpy	25 lb/hour, 250 lb/day, or 40 tpy	100 lb/hour, 550 lb/day, or 100 tpy

Air District	Construction/ Operation	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
San Joaquin Valley APCD (San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Western Kern County)	Construction	10 tpy	10 tpy	15 tpy	15 tpy	27 tpy	100 tpy
	Operation	10 tpy	10 tpy	15 tpy	15 tpy	27 tpy	100 tpy
San Luis Obispo County APCD	Construction	ROG + NO _x (Combined) 137 lb/day or 2.5 tons per quarter for Tier 1 or 6.3 tons per quarter for Tier 2	ROG + NO _x (Combined) 137 lb/day or 2.5 tons per quarter for Tier 1 or 6.3 tons per quarter for Tier 2	Fugitive Dust 2.5 tons per quarter for Tier 1; DPM 7 lb/day or 0.13 tons per quarter for Tier 1 or 0.32 tons per quarter for Tier 2	No threshold	No threshold	No threshold
	Operation	ROG + NO _x (Combined) 25 lb/day or 25 tpy	ROG + NO _x (Combined) 25 lb/day or 25 tpy	Fugitive Dust 25 lb/day; DPM 1.25 lb/day	No threshold	No threshold	550 lb/day
Santa Barbara County APCD	Construction	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
	Operation	Motor Vehicle Trips Only 25 lb/day	Motor Vehicle Trips Only 25 lb/day	No threshold	No threshold	No threshold	No threshold

Air District	Construction/ Operation	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
Shasta County AQMD ¹	Construction/ Operation	Level A 25 lb/day; Level B 137 lb/day or 25 tpy	Level A 25 lb/day; Level B 137 lb/day or 25 tpy	Level A 80 lb/day; Level B 137 lb/day or 25 tpy	No threshold	No threshold	No threshold
Siskiyou County APCD	Construction/ Operation	No threshold	No threshold	No threshold	No threshold	No threshold	No threshold
South Coast AQMD (Southwest San Bernardino, South Los Angeles, Orange, and Western Riverside County)	Construction	75 lb/day	100 lb/day	150 lb/day	55 lb/day	150 lb/day	550 lb/day
	Operation	55 lb/day	55 lb/day	150 lb/day	55 lb/day	150 lb/day	550 lb/day
Tehama County APCD ¹	Construction/ Operation	Level A ≤25 lb/day; Level B >25 lb/day; Level C >137 lb/day	Level A ≤25 lb/day; Level B >25 lb/day; Level C >137 lb/day	Level A ≤80 lb/day; Level B >80 lb/day; Level C >137 lb/day	No threshold	No threshold	No threshold
Tuolumne County APCD ¹	Construction/ Operation	1,000 lb/day or 100 tpy	1,000 lb/day or 100 tpy	1,000 lb/day or 100 tpy	No threshold	No threshold	1,000 lb/day or 100 tpy
Ventura County APCD ¹	Construction/ Operation	25 lb/day (Ventura County minus Ojai and Simi	25 lb/day (Ventura County minus Ojai and	No threshold	No threshold	No threshold	No threshold

Air District	Construction/ Operation	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
		Valley planning areas); 5 lb/day (Ojai planning area); 13.7 tpy (Simi Valley)	Simi Valley planning areas); 5 lb/day (Ojai planning area); 13.7 tpy (Simi Valley)				
Yolo-Solano AQMD ¹ (Yolo and Eastern Solano County)	Construction/ Operation	10 tpy	10 tpy	80 lb/day	No threshold	No threshold	Violation of CAAQS for CO

Sources: AVAQMD 2016, BAAQMD 2022, BCAQMD 2024, Calaveras County 2018, EKCAPCD 1999, EDCAPCD 2002, FRAQMD 2010, ICAPCD 2017, Mariposa County 2006, MCAQMD 2010, MDAQMD 2020, MBARD 2008, NSAQMD 2009, PCAPCD 2017, SBCAPCD 2015, San Diego County 2007, SLOCAPCD 2023, Shasta County AQMD 2003, SCAQMD 2023, SJVAPCD 2015, SMAQMD 2020, Tehama County APCD 2015, Tuolumne County APCD [No Date], VCAPCD 2003, YSAQMD 2007.

Notes: tpy = tons per year; AQMD = air quality management district; APCD = air pollution control district; lb/day = pounds per day; SO_x = sulfur oxides

¹ Thresholds of Significance within these air districts are not specific to construction or operational emissions of criteria air pollutants. Thresholds of significance may apply to both activities.

² Lake County AQMD recommends comparison to Bay Area AQMD thresholds as a guide although has not adopted thresholds for the purposes of CEQA.

3.6.3 Impacts Assessment

3.6.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the program would result in significant impacts to air quality if the Program would:

- a) Conflict with or obstruct implementation of the applicable air quality plan.
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- c) Expose sensitive receptors to substantial pollutant concentrations.
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As shown in Table 3.6-4 above, many local air districts provide mass emission thresholds for determining whether the emissions of criteria air pollutants and precursors for a given project would be significant under CEQA. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality.

3.6.3.2 Methodology

Emissions associated with construction and operation activities of collection, sortation, and processing facilities were forecasted using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.26, the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant emissions associated with both construction and operations of land use projects under CEQA. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The mobile source emission factors used in the model, published by CARB, include the Pavley standards and Low Carbon Fuel standards. The model also identifies project design features, regulatory measures, and control measures to reduce criteria pollutant emissions along with calculating the benefits achieved from the selected measures. CalEEMod was developed by the CAPCOA in collaboration with many local air districts. Default land use data (e.g., emission factors, trip lengths, meteorology, source inventory) were provided by the various California air districts to account for local requirements and conditions. As the official assessment methodology for land use projects in California, CalEEMod is relied upon herein for construction and operational emissions quantification, which forms the basis for the impact analysis of collection, sortation, and processing facilities.

3.6.3.2.1 Facility Size Assumptions

CalRecycle developed the SRIA for the Implementing Regulations for the Plastic Pollution Prevention and Packaging Producer Responsibility Act, which includes an in-depth analysis of the infrastructure requirements to meet the requirements of the Implementing Regulations, and through numerical modeling and facility analysis, projected the likely range and size of new facilities that may be required (CalRecycle 2024). Land use data and assumptions for building size and project lot size are summarized in Table 3.6-5, and are the values inputted into the CalEEMod model. Note that the analysis assumes that collection infrastructure (i.e., PRO Depots) would be installed in existing depots or retail facilities and would require little to no modification of

existing facilities. Processing facilities may include beneficiation (glass) plants, paper stock processing, plastic reclaimers, plastic shredding and grinding, and scrap metal processing. For the purpose of a conservative estimate of construction emissions, the analysis evaluates the impacts of a large processing facility (of any material type).

Table 3.6-5. Land Use Data for CalEEMod Input

Facility Type	Land Use Subtype	Building Size (square feet)	Project Lot Site (acres)
Sortation			
MRF - Small	General Heavy Industrial	40,000	5
MRF - Medium	General Heavy Industrial	54,000	7
MRF – Large	General Heavy Industrial	119,000	10
Composting	General Heavy Industrial	1,600	25
Processing Facilities			
Material Processing Facility	General Heavy Industrial	70,000	5

3.6.3.2.2 Construction Assumptions

Since specific construction data for each of the proposed facility types is not available at this time, the analysis of emissions associated with construction activities relies on CalEEMod defaults for off-road construction equipment type, count, fuel type, engine tier, hours of operation, load factor, and fleet average age, which were developed based on data from similar land development projects. This includes assumptions on typical construction duration and equipment that would be used. CalEEMod defaults were also used for trip types, trips per day, trip length, a fleet mix for mobile source emissions associated with project construction (refer to Table 3.20-3 in Section 3.20 [Transportation]).

Table 3.6-6 summarizes the daily off-road equipment that would be used during project construction of MRFs and processing facilities. This analysis assumes that construction phasing and equipment would be the same for each facility type considered in this PEIR. Due to the relatively larger footprint of composting facilities, CalEEMod defaults include a larger daily spread of off-road construction equipment as summarized in Table 3.6-7.

Table 3.6-6. Project Construction Equipment Summary – MRFs and Processing Facilities

Construction Phase	Equipment Type	Fuel Type	Engine Tier ¹	Number per Day	Hours per Day
Demolition	Rubber Tired Dozers	Diesel	Average	2	8
	Excavators	Diesel	Average	3	8
	Concrete/Industrial Saws	Diesel	Average	1	8
Site Preparation	Rubber Tired Dozers	Diesel	Average	3	8
	Tractors/Loaders/Backhoes	Diesel	Average	4	8
Grading	Graders	Diesel	Average	1	8
	Excavators	Diesel	Average	1	8
	Tractors/Loaders/Backhoes	Diesel	Average	3	8
	Rubber Tired Dozers	Diesel	Average	1	8
Building Construction	Forklifts	Diesel	Average	3	8
	Generator Sets	Diesel	Average	1	8
	Cranes	Diesel	Average	1	7
	Welders	Diesel	Average	1	8
	Tractors/Loaders/Backhoes	Diesel	Average	3	7
Paving	Pavers	Diesel	Average	2	8
	Paving Equipment	Diesel	Average	2	8
	Rollers	Diesel	Average	2	8
Architectural Coating	Air Compressors	Diesel	Average	1	6

Notes:

¹ The average engine tier is the fleetwide average engine tier statewide for the specified calendar year.

Table 3.6-7. Project Construction Equipment Summary – Composting Facility

Construction Phase	Equipment Type	Fuel Type	Engine Tier ¹	Number per Day	Hours per Day
Demolition	Rubber Tired Dozers	Diesel	Average	2	8
	Excavators	Diesel	Average	3	8
	Concrete/Industrial Saws	Diesel	Average	1	8
Site Preparation	Rubber Tired Dozers	Diesel	Average	3	8
	Tractors/Loaders/Backhoes	Diesel	Average	4	8

Construction Phase	Equipment Type	Fuel Type	Engine Tier ¹	Number per Day	Hours per Day
Grading	Graders	Diesel	Average	1	8
	Excavators	Diesel	Average	2	8
	Tractors/Loaders/Backhoes	Diesel	Average	2	8
	Rubber Tired Dozers	Diesel	Average	1	8
	Scrapers	Diesel	Average	2	
Building Construction	Forklifts	Diesel	Average	3	8
	Generator Sets	Diesel	Average	1	8
	Cranes	Diesel	Average	1	7
	Welders	Diesel	Average	1	8
	Tractors/Loaders/Backhoes	Diesel	Average	3	7
Paving	Pavers	Diesel	Average	2	8
	Paving Equipment	Diesel	Average	2	8
	Rollers	Diesel	Average	2	8
Architectural Coating	Air Compressors	Diesel	Average	1	6

Notes:

¹ The average engine tier is the fleetwide average engine tier statewide for the specified calendar year.

As described in Section 3.2.2 (Collection, Sortation, and Processing: Reasonably Foreseeable Methods by which Compliance with the Rule or Regulation may be Achieved), the analysis assumes that a maximum of 12 MRFs would be constructed in any given region of the state (i.e., 12 total MRFs are estimated to be required in the Southern region). To conservatively calculate operational emissions, the analysis assumes that large facilities would be built in the first five years, and medium and small facilities would be constructed in subsequent years. Accordingly, the analysis calculates emissions of construction of two large MRFs in any given air district, in any given year to provide a reasonable worst-case analysis. Construction of medium MRFs, small MRFs, composting facilities, and/or expansion of existing facilities would be completed in subsequent years. Specifically, the analysis assumes that one of these types of smaller sortation facilities would be constructed following the first five years, in any given air district, in any given year.

3.6.3.2.3 Operations Assumptions

Table 3.6-8 summarizes the assumptions for the types of off-road and stationary equipment used during MRF operation. This estimate of emissions associated with operations assumes that the number of operational equipment at each MRF is scaled based on the average between the incoming and outgoing material predicted for each facility with one set of operational off-road equipment for facilities that process less than 300 tons per day (tpd), two sets of equipment for facilities that process between 301 and 600 tpd, and three sets of equipment for facilities that process more than 600 tpd of material.

In addition, one emergency generator and/or fire pump were assumed to be present all facilities. As applicable, diesel emergency engines were assumed to normally operate up to one hour per day and up to 50 hours per year for planned routine maintenance and testing. The typical ratings for these engines is assumed, with a rating of 200 horsepower (hp) for generators and 50 hp for fire pumps.

For the materials processing technology, a one million British Thermal Unit (BTU) per hour gas-fired boiler/process heater was included as a stationary source, operating 24 hours per day. Stationary sources, and the emergency engines, would be subject to applicable federal, state, and local district rules and regulations.

Emissions for operational off-road equipment such as on-site diesel fueled “grinders/shredders/screens” are classified in CalEEMod as “other general industrial equipment”. Additional miscellaneous materials handling equipment are also included in the CalEEMod emissions estimates and are classified in the model as “other materials handling equipment”. Typical of operations at most sortation facilities, the analysis assumes that facilities would operate eight hours per day, six days per week (closed Sundays), and that all future operational off-road equipment would be equipped with Tier 4 Final engines while emissions associated with emergency generators and fire pumps are based on industry-average emission factors.

Table 3.6-8. Project Operational Equipment Summary

Facility Type	Equipment Type	Engine Tier	Qty	Hours per Day
Sortation				
MRF – Small	Tractors/Loaders/Backhoes	Tier 4 Final	1	8
	Forklifts	Tier 4 Final	1	8
	Other Material Handling Equipment	Tier 4 Final	1	8
	Other General Industrial Equipment	Tier 4 Final	1	8
	Emergency Generator	Average	1	1
	Fire Pump	Average	1	1
MRF – Medium	Tractors/Loaders/Backhoes	Tier 4 Final	1	8
	Forklifts	Tier 4 Final	1	8
	Other Material Handling Equipment	Tier 4 Final	1	8
	Other General Industrial Equipment	Tier 4 Final	1	8
	Emergency Generator	Average	1	1
	Fire Pump	Average	1	1
MRF – Large	Tractors/Loaders/Backhoes	Tier 4 Final	2	8
	Forklifts	Tier 4 Final	2	8
	Other Material Handling Equipment	Tier 4 Final	2	8
	Other General Industrial Equipment	Tier 4 Final	2	8
	Emergency Generator	Average	2	1

Facility Type	Equipment Type	Engine Tier	Qty	Hours per Day
	Fire Pump	Average	1	1
Composting	Tractors/Loaders/Backhoes	Tier 4 Final	1	8
	Forklifts	Tier 4 Final	1	8
	Other Material Handling Equipment	Tier 4 Final	1	8
	Other General Industrial Equipment	Tier 4 Final	1	8
	Fire Pump	Average	1	1
Processing Facilities				
Material Processing Facility	Tractors/Loaders/Backhoes	Tier 4 Final	3	8
	Forklifts	Tier 4 Final	3	8
	Other Material Handling Equipment	Tier 4 Final	3	8
	Other General Industrial Equipment	Tier 4 Final	3	8
	Boiler/Heater	Rule Compliant	1	24
	Emergency Generator	Average	1	1
	Fire Pump	Average	1	1

Notes:

¹ The average engine tier is the fleetwide average engine tier statewide for the specified calendar year.

For the estimate of mobile-source emissions associated with operations, the total trips per day occurring at each facility during project operation is detailed in Table 3.20-4 provided in Section 3.20 (Transportation), which was used to calculate the fleet mix. For operation of the various types of facilities, CalEEMod aggregates mobile sources into two broad categories:

- Medium-heavy and heavy-heavy duty predominately diesel trucks (MHDT, HHDT) and
- Light duty gasoline automobiles and trucks (LDA, LDT1, LDT2).

3.6.3.3 Proposed Program

3.6.3.3.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program conflict with or obstruct implementation of the applicable air quality plan?

Impact Criterion b) Would the Program result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Air quality impacts associated with the implementation of the source reduction and refill/reuse requirements are primarily related to a transition to alternative materials, and the potential for a change in truck trips associated with the collection and transport of recyclables, organic materials, and municipal solid waste to the

respective processing facilities and return logistics for reuse or take-back programs (refer to Section 3.20 (Transportation), for additional detail on transportation requirements, associated trips, and change in vehicle miles traveled [VMT]).

Specifically, for analysis of the anticipated transition to alternative materials as a result of the Implementing Regulations, the manufacturing process of alternative products such as paper, glass, or other plastic products can vary. Accordingly, the air emissions that would result from the manufacturing of alternative materials would be dependent on the manufacturing process, input materials, and origin of the raw materials anywhere in the world. By eliminating the use of certain products, the Program would result in less manufacturing of plastic single-use packaging and single-use food service ware but would increase the manufacture of substitute products. Life cycle emissions include indirect emissions associated with materials manufacture. Because the origin of the raw materials purchased is unknown, the manufacturing information for those raw materials is also unknown, and specific suppliers are variable, calculation of life cycle emissions would be speculative. Thus, for the purposes of analyzing air quality, manufacturing emissions of criteria and toxic air pollutants are not included in this analysis because information is not known, and the proposed Program does not propose any change to any manufacturing processes. Accordingly, the evaluation of air quality impacts associated with implementation of source reduction measures focuses on the associated change in consumption, disposal, and associated vehicle trips. As discussed in detail below, the nature of the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations are such that they would not conflict with or obstruct implementation of the applicable air quality plan.

Source Reduction

The Implementing Regulations require that all covered material be recyclable or eligible to be labeled “compostable” and a minimum recycling rate for plastic covered material of 65% by 2032 along with the requirement that plastic covered material must be source reduced by at least 25% by weight and 25% by the number of plastic components sold, offered for sale, or distributed in the state with 10% of source reduction requirements to be met by either switching to reusable or refillable packaging or food service ware (discussed further below) or through elimination of a plastic component. As such, the Implementing Regulations would result in a shift in materials disposed as waste to recyclable or compostable materials. Accordingly, source reduction measures would result in less material placed in trash or refuse bins and potentially an increase in materials placed in compost or recyclable bins. However, a change in compost or recyclable truck trips is not expected because trucks are assumed to already be coming to pick up the two bins and the change would be the amount of material in each bin.

The Implementing Regulations would also lead to product replacement behavior (e.g., alternative materials used for single-use plastic food service ware and single-use packaging), which may result in changes to truck trips associated with distribution of these materials (e.g., paper single-use food service ware in place of plastic single-use food service ware). The increase in the use of alternative food service ware (e.g., single-use paper food service ware) and single-use packaging materials (e.g., single-use glass bottles, single-use aluminum cans/bottles, single-use cartons, and single-use pouches) would be proportional with the reduction in use of single-use plastic food service ware and plastic single-use packaging. The manufacturing process for plastic single-use food service ware and single-use packaging results in emissions at the manufacturing plant. Similarly, emissions of airborne pollutants occur during the extraction of raw materials and manufacturing of alternative materials such as paper, aluminum, and glass. The amount of emissions associated with the manufacture of products varies depending on the type and quantity of covered material produced. However, no change in raw

material extraction or manufacturing processes is proposed as part of the Implementing Regulations (i.e., emissions associated with production and distribution of products are addressed by comprehensive regulatory programs focused on the stationary sources of those emissions). In addition, production of goods is usually too far removed from use to attribute responsibility for upstream emissions to an individual project, and the supply chain for each of the thousands of products consumed is often complex and can vary with time. Therefore, these upstream processes are not analyzed further herein.

A transition to alternative materials in response to the Implementing Regulations could result in an increase in the weight and volume of products, potentially requiring more shipment trips and higher mobile source emissions. The shifts or split in composition between alternative products in response to the Implementing Regulations may vary annually, influenced by factors such as price changes, product availability, and new products entering the market. For a comparative analysis of transportation needs for alternative packaging materials, this analysis considers half-gallon milk packaging as an example of a reasonable worst-case scenario with respect to additional truck trips associated with heavier packaging materials, inclusive of transport of empty containers to the filler, filled products from filler to retailer, transport of filled products from retailer to consumer, and transport of empty/consumed products to drop-off locations, MRFs, or landfills. For milk jugs that are manufactured off-site (which is the case for glass bottles or for dairies who purchase fabricated plastic jugs or alternative container materials), the number of trips required to transport alternative containers to the filler for all options other than glass jugs are assumed to be less than or comparable to trips required for plastic milk jugs. This is attributable to the relative low density of empty containers, leading to volume-limited shipments (i.e., the volume capacity of a vehicle is filled before the maximum weight limit of the vehicle is reached). More collapsible containers, like cartons or pouches, can be shipped in a single truck load as compared to empty plastic beverage bottles or PET preforms that take up much more cargo space.

The transport requirements for empty high-density polyethylene (HDPE) milk jugs as compared to alternative materials is provided in Section 3.20 (Transportation) for a comparative analysis of relative change in transport logistics trips that may occur in response to the Implementing Regulations. Specifically, the analysis provided in Section 3.20 (Transportation) compares transport logistics of milk in half-gallon glass jugs versus half-gallon HDPE jugs. Glass jugs are the heaviest of the single-use beverage bottles and would result in approximately 1.4 more truck trips compared to plastic bottles. Numerous factors contribute to total VMT including trip length and percentage of backhaul trips (i.e., full return loads) versus empty return loads. As detailed in Section 3.20 (Transportation), replacing 25% of plastic half-gallon milk jugs with glass beverage bottles would result in an estimated 65,338 additional trips annually. Further, if all trips are assumed to be 100 miles, the increase in trips associated with a transition to glass milk jugs would represent 6,533,783 additional miles per year (17,901 miles per day) or 0.0004 miles per day per capita (using California population projection for 2032 of 39,626,155 [California Department of Finance, Demographic Research Unit 2022]; $6,533,783 \text{ miles/year} \div 365 \text{ days/year} = 17,901 \text{ miles/day} \div 39,626,155 \text{ California Population in 2032} = 0.0004 \text{ miles per capita per day}$).

More broadly, the source reduction requirements of the Implementing Regulations include consideration of a transition to refillable and reusable options. CalRecycle estimates the total weight of covered material under the 2021 baseline conditions at 11,325,953 tons, with the estimated weight of new packaging under the 2031 scenario at 11,654,774 tons (inclusive of material switching and source reduction estimates) (CalRecycle 2024). Using various broad assumptions including disregarding the density of packaged materials that are being transported, packaging dimensions, volume capacity limitations of truckloads, and using a truck capacity of 48,000 lbs, the increase in the weight of covered material could result in roughly a 3% increase in truck trips associated with transport logistics. It is not possible to estimate VMT associated with the changes in covered

material distribution at full implementation of the proposed regulations in 2031. However, a reasonably foreseeable means of compliance with the recycling rate requirements of the proposed regulations is the development of local markets for recycled covered materials, which would encourage the establishment of more local collection, sortation, and processing facilities and reduce the need to transport raw materials over long distances. Further, higher recycling rates lead to less waste going to landfills, which can decrease the frequency and number of waste collection trips and associated VMT. As such, the relatively minor increase in truck trips that may occur as a result of the transition to alternative materials would be offset by a reduction in trips to landfills, shortened supply chains, and decreased demand for transporting raw materials to manufacturing sites. Thus, no net change in VMT is expected as a result of the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations. Further, a 2020 emissions inventory SIP submittal prepared by CARB for the USEPA demonstrates that emissions increases from VMT growth projections for 2037 for several air districts are adequately offset to below the base year (2017) by technology improvements and transportation strategies (CARB 2020). Therefore, under these assumptions, the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations would not be expected to generate emissions above the mass daily thresholds of local air districts presented in Table 3.6-4 above. Therefore, the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations would not conflict with or obstruct implementation of an applicable AQMP.

The type of materials used for single-use packaging would have no effect on consumer purchase or transport behavior from the retailer to the consumer. Thus, transport of filled single-use products to the consumer would not change transport behavior at this stage. Additional solid waste service truck trips are not expected under these scenarios since refuse trucks are already coming to pick up the three bins (i.e., refuse or trash bin, recyclable bin, and compost bin) and the change would be the quantity of material in each bin. Similarly, where curbside pickup is not available, such as in rural areas, additional trips to transport waste and recyclables to local drop-off centers or waste collection stations are not expected because residents would already be transporting waste and recyclables in personal vehicles, and the change would be in the distribution of types of materials rather than an increase in materials.

Accordingly, the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations would not emit criteria pollutants above the established thresholds of a local air district (Table 3.6-4). Therefore, reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be *less than significant*.

Reuse/Refill

The Implementing Regulations require that 10% of source reduction requirements be met by either switching to reusable or refillable packaging or food service ware or through elimination of a plastic component. A transition to reusable products may result in additional trips as a result of return logistics associated with reuse and take-back programs. At this time, the number of additional vehicle trips and their ultimate destination is unknown but could range from negligible if return logistics are at locations the consumer would travel to in any case, to a relatively minor increase.

As further detailed in Section 3.20 (Transportation), reusable food service ware programs are operated either by individual restaurants, where customers return the used containers back to the same restaurant, or as a collective with collection points located at restaurants and cafés or various common destinations for takeaway

food, such as hotels and offices, enabling consumers to drop off their reusables while carrying out other errands. In collective reusable food service ware schemes, food service ware is standardized, and system service providers collect items, clean them, and redistribute them back to restaurants and cafés. Cleaning the packaging at the café or restaurant where a customer may frequent rather than a centralized cleaning model generates fewer trips as compared with a centralized cleaning model delivered by system service providers. It should be noted that a transition to reusable food service ware may also encourage customers to bring in their own containers for to-go orders, which would also reduce trips as compared with reusable food service ware provided by the restaurant.

With respect to customer behavior associated with reusable food service ware, there may be no additional trips generated if customers return the food service ware to the same restaurant on their next visit or while carrying out other errands. Alternatively, customers may make a trip solely to return the containers, resulting in additional VMT as compared with single-use to-go food service ware. The relative increase in VMT associated with extra trips would be highly dependent on the roundtrip distance and percentage of customers that make a dedicated trip to return the containers. As an example, assuming 5% of customers make a special trip to return food service ware, the additional VMT would be 500 miles for every 10,000 to-go meals for a 5-mile roundtrip compared to 10,000 miles for a 10-mile roundtrip assuming 10% of customers make a special trip. However, an increase in localized daily VMT associated with extra consumer trips (i.e., passenger vehicle trips) is not expected to generate emissions above the mass daily thresholds of local air districts presented in Table 3.6-4. Further, a 2020 SIP emissions inventory SIP submittal prepared by CARB to the USEPA demonstrates that emission increases from VMT growth projections for 2037 are adequately offset to below base-year (2017) levels by technology improvements and transportation strategies (CARB 2020). Therefore, any localized increase in VMT in response to a transition to reusable food service ware and associated emissions would not conflict with or obstruct implementation of an applicable Air Quality Management Plan.

Similarly, a transition to reusable and refillable packaging in response to the Implementing Regulations would lead to replacement behavior including a transition to refillable/reusable beverage container materials, including aluminum, glass, and/or other more durable materials that can be reused and refilled multiple times. In addition, the Implementing Regulations would encourage reuse and refilling of products in the provided refillable containers at consumer goods retailers such as supermarkets. This analysis assumes that the materials used for these reusable and refillable containers would not be significantly different from the containers that are currently used for these products but could be refilled at the retailer via bulk dispensing stations rather than disposed after a single use. Therefore, this policy is not likely to alter the shipping requirements from the manufacturer or distribution to the retailer except that the product would be shipped in bulk containers to the retailer, rather than individually packaged products. Under this scenario, consumers are assumed to continue to either purchase products in the reusable containers or participate in product refill programs. Under the refill scenario, consumer trips to the retailer are not anticipated to change as it is reasonably foreseeable that consumers would return with the empty containers to be refilled at the same retailer that they would have otherwise purchased single-use packaged items.

Product refill programs, such as take-back programs where customers return empty containers for refilling, typically include incentives like deposit return schemes to encourage participation. Once returned, retailers store these containers until they are collected by local or partnered transport companies. The containers are then delivered to a refill plant where they are sorted, washed, refilled, and sent to distribution centers or retailers. The transition to refillable packaging would not result in an increase in trips, rather a redistribution of trips that would otherwise depart from conventional packaging manufactures and distribution centers to the

filler and would eliminate trips associated with delivery of raw materials to the manufacturer. For refillable beverage bottle schemes, beverage companies report that refillable glass bottles can be used up to 50 times and refillable PET bottles up to 20 times before they are retired and recycled (Schroerer et al. 2020). Other types of reusable packaging (i.e., cosmetics, home cleaning products) are likely to achieve a similar number of reuse cycles. An increase in product refill programs would likely lead to a reduction in materials placed in trash or refuse bins and potentially an increase in materials placed in compost or recyclable bins and would not result in a change in solid waste service truck trips. Consumer travel behavior is also expected to remain unchanged, as they would return refillable packaging and containers to retailers or collection facilities similar to how they currently redeem single-use bottles for the California Redemption Value (CRV). Overall, transitioning to refillable packaging and containers is not expected to increase VMT. Consequently, a transition to product refill programs would not result in emissions that exceed local air district thresholds for criteria pollutants (refer to Table 3.6-4).

No additional sources of air pollutants are identified as a result of the means of compliance with the source reduction and refill/reuse requirements of the Implementing Regulations. As such, refill/reuse measures would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be **less than significant**.

Impact Criterion c) Would the Program expose sensitive receptors to substantial pollutant concentrations?

As outlined in Impact Criteria (a) and (b) above, the reasonably foreseeable means of compliance with the Implementing Regulations would not lead to an overall net increase in VMT but may lead to an increase in localized VMT due to changes in the distribution of alternative materials and the return logistics associated with reusable products. However, an increase in localized daily VMT would not result in emissions exceeding the daily mass thresholds of local air districts presented in Table 3.6-4. It is foreseeable that a localized increase in traffic related to changes in the distribution of alternative materials and return logistics associated with reusable products could raise existing concentrations of TACs; however, the CARB Diesel Risk Reduction Plan and Air Toxic Control Measures (detailed in Section 3.6.2.2.5 [Air Toxics Control Measures]) are expected to help reduce future DPM emissions, the primary TAC of concern in mobile emissions.

Therefore, the reasonably foreseeable means of compliance with the source reduction and refill/reuse measures associated with the Implementing Regulations would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be **less than significant**.

Impact Criterion d) Would the Program result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The source reduction and refill/reuse measures associated with the Implementing Regulations do not involve changes to manufacturing processes or operations at current facilities. The impacts related to collection, sortation, and processing facility construction and operation are discussed in Section 3.6.3.3.2 (Collection, Sortation, and Processing) below.

Any net increase in vehicle trips resulting from reasonably foreseeable means of compliance with source reduction requirements of the Implementing Regulations is not anticipated to produce significant odor emissions or affect a substantial number of people compared to existing conditions. Therefore, the impact is considered **less than significant**.

3.6.3.3.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program conflict with or obstruct implementation of the applicable air quality plan?

CONSTRUCTION

As described in Section 3.6.2.3.1 (California Air Districts), most local air districts recommend mass emission thresholds to determine whether a project would result in a cumulatively considerable net increase of any criteria pollutant or precursor that would exceed or contribute to the non-attainment status with respect to the NAAQS and/or CAAQS, which represent concentration limits of criteria air pollutants needed to adequately protect human health.

To bound the scale of emissions that may be associated with buildout of collection, sorting, and processing infrastructure, the rates of construction emissions associated with each facility are estimated on a per-day and annual basis using assumptions about facility size and type provided in Table 3.6-5. The construction equipment that would be used for construction of collection, sortation, and processing facilities is summarized in Tables 3.6-6 and 3.6-7 above.

Table 3.6-9 summarizes the estimated emission rates for each individual facility type (see Appendix B for detailed input parameters and assumptions). These rates provide a reasonable upper bound approximation of the daily emissions such activities would generate. Note that the emission rates presented in Table 3.6-9 do not include emissions generated by trucks hauling materials and equipment to and from project sites because the emissions associated with the transport of materials and equipment would vary considerably depending on the location of the facility relative to the origin of workers and equipment.

Table 3.6-9. Facility Construction Unmitigated Emissions Summary

Facility Type	ROG (VOC) (lb/day) [tpy]	NO _x (lb/day) [tpy]	CO (lb/day) [tpy]	SO _x (lb/day) [tpy]	Total PM ₁₀ (lb/day) [tpy] ^{1,2}	Total PM _{2.5} (lb/day) [tpy] ^{1,2}
Sortation						
MRF - Small	14.03 [0.18]	29.22 [1.57]	29.53 [1.96]	0.05 [<0.005]	21.08 [0.26]	11.29 [0.15]
MRF - Medium	18.91 [0.21]	29.22 [1.59]	29.53 [1.99]	0.05 [<0.005]	21.09 [0.26]	11.29 [0.15]
MRF – Large	41.53 [0.49]	29.22 [1.67]	29.53 [2.15]	0.05 [<0.005]	21.08 [0.34]	11.29 [0.18]
Composting	3.2 [0.23]	29.22 [2.02]	29.53 [2.29]	0.06 [<0.005]	21.08 [0.49]	11.29 [0.26]
Processing Facilities						
Material Processing Facility	24.47 [0.27]	29.22 [1.60]	29.53 [2.03]	0.05 [<0.005]	21.08 [0.27]	11.29 [0.15]

Source: CalEEMod Emissions Summary Reports in Appendix B

Notes:

¹ Mass daily emissions are winter or summer max for planned land use

² Total PM₁₀ / PM_{2.5} comprises fugitive dust plus engine exhaust.

As detailed in Section 3.6.3.2.2 (Construction Assumptions), this reasonable worst-case analysis assumes the construction of up to two large MRF facilities in any given air district, in any given year in the first five years, with smaller MRFs constructed in subsequent years. This analysis assumes that construction of the two facilities may overlap such that two construction spreads would be active on any given day in any given air district. Under this assumption, the levels of criteria air pollutants and precursors emitted by construction activities for processing facilities are provided in Table 3.6-10. As shown in Table 3.6-10, construction-related emissions under this scenario could exceed the mass emissions thresholds recommended by local air districts. For instance, the estimated ROG and NO_x emissions generated during construction would be greater than 5 lb/day. These daily levels would exceed the applicable daily mass emission thresholds in the Ojai planning area of the Ventura County APCD if large MRFs were sited in that area. Similarly, unmitigated emissions associated with construction of any individual facility as summarized in Table 3.6-9 would also exceed the thresholds of the Ojai planning area. However, across most air districts, maximum daily and annual emissions would be below the applicable thresholds. Because the location of future facilities is not currently known, this analysis concludes that construction of collection, sortation, and processing facilities could generate levels of criteria air pollutants and precursors that exceed air district thresholds, these emissions could result in, or contribute to, exceedances of the NAAQS and CAAQS for O₃, PM₁₀, and PM_{2.5}, thereby also conflicting with the air quality planning efforts of regional air districts, including those that comprise the SIP.

Table 3.6-10. Maximum Daily Unmitigated Construction Emissions Summary

Facility Type	ROG (VOC) (lb/day) [tpy]	NO _x (lb/day) [tpy]	CO (lb/day) [tpy]	SO _x (lb/day) [tpy]	Total PM ₁₀ (lb/day) [tpy] ^{1,2}	Total PM _{2.5} (lb/day) [tpy] ^{1,2}
2 x MRF – Large	83.06 [0.98]	58.44 [3.34]	59.06 [4.3]	0.1 [0.001]	42.16 [0.98]	22.58 [0.52]
<i>Most Stringent Daily Emissions Threshold (lb/day)</i>	5 ^a	5 ^a	548 ^c	137 ^c	79 ^d	55 ^e
<i>Most Stringent Annual Emissions Threshold (tpy)</i>	4.5 ^b	4.5 ^b	100 ^c	25 ^c	10 ^f	10 ^e
Exceed Most Stringent Threshold?	Yes	Yes	No	No	No	No

Source: CalEEMod Emissions Summary Reports in Appendix B

Notes:

¹ Mass daily emissions are winter or summer maxima for planned land use

² Total PM₁₀ / PM_{2.5} comprises fugitive dust plus engine exhaust.

^a Emissions thresholds for Ojai Planning Area of the Ventura County APCD

^b Emissions thresholds for Butte County AQMD

^c Emissions thresholds for Antelope Valley APCD

^d Emissions thresholds for Northern Sierra AQMD

^e Emissions thresholds for San Diego AQMD

^f Emissions thresholds of San Luis Obispo County APCD

In addition to regional air quality concerns, emissions of some criteria air pollutants from construction activities could result in localized concentrations of criteria air pollutants that exceed NAAQS and CAAQS and, therefore, expose nearby receptors to associated adverse health effects. As summarized in Section 3.6.1.1.1 (Criteria Air Pollutants), ground-level O₃ is a secondary pollutant derived from the oxidation of ROG and NO_x in the

presence of sunlight. Portions of the state are designated as being in non-attainment with respect to the NAAQS and CAAQS for O₃. Therefore, construction-related emissions of ROG and NO_x could exacerbate this existing adverse condition in these areas.

However, given the many factors (e.g., topography, meteorology, and emissions sources) that contribute to the formation and dispersion of O₃, it is not reasonably possible to predict, with a meaningful level of accuracy, the number of days when O₃ concentrations would exceed the NAAQS or CAAQS or the locations where these potential exceedances would occur. Current models cannot determine the locations of, or the specific concentrations of, O₃ from ROG or NO_x precursors because of the complex physical factors that contribute to the chemical reactions necessary to convert precursors to ground-level O₃ (e.g., sunlight, temperature, wind, topography). Any meaningfully accurate prediction in site-specific O₃ concentrations using currently available O₃ models would require precursor emissions to be sufficiently substantial as to change the regional inventory of pollutants, which would not occur with the construction of collection, sortation, and processing facilities. Nonetheless, because precursor emission levels could exceed mass emissions thresholds established by some air districts, as discussed above, it is reasonably foreseeable that construction-related emissions could contribute to an increase in the number of days when the NAAQS and CAAQS for O₃ are exceeded in some portions of the air basins in which the O₃ is formed.

Some collection, sortation, and processing sites may only be accessed by unpaved roads. Travel on unpaved surfaces generates fugitive PM₁₀ and PM_{2.5} dust emissions. Depending on the number of vehicle trips, the proximity of people, and the silt content of soil, travel on unpaved roads could result in, or contribute to, an exceedance of the 24-hour CAAQS of 50 µg/m³ for PM₁₀, the 24-hour NAAQS of 150 µg/m³ for PM₁₀, and/or the 24-hour NAAQS of 35 µg/m³ for PM_{2.5} at nearby receptors. Human exposure to fugitive dust emissions may cause acute and chronic health impacts. If ambient background concentrations are high and a considerable number of new vehicle trips are generated on the same unpaved roadway on the same day, resultant concentrations of PM₁₀ and PM_{2.5} from fugitive dust could exceed applicable NAAQS and CAAQS at roadside residences and other places where people are present and expose affected receptors to adverse health effects.

Accordingly, emissions of criteria air pollutants and precursors associated with construction activities performed in response to the Implementing Regulations could exceed air district-established mass emission thresholds. Therefore, these activities could result in, or contribute to, the non-attainment status with respect to the NAAQS and CAAQS in one or more air basins, thereby conflicting with the air quality planning efforts of regional air districts, including those that comprise the SIP. In addition, construction activity-related emissions could result in, or contribute to, localized exceedances of NAAQS and CAAQS in areas where people reside and work. Such localized exceedances could result from fugitive PM₁₀ and PM_{2.5} dust emissions generated by travel by workers and haul trucks on unpaved roads. Although most construction activities are expected to have less than significant impacts, the bounding-level analysis (i.e., evaluating a range maximum potential impacts) taken together with the range of air district standards and attainment status could result in some significant impacts in some potential future locations of collection, sortation, and processing facilities. Implementation of **MM AQ-1** would reduce the mass emissions of criteria air pollutants and precursors generated by the use of on-road vehicles and off-road equipment during construction activities.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce air quality impacts. Mitigation measures to reduce potential air quality impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would

be identified during a project’s local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential air quality impacts, implementation of **MM AQ-1** can and should be required by agencies with project approval authority. Depending on the size and number of facility sites with active construction activities on the same day (or same year) within the same air basin, the potential remains that levels of criteria air pollutants and precursors emitted by construction activities could still exceed the mass emissions thresholds recommended by local air districts, thereby resulting in, or contributing to, exceedances of the NAAQS and CAAQS in air basins. In addition, while implementation of **MM AQ-1** would reduce emissions during construction activities, the potential remains that localized exceedances of the NAAQS and CAAQS could occur. Therefore, this PEIR discloses, for CEQA purposes, that this impact could remain potentially **significant and unavoidable**.

OPERATION

Operation of collection, sortation, and processing facilities in response to the Implementing Regulations would result in reductions of ROG, NO_x, PM₁₀, and PM_{2.5} associated with the diversion of plastic materials from landfills to facilities with the capacity to implement strategies to reduce such emissions. However, collection, sortation, and processing facilities would also generate air pollution from the on- and off-road mobile sector. On-road vehicles (e.g., refuse and other collection trucks, commute-related automobiles) accessing collection, sortation, and processing facilities would generate emissions of criteria air pollutants and precursors. New emissions could occur at collection, sortation, and processing facilities from stationary equipment such as diesel engine grinders, materials recycling processes, or both. To reasonably predict the scale of emissions that may be associated with collection, sorting, and processing operations, the rates of operational emissions associated with each facility are estimated on a per-day and annual basis using assumptions about facility size and type provided in Table 3.6-5. The assumptions for equipment that would be used for operation of collection, sortation, and processing facilities are summarized in Tables 3.6-8. Table 3.6-11 summarizes the estimated operational emission rates for each facility type (see Appendix B for detailed input parameters and assumptions). These rates provide a reasonable upper bound approximation (i.e., estimate of the maximum) of the daily emissions such activities would generate.

Table 3.6-11. Facility Operations Unmitigated Emissions Summary

Facility Type	ROG (VOC) (lb/day) [tpy]	NO _x (lb/day) [tpy]	CO (lb/day) [tpy]	SO _x (lb/day) [tpy]	Total PM ₁₀ (lb/day) [tpy] ^{1,2}	Total PM _{2.5} (lb/day) [tpy] ^{1,2}
Sortation						
MRF - Small	1.88 [0.27]	6.49 [0.81]	10.1 [1.25]	0.02 [<0.005]	0.59 [0.08]	0.31 [0.04]
MRF - Medium	2.41 [0.36]	10.7 [1.46]	12.5 [1.61]	0.05 [0.01]	1.36 [0.20]	0.55 [0.07]
MRF – Large	4.7 [0.71]	16.1 [2.24]	25.7 [3.31]	0.09 [0.01]	2.39 [0.35]	0.88 [0.12]
Composting	0.95 [0.08]	8.64 [1.07]	12.5 [1.49]	0.05 [0.01]	1.57 [0.22]	0.55 [0.07]

Facility Type	ROG (VOC) (lb/day) [tpy]	NO _x (lb/day) [tpy]	CO (lb/day) [tpy]	SO _x (lb/day) [tpy]	Total PM ₁₀ (lb/day) [tpy] ^{1,2}	Total PM _{2.5} (lb/day) [tpy] ^{1,2}
Processing Facilities						
Material Processing Facility	2.95 [0.40]	5.46 [0.50]	24.4 [2.09]	0.03 [<0.005]	0.25 [0.03]	0.24 [0.03]

Source: CalEEMod Emissions Summary Reports in Appendix B

Notes:

¹ Mass daily emissions are winter or summer max for planned land use

² Total PM₁₀/ PM_{2.5} comprise fugitive dust plus engine exhaust.

For the analysis of a reasonable worst-case scenario, the SRIA provides an estimate that by 2032, there will be new construction of 16 large, 6 medium, and 8 small MRFs and a 37,452 tpy expansion of existing facilities. All of these facilities are expected to come online to recover the additional plastic, paper, metal, and glass covered material in the 2031 estimation of 3.2 million tpy. Similarly, existing composting facilities are expected to expand to accommodate the statewide 80,000 tpy of organic covered materials determined by the capacity needs assessment performed by CalRecycle (2024). Further, as a result of the reasonably foreseeable means of compliance with the Implementing Regulations, increased infrastructure may be needed to process sorted plastic, paper, metal, and glass covered material into new feedstocks. The conversion system of materials includes, but is not limited to, the following mechanical processes: transportation, cleaning, shredding, melting, crushing, and remolding. SB 54 requires that material be sent to an REM in order to be considered recycled. This means that recycling and recovery of materials or the disposal of contaminants must be conducted in a way that benefits the environment and minimizes risks to public health and worker health and safety and benefits the environment. Furthermore, AB 1857, which went into effect on January 1, 2024, repeals statutory authorization for waste diversion credits required under California’s Waste Management Act of 1989 to be partially met through “transformation” techniques, which includes incineration, pyrolysis, distillation, or biological conversion other than composting. “Transformation” does not include composting, gasification, or biomass conversion. Table 3.2-12, provided in Section 3.2.2 (Collection, Sortation, and Processing: Reasonably Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved) provides an estimate of required additional processing facilities to accommodate the requirements of the Implementing Regulations. As detailed in Section 3.6.3.2.1 (Facility Size Assumptions), a large processing facility (of any material type) is assumed with an average capacity of 236,8000 tpy. Table 3.6-12 summarizes the calculated total regional emissions that would be associated with operation of MRFs estimated to be developed in each region by 2032.

Table 3.6-12. Total Regional Emissions – MRF Operations

Facility Type	ROG (VOC) (lb/day) [tpy]	NO _x (lb/day) [tpy]	CO (lb/day) [tpy]	SO _x (lb/day) [tpy]	Total PM ₁₀ (lb/day) [tpy] ^{1,2}	Total PM _{2.5} (lb/day) [tpy] ^{1,2}
Bay Area (3 Large, 1 Medium, 3 Small MRFs)	22.15 [3.3]	78.47 [10.61]	119.9 [15.29]	0.38 [0.55]	10.3 [1.49]	4.12 [0.55]
Coastal (0 Large, 2 Medium, 0 Small MRFs)	4.82 [0.72]	21.4 [2.92]	25 [3.22]	0.1 [0.02]	2.72 [0.4]	1.1 [0.14]

Facility Type	ROG (VOC) (lb/day) [tpy]	NO _x (lb/day) [tpy]	CO (lb/day) [tpy]	SO _x (lb/day) [tpy]	Total PM ₁₀ (lb/day) [tpy] ^{1,2}	Total PM _{2.5} (lb/day) [tpy] ^{1,2}
Mountain (0 Large, 0 Medium, 2 Small MRFs)	3.76 [0.54]	12.98 [1.62]	20.2 [2.5]	0.04 [0.01]	1.18 [0.16]	0.62 [0.08]
Southern (10 Large, 2 Medium, 3 Small MRFs)	51.82 [7.82]	182.4 [25.32]	282 [36.32]	1.0 [0.12]	26.62 [3.9]	9.9 [1.34]
Valley (3 Large, 1 Medium, 3 Small MRFs)	22.15 [3.3]	78.47 [10.61]	119.9 [15.29]	0.38 [0.055]	10.3 [1.49]	4.12 [0.55]

Source: CalEEMod Emissions Summary Reports in Appendix B

Notes:

¹ Mass daily emissions are winter or summer max for planned land use

² Total PM₁₀ / PM_{2.5} comprise fugitive dust plus engine exhaust.

The estimated total number of processing facilities required to meet the recycling requirements of the Implementing Regulations by 2032 are summarized in Table 3.2-12 provided in Section 3.2.2 (Collection, Sortation, and Processing: Reasonably Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved). For the analysis of a reasonably worst-case scenario, all processing facilities are assumed to be large and distributed throughout the state relative to the projected 2031 population for each region. Table 3.6-13 summarizes the estimated operations-related emissions for a total of 133 large processing facilities distributed across the five regions.

Table 3.6-13. Total Regional Emissions – Processing Facilities

Facility Type	ROG (VOC) (lb/day) [tpy]	NO _x (lb/day) [tpy]	CO (lb/day) [tpy]	SO _x (lb/day) [tpy]	Total PM ₁₀ (lb/day) [tpy] ^{1,2}	Total PM _{2.5} (lb/day) [tpy] ^{1,2}
Bay Area (26 Processing Facilities)	76.7 [10.4]	141.96 [13.0]	634.4 [54.34]	0.78 [0.13]	6.5 [0.78]	6.24 [0.78]
Coastal (6 Processing Facilities)	17.7 [2.4]	32.76 [3.0]	146.4 [12.54]	0.18 [0.03]	1.5 [0.18]	1.44 [0.18]
Mountain (2 Processing Facilities)	5.9 [0.8]	10.92 [1.0]	48.8 [4.18]	0.06 [0.01]	0.5 [0.06]	0.48 [0.06]
Southern (74 Processing Facilities)	218.3 [19.6]	404.04 [37.0]	1805.6 [154.66]	2.22 [0.37]	18.5 [2.22]	17.76 [2.22]
Valley (25 Processing Facilities)	73.75 [10.0]	136.5 [12.5]	610 [52.25]	0.75 [0.13]	6.25 [0.75]	6.0 [0.75]

Source: CalEEMod Emissions Summary Reports in Appendix B

Notes:

¹ Mass daily emissions are winter or summer max for planned land use

² Total PM₁₀ / PM_{2.5} comprises fugitive dust plus engine exhaust.

The total emissions associated with MRFs and processing facilities both individually and cumulatively could surpass the applicable thresholds of significance of a local air district (see Table 3.6-4). Therefore, operation-

related air quality impacts would be potentially significant. Implementation of **MM AQ-2** would reduce the mass emissions of criteria air pollutants and precursors generated during operation activities.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce air quality impacts. Mitigation measures to reduce potential air quality impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential air quality impacts, implementation of **MM AQ-2** can and should be required by agencies with project approval authority. However, depending on the size and number of facility sites operating within the same air basin, the potential remains that levels of criteria air pollutants and precursors emitted by construction activities could still exceed the mass emissions thresholds recommended by local air districts, thereby resulting in, or contributing to, exceedances of the NAAQS and CAAQS in air basins. In addition, while implementation of **MM AQ-2** would reduce emissions, the potential remains that localized exceedances of the NAAQS and CAAQS could occur. Therefore, this PEIR discloses, for CEQA purposes, that this impact could remain potentially *significant and unavoidable*.

Impact Criterion b) Would the Program result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

CONSTRUCTION AND OPERATION

As discussed under Impact Criterion (a), construction of collection, sortation, and processing facilities would result in emissions of criteria air pollutants. If a new facility were to be constructed in a county that is in non-attainment for a criteria air pollutant, construction-related emissions could result in, or contribute to, the non-attainment status with respect to the NAAQS and CAAQS. In addition, construction-related emissions generated by construction activities have the potential to exceed mass emission thresholds established by individual air districts and, therefore, could result in or contribute to localized exceedances of NAAQS and CAAQS for criteria pollutants, which would be a potentially significant impact. Implementation of **MM AQ-1** would reduce the mass emissions of criteria air pollutants and precursors generated by the use of on-road vehicles and off-road equipment during construction activities, while implementation of **MM AQ-2** would reduce the mass emissions of criteria pollutants and precursors generated during operation activities.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce air quality impacts. Mitigation measures to reduce potential air quality impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential air quality impacts, implementation of **MM AQ-1** and **MM AQ-2** can and should be required by agencies with project approval authority. Depending on the size and number of facilities within the same air basin, the potential remains that levels of criteria air pollutants and precursors emitted by construction and operation activities could still exceed the mass emissions thresholds recommended by local air districts, thereby resulting in, or contributing to, exceedances of the NAAQS and CAAQS in air basins. While

implementation of **MM AQ-1** and **MM AQ-2** would reduce emissions during construction operation activities, the potential remains that localized exceedances of the NAAQS and CAAQS could occur. Therefore, this PEIR discloses, for CEQA purposes, that this impact could remain potentially **significant and unavoidable**.

Impact Criterion c) Would the Program expose sensitive receptors to substantial pollutant concentrations?

CONSTRUCTION

Sensitive receptors are facilities including schools, parks, playgrounds, nursing homes, hospitals, and residential dwellings where the public could be adversely affected by continued exposure to air emissions. As discussed under Impact Criteria (a) and (b), construction of collection, sortation, and processing facilities would result in temporary, intermittent emissions from off-road equipment and haul truck trips as well as from ground disturbance during earthmoving activities. For construction activities, the primary hazard is DPM emissions from construction equipment and vehicles, (e.g., excavators, backhoes, graders, haul trucks). DPM was identified as a TAC by the CARB in 1998. With regards to exposure of DPM, the dose to which receptors are exposed is the primary factor used to determine health risk. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher level of health risk for any exposed receptor. The California OEHHA *Air Toxics Hot Spots Program, Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments* (2015) details the risk assessment guidelines for evaluating cancer risk associated with exposure of sensitive receptors to TAC emissions. Exposure durations of 9-, 30-, and 70-years are used for cancer risk evaluations at individual receptors. The 9- and 70-year exposure duration present potential impacts over the range of residency periods, while the 30-year exposure duration is recommended for use as the basis for estimating cancer risk at the maximally exposed individual resident in all health risk assessments. The use of off-road heavy-duty diesel equipment would be limited during construction activities. As construction progresses, activity intensity and duration would vary throughout individual project sites. As such, it is unlikely that DPM-emitting construction activity would take place near any single existing or future receptor for extended periods of time. In addition, DPM is highly dispersive, and receptors must be in close proximity for a long duration of time to experience health effects. Given the temporary and intermittent nature of construction activities likely to occur within specific locations, the dose of any exposure to DPM of any one receptor would be limited. Therefore, considering the relatively short duration (e.g., typically less than 20 months) of DPM-emitting construction activity at any one location and the highly dispersive properties of DPM, construction-related TAC emissions would not expose sensitive receptors to substantial concentrations and impacts would be **less than significant**.

OPERATION

Operation of collection, sortation, and processing facilities would involve the operation of on-site heavy-duty equipment (e.g., loaders, grinders) as well as haul truck trips during the collection of covered materials, movement of such material to recovery facilities (e.g., MRFs or composting facilities), and distribution of products generated by these facilities (e.g., bailed recyclable materials and compost). These activities would result in long-term project-generated emissions of DPM, ROG, NO_x, CO, and PM₁₀ from the exhaust of off-road, heavy-duty diesel equipment, operations-related vehicle traffic, and stationary sources including backup generators, fire pumps, and/or materials processing equipment. As discussed for Impact Criteria (a) and (b) above, operational emissions were estimated using the CalEEMod model. The predicted emissions associated with collection, sortation, and processing facilities are presented in Table 3.6-11 above.

Air districts typically require that permits be obtained for stationary sources of TACs. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including

New Source Review standards and air toxics control measures. Air districts limit emissions and public exposure to TACs through several programs and prioritize TAC-emitting stationary sources based on the quantity and toxicity of the TACs and the proximity of the facilities to sensitive receptors to determine relative risk.

Collection, sortation, and processing facilities would generally be expected to be sited within an appropriate land use (i.e., industrial), although in many heavily developed urban areas, industrial zoned parcels abut residential areas, and/or other sensitive land uses. Diversion of waste from landfills may result in fewer fugitive emissions of TACs as landfill operations (particularly the continuous compacting of dumped materials) emit a wide variety of TACs, including benzene, toluene, ethylene, and xylene, which are typically associated with the combustion of fossil fuels and synthetically derived compounds (CARB, CAPCOA, and CalRecycle 2018). Collection, sortation, and processing facilities would result in stationary source emissions of TACs; however, these sources would be subject to permitting as required by the applicable air district. Nonetheless, because operation of collection, sortation, and processing recovery facilities constructed in response to the Implementing Regulations would require the operation of diesel-powered vehicles and heavy-duty equipment, operation of these facilities could introduce mobile-source TAC emissions in exceedance of an applicable threshold of significance. Therefore, operation emissions of TACs would be potentially significant. Implementation of **MM AQ-3** would reduce TAC emission because requirements would be placed on fuels, equipment, and other sources of TAC emissions.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce air quality impacts. Mitigation measures to reduce potential air quality impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential air quality impacts, implementation of **MM AQ-3** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that the TAC emissions could be potentially ***significant and unavoidable***.

Impact Criterion d) Would the Program result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

CONSTRUCTION

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the proximity and sensitivity of exposed individuals. Nuisance odors associated with Program construction are primarily related to the combustive emissions from the use of diesel fuel in construction equipment that may be noticeable to some individuals for short periods of time. As discussed in Impact Criterion (c), diesel exhaust emissions would be temporary, would not be generated at any one location for an extended period, and would dissipate rapidly from the source with an increase in distance. As such, exposure to odors associated with construction activities are not anticipated to adversely affect a substantial number of people and impacts would be ***less than significant***.

OPERATION

The Implementing Regulations may lead to the development and operation of new and expanded collection, sortation, and processing facilities throughout the state. Adverse odors could be generated by activities performed at these facilities, including the handling of materials and the off-gassing of odors generated during the decomposition of organic materials. Finished compost applied to agricultural and other land uses could also create objectionable odors. Odor impacts related to the operation of future collection, sortation, and processing facilities would be potentially significant.

The occurrence and severity of odor impacts from the collection, transport, storage, and processing activities of odiferous organic materials, in addition to the byproducts of organic waste recovery operations such as compost, would depend on numerous factors, including the nature, frequency, and intensity of odor sources; wind speed and direction; the proximity to off-site receptors; and the sensitivity of receptors. Although exposure to offensive odors generally does not result in physical harm, it can be perceived as objectionable, leading to considerable distress among the public, and it can result in citizen complaints to local governments in response to the operation of new or expanded collection, sortation, and processing facilities. It is foreseeable that the operation of new or expanded facilities could result in the creation of new sources of odors.

Compost facilities have the potential to create odors depending on the types of feedstocks used and the anaerobic conditions associated with poor feedstock management. Objectionable odors stem from emissions of volatile organic compounds (VOCs) and compounds high in nitrogen and/or sulfur emitted from the decomposition of food waste, liquid waste, manures, and biosolids. A common odor from composting activities is characterized as being similar to the smell of rotten eggs. In addition to the composition of feedstocks, the management and aeration of feedstocks affect the production of adverse odors. Properly aerated feedstock piles balance the carbon and nitrogen content of organics and ensure that particles are large enough to allow airflow, which mitigates the release of odors. An increase in composting facilities could also lead to increased land application of diverted organic wastes. Land application entails the final application of green material, compostable material, and/or digestate meeting certain criteria on any land, but usually on agricultural or range lands. Criteria include achieving less than prescribed concentrations of various elements, pathogens, and contaminants, and staying within prescribed depths and frequency of application. It is foreseeable that its use could introduce objectionable odors to land uses that support sensitive receptors.

The Governor's Office of Planning and Research (now the Governor's Office of Land Use and Climate Innovation), as well as air districts throughout the state, identify landfills as known sources of adverse odors. It is reasonably foreseeable that as compared to baseline conditions, these odors would be at least in part displaced from landfills to organic waste recovery facilities, which would be subject to OIMPs pursuant to 14 CCR Section 17863.4.

As discussed above Section 3.6.2.2.6 (Odor Control Measures), Title 14, CCR Section 17863.4 requires that an operator of compostable materials handling facilities prepare and OIMP to minimize odor impacts from stationary sources and is required for all compostable materials handling operations and facilities. OIMPs would apply to collection, sortation, and processing facilities expanded or constructed in response to the Implementing Regulations. An OIMP must identify nearby sensitive receptors; characterize meteorological conditions; evaluate the efficacy of on-site, odor-reducing management practices; identify compliance protocol; and provide detailed discussion of the type and amount of feedstock materials managed at the facility. The management and certification of OIMPs are overseen by CalRecycle-delegated LEAs. In addition,

Title 14, CCR Section 17331 requires the removal of refuse at solid waste handling and disposal facilities (e.g., MRFs) within 7 days to prevent the creation of odors.

Some air districts have adopted thresholds of significance for evaluating odor impacts. For instance, the Bay Area AQMD identifies an odor impact as significant if a source incurs five confirmed complaints per year averaged over three years (BAAQMD 2022). Several air districts also recommend use of a buffer zone screening criterion for stationary sources of odor. Alternatively, many air districts have not adopted a threshold of significance for odor impacts or a screening criterion. The exact location of future collection, sortation, and processing facilities is unknown at this time; however, it would be expected that odor impacts would be evaluated against the appropriate threshold if applicable. Because the location of future facilities is unknown with respect to sensitive receptors, odor impacts are considered potentially significant.

Implementation of **MM AQ-4** would reduce odor impacts because appropriate actions would be taken to minimize the potential for odor generation and mechanisms would be in place to respond to odors if they were created.

SIGNIFICANCE AFTER MITIGATION

Except for compost facilities, CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce odor impacts. Mitigation measures to reduce potential odor impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential odor impacts, implementation of **MM AQ-4** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that the odor impacts could be potentially *significant and unavoidable*.

MITIGATION MEASURE(S)

MM AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques.

Where feasible, a project proponent shall implement emission reduction techniques to reduce exhaust emissions from off-road equipment. It is acknowledged that due to cost, availability, and the limits of current technology, there may be circumstances where implementation of certain emission reduction techniques will not be feasible. The project proponent shall document the emission reduction techniques that will be applied and will explain the reasons other techniques that could reduce emissions are infeasible.

Techniques for reducing emissions may include, but are not limited to, the following:

- Diesel-powered off-road equipment used in construction shall meet USEPA's Tier 4 emission standards as defined in 40 CFR 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068. Tier 3 models can be used if a Tier 4 version of the equipment type is not yet produced by manufacturers. This measure can also be achieved by using battery-electric off-road equipment as it becomes available. Prior to implementation of eradication activities, the project proponent shall demonstrate the ability to supply the compliant equipment. A copy of each unit's certified tier specification or model year specification and operating permit (if applicable) shall be available upon request at the time of mobilization of each unit of equipment.

- Use renewable diesel fuel in diesel-powered construction equipment to the extent available and feasible. Renewable diesel fuel would meet the following criteria:
 - meet California’s Low Carbon Fuel Standards and be certified by CARB Executive Officer;
 - be hydrogenation-derived (reaction with hydrogen at high temperatures) from 100% biomass material (i.e., non-petroleum sources), such as animal fats and vegetables;
 - contain no fatty acids or functionalized fatty acid esters; and
 - have a chemical structure that is identical to petroleum-based diesel and complies with American Society for Testing and Materials D975 requirements for diesel fuels to ensure compatibility with all existing diesel engines.
- Electric- and gasoline-powered equipment shall be substituted for diesel-powered equipment.
- Workers shall be encouraged to carpool to work sites, and/or use public transportation for their commutes.
- Off-road equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NO_x and PM.

MM AQ-2: Implement All Feasible On- and Off-Site Mitigation Measures to Reduce Operation-Related Air Pollutants to Below a Lead Agency-Approved Threshold of Significance. Lead agencies would evaluate a project’s operational emissions against the applicable threshold of significance developed by a lead agency and/or air district. In cases where these thresholds are exceeded, mitigation measures to reduce operation-related air pollutants can and should be implemented by the local jurisdiction with permitting authority. Site-specific, project impacts and mitigation measures would be identified during a project’s local review process. A proposed project would be approved by a local government and/or the applicable air district as conditions of approval. The following mitigation measures can and should be required by agencies with project approval authority to avoid or minimize impacts on operation-related air pollutants.

- All internal combustion engines/construction equipment operating at a facility shall meet Tier 4 Final CARB/USEPA emission standards. If not already supplied with a factory-equipped diesel particulate filter, all off-road diesel-powered construction equipment shall be outfitted with best available control technology devices certified by CARB.
- The project proponent shall use alternative measures, which include, but would not be limited to, reduction in the number and/or horsepower rating of equipment, limiting the number of daily truck trips to and from the site, and/or using zero-emissions or near-zero emissions fleets.

MM AQ-3: Conduct a Health Risk Assessment and Implement On-Site TAC-Reducing Mitigation Measures.

The following mitigation measures can and should be required by agencies with project approval authority to avoid or minimize impacts on operation-related air pollutants.

In cases where TAC emission thresholds are exceeded, future project proponents shall conduct a site-specific Health Risk Assessment prior to commencing operation. The Health Risk Assessment should be prepared pursuant to the most recent guidance published by OEHHA. The Health Risk Assessment should estimate TAC emissions from both existing and proposed TAC sources including on- and off-site mobile and stationary sources. The Health Risk Assessment should determine the maximum incremental increase in cancer risk from the long-term operation of organic waste recovery facilities. Future project proponents should evaluate this

incremental increase against an applicable threshold of significance as determined by the relevant air district. In cases where the incremental increase exceeds these thresholds, on-site mitigation shall be applied. The following are operation-related mitigation measures that are typically applied to projects on site to reduce TAC emissions:

- Project proponents shall install diesel particulate filters or implement other CARB-verified diesel emission control strategies for heavy-duty equipment.
- Project proponents shall apply USEPA Tier 4 emissions standards to off-road heavy-duty equipment.
- Project proponents shall use haul trucks with on-road engines instead of off-road engines for on-site hauling.
- Project proponents shall establish an electricity supply and use electric powered equipment instead of diesel-powered equipment if feasible.
- Project proponents shall apply on-road diesel PM mitigation measures consistent with CARB’s Diesel Certification Program.
- Project proponents shall utilize zero-emission or near-zero emission fleet vehicles accessing future project sites.

MM AQ-4: Prepare an Odor Impact Minimization Plan or Odor Management Plan. Project proponents of other collection, sortation, and processing facilities (e.g., MRFs and recycling facilities) not subject to 14 CCR 17863.4 or 17896.31 shall develop and implement an Odor Management Plan that includes odor control strategies similar to those that would be included in an OIMP, such as the following possible strategies:

- Prepare a list of potential odor sources.
- Identify and describe the most likely sources of odor.
- Identify the potential for, probable intensity of, and frequency of odor from likely sources.
- Prepare a list of odor control technologies and management practices that could be implemented to minimize odor releases. These management practices shall entail the establishment of, but shall not be limited to, the following criteria:
 - Require that substrate hauled to facilities is within sealed containers.
 - Provide enclosed, negative-pressure buildings for indoor receiving and preprocessing.
 - Treat collected odiferous air in a biofilter or air scrubbing system.
 - Combine organic feedstocks with coarse, dry building amendments to aerate feedstock.
 - Blend fresh organic feedstocks with finished compost, or apply a compost blanket of finished compost to fresh piles.
 - Manage the delivery schedule to facilitate the prompt handling of odorous substrates.
 - Handle materials within enclosed buildings where possible.
 - Identify a protocol for monitoring and recording odor releases.
 - Identify a protocol for reporting and responding to odor releases.

3.7 Biological Resources

This section describes the biological resources of the state; identifies applicable federal and state regulations; and analyzes potential impacts of the Program on biological resources. The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.7-1 summarizes the impacts on biological resources that would result from implementation of the Program.

Table 3.7-1. Summary of Biological Resources Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Less than significant	Potentially Significant and Unavoidable	MM BIO-1: Desktop Reviews and Biological Surveys MM BIO-2: Pre-construction Nesting Bird Survey MM BIO-3: Conduct Biological Monitoring MM BIO-4: Implement a Workers Environmental Awareness Program MM NOI-1: Implement Noise-Reduction Measures during Project Construction MM NOI-2: Implement Noise-Reduction Measures during Project Operation
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	No impact	Potentially Significant and Unavoidable	MM BIO-1: Desktop reviews and biological surveys MM BIO-4: Implement a Workers Environmental Awareness Program MM BIO-5: Sensitive Community Mitigation
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No impact	Potentially Significant and Unavoidable	MM BIO-1: Desktop reviews and biological surveys MM BIO-4: Implement a Workers Environmental Awareness Program
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No impact	Potentially Significant and Unavoidable	MM BIO-1: Desktop Reviews and Biological Surveys MM BIO-2: Pre-construction Nesting Bird Survey MM BIO-4: Implement a Workers Environmental Awareness Program

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
			MM BIO-6: Conduct Pre-construction Bat Surveys
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No impact	Less than significant	None
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No impact	Less than significant	None

3.7.1 Existing Conditions

California has a diversity of habitats that support a wide variety of both plant and animal species. California supports more native species than any other state, and has the highest number of endemic species, those species which occur nowhere else in the world (California Department of Fish and Wildlife [CDFW] 2015). California’s biodiversity is due to the variation in landscape features, latitudinal range, geological substrates and soils, and varied climate, which have resulted in a wide range of ecosystems. Some of these ecosystems include the following: alpine meadows, desert scrub, oak woodlands, diverse grasslands, vernal pool complexes, redwood forests, spring-fed lakes; freshwater streams, rivers, and marshes; coastal wetlands, beaches, dunes, and bluffs; and giant marine kelp beds (CDFW 2015).

Uncommon geologic features, like the Transverse Ranges, which run east to west in southern California, contain a wide variety of vegetation types ranging from desert to subalpine, supporting high levels of biodiversity. Unique soil types in California, like serpentine and carbonite soils, which are uncommon outside the state, support many endemic plant species (CDFG 2003 as cited in CDFW 2015).

Many parts of California experience a Mediterranean climate, characterized by cool, wet winters and hot, dry summers; however, six major climate types exist in the state: Desert, Marine, Cool Interior, Highland, Steppe, and Mediterranean (CDFW 2015). Distinct local climates range from high rainfall in the northwestern mountains to the driest place in North America: Death Valley. Summer rain caused by the western margin of the North American monsoon is characteristic of eastern mountains and deserts. Abundant rain and ocean air along the northern coast of California produce foggy, moist conditions. The high mountains have cooler weather conditions, with a deep winter snowpack in normal climate years, and desert conditions exist in the rain shadow of the mountain ranges (CDFW 2015).

3.7.1.1 Plant Diversity

Approximately 6,500 species, subspecies, and varieties of plants are native to California, representing 32 percent of all vascular plants in the United States (CDFG 2003 as cited in CDFW 2015; Jepson Flora Project 2024; CDFW 2024b).

California comprises most of the major biological provinces (biomes) in North America, including grassland, shrubland, deciduous forest, coniferous forest, alpine tundra, mountains, deserts, temperate rainforest, marine, estuarine, and freshwater habitats. Each of these biomes consists of many different plant communities, such as redwood forests, vernal pool wetlands, or blue oak woodlands (CDFW 2015). California supports over 100 types of forests and woodlands, over 200 types of shrublands, and over 150 plant communities dominated by herbaceous plants (Sawyer et al. 2009). Some plant communities, such as mixed conifer forests, chamise chaparral, and creosote scrub, are widespread throughout the state, while others have highly restricted distributions, such as unique stands of Torrey pine (CDFW 2015).

Regions within the state with the greatest diversity of plant species include the Klamath and inner North Coast ranges, the high Sierra Nevada, the San Diego region, and the San Bernardino Mountains. Other regions that support a considerable number of plant species include the North and Central Coast Ranges, the Cascade Range, the Sierra Nevada foothills, and the western Transverse Range (CDFG 2003 as cited in CDFW 2015).

3.7.1.2 Terrestrial Wildlife

The diversity of vegetation communities throughout the state provides habitat for a large number of animal species. California's wildlife species include approximately 100 reptile species, 75 amphibian species, 650 bird species, and 220 mammal species (CDFW 2016; CDFW 2015), many of which are endemic to California. Many of California's natural communities, including valley foothill riparian, mixed conifer, freshwater wetlands, mixed chaparral, and grasslands, support more than 150 terrestrial animal species each (CDFW 2016; CDFW 2015). Oak woodlands are one of the most biologically diverse communities in California, supporting 5,000 species of insect; more than 330 species of amphibians, reptiles, birds, and mammals; and several thousand plant species (CDFG 2003 as cited in CDFW 2015).

3.7.1.3 Aquatic and Marine Wildlife

California contains a wide range of aquatic habitats, which range from the Pacific Ocean to isolated hillside seeps and desert oases that provide seasonal habitat for terrestrial species and support water-dependent species. Perennial and ephemeral rivers and streams, riparian areas, vernal pools, and coastal wetlands support an abundance of plant and animal species. There are seven major geographically separate drainage systems (Klamath, Sacramento-San Joaquin, North/Central Coast, Lahontan, Death Valley, South Coast, and Colorado River systems), which contain distinct fish and invertebrate species (CDFW 2015). Freshwater fishes of the state include 67 native resident or anadromous species, 53 non-native species, and five marine species that occur in freshwater² (Moyle and Davis 2000). A substantial number of California's native freshwater fish species are listed as threatened or endangered, are candidates for listing, or are extinct, with only approximately 33% of freshwater species considered secure (Moyle et al. 1995; CDFW 2015).

Coastal wetlands (including brackish wetlands and saltmarsh), freshwater wetlands, estuaries, and lagoons provide crucial habitat for many migratory birds, mammals, fish, and other wildlife species and numerous special status species rely on habitat present in coastal lagoons and estuaries (CDFW 2015).

Marine habitats, including rocky reefs, offshore banks, underwater canyons, coral gardens and kelp forests support a diverse number of marine species. The intertidal zone provides habitat for various invertebrates

² Five native species are extinct in California, therefore, the actual number of species maintaining populations in the state at the time of this publication was 120 species, not 125 (Moyle and Davis 2000).

(e.g., worms, clams, crabs), small fishes, and shorebirds. The pelagic zone, which includes the upper layers of the open ocean, supports a variety of plankton, fish, marine bird, and marine mammal species. Giant kelp forests located within the nearshore waters of southern and central California are one of the most diverse communities in the ocean, supporting over 800 species of marine organisms at some point in their life history (CDFW 2015).

3.7.1.4 Special Status Species

Special status species are plants and animals that are considered rare, threatened, or endangered under Sections 15380 and 15125 of the CEQA Guidelines. Special status species include those species protected under the federal ESA, California Endangered Species Act (CESA), the California Fish and Game Code, the California Native Plant Protection Act, the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. Special status species are defined as follows:

- Federal endangered (FE): species designated as endangered under the ESA. An FE species is one that is in danger of extinction throughout all or a substantial portion of its range. Incidental take of any individual of an FE species is prohibited except with prior authorization from the USFWS or National Marine Fisheries Service (NMFS).
- Federal threatened (FT): species designated as threatened under the ESA. An FT species is one that is likely to become endangered in the foreseeable future throughout all or a substantial portion of its range. At the discretion of USFWS or NMFS, incidental take of any individual of an FT species may be prohibited or restricted.
- Federal candidate (FC): species that have been studied by the USFWS, and the USFWS has concluded that it should be proposed for addition to the Federal Endangered and Threatened species list.
- Federal proposed endangered (FPE): species that have been proposed by USFWS or NMFS for listing as endangered under Section 4 of the ESA. Federal proposed species must be evaluated in the Section 7 consultation for any federal action and normally are evaluated in the National Environmental Policy Act review of any action that may affect the species.
- Federal proposed threatened (FPT): species that have been proposed by USFWS or NMFS for listing as threatened under Section 4 of the ESA. Federal proposed species must be evaluated in the Section 7 consultation for any federal action and normally are evaluated in the National Environmental Policy Act review of any action that may affect the species.
- State endangered (SE): species designated as endangered under the CESA. These include native species or subspecies that are in serious danger of becoming extinct throughout all, or a substantial portion, of its range resulting from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code Section 2062). Take, as defined by Section 86 of the Fish and Game Code, of any State endangered species is prohibited, except as authorized by CDFW.
- State threatened (ST): species designated as threatened under the CESA. These include native species or subspecies that, although not threatened currently with extinction, are likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts (Fish and Game Code Section 2067). Take, as defined by Section 86 of the Fish and Game Code, of any State threatened species is prohibited, except as authorized by CDFW.

- State candidate (SC): species designated as a candidate for listing under the CESA. These are native species or subspecies for which the Fish and Game Commission has formally noticed as being under review by the CDFW for addition to the list of endangered and threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of endangered or threatened species.
- State Species of Special Concern (SSC): a species, subspecies, or distinct population of a vertebrate animal native to California that has been determined by CDFW to warrant protection and management, intended to reduce the need to give the species formal protection as an SE, ST, or SC species. SSC is an administrative designation and carries no formal legal status. Generally, SSC should be included in an analysis of Program impacts if they can be shown to meet the criteria of sensitivity outlined in Section 15380 of the CEQA Guidelines.
- State Fully Protected (FP): species designated as fully protected under Sections 3511, 4700, 5050, or 5515 of the Fish and Game Code. FP species may not be taken at any time unless authorized by CDFW for necessary scientific research, which cannot include actions for Program mitigation. Necessary scientific research includes efforts to recover fully protected, endangered, and threatened species. If the requirements for take of a fully protected species are met, a notification must be published in the California Regulatory Notice Register prior to CDFW authorizing the take of fully protected species. Some State FP species are also listed as threatened, endangered, or SSC, while others are not.
- California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1 and 2 species: The CNPS Inventory of rare, threatened, and endangered plants identifies three groups of species that are commonly recognized as special status plants: 1) rank 1A plants are presumed extinct in California; 2) rank 1B plants are considered rare, threatened, or endangered in California and elsewhere; and 3) rank 2 plants are rare, threatened, or endangered in California, but more common elsewhere.

There are approximately 250 species that are currently listed under CESA (CDFW 2024c). Within California, there are 177 animal taxa and 289 plant taxa that are state or federally listed³ (California Natural Diversity Database [CNDDB] 2024a, 2024b). In addition, there are a total of 34 wildlife species that are fully protected in California, including nine fishes, three amphibians, two reptiles, 11 birds, and nine mammals; and over 250 animal species, including fishes, amphibians, reptiles, birds, and mammals are included on CDFW's SSC list (CDFW 2024a, 2024d).

3.7.1.5 Critical Habitat

Critical habitat is a term defined and used in the federal ESA. Critical habitat is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management or protection. Critical habitat may also include areas that are not currently occupied by an endangered or threatened species, but that will be needed for its recovery. USFWS and National Oceanic and Atmospheric Administration (NOAA) Fisheries both administer the ESA and manage critical habitat for listed species. The USFWS manages terrestrial and freshwater species, and NOAA Fisheries manages marine species and anadromous species (i.e., those that spend most their lives in saltwater and return to freshwater to spawn).

³ CDFW notes that these animal and plant taxa totals include subspecies, Distinct Population Segments, and Ecologically Significant Units when listed separately.

A total of 64 plant species, 56 terrestrial and freshwater animal species, and 11 marine and anadromous animal species have designated or proposed designated critical habitat within the 13 ecoregions of California (USFWS 2022, NOAA Fisheries 2023).

3.7.1.6 Sensitive Natural Communities and Habitats

Sensitive natural communities include those communities identified as sensitive by CDFW, natural communities that are specifically regulated under Section 1600 of the California Fish and Game Code, and wetlands and other special aquatic sites regulated under Section 404 of the CWA. Other sensitive habitats include riparian habitats, oak woodlands, chaparral, and coastal sage scrub. Sensitive natural communities are afforded specific consideration through CEQA.

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their habitat. CDFW maintains a list of plant communities that are native to California. Sensitive natural communities are ranked by CDFW as critically imperiled (S1), imperiled (S2), and vulnerable (S3) on a state level. These state-rarity rankings follow the NatureServe Global Conservation Status Rank, in which alliances are listed as critically imperiled (G1), imperiled (G2), and vulnerable (G3) range-wide (NatureServe 2024). CDFW is currently mapping sensitive natural communities as part of the statewide Vegetation Classification and Mapping Program (VegCAMP). Once the entire state is classified and mapped, CDFW will review the existing occurrences in CNDDDB and update them individually by existence, type, and global and state rarity ranking (CDFW 2024e).

There are a total of 85 sensitive natural communities being mapped as occurring within California in the CNDDDB (CDFW 2024a). These sensitive communities are grouped by CDFW by the following overarching types: dune, forest, herbaceous, marsh, riparian, scrub, and woodland. Some of the habitats that make up these sensitive communities include coastal dunes, coniferous forest, vernal pool, valley and foothill grassland, meadow and seep, marsh and swamp, riparian forest, chaparral, coastal scrub, chenopod scrub, and cismontane woodland.

3.7.1.7 California Ecoregions

California contains 13 ecological subregions (ecoregions), which were developed by the USFS to create a classification system with a scientific basis for regionalizing ecosystems into more homogenous units. The descriptions below for each ecoregion were adapted from “Ecological subregions [Level III] of the United States”, which was compiled by the USFS Pacific Southwest Region and Intermountain Region (USFS 1994) and the updated ecoregion hierarchical scheme created in 2016 as a collaborative interagency effort (Griffith et al. 2016). Each Level III ecoregion is assigned a unique identification number. The ecoregions described below give a baseline of environmental conditions statewide, including the existing habitat and vegetation types in each region where Program activities may occur. The 13 ecoregions are shown in Figure 3.7-1.

3.7.1.7.1 Coast Range

The Coast Range Ecoregion includes the northern California coast from Smith Rock to Drake Bay north of San Francisco and includes the coast and Santa Cruz Mountain Range north of Monterey Bay. The elevation ranges from sea level to 4,000 feet. Annual precipitation ranges from 40 to 100 inches, and temperature averages from 50 to 55°F (10 to 13°C). These low coastal mountains are typically covered in fog and dominated by redwood forests in much of the ecoregion. Habitats include coastal headlands, high and low marine terraces,

sand dunes, and beaches also characterize the ecoregion. Human impact and land uses include rural agriculture, grazing, timber industry, and recreation.

Critical habitat for eight plant species, seven terrestrial and freshwater animal species, and 10 marine and anadromous species is mapped within the Coast Range Ecoregion.

3.7.1.7.2 Klamath Mountains and California North Coast Range

The Klamath Mountains and California High North Coast Range Ecoregion extends from the Umpqua River in Oregon, south to the Sacramento Valley and the town of Ukiah. It is bounded on the west by the Coast Range Ecoregion and on the east by the Cascade Range and the Central California Foothills and Coastal Mountains Ecoregion. The elevations vary from 1,000 to 8,000 feet. Annual precipitation ranges from 30 to 120 inches, and the temperatures average from 45 to 59°F (7 to 15°C). Summer droughts are a common occurrence. The ecoregion's diverse flora, a mosaic of both northern Californian and Pacific north-western conifers and hardwoods, is rich in endemic and relic species. A variety of forested habitats are present including Klamath montane forest, Coast Ranges montane forest, mixed evergreen forest, mixed hardwood forest, and chaparral. Human impacts and land uses include mining, grazing, forestry, and recreational activities.

Critical habitat for one plant species, three terrestrial and freshwater animal species, and three marine and anadromous species is mapped within the Klamath Mountains and California High North Coast Range Ecoregion.

3.7.1.7.3 Cascades

The Cascade Ecoregion includes the prominent Mount Shasta and extends north to Orr Mountain and Grass Lake, west to the town of Weed, south to McCloud, and east to Horse Peak and Black Fox Mountain. The elevation ranges from 200 to 14,000 feet. Annual precipitation ranges from 20 to 80 inches, and the temperature averages 42 to 58°F (5.5 to 14°C). Habitats include alpine, montane forest, mixed conifer forest, and foothill woodlands. Human impact and land uses include mining, grazing, forestry, and recreational activities. Expanding suburban communities also exist in this ecoregion.

Critical habitat for two plant species, one terrestrial and freshwater animal species, and two marine and anadromous species is mapped within the Cascades Ecoregion.

3.7.1.7.4 Northern Basin and Range

The Northern Basin and Range Ecoregion can be found in Idaho, Oregon, Nevada, and northeastern California, from Fort Bidwell to Hot Springs Peak Mountain. Elevation ranges from 4,000 to 7,200 feet. Habitats within this ecoregion include lava plains, rocky uplands, valleys, alluvial fans, and scattered mountain ranges with sagebrush and juniper woodlands. Annual precipitation ranges from 4 to 20 inches. Precipitation is evenly distributed throughout fall, winter, and spring, but is low in the summer. Summers are hot and dry, while winters are cold and dry. Average temperature ranges from 41 to 50°F (5 to 10°C). Much of the ecoregion is used as rangeland with little farming, and some mining has also occurred.

Surface waters are characterized as scarce except at higher elevations where there are scattered intermittent lakes and ephemeral pools that host unique flora and fauna. Few streams and little water storage occur in this ecoregion. Some terminal basin floor playas seasonally collect water and evaporate at the Upper Lake, Middle Alkali Lake, and Lower Lake.

No critical habitat is mapped within the Northern Basin and Range Ecoregion.

3.7.1.7.5 Eastern Cascades Slopes and Foothills

The Eastern Cascades Slope and Foothills Ecoregion occupies an area east of the crest of the Cascade Range from Washington south to the towns of Susanville and Weed in California and is bounded on the east by the Northern Basin and Range Ecoregion. Elevations range from 200 to 9,900 feet. Annual precipitation is limited by the rain shadow of the Cascade Range and varies from 12 to 80 inches. Average temperatures range from 42 to 58°F (5.5 to 14.4°C). Habitats include open forests: ponderosa pine, western juniper and some Jeffrey pine are most common at middle elevations, and lodgepole pine and western white pine forests are most often present at the highest elevations. Human impact and land uses include mining, grazing, forestry, and recreational activities. Expanding suburban communities also exist throughout this ecoregion. This ecoregion also contains wetlands that are important resting, feeding, and nesting areas for migrating waterfowl.

Critical habitat for three terrestrial and freshwater animal species is mapped within the Eastern Cascades Slopes and Foothills Ecoregion. No critical habitat for plant species or marine and anadromous species is mapped within this ecoregion.

3.7.1.7.6 Sierra Nevada

The Sierra Nevada Ecoregion begins in the north near Greenville, in the foothills of the Cascade Mountains, and follows the extent of the Sierra Nevada Mountains south to the Tehachapi Mountains. Elevation ranges from 1,000 to 14,505 feet. Annual precipitation ranges from 20 to 80 inches, and it falls mostly as snow above 6,000 feet. Rain and snow are common, and summers are dry with low humidity with annual temperatures averaging 42 to 60°F (5.5 to 15.5°C). This ecoregion includes Yosemite Valley and Mount Whitney. Habitats include alpine, subalpine forests, montane forests, mixed conifer-pine forests, desert scrub, and oak savannah. Human impact and land uses include mining, grazing, forestry, and recreational activities. Urban expansion is becoming more common throughout the foothills and some high elevation communities. Water diversions for hydroelectric power, agriculture, and municipal and domestic use are common within and between river systems. Large areas of this ecoregion are publicly owned Federal land, including several national parks.

Critical habitat for one plant species and 13 terrestrial and freshwater animal species is mapped within the Sierra Nevada Ecoregion. There is no critical habitat mapped for marine and anadromous species in this ecoregion.

3.7.1.7.7 Central California Valley

The Central California Valley Ecoregion begins in the north near Red Bluff and follows the valley south, past Bakersfield to the Transverse Ranges. Elevation ranges from sea level to 2,125 feet. Annual precipitation ranges from 5 to 30 inches, and temperature averages 55 to 66°F (13 to 19°C). The region once contained extensive prairies, oak savannas, desert grasslands in the south, riparian woodlands, freshwater marshes, and vernal pools. More than one-half of the ecoregion is now in cropland, about three-fourths of which is irrigated. Environmental concerns in the ecoregion include salinity due to evaporation of irrigation water, groundwater contamination from heavy use of agricultural chemicals, loss of wildlife and flora habitats, and urban sprawl (Griffith et al. 2016).

Critical habitat for 15 plant species, 13 terrestrial and freshwater animal species, and 3 marine and anadromous species is mapped within the Central California Valley Ecoregion.

3.7.1.7.8 Central Basin and Range

The Central Basin and Range Ecoregion is located east of the Sierra Nevada, from Susanville in the north to south of Bishop. Elevation ranges from 4,000 to 14,200 feet. Annual precipitation ranges from 3 to 25 inches, with mountainous areas receiving the most precipitation. Precipitation mostly occurs during winter and some storms bring moisture during spring and fall. Precipitation is low during summer. Summers are hot and dry, and winters are cold and dry. Average temperatures range from 41 to 60°F (5 to 15°C). Habitats include low-elevation basins, slopes, and alluvial fans of shrubland and grassland. Vegetation communities include sagebrush steppe, Great Basin sagebrush or saltbush-greasewood scrub at lower elevations, and western spruce-fir forest and juniper woodland at higher elevations. Human impacts and land uses include military activities, mining, grazing, forestry, and recreational activities.

Critical habitat for two plant species and three terrestrial and freshwater species is mapped within the Central Basin and Range Ecoregion. There is no critical habitat mapped for marine and anadromous species in this ecoregion.

3.7.1.7.9 Central California Foothills and Coastal Mountains

The Central California Foothills and Coastal Mountains Ecoregion surrounds the Central California Valley Ecoregion and includes the coastline from Monterey Bay south to Conception Point. Elevation ranges from sea level to 3,500 feet. Annual precipitation ranges from 10 to 80 inches, and the temperature averages 45 to 65°F (7 to 18°C). The primary distinguishing characteristic of this ecoregion is its Mediterranean climate of hot dry summers and cool moist winters and associated vegetative cover comprising primarily chaparral and oak woodlands; grasslands occur in some low elevations, and patches of pine are found at high elevations (Griffith et al. 2016). Habitats include beaches, dunes, coastal headlands, wetlands, coastal sage scrub, grasslands, chaparral, oak savannah, montane hardwood forests mixed with conifers, redwood forest, pastureland, and croplands. Vegetation communities include coast live oak woodlands, Coulter pine, Monterey pine, blue oak woodlands, and chaparral. Human impact and land uses include grazing, agriculture, forestry, and urbanization. Some areas within this ecoregion, such as the San Francisco Bay, are densely urbanized.

Critical habitat for 26 plant species, 21 terrestrial and freshwater animal species, and eight marine and anadromous species is mapped within the Central California Foothills and Coastal Mountains Ecoregion.

3.7.1.7.10 Mojave Basin and Range

The Mojave Basin and Range Ecoregion extends from Eureka Valley and Saline Valley in the north to south of Joshua Tree National Park, and from the Antelope Valley on the western side into Arizona and Nevada to the east. Elevations range from 280 feet below sea level to 11,043 feet above sea level. Annual precipitation ranges from 3 inches at the lowest elevations to over 20 inches within the highest mountain ranges and occurs mostly in the winter months. Average annual temperature ranges from 52 to 60°F (11 to 15°C). Habitats are characterized as valleys lying between scattered low mountain ranges with some desert riparian habitat and playas. The creosote bush scrub is a distinct vegetation community in this ecoregion and includes Joshua tree, white bursage, and blackbrush. Human impact and land uses include training and testing for the military, including nuclear testing, and off-highway vehicle recreation. Livestock production also occurs in this ecoregion, along with some mining. Most of this region is federally owned, and grazing is constrained by the lack of water and forage for livestock.

Critical habitat for eight plant species and eight terrestrial and freshwater animal species is mapped within the Mojave Basin and Range Ecoregion. There is no critical habitat for marine and anadromous species in this ecoregion.

3.7.1.7.11 Sonoran Basin and Range

The Sonoran Basin and Range Ecoregion extends south from Palm Springs and Lake Havasu, and eastward from the Southern California Mountains Ecoregion east of San Diego and Temecula into Arizona. Elevation ranges from 285 feet below sea level to 11,000 feet above sea level. Average temperatures here range from 50 to 75°F (10 to 24°C), and average rainfall is between 2 and 10 inches. Topography and habitats are similar to the Mojave Basin and Range Ecoregion and include scattered low mountains, but conditions typically trend hotter. Here creosote bush scrub gives way to vegetation communities such as paloverde-cactus scrub and stands of giant saguaro cactus. Other vegetation types include Joshua tree woodlands and mesquite thickets in riparian areas. The Salton Sea provides habitat for a wide variety of waterfowl and shorebirds and is one of the most critical inland habitats for birds along the Pacific Flyway (Cooper 2016). Since the early 1900s, human impact and land uses have had significant effects on some plant and animal species at widely scattered locations associated with military testing, recreational activities, irrigated farming, and rapidly expanding urbanization. Much of this ecoregion is federally owned public land.

Critical habitat for two plant species and 10 terrestrial and freshwater animal species is mapped within the Sonoran Basin and Range Ecoregion. There is no critical habitat for marine and anadromous species in this ecoregion.

3.7.1.7.12 Southern California Mountains

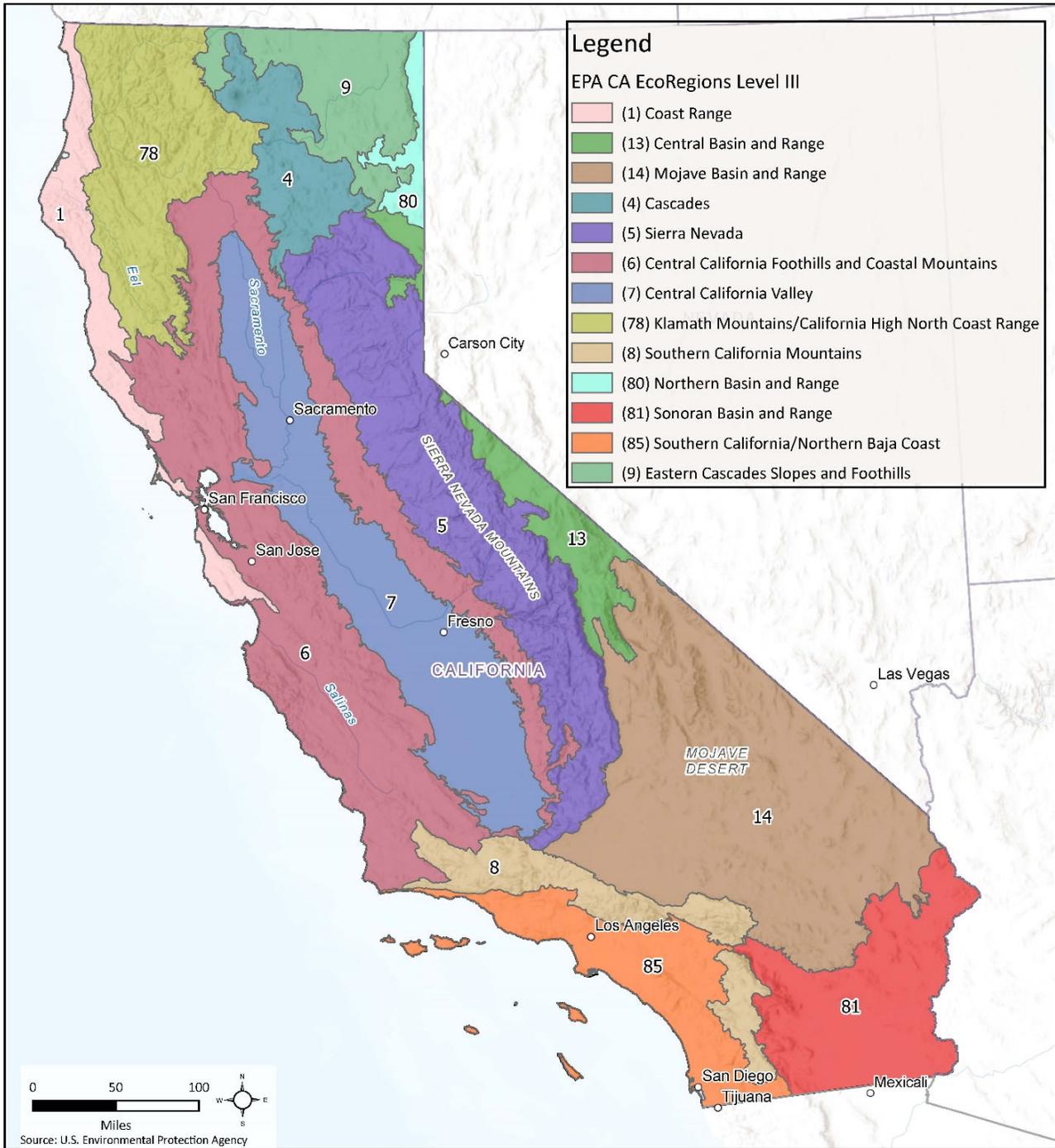
The Southern California Mountains Ecoregion occupies the areas inland and upslope from the Southern California/Northern Baja Coast Ecoregion. This ecoregion is bounded by the Central California Valley Ecoregion to the north and the Mojave Desert and Sonoran Desert Ecoregions to the east. Elevation ranges from 500 to 11,500 feet. Temperatures here average 45 to 64°F (7 to 18°C), and annual precipitation ranges from 10 to 40 inches. The southern slopes of these mountains receive considerably more precipitation than the northern slopes. Climate here is best characterized as Mediterranean and is typified by cool wet winters and warm dry summers. Habitats include mountains and valleys with vegetation types such as oak woodlands and chaparral dominate this ecoregion, with coniferous forests at higher elevations. Local endemic species are abundant. Human impact and land uses include urbanization, grazing, agriculture, and recreational activities. Valleys here generally have dense human populations, and large tracts of land in this region are within National Forests.

Critical habitat for 16 plant species, 15 terrestrial and freshwater animal species, and one marine and anadromous species is mapped within the Southern California Mountains Ecoregion.

3.7.1.7.13 Southern California/Northern Baja Coast

The Southern California/Northern Baja Coast Ecoregion begins at Point Conception near Santa Barbara, and follows the coastline through Los Angeles and San Diego, into Baja California, Mexico. This ecoregion also includes the Channel Islands. Elevation ranges from sea level to 5,700 feet. Annual precipitation ranges from 10 to 40 inches, and average temperatures range from 45 to 65°F (7 to 18°C). Habitats within this ecoregion include beaches, dunes, bluffs, mountains, coastal plains, with vegetation typical of chaparral, coastal sage scrub, coastal annual grassland, southern riparian oak woodland, and oak savannah.

Critical habitat for 16 plant species, 16 terrestrial and freshwater animal species, and four marine and anadromous species is mapped within the Southern California/Northern Baja Coast Ecoregion.



<p>REGIONAL LOCATION CALIFORNIA</p>	<p>EPA LEVEL III ECOREGIONS OF CALIFORNIA</p>	
	<p>Catalyst ENVIRONMENTAL SOLUTIONS</p>	<p>CalRecycle - SB 54 CEQA</p>

Figure 3.7-1. California EcoRegions

3.7.1.8 Habitat Conservation Plans/Natural Community Conservation Plans

A habitat conservation plan (HCP) is a document that meets federal ESA requirements and enables local agencies to allow projects and activities to occur in endangered species’ habitats. In exchange, those projects and activities must incorporate HCP-prescribed measures to avoid, minimize, or compensate for adverse effects on natural communities and endangered species. A natural community conservation plan (NCCP) is the state counterpart to the federal HCP. It provides a means of complying with the Natural Community Conservation Plan Act (NCCP Act) and securing take authorization at the state level. The primary objective of the NCCP Act is to conserve natural communities at the ecosystem scale while accommodating compatible land uses. These laws may affect potential future construction of facilities. There are 17 permitted HCP/NCCPs (which include six subarea plans) within the following counties in California: Contra Costa, Kern, Orange, Placer, Riverside, San Diego, Santa Clara, and Yolo. The total plan area acreage for these approved/implementing HCP/NCCPs is 5,309,928 acres. In addition to permitted plans, there are also six HCP/NCCPs in the planning phase (including two subarea plans) that are located within the following counties: Los Angeles, San Benito, San Bernardino, and San Diego. The total plan area acreage for these HCP/NCCPs in the active planning phase is 1,458,758 acres (CDFW 2023). Each of these NCCP/HCPs are listed in Table 3.7-2 including the status, county, and plan area acreage. The plan areas for approved plans are shown in Figure 3.7-2.

Table 3.7-2. Habitat Conservation Plans/Natural Community Conservation Plans in California

NCCP/HCP Name	Status	County	Plan Area (acres)
Coachella Valley Multiple Species NCCP/HCP	Permitted	Riverside	1,100,000
County of Orange Central/Coastal Subregion NCCP/HCP	Permitted	Orange	208,000
East Contra Costa County NCCP/HCP	Permitted	Contra Costa	174,000
Kern Water Bank NCCP/HCP	Permitted	Kern	20,555
Orange County Transportation Authority NCCP/HCP	Permitted	Orange	Linear projects ¹
Placer County Conservation Plan NCCP/HCP	Permitted	Placer	897,870
San Diego County Water Authority NCCP/HCP	Permitted	San Diego	Linear projects ¹
San Diego Gas and Electric Subregional NCCP/HCP	Permitted	San Diego	Linear projects ¹
San Diego County Multiple Species Conservation Program (Chula Vista, La Mesa, Poway, City of San Diego, and South San Diego County Subarea Plans)	Permitted	San Diego	511,878
San Diego Multiple Habitat Conservation Program (Carlsbad Subarea Plan)	Permitted	San Diego	24,570
Santa Clara Valley Habitat Plan NCCP/HCP	Permitted	Santa Clara	519,506
Western Riverside County Multiple Species NCCP/HCP	Permitted	Riverside	1,200,000
Yolo County NCCP/HCP	Permitted	Yolo	653,549
San Diego North County Multiple Species Conservation Program (MSCP)	In preparation	San Diego	296,246

NCCP/HCP Name	Status	County	Plan Area (acres)
City of Rancho Palos Verdes NCCP/HCP	In preparation	Los Angeles	8,616
San Benito County HCP/NCCP	In preparation	San Benito	890,000
San Diego County MSCP Subarea Plans (City of Santee)	In preparation	San Diego	10,710
San Diego County MSCP Subarea Plans (Oceanside)	In preparation	San Diego	26,186
Town of Apple Valley Multi-Species Conservation Plan NCCP/HCP	In preparation	San Bernardino	227,000

Notes:

¹ These plans cover discrete linear of energy projects but have larger plan areas that overlap with other NCCPs
Source: CDFW 2023

3.7.1.9 Summary of the Effects of Plastic Pollution on Biological Resources

The following provides a summary of the identified adverse effects of plastics on wildlife. Plastic litter is present in a wide range of environments, including terrestrial, freshwater, and marine environments. Plastics become waste primarily due to overproduction and use, poor recycling management, and inappropriate disposal (Kumar et al. 2021).

Macroplastics (i.e., anything greater than 1 centimeter (cm)) break down to microplastics through various degradation processes in less than four months (Lambert and Wagner 2016). While macroplastics enter the ocean environment via beach littering, road runoff, illegal dumping, and sewage (Jambeck et al. 2015), microplastics enter the natural environment through wastewater treatment discharge, sewage sludge use in agriculture, and landfills (Horton et al. 2017).

3.7.1.9.1 Terrestrial Ecosystem Impacts

Terrestrial environments are often the entry points for plastic waste, particularly within and around urbanized areas. Macroplastic impacts on terrestrial species include ingestion by animals, use of plastic waste as nests or burrow construction, and entanglement of animals in plastic netting or film, which can cause injury and even death as described in the various studies summarized below. Plastic waste ingestion has been observed in a variety of species including mountain lions (*Puma concolor*; state candidate threatened), coyotes (*Canis latrans*), opossums (Didelphidae family), and raccoons (*Procyon lotor*) (Ayala et al. 2023).

Wildlife is exposed to microplastics through direct ingestion when the plastic is mistaken for food (Thrift et al. 2022) or through consuming contaminated prey (Huerta Lwanga et al. 2017). Microplastics consumed by wildlife can cause food blockage, leading to starvation and death, and can also pose a route of exposure for and subsequent toxicity from the leaching additives in the plastics (Forschungsverbund 2018). Microplastic fibers have been found in the digestive and respiratory systems of various Amazonian bat species (Correia et al. 2022). Plastic polymers have also been detected in herbivore, insectivore, and omnivore small mammals in both urban and rural locations (Thrift et al. 2022). In addition, various plastics (i.e., microfibers, microfragments, macroplastics, and microbeads) were found in the digestive systems of terrestrial birds of prey, including red-shouldered hawk (*Buteo lineatus*) and red-tailed hawk (*Buteo jamaicensis*) (Carlin et al. 2020).

Plant species are also adversely affected by microplastics. Terrestrial plants can take up microplastics from soils via the root system and transport them to their aboveground parts (Wang et al. 2022). Several studies have shown that microplastic exposure to terrestrial plants can adversely affect production of chlorophyll, implying the potential to inhibit photosynthesis (Dong et al. 2020; Gao et al. 2019; Li et al. 2020; Wang et al. 2019).

3.7.1.9.2 Freshwater Ecosystem Impacts

While the majority of plastic waste is initially introduced into terrestrial ecosystems, plastics can be transported from land to the ocean through freshwater systems (Schmidt et al. 2017). Microplastics enter freshwater systems through effluent discharges from wastewater and sewage treatment (Cole et al. 2011), runoff from agricultural land, and storm drains (Browne et al. 2010).

Freshwater organisms are exposed to microplastics through multiple pathways, including but not limited to filter feeding, direct ingestion, suspension feeding (e.g., mistaking microplastics for phytoplankton), and ingestion of contaminated prey (Nelms et al. 2018). Ingestion of plastic particles can pose hazards to

freshwater organisms by causing an immediate blockage of feeding appendages or disrupting their digestive system (Barnes et al. 2009). Microplastics have been found in the digestive tracts of freshwater fish (Sanchez et al. 2014) and observed to be ingested by planktonic crustaceans (Farrell and Nelson 2013). Microplastics also have deleterious impacts on other systems: they have been shown to impact the immune response of fathead minnows (*Pimephales promelas*) and alter their defense mechanisms (Greven et al. 2016). Nanoplastics (with a diameter of 52 nm) have been shown to cause direct mortality of the freshwater invertebrate *Daphnia magna* and decreased feeding ability of Crucian carp (*Carassius carassius*) (Mattsson et al. 2017).

3.7.1.9.3 Coastal and Marine Ecosystem Impacts

In 2016, it was estimated that as much as 23 million metric tons of plastic waste, not including other waste debris, entered the oceans (Borrelle et al. 2020). Once plastic debris enters the ocean it can gather in gyres, as with the Great Pacific Garbage Patch located off the coast of California, which is estimated to contain approximately 80,000 tonnes of plastic (The Ocean Cleanup 2023). Before plastic debris is ultimately washed out to sea, it can travel to sensitive habitats such as estuaries and marshes (Midbust et al. 2014). Given the shallow and highly vegetated nature of estuaries and marshes, plastic debris easily becomes trapped and settles into the stream bed, where it can affect gas exchange and circulation patterns (Long 1996).

Plastics can be ingested by marine species, entangle wildlife, assist in the spread of invasive species, leach harmful chemicals, and build up as sediment on the marine floor (Ng et al. 2006; Thompson et al. 2004). An extensive literature review conducted by Kuhn and van Franeker (2020) identified that 914 marine species encounter plastic marine debris via plastic ingestion (701 species) and entanglement (354 species). Plastics in the digestive systems of marine organisms have been identified in approximately 30% of individual seabirds, 4% of individual marine mammals, and 32% of individual marine turtles in the various studies reviewed (Kuhn and van Franeker 2020). Furthermore, plastic debris provides new vectors for invasive species travel, as observed with barnacles, algae, and mollusk species, which attach to plastics and get transported to new regions via ocean currents (Allsopp et al. 2006; Barnes 2002, 2004; Gregory 2009).

Microplastics are ubiquitous in marine ecosystems, from coastal waters to deep sea sediments to polar ice caps (Jambeck et al. 2015). As with freshwater organisms, microplastics are bioavailable to a variety of marine taxa through accidental ingestion by filter feeding or misidentification of microplastics for food (Cole et al. 2013; Neves et al. 2015). Ingestion of microplastics can reduce feeding capacity, energy reserves, and reproductive success and adversely impact intestinal and digestive functions (Cole et al. 2013; Sussarellu et al. 2015; Wright et al. 2013). Furthermore, microplastics can accumulate in tissues, which can be passed onto offspring and cause developmental abnormalities, thyroid disruption, and mortality, among other impacts, showing the transgenerational impacts of microplastics (Junaid et al. 2023).

Trophic transfer of microplastics can occur in marine ecosystems through ingestion of contaminated prey. Nelms et al. (2018) demonstrated that plastic particles found in scat of captive grey seals (*Halichoerus grypus*) were correlated to the plastic particles found in their prey (wild-caught Atlantic mackerel [*Scomber scomrus*]). The transfer of microplastics has also been shown from mussels (*Mytilus edulis*) to crabs (*Carcinus maenas*) (Farrell and Nelson 2013).

3.7.2 Regulatory Framework

This section presents summaries of key federal and state laws and regulations applicable to the protection of biological resources throughout California. In addition to the key federal and state laws and regulations listed,

future Program activity locations may also be subject to site-specific laws and regulations including those developed by City or County agencies.

3.7.2.1 Federal

3.7.2.1.1 Federal Endangered Species Act (16 USC Sections 1531–1544)

The federal ESA establishes the legal requirements on both public and private lands for the protection of wildlife species federally listed as endangered or threatened, and their designated critical habitats. Under the ESA, the USFWS is responsible for protection of federally listed terrestrial species, and NMFS is responsible for federally listed marine and anadromous fish species. Section 7 of the ESA requires federal agencies to consult with the appropriate regulatory agency, either USFWS or NOAA Fisheries, when it is likely that a project could affect listed species to ensure that their actions do not jeopardize listed species or critical habitat. Section 10 of the ESA requires similar consultation for non-federal applicants under HCPs. HCPs provide for partnerships with non-federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing to their recovery. An HCP provides planning and conservation measures, including mitigation, when a project or development could result in incidental take of a threatened or endangered species. The HCP process has evolved into a broad-based planning effort to incorporate conservation into development efforts.

The federal ESA of 1973 defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under provisions of Section 9(a)(1)(B) of the federal ESA it is unlawful to “take” any listed species. “Take” is defined in Section 3(18) of the federal ESA: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the USFWS, through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification that result in injury to, or death of species as forms of “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the federal ESA addresses the protections afforded to listed plants.

3.7.2.1.2 Migratory Bird Treaty Act (16 USC Sections 703–712)

The Migratory Bird Treaty Act prohibits the unauthorized take of protected migratory bird species, which includes most native migratory bird species in the U.S. The regulatory definition of take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to do so. Unauthorized take includes destroying nests of protected species with viable eggs and/or chicks. A take does not include habitat destruction or alteration as long as there is not a direct taking of birds, nests, eggs, or parts thereof. Game birds are listed and protected except where specific seasons, bag limits, and other features govern their hunting. Permits may be granted for various non-commercial activities involving migratory birds and some commercial activities involving captive-bred migratory birds.

3.7.2.1.3 Fish and Wildlife Conservation Act of 1980

The Fish and Wildlife Conservation Act of 1980 (PL 96-366; Title 16, USC, Section 2901 et seq.) provides for conservation, protection, restoration, and propagation of certain species, including migratory birds threatened

with extinction. The Fish and Wildlife Conservation Act declares that fish and wildlife are of ecological, educational, esthetic, cultural, recreational, economic, and scientific value to the United States. The purposes of this act are to encourage all federal departments and agencies to utilize their statutory and administrative authority, to the maximum extent practicable and consistent with each agency's statutory responsibilities and to conserve and to promote conservation of non-game fish and wildlife and their habitats. Another purpose is to provide financial and technical assistance to the states for the development, revision, and implementation of conservation plans and programs for nongame fish and wildlife.

3.7.2.1.4 Bald and Golden Eagle Protection Act (16 USC Section 668)

The Bald and Golden Eagle Protection Act prohibits the unauthorized take of bald eagles and golden eagles. The Bald and Golden Eagle Protection Act defines take as to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb or any attempts to do so. Unauthorized take includes Project activities disturbing species resulting in injury, nest abandonment, or a decrease in productivity. The USFWS can authorize incidental take of bald and golden eagles for otherwise lawful activities, consultation with the agency is required.

3.7.2.1.5 Magnuson-Stevens Fishery Conservation and Management Act – Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) was originally passed in 1976 and was amended most recently in 2006. The MSA governs marine fisheries in the U.S. via the Pacific Fisheries Management Council. The MSA regulates fishing to waters 200 nautical miles off the U.S. coast, established fishery management councils, and includes provision to create fishery management plans, conserve and manage fishery resources, and prevent overfishing. The Pacific Fishery Management Council implements the MSA for Washington, Oregon, and California. The MSA defines essential fish habitat as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The MSA requires fishery management councils to describe essential fish habitat within fishery management plans and to minimize impacts on essential fish habitat. A Habitat Area of Particular Concern is a subset of essential fish habitat and consists of sensitive areas that are particularly important in the fish life cycle.

3.7.2.2 State

3.7.2.2.1 California Endangered Species Act (Fish and Game Code Section 2050 et seq.)

The CESA defines an endangered species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that is in danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.” The state defines a threatened species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985, is a threatened species.” Candidate species are defined as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.”

Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the federal ESA, the CESA does not list invertebrate species. Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.” Under the CESA, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Exceptions authorized by the state to allow “take” require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for “take” incidental to otherwise lawful activities. California Fish and Game Code Sections 1901 and 1913 provide that notification is required prior to disturbance.

3.7.2.2.2 Fully Protected Designations (Fish and Game Code Sections 3511, 4700, 5050, and 5515)

The California Fish and Game Code designates 34 fish and wildlife species as “fully protected” to provide additional protection to those animals that are rare or face possible extinction. Fully protected species may not be taken or possessed except with authorization from CDFW and only under specific circumstances. No licenses or permits may be issued for the take of these species, including hunting, harvesting, and other activities. CDFW may authorize take of designated fully protected species through a NCCP or for necessary scientific research, including recovery efforts.

3.7.2.2.3 Birds (Fish and Game Code Sections 3503 and 3513)

The California Fish and Game Code deems it unlawful to take, possess, or needlessly destroy bird nests or eggs except as otherwise provided by the code. Section 3513 provides for the adoption of the Migratory Bird Treaty Act’s provisions (described above).

3.7.2.2.4 Natural Community Conservation Planning Act (Fish and Game Code Sections 2800 et seq.)

The Natural Community Conservation Planning Act provides a regional approach to the conservation of biological diversity. Implemented by CDFW, the natural community conservation plan program is a cooperative effort by both the State of California and private and public partners to protect species and their habitats. The program helps to regionally identify and provide for the protection of plants, animals, and their habitats while allowing for compatible and appropriate economic activity. At the time of CDFW approval of a NCCP, CDFW may authorize by permit the taking of any covered species (i.e., a species whose conservation and management is provided for in the approved plan). The natural community conservation plan is intended to “conserve natural communities at the ecosystem scale while accommodating compatible land use” (CDFW 2020b).

3.7.2.2.5 Native Plant Protection Act (Fish and Game Code Sections 1900–1913)

Prior to enactment of the CESA in 1970 and the federal ESA in 1973, California adopted the Native Plant Protection Act. For plants originally listed as endangered under the Native Plant Protection Act, they are generally replaced under the CESA. However, plants originally listed as rare under the Native Plant Protection Act retain that designation and take is regulated. The California Fish and Game Commission has adopted

revisions to the Native Plant Protection Act allowing CDFW to issue incidental take authorization for listed rare plants, effective January 1, 2015.

3.7.2.2.6 Lake and Streambed Alteration (Fish and Game Code Sections 1600–1616)

The Lake and Streambed Alteration Program requires authorization from CDFW prior to project activities that may divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; or deposit or dispose of material into any river, stream, or lake.

3.7.2.2.7 Oak Woodlands

The importance of protecting oak woodlands is recognized through the passage of the California Oak Woodlands Conservation Act (AB 242) and PRC Section 21083.4, which addresses how county lead agencies must address impacts on oak woodlands in environmental documents to comply with state law. Generally, a plant community is defined in the PRC as a forest land or woodland, rather than a grassland or shrubland, if there is at least 10 percent tree canopy cover (PRC Section 12220(g)). Oak woodlands have at least 10 percent tree cover and the tree layer is dominated by one or more species of oak. Oak woodlands provide important habitat to numerous common and special-status wildlife species supporting some 5,000 species of insects, over half of the state’s 662 species of terrestrial vertebrates, and several thousand plant taxa (CDFW 2015; McCreary 2009). For this reason, oak woodland communities are considered sensitive habitats by wildlife resource agencies, including USFWS and CDFW; and many California counties have ordinances protecting oak woodlands.

3.7.2.2.8 California Water Quality Control Act (Porter-Cologne California Water Code Section 13260)

The SWRCB and the Regional Water Quality Control Boards (RWQCBs) are the principal state agencies with primary responsibility for regulating the use and quality of water in the state. The RWQCBs regulate activities pursuant to federal CWA Section 401(a)(1) as well as the Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.). As described in Section 3.13 (Hydrology and Water Quality), CWA Section 401 specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the state in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of CWA Sections 301, 302, 303, 306, and 307. In Porter-Cologne, the Legislature declared that the “State must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the State from degradation...” (California Water Code Section 13000). Porter-Cologne grants the RWQCBs the authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the groundwater and surface waters of the state. It is important to note that enforcement of the state’s water quality requirements is not solely the purview of the RWQCBs and their staff. Other agencies (e.g., CDFW) have the ability to enforce certain water quality provisions in state law. The State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), adopted by the SWRCB on April 2, 2019, became effective May 28, 2020. The Procedures include a definition for wetland waters of the state that include (1) all wetland waters of the United States; and (2)

aquatic resources that meet both the soils and hydrology criteria for wetland waters of the United States but lack vegetation.

3.7.2.2.9 Protected Furbearers (CCR Title 14 Section 460)

Title 14 specifies that “[f]isher, marten, river otter, desert kit fox and red fox may not be taken at any time.” CDFW does not issue Incidental Take Permits for any protected furbearer species. However, CDFW may permit the capture or handling of these species for scientific research.

3.7.3 Impacts Assessment

3.7.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the program would result in significant impacts related to biological resources if the Program would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

3.7.3.2 Proposed Program

3.7.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Impact Criterion b) Would the Program have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

Impact Criterion c) Would the Program have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact Criterion d) Would the Program interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The Implementing Regulations require that by 2032, plastic covered material must be source reduced by at least 25% by weight and 25% by number of plastic components sold, offered for sale, or distributed in the state with 10% of the source reduction to be met either by switching to reusable or refillable options or through elimination of a plastic component. The reasonably foreseeable means of compliance with the source reduction and refill/reuse aspects of the Implementing Regulations would have no direct impacts on sensitive species, riparian habitats, sensitive natural communities, or wildlife corridors as they do not involve any ground-disturbing activities or construction activities (refer to Section 3.7.3.2.2 for discussion of impacts related to collection, sortation, and processing facilities below).

Plastics products, especially those that are littered, pose a threat to wildlife, including those designated as threatened, endangered, or candidate species, and wildlife habitats. Reducing the number of single-use plastic components is anticipated to result in a reduction of the volume of plastic litter entering terrestrial and aquatic ecosystems. Similarly, the requirement for reusable or refillable options may shift consumer behavior away from single-use plastic food service ware and packaging, which could reduce the volume of plastic litter that enters the ecosystem. As discussed in detail in Section 3.7.1.9 (Summary of the Effects of Plastic Pollution on Biological Resources), plastic litter has been documented to adversely affect wildlife species at all trophic levels. Therefore, a reduction in plastic litter would have an indirect beneficial impact on sensitive species. However, the magnitude of the reduction in litter is speculative, as the overall effects of the foreseeable means of compliance with the Implementing Regulations would be dependent on changes in consumer behavior, both in switching to reusable/refillable options, and in properly disposing of purchased materials. Further, reusable items are not commonly littered and are not a substantial source of plastics in the environment. Therefore, direct impacts related to Impact Criteria (a), (b), (c), and (d) would be **less than significant**.

Impact Criterion e) Would the Program conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact Criterion f) Would the Program conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP?

The source reduction and refill/reuse aspects of the Implementing Regulation do not involve any ground-disturbing activities. Therefore, there would be no potential for conflict with any local policies or ordinances protecting biological resources or any adopted HCPs or NCCPs, and there would be **no impact**.

3.7.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

CONSTRUCTION AND OPERATION

Construction of new facilities and operations and maintenance of those facilities as a reasonably foreseeable means of compliance with the Program could involve ground disturbing activities, such as grading and vegetation removal, which have the potential to impact special status species and their habitat, if present. Within California, there are 177 animal taxa and 289 plant taxa that are state or federally listed (CNDDDB 2024a, 2024b). Additionally, critical habitat is designated or proposed designated for 64 plant species, 56 terrestrial and freshwater animal species, and 11 marine and anadromous animal species within the 13 ecoregions of California, as described in Sections 3.7.1.4 (Special Status Species). However, because the locations of Collection, Sortation, and Processing facilities have yet to be determined, it is not known whether construction and operation of these facilities would affect any special status species or their habitat. Accordingly, construction and operation of these facilities that would result in ground-disturbing activities could have a potentially significant impact on a special status plant or wildlife species if the species are present at or near the future site.

Direct impacts, including removal of suitable habitat and direct injury or mortality could occur from grading, excavation, stockpiling, vegetation or tree trimming or removal. Direct impacts on special status birds, raptors, and migratory birds from construction activity could include disturbances to nesting birds; injury and/or mortality (which includes nest loss or failure) from unplanned damage due to construction equipment or planned vegetation or tree trimming/removal; and noise and vibration disturbances on nesting or foraging birds. Soil compaction and soil stockpiling could impact species that live underground and/or use burrows for refuge and habitat. Wildlife can also become entrapped in open, excavated areas or construction pipes/equipment if they are not covered properly or do not have escape ramps installed, which could result in injury or mortality. Indirect impacts from construction may include dust, erosion, chemical spills, trash and debris, as well as increased ambient noise levels. Construction equipment, vehicles, and imported materials used during construction have the potential to introduce and spread invasive non-native plant species into the work area. Non-native plant species can often colonize areas and outcompete special status plant species, if present, and may degrade the suitability of native habitats to support other special status species. Additionally, any nighttime construction that requires artificial light sources may impact special status species that are active at night.

Implementation of desktop reviews as part of **MM BIO-1** would inform the project proponent if there is the potential for special status species to be present onsite or impacted by the Collection, Sortation, and Processing facility. **MM BIO-1** would ensure that habitat assessments and any required biological surveys are conducted to minimize potential impacts to special status species and their habitat. Additionally, a pre-construction nesting bird survey (**MM BIO-2**) would identify any active nests requiring protection. If special status species or habitat which supports these species is present within the vicinity of a proposed facility, **MM BIO-3** would minimize impacts by having a biological monitor present who has the authority to stop work. Implementation of **MM BIO-4** would aid workers in recognizing special status resources that may occur in the project area. To address noise impacts of construction and operation of proposed facilities on wildlife species, **MM NOI-1** and **MM NOI-2** would reduce construction- and operation-related vibration noise through implementation of best practices at facility sites to minimize these effects.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts on biological resources. Mitigation measures to reduce potential impacts on biological

resources can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential impacts to special status species, implementation of **MM BIO-1**, **MM BIO-2**, **MM BIO-3**, **MM BIO-4**, **MM NOI-1**, and **MM NOI-2** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to these mitigation measures, construction activities may result in a significant impact on special status plant and wildlife species and their habitat. Therefore, this PEIR discloses, for CEQA purposes, that the impacts may be potentially *significant and unavoidable*.

Impact Criterion b) Would the Program have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

CONSTRUCTION AND OPERATION

Various sensitive communities occur throughout the state, including riparian habitat. There are a total of 85 natural communities identified as sensitive by CDFW that are mapped as occurring within California (CDFW 2024a). Construction and operation of any new facilities developed in response with the Implementing Regulations would involve ground disturbance (e.g., excavation, grading, drilling) and vegetation removal or trimming. However, the exact details, including precise locations, of any such construction activities have yet to be determined. Although it is likely that new facilities would be constructed in already developed commercial or industrial zoned areas, the potential exists for parcels in these zones to be currently undeveloped or adjacent to undeveloped parcels with vegetation present or adjacent to riparian areas or other sensitive natural communities.

If riparian habitat or other sensitive natural communities are present onsite or in the vicinity and potentially impacted by the Collection, Sortation, and Processing facility, the desktop review under **MM BIO-1** would identify the need for pre-construction biological surveys to identify and protect sensitive communities, including riparian habitat. If removal or destruction of sensitive communities cannot be avoided, implementation of **MM BIO-5** would ensure that the project proponent provides compensatory mitigation. A Worker Environmental Awareness Program (**MM BIO-4**) would aid workers in recognizing and avoiding riparian habitat or other sensitive communities that may occur in the project area or vicinity.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts on biological resources. Mitigation measures to reduce potential impacts on biological resources can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize this potential impact to sensitive natural communities, implementation of **MM BIO-1**, **MM BIO-4**, and **MM BIO-5**, can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to these mitigation

measures, construction activities may result in a significant impact on riparian habitat or other sensitive natural communities which are present throughout the state. Therefore, this PEIR discloses, for CEQA purposes, that the impacts may be potentially **significant and unavoidable**.

Impact Criterion c) Would the Program have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

CONSTRUCTION AND OPERATION

Many aquatic resources, including rivers, streams, and wetlands, are present throughout the state. If Collection, Sortation, and Processing facilities were located near an existing wetland, there would be potential for a significant impact to occur due to construction which requires ground-disturbing activities such as grading and vegetation removal. While the specific locations of these facilities are not currently known, they would likely be constructed in commercial or industrial lands zoned for their use. However, since the exact details, including precise locations, of any such construction activities have yet to be determined, it is not known whether construction and operation of Collection, Sortation, and Processing facilities would affect any wetlands. Therefore, construction and operation of new facilities that would result in ground-disturbing activities or vegetation trimming/removal, could have a potentially significant impact on wetlands if they are present at or near the future site.

Implementation of **MM BIO-1** would require a desktop review to identify any sensitive communities, including wetlands, and pre-construction biological survey/aquatic resources delineation, as required. If any jurisdictional wetlands or associated waters are identified, project proponents would be required to either avoid the resources or obtain the necessary permits under the CWA Section 404 issued by the U.S. Army Corps of Engineers, the CWA Section 401 issued by the RWQCB, and the California Fish and Game Code Section 1600. If there are potential impacts to wetlands or other sensitive communities that cannot be avoided, the project proponent would be required to provide compensatory mitigation as required by the conditions of the Section 401, 404, or 1600 permits, as applicable. Implementation of a Worker Environmental Awareness Program (**MM BIO-4**) would aid workers in recognizing and avoiding protected wetlands not covered by project CWA permits that may occur in the project area.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts on biological resources. Mitigation measures to reduce potential impacts on biological resources can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize this potential impact to wetlands and associated waters, implementation of **MM BIO-1** and **MM BIO-4** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to these mitigation measures, construction activities may result in a significant impact on wetlands or associated waters, which are present throughout the state. Therefore, this PEIR discloses, for CEQA purposes, that the impacts may be potentially **significant and unavoidable**.

Impact Criterion d) Would the Program interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

CONSTRUCTION AND OPERATION

Construction of Collection, Sortation, and Processing facilities and operations and maintenance of these facilities as a reasonably foreseeable means of compliance with the Program could involve ground disturbing activities, such as grading and vegetation removal/trimming, which have the potential to result in damage or removal of existing habitat which serves as nursery sites for native species. Undeveloped areas with native plant communities and vegetation along waterways provides higher quality habitat connectivity than non-vegetated areas for various species, including fish, bats, and resident and migratory birds. These areas support important habitat for the movement, migration, and breeding of fish and wildlife species that use them. Additionally, existing infrastructure within developed areas, including buildings, bridges and culverts, may also provide habitat features which support nesting or roosting for bird and bat species (e.g., ledges and crevices). If construction of a new facility required demolition of any infrastructure which supports nesting or roosting species, this could result in potentially significant impacts on a nursery site. Direct effects to the movement of fish species are not anticipated as construction would not occur within waterways. However, indirect effects of construction activities may include increased noise, vibration, dust, human encroachment on habitat areas, spills of fuel or other pollutants, and introduction of non-native plant species. If construction occurs in or adjacent to habitat areas which provide connectivity for native species, these effects may degrade habitat which currently supports the movement and reproduction of fish and wildlife.

Implementation of desktop review as part of **MM BIO-1**, and pre-construction nesting bird surveys (**MM BIO-2**) and bat surveys (**MM BIO-6**), as necessary, would minimize the potential impacts on native wildlife nursery sites. Implementation of a Worker Environmental Awareness Program (**MM BIO-4**) would aid workers in recognizing and avoiding impacts to wildlife corridors or nursery sites that may occur in the project area.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts on biological resources. Mitigation measures to reduce potential impacts on biological resources can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize this potential impact to migratory corridors and wildlife nursery sites, implementation of **MM BIO-1**, **MM BIO-2**, **MM BIO-4**, and **MM BIO-6**, can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to these mitigation measures, construction and operation activities may result in a significant impact. Therefore, this PEIR discloses, for CEQA purposes, that the impacts may be potentially ***significant and unavoidable***.

Impact Criterion e) Would the Program conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

CONSTRUCTION AND OPERATION

Construction of Collection, Sortation, and Processing facilities and operations and maintenance of those facilities as a reasonably foreseeable means of compliance with the Program could involve ground disturbing activities, such as grading and vegetation removal, which have the potential to impact biological resources protected by local policies or ordinances, like protected tree species or biological communities/significant ecological areas, if present. Most counties and cities in California have general plans and/or local policies in place that protect both native and landscape trees in urban landscapes, as well as in unincorporated county lands. The definitions of protected trees under these plans and policies vary by species and size (minimum diameter at breast height) and in the requirements for ordinance or policy compliance. Construction of new facilities could result in removal of trees that are protected by local policies or ordinances. However, construction of new facilities by project proponents would be required to follow city and county development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protecting biological resources. Project-level planning, environmental analysis, and compliance with existing local regulations and policies would identify potentially significant tree removal or other potential conflicts with local policies protecting biological resources; avoid or minimize impacts through the design, siting, and permitting process; and implement mitigation measures for any significant effects on biological resources as a condition of project approval and permitting. Therefore, this impact would be ***less than significant***.

Impact Criterion f) Would the Program conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP?

CONSTRUCTION AND OPERATION

Construction of Collection, Sortation, and Processing facilities and operations and maintenance of those facilities as a reasonably foreseeable means of compliance with the Program could involve ground disturbing activities, such as grading and vegetation removal. However, because the exact details, including precise locations, of any such facilities have yet to be determined, it is not known whether construction and operation of these facilities would be located within the planning areas for any of the 17 existing HCP/NCCPs in California and have the potential for effects on covered species of those plans. All future development of Collection, Sortation, and Processing facilities would be required to follow city and county development requirements, including compliance with adopted HCP/NCCPs. Therefore, construction and operation of these facilities that overlap the plan area of an HCP/NCCP would require consistency with the provisions of that adopted HCP, NCCP, or other approved local, regional, or state HCP. Project-level planning would identify potential conflicts with adopted HCP/NCCPs and avoid those conflicts or provide mitigation as required by compliance with the provisions of the conservation plan protecting special status species. Therefore, the impacts are considered ***less than significant***.

MITIGATION MEASURE(S)

MM NOI-1: Implement Noise-Reduction Measures during Project Construction. See Section 3.16 (Noise).

MM NOI-2: Implement Noise-Reduction Measures during Project Operation. See Section 3.16 (Noise).

MM BIO-1: Desktop Review and Biological Surveys. Project proponents shall conduct a desktop review for the potential of sensitive species, critical habitat, or jurisdictional wetlands or associated waters (i.e., areas that fall under the regulatory authority of federal, state, or local agencies due to their ecological significance) to be present in the proposed location for a new collection, sortation, or processing facility. The desktop review shall include review of the CNDDDB, USFWS iPAC database, USFWS National Wetlands Inventory, and aerial photographs and topographic maps of the project site. If the desktop review indicates that sensitive species or natural communities may occur in the proposed location for a facility, the project proponent shall either assume presence and mitigate accordingly, or a qualified biologist shall conduct species-specific biological and/or botanical field surveys to confirm the presence and extent of sensitive species and/or sensitive natural communities prior to starting work. If sensitive species or their sign (e.g., scat, burrows) are observed, the project proponent shall develop a plan to avoid impacts that are specific to each species. If impacts cannot be avoided, the project proponent shall consult with CDFW to obtain an Incidental Take Permit under Fish and Game Code Section 2081 and/or engage in Section 7 or 10 consultation with USFWS and/or NOAA Fisheries as required based on the species. If an Incidental Take Permit cannot be obtained for the site, for example due to the presence of a California fully protected species, then the facility shall not be built or modified at that location. If the desktop review indicates the potential presence of jurisdictional wetlands or associated waters of the U.S. or state, an aquatic resource delineation shall be conducted to determine presence and extent of jurisdictional wetlands and waters. The project proponent shall either redesign the facility to avoid impacts to jurisdictional wetlands and waters or obtain appropriate permits in accordance with Sections 404 and 401 of the CWA and Section 1600 of California Fish and Game Code.

MM BIO-2: Pre-construction Nesting Bird Survey. If construction activities occur during the breeding season (February 1 through August 31), a qualified biologist familiar with the identification of avian species known to occur in the proposed location of a new collection, sortation, or processing facility, shall conduct a pre-construction nesting bird survey no more than 3 days prior to initiation of ground disturbance activities. If nests are found, an avoidance buffer (dependent upon the species, the activity, and existing disturbances associated with land uses outside of the site and coordination with CDFW) shall be determined and demarcated by the biologist with construction fencing, flagging, construction lathe, or other means to demarcate the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground-disturbing activities shall occur within this buffer until the avian biologist has confirmed that breeding/nesting is completed and the young have fledged the nest, or confirmed that the nest is no longer active. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

MM BIO-3: Conduct Biological Monitoring. In sensitive areas or adjacent to special status plants, wildlife, and/or aquatic resources; sensitive habitat; or protected trees, a qualified biological monitor shall be required to monitor construction activities while work is immediately adjacent to these sensitive areas/species, or as deemed necessary by the qualified biologist to ensure that protection measures are in place to avoid incidental disturbance of habitat and special status species. Biological monitoring shall include, but not be limited to, monitoring installation of protective barriers, monitoring of active bird nests, ensuring construction equipment remains within the project footprint and designated staging areas, and ensuring that staging and areas used to refuel are located in upland areas away from riparian habitat and aquatic sites. The qualified biological monitor shall have the authority to stop work to protect biological resources onsite, including special status species, riparian and aquatic resources, and protected trees. If any special status plant or wildlife species are found in a work area, the biological monitor shall have stop work authority to halt construction as necessary to prevent

the death or injury to the species until the species leaves of its own accord or the proper consultation with USFWS and/or CDFW can be completed.

MM BIO-4: Implement a Worker Environmental Awareness Training. Prior to construction of Program facilities (including staging and mobilization), all Program personnel shall attend a Workers Environmental Awareness training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the proposed location for a future facility. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the proposed location for a future facility.

MM BIO-5: Sensitive Community Mitigation. If construction of a new facility would result in removal or adverse impacts to sensitive communities, mitigation shall be provided prior to construction. Mitigation ratios shall be at a minimum of 1:1 for preservation and 1:1 for construction of new sensitive communities. In addition, a Compensatory Mitigation Plan shall be developed that includes the following:

- Descriptions of the sensitive community/wetland types, and their expected functions and values.
- Performance standards and monitoring protocol to ensure the success of the mitigation sensitive communities over a period of 5 to 10 years.
- Engineering plans showing the location, size, and configuration of sensitive communities to be created or restored. An implementation schedule showing that construction of mitigation areas shall commence prior to or concurrently with the initiation of construction.
- A description of legal protection measures for the preserved sensitive communities (i.e., dedication of fee title, conservation easement, and/or an endowment held by an approved conservation organization, government agency, or mitigation bank).

MM BIO-6: Conduct Pre-construction Bat Surveys. Pre-construction bat surveys shall be conducted by a qualified bat biologist within 30 days of starting construction, if pre-construction reconnaissance surveys (**MM BIO-1**) identify suitable habitat for roosting bats in the project location or immediately adjacent. The pre-construction survey shall include a visual and acoustic survey conducted by the qualified bat biologist within the work area and surrounding areas that has suitable habitat for roosting bats including bridges, abandoned structures or trees with large cavity or dense foliage.

If bat roost sites are identified and could be disturbed, then bat avoidance and relocation measures will be implemented. Prior to any ground-disturbing activity or activities that could disturb bat roost sites, a qualified bat biologist will survey for active bat colonies, such as hibernacula or maternity roosts. If active hibernacula or maternity roosts are identified in the work area or in the buffer area (as defined by the qualified bat biologist, based on site conditions, planned work, and anticipated indirect impacts on bats), they will be avoided. If avoidance is not feasible, then a qualified bat biologist with experience conducting bat evictions, exclusion, and mitigation will prepare a mitigation plan detailing the eviction, exclusion, and relocation of the bat colony and will provide for construction of an alternative bat roosting habitat outside of the work area. Alternative bat habitat may be required to be constructed and installed up to two years prior to any bat eviction and exclusion and must be approved by CDFW.

3.8 Cultural Resources

This section describes at a programmatic level the cultural resources of the state; identifies applicable federal, and state regulations; and analyzes the potential impacts of the Program on cultural resources in the state. The potential impacts to tribal cultural resources are addressed in Section 3.21 (Tribal Cultural Resources). Table 3.8-1 summarizes impacts to cultural resources that could result from implementation of the Program.

Table 3.8-1. Summary of Cultural Resources Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	No Impact	Potentially Significant and Unavoidable	MM CUL-1: Conduct Inventory and Significance Evaluation of Architectural Resources MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	No Impact	Potentially Significant and Unavoidable	MM CUL-1: Conduct Inventory and Significance Evaluation of Architectural Resources MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact	Less than Significant	None

3.8.1 Environmental Setting

Cultural resources are defined as prehistoric or archaeological resources, historic resources/places, architectural resources, and socially important resources. The area of analysis covers the entire geographic extent of California and includes many types of cultural resources. The ethnographic setting, indigenous resources, and historic-era resources are described herein to allow analysis at a program level of detail.

3.8.1.1 Ethnographic Overview

Beginning in the early 16th century, but primarily during the late 19th and early 20th centuries, Native American lifeways and languages (i.e., ethnographic data) were documented throughout California. Whether

provided by professional ethnographers or archaeologists, field personnel from government agencies such as the Bureau of Indian Affairs, soldiers, merchants, settlers, or travelers, ethnographic accounts partly illuminate the traditions, beliefs, and cultures of Native American groups during specific points in time. Synthesized narratives such as the *Handbook of North American Indians, Volume 8: California* (Heizer 1978) categorize Native traditions and practices documented at the time in California; however, the complexity of regional diversity should not be overlooked. At least six primary language families exist in California, and there may be more than 300 different dialects of approximately 100 languages. The “geolinguistic mosaic of the ethnographic period, with a startling diversity of languages and language families” indicates numerous major population shifts and migrations (Golla 2007). Ethnographers have also quantified at least 60 greater Indian cultures and as many as 250 specific tribes throughout the state. Similarities between California’s Native populations crossed geographic, climatic, and cultural boundaries (Golla 2007).

Ethnographically documented communities were generally focused on a central tribe with smaller satellite tribelets, although this characteristic varied by region. Shamanism and ceremonialism played important roles in the lives of most California Native Americans; the specific religious traditions themselves differed between groups. Basketry was widespread, and some southern tribes also manufactured pottery. Hunting, trapping, and fishing technologies were shared across tribal and cultural boundaries but varied depending on environmental conditions. Acorns, where available, were a staple throughout California. Native populations relied on deer, elk, small mammals, birds, and fish, and they used resources to their fullest extent, with little to no waste product (Heizer 1978).

Trade was well developed in California. The use of shell beads as currency was an important economic and cultural practice for many tribes. Food, ornaments, household items, clothing, industrial materials such as obsidian, finished items including canoes, pottery, basketry, and tobacco were used for trade items. Trade networks were well established, and although it appears that there were not professional traders, central villages served as focal points for trading (Heizer 1978). Regional differences in Native American beliefs are significant, yet there is a common identity and relationship with the environment. California Native peoples believe that nature is interrelated and immersed with sacred power. Most California tribes tell creation myths that often explain the origins of the earth, human existence, and individual cultural attributes. Stories have often taught morality or defined the establishment of elements. Modern Native American beliefs vary but are rooted in their ancestral land and traditions (Forbes 2001).

The effect of Spanish settlement and missionization in California marks the beginning of a devastating disruption of Native culture and life ways, with forced population movements, loss of land and territory (including traditional hunting and gathering locales), enslavement, and decline in population numbers from disease, malnutrition, starvation, and violence during the historic period (Castillo 1978). In the 1830s, foreign disease epidemics swept through the densely populated Central Valley, adjacent foothills, and North Coast Ranges, decimating indigenous population numbers (Cook 1978). By 1850, with their lands, resources, and way of life being overrun by the steady influx of nonnative people during the Gold Rush, California’s Native population was reduced to about 100,000; by 1900, there were only 20,000 or less than 7% of the precontact number (Cook 1978). Existing reservations were created in California by the federal government beginning in 1858 but encompass only a fraction of Native lands.

3.8.1.2 Historical Overview

The earliest European presence in California came with the Spanish discovery and exploration of the California coast in the mid-16th century. Alta California had been claimed for Spain in 1542 by the Portuguese explorer Juan Cabrillo. European expansion into Alta California began when Spanish Mexico instigated the establishment of a string of Franciscan missions throughout the region. Mission San Diego de Alcalá, the first of 21 California missions, was founded in July 1769. Over the next 50 years the mission system was extended farther north. Alongside the missions came a network of military establishments or presidios and civilian settlements or pueblos (Santa Clara University 2024). Although the original Spanish plan for the mission system included secularization, the process did not begin until Mexico gained independence from Spain. Fueled by reports of Franciscan padres degrading the Native peoples and failing to provide food and services to the military, the Mexican government began secularization in mid-1834. The mission lands were often granted to high-ranking Mexican Californian soldiers, politicians, and socialites. Early accounts describe ranchos with large households, operated by a sizeable Native American labor force. Most ranchos were intensively involved in the hide-and-tallow trade, supporting huge herds of cattle on their vast landholdings. The cattle were driven to matanzas, or slaughter sites, that were usually as close to water transportation as possible for easy transport onto foreign trade vessels (University of San Diego 2015).

Beginning in the 1830s, Americans began to migrate to California, and many became Mexican citizens. Many of these first immigrants became acculturated into Mexican society and politics, including some who went on to become prominent businessmen and landowners. The discovery of gold in California in 1848 instigated one of the largest migrations in history. Most came to dig for gold, but many came with the foresight that miners needed supplies. Earlier residents of California, including many Californios and previous Euroamerican immigrants, capitalized on the new immigrant population. After the acquisition of California by the U.S. that same year, many Californios also struggled to hold on to their vast land holdings. The Treaty of Guadalupe Hidalgo promised that property belonging to the Mexicans would be “inviolably respected,” but the new Americans generally believed that California’s lands should be public property as a privilege gained with the military victory. The newly arrived immigrants ignored the vague land-grant maps, or *diseños*, that marked the boundaries of each rancho territory. Squatters settled on land officially owned by Mexicans and violence often erupted. Many Californios lost substantial amounts of land, despite legal efforts to hold on to it. Although many claims were confirmed, the Mexican landowners were often bankrupt by the end of the long and costly proceedings. Mining camps and towns were established almost immediately throughout California’s gold-bearing regions, which are generally located along the western foothills of the Sierra Nevada and along the Klamath and Trinity River basins (California State Parks 2024). The influx also brought a wide-ranging diversity of cultures and nationalities. Almost immediately after the discovery of gold, investors began talking about the construction of a transcontinental railroad that would connect Eastern goods, money, and services to the new Western enterprises. Before construction of the railroad, however, California’s extensive network of inland waterways was crucial for travel to the interior.

3.8.1.3 Archaeological and Historical Resources

A comprehensive inventory of archaeological, historical, or tribal cultural resources within the state is not feasible within the context of this PEIR due to the statewide nature of the Program. In a program-level analysis, the evaluation can provide meaningful information by focusing on types of cultural resources that may be affected. The following are general cultural resource types that may be present in areas where development could occur.

- Historical Resources, which may include one or more of the following features:
 - Buildings: A building is a structure created to shelter any form of human activity (e.g., house, barn, church, and hotel).
 - Structure: A structure is constructed for purposes other than human shelter, and it is often an engineering project or large in scale (e.g., bridges, dams, lighthouses, water towers, radio telescopes).
 - Linear Resource: Linear resources are mostly long, narrow constructions, generally consisting of any device constructed to transport water (e.g., flumes, pipes, canals, dams, and tunnels), corridors designed to facilitate the transportation of people or information (e.g., roads, trails, railroad grades, and telegraph/telephone lines), and barriers constructed to separate adjoining areas (e.g., stone fences, walls, and fences).
 - Mine: This includes excavations and associated structures and tailings built into the earth to extract natural resources.
 - Cemetery: These are locations of human interment and include any single or multiple burials.
 - Foundation: These are structural footings to support a building or structure.
- Refuse Deposit: These are discrete areas that contain artifact concentrations of glass, ceramic, metal, bone, or other material reflecting the purposeful discard of those materials (e.g., privies, dumps, trash scatters).
- Prehistoric Archaeological Resources - Different types of archaeological resources that may be present include the following features:
 - Village Site: Village sites are locations of continuous and concentrated habitation that typically have a large, well-developed midden deposit containing abundant artifactual evidence. They may also contain burials, rock art, bedrock milling stations, or other features.
 - Burial Site: A burial site or cemetery is a location where intentional human interments are found in large numbers and close concentration. These locations typically lack evidence of other prehistoric activities.
 - Milling Site: This is a boulder or group of boulders or bedrock outcrops that contain at least one modified surface (mortar, slick, or metate) caused by the processing of food or other natural resources.
 - Lithic Workshop: A lithic workshop is a distribution of stone flakes and tool fragments reflecting purposeful modification of parent stone through percussion and/or pressure detachment.
 - Ceramic Scatter: A ceramic scatter consists of fragments of ceramic vessels and artifacts distributed over generally open, flat ground.
 - Shell Middens: Shell middens are locations with large amounts of marine shell that extend to an appreciable depth below ground surface. They are normally found in coastal contexts but have been found in the interior.
 - Rock Art: Rock art consists of designs or design elements on rock surfaces created by surface applications (pictographs) or by etching (petroglyphs).

- Rock Shelters: These are natural caves or crevices in rock outcrops in which human use has left artifactual remains.
- Tribal Cultural Resources - The definition of Tribal Cultural Resources in CEQA (PRC Section 21074) requires that the site, features, places, cultural landscapes, sacred places, and objects of cultural value are either included in or eligible to be included in the California Register of Historic Resources (CRHR), included in a local register of historical resources, or determined by the lead agency to be significant based on criteria for resources eligible to the CRHR. They may include the following:
- Resource Collection Location: This is a location where Native Americans have historically gone, and are known or believed to go today, to collect resources in accordance with traditional cultural rules of practice.
 - Spiritual Location: This is a location where Native American religious practitioners have historically gone, and are known or believed to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice.
 - Traditional Location: This is a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world.
 - Cemetery: A cemetery is a location that has been selected for human burial or interment.

3.8.2 Regulatory Framework

Federal and state laws, regulations, plans, and/or guidelines related to cultural resources that are applicable to the Program are summarized below.

3.8.2.1 Federal

3.8.2.1.1 National Historical Preservation Act

Federal protection of resources is legislated by (a) the National Historic Preservation Act of 1966 as amended by 16 U.S. Code 470, (b) the Archaeological Resource Protection Act of 1979, and (c) the Advisory Council on Historical Preservation. These laws and organizations maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP). Compliance with these federal requirements would be relevant only if a federal agency permit or approval, such as a CWA Section 404 permit, were needed to implement a project.

Section 106 of the National Historic Preservation Act and accompanying regulations (36 CFR Part 800) constitute the main federal regulatory framework guiding cultural resources investigations and require consideration of effects on properties that are listed in, or may be eligible for listing in, the NRHP. The NRHP is the nation's master inventory of known historical resources.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old. (However, properties under 50 years of age that are of exceptional importance or are contributors to a historic district can also be included in the NRHP.)
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and association.
3. It possesses at least one of the following characteristics:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of history (events).

Criterion B: It is associated with the lives of persons significant in the past (persons).

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master or possesses high artistic values; or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).

Criterion D: It has yielded, or may be likely to yield, information important to prehistory or history (information potential).

The National Register Bulletin also provides guidance in the evaluation of archaeological site significance. Effects of a project on properties listed in the NRHP must be evaluated under CEQA.

3.8.2.2 State

3.8.2.2.1 California Environmental Quality Act

The cultural resources provisions of CEQA provide for the documentation and protection of significant prehistoric and historic-era resources. Before the approval of discretionary projects and the commencement of agency undertakings, the potential impacts of the project on archaeological and historical resources must be considered (PRC Sections 21083.2 and 21084.1 and CEQA Guidelines Section 15064.5). The significance of an archaeological or historical resource per the CEQA Guidelines is an important consideration in terms of their management. Listing on the CRHR, or eligibility for listing on the CRHR, and/or listing on a local register of historical resources (as defined in PRC Section 5020.1(k) or identified as significant on a historical resource survey meeting the requirements of PRC Section 5024.1(g), are the primary considerations in whether or not a resource is subjected to further research and documentation. The significance of cultural resources is measured against the criteria outlined PRC 5024.1. Determining the CRHR eligibility of historic and prehistoric sites located within the study area is guided by the specific legal context of the site's significance as outlined in PRC Sections 21083.2 and 21084.1 and CEQA Guidelines Section 15064.5). In the CRHR cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

- a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- b) Is associated with the lives of persons important in our past;
- c) Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of an important creative individual or possesses high artistic values; or
- d) Has yielded, or may be likely to yield, information important in prehistory or history.

The significance of a prehistoric archaeological resource is normally defined relative to criterion (d), and its ability "to yield, information important in prehistory." This is assessed by the type of information the resource may inform about research questions that explain prehistoric behavior. As a result, the condition or "integrity" of a prehistoric resource is critical; if the resource has been damaged and/or its original horizontal and/or vertical depositional context has been disturbed, it is possible that the ability of that resource to contribute to understanding prehistoric behavior has been compromised.

The significance of an historic-era archaeological resource and/or a built architectural resource is commonly associated with any of the four criteria listed above. Relative to criterion (d), such a resource is not normally considered “important in history” if it is less than 50 years old, given that it would otherwise not be sufficiently unique in terms of its number and distribution. The integrity of an historic-era archaeological resource is also a factor relative to its potential significance, similar to a prehistoric archaeological resource.

As a matter of policy, public agencies avoid damaging effects on historic and archaeological resources. When impacts to historic or archaeological cannot be entirely avoided, their effects can be mitigated through avoidance during construction phases, stabilizing and securing structures prevent deterioration, incorporation of a site into open space, capping resources with stable fill, deeding a site into a conservation easement, or data recovery (CEQA Guidelines Section 15126.4 (b)).

CEQA Guidelines also require consideration of unique archaeological sites (Section 15064.5). If an archaeological site does not meet the criteria for inclusion on the CRHR but does meet the definition of a unique archaeological resource as outlined in the PRC Section 21083.2, it may be treated as a significant historical resource. PRC Section 21083.2(g) states that a unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. It contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.
2. It has a special and particular quality, such as being the oldest of its type or the best available example of its type.
3. It is directly associated with a scientifically recognized important prehistoric or historic event or person.

As discussed in Sections 21083.2(a) and (h), nonunique archaeological resources not meeting any of these criteria do not require further protection. If treatment options under Section 21083.2 include preserving such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation, or study in place without excavation and curation if the study finds that the artifacts would not meet one or more of the criteria for defining a “unique archaeological resource”.

CEQA Guidelines Section 15064.5(e) also requires that excavation activities stop whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the coroner determines that the remains are those of Native Americans, the NAHC must be contacted within 24 hours. At that time, CEQA Guidelines Section 15064.5(d) directs the lead agency to consult with the appropriate tribe(s) as identified by the NAHC and directs the lead agency (or applicant) to develop an agreement with the tribe(s) for the treatment and disposition of the remains.

3.8.2.2.2 California Register of Historical Resources

The CRHR is “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1(a)). The criteria for eligibility for the CRHR are based on the criteria for listing on the National Register (PRC Section 5024.1(b)). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the National Register. To be eligible for the CRHR, a cultural resource must be significant at the federal, state, and/or local level under one or more of the

following four criteria: (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; (2) Is associated with the lives of persons important in our past; (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; (4) Has yielded, or may be likely to yield, information important in prehistory or history. A resource eligible for the CRHR must be of sufficient age and retain enough of its historic character or appearance (integrity), to convey the reason for its significance. The CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing. The CRHR automatically includes the following resources:

- California properties listed in the National Register and those formally determined eligible for the National Register
- California Registered Historical Landmarks from No. 770 onward
- California Points of Historical Interest that have been evaluated by the California Office of Historic Preservation and have been recommended to the State Historical Commission for inclusion in the CRHR

The following other resources may be nominated to the CRHR:

- Historical resources with a significance rating of Category 3, 4, or 5 (properties identified as eligible for listing in the National Register, the CRHR, and/or a local jurisdiction register)
- Individual historic resources
- Historic resources contributing to historic districts
- Historic resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone

3.8.2.2.3 California Public Resources Code Section 5097

PRC Section 5097.99, as amended, prohibits obtaining or possessing Native American artifacts or human remains that are taken from a Native American grave or cairn. Knowingly or wilfully obtaining or possessing Native American artifacts or human remains is a felony punishable by imprisonment. Similarly, unlawful removal of any such items with an intent to sell or dissect or with malice or wantonness is a felony punishable by imprisonment.

3.8.2.2.4 California Native American Historic Resource Protection Act

The California Native American Historic Resources Protection Act of 2002 imposes civil penalties, including imprisonment and fines up to \$50,000 per violation, on persons who unlawfully and maliciously excavate upon, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the CRHR.

3.8.2.2.5 California Health and Safety Code Section 7050.5

Section 7050.5 of the California Health and Safety Code (CHSC) protects human remains by prohibiting the disinterment, disturbance, or removal of human remains from any location other than a dedicated cemetery. PRC Section 5097.98 (reiterated in State CEQA Guidelines Section 15064.59[e]) also identifies steps to follow if human remains are accidentally discovered or recognized in any location other than a dedicated cemetery.

3.8.3 Impacts Assessment

3.8.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts on cultural resources if it would:

- a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
- c) Disturb any human remains, including those interred outside of dedicated cemeteries.

3.8.3.2 Proposed Program

3.8.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

Impact Criterion b) Would the Program cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Impact Criterion c) Would the Program disturb any human remains, including those interred outside of dedicated cemeteries?

The Implementing Regulations require that by 2032, plastic covered material must be source reduced by at least 25% by weight and 25% by number of plastic components sold, offered for sale, or distributed in the state with 10% of the source reduction to be met either by switching to reusable or refillable options or through elimination of a plastic component. Reasonably foreseeable source reduction and refill/reuse measures would not directly result in ground-disturbing activities and therefore, they would not have the potential to impact historical resources or archaeological resources or disturb any human remains. Therefore, the source reduction and refill/reuse requirements of the Implementing Regulations would have **no impact** to cultural resources.

3.8.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Section 15064.5?

Impact Criterion b) Would the Program cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?

CONSTRUCTION AND OPERATION

Construction of collection, sortation, and processing facilities and operations and maintenance of those facilities as a reasonably foreseeable means of compliance with the Program could involve ground disturbance, vibration, and removal of historical and archaeological resources. Constructing these projects also has the potential to introduce new visual elements or modify existing visual elements (e.g., buildings and structures).

However, the exact details, including precise locations, of any such construction activities have yet to be determined. Accordingly, projects located in areas with known or previously unrecognized historical sites, located in communities with established historic preservation programs, or involving activities that would introduce new visual elements or disturb the existing terrain have the potential to result in significant historical resource impacts. Similarly, new and expanded collection, sortation, and processing facilities could result in significant impacts to archaeological resources if construction activities would disturb previously identified or unidentified archaeological resources. Identification of the degree and extent of impact would require project-specific analysis that includes a determination of the importance (i.e., the eligibility for local, state, or NRHP listing) of any historic resource recognized within the project site boundaries of a facility proposed in response to the Implementing Regulations.

To avoid and minimize this potential impact to a historical resource, **MM CUL-1** would require the evaluation of known and unknown historic resources and implementation of mitigation measures and procedures to avoid or minimize impacts to historic resources. Similarly, **MM CUL-2** would require the evaluation of archaeological resources and implementation of mitigation measures to avoid or minimize impacts to archaeological resources. If archaeological resources are encountered during project construction, implementation of **MM CUL-3** would ensure that encountered archaeological resources would be avoided, moved, recorded, or otherwise treated appropriately in accordance with pertinent laws and regulations.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts to historical and archaeological resources. Mitigation measures to reduce potential impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential impacts to historical and archaeological resources, implementation of **MM CUL-1**, **MM CUL-2**, and **MM CUL-3** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM CUL-1**, **MM CUL-2**, and **MM CUL-3**, construction or the relocation of a historical, architectural, or archaeological resource may alter the significance of the resource. Therefore, this PEIR discloses, for CEQA purposes, that the impacts may be potentially *significant and unavoidable*.

Impact Criterion c) Would the Program disturb any human remains, including those interred outside of dedicated cemeteries?

CONSTRUCTION AND OPERATION

Construction and operation of collection, sortation, and processing facilities by project proponents could involve ground disturbance (e.g., excavation, grading, drilling). However, the exact details, including precise locations, of any such construction activities have yet to be determined. The potential to uncover Native American human remains exists in locations throughout California, and there is a possibility that unmarked, previously unknown Native American or other graves, including those interred outside formal cemeteries, could be present where individual projects may be developed.

California law protects Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in CHSC Sections 7050.5 and 7052 and PRC Section 5097. These statutes require that if human remains are discovered, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the county coroner shall be notified immediately. If the remains are determined by the coroner to be Native American, NAHC shall be notified within 24 hours, and the guidelines of NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the archaeologist, the NAHC-designated most likely descendant, and the landowner shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments, if present, are not disturbed. If NAHC is unable to identify the most likely descendant, the most likely descendant fails to make a recommendation, or the landowner rejects the most likely descendant's recommendation and mediation by NAHC fails to provide acceptable measures, the landowner shall rebury the Native American remains and associated grave goods with appropriate dignity on the property in an area not subject to further disturbance in accordance with State CEQA Guidelines Section 15064.5(e)(2). The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94. Compliance with CHSC Sections 7050.5 and 7052 and PRC Section 5097, requires avoiding or minimizing disturbance of human remains, and appropriately treating any remains that are discovered. In compliance with California law, this impact would be *less than significant*.

MITIGATION MEASURE(S)

MM CUL-1: Conduct Inventory and Significance Evaluation of Historical Resources. Before implementation of any individual collection, sortation, or processing facility project, the need for an inventory and significance evaluation of historical resources in the project area shall be assessed, and, if necessary, based upon the type of activity conducted and potential for built features to be present or disturbed. The assessment should consist of a review of maps and aerial photos to see if existing built features are in the CEQA project area. If so, and the age of these features is either unknown or is known to be older than 45 years old, then an inventory and evaluation should be completed by, or under the direct supervision of, a qualified architectural historian, defined as one who meets the U.S. Secretary of the Interior's Professional Qualifications Standards for Historical History or History. This inventory and evaluation shall include the following:

- Map(s) and verbal description of the project CEQA Area of Potential Effects (C-APE) for cultural resources that delineates both the horizontal and vertical extents of where a project could result in impacts, including both direct and indirect, on cultural resources.
- A records search at the appropriate repository of the California Historical Resources Information System for the C-APE and vicinity (typically areas within 0.25 or 0.5 mile, based on setting) to acquire records on previously recorded cultural resources in the C-APE and vicinity and previous cultural resources studies conducted for the C-APE and vicinity.
- Background research on the history of the C-APE and vicinity for all projects determined to need additional historical architecture assessment.
- If, after review, features of the built environment are determined to be less than 45 years old, a summary statement of their age and references for this determination will be included in the project area description. No further analysis is necessary.

- If historic-era built resources are determined to likely be present, an architectural field survey of the C-APE, unless previous architectural field surveys no more than two years old have been conducted for the C-APE, in which case a new field survey is not necessary. Any architectural resources identified in the C-APE during the survey shall be recorded on the appropriate California Department of Parks and Recreation 523 forms (i.e., site record forms).
- An evaluation of any architectural resources identified in the C-APE for CRHR eligibility (i.e., whether they qualify as historical resources, as defined in State CEQA Guidelines Section 15064.5).
- An assessment of potential project impacts on any historical resources identified in the C-APE. This should include an analysis of whether the project’s potential impacts on the historical resource would be consistent with the U.S. Secretary of the Interior’s Standards for the Treatment of Historic Properties and applicable guidelines.
- A technical report meeting U.S. Secretary of the Interior’s Standards for architectural history technical reporting. This report will document the mitigation measures taken and any study results, and following CEQA lead agency review and approval, completes the requirements of this mitigation measure.

If potentially significant impacts on historical resources are identified, an approach for reducing such impacts shall be developed before project implementation and in coordination with interested parties (e.g., historical societies, local communities). Typical measures for reducing impacts include:

- Modifying the project to avoid impacts on historical resources.
- Documentation of historical resources, to the standards of and to be included in the Historic American Building Survey, Historic American Engineering Record, or Historic American Landscapes Survey, as appropriate. As described in the above standards, the documentation shall be conducted by a qualified architectural historian, defined above, and shall include large-format photography, measured drawings, written architectural descriptions, and historical narratives. The completed documentation shall be submitted to the U.S. Library of Congress.
- Relocation of historical resources in conformance with the U.S. Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.
- Monitoring construction-related and operational vibrations at historical resources.
- For historical resources that are landscapes, preservation of the landscape’s historic form, features, and details that have evolved over time, in conformance with the U.S. Secretary of the Interior’s Guidance for the Treatment of Cultural Landscapes.
- Development and implementation of interpretive programs or displays, and community outreach.

MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources. Before implementation of any individual collection, sortation, or processing facility project that includes ground disturbance, an archaeological records search and sensitivity assessment, inventory and significance evaluation of archaeological resources identified in the C-APE shall be conducted. The inventory and evaluation should be done by or under the direct supervision of a qualified archaeologist, defined as one who meets the U.S. Secretary of the Interior’s Professional Qualifications Standards for Archeology, and shall include the following:

- Map(s) and verbal description of the project C-APE for cultural resources that delineate both the horizontal and vertical extents of where a project could result in impacts, including both direct and indirect, on cultural resources.
- A records search at the appropriate repository of the California Historical Resources Information System for the C-APE and vicinity (typically areas within 0.25 or 0.5 mile, based on setting) to acquire records on previously recorded cultural resources in the C-APE and vicinity and previous cultural resources studies conducted for the C-APE and vicinity. This task can be performed by either the qualified archaeologist or the appropriate local California Historical Resources Information System center staff.

Outreach to the California NAHC, including a request of a search of the Sacred Lands File for the C-APE, to determine if any documented Native American sacred sites could be affected by the project.

- Consultation with California Native American Tribes pursuant to PRC Section 21080.3 to determine whether any indigenous archaeological resource or tribal cultural resources could be affected by the project. Project proponents shall submit a Sacred Lands File & Native American Contacts List Request to the NAHC at the initial stages of project development (or as early as practicable) to determine if a project would have an impact on Native American cultural resources. The project proponent shall coordinate with the approving Water Board or other CEQA lead agency, if applicable, as soon as possible whenever tribes that are traditionally and culturally affiliated to a project area are identified. Any tribe identified by the NAHC will require notification of the proposed project by the lead agency as soon as practicable during early design. Tribes will be consulted if a request is received after initial notification. Consultation will include discussion regarding project design, cultural resource survey, protocols for construction monitoring, and any other tribal concern. Construction of the project will not commence until the approving Water Board or other CEQA lead agency achieves compliance with the CalEPA Tribal Consultation Protocol (April 2018).
- If the C-APE is in or adjacent to navigable waterways, outreach to the California State Lands Commission to request a search of their Shipwrecks Database, to determine whether any submerged archaeological resources may be present in the C-APE.
- Background research on the history, including ethnography and indigenous presence, of the C-APE and vicinity.
- An archaeological sensitivity analysis of the C-APE based on mapped geologic formations and soils, previously recorded archaeological resources, previous archaeological studies, and Native American consultation.

If an archaeological study is not warranted based on the above review, a summary of the assessment and justification of the determination will be prepared. If the CEQA lead agency agrees with the determination, no further study is needed. If a study is warranted, as a result of these archival studies and consultations, an archaeological field survey of the C-APE will be conducted. The field survey shall include, at a minimum, a pedestrian survey. If the archaeological sensitivity analysis suggests a high potential for buried archaeological resources in the C-APE, a subsurface survey shall also be conducted. If previous archaeological field surveys no more than two years old have been conducted for the C-APE, a new field survey is not necessary, unless their field methods do not conform to those required above (e.g., no subsurface survey was conducted but C-APE has high potential for buried archaeological resources). Any archaeological resources identified in the C-APE

during the survey shall be recorded on the appropriate California Department of Parks and Recreation 523 forms (i.e., site record forms).

- An evaluation of any archaeological resources identified in the C-APE for CRHR Register eligibility (i.e., as qualifying as historical resources, as defined in State CEQA Guidelines Section 15064.5) as well as whether they qualify as unique archaeological resources, pursuant to PRC Section 21083.2. Such evaluation may require archaeological testing (excavation), potentially including laboratory analysis, and consultation with relevant Native American representatives (for indigenous resources).
- An assessment of potential project impacts on any archaeological resources identified in the C-APE that qualify as historical resources (per State CEQA Guidelines Section 15064.5) and/or unique archaeological resources (per PRC Section 21083.2). This shall include an analysis of whether the project’s potential impacts would materially alter a resource’s physical characteristics that convey its historical significance and that justify its inclusion (or eligibility for inclusion) in the CRHR or a qualified local register.
- A technical report meeting U.S. Secretary of the Interior’s Standards for archaeological technical reporting. This report will document the mitigation measures taken and any study results, and, following CEQA lead agency review and approval, completes the requirements of this mitigation measure.

If potentially significant impacts on archaeological resources that qualify as historical resources (per State CEQA Guidelines Section 15064.5) and/or unique archaeological resources (per PRC Section 21083.2) are identified, develop, before project implementation and in coordination with interested or consulting parties (e.g., Native American representatives [for indigenous resources], historical societies [for historic-era resources], local communities) an approach for reducing such impacts. If any such resources are on or in the tide and submerged lands of California, this process shall also include coordination with the California State Lands Commission. Typical measures for reducing impacts include the following:

- Modify the project to avoid impacts on resources.
- Plan parks, green space, or other open space to incorporate the resources.
- Develop and implement a detailed archaeological resources management plan to recover the scientifically consequential information from archaeological resources before any excavation at the resource’s location. Treatment for most archaeological resources consists of (but is not necessarily limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the resource to be affected by the project.
- Develop and implement interpretive programs or displays and conduct community outreach.

MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or

Operation. Funding for tribal monitors, and for reburial or repatriation, shall be provided as necessary. If archaeological resources are encountered during project construction or operation of any collection, sortation, or processing facility, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. The lead agency and a qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior’s Professional Qualifications Standards for Archeology, shall be immediately informed of the discovery. The qualified archaeologist shall inspect the discovery and notify the lead agency of their initial assessment. If the qualified archaeologist determines that the resource is or is potentially indigenous in origin, the lead agency shall consult with culturally affiliated California Native American Tribes to assess the find and determine

whether it is potentially a tribal cultural resource. If the lead agency determines, based on recommendations from the qualified archaeologist and culturally affiliated California Native American Tribes, that the resource is indigenous, that the resource may qualify as a historical resource (per State CEQA Guidelines Section 15064.5), unique archaeological resource (per PRC Section 21083.2), or tribal cultural resource (per PRC Section 21074), then the resource shall be avoided if feasible. If avoidance of an identified indigenous resource is not feasible, the lead agency shall consult with a qualified archaeologist, culturally affiliated California Native American Tribes, and other appropriate interested parties to determine treatment measures to minimize or mitigate any potential impacts on the resource pursuant to PRC Section 21083.2 and State CEQA Guidelines Section 15126.4. If any such resources are on or in the tide and submerged lands of California, this process shall also include coordination with the California State Lands Commission. Once treatment measures have been determined, the lead agency shall prepare and implement an archaeological (and/or tribal cultural) resources management plan that outlines the treatment measures for the resource. Treatment measures typically consist of the following steps:

- Determine whether the resource qualifies as a historical resource (per State CEQA Guidelines Section 15064.5), unique archaeological resource (per PRC Section 21083.2), or tribal cultural resource (per PRC Section 21074) through analysis that could include additional historical or ethnographic research, evaluative testing (excavation), or laboratory analysis.
- If it qualifies as a historical resource (per State CEQA Guidelines Section 15064.5) and/or unique archaeological resource (per PRC Section 21083.2), implement measures for avoiding or reducing impacts such as the following:
 - Modify the project to avoid impacts on resources.
 - Plan parks, green space, or other open space to incorporate resources.
 - Recover the scientifically consequential information from the archaeological resource before any excavation at the resource’s location. This typically consists of (but is not necessarily limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the resource to be affected by the project.
 - Develop and implement interpretive programs or displays.
- If it qualifies as a tribal cultural resource (per PRC Section 21074) implement measures for avoiding or reducing impacts such as the following:
 - Avoid and preserve the resource in place through measures that include but are not limited to the following:
 - > Plan and construct the project to avoid the resource and protect the cultural and natural context.
 - > Plan greenspace, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.
 - > Treat the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, through measures that include but are not limited to the following:

- > Protect the cultural character and integrity of the resource.
- > Protect the traditional use of the resource.
- > Protect the confidentiality of the resource.
- > Implement permanent conservation easements or other interests in real property, with cultural appropriate management criteria for the purposes of preserving or using the resource or place.

3.9 Energy

This section describes the existing energy demands and resources of California; identifies applicable federal and state regulations; and analyzes potential impacts of the Program on energy resources. In considering energy resources for a statewide program, this section discusses existing energy supplies and energy use patterns in the region and locality (pursuant to CEQA Guidelines Appendix F). Information and analysis related to GHG emissions and transportation is provided in Section 3.11 (Greenhouse Gas Emissions) and Section 3.20 (Transportation), respectively. Table 3.9-1 summarizes the impacts on energy resources that could result from implementation of the Program.

Table 3.9-1. Summary of Energy Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than Significant	Less than Significant	None
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than Significant	Less than Significant	None

3.9.1 Existing Conditions

Energy in California includes a mix of renewable and non-renewable resources. Electricity, a consumptive utility, is a human-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. One-third of the energy consumed in California is natural gas. The total electricity consumption in California in 2022 was approximately 287,826.1 gigawatt hours (i.e., 287,826.1 million kilowatt hours [kWh]) (California Energy Commission [CEC] 2024a). In 2022, approximately 45% of the natural gas consumed in the state was used to generate electricity (CEC 2022a). Power plants in California generate approximately 70.8% of the in-state electricity demand, with large hydroelectric plants in the Pacific Northwest and power plants in the southwestern United States generating the remaining electricity (CEC 2022b). The contribution of in- and out-of-state power plants depends on many factors, including the amount of precipitation that occurred in the previous year. If the state receives abundant rainfall during winter, then more in-state hydropower can be used in spring and summer to provide the base load for the state’s electrical grid. During drought years, in-state hydropower is reduced and requires the import of power from other states, such as Oregon and Washington.

The 2024 California Gas Report presents a forecast of natural gas supplies and requirements for California through the year 2040. This report predicts gas demand for all sectors (residential, commercial, industrial, energy generation, and wholesale exports) and presents best estimates, as well as scenarios for hot and cold

years. Under the Average Demand case, gas demand for the entire state is projected to average 4,931 million cubic feet of gas per day (MMcf/day) in 2024 decreasing to 3,593 MMcf/day by 2040, a decline of 2.0 percent per year (California Gas and Electric Utilities 2024).

3.9.1.1 Energy Use for Transportation

On-road vehicles use about 90% of the petroleum consumed in California. Gasoline and diesel fuel constitute 83 and 17% of petroleum-based fuels sold in California, respectively. According to the California State Board of Equalization, 13.6 billion gallons of gasoline and 3.6 billion gallons of diesel fuel were sold in 2022 (CEC 2024b, 2024c). Gasoline and diesel fuel sold in California for motor vehicles and equipment are refined in California to meet specific formulations required by CARB. Medium and heavy-duty vehicles that consume gasoline and diesel fuels are used for construction and business operations. Transfer trucks used to haul waste between processing facilities are typically Class 8b trucks powered by diesel fuels. Waste collection throughout California is supported by a fleet of heavy-duty trucks, defined by CARB as Solid Waste Collection Vehicles, clarified in the 2019 Solid Waste Collection Vehicle regulation amendments of solid waste collection vehicles to include any diesel vehicle with a Gross Vehicle Weight Rating over 14,000 lbs that have specific body types (“garbagepacker” or “garbage-roll off”) (CARB 2019). Solid waste collection vehicles are currently powered using diesel fuel or natural gas. CARB’s 2021 Emissions Factor (EMFAC) model estimates that solid waste collection vehicles operated statewide in 2019 with 56% powered by diesel fuel and 44% powered by natural gas (CARB 2021).

California has a growing number of alternative fuel vehicles as a result of the joint efforts of CEC, CARB, local air districts, the federal government, transit agencies, utilities, and other public and private entities. As of March 2019, California had more than 54,646 alternative fueling stations (Alternative Fuels Data Center 2024). A variety of alternative fuels are used to reduce demand for petroleum-based fuel. The use of these fuels is encouraged through various statewide regulations and plans (e.g., Low Carbon Fuel Standard, AB 32 Scoping Plan). Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many transportation fuels, including:

- biodiesel,
- electricity,
- ethanol (e.g., E-10 and E-85, which are ethanol-gasoline blends containing 10 or up to 85 percent ethanol content, respectively),
- hydrogen,
- natural gas (methane in the form of compressed and liquefied natural gas),
- propane,
- renewable diesel (including biomass-to-liquid),
- synthetic fuels, and
- gas-to-liquid and coal-to-liquid fuels.

3.9.2 Regulatory Framework

Federal and state laws, regulations, plans, and/or guidelines related to energy that are applicable to the Program are summarized below.

3.9.2.1 Federal

3.9.2.1.1 Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this act, the National Highway Traffic and Safety Administration (NHTSA), part of the USDOT, is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

3.9.2.1.2 Corporate Average Fuel Economy Standards

In response to the *Massachusetts v. Environmental Protection Agency* ruling, President George W. Bush issued Executive Order 13432 in 2007, directing the USEPA, the USDOT, and the United States Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. The NHTSA subsequently issued multiple final rules regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011 and later for model years 2012-2016, and 2017-2021. In March 2020, the USDOT and the USEPA issued the final Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which amends existing Corporate Average Fuel Economy standards and tailpipe CO₂ emissions standards for passenger cars and light trucks and establishes new standards covering model years 2021 through 2026. These standards set a combined fleet wide average of 36.9 to 37 for the model years affected. In February 2022, the USEPA issued the Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards. This final rule revises current GHG standards for vehicles in model year 2023 through model year 2026 and establishes the most stringent GHG standards ever set for the light-duty vehicle sector that are expected to result in average fuel economy label values of 40 miles per gallon (mpg), while the standards they replace (i.e., the SAFE rule standards), would achieve only 32 mpg in model year 2026 vehicles.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. Building on the first phase of standards, in August 2016, the USEPA and NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution.

3.9.2.1.3 Energy Policy Act of 1992 and 2005

The Energy Policy Act of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. It includes several parts intended to build an inventory of alternative fuel vehicles in large, centrally fueled fleets in metropolitan areas. The Energy Policy Act requires certain federal, State, and local government and private fleets to purchase a percentage of light-duty alternative fuel vehicles capable of running on alternative fuels each year. In addition, financial incentives are also included in the Energy Policy Act. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of alternative fuel vehicles. States are also required by the act to consider a variety of incentive programs to help promote alternative fuel vehicles. The Energy Policy Act of 2005 addresses energy production in the U.S. and

provides tax credits for electricity generated by qualified sources, such as gas generated by solid waste management activities. Section 203 of the Energy Policy Act of 2005 explicitly includes municipal solid waste-derived electricity as a “renewable energy” resource eligible to satisfy the federal renewable energy purchase requirement established in that section.

3.9.2.1.4 Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25% greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of Energy Independence and Security Act address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”

3.9.2.1.5 Heavy-Duty Engines and Vehicles Fuel Efficiency Standards

In addition to the regulations applicable to passenger cars and light-duty trucks, on August 9, 2011, the USEPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks, which apply to vehicles from model years 2014 through 2018 (USEPA and NHTSA 2016). The USEPA and the NHTSA adopted standards for CO₂ emissions and fuel consumption, respectively, tailored to each of three main vehicle categories: (1) combination tractors, (2) heavy-duty pickup trucks and vans, and (3) vocational vehicles. According to the USEPA, this program will reduce GHG emissions and fuel consumption for affected vehicles by 6 to 23%. In August 2018, the USEPA and NHTSA issued a proposed ruling to roll back some of the fuel economy and GHG standards for medium- and heavy-duty trucks. The new ruling proposed by the USEPA and NHTSA, the Safer Affordable Fuel-Efficient Vehicle Rules, would replace the Corporate Average Fuel Economy standards set for model year 2022-2025 passenger cars and light-duty trucks, while the 2021 model year vehicles will maintain the Corporate Average Fuel Economy standards. On September 27, 2019, USEPA and NHTSA published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program” (84 FR 51,310), which became effective November 26, 2019. This Part One Rule revoked California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the USEPA and NHTSA issued Part Two of the Safer Affordable Fuel-Efficient Rule, which went into effect 60 days after being published in the Federal Register. Part Two Rule sets CO₂ emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through

2026. In December 2021, the USEPA finalized federal GHG emissions standards for passenger cars and light trucks for Model Years 2023 through 2026. On March 9, 2022, USEPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and zero emission vehicle (ZEV) sales mandate and entirely rescinded the SAFE Rule (Part One). Although California's authority under the CAA to implement its own GHG emission standards and ZEV sales mandate has been restored, litigation over these federal rules is still pending.

3.9.2.2 State

3.9.2.2.1 Assembly Bill 32 and Senate Bill 32

In September 2006, the California Global Warming Solutions Act of 2006, also known as AB 32, was signed into law. AB 32 focuses on reducing GHG emissions in California and requires CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. CARB initially determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit was 427 million MTCO_{2e}. The 2020 target reduction was estimated to be 174 million MTCO_{2e}.

To achieve the goal, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. As of 2017, SB 32 expands upon AB 32, mandating a reduction in GHG emissions to 40% below the 1990 levels by 2030.

3.9.2.2.2 Assembly Bill 1279

AB 1279 declares the state would achieve net zero GHG emissions as soon as possible, but no later than 2045. In addition, it declares the state would achieve and maintain net negative GHG emissions and ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85% below the 1990 levels. The bill requires updates to the scoping plan (once every five years) to implement various policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies.

3.9.2.2.3 Senate Bill 1383

SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40% below 2013 levels
- Hydrofluorocarbons – 40% below 2013 levels
- Anthropogenic black carbon – 50% below 2013 levels.

SB 1383 also requires CalRecycle, in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

3.9.2.2.4 CARB Heavy-Duty On-Road and Off-Road Vehicle Regulations

CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to DPM emissions (Title 13, CCR Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled

commercial vehicles to idle for more than 5 minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

In addition to limiting exhaust from idling trucks, CARB also promulgated emissions standards for offroad diesel construction equipment greater than 25 hp such as loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-road Diesel-Fueled Fleets regulation adopted by CARB encourages the retirement, replacement, or repower of older engines with newer emissions-controlled models (Title 13, CCR Section 2449). The compliance schedule requires full implementation by 2023 for all equipment in large and medium fleets and by 2028 for small fleets. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

3.9.2.2.5 Senate Bill 1389, Integrated Energy Policy Report

SB 1389 (Chapter 568, Statutes of 2002) required the CEC to “conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The [CEC] shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state’s economy, and protect public health and safety” (PRC Section 25301(a)). In response to this requirement, CEC publishes an Integrated Energy Policy Report every two years and an update every other year.

3.9.2.2.6 Warren-Alquist Act

The 1974 Warren-Alquist Act established what is now known as the CEC in response to the State Legislature’s review of studies that projected an increase in statewide energy demand, which had prompted interest in the development of nuclear power plants in environmentally sensitive coastal areas. In the recitals contained in the act, the legislature stated that it “finds and declares that the present rapid rate of growth in demand for electric energy is in part due to wasteful, uneconomic, inefficient, and unnecessary uses of power and a continuation of this trend will result in serious depletion or irreversible commitment of energy, land and water resources, and potential threats to the state’s environmental quality” (PRC Section 25002). To address these concerns, the act authorized CEC to develop regulations to reduce energy consumption in buildings.

The act additionally directed CEC to cooperate with the Governor’s Office of Planning and Research (now the Governor’s Office of Land Use and Climate Innovation), the California Natural Resources Agency, and other interested parties to develop procedures to ensure that measures intended to minimize the wasteful, inefficient, and unnecessary consumption of energy are included in all EIRs required pursuant to CEQA (PRC Section 25404).

3.9.2.2.7 CARB Pavley Regulations

As directed by AB 1493, in 2004, CARB approved the “Pavley I” regulations limiting the amount of GHGs that may be released from new passenger automobiles that are being phased in between model years 2009 through 2016. Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption. These regulations targeted a reduction in GHG emissions by 30% from 2002 levels by 2016. In June 2009, the USEPA granted California the authority to implement GHG emission reduction standards for light-duty vehicles; in September 2009,

amendments to the Pavley I regulations were adopted by CARB, and implementation of the “Pavley I” regulations started in 2009. The second set of regulations, “Pavley II,” was developed in 2010 and is being phased in between model years 2017 through 2025 with the goal of reducing GHG emissions by 45% by the year 2020 as compared to the 2002 fleet.

3.9.2.2.8 CARB Scoping Plan

AB 32 imposed on CARB the requirement to prepare a comprehensive, multi-year program to reduce GHG emissions in California. CARB must update the plan every five years, and has prepared such plans in 2008, 2013, 2017, and 2022.

The Initial Scoping Plan in 2008 presented the first economy-wide approach to reducing emissions and highlighted the value of combining both carbon pricing with other complementary programs to meet California’s 2020 GHG emissions target while ensuring progress in all sectors. The coordinated set of policies in the Initial Scoping Plan employed strategies tailored to specific needs, including market-based compliance mechanisms, performance standards, technology requirements, and voluntary reductions. The Initial Scoping Plan also described a conceptual design for a cap-and-trade program that included eventual linkage to other cap-and-trade programs to form a larger regional trading program. AB 32 requires CARB to update the scoping plan at least every five years. The first update to the Scoping Plan (2013 Scoping Plan), approved in 2014, presented an update on the program and its progress toward meeting the 2020 limit. It also developed the first vision for long-term progress beyond 2020. In doing so, the 2013 Scoping Plan laid the groundwork for the goals set forth in Executive Orders S-3-05 and B-16-2012. It also identified the need for a 2030 mid-term target to establish a continuum of actions to maintain and continue reductions, rather than only focusing on targets for 2020 or 2050. In 2017, the second update to the Scoping Plan (2017 Scoping Plan) in response to Executive Order B-30-15 and SB 32, which provides a framework for achieving the 2030 target. To meet reduction targets, the 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 (see above). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. The 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of 6.0 MTCO₂e by 2030 and 2.0 MTCO₂e by 2050 (CARB 2017). The 2017 Scoping Plan in particular emphasized the importance of the role of local agencies in setting policies to reduce VMT through land use planning.

Local actions that reduce VMT are also necessary to meet transportation sector-specific goals and achieve the 2030 target under SB 32. In its evaluation of the role of the transportation system in meeting the statewide emissions targets, CARB determined that VMT reductions of 7% below projected VMT levels in 2030 (which includes currently adopted SB 375 Sustainable Communities Strategies) are necessary. In 2050, reductions of 15% below projected VMT levels are needed. A 7% VMT reduction translates to a reduction, on average, of 1.5 miles/person/day from projected levels in 2030. It is recommended that local governments consider policies to reduce VMT to help achieve these reductions, including land use and community design that reduces VMT; transit-oriented development; street design policies that prioritize transit, biking, and walking; and increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities.

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB published the Final 2022 Climate Change Scoping Plan in November 2022 (CARB 2022). The 2022 update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused paths to achieve California’s climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

3.9.2.2.9 Title 20 Appliance Efficiency Standards

The appliance efficiency regulations of CCR Title 20, Sections 1601-1608 include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

3.9.2.2.10 Title 24 Building Energy Efficient Standards

California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6 of the CCR) (“Title 24 Standards”) were established in response to a legislative mandate to reduce California’s energy consumption to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The standards are updated periodically (typically every 3 years) to allow consideration and possible incorporation of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards is referred to as the California Green Building Standards (CALGreen) Code and was developed to help the State achieve its GHG reduction goals under Health and Safety Code Division 25.5 (e.g., AB 32) by codifying standards for reducing building-related energy, water, and resource demand, which in turn reduces GHG emissions from energy, water, and resource demand. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality. On August 11, 2021, the CEC adopted the 2022 Title 24 Standards, which went into effect on January 1, 2023. The 2022 standards continue to improve upon the previous (2019) Title 24 standards for new construction of, and additions and alterations to, residential and non-residential buildings. New construction and major renovations must demonstrate their compliance with the current California Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

3.9.2.2.11 California Renewables Portfolio Standard Program

SB 1078 (Chapter 516, Statutes of 2002) established a renewable portfolio standard for statewide retail electricity, requiring that utilities procure 20 percent of their marketed electricity from renewable energy sources. Subsequent legislation increased the percentage of renewable energy required, set specific target years, and expanded the types of entities covered under the renewable portfolio standard. The State has reported that 34.5% of statewide retail electricity was sourced from certified renewable sources in 2018 (CEC 2022c). The current renewable portfolio standard, revised under SB 100 (de León; Statutes of 2018), requires that investor-owned utilities, energy service providers, community choice aggregators, and rural electric cooperatives supply 44% of retail sales from renewable energy sources by December 31, 2024, 50% by

December 31, 2026, 52% by December 31, 2027, and 60% by December 31, 2030. SB 100 also introduced a requirement that 100% of retail sales of electricity come from qualified renewable or zero-carbon energy sources by December 31, 2045.

3.9.2.2.12 Executive Order S-06-06

Executive Order S-06-06, signed on April 25, 2006, establishes targets for the use and production of biofuels and biopower, and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes numerical targets to increase the production and use of bioenergy within California, including ethanol and biodiesel fuels made from renewable resources. These targets entail the in-state production of a minimum of 20% of total biofuels consumed within California by 2010, 40% by 2020, and 75% by 2050. The executive order also calls for the state to meet a target for the use of electricity from biomass conversion facilities. The 2011 Bioenergy Action Plan identified barriers to meeting those targets and recommended actions to address them so that the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updated the 2011 plan and provides a more detailed action plan to achieve the following goals:

- increase environmentally and economically sustainable energy production from organic waste;
- encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications;
- create jobs and stimulate economic development, especially in rural regions of the state; and
- reduce fire danger, improve air and water quality, and reduce waste.

As of 2021, approximately 3% of the total electricity system power in California was derived from biomass (CEC 2021). There are about 30 biomass conversion facilities in California with a total capacity of almost 640 megawatts (MW). These plants typically combust biomass from forest, urban wood, agricultural or food waste, and municipal solid waste sources (CEC 2024d).

3.9.2.2.13 Executive Order B-30-15

Executive Order B-30-15 established a statewide GHG reduction goal of 40% below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and Executive Order S-03-05 goal of reducing statewide emissions 80% below 1990 levels by 2050. In addition, the Executive Order aligned California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40% below 1990 levels by 2030) that was adopted in October 2014.

3.9.2.2.14 Bioenergy Market Adjusting Tariff Program

SB 1122 directed the California Public Utilities Commission (CPUC) to develop regulations to encourage electrical generation from bioenergy sources. The program that was created in response to this legislation is the Bioenergy Market Adjusting Tariff Program. This program established feed-in tariffs to encourage the generation of electricity from bioenergy projects with output capacities of 5 MW or less. Subsequent amendments to the legislation also required the state's three major investor-owned utilities—Pacific Gas and Electric Company, Southern California Edison, and San Diego Gas & Electric Company—to collectively procure 250 MW of electricity from bioenergy sources.

3.9.2.2.15 Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. In response, CEC, in partnership with CARB and in consultation with other State, federal, and local agencies, prepared the State Alternative Fuels Plan. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuel use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

3.9.3 Impacts Assessment

3.9.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would have a significant impact related to energy resources if the Program would:

- a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.9.3.2 Proposed Program

3.9.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Impact Criterion b) Would the Program conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Energy-related impacts associated with the reasonably foreseeable means of compliance with the source reduction and refill/reuse requirements of the Implementing Regulations are primarily related to the transition to alternative materials along with the change in truck trips associated with the collection and transport of recyclables, organic materials, and municipal solid waste to the respective processing facilities and return logistics for reuse programs. A shift in materials disposed of as waste to recyclable or compostable materials is not expected to result in an increase in solid waste service truck trips because trucks would already be coming to pick up refuse, compost, and recyclables, and the change would be the quantity of material in each respective bin. A shift to reusable products may result in additional trips associated with return logistics, although the number of additional vehicle trips and their ultimate destination is unknown. As such, it is not possible to provide an estimate of direct energy consumption as a result of any potential increase in VMT due to return logistics. However, as discussed in detail below, the nature of source reduction and refill/reuse measures are such that they would not result in the wasteful, inefficient, or unnecessary consumption of energy resources that would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Source Reduction

The source reduction requirements would lead to a decrease in plastic materials and an increase in alternative materials used for the manufacture of single-use food service ware and single-use packaging. In addition, the requirement to meet the 65% recycling rate would lead to a decrease in virgin material resource use as it is replaced with recycled material. Accordingly, the transition to alternative materials would lead to a shift in life-cycle energy consumption (i.e., energy consumption associated with material extraction and conversion to finished products, transportation, and end-of-life) relative to the reduction in plastic materials.

Single-use plastic food service ware and single-use packaging use energy in their manufacture and distribution, and also contribute to the energy required for transporting of packaged products. Energy input is required in several ways to produce and distribute covered materials. First, energy is used in converting the basic raw materials to production feedstocks. Second, energy is used to convert the production feedstocks into single-use products. Delivery trucks that transport raw materials to the manufacturer, empty single-use products from manufacturers to the filling facilities, and then transport of the final products to distributors or local retailers, also contribute to fuel consumption. Additionally, many single-use plastic food service ware and single-use packaging items that are not littered end up in landfills or are recycled, both of which require additional energy to process them into secondary materials (impacts associated with collection, sortation, and processing are discussed in Section 3.9.3.2.2 [Collection, Sortation, and processing] below). The amount of energy consumption varies depending on the type and quantity of products produced. Although life cycle assessments are not required for CEQA, for the purpose of providing a comparison of relative energy consumption associated with plastic single-use products and single-use products made of alternative materials, this analysis considers the results of the Oregon Department of Environmental Quality's Waste Impact Calculator, which provides a framework for estimating the life cycle environmental impacts associated with solid waste materials and treatments, and projecting the impact consequences of solid waste management decisions (e.g., comparing waste prevention to recycling). While it was created with the needs of the Oregon Department of Environmental Quality in mind, it is relevant to all those interested in the relative impacts of materials, waste, and waste management. Although specific to 2022 Oregon waste stream tonnage, the data illustrated in Figure 3.9-1 show the relative energy demand associated with plastics versus other alternative materials such as glass, paper/fiber per ton of material.

Energy Demand (Megajoules per Ton of Material)

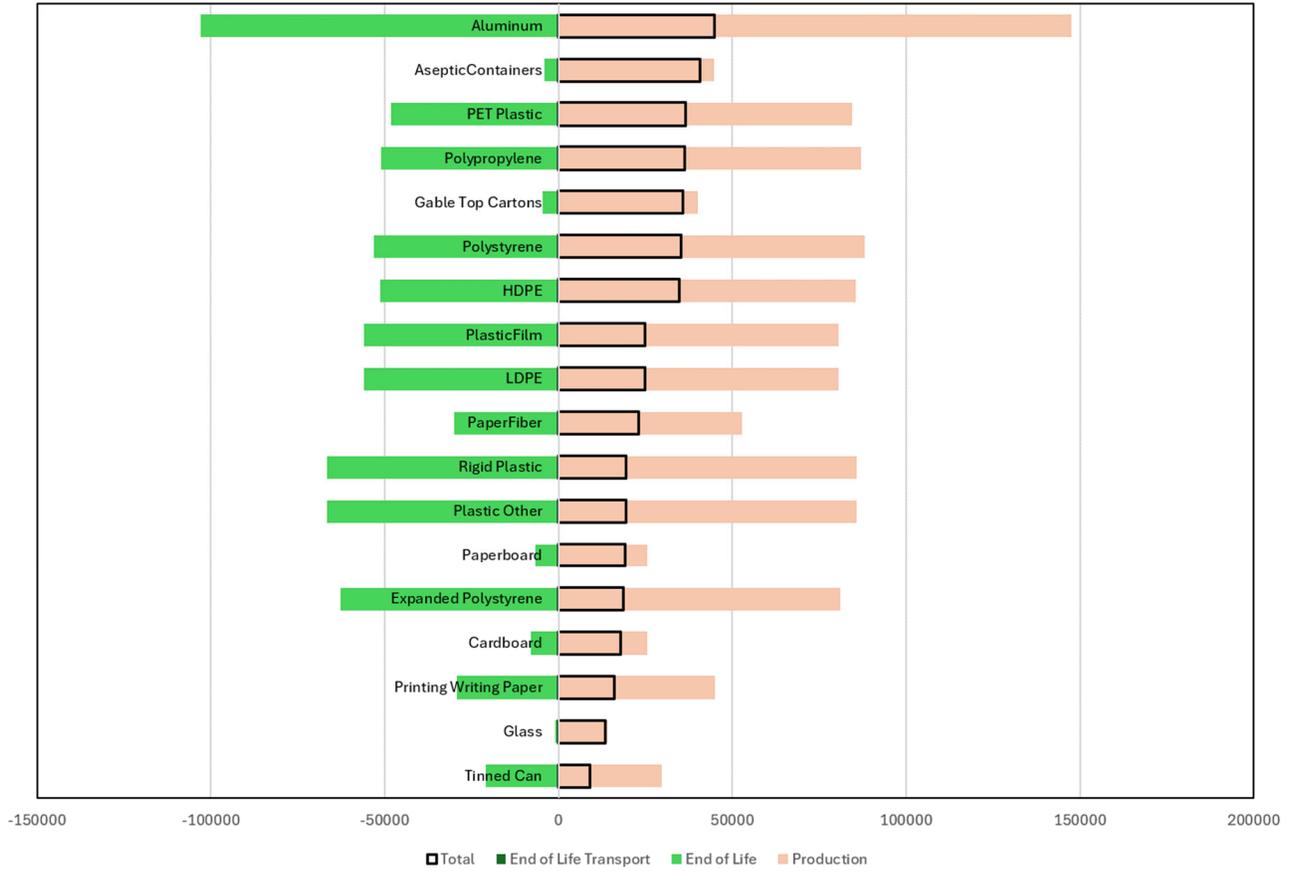


Figure 3.9-1. Life Cycle Energy Demand for Plastics and Alternative Materials (data sourced from Oregon Department of Environmental Quality 2023)

The impact chart shows the life cycle energy demand of plastic materials as compared to various alternative materials, including any credits associated with recycling as incorporated into the end-of-life impact factors. In Figure 3.9-1, the life cycle impacts are broken down into three life stages: production, end-of-life transport, and end-of-life treatment, with the net impact shown as a black outline. As shown in Figure 3.9-1, per ton of material, the life cycle energy demand for glass is less than that associated with PET plastic and other plastic products, as is the life cycle energy demand associated with paper/fiber materials, tinned cans, paperboard, and cardboard. In this general comparison, the majority of energy demand is associated with the production stage across all material types, with varying portions of the energy demand offset by recycling activities assumed in the end-of-life stage for all materials. The comparison of energy demand associated with the various types of materials as compared to plastic indicates that relatively high energy demand associated with plastic materials such as single-use PET plastic materials could be reduced through a transition to materials with lower lifecycle energy demands such as glass, tin cans, and paper/fiber materials.

In addition, a key objective of the Implementing Regulations is to reduce plastic pollution and litter. Specifically, food wrappers/containers, plastic bottle caps, other plastic/foam packaging, and plastic beverage bottles were reported as the third, fourth, seventh, and eighth most common items collected on beaches during the 2023 California Coastal Commission “Cleanup Day”, respectively (California Coastal Commission 2023). Under contract to the Natural Resources Defense Council, Kier Associates solicited data from a random sample of

California communities concerning the cost of dealing with litter and preventing it from entering waterways (Kier Associates 2013). The cost for cleanups includes activities such as street sweeping, storm drain cleaning and maintenance, and manual cleanup efforts. Such activities require direct energy consumption associated with on-road and off-road equipment such as street sweepers, excavators, and employee and volunteer vehicles. The study estimated that the annual per-capita cost to communities associated with litter cleanup ranged from \$8.94 to \$18.33 per year (Kier Associates 2013). Although not directly related to energy consumption, these cost estimates can provide insight as to the relative energy requirements of litter cleanup statewide. Given the predominance of plastic litter in the environment, source reduction of plastic covered materials would be expected to lead to a relative decrease in plastic litter that would require cleanup from the environment statewide. As such, reducing plastic litter would be expected to lead to a reduction in energy associated with litter cleanup such as street sweeping, storm drain cleaning and maintenance, and waterway and beach cleanup events. Increasingly stringent electricity, natural gas, and fuel efficiency standards combined with compliance with the energy efficiency standards of Title 24 would ensure that energy required for the production, transportation, and recycling or disposal of alternative materials would be used efficiently. Accordingly, the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations would not result in wasteful, inefficient, or unnecessary consumption of energy resources as compared with use of plastic virgin materials and would not conflict with the energy policies set forth in state or local plans for renewable energy or energy efficiency and impacts related to source reduction measures would be *less than significant*.

Refill/Reuse

The Implementing Regulations require that 10% of source reduction requirements be met by either switching to reusable or refillable packaging or food service ware or through elimination of a plastic component. A transition to reusable products may result in additional trips as a result of return logistics associated with reuse and take-back programs. At this time, the number of additional vehicle trips and their ultimate destination is unknown but could range from negligible if return logistics is at locations the consumer would travel to in any case, to a relatively minor increase. A detailed analysis of the relative change in transport requirements associated with a transition to refillable and reusable food service ware and packaging is provided in Section 3.20 (Transportation). The analysis provided in that section indicates that the relative increase in VMT associated with return logistics would be highly dependent on customer behavior including roundtrip distance and percentage of customers that make a dedicated trip to return the containers. As an example, assuming 5% of customers make a special trip to return food service ware, the additional VMT would be 500 miles for every 10,000 to-go meals for a 5-mile roundtrip compared to 10,000 miles for a 10-mile roundtrip assuming 10% of customers make a special trip.

As detailed in Section 3.20 (Transportation), an increase in product refill programs would likely lead to a reduction in materials placed in trash or refuse bins and potentially an increase in materials placed in compost or recyclable bins and would not result in a change in solid waste service truck trips. Consumer travel behavior is also expected to remain unchanged, as they would return refillable packaging and containers to retailers or collection facilities similar to how they currently redeem single-use bottles for CRV. Overall, transitioning to refillable packaging and containers is not expected to increase VMT. Specifically, reusable and refillable schemes may result in a reduction in truck trips and VMT through several key mechanisms:

- Reuse of materials may reduce the need for transporting raw materials and finished goods. Since materials are more often repurposed regionally or locally, the need for truck trips to transport these materials over long distances would be reduced.
- Reuse and refill schemes encourage local production and consumption of goods, which reduced the need for long-distance transportation. By shortening supply chains and promoting the use of local resources, fewer trucks are needed to transport goods over long distances, leading to a reduction in truck trips.
- Reusable food service ware and refillable/reusable packaging is designed for durability and reuse, reducing the frequency with which they need to be purchased and replaced by vendors as compared to single-use items. As a result, there would be less demand for the transportation of single-use products, which decreases the number of truck trips required for delivery.
- Although return logistics associated with take-back programs involves transportation, these programs can often be optimized to consolidate loads and reduce the overall number of truck trips compared to a traditional linear economy.
- By reducing waste of single-use products through source reduction and refill/reuse schemes, a circular economy can reduce the number of truck trips needed for waste disposal. Fewer trips to landfills and recycling centers are necessary when waste is minimized at the source.
- Circular economy principles encourage companies to streamline their supply chains, making them more efficient and reducing unnecessary transportation. This can include consolidating shipments, optimizing delivery routes, and improving inventory management, all of which contribute to fewer truck trips.

Accordingly, any potential increase in VMT associated with the customers making extra trips in order to participate in take-back programs would not be expected to result in an increase in VMT due to offsets in transportation requirements associated with source reduction and transitioning to a circular economy.

In the SRIA, CalRecycle estimates that 10% of source reduction met entirely through refill and reuse would lead to a reduction in 553,073 tons of single-use covered material that would otherwise be manufactured, distributed, and subject to waste management. The energy consumption associated with reusable and refillable systems is directly related to the number of times a product is reused. For instance, a 20-ounce aluminum bottle, used for one year and washed once daily, has an estimated net energy consumption of 2.25 million BTUs per 1,000 gallons. In comparison, an exempt PET single-use water bottle consumes about 9.90 million BTUs per 1,000 gallons. Approximately 82% of the energy demand for the reusable bottle was linked to home washing, which includes the energy required for heating water, treating the water used in the dishwasher, and treating the dishwasher effluent (Franklin 2009). However, this estimate assumes that reusable containers are washed separately from other dishes. It is assumed that in most instances, reusable containers would be more likely washed with regular daily dishwasher loads, which would occur regardless. Even when conservatively including the additional energy associated with dishwashing as analyzed by Franklin Associates, reusable containers would still use approximately 77% less energy than single-use plastic bottles. Therefore, increasing the use of refillable containers could offset the overall rise in life cycle energy consumption associated with single-use containers. Commercial businesses that transition to reusable products (i.e., reusable food service ware) may increase washing of products as compared to single-use products. However, both residential and commercial washing appliances are required to comply with the energy efficiency standards of CCR Title 20, Sections 1601-1608 and Title 24 Building Efficiency Standards to reduce

energy consumption in residences and businesses. These energy efficiency standards would effectively ensure that a transition to refillable and reusable products would not result in the wasteful or inefficient use of energy.

As such, reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations, including a transition to refillable and reusable products, would not result in wasteful, inefficient, or unnecessary consumption of energy resources as compared with use of single-use plastic virgin materials and would not conflict with the energy policies set forth in state or local plans for renewable energy or energy efficiency and impacts would be *less than significant*.

3.9.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

CONSTRUCTION

It is reasonably foreseeable that the means of compliance with the Implementing Regulations would lead to the development of new or expanded collection, sortation, processing facilities and end markets across the state. The types of future facilities that are anticipated to be constructed by 2032 include roughly 1,181 PRO depots, 16 large MRFs, 6 medium MRFs, and 8 small MRFs, and roughly 133 processing facilities for the recycling of glass, paper, plastic, and metal. Existing composting facilities are expected to expand to accommodate the estimated statewide increase of 80,000 tpy of compostable organic covered materials, although this PEIR assumes that one new composting facility would be constructed somewhere in the state (note that new composting facilities are also anticipated in response to SB 1383). These facilities might be added to existing solid waste facilities or developed as standalone projects at new locations. A variety of equipment powered by liquid fuel combustion may be used during the construction of these new or expanded facilities. Typical off-road equipment includes dozers, tractors, scrapers, and pavers. These machines are usually powered by internal combustion engines running on diesel or gasoline, with power outputs generally ranging from 5 to 750 horsepower. Diesel engines of 25 horsepower or larger used in off-road equipment are regulated by the CARB to reduce emissions (13 CCR Section 2449). These regulations require operators to minimize idling and upgrade older equipment with modern engines, which also contributes to reduced fuel consumption. Construction of new or expanded facilities would typically span several months and proceed in phases, with different types of equipment being used during each phase.

The transportation of workers and materials to and from construction sites would also require the consumption of diesel and gasoline. Medium- and heavy-duty trucks and vans, with Gross Vehicle Weight Ratings between 8,500 and 33,000 pounds, would typically be used. According to CARB's Truck and Bus Regulations, vehicles with a Gross Vehicle Weight Ratings greater than 14,000 pounds must have diesel engines built to 2010 standards by 2023 (CARB 2018).

Off-road equipment fuel usage during the construction activities were calculated using the assumptions/default values obtained from CalEEMod, and the fuel usage calculations provided in the 2017 Off-Road Diesel Emission Factors spreadsheet, prepared by CARB (2021). CARB's spreadsheet provides the following formula to calculate fuel usage from off-road equipment activity:

*Fuel Used (gal)=Load Factor*Horsepower (Hp)*Total Operating Hours* Brake Specific Fuel Consumption /(Unit Conversion)*

Where:

Load Factor: Obtained from CalEEMod default values.

Horsepower (hp): Obtained from Project-specific information or CalEEMod default values.

Total Operational Hours: CalEEMod default activity levels.

Brake Specific Fuel Consumption (pounds per horsepower-hour) = 0.367 lb/hp-hr

Unit Conversion: Convert pounds to gallons = 7.109 lb/gal

For mobile-sources (e.g., on-road trucks and vehicles), the fuel consumption was calculated from the GHG emissions results of the CalEEMod model for construction of each facility type (Appendix B; refer to Section 3.11 [Greenhouse Gas] for further discussion on CalEEMod inputs and assumptions for construction-related emissions). Specifically, diesel and gasoline fuel consumption can be estimated (back calculated) using 2020 Climate Registry (40 CFR 98 Subpart C) emission factors for those fuels:

- Diesel Fuel Oil No. 2: 10.21 kg CO₂ per gallon (22.51 lbs CO₂ per gallon); and
- Motor Gasoline: 8.78 kg CO₂ per gallon (19.36 lbs CO₂ per gallon).

Vendor trips were assumed to be completed using medium- and heavy-duty diesel trucks, and worker trips were assumed to be completed using gasoline automobiles and trucks. The estimated fuel consumption for off-road and on-road sources during construction of each facility type is provided in Table 3.9-2.

Table 3.9-2. Project Construction Off-Road and On-Road Energy Consumption Estimates

Facility Type	Source	Types	Fuels	Fuel Consumption (gallons)
Sortation				
MRF – Small	Off-Road	Fleet Average	Diesel	25,623
	Worker	LDA, LDT1, LDT2	Gasoline	2,633
	Vendor	MHDT, HHDT	Diesel	1,990
	TOTAL			30,245
MRF - Medium	Off-Road	Fleet Average	Diesel	25,737
	Worker	LDA, LDT1, LDT2	Gasoline	3,390
	Vendor	MHDT, HHDT	Diesel	2,686
	TOTAL			31,813
MRF – Large	Off-Road	Fleet Average	Diesel	36,436
	Worker	LDA, LDT1, LDT2	Gasoline	8,687
	Vendor	MHDT, HHDT	Diesel	7,671
	TOTAL			52,793
Composting	Off-Road	Fleet Average	Diesel	55,018

Facility Type	Source	Types	Fuels	Fuel Consumption (gallons)
	Worker	LDA, LDT1, LDT2	Gasoline	1,329
	Vendor	MHDT, HHDT	Diesel	150
	TOTAL			56,497
Processing Facilities				
Material Processing Facility	Off-Road	Fleet Average	Diesel	25,876
	Worker	LDA, LDT1, LDT2	Gasoline	4,279
	Vendor	MHDT, HHDT	Diesel	3,482
	TOTAL			33,636

As shown in Table 3.9-2, the construction of future facilities would result in a maximum consumption of 56,497 gallons of fuel. For the buildout of collection, sortation, and processing facilities by 2032 (i.e., 16 large MRFs, 6 medium MRFs, 8 small MRFs, 1 composting facility, and 133 processing facilities), total fuel consumption would be approximately 5,807,611 gallons or roughly 725,951 gallons per year over the next eight years. Note that the analysis assumes that collection infrastructure, (i.e., PRO Depots) would be installed in existing depots or retail facilities and would require little to no modification of existing facilities. According to the California State Board of Equalization, 13.6 billion gallons of gasoline and 3.6 billion gallons of diesel fuel were sold in 2022 (CEC 2024b, 2024c). As such, the average annual fuel consumption associated with construction represents approximately 0.018% of diesel fuel and 0.001% of gasoline fuel consumed per year in California. Compliance with the CARB anti-idling and emissions regulations would result in less fuel combustion and energy consumption and thus minimize the energy use during construction and operations. In addition, Project construction would be performed by contractors with an economic incentive to minimize costs, one element of which is fuel conservation. Therefore, construction of collection, sortation, and processing facilities developed in response to the Implementing Regulations would not result in the wasteful, inefficient, or unnecessary consumption of energy and impacts would be ***less than significant***.

OPERATION

Following construction, operation of collection, sortation processing facilities and end markets would require natural gas and electric power usage for each facility. The machinery and any buildings used at new or expanded facilities would require the use of electricity and liquid and gaseous fuels. Electricity could be obtained through a connection to a utility or produced on-site using renewable sources such as solar photovoltaics and wind turbines, or fuel-powered generators. The amount of energy required at each facility would depend on the total material-handling capacity. The movement of material to and from collection, sortation, processing facilities and end markets would require the consumption of fuels in on-road motor vehicles. The types of fuels used in vehicles that collect and transport covered materials include gasoline, diesel fuel, renewable diesel fuel, and compressed natural gas. Existing collection routes between customers and MRFs could potentially be used to collect covered materials. For a detailed discussion of transportation routes

and related effects on statewide VMT associated with the reasonably foreseeable means of compliance with the Implementing Regulations, see Section 3.20 (Transportation).

For operations, the CalEEMod-derived mass emissions of non-biogenic CO₂ from area, stationary, and mobile sources associated with project operation were used to estimate fuel consumption. CalEEMod aggregates area and mobile source CO₂ emissions into three broad categories (typical fuel types assumed):

- Off-road utility equipment (diesel);
- Heavy Mobile (medium-heavy and heavy-heavy duty predominately diesel trucks [MHDT, HHDT]); and
- Light Mobile (light duty gasoline automobiles and trucks [LDA, LDT1, LDT2]).

Fuel consumption associated with the off-road, on-road, and stationary sources were estimated (back calculated) using 2020 Climate Registry (40 CFR 98 Subpart C) emission factors for diesel and gasoline fuels. Using the CalEEMod annual emissions results (MTCO₂e) for the area and mobile source categories (refer to CalEEMod summary reports provided in Appendix B) and the corresponding CO₂ emission factors. Table 3.9-3 provides the estimated direct fuel consumption for each facility type.

Table 3.9-3. Annual Project Operation Off-Road, On-Road, and Stationary Source Energy Consumption Estimates

Facility Type	Source	Fuels	Fuel Consumption (gallons/year)
Sortation			
MRF – Small	Off-Road	Diesel	10,582
	On-Road	Diesel	13,926
	On-Road	Gasoline	261
	Stationary	Diesel	224
	TOTAL		24,994
MRF - Medium	Off-Road	Diesel	10,582
	On-Road	Diesel	46,828
	On-Road	Gasoline	261
	Stationary	Diesel	224
	TOTAL		57,896
MRF – Large	Off-Road	Diesel	21,164
	On-Road	Diesel	89,610
	On-Road	Gasoline	653
	Stationary	Diesel	561
	TOTAL		111,988
Composting	Off-Road	Diesel	10,582

Facility Type	Source	Fuels	Fuel Consumption (gallons/year)
	On-Road	Diesel	50,583
	On-Road	Gasoline	653
	Stationary	Diesel	561
	TOTAL		62,380
Processing Facilities			
Material Processing Facility	Off-Road	Diesel	19,825
	On-Road	Diesel	209
	On-Road	Gasoline	54,102
	Stationary	Diesel	46,531
	TOTAL		120,668

Source: CalEEMod Emissions and Energy Calculation Summary Reports in Appendix B

Notes: For On-road HDT Mix: 9% Gasoline, 91% Diesel (CARB 2021); adjusted for on-road fleet mix

As detailed in Section 3.6 (Air Quality), CalEEMod inputs for the defined land use were used to estimate energy consumption for operations. Based on CalEEMod results for the defined land, Table 3.9-4 shows estimated natural gas and electric power usage for each facility type. Fuel consumption at the processing facility is inclusive of natural gas usage for the external combustion heater/boiler assumed to be operating at the processing facility.

Table 3.9-4. Project Operational Utility Energy Use

Facility Type	Electric Power (kWh/year)	Natural Gas (kBTU/year)
Sortation		
MRF – Small	359,638	1,581,835
MRF - Medium	485,511	2,135,477
MRF – Large	1,069,923	4,705,958
Composting	14,386	63,273
Processing Facilities		
Material Processing Facility	629,367	2,768,211

Source: CalEEMod Emissions Summary Reports in Appendix B

For the buildout of collection, sortation, and processing facilities by 2032 (i.e., 16 large MRFs, 6 medium MRFs, 8 small MRFs, one composting facility, and 133 processing facilities), total annual electricity consumption would be approximately 106,629,135 kWh/year or roughly 0.037% of California’s annual electricity consumption with total natural gas consumption estimated at 468,998,206 kBTU/year or roughly 0.04% of California’s annual natural gas consumption. As required by the California airborne toxics control measures,

idling times on all diesel-fueled commercial vehicles over 10,000 pounds shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. In addition, 13 CCR Section 2449 (“CARB Off-Road Diesel Regulations”) requires that idling times on all diesel-fueled off-road vehicles over 25 hp shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes and fleet operators must develop a written policy advising of these regulatory measures. Implementation of these regulatory measures would further reduce fuel consumption and energy use. Increasingly stringent electricity, natural gas, and fuel efficiency standards combined with compliance with the energy efficiency standards of Title 24 would also ensure future facilities would demand only the energy required and that energy would be used efficiently. Accordingly, with compliance with applicable regulations, operation of collection, sortation, and processing facilities would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, impacts would be **less than significant**.

Impact Criterion b) Would the Program conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

CONSTRUCTION AND OPERATION

The construction and operation of collection, sortation, and processing facilities would entail the use of buildings, equipment, and vehicles subject to state energy policies. Table 3.9-5 provides an overview of the state plans and regulations pertaining to energy efficiency and an analysis of the consistency with these policies with respect to the reasonably foreseeable means of compliance with the Implementing Regulations. An overarching theme across state policies is the goal to reduce energy consumption through efficiency and transition to energy generation with lower carbon intensities. The buildings, vehicles, and equipment used to process covered materials would conform to the energy efficiency standards set forth by the state. For these reasons, this impact would be **less than significant**.

Table 3.9-5. Project Consistency with Energy Efficiency Plans and Regulations

Sector	Policy	Description	Consistency with Implementing Regulations Reasonably Foreseeable Means of Compliance
Building Energy Efficiency	California Energy Code - 24 CCR Part 6	2019 Title 24 Standards must be achieved.	Applicability of the California Energy Code would depend on the buildings and occupancy types of the proposed facilities. Commercial buildings would fall under the non-residential section of this code, which contains efficiency standards that are required by existing California law to be enforced by cities and counties.
Industrial Equipment Energy Efficiency	20 CCR Section 1600 (State), 10 CFR Section 431 (Federal)	Design standards for the energy efficiency of industrial equipment, including electric motors, blowers, pumps, and heaters, must be met.	The manufacturing, sale, and import of industrial equipment in California, including machinery needed to operate collection, sortation, and processing facilities, would be required to comply with state and/or federal standards for energy efficiency.

Sector	Policy	Description	Consistency with Implementing Regulations Reasonably Foreseeable Means of Compliance
Fuel Economy	Corporate Average Fuel Economy Standards and Advanced Clean Car Program	Vehicles must comply with fuel economy standards.	Vehicles manufactured and sold for use on California roadways are required to meet fuel efficiency standards enforced by CARB. These vehicles would be used for the hauling of materials in response to Implementing Regulations.
Building Decarbonization	Climate Change Scoping Plan	The scoping plan requires: <ul style="list-style-type: none"> – renewable natural gas use in buildings – renewable energy generation 	Facilities that incorporate renewable natural gas and renewable energy generation into facility design could help reduce the use of natural gas, a fossil fuel.
Alternative Fuels	Climate Change Scoping Plan	The scoping plan requires: <ul style="list-style-type: none"> – renewable natural gas use in vehicles – support of zero emission vehicle infrastructure 	Consistent with the 2045 carbon neutrality goal, it is projected that zero-carbon emission electric and hydrogen equipment and vehicles will gradually replace traditional liquid-fueled mobile sources in urban fleet applications where overnight recharging and refueling can be done at designated facilities. Use of zero emission vehicles be explored as part of project-level designs in the future to meet the goals of the 2022 Scoping Plan.

3.10 Geology and Soils

This section describes the existing geology and soils of California; identifies applicable federal and state regulations; and analyzes potential impacts of the Program on geological resources and soils, as well as geotechnical hazards that may adversely affect the Program or that may be exacerbated by the Program. Table 3.10-1 summarizes the impacts on geological and soil resources that could result from implementation of the Program.

Table 3.10-1. Summary of Geology and Soils Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?	No Impact	Less than Significant	None
b) Result in substantial soil erosion or the loss of topsoil?	No Impact	Less than Significant	None
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	No Impact	Less than Significant	None
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	No Impact	Less than Significant	None
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact	Less than Significant	None
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact	Potentially Significant and Unavoidable	MM GEO-1: Paleontological Resources Protection Measures

3.10.1 Environmental Setting

The statewide environmental setting is described in terms of California’s geomorphic provinces, soils, topography, geologic and soil hazards, and unique geologic features and paleontological resources.

3.10.1.1 Geomorphic Provinces

California is divided into 11 geomorphic provinces, which are naturally defined geologic regions that display a distinct landscape or landform (Figure 3.10-1). These provinces consist of the following (California Geological Survey 2002):

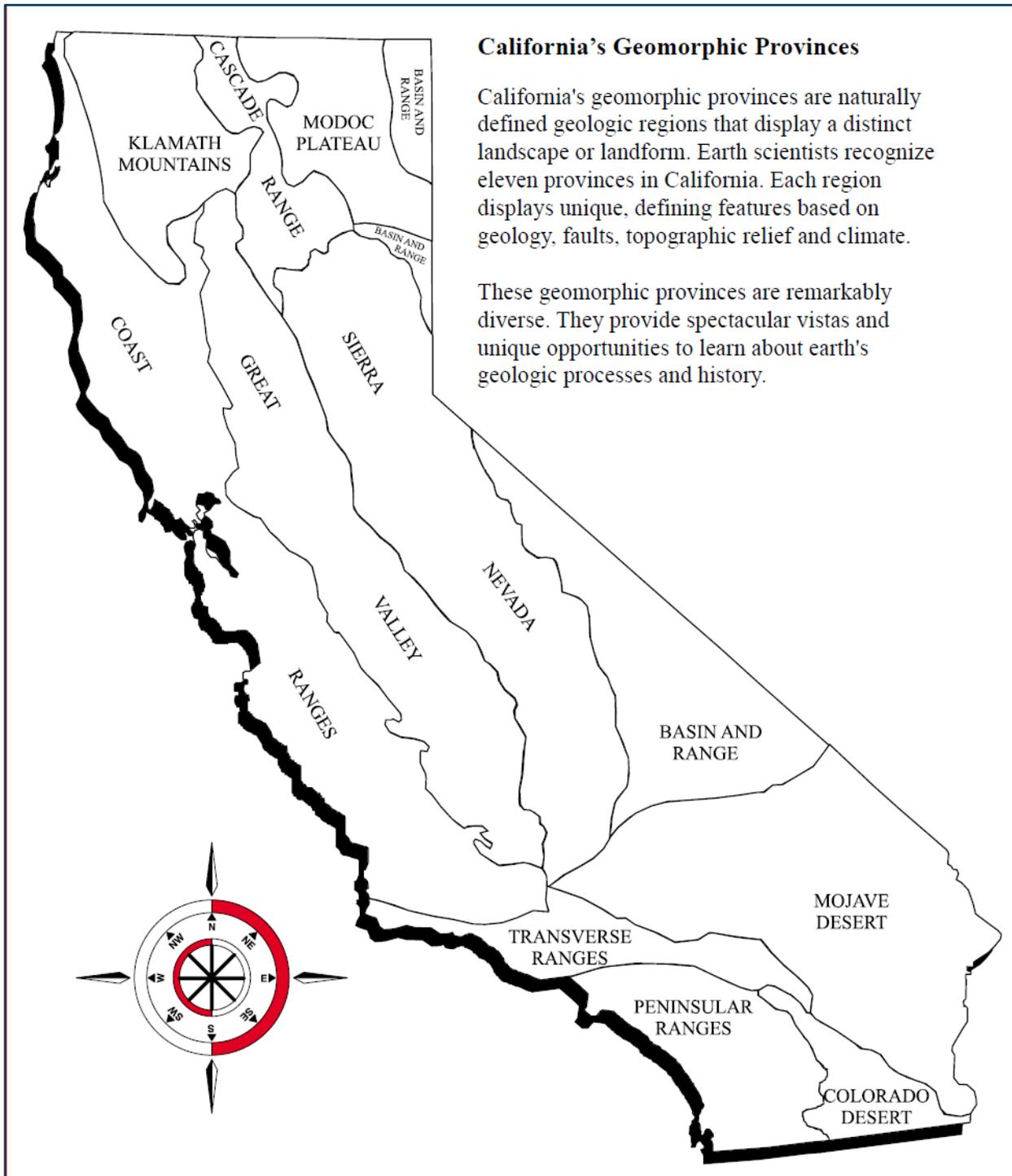
- Modoc Plateau – This province lies in the northeast corner of California as well as parts of Oregon and Nevada and is bound by the Cascade Range on the west and the Basin and Range on the east and south. It is comprised of a volcanic table land (elevation 4,000-6,000 feet above sea level) consisting of a thick accumulation of lava flows and tuff beds along with many small volcanic cones. Occasional lakes, marshes, and low-gradient streams meander across the plateau. The plateau is cut by many north-south faults.
- Cascade Range – This province is bound by the Modoc Plateau to the east, the Sierra Nevada Mountains to the south, and the Great Valley and Klamath Mountains to the west. It is comprised of a chain of active volcanic cones, extending from Washington and Oregon into California and is dominated by Mt. Shasta, a glacier-mantled volcanic cone, rising 14,162 feet above sea level. The southern termination of this province is Lassen Peak, which last erupted in the early 1900s. The Cascade Range is transected by deep canyons of the Pit River, which discharges to the Sacramento River.
- Klamath Mountains – This province is situated in the northwest corner of the state. The Klamath Mountains have rugged topography with prominent peaks and ridges reaching 6,000-8,000 feet above sea level. In the western Klamath Mountains, an irregular drainage is incised into an uplifted plateau called the Klamath peneplain. The Klamath River follows a circuitous course from the Cascade Range through the Klamath Mountains.
- Coast Ranges – These northwest-trending mountain ranges (typically between 2,000 to 4,000 feet above sea level) and valleys extend from the southern and western edges of the Klamath Mountains near the Oregon border to the Transverse Ranges in southern California. The northern and southern portions of the Coast Ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The Coast Ranges are subparallel to the active San Andreas Fault, which is more than 600 miles long, extending from Point Arena to the Gulf of California. West of the San Andreas is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands.
- Great Valley – This province consists of an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part consists of the Sacramento Valley, drained by the Sacramento River, and its southern part consists of the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). In the Sacramento Valley, the Sutter Buttes, the remnants of an isolated Pliocene volcano, rise above the valley floor.
- Sierra Nevada – This province consists of a tilted fault block nearly 400 miles long that is comprised of mostly granitic rock that formed during the Mesozoic Era. Its east face consists of a high, rugged multiple scarp, contrasting with the gentle western slope that dips under sediments of the Great Valley. Deep river canyons are cut into the western slope.
- Basin and Range – This province is characterized by interior drainage with lakes and playas, and the typical horst and graben structure (subparallel, fault-bounded ranges separated by down-dropped basins). Death

Valley, the lowest area in the United States (282 feet below sea level at Badwater Basin), is one of these grabens.

- Transverse Ranges – These ranges consist of an east-west trending series of steep mountain ranges and valleys. The east-west structure of the Transverse Ranges is oblique to the normal northwest trend of coastal California, hence the name "Transverse." The province extends offshore to include San Miguel, Santa Rosa, and Santa Cruz islands. Its eastern extension, the San Bernardino Mountains, has been displaced to the south along the San Andreas Fault. Intense north-south compression is squeezing the Transverse Ranges. As a result, this is one of the most rapidly rising regions on earth.
- Mojave Desert – This province consists of a broad interior region of isolated mountain ranges separated by expanses of desert plains. It has an interior enclosed drainage and many playas. There are two important fault trends that control topography: a prominent northwest-southeast trend and a secondary east-west trend (apparent alignment with Transverse Ranges is significant). The Mojave province is wedged in a sharp angle between the Garlock Fault (southern boundary Sierra Nevada) and the San Andreas Fault, where it bends east from its northwest trend. The northern boundary of the Mojave is separated from the prominent Basin and Range by the eastern extension of the Garlock Fault.
- Peninsular Ranges – This province consists of a series of ranges that are separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. The trend of topography is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rock intruding the older metamorphic rocks. The Los Angeles Basin and the island group (Santa Catalina, Santa Barbara, and the distinctly terraced San Clemente and San Nicolas islands), together with the surrounding continental shelf (cut by deep submarine fault troughs), are included in this province.
- Colorado Desert – This low-lying barren desert basin, about 245 feet below sea level in part, is dominated by the Salton Sea. The province consists of a depressed block between active branches of alluvium-covered San Andreas Fault with the southern extension of the Mojave Desert on the east. It is characterized by the ancient beach lines and silt deposits of extinct Lake Cahuilla.

3.10.1.2 Soils

Soil conditions in California are highly variable. California's diverse geologic, topographic, climatic, temporal, and vegetative environments all influence the formation and composition of the state's soils. Unlike California's geologic regions, soils in the state do not have specific characteristics or properties that distinguish them by region. Instead, there is a gradual transition between the characteristics of one soil versus another. Soils are classified in various ways, depending on the application of the information. Engineers evaluate and classify soils in regard to the engineering properties of the soil (e.g., Unified Soil Classification System). Soil scientists group soils together based on their intrinsic properties, geologic origin, and soil behavior based on different conditions. The United States Natural Resources Conservation Service (NRCS) uses the USDA's soil taxonomy system to classify soils. This method of classification is based on the chemical, biological, and physical characteristics of soils such as soil color, texture, structure, mineralogy, salt content, and depth. These characteristics are defined in the 2017 USDA Soil Survey Manual (USDA 2017). Maps created by the NRCS, such as the U.S. General Soil Map (STATSGO2) and the Soil Survey Geographic (SSURGO2) digital databases, should be used when evaluating soils affected by a proposed project. These maps and others include detailed information about soils, their physical and chemical properties, and suitability for a variety of uses.



Source: California Geological Survey 2002

Figure 3.10-1. California's Geomorphic Provinces

3.10.1.3 Topography

The topography of California is highly varied from 282 feet below sea level in Death Valley to 14,494 feet at the peak of Mount Whitney. The mean elevation of California is approximately 2,900 feet. Topography has an important influence on geomorphic processes due to its effect on slope, which controls the hydraulic gradient of water flow, the energy of erosive runoff, and the driving forces for landsliding (Istanbulluoglu and Bras 2005). Topography is strongly controlled by an area's tectonic setting. A designation of "low" topographic relief means that the geomorphic province has relatively gentle slopes, and a province with a "high" topographic relief has relatively steep slopes. Geomorphic provinces with low topographic relief include the Colorado Desert and the Great Valley geomorphic provinces. Low to moderate topographic relief exists for the Modoc Plateau and the Mojave Desert geomorphic provinces. Low to high relief is a characteristic of the Basin and Range province, whereas the Coast Ranges province displays moderate to high topographic relief. The highest topographic relief occurs in the Klamath Mountains, Sierra Nevada, and Cascade Ranges geomorphic provinces, where maximum elevations range from over 9,000 to 14,000 feet.

3.10.1.4 Earthquakes

California is one of the most active, geomorphically diverse, scenic locations in the U.S. Millions of years ago, the shift in plate tectonics converted the passive margin of the North American Plate into an active margin of compressional and translational tectonic regimes. California's northern, central, and southern coastal areas are more susceptible to earthquakes, but hundreds of identified faults exist within the state's borders. Based on slip rates within the last 10,000 years, approximately 200 faults are considered potentially hazardous. As such, more than 70% of California's population lives within 30 miles of a fault where high ground shaking could occur within the next 50 years (CDOC 2024). Earthquakes are a familiar and unpredictable phenomenon in California, in terms of both location and magnitude. The San Andreas Fault is one of California's best known and most notable faults. The fault runs through the state for approximately 800 miles between the convergence of the Pacific and North American Plates. Its southern terminus starts south of California in the Gulf of California, and runs northwest through the Salton Trough, continuing north until it reaches the Transverse Ranges where it turns east-west. North of the Transverse Ranges, the San Andreas Fault again runs northwest until it cuts off at the Mendocino Triple Junction off the Humboldt County coast. Some of the state's most devastating earthquakes have occurred on the San Andreas Fault, including the 1906 San Francisco earthquake (magnitude 7.7 to 8.3) and the 1857 Fort Tejon earthquake (magnitude 7.9). While the San Andreas Fault is the cause of significant recent earthquakes, the Cascadia subduction zone, located farther north, has a greater capability to create strong ground shaking, vertical land displacement, and tsunamis. The Cascadia subduction zone is a 600-mile-long, north-to-northwest running collection of faults extending from southern British Columbia to the Mendocino Triple Junction. The Cascadia subduction zone has the potential to create large earthquakes with magnitudes of 9.0 or greater every 250–500 years, on average.

The state has established Alquist-Priolo Zones that are buffers around active faults that have been determined to be especially prone to surface fault rupture. The California Geological Survey defines an active fault as one that has had surface displacement within Holocene time (within the last 11,700 years; the United States Geological Survey [USGS] uses within the last 15,000 years).

3.10.1.5 Liquefaction and Lateral Spreading

Liquefaction is the process by which water-saturated granular soils transform from a solid to a liquid state during strong ground shaking. During liquefaction, ground shaking causes waterlogged soils to collapse and decreases the overall volume of soil, causing it to temporarily lose strength and become more fluid. This can cause ground deformations and failures, increase lateral earth pressure, and result in a temporary loss of soil-bearing capacity, all of which can damage buildings and other structures. Liquefaction can increase the buoyancy of structures buried in water bodies, potentially causing them to shift and uplift toward the surface. Liquefaction generally results from strong ground shaking caused by earthquakes. Regions with poorly drained, fine-grained soils (sandy, silty, and gravelly soils) are the most susceptible to liquefaction.

Liquefaction may lead to lateral spreading. Lateral spreading (also known as expansion) is the horizontal movement or spreading of soil toward an “open face,” such as a streambank, the open side of fill embankments, or the sides of levees. It often occurs in response to liquefaction of soils in an adjacent area. The potential for failure from lateral spreading is highest in areas where there is a high groundwater table, where there are relatively soft and recent alluvial deposits, and where creek banks are relatively high.

3.10.1.6 Landslides

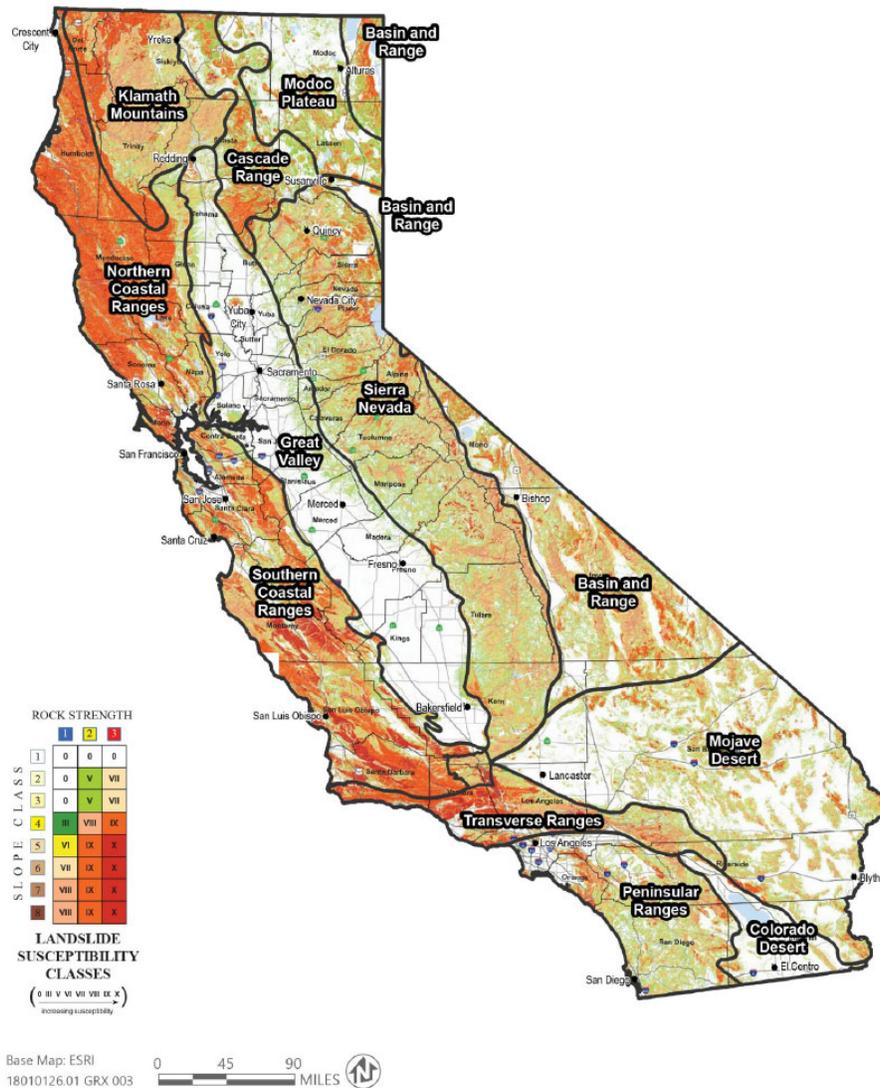
Unstable hillslopes are areas susceptible to landslides, which consist of the downslope movement of soil, rock, and water under the influence of gravity. Landslides consist of the downslope movement of soil and rock under the influence of gravity. The geologic and topographic features of the landscape are the primary determinants of the shear strength of the hillslope materials (i.e., resistance to landslides) and hillslope shear stress (i.e., propensity for landsliding). Landslide susceptibility is the relative likelihood that landsliding will occur. Shallow-landsliding occurrence is most likely to occur in the mountainous portions of the Coast Ranges, Klamath Mountains, Transverse Ranges, and the Sierra Nevada. Figure 3.10-2 shows the modeled susceptibility for deep-seated landsliding performed by the California Geological Survey and indicates that the highest susceptibility for deep-seated landsliding is generally in the Coast Ranges, Klamath Mountains, and Transverse Ranges provinces (California Geological Survey 2013).

3.10.1.7 General Soil Hazards

Soil erosion is caused by the detachment and entrainment of soil particles through the action of water and wind. Soils most susceptible to erosion are those high in coarse silt- and fine sand-sized particles (Balasubramanian 2017), particularly when organic matter content is low and soil structure is weak or non-existent. The likelihood of erosion is greater when the vegetative cover is removed or reduced, the soil is otherwise disturbed, or when both of these conditions exist. Erodibility by water is calculated using the K factor, and values range from 0.02 for the least erodible soils to 0.65 for the most erodible (NRCS 2001). The Transverse Ranges, Peninsular Ranges, Sierra Nevada, Coastal Ranges, Klamath Mountains, and Cascade Range geomorphic provinces are the most susceptible to erosion (Figure 3.10-3).

The shrink-and-swell potential for soils is the change in volume associated with moisture content, in which soils shrink when dried and expand when wet. The extent of shrinking and swelling is based on the amount and type of clay in the soil. Montmorillonite, smectite, bentonite, and illite are common clay materials that absorb water and can cause soils to swell by more than 10% of their original volume. The volume increase occurs when water molecules are absorbed between clay minerals. The more water is available, the more water is absorbed between the clay minerals, and thus, the greater the swelling capacity becomes. Once the expanded clay dries,

the lack of water molecules will cause the soil to shrink, resulting in a volume decrease. This shrink-and-swallow cycle can exert pressure on building foundations and infrastructure, causing damage by removing structural support, and on roads by causing surface cracking and runoff infiltration. Shrinking and swelling can also create soil fissures, which allow deeper penetration of water during wet conditions. Although they can be found throughout the state, expansive soils are most common along the coast and coastal mountains along the entire length of California (USGS 1989).



Source: Willis et al. 2011

Figure 3.10-2. Landslide Susceptibility in the California Geomorphic Provinces

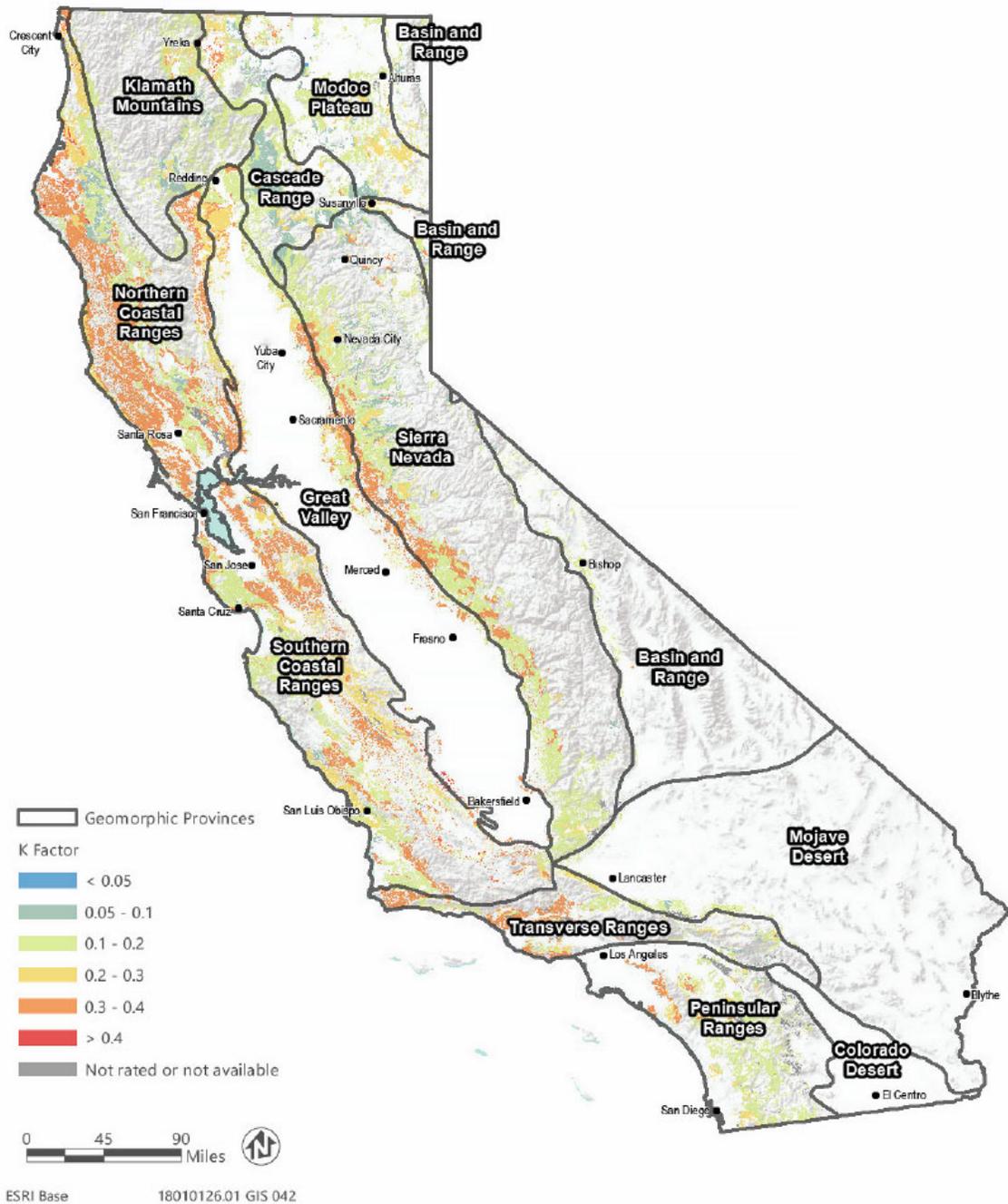


Figure 3.10-3. Erosion Susceptibility in the California Geomorphic Provinces

3.10.1.8 Unique Geologic Features and Paleontological Features

The unique geologic resources of California include natural features, features of widespread geologic importance, geologic resources of interest to visitors, and geologic features worthy of interpretation. Unique geologic features identified throughout California include those features that are the best example of their kind locally or regionally, illustrate a geologic principal, provide a key piece of geologic information, are the “type locality” of a fossil or formation, or have high aesthetic appeal.

Paleontology is the study of life forms in past geologic time, specifically through the study of plant and animal fossils. Paleontological resources represent a small, non-renewable, and impact-sensitive scientific and educational resource. Paleontological resources are sites or geologic deposits that consist of unique and unusual individual fossils or assemblages of fossils, diagnostically or stratigraphically important, and add to the existing body of knowledge in particular areas (e.g., stratigraphically, taxonomically, or regionally). Fossil remains such as bones, teeth and claws, eggs, embryos, nests, skin, and muscles are found in places where they were originally buried in geologic deposits (rock formations). Fossils can be used to determine the geological events and relative ages of depositional layers to better understand the development of the region and area. The age, abundance, and distribution of fossils depend on the topography of the area and geologic formation in which they occur. In California, these resources (e.g., vertebrate, invertebrate, and plant fossils) are generally found in sedimentary and metasedimentary deposits (Caltrans 2024).

3.10.2 Regulatory Framework

Federal and state laws, regulations, plans, and/or guidelines related to geological resources, soils, and geotechnical hazards that are applicable to the Program are summarized below.

3.10.2.1 Federal

3.10.2.1.1 Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act of 2002 (U.S. Code Title 16 Sections 470aaa – 470aaa-11) codifies the generally accepted practice of limited vertebrate fossil collection and limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate federal agency before collecting any paleontological resource on federal land and agree to donate any materials recovered to recognized public institutions, where they would remain accessible to the public and other researchers. Compliance with these federal requirements would be relevant only if a federal agency permit or approval, such as a CWA Section 404 permit, were needed to implement a project.

3.10.2.1.2 National Earthquake Hazards Reduction Act

In 1977, the U.S. Congress enacted the Earthquake Hazards Reduction Act of 1977 (U.S. Code Title 42 Section 7704) to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” The National Earthquake Hazards Reduction Program was also enacted in 1977, to accomplish the goals of the act. The Earthquake Hazards Reduction Act and National Earthquake Hazards Reduction Program were amended in 1990 to refine the description of agencies’ responsibilities, program goals, and objectives. The Earthquake Hazards Reduction Act was amended as the National Earthquake Hazards Reduction Program Act. The four general goals of the National Earthquake Hazards Reduction Program are:

- Develop effective practices and policies to reduce losses of life and property from earthquakes and accelerate their implementation.
- Improve techniques for reducing seismic vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use
- Improve the understanding of earthquakes and their effects.

The National Earthquake Hazards Reduction Program Act designates the Federal Emergency Management Agency as the program’s lead agency. Other supporting agencies include the National Institutes of Standards and Technology, the National Science Foundation, and USGS.

3.10.2.2 State

3.10.2.2.1 Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act; California PRC Sections 2621– 2630) was passed in 1972 to provide a mechanism for reducing losses from surface fault rupture on a statewide basis. The main intent of the Alquist-Priolo Act is to ensure public safety by preventing the construction of buildings used for human occupancy on the surface trace of active faults. The law requires the State Geologist to establish regulatory zones, known as Earthquake Fault Zones, around the surface traces of active faults and to issue appropriate maps. It also prohibits most new construction of structures for human occupancy within these identified hazard zones until a comprehensive geological study has been completed.

3.10.2.2.2 California Building Code

The California Building Code (CBC), codified in Title 24 of the CCR, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2022 CBC provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (such as wind loads) for inclusion into building codes. In accordance with the CBC, structures should be able to: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural as well as non-structural damage.

The CBC also requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity for construction in areas with high seismic vulnerability and near a major fault.

3.10.2.2.3 Public Resources Code Sections 5097.5 and 30244

State requirements for paleontological resource management are included in PRC Sections 5097.5 and 30244. PRC Section 5097.5 states that “a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands” and identifies violations as a misdemeanor. This section defines public lands as “lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.”

PRC Section 30244 states that “where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.”

3.10.3 Impact Assessment

3.10.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts related to geology and soils if it would:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - ii) Strong seismic ground shaking.
 - iii) Seismic-related ground failure, including liquefaction.
 - iv) Landslides.
- b) Result in substantial soil erosion or the loss of topsoil.
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.10.3.2 Proposed Program

3.10.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*
- ii. Strong seismic ground shaking?*
- iii. Seismic-related ground failure, including liquefaction?*
- iv. Landslides?*

Impact Criterion b) Would the Program result in substantial soil erosion or the loss of topsoil?

Impact Criterion c) Would the Program be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Impact Criterion d) Would the Program be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Impact Criterion e) Would the Program have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Impact Criterion f) Would the Program directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Implementing Regulations require that by 2032, plastic covered material be source reduced by at least 25% by weight and 25% by number of plastic components sold, offered for sale, or distributed in the state with 10% of the source reduction to be met either by switching to reusable or refillable options or through elimination of a plastic component. Reasonably foreseeable source reduction and reuse/refill compliance measures would not directly result in construction or ground-disturbing activities and therefore, they would not have the potential to result in substantial adverse effects involving fault rupture, seismic ground shaking, liquefaction, or landslides; would not result in soil erosion or topsoil loss; would not be located on an unstable geologic unit or expansive soil; would not have soils incapable of supporting septic tanks; and would not destroy a unique paleontological resource or geologic feature. Therefore, the source reduction and refill/reuse measures would have **no impact** relative to geology and soils.

3.10.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

- ii. *Strong seismic ground shaking?*
- iii. *Seismic-related ground failure, including liquefaction?*
- iv. *Landslides?*

CONSTRUCTION AND OPERATION

The type of development that would occur as a reasonable means of compliance with the Implementing Regulations would include construction of various collection, sortation, and processing facilities for the sorting and processing of covered materials. Tables 3.2-5, and 3.2-9 in Section 3.2.2 (Collection, Sortation, and Processing: Reasonably Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved) provide estimates of the number of collection and sortation that would be required in each region while Table 3.2-12 provides an estimate of processing facilities that may be constructed statewide. Future projects constructed in response to the Implementing Regulations could be located in seismically active areas or near active faults capable of producing large earthquakes. Strong seismic shaking could damage project structures, cause liquefaction or landslides in susceptible soils, and create a safety risk for people in the area. The potential risk to persons and property associated with seismic shaking would be mitigated through compliance with the seismic design requirements of the CBC. As required by State law, any future structures would be designed to resist stresses produced by lateral forces caused by wind and earthquakes and would meet the minimum seismic safety and structural design requirements described in Chapter 16 of the CBC. Additionally, the geotechnical investigation and site-specific environmental review required for future projects would identify and address potential liquefaction risks or other seismic effects and would ensure that structures and foundations are designed to protect life and property.

The potential for risk to people and structures would be addressed through the seismic design and geotechnical investigation requirement of the CBC and enforced through local permit systems. Further, the construction of collection, sortation, and processing facilities would not increase development potential, or potentially increase the number of people and structures exposed to seismic ground shaking or seismic related ground failure (including liquefaction or landslides). In addition, reasonably anticipated development of collection, sortation, and processing facilities would not increase the potential for earthquakes or otherwise exacerbate ground shaking potential in the area of the proposed project. Moreover, in certain instances, construction of new collection, sortation, and processing facilities would replace older buildings subject to seismic damage with structures built to current seismic standards, which would decrease the risk of damage to people and structures. Accordingly, implementation of the proposed Program would not exacerbate existing geologic hazards. Compliance with applicable regulations, as described above, for all new facilities would achieve applicable seismic safety standards and thus reduce associated risks. In addition, future facilities would not increase the potential for seismic related geological hazards and, in some cases, may reduce the potential for property damage and/or safety concerns by replacing older structures with new structures built to current seismic standards. Thus, impacts would be ***less than significant***.

Impact Criterion b) Would the Program result in substantial soil erosion or the loss of topsoil?

CONSTRUCTION AND OPERATION

Construction and operation of collection, sortation, and processing facilities as a reasonable means of compliance with the Implementing Regulations could involve earth-moving activities including grading and stockpiling of soils that could result in erosion or the loss of topsoil. As detailed in Section 3.13 (Hydrology and Water Quality), any future facility requiring grading must adhere to state and local water quality regulations

aimed at controlling erosion and protecting water quality during construction. For activities disturbing one or more acres, this includes compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ) under CWA Section 402. This permit covers construction activities such as clearing, grading, and ground disturbances like stockpiling or excavation.

The Construction General Permit mandates the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which must incorporate BMPs for erosion and sediment control that meet or exceed the permit's requirements. Erosion control BMPs aim to prevent erosion, while sediment controls are designed to capture mobilized sediment. The SWPPP must include a selection of BMPs to be implemented based on the construction phase and weather conditions to effectively manage erosion and sediment. With adherence to the required BMPs, potential erosion and loss of topsoil would be controlled, ensuring that impacts are **less than significant**.

Impact Criterion c) Would the Program be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Impact Criterion d) Would the Program be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

CONSTRUCTION AND OPERATION

Potential new collection, sortation, and processing facilities could be located in a variety of geologic, soil, and slope conditions with varying soil stability risks. However, any future project would be required to comply with the CBC, including the requirement to perform geotechnical investigations to identify expansive and unstable soils and geologic units, and with industry standard measures to minimize risks (such as measures related to foundation design, treatment of soils, and engineered fills). In addition, design requirements may be established during those investigations to minimize potential losses associated with locating a facility in areas susceptible landslides, lateral spreading, liquefaction, or collapse or on unstable or expansive soils. Therefore, these impacts would be **less than significant**.

Impact Criterion e) Would the Program have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

CONSTRUCTION AND OPERATION

The location of future collection, sortation, and processing projects implemented as a reasonable means of compliance with the Implementing Regulations are not known at this time. However, future projects could be located in areas where municipal sanitary sewer systems are not accessible. It is possible that some projects may require the installation of septic systems to serve offices and restroom facilities for personnel. Septic systems installed in soils that cannot effectively filter effluent can result in groundwater contamination and/or adverse human health effects.

The CBC allows for the construction of private sewer systems, including septic tanks or alternative wastewater disposal systems in accordance with the standards provided by CCR Title 24, Part 5 which include restrictions for proximity to groundwater and soil absorption rate standards. Where local soils do not meet standards, the CBC provides guidance on excavation of soil materials and replacement with materials that meet the standards. Each future project would be required to demonstrate compliance with the CBC through the permitting

process with enforcement by the local permitting agency. Adherence to existing state regulations would restrict installation of septic and alternative wastewater disposal systems in soils are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. Furthermore, the site-specific geotechnical investigation required for each facility project as part of the CBC would ensure that site soils are characterized. Therefore, with compliance with applicable regulations, this impact would be **less than significant**.

Impact Criterion f) Would the Program directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

CONSTRUCTION AND OPERATION

Future projects implemented in response to the Implementing Regulations may require ground disturbance, which could harm or destroy undiscovered paleontological resources. The location of future collection, sortation, and processing facilities is currently unknown. As such, individual development projects have the potential to alter or destroy unique paleontological resources.

Many unique and important fossils have been found in California. The value or importance of different fossil groups varies depending on several factors including age, rarity, and the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Encountering unique resources in a previously disturbed site is unlikely; however, the potential impacts on unique paleontological or geologic resources would be assessed on a site-specific basis during project-level environmental review. This review would consider the local geology that underlays a project site, the level of existing disturbance, and the likelihood of encountering unique paleontological resources. In addition, **MM GEO-1** would require implementation of measures to avoid or reduce impacts to paleontological resources.

SIGNIFICANCE AFTER MITIGATION

Implementation of **MM GEO-1** would reduce potentially significant impacts to paleontological resources because discovered resources would be avoided, moved, recorded, or otherwise treated appropriately, in accordance with pertinent laws and regulations. However, adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM GEO-1** construction activities may alter or destroy unique paleontological resources. Therefore, this EIR discloses, for CEQA-compliance purposes, that paleontological resources impacts associated with the proposed regulation could be potentially **significant and unavoidable**.

MITIGATION MEASURE(S)

MM GEO-1: Paleontological Resources Protection Measures. The lead agency for any future projects can and should require applicants of projects that require grading or excavation in previously undisturbed areas to retain a qualified geologist or paleontologist to identify and evaluate site geology relative to the potential for the presence of unique paleontological resources. The level of screening or identification efforts and the resulting documentation should consider the type and extent of excavation and proximity to fossil bearing

strata. If the evaluation identifies potentially significant impacts, the lead agency can and should require the following measures be conducted to identify and avoid potential impacts to such resources:

- **Retention of Qualified Paleontologist.** The project applicant shall retain a Qualified Paleontologist prior to excavations. The Qualified Paleontologist shall direct all mitigation measures related to paleontological resources. A qualified professional paleontologist is defined by the Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology 2010) as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for at least two years (Society of Vertebrate Paleontology 2010).
- **Paleontological Worker Paleontological Awareness.** Prior to the start of construction, the Qualified Paleontologist or their designee shall conduct a training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.
- **Paleontological Monitoring.** Full-time paleontological monitoring shall be conducted during the initial phases of ground-disturbing construction activities (i.e., grading, trenching, foundation work) within sediments with a high paleontological sensitivity. Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the Society of Vertebrate Paleontology (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring shall be determined by the Qualified Paleontologist based on the observation of the geologic setting from initial ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions once the full depth of excavations has been reached, they may recommend that monitoring be reduced to periodic spot-checking or ceased entirely. Monitoring shall be reinstated if any new ground disturbances are required, and reduction or suspension shall be reconsidered by the Qualified Paleontologist at that time. In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. A Qualified Paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant, the Qualified Paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources:
 - **Salvage of Fossils.** If fossils are discovered, the paleontological monitor shall have the authority to halt or temporarily divert construction equipment within 50 feet of the find until the monitor and/or lead paleontologist evaluate the discovery and determine if the fossil may be considered significant. Typically, fossils can be safely salvaged quickly by a single paleontologist and would not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically-sensitive deposits.
 - **Treatment of Paleontological Resources.** Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection, along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Paleontologist.

- **Final Paleontological Mitigation Report.** Upon completion of ground-disturbing activity (and curation of fossils, if necessary) the Qualified Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) including their scientific significance, and recommendations. If the monitoring efforts produced fossils, a copy of the report shall also be submitted to the designated museum repository.
- **Treatment of Paleontological Resources.** For discretionary projects, the lead agency shall require that all paleontological resources identified on a project site be assessed and treated. A report shall be prepared according to current professional standards that describes the resource, how it was assessed, and disposition.

3.11 Greenhouse Gas Emissions

This section describes existing GHG conditions in California; identifies regulations applicable to GHG emissions that could occur due to the Program; and addresses potential impacts related to GHG emissions that could result from the Program as they relate to climate change, defined as the systematic change in the long-term measurements of climate, such as temperature, pressure, and winds. Table 3.11-1 summarizes the potential GHG impacts from implementation of the Program.

Table 3.11-1. Summary of Greenhouse Gas Emissions Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	Less than Significant	None
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than Significant	Less than Significant	None

3.11.1 Existing Conditions

3.11.1.1 GHG Global Warming Potential

GHGs are a set of compounds whose presence in the atmosphere is associated with the differential absorption of incoming solar radiation and outgoing radiation from the surface of the earth. GHGs, such as CO₂, methane (CH₄), nitrous oxide (N₂O), and certain synthetic chemicals, trap some of the Earth's outgoing energy, thus retaining heat in the atmosphere. This heat trapping causes changes in the radiative balance of the Earth – the balance between energy received from the sun and emitted from Earth – that alter climate and weather patterns at global and regional scales (Intergovernmental Panel on Climate Change 2021). More specifically, GHGs strongly absorb the long-wave radiation emitted by the earth and are capable of warming the atmosphere. Regulated GHGs in California are CO₂, CH₄, N₂O, sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and nitrogen trifluoride (NF₃). Other GHGs, such as water vapor, are not regulated.

In order to attempt to quantify the impact of specific GHGs, each gas is assigned a global warming potential (GWP). Individual GHG compounds have varying GWPs and atmospheric lifetimes. The GWP of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming, relative to CO₂, which is assigned a GWP of 1.0.

The GWP is used to determine the CO₂e mass of each GHG. The calculation of CO₂e is the accepted methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO₂. For example, CH₄'s GWP of 25 indicates that the global warming effect of CH₄ is 25 times greater than that of CO₂ on a unit mass basis. CO₂e is the mass emissions of an individual GHG multiplied by its GWP. The physical properties and sources of GHGs are described in Table 3.11-2.

Table 3.11-2. Global Warming Potential, Properties, and Sources for Selected GHGs

Pollutant	GWP	Description and Physical Properties	Sources
CO ₂	1	CO ₂ is an odorless, colorless, naturally occurring GHG.	CO ₂ is emitted from natural and anthropogenic (human) sources. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are emitted from the burning of coal, oil, natural gas, and wood.
CH ₄	25	CH ₄ is an organic, colorless, naturally occurring, flammable gas. Its atmospheric concentration is less than CO ₂ and its lifetime in the atmosphere is brief (10-12 years) compared to other GHGs.	CH ₄ – commonly referred to as methane – has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH ₄ . Other anthropogenic sources include fossil fuel and biomass combustion, as well as landfilling and wastewater treatment.
N ₂ O	298	N ₂ O, also known as nitrous oxide and commonly referred to as “laughing gas,” is a colorless, nonflammable GHG. It is a powerful oxidizer and breaks down readily in the atmosphere.	Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, e.g., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars to increase speeds.
HFCs	124 - 14,800	HFCs are synthetic manmade chemicals that form one of the GHGs with the highest GWP.	HFCs are man-made for applications such as automobile air conditioners and refrigerants.
PFCs	7,390 - 12,200	PFCs are colorless, nonflammable, dense gases that have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years.	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Pollutant	GWP	Description and Physical Properties	Sources
SF ₆	22,800	SF ₆ is an inorganic, odorless, colorless, nontoxic, non-flammable gas.	SF ₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.
NF ₃	17,200	NF ₃ is an inorganic, colorless, odorless, non-flammable gas.	NF ₃ is used primarily in the plasma etching of silicon wafers.

Source: CARB 2023a

There is growing concern about GHG emissions and their adverse impacts on the world’s climate and environment. These concerns relate to the change in the average climate of the earth that may be measured by changes in wind patterns, storms, precipitation, and temperature. Throughout history, climate has been changing due to forces unrelated to human activity, including solar energy input variation, volcanic activity, and changing concentrations of key atmospheric constituents such as CH₄ and CO₂. These climate changes resulted in ice ages and warm interglacial periods, accompanied by large differences in snow and ice cover and associated changes in ecological systems.

3.11.1.2 GHG Emissions Inventory

Large-scale combustion of fossil fuels (i.e., coal, oil, and natural gas) by humans beginning in the 19th century resulted in significant increases in emissions of CO₂ and emission of other compounds with high GWP. Multiple lines of evidence confirm that human activities are the primary cause of global warming over the past 50 years. Natural factors, such as variations in the sun's output, volcanic activity, the Earth's orbit, the carbon cycle, and others, also affect Earth's radiative balance. However, beginning in the late 1700s, the net global effect of human activities has been a continual increase in GHG concentrations (Intergovernmental Panel on Climate Change 2021).

Emissions inventories identify and quantify the primary human-generated sources and sinks of GHGs. Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change. Worldwide emissions of GHGs in 2019 totaled 59 billion ± 6.6 billion metric tons CO₂ equivalent (MTCO₂e)⁴ (Intergovernmental Panel on Climate Change 2023). In 2021, total GHG emissions in the United States, not including land use changes, were approximately 6.3 billion MTCO₂e. Of the six major sectors – energy (including the electric power industry), transportation, industry, agriculture, commercial, and residential – the electric power industry and transportation sectors combined account for approximately 3.5 billion MTCO₂e, or 55% of total GHG emissions in the U.S (United Nations Framework Convention on Climate Change 2023). As of 2022, the U.S. is the second largest emitter of GHGs in the world, accounting for approximately 11.8% of world total GHG emissions (European Commission 2024).

CARB is responsible for developing the California GHG Emission Inventory. The GHG inventory estimates the volume of GHGs emitted to and removed from the atmosphere by human activities within California and supports the AB 32 Climate Change Program. CARB’s current GHG emission inventory covers the years 2000 through 2021, and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g.,

⁴ “Carbon dioxide equivalent” or “CO₂e” is a term for describing different GHGs in a common unit. For any quantity and type of GHG, CO₂e signifies the amount of CO₂ which would have the equivalent global warming impact.

housing, landfill activity, and agricultural land area). According to CARB emission inventory estimates, California emitted approximately 381.3 million MTCO₂e emissions in 2021 (CARB 2023b). GHG emissions from the transportation and electricity sectors are approximately 38.2% and 16.4% of California’s emission inventory, respectively. The industrial sector contributes approximately 19.4%. The remaining sources of GHG emissions are high GWP gases at 5.6%, residential and commercial activities at 10.2%, agriculture at 8.1%, and recycling and waste at 2.2%.

3.11.1.3 Global Climate Change

“Global climate change” refers to change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term “global climate change” is often used interchangeably with the term “global warming,” but “global climate change” is preferred by some scientists and policy makers to “global warming” because it helps convey the fact that in addition to rising temperatures, other changes in global climate may occur.

The likely range of total human-caused global surface temperature increase from 1850–1900 to 2010–2019 is 1.4°F to 2.3°F, with a best estimate of 1.9°F (Intergovernmental Panel on Climate Change 2021). GHGs have been the main driver of tropospheric warming since 1979 and according to the Intergovernmental Panel on Climate Change, it is extremely likely that human-caused stratospheric ozone depletion was the main driver of cooling of the lower stratosphere between 1979 and the mid-1990s (Intergovernmental Panel on Climate Change 2021). Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). According to the 2006 California Climate Action Team Report, several climate change effects can be expected in California over the course of the next century (CalEPA 2006). These are based on trends established by the Intergovernmental Panel on Climate Change and downscaled for California and are summarized below:

- A diminishing Sierra Nevada snowpack declining by 70% to 90%, threatening the state’s water supply.
- A rise in sea levels, resulting in the displacement of coastal development. During the past century, sea levels along California’s coast have risen about 7 inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten levees and inland water systems, and disrupt wetlands and natural habitats.
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30% toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90% more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.

- Increasing temperatures from 8 to 10.4°F under the higher emission scenarios, leading to a 25% to 35% increase in the number of days that ozone pollution levels are exceeded in most urban areas.
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85% more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.11.2 Regulatory Framework

GHG emissions in California are regulated by federal, state, regional, and local government agencies. These agencies aim to reduce GHG emissions to lessen the impact of global climate change through legislation, planning, policy-making, education, and a variety of other programs. The regulations and the agencies responsible for regulating GHGs within California are discussed below.

3.11.2.1 Federal

3.11.2.1.1 Clean Air Act

The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S. Ct. 1438 (2007), that CO₂ and other GHGs are pollutants under the CAA, which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. On December 7, 2009, the USEPA issued an "endangerment finding" under the CAA, concluding that current and projected GHG emissions threaten the public health and welfare of current and future generations and that motor vehicles contribute to GHG pollution (USEPA 2017). These findings provide the basis for adopting new national regulations to mandate GHG emission reductions under the federal CAA. The USEPA's endangerment finding paves the way for federal regulation of GHGs. Under the Consolidated Appropriations Act of 2008 (House Resolution 2764), Congress established mandatory GHG reporting requirements for some emitters of GHGs. In addition, on September 22, 2009, the USEPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires annual reporting to the USEPA of GHG emissions from large sources and suppliers of GHGs, including facilities that emit 25,000 MTCO₂e or more a year of GHGs.

3.11.2.1.2 Federal Vehicle Standards

In response to the *Massachusetts v. Environmental Protection Agency* ruling discussed above, the Bush Administration issued an Executive Order on May 14, 2007, directing the USEPA, the USDOT, and the

Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. The NHTSA subsequently issued multiple final rules regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011 and later for model years 2012-2016, and 2017-2021. In March 2020, the USDOT and the USEPA issued the final Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which amends existing Corporate Average Fuel Economy standards and tailpipe CO₂ emissions standards for passenger cars and light trucks and establishes new standards covering model years 2021 through 2026. These standards set a combined fleet wide average of 36.9 to 37 for the model years affected. In February 2022, the USEPA issued the Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards. This final rule revises current GHG standards for vehicles in model year 2023 through model year 2026 and establishes the most stringent GHG standards ever set for the light-duty vehicle sector that are expected to result in average fuel economy label values of 40 miles per gallon (mpg), while the standards they replace (i.e., the SAFE rule standards) would achieve only 32 mpg in model year 2026 vehicles.

3.11.2.1.3 Heavy-Duty Engines and Vehicles Fuel Efficiency Standards

In addition to the regulations applicable to passenger cars and light-duty trucks, on August 9, 2011, the USEPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks, which applied to vehicles from model years 2014 through 2018 (USEPA and NHTSA 2016). The USEPA and the NHTSA adopted standards for CO₂ emissions and fuel consumption, respectively, tailored to each of three main vehicle categories: (1) combination tractors, (2) heavy-duty pickup trucks and vans, and (3) vocational vehicles. According to the USEPA, this program reduced GHG emissions and fuel consumption for affected vehicles by 6 to 23%. In August 2018, the USEPA and NHTSA issued a proposed ruling to roll back some of the fuel economy and GHG standards for medium- and heavy-duty trucks. The new ruling proposed by the USEPA and NHTSA, the Safer Affordable Fuel-Efficient Vehicle Rules, would replace the Corporate Average Fuel Economy standards set for model year 2022-2025 passenger cars and light-duty trucks, while the 2021 model year vehicles will maintain the Corporate Average Fuel Economy standards. On September 27, 2019, USEPA and NHTSA published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program” (84 FR 51310), which became effective November 26, 2019. This Part One Rule revoked California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the USEPA and NHTSA issued Part Two of the Safer Affordable Fuel-Efficient Rule, which went into effect 60 days after being published in the Federal Register. Part Two Rule sets CO₂ emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. In December 2021, the USEPA finalized federal GHG emissions standards for passenger cars and light trucks for Model Years 2023 through 2026. On March 9, 2022, USEPA reinstated California’s authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate and entirely rescinded the SAFE Rule (Part One). Although California’s authority under the CAA to implement its own GHG emission standards and ZEV sales mandate has been restored, litigation over these federal rules is still pending.

3.11.2.2 State

3.11.2.2.1 Executive Order S-3-05

On June 1, 2005, Executive Order S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG

emissions to 80% below 1990 levels. It calls for the Secretary of CalEPA to be responsible for coordination of State agencies and progress reporting.

3.11.2.2.2 Executive Order B-30-15

In April 2015, Governor Edmund Brown issued an Executive Order establishing a statewide GHG reduction goal of 40% below 1990 levels by 2030. The emission reduction target acts as an interim goal between the AB 32 goal (i.e., achieve 1990 emission levels by 2020) and Executive Order S-03-05 goal of reducing statewide emissions 80% below 1990 levels by 2050. In addition, the Executive Order aligns California's 2030 GHG reduction goal with the European Union's reduction target (i.e., 40% below 1990 levels by 2030) that was adopted in October 2014.

3.11.2.2.3 Assembly Bill 32

In 2006, the California legislature passed the California Global Warming Solutions Act of 2006 (AB 32). AB 32 focuses on reducing GHG emissions in California and required CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. CARB initially determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit was 427 million MTCO₂e, which was met in 2016.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB approved the cap-and-trade program authorized in AB 32 in 2012. The cap-and-trade program took effect in 2013.

The CARB approved the First Update to the Climate Change Scoping Plan in 2014. The First Update described California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the initial Scoping Plan and updated the 2020 GHG emissions limit goal. The CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by EO B-30-15 and codified by Senate Bill (SB) 32. The 2030 target is reducing GHG emissions to 40 percent below 1990 levels by 2030.

The 2022 Scoping Plan Update, adopted in December 2022, provides approaches and proposed regulations to achieve the Statewide carbon neutrality target no later than 2045 through an 85% reduction of anthropogenic GHG emissions compared to 1990 levels of emissions, and identifies policies and strategies to reduce carbon emissions through direct emission reduction measures, building code updates, market-based compliance mechanisms such as the Cap-and-Trade Program, potential monetary and nonmonetary incentives, and also carbon dioxide removal from the atmosphere that includes carbon capture, utilization and storage technologies, and carbon sequestration through natural and working lands. Appendix D of the 2022 Scoping Plan includes a table of Priority GHG Emission Reduction Strategies for local governments.

3.11.2.2.4 Senate Bill 32

SB 32 expanded upon Assembly Bill 32 and went into effect January 1, 2017. The bill mandates a reduction in GHG emissions to 40% below the 1990 levels by 2030, consistent with Executive Order B-30-15. CARB is responsible for ensuring that California meets this goal.

3.11.2.2.5 Assembly Bill 1279

AB 1279, the California Climate Crisis Act, passed on September 16, 2022, requires that the state achieve net zero GHG emissions as soon as possible, but no later than 2045. In addition, AB 1279 requires the state to

achieve and maintain net negative GHG emissions and ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85% below the 1990 levels. The bill requires updates to the scoping plan (once every five years) to implement various policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies.

3.11.2.2.6 Senate Bill 1383

SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the CARB to adopt a strategy to achieve the following reduction targets by 2030:

- CH₄ - 40% below 2013 levels
- HFCs - 40% below 2013 levels
- Anthropogenic black carbon - 50% below 2013 levels.

SB 1383 also requires CalRecycle, in consultation with CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. CalRecycle adopted its regulations in November 2020, and the regulations took effect on January 2022.

3.11.2.2.7 Senate Bill 350

SB 350, which was passed in September 2015 and became effective October 7, 2015, requires utilities to procure eligible renewable energy resources of 50 percent by 2030, including the following interim targets:

- Achieve 40% renewables by 2024.
- Achieve 45% renewables by 2027.
- Achieve 50% renewables by 2030 and maintain this level in all subsequent years.

SB 350 also requires the state to double statewide energy efficiency savings in electricity and natural gas uses by 2030. The law requires publicly owned utilities to establish annual targets for energy efficiency savings and demand reductions consistent with the statewide goal. The CPUC also must approve programs and investments by electrical corporations in transportation electrification, including electric vehicle charging infrastructure.

3.11.2.2.8 Senate Bill 100

SB 100 mandates that the CPUC, CEC, and CARB plan for 100% of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. This bill also updates the state's Renewables Portfolio Standard to include the following interim targets:

- 44% of retail sales procured from eligible renewable sources by December 31, 2024.
- 52% of retail sales procured from eligible renewable sources by December 31, 2027.
- 60% of retail sales procured from eligible renewable sources by December 31, 2030.

Under SB 100, the CPUC, CEC, and CARB shall use programs under existing laws to achieve 100% clean electricity. The statute requires these agencies to issue a joint policy report on SB 100 every four years. The first of these reports was issued in 2021.

3.11.2.2.9 Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG reduction goals. SB 375 specifically required each Metropolitan Planning Organization to prepare a “Sustainable Communities Strategy” as part of its Regional Transportation Plan.

3.11.2.2.10 Senate Bill 596

SB 596 requires CARB, by July 1, 2023, to develop a comprehensive strategy for the state’s cement sector to achieve net-zero-emissions of GHGs associated with cement used within the state as soon as possible, but no later than December 31, 2045. The bill establishes an interim target of 40% below the 2019 average GHG intensity of cement by December 31, 2035.

3.11.2.2.11 CARB Pavley Regulations

As directed by AB 1493, in 2004, CARB approved the “Pavley I” regulations limiting the amount of GHGs that may be released from new passenger automobiles that are being phased in between model years 2009 through 2016. These regulations targeted a reduction in GHG emissions by 30% from 2002 levels by 2016. In June 2009, the USEPA granted California the authority to implement GHG emission reduction standards for light-duty vehicles; in September 2009, amendments to the Pavley I regulations were adopted by CARB, and implementation of the “Pavley I” regulations started in 2009. The second set of regulations, “Pavley II,” was developed in 2010 and is being phased in between model years 2017 through 2025 with the goal of reducing GHG emissions by 45% by the year 2020 as compared to the 2002 fleet.

3.11.2.2.12 CARB Scoping Plan

AB 32 imposed on CARB the requirement to prepare a comprehensive, multi-year program to reduce GHG emissions in California. CARB must update the plan every five years, and has prepared such plans in 2008, 2013, 2017, and 2022.

CARB adopted the 2017 Scoping Plan in response to Executive Order B-30-15 and SB 32, which provides a framework for achieving the 2030 target. To meet reduction targets, the 2017 Scoping Plan relied on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 (see above). The 2017 Scoping Plan also put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. The 2017 Scoping Plan did not provide project-level thresholds for land use development. Instead, it recommended that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of 6.0 MTCO_{2e} by 2030 and 2.0 MTCO_{2e} by 2050 (CARB 2017). The 2017 Scoping Plan emphasized the importance of the role of local agencies in setting policies to reduce VMT through land use planning.

Local actions that reduce VMT are also necessary to meet transportation sector-specific goals and achieve the 2030 target under SB 32. In its evaluation of the role of the transportation system in meeting the statewide emissions targets, CARB determined that VMT reductions of 7% below projected VMT levels in 2030 (which includes currently adopted SB 375 Sustainable Communities Strategies) are necessary. In 2050, reductions of 15% below projected VMT levels are needed. A 7% VMT reduction translates to a reduction, on average, of 1.5 miles/person/day from projected levels in 2030. It is recommended that local governments consider policies to

reduce VMT to help achieve these reductions, including land use and community design that reduces VMT; transit-oriented development; street design policies that prioritize transit, biking, and walking; and increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities.

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB published the Final 2022 Climate Change Scoping Plan in November 2022 (2022 Update; CARB 2022). The 2022 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused paths to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

In addition to reducing emissions from transportation, energy, and industrial sectors, the 2022 Update includes emissions and carbon sequestration in natural and working lands and explores how natural and working lands contribute to long-term climate goals. Under the Scoping Plan Scenario, California's 2030 emissions are anticipated to be 48% below 1990 levels, representing an acceleration of the current SB 32 target. Cap-and-Trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the accelerated 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet our GHG reduction goals and achieve carbon neutrality no later than 2045. The 2022 Update approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology.

The Scoping Plan also identifies the strategies local agencies can take to help the state meet its goals. Specifically, the Scoping Plan identifies the following priority GHG reduction strategies for local agencies: VMT reduction, transportation electrification, and building decarbonization.

3.11.2.2.13 Executive Order N-79-20

Governor Newsom signed Executive Order N-79-20 in September 2020 to establish targets for the transportation sector to support the state in its goal to achieve carbon neutrality by 2045. The targets established in this Executive Order are:

- 100% of in-state sales of new passenger cars and trucks will be zero-emission by 2035.
- 100% of medium- and heavy-duty vehicles will be zero-emission by 2045 for all operations where feasible, and by 2035 for drayage trucks.
- 100% of off-road vehicles and equipment will be zero-emission by 2035 where feasible.

The Executive Order also tasked CARB to develop and propose regulations that require increasing volumes of zero-electric passenger vehicles, medium- and heavy-duty vehicles, drayage trucks, and off-road vehicles toward their corresponding targets of 100% zero-emission by 2035 or 2045, as listed above.

3.11.2.2.14 Title 24 Building Efficiency Standards

CCR Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, and accessibility for persons with physical and sensory disabilities. The California Building

Standards Code's energy-efficiency and green building standards are outlined below. These standards are updated every three years, and the Program will be subject to the 2022 California Building Standards as of January 1, 2023.

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current California Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

3.11.2.2.15 Title 20 Appliance Efficiency Standards

The appliance efficiency regulations of CCR Title 20, Sections 1601-1608 include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

3.11.2.2.16 California Green Building Standards Code

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective on January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements. The mandatory standards applicable to air quality as they would pertain to the Program would require:

- Minimum 20% reduction in indoor water use relative to specified baseline levels;
- Waste Reduction:
 - Minimum 65% non-hazardous construction/demolition waste diverted from landfills;
 - Non-residential and multi-family dwellings with five or more units: Provide readily accessible areas identified for the depositing, storage, and collection of nonhazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals; and/or
 - Non-residential: Reuse and/or recycling of 100% of trees, stumps, rocks, and associated vegetation soils resulting from primary land clearing;
 - Inspections of energy systems to ensure optimal working efficiency;
 - Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards; and
- Electric Vehicle (EV) Charging for New Construction:
 - Non-residential land uses shall comply with the following EV charging requirements based on the number of passenger vehicle parking spaces:

- > 0-9: no EV capable spaces or charging stations required;
 - > 10-25: 4 EV capable spaces but no charging stations required;
 - > 26-50: 8 EV capable spaces of which 2 must be equipped with charging stations;
 - > 51-75: 13 EV capable spaces of which 3 must be equipped with charging stations;
 - > 76-100: 17 EV capable spaces of which 4 must be equipped with charging stations;
 - > 101-150: 25 EV capable spaces of which 6 must be equipped with charging stations;
 - > 151-200: 35 EV capable spaces of which 9 must be equipped with charging stations; and
 - > More than 200: 20% of the total available parking spaces of which 25% must be equipped with charging stations;
- Non-residential land uses shall comply with the following EV charging requirements for medium- and heavy-duty vehicles: warehouses, grocery stores, and retail stores with planned off-street loading spaces shall install EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s), or subpanel(s) at the time of construction based on the number of off-street loading spaces as indicated in Table 5.106.5.4.1 of the CALGreen Standards.
- Bicycle Parking:
 - Non-residential short-term bicycle parking for projects anticipated to generate visitor traffic: permanently anchored bicycle racks within 200 feet of visitor entrance for 5% of new visitor motorized vehicle parking spaces with a minimum of one 2-bike capacity rack; and/or
 - Non-residential buildings with tenant spaces of 10 or more employees/tenant-occupants: secure bicycle parking for 5% of the employee/tenant-occupant vehicle parking spaces with a minimum of one bicycle parking facility.
 - Shade Trees (Non-Residential):
 - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50% of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
 - Landscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years; and/or
 - Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

3.11.2.3 Local

3.11.2.3.1 California Air Districts

Some, but not all, of the 35 air districts in California have developed GHG significance thresholds. For example, the SCAQMD recommends that construction emissions be quantified and amortized over 30 years (the average lifespan of a project) and added to estimated operational emissions. SCAQMD developed this approach as a

mechanism for projects to implement operational mitigation measures that could additionally minimize construction emissions (SCAQMD 2008).

Other air districts, the Sacramento Metropolitan Air Quality Management District (SMAQMD) for instance, recommend applying a “bright-line” threshold to evaluate construction emissions. However, as is the case for SMAQMD thresholds, such thresholds have typically been developed in consideration of nearer-term statewide GHG reduction goals, such as achieving 1990 levels of GHG emissions by 2020 as mandated by AB 32 (SMAQMD 2020). Conversely, many air districts throughout the State (e.g., BAAQMD) do not recommend that construction emissions be estimated or mitigated.

3.11.3 Impacts Assessment

3.11.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would have a significant impact on GHG emissions if the Program would:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG.

As described above in Section 3.11.2.3.1 (California Air Districts), several air districts have established annual mass thresholds of significance for GHG emissions, primarily meant for evaluating GHGs associated with land use development projects, including residential, commercial, industrial, and public land uses and facilities. As provided by 14 CCR Section 15064.7, the lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (as further supported by *Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068). As discussed in Section 3.11.2.3.1 (California Air Districts), the method of estimating and evaluating a project’s contribution to global climate change during construction periods varies throughout the state’s 35 air districts. The SMAQMD has adopted the lowest and most restrictive numeric thresholds in the state of 1,100 MTCO₂e per year for construction activities and a screening *de minimis* threshold of 1,100 MTCO₂e per year for operations (SMAQMD 2020). These thresholds would ensure review of more than 90% of land development project emissions. SMAQMD’s threshold represents a level that would result in sufficiently low GHG emission to be less than cumulatively considerable without mitigation. The SMAQMD thresholds are appropriate to use for the proposed Program activities as they are the most restrictive numeric threshold applied by air districts in the state. Therefore, SMAQMD’s construction and operations screening threshold of 1,100 MTCO₂e is applied to the evaluation of impacts of the proposed Program in this PEIR to support the determination of construction- and operations-related GHG impacts.

3.11.3.2 Methodology

3.11.3.2.1 Source Reduction and Refill/Reuse

The impact analysis of the source reduction and refill/reuse requirements of the Implementing Regulations primarily considers the alternative materials that are likely to replace plastic covered materials, although some reduction in GHG emissions will be achieved from plastic packaging elimination altogether. Life Cycle Assessment (LCA) is a commonly employed method to evaluate and compare the environmental impacts of products, processes, and services across their entire life cycle, from raw material extraction through manufacturing to the end-of-life disposal. LCA results offer specific metrics, such as water or energy usage during production. Within the context of this PEIR, LCAs can provide insight into the environmental implications of material substitution, including reuse and recycling, by assessing the inputs, outputs, and emissions across all life cycle stages.

According to CEQA Guidelines Section 15145, lead agencies are not required to engage in speculative analysis. Note that the CEQA Guidelines do not mandate the use of LCAs for energy and GHG emissions, as the concept is not clearly defined and is considered too speculative under CEQA's statutory scheme to meet the demands of that statute. In 2010, the Office of Planning and Research and the California Natural Resources Agency specifically removed the term "lifecycle" from CEQA Guidelines (California Natural Resources Agency 2009). In doing so, it concluded that LCA was not consistent with CEQA, which requires a lead agency to evaluate the direct and indirect effects of its actions that it has control over and for which it can devise mitigation. Typically, the production of goods is too distantly related to their use to assign responsibility for emissions to a specific project, and the supply chains for the myriad products consumed are complex and subject to change over time. Factors such as market conditions, which are also speculative, heavily influence LCAs: plants may open or close, mines can be depleted, resources are substituted, manufacturing methods evolve, new products emerge, and technologies advance. Additionally, facilities that produce alternative materials are often already part of the existing infrastructure, not new developments. While LCAs are frequently somewhat speculative and not required in CEQA analyses, this PEIR includes a summary of findings from published LCAs to provide context for analyzing GHGs, aiming to identify and prevent unforeseen consequences of using alternative materials. Other methods used include estimates of relative changes in local vehicle trips and VMT due to shifts in materials, waste management, and reuse practices, as discussed in Section 3.20 (Transportation).

3.11.3.2.2 Collection, Sortation, and Processing

GHG emissions arise from both direct and indirect sources. Direct emissions include those from sources such as fuel combustion in vehicles and natural gas use in stationary sources. Indirect emissions result from activities such as off-site electricity and water consumption, as well as solid waste management. Construction activities contribute to both direct and indirect emissions.

While no specific infrastructure projects have been proposed in response to the reasonably foreseeable means of compliance with the Implementing Regulations, GHG emissions related to construction and operational activities were estimated for comparative purposes using CalEEMod Version 2022.1.1.26. The methodologies, assumptions, and inputs used in the CalEEMod model are consistent with those outlined for criteria pollutant analysis in Section 3.6 (Air Quality). Specifically, CalEEMod quantifies direct emissions from construction and operational activities (including vehicle usage) and indirect emissions such as those from energy consumption, solid waste disposal, vegetation management, and water use. Mobile source emissions were derived from VMT

data provided in Table 3.20-3 and 3.20-4 in Section 3.20 (Transportation). GHG emissions also result from the energy required to supply, distribute, and treat water and wastewater, and from methane and CO₂ emissions produced during solid waste disposal via landfilling, recycling, or composting.

Area source emissions associated with operational demands for water, wastewater treatment, conveyance, solid waste disposal, and energy were derived from CalEEMod for the defined land uses (see Table 3.9-4 in Section 3.9 [Energy]). For processing facilities, a stationary source was modeled as a one million BTU per hour gas-fired boiler/process heater operating 24 hours a day. (CalEEMod summary reports are provided in Appendix B). It is important to note that the energy use estimates generated in CalEEMod are conservative and do not account for potential energy efficiency improvements that may be required by future updates to Title 24 in 2025 and 2028. Electricity-related emissions are calculated by multiplying energy consumption by the carbon intensity of the utility district, measured per kilowatt-hour (CAPCOA 2022). According to SB 100, the statewide Renewable Portfolio Standard Program requires electricity providers to increase their procurement from eligible renewable energy sources to 60% by 2030, with interim targets of 44% by 2024 and 52% by 2027.

3.11.3.3 Proposed Program

3.11.3.3.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact Criterion b) Would the Program conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The potential for the Program activities associated with the source reduction and refill/reuse requirements of the Implementing Regulations to generate GHG emission which may have a significant impact on the environment is primarily related to the transition to alternative materials along with the change in truck trips associated with the collection and transport of recyclables, organic materials, and municipal solid waste to the respective processing facilities and return logistics for reuse programs. A shift in materials disposed as waste to recyclable or compostable materials is not expected to result in a significant change in waste collection service truck trips since trucks would already be coming to pick up refuse, compost, and recyclables and the change would be the quantity of material in each respective bin. A shift to reusable products may result in additional trips associated with return logistics (i.e., moving products back from the consumer to the retailer, restaurant, manufacturer, etc. for reuse). At this time, the number of additional vehicle trips and their ultimate destination associated with refillable/reusable products is unknown but could range from negligible if consumers return reusable containers to locations they would travel to in any case, such as at the point of sale, to a relatively minor increase if consumers opt to make a dedicated trip to return the refillable/reusable containers to designated return facilities. As such, it is not possible to provide an estimate of direct energy consumption (e.g., fuel usage or electric vehicle charging) as a result of any potential increase in VMT due to return logistics. However, as discussed in detail below, the nature of source reduction and refill/reuse measures are such that they would not directly or indirectly generate GHGs that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Source Reduction

The source reduction requirements would lead to a decrease in plastic materials and an increase in alternative materials used for the manufacture of single-use food service ware and single-use packaging. In addition, the requirement to meet the 65% recycling rate would lead to a decrease in virgin material resource use as it is replaced with recycled material. Accordingly, the transition to alternative materials would lead to a shift in life-cycle GHG emissions (i.e., GHGs associated with material extraction and conversion to finished products, transportation, and end-of-life) relative to the reduction in plastic materials.

The manufacturing process for single-use plastic covered materials starts with petroleum products and consumes energy that generates GHG emissions. GHGs are also generated during the extraction of raw materials and manufacturing of alternative materials such as paper, aluminum, and glass. The amount of life-cycle GHG emissions varies depending on the type and quantity of product produced. Delivery trucks that transport empty single-use products from manufacturers to the filling facility and filled products to the distributors and/or local retailers also generate GHG emissions. Further, most single-use products that do not become litter or are not recycled are deposited in a landfill where they are left to decompose and degrade. CH₄ is emitted when waste material degrades in anaerobic conditions in a landfill.

Although LCAs are not required for CEQA, for the purpose of providing a comparison of relative GHG emissions of associated with plastic single-use products and single-use products made of alternative materials, this analysis considers the results of the Oregon Department of Environmental Quality's Waste Impact Calculator (WIC), which provides a framework for estimating the life cycle environmental impacts associated with solid waste materials and treatments, and projecting the impact consequences of solid waste management decisions (e.g., comparing waste prevention to recycling). While it was created with the needs of the Oregon Department of Environmental Quality in mind, it is relevant to all those interested in the relative impacts of materials, waste, and waste management. For the analysis of relative impacts related to life cycle GHG of plastics and alternative materials, the WIC was used to illustrate impacts in terms of the 100-year GWP (i.e., the average warming potential over 100 years). Although specific to 2022 Oregon waste stream tonnage, the data illustrated in Figure 3.11-1 shows the relative impacts associated with plastics versus other alternative materials such as glass, paper/fiber, aluminum, and aseptic containers per ton of material.

The impact chart shows the life cycle impacts of plastic materials as compared to various alternative materials, including any credits associated with recycling as is incorporated in the end-of-life impact factors. In Figure 3.11-1, the life cycle impacts are broken down into three life cycle stages: production, end-of-life transport, and end-of-life treatment, with the net impact shown as a black outline. As shown in Figure 3.11-1, per ton of material, the life cycle 100-Year GWP for glass is less than that associated with PET Plastic and other plastic products, as is the 100-Year GWP for paper/fiber materials, tinned cans, paperboard, and cardboard. Replacement with materials with greater GWP than plastic such as aluminum would be offset with the lesser GWP associated with other alternative materials that have lower GWP than plastics. In this general comparison, the majority of GHG emissions are associated with the production stage across all material types, with varying portions of GHGs offset by recycling activities assumed in the end-of-life stage for all materials. The comparison of the GWP associated with the various types of materials as compared to plastics indicates that life cycle GHG emissions associated with plastics could be reduced through a transition to materials with lower GWP such as glass, tin, paperboard, and paper/fiber materials.

Further, CalRecycle estimates that the decrease in plastic covered material would result in a reduction of approximately 4.07 million MTCO₂e emissions by 2032 based on an assumed reduction of 4.3 MTCO₂e per metric ton of plastic eliminated (i.e., minimizing packaging material reduces 100% of the GHG emissions for the

weight that was reduced) (CalRecycle 2024). The reduction of 4.07 million MTCO_{2e} GHGs associated with the amount of plastic reduced could reasonably be expected to offset an increase in GHGs associated with a transition to alternative materials. Accordingly, the reasonably foreseeable means of compliance with the source reduction measures associated with the Implementing Regulations would not be expected to generate GHGs, either directly or indirectly, that would have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHGs. As such, impacts would be *less than significant*.

100 Year GWP (kg CO₂e per Ton of Material)

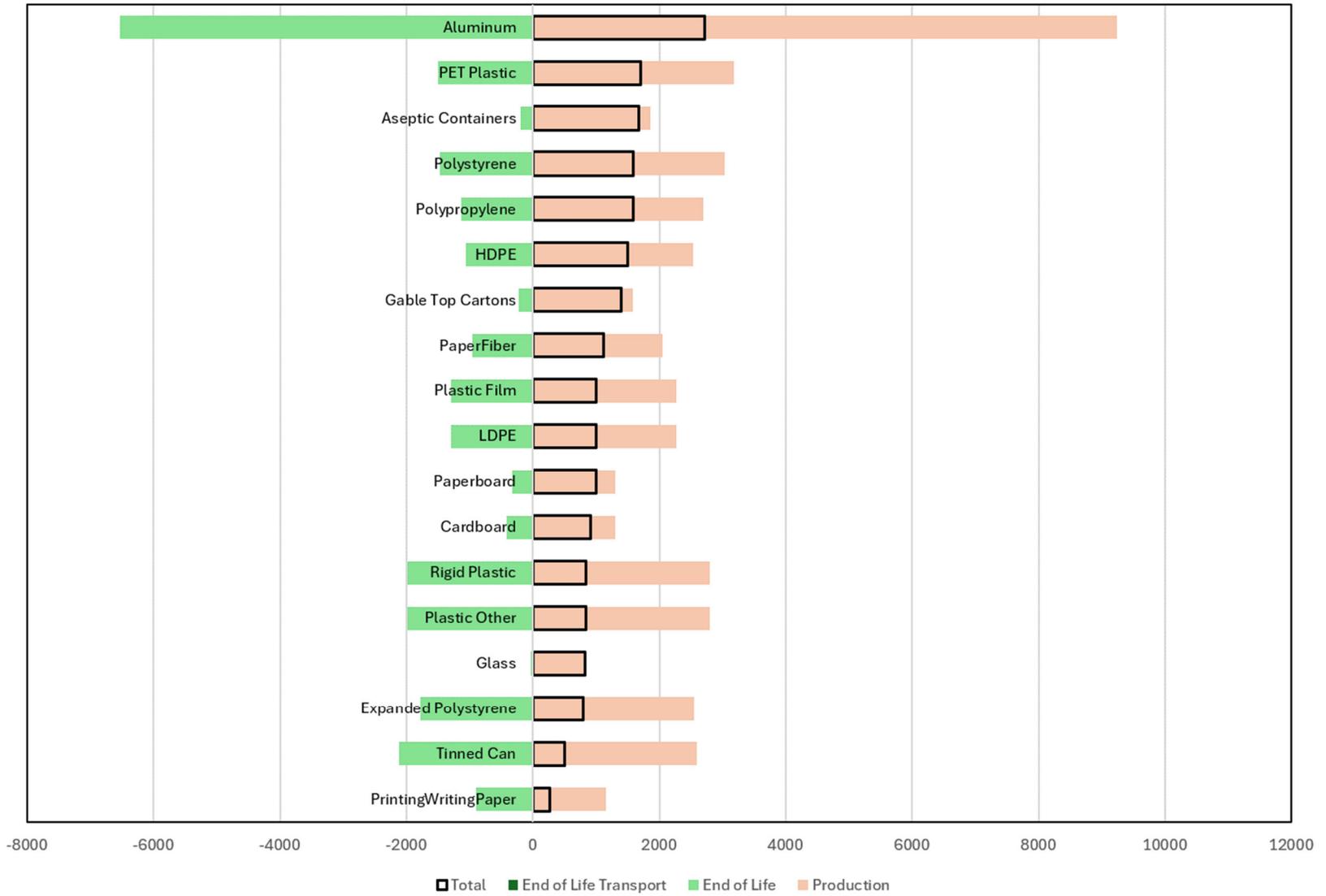


Figure 3.11-1. Life Cycle 100-Year GWP for Plastics and Alternative Materials (data sourced from Oregon Department of Environmental Quality 2023)

Refill/Reuse

The Implementing Regulations require that 10% of source reduction requirements be met by either switching to reusable or refillable packaging or food service ware or through elimination of a plastic component. A transition to reusable products may result in additional trips as a result of return logistics associated with reuse and take-back programs. At this time, the number of additional vehicle trips and their ultimate destination is unknown but could range from negligible, if return logistics is at locations the consumer would travel to in any case, to a relatively minor increase.

A detailed analysis of the relative change in transport requirements associated with a transition to refillable and reusable food service ware and packaging is provided in Section 3.20 (Transportation). The analysis provided in that section indicates that the relative increase in localized VMT associated with return logistics would be highly dependent on customer behavior including roundtrip distance and percentage of customers that make a dedicated trip to return the containers. As an example, assuming 5% of customers make a special trip to return food service ware, the additional VMT would be 500 miles for every 10,000 to-go meals for a 5-mile roundtrip compared to 10,000 miles for a 10-mile roundtrip assuming 10% of customers make a special trip. However, as further discussed below, the reasonably foreseeable means of compliance are not expected to result in a net increase in VMT overall.

As detailed in Section 3.20 (Transportation), an increase in product refill programs would likely lead to a reduction in materials placed in trash or refuse bins and potentially an increase in materials placed in compost or recyclable bins and would not result in a change in solid waste service truck trips. Consumer travel behavior is also expected to remain unchanged, as they would return refillable packaging and containers to retailers or collection facilities similar to how they currently redeem single-use bottles for CRV. Overall, transitioning to refillable packaging and containers is not expected to increase VMT. Specifically, reusable and refillable schemes may result in a reduction in truck trips and VMT through several key mechanisms:

- Reuse of materials may reduce the need for transporting raw materials and finished goods. Since materials are more often repurposed regionally or locally, the need for truck trips to transport these materials over long distances would be reduced.
- Reuse and refill schemes encourage local production and consumption of goods, which reduced the need for long-distance transportation. By shortening supply chains and promoting the use of local resources, fewer trucks are needed to transport goods over long distances, leading to a reduction in truck trips.
- Reusable food service ware and refillable/reusable packaging is designed for durability and reuse, reducing the frequency with which they need to be purchased and replaced by vendors as compared to single-use items. As a result, there would be less demand for the transportation of single-use products, which decreases the number of truck trips required for delivery.
- Although return logistics associated with take-back programs involve transportation, these programs can often be optimized to consolidate loads and reduce the overall number of truck trips compared to a traditional linear economy.
- Circular economy principles encourage companies to streamline their supply chains, making them more efficient and reducing unnecessary transportation. This can include consolidating shipments, optimizing delivery routes, and improving inventory management, all of which contribute to fewer truck trips.

Accordingly, any potential increase in VMT associated with the customers making extra trips to participate in take-back programs would not be expected to result in a net increase in VMT due to offsets in transportation requirements associated with source reduction and transitioning to a circular economy.

In the SRIA, CalRecycle estimates that 10% of source reduction met entirely through refill and reuse would lead to a reduction in 553,073 tons of single-use covered material that would otherwise require manufacture, distribution, and waste management. The energy consumption associated with reusable and refillable systems is directly related to the number of times a product is reused. For instance, a 20-ounce aluminum bottle, used for one year and washed once daily, has an estimated net energy consumption of 2.25 million BTUs per 1,000 gallons. In comparison, an exempt PET single-use water bottle consumes about 9.90 million BTUs per 1,000 gallons. Approximately 82% of the energy demand for the reusable bottle was linked to home washing, which includes the energy required for heating water, treating the water used in the dishwasher, and treating the dishwasher effluent (Franklin 2009). However, this estimate assumes that reusable containers are washed separately from other dishes. It is assumed that in most instances, reusable containers would be more likely to be washed with regular daily dishwasher loads, which would occur regardless. Even when conservatively including the additional energy associated with dishwashing as analyzed by Franklin Associates, reusable containers would still use approximately 77% less energy than an equivalent number of single-use plastic bottles. Therefore, increasing the use of refillable containers could offset the overall rise in life cycle energy consumption associated with single-use containers. Commercial businesses that transition to reusable products (i.e., reusable food service ware) may increase washing of products as compared to single-use products. However, both residential and commercial washing appliances are required to comply with the energy efficiency standards of CCR Title 20, Sections 1601-1608 and Title 24 Building Efficiency Standards to reduce energy consumption in residences and businesses. These energy efficiency standards would effectively reduce GHG emissions associated with additional washing of reusable and refillable products.

Accordingly, the source reduction measures associated with the Implementing Regulations including a transition to refillable and reusable products are not expected to directly or indirectly generate GHGs that would have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHGs. As such, impacts would be ***less than significant***.

3.11.3.3.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

CONSTRUCTION AND OPERATION

The reasonably foreseeable means of compliance with the Implementing Regulations would include the development of collection, sortation, and processing infrastructure throughout the state. The specific technologies, size, and type of facilities have not been identified at this time and local jurisdictions would evaluate these in the future based on the current and anticipated composition of the feedstocks to be managed at these facilities. However, GHG emissions generated as a result of the construction and operation of these future facilities have been estimated using the methodology outlined in Section 3.11.3.2 (Methodology) for a comparative analysis. Specifically, construction and operation GHG emissions were estimated using the CalEEMod 2022.1.1.26 model (refer to Appendix B) based on assumptions outlined in Section 3.6.3.2.2 (Construction Assumptions), including estimated project construction schedule and operation activities. Short-term construction emissions (e.g., off-road equipment, worker vehicle trips, excavating, and

trenching) and annual operation emissions associated with the future facilities were evaluated. According to the modeling results, total unmitigated construction emissions ranged from 387.51 to 750.41 MTCO₂e per year as summarized in Table 3.11-3. Some air districts recommend spreading construction emissions over a 30-year period and addressing them as part of operational GHG reduction strategies. Following this guidance, construction-related GHG emissions were amortized over a 30-year period and combined with operational emissions, as summarized in Table 3.11-3. As shown in Table 3.11-3, total GHG emissions for future facilities range from a minimum of 565.97 MTCO₂e per year for a small MRF to a maximum of 1964.24 MTCO₂e per year for a large MRF scenario.

Table 3.11-3. Project Construction and Operation GHG Emission Summary

Facility Type	Total Construction GHGs (MTCO ₂ e)	Construction GHGs Amortized Over 30 Years (MTCO ₂ e/year)	Operational Annual GHGs (MTCO ₂ e/year)	Total Annual GHGs (MTCO ₂ e/year)
Sortation				
MRF – Small	387.51	12.92	553.05	565.97
MRF – Medium	406.15	13.54	1029.40	1042.94
MRF – Large	593.40	19.78	1944.46	1964.24
Composting	750.41	25.01	1379.60	1404.61
Processing Facilities				
Material Processing Facility	420.61	14.02	607.94	621.96

Source: CalEEMod Emissions Summary Reports in Appendix B

As summarized in Section 3.11.3.1, SMAQMD has adopted the most restrictive mass emissions threshold in the state of 1,100 MTCO₂e per year for construction activities (SMAQMD 2020). The estimated total GHG construction emissions are compared against this threshold for the purposes of evaluating relative impacts. As shown in Table 3.11-3, the total construction-related emissions are below the SMAQMD significance threshold. However, the operational annual GHGs associated with large MRFs and composting facilities would exceed the SMAQMD *de minimis* operations threshold of 1,100 MTCO₂e/year. For projects that exceed the *de minimis* threshold, SMAQMD requires that a project demonstrate consistency with the GHG targets by sector by committing to a menu of BMPs such as the requirement that projects are designed and constructed without natural gas infrastructure, are electric vehicle ready, and achieving per capita VMT reductions relative to existing average VMT. For projects that cannot incorporate the required BMPs, other reductions or purchasing and retiring GHG/carbon offsets from a registry approved by SMAQMD would be required.

For estimating the maximum annual GHG emissions per year, a conservative estimate of the maximum statewide GHG emissions associated with collection, sortation, and processing facilities at full buildout can be calculated by multiplying the annual GHG emission rate for each facility type by the total number of facilities expected to be constructed by 2032 (i.e., 16 large MRFs, 6 medium MRFs, 8 small MRFs, one composting facility, and 133 processing facilities). Note that the analysis assumes that collection infrastructure, (i.e., PRO Depots) would be installed in existing depots or retail facilities and would require little to no modification of existing facilities. Accordingly, the Program would result in a conservative estimate for statewide GHG

emissions of 0.13 million MTCO₂e per year. This amount is equivalent to 0.05% of the statewide target for 2030 of 260 million MTCO₂e per year. As discussed in Section 3.11.3.2.2, the estimated GHG emissions do not account for potential energy efficiency improvements and future requirements of the Renewable Portfolio Standard Program. Similarly, the mobile-source GHG emissions estimates calculated in CalEEMod do not consider the full extent of a transition to zero-emission vehicles with implementation of Executive Order N-79-20. As such, GHG emissions associated with operation of collection, sortation, and processing facilities would be substantially less than the estimates provided herein.

In addition, the primary objectives of the Implementing Regulations are to reduce GHGs from production of virgin plastic material, and landfill disposal. From 2000 to 2021, the GHG emissions associated with the waste sector increased approximately 23.5% (CARB 2023). Since waste management accounts for approximately 2.2% of California's GHG inventory (CARB 2023b), implementing programs that support local waste reduction and recycling would result in a net reduction in GHG emissions. Specifically, recycling materials such as aluminum, plastic, glass, and paper generally require less energy than producing them from raw, virgin resources. For instance, recycling aluminum saves approximately 90% of the energy needed to create new aluminum from bauxite ore (Aluminum Association 2021). Accordingly, recycling reduces the demand for extraction and processing of raw materials, thus lowering associated emissions (refer to Figure 3.11-1). This reduction in energy consumption associated with avoiding virgin materials directly translates into lower GHG emissions since less fossil fuel is burned for energy production. Further, recycling reduces the volume of waste sent to landfills, slowing the rate at which landfills reach capacity. This can delay the need for new landfills, which are often associated with significant GHG emissions from land clearing, construction, and uncontrolled emissions associated with their operation. Building recycling infrastructure closer to where waste is generated can reduce the need for long-distance transportation of waste to landfills or other disposal sites, resulting in less fuel consumption, and consequently fewer GHG emissions. As such, in the context of legislated statewide GHG targets, this level of Program-related GHG emissions would not be considerable. Accordingly, construction and operation of collection, sortation, and processing facilities would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and impacts would be ***less than significant***.

Impact Criterion b) Would the Program conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

CONSTRUCTION AND OPERATION

As described in Section 3.11.2.2, California has enacted several pieces of legislation that relate to GHG emissions and climate change, much of which sets aggressive goals for GHG reductions within the state. The first and most far-reaching is AB 32, followed by SB 32 and AB 1279, in which CARB must ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030 and carbon neutrality by 2045. For the purposes of this analysis, the applicable GHG reduction plan to evaluate associated impacts of the development of collection, sortation, and processing infrastructure in response to the Implementing Regulations against is the CARB 2022 Scoping Plan update.

CalRecycle estimates that an additional 2.6 million tons of plastic covered material will need to be recycled to meet the 65% recycling rate target in 2032 (CalRecycle 2024). As discussed under Impact Criterion (a), the estimated GHG emissions associated with the anticipated full buildout of collection, sortation, and processing infrastructure to manage the anticipated shift in waste would lead to annual GHG emissions of approximately 0.13 million MTCO₂e per year. Construction of new facilities would be conducted in accordance with applicable

BMPs of the CALGreen Code standards for efficiency and sustainability as well as the building efficiency standards of Title 24. Measures included in the Scoping Plan update would indirectly address GHG emission levels associated with construction activities, including the phasing-in of cleaner technology for diesel engine fleets (including construction equipment) and the development of a low-carbon fuel standard. Policies formulated under the mandate of AB 32 that apply to construction-related activity either directly or indirectly, would be implemented statewide and would affect the project construction activities should those policies be implemented before construction begins. Specifically, implementation of AB 32 control measures for reduced vehicle emissions would decrease GHG emissions from the Project.

Further, consumers of electricity and transportation fuels are, in effect, regulated by requiring providers and importers of electricity and fuel to participate in the GHG Cap-and-Trade Program and other Programs (e.g., low carbon fuel standard, renewable portfolio standard). Each such sector-wide program exists within the framework of AB 32 and its descendant laws, the purpose of which is to achieve GHG emissions reductions consistent with the AB 32 Scoping Plan. In summary, construction and operation of future facilities would increase GHGs emissions from operations, electricity use, and combustion of gasoline/diesel fuels, each of which is regulated near the top of the supply-chain. With respect to GHGs from electricity, the AB 32 Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. With respect to GHGs from use and combustion of gasoline/diesel fuels, the Cap-and-Trade Program also covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are “supplied” (i.e., delivered into commerce). Accordingly, as with stationary source GHG emissions and the GHG emissions attributable to electricity use, virtually all GHG emissions from CEQA projects associated with VMT are covered under the Cap-and-Trade Program.

The development of collection, sortation, and processing facilities in response to the Implementing Regulations would directly reduce waste, divert waste from landfills, and encourage reuse and repurposing of products that would otherwise go to waste. Landfills are the third largest source of anthropogenic CH₄ in California (CalRecycle 2023). As discussed for Impact Criterion (a), recycling reduces the volume of waste sent to landfills, slowing the rate at which landfills reach capacity. This can delay the need for new landfills, which are often associated with significant GHG emissions from land clearing, construction, and uncontrolled emissions associated with their operation. Building recycling infrastructure closer to where waste is generated can reduce the need for long-distance transportation of waste to landfills or other disposal sites, resulting in less fuel consumption, and consequently fewer GHG emissions. Construction of new or expanded compost facilities in response to the Implementing Regulations would directly support the goals of SB 1383 to achieve specified targets for reducing organic waste in landfills and associated short-lived climate pollutants.

In addition, as discussed in detail in Section 3.20 (Transportation) the anticipated buildout of collection, sortation, and processing infrastructure would likely result in changes in VMT as compared to baseline conditions. Overall VMT may increase or be displaced to other locations. The existing trips related to the collection of covered materials, which in most jurisdictions in the state is currently commingled with solid waste, may be diverted from the current final destination at a landfill to a new or expanded waste recovery facility. It would be reasonable to expect that trip lengths and frequencies related to collection of covered materials and hauling to collection, sortation, and processing facilities would not change substantially from current travel requirements, because a robust system of waste collection and disposal is already in place and the location of future collection, sortation, and processing facilities would be influenced by the cost-control incentive to keep trip lengths short. On-road total GHG emissions accounted for in the 2021 California GHG

inventory totaled 135.8 million MTCO_{2e}. Given the uncertainty in distribution of vehicle types and fuel consumption of vehicles that would contribute to the potential increase in VMT, it would be speculative to calculate the associated GHG emissions. However, Caltrans estimates total statewide VMT for 2022 at 315,244.56 million miles (Caltrans 2023). Accordingly, the total estimate statewide VMT associated with the buildout of collection, sortation, and processing facilities is 7,847,854 miles (refer to Table 3.20-4 in Section 3.20 [Transportation]), or roughly 0.002% of the total statewide VMT. For a comparative analysis, this can be equated to roughly 0.002% of statewide GHG emissions associated with on-road sources as reported in the 2021 California GHG inventory, equal to roughly 3,380.7 MTCO_{2e} per year. CalRecycle estimates that the reasonably foreseeable means of compliance with the Implementing Regulations would result in a reduction in 4.07 million MTCO_{2e} emissions by 2032. As such, it is reasonable to expect that the GHG emissions from a change in VMT and construction and operation of collection, sortation, and processing facilities would be more than offset by the anticipated reductions achieved through other aspects of the Implementing Regulation, such as source reduction and transition to refillable and reusable products. Further, AB 32 establishes control measures that would apply to light, medium, and heavy-duty vehicles. Implementation of AB 32 control measures for reduced vehicle emissions would decrease GHG emissions associated with a shift in VMT associated with the Implementing Regulations. These measures are being implemented at the state level and future projects would not interfere with their implementation.

Because construction and operation of collection, sortation, and processing facilities that may be developed in response to the Implementing Regulations would be consistent and would not conflict with the applicable plans, policies, and regulations, and because the associated incremental increase in GHG emissions of 0.13 million MTCO_{2e} associated with construction and operations along with the estimated 3,380.7 MTCO_{2e} per year associated with a shift in VMT would be offset through reductions in waste that would otherwise go to landfills, impacts would be *less than significant*.

3.12 Hazards and Hazardous Materials

This section describes the environmental and regulatory setting related to hazards and hazardous materials throughout California; identifies applicable federal and state regulations; and analyzes the potential impacts of the Program related to hazards and hazardous materials. The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.12-1 summarizes the impacts related to hazards and hazardous materials that could result from implementation of the Program.

Table 3.12-1. Summary of Hazards and Hazardous Materials Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant	Potentially Significant and Unavoidable	MM HAZ 1: Waste Management Plan MM HAZ 2: Worker Environmental Awareness Training
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No Impact	Potentially Significant and Unavoidable	MM HAZ 1: Waste Management Plan MM HAZ 2: Worker Environmental Awareness Training
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact	Potentially Significant and Unavoidable	MM HAZ 1: Waste Management Plan MM HAZ 2: Worker Environmental Awareness Training
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact	Potentially Significant and Unavoidable	MM HAZ 3: Phase I/II Environmental Site Assessment MM HAZ 4: Remedial Action Plan/Soil Management Plan
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No Impact	Potentially Significant and Unavoidable	MM HAZ 5: Airport Safety Hazard Assessment MM TR-5: Project-Specific Traffic Impact Report
f) Impair implementation of or physically interfere with an adopted	No Impact	Potentially Significant and Unavoidable	MM TR 1: Construction Transportation and Management Plan

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
emergency response plan or emergency evacuation plan?			MM TR-2: Restrict Lane Closures and Maintain Access MM TR-4: Notify Emergency Personnel of Road Closures MM TR-5: Project-Specific Traffic Impact Report
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact	Potentially Significant and Unavoidable	MM TR 1: Construction Transportation and Management Plan MM TR-5: Project-Specific Traffic Impact Report MM HAZ 6: Emergency Access MM HAZ 7: Construction Staging and Parking Plan

3.12.1 Existing Conditions

3.12.1.1 Existing Areas of Contamination

A hazardous material is defined as “any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment” (CHSC Chapter 6.95, Section 25501(o)). Per Title 22 of the CCR, Division 4.5, Chapter 11, materials and waste may be considered hazardous if they exhibit one or more of the following characteristics: ignitability (can be ignited by open flame); corrosivity (corrode other materials); reactivity (react violently, explode, or generate vapors when mixed with water); or toxicity (can cause adverse health effects). Hazardous materials have the potential to leach into soils, surface water, and groundwater when spilled or released, causing soil, water, or groundwater contamination. Soils possessing contamination levels above governmental thresholds for certain substances must be treated as hazardous waste during their excavation, transport, and disposal. The handling, transport, and disposal of hazardous materials is heavily regulated by policies from agencies at the federal, state, and local levels to protect humans and the environment from exposure to hazards associated with their use and accidental spills or releases.

Hazardous materials, if present in soils, can be disturbed and dispersed by ground-disturbing activities, particularly those using heavy equipment. Soil contamination generally occurs in areas that are or have been previously developed, especially with industrial-type uses. Soil contamination can also occur in areas where pesticides have been historically applied, as well as in areas that have historically been mined or used for defense activities (e.g., an air force base). Contamination can also be associated with leaking utilities (e.g., leaking petroleum or gas pipelines, or leaking transformers on utility poles), or accidental spills. Lists of hazardous waste facilities are compiled by State agencies as required by Government Code Section 65962.5(a) (i.e., Cortese List) that are made available through such resources as the Department of Toxic Substances

Control (DTSC) EnviroStor database and the SWRCB GeoTracker database. Many hazardous waste sites that are in varying stages of assessment and remediation are located throughout the state (DTSC 2024; SWRCB 2024).

3.12.1.2 Naturally-Occurring Hazardous Conditions

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally occurring asbestos was identified as a TAC in 1986 by the CARB. Naturally occurring asbestos is located in many parts of California, and is commonly associated with ultramafic rocks and serpentinite, according to a special publication published by the California Geological Survey (Churchill and Hill 2000). Ultramafic rocks form in high-temperature environments well below the surface of the earth. By the time they are exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of metamorphic rock called serpentinite. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil. Except for a few counties in the southeast portion of the state, most counties in California contain some amount of ultramafic rock.

Asbestos could be released from serpentinite or ultramafic rock if the rock is broken or crushed. Asbestos could also be released into the air due to vehicular traffic on unpaved roads on which asbestos-bearing rock has been used as gravel. Additionally, soil derived from asbestos-bearing rock could contain asbestos entrained into the air from new recreational uses added to route surfaces with exposed asbestos. At the point of release, asbestos fibers can become airborne, causing air quality and human health hazards. Natural weathering and erosion processes act on asbestos bearing rock and soil, increasing the likelihood for asbestos fibers to become airborne if disturbed (California Geological Survey 2002). The California Geological Survey has published guidance for geologists involved in conducting or reviewing naturally occurring asbestos investigations. These guidelines describe general procedures for use by geologists to determine the presence, type, distribution, and amount of asbestos minerals at the site.

3.12.1.3 Per and Per-fluorinated substances (PFAS)

As described in the SRIA, “PFAS are a group of synthetic chemicals widely used in various industrial and consumer plastic products for their water and grease resistant properties. Despite their usefulness, PFAS have raised significant concerns due to their persistence in the environment and bioaccumulation in living organisms. The contamination of water supplies with PFAS has led to widespread environmental and public health challenges, prompting regulatory efforts to mitigate their usage and address the associated societal impacts.”

3.12.1.4 Human Exposure to Hazardous Materials from Manufacturing of Covered Materials

As described in the SRIA, “The manufacturing of covered materials causes a release of several toxic materials and pollutants [both carcinogenic and non-carcinogenic]. Human exposure to these pollutants is associated with a range of adverse health effects, including heart diseases, kidney failure, reproductive disorders, and cognitive impairments....The release of particulate matter through production and manufacturing processes poses a potential human health risk including respiratory conditions, symptoms, and diseases.”

3.12.2 Regulatory Framework

3.12.2.1 Federal

3.12.2.1.1 Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund, outlines regulations for cleanup of toxic waste sites nationwide. In 1986, Superfund was amended by the Superfund Amendment and Reauthorization Act Title III, also known as the Emergency Planning and Community Right-to-Know Act (Title 42, USC, Section 11001 et seq.). This act and the CAA of 1990 established a nationwide emergency planning and response program and imposed reporting requirements for businesses that store, handle, or produce significant quantities of extremely hazardous materials. These acts require states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such material is stored or handled at a facility.

3.12.2.1.2 Solid Waste Disposal Act/Resource Conservation and Recovery Act (42 U.S.C. Section 6901 et seq)

The Resource Conservation and Recovery Act (RCRA) is a federal program established to regulate solid and hazardous waste management. RCRA amends earlier legislation (the Solid Waste Disposal Act of 1965), but the amendments were so comprehensive that the act is commonly called RCRA rather than the Solid Waste Disposal Act. RCRA defines solid and hazardous waste; authorizes USEPA to set standards applicable to the owners and operators of hazardous waste treatment, storage and disposal facilities; for hazardous waste generators and transporters, establishes a permit program for hazardous waste treatment, storage, and disposal facilities; and authorizes USEPA to set criteria for disposal facilities that accept municipal solid waste and other solid waste. RCRA was last reauthorized by the Hazardous and Solid Waste Amendments of 1984. The amendments set deadlines for permit issuance, prohibited the land disposal of many types of hazardous waste without prior treatment or a demonstration that land disposal would not result in hazardous waste migration. Characteristics of hazardous waste are described in terms of ignitability, corrosivity, reactivity, and toxicity, and specific types of wastes are listed.

3.12.2.1.3 Occupational Safety and Health Act and Occupational Safety and Health Administration Regulations

The Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration (OSHA) to ensure worker and workplace safety. The goal was to ensure employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions.

OSHA develops and enforces mandatory job safety and health standards. These standards, codified in Title 29, Part 1910 of the CFR, include hazardous materials and personal protective equipment and exposure limits for a wide range of specific hazardous materials. Employers are required to provide personal protective equipment (i.e., protective equipment for eyes, face, or extremities; protective clothing; respiratory devices) to their employees when required by the herbicide label instructions (CFR Title 29, Section 1910.132). The OSHA standards also require that chemical manufacturers, distributors, and importers obtain and develop Safety Data Sheets, which include information such as the properties of each chemical; the physical, health, and

environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. Employers must have a Safety Data Sheet in the workplace for each chemical they use (CFR Title 29, Section 1910.1200).

3.12.2.1.4 Risk Management Program

Under the authority of CAA Section 112(r), the Chemical Accident Prevention Provisions require facilities that produce, handle, process, distribute, or store certain chemicals to develop a Risk Management Program, prepare a Risk Management Plan, and submit the plan to USEPA. Applicable facilities were initially required to comply with the rule in 1999, and the rule has been amended on several occasions since then, most recently in 2004.

3.12.2.2 State

3.12.2.2.1 CCR Title 22, Chapter 11

CCR Title 22, Division 4.5, Chapter 11 contains regulations for the identification and classification of hazardous wastes. This code defines a waste as hazardous if it has any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity. Article 3 provides detailed definitions of each characteristic.

Articles 4 and 5 provide lists of RCRA hazardous wastes, non-RCRA hazardous wastes, hazardous wastes from specific sources, extremely hazardous wastes, hazardous wastes of concern, and special wastes

3.12.2.2.2 California Health and Safety Code

The CEQA Guidelines define “extremely hazardous substances” as those defined by Section 25532(2)(g) of the CHSC. Appendix A of Part 355 (commencing with Section 355.10) of Subchapter J of Chapter I of Title 40 of the CFR provides a list of extremely hazardous substances and their threshold planning quantities. The CEQA Guidelines define “hazardous air emissions” as emissions of air contaminants identified as toxic by the CARB or the designated air pollution control officer. These include substances identified in CHSC Section 44321(a-f).

3.12.2.2.3 Government Code Section 65962.5: Cortese List

The Cortese List includes all hazardous waste facilities subject to corrective action; land designated as hazardous waste property or border zone property; information received by the DTSC about hazardous waste disposals on public land; sites listed pursuant to Section 25356 of the Health and Safety Code (removal and remedial action sites); and sites included in the Abandoned Site Assessment Program. Pursuant to California Government Code Section 65962.5, the DTSC compiles and updates the Cortese List as appropriate, but at least annually. If Program activities were to occur on a Cortese List site, CalRecycle would implement measures as described in Section 3.12.3 (Impacts Assessment) below.

3.12.2.2.4 Hazardous Waste Control Act

The Hazardous Waste Control Act established the state hazardous waste management program, which is similar to, but more stringent than, RCRA program requirements. CCR, Title 26 describes the requirements for the proper management of hazardous waste under the Hazardous Waste Control Act, including the following:

- Identification and classification;

- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities; and
- Closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for the identification, packaging, and disposal of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must document waste from generation to transporter to disposal. Copies of this documentation must be filed with the DTSC. The DTSC operates programs to protect California from exposure to hazardous wastes through numerous practices and procedures.

3.12.2.2.5 Emergency Services Act

Under the Emergency Services Act, California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous material or hazardous waste is an important segment of the plan administered by the California Emergency Management Agency, which coordinates the response of agencies that include the CalEPA, Caltrans, California Highway Patrol, RWQCBs, air districts, and county disaster response offices.

3.12.2.2.6 California Occupational Health and Safety Administration

Cal/OSHA is responsible for the development and enforcement of workplace safety standards and ensuring worker safety in the handling and use of hazardous materials. Cal/OSHA requires businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Cal/OSHA Hazards Communication Standard requires that workers be informed of the hazards associated with the materials they handle. Businesses are required to label containers, provide Safety Data Sheets in the workplace, and provide worker training

3.12.2.2.7 Hazardous Materials Management Plans and Hazardous Materials Inventory Statements – California Fire Code

Title 29, Part 9 of the California Fire Code requires businesses that store over a threshold quantity of hazardous materials (greater than 500 pounds for solids or 55 gallons for liquids) to prepare a Hazardous Materials Management Plan and a Hazardous Materials Inventory Statement.

The Hazardous Materials Management Plan must include a facility site plan designating information such as the location of emergency equipment, hazardous material storage tanks, and emergency exits. The Hazardous Materials Inventory Statement must include information on the hazardous materials at the site, such as product name, chemical components, amount in storage, and hazard classification. As part of an application for a permit from the fire code official, owners or operators of facilities that store hazardous materials also must submit an emergency response plan and an emergency response training plan.

3.12.3 Impacts Assessment

3.12.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts related to hazards and hazardous materials if it would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

3.12.3.2 Proposed Program

3.12.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Program's measures related to source reduction and refill/reuse of containers are designed to reduce the volume of plastic material disposed at landfills, and ultimately the volume of plastic containers manufactured and distributed to market. As described in Section 3.12.1.4 (Human Exposure to Hazardous Materials), the manufacturing and use of plastic containers has been linked to human exposure to those chemicals used in the manufacturing process that are designated hazardous materials, and which have potential to leach into food products stored in plastic containers. Accordingly, a reduction in the production and use of plastic materials would result in a corresponding reduction in potential human exposure. Impacts would be **less than significant**.

Impact Criterion b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The implementation of the source reduction and refill/reuse requirements are primarily related to a transition to alternative materials and would not involve any physical changes to the environment that would result in a reasonably foreseeable increase in the risk of upset or accident conditions. **No impacts** would occur.

Impact Criterion c) Would the project hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Impact Criterion d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Impact Criterion e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Impact Criterion f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact Criterion g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Implementation of source reduction or refill/reuse programs would not result in any construction or ground-disturbing activities or handling or transporting hazardous materials. Therefore, **no impacts** would occur with regard to emergency response plans, risks related to wildland fires, known hazardous materials sites, increased hazards at school sites or within areas located in airport land use plans.

3.12.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Impact Criterion b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

CONSTRUCTION

Construction activities could result in the exposure of construction workers and nearby residents to potentially contaminated soils or groundwater due to improper use, storage, or disposal of hazardous materials and/or leakage from underground storage tanks or other chemical containers on site, depending on proposed facility location. Construction activities associated with the installation of new collection, sortation, and processing facilities would also involve transport, use, and disposal of hazardous materials. This would include the use of hazardous materials typically used by construction vehicles and heavy equipment (e.g., gasoline, diesel fuel, transmission fluid, brake fluid, hydraulic fluid, solvents, motor oils, and lubricating grease), primarily within the immediate vicinity of the construction areas and at the project staging areas. Additionally, on a temporary basis, construction activities would involve the use of other potentially hazardous materials, including welding materials, propane, paints, canned spray paint, and paint thinner. All hazardous materials would be used, transported, and disposed of in accordance with applicable regulations.

In general, hazardous materials, asbestos-containing materials, lead-containing paint, or other hazardous materials including residual contamination in soils may be encountered during excavation activities. As such, construction activities would also potentially generate hazardous waste that would require disposal including petroleum hydrocarbons and asbestos- and lead paint-containing materials. Accidental discharge of hazardous materials or inappropriate disposal of hazardous materials during construction could result in a hazard to the public or the environment. To reduce the impact from the generation of waste to less than significant, **MM HAZ-1** would require implementation of a Waste Management Plan for all hazardous and non-hazardous waste

generated during facility construction and demolition activities. The Waste Management Plan would describe waste management procedures, and all aspects associated with construction of a new facility. In addition, to further minimize the potential hazards to the public or the environment associated with hazardous materials, **MM HAZ-2** would require that all parties involved in construction activities are aware of the potential hazards and properly trained to address them.

Construction projects that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Construction Permit. Project proponents would be required to prepare a SWPPP and file a Notice of Intent with the appropriate RWQCB obtain coverage under the NPDES General Construction Permit (Order 2022-057-DWQ). The SWPPP would include spill prevention measures to avoid and, if necessary, clean up accidental releases of hazardous materials, in order to prevent discharge into stormwater runoff. Compliance with all NPDES Construction General Permit requirements would minimize the potential for mishandling and/or the release of hazardous materials. In addition to compliance with these regulations, implementation of **MM HAZ-1** and **MM HAZ-2** would further reduce potential impacts.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts are potentially *significant and unavoidable*.

OPERATION

Waste processing or handling facilities and the types of hazardous waste that may arrive at these facilities include hazardous, universal, special, and hazardous recyclable wastes. Section 18980.3.6 of the proposed Implementing Regulations specifies that materials processing technologies that employ chemical, rather than mechanical or physical processes to alter the chemical structure of plastic to create new raw material for use in manufacturing will not be considered recycling unless demonstrated that the technology does not generate a significant amount of hazardous waste (i.e., a greater amount of hazardous waste by weight, per amount of plastic waste processed and returned to the economic mainstream).

Provisions to segregate these hazardous wastes at these facilities, and then transport the segregated wastes for recycling or disposal, is required to be integrated into the facility design and operations plans. Operation of MRFs, composting facilities, and processing facilities could involve the transport and disposal of hazardous waste generated by the public. Depending on the location of future facilities, these activities could present a significant hazard to the public. However, extensive safety procedures and measures required by federal, state, and local laws protect worker health and safety and the environment to the maximum extent possible.

The future location of collection, sortation, and processing facilities is not known. Once a location is identified, the potential for hazards would be evaluated using site-specific information. Compliance with all applicable regulations involving the use, transport, and disposal of hazardous substances would minimize the risk of an accidental release of hazardous materials during disposal. Specifically, the Hazardous Materials Release Response Plans and Inventory Act requires facilities using hazardous materials or generating hazardous wastes to prepare Hazardous Materials Business Plans. These plans specify storage, secondary containment, and proper hazardous material and waste management procedures and practices, including personnel training and

emergency response actions to contain, cleanup, and report unauthorized releases or spills. The Emergency Planning and Community Right-to-Know Act regulates facilities that use hazardous materials and wastes in quantities that require reporting to emergency response officials of the applicable Local Emergency Planning Committee. The Emergency Planning and Community Right-to-Know Act provides the requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals. Depending on where the future facilities are located and the types of materials they handle, community emergency plans may need to be reviewed and updated. Mandatory compliance with these required procedures would ensure impacts related to disposal of potentially hazardous residual waste are minimized. With compliance to the extensive existing federal, state, and local regulations related to routine transport, use, and disposal of hazardous materials, as well as potential risk of upset conditions, impacts would be reduced to below a level of significance. Therefore, impacts would be **less than significant**.

Impact Criterion c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

CONSTRUCTION

The future facility locations are currently undetermined. Due to the potentially extensive nature of the proposed Program, it is possible that construction of proposed facilities would occur within one-quarter mile (1,320 feet) of schools. Because construction activities could potentially involve hazardous materials or substances, construction of new facilities would have the potential to emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. To reduce these potentially hazardous impacts from construction activities to less than significant, **MM HAZ-1** would require implementation of a Waste Management Plan for all hazardous and non-hazardous waste generated during facility construction and demolition activities. The Waste Management Plan would describe waste management procedures, and all aspects associated with construction of a new facility. Implementation of **MM HAZ-2** would require that Material Safety Data Sheets are provided to on-site personnel for hazardous materials that would be present at the construction site as well as require that all staff undergo training that would include instructions in case of a spill or release of hazardous materials and would comply with applicable laws and regulation regarding the use, transportation, and disposal of hazardous materials. With implementation of **MM HAZ-1** and **MM HAZ-2** impacts would be reduced.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM HAZ-1** and **MM HAZ-2** are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts are potentially **significant and unavoidable**.

OPERATION

As discussed for Impact Criterion (a) above, operation of collection, sortation, and processing facilities may involve the transport and disposal of hazardous waste that may be generated. Depending on the location of future facilities, these activities could occur within one-quarter mile of a school. However, extensive safety procedures and measures required by federal, state, and local laws protect the public and environment to the

maximum extent possible. The future locations of collection, sortation, and processing facilities are not known. Once a location is identified, the potential for hazards would be evaluated using site-specific information.

The Hazardous Materials Release Response Plans and Inventory Act requires facilities using hazardous materials or generating hazardous wastes to prepare Hazardous Materials Business Plans. These plans specify storage, secondary containment, and proper hazardous material and waste management procedures and practices, including personnel training and emergency response actions to contain, cleanup, and report unauthorized releases or spills. The Emergency Planning and Community Right-to-Know Act regulates facilities that use hazardous materials and wastes in quantities that require reporting to emergency response officials of the applicable Local Emergency Planning Committee. The Emergency Planning and Community Right-to-Know Act provides the requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals. Depending on where the future facilities are located and the types of materials they handle, community emergency plans may need to be reviewed and updated.

Compliance with all applicable regulations involving the use, transport, and disposal of hazardous substances would minimize the risks associated with operation of collection, sortation and processing facilities. Mandatory compliance with these required procedures would ensure impacts related to disposal of potentially hazardous residual waste are minimized. As noted above, a Hazardous Materials Business Plan would be required for facilities using hazardous materials or generating hazardous waste. The Hazardous Materials Business Plan would address appropriate land use buffer, proper storage of hazardous materials, updating of community emergency plans, if needed, preparing a health and safety plan for future facilities, and implementing spill containment measures at future facilities. With compliance with the extensive existing federal, state, and local regulations related to transport, use, and disposal of hazardous materials, impacts would be reduced to below a level of significance. Therefore, impacts would be *less than significant*.

Impact Criterion d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

CONSTRUCTION AND OPERATION

California Government Code Section 65962.5(a)(1) requires DTSC to compile and update, at least annually, a list of all hazardous waste facilities where DTSC has: (1) taken corrective action because a facility owner or operator has failed to comply with corrective action requirements (CHSC Section 25187); or (2) has determined that immediate corrective action is necessary to abate an imminent or substantial endangerment. Due to the uncertainty of where future facilities would be located, there is a potential that the facility could be located on or adjacent to a site that is listed by DTSC as needing corrective action. This represents a potentially significant impact. Implementation of **MM HAZ-3** would require that a Phase I Environmental Site Assessment be conducted prior to siting waste facilities. Based on the Phase I Environmental Site Assessment findings, recommendations for further assessment or mitigation measures would assess or mitigate potential environmental impacts. Should the assessments required under **MM HAZ-3** identify contaminants above the applicable cleanup goals, a Remediation Action Plan and Soil Management Plan would be required per **MM HAZ-4** in order to reduce any identified contaminants to below a level of significance. With implementation of **MM HAZ-3** and **MM HAZ-4** impacts would be reduced.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts are potentially **significant and unavoidable**.

Impact Criterion e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

CONSTRUCTION AND OPERATION

The future facility locations are currently undetermined. Due to the potentially extensive nature of the proposed Program, it is possible that construction of proposed facilities would occur within two miles of a public airport or public use airport. Industrial uses such as materials handling facilities are generally considered compatible land uses within many airports Specific Plan Areas. However, not all facility types may be compatible with airport land use plans and policies. Therefore, the potential for these future facilities to conflict with an airport land use plan or operations at a public or private airport is dependent upon where future facilities are sited. Due to the uncertainty at this time, a potentially significant impact is identified. Implementation of **MM HAZ-5** would require an assessment of whether the proposed facility would result in any impacts to airport operations or if it would subject people to a significant risk due to airport operations. Per **MM HAZ-5**, if potential impacts are identified, a different site shall be selected, or mitigation measures shall be implemented during the project level environmental analysis to reduce the potential impact to airport operations to below a level of significance. Future facilities would be subject to additional review pursuant to CEQA, and any potential conflicts with existing airports would be identified. In addition, **MM TR-5** would require that upon approval of any future facility, a traffic control plan is developed to identify appropriate lane closures/routing and detours. This information would also be provided to local emergency providers to ensure adequate access and travel for emergency vehicles is maintained. With implementation of **MM TR-5** and **MM HAZ-5** impacts would be reduced.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts are potentially **significant and unavoidable**.

Impact Criterion f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

CONSTRUCTION AND OPERATION

As future designs are proposed for the facilities, emergency access would be considered for both construction and operation of each facility. The local emergency response authorities would review the site plan and

improvements to ensure that there is adequate emergency access. In addition, **MM TR-1** requires preparation of a Construction Transportation Management Plan that would identify appropriate lane closures/routing and detours. This information would also be provided to local emergency providers to ensure adequate access and travel for emergency vehicles is maintained per **MM TR-2** and **MM TR-4**. Further, **MM TR-5** requires the development of a traffic report customized to the specific project once a facility is proposed at a designated site. This analysis will examine project-specific data to assess the operational impacts relative to emergency access. Should the analysis indicate that the proposed activities are likely to exceed set thresholds, appropriate mitigation measures must be put in place to minimize the impacts.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Depending on the project location and construction and operation activities and/or feasibility of mitigation measures, in some circumstances, emergency access may be impeded. Therefore, this PEIR discloses, for CEQA purposes, that emergency access impacts during the construction phase and operations of future facilities may be potentially *significant and unavoidable*.

Impact Criterion g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

CONSTRUCTION AND OPERATION

PRC Section 4126 classifies lands that are state and privately-owned forest, watershed, and rangeland as State Responsibility Areas (SRAs), in which CAL FIRE is the primary emergency response agency responsible for fire suppression and prevention. CAL FIRE is required to map Fire Hazard Severity Zones (FHSZs) in SRAs based on factors such as fuel, slope, and fire weather to identify the degree of fire hazard throughout California.

Activities associated with construction of collection, sortation, and processing facilities in “Very High Fire Hazard Severity Zones” (VHFHSZs) could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way. However, temporary construction barricades or other construction-related obstructions used for project development that could impede emergency access would be subject to the local jurisdiction permitting process, which typically requires a traffic control plan (reinforced with implementation of **MM TR-1**, which requires a Construction Transportation Management Plan and **MM TR-5**, which requires preparation of a traffic analysis and mitigation of any identified impacts upon approval of any future facilities). Implementation of the traffic control plan would limit the extent to which construction activities would impair or physically interfere with adopted emergency response or evacuation procedures. As part of standard development procedures, future plans for facilities in VHFHSZs would be submitted for review and approval to ensure that the facility has adequate emergency access and escape routes in compliance with existing regulations.

During operations, to the extent any future facility is located in or near VHFHSZs or SRAs as mapped by CAL FIRE and Fire Brush Clearance Zones, regulations require fire risks be minimized during high fire season through vegetation clearance, maintenance of landscape vegetation to minimize fuel supply that would spread the intensity of a fire, compliance with provisions for emergency vehicle access, use of approved building materials

and design, and compliance with local hazardous vegetation clearance requirements. Part 9 of the California Fire Code mandates minimum building requirements designed to “safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions, ...and provide safety and assistance to firefighters and emergency responders.” The requirements apply to the construction, alteration, movement, or movement of buildings, in addition to repairs, operation of equipment, use and occupancy of buildings, means of egress, evacuation plans, location, maintenance, removal, and demolition of every building or structure or any appurtenances. PRC Section 4290 establishes minimum standards related to defensible space, including provisions pertaining to road standards for fire equipment access; standards for signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; and fuel breaks and greenbelts. Applicable sections of the PRC mandate standards for firebreaks (PRC Section 4292) and operation of power equipment (PRC Sections 4427, 4428, 4431) intended to minimize risks in areas subject to wildfire.

Based on all of the above, the regulatory protections and local agency project review would ensure that impacts related to the construction and operation of a future facility in SRA or VHFHSZ areas, exacerbating wildfire risks and resulting in risks to people and structures from pollutants, flooding, and landslides, would be avoided. However, based on unknown site-specific conditions or hazards or project characteristics, impacts may occur. Any new buildings constructed in SRA or VHFHSZ would require plan review by the local fire response authority. However, potentially significant impacts could occur if construction or operational activities blocked access for emergency vehicles. Implementation of **MM HAZ-6** would reduce demands on the local fire response authority for fire protection services. In addition, implementation of **MM HAZ-7** would be expected to reduce the risk of construction-related activities impairing an emergency response plan or emergency evacuation plan for those projects that pose an unusual threat that existing regulations do not address by limiting parking on streets in areas subject to fire-hazard-related parking restrictions, limiting the amount of heavy machinery on a development site at a given time, regulating traffic related to construction and deliveries, and installing personnel to coordinate traffic to and from the development site.

SIGNIFICANCE AFTER MITIGATION

With implementation of **MM TR-1**, **MM TR-5**, **MM HAZ-6**, and **MM HAZ-7** impacts would be reduced; however, adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts are potentially *significant and unavoidable*.

MITIGATION MEASURE(S)

MM TR-1: Construction Transportation Management Plan. See Section 3.20 (Transportation).

MM TR-2: Restrict Lane Closures and Maintain Access. See Section 3.20 (Transportation).

MM TR-4: Notify Emergency Personnel of Road Closures. See Section 3.20 (Transportation).

MM TR-5: Project-Specific Traffic Impact Report. See Section 3.20 (Transportation).

MM HAZ-1: Waste Management Plan. The lead agency for any future projects can and should require that no less than 30 days prior to site disturbance activities, the project proponent shall prepare and submit a Waste

Management Plan to the DTSC and the local Certified Unified Program Agency (CUPA) for their review and approval to other local agencies, if applicable, for review and comment. The Waste Management Plan shall include, but not be limited to, the following:

- A description of all waste streams, including projections of frequency, amounts generated, and hazard classifications; methods of managing each waste, including storage, treatment methods, and companies contracted with for treatment services; waste testing methods to ensure correct classification; methods of transportation, disposal requirements and disposal sites; and recycling and waste minimization/reduction plans.
- Procedures for managing excavated soil, which may contain residual chemicals from previous operation activities. The procedures shall include the designation of a state registered Professional Engineer or Professional Geologist to oversee soil excavation and, if necessary, investigation and cleanup in the event that contamination is encountered; sampling procedures to assess the nature and extent of contamination; and reporting and notification requirements.
- A work plan for conducting a hazardous building materials survey of structures to be demolished and removed. The materials to be surveyed shall include but not be limited to asbestos-containing materials, lead-containing paint, polychlorinated biphenyls (PCBs) in fluorescent light ballasts, and/or mercury in fluorescent light tubes.

MM HAZ-2: Worker Environmental Awareness Training. The lead agency for any future projects can and should require the project proponent to prepare a presentation used to train all site personnel on key environmental issues prior to the commencement of work. A record of all trained personnel shall be kept. In addition to instruction on compliance with any mitigation measures identified, all construction personnel shall also receive the following:

- A list of phone numbers for the CalRecycle environmental specialist personnel associated with the Project (archaeologist, biologist, environmental compliance coordinator, and spill response coordinator).
- Instructions regarding the individual responsibilities under the CWA, the Project SWPPP, site-specific BMPs, and the location of Material Safety Data Sheets for the Project.
- Instructions to notify the foreman and spill response coordinator in case of a hazardous materials spill or leak from equipment, or upon the discovery of soil or groundwater contamination.
- A copy of the truck routes to be used for material delivery.
- Instruction that noncompliance with any laws, rules, regulations, or mitigation measures could result in being barred from participating in any remaining construction activities associated with the Project.
- Emergency response measures and routes.

MM HAZ-3: Phase I/II Environmental Site Assessment. Prior to siting waste facilities, a Phase I Environmental Site Assessment shall be conducted in conformance with industry-accepted practices, American Society for Testing and Materials Designation E1527-05, and the USEPA All Appropriate Inquiry Rule (40 CFR Section 312). Based on the Phase I Environmental Site Assessment findings, recommendations for further assessment (i.e., Phase II Environmental Site Assessment) or mitigation measures shall be recommended, as appropriate, to assess or mitigate potential environmental impacts under the oversight of the applicable regulatory agency.

MM HAZ-4: Remediation Action Plan/Soil Management Plan. Should the assessments required under **MM HAZ-3** above reveal chemicals of concern above applicable cleanup goals, a qualified environmental consultant shall be retained to prepare a Remediation Action Plan and Soil Management Plan (RAP/SMP), which will be submitted to the appropriate oversight agency for review and approval prior to the commencement of excavation and grading activities. The RAP/SMP shall be implemented during excavation and grading activities on the Project Site to ensure that any contaminated soils are properly identified, excavated, and disposed of off-site, as follows:

- The RAP/SMP shall be prepared and executed in accordance with local air quality management district’s requirements for volatile organic compound emissions from decontamination of soil. The RAP/SMP shall require the timely testing and sampling of soils so that contaminated soils can be separated from inert soils for proper disposal. The SMP shall specify the testing parameters and sampling frequency. Anticipated testing includes total petroleum hydrocarbons, VOCs, and semi-volatile organic compounds (SVOCs).
- Prior to the commencement of grading and excavation, the findings of the Phase I/II Environmental Site Assessment for the project and additional assessment conducted per **MM HAZ-3**, shall be reported to the appropriate oversight agency for review and comment. The recommendations of the agency shall be incorporated in the RAP/SMP.
- A qualified environmental consultant shall be present on the project site during grading and excavation activities in the known or suspected locations of contaminated soils or underground storage tank (UST), and shall be on call at other times as necessary, to monitor compliance with the RAP/SMP and to actively monitor the soils and excavations for evidence of contamination.
- If a UST is discovered, it shall be removed in accordance with local ordinances. These require notification of the oversight agency prior to tank removal, inert (remove or neutralize any flammable materials and vapors) the UST prior to transport, and establish to the satisfaction of the oversight agency that no release of hazardous materials has occurred. The UST shall be properly disposed of by a licensed contractor in accordance with applicable regulations.
- During the project’s excavation phase, impacted materials shall be removed and properly disposed of in accordance with the provisions of the RAP/SMP. If soil is stockpiled prior to disposal, it shall be managed in accordance with the project’s SWPPP, prior to its transfer for treatment and/or disposal.

MM HAZ-5: Airport Safety Hazard Assessment. The lead agency for any future projects can and should require that if future facilities are sited within an area governed by an airport land use plan or within two miles of a public or private airport, analysis shall be undertaken to assess if the proposed facility would result in a violation of airport safety regulations provided by 14 CFR, Part 77. If potential impacts are identified, a different site shall be selected or the assessment shall include recommendations to reduce the potential impact to airport operations. Such measures could include maintaining certain percentages of low-occupancy areas (e.g., undeveloped areas, parking areas), building heights, and building lights.

MM HAZ-6: Emergency Access. For future facilities located in or adjacent to an SRA or VHFHSZ, and where the local emergency response agency finds it necessary on the basis that existing regulations are not adequate to avoid risk of fire based on unusual site-specific, area, roadway or project characteristics, the lead agency for any future projects can and should require that during construction, access roads and alleyways shall remain clear and unobstructed in order to ensure access for emergency vehicles. If road closures during construction are necessary, a detailed Construction Management Plan including street closure information, a detour plan,

haul routes, and a staging plan, shall be prepared and submitted to the local emergency response agency and transportation authority for review and approval.

MM HAZ-7: Construction Staging and Parking Plan. For facilities located in or adjacent to an SRA or VHFHSZ, where the local emergency response authority finds it necessary to add additional conditions above existing regulations to reduce the risk of construction-related activities impairing an emergency response plan or emergency evacuation plan, prior to the issuance of a grading or building permit, the lead agency for any future projects can and should require the project proponent to submit a Construction Staging and Parking Plan to the appropriate department for review and approval. The plan shall identify where all construction materials, equipment, and vehicles would be stored through the construction phase of the project, as well as where contractor, subcontractor, and laborers would park their vehicles so as to prevent blockage of two-way traffic on streets in the vicinity of the construction site. The Construction Staging and Parking Plan shall include, but not be limited to, the following:

- No construction equipment or material shall be permitted to be stored within the public right-of-way.
- During the Excavation and Grading phases, only one truck hauler shall be allowed on the site at any one time. The drivers shall be required to follow the designated travel plan or approved Haul Route.
- Truck traffic directed to the project site for the purpose of delivering materials, construction machinery, or removal of graded soil shall be limited to off-peak traffic hours, Monday through Friday only. No truck deliveries shall be permitted on Saturdays or Sundays.
- All deliveries during construction shall be coordinated so that only one vendor/delivery vehicle is at the site at one time, and that a construction supervisor is present at such time.
- A radio operator shall be on-site to coordinate the movement of material and personnel, in order to keep the roads open for emergency vehicles, their apparatus, and neighbors.

3.13 Hydrology and Water Quality

This section describes existing water resources and quality in California; identifies applicable federal and state local regulations; and analyzes the potential impacts of the Program on water resources in the state. The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.13-1 summarizes the impacts on hydrology and water quality that would result from implementation of the Program.

Table 3.13-1. Summary of Hydrology and Water Quality Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than Significant	Less than Significant	None
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin	Less than Significant	Potentially Significant and Unavoidable	MM HWQ-1: Hydrology Study
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?	No Impact	Potentially Significant and Unavoidable	MM HWQ-1: Hydrology Study
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact	Less than Significant	None
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact	Less than Significant	None

3.13.1 Existing Conditions

The California Department of Water Resources (DWR) divides California into ten hydrologic regions. The California Water Code defines nine basins; however, the Lahontan Region is divided in two (Figure 3.13-1). The boundaries of the basins are major river watershed boundaries as defined by Section 13200 of the California Water Code. The RWQCBs are semi-autonomous and are responsible for developing water quality control plans known as Basin Plans for their regions. The Basin Plans include the following: the beneficial uses of water

within their regions; the water quality objectives necessary to protect those uses, including an antidegradation policy; the prohibitions, policies, and action plans by which protections are implemented; and monitoring of water quality within their regions to ensure attainment of water quality standards. Compliance with the Basin Plans is achieved through the regulatory framework described in Section 3.13.2 (Regulatory Framework). The following provides a brief description of regional hydrology and surface and groundwater quality and quantity within the regions.

3.13.1.1 Regional Hydrology

3.13.1.1.1 North Coast Hydrologic Region

The North Coast Hydrologic Region spans approximately 19,250 square miles, encompassing all or parts of Modoc, Siskiyou, Del Norte, Trinity, Humboldt, Mendocino, Lake, and Sonoma counties. Some small portions of other counties also are included within this region. The region extends from the Oregon border south to Tomales Bay and from the Coast Ranges to the Mad River. The region is the wettest in the state, receiving approximately 54 inches of precipitation annually (DWR 2023; He et al. 2018). The primary water quality issues in the region relate to erosion and runoff from urbanized areas, logging, and grazing operations. A total of 65 groundwater basins underlie the region, and groundwater accounts for approximately one-third of the region's water supply (DWR 2023).

3.13.1.1.2 San Francisco Bay Area Hydrologic Region

The San Francisco Bay Hydrologic Region spans approximately 4,500 square miles, encompassing all of San Francisco and parts of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda counties. Average precipitation ranges from 15 inches to 20 inches, depending on the location (DWR 2023). A total of 34 groundwater basins underlie the region (DWR 2020). Local groundwater and streams meet about a third of the region's water demand (DWR 2023). Water management challenges include water supply, flood risks, and sea level rise to coastal areas. The primary water quality concerns in the region are maintaining or improving drinking water quality and protecting drinking water sources as well as managing groundwater overdraft and quality from both established and emerging pollutants (DWR 2023).

3.13.1.1.3 Central Coast Hydrologic Region

The Central Coast Hydrologic Region spans approximately 11,300 square miles, encompassing all of Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara counties, most of San Benito County, and parts of San Mateo, Santa Clara, and Ventura counties. Average annual precipitation ranges from 11 inches to 36 inches (DWR 2023). Water quality issues such as nitrate and pesticide contamination stem from agricultural use in the Salinas Valley. Groundwater accounts for more than three-quarters of the supply, making the Central Coast the state's most groundwater-dependent region (DWR 2023). Water management challenges include groundwater quality, overdraft, saline water intrusion, and flood risk (DWR 2023).

3.13.1.1.4 South Coast Hydrologic Region

The South Coast Hydrologic Region spans approximately 11,000 square miles. The region includes all of Orange County, major portions of Los Angeles, Riverside, San Bernardino and Ventura Counties, and a small portion of Santa Barbara County. The international Mexico–U.S. border marks the southernmost boundary, extending up to the crest of the Transverse Ranges. The region accounts for 7% of the state's total area but more than half of

the population of California lives in this region, placing a high demand on water. Water supplies are diverse, ranging from local rivers to imports from the Sacramento, San Joaquin, Colorado, and Owens rivers (DWR 2023). The large population has resulted in water quality issues related to wastewater and urban runoff. Average annual precipitation in this region is 18 inches. A total of 74 groundwater basins underlie the region, and groundwater accounts for 33% of the region's water supply (DWR 2020). Water challenges in the region include water supply and flooding including debris flows and mudslides (He et al. 2018).

3.13.1.1.5 Sacramento River Hydrologic Region

The Sacramento River Hydrologic Region spans approximately 26,930 square miles, encompassing all or large parts of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Lake, and Napa counties. The region primarily covers the Sacramento Valley and extends from the Cascades Range at the Oregon Border to the Sacramento–San Joaquin Delta. It is the largest and second wettest region in the state (DWR 2020). Climates in the region range from high desert with annual precipitation of 10 to 20 inches to the Central Valley, where precipitation varies from about 35 to 18 inches annually (DWR 2023). Surface water from this area provides water to the State Water Project and Central Valley Project. A total of 85 groundwater basins underlie the region, and groundwater provides 34% of the region's water supply (DWR 2020). Water in the region is primarily high quality with a few local groundwater problems. Primary water quality concerns are increasing temperature and sediment management as well as pesticides, herbicides, and other chemicals that support invasive plant species and threatens the health of the watershed (DWR 2023).

3.13.1.1.6 San Joaquin River Hydrologic Region

The San Joaquin River Hydrologic Region spans approximately 1,440 square miles, encompassing all of Calaveras, Tuolumne, Mariposa, Madera, San Joaquin, and Stanislaus counties, most of Merced and Amador counties, and parts of Alpine, Fresno, Alameda, Contra Costa, Sacramento, El Dorado, and San Benito counties. Annual precipitation ranges from 35 inches to 6.5 inches, annually depending on location within the region (DWR 2023). The snow and rain that fall in this region contribute to the overall water supply for the entire state. A total of 14 groundwater basins underlie the region, and groundwater provides 48% of the region's water supply (DWR 2020). The primary water quality concerns are dairy management, abandoned mines cleanup, off-highway vehicle erosion control, insufficient groundwater quality to meet rural domestic use, saline water intrusion into confined aquifers and intrusion into usable groundwater, and maintaining adequate water quality, water temperature, and dissolved oxygen for environmental needs (DWR 2023).

3.13.1.1.7 Tulare Lake Hydrologic Region

The Tulare Lake Hydrologic Region spans approximately 16,835 square miles and includes all of King and Tulare counties and most of Fresno and Kern counties (DWR 2020). The average annual precipitation in the region is 6-11 inches (DWR 2023). It is the largest agricultural region in the state and relies on groundwater and imported water supply. A total of 23 groundwater basins underlie the region (DWR 2020). Groundwater accounts for 69% of the region's water supply and 43% of statewide groundwater use (DWR 2020; DWR 2023). Because of agricultural practices, a great deal of groundwater in the region is polluted with pesticides, nitrates, sulfates, and high levels of salinity. Naturally occurring arsenic contamination also exists (DWR 2019).

3.13.1.1.8 North Lahontan Hydrologic Region

The North Lahontan Hydrologic Region spans approximately 6,100 square miles, encompassing portions of Modoc, Lassen, Sierra, Nevada, Placer, El Dorado, Alpine, Mono, and Tuolumne counties. Average annual precipitation ranges from more than 70 inches in the high mountain regions to 8 inches in the low valleys, with an average across the entire region of 23 inches (DWR 2020). It is the coolest region in the state. Water supply demands in the region are met from surface or groundwater depending on the precipitation each year. A total of 27 groundwater basins underlie the region, and groundwater provides 27% of the region's water supply (DWR 2020). Overall water quality is high in the region, with a few local water quality issues. The primary concern in the Lake Tahoe portion of the region is the level of sediments and nutrients that are tributary to Lake Tahoe and the effect it has on the lake's clarity. Other streams are impaired by various pollutants from metals in mining districts to pathogens in areas where grazing takes place (DWR 2019).

3.13.1.1.9 South Lahontan Hydrologic Region

The South Lahontan Hydrologic Region spans approximately 27,000 square miles in eastern California, covering most of San Bernardino, Inyo, and Mono Counties and a small portion of northeastern Los Angeles County (DWR 2023). It is the second driest region in the state, with an average annual precipitation of 10 inches or less for most of the region (DWR 2023). A total of 81 groundwater basins underlie the region, and groundwater accounts for 74% of the region's water supply (DWR 2020). Water quality in this region generally is good, with a few local water quality issues. Surface water quality is affected by hydromodification, from sedimentation, erosion, and loss of riparian areas. Groundwater quality is affected by elevated concentrations of nitrates, total dissolved solids, and overdraft (DWR 2019).

3.13.1.1.10 Colorado River Hydrologic Region

The Colorado River Hydrologic Region spans approximately 20,000 square miles in southeastern California (DWR 2023), encompassing all of Imperial, most of Riverside, and parts of San Bernardino and San Diego counties (He et al. 2018). Average annual precipitation is about six inches, making the Colorado River Hydrogeologic Region the most arid of California (DWR 2023). A total of 70 groundwater basins underlie the region, and groundwater accounts for 6% of the region's water supply (DWR 2020). Surface water quality concerns include elevated silt concentrations, elevated pathogen concentrations, nitrates, and impacts from animal feeding and dairy operations. The most serious groundwater issue in this region is high salinity (DWR 2019).

3.13.1.1.11 Water Quality

The quality of surface water and groundwater varies greatly throughout California, based on the natural setting and types of anthropogenic activity. Potential sources of water quality impairment can come from point and non-point sources. Point sources emit from discrete locations, such as an industrial center, pipe, or concentrated animal feeding operation. In comparison, nonpoint sources are not easily identifiable locations and include sources such as runoff from roads and driveways, discharges from improperly managed construction sites, crop and forest land, mining operations, faulty septic systems, and other sources. Nonpoint sources also include agricultural stormwater discharges and return flows from irrigated agriculture. Pollution constituents can range from sediment to pesticides and fertilizers. During rainfall or snowmelt, these pollutants can be carried to lakes, rivers, wetlands, coastal water, and groundwater (USEPA 2024a).



Legend		<p>REGIONAL LOCATION CALIFORNIA</p>	STATE OF CALIFORNIA HYDROLOGIC REGIONS	
<ul style="list-style-type: none"> Counties Hydrologic Region Central Coast Colorado River North Coast 	<ul style="list-style-type: none"> North Lahontan Sacramento River San Francisco Bay San Joaquin River 		<ul style="list-style-type: none"> South Coast South Lahontan Tulare Lake 	<p>Catalyst ENVIRONMENTAL SOLUTIONS</p>

Figure 3.13-1. Hydrologic Regions of California

3.13.2 Regulatory Framework

The federal and state regulations, and standards related to water quality and relevant to the Program are discussed below.

3.13.2.1 Federal

3.13.2.1.1 Clean Water Act and Associated Programs

The CWA establishes the basic structure for regulating discharges of pollutants into the Waters of the United States and regulating quality standards for surface waters, including lakes, rivers, and coastal wetlands. Under the CWA, the USEPA has implemented pollution control programs and has developed national water quality criteria recommendations for pollutants in surface waters. Under Section 404 of the CWA, the U.S. Army Corps of Engineers regulates the discharge of fill into jurisdictional waters of the United States. Any new facility proposed that may result in discharge of fill below the ordinary high-water mark of a jurisdictional water or a jurisdictional wetland would require a 404 permit. In California, the SWRCB and its nine RWQCBs administer the following sections of the CWA:

- Section 401 – Water Quality Certification: Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless the applicable SWRCB or RWQCB issues a Section 401 water quality certification verifying compliance with existing water quality requirements or waives the certification requirement. Some of the major federal licenses and permits subject to Section 401 include Section 404 permits, and Rivers and Harbors Act Section 9 and 10 permits.
- Section 402 – NPDES: Section 402 of the CWA establishes the NPDES. Under Section 402, a permit is required for point source discharges of pollutants into navigable waters of the United States (other than dredge or fill material). Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. In California, the NPDES Permit program is administered by the SWRCB and RWQCBs. Permits contain specific water quality-based limits and establish pollutant monitoring and reporting requirements. Discharge limits in NPDES Permits may be based on water quality criteria designed to protect designated uses of surface waters, such as recreation or supporting aquatic life.
- Section 303(d) – Impaired Waters and Total Maximum Daily Loads (TMDLs): Section 303 of the CWA (as well as the State-level Porter-Cologne Water Quality Control Act [Porter-Cologne Act], discussed further below) requires that California adopt water quality standards. In addition, under CWA Section 303(d), states are required to identify “impaired waterbodies” (those not meeting established water quality standards), identify the pollutants causing the impairment, establish priority rankings for waters on the list, and develop a schedule for development of control plans to improve water quality. USEPA then approves the state’s recommended list of impaired waters or adds to and/or removes waterbodies from the list. Each RWQCB must update the Section 303(d) List every two years.

TMDLs are pollution control plans triggered by the CWA Section 303(d) list. The TMDL is a “pollution budget,” designed to restore the health of a polluted waterbody and provide protection for beneficial uses. The TMDL also contains the target reductions needed to meet water quality standards and allocates those reductions

among the pollutant sources in the watershed (i.e., point sources, nonpoint sources, and natural sources) (40 CFR 130.2). A TMDL is unique to a specific waterbody and its surrounding pollutant sources and is not applicable to be used for other waterbodies.

3.13.2.1.2 Federal Anti-Degradation Policy

The federal anti-degradation policy includes minimum criteria to protect existing beneficial uses, ensure the level of water quality is offset to maintain existing uses, and prevent degradation of quality water. This policy stipulates that states adopt at a minimum the following provisions and allows states to adopt even more stringent rules (40 CFR 131.12):

1. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
2. Where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the state finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.
3. Where high quality waters constitute an outstanding National resource, such as waters of National and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

3.13.2.2 State

3.13.2.2.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Act requires the RWQCBs to adopt water quality control plans (Basin Plans) for the protection of surface water and groundwater quality. The Act also authorizes the RWQCBs to issue waste discharge requirements (WDRs), including NPDES Permits. Any activity, discharge, or proposed activity or discharge from a property or business that could affect California's surface, coastal, or groundwater will (in most cases) be subject to a WDR. The California Water Code authorizes the SWRCB and the RWQCBs to conditionally waive WDRs if this is in the public interest. Discharges made under the Program may be subject to WDR requirements. Title 22, Division 4, Chapter 15, of the CCR establishes parameters for safe drinking water throughout the state.

3.13.2.2.2 Policy for Implementation of Toxics Standards for Inland Surface Waters Enclosed Bays and Estuaries of California

In 1994, the SWRCB and USEPA agreed to a coordinated approach for addressing priority toxic pollutants in inland surface waters, enclosed bays, and estuaries of California. In March 2000, the SWRCB adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, commonly referred to as the State Implementation Policy. The State Implementation Policy implements the National Toxics Rule and California Toxics Rule criteria, and applicable Basin Plan objectives, for toxic pollutants. When the RWQCBs issue any permit allowing the discharge of any toxic pollutant(s) pursuant to the CWA or the Porter-Cologne Act, the permit's promulgation and implementation must be consistent with the State Implementation Policy's substantive or procedural requirements. Any deviation from the State

Implementation Policy requires the concurrence of USEPA if the RWQCBs are issuing any permit pursuant to the CWA. Consistency with the State Implementation Policy occurs when water permits are issued for Program activities.

3.13.2.2.3 California Anti-Degradation Policy

The SWRCB enacted the Statement of Policy with Respect to Maintaining High Quality of Waters in California, which is also referred to as the California Anti-Degradation Policy. This policy incorporated the federal anti-degradation policy and is used to ensure that high quality water is maintained and limits the discharge of pollutants into high quality water in the state (Resolution Number 68-16, SWRCB 1968), as follows:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.
2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

3.13.3 Impacts Assessment

3.13.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the program would result in significant impacts related to hydrology and water quality if the Program would:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin
- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:
 - i. result in substantial erosion or siltation on- or off-site;
 - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
 - iv. impede or redirect flood flows.

- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation

3.13.3.2 Proposed Program

3.13.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The Implementing Regulations require that by 2032, plastic covered material must be source reduced by at least 25% by weight and 25% by number of plastic components sold, offered for sale, or distributed in the state with 10% of the source reduction to be met either by switching to reusable or refillable options or through elimination of a plastic component. Reasonably foreseeable compliance with these standards would lead to reductions of single-use plastic food service ware and single-use packaging in the state that can end up as litter. A transition to refillable and reusable products would lead to replacement behavior including a transition to alternate reusable container materials including aluminum, glass, and/or other more durable materials. A reduction in plastic packaging and a shift to reusable products is anticipated to result in a beneficial impact to the state's water quality through the reduction of plastic litter and plastic trash; however, quantifying this impact is difficult as it is highly dependent on changes to consumer behavior (e.g., while plastic litter may decrease, consumers may continue to litter with whatever replacement materials become available and/or may continue to purchase reusable products as single-use items rather than refilling). However, such behavior is not anticipated to exacerbate litter problems overall, and impacts to water quality would be **less than significant**.

Impact Criterion b) Would the Program substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Reasonably foreseeable compliance with the Implementing Regulations would require a reduction in plastic packaging and single-use items along with a shift to reusable alternatives. While this would decrease the water used in the manufacturing of plastic packaging, it would increase the water used to wash reusable alternatives between uses. Section 18980.2.1(a)(5)(A) of the Implementing Regulations specify that reusable food service ware must withstand 780 or more washing cycles. The amount of water used for alternative materials would depend on consumer behavior including frequency of washing, duration of washing, and handwashing versus using a dishwasher. According to various LCAs that have been conducted comparing the water use related to reusable foodware products to equivalent single-use products, the break-even point where water use of washing over a lifetime becomes less than water used in manufacturing a single-use product ranges from 2 uses to 200 uses (depending on the product) (Upstream 2020). Americans use up to 27 gallons of water to hand wash the equivalent of a full dishwasher load of dishes while dishwashers use less than 5 gallons per load (Natural Resources Defense Council 2016). In restaurants, kitchen/dishwashing accounts for 50% of their water use (USEPA 2012). For those retailers that currently only offer single-use foodware (e.g., coffee stores, mall food court providers, fast food providers), the switch to reusable alternatives would be an overall increase in water use. However, when two Minnesota middle schools made a switch to reusable foodware products, purchasing 12,000 metal reusable utensils rather than 700,000 plastic utensils, they noted negligible impacts on water use (Minnesota Pollution Control Agency 2014). When considering the impact of the switch state-wide, the cumulative increase in water use within the state would likely be more than negligible, particularly if the manufacturing aspect of single-use foodware (and its associated water consumption) occurs out of state.

Limited data or large-scale case studies are available to support a project-level quantitative analysis. However, significant impacts to groundwater supplies are typically the result of new land developments that would increase the population of a specific city/county/region. According to the Public Policy Institute of California, on average, communities use 10% of water statewide, agriculture uses 40%, and the environment uses 50%. These proportions vary depending on the region and whether the year is wet or dry (Public Policy Institute of California 2023). The reasonably foreseeable means of compliance with the Implementing Regulations would not affect state population or the number of visitors to the state but rather one aspect of water use behavior within local communities, and therefore, would not be reasonably expected to result in substantial decreases in groundwater supplies, interfere with groundwater recharge or impede sustainable management of a groundwater basin. Impacts would be **less than significant**.

Impact Criterion c) Would the Program substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; impede or redirect flood flows?

Impact Criterion d) Would the Program be located in flood hazard, tsunami, or seiche zones, and risk release of pollutants due to project inundation?

Reasonably foreseeable compliance with the Implementing Regulation's source reduction and refill/reuse requirements would not result in any construction or ground-disturbing activity that would alter the drainage pattern of an area nor would they be located on a physical site that would be in a flood hazard, tsunami, or seiche zone. Therefore, the source reduction and refill/reuse requirements as part of the reasonably foreseeable means of compliance of the Implementing Regulations would have **no impact** relative to Impact Criteria (c) and (d).

Impact Criterion e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed for Impact Criterion (a), reasonably foreseeable means of compliance with the source reduction and refill/reuse requirements of the Implementing Regulation would have either beneficial impacts or less than significant impacts on water quality. As discussed in Impact Criterion (b), source reduction and reuse measures that would require increased water use for washing of reusable materials are not expected. Therefore, the reasonably foreseeable means of compliance with the source reduction and refill/reuse requirements of the Implementing Regulation would have **no impact** on water quality or groundwater plan.

3.13.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

CONSTRUCTION

Activities associated with construction of new facilities that are reasonably foreseeable compliance actions may include demolition of existing structures and facilities, soil excavation, stockpiling, backfilling, and facility construction. These activities have the potential to expose site soils to erosion and mobilize sediments in stormwater. Additionally, hazardous materials such as fuels, oils, grease, and lubricants from construction

equipment could be accidentally released during construction. Accidental discharge of these materials during construction could adversely affect water quality and/or result in violation of water quality standards.

Construction projects that disturb one acre of land or more are required to obtain coverage under the NPDES General Construction Permit, which would require preparation of a SWPPP. The SWPPP would include BMPs to control erosion and sedimentation, as well as spill prevention measures to avoid and, if necessary, clean up accidental releases of hazardous materials. The BMPs would include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Compliance with all NPDES Construction General Permit requirements, including the preparation and implementation of a SWPPP and associated BMPs, would minimize the potential for mishandling and/or the release of hazardous materials. Through compliance with the NPDES Construction General Permit requirements, including the preparation and implementation of a SWPPP and BMPs, potential violations of water quality standards and/or waste discharge requirements would be minimized; therefore, impacts associated with construction of future facilities would be *less than significant*.

OPERATION

Operation of future facilities has the potential to impact water quality, through discharge of contaminants, such as sediment, nutrients, heavy metals, organic compounds, ash residue, etc. When properly managed, land application of compostable materials can be accomplished without adversely affecting water quality. However, illegal land application has been documented as a threat to water quality (SWRCB 2023). Since the initial adoption of the Composting General Order in 2015, about a dozen cases of illegal application of uncomposted material to land were reported and enforcement measures were taken as needed (SWRCB 2023). SWRCB and CalRecycle staff recognize that enforcement is a necessary component of ensuring compliance; however, staff are focusing on education to prevent contamination and dumping (SWRCB 2023). CalRecycle developed protocols for determining levels of contaminants in compostable materials by weight as a method to determine compliance. Therefore, the reasonably foreseeable means of compliance with the Implementing Regulations is not expected to result in an increase in illegal application of uncomposted organic material land. All discharges to surface waters or land would require coverage under an Industrial NPDES permit or WDR from the applicable RWQCB. In addition to approved discharges to future facilities would be required to comply with local or RWQCB requirements for stormwater runoff pollution control, which require the inclusion of BMPs in a project's design to prevent, control, and reduce stormwater pollutants. Typical BMPs include source prevention and treatment control, such as catch basin filters and infiltration/detention basins, as well as minimizing impervious paving. These requirements would be enforced through the local Building Department's plan approval and permit process and plans for all new facilities projects would be subject to inspection.

Compliance with federal, state, and local regulations would reduce impacts resulting from future collection, sortation, and processing facilities to a less than significant level. Furthermore, the development of collection, sortation, and processing infrastructure in response to the Implementing Regulations would not introduce any features that would preclude implementation of or alter these policies and procedures in any way. Therefore, the operation of future collection, sortation, and processing facilities would not violate any water quality standards or waste discharge requirements. Therefore, impacts would be *less than significant*.

Impact Criterion b) Would the Program substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

CONSTRUCTION

The construction of new facilities would require water for construction activities including dust suppression. Public water sources would likely be utilized during construction through existing utility service connections. The volume of water needed for construction would be limited and only required temporarily for the duration of construction. As such, water use would not deplete groundwater supplies. The relatively small quantities of water used for construction activities and dust suppression would be *less than significant*.

Construction activities may require dewatering where deep excavations encounter shallow groundwater. Dewatering for construction would be temporary, highly localized, and would involve the extraction of low volumes of shallow groundwater. Construction dewatering would not involve substantial groundwater extraction from aquifers used for municipal or industrial water supply. As such, dewatering activities conducted during construction would not result in significant long-term effects to local groundwater supplies. In addition, any dewatering would be subject to RWQCB approval for withdrawal and disposal. Accordingly, impacts associated with construction activities would be *less than significant*.

OPERATION

The location of future facilities is unknown. Each facility could potentially increase the amount of impervious area that could interfere with groundwater recharge. The associated impact would be relative to the increase in impervious area, existing infiltration rates, and groundwater resource affected. Depending on the type of facility, the footprint of development would range from 5 acres for a small MRF to 25 acres for a composting facility. In addition, certain types of processing facilities may require large quantities of water for the boilers, materials washing, and material conversion processes, with quantity depending on the throughput. If the local water source is a groundwater aquifer, there is a potential for depleting the aquifer if water withdrawal exceeds recharge. While it is not anticipated that new facilities would require new or additional water supplies sources from new or additional groundwater withdrawals, depending on the proposed location, new facilities could result in significant water demand for a local community.

Future facilities would be required to investigate, quantify, and mitigate impacts to groundwater recharge and supply from individual facilities. At the time future projects are proposed, additional environmental analysis would be undertaken including an assessment of cumulative impacts from projects that are in the vicinity of proposed facilities. The RWQCB Basin Plan for each hydrologic region identifies water quality standards and control measures for surface and ground waters across the state. Development of project facilities would require the review, consideration, and implementation of the applicable Basin Plan directives. Individual facility planning would attempt to best define additional future facilities and include those potential future impacts in the overall considerations for implementing mitigation measures. Review of basin-wide or jurisdiction-wide master plans would allow individual project facility development to evaluate larger scale impacts to the region. Implementation of **MM HWQ-1** would require a project-specific hydrology and water quality study and the potential for additional site-specific mitigation measures to reduce impacts to groundwater resources.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM HWQ-1** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and required project-level mitigation lies primarily with local land use

and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts related to groundwater during operation of some new facilities associated with compliance with the proposed regulation could be **significant and unavoidable**.

Impact Criterion c) Would the Program substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; impede or redirect flood flows?

CONSTRUCTION

Construction activities, including demolition, excavation, fill placement, and stockpiling, would have the potential to expose site soils to erosion and mobilize sediments in stormwater. Additionally, hazardous materials, such as fuels, oils, grease, and lubricants, from construction equipment could be accidentally released during construction. Increased erosion and the accidental discharge of hazardous materials during construction could adversely affect water quality and/or result in violation of water quality standards. As described for Impact Criterion (a), construction of future facilities would require obtaining a NPDES General Construction Permit that would include a SWPPP to control erosion and sedimentation and avoid spills and releases of hazardous materials from entering stormwater. Through compliance with the NPDES Construction General Permit requirements, construction of future facilities is not expected to result in substantial sources of polluted runoff. With compliance with federal, state, and local regulations, impacts during construction would be **less than significant**.

OPERATION

The location of future collection, sortation, and processing facilities is unknown. Volume, flow rate, duration, and velocity of runoff can create significant damage to a drainage system. Hydromodification requirements identify what local agencies have determined are acceptable levels of increased project runoff for the local drainage systems. Additionally, project development could increase flood flows to a point that downstream drainage facilities cannot safely convey runoff during design storm events. Each waste processing facility could potentially increase the amount of runoff from the project through impervious area increases and diversion or redirection of flows. This increase in runoff volume, rate, duration, and velocity could create sediment transport issues for existing natural streams, resulting in increased channel erosion, bank failure, increased scour at crossing structures, change of channel form, etc. Increase in flood discharges could also create downstream flooding and failure of drainage facilities. Implementation of **MM HWQ-1** would require a project-specific hydrology and water quality study and the potential for additional site-specific mitigation measures to reduce impacts to drainage patterns and flood flows.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM HWQ-1** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of

approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that potential impacts related to potential increases in flood flow and adverse impacts to drainage systems from operation of new facilities associated with compliance with the proposed regulation could be **significant and unavoidable**.

Impact Criterion d) Would the Program be located in flood hazard, tsunami, or seiche zones, and risk release of pollutants due to project inundation?

CONSTRUCTION AND OPERATION

The potential for a facility to be impacted by a flood hazard, tsunami, or seiche depends on the ultimate site of the future collection, sortation, and processing facilities. Tsunami flooding risk is limited to a relatively narrow stretch of land closest to the coast. Advanced tsunami warning systems are in place in urban areas to notify people in low-lying areas. Given the planning measures that are in place with regard to a tsunami, in the event a future facility is located in a tsunami inundation area, it is anticipated that emergency systems would be activated in the event of a tsunami, and impacts would be **less than significant**.

The California Division of Safety of Dams oversees the design and construction of dams and conducts yearly inspections to ensure that the dams are performing and being maintained in a safe manner. Thus, given that dams are regularly inspected by the California Division of Safety of Dams and existing programs and activities are in place to reduce possible risks of dam failure and overtopping due to seiche, the failure of the dam during a catastrophic event, such as a severe earthquake, is considered unlikely. Therefore, with compliance with federal, state, and local regulations and site plan requirements, risks related to the release of pollutants due to inundation would be minimized to **less than significant**.

Impact Criterion e) Would the Program conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

CONSTRUCTION

As discussed for Impact Criterion (a), construction of collection, sortation, and processing facilities would require an NPDES General Construction Permit to comply with Section 402 of the federal CWA that would include a SWPPP. The SWPPP would include provisions to control erosion and sedimentation, as well as spill prevention measures to avoid and, if necessary, clean up accidental releases of hazardous materials. As such, compliance with these provisions would ensure that surface water quality is not adversely impacted during construction. As a result, activities associated with construction of collection, sortation, and processing facilities would not obstruct or conflict with the implementation of RWQCB Basin Plan and any potential impact would be **less than significant**.

OPERATION

Potential water quality and groundwater impacts associated with the operation of collection, sortation, and processing facilities are discussed above under Impact Criteria (a), (b), and (c). The implementation of the Program would not contain any policies that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Furthermore, operation of future projects would be required to comply with the existing regulations discussed under Impact Criteria (a), (b), and (c) and would not otherwise substantially degrade water quality. Impacts would be **less than significant**.

MITIGATION MEASURE(S)

MM HWQ-1: Hydrology Study. The lead agency for any future projects can and should require that prior to obtaining a grading permit or other entitlements of any future facility and to assist in preparation of final engineering documents, project applicants conduct a project-specific hydrology and water quality study for development of any facility demonstrating the impacts on local and regional surface water hydrology and groundwater resources. The study shall include a review of the facility siting and design and demonstrate that facility operations would not have a significant impact on surface water and groundwater resources. If the study shows that the facility would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, the facility shall be redesigned (for example, with the inclusion of such elements as permeable pavers and bioretention) so as not to substantially deplete groundwater supplies or interfere substantially with groundwater recharge. If the facility cannot be redesigned or would still impact groundwater resources even after redesign, it shall be re-sited to a location where it would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

3.14 Land Use and Planning

This section describes the land use and planning in California; identifies applicable federal and state regulations; and analyzes potential impacts of the Program on land use and planning. Table 3.14-1 summarizes the potential impacts related to land use that could result from implementation of the Program.

Table 3.14-1. Summary of Land Use and Planning Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Physically divide an established community?	No Impact	Less than Significant	None
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact	Less than Significant	None

3.14.1 Existing Conditions

In California, the State Planning and Zoning Law provides the primary legal framework that cities and counties must follow in land use planning and controls. Planned land uses are designated in the city or county general plan, which serves as the comprehensive master plan for the community. Also, city and county land use and other related resource policies are defined in the general plan. The primary land use regulatory tool provided by the California Planning and Zoning Law is the zoning ordinance adopted by each city and county. When approving land use development, cities and counties must comply with CEQA, which requires that they consider the significant environmental impacts of their actions and the adoption of all feasible mitigation measures to substantially reduce the level of impacts if a project would cause significant or potentially significant effects on the environment. In some cases, building permits may be ministerial, and therefore exempt from CEQA, but most land use development approval actions by cities and counties require CEQA compliance.

Land use decisions in California are also governed by state agencies, such as the California Coastal Commission, California State Lands Commission, and California Department of Parks and Recreation, when the state has land ownership or permitting authority with respect to natural resources or other state interests.

3.14.2 Regulatory Framework

Federal and state laws, regulations, plans, and/or guidelines related to land use and planning resources that are applicable to the Program are summarized below.

3.14.2.1 Federal

No federal regulations related to land use and planning are applicable to the proposed Program.

3.14.2.2 State

3.14.2.2.1 California Planning and Zoning Law

The California Planning and Zoning Law requires each county and city to prepare and adopt “a comprehensive, long-term general plan for the physical development of the county or city” and of any land outside its boundaries which bears relation to its planning (Government Code Section 65300). Under current California Government Code Section 65302, each General Plan must include the following elements: Land Use Element; Circulation Element; Housing Element; Conservation Element; Open Space Element; Noise Element; Safety Element; and Environmental Justice Element. Government Code Section 65302 also sets forth particular requirements that must be included in each of the eight elements.

3.14.2.2.2 California Coastal Act

The California Coastal Commission was established by the State Legislature through adoption of the California Coastal Act of 1976. The Commission regulates the use of land and water in the coastal zone. Development activities, including construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government.

The Coastal Act includes specific policies regarding shoreline public access and recreation, terrestrial and marine habitat protection, visual resources, water quality, public works, and other uses. The Coastal Act requires that local governments develop Local Coastal Programs, which are land use planning documents that lay out a framework for development and coastal resource protection within a city or county's coastal zone area and can carry out policies of the California Coastal Act at the local level. Development within the coastal zone may require a coastal development permit from either the Coastal Commission or a local government that has a Commission-certified Local Coastal Program.

3.14.3 Impacts Assessment

3.14.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts related to land use and planning if it would:

- a) Physically divide an established community.
- b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.14.3.2 Proposed Program

3.14.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program physically divide an established community?

Impact Criterion b) Would the Program cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Compliance with the source reduction and refill/reuse requirements of the Implementing Regulations would not result in construction of any infrastructure or any changes in land use and zoning. Therefore, compliance with the source reduction and refill/reuse requirements would not divide an established community and would not conflict with a land use plan or any other policy or regulation. Therefore, aspects of the Implementing Regulations related to source reduction and refill/reuse would have **no impact** on land use and planning.

3.14.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program physically divide an established community?

Impact Criterion b) Would the Program cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

While the specific locations of new facilities are not known at this time, this analysis assumes that they would either be located within zones designated for the specific facility type (e.g., heavy industrial zones), or on lands where the facility is a permitted use per local general plans, zoning, and local municipal codes.

When a new facility is proposed, the project proponent or local land use authority would be required to obtain permits and approvals. If a proposed future facility does not comply with the zoning requirements, then a conditional use permit would also be required prior to construction. The issuance of a conditional use permit means that the local land use authority has determined the following: 1) the project will enhance the built environment in the surrounding neighborhood or will perform a function or provide a service that is essential or beneficial to the community, city, or region; 2) the project's location, size, height, operations, and other significant features will be compatible with and will not adversely affect or further degrade adjacent properties, the surrounding neighborhood, or the public health, welfare, and safety; and 3) the project substantially conforms with the purpose, intent, and provisions of the general plan, the applicable community plan, and any applicable specific plan.

Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. It is reasonable to expect that impacts would be reduced to a less than significant level by regulatory compliance with land use and/or permitting agency conditions of approval. In this case, construction of new facilities would not physically divide, disturb, or isolate an established community or conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and impacts of future collection, sortation, and processing infrastructure on land use and planning are expected to be **less than significant**.

3.15 Mineral Resources

This section describes the existing mineral resources of California; identifies applicable federal and state regulations; and analyzes potential impacts of the Program on mineral resources in the state. Table 3.15-1 summarizes the impacts on mineral resources that could result from implementation of the Program.

Table 3.15-1. Summary of Mineral Resources Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact	Potentially Significant and Unavoidable	MM MIN-1: Minimize Potential Impacts from Loss of a Known Mineral Resource
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact	Potentially Significant and Unavoidable	MM MIN-1: Minimize Potential Impacts from Loss of a Known Mineral Resource

3.15.1 Environmental Setting

3.15.1.1 Nonfuel Mineral Production

Based on the USGS’s Non-fuel Mineral Production Report, California ranked fifth after Texas, Arizona, Nevada, and Minnesota in the value of nonfuel mineral production, accounting for approximately 4.85% of the nation’s total (USGS 2024). The market value of nonfuel mineral production for California was \$5.08 billion in 2023, with principal nonfuel mineral commodities consisting of boron minerals, cement, rare earths, sand and gravel (construction), and stone (crushed) (USGS 2024). Based on the most recent data available (2021), there are 627 active mines in California producing nonfuel minerals (California Geological Survey 2024).

3.15.1.2 Crude Oil

In 2023, California was the seventh-largest producer of crude oil among the 50 states, and the state ranked third in crude oil refining capacity (United States Energy Information Administration [EIA] 2024a). California hosts some of the country’s largest fields and produced approximately 123 million barrels of oil in 2023 (CDOC - Geologic Energy Management Division [CalGEM] 2024a; CalGEM 2024b). Reservoirs along California's Pacific Coast, including in the Los Angeles basin, and those in the state's Central Valley contain major crude oil reserves, and the state holds about 3% of the nation's total proved crude oil reserves (EIA 2024a).

3.15.1.3 Natural Gas

According to the CEC, about 10% of the total natural gas consumed in the state is produced from fields in-state (CEC 2022). The other out-of-state natural gas consumed in California comes from the San Juan basin, the Rocky Mountain basin, and the Western Sedimentary basin in Canada (CPUC 2024). Approximately 45% of the natural gas consumed in California is used for electricity generation and the remainder is consumed in the residential (21%), industrial (25%), and commercial (9%) sectors (CEC 2022).

3.15.1.4 Geothermal

Geothermal energy is produced by the heat of the Earth and is often associated with volcanic and seismically active regions. In 2023, California’s geothermal power plants produced about 5.1% of the state's total electricity (EIA 2024b). The world’s largest geothermal field, the Geysers, is located in California and extends across portions of Sonoma, Lake, and Mendocino counties. Other major geothermal locations include the Salton Sea area in Imperial County, the Coso Hot Springs area in Inyo County, and the Mammoth Lakes area in Mono County (CEC 2024).

3.15.2 Regulatory Framework

Federal and state laws, regulations, plans, and/or guidelines related to mineral resources that are applicable to the Program are summarized below.

3.15.2.1 Federal

No federal regulations related to mineral resources are applicable to the proposed Program.

3.15.2.2 State

3.15.2.2.1 Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) (CCR Title 14, Division 2, Chapter 8, Subchapter 1) requires the State Mining and Geology Board to adopt policies that regulate the operation of surface mines, reclamation of mined lands, and conservation of mineral resources. In accordance with SMARA, the State Geologist classifies land into Mineral Resource Zones (MRZs) according to its known or inferred mineral potential. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision-makers and considered before land-use decisions are made that could preclude mining. The California Mineral Land Classification System classifies lands according to four MRZs, Scientific Resource Zones, or Identified Resource Areas. The MRZ classifications are defined as follows:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2a: Areas that contain significant measured or indicated reserves.
- MRZ-2b: Areas where geologic information indicates that significant inferred resources or demonstrated subeconomic resource are present.
- MRZ-3a: Areas likely to contain undiscovered mineral deposits similar to known deposits in the same producing district or region.
- MRZ-3b: Areas judged to be favorable geologic environments for mineral resources occurrence, but where mineral discoveries have not been made in the region (speculative resources).
- MRZ-4: Areas where geologic information does not rule out either the presence or absence of mineral resources.

3.15.2.2.2 Geologic Energy Management Division

CalGEM supervises the drilling, operation, maintenance, and plugging and abandonment of onshore and offshore oil, gas, and geothermal wells, consistent with PRC Section 3000 et seq. and CCR Title 14, Division 2, Chapter. CalGEM's regulatory program promotes sound engineering practices, prevention of pollution, and implementation of public safety programs. CalGEM requires avoidance of building over or near plugged or abandoned oil and gas wells or requires the remediation of wells to current CalGEM standards.

3.15.3 Impacts Assessment

3.15.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts related to mineral resources if it would:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

3.15.3.2 Proposed Program

3.15.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The Implementing Regulations require that all covered material be recyclable or eligible to be labeled "compostable" by 2032 and establishes a minimum recycling rate for plastic covered material of 65% by 2032. In addition, by January 1, 2032, plastic covered material must be source reduced by at least 25% by weight and 25% by the number of plastic components sold, offered for sale, or distributed in the state with 10% of source reduction requirements to be met by either switching to reusable or refillable packaging or food service ware or through elimination of a plastic component. The remainder shall be achieved through other source reduction options, which include concentration, right-sizing, lightweighting, shifting to bulk or large format packaging, or from shifting plastic covered material to non-plastic covered material. As a result, the Implementing Regulations encourage a transition to more recyclable, compostable, and reusable materials. This shift would reduce the use of virgin materials by keeping these materials in circulation for recycling into new products, potentially lowering the demand for extracting new mineral resources. Additionally, minimum requirements for source reduction, refill/reuse, and recycling would lead to fewer materials being sent to landfills, instead remaining in the manufacturing stream and being used to produce new products, thereby decreasing the need for virgin materials. Accordingly, the Program is not anticipated to affect the availability of mineral resources within the state. Therefore, implementation of source reduction and refill/reuse measures would have **no impact** on mineral resources.

Impact Criterion b) Would the Program result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Source reduction and transition to reusable and refillable products would not result in any construction or ground-disturbing activities. Therefore, they would have **no impact** on the availability of a locally important mineral resource recovery site.

3.15.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Impact Criterion b) Would the Program result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

CONSTRUCTION AND OPERATION

Construction of collection, sortation, and processing facilities and operations and maintenance of those facilities as a reasonably foreseeable means of compliance with the Program could affect mineral resources designated by the California Geological Survey as resources of regional and statewide importance (MRZ-2), and/or locally important mineral resource recovery sites identified on local general plans, specific plans, or other land use plans depending on the projects' locations and proximity to mineral resources. Collection, sortation, and processing facility projects have the potential to affect mineral resource recovery sites, including productive oil and natural gas wells and active mining sites, depending on the projects' specific locations and characteristics at the time they are implemented. For example, constructing a new facility could temporarily or permanently affect mining operations (i.e., leave the mining operation no longer feasible) if the projects were constructed at the locations of these existing resource recovery sites. In addition, development of the proposed new facilities could substantially deplete already inadequate aggregate resources. Impacts on the availability of mineral extraction sites would be temporary if the effects would be limited to the construction period. However, if new facilities are proposed in an area where a resource recovery site exists, the potential exists that access to the extraction site may be permanently prevented, which would result in a permanent loss of availability of the recovery site. If a jurisdiction wishes to permit a project that would limit mineral extraction in a protected area, the project may be required to prepare an evaluation of the significance of the specific mineral deposit that would be affected for submission to the State Geologist in accordance with SMARA. Before development of a facility that would threaten potential mineral extraction in an area or region or state importance is permitted, the lead agency must prepare a statement specifying its reasons and demonstrating that the agency has balanced mineral values against alternative land uses and considered the importance of the minerals to the region as a whole and not just their importance to the lead agency's jurisdiction.

Construction- and/or operations-related demand could exceed the availability of mineral resource supplies. For example, constructing large MRF or processing facility could require large quantities of construction aggregate, which could limit the ability of other aggregate users in the area to obtain and use aggregate. Therefore, this impact would be potentially significant. Implementation of **MM MIN-1** would minimize impacts of new or expanded collection, sortation, and processing facilities on mineral resources when applicable to a given project by ensuring compatibility between existing mineral resource extraction activities and new facility projects.

SIGNIFICANCE AFTER MITIGATION

Implementation of **MM MIN-1** would be the responsibility of the project proponent(s) or other authorizing regulatory agency and would reduce the potentially significant impacts of construction and operation of collection, sortation, and processing facilities. However, the authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, this PEIR discloses, for CEQA purposes, that impacts to mineral resources would be potentially *significant and unavoidable*.

MITIGATION MEASURE(S)

MM MIN-1: Minimize Potential Impacts from Loss of a Known Mineral Resource. The lead agency for any future projects can and should require the following measures be implemented for collection, sortation, and processing facility projects:

- Project proponents shall ensure land use compatibility between existing mineral resource extraction activities and collection, sortation, and processing facility projects.
- An adequate buffer (to be determined on an individual project basis in coordination with appropriate regulatory agencies) shall be maintained between future projects and designated MRZ-2 sectors.
- Project proponents shall ensure that future land use changes in designated mineral resource extraction areas recognize mineral resource extraction as a compatible use.
- The use of construction aggregate shall be limited to local sources with sufficient capacity to meet the needs of both collection, sortation, and processing facility projects and future local development, to the extent possible.
- Project construction shall use recycled aggregate where possible, to decrease the demand for new aggregate.

3.16 Noise

This section describes at a program level the ambient noise conditions in California; identifies applicable federal and state regulations; and analyzes the potential impacts of the Program on noise in the state. Noise-related impacts to wildlife are addressed in Section 3.7 (Biological Resources). The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.16-1 summarizes noise impacts that could result from implementation of the Program.

Table 3.16-1. Summary of Noise Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than Significant	Potentially Significant and Unavoidable	MM NOI-1: Implement Noise-Reduction Measures during Project Construction MM NOI-2: Implement Noise-Reduction Measures during Project Operation
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant	Potentially Significant and Unavoidable	MM NOI-1: Implement Noise-Reduction Measures during Project Construction MM NOI-2: Implement Noise-Reduction Measures during Project Operation
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact	Less than Significant	None

3.16.1 Existing Conditions

3.16.1.1 Fundamentals of Acoustics

Sound is a form of mechanical energy that travels through compressible mediums such as air via pressure waves. When this sound is excessive or undesirable, it is referred to as noise with the primary human reaction being annoyance. In addition, high levels of noise can lead to hearing loss with prolonged exposure known to disrupt work and sleep and can even result in stress related illnesses. An individual’s response to similar noise events varies based on factors such as the nature of the noise, its relevance and appropriateness in the context, the time of day, the type of activity taking place, and individual sensitivity.

Sound levels are assessed using various metrics, all based on the logarithmic decibel (dB) scale, where 0 dB represents the threshold of human hearing. A key characteristic of the decibel scale is that the levels of two separate sounds are not directly additive. For instance, combining two 50 dB sounds results in a total increase of only 3 dB (to 53 dB). Thus, a 3 dB change corresponds to a doubling or halving of sound energy. Changes of less-than-3 dB are typically imperceptible to the human ear. Additionally, noise levels decrease by 6 dB for every doubling of distance from the source (FHWA 2011).

The frequency of sound refers to the rate of pressure fluctuations per second, measured in hertz (Hz). Most sounds are not pure tones but consist of a range of frequencies of varying levels. The distribution of sound levels across these frequencies is known as the sound spectrum. To analyze sounds with different frequency spectra, various rating methods are used. The A-weighting method (dBA) is commonly employed, as it approximates human sensitivity by reducing the emphasis on frequencies below 1,000 Hz and above 6,300 Hz, reflecting reduced human sensitivity to extremes (FHWA 2006). Typical A-weighted noise levels may range from 110 dBA for a jet fly over at 1,000 feet to 20 dBA in a quiet rural setting at night (Caltrans 2013a).

The impact of noise is influenced by both its duration and the time it occurs. For example, loud noises of short-duration (e.g., detonation of a single explosive during demolition activities) may lead to less annoyance during daytime hours, whereas noise-producing activities that occur all night may be more disruptive to sensitive receptors even at relatively low noise levels. Various methods are used to quantify variable sounds, including the equivalent level (L_{eq}), maximum level (L_{max}), and percent-exceeded levels. These metrics are calculated from a series of A-weighted sound level measurements taken over time. The following summarizes some common metrics used in community noise studies:

- L_{eq} (Equivalent Level): This metric provides a measure of the continuous equivalent sound level for a period of time, typically averaged over an hour. It reflects the average acoustical energy over the measurement period, representing the overall sound level as if it were constant. L_{eq} is used to characterize noise events with varying intensities.
- L_{max} (Maximum Level): This represents the highest sound level recorded during a specific period. L_{max} typically corresponds to isolated, identifiable events such as an aircraft passing overhead, a vehicle driving by, or a dog barking.
- L_{90} (90 Percent-Exceeded Level): This level indicates the sound level exceeded 90% of the time during the measurement period. L_{90} approximates the lowest observed sound level and is similar to the residual sound level, which measures the ambient noise when there are no significant intermittent noise sources nearby.
- L_{50} (Median Level): This is the sound level exceeded 50% of the time during the measurement period, representing the median of the sound level distribution.
- L_{10} (10th Percentile Level): This level is exceeded only 10% of the time and is close to the maximum observed level. L_{10} is often associated with occasional louder noises, such as those from passing vehicles, and is sometimes referred to as the intrusive sound level.

To assess community noise over a day, it is important to consider differences in human sensitivity to daytime and nighttime noise. Nighttime noise is generally more disruptive than daytime noise. Noise indices like the Day-Night Average Level (L_{dn}) address this by calculating the 24-hour A-weighted equivalent sound level with a 10 dB penalty added to noise levels occurring between 10:00 p.m. and 7:00 a.m. Due to this adjustment, the L_{eq} for a continuously operating source over 24 hours will be lower than the L_{dn} . In California, many agencies and local jurisdictions use Community Noise Equivalent Level (CNEL), which is a metric very similar to L_{dn} . CNEL is

the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m. It differs from L_{dn} in that a 5-dB penalty applied to the sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m.

3.16.1.2 Fundamentals of Vibration

Ground-borne vibration involves the transmission of waves through solid materials. Unlike air, solids support various types of wave motions, including compressional, shear, torsional, and bending waves. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). The vibrations travel through the ground from their source to nearby buildings primarily via surface waves. The nature of the vibration can range from a single pulse to a series of pulses or continuous oscillatory motion. In other words, vibration sources may be continuous (e.g., operating factory machinery) or transient in nature (e.g., explosions). The frequency of a vibrating object, measured in Hertz (Hz), indicates how quickly it oscillates. Environmental vibrations are typically a mix of frequencies, forming a spectrum, and are usually classified as broadband or random vibrations. Most perceptible ground-borne vibrations span frequencies from less than 1 Hz up to about 200 Hz.

Vibrations are characterized by the displacement, velocity, or acceleration of particles within the medium. In environmental assessments focusing on human impact, vibration levels are commonly described by velocity, expressed in inches per second (in/sec) or millimeters per second (mm/s). The amplitude of vibration can be represented either by the peak values or as an average, known as the root mean square. The root mean square level is often used to evaluate the effects of vibration on people. Similar to noise, vibration levels can also be expressed in decibels, with a reference velocity of 1×10^{-6} in/sec. To avoid confusion with sound decibels, vibration decibels are often denoted as “VdB.”

The two main concerns with vibrations from construction projects are potential structural damage and human annoyance, both of which are assessed using different vibration thresholds. Research indicates that the average person can detect vibrations with a peak particle velocity (PPV) in the range of 0.2 to 0.3 mm/s (0.008 to 0.012 in/sec). However, individual sensitivity to vibration varies, and people in environments with higher ambient vibration levels, like urban areas, may tolerate greater vibrations. Typical vibration levels from construction-related sources are detailed in Table 3.16-2.

Table 3.16-2. Vibration Source Amplitudes for Construction Equipment

Equipment	PPV at 25 feet (in/sec)	Approximate L_v at 25 feet (VdB)
Vibratory Roller	0.210	94
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: Adapted from Caltrans 2013b

3.16.1.3 Statewide Summary

Given the varied characteristics across the state, the existing statewide noise environment is described by developed and undeveloped areas.

3.16.1.3.1 Noise-Sensitive Land Uses

Noise-sensitive land uses are typically those where noise exposure could result in health-related risks to individuals, as well as places where quiet is a key component of their intended purpose. Residences are considered particularly sensitive because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to disturb sleep. Other noise-sensitive land uses include schools, transient lodging, historic sites, cemeteries, and places of worship. Similarly, these types of land uses are also sensitive to vibration, as are commercial and industrial buildings, where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

Collection, sortation, and processing facilities may be located adjacent to developed areas, including residential communities, schools, commercial and industrial parks, roadways, and freeways and highways. Therefore, it is possible that noise-sensitive receptors could be close to future collection, sortation, and processing facilities. These facilities may also be sited in undeveloped and rural areas. These areas generally have little urban intrusion but may include scattered residences or other sensitive receptors near/adjacent to future facility sites.

3.16.1.3.2 Existing Noise Sources and Ambient Levels

In general, the ambient outdoor noise environment that may be measured or perceived at a given location represents an aggregate of sounds propagating from near and far noise sources. In developed areas, typical noise sources would include those associated with residential communities, commercial and industrial parks, roadways, and freeways/highways. The ambient noise environment in developed areas would primarily be influenced by vehicle traffic along nearby roadways, freeways, and highways. Noise sources in more rural areas typically consist of natural sounds. The ambient noise environment of rural and undeveloped areas varies based on nearby noise sources; however, quiet rural nighttime noise levels are typically approximately 20 dB (Caltrans 2013a).

For the purpose of the noise impact analysis, the existing ambient outdoor sound level at a noise-sensitive receiver is important with respect to CEQA assessment criteria and other relative limits that compare future noise levels with existing or baseline conditions. Due to the statewide context of the proposed Program, it is not possible to estimate the existing or baseline noise levels. For reasonable comparisons, the Federal Transit Authority (FTA) (2006) provides guidance for estimating existing noise exposure that considers a site's proximity to major roads and railroad lines. If these noise sources are far enough away that ambient noise is dominated by local streets and community activities, then the estimate is made based on population density. The decision of which of these sources to use is made by comparing the noise levels from each of the three categories, roadways, railroads, and population density, and selecting the highest level. Table 3.16-3 summarizes the ambient day, evening, night, and L_{dn} noise levels associated with various distances from major roadways and railroads corresponding to the estimated daytime, nighttime, outdoor ambient sound level. For example, the L_{dn} at a sensitive receptor located between 50 and 100 feet from a Interstate Highway is estimated to be approximately 70 dBA. In the absence of such major transportation routes, population density

ranges may be used to estimate the outdoor ambient sound levels. For example, the ambient L_{dn} for an area with a population of 30,000 or greater that is not near a major transportation route is estimated to be 65 dBA.

Table 3.16-3. Estimating Existing Noise Exposure for General Assessment

Distance from Major Noise Source ¹ (feet)			Population Density (people per square mile)	Noise Exposure Estimates (dBA)			
Interstate Highways ²	Other Roadways ³	Railroad Lines ⁴		L_{eq} Day	L_{eq} Evening	L_{eq} Night	L_{dn}
10-50				75	70	65	75
50-100				70	65	60	70
100-200				65	60	55	65
200-400				60	55	50	60
400-800				55	50	45	55
800 and up				50	45	40	50
	10-50			70	65	60	70
	50-100			65	60	55	65
	100-200			60	55	50	60
	200-400			55	50	45	55
	400 and up			50	45	40	50
		10-30		--	--	--	75
		30-60		--	--	--	70
		60-120		--	--	--	65
		120-240		--	--	--	60
		240-500		--	--	--	55
		500-800		--	--	--	50
		800 and up		--	--	--	45
			1-100	35	30	25	35
			100-300	40	35	30	40
			300-1,000	45	40	35	45
			1,000-3,000	50	45	40	50
			3,000-10,000	55	50	45	55
			10,000-30,000	60	55	50	60
			30,000 and up	65	60	55	65

Source: FTA 2006

Notes:

- ¹ Distances do not include shielding from intervening rows of buildings. General rule for estimating shielding attenuation in populated areas: assume 1 row of buildings every 100 feet; -4.5 dB for the first row, -1.5 dB for every subsequent row up to a maximum of -10 dB attenuation.
- ² Roadways with four or more lanes that permit trucks, with traffic at 60 miles per hour (mph).
- ³ Parkways with traffic at 55 mph, but without trucks, and city streets with the equivalent of 75 or more heavy trucks per hour and 300 or more medium trucks per hour at 30 mph.
- ⁴ Main line railroad corridors typically carrying 5-10 trains per day at speeds of 30-40 mph.

3.16.2 Regulatory Framework

Federal and state noise regulations and policies that may apply to the Program are described below.

3.16.2.1 Federal

3.16.2.1.1 Noise Control Act of 1972

The USEPA established guidelines for acceptable noise levels for sensitive receptors such as residential areas, schools, and hospitals pursuant to the Noise Control Act of 1972. The guidelines set levels of 55 dBA L_{dn} for outdoor use areas and 45 dBA L_{dn} for indoor use areas, and a maximum level of 70 dBA L_{dn} is identified for all areas to prevent hearing loss (USEPA 1974). These levels provide guidance for local jurisdictions but do not have regulatory enforceability. In the absence of applicable noise limits, the USEPA levels can be used to assess the acceptability of Program-related noise.

3.16.2.1.2 U.S. Department of Housing and Urban Development Environmental Criteria Standards

The U.S. Department of Housing and Urban Development has also established guidelines for acceptable noise levels for sensitive receivers such as residential areas, schools, and hospitals (24 CFR 51). The U.S. Department of Housing and Urban Development's noise levels include a two-pronged guidance, one for the desirable noise level and the other for the maximum acceptable noise level. The desirable noise level conforms to the USEPA guidance of 55 dBA L_{dn} for outdoor use areas of residential land uses and 45 dBA L_{dn} for indoor areas of residential land uses. The maximum acceptable noise level established by the U.S. Department of Housing and Urban Development is 65 dBA L_{dn} for outdoor use areas of residential areas.

3.16.2.1.3 Federal Transit Authority Transit Noise and Vibration Impact Assessment

The FTA has published guidance relevant to assessing vibration impacts (FTA 2006). As an example from the guidance, engineered concrete and masonry (no plaster) buildings can be exposed to ground-borne vibration levels of 0.3 in/sec without experiencing structural damage. Buildings extremely susceptible to vibration damage (e.g., historic buildings) can be exposed to ground-borne vibration levels of 0.12 in/sec without experiencing structural damage.

3.16.2.1.4 Federal Occupational Safety and Health Administration

Federal OSHA regulations protect workers from excessive occupational noise exposure (29 CFR Section 1910.95).

3.16.2.2 State

The CCR has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as shown in Table 3.16-4 below.

The extensive state regulations pertaining to worker noise exposure are applicable to the Program (for example Cal/OSHA Occupational Noise Exposure Regulations [8 CCR General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.]), for workers in a "central plant" and/or maintenance facility, or for those involved in the use of maintenance equipment or heavy machinery.

The State of California General Plan Guidelines 2017, published by the California Governor's Office of Land Use and Climate Innovation (formerly the Governor's Office of Planning and Research [OPR 2017]), provides guidance for the compatibility of projects within areas of specific noise exposure. Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used to derive local

noise standards and guidance. These guidelines are presented in Table 3.16-4. Citing USEPA materials and the State Sound Transmissions Control Standards, the State’s General Plan Guidelines recommend interior and exterior CNELs of 45 and 60 dB for residential units, respectively. For commercial land uses, the guidelines recommend an exterior CNEL of up to 65 dB for multi-family residential buildings and hotels, 70 dB for office buildings, schools, libraries and churches, and 75 dB for industrial, agricultural, and recreational land uses.

Table 3.16-4. Estimating Existing Noise Exposure for General Assessment

Land Use Category	Noise Exposure Ranges (dB CNEL) Normally Acceptable ¹	Noise Exposure Ranges (dB CNEL) Conditionally Acceptable ²	Noise Exposure Ranges (dB CNEL) Normally Unacceptable ³	Noise Exposure Ranges (dB CNEL) Clearly Unacceptable ⁴
Residential: Low-density Single Family, Duplex, Mobile Homes	<60	55-70	70-75	>75
Residential: Multiple Family	<65	60-70	70-75	>75
Transient Lodging: Motels, Hotels	<65	60-70	70-80	>80
Schools, Libraries, Churches, Hospitals, Nursing Homes	<70	60-70	70-80	>80
Auditoriums, Concert Halls, Amphitheaters	Undefined	<70	>65	Undefined
Sports Arena, Outdoor Spectator Sports	Undefined	<75	>70	Undefined
Playgrounds, Neighborhood Parks	<70	67-75	>73	Undefined
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	Undefined	70-80	<80
Office Buildings, Business Commercial and Professional	<70	67-77	>75	Undefined
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	>75	Undefined

Source: OPR 2017

Notes:

- ¹ Normally Acceptable: specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction without any special noise insulation requirements.
- ² Conditionally Acceptable: New construction or development should only be undertaken after a detailed analysis of the noise reduction requirements is made and the needed insulation features included in the design.
- ³ Normally Unacceptable: New construction or development should generally be discouraged. If new development is to proceed, a detailed analysis of the noise reduction requirements is made, and the needed insulation features are included in the design.
- ⁴ Clearly Unacceptable: New development or construction should not be undertaken.

3.16.3 Impacts Assessment

3.16.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as a threshold to determine significant impacts, and thus considers that the Program would result in significant impacts related to noise if it would:

- a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- b) Generate excessive groundborne vibration or groundborne noise levels.
- c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.

3.16.3.2 Methodology

The analysis of noise impacts focuses on the potential for nearby noise-sensitive receptors to experience a substantial temporary or permanent increase in ambient noise levels due to activities associated with the Implementing Regulations.

The method for evaluating potential noise impacts from construction and operation activities associated with the Implementing Regulations is based on the procedures of ISO 9613-2:1996, Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation. This international standard procedure is widely used for propagation and evaluation of environmental noise over distances and is the basis for calculation protocols in numerous computer models, including CadnaA and SoundPLAN. Such computer models require complex information on scheduling and daily duration of each noise-producing activity to be able to calculate and propagate noise levels. Given the broad scale of the construction-related activities that may be associated with construction of collection, sortation, and processing facilities statewide, the methodology used in this analysis involved spreadsheet-based calculations based on the ISO 9613-2:1996 standard. The procedure involved determining the maximum noise levels from an assumed point source, based on noise data from equipment manufacturers, the FHWA's database of construction equipment noise levels (FHWA 2006) and then propagating the maximum noise level from a hypothetical construction site to a nearby sensitive receptor. It is important to note that the propagation calculations do not consider any barriers to noise (e.g., buildings, vegetation, and topography between the noise source and receptor) and, therefore, the calculated noise at the nearest sensitive receptor is likely much greater than the actual noise that would be experienced at that location. The FTA has published guidance for assessing building damage impacts from vibration. Table 3.16-5 shows the FTA building damage criteria for vibration while Table 3.16-6 shows the FTA criteria related to vibration annoyance.

Table 3.16-5. FTA Construction Vibration Damage Criteria

Building Type	Peak Particle Velocity (inches/second)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2006

Table 3.16-6. FTA Construction Vibration Annoyance Criteria

Receptor Type	Vibration Impact Level (Vdb re-micro-inch/second)	Vibration Impact Level (Vdb re-micro-inch/second)	Vibration Impact Level (Vdb re-micro-inch/second)
	Frequent Events ¹	Occasional Events ²	Infrequent Events ³
1. Buildings where vibration would interfere with interior operations	65d	65d	65d
2. Residences and buildings where people normally sleep	72	75	80
3. Institutional land uses with primarily daytime use	75	78	83

Source: FTA 2006

Notes:

¹ Frequent Events are defined as more than 70 vibration events of the same source per day.

² Occasional Events" are defined as between 30 and 70 vibration events of the same source per day.

³ Infrequent Events" are defined as fewer than 30 vibration events of the same kind per day.

3.16.3.3 Proposed Program

3.16.3.3.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Noise impacts associated with the implementation of the source reduction and refill/reuse requirements are primarily related to a transition to alternative materials, and the potential for a change in truck trips associated with the collection and transport of recyclables, organic materials, and municipal solid waste to the respective processing facilities and return logistics for reuse or take-back programs (refer to Section 3.20 (Transportation), for additional detail on transportation requirements and vehicle trips). It typically takes a doubling of traffic to result in an audible noise increase (USEPA 1974). As detailed in Section 3.20 (Transportation), source reduction measures would result in less material placed in trash or refuse bins and potentially an increase in materials placed in compost or recyclable bins. However, a change in compost or recyclable materials truck trips is not

expected since trucks are assumed to already be coming to pick up the two bins and the change would be the quantity of material in each bin. Product replacement behavior that results in a shift in materials used in the manufacture of single-use food service ware and single-use packaging may result in changes to truck trips associated with the distribution of these materials (e.g., paper single-use food service ware in place of plastic single-use food service ware). The increase in alternative materials would be, at most, proportional with the reduction in plastic single-use food service ware and single-use packaging. The transition to alternative materials could result in an increase in the weight and volume of products, potentially requiring more shipment trips. The analysis provided in Section 3.20 (Transportation) indicates that the heaviest alternative materials (e.g., glass) may result in up to 1.5 more truck trips than the corresponding plastic covered materials. However, the type of materials used for single-use food service ware and single-use packaging would have no effect on consumer transport behavior to/from the retailer. As such, source reduction and the associated transition to alternative materials is not expected to result in a doubling of trips from existing distribution patterns of covered materials. Accordingly, there would not be the potential for the transition to alternative materials to directly contribute to a significant traffic noise impact.

A transition to refillable and reusable products may result in additional trips because of return logistics associated with reuse and take-back programs. At this time, the number of additional vehicle trips and their ultimate destination is unknown but could range from negligible, if return logistics is at locations the consumer would travel to in any case, to a relatively minor increase (refer to Section 3.20 [Transportation]). It is not expected that a transition to refillable and reusable products would result in a doubling of traffic along any specific route as any trips associated with return logistics would be distributed throughout the day. In addition, delivery of refilled products to retailers as part of take-back programs would not result in additional trips as these products would otherwise be shipped from conventional distribution centers to retailers in single-use packaging. Since source reduction and refill/reuse measures are not anticipated to result in a doubling of trips from existing transportation patterns of covered materials, there would not be an increase in noise associated with additional vehicle trips. Therefore, impacts related to source reduction and refill/reuse are expected to be **less than significant**.

Impact Criterion b) Would the Program generate excessive groundborne vibration or groundborne noise levels?

As described for Impact Criterion (a), the reasonably foreseeable methods of compliance with the Implementing Regulations may result in additional trips, including heavy vehicle trips on uneven roadways that would have the potential to generate ground borne vibration and noise. Vibration associated with heavy vehicles with rubber tires traveling on roadways is typically limited to distances of up to 75 feet and would not be sufficient to cause building damage. Therefore, impacts related to groundborne vibration or groundborne noise levels would be **less than significant**.

Impact Criterion c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The source reduction and refill/reuse requirements of the Implementing Regulations do not have the potential to directly result in exposure of people residing or working in a project area to excessive noise levels associated with private airstrips, airport land use plan area, or public airport. Therefore, there would be **no impact**.

3.16.3.3.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

CONSTRUCTION

The reasonably foreseeable means of compliance with the Implementing Regulation include the construction of new or expanded collection, sortation, and processing facilities and related infrastructure. Construction activities related to the development of collection, sortation, and processing facilities could potentially increase ambient noise levels. The extent of noise generated would vary based on the type of facility and the scale of construction required. However, it is anticipated that the facility construction activities would produce noise from demolition (if required), site preparation, grading, excavation, compacting, truck trips transporting materials to and from the site, and other on-site construction activities. As a result, noise-sensitive receptors in the vicinity of a future site may be exposed to elevated noise levels during construction.

Site preparation equipment and activities include backhoes, bulldozers, loaders, and excavation equipment (e.g., graders and scrapers). Construction of larger structural elements and mechanical systems could require the use of a crane for placement and assembly tasks, which may also increase noise levels. Equipment used during construction activities would produce localized noise during standard working hours during the construction period for each project. Noise levels at various distances for typical construction equipment (refer to Section 3.6.3.2.2 [Construction Assumptions]) have been calculated previously and published in various reference documents. Typical equipment noise levels provided in the FHWA Roadway Construction Noise Model User’s Guide (FHWA 2006) were used for this evaluation. The User’s Guide provides the most recent comprehensive assessment of noise levels from various construction equipment. Table 3.16-7 summarizes typical usage factors and maximum noise levels for representative construction equipment expected to be used for construction of future facilities. Note that not all of the equipment would be used at every site. As shown in Table 3.16-7, noise levels generated by individual equipment range from 55 to 87 dBA at 50 feet from the noise source, with usage factors of up to 50 percent.

Table 3.16-7. Typical Usage Factors and Noise Levels Generated by Representative Construction Equipment

Equipment	Acoustical Usage Factor (%)	Specified L_{max} at 50 feet from Source (dBA)
Dozer	40	85
Dump Truck	40	84
Excavator	40	85
Crane	16	85
Roller	20	85
Front-End Loader	40	80
Compactor	20	80
Concrete Mixer Truck	40	85

Equipment	Acoustical Usage Factor (%)	Specified L_{max} at 50 feet from Source (dBA)
Concrete Pump Truck	20	82
Paving Equipment	50	85
Scraper	40	85
Air Compressors	40	80
Pickup Trucks	40	55
All Other Equipment > 5 hp	50	85

Source: FHWA 2006

Notes: dBA = A-weighted decibels; L_{eq} = equivalent sound pressure level

Though multiple pieces of equipment would be operated simultaneously during construction of future facilities, they would typically be spread out (i.e., usually more than 100 feet apart) rather than operating next to each other. This characterization is particularly true of larger, heavy-duty off-road equipment such as front-end loaders, skid steers, and excavators. Therefore, it is unlikely that noise from multiple pieces of equipment would combine to affect any noise-sensitive receptor for an extended period of time. However, this analysis conservatively assumes that four of the highest noise-generating pieces of equipment could operate simultaneously in close proximity to each other near the boundaries of a future project site (i.e., locations nearest where noise-sensitive receptors could be located). This assumption is used because the estimated combined noise level for four pieces of equipment would not be noticeably higher if a fifth piece of equipment were also operating 100 feet from the nearest affected receptor. The reason for this is that noise levels from point sources attenuate at a rate of 7.5 dB per doubling of distance (over “soft” terrain) and due to the logarithmic nature of adding noise levels from various sources. Accordingly, the combined L_{max} noise level of the four loudest pieces of equipment at 50 feet from the source for noise-generating construction activity would be up to 91.0 dB with an associated L_{eq} of 87.3 dB. See Appendix C for the specific equipment assumed to be operated and the associated noise calculations. Construction activities may occur within 50 feet of sensitive noise receptors such as residences, schools, churches, hospitals, parks, cemeteries, and other noise sensitive locations. Construction noise impacts would be considered significant if construction activities would result in substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. Implementation of **MM NOI-1** would reduce construction noise through implementation of best practices at construction sites to minimize these effects.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce noise impacts. Mitigation measures to reduce potential noise impacts can and should be implemented by local jurisdictions with land use authority or the local agency implementing the project. Site-specific, project impacts and mitigation would be identified during a project’s local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential noise impacts, implementation of **MM NOI-1** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be

reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM NOI-1**, construction activities may result in significant noise impacts. Therefore, this PEIR discloses, for CEQA purposes, that the construction-related noise impacts are potentially ***significant and unavoidable***.

OPERATION

The reasonably foreseeable means of compliance with the Implementing Regulation include the operation of new or expanded collection, sortation, and processing facilities and related infrastructure that would generate on-going noise associated with these facilities. Noise sources may include stationary equipment, off-road equipment, as well as traffic-associated noise from vehicles. Based on noise emissions levels from typical types of equipment used during the operation of waste recovery and processing facilities and accounting for typical usage factors of individual pieces of equipment and attenuation, the operation of these facilities could result in noise that exceeds noise standards established in local general plans and noise ordinances or that is substantially greater than the ambient noise environment. In addition, additional vehicles on local roadways would affect traffic noise levels along transport routes. Thus, implementation of reasonably foreseeable compliance responses could result in the generation of long-term operational noise in excess of applicable standards or result in a substantial increase in ambient noise levels at nearby sensitive receptors. This impact would be potentially significant. As the locations of the facilities are determined, a site-specific noise study that considers the stationary and off-road noise sources as well as the increase in traffic would be required to evaluate the incremental increase over existing noise levels. Further, the specific location of noise-generating equipment at the various processing facilities, including whether they are located within an enclosed building, and their distance to the nearest sensitive receptor would need to be identified. The proposed future facilities would be subject to additional environmental review pursuant to CEQA to determine noise impacts. Implementation of **MM NOI-2** would require project proponents to implement best practices at collection, sortation, and processing facilities to minimize these effects.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce noise impacts. Mitigation measures to reduce potential noise impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential noise impacts, implementation of **MM NOI-2** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM NOI-2**, operation activities may result in significant noise impacts. Therefore, this PEIR discloses, for CEQA purposes, that the operations-related noise impacts are potentially ***significant and unavoidable***.

Impact Criterion b) Would the Program generate excessive groundborne vibration or groundborne noise levels?

CONSTRUCTION AND OPERATION

The primary concern related to groundborne vibration is typically human annoyance, but in extreme situations, it can pose a risk of damage to buildings, especially those that are older or structurally fragile. Ground vibration

generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, with low rumbling sounds and detectable vibrations at moderate levels, and damage to nearby structures at the highest levels. Construction and operation activities most likely to cause vibration include operation of heavy off-road and compaction equipment. Typical vibration velocity for construction equipment (e.g., a large bulldozer or caisson drilling) has been estimated at approximately 0.089 inches/second at a distance of 25 feet (FTA 2018). Loaded haul trucks generate vibration levels of 0.076 inches/second at the same distance. Vibration damage to buildings extremely susceptible to vibration may occur at levels greater than 0.12 inches/second (refer to Table 3.16-5). The expected maximum vibration of 0.089 inches/second at 25 feet from the source is much lower than the levels expected to cause damage at any nearby receptors. In addition, groundborne vibration dissipates very rapidly with distance, reducing the vibrations associated with construction equipment such as a loader or excavator. Although all heavy, off-road and on-road equipment have the potential to cause at least some perceptible vibration when operating close to buildings, the vibration is usually short term and is not of sufficient magnitude to cause building damage. However, because the exact locations of future collection, sortation, and processing facilities and the construction and operation methods and equipment to be used are currently unknown, the potential exists for vibration levels to exceed FTA thresholds listed for building damage and annoyance in Tables 3.16-5 and 3.16-6, respectively, depending on the proximity to sensitive receptors and the techniques employed. Implementation of **MM NOI-1** and **MM NOI-2** would reduce construction- and operation-related vibration noise through implementation of best practices at facility sites to minimize these effects.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce noise impacts. Mitigation measures to reduce potential noise impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential noise impacts, implementation of **MM NOI-1** and **MM NOI-2** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM NOI-1** and **MM NOI-2**, construction and operation activities may result in significant noise impacts. Therefore, this PEIR discloses, for CEQA purposes, that the construction- and operations-related noise impacts are potentially *significant and unavoidable*.

Impact Criterion c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

California hosts a wide range of airport types, from large commercial hubs to small, privately owned airstrips. Most of the airports and airfields in California have an active Airport Land Use Compatibility Plan or its equivalent to discourage incompatible land uses within the vicinity of the airport. The Federal Aviation Administration, Federal Aviation Regulation Part 150 program encourages airports to prepare noise exposure maps that show land uses that are incompatible with high noise levels, and these are often included with the Airport Land Use Compatibility Plan. The noise exposure maps and compatibility planning element of the

Airport Land Use Compatibility Plans consider appropriate exterior CNEL noise levels and the potential for airport noise to increase interior noise levels that would result in sleep disturbance at nearby sensitive land uses. One of the desired outcomes of the Airport Land Use Compatibility Plan planning process is to minimize the public's exposure to excessive noise and safety hazards.

It is possible that with new or expanding collection, sortation, and processing facilities could be located within the vicinity (e.g., within 2 miles) of a public or private airport. Federal statutes (49 U.S. Code Section 44718[d]) prohibit new municipal solid waste landfills, that are often bird attractants that could pose a bird strike hazard to airplanes, within 6 miles of most airports, unless the Federal Aviation Administration concludes it would not have an adverse effect on aviation safety. Compost facilities may similarly attract birds and may also be prohibited in some Airport Land Use Compatibility Plans.

Implementation of the proposed regulation would not result in the development of new residential land uses that could be exposed to excessive noise near an airport. The operation of new or expanded collection, sortation, and processing facilities would include a limited number of new employees that could work within the vicinity of a public or private airport. However, it is expected that existing Airport Land Use Compatibility Plans, local general plans, noise ordinances, and OSHA regulations would protect workers from excessive noise in these areas. For this reason, this impact would be *less than significant*.

MITIGATION MEASURE(S)

MM NOI-1: Implement Noise-Reduction Measures during Project Construction. The following mitigation measures can and should be required by agencies with project approval authority to avoid or minimize impacts related to construction noise:

- Based on the results of project level environmental review, project proponents shall implement all feasible mitigation to reduce or substantially lessen the environmental impacts of the project. Mitigation measures to reduce noise impacts may include the following; however, any mitigation specifically required for a new or modified facility would be determined by the local lead agency:
 - Ensure noise-generating construction activities (including truck deliveries, pile driving, and blasting) are limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours) for projects near sensitive receptors.
 - Ensure stationary noise-generating construction equipment, such as pumps and generators, is located as far as possible from nearby noise-sensitive receptors. Noise-generating equipment shall be shielded from nearby noise sensitive receptors by noise-attenuating buffers, such as structures or haul truck trailers. Water tanks and equipment storage, staging, and warm-up areas shall be located as far from noise sensitive receptors as possible.
 - Consider use of noise barriers, such as berms, to limit ambient noise at property lines, especially where sensitive receptors may be present.
 - Ensure all project equipment has sound-control devices no less effective than those provided on the original equipment.
 - All construction equipment used would be adequately muffled and maintained.
 - Consider use of battery-powered forklifts and other facility vehicles.

- Ensure all stationary construction equipment (i.e., compressors and generators) is located as far as practicable from nearby sensitive receptors or shielded.
- Properly maintain mufflers, brakes and all loose items on construction and operation related vehicles to minimize noise and address operational safety issues. Keep truck operations to the quietest operating speeds. Advise about downshifting and vehicle operations in sensitive communities to keep truck noise to a minimum.
- Use noise controls on standard construction equipment; shield impact tools.
- Consider use of flashing lights instead of audible back-up alarms on mobile equipment.
- Install mufflers on air coolers and exhaust stacks of all diesel and gas- driven engines.
- Equip all emergency pressure relief valves and steam blow-down lines with silencers to limit noise levels.
- Contain facilities within buildings or other types of effective noise enclosures.
- Employ engineering controls, including sound-insulated equipment and control rooms, to reduce the average noise level in normal work areas.

MM NOI-2: Implement Noise-Reduction Measures during Project Operation. LEAs can and should incorporate the following conditions into permits, as appropriate, based on the facts at the proposed facility site, before approving a solid waste facility permit or registration permit for organic waste recovery projects developed to comply with the proposed regulation. For individual projects not under the jurisdiction of LEAs, site-specific, project impacts and mitigation would be identified during a project’s local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. Recognized practices that can and should be required to avoid and/or minimize noise include:

- All powered equipment shall be used and maintained according to manufacturer’s specifications.
- Public notice of activities shall be provided to nearby noise-sensitive receptors of potential noise-generating activities.
- All motorized equipment shall be shut down when not in use.
- Idling of equipment or trucks shall be limited to five minutes.
- All heavy equipment and equipment operation areas shall be located as far as possible from nearby noise-sensitive land uses (e.g., residential land uses, schools, hospitals, places of worship, recreation resources).
- To achieve an interior noise level less than applicable noise standards, the installation of double pane windows and building insulation shall be offered to residences directly affected by significant operational noise levels generated by the noise-generating facility. If accepted by the homeowner, the project applicant shall provide the funding necessary to install the appropriate noise- reducing building improvements.

3.17 Population and Housing

This section describes the existing setting for population and housing in California; identifies applicable federal and state regulations; and analyzes the potential impacts of the Program on population and housing in the state. Table 3.17-1 summarizes the impacts of implementation of the Program on population and housing.

Table 3.17-1. Summary of Population and Housing Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact	No Impact	None
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	No Impact	None

3.17.1 Existing Conditions

3.17.1.1 Population

California’s estimated population as of January 1, 2024, was 39,128,162 residents, approximately 0.17% higher than the 2023 population of 39,061,058 residents (California Department of Finance 2024a). The population increase was the first positive growth since 2020 (California Department of Finance 2024a). California’s population is projected to reach its largest population in 2044 of 40,155,497 residents and decrease to 39,508,492 residents by 2060 (California Department of Finance 2023). The ten most populous counties in the state, in descending order, are as follows: Los Angeles, San Diego, Orange, Riverside, San Bernardino, Santa Clara, Alameda, Sacramento, Contra Costa, and Fresno (Table 3.17-2).

Table 3.17-2. County Population Estimates and Change, 2023-2024

State/County	Total Population 1/1/2023	Total Population - 1/1/2024	Percent Change
Alameda	1,650,656	1,641,869	-0.5
Alpine	1,183	1,179	-0.3
Amador	39,924	39,611	-0.8
Butte	206,579	205,928	-0.3
Calaveras	44,899	44,842	-0.1
Colusa	21,831	21,743	-0.4
Contra Costa	1,145,274	1,146,626	0.1
Del Norte	26,586	26,345	-0.9

State/County	Total Population 1/1/2023	Total Population - 1/1/2024	Percent Change
El Dorado	188,067	188,583	0.3
Fresno	1,010,914	1,017,431	0.6
Glenn	28,330	28,736	1.4
Humboldt	134,597	133,100	-1.1
Imperial	179,623	182,881	1.8
Inyo	18,890	18,856	-0.2
Kern	906,165	910,300	0.5
Kings	151,629	152,627	0.7
Lake	66,698	67,001	0.5
Lassen	28,376	28,197	-0.6
Los Angeles	9,819,312	9,824,091	0.0
Madera	157,909	159,328	0.9
Marin	253,972	252,844	-0.4
Mariposa	16,968	16,966	0.0
Mendocino	89,556	89,476	-0.1
Merced	285,193	287,303	0.7
Modoc	8,501	8,484	-0.2
Mono	13,193	12,861	-2.5
Monterey	433,953	437,614	0.8
Napa	134,508	135,029	0.4
Nevada	100,474	100,177	-0.3
Orange	3,141,065	3,150,835	0.3
Placer	410,085	412,844	0.7
Plumas	18,993	18,841	-0.8
Riverside	2,428,580	2,442,378	0.6
Sacramento	1,576,639	1,578,938	0.1
San Benito	65,165	65,853	1.1
San Bernardino	2,172,694	2,181,433	0.4
San Diego	3,290,423	3,291,101	0.0

State/County	Total Population 1/1/2023	Total Population - 1/1/2024	Percent Change
San Francisco	842,224	843,071	0.1
San Joaquin	783,903	791,408	1.0
San Luis Obispo	279,818	278,469	-0.5
San Mateo	745,302	741,565	-0.5
Santa Barbara	442,342	443,623	0.3
Santa Clara	1,902,799	1,903,198	0.0
Santa Cruz	263,338	262,572	-0.3
Shasta	179,122	179,195	0.0
Sierra	3,187	3,171	-0.5
Siskiyou	43,479	43,409	-0.2
Solano	445,506	446,426	0.2
Sonoma	479,445	478,152	-0.3
Stanislaus	545,753	548,744	0.5
Sutter	98,248	100,110	1.9
Tehama	64,710	64,308	-0.6
Trinity	15,944	15,915	-0.2
Tulare	474,680	478,918	0.9
Tuolumne	54,626	54,407	-0.4
Ventura	825,960	823,863	-0.3
Yolo	220,454	221,666	0.5
Yuba	82,814	83,721	1.1

Source: California Department of Finance 2024b

3.17.1.2 [Housing](#)

Housing distribution and household conditions are expected to evolve and change as the population increases throughout the state. In 2023, statewide housing growth increased by 0.79% to 14,824,827 units (California Department of Finance 2024a). Ranked by net housing gains, Los Angeles (21,698), San Diego (5,720), unincorporated Riverside County (2,458), San Francisco (2,277), and Oakland (1,972) added the most housing units in 2023. The top five cities where housing production drove population growth include: Paradise (16.1%) in Butte County, Lathrop (5.4%) in San Joaquin County, Emeryville (5.0%) in Alameda County, Orland (4.9%) in Glenn County, and Shafter (4.3%) in Kern County (California Department of Finance 2024a). The state estimates that over 2.5 million homes are needed by 2030 to meet the housing needs of the population (California Department of Housing and Urban Development 2022).

3.17.1.3 Employment

As of June 2024, over 18 million people were employed in California. The unemployment rate statewide was 5.3% (California Employment Development Department 2024). Table 3.17-3 provides employment information by County.

Table 3.17-3. California Employment, June 2024

County	Labor Force	Employment	Unemployment	Unemployment Rate
STATE TOTAL	19,290,600	18,265,300	1,025,300	5.30%
Alameda	818,100	780,100	38,000	4.60%
Alpine	500	460	40	7.40%
Amador	14,560	13,840	720	5.00%
Butte	91,400	86,000	5,400	5.90%
Calaveras	22,480	21,480	1,000	4.40%
Colusa	10,900	9,640	1,260	11.60%
Contra Costa	545,700	519,900	25,800	4.70%
Del Norte	9,110	8,600	520	5.70%
El Dorado	93,900	89,800	4,100	4.40%
Fresno	459,000	423,800	35,200	7.70%
Glenn	12,620	11,800	820	6.50%
Humboldt	60,100	57,000	3,000	5.00%
Imperial	73,100	61,000	12,000	16.40%
Inyo	8,610	8,290	320	3.70%
Kern	393,900	358,800	35,200	8.90%
Kings	58,300	53,400	4,900	8.40%
Lake	28,130	26,530	1,590	5.70%
Lassen	8,560	8,120	450	5.20%
Los Angeles	5,067,700	4,767,000	300,700	5.90%
Madera	65,800	60,900	4,900	7.40%
Marin	131,100	126,200	4,900	3.70%
Mariposa	8,060	7,700	360	4.50%
Mendocino	37,650	35,810	1,840	4.90%
Merced	121,600	110,200	11,400	9.40%
Modoc	3,310	3,140	180	5.30%
Mono	8,770	8,430	340	3.90%
Monterey	227,400	214,400	13,000	5.70%
Napa	73,200	70,400	2,800	3.80%
Nevada	48,810	46,750	2,050	4.20%
Orange	1,576,300	1,512,700	63,600	4.00%
Placer	195,300	187,100	8,200	4.20%

County	Labor Force	Employment	Unemployment	Unemployment Rate
Plumas	7,730	7,290	440	5.70%
Riverside	1,151,800	1,089,900	61,800	5.40%
Sacramento	732,800	697,700	35,100	4.80%
San Benito	31,900	29,900	2,000	6.30%
San Bernardino	1,007,500	955,100	52,500	5.20%
San Diego	1,579,900	1,509,400	70,500	4.50%
San Francisco	549,700	530,000	19,600	3.60%
San Joaquin	348,300	326,000	22,300	6.40%
San Luis Obispo	135,800	130,400	5,400	4.00%
San Mateo	435,300	420,100	15,200	3.50%
Santa Barbara	221,800	212,400	9,300	4.20%
Santa Clara	1,023,700	982,100	41,700	4.10%
Santa Cruz	133,400	125,900	7,500	5.60%
Shasta	73,900	70,000	3,900	5.30%
Sierra	1,420	1,360	60	4.40%
Siskiyou	16,580	15,590	990	6.00%
Solano	203,400	193,000	10,400	5.10%
Sonoma	248,700	238,700	10,000	4.00%
Stanislaus	246,400	229,000	17,400	7.10%
Sutter	48,100	44,300	3,800	7.90%
Tehama	25,980	24,400	1,580	6.10%
Trinity	4,790	4,540	250	5.20%
Tulare	214,200	192,900	21,300	10.00%
Tuolumne	20,120	19,060	1,060	5.30%
Ventura	410,800	392,200	18,600	4.50%
Yolo	110,300	104,500	5,800	5.20%
Yuba	32,600	30,300	2,300	6.90%

Source: California Employment Development Department 2024

3.17.2 Regulatory Framework

The federal and state regulations, and standards related to population and housing and relevant to the Program are discussed below.

3.17.2.1 Federal

No federal regulations related to population and housing are applicable to the proposed Program.

3.17.2.2 State

No state regulations related to population, housing, and employment are applicable to the proposed Program.

3.17.3 Impact Assessment

3.17.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would have a significant impact on population and housing if it would:

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.17.3.2 Proposed Program

3.17.3.2.1 Source Reduction and Refill/Reuse and Collection, Sortation, and Processing

Impact Criterion a) Would the Program induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Impact Criterion b) Would the Program displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Reasonably foreseeable compliance measures with the Implementing Regulation's would not result in the construction of new homes. CalRecycle estimates that it would need to hire 62 permanent staff members, over a period of six years, to fully implement and enforce the Implementing Regulations and that 102,564 jobs across various industries (e.g., construction, transportation and public utilities, manufacturing) would be created from 2024 through 2034 (CalRecycle 2024). These increases do not surpass 0.15% of the baseline employment figures for California throughout the entire regulatory timeline (CalRecycle 2024). Further, these jobs would be spread throughout the state. Thus, there would not be a substantial increase in jobs such that new unplanned population growth would occur. Reasonably foreseeable compliance measures would not include any other growth-inducing measures and would not displace existing housing or people nor necessitate the construction of housing elsewhere. Therefore, there would be **no impact** on population and housing.

3.18 Public Services

This section describes existing public services in California; identifies applicable federal and state regulations; and analyzes the potential impacts of the Program on public services in the state. Table 3.18-1 summarizes the impacts on public services that would result from implementation of the Program.

Table 3.18-1. Summary of Public Services Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: <ul style="list-style-type: none"> – Fire protection? – Police protection? – Schools? – Parks? – Other public facilities? 	No Impact	No Impact	None

3.18.1 Existing Conditions

3.18.1.1 Fire Protection

3.18.1.1.1 California Department of Forestry and Fire Protection

CAL FIRE is the primary emergency response agency in 31 million acres of privately-owned wildlands, known as the SRA. It also provides some type of emergency service under cooperative agreements with 115 counties, cities and districts. CAL FIRE’s Law Enforcement Program staff enforce state fire and forest laws, determining wildland fire causes, interviewing witnesses, issuing citations, setting up surveillance operations, and providing assistance to local fire and law enforcement agencies in arson, bomb, fireworks, and fire extinguisher investigations, as well as disposal of explosives (CAL FIRE 2022).

CAL FIRE maintains 21 operational units and 812 fire stations that are each designed to address fire suppression over a certain geographic area as wells as 14 air attack bases, 10 helitack bases, and 1 CAL FIRE/San Diego County Sheriff helitack base. Staffing levels include 9,600 full-time and seasonal firefighting professionals, foresters, and administrative employees; 3,000 California National Guard members, California Conservation Corps members, inmates, and wards that currently staff 222 fire crews (CAL FIRE 2022). CAL FIRE responds to over 500,000 emergencies annually.

3.18.1.1.2 Local Fire Districts and Departments

Local fire districts and departments provide fire protection and emergency services in the Local Responsibility Area under the jurisdiction of local government entities (i.e., city or county fire departments). Local fire districts and departments also provide fire protection through mutual aid agreements or contracts with CAL FIRE for staff and/or funding resources (these are called contract counties).

3.18.1.2 Law Enforcement

3.18.1.2.1 California Highway Patrol

The California Highway Patrol is the largest public-facing state law enforcement agency in the U.S., with over 11,000 employees, including over 6,500 officers, providing traffic law enforcement along state and interstate highways throughout California. It also provides traffic law enforcement to prevent crime; manages traffic and emergency incidents; assists other public agencies with law enforcement duties; and provides protection to the public, State employees, and State infrastructure. California Highway Patrol headquarters is located in Sacramento and there are eight divisions throughout California: Northern (Redding), Valley (Sacramento), Golden Gate (Vallejo), Central (Fresno), Southern (Glendale), Border (San Diego), Coastal (San Luis Obispo), and Inland (San Bernardino) (California Highway Patrol 2024).

3.18.1.2.2 Local Sheriff and Police Departments

Law enforcement services within unincorporated county areas are generally provided by county sheriff's departments. Services within incorporated city limits are typically provided by local city police departments.

3.18.1.3 Schools

There are 11,636 public schools, within over a thousand public school districts, and 2,961 private schools in California, serving grades pre-K through 12th (California Department of Education 2024a, b). California has the largest post-secondary education system (i.e., colleges and universities) in the U.S., accounting for 13% of nationwide enrollment. The University of California enrolls nearly 300,000 students in 10 campuses, California State University has 23 campuses and enrolls nearly half a million students, California Community Colleges enroll approximately 1.2 million students, and there are approximately 150 private non-profit colleges in the state (Public Policy Institute of California 2024).

3.18.1.4 Libraries

As of 2023, there were a total of 1,127 libraries managed by 260 jurisdictions. Educational programming opportunities include audio materials, electronic collections, print collections, educational workshops, story time, school programs, and internet access (California State Library 2023).

3.18.2 Regulatory Framework

The federal and state regulations, and standards related to public services and relevant to the Program are discussed below.

3.18.2.1 Federal

There are no federal regulations pertaining to public services that apply to the proposed Program.

3.18.2.2 State

3.18.2.2.1 California Health and Safety Code

State fire regulations are set forth in Section 13000 et seq. of the CHSC, which include regulations concerning building standards, fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, and fire suppression training.

3.18.2.2.2 California Building Code

CCR, Title 24, Part 9 refers to the California Fire Code, which contains fire safety-related building standards.

3.18.3 Impact Assessment

3.18.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the question set out in Appendix G of the CEQA Guidelines as a threshold to determine significant impacts, and thus considers that the Program would result in significant impacts to public services if it would:

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - i) Fire protection
 - ii) Police protection
 - iii) Schools
 - iv) Parks
 - v) Other public facilities

3.18.3.2 Proposed Program

3.18.3.2.1 Source Reduction and Refill/Reuse and Collection, Sortation, and Processing

Impact Criterion a) Would the Program result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, including fire protection, police protection, schools, parks and other public facilities?

As discussed in Section 3.17 (Population and Housing), reasonably foreseeable source reduction and refill/reuse as well as future development of collection, sortation, and processing infrastructure in response to the Implementing Regulations would not generate population growth. As such, these measures would not require or cause a need for the provision of new or physically altered government facilities nor would they place substantial demand on existing public services, such as fire or police protection. Therefore, the reasonably foreseeable means of compliance with the Implementing Regulations would have **no impact** on the

service ratios, response times, or performance objectives for fire protection, police protection, school, or park services.

Additionally, although CalRecycle estimates that it would need to hire 62 new permanent staff members over six years to fully implement and enforce the Implementing Regulations, CalRecycle has determined that sufficient space is available within its existing offices, such that there would be no need to construct or occupy any new government facilities. Therefore, these measures would have ***no impact*** on other public facilities.

3.19 Recreation

This section describes the existing recreational systems in California; highlights applicable federal and state regulations; and identifies the potential impacts of the Program on statewide recreational use. Table 3.19-1 summarizes impacts on recreation that could result from implementation of the Program.

Table 3.19-1. Summary of Recreation Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact	No Impact	None
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact	No Impact	None

3.19.1 Environmental Setting

The state’s diversity of environmental settings creates a wide range of quality recreational opportunities. These recreational resources/areas provide enjoyment for California residents, but also attract millions of out-of-state visitors and play a major role in the state economy. In 2019, outdoor recreation contributed \$73.8 billion to California’s annual gross domestic product, \$35.2 billion in wages/salary, and 567,636 direct jobs (United States Department of Commerce 2023).

Given its size and range of landscapes and water features across California, the Program area contains a wide variety of recreation resources and opportunities. These may include hiking, biking, camping, hunting, fishing, trail use, and aquatic recreational activities. Trails and paths are often located in areas along the edge of waterways, throughout foothills and mountain ranges, and can be found in parks or wildlife areas, or along shorelines in urban areas. Deserts within California (including the Mojave Desert, Colorado Desert, and Great Basin Desert), provide recreational opportunities depending on the season and time of year and include hiking, rock climbing, bouldering, sightseeing, off-road vehicle use, and sightseeing. Hunting, wildlife viewing, birdwatching, and viewing of natural scenery (along interpretive, walking, and driving trails) compose wildlife-oriented recreation opportunities.

3.19.1.1 State and National Recreation Facilities

The California State Parks manages diverse natural and cultural heritage landholdings in California. These lands encompass an array of the state’s landscape provinces, environmentally sensitive habitat areas, habitat for endangered and threatened species, ancient Native American sites, and historic facilities. Collectively, California State Parks manages 280 state park units (covering more than 1.5 million acres), including 340 miles of coastline, 970 miles of lake and river frontage, 15,000 campsites, 5,200 miles of trails, 3,195 historic buildings, and more than 11,000 known prehistoric and historic archaeological sites (California State Parks 2020). California State Parks manages almost 25% of California’s coastline, including coastal wetlands, estuaries, and dune systems. Each year more than 67 million people visit facilities within the California State

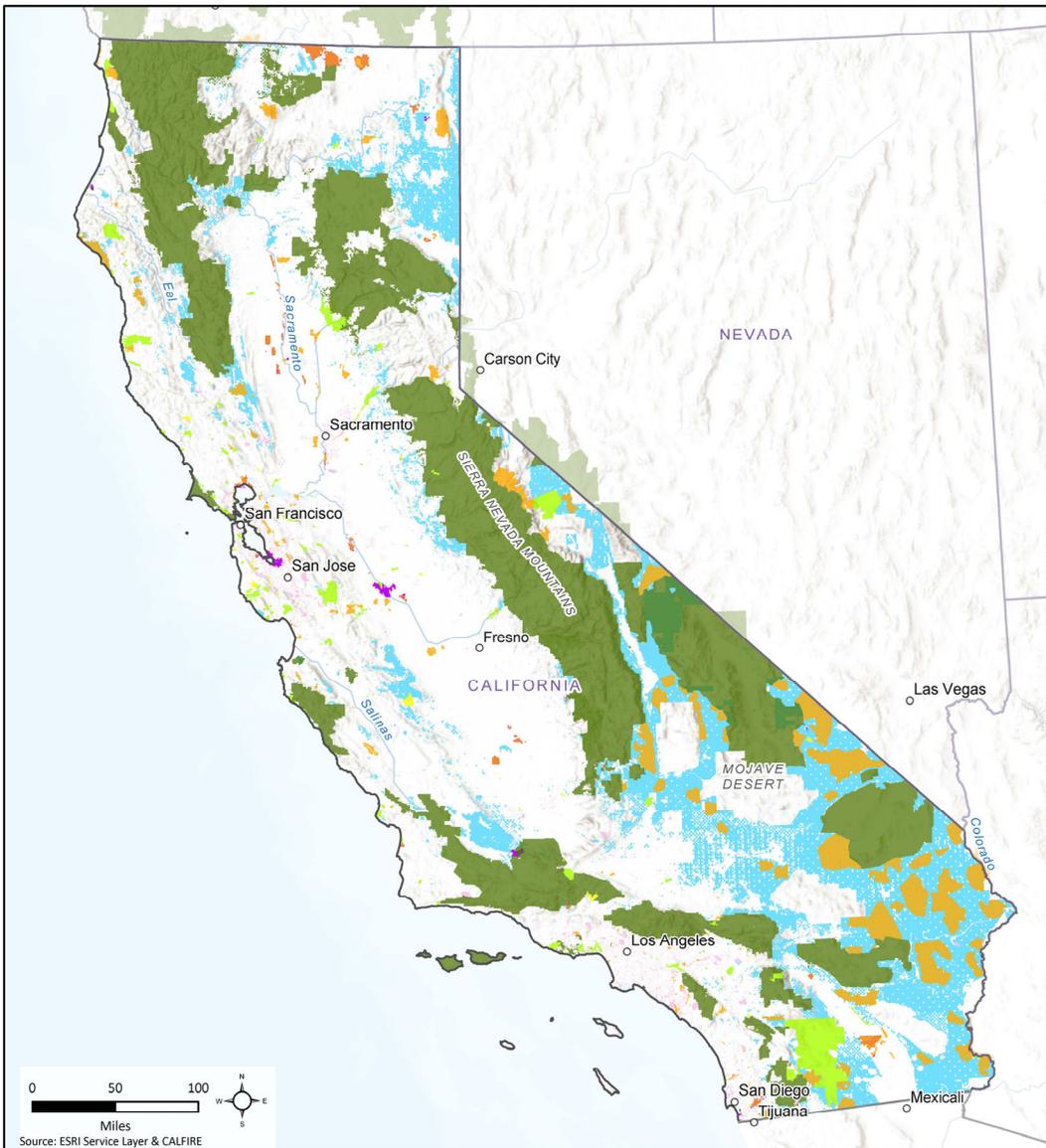
Parks system, including beaches, ghost towns, monuments, parks, recreation areas, visitor centers, lakes, and reservoirs. Recreational activities include boating, fishing, camping, trails, biking, hiking, sightseeing, interpretative exhibits, picnic tables, museums, horseback riding, and nature viewing (California State Parks 2017, 2024). Figure 3.19-1 provides a map of California State Parks and recreation areas.

In addition to California State Parks, 28 national forests and national parks are located in California. These national forests and parks total approximately 28.5 million acres and comprise nearly 25% of the state. The National Parks Service manages nine national parks in California, covering approximately 7.7 million acres (National Parks Service 2024), and the USFS manages 18 national forests covering approximately 20.8 million acres (USDA 2024). In 2019, national parks in California had approximately 36.2 million visitors (National Parks Service 2023). Table 3.19-2 below provides a list of the national forests and parks in California, which are also shown in Figure 3.19-1. Park amenities may include restrooms, picnic tables, and fishing access. Additional amenities may include playgrounds, boat launches, trails, and historic site interpretation.

An additional 15 million acres of public land in California are overseen by the BLM (BLM 2024). Pursuant to the Federal Land Policy & Management Act, the BLM is responsible for implementing a multiple-use policy for the federal lands, waters, and resources it administers. The variety of uses the BLM administers on federal lands and waters include renewable energy production, mining, grazing, and timber harvesting as well as conservation efforts ensure natural, recreational, historical, and cultural resources (BLM 2024).

Table 3.19-2. California National Forests and National Parks with Associated Acreages

National Forest (Acres)	National Parks (Acres)
Angeles National Forest (706,382)	Channel Islands National Park (126,746)
Cleveland National Forest (561,816)	Death Valley National Park (3,324,573)
El Dorado National Forest (793,652)	Joshua Tree National Park (797,463)
Humboldt-Toiyabe National Forest (696,063)	Kings Canyon National Park (458,964)
Inyo National Forest (1,977,047)	Lassen Volcanic National Park (107,509)
Klamath National Forest (1,678,590)	Pinnacles National Park (26,606)
Lassen National Forest (1,488,633)	Redwood National and State Parks (133,999)
Los Padres National Forest (1,969,904)	Sequoia and Kings Canyon National Parks (406,806)
Mendocino National Forest (1,073,284)	Yosemite National Park (745,901)
Modoc National Forest (2,022,970)	
Plumas National Forest (1,431,799)	
Rogue River-Siskiyou National Forest (96,952)	
San Bernardino National Forest (805,482)	
Sequoia National Forest (1,161,465)	
Shasta-Trinity National Forest (2,715,524)	
Sierra National Forest (1,418,782)	
Six Rivers National Forest (1,273,896)	
Stanislaus National Forest (1,090,353)	
Tahoe National Forest (1,179,490)	



Legend		<p>REGIONAL LOCATION CALIFORNIA</p>	STATE OF CALIFORNIA MAJOR RECREATION AREAS	
<ul style="list-style-type: none"> National park or forest State park or forest Bureau of Land Management US Fish and Wildlife Service 	<ul style="list-style-type: none"> Regional park County park Local park 		<p>Catalyst ENVIRONMENTAL SOLUTIONS</p>	<p>CalRecycle - SB 54 CEQA</p>

Project: D:\CD\catalyst_gis\Documents\angispro_projects\CalRecycle\SB 54\SB 54.aprx

Figure 3.19-1. Major Recreation Areas in California

3.19.1.2 Local Recreational Facilities

3.19.1.2.1 County Recreational Facilities

Each of the 58 counties in California is responsible for providing municipal services to residents, including roads, parks, law enforcement, emergency response services, and libraries. Each county is also charged with providing and maintaining recreational services within the unincorporated areas. For example, the Los Angeles

County Department of Parks and Recreation manages 73,214 acres of parkland including 182 parks (Los Angeles County Department of Parks and Recreation 2024). Santa Clara County Parks and Recreation Department manages 28 regional parks encompassing over 52,000 acres of land within the County (Santa Clara County Parks 2024). Recreational opportunities include biking, hiking, boating, fishing, camping, picnic tables, dog parks, cultural venues, playgrounds, and sports facilities.

3.19.1.2.2 City Operated Recreational Facilities

Each of the 482 incorporated cities in the state is responsible for providing municipal services and maintaining infrastructure, including roads, parks, law enforcement, emergency response services, and libraries. Cities are also charged with providing recreational resources to residents within their respective city limits. For example, the City of Los Angeles Department of Recreation and Parks maintains over 16,000 acres of parkland including hundreds of athletic fields, 411 playgrounds, 319 tennis courts, 123 recreation centers, over 130 outdoor fitness areas, 59 swimming pools and aquatic centers, 27 skate parks, 13 golf courses, 12 museums, and 13 dog parks (City of Los Angeles Department of Recreation and Parks 2024). City of Santa Rosa Recreation and Parks Department maintains approximately 1,100 acres of city parks, sports facilities, and historic structures (City of Santa Rosa 2024). The City of Redding Parks and Recreation Department owns 41 parks and nine school-park sites, including playgrounds, and facilities for picnicking, walking, boating, fishing, basketball, softball, baseball, volleyball, soccer skateboarding, aquatics, and off-leash dog play (City of Redding 2024).

3.19.1.2.3 Special Districts and Nonprofit Organizations

Special districts are a form of local government created to deliver specific public services within a defined boundary. They are governed by an independent board of directors elected by the districts' voters or appointed to a fixed term of office by either the city council or board of supervisors. In California, there are nearly 3,400 special districts that provide a variety of services including water, sewer, fire protection, and parks. Examples of recreation and parks districts include the East Bay Regional Park District, Mount Shasta Recreation and Parks District, Santa Clara Valley Open Space Authority, and Tehachapi Valley Recreation and Park District. Recreational opportunities can vary depending on the location and type of special districts; however, common recreational opportunities include hiking, sightseeing, mountain biking, horseback riding, and educational activities.

In addition to special districts, there are a variety of nonprofit organizations in California that preserve undeveloped land as open space for historical, educational, ecological, recreational, and scenic purposes. Typically, nonprofits receive private donations and raise funds from the community to purchase undeveloped properties as opportunities arise. Examples of nonprofit organizations that manage public open space include the Nature Conservancy, Big Sur Land Trust, and Wildlands Conservancy. Recreation opportunities can vary depending on the location and habitat sensitivity; however, common recreational opportunities include hiking, outdoor education, camping, picnicking, birding, fishing, and wildlife viewing.

3.19.1.2.4 Privately Owned Recreational Facilities

Private recreation consists of privately-owned facilities which generally require some form of membership or residence. Types of privately-owned facilities include yacht clubs, marinas, boat-docks, sports leagues, camps, amusement parks, commercial recreation development, and recreational vehicle parks. These types of facilities are located throughout the State, and recreational opportunities can vary depending on the location. Common recreational opportunities include camping, hiking, horseback riding, sailing, and sporting activities.

3.19.2 Regulatory Framework

Federal and state laws, regulations, plans, and/or guidelines related to recreation resources that are applicable to the Program are summarized below.

3.19.2.1 Federal

3.19.2.1.1 United States Department of Transportation Act (23 U.S. Code Section 138 and 49 U.S. Code Section 303)

Section 4(f) of the United States Department of Transportation Act declares that “it is the policy of the United States government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.” It specifies that the Secretary of the USDOT may not approve a project that uses 4(f)-protected resources unless there are no prudent or feasible alternatives to such use (permanent, temporary, or constructive) and the project includes all possible planning to minimize harm to such resources, or the agency finds that the project has a de minimis impact consistent with the requirements of 49 U.S. Code 303(d). Section 4(f) resources are publicly owned lands of a park, recreation area, or wildlife and waterfowl refuge, or land of a historical site of national, state, or local significance that is listed on or eligible for listing on the NRHP, as determined by the federal, state, regional, or local officials having jurisdiction over the resource. Historic properties may be publicly or privately owned.

3.19.2.1.2 National Park Service Organic Act (16 U.S. Code Sections 461–467)

The National Park Service Organic Act created the National Park Service to administer the nation’s national parks, which are areas of national significance afforded special recognition and protection in accordance with various acts of Congress. The act also sets the purpose of the park system: “The fundamental purpose of the parks is to conserve the scenery and the natural and historic objects and the wildlife therein, and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The National Park Service is required to keep park units in an unimpaired state in perpetuity and to provide the highest quality of use and enjoyment of the entire system by visitors today and in the future. Areas in parks designated as natural zones must be managed to ensure that natural ecological processes operate unimpaired unless otherwise specifically provided for in the law creating them. The National Park Service is required to manage native animal life in national parks for its essential role in natural ecosystems. Historic zones in national parks must be managed to provide full protection for cultural resources. T

3.19.2.1.3 Wilderness Act (16 U.S. Code Sections 1131–1136)

The Wilderness Act established the National Wilderness Preservation System to consist of federally owned areas designated by Congress as “wilderness areas.” The system is to be administered for the use and enjoyment of the American people in such manner as will leave those areas unimpaired for future use as wilderness and so as to provide for the protection of these areas, the preservation of their wilderness character, and the gathering and dissemination of information regarding their use and enjoyment as wilderness.

3.19.2.2 State

3.19.2.2.1 The Public Park Preserve Act

The primary instrument for protecting and preserving parkland is the state Public Park Preservation Act. Under the California PRC Sections 5400-5409, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, is provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

3.19.2.2.2 California Department of Fish and Wildlife Ecological Reserves (California Fish and Game Code Section 1580 et seq. and CCR Title 14 Section 630)

This legislation specifies areas as ecological reserves and establishes protections for resources in these areas.

3.19.3 Impact Assessment

3.19.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would have a significant impact on recreational resource and facilities if it would:

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

These criteria focus primarily on demand for recreational facilities and the potential need for construction of new recreational facilities, which are not applicable to the Program. The Program is not expected to increase demand for recreational facilities.

3.19.3.2 Proposed Program

3.19.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Impact Criterion b) Would the Program Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Implementing Regulations would not result in population growth (refer to Section 3.17 [Population and Housing]) and would not increase the use of existing parks. Reduction in production and use of single-use plastic food service ware and single-use plastic packaging and increased reusable/refillable materials would not require the construction of a recreational facility nor would the transition to alternative materials restrict access to any existing facility such that a new recreational facility would be needed. Therefore, the source reduction and refill/reuse measures would have **no impact** on recreation.

3.19.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Impact Criterion b) Would the Program Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

CONSTRUCTION AND OPERATION

The construction and operation of collection, sortation, and processing facilities would not include any growth-inducing impacts (e.g., housing development or substantial employment increases (refer to Section 3.17 [Population and Housing])) and therefore would not result in the increased demand for or use of park and recreational facilities. The collection, sortation, and processing facilities would not include or require the construction of a recreational facility nor would they restrict access to any existing facility such that a new recreational facility would be needed. Therefore, construction and operation of collection, sortation, and processing facilities would have **no impact** on increased use of recreational facilities or adverse impacts related to construction or expansion of recreational facilities.

3.20 Transportation

This section describes the existing transportation system in California; identifies applicable regulations; and identifies the potential impacts of Program implementation on the transportation system, including traffic operations, bicycle, pedestrian, and transit facilities, roadway hazards and obstructions, and emergency access. The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.20-1 summarizes the impacts on traffic and transportation that would result from implementation of the Program.

Table 3.20-1. Summary of Transportation Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact	Potentially Significant and Unavoidable	MM TR-1: Construction Transportation Management Plan MM TR-2: Restrict Lane Closures and Maintain Access MM TR-3: Closure Notification and Detours MM TR-4: Notify Emergency Personnel of Road Closures
b) Would the Program conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less than Significant	Potentially Significant and Unavoidable	None
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact	Potentially Significant and Unavoidable	MM TR-1: Construction Transportation Management Plan MM TR-5: Project-Specific Traffic Impact Report
d) Result in inadequate emergency access?	No Impact	Potentially Significant and Unavoidable	MM TR-1: Construction Transportation Management Plan MM TR-4: Notify Emergency Personnel of Road Closures MM TR-5: Project-Specific Traffic Impact Report

3.20.1 Existing Conditions

3.20.1.1 Roadway System

California’s roadways are classified functionally throughout the state as either urban or rural and have the following hierarchy:

- **Interstates:** Arterial roads that provide the highest level of mobility and speeds over the longest uninterrupted range, limited access, typically posted speeds of 55 to 75 miles per hour.
- **Other Freeways and Expressways:** High-mobility roads with limited on- and off-access points (e.g., ramp locations or at-grade intersections) and whose directional travel lanes are generally separated by a physical barrier.
- **Other Principal Arterials:** High-mobility, limited-access roads that typically have four lanes or more and posted speeds of 50 to 70 miles per hour. This roadway type is classified as either urban or rural (FHWA 2023):
 - Urban classification:
 - > Serves major activity centers; has the highest traffic volume corridors and longest trip demands.
 - > On minimum mileage, carries a high proportion of total urban travel.
 - > Provides interconnection and continuity for major rural corridors to accommodate transportation through, to, and from urban areas.
 - > Serves demand for travel between central business districts and outlying residential areas.
 - > Rural classification:
 - > Serves corridor movement that expresses characteristics representative of substantial statewide or interstate travel.
 - > Connects all or a majority of urbanized areas and urban clusters of a 25,000 or more populations.
 - > Provides an integrated network of continuous routes.
- **Minor Arterials:** Moderate-mobility, limited-access roads that typically have two or three lanes and include turn lanes to benefit through traffic.
- **Collectors:** Moderate-mobility, moderate-access roads that connect local roads to arterials with few businesses, and that typically have posted speed limits between 35 and 55 miles per hour.
- **Local Roads and Streets:** High-access, limited-mobility roads that emphasize access to abutting land and typically have posted speed limits between 20 and 45 miles per hour.

In California, interstate highways contain a larger percentage of vehicular traffic than local arterials and roadways, as shown in Table 3.20-2 (Caltrans 2023). State routes connect centers of commerce, industry, agriculture, and mineral wealth for communities and regions of the state.

Table 3.20-2. Maintained Miles, Lane Miles, and Annual Vehicle Miles of Travel by Functional Classification in California

Functional Classification	Maintained Miles	Lane Miles	Annual VMT (in millions)
Interstate	2,455.25	15,303.29	87,978.75
Principal Arterial (other freeways and expressways)	1,887.68	10,852.34	63,584.86
Principal Arterial (other)	10,098.19	35,500.88	62,003.79
Minor Arterial	16,812.19	44,140.48	49,152.90
Major Collector	25,250.18	53,916.74	31,763.08
Minor Collector	7,889.62	16,363.18	1,463.27
Local	117,709.75	238,174.16	19,297.91
Statewide Total	182,102.86	414,251.06	315,244.56

Source: Caltrans 2023

Federal and state highways throughout California are maintained by Caltrans. Designated truck routes are also located throughout the state and are maintained and located primarily on major federal, state, and county highways and major local arterials. These routes provide alternative routes for large trucks from mainline routes that are ill-suited for large-truck travel due because of obstacles (low-clearance bridges, sharp turns, or steep grades) or with conditions that could create unsafe conditions for smaller vehicles.

Roadways statewide include approximately 75,544 miles of maintained county roads, which in terms of mileage, account for the largest percentage of all roadways (Caltrans 2023). The most heavily populated areas in California are generally along interstate or state highway corridors.

3.20.1.2 Railroads

The State of California regulates railroads located throughout the state with general railroad classifications as follows:

- **Class I Railroads:** Freight railroads operate in multiple states over thousands of miles of track. California is served by two Class I railroads: Burlington Northern Santa Fe Railroad and Union Pacific Railroad.
- **Class III Railroads:** Often referred to as “short line” railroads, Class III railroads generate average revenue of \$336.6 million or less. Some examples of Class III railroads in the state include the California Northern Railroad, Los Angeles Junction Railway, Quincy Railroad, and Sacramento Valley Railroad.
- **Commuter Rails, or Suburban Rail:** Transport services that operate primarily within a metropolitan area for passenger travel, connecting commuters to a central city from adjacent suburb or town. Some examples include Caltrain, the North County Transit District Coaster, and Amtrak Capitol Corridor.

All railroads in California are regulated by the CPUC. The commission’s Railroad Operations and Safety Branch enforces federal and state safety rules, regulations, and inspection efforts and carries out proactive assessments of potential risks.

3.20.1.3 [Public Transit](#)

Public transit in California comprises over 500 local and regional transit providers; ferry boat operations; local, regional, and interregional commuter rail services; light rail services; paratransit agencies that provide transportation services for persons with special mobility needs; and transit providers in non-urbanized and rural areas. Local and regional transit organizations offer a variety of transit options, including buses, subways, and light rail. Service is provided with varying frequency and cost. In rural areas, transit services and facilities are likely to be intermittent or absent in many locations whereas larger and more accessible networks are available in more urban and developed regions.

3.20.1.4 [Bikeways and Pedestrian Circulation](#)

Bicycle and pedestrian networks and applicable plans, policies, and standards are highly variable across regional and local agencies within California. However, agencies typically conform to the Caltrans Highway Design Manual (2019a) bikeway facility classification system, described as follows:

- **Class I Bikeways:** Facilities with exclusive right-of-way for bicyclists and pedestrians, away from the roadway and with cross-flows by motor traffic minimized. In some areas, pedestrian facilities are separated from the bikeway.
- **Class II Bikeways:** Bike lanes established along streets and are defined by pavement striping and signage to delineate the portion of a roadway for bicycle travel.
- **Class III Bikeways:** Shared routes for bicyclists on streets with motor traffic not served by dedicated bikeways to provide continuity of the bikeway network.
- **Class IV Bikeways:** Facilities for the exclusive use of bicycles and include a bikeway separated from vehicular traffic.

Bicycle and pedestrian facilities are integral components of the statewide transportation system. Many California cities and counties have created bicycle and pedestrian plans. Some Metropolitan Planning Organizations and Regional Transportation Planning Agencies also have such plans, either included in or in addition to their Regional Transportation Plan.

3.20.1.5 [Solid Waste Collection and Transport](#)

In California, solid waste collection systems are designed to handle the diverse needs of both urban and rural areas, with systems tailored to the density and characteristics of each environment. In most urban areas, waste is collected curbside. Residents are typically provided with bins for different types of waste (e.g., recyclables, organics, and landfill) and are required to place their bins on the curb for collection on scheduled days. Many urban areas use standardized containers provided by waste management companies. These containers are usually color-coded (such as blue for recyclables, green for organic waste, and black or gray for general waste when using a three-container collection system) to facilitate sorting. Local agencies typically establish a regular collection schedule such as weekly or bi-weekly collection for the different types of solid waste (e.g., trash, recyclables, and organic waste). For a typical curbside collection program, one truck trip might serve between 500 to 1,000 households, depending on the efficiency of the route and size of the collection vehicle. In 2023, CARB estimated statewide total VMT associated with solid waste collection vehicles at roughly 1,116 million miles (CARB 2024). Collection frequency is generally higher in urban areas due to the higher density of waste and the need to manage large volumes efficiently.

Urban areas often have well-developed recycling and composting programs. Single-stream recycling (where all recyclables are placed in one bin) is common, and organics collection includes yard trimmings, food scraps, and food soiled papers.

Urban areas are supported by a network of transfer stations and MRFs where waste is transferred from collection vehicles, sorted, and processed before being hauled to landfills or recycling centers. Many cities have waste diversion goals and programs to reduce landfill use and promote sustainability in addition to the 50% waste diversion requirements of the California Integrated Waste Management Act (Assembly Bill 939).

Rural counties currently account for 4.7% of the total waste disposed in California (CalRecycle 2024a).. Low population densities and small tax rolls, as well as long distance costs to collection facilities and recycling markets, make implementing cost-effective, solid waste diversion programs more difficult (CalRecycle 2024a). As such, waste collection services might be less frequent in rural areas. Some areas may have weekly or bi-weekly curbside collection of waste. In addition to (or instead of) curbside collection, rural areas often have local drop-off centers or waste transfer stations where residents or businesses can take their waste if curbside collection is not available. Recycling programs in rural areas may not be as comprehensive or frequent as in urban areas. Residents might have to travel to recycling centers or drop-off points. Composting may be encouraged through educational programs, and some rural areas have community composting initiatives or provide composting bins to residents.

Rural areas may have fewer waste management facilities compared to urban areas. Transfer stations in rural regions serve as crucial points where waste is consolidated before being transported to larger processing facilities. The infrastructure for managing waste in rural areas can be less centralized, with more reliance on local solutions and community-based approaches.

3.20.1.6 Current Sources of Single-Use Products

Single-use products such as single-use food service ware and single-use packaging used in California is largely sourced from domestic and international manufacturers, with significant imports from Asia. Some plastic single-use products are currently produced and shipped within California. Facilities in the state manufacture various types of plastic containers, films, and wraps.

Other U.S. regions also produce plastic packaging materials that are transported into California. This includes facilities in states like Texas and Louisiana where 84% of U.S. plastic production across the sector's supply chain is located (Responsible Alpha 2024).

A significant portion of plastic packaging is imported from countries such as China, Mexico, and Canada (World Integrated Trade Solution 2024). These countries have large-scale plastic manufacturing facilities that produce packaging materials for global markets. Imported plastic packaging typically arrives at California's major ports, such as the Port of Los Angeles and the Port of Long Beach. From there, it is distributed to manufacturers, retailers, and other businesses throughout the state typically via truck or rail.

Alternatives to plastic packaging may include paper products, glass, metals, and biodegradable and compostable materials such as bioplastics. Paper and cardboard packaging are produced in the U.S. and can be sourced from domestic paper mills and corrugated board manufacturers. Companies in regions such as the Pacific Northwest and the Midwest have significant paper production facilities (U.S. Census Bureau 2024a). Glass packaging is produced in the U.S., with significant manufacturing facilities in California as well as in Indiana, Texas, and Oklahoma (U.S. Census Bureau 2024b). Glass can be recycled indefinitely, making it a

sustainable choice. Glass bottles and jars are often recycled into new glass products, reducing the need for new raw materials. Metal packaging, including aluminum and steel cans, is produced in the U.S. with major production facilities located in states like Ohio and Illinois (U.S. Census Bureau 2024c). Metals are highly recyclable and often use recycled content in their production. Bioplastics are often made from cornstarch or sugarcane, can be sourced from both domestic and international suppliers. Companies in the U.S. and abroad produce bioplastics that can be used for packaging. Single-use products made from compostable materials like bamboo, bagasse (sugarcane residue), or hemp are increasingly available.

3.20.2 Regulatory Framework

3.20.2.1 Federal

There are no federal transportation regulations applicable to the Program.

3.20.2.2 State

3.20.2.2.1 California Vehicle Code

Caltrans is responsible for planning, designing, constructing, operating, and maintaining the state highway system and ramp interchange intersections. Caltrans is also responsible for highway, bridge, and rail transportation planning, construction, and maintenance. Caltrans provides guidance to local agencies on assessing the performance of rural roadways to enhance safety, mobility, accessibility and productivity under continued use. Caltrans requires transportation permits for the movement of vehicles or loads exceeding the limitations on the size and weight contained in Division 15, Chapter 5, Article 1, Section 35551, of the California Vehicle Code.

Program construction activities and long-term operation of collection, sortation, and processing facilities would require the use of state and locally managed roadways; thus, Caltrans guidance and standards specifically related to the performance of rural state roadways and vehicle size and weight limitations would apply to the Program.

The California Vehicle Code also provides requirements for ensuring emergency vehicle access regardless of traffic conditions. Sections 21806(a)(1), 21806(a)(2), and 21806(c) define how motorists and pedestrians are required to yield the right-of-way to emergency vehicles.

3.20.2.2.2 California Manual on Uniform Traffic Control Devices

This California Manual on Uniform Traffic Control Devices is published by Caltrans (2019b) and is issued to adopt uniform standards and specifications for all official traffic control devices in California. Temporary traffic control applies when the normal function of the roadway, or a private road open to public travel, is suspended and is intended to provide for the reasonably safe and effective movement of road users through or around temporary traffic control zones while reasonably protecting road users, workers, responders to traffic incidents, and equipment. Temporary traffic control zones planning provides for continuity of the movement of motor vehicle, bicycle, and pedestrian traffic (including accessible passage); transit operations; and access to property and utilities. California temporary traffic control standards and specifications would apply to traffic management plans developed in response to the Program for any sites that may impact normal function of a roadway.

3.20.2.2.3 CEQA Guidelines Section 15064.3

CEQA Guidelines Section 15064.3, *Determining the Significance of Transportation Impacts*, establishes VMT as the most appropriate measure of transportation impacts. CEQA Guidelines Section 15064.3(a) define VMT as “the amount and distance of automobile travel attributable to a project.” It also notes that “other relevant considerations may include the effects of the project on transit and non-motorized travel.” As clarified in *Technical Advisory for Evaluating Transportation Impacts Under CEQA*, term “automobile” refers to on-road passenger vehicles, specifically cars and light trucks (California Office of Planning and Research 2018). Generally, land use projects within 0.5 miles of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease VMT in the project area compared to existing conditions should be presumed to have a less than significant transportation impact. A lead agency has discretion to choose the most appropriate methodology to evaluate VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may also use models to estimate VMT and may revise those estimates to reflect professional judgment based on substantial evidence.

3.20.2.2.4 AB 32 and Senate Bill 375 (SB 375)

With the passage of AB 32, the Global Warming Solutions Act of 2006, the State of California committed itself to reducing statewide GHG emissions to 1990 levels by 2020. CARB is coordinating the response to comply with AB 32.

On December 11, 2008, CARB adopted its first Scoping Plan for AB 32, and subsequent plans in 2013, 2017, and 2022. These scoping plans included the substantial reliance on SB 375 as the means for achieving regional transportation-related GHG targets, including reduction in per capita VMT. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

3.20.3 Impacts Assessment

3.20.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would have a significant impact related to transportation if it would:

- a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- d) Result in inadequate emergency access.

As discussed in Section 3.20.2.2.3, above, the CEQA Guidelines requires using VMT metrics to evaluate potential Program transportation impacts under CEQA. The state has provided technical guidelines for this analysis, which identify potential thresholds against which to measure the Program’s impacts related to VMT. The *Technical Advisory for Evaluating Transportation Impacts Under CEQA* provides the following guidance:

“Screening Threshold for Small Land Use Projects: Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact.”

Accordingly, for the purposes of this analysis, the VMT threshold of 110 trips per day is used to determine project-level significance of impacts associated with development of individual collection, sortation, and processing facilities in response to the requirements of the Implementing Regulations.

3.20.3.2 Methodology

Section 15064.3 was incorporated into the State CEQA Guidelines on December 28, 2018, as part of a comprehensive update. The section addresses the determination of significance for transportation impacts, which requires that the analysis be based on VMT instead of a congestion metric (such as Level of Service). This shift stems from legislation (SB 743, Statutes of 2013) aimed at prioritizing factors such as reducing GHG emissions and promoting mixed-use development, rather than merely addressing congestion. SB 743 requirements are designed to be most relevant to urban travel related to residential and employment-generating land uses, so applying them to special uses, such as single-use plastic reduction targets and waste management, is difficult; nonetheless, the requirements are not limited to residential and employment-generating projects. State CEQA Guidelines Section 15064.3(b) identifies criteria for analyzing the transportation impacts of a project, including land use projects (Section 15064.3[b][1]) and transportation projects (Section 15064.3[b][2]). While some of the reasonably foreseeable compliance response under the proposed regulation include a transition to alternative materials and development and operation of new collection, sortation, and processing facilities, the proposed regulation would not drive development of urban areas, residential development, major employment generation, or transportation projects.

State CEQA Guidelines Section 15064.3(b)(3) states that a qualitative analysis is acceptable when existing models or methods for estimating VMT are not available. Quantifying the expected change in VMT due to the Implementing Regulations poses challenges, primarily because forecasting the quantity and location of manufacturers of products packaged in alternative materials is not possible. Similarly, the primary issue related to attempts to quantify VMT associated with development of collection, sortation, and processing infrastructure is that the location of potential future facilities cannot be known at this time. This is compounded by various operational unknowns, such as local agreements that jurisdictions have with haulers providing disposal and/or recycling services, and agreements that haulers have with disposal companies. The Implementing Regulations would allow producers and individual jurisdictions to pursue a variety of compliance options to meet its requirements. Depending on the existing transportation and/or collection schemes and how a producer or jurisdiction complies with the proposed regulation, VMT could increase, decrease, or not change substantially. For these reasons, the VMT analysis is not definitively quantified and is presented in a way that provides a general discussion of how vehicle trips may change throughout the state.

Given the absence of a quantitative method or applicable scenario provided in the *Technical Advisory for Evaluating Transportation Impacts Under CEQA* (California Office of Planning and Research 2018), this PEIR relies on fundamental CEQA principles for defining a qualitative threshold of significance for VMT. The statutory and regulatory definition of “significant effect on the environment” provides the fundamental

principle applicable to thresholds of significance. A significant effect on the environment is defined in CEQA as a “substantial or potentially substantial adverse change in the environment” (PRC Section 21068). For purposes of PRC Section 211000, governing actions for proposed state projects, subpart (a) limits significant effects on the environment to “substantial or potentially substantial adverse changes in physical conditions...” This definition of significant effect on the environment is repeated in Section 15002(g) in Article 1, General, under Section 15002, General Concepts, and Section 15382 in Article 20, Definitions. Based on these provisions, this PEIR considers whether an adverse change in physical conditions would occur. In the case of VMT, an adverse change would be an increase in VMT, because statutory environmental policy seeks to decrease VMT. Consequently, a qualitative threshold of no net increase in VMT is used in this PEIR to determine significance of implementing the proposed regulation. Thus, a relative increase in VMT due to implementation of the proposed regulation is determined to result in a significant effect on the environment with respect to Impact Criterion (b) (see listing under “Significance Criteria,” above).

3.20.3.2.1 Construction

Although the precise location, size, and access to facility construction sites is unknown, a representative construction scenario was developed for this PEIR to estimate the trips likely to be associated with the construction of collection, sortation, and processing facilities using CalEEMod default assumptions for a typical urban setting (i.e., Sacramento metropolitan area) as summarized in Table 3.20-3. Default CalEEMod values of 14.3 miles/trip for workers and 8.8 miles/trip for vendors were used to calculate daily VMT during each construction phase under the assumption that construction phases would not overlap.

Table 3.20-3. Construction Vehicle Trips and VMT for Collection, Sortation, and Processing Facilities

Facility Type	Construction Phase	Worker (Trips/Day)	Vendor (Trips/Day)	Daily VMT (miles)
Sortation				
MRF – Small	Demolition	15	0	214.5
	Site Preparation	17.5	0	250.3
	Grading	15	0	214.5
	Building Construction	16.8	6.56	298.0
	Paving	20	0	286.0
	Architectural Coating	3.6	0	51.5
MRF – Medium	Demolition	15	0	214.5
	Site Preparation	17.5	0	250.3
	Grading	15	0	214.5
	Building Construction	22.7	8.85	402.5
	Paving	15	0	214.5
	Architectural Coating	4.54	0	64.9

Facility Type	Construction Phase	Worker (Trips/Day)	Vendor (Trips/Day)	Daily VMT (miles)
MRF - Large	Demolition	15	0	214.5
	Site Preparation	17.5	0	250.3
	Grading	15	0	214.5
	Building Construction	50	19.5	886.6
	Paving	15	0	214.5
	Architectural Coating	10	0	143.0
Composting	Demolition	15	0	214.5
	Site Preparation	17.5	0	250.3
	Grading	20	0	286.0
	Building Construction	0.67	0.26	11.9
	Paving	15	0	214.5
	Architectural Coating	0.13	0	1.9
Processing				
Material Processing Facility	Demolition	15	0	214.5
	Site Preparation	17.5	0	250.3
	Grading	15	0	214.5
	Building Construction	29.4	11.5	521.6
	Paving	20	0	286.0
	Architectural Coating	5.88	0	84.1

Source: CalEEMod Reports (Appendix B)

3.20.3.2.2 Operations

As detailed in Section 3.2.2 (Collection, Sortation, and Processing: Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved), the implementing regulations would lead to a shift in transportation requirements for the different collection streams, including comingled, source-separate materials, garbage, PRO Depots, transfer to MRF, and sorted materials to processing or disposal. Table 3.2-13 summarizes assumptions for trips generated at PRO Depots, while Table 3.2-14 summarizes assumptions made for trip generation rates associated with MRFs and composting facilities. Table 3.2-15 summarizes trips associated with processing facilities that may be required to process the increase in covered materials as a result of the Implementing Regulations. The trip generation assumptions account for the daily volume of material each facility is expected to process and the capacity of the trucks delivering that material. These assumptions include the trips related to incoming material deliveries, as well as the trips required to transport the processed outgoing material. Although the precise location of facility sites is currently unknown, default CalEEMod value of 14.3 miles/trip for “workers” was used to calculate daily VMT for each region under the

assumption that this would be representative of an average trip length for most regions as shown in Table 3.20-4 using the estimated total regional trips provided in Section 3.2.2 (Collection, Sortation, and Processing: Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved). For a bounding-level analysis (i.e., evaluation of a reasonable worst-case scenario), all processing facilities are assumed to be large and distributed throughout the state relative to the projected 2031 population for each region as follows (California Department of Finance, Demographic Research Unit 2022a):

- Bay Area: 7,640,539
- Coastal: 1,836,595
- Mountain: 580,658
- Southern: 21,954,007
- Valley: 7,520,229

Table 3.20-4. Operational Regional Vehicle Trips and VMT for Collection, Sortation, and Processing Facilities

Facility Type	Region	Total Regional Trips per Day	VMT (miles)	Per Capita VMT (miles/capita)
Collection				
PRO Depots	Bay Area	80,910	1,157,013	0.15
	Coastal	19,483	278,607	0.15
	Mountain	6,172	88,260	0.15
	Southern	232,380	3,323,034	0.15
	Valley	158,594	2,267,894	0.15
Sortation				
MRFs	Bay Area	838	11,983	0.0016
	Coastal	200	2,860	0.0016
	Mountain	424	6,063	0.0104
	Southern	540	7,722	0.0004
	Valley	838	11,983	0.0016
Compost	Bay Area	150	2,145	0.0003
	Coastal	150	2,145	0.0012
	Mountain	150	2,145	0.0037
	Southern	150	2,145	0.0001
	Valley	150	2,145	0.0003
Processing				

Facility Type	Region	Total Regional Trips per Day	VMT (miles)	Per Capita VMT (miles/capita)
Material Processing Facilities	Bay Area	15	131,617	0.02
	Coastal	17.5	32,061	0.02
	Mountain	15	10,124	0.02
	Southern	29.4	377,978	0.02
	Valley	20	129,930	0.02
TOTAL AT BUILDOUT	Bay Area	82,016	1,302,759	0.17
	Coastal	19,951	315,673	0.17
	Mountain	6,864	106,592	0.18
	Southern	233,188	3,710,879	0.17
	Valley	159,700	2,411,952	0.32

It is important to note that not all of the projected trips would be considered “new” trips as some of these trips may carry materials that would have otherwise been destined for landfills. The associated net change in VMT would be relative to the change in distance of the trips diverted from the landfill to the new collection, sortation, or processing facility. Note also, that the estimates provided in Table 3.20-4 conservatively include expansion of facility capacity required in response to population growth trends that would occur without implementation of the Program.

3.20.3.3 Proposed Program

3.20.3.3.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Compliance with the source reduction and refill/reuse requirements of the Implementation Regulations are expected to lead to a reduction in plastic covered materials, a transition to alternative materials proportional with the reduction in plastic covered materials, and a shift to refillable and reusable options. These types of foreseeable means of compliance with the Implementing Regulations would not generate a demand for transit, bicycle, or pedestrian facilities. Therefore, the source reduction requirements including an increase in refillable/reusable products would not directly create any conflicts with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, the source reduction requirements, including a transition to refillable and reuse options would have **no impact** with respect to the potential to conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Impact Criterion b) Would the Program conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Source reduction and refill/reuse measures may result in an increase in VMT, primarily related to a transition to potentially heavier/bulkier materials and return logistics because of an increase in take-back programs. Accordingly, the evaluation of transportation impacts associated with implementation of source reduction measures provided below focuses on the associated change in consumption, disposal, and associated vehicle trips. At this time, the number of additional vehicle trips and their ultimate destination associated with refillable/reusable products is unknown but could range from negligible if return logistics (i.e., moving products back from the consumer to the retailer, restaurant, manufacturer, etc. for reuse) is at locations the consumer would travel to in any case, such as at the point of sale, to a relatively minor increase as discussed in detail below.

Source Reduction

The Implementing Regulations would result in a shift in materials from those currently disposed of as waste to those made of recyclable or compostable materials. Additional solid waste service truck trips are not expected under these scenarios since refuse trucks are already coming to pick up the three bins (i.e., refuse or trash bin, recyclable bin, and compost bin) and the change would be the quantity of material in each bin. Similarly, where curbside pickup is not available, such as in rural areas, additional trips to transport waste and recyclables to local drop-off centers or waste collection stations are not expected since residents would already be transporting waste and recyclables in personal vehicles and the change would be in the distribution of types of materials rather than an increase in materials. Compliance with the Implementing Regulations would also lead to product replacement behavior (e.g., alternative materials used for single-use plastic food service ware and single-use packaging) which may result in changes to truck trips associated with distribution of these materials (e.g., paper single-use food service ware in place of plastic single-use food service ware). The type of materials used for single-use packaging is not anticipated to affect consumer purchase or transport behavior from the retailer to the consumer.

A transition to alternative materials because of compliance with the Implementing Regulations could result in an increase in the weight and volume of products, potentially requiring more shipment trips throughout the distribution system and higher mobile source emissions. The shifts or split in composition between alternative products due to compliance with the Implementing Regulations may vary annually, influenced by factors such as price changes, product availability, and new products entering the market. For a comparative analysis of transportation needs for alternative packaging materials, this analysis considers half-gallon dairy packaging as an example with the bounding-level analysis (i.e., reasonable worst case) inclusive of transport of empty containers to the filler, filled products from filler to retailer, transport of filled products from retailer to consumer, and transport of empty/consumed products to drop-off locations, MRFs, or landfills. Most single-serving dairy bottles and jugs are manufactured off-site (i.e., at packaging manufacturing facilities located in California, out of state, or abroad) and shipped to the filler.

The transport requirements for empty plastic HDPE dairy jugs compared to alternative materials is provided herein for a comparative analysis of the relative change in transport logistic trips that may occur in response to the Implementing Regulations. Glass dairy jugs are the heaviest container option and are compared herein with the popular HDPE half-gallon milk jug. One popular supplier in the U.S. reports a weight of 2.09 lbs. for a 64-ounce glass jug with a pallet of 810 pieces (90 jugs per layer, stacked nine layers high), weighing 1,787 lbs. and dimensions of 40 inches x 48 inches x 97 inches, for a full truck load quantity of 21 pallets (i.e., 17,010 jugs and

total shipping weight of 37,527 lbs.) (Royal Summit 2024). In comparison, a 64-ounce HDPE milk jug weighs approximately 0.14 lbs. with a pallet of 1,080 bottles weighing approximately 160 lbs. and dimensions of 40 inches x 48 inches x 94 inches, for a full truck load quantity of 21 pallets (i.e., 22,680 bottles and total shipping weight of 3,360 lbs.) (Berlin Packaging 2024). Given these relative shipment capacities, approximately 1.3 times more truck trips would be required to ship empty 64-ounce glass milk jugs to the filler compared with 64-ounce plastic milk jugs. The assessment of transportation requirements for shipping filled milk jugs from fillers to retailers considers the relative weight and volume of replacement bottling materials and density of the liquid. Milk is a dense product, and thus the shipment of bottled milk by truck is weight limited, rather than volume limited. To compare the shipping requirements for 64-ounce bottled milk in glass jugs versus plastic jugs, this analysis assumes a maximum weight capacity of 48,000 pounds for a standard 53-foot truck and divides by the weight of milk (4.3 lbs. per 64-ounces) plus the weight of the bottle (i.e., 0.14 lbs. for a 64-ounce HDPE plastic bottle versus 2.09 lbs. for a 64-ounce glass bottle; Royal Summit 2024, Berlin Packaging 2024). Disregarding any limitations on individual pallet dimensions, approximately 1.4 more truck trips would be required to ship 64-ounce filled half-gallon milk jugs compared with filled plastic half-gallon milk jugs. Note that dairy plants often produce HDPE milk jugs onsite using HDPE resin. Food grade HDPE resin is often shipped to California from top U.S. producers of pre-production HDPE resin (i.e., plastic pellets) located in Texas and the East Coast (Public Interest Research Group 2024). Milk is often also packaged in PET bottles which are often shipped as “preforms” to the filler and blown (inflated) onsite. In this scenario, the location of the preform manufacturer is of importance. Specifically, the U.S. is a top importer of PET preforms, primarily from India, Turkey, and/or China (The Trade Vision 2024), suggesting that PET preforms may be sourced overseas more often than U.S.-based PET preform manufacturers. Thus, the shipping requirements for PET preforms may include shipment from overseas manufacturers to the U.S. In contrast, the U.S. dominates the market for glass bottles (Chaudhary 2024), suggesting that these bottles are predominantly produced and distributed within the U.S. Therefore, to make a direct comparison of transport requirements between single-use plastic and glass bottles, this analysis limits the boundary of the analysis to the shipment of formed empty plastic milk bottles from domestic manufacturer to the filling facility.

In contrast to glass milk jugs, the number of trips required to transport alternative containers to the filler are assumed to be less than or comparable to trips required for plastic milk jugs. This is attributable to the relative low density of empty containers, leading to volume-limited shipments (i.e., the volume capacity of a vehicle is filled before the maximum weight limit of the vehicle is reached). More collapsible containers, like cartons or pouches, can be shipped in a single truck load as compared to empty plastic bottles or PET preforms that take up much more cargo space.

Numerous factors contribute to total VMT including trip length and percentage of backhaul trips (i.e., full return loads) versus empty return loads. As an example, the USDA reports that in 2023, roughly 3,0144 million gallons of fluid milk were sold in California (USDA 2023). Based on data provided by the CDFA (2005), approximately 15.08% of fluid milk is sold in half-gallon sized containers, equating to approximately 7,819 million half-gallon jugs of milk sold. The CDFA (2005) also reports that approximately 82.28% of fluid milk products sold were packaged in plastic containers (as compared to 0.06% packaged in glass containers). For this comparative analysis, if roughly 25% of milk in half-gallon containers currently packaged in plastic containers were switched to glass as a result of compliance with the Implementing Regulations, approximately 1,608 million additional glass half-gallon milk jugs would be introduced to the market in place of plastic half-gallon milk jugs annually. Using the maximum weight capacity of 48,000 lbs. per truckload and total weight of filled 64-ounce HDPE milk jugs of 4.44 lbs., the total number of truck trips to transport 1,608 million half-gallon filled

HDPE milk jugs would be roughly 148,769 trips per year (using several assumptions that disregard loading logistics and percentage of loads that are not dedicated to milk deliveries). Accordingly, using the ratio of 1.4 times more trips to ship filled half-gallon milk jugs as compared to milk shipped in HDPE jugs calculated above, replacing 25% of HDPE milk jugs with glass milk jugs would result in an estimated 214,107 trips per year, equating to approximately 65,338 additional trips annually. Further, assuming all trips are 100 miles, the increase in trips associated with a transition to glass milk jugs would represent 6,533,783 additional miles per year (17,901 miles per day) or 0.0002 miles per day per capita (using California population projection for 2032 of 39,626,155 [California Department of Finance, Demographic Research Unit 2022]; $6,533,783 \text{ miles/year} \div 365 \text{ days/year} = 17,901 \text{ miles/day} \div 39,626,155 \text{ 2032 California Population} = 0.0004 \text{ miles per capita per day}$). This is a reasonable worst-case analysis assuming replacement with glass milk bottles, the most impactful of the alternative packaging material. Actual impacts are expected to be less as other alternative materials are considered.

Specifically, the source reduction requirements of the Implementing Regulations include consideration of a transition to refillable and reusable options. CalRecycle estimates the total weight of covered material under the 2021 baseline conditions at 11,325,953 tons, with the estimated weight of new packaging under the 2031 scenario at 11,654,774 tons (inclusive of material switching and source reduction estimates) (CalRecycle 2024b). Using various broad assumptions and assuming a truck capacity of 48,000 lbs. while disregarding the density of packaged materials that are being transported, packaging dimensions, volume capacity limitations of truckloads, the increase in the weight of covered material could result in roughly a 3% increase in truck trips associated with transport logistics. As discussed above in Section 3.20.3.2 (Methodology), it is not possible to estimate VMT associated with the changes in covered material distribution at full implementation of the proposed regulations in 2031. However, a reasonably foreseeable means of compliance with the recycling rate requirements of the Implementing Regulations is the development of local markets for recycled covered materials, which would encourage the establishment of more local collection, sortation, and processing facilities and reduce the need to transport raw materials over long distances. Further, higher recycling rates lead to less waste going to landfills, which can decrease the frequency and number of waste collection trips and associated VMT. As such, the relatively minor increase in truck trips that may occur as a result of the transition to alternative materials would be offset by a reduction in trips to landfills, shortened supply chains, and decreased demand for transporting raw materials to manufacturing sites. Thus, no net change in VMT is expected to occur due to the reasonably foreseeable means of compliance with the source reduction requirements of the Implementing Regulations and impacts would be ***less than significant***.

Refill/Reuse

The Implementing Regulations require that 10% of source reduction requirements be met by either switching to reusable or refillable packaging or food service ware or through elimination of a plastic component. A transition to reusable products may result in additional trips as a result of return logistics associated with reuse and take-back programs. At this time, the number of additional vehicle trips and their ultimate destination is unknown but could range from negligible (if return logistics is at locations the consumer would travel to in any case) to a relatively minor increase. Reusable food service ware programs would be operated either by individual restaurants, where customers return the used containers back to the same restaurant, or as a collective with collection points located at restaurants and cafés or various common destinations for takeaway food, such as hotels and offices, enabling consumers to drop off their reusables while carrying out other errands. In collective reusable food service ware schemes, food service ware is standardized and system service providers collect items, clean them, and redistribute them back to restaurants and cafés. Cleaning the

packaging at the café or restaurant where a customer may frequent rather than a centralized cleaning model generates fewer trips as compared with a centralized cleaning model delivered by system service providers. It should be noted that a transition to reusable food service ware may also encourage customers to bring in their own containers for to-go orders, which would also reduce trips as compared with reusable food service ware provided by the restaurant.

With respect to customer behavior associated with reusable food service ware, there may be no additional trips generated if customers return the food service ware to the same restaurant on their next visit or while carrying out other errands. Alternatively, customers may make a trip solely to return the containers, resulting in additional VMT as compared with single-use to-go food service ware. The relative increase in VMT associated with extra trips would be highly dependent on the roundtrip distance and percentage of customers that make a dedicated trip to return the containers. As an example, assuming 5% of customers make a special trip to return food service ware, the additional VMT would be 500 miles for every 10,000 to-go meals for a 5-mile roundtrip compared to 10,000 miles for a 10-mile roundtrip assuming 10% of customers make a special trip.

Similarly, a transition to reusable and refillable packaging in response to the Implementing Regulations would lead to replacement behavior including a transition to refillable/reusable beverage container materials including aluminum, glass, and/or other more durable materials that can be reused and refilled multiple times. In addition, the Implementing Regulations would encourage reuse and refilling of products in the provided refillable containers at consumer goods retailers such as supermarkets. This analysis assumes that the materials used for these reusable and refillable containers would not be significantly different from the containers that are currently used for these products but could be refilled at the retailer via bulk dispensing stations rather than disposed after a single use. Therefore, this policy is not likely to alter the shipping requirements from the manufacturer or distribution to the retailer except that the product would be shipped in bulk containers to the retailer, rather than individually packaged products. Under this scenario, consumers are assumed to continue to either purchase products in the reusable containers or participate in product refill programs. Under the refill scenario, consumer trips to the retailer are not anticipated to change as it is reasonably foreseeable that consumers would return with the empty containers to be refilled at the same retailer that they would have otherwise purchased single-use packaged items.

Product refill programs, such as take-back programs where customers return empty containers for refilling, typically include incentives like deposit return schemes to encourage participation. Once returned, retailers store these containers until they are collected by local or partnered transport companies. The containers are then delivered to a refill plant where they are sorted, washed, refilled, and sent to distribution centers or retailers. For refillable beverage bottle schemes, beverage companies report that refillable glass bottles can be used up to 50 times and refillable PET bottles up to 20 times before they are retired and recycled (Schroerer et al. 2020). An increase in product refill programs would likely lead to a reduction in materials placed in trash or refuse bins and potentially an increase in materials placed in compost or recyclable bins and would not result in a change in solid waste service truck trips. Consumer travel behavior is also expected to remain unchanged, as they would return refillable packaging and containers to retailers or collection facilities similar to how they currently redeem single-use bottles for CRV. Overall, transitioning to refillable packaging and containers is not expected to increase VMT. Specifically, reusable and refillable schemes may result in a reduction in truck trips and VMT through several key mechanisms:

- Reuse of materials may reduce the need for transporting raw materials and finished goods. Since materials are more often repurposed regionally or locally, the need for truck trips to transport these materials over long distances is minimized.
- Reuse and refill schemes encourage local production and consumption of goods, which reduced the need for long-distance transportation. By shortening supply chains and promoting the use of local resources, fewer trucks are needed to transport goods over long distances, leading to a reduction in truck trips.
- Reusable food service ware and refillable/reusable packaging is designed for durability and reuse, reducing the frequency with which they need to be purchased and replaced by vendors as compared to single-use items. As a result, there is less demand for the transportation of single-use products, which decreases the number of truck trips required for delivery.
- Although return logistics associated with take-back programs involve transportation, these programs can often be optimized to consolidate loads and reduce the overall number of truck trips compared to a traditional linear economy.
- By reducing waste of single-use products through source reduction and refill/reuse schemes, a circular economy can reduce the number of truck trips needed for waste disposal. Fewer trips to landfills and recycling centers are necessary when waste is minimized at the source.
- Circular economy principles encourage companies to streamline their supply chains, making them more efficient and reducing unnecessary transportation. This can include consolidating shipments, optimizing delivery routes, and improving inventory management, all of which contribute to fewer truck trips.

Accordingly, any potential increase in VMT associated with the customers making extra trips in order to participate in take-back programs is not expected to result in an increase in VMT due to offsets in transportation requirements associated with source reduction and transitioning to a circular economy. As such, refill/reuse measures is not expected to result in a net change in VMT and impacts would be **less than significant**.

Impact Criterion c) Would the Program substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Compliance with the source reduction and refill/reuse requirements of the Implementing Regulations would not introduce any transportation-related design elements or incompatible uses that would increase transportation-related hazards. As such, there would be **no impact** on hazards or incompatible uses.

Impact Criterion d) Would the Program result in inadequate emergency access?

Compliance with the Implementing Regulations would not result in any changes to existing roads, obstructions, or otherwise affect emergency access. Therefore, the source reduction and refill/reuse requirements of the Implementing Regulations would have **no impact** on emergency access.

3.20.3.3.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

CONSTRUCTION

Construction of collection, sortation, and processing facilities would temporarily increase vehicular traffic along roadways used to access facility sites. Construction-related traffic would include heavy-vehicle trips to haul equipment and materials, and trips associated with the workers commuting to and from the treatment areas. The number of haul trips and workers trips to and from facility sites would vary based on the size and type of facility, and duration of construction activities. As summarized in Table 3.20-3, construction trip generation would range from 0.13 to 50 trips/day, depending on the facility type and construction phase. As such, construction-related daily trips for building an MRF in any urban area of California are not expected to exceed the screening threshold of 110 trips per day recommended in the *Technical Advisory for Evaluating Transportation Impacts Under CEQA* (California Office of Planning and Research 2018). However, if the timing of those trips occurred during peak hours, they could contribute to localized congestion within designated congested roadway segments, potentially conflicting with policies aimed at maintaining efficient traffic flow. In addition, it is possible that construction activities for an individual project could require intermittent closures of roadways, sidewalks, or paths that could impede vehicle, pedestrian, and bicycle circulation and/or conflict with a program, plan, ordinance, or policy addressing the circulation system. These impacts would be potentially significant. **MM TR-1** would require the preparation and implementation of a project-specific Construction Transportation Management Plan once a project has been proposed at a specific location to identify the location and timing of temporary closures and detours with the goal of maintaining traffic flow, especially during peak hours, in order to minimize potential impacts. Implementation of **MM TR-2** would further minimize impacts to circulation by limiting lane closures to off-peak hours to reduce traffic delays as well as requiring access to schools, residential areas, and business be maintained. To avoid conflicts between construction activities and pedestrians and bicyclists, **MM TR-3** requires advanced notice of detours and/or safe areas along the construction zone when construction results in temporary closures of sidewalks, other pedestrian facilities, and bike/paths routes. In addition, implementation of **MM TR-4** would reduce impacts to emergency services by providing advanced notification of proposed lane closures to emergency personnel.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce transportation impacts. Mitigation measures to reduce potential transportation impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential transportation impacts, implementation of **MM TR-1**, **MM TR-2**, **MM TR-3**, and **MM TR-4** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM TR-1**, **MM TR-2**, **MM TR-3**, and **MM TR-4**, construction activities may result in significant transportation impacts. Therefore, this PEIR discloses, for CEQA purposes, that the construction-related transportation impacts are considered potentially *significant and unavoidable*.

OPERATION

As detailed in Section 3.2.2 (Collection, Sortation, and Processing: Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved), the Implementing Regulations would lead to a shift in transportation requirements for the different collection streams, including comingled, source-separate

materials, garbage, PRO Depots, transfer to MRF, and sorted materials to processing or disposal. As shown in Table 3.20-4, the anticipated full buildout of collection, sortation, and processing infrastructure by 2032 would result in an estimated increase truck traffic. Locally, operation of collection, sortation, and processing facilities would generate ongoing additional vehicle activity and individual facilities may exceed the screening threshold of 110 trips per day recommended in the *Technical Advisory for Evaluating Transportation Impacts Under CEQA* (California Office of Planning and Research 2018). This could lead to congestion on local roadways, particularly during peak hours, potentially conflicting with policies aimed at maintaining efficient traffic flow. The number of trips compared to current volumes would largely depend on the facility's location, the surrounding road network, and the facility size. Further, increased heavy vehicle traffic may pose safety concerns for cyclists and pedestrians, particularly if a facility is located near bike lanes or pedestrian pathways, which may result in a conflict with local policies and plans aimed at ensuring safe and accessible transportation options for non-motorized users. As such, operation of future collection, sortation, and processing facilities may result in potentially significant impacts. **MM TR-5** would require the development of a traffic report customized to the specific project once a facility is proposed at a designated site. This analysis would examine current traffic conditions and use project-specific data to assess the operational impacts on the existing circulation and transportation systems. Should the analysis indicate that the proposed activities are likely to exceed set thresholds, appropriate mitigation measures must be put in place to minimize the impacts. However, depending on the project's location and the number of vehicle trips generated during operations, there may be instances where mitigation measures, such as adjusting truck schedules to avoid peak hours or promoting carpooling, vanpooling, or alternative transportation, might not be sufficient to reduce transportation impacts below the applicable threshold or could prove infeasible.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts on a local circulation system, including transit, roadway, bicycle and pedestrian facilities. Mitigation measures to reduce potential impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential transportation impacts, implementation of **MM TR-5** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts related to potential conflicts with local or regional program plans, ordinances or policies addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Additionally, there is uncertainty in predicting the location of new facilities. Thus, recognizing uncertainty in future predictions, to meet CEQA's mandate of good-faith disclosure and to not risk understating potential future impacts in light of the uncertainties, this PEIR discloses, for CEQA purposes, that this impact is potentially **significant and unavoidable**.

Impact Criterion b) Would the Program conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

CONSTRUCTION

As detailed in Section 3.20.3.2.1 (Construction), conservatively accounting for all new project construction-related vehicle activity, construction of a new facility could temporarily result in a maximum increase of 50

trips per day. The estimated maximum daily vehicle trip count for each new facility is below the screening threshold of 110 trips per day recommended in the *Technical Advisory for Evaluating Transportation Impacts Under CEQA* (California Office of Planning and Research 2018). Per the guidance, projects that generate fewer than 110 trips per day generally may be assumed to cause a less-than-significant impact relative to VMT. As such, the temporary increase in VMT associated with construction of collection, sortation, and processing facilities is not expected to conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and impacts would be *less than significant*.

OPERATION

The buildout of collection, sortation, and processing infrastructure may result in an increase in VMT, primarily due to new or additional trips and/or material transport routes. In general, vehicular travel associated with the foreseeable development of collection, sortation, and processing facilities is related to changes in the way that covered materials are processed. The distance required to accommodate new trips is related to the location of facilities that would receive and process covered materials as well as location of where processed materials are ultimately distributed.

As detailed in Section 3.2.2 (Collection, Sortation, and Processing: Foreseeable Methods by which Compliance with the Rule or Regulation will be Achieved), the Implementing Regulations would lead to a shift in transportation requirements for the different collection streams, including comingled, source-separate materials, garbage, PRO Depots, transfer to MRF, and sorted materials to processing or disposal. As shown in Table 3.20-4, total regional VMT associated with the anticipated full buildout of collection, sortation, and processing infrastructure by 2031 would result in an estimated increase of VMT in each region ranging from 106,592 miles/day to 3,710,879 miles/day. The total estimated per capita daily VMT ranges from 0.17 to 0.32 miles/day per capita. It is important to note that not all of the projected trips would be considered “new” trips as some of these trips may carry materials that would have otherwise been destined for landfills. The associated net change in VMT would be relative to the change in distance of the trips diverted from the landfill to the new collection, sortation, or processing facility.

Overall, the Implementing Regulations would lead to an increase in truck traffic due to new or additional trips and/or material transport routes. However, since the costs of transporting materials rise significantly with distance—such as fuel expenses, fleet maintenance, and staffing—haulers are motivated to limit the number and length of trips, regardless of the type of material being transported. Although VMT may increase relative to the buildout of collection, sortation, and processing infrastructure, it is important to understand the purpose of evaluating VMT. According to *Technical Advisory for Evaluating Transportation Impacts Under CEQA* (California Office of Planning and Research 2018), the VMT metric is intended to support statutory goals related to reducing GHG emissions, promoting the development of multimodal transportation networks, and encouraging diverse land uses. It's crucial to recognize that SB 743 is not specifically aimed at addressing public services activities, such as the plastic reduction goals outlined in the Implementing Regulation. Therefore, while there may be a slight increase in mobile source emissions (including air pollutants and GHG emissions) due to higher VMT, these emissions would be minimal compared to the significant benefits of reducing waste disposed of in landfills and development of a circular economy.

In summary, the Implementing Regulations would likely result in an increase in VMT relative to the buildout of collection, sortation, and processing infrastructure. Additionally, there is uncertainty in predicting the location of new processing facilities and the locations where rescued food and finished compost and other byproducts of organic waste recovery facilities would be distributed. Thus, recognizing uncertainty in future predictions, to

meet CEQA's mandate of good-faith disclosure and to not risk understating potential future impacts in light of the uncertainties, this impact is classified as potentially significant. Potential mitigation measures that can reduce VMT include actions such as improved alternate transportation facilities, land use planning, and disincentives to driving (e.g., roadway pricing, limited parking availability). These would likely be applied during Project-specific CEQA review.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that are subject to local land use authorities, including those related to the siting of collection, sortation, and processing facilities are subject to local jurisdictions. The locations where facilities would be location contingent on various influences outside of CalRecycle's control, including local land uses and economics. Other mitigation measures, such as providing improved alternative transportation facilities and establishing disincentives to driving, would not have sufficient nexus with the impact or offer rough proportionality to the impact to be considered feasible mitigation (*Dolan v. City of Tigard*, 512 U.S. 374 [1994]; *Nollan v. California Coastal Commission*, 483 U.S. 825 [1987]). Therefore, no feasible mitigation is available. Thus, recognizing uncertainty in future predictions, to meet CEQA's mandate of good-faith disclosure and to not risk understating potential future impacts in light of the uncertainties, this PEIR discloses, for CEQA purposes, that this impact is potentially **significant and unavoidable**.

Impact Criterion c) Would the Program substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

CONSTRUCTION AND OPERATION

The construction and operation of new or expanded collection, sortation, and processing facilities in response to the Implementing Regulations may necessitate the creation of new internal access roads, driveways for vehicle ingress and egress, or minor alterations to existing roadways, such as striping. Potential circulation improvements, including roadway enhancements or modifications that might be identified during the review of individual facilities, remain uncertain at this time. Accordingly, future development under the Implementing Regulations could potentially increase hazards due to hazardous design features associated with access points and driveways. Local and regional agencies have control over the physical development of land within their jurisdictions through the enforcement of adopted land use regulations and policies outlined in general plans, zoning ordinances, and other relevant regulatory standards. Consequently, future facilities would be subject to the discretionary review process of local jurisdictions. This process requires that each proposed facility align with applicable plans, policies, and regulations to ensure that development is designed according to safety standards and is compatible with existing uses. Regular enforcement of these adopted regulations by the appropriate jurisdictions would ensure that future facilities do not increase hazards or result in incompatible uses. However, given the uncertainties associated with the location of future facilities and the unknown limitation of the supporting roadway network, construction and/or operation of collection, sortation, and processing facilities could result in temporary roadway obstructions and/or degradation of traffic operations at intersections and roadway segments, resulting in potentially significant impacts. If construction-related traffic would result in obstructions, hazards, or delays exceeding applicable jurisdictional standards along access routes for individual project sites, implementation of **MM TR-1** would require that a Construction Transportation Management Plan be prepared prior to initiating construction activities. The Construction Transportation Management Plan would include measures to ensure safe access through the project area and avoidance of incompatible uses during construction activities. Further, **MM TR-5** would require the

development of a traffic report customized to the specific project once a facility is proposed at a designated site. This analysis will examine project-specific data to assess the operational impacts relative to potential hazards. Should the analysis indicate that the proposed activities are likely to exceed set thresholds, appropriate mitigation measures must be put in place to minimize the impacts. Further, although it is unknown whether any geometric design hazards at a particular site would need to be remediated, or whether design of specific access points may require modifications to existing roadway geometries all access points and any roadway modifications would be required to be designed according to the local agency's design guidelines in which they are located. Accordingly, a planned project would be subject to, and designed in accordance with, the relevant local agency and/or the County standards and specifications that address potential design hazards including sight distance, driveway placement and access, and signage and striping.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts related to hazards and incompatible design. Mitigation measures to reduce potential impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential hazards and incompatible design impacts, implementation of **MM TR-1** and **MM TR-5** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM TR-1** and **MM TR-5**, construction and operation activities may result in significant impacts related to hazards and incompatible design. Therefore, this PEIR discloses, for CEQA purposes, that the construction- and operations-related impacts are potentially **significant and unavoidable**.

Impact Criterion d) Would the Program result in inadequate emergency access?

CONSTRUCTION AND OPERATION

The construction and operation of new or expanded facilities under the Implementing Regulations could potentially impact emergency access if not properly managed. Depending on their location, these facilities and/or activities related to construction and operations might obstruct on-site emergency access or disrupt the flow of emergency vehicles on nearby roads. However, **MM TR-1** would require the preparation and implementation of a project-specific Construction Transportation Management Plan once a project has been proposed at a specific location that will identify the location and timing of temporary closures and detours with the goal of maintaining traffic flow and access, especially during peak hours. In addition, implementation of **MM TR-4** would reduce impacts to emergency services by providing advanced notification of proposed lane closures to emergency personnel. Further, **MM TR-5** would require the development of a traffic report customized to the specific project once a facility is proposed at a designated site. This analysis would examine project-specific data to assess the operational impacts relative to emergency access. Should the analysis indicate that the proposed activities are likely to exceed set thresholds, appropriate mitigation measures must be put in place to minimize the impacts. Local and regional agencies hold the authority to oversee land development within their jurisdictions through the enforcement of land use regulations and policies detailed in general plans, zoning ordinances, and other relevant standards. As a result, any future facilities would be required to undergo the discretionary review process of the local jurisdiction, ensuring that each proposed

development aligns with applicable plans, policies, and regulations designed to provide adequate emergency access. Further, these developments must comply with local emergency plans to ensure that emergency response activities, such as the deployment of emergency vehicles, are not hindered.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts related to emergency access. Mitigation measures to reduce potential impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential impacts related to emergency access, implementation of **MM TR-1**, **MM TR-4**, and **MM TR-5** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM TR-1**, **MM TR-4**, and **MM TR-5**, construction and operation activities may result in significant impacts related to emergency access. Therefore, this PEIR discloses, for CEQA purposes, that the construction- and operations-related impacts are potentially *significant and unavoidable*.

MITIGATION MEASURE(S)

MM TR-1: Construction Transportation Management Plan. Agencies with project approval authority can and should require the project proponent prepare and implement a Construction Transportation Management Plan that include the following provisions:

- Implementation of standard safety practices, including installation of appropriate barriers between work zones and transportation facilities, placement of appropriate signage, and use of traffic control devices.
- Use of flaggers and/or signage to guide vehicles through or around construction zones using proper techniques for constructing activities including staging area entrance and exit.
- Alternate traffic routes and the use of construction personnel carpools or shuttles to avoid roads that are operating at a Level of Service D or lower.
- Traffic detours for any road or land closures with appropriate signage marking the detours.
- Timing of worker commutes and material deliveries to avoid peak commuting hours.
- Timing of land and road closures.
- Plans for construction worker parking and transportation to work sites.
- Methods for keeping roadways clean.
- Storage of all equipment and materials in designated work areas in a manner that minimizes traffic obstructions and maximizes sign visibility.
- Routing of trucks to avoid minor roads, where possible to reduce congestion and potential asphalt damage.
- Repair asphalt and other road damage (e.g., curb and gutter damage, rutting in unpaved roads) caused by construction vehicles.

- Detours for cyclists and pedestrians when bike lanes or sidewalks must be closed.
- Maintain emergency ingress and egress to access roads at all times.

MM TR-2: Restrict Lane Closures and Maintain Access. Agencies with project approval authority can and should require the project proponent to restrict all necessary lane closures or obstructions associated with construction activities to off-peak periods to reduce traffic delays. Lane closures shall not occur between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., unless otherwise authorized by the responsible public agency with jurisdiction over the affected street or highway through the issuance of an encroachment permit. The project proponent or its construction contractors shall coordinate with schools prior to construction within 1,000 feet of school property to ensure entryways to schools are not blocked during peak drop-off and pick-up hours. Underground work areas within intersections or traffic lanes shall be adequately covered with steel plating prior to 3:30 p.m. to allow uninterrupted traffic flow during peak traffic periods. All residents within 300 feet of a proposed temporary lane or road closure shall be notified within at least 7 days prior to a temporary lane or road closure. The project proponent or its construction contractors shall maintain travel through intersections at all times during construction. The project proponent or its construction contractors shall provide the ability to quickly lay a temporary steel plate trench bridge upon request in order to ensure driveway access to schools, businesses, and residences and shall provide continuous access to properties when not actively performing construction activities. In the event of a nearby fire or other emergency, steel plating shall be placed over underground work areas and construction equipment shall be removed from the partially or fully closed roadways, as needed, to permit uninterrupted traffic flow.

MM TR-3: Closure Notification and Detours. Where construction results in temporary closures of sidewalks and other pedestrian facilities, agencies with project approval authority can and should require the project proponent provide temporary pedestrian access, through detours or safe areas along the construction zone. Where construction activity results in bike route or bike path closures, appropriate detours shall be defined. Signs shall be placed along the closed bike path a minimum of seven days prior to bike path closure notifying bicyclists of the proposed construction activities and duration of bike path closure. Notifications posted along the bike path shall include the location of detours and alternate routes to avoid conflicts with the construction area.

MM TR-4: Notify Emergency Personnel of Road Closures. Agencies with project approval authority can and should require the project proponent to notify local emergency personnel (i.e., fire departments, police departments, ambulance, and paramedic services) at least seven days prior to lane or road closures. The notice shall include location(s), date(s), time(s), and duration of closure(s), and a contact number for project personnel.

MM TR-5: Project-Specific Traffic Impact Report. Before any future facility receives approval, agencies with project approval authority can and should require a project-specific traffic impact report be prepared by a qualified traffic consultant. This report should meet the standards of the relevant local jurisdiction responsible for project approvals. The report should include current traffic data, significance thresholds, trip generation estimates related to both construction and operation, and an analysis of project-level and cumulative impacts including those related to hazards and emergency access. Additionally, the report must propose mitigation measures to minimize project- and cumulative-level impacts as much as possible. Potential mitigation measures may include improvements to roads and intersections, payment of traffic impact fees, scheduling collection trucks to avoid peak traffic hours, and promoting carpooling, vanpooling, or alternative transportation for employees through incentives.

3.21 Tribal Cultural Resources

This section describes at a programmatic level the tribal cultural resources of California; identifies applicable federal and state regulations; and evaluates potential impacts of the Program on tribal cultural resources.

Tribal Cultural Resources are defined in PRC Section 21074(a)(1)-(2) as follows:

- (a) “Tribal Cultural Resources” are either of the following:
 - (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
 - (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
 - (B) Included in a local register of historical resources as defined in Section 5020.1(k).
 - (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Section 5024.1(c). In applying the criteria set forth in Section 5024.1(c) for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.
- (b) A cultural landscape that meets the above criteria of Section 21084.1(a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- (c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in Section 21083.2(g), or a “non-unique archaeological resource” as defined in Section 21083.2(h) may also be a tribal cultural resource if it conforms with the criteria of Section 21084.1(a).

The Program’s potential impacts to non-tribal cultural resources are addressed in Section 3.8 (Cultural Resources). Potential impacts on tribal cultural resources are identified in Table 3.21-1 below.

Table 3.21-1. Summary of Cultural Resources Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: <ul style="list-style-type: none"> i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources 	No Impact	Potentially Significant and Unavoidable	MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.			

3.21.1 Existing Conditions

On May 21, 2024, CalRecycle submitted a request to the NAHC to provide contact information for Native American tribal organizations and individuals with traditional lands or cultural places located within the state of California. The NAHC responded on June 12, 2024, providing a list of 307 regional Native American contacts. On July 12, 2024, CalRecycle sent letters to each of the tribal representatives provided by the NAHC inquiring if they wished to consult on the Program under AB 52, if they had any knowledge of tribal cultural resources or values in the area, if they had any concerns with the Program, and asking for a response within 30 days, per PRC Section 21080.3.1(d) requirements.

The responses to the CalRecycle request for consultation under AB 52, as of the publication of this PEIR, are listed in Table 3.21-2. Six tribes requested consultation or additional information, and five tribes formally declined consultation or provided comment. No response was received from any of the other tribes contacted.

Table 3.21-2. AB 52 Tribal Consultation Responses

Tribal Organization	Date	Communication
Requests for Consultation or Additional Information		
North Fork Rancheria of Mono Indians, Lance Fink, Tribal Environmental Protection Agency (EPA) and Ashley Pomona, Tribal EPA administrative assistant	August 20, 2024	Tribe requested consultation, which was held on August 20, 2024. Tribe requested that in the mitigation measures, provisions be added to provide funding to the Tribe for monitors, or for repatriation. Language added to Mitigation Measure CUL-3. Language sent to Tribe, concluded consultation.
Yuhaaviatam of San Manuel Nation (formerly the San Manuel Band of Mission Indians); Kristen Tuosto, Tribal Archaeologist	July 29, 2024	Tribe requested consultation, which was held on August 16, 2024. Tribe requested that mitigation measures not require avoidance of archaeologically sensitive areas but allow for reburial or repatriation. Mitigation measures do not include this restriction. Language sent to Tribe, concluded the consultation.
Konkow Valley Band of Maidu	July 19, 2024	Tribe requested consultation, which was held on August 23, 2024. Tribe had questions about the program, including opportunities for new recycling facilities and the mitigation fund. No comments related to the mitigation measures or CEQA review. Letter sent to Tribe, concluded consultation.

Tribal Organization	Date	Communication
Morongo Band of Mission Indians; Laura Chatterton, Cultural Resource Specialist	August 15, 2024	Tribe noted that no construction is proposed at this time. They noted that when there is construction, they intend to request government to government consultation under AB 52 and to request information from the lead agency at that time.
Gabrielino Band of Mission Indians, Kizh Nation; Brandy Salas Admin Specialist	August 15, 2024	Tribe requested consultation, and later retracted request. Their concern is with ground disturbing activity from future facilities.
Mooretown Rancheria, Matthew Hatcher; THPO	July 31, 2024	Tribe requested consultation, but CalRecycle has been unable to contact the Tribe. Letter sent to Tribe.
No Request for Consultation / Additional Information Provided		
Chemehuevi Indian Tribe; Brian Kellywood, Chemehuevi EPA Director	July 18, 2024	Tribe requested further information. CalRecycle provided the additional information on July 18, 2024. No further consultation was requested.
Gabrielino Tongva Indians of California; Tribal Cultural Resource Administrator	July 18, 2024	Tribe noted that they had no comment.
Lytton Rancheria; Brenda Tongas	July 23, 2024	Tribe noted that they are not requesting further consultation.
Santa Ynez Band of Chumash Indians; Erica Arredondo, Cultural Resources Administrative Assistant	August 6, 2024	Tribe noted that no consultation was needed for this project.
Fernando Tatavium Band of Mission Indians; Sarah Brunzell, Manager, Cultural Preservation Department	August 13, 2024	Tribe noted that no consultation was needed for this project.
Augustine Band of Cahuilla Indians	July 18, 2024	Tribe does not have any comments to provide at this time.

Section 3.8 (Cultural Resources) of this PEIR contains a discussion of cultural resources in the State. With respect to tribal cultural resources, California pre-Spanish contact was the home to an estimated 300,000 inhabitants belonging to 500 village communities (called tribelets by anthropologists) and speaking 90 separate languages (Moratto 1984). This cultural diversity was a function of environmental diversity and complex social and economic relationships. The tribelets, governed by village chiefs, would congregate in larger, regional alliances for purposes of trading and ritual practices throughout many parts of California. This social integration resulted in up to several thousand Native Californians congregating together for rituals or trade (Moratto 1984).

Today, 104 tribes are federally recognized in California: West Central Region (26); Southern Region (31); Northern Region (19); and East Central Region (28) (Indian Health Services 2024). These tribes are listed in Table 3.21-3. Many more tribes have yet to be recognized by the U.S. Government, though they represent well-established cultural identities and ethnographic integrity. California has 111 such tribes that are also consulted.

Table 3.21-3. Federally Recognized Tribes in California

Western Central Region	Southern Region	Northern Region	East Central Region
Big Valley Band of Pomo Indians of the Big Valley Rancheria	Agua Caliente Band of Cahuilla Indians of the Agua Caliente Indian Reservation	Alturas Indian Rancheria	Berry Creek Rancheria of Maidu Indians of California
Cachil DeHe Band of Wintun Indians of the Colusa Indian Community of the Colusa Rancheria	Augustine Band of Cahuilla Indians	Bear River Band of the Rohnerville Rancheria	Big Pine Paiute Tribe of the Owens Valley
Cahto Tribe of the Laytonville Rancheria	Barona Band of Mission Indians	Big Lagoon Rancheria	Big Sandy Rancheria of Western Mono Indians of California
Cloverdale Rancheria of Pomo Indians of California	Cabazon Band of Mission Indians	Blue Lake Rancheria	Bishop Paiute Tribe
Coyote Valley Band of Pomo Indians of California	Cahuilla Band of Indians	Cedarville Rancheria	Bridgeport Indian Colony
Dry Creek Rancheria Band of Pomo Indians	Campo Band of Diegueno Mission Indians of the Campo Indian Reservation	Cher-Ae Heights Indian Community of the Trinidad Rancheria	Buena Vista Rancheria of Me-Wuk Indians of California
Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria	Ewiiapaayp Band of Kumeyaay Indians	Elk Valley Rancheria	California Valley Miwok Tribe
Federated Indians of Graton Rancheria	lipay Nation of Santa Ysabel	Fort Bidwell Indian Community of the Fort Bidwell Reservation of California	Chicken Ranch Rancheria of Me-Wuk Indians of California
Grindstone Indian Rancheria of Wintun-Wailaki Indians of California	Inaja Band of Diegueno Mission Indians of the Inaja and Cosmit Reservation	Greenville Rancheria	Cold Springs Rancheria of Mono Indians of California
Guidiville Rancheria of California	Jamul Indian Village of California	Hoopa Valley Tribe	Enterprise Rancheria of Maidu Indians of California
Habematolel Pomo of Upper Lake	La Jolla Band of Luiseno Indians	Karuk Tribe	Fort Independence Indian Community of Paiute Indians of the Fort Independence Reservation
Hopland Band of Pomo Indians	La Posta Band of Diegueno Mission Indians of the La Posta Indian Reservation	Pit River Tribe	Ione Band of Miwok Indians of California

Western Central Region	Southern Region	Northern Region	East Central Region
Kashia Band of Pomo Indians of the Stewarts Point Rancheria	Los Coyotes Band of Cahuilla and Cupeno Indians	Quartz Valley Indian Community of the Quartz Valley Reservation of California	Jackson Band of Miwuk Indians
Kletsel Dehe Band of Wintun Indians	Manzanita Band of Diegueno Mission Indians of the Manzanita Reservation	Redding Rancheria	Lone Pine Paiute-Shoshone Tribe
Koi Nation of Northern California	Mesa Grande Band of Diegueno Mission Indians of the Mesa Grande Reservation	Resighini Rancheria	Mechoopda Indian Tribe of Chico Rancheria
Lytton Rancheria of California	Morongo Band of Mission Indians	Susanville Indian Rancheria	Mooretown Rancheria of Maidu Indians of California
Manchester Band of Pomo Indians of the Manchester Rancheria	Pala Band of Mission Indians	Tolowa Dee-ni' Nation	North Fork Rancheria of Mono Indians of California
Middletown Rancheria of Pomo Indians of California	Pauma Band of Luiseno Mission Indians of the Pauma & Yuima Reservation	Wiyot Tribe	Picayune Rancheria of Chukchansi Indians of California
Paskenta Band of Nomlaki Indians of California	Pechanga Band of Luiseno Mission Indians of the Pechanga Reservation	Yurok Tribe of the Yurok Reservation	Santa Rosa Indian Community of the Santa Rosa Rancheria
Pinoleville Pomo Nation	Ramona Band of Cahuilla		Shingle Springs Band of Miwok Indians
Potter Valley Tribe	Rincon Band of Luiseno Mission Indians of the Rincon Reservation		Table Mountain Rancheria
Redwood Valley or Little River Band of Pomo Indians of the Redwood Valley Rancheria	San Manuel Band of Mission Indians		Tejon Indian Tribe
Robinson Rancheria	San Pasqual Band of Diegueno Mission Indians of California		Timbisha Shoshone Tribe
Round Valley Indian Tribes	Santa Rosa Band of Cahuilla Indians		Tule River Indian Tribe of the Tule River Reservation
Scotts Valley Band of Pomo Indians of California	Santa Ynez Band of Chumash Mission Indians of the Santa Ynez Reservation		Tuolumne Band of Me-Wuk Indians of the Tuolumne Rancheria of California

Western Central Region	Southern Region	Northern Region	East Central Region
Sherwood Valley Rancheria of Pomo Indians of California	Soboba Band of Luiseno Indians		United Auburn Indian Community of the Auburn Rancheria of California
Yocha Dehe Wintun Nation	Sycuan Band of Kumeyaay Nation		Utu Utu Gwaitu Paiute Tribe of the Benton Paiute Reservation
	Torres Martinez Desert Cahuilla Indians		Wilton Rancheria
	Twenty-Nine Palms Band of Mission Indians of California		
	Viejas Band of Kumeyaay Indians		

3.21.2 Regulatory Framework

3.21.2.1 Federal

Section 106 of the National Historic Preservation Act requires that every federal agency "take into account" how each of its undertakings could affect historic properties. Historic properties are districts, sites, buildings, structures, traditional cultural properties, and objects significant in American history, architecture, engineering, and culture that are eligible for inclusion in the NRHP (National Register). The federal protections are described in Section 3.8 (Cultural Resources).

3.21.2.2 State

3.21.2.2.1 Assembly Bill 52

AB 52 went into effect July 1, 2015, and requires lead agencies to consult with California Native American Tribes that have requested formal consultation on a project. Accordingly, PRC Sections 21080.3.1 and 21080.3.2 require the following:

“Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide for formal notification to the designated contact of, or a tribal representative of, traditionally affiliated California Native Tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American Tribe has 30 days to request consultation pursuant to this section.”

AB 52 was adopted to provide tribes with an ancestral connection to a project area the opportunity to provide information on the presence of potential tribal cultural resources. The purpose of the AB 52 consultations between the Tribes and CalRecycle is to: 1) collect information; 2) build a working relationship between CalRecycle and the Tribes; and 3) avoid inadvertent discoveries. Any information shared during these

consultations is considered privileged and confidential but is considered when conducting the resource analyses.

3.21.2.2.2 California Register of Historical Resources

The CRHR is “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1(a)). The criteria for eligibility for the CRHR are based on the criteria for listing on the National Register (PRC Section 5024.1(b)). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the National Register. To be eligible for the CRHR, a cultural resource must be significant at the federal, state, and/or local level under one or more of the following four criteria: (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; (2) Is associated with the lives of persons important in our past; (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; (4) Has yielded, or may be likely to yield, information important in prehistory or history. A resource eligible for the CRHR must be of sufficient age and retain enough of its historic character or appearance (integrity), to convey the reason for its significance. The CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing. The CRHR automatically includes the following resources:

- California properties listed in the National Register and those formally determined eligible for the National Register
- California Registered Historical Landmarks from No. 770 onward
- California Points of Historical Interest that have been evaluated by the California Office of Historic Preservation and have been recommended to the State Historical Commission for inclusion in the CRHR

The following other resources may be nominated to the CRHR:

- Historical resources with a significance rating of Category 3, 4, or 5 (properties identified as eligible for listing in the National Register, the CRHR, and/or a local jurisdiction register)
- Individual historic resources
- Historic resources contributing to historic districts

Historic resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

3.21.2.2.3 California Native American Historic Resource Protection Act

The California Native American Historic Resources Protection Act of 2002 imposes civil penalties, including imprisonment and fines up to \$50,000 per violation, on persons who unlawfully and maliciously excavate upon, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the CRHR.

3.21.3 Impacts Assessment

3.21.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts on tribal cultural resources if it would:

- a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
 - i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
 - ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

PRC Section 5024.1 identifies the following criteria to determine a cultural resource's eligibility for listing on the CRHR:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of an important creative individual or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

3.21.3.2 Proposed Program

3.21.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) (i) Would the Program cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

- i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*
- ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.*

The Implementing Regulations require that by 2032, plastic covered material sold, offered for sale, or distributed in the state must be source reduced by at least 25%, with 10% of the source reduction to be met either by switching to reusable or refillable options or through elimination of a plastic component. Reasonably foreseeable source reduction and refill/reuse measures would not directly result in ground-disturbing activities or new construction and therefore, they would have no potential to impact a site, feature, place, or cultural landscape listed or eligible for listing as defined in PRC Section 5020.1(k) or other features that may be considered by a lead agency. Therefore, the reasonably foreseeable means of compliance with the source reduction and refill/reuse requirements of the Implementing Regulations would have **no impact** on these tribal cultural resources.

3.21.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) (i) Would the Program cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

- i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or*
- ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.*

Construction of collection, sortation, and processing facilities and operations and maintenance of those facilities as a reasonably foreseeable means of compliance with the Implementing Regulations could involve ground disturbance, vibration, and other impacts to a site, feature, place, or cultural landscape either as defined in PRC Section 5020.1(k) or other features that may be considered by a lead agency to be a tribal cultural resource. Constructing these individual facilities also has the potential to introduce new visual elements or modify existing visual elements (e.g., buildings and structures). However, the exact details, including precise locations, of any such construction activities have yet to be determined. Accordingly, in the future, facilities may be proposed in areas with known or previously unrecognized features of tribal cultural significance or involving activities that would introduce new visual elements or disturb the existing terrain and have the potential to result in significant impacts to cultural landscapes. Similarly, new and expanded collection, sortation, and processing facilities could result in impacts to tribal cultural resources if construction activities disturb previously identified or unidentified features. Identification of the degree and extent of impact will require project-specific analysis that includes a determination of the importance (i.e., the eligibility for local, state, or CRHR or NRHP listing) of any tribal cultural resource recognized within the project site boundaries of a facility proposed in response to the Implementing Regulations.

No specific tribal cultural resource concerns were identified during CalRecycle's consultation with local tribal representatives in conjunction with this PEIR. Therefore, at this time of program review there are currently no specific issues regarding resources eligible for listing in the CRHR; in a local register of historical resources as defined in PRC Section 5020.1(k); or determined by a lead agency to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. However, such issues may be determined once specific sites and

designs for collection, sortation, and processing facilities are identified, and AB 52 consultation is conducted at that time.

Individual projects developed in response to the proposed Implementing Regulations would be required to prepare site-specific project-level analysis to fulfill CEQA requirements. That project-level review may include additional AB 52 consultation that could lead to the identification of affected tribal cultural resources. The consultation process required under PRC Section 21080.3.2 states that consultation concludes when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

Additionally, public agencies shall, when feasible, avoid damaging effects on any tribal cultural resource (PRC Section 21084.3(a)). If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, new provisions under PRC Section 21084.3(b) describe mitigation measures that, if determined by the lead agency to be feasible, may avoid or minimize the significant adverse impacts.

To avoid and minimize this potential impact to tribal cultural resources, **MM CUL-2** would require the evaluation of archaeological resources and implementation of mitigation measures to avoid or minimize impacts to archaeological resources. If archaeological resources are encountered during facility construction, implementation of **MM CUL-3** would ensure that encountered archaeological resources would be avoided, moved, recorded, or otherwise treated appropriately in accordance with pertinent laws and regulations. Tribal consultation conducted by CalRecycle under AB 52 identified a request that **MM CUL-3** include a provision to fund participation by tribal monitors, and for reburial or repatriation. This was added to **MM CUL-3**. Consultation also identified that **MM CUL-3** should not require avoidance but allow for reburial or repatriation. **MM CUL-3** does not include this restriction.

SIGNIFICANCE AFTER MITIGATION

CalRecycle and LEAs do not have authority to require implementation of mitigation measures that would reduce impacts to tribal cultural resources. Mitigation measures to reduce potential impacts can and should be implemented by local jurisdictions with land use authority. Site-specific, project impacts and mitigation would be identified during a project's local review process. A proposed project would be approved by a local government and potentially another permitting agency that can apply conditions of approval. To avoid and minimize potential impacts to tribal cultural resources, implementation of **MM CUL-2**, and **MM CUL-3** can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to **MM CUL-2**, and **MM CUL-3** may alter the significance of the resource. Therefore, this PEIR discloses, for CEQA purposes, that impacts may be potentially *significant and unavoidable*.

MITIGATION MEASURE(S)

MM CUL-2: Conduct Inventory and Significance Evaluation of Archaeological Resources. See Section 3.8 (Cultural Resources).

MM CUL-3: Implement Measures to Protect Archaeological Resources during Project Construction or Operation. See Section 3.8 (Cultural Resources).

3.22 Utilities and Service Systems

This section describes the existing utilities and service systems in California; highlights applicable federal and state regulations; and identifies the potential impacts of the Program on utilities and public services in the state. Table 3.22-1 summarizes impacts on utilities and service systems that could result from implementation of the Program.

Table 3.22-1. Summary of Utilities and Service Systems Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No Impact	Less than Significant	None
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact	Less than Significant	None
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No Impact	Less than Significant	None
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact	No Impact	None
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact	No Impact	None

3.22.1 Existing Conditions

3.22.1.1 Water Supply

California's water supply is a complex system that manages and distributes water across the state. California's water supply system includes rivers, reservoirs, aqueducts, and dams, that are designed to supply water to cities, farms, and ecosystems. The major water sources for most of California's water supply include snowmelt from the Sierra Nevada mountains, water imported from the Colorado River, and groundwater aquifers. Generally, groundwater supplies about 30% of California's water supply, but during intense droughts may supply as much as 60% of the state's water supply. The state has over 850 million acre-feet of water stored in 450 groundwater reservoirs across the state.

The principal facilities supplying water in California are operated by U.S. Bureau of Reclamation and DWR. In California, the Mid-Pacific Region of U.S. Bureau of Reclamation built and manages the Central Valley Project, which transports water from Lake Shasta in the north to Bakersfield in the southern San Joaquin Valley, providing agricultural irrigation and municipal uses to most of California's Central Valley.

The U.S. Bureau of Reclamation also manages the Colorado River, which serves seven western U.S. states, two Mexican states, and Native American Tribal nations with water supply, hydropower, recreation, fish and wildlife habitat, and other benefits. The State of California's normal allocation of Colorado River water is 4.4 million acre-feet.

DWR built and implements the State Water Project, which is the nation's largest state-owned water and power generator and user-financed water system. The State Water Project delivers water to 29 public agencies and local water districts (State Water Project contractors) that supply water to 27 million people and 750,000 acres of farmland through a system of reservoirs, aqueducts, power plants, and pumping plants that extends 705 miles across the state. In 2023, DWR announced a 100% allocation of requested supplies from the State Water Project, which amounts to approximately 4.2 million acre-feet (DWR 2023).

Water supply in individual communities is the responsibility of local utilities and water districts. Pursuant to California Water Code Section 10644(c)(1)(B), DWR publishes an annual summary report regarding water shortage information at the supplier level, based on suppliers' Annual Water Supply and Demand Assessments, as well as regional and statewide analyses of water supply conditions. In 2023, of 436 Annual Water Supply and Demand Assessments submitted to DWR, 415 suppliers reported no water shortages and 21 reported that shortages could be fully addressed by suppliers' responses (e.g., fixing leaks and breaks by customers, prohibiting runoff from landscape irrigation, prohibiting use of potable water for washing hard surfaces, and limiting landscape irrigation to specific days and times). Thus, no suppliers reported shortages (DWR 2023).

3.22.1.2 Wastewater

Over 100,000 miles of sanitary sewers and more than 900 wastewater treatment plants manage the approximately 4 billion gallons of daily wastewater across the State (Water Education Foundation 2013). The SWRCB and nine RWQCBs are responsible for development and enforcement of water quality objectives and implementation plans that protect the beneficial uses of the federal and state waters. Wastewater collection, treatment, and discharge service for developed and metropolitan areas is typically provided by local wastewater service districts or agencies that are required to secure treatment and discharge permits for the operation of a wastewater facility from the RWQCB. In areas that are remote or that are not served by an individual wastewater service provider, developments would be required to install an individual septic tank or other on-site wastewater treatment system.

3.22.1.3 Solid Waste Collection and Disposal

CalRecycle is responsible for the regulation of the disposal and recycling of all solid waste generated in California. Local agencies can create LEAs and, once approved by CalRecycle, LEAs have the primary oversight for operations and closures of solid waste facilities and also have responsibilities for guaranteeing the proper solid waste storage and transportation within their jurisdictions.

CalRecycle's SWIS database contains 1,225 active landfills, transfer/processing sites, composting sites, in-vessel digestion sites, engineered municipal solid waste conversion facilities, and transformation facilities throughout the state (CalRecycle 2024a).

3.22.1.4 [Natural Gas](#)

The CPUC regulates natural gas utility rates and services provided by Pacific Gas and Electric Company, Southern California Gas Company, San Diego Gas & Electric Company, Southwest Gas and several smaller natural gas utilities. Natural gas services include in-state transportation of natural gas over the utilities' extensive transmission and distribution pipeline systems, gas storage, procurement, metering, and billing (CPUC 2024).

3.22.1.5 [Electricity](#)

California is part of the Western Connection, which electrically connects an area of more than 1.8 million square miles in all or part of 14 states as far east as eastern Colorado, the Canadian provinces of British Columbia and Alberta, and the northern portion of Baja California in Mexico (Western Interconnection 2024). California electricity is generated from a mixture of renewable and non-renewable resources. Renewable resources, including hydropower and small-scale photovoltaics, supplied approximately 54% of the state's electricity generation in 2023 (EIA 2024). There are 68 electricity service providers in California including six investor-owned utilities, 47 publicly owned utilities, and 15 direct access providers (CEC 2024). The three major electric utilities in California are Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric. Publicly owned utilities in Sacramento and Los Angeles operate their own systems as do many smaller districts and cooperatives.

3.22.2 [Regulatory Framework](#)

The federal, state, and local regulations in place to manage utilities and service systems that may apply to the Program are described below.

3.22.2.1 [Federal](#)

3.22.2.1.1 Resource Conservation and Recovery Act

RCRA (40 CFR, Part 258 Subtitle D) establishes minimum location standards for siting municipal solid waste landfills. In addition, because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the USEPA has delegated the enforcement responsibility to the State of California.

3.22.2.2 [State](#)

3.22.2.2.1 California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 requires all California cities and counties to implement programs to reduce their volume of waste disposed of by 25% by 1995 and by 50% by 2000. The Act established a hierarchy of preferred waste management practices: (1) source reduction; (2) recycling (or reuse) and composting; (3) transformation; and (4) disposal by landfilling. The Countywide Siting Element includes a combination of strategies. The Act also requires that each jurisdiction (cities and the county) prepare a Source Reduction and Recycling Element, a Household Hazardous Waste Element, and a Non-Disposal Facility Element as part of a Countywide Integrated Waste Management Plan to demonstrate adequate capacity, including

existing, proposed, and tentative landfills or expansions; increased disposal reduction efforts; and the export of solid waste for disposal.

3.22.2.2.2 Mandatory Commercial Recycling Regulation (Assembly Bill 341)

AB 341 set a 75% recycling goal for California by 2020. The purpose of this law was to reduce GHG emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California. AB 341 went into effect July 1, 2012, and requires all commercial businesses and public entities that generate four cubic yards or more of waste per week to have a recycling program in place. The same requirement is also applied to multifamily dwellings of five units or more. The focus of AB 341 has been on dry recyclables such as cardboard, paper fiber, pallets, rigid plastics, and containers. Cardboard and paper fiber recycling offer the highest methane mitigation potential per ton recycled and can also count towards the efforts of SB 1383 compliance.

3.22.2.2.3 CCR Title 14, Natural Resources – Division 7

This section of the CCR contains current CalRecycle regulations pertaining to all other non-hazardous waste management in California. Title 14 Chapter 3 Article 5 describes solid waste storage and removal standards that owners and operators of a property must follow, including design requirements for proper storage of waste and timing of removal from the site. Chapter 9.1 mandates recycling for any commercial or public entity that generates four cubic yards or more of commercial solid waste per week.

3.22.2.2.4 Senate Bill 610

SB 610, codified in the California Water Code Sections 10910 et seq., describes requirements for both water supply assessments and Urban Water Management Plans applicable to the CEQA process. SB 610 requires that for specified projects subject to CEQA, the urban water supplier must prepare a water supply assessment that determines whether the projected water demand associated with a proposed project is included as part of the most recently adopted Urban Water Management Plan. Specifically, a water supply assessment shall identify existing water supply entitlements, water rights, or water service contracts held by the public water system, and prior years' water deliveries received by the public water system. In addition, it must address water supplies over a 20-year period and consider average, single-dry, and multiple-dry years. In accordance with SB 610 and Section 10912 of the California Water Code, projects subject to CEQA requiring submittal of a water supply assessment include "Industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area".

3.22.3 Impact Assessment

3.22.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts related to utilities and service systems if it would:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.22.3.2 Proposed Program

3.22.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Impact Criterion b) Would the Program have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Impact Criterion c) Would the Program result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Source reduction would be attained by switching to a reusable/refillable packaging or food service ware system or through elimination of a plastic component, concentration, right-sizing, lightweighting, shifting to bulk or large format packaging, or from shifting plastic covered material to non-plastic covered material. This analysis assumes that these shifts would occur within existing facilities and within the permitted capacity of the facilities. Replacing some plastic materials with reusable options would involve energy and water use for processes like washing and drying these alternatives. As outlined in Section 3.9 (Energy) and Section 3.13 (Hydrology and Water Quality), none of these measures are expected to lead to a substantial increase in overall energy or water use. Therefore, reasonably foreseeable methods source reduction and refill/reuse would not require relocation or constriction of new facilities and would have water supply or wastewater supply, and impacts would be **less than significant** relative to these criteria.

Impact Criterion d) Would the Program Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Impact Criterion e) Would the Program Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Compliance with the Implementing Regulations would reduce solid waste disposal in the state by requiring that covered materials be source reduced through various methods, including refill/reuse. It is estimated that the

Program would eliminate 1.38 million tons of plastic through source reduction over the 10-year period from 2021 through 2031 with an estimated 2.9 million tons of plastic covered material diverted from disposal each year (CalRecycle 2024b). Within this total, CalRecycle estimates that 553,000 tons or 11.7 billion plastic packages will be converted to refill/reuse materials (CalRecycle 2024b). The source reduction and refill/reuse reasonably foreseeable means of compliance would support state and local activities required to comply with waste reduction programs, including SB 54. Therefore, the Program would have **no impact** on solid waste and associated statutes and regulations.

3.22.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Impact Criterion b) Would the Program have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Impact Criterion c) Would the Program result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Reasonably foreseeable compliance responses would result in the construction of 16 large, 6 medium, and 8 small MRFs (see Table 3.2-9) and 133 new processing facilities (see Table 3.2-12) throughout the state by 2032. The construction and operation of new facilities would be likely to require new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, and/or telecommunication infrastructure to support employees and equipment needs.

The operations of MRFs and processing facilities may require large quantities of water and may create substantial amounts of wastewater. New water supplies may be necessary for construction (e.g., dust suppression), operations (e.g., equipment cleaning), domestic use (employee drinking fountains and restrooms), and fire suppression (during construction and operations). Water supply would come from connections to existing municipal water supply systems, onsite wells, or onsite water storage tanks. Wastewater would be discharged via on-site septic systems or connection to existing municipal services.

Energy supplies (see Section 3.9) would be required from local natural gas and/or electricity utilities to power collection, sortation, and processing equipment. New facilities would likely be placed in areas where utility infrastructure is available, such as in or adjacent to other industrial areas, so utility connections to existing infrastructure would be expected to be minimal and not require substantial construction. However, the location of future facilities is currently unknown as is the availability of utilities at project locations. However, water supply, wastewater, electric, and natural gas infrastructure would be constructed to the standards of the applicable local jurisdiction. As part of the permit approval process for individual facilities, the project proponent would need to coordinate with the local water and wastewater service provider and obtain a will serve letter (or equivalent) that demonstrates that adequate water supply is available to meet the required demand under all water year conditions and that adequate treatment capacity is available, respectively. If a municipal service is not needed, the project proponent would need to seek regulatory approvals, such as WDRs, consistent with federal and state requirements. Therefore, impacts to new or expanded utilities, water supply, and wastewater management would be **less than significant**.

Impact Criterion d) Would the Program generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Impact Criterion e) Would the Program comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

To meet the recycling rate requirement specified in the Implementing Regulations, approximately 2.9 million tons of plastic covered material must be diverted from solid waste disposal each year (CalRecycle 2024b). Small amounts of solid waste generated by employees at facilities constructed to comply with the proposed regulation would be disposed of as typical domestic waste. The collection, sortation and processing reasonably foreseeable means of compliance would support state and local activities required to comply with waste reduction programs, including SB 54. Therefore, the Program would comply with all applicable solid waste and associated statutes and regulations, and ***no impact*** would occur.

3.23 Wildfire

This section describes the existing wildfire conditions in California; identifies applicable federal and state regulations pertaining to wildfire prevention and response; and analyzes the potential impacts of the Program on wildfire in the state. The analysis also identifies mitigation measures for those impacts determined to be significant. Table 3.23-1 summarizes impacts on wildfire that could result from implementation of the Program.

Table 3.23-1. Summary of Wildfire Impacts

Would the Program:	Source Reduction and Refill/Reuse	Collection, Sortation, and Processing	Mitigation Measure(s)
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact	Potentially Significant and Unavoidable	MM TR-1: Construction Transportation and Management Plan MM TR-2: Restrict Lane Closures and Maintain Access MM TR-4: Notify Emergency Personnel of Road Closures MM TR-5: Project Specific Traffic Impact Report MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	No Impact	Potentially Significant and Unavoidable	MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact	Potentially Significant and Unavoidable	MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact	Potentially Significant and Unavoidable	MM HAZ-6: Emergency Access MM HAZ-7: Construction Staging and Parking Plan

3.23.1 Existing Conditions

Fire is a natural part of California's diverse landscapes and is vital to many ecosystems across the state. Recent wildfires in California are bigger, hotter, more deadly, and result in more loss of life every year than in previous years. "Fire season" begins earlier in the year and lasts longer, or even year-round (California State University 2021). California's climate, vegetation cover, and human settlement patterns are highly diverse, and the landscape has been highly altered. The fire regimes in California's four general ecoregions vary (Williams et al. 2019). The North Coast and Sierra Nevada regions of the state are largely forested, while the Central Coast and South Coast consist mostly of grass-oak savanna, chaparral, and urban areas (see Section 3.7 [Biological Resources] for descriptions of each ecoregion in California). Annual statewide burned area increased significantly from 1972 to 2018, largely due to an eightfold increase in annual summer forest-fire extent, most of which occurred in the heavily forested North Coast and Sierra Nevada regions (Williams et al. 2019). In the Central and South Coast regions, wildfires in non-forested areas are most closely predicted by high precipitation totals in the year or two leading up to the fire year (i.e., precipitation leads to growth of fire fuels).

Three main factors affect wildfire behavior: weather, fuel, and topography (California State University 2021). Weather conditions such as low humidity, warm temperatures, high winds, low snowpack can encourage fire, while the topography of an area (e.g., shape, steepness of slopes, aspect) can influence the direction and speed of fire. For example, fire tends to travel uphill faster than downhill. Finally, fuel availability, continuity, arrangement, size, dryness, temperature, and condition significantly impact the speed with which wildfire spreads and the intensity of the burn (California State University 2021).

Forest fuel loads are high in many parts of the state (California State University 2021). The forest floor can become dense with dead branches and brush when it isn't manually cleared out. In many parts of the state, these fuels have not been cleared for decades, due in part to fire suppression policies by state and federal agencies. In the early 1900s, the USFS initiated a policy goal of preventing catastrophic fires by stopping fires whenever possible. In the 1970s, that policy shifted from fire control to fire management in recognition that some fire is a necessary component of the wildland ecosystem. Nonetheless, decades of unburned forest resulted in dense vegetation that is easily ignited (California State University 2021). Additionally, ongoing drought, climate change, and destruction of trees by bark beetle infestations has contributed to the mass of dry and dead trees.

While 95% of wildfires in California are caused by humans (accidentally or deliberately), lightning accounts for the majority of ignitions in the North Coast area and the Sierra Nevada, especially in summer (Williams et al. 2019). Summer is the season when most burns occur statewide, but large and destructive fires can also occur in the fall throughout the state. Fall is generally the peak fire season in the South Coast region (Williams et al. 2019). Throughout California, large fall wildfires can often be attributed to strong offshore wind events coinciding with dry fuels. In addition, a growing number of people and homes are situated at the wildland-urban interface, which is the transition zone between wildlands and established municipal areas. Homes in these zones are more vulnerable to fire and fire-agencies spend more money to protect them. Between 1990 and 2000, 60% of new housing built in the U.S. was located in the wildland-urban interface, especially along the west coast (California State University 2021).

CAL FIRE maintains FHSZ data and maps for the entire state (CAL FIRE 2007; Figure 3.23-1). Fire hazard severity considers vegetation amount, topography, and weather (temperature, humidity, and wind), and represents the

likelihood of an area burning over a 30- to 50-year time period. There are three classes of fire hazard severity ratings within FHSZs: Moderate, High, and Very High.

SRAs are areas of the state in which the financial responsibility of preventing and suppressing fires has been determined by the State Board of Equalization to be primarily the responsibility of the state. As of July 2020, approximately 31% of the state is within the SRA (California Office of Planning and Research 2022). Any areas outside the SRA are either within a Local Responsibility Area (LRA) or Federal Responsibility Area (FRA; if on federal land). Approximately 21% of the state is within an LRA, and 48% of the state is within an FRA (California Office of Planning and Research 2022). VHFHSZs are designated by the Director of Forestry and Fire Protection based on consistent statewide criteria and based on the severity of fire hazard that is expected to prevail in those areas. VHFHSZs are based on fuel loading, slope, fire weather, and other relevant factors including areas where Santa Ana, Mono, and Diablo winds have been identified by CAL FIRE as a major cause of wildfire spread. CAL FIRE has a list of incorporated cities or areas within an LRA for which it has made recommendations on VHFHSZs (CAL FIRE 2024a).

3.23.2 Regulatory Framework

3.23.2.1 Federal

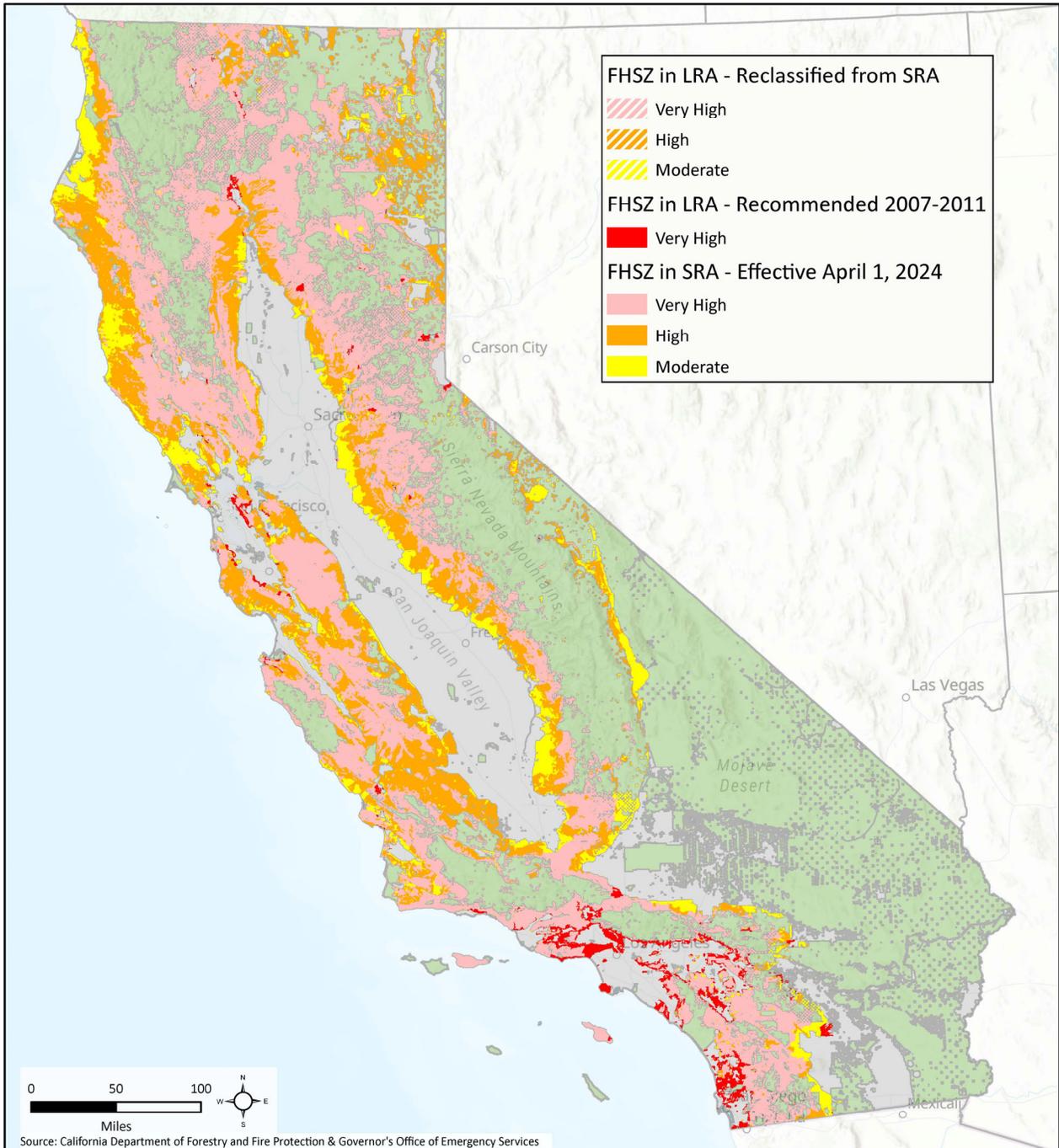
There are no federal regulations related to wildfire that are applicable to the Program.

3.23.2.2 State

Wildland fire protection in California is the responsibility of the local, state, or the federal government depending on the jurisdiction where the fire event is located. The LRAs include incorporated cities, unincorporated county areas, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by county fire departments, city fire departments, fire protection districts, and by CAL FIRE under contract to local government. The SRA is a legal term defining the area where the state has financial responsibility for wildland fire protection.

3.23.2.2.1 Public Resources Code Section 4291

California PRC Section 4291 defines and describes mandatory fire protection measures and responsibilities for maintaining defensible space that apply to all property within SRAs in California. Property owners within SRAs are responsible for ensuring that their property is in compliance with California's building and fire codes that call for homeowners to take proactive steps to protect their property from a wildfire. The law requires that homeowners in SRAs clear out flammable materials such as brush or vegetation around their buildings to 100 feet (or the property line) to create a defensible space buffer. This helps halt the progress of an approaching wildfire and keeps firefighters safe while they defend the property (CAL FIRE 2024c).



Legend Responsibility Areas Federal Responsibility Area (FRA) State Responsibility Area (SRA) Local Responsibility Area (LRA)	 REGIONAL LOCATION CALIFORNIA	STATE OF CALIFORNIA FIRE HAZARD SEVERITY ZONES (FHSZ)	
		 Catalyst ENVIRONMENTAL SOLUTIONS	CalRecycle - SB 54 CEQA

Project: D:\CES\catalyst_gis- Documents\arcgispro_projects\CalRecycle\SB 54\SB 54.aprx

Figure 3.23-1. Fire Hazard Severity Zones in California

3.23.2.2.2 CCR Title 14, Division 1.5

CCR Title 14, Division 1.5 establishes regulations for CAL FIRE and is applicable in all SRAs. Among other things, CCR Title 14, Section 1270 et seq. establishes minimum wildfire protection standards in conjunction with building, construction, and development in SRAs. Future design and construction activities in an SRA must provide for basic emergency access and perimeter wildfire protection measures, including private water supply reserves for emergency fire use and vegetation modification.

3.23.2.2.3 General Plan Safety Elements – Wildfire Hazard and Risk Reduction Requirements

SB 1241 (Kehoe, Chapter 311, Statutes of 2012) revised the safety element provisions in state law to require all cities and counties whose planning area is within the SRA or VHFHSZs to address and incorporate specific information regarding wildfire hazards and risk and to adopt policies and programs to address and reduce unreasonable risks associated with wildfire. The specific requirements are codified in Government Code Sections 65302(g)(3) and 65302.5(b).

3.23.2.2.4 Emergency Response Planning

The State of California Emergency Plan was updated in 2017 (California Office of Emergency Services 2017). The State Emergency Plan describes how response to natural or human-caused emergencies occurs in California. California's emergency management plans have evolved over the years to account for the increased diversity of California's population, greater vulnerability to floods and wildland fires, expanded development, and to place more emphasis on disaster recovery and hazard mitigation efforts to reduce disaster impact. For further discussion of emergency access and response, see Section 3.12 (Hazards and Hazardous Materials) and Section 3.20 (Transportation).

3.23.2.2.5 California Fire Code (CCR Title 24, Part 9)

The California Fire Code, part of the CBC, establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The California Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the California Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The California Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

3.23.2.2.6 California Building Code

The CBC includes regulations that are consistent with nationally recognized standards of good practice, intended to facilitate protection of life and property. Among other things, its regulations address the mitigation of the hazards of fire explosion, management and control of the storage, handling and use of hazardous materials and devices, mitigation of conditions considered hazardous to life or property in the use or occupancy of buildings, and provisions to assist emergency response personnel.

Chapter 7 of the CBC details the materials, systems, and assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. A Wildland-Urban Interface

Area is defined in Section 702A as a geographical area identified by the areas of fire hazard severity in accordance with PRC Sections 4201 through 4204 and California Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.

3.23.3 Impacts Assessment

3.23.3.1 Significance Criteria

For the purposes of this PEIR, CalRecycle applies the questions set out in Appendix G of the CEQA Guidelines as thresholds to determine significant impacts, and thus considers that the Program would result in significant impacts related to wildfire if it would:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan.
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

3.23.3.2 Proposed Program

3.23.3.2.1 Source Reduction and Refill/Reuse

Impact Criterion a) Would the Program substantially impair an adopted emergency response plan or emergency evacuation plan?

The Implementing Regulations require that by 2032, plastic covered material must be source reduced by at least 25% by weight and 25% by number of plastic components sold, offered for sale, or distributed in the state with 10% of the source reduction to be met either by switching to reusable or refillable options or through elimination of a plastic component. Reasonably foreseeable compliance with the Implementing Regulations would not directly result in any construction or ground-disturbing activities that would impair an adopted emergency response plan or emergency evacuation plan (see discussion related to collection, sortation, and processing facilities in Section 3.23.3.2.2 below). Therefore, there would be **no impact** to an adopted emergency response plan or emergency evacuation plan.

Impact Criterion b) Due to slope, prevailing winds, and other factors, would the Program exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?

Impact Criterion c) Would the Program require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Impact Criterion d) Would the Program expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The source reduction requirements of the Implementing Regulation would not directly result in any construction or ground-disturbing activities that would result in any physical changes to the environment that would exacerbate wildfire risks or expose people or structures to a significant risk from wildland fires. Source reduction measures would not require installation of any infrastructure and would not impact slope stability or drainage and would not expose people or structures to significant risks (see discussion related to collection, sortation, and processing facilities in Section 3.23.3.2.2 below). Therefore, the source reduction requirements of the Implementing Regulations would have **no impact** with regard to Impact Criteria (b) through (d).

3.23.3.2.2 Collection, Sortation, and Processing

Impact Criterion a) Would the Program substantially impair an adopted emergency response plan or emergency evacuation plan?

During construction and operation of future collection, sortation, and processing facilities, there could be temporary and permanent increases in vehicular traffic along roadways used to access the facility sites, which could affect emergency access. As part of standard development procedures, future plans for facilities in VHFHSZs would be submitted for review and approval to ensure that the facility has adequate emergency access and escape routes in compliance with existing local regulations.

Construction of future facilities in VHFHSZs could interfere with adopted emergency response or evacuation plans due to temporary construction activities within rights-of-way. However, temporary construction barricades or other construction-related obstructions that could impede emergency access would be subject to the local agency's permitting process, which requires a traffic control plan subject to local authority review and approval (reinforced with implementation of **MM TR-1** which requires a Construction Transportation Management Plan). Implementation of **MM TR-1** would limit the extent to which construction activities would impair or physically interfere with adopted emergency response or evacuation procedures and would identify appropriate lane closures/routing detours. This information would also be provided to local emergency providers to ensure adequate access and travel for emergency vehicles is maintained per **MM TR-2** and **MM TR-4**. Implementation of **MM HAZ-6** would facilitate emergency access to project sites. In addition, implementation of **MM HAZ-7** would require preparation of a Construction Staging and Parking Plan which would be expected to reduce the risk of construction-related activities impairing an emergency response plan or emergency evacuation plan for those projects that the local emergency response authority finds pose an unusual threat that existing regulations do not address. Specifically, the Construction Staging and Parking Plan may include measures such as limiting parking on streets in areas subject to fire-hazard-related parking restrictions, limiting the amount of heavy machinery on a development site at a given time, regulating traffic related to construction and deliveries, and installing personnel to coordinate traffic to and from the development site. Further, **MM TR-5** requires the development of a traffic report customized to the specific project once a facility is proposed at a designated site. This analysis will examine project-specific data to assess the operational impacts relative to emergency access. Should the analysis indicate that the proposed activities are likely to exceed set thresholds, appropriate mitigation measures must be put in place to minimize the impacts.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM TR-1**, **TR-2**, **MM TR-4**, **MM TR-5**, **MM HAZ-6**, and **MM HAZ-7** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects.

Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, because this is a program-level analysis and cannot foresee the potential for unusual site-specific conditions, project- or road-specific conditions, this PEIR discloses, for CEQA purposes, that installation of new collection, sortation, and processing facilities may result in impacts related to emergency response plan or emergency evacuation plan that would be potentially **significant and unavoidable**.

Impact Criterion b) Due to slope, prevailing winds, and other factors, would the Program exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?

The specific locations of future collection, sortation, and processing facilities are not currently known. Since many areas throughout California are within VHFHSZs, it is possible that future facilities could be constructed and operated within or near these areas. During construction, there would be increased ignition sources on-site including trucks and heavy construction equipment which could create sparks, be a source of heat, or leak flammable fuels and fluids.

During operation, to the extent any future facility is located in or near VHFHSZs or SRAs as mapped by CAL FIRE and Fire Brush Clearance Zones, regulations require fire risks be minimized during high fire season through vegetation clearance, maintenance of landscape vegetation to minimize fuel supply that would spread the intensity of a fire, compliance with provisions for emergency vehicle access, use of approved building materials and design, and compliance with the local fire department's hazardous vegetation clearance requirements, which are developed to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions, and provide safety and assistance to firefighters and emergency responders. PRC Section 4290 establishes minimum standards related to defensible space, including provisions pertaining to road standards for fire equipment access; standards for signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; and fuel breaks and greenbelts. Applicable sections of the PRC mandate standards for firebreaks (Section 4292) and operation of power equipment (Sections 4427, 4428, 4431) intended to minimize risks in areas subject to wildfire.

Compliance with existing regulations would ensure that impacts related to construction and operation of a future facility in SRA or VHFHSZ areas exacerbating wildfire risks and resulting in risks to people and structures from pollutants would be avoided. However, based on unknown site-specific conditions or project characteristics, impacts may occur. A wildfire started due to human and equipment sources during construction and operation activities could expose workers and any nearby residents to pollutants, which would result in a potentially significant impact. Incorporation of fire protection measures during project design and activities (**MM HAZ-6** and **MM HAZ-7**) would reduce potential impacts.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM HAZ-6** and **MM HAZ-7** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, because of unknown site-specific hazards or project characteristics, this PEIR discloses, for CEQA purposes, that impacts may be potentially **significant and unavoidable**.

Impact Criterion c) Would the Program require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Construction and operation of future collection, sortation, and processing facilities may require associated infrastructure. However, as outlined in Impact Criterion (b) above, the regulatory setting would ensure that impacts related to construction and operation of future facility in SRA or VHFHSZ areas exacerbating fire risks and resulting in impacts to the environment would be avoided. However, based on unknown site-specific conditions or project characteristics for future facilities developed in response to the Implementing Regulations, potentially significant impacts may occur. Incorporation of fire protection measures during project design and activities (**MM HAZ-6** and **MM HAZ-7**) would reduce potential impacts.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM HAZ-6** and **MM HAZ-7** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, because of unknown site-specific hazards or project characteristics, this PEIR discloses, for CEQA purposes, that impacts may be potentially **significant and unavoidable**.

Impact Criterion d) Would the Program expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As described above, compliance with existing regulations would ensure that impacts related to construction and operation of future collection, sortation, and/or processing facilities in SRA or VHFHSZ areas exacerbating wildfire risks and resulting in risks to people and structures from pollutants, flooding and landslides would be avoided. However, based on unknown site-specific hazards or project characteristics, potentially significant impacts may occur. For future facilities within VHFHSZs or areas where the local fire department finds it necessary on the basis that existing regulations are not adequate to avoid risk of fire based on unusual site-specific area or project characteristics, which could include slopes or drainage changes, fire protection measures implemented during project design and activities as part of **MM HAZ-6** and **MM HAZ-7**, would reduce potential impacts.

SIGNIFICANCE AFTER MITIGATION

Adoption and implementation of **MM HAZ-6** and **MM HAZ-7** is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, because of unknown site-specific hazards or project characteristics, this PEIR discloses, for CEQA purposes, that impacts may be potentially **significant and unavoidable**.

MITIGATION MEASURE(S)

MM TR-1: Construction Transportation Management Plan. See Section 3.20 (Transportation).

MM TR-2: Restrict Lane Closures and Maintain Access. See Section 3.20 (Transportation).

MM TR-4: Notify Emergency Personnel of Road Closures. See Section 3.20 (Transportation).

MM TR-5: Project-Specific Traffic Impact Report. See Section 3.20 (Transportation).

MM HAZ-6: Emergency Access. See Section 3.12 (Hazards and Hazardous Materials).

MM HAZ-7: Construction Staging and Parking Plan. See Section 3.12 (Hazards and Hazardous Materials).

SECTION 4 Cumulative Impacts

This section of the Draft PEIR provides an assessment of the Program’s potential to contribute to cumulative environmental impacts in the state. The evaluation of cumulative impacts considers the potential impact of the Program in combination with past, present, and probable future projects that overlap in terms of the nature of the impact, the time frame, and the geographic area (e.g., a watershed or air basin). The focus of this analysis is to identify the potential impacts of the Program that might not be significant when considered alone, but that could contribute to a significant impact when viewed in conjunction with other projects.

4.1 Cumulative Impact Methodology

The CEQA Guidelines Section 15355 defines cumulative impacts as follows:

“Cumulative impacts refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.”

In addition, CEQA Guidelines Section 15130(a)(1) states:

“As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the Environmental Impact Report (EIR) together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.”

With respect to consideration of cumulative impacts that are significant even without any contribution from the Program, the CEQA Guidelines Section 15064(h)(4) states:

“The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.”

In this analysis, only those Program impacts with the potential for cumulative impacts are addressed. The analysis identifies those resource categories, such as air quality in many parts of the state, that have significant cumulative impacts even without the contribution of the Program. The conclusion identifies both the existing significant impact, and the Programs contribution to that already significant impact.

4.1.1 Approach to Cumulative Analysis

Section 15130 of the CEQA Guidelines provides two alternative approaches for analyzing and preparing an adequate discussion of significant cumulative impacts:

1. the use of a list of past, present, and probable future projects; and
2. the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. A combination of these approaches may also be used. The following describes the approach used for evaluating the cumulative impacts of the proposed regulation.

A combination of these approaches may also be used, and that approach is taken here.

SB 54 and the Implementing Regulations are applicable statewide over a long-term future horizon to achieve required targets for reduction of single-use plastic food service ware and single-use packaging. The cumulative effects of the Implementing Regulations are considered with a list of related regulatory programs. The cumulative impact assessment of the Implementing Regulations therefore uses the list method for regulations with related impacts.

The cumulative impact analysis also considers the effects from the reasonably foreseeable consequences of compliance with the Implementing Regulations. The analyses provided in Section 3 of this PEIR are programmatic in nature because the precise nature of the methods of compliance is not known at this time such that the size, location, and type of potential new facilities are not known. As such, the PEIR analyzes impacts anticipated from the various reasonably foreseeable methods of compliance and the physical changes that could lead to environmental impacts from those methods, but cannot analyze the potential site-specific or project-specific effects of such future compliance actions. Section 4.2.2 analyzes the cumulative impacts associated with future compliance actions using the adopted projection method.

On a statewide basis, however, the impacts, compliance, and mitigation measures analyzed in this Draft PEIR are well-suited to a cumulative impact analysis because they describe the potential effects collectively with the full range of reasonably foreseeable compliance responses related to implementing the Program.

4.1.2 Geographic Scope of Analysis

Although the Program encompasses the State of California, potential impacts would be mostly confined to the local area where new or expanded facilities may be constructed due to the reasonably foreseeable means of compliance with the Implementing Regulations. Accordingly, the geographic scope of the cumulative impact analysis considers the potential for cumulative impacts at a local scale and considers that these same impacts may be located anywhere within the State of California.

4.2 Cumulative Impact Analysis

4.2.1 Related Projects for Cumulative Regulatory Impacts

The analysis of the cumulative impacts of the Implementing Regulations uses the list approach. CalRecycle has identified relevant regulations that could result in related impacts, as described in the following paragraphs, that are considered in the evaluation of potential for cumulative impacts.

SB 1335, the Sustainable Packaging for the State of California Act of 2018 (Chapter 510, Statutes of 2018), restricts certain types of food service packaging that may be used by food service facilities located in a state-owned facility, operating on, or acting as a concessionaire on state property, or under contract to provide food service to a state agency. The food service packaging must be on the list published by CalRecycle identifying it as reusable, recyclable, or compostable.

SB 343 (Chapter 507, Statutes of 2021) establishes specific standards for what constitutes deceptive labeling concerning recyclability. Products can only be labeled “recyclable” or with the “chasing arrows” logo if they are regularly collected and processed for recycling and meet certain design and composition characteristics affecting recyclability, or satisfy other criteria related to recycling rates, alternative collection programs, or government programs governing recyclability. The law requires CalRecycle to conduct and publish a material characterization study examining the material types and forms that are collected, sorted, sold, or transferred by solid waste facilities in the state. Determinations of whether items can be considered recyclable in California must be based on the information that CalRecycle publishes.

Pursuant to AB 341 (Chapter 476, Statutes of 2011), the state’s policy goal was that at least 75% of solid waste generated would be source-reduced, recycled, or composted by 2020. That goal has not yet been met.

SB 270 (Chapter 850, Statutes of 2014) banned single-use carryout bags from most grocery stores, retail stores with a pharmacy, convenience stores, food marts, and liquor stores. The bill authorized the use of thicker reusable plastic bags, however, which are commonly used. Subsequently, SB 1053 (Chapter 453, Statutes of 2024) was passed on September 22, 2024, and includes provisions requiring that reusable grocery bags sold by a store to a customer at the point of sale meet different requirements including that it not be made from plastic film materials. SB 1053 also repeals the provisions related to certification of reusable grocery bags.

SB 1383 (Chapter 395, Statutes of 2016) established two targets by 2025, including a 75% reduction of statewide organics waste disposal from 2014 levels, and 20% or greater recovery (for human consumption) of edible food currently disposed of in California. Among other things, SB 1383 is expected to result in development of new and expanded composting facilities.

The California Integrated Waste Management Act of 1989 (PRC section 40000 et seq.), administered by CalRecycle, regulates the disposal, management, and recycling of, among other solid waste, plastic packaging containers and single-use foodware. It also imposes various reporting requirements on disposal facility operators, solid waste handlers, and transfer station operators regarding the types and quantities of materials disposed of, sold, or transferred to other entities.

Local municipal governments have proposed or are considering proposing new local ordinances that seek to reduce plastic waste, reduce the harm caused by certain plastic products, establish EPR programs, and create a more circular economy for goods in the state. While it is not possible to identify possible future plastics and single-use product regulations, it is clear that regulatory actions that approach plastic waste from a source reduction and EPR standpoint locally and in the state are growing over time. Shifts in consumer behavior are also anticipated to occur over time as regulatory measures supporting circular economy principles are enacted and additional education and outreach efforts are implemented.

In summary, as noted elsewhere, particularly in Section 3.1 (Environmental Impacts of the Implementing Regulations), the Implementing Regulations would not, in themselves, be associated with impacts, and therefore the Implementing Regulations in themselves would not contribute to a significant cumulative impact.

The reasonably foreseeable methods of compliance, however, may be expected to result in direct and indirect physical impacts, discussed in prior chapters, and may be expected to cumulatively contribute to cumulative impacts as analyzed in Section 4.2.2. The following analysis examines the cumulative effects of the methods of compliance with the proposed implementing regulations. The potential cumulative effects are summarized qualitatively below for each of the topics analyzed in Section 3 of this Draft PEIR.

4.2.2 Cumulative Impacts for Reasonably Foreseeable Means of Compliance

The following analysis examines the cumulative effects of the reasonably foreseeable means of compliance with the Program. For this analysis of cumulative impacts, those resource categories with no impact are discussed first since they do not have the potential for contributing to a significant cumulative impact. Second, those resource categories with the potential for significant and unavoidable impacts are discussed. These resource categories would either contribute to a cumulatively significant impact or add to an already cumulative impact in the current baseline even without the Program. Finally, those resource categories with less than significant impacts are discussed. Although individually these impacts are not significant, they could contribute considerably to a significant cumulative impact.

4.2.2.1 Resource Areas Without Potential for Regulatory Program Cumulative Impacts

Table 4.2-1 summarizes the environmental resource categories that do not have the potential for significant cumulative impacts and the rationale for this determination.

Table 4.2-1. Resource Topics with No Impact and No Contribution to Cumulative Impacts for Reasonably Foreseeable Means of Compliance

Resource Topic Not Discussed Further	Rationale
Population and Housing	As discussed in Section 3.17, the reasonably foreseeable means of compliance would have no impact, and therefore not considerably contribute to cumulative impacts.
Public Services	As discussed in Section 3.18, the reasonably foreseeable means of compliance would have no impact, and therefore not considerably contribute to cumulative impacts.
Recreation	As discussed in Section 3.19, the reasonably foreseeable means of compliance would have no impact, and therefore not considerably contribute to cumulative impacts.

4.2.2.2 Resource Areas with Potential for Significant and Unavoidable Impacts That Contribute to Cumulative Impacts

Table 4.2-2 summarizes the environmental resource categories that have the potential for less than significant or significant impacts. Depending on the specific location of sites, the reasonably foreseeable buildout of collection, sortation, and processing infrastructure in order to comply with the Program could result in potentially significant impacts to these resource categories. However, this cannot be known until sites are identified, facilities designed, and project-specific CEQA impact analysis can be conducted. As such, even with the specified mitigation measures applied, without knowledge of the specific area and facility, there could be significant and unavoidable impacts to these resource categories. Finally, adoption and implementation of the specified mitigation measures is beyond the authority of CalRecycle. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects at the time of subsequent Project-specific CEQA review. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. This is another factor that leads to a determination in this draft PEIR of significant and unavoidable impacts for the resource categories in Table 4.2-2. Thus, recognizing uncertainty in future predictions of

specific sites and specific facilities that would require subsequent Project-specific CEQA review, to meet CEQA’s mandate of good-faith attempt at disclosure and to not risk understating potential future impacts in light of the uncertainties, these impacts are classified as potentially ***significant and unavoidable***.

Even with incorporation of mitigation measures the reasonably foreseeable impacts of Program compliance are potentially significant and unavoidable under some conditions of the resources summarized in Table 4.2-2. Further, even if mitigation is adopted at the project level and impacts are reduced to a less than significant level, residual less-than-significant impacts may be individually limited but cumulatively considerable. As such, the Program could contribute to already cumulatively considerable effects from existing conditions (such as air quality in many air basins) or would themselves contribute to a significant cumulative impact. Table 4.2-2 provides the basis for the individual finding of significant and unavoidable impact, and this paragraph demonstrates the contribution to a potential cumulatively significant impact.

Table 4.2-2. Resource Areas with Potential for Significant and Unavoidable Impacts that Would Contribute to Cumulative Impacts for Reasonably Foreseeable Means of Compliance

Environmental Topic	Rationale
Aesthetics	<p>As discussed in Section 3.4 (Aesthetics), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction could require disturbance of undeveloped land, such as clearing of vegetation; earth movement and grading; trenching for utility lines; erection of new buildings; and paving of parking lots, delivery areas, and roadways. These activities would have the potential to adversely affect aesthetic resources present in those areas. Although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval or the adoption of MM AES-1, AES-2, and AES-3, adoption and implementation of these measures is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Further, even with the adoption of appropriate mitigation, residual less-than-significant impacts may be individually limited but cumulatively considerable. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on aesthetic resources and this PEIR discloses, for CEQA purposes, that cumulative impacts are potentially <i>significant and unavoidable</i>.</p>

Environmental Topic	Rationale
Agriculture and Forestry	<p>As discussed in Section 3.5 (Agriculture and Forestry), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction could require disturbance of undeveloped land, such as clearing of vegetation; earth movement and grading; trenching for utility lines; erection of new buildings; and paving of parking lots, delivery areas, and roadways. These activities would have the potential to adversely affect agricultural and forestry resources present in those areas. Although implementation of MM AG-1 and MM AG-2 can and should be required by agencies with project approval authority, Adoption and implementation of these measures is beyond the authority of CalRecycle and LEAs. Consequently, although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Further, even with the adoption of appropriate mitigation, residual less-than-significant impacts may be individually limited but cumulatively considerable. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on agricultural and forestry resources and this PEIR discloses, for CEQA purposes, that the cumulative impacts are potentially <i>significant and unavoidable</i>.</p>
Air Quality	<p>As discussed in Section 3.6 (Air Quality), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction could require the use of heavy-duty equipment, and operation of facilities could generate emissions and unpleasant odors. Further, construction and operation of collection, sortation, and processing facilities could increase VMT. These activities would have the potential to adversely affect air quality in those regions of the State. While implementation of MM AQ-1, AQ-2, AQ-3 and AQ-4 would reduce emissions during construction activities, the potential remains that localized exceedances of the NAAQS and CAAQS, TAC and/or odor could occur. Further, even with the adoption of appropriate mitigation, residual less-than-significant impacts may be individually limited but cumulatively considerable. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on air quality and this PEIR discloses, for CEQA purposes, that these impacts could be potentially <i>significant and unavoidable</i>.</p>

Environmental Topic	Rationale
Biological Resources	<p>As discussed in Section 3.7 (Biological Resources), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and operations could result in impacts to habitat or species during grading, excavation, stockpiling, vegetation or tree trimming or removal. Implementation of MM BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, MM BIO-5, MM BIO-6, MM NOI-1, and MM NOI-2 can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to MM BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, MM BIO-5, MM BIO-6, MM NOI-1, and MM NOI-2, compliance with the implementing regulations may result in a significant impact on special status plant and wildlife species and their habitat. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on biological resources, and this PEIR discloses, for CEQA purposes, that the impacts may be potentially <i>significant and unavoidable</i>.</p>
Cultural Resources	<p>As discussed in Section 3.8 (Cultural Resources), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and expansion could involve ground disturbance (e.g., excavation, grading, drilling), vibration, and removal of historical and archaeological resources. Constructing these projects also has the potential to introduce new visual elements or modify existing visual elements (e.g., buildings and structures). Implementation of MM CUL-1, MM CUL-2, and MM CUL-3 can and should be required by agencies with project approval authority. It is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to MM CUL-1, MM CUL-2, and MM CUL-3, construction activities or the relocation of a historical, architectural, or archaeological resource may alter the significance of the resource. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on cultural resources, and this PEIR discloses, for CEQA purposes, that the impacts may be potentially <i>significant and unavoidable</i>.</p>

Environmental Topic	Rationale
Geology and Soils	<p>As discussed in Section 3.10 (Geology and Soils), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Most impacts to geology and soils would be addressed through compliance with existing regulatory regimes, but construction and expansion could involve ground disturbance that impacts paleontological resources. Implementation of MM GEO-1 can and should be required by agencies with project approval authority to address those impacts. It is reasonable to expect that impacts would be reduced to a less than significant in most instances. But adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Further, even with implementation of MM GEO-1, due to the unknown locations and conditions of future sites, construction collection, sortation, and processing facilities has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on geology and soils, and this PEIR discloses, for CEQA purposes, that impacts may be potentially <i>significant and unavoidable</i>.</p>
Hazards and Hazardous Materials	<p>As discussed in Section 3.12 (Hazards and Hazardous Materials), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and operations could result in impacts related to upset or accident conditions that release hazardous materials, exposure of people or the environment to significant health hazards, and impairment of an emergency response plan or emergency evacuation plan. Most impacts related to hazards and hazardous materials would be addressed through compliance with existing regulatory regimes, and, with implementation of MM TR-1, MM TR-2, MM TR-4, MM TR-5, and MM HAZ-1 through MM HAZ-7 impacts related to hazards and hazardous materials during construction and operation would be reduced; however, adoption and implementation of these mitigation measures are beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts related to hazards and hazardous materials, and this PEIR discloses, for CEQA purposes, that impacts may be potentially <i>significant and unavoidable</i>.</p>

Environmental Topic	Rationale
Hydrology and Water Quality	<p>As discussed in Section 3.13 (Hydrology and Water Quality), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and operations have the potential to expose site soils to erosion and mobilize sediments in stormwater. Additionally, hazardous materials such as fuels, oils, grease, and lubricants from construction equipment could be accidentally released during construction. Accidental discharge of these materials during construction could adversely affect water quality and/or result in violation of water quality standards. Construction of new facilities could increase impervious cover that could interfere with groundwater recharge. Many impacts related to hydrology and water quality would be addressed through compliance with existing regulatory regimes, and with implementation of MM HWQ-1. However, even with implementation of MM HWQ-1, future collection, sortation, and processing facilities may alter groundwater recharge. Further, adoption and implementation of this mitigation measure is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on hydrology and water quality, and this PEIR discloses, for CEQA purposes, that impacts may be potentially <i>significant and unavoidable</i>.</p>
Mineral Resources	<p>As discussed in Section 3.15 (Mineral Resources), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and operations could impact the availability of mineral resources. Adoption of MM MIN-1 could reduce these potential impacts; even with implementation of MM MIN-1, future collection, sortation, and processing facilities may result in a loss of availability of a known or locally important mineral resource. Although it is reasonable to expect that impacts would be reduced to a less than significant level through implementation of MM MIN-1 and by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts on mineral resources, and this PEIR discloses, for CEQA purposes, that impacts may be potentially <i>significant and unavoidable</i>.</p>

Environmental Topic	Rationale
Noise	<p>As discussed in Section 3.16 (Noise), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and operations could result in the generation of short-term construction and long-term operational noise in excess of applicable standards or that result in a substantial increase in ambient levels at nearby sensitive receptors, and exposure to excessive vibration levels. Even with implementation of MM NOI-1 and MM NOI-2, construction and operation future collection, sortation, and processing facilities may generate substantial temporary or permanent increases in noise and/or generate excessive ground borne vibration at nearby sensitive receptors. The authority to review site-specific, project-level noise impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative noise impacts, and this PEIR discloses, for CEQA purposes, that short-term, construction-related and/or long-term operational noise and vibration impacts resulting from the development of new facilities may be potentially <i>significant and unavoidable</i>.</p>
Transportation	<p>As discussed in Section 3.20 (Transportation), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction, expansion, and operation of facilities could result in increased vehicular trips. To avoid and minimize potential construction- and operation-related impacts to the circulation system, implementation of MM TR-1, MM TR-2, MM TR-3, MM TR-4, and MM TR-5 can and should be required by agencies with project approval authority. Although it is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, even with adherence to MM TR-1, MM TR-2, MM TR-3, MM TR-4, and MM TR-5, it is possible that some transportation impacts will remain significant. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative transportation impacts, and this PEIR discloses, for CEQA purposes, that the impacts may be potentially <i>significant and unavoidable</i>.</p>

Environmental Topic	Rationale
Tribal Cultural Resources	<p>As discussed in Section 3.21 (Tribal Cultural Resources), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and operations may be proposed in areas with known or previously unrecognized features of tribal cultural significance or involving activities that would introduce new visual elements or disturb the existing terrain and have the potential to result in significant impacts to cultural landscapes. Similarly, new and expanded collection, sortation, and processing facilities could result in impacts to tribal cultural resources if construction activities disturb previously identified or unidentified features. It is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to MM CUL-2 and MM CUL-3, construction activities or the relocation of a historical, architectural, or archaeological resource may alter the significance of the resource. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative impacts to tribal cultural resources, and this PEIR discloses, for CEQA purposes, that the impacts may be potentially <i>significant and unavoidable</i>.</p>
Wildfire	<p>As discussed in Section 3.23 (Wildfire), the reasonably foreseeable means of compliance would be expected to result in the expansion of existing facilities and the development of new facilities throughout the state for collection, sortation, and processing. There is uncertainty as to the specific location of these new facilities and to the extent that the modification of existing facilities would achieve program directives. Construction and operations may be proposed in areas designated as VHFHSZs and have the potential to result in significant impacts to related to wildfire risks. In addition, because site-specific conditions or project characteristics are unknown, a wildfire started due to human and equipment sources during construction and operation activities could expose workers and any nearby residents to pollutants, which would result in a potentially significant impact. Implementation of MM TR-1, MM TR-2, MM TR-4, MM TR-5, MM HAZ-6, and MM HAZ-7 would facilitate emergency access to project sites and reduce the risk of construction- and operations-related activities impairing an emergency response plan or emergency evacuation plan for those projects that the local emergency response authority finds pose an unusual threat. Further, MM HAZ-6 and MM HAZ-7 would ensure that fire protection measures would be incorporated in project design. It is reasonable to expect that impacts would be reduced to a less than significant level by land use and/or permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. In addition, there may be rare instances in which even with adherence to MM TR-1, MM TR-2, MM TR-4, MM TR-5, MM HAZ-6, and MM HAZ-7, it is possible that some impacts related to wildfire risks will remain significant. Therefore, the compliance methods of the proposed Implementing Regulations could result in a considerable contribution to significant cumulative wildfire impacts, and this PEIR discloses, for CEQA purposes, that the impacts may be potentially <i>significant and unavoidable</i>.</p>

4.2.2.3 Resource Areas with Less than Significant Impacts, but Could Contribute to Cumulative Impacts

Certain environmental resource categories analyzed in Section 3 have the potential for less than significant impacts, that when considered with the policies and regulations included in this analysis could result in potentially significant cumulative impacts. To analyze the potential, this section first considers a summary of projections adopted in a local, regional, or statewide plan (CEQA Guidelines Section 151309(b)). The potential for the Program to contribute to a cumulative impact is dependent in part on whether the resource is addressed in the adopted projects of these plans. Using this approach, the cumulative analysis relies on the following regional projections:

- Long-range demographic forecasts based on adopted regional plans.
- A determination of whether the long-term impacts of all related past, present, and future plans and projects would cause a cumulatively significant impact.
- A determination as to whether implementation of the proposed Program would have a “cumulatively considerable” contribution to any significant cumulative impact. (See CEQA Guidelines Sections 15130(a) and 15130(b), 15355(b), 15064(h), and 15065(c).)

The discussion of cumulative impacts is guided by standards of practicality and reasonableness, considering that the sites or designs of potential future facilities that may be built to comply with the Program are not yet known, and would be subject to later Project-specific CEQA review. Beneficial impacts may also be considered in this analysis of cumulative impacts.

4.2.2.3.1 Summary of Projections

The analysis of cumulative impacts proceeds using a “summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative impact. Such plans may include a general plan, a regional transportation plan, or plans for the reduction of GHG emissions. A summary of projections may also be contained in an adopted or certified environmental document for such a plan” (CEQA Guidelines Section 15130(b)).

The cumulative impacts analysis for each resource area using the projection method considers impacts related to the general growth projected for the state as well as the policies and programs that are in place to protect, conserve, and improve environmental resources. The discussion below describes the plans, programs, and projections as well as the context in which the Program may contribute to potential cumulative impacts.

The broad geographic scope of the Program requires an analysis of a number of past, existing, and probable future activities that have affected, are affecting, or would affect California’s environmental resources. The effects of past and existing activities have strongly influenced existing conditions, and some past activities have created legacies that are still affecting environmental resources. The following are the most important of these past and existing actions: population growth, urbanization, and land use conversion in California, which in turn leads to an increase in environmental impacts that may be cumulatively significant.

4.2.2.3.2 Population Growth, Urbanization, and Land Use Conversion

This section describes the types of past, existing, and probable future population growth, urbanization, and land use conversion activities that have resulted in, or may be expected to result in, non-Program cumulative

impacts in California. The consequences of such activities include impacts on water quality, air quality, and the loss of natural habitats for native species.

California is the most populous state in the nation and is also highly urbanized: 94% of the population lives in urban areas. Only 5% of California’s lands are urban; therefore, the population is both highly concentrated and unevenly distributed. About 50% of the population resides in four counties: Los Angeles, Orange, San Diego, and San Bernardino. An additional 30% of the population lives in Alameda, Santa Clara, San Mateo, San Francisco, Contra Costa, Sacramento, Ventura, Riverside, and Fresno counties (University of California 2020). As shown in Table 4.2-3, population growth is expected to increase in many counties between 2020 and 2060, although some may show a decrease (California Department of Finance 2024).

The CDOC tracks land use in the state with a focus on conversion of agricultural lands to urban or other uses as part of their FMMP. Per the most recent farmland mapping report, 31,351,190 acres are categorized as farmland (important farmland and grazing land) and 3,738,337 acres as urban or built land (CDOC 2019). A significant portion of California land is owned by state and federal agencies. For example, the BLM oversees 15 million acres of public lands in California which accounts for about 15% of the state’s total land mass (BLM 2024).

Between 1984 and 2016, more than 1.5 million acres of agricultural land in California were converted to nonagricultural purposes. Between 2014 and 2016, 24% fewer acres of irrigated farmland were converted to urban development compared to 2010 to 2012 period. Energy and water infrastructure greatly contributed to urban development between 2014 and 2016, primarily in the form of solar facilities and groundwater recharge or water control ponds (CDOC 2019).

Table 4.2-3. Predicted Population Changes by County in California

County	2020	2060	Change	County	2020	2060	Change
Alameda	1,676,458	1,977,629	18.0%	Placer	405,937	505,925	24.6%
Alpine	1,201	1,265	5.3%	Plumas	19,847	13,025	-34.4%
Amador	40,446	38,481	-4.9%	Riverside	2,422,134	2,660,802	9.9%
Butte	210,426	264,113	25.5%	Sacramento	1,586,796	1,844,098	16.2%
Calaveras	45,277	36,445	-19.5%	San Benito	64,432	77,666	20.5%
Colusa	21,777	19,454	-10.7%	San Bernardino	2,185,997	2,241,161	2.5%
Contra Costa	1,165,556	1,444,900	24.0%	San Diego	3,301,513	3,322,762	0.6%
Del Norte	27,638	20,740	-25.0%	San Francisco	870,130	844,927	-2.9%
El Dorado	191,032	159,660	-16.4%	San Joaquin	780,207	976,326	25.1%
Fresno	1,007,344	1,095,205	8.7%	San Luis Obispo	282,639	265,154	-6.2%
Glenn	28,891	24,666	-14.6%	San Mateo	760,725	716,861	-5.8%
Humboldt	136,204	116,783	-14.3%	Santa Barbara	448,484	498,417	11.1%
Imperial	180,182	191,172	6.1%	Santa Clara	1,925,225	2,100,432	9.1%
Inyo	18,985	17,756	-6.5%	Santa Cruz	271,326	263,888	-2.7%
Kern	905,241	954,655	5.5%	Shasta	182,537	185,451	1.6%

County	2020	2060	Change	County	2020	2060	Change
Kings	152,200	156,194	2.6%	Sierra	3,232	2,924	-9.5%
Lake	67,637	68,525	1.3%	Siskiyou	44,057	38,715	-12.1%
Lassen	31,719	15,428	-51.4%	Solano	452,095	512,165	13.3%
Los Angeles	10,013,543	8,284,195	-17.3%	Sonoma	488,022	409,322	-16.1%
Madera	156,141	159,048	1.9%	Stanislaus	553,706	609,615	10.1%
Marin	261,227	242,096	-7.3%	Sutter	99,355	103,147	3.8%
Mariposa	17,124	16,908	-1.3%	Tehama	65,706	63,889	-2.8%
Mendocino	91,074	91,842	0.8%	Trinity	16,136	15,940	-1.2%
Merced	280,909	338,247	20.4%	Tulare	472,597	446,588	-5.5%
Modoc	8,703	6,002	-31.0%	Tuolumne	55,438	49,317	-11.0%
Mono	13,310	9,677	-27.3%	Ventura	844,618	718,345	-15.0%
Monterey	439,227	419,199	-4.6%	Yolo	218,184	243,410	11.6%
Napa	138,445	125,545	-9.3%	Yuba	81,706	96,176	17.7%
Nevada	102,184	87,648	-14.2%	Total (State)	40,129,160	45,299,375	-0.03%
Orange	3,187,189	3,298,566	3.5%				

Source: California Department of Finance 2024

Key outcomes of population growth, urbanization, and land use conversion include the following:

- Expansion of urban areas leading to past and future conversion of natural and rural landscapes;
- Increased pollution including water pollution, and emissions of criteria air pollutants, TACs, and GHGs;
- Increased urban island heat effect due to changes in land cover;
- Loss of sensitive habitats, such as riparian and wetland areas, and habitat for special status species;
- Increased potential for releases of hazardous materials into the environment, both intentional and unintentional, including potential for hazardous accidents affecting the environment;
- Increasingly noisy environments in developing and urbanized areas and greater proximity of sensitive receptors to noise-generating activities; and
- Creation of new point-source discharges (e.g., wastewater treatment plants, industrial activities) and non-point source runoff (e.g., vehicles), as well as increased quantity of runoff resulting from the addition of impervious surfaces, leading to decreased water quality.

In considering the Program’s contribution to these impacts, the analysis evaluates whether the Program has the potential to contribute to these ongoing non-Program cumulatively significant impacts.

4.2.3 Energy

The Program would have the potential to result in a cumulatively considerable impact related to energy, if, in combination with cumulative plans and programs within the State, it would result in the wasteful, inefficient, or unnecessary consumption of energy.

Cumulative growth and development in California would result in additional energy demand, resulting in increased consumption of electricity. The potential construction of new facilities in compliance with the Program would require the use of fuels (primarily gasoline and diesel) initially, moving towards electric vehicles in the future. The energy would be used for the operation of construction equipment and vehicles in construction. Facility operation would also require the use of fuels for stationary and mobile sources initially, evolving to electrical sources powered by renewable energy. As discussed in Section 3.9 (Energy), construction and operation of collection, sortation, and processing facilities would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Further, consistent with the 2045 carbon neutrality goal (CARB 2022), it is projected that zero-carbon emission electric and hydrogen equipment and vehicles will gradually replace traditional liquid-fueled mobile sources. In addition, collection, sortation, and processing facilities would be distributed geographically throughout the state and would connect to the different utility systems statewide. Further, each proposed project would be required to conduct a utility service analysis to ensure the availability of service and that the reliability of service would not be impeded. Therefore, the Program would not substantially contribute to a cumulatively significant energy-related impact.

4.2.4 Greenhouse Gases

The Program would have the potential to result in a cumulatively considerable impact on GHG emissions, if, in combination with cumulative plans and programs throughout the state, it would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing emissions of GHGs.

As described in Section 3.11 (Greenhouse Gas Emissions), statewide past, present, and projected future development would generate GHGs in significant quantities. The State Climate Action Plan would help minimize GHGs. However, additional measures would be necessary to reduce GHG emissions to levels that would meet the long-term GHG reduction goal under Executive Order S-03-05 (i.e., reduce GHG emissions to 80% of 1990 levels by 2050).

Although it is possible that individual projects may mitigate their respective GHG emissions, not all projects will be able to achieve adequate reductions. CARB has updated the scoping plan to identify additional measures for achieving long-term GHG reduction targets (CARB 2022).

Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are already considered on a cumulative basis. Specifically, the analysis in Section 3.11 (Greenhouse Gas Emissions) is consistent with CEQA Guidelines Section 15064.4(b) and considers whether the incremental contributions of reasonably foreseeable means of compliance with the Program could be cumulatively considerable. The CEQA Guidelines advise that, “[p]ursuant to Sections 15064(h)(3) and 15130(d), a lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances” (Office of Planning and Research 2017).

The likely conformance of reasonably foreseeable means of compliance with the Program with these plans and policies is discussed in Section 3.11, and as discussed there the Program would not contribute substantially to a significant cumulative impact. In addition, the Program has the potential to reduce GHG emissions through the reduction in manufacturing of new materials and have a beneficial impact with regard to GHG, but the full benefit of these emission reductions cannot be quantified at this time.

4.2.5 Land Use and Planning

As discussed in Section 3.14 (Land Use and Planning), land use impacts tend to be localized and site dependent. General Plans and other land use plans are by their nature cumulative, and therefore Plan consistency would be determined on a facility-by-facility basis and would also take into consideration the existing and proposed development in the vicinity of a proposed facility. Compliance with applicable General Plan and zoning conditions would result in reasonably foreseeable means of compliance with the Program not contributing substantially to a significant cumulative impact.

4.2.6 Utilities and Service Systems

As discussed in Section 3.22 (Utilities and Service Systems), replacing some plastic materials with reusable options would involve energy and water use for processes like washing and drying these reusable materials. As outlined in Section 3.9 (Energy) and Section 3.13 (Hydrology and Water Quality), none of these measures are expected to lead to a substantial increase in overall energy or water use. Therefore, source reduction and refill/reuse would not require relocation or constriction of new facilities and would have water supply or wastewater supply, and impacts would be less than significant relative to these criteria.

New facilities would likely be placed in areas where utility infrastructure is available, such as in or adjacent to other commercial and industrial areas, so utility connections to existing infrastructure would be expected to be minimal and not require substantial construction. However, the location of future facilities is currently unknown as is the availability of utilities at project locations. Water supply, wastewater, electric, and natural gas infrastructure would be constructed to the standards of the applicable local jurisdiction. As part of the permit approval process for individual facilities, the project proponent would need to coordinate with the local water and wastewater service provider and obtain a will serve letter (or equivalent) that demonstrates that adequate water supply is available to meet the required demand under all water year conditions and that adequate treatment capacity is available, respectively. If a municipal service is not needed, the project proponent would need to seek regulatory approvals, such as WDRs, consistent with federal and state requirements. Therefore, impacts to new or expanded utilities, water supply, and wastewater management would be less than significant.

Considering these less than significant impacts cumulatively, the impacts tend to be localized to the utility and service provider's service territory and are not additive to utility and service impacts outside the service territory. As such, reasonably foreseeable means of compliance with the Program would not contribute substantially to a significant cumulative impact.

SECTION 5 Alternatives

An important aspect of the CEQA process is the identification and analysis of alternatives to the Program that would feasibly avoid or minimize the significant impacts identified for the Program while feasibly attaining most of the Program objectives. The CEQA Guidelines (Section 15126.6(a)-(f)) require an EIR to describe a reasonable range of feasible alternatives, including a No Project/Program Alternative, and conduct an analysis of the impacts of the alternatives as compared to the Program for consideration by decision-makers. The range of alternatives to be considered is governed by the “rule of reason,” which requires evaluation of only those alternatives “necessary to permit a reasoned choice” (Section 15126.6(f)). An alternative cannot be eliminated from consideration simply because it is costlier than the proposed Program or if it could impede to some degree the attainment of Program objectives. However, the CEQA Guidelines state that an EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative. CEQA requires that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Program.

A screening-level analysis was conducted to identify a reasonable range of alternatives to analyze in comparison to the proposed Program in the PEIR. Following the screening analysis, those alternatives that pass the screening are analyzed in comparison to the Program. The following sections discuss the alternatives screening methodology, the screening results, and comparative analysis to the Program of alternatives that pass the screening.

5.1 Attainment of Project Objectives

The major implementation objectives of the proposed regulation are as follows:

1. Reducing the effects of plastic pollution and litter on human health and ecosystems.
2. Reducing GHG emissions from production of virgin plastic material, and landfill disposal.
3. Improving consumers’ ability to recycle and reuse packaging material and reduce burdens on local governments’ solid resources handling.
4. Investing in communities disproportionately impacted by the effects of plastic pollution.
5. Supporting a stable circular economy.
6. Meeting SB 54’s statutory targets, including recycling rates and source reduction as follows:
 - a. All covered material to be recyclable or eligible to be labeled “compostable” by 2032.
 - b. Minimum recycling rates for plastic covered material:
 - i. 30% by 2028
 - ii. 40% by 2030
 - iii. 65% by 2032
 - c. Minimum source reduction of plastic covered material:
 - i. 10% by 2027

- ii. 20% by 2030
- iii. 25% by 2032
- d. Minimum recycling rates for EPS covered material:
 - i. 25% by 2025
 - ii. 30% by 2028
 - iii. 50% by 2030
 - iv. 65% by 2032

The discussion of alternatives below describes whether each alternative substantially meets the Program objectives.

5.2 Significant Environmental Impacts of Complying with the Implementing Regulations

Section 3 of this draft PEIR addresses the environmental impacts of the reasonably foreseeable means of complying with the proposed SB 54 Regulations. Alternatives were developed with consideration of avoiding or lessening the significant, and potentially significant, adverse impacts of the Program. Significant and unavoidable environmental impacts were identified in the following resource areas:

- Aesthetics
- Agricultural and forestry resources
- Air quality
- Biological resources
- Cultural
- Geology and soils
- Hazards and hazardous materials
- Hydrology and water quality
- Mineral resources
- Noise
- Transportation
- Tribal cultural resources
- Wildfire

5.3 Identification of Alternatives Considered, Screening, and Analysis

5.3.1 Alternatives Screening Methodology

A screening-level analysis was conducted to identify a reasonable range of alternatives to analyze in comparison to the proposed Program in the PEIR. The screening-level analysis consisted of three steps:

Step 1: Identifying potential alternatives for screening level evaluation.

Step 2: Screening level evaluating of potential alternatives in consideration of the following criteria:

- the extent to which the alternative would accomplish most of the basic goals and objectives of the Program;
- the extent to which the alternative would avoid or lessen one or more of the identified significant environmental effects of the Program;

- the extent to which the effects of the alternative can be reasonably ascertained and whose implementation is not remote or speculative;
- the potential feasibility of the alternative, in consideration of site suitability, economic viability, availability of infrastructure, and consistency with other applicable plans and regulatory limitations;
- the appropriateness of the alternative in contributing to a “reasonable range” of alternatives necessary to permit a reasoned choice; and
- the requirement of the CEQA Guidelines to consider a “No Project” alternative and to identify an “environmentally superior” alternative (CEQA Guidelines, Section 15126.6(e)).

Step 3: Determining the suitability of the proposed alternative for comparative analysis in the PEIR.

Following the screening analysis, those alternatives that pass are analyzed in comparison to the Program.

5.3.2 Alternatives Considered but Not Evaluated Further

CEQA Guidelines Section 15126.6(c) states that the range of potential alternatives for the project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Alternatives that fail to meet the fundamental project purpose need not be addressed in detail in an EIR (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) Cal.4th 1143, 1165–1167). In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project’s significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of “potentially feasible” alternatives, the ultimate determination as to whether an alternative is feasible is made by lead agency decision makers. (See PRC Section 21081(a)(3).) At the time of action on the project, the decision makers may consider evidence beyond that found in this EIR in addressing such determinations. The decision makers, for example, may conclude that a particular alternative is infeasible (i.e., undesirable) from a policy standpoint and may reject an alternative on that basis provided that the decision makers adopt a finding, supported by substantial evidence, to that effect, and provided that such a finding reflects a reasonable balancing of the relevant economic, environmental, social, and other considerations supported by substantial evidence (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417; *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 998).

The EIR should also identify any alternatives that were considered by the lead agency but rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency’s determination. The following alternatives were considered by CalRecycle but are not evaluated further in this Draft PEIR.

5.3.2.1 Different Uptake Scenarios

In evaluating the economic effect of the Program (CalRecycle 2024), CalRecycle projected reuse and refill infrastructure costs across three scenarios each of which assumed different scaling for packaging system efficiencies, return rates, and the number of times packaging is returned (reusable packaging use cycles):

- fragmented effort,
- collaborative approach, and

- system change.

The fragmented effort scenario in which producers independently collect, transport, sanitize, and return packaging to shelves or consumers without sharing infrastructure with other producers, is the least efficient and most costly system due to inefficient resource management and duplication of efforts. It is also the most likely system to be utilized during the early development period. The collaborative approach scenario in which producers collaborate to share reuse and refill infrastructure assumes a shared and expandable reuse system and is slightly more efficient compared to the fragmented effort scenario. By sharing resources and aligning on common practices, businesses can leverage economies of scale, simplify logistics, and ultimately create a more cost-effective and efficient system that would reduce relative impacts such as those related to water and energy consumption, VMT, and vehicle-related emissions of criteria pollutants and GHGs. This scenario represents the start of the evolution of the system to a more cooperative and cohesive system that is likely to represent the middle of the development period. The system change scenario utilizes a fully scaled and standardized effort and is the most efficient scenario which streamlines the design, production, and logistics of packaging, reducing the complexity and redundancy inherent in disparate, individually managed systems. By standardizing packaging formats and processes, this approach minimizes waste and resource consumption, leading to significant reductions in associated environmental impacts. Centralized systems enable more effective recycling and reprocessing, optimized transportation routes, and reduce the overall carbon footprint associated with packaging and return logistics. This is the fully developed scenario that is expected at full program maturity.

The three scenarios were considered for the Different Uptake Scenarios Alternative. Although the three scenarios are useful for considering the reasonably foreseeable effects of compliance with the regulations, CalRecycle cannot itself implement any such uptake scenario. Rather, the development of any of the three pathways will depend on how well they align with market demands and trends such as consumer demand for sustainability and shifts in economic incentives and the willingness of industry players and consumers to embrace and support new models. Ultimately, the interplay between market forces and packaging strategies determines the practicality and impact of each approach. In addition, CalRecycle cannot choose among these potential outcomes as part of decision-making on the Implementing Regulations. As such, this alternative has remote and speculative outcomes, and they cannot be reasonably ascertained.

The Different Uptake Scenarios Alternative is deemed to be infeasible, and therefore fails to pass Step 2 of the screening methodology. As such, under Step 3, the alternative is not retained for comparative analysis.

5.4 Alternatives Evaluated in Detail

The following alternatives are evaluated in this Draft PEIR:

- **Alternative 1: No Project Alternative.** This alternative assumes that the proposed Implementing Regulations would not be adopted.
- **Alternative 2: Less Stringent Classification of Plastic Covered Materials.** This alternative would revise the proposed implementing regulations affecting mixed paper and plastic materials. Under this alternative, covered materials composed mostly of paper containing less than 20% plastic by weight would not be categorized as plastic covered material. These materials would be categorized as paper covered materials and would not be subject to source reduction or meeting the plastic recycling rate requirement. These

materials would still need to be recyclable by the January 1, 2032, statutory deadline, but they would not be categorized as plastic.

5.4.1 Alternative 1: No Project Alternative

5.4.1.1 Alternative 1: Description

Consistent with the CEQA Guidelines, an EIR must include an evaluation of the No Project Alternative: “[t]he purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project” (Section 15126.6[e][1]). The No Project Alternative also provides an important point of comparison to understand the potential environmental benefits and impacts of the other alternatives.

Under the No Project Alternative, no regulations would be adopted to implement SB 54. It is not clear that CalRecycle has the legal authority to pursue the No Project Alternative because CalRecycle is legislatively mandated to develop regulations designed to implement SB 54. However, for purposes of CEQA review, the No Project Alternative must be considered.

Under the No Project Alternative, the burden of recycling and disposing of single-use packaging and food service ware would not be shifted to producers. The following objectives would not be achieved:

- Reducing the effects of plastic pollution and litter on human health and ecosystems
- Reducing GHG emissions from production of virgin plastic material, and landfill disposal
- Improving consumers’ ability to recycle and reuse packaging material and reduce burdens on local governments’ solid resources handling
- Investing in communities disproportionately impacted by the effects of plastic pollution
- Supporting a stable circular economy

Although the No Project would not meet the Program objectives, CEQA requires that it be analyzed. It therefore passes Step 2 of the screening methodology and under Step 3 is retained for comparative analysis, provided in the following subsection.

5.4.1.2 Alternative 1: Comparative Impact Discussion

Under the No Project Alternative, the proposed regulations would not be adopted, and SB 54 would not be implemented. Accordingly, it is reasonably foreseeable that under the No Project Alternative there would be no new development or expansion of collection, sortation, and processing facilities throughout the State and efforts to reduce plastic pollution would remain at the local level. The elimination of construction and operation of new facilities as a reasonably foreseeable future event would avoid all of the significant impacts identified for the Program. See Table 5.5-1 for details.

However, without implementation of the Program, all of the benefits of SB 54 would be foregone. Even though some plastics can be easily recycled, most plastics would continue to be disposed of, ending up in landfills or as pollution, which leads to persistence in the environment for decades to potentially hundreds of years. In 2021, Californians discarded over 11 million tons of packaging, including nearly 5.5 million tons of plastics. Only 6% of

this plastic waste was recycled; the rest was disposed in landfills or littered. This trend would continue under the No Project Alternative.

Improperly discarded packaging, including plastics, can end up in the environment. Harmful chemicals contained in the plastics can enter natural water systems, potentially causing harm to natural ecosystems and human health. This trend would continue under the No Project Alternative.

As described in Section 1.4.2 (Program Objectives), the production and use of single-use packaging and food service ware results in GHG emissions, toxic chemical releases, and can impact water quality and human health. Reuse, recycling and source reduction of plastics reduces the amount of new plastic that is manufactured and reduces the corresponding GHG emissions and release of toxic chemicals (CalRecycle 2024). Specifically, CalRecycle estimates that the decrease in plastic covered material would result in a reduction of approximately 4.07 million MTCO₂e emissions by 2032 based on an assumed reduction of 4.3 MTCO₂e per metric ton of plastic eliminated (i.e., minimizing packaging material reduces 100% of the GHG emissions for the weight that was reduced) (CalRecycle 2024). In addition, the manufacturing of new plastics releases various pollutants which are identified as carcinogens. CalRecycle estimates that 550 cases of disease from carcinogens will be avoided as a result of increased recycling of covered material and plastic source reduction (CalRecycle 2024). These reductions in GHG emissions and toxic compound releases would not occur under the No Project Alternative.

Historically disadvantaged, low-income, and rural communities are disproportionately affected by climate change and other forms of pollution (CalRecycle 2024). As such, the Program measures that reduce GHG emissions and pollution that would directly benefit these communities would not occur under the No Project Alternative. In addition, under the No Project Alternative these communities would also not benefit from the funds set aside in the California Plastic Pollution Mitigation Fund to reduce the environmental and public health impacts of plastic pollution.

Under the No Project Alternative, the burden for recycling and disposing of single-use packaging and food service ware would not be shifted to producers. California's efforts to shift to a circular economy and to hold the producers, rather than local jurisdictions, ratepayers, and consumers, responsible for the management of covered materials would be undermined under the No Project Alternative. Specifically, the Program provides for a statewide coordinated effort which would supersede local efforts to reduce plastic food service ware and single-use packaging. Under the No Project Alternative, local efforts would continue ad hoc. Local areas that are not pursuing similar types of plastics reduction programs would continue to generate these wastes and these local governments would continue to bear 100% of the burden of managing single-use packaging and plastic food service ware waste.

5.4.2 Alternative 2: Less Stringent Classification of Plastic Covered Materials

5.4.2.1 Alternative 2: Description

Under Alternative 2, the Implementing Regulations would be revised to allow covered materials composed mostly of paper to contain less than 20% plastic by weight without being categorized as plastic covered material. These materials would be categorized as paper covered materials and would not be subject to source reduction or meeting the plastic recycling rate requirement. These materials would still need to be recyclable by the January 1, 2032 statutory deadline, but they would not be categorized as plastic.

This alternative would result in approximately 1.8 million tons less material categorized as plastic covered material compared to the Program. Accordingly, the amount of material subject to the source reduction and recycling rate requirements would be reduced, which would lower the burden to comply and the associated cost. Consequently, a smaller volume of plastic covered material would need to be recycled and fewer new collection, sortation, and processing facilities would need to be constructed to responsibly manage the material.

Alternative 2 would meet most of the objectives of the Program but to a lesser degree. It therefore passes Step 2 of the screening methodology and under Step 3 is retained for comparative analysis, provided in the following subsection.

5.4.2.2 Alternative 2: Impact Discussion

In Alternative 2, paper packaging and food service ware with less than 20% percent plastic (mixed materials) are categorized as paper instead of plastic covered material. Mixed materials including laminated paper and multi-layer packaging, composed of paper and plastic, are harder to recycle than non-mixed materials like milk jugs, which are solely composed of plastic. The paper and plastic materials need to be separated to be used as feedstock for new products, and the separation process is not simple. There are already systems in place throughout California to recycle plastic containers such as soft drink bottles and milk jugs. However, robust recycling infrastructure does not exist for packaging such as plastic-lined mailing pouches and bakery boxes with plastic windows. Therefore, not including them in the plastic category exempts them from the source reduction and recycling rate requirements, and it is likely they would be disposed due to how difficult they are to recycle.

With a smaller volume of plastic covered material requiring recycling under Alternative 2, there would be a reduced need for constructing new collection, sortation, and processing facilities. Consequently, this would lead to a decreased level of construction and operation activities as compared to what is outlined for the Implementing Regulations. While fewer overall facilities would be required, the construction and operation of any new facilities could result in significant impacts as described for the Program, depending on the location of the facilities. Therefore, selection of this alternative would not necessarily avoid or minimize all of the significant impacts related to collection, sortation, and processing facilities identified for the Program, although the potential for significant impacts related to aesthetics, agriculture and forestry, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, noise, transportation, tribal cultural resources, and wildfire, would likely be minimized on aggregate throughout California. As described in Section 3.20 (Transportation), the full buildout of collection, sortation, and processing infrastructure may result in an increase in VMT, primarily due to new or additional trips and/or material transport routes. In general, vehicular travel associated with the foreseeable development of collection, sortation, and processing facilities is related to changes in the way that covered materials are processed. The distance required to accommodate new trips is related to the location of facilities that would receive and process covered materials as well as location of where processed materials are ultimately distributed. Under Alternative 2, there would likely be fewer collection, sortation, and processing facilities as compared to the Program. Therefore, Alternative 2 may result in relatively less overall vehicle trips and potentially less VMT and vehicle-related emissions (i.e., criteria pollutants and GHGs) as compared to the Program. However, it's important to note that depending on the development of future collection, sortation, and processing infrastructure, a reduced number of facilities as compared with the Program also has the

potential to increase VMT and associated emissions because the array of options for management of covered materials would be limited and could increase the likelihood that material would need to travel greater distances to be managed by the smaller number of facilities. As such, because the locations of future facilities are not known, it is not clear that Alternative 2 would avoid or even necessarily reduce the potentially significant transportation effects of the Program.

SB 54 was developed to address the environmental and human health impacts of plastics, and challenges involving recycling plastic materials. If Alternative 2 is adopted and paper packaging and food service ware with less than 20% percent plastic (mixed materials) are categorized as paper instead of plastic covered material, the key objective of SB 54 to reduce difficult to recycle packaging and encouraging a transition to recyclable materials would be undermined. GHG emissions associated with manufacture of plastic products using virgin materials would be reduced under Alternative 2. However, based on the comparison conducted by CalRecycle (CalRecycle 2024), Alternative 2 would result in approximately 1.4 million MTCO₂e more GHG emissions than the Program because less plastic material would be recycled and more virgin plastic material would continue to be produced. In addition, Alternative 2 would not decrease the volume of plastic pollution in the environment to the same extent as the Program because fewer materials would be classified as plastic covered materials subject to the source reduction requirement. As such, the benefits of the Program would occur to a lesser degree under Alternative 2.

5.5 Environmentally Superior Alternative

Table 5.5-1 summarizes the impacts of the Alternatives Evaluated in Detail as against the impacts of the Proposed Implementing Regulations. CEQA Guidelines Section 15126.6 [e][2] states, in part, that “[i]f the environmentally superior alternative is the “No Project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives”. The No Project Alternative would avoid the significant impacts that could occur based on reasonably foreseeable means of complying with the Implementing Regulations. Therefore, based on the analysis and substantial evidence provided in this PEIR, CalRecycle has determined that the No Project Alternative is the environmentally superior alternative.

As illustrated in Table 5.5-1, below, Alternative 2, the Less Stringent Classification of Plastic Covered Material Alternative, is anticipated to lead to less construction of new or expanded facilities for collection, sortation, and processing. As such, Alternative 2 would minimize the potential for significant impacts of foreseeable means of compliance related to aesthetics, agriculture and forestry, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, noise, transportation, tribal cultural resources, and wildfire, compared to the foreseeable means of compliance with the Implementing Regulations. Therefore, the environmentally superior alternative other than the No Project Alternative is Alternative 2. The substantial benefits of the Program would not be realized under the No Project Alternative and would be realized to a lesser degree for Alternative 2.

Table 5.5-1 compares the impacts of the alternatives to those of the Program, focusing on the potential for adverse effects, using the words “similar” or “less”. The “+” notation indicates whether the alternative would entirely forego the environmental benefits of the Program in that resource category (i.e., ++), or whether the environmental benefits of the program would be realized to a lesser extent than the Program (i.e., +).

Table 5.5-1. Summary of Environmental Effects of the Alternatives Relative to the Proposed Regulation

Environmental Topic	Reasonably Foreseeable Means of Compliance Method	Alternative 1: No Project	Alternative 2: Less Stringent Classification of Plastic Covered Materials
Aesthetics	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Agriculture and Forestry	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Air Quality	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Biological Resources	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Cultural Resources	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Energy	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less	Less
Geology and Soils	Source Reduction and Refill/Reuse:	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Greenhouse Gas Emissions	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less	Less
Hazards and Hazardous Materials	Source Reduction and Refill/Reuse	Similar ++	Similar +

Environmental Topic	Reasonably Foreseeable Means of Compliance Method	Alternative 1: No Project	Alternative 2: Less Stringent Classification of Plastic Covered Materials
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Hydrology and Water Quality	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Land Use and Planning	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less	Less
Mineral Resources	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Noise	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Population and Housing	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Similar	Similar
Public Services	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Similar	Similar
Recreation	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Similar	Similar
Transportation	Source Reduction and Refill/Reuse	Less ++	Less +
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Tribal Cultural Resources	Source Reduction and Refill/Reuse	Similar	Similar

Environmental Topic	Reasonably Foreseeable Means of Compliance Method	Alternative 1: No Project	Alternative 2: Less Stringent Classification of Plastic Covered Materials
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)
Utilities and Services Systems	Source Reduction and Refill/Reuse	Similar ++	Similar +
	Collection, Sortation, and Processing	Less ++	Less +
Wildfire	Source Reduction and Refill/Reuse	Similar	Similar
	Collection, Sortation, and Processing	Less (avoids significant impacts)	Less (minimizes the potential for significant impacts)

Notes: + = reduced environmental benefit as compared to those of the Program; ++ = environmental benefit completely foregone as compared to those of the Program.

SECTION 6 Other CEQA Concerns

6.1 Growth-Inducing Impacts

Section 15126.2(e) of the CEQA Guidelines requires an EIR to include a detailed statement of a proposed Project's anticipated growth-inducing impacts. A project would directly induce growth if it involves the construction of new housing and would indirectly induce growth if it results in substantial increases in short-term employment, which stimulates the need for additional housing and services; substantial new permanent employment opportunities; or removal of an obstacle to growth and development, such as removing a constraint on a public service. Increased growth may lead to other impacts including increased demand for utilities and public services, increased traffic and noise, air or water quality degradation, and habitat loss or degradation.

The Program would not involve new development that could directly induce population growth, nor would it involve the extension of infrastructure that could indirectly induce population growth. The Program would not involve construction of new housing or create a demand for additional housing. Employment opportunities are expected to be replacement of plastic-related employment and not be a substantial new source of employment. The Program would not displace any existing housing units or people. Therefore, the Program is not anticipated to induce growth, nor is it anticipated to remove obstacles to growth. Thus, the proposed Program would have no impact on growth, either positively or negatively.

6.2 Energy

Appendix F of the CEQA Guidelines requires that energy implications of a project be considered in an EIR, with particular emphasis on avoiding or reducing the inefficient, wasteful, and unnecessary consumption of energy. As such, this discussion considers the proposed Program's consumption of energy resources, particularly transportation fuels, during the project's implementation.

The potential construction of new facilities in compliance with the Program would require the use of fuels (primarily gasoline and diesel) initially, moving towards electric vehicles in the future. The energy would be used for the operation of construction equipment and vehicles in construction. Facility operation would also require the use of fuels for stationary and mobile sources initially, evolving to electrical sources powered by renewable energy. As discussed in Section 3.9 (Energy), construction and operation of collection, sortation, and processing facilities would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Further, consistent with the 2045 carbon neutrality goal (CARB 2022), it is projected that zero-carbon emission electric and hydrogen equipment and vehicles will gradually replace traditional liquid-fueled mobile sources.

The Program would represent only a small fraction of the fuel consumption in California. Under the Program, reducing and recycling plastic packaging and moving to a circular economy is anticipated to be accomplished using the most efficient means feasible and would not result in the wasteful, inefficient, or unnecessary consumption of energy resources and would not place a substantial demand on regional fuel or energy supplies. Further, the Program would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

6.3 Disadvantaged Communities

Solid waste facilities have historically been developed in heavy industrial zones and residents living adjacent to these zones may be affected by cumulative impacts. Under state law, environmental justice is “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies” (Gov. Code, Section 65040.12(e)). The principle of environmental justice ensures equal and equitable protection from environmental and health hazards, while giving people fair and equal access to the planning and decision-making process.

CEQA does not require consideration of environmental justice as a specific resource area, and there are no formal requirements or procedures to evaluate potential environmental justice impacts for specific projects or programs under CEQA. The state (SB 1000) does require the preparation of an environmental justice element to general plans, and established procedures for that analysis inform consideration of environmental justice in project-level CEQA analysis. The current standard of practice for general plans is to consider environmental justice in the cumulative impact analysis because it reflects the combined effects of project-level impacts with the effects of other stressors on environmental justice communities. This section of this PEIR addresses potential effects on disadvantaged communities.

CalEPA has prepared an Environmental Justice Action Plan (USEPA and CalEPA 2024) to develop guidance on Environmental Justice enforcement issues for state boards, commissions, and regulatory agencies to ensure that Environmental Justice concerns are integrated into the state’s environmental programs.

Future collection, sortation and processing facilities would be sited and approved by local jurisdictions. CalRecycle has no authority over the location of these facilities, therefore the potential exists that they may be sited in areas that could disproportionately adversely affect a disadvantaged community. Mitigation measures suggested in this PEIR would reduce the potential for these disproportionate and adverse impacts, however, adoption and implementation of mitigation measures beyond the implementing regulations are beyond the authority of CalRecycle. The authority to review site-specific, project-level effects to disadvantaged communities and require project-level mitigation lies with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that local jurisdictions would consider the potentially disproportionate impacts to disadvantaged communities during project-specific review, the degree to which another agency would require mitigation is uncertain.

6.4 Significant Unavoidable Impacts

Section 3 provides a detailed analysis of the potential environmental impacts that could result from implementation of the proposed Program as well as proposed mitigation measures. Significant impacts that cannot feasibly be mitigated to a less than significant level would remain as potentially significant and unavoidable adverse impacts and are listed below. It’s important to note that for all of the significant and unavoidable adverse impacts identified, CalRecycle has identified feasible mitigation measures that could reduce and/or avoid such impacts and which would reduce impacts to less than significant levels. However, adoption and implementation of the identified mitigation measures is beyond the authority of CalRecycle and LEAs. The authority to review site-specific, project-level impacts and require project-level mitigation lies primarily with local land use and/or permitting agencies for individual projects. Consequently, although it is reasonable to expect that impacts would be reduced to a less-than-significant level by land use and/or

permitting agency conditions of approval, the degree to which another agency would require mitigation is uncertain. Accordingly, their PEIR identifies these impacts as potentially significant and unavoidable.

6.4.1 Aesthetics

Depending on location, the construction and operation of collection, sortation, processing facilities, could have a substantial adverse effect on a scenic vista, substantially damage scenic resources within a scenic highway. In non-urbanized areas, a collection, sortation, and/or processing facility could substantially degrade the existing visual character or public views of the site, and in urbanized areas, a new facility could potentially conflict with zoning or other regulations governing scenic quality. Construction and operation of a new facility could also potentially result in a new source of light and glare which could adversely affect daytime or nighttime views of the site.

6.4.2 Agriculture and Forestry Resources

Depending on location, the construction and operation of collection, sortation, and processing facilities could result in the conversion of prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use and/or conflict with existing zoning for agricultural use or Williamson Act contract. In addition, new facilities could result in the loss of forest land or conversion of forest land to non-forest use.

6.4.3 Air Quality

Depending on location, the construction and operation of collection, sortation, and processing facilities could conflict with or obstruct implementation of the applicable air quality plan and/or result in a cumulatively considerable net increase of a criteria pollutant for which the region is in non-attainment of a state or federal standard. Construction and operation of a new facility could also exposure sensitive receptors to substantial pollutant concentrations and/or result in other emissions, such as odors, affecting a substantial number of people.

6.4.4 Biological Resources

Depending on location, the construction and operation of collection, sortation, and processing facilities could have a substantial adverse effect either directly or through habitat modification on special status species; have a substantial adverse effect on a riparian habitat, sensitive natural community, and/or state or federal wetlands; and interfere substantially with the movement of wildlife species or impede the use of wildlife nursery sites.

6.4.5 Cultural Resources

Depending on location, the construction and operation of collection, sortation, and processing facilities could cause a substantial adverse change in the significance of a historical resource and/or archaeological resource pursuant to Section 15064.5.

6.4.6 Geology and Soils

Depending on location, the construction and operation of collection, sortation, and processing facilities could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

6.4.7 Hazards and Hazardous Materials

Depending on location, the construction and operation of collection, sortation, and processing facilities could create a significant hazard to the public or environment through routine transport, use, or disposal of hazardous materials, and/or reasonably foreseeable upset and accident conditions. The construction and operation of new facilities could emit hazardous emissions or handle hazardous waste within ¼ mile of a school; and/or be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code 65962.5. The construction and operation of new facilities could be within an airport land use plan or within 2 miles of a public airport which could result in safety hazards or excessive noise for residents in the area. The construction and operation of new facilities could impair implementation of an adopted emergency response plan and/or emergency evacuation plan and could expose people or structures to significant risk involving wildland fires.

6.4.8 Hydrology and Water Quality

Depending on location, the construction and operation of collection, sortation, and processing facilities could substantially decrease groundwater supplies or interfere substantially with groundwater recharge; and substantially alter the existing drainage pattern of a site through the addition of additional impervious surface areas which could result in substantial erosion, substantially increase the rate of run-off which could result in flooding or exceed the capacity of a stormwater system, or impede or redirect flood flows.

6.4.9 Mineral Resources

Depending on location, the construction and operation of collection, sortation, and processing facilities could result in the loss of availability of a known mineral resource that would be of valuable for the state and/or a locally important mineral resource recovery site.

6.4.10 Noise

Depending on location, the construction and operation of collection, sortation, and processing facilities could generate a substantial permanent or temporary increase in ambient noise levels in excess of standards established in a local general plan, ordinance or other applicable standards of other agencies; and generate excessive groundborne vibration or groundborne noise levels.

6.4.11 Transportation

Depending on location, the construction and operation of collection, sortation, and processing facilities could conflict with a program plan, policy or ordinance addressing the circulation system; conflict or be inconsistent with CEQA guidelines section 15064.3 subdivision b; substantially increase hazards due to a geometric design feature or incompatible uses; and/or result in inadequate emergency access.

6.4.12 Wildfire

Depending on location, the construction and operation of collection, sortation, and processing facilities could substantially impair an adopted emergency response plan; exacerbate wildfire risks and expose occupants to pollutant concentrations from wildfire or uncontrolled spread of wildfire; require the installation or

maintenance of infrastructure that may exacerbate wildfire risk; and/or expose people or structures to significant risks as a result of run-off, post-fire slope instability or drainage changes.

6.5 Significant Irreversible Environmental Changes

CEQA requires a discussion of the significant irreversible environmental changes that would occur as the result of implementing a project (Section 15126.2[d] of the State CEQA Guidelines). Such a discussion addresses the commitment of current or future uses of nonrenewable resources, potential irreversible environmental damage from accidents associated with the project, and secondary or growth-inducing impacts that commit future generations to similar use.

The construction and operation of new and expanded collection, sortation, and processing facilities built in response to the Implementing Regulations would involve the commitment of renewable and nonrenewable environmental resources, including land, water resources, construction materials, and fossil fuels. Compliance with the Implementing Regulations would also reduce the rate at which nonrenewable resources are used to produce virgin plastic as the increased recycling rates will reduce the amount of non-renewable raw materials used in the production of single-use food service ware and single-use packaging (e.g., oil, aluminum, silica), and the expansion of available recycling infrastructure will facilitate the reduction of waste sent to landfills.

Irretrievable commitments of nonrenewable resources associated with the Implementing Regulations would include those described below. These issues are addressed in various sections of Section 3, as follows:

- The consumption of substantial amounts of nonrenewable energy for construction, maintenance, and operation of new and expanded collection, sortation, and processing facilities is discussed in Chapter 3.9 (Energy).
- The use of building materials, fossil fuels, and other resources for construction, maintenance, and operation of new and expanded facilities is addressed in Chapter 3.9 (Energy).
- Degradation of ambient air quality through construction and operation of new and expanded facilities is addressed in Chapter 3.6 (Air Quality).
- Emission of GHGs that would contribute to global climate change is addressed in Chapter 3.11 (Greenhouse Gas).

SECTION 7 References

7.1.1 Introduction

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None

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None

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